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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1902097

Marine Corps Air Station Yuma
Yuma, Arizona

November 2019

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED

August 27, 2019

Vista Work Order No. 1902097

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 12, 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. 1902097
Case Narrative

Sample Condition on Receipt:

Twelve soil samples and eight 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 add data qualifiers missing from the original data sheets.

Analytical Notes:

PFAS Isotope Dilution Method

Samples "SAOA-B10-GW" and "SAOA-B10-GW-D" contained particulate and were centrifuged prior to extraction.

The soil and aqueous samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. 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 each of the preparation batches. No analytes were detected in the Method Blanks above 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria.

The extracts of samples "NON-B02-SO-1-1.5" and "NON-B04-SO-4.5-5" were re-injected because one or more Injection Internal Standard Analyte response areas were outside of criteria. The results were similar in the second injections. The results from the original injections have been reported.

The extract of sample "NON-B01-SO-73-73.5" was re-injected because it followed an extract with an analyte with a concentration greater than the highest point in the calibration curve. The results from the re-injection have been reported.

An MS/MSD was performed on sample "NON-B02-SO-1-1.5". The MS/MSD recoveries and RPDs were within the acceptance criteria.

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

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1902097-03	SAOA-B10-GW	PFAS Isotope Dilution Method	13C2-PFTeDA	H	20.1
1902097-04	SAOA-B10-GW-D	PFAS Isotope Dilution Method	13C2-PFTeDA	H	28.0
1902097-13	NON-B01-SO-15-15.5	PFAS Isotope Dilution Method	d3-MeFOSAA	H	44.0
1902097-13	NON-B01-SO-15-15.5	PFAS Isotope Dilution Method	13C2-PFDoA	H	46.2
B9G0185-BLK1	B9G0185-BLK1	PFAS Isotope Dilution Method	13C2-PFTeDA	H	41.5
B9G0190-BLK1	B9G0190-BLK1	PFAS Isotope Dilution Method	d3-MeFOSAA	H	47.8
B9G0190-BLK1	B9G0190-BLK1	PFAS Isotope Dilution Method	13C2-PFUnA	H	48.3
B9G0190-BLK1	B9G0190-BLK1	PFAS Isotope Dilution Method	d5-EtFOSAA	H	48.4
B9G0190-BLK1	B9G0190-BLK1	PFAS Isotope Dilution Method	13C2-PFDoA	H	46.4

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1902097-01	SAOA-B10-SO-1-1.5	09-Jul-19 07:35	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-02	SAOA-B10-SO-20-20.5	09-Jul-19 08:30	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-03	SAOA-B10-GW	09-Jul-19 09:25	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-04	SAOA-B10-GW-D	09-Jul-19 09:30	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-05	EB-07092019	09-Jul-19 16:45	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-06	NON-B02-SO-1-1.5	09-Jul-19 16:50	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-07	FRB-07092019	09-Jul-19 17:05	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-08	NON-B02-SO-15-15.5	09-Jul-19 17:35	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-09	SAOA-B01-SO-5-5.5	10-Jul-19 08:15	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-10	SAOA-B01-SO-20-20.5	10-Jul-19 08:35	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-11	SAOA-B01-SO-36-36.5	10-Jul-19 10:25	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-12	NON-B01-SO-1-1.5	10-Jul-19 13:00	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-13	NON-B01-SO-15-15.5	10-Jul-19 13:20	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-14	EB-07102019	10-Jul-19 16:50	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-15	FRB-07102019	10-Jul-19 17:00	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-16	NON-B01-SO-73-73.5	11-Jul-19 11:50	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-17	NON-B04-SO-0.5-1	11-Jul-19 12:10	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-18	NON-B04-SO-4.5-5	11-Jul-19 12:30	12-Jul-19 09:20	HDPE Jar, 6 oz
1902097-19	EB-07112019	11-Jul-19 12:50	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1902097-20	FRB-07112019	11-Jul-19 13:00	12-Jul-19 09:20	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

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

Laboratory Data

Lab Sample: B9G0190-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	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFHxA	307-24-4	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFHpA	375-85-9	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFHxS	355-46-4	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFOA	335-67-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFNA	375-95-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFOS	1763-23-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFDA	335-76-2	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
MeFOSAA	2355-31-9	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
EtFOSAA	2991-50-6	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFUnA	2058-94-8	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFDoA	307-55-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFTrDA	72629-94-8	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
PFTeDA	376-06-7	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	79.4	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFHxA	IS	83.3	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C4-PFHpA	IS	82.1	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C3-PFHxS	IS	73.7	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C5-PFNA	IS	66.6	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFOA	IS	72.6	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C8-PFOS	IS	77.4	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFDA	IS	59.5	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
d3-MeFOSAA	IS	47.8	50 - 150	H	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFUnA	IS	48.3	50 - 150	H	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
d5-EtFOSAA	IS	48.4	50 - 150	H	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFDoA	IS	46.4	50 - 150	H	B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	1
13C2-PFTeDA	IS	55.1	50 - 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:14	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: OPR **PFAS Isotope Dilution Method**

Client Data

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

Laboratory Data

Lab Sample: B9G0190-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	10.5	10.0	105	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFHxA	307-24-4	10.6	10.0	106	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFHpA	375-85-9	9.84	10.0	98.4	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFHxS	355-46-4	10.2	10.0	102	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFOA	335-67-1	10.2	10.0	102	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFNA	375-95-1	10.2	10.0	102	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFOS	1763-23-1	10.1	10.0	101	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFDA	335-76-2	9.85	10.0	98.5	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
MeFOSAA	2355-31-9	8.37	10.0	83.7	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
EtFOSAA	2991-50-6	10.5	10.0	105	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFUnA	2058-94-8	10.5	10.0	105	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFDoA	307-55-1	9.81	10.0	98.1	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFTrDA	72629-94-8	10.9	10.0	109	60 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
PFTeDA	376-06-7	10.2	10.0	102	70 - 130		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	94.5	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFHxA	IS	95.1	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C4-PFHpA	IS	93.8	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C3-PFHxS	IS	102	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C5-PFNA	IS	82.1	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFOA	IS	86.5	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C8-PFOS	IS	80.6	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFDA	IS	72.2	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
d3-MeFOSAA	IS	66.2	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFUnA	IS	60.2	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
d5-EtFOSAA	IS	60.1	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFDoA	IS	63.3	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1
13C2-PFTeDA	IS	71.5	50- 150		B9G0190	21-Jul-19	1.00 g	23-Jul-19 16:03	1

Sample ID: SAOA-B10-SO-1-1.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 09-Jul-19 07:35

Laboratory Data

Lab Sample: 1902097-01
Date Received: 12-Jul-19 09:20
% Solids: 98.1

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFHxA	307-24-4	20.8	0.836	0.990	1.98		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFHpA	375-85-9	2.31	0.836	0.990	1.98		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFHxS	355-46-4	1.70	0.836	0.990	1.98	J	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFOA	335-67-1	2.65	0.836	0.990	1.98		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFNA	375-95-1	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFOS	1763-23-1	6.19	0.836	0.990	1.98		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFDA	335-76-2	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
MeFOSAA	2355-31-9	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
EtFOSAA	2991-50-6	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFUnA	2058-94-8	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFDoA	307-55-1	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFTrDA	72629-94-8	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
PFTeDA	376-06-7	ND	0.836	0.990	1.98	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	103	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFHxA	IS	99.9	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C4-PFHpA	IS	103	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C3-PFHxS	IS	96.2	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C5-PFNA	IS	76.0	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFOA	IS	85.4	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C8-PFOS	IS	87.4	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFDA	IS	68.0	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
d3-MeFOSAA	IS	71.5	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFUnA	IS	75.5	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
d5-EtFOSAA	IS	77.6	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFDoA	IS	81.7	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	1
13C2-PFTeDA	IS	88.3	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 16:46	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: SAOA-B10-SO-20-20.5

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Soil
Date Collected: 09-Jul-19 08:30

Laboratory Data

Lab Sample: 1902097-02
Date Received: 12-Jul-19 09:20
% Solids: 94.9
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFHxA	307-24-4	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFHpA	375-85-9	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFHxS	355-46-4	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFOA	335-67-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFNA	375-95-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFOS	1763-23-1	1.06	0.848	1.00	2.01	J	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFDA	335-76-2	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
MeFOSAA	2355-31-9	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
EtFOSAA	2991-50-6	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFUnA	2058-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFDoA	307-55-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFTrDA	72629-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
PFTeDA	376-06-7	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	101	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFHxA	IS	97.3	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C4-PFHpA	IS	92.8	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C3-PFHxS	IS	100	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C5-PFNA	IS	79.9	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFOA	IS	89.4	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C8-PFOS	IS	89.5	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFDA	IS	64.0	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
d3-MeFOSAA	IS	62.1	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFUnA	IS	63.4	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
d5-EtFOSAA	IS	65.9	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFDoA	IS	62.7	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	1
13C2-PFTeDA	IS	79.8	50 - 150		B9G0190	21-Jul-19	1.05 g	23-Jul-19 16:56	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: NON-B02-SO-1-1.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 09-Jul-19 16:50

Laboratory Data

Lab Sample: 1902097-06
Date Received: 12-Jul-19 09:20
% 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	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFHxA	307-24-4	2.20	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFHpA	375-85-9	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFHxS	355-46-4	2.12	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFOA	335-67-1	3.02	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFNA	375-95-1	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFOS	1763-23-1	2.57	0.847	1.00	2.00	Q	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFDA	335-76-2	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
MeFOSAA	2355-31-9	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
EtFOSAA	2991-50-6	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFUnA	2058-94-8	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFDoA	307-55-1	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFTrDA	72629-94-8	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
PFTeDA	376-06-7	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	102	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFHxA	IS	96.3	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C4-PFHpA	IS	96.8	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C3-PFHxS	IS	94.4	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C5-PFNA	IS	80.0	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFOA	IS	84.9	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C8-PFOS	IS	91.7	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFDA	IS	65.1	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
d3-MeFOSAA	IS	59.9	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFUnA	IS	65.1	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
d5-EtFOSAA	IS	67.7	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFDoA	IS	70.4	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	1
13C2-PFTeDA	IS	85.2	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 17:39	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: NON-B02-SO-1-1.5 **PFAS Isotope Dilution Method**

Name:	Tetra Tech EC, Inc.	Lab Sample:	B9G0190-MS1/B9G0190-MSD1	Source Lab Sample:	1902097-06
Project:	4663.3803	QC Batch:	B9G0190	Date Extracted:	21-Jul-19
Matrix:	Solid	Samp Size:	1.01/1.01 g	Column:	BEH C18

Analyte	CAS Number	Sample (ug/kg)	MS (ug/kg)	MS Spike	MS % Rec	MS Quals	MSD (ug/kg)	MSD Spike	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
PFBS	375-73-5	ND	10.3	10.0	101		10.8	10.0	106	4.83		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFHxA	307-24-4	2.20	13.0	10.0	108		13.9	10.0	117	8.00		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFHpA	375-85-9	ND	10.3	10.0	98.4		10.3	10.0	98.3	0.102		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFHxS	355-46-4	2.12	11.9	10.0	97.5		13.7	10.0	116	17.3		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFOA	335-67-1	3.02	12.8	10.0	97.8		13.5	10.0	105	7.10		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFNA	375-95-1	ND	9.91	10.0	98.4		11.1	10.0	111	12.0		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFOS	1763-23-1	2.57	12.7	10.0	101		13.9	10.0	114	12.1		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFDA	335-76-2	ND	10.6	10.0	106		10.8	10.0	108	1.87		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
MeFOSAA	2355-31-9	ND	9.62	10.0	96.2		10.4	10.0	104	7.79		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
EtFOSAA	2991-50-6	ND	9.84	10.0	98.4		10.4	10.0	104	5.53		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFUnA	2058-94-8	ND	10.2	10.0	102		10.9	10.0	109	6.64		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFDoA	307-55-1	ND	9.93	10.0	99.3		10.6	10.0	106	6.53		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFTrDA	72629-94-8	ND	10.6	10.0	106		11.3	10.0	113	6.39		60-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1
PFTeDA	376-06-7	ND	10.6	10.0	106		11.0	10.0	110	3.70		70-130	30	23-Jul-19 16:24	1	23-Jul-19 16:35	1

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
13C3-PFBS	IS	97.1		90.9		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFHxA	IS	94.4		89.3		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C4-PFHpA	IS	94.8		94.9		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C3-PFHxS	IS	105		88.3		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C5-PFNA	IS	78.8		82.6		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFOA	IS	89.4		85.8		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C8-PFOS	IS	88.7		84.2		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFDA	IS	64.0		71.9		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
d3-MeFOSAA	IS	71.9		71.9		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFUnA	IS	65.5		65.9		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
d5-EtFOSAA	IS	75.7		75.4		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFDoA	IS	68.2		75.5		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1
13C2-PFTeDA	IS	80.7		83.1		50-150	23-Jul-19 16:24	1	23-Jul-19 16:35	1

Sample ID: NON-B02-SO-15-15.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 09-Jul-19 17:35

Laboratory Data

Lab Sample: 1902097-08
Date Received: 12-Jul-19 09:20
% Solids: 92.6

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFHxA	307-24-4	2.82	0.845	1.00	2.00		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFHpA	375-85-9	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFHxS	355-46-4	1.31	0.845	1.00	2.00	J, Q	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFOA	335-67-1	1.35	0.845	1.00	2.00	J	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFNA	375-95-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFOS	1763-23-1	1.52	0.845	1.00	2.00	J	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFDA	335-76-2	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
MeFOSAA	2355-31-9	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
EtFOSAA	2991-50-6	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFUnA	2058-94-8	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFDoA	307-55-1	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFTrDA	72629-94-8	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
PFTeDA	376-06-7	ND	0.845	1.00	2.00	U	B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	96.1	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFHxA	IS	90.4	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C4-PFHpA	IS	92.1	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C3-PFHxS	IS	95.0	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C5-PFNA	IS	78.3	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFOA	IS	89.3	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C8-PFOS	IS	83.7	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFDA	IS	61.9	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
d3-MeFOSAA	IS	52.0	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFUnA	IS	52.8	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
d5-EtFOSAA	IS	56.2	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFDoA	IS	51.7	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	1
13C2-PFTeDA	IS	70.0	50 - 150		B9G0190	21-Jul-19	1.08 g	23-Jul-19 17:49	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: SAOA-B01-SO-5-5.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 10-Jul-19 08:15

Laboratory Data

Lab Sample: 1902097-09
Date Received: 12-Jul-19 09:20
% Solids: 94.3

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	1.34	0.846	1.00	2.00	J	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFHxA	307-24-4	15.6	0.846	1.00	2.00		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFHpA	375-85-9	3.81	0.846	1.00	2.00		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFHxS	355-46-4	13.1	0.846	1.00	2.00		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFOA	335-67-1	6.94	0.846	1.00	2.00		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFNA	375-95-1	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFOS	1763-23-1	33.8	0.846	1.00	2.00		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFDA	335-76-2	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
MeFOSAA	2355-31-9	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
EtFOSAA	2991-50-6	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFUnA	2058-94-8	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFDoA	307-55-1	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFTrDA	72629-94-8	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
PFTeDA	376-06-7	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	96.4	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFHxA	IS	90.2	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C4-PFHpA	IS	87.3	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C3-PFHxS	IS	94.6	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C5-PFNA	IS	83.5	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFOA	IS	85.5	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C8-PFOS	IS	91.3	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFDA	IS	71.4	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
d3-MeFOSAA	IS	55.0	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFUnA	IS	64.6	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
d5-EtFOSAA	IS	57.6	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFDoA	IS	61.8	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	1
13C2-PFTeDA	IS	74.6	50 - 150		B9G0190	21-Jul-19	1.06 g	23-Jul-19 18:00	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: SAOA-B01-SO-20-20.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 10-Jul-19 08:35

Laboratory Data

Lab Sample: 1902097-10
Date Received: 12-Jul-19 09:20
% Solids: 80.4

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	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFHxA	307-24-4	2.21	0.847	1.00	2.01		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFHpA	375-85-9	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFHxS	355-46-4	1.66	0.847	1.00	2.01	J	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFOA	335-67-1	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFNA	375-95-1	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFOS	1763-23-1	12.5	0.847	1.00	2.01		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFDA	335-76-2	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
MeFOSAA	2355-31-9	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
EtFOSAA	2991-50-6	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFUnA	2058-94-8	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFDoA	307-55-1	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFTrDA	72629-94-8	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
PFTeDA	376-06-7	ND	0.847	1.00	2.01	U	B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	95.4	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFHxA	IS	89.9	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C4-PFHpA	IS	90.2	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C3-PFHxS	IS	93.9	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C5-PFNA	IS	75.7	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFOA	IS	87.9	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C8-PFOS	IS	88.2	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFDA	IS	65.5	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
d3-MeFOSAA	IS	50.5	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFUnA	IS	59.1	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
d5-EtFOSAA	IS	50.9	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFDoA	IS	58.6	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	1
13C2-PFTeDA	IS	69.4	50 - 150		B9G0190	21-Jul-19	1.24 g	23-Jul-19 18:10	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: SAOA-B01-SO-36-36.5

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Soil
Date Collected: 10-Jul-19 10:25

Laboratory Data

Lab Sample: 1902097-11
Date Received: 12-Jul-19 09:20
% Solids: 79.1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFHxA	307-24-4	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFHpA	375-85-9	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFHxS	355-46-4	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFOA	335-67-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFNA	375-95-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFOS	1763-23-1	17.1	0.848	1.00	2.01		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFDA	335-76-2	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
MeFOSAA	2355-31-9	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
EtFOSAA	2991-50-6	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFUnA	2058-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFDoA	307-55-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFTrDA	72629-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
PFTeDA	376-06-7	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	99.1	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFHxA	IS	88.1	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C4-PFHpA	IS	84.6	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C3-PFHxS	IS	97.0	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C5-PFNA	IS	80.8	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFOA	IS	82.9	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C8-PFOS	IS	87.2	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFDA	IS	69.1	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
d3-MeFOSAA	IS	50.1	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFUnA	IS	63.5	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
d5-EtFOSAA	IS	52.2	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFDoA	IS	57.9	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	1
13C2-PFTeDA	IS	62.9	50 - 150		B9G0190	21-Jul-19	1.26 g	23-Jul-19 18:21	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: NON-B01-SO-1-1.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 10-Jul-19 13:00

Laboratory Data

Lab Sample: 1902097-12
Date Received: 12-Jul-19 09:20
% Solids: 84.7

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	3.76	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFHxA	307-24-4	76.6	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFHpA	375-85-9	35.8	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFHxS	355-46-4	133	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFOA	335-67-1	25.4	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFNA	375-95-1	2.18	0.838	0.992	1.98		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFOS	1763-23-1	916	4.19	4.96	9.92	D	B9G0190	21-Jul-19	1.19 g	24-Jul-19 10:20	5
PFDA	335-76-2	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
MeFOSAA	2355-31-9	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
EtFOSAA	2991-50-6	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFUnA	2058-94-8	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFDoA	307-55-1	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFTrDA	72629-94-8	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
PFTeDA	376-06-7	ND	0.838	0.992	1.98	U	B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	95.6	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C2-PFHxA	IS	88.7	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C4-PFHpA	IS	92.2	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C3-PFHxS	IS	95.9	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C5-PFNA	IS	78.6	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C2-PFOA	IS	88.0	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C8-PFOS	IS	78.6	50 - 150	D	B9G0190	21-Jul-19	1.19 g	24-Jul-19 10:20	5
13C2-PFDA	IS	71.3	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
d3-MeFOSAA	IS	57.5	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C2-PFUnA	IS	66.4	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
d5-EtFOSAA	IS	63.2	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C2-PFDoA	IS	64.2	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	1
13C2-PFTeDA	IS	73.1	50 - 150		B9G0190	21-Jul-19	1.19 g	23-Jul-19 18:32	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: NON-B01-SO-15-15.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 10-Jul-19 13:20

Laboratory Data

Lab Sample: 1902097-13
Date Received: 12-Jul-19 09:20
% Solids: 85.9

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	5.37	0.848	1.00	2.01		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFHxA	307-24-4	44.4	0.848	1.00	2.01		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFHpA	375-85-9	24.5	0.848	1.00	2.01		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFHxS	355-46-4	164	0.848	1.00	2.01		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFOA	335-67-1	26.0	0.848	1.00	2.01		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFNA	375-95-1	1.41	0.848	1.00	2.01	J	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFOS	1763-23-1	795	4.24	5.02	10.0	D	B9G0190	21-Jul-19	1.16 g	24-Jul-19 10:31	5
PFDA	335-76-2	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
MeFOSAA	2355-31-9	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
EtFOSAA	2991-50-6	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFUnA	2058-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFDoA	307-55-1	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFTrDA	72629-94-8	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
PFTeDA	376-06-7	ND	0.848	1.00	2.01	U	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	103	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C2-PFHxA	IS	93.7	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C4-PFHpA	IS	90.3	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C3-PFHxS	IS	100	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C5-PFNA	IS	82.9	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C2-PFOA	IS	81.5	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C8-PFOS	IS	88.3	50 - 150	D	B9G0190	21-Jul-19	1.16 g	24-Jul-19 10:31	5
13C2-PFDA	IS	64.9	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
d3-MeFOSAA	IS	44.0	50 - 150	H	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C2-PFUnA	IS	53.7	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
d5-EtFOSAA	IS	51.3	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C2-PFDoA	IS	46.2	50 - 150	H	B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	1
13C2-PFTeDA	IS	61.7	50 - 150		B9G0190	21-Jul-19	1.16 g	23-Jul-19 18:42	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: NON-B01-SO-73-73.5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 11-Jul-19 11:50

Laboratory Data

Lab Sample: 1902097-16
Date Received: 12-Jul-19 09:20
% Solids: 83.2

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFHxA	307-24-4	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFHpA	375-85-9	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFHxS	355-46-4	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFOA	335-67-1	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFNA	375-95-1	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFOS	1763-23-1	1.02	0.840	0.994	1.99	J, Q	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFDA	335-76-2	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
MeFOSAA	2355-31-9	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
EtFOSAA	2991-50-6	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFUnA	2058-94-8	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFDoA	307-55-1	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFTrDA	72629-94-8	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
PFTeDA	376-06-7	ND	0.840	0.994	1.99	U	B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	93.3	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFHxA	IS	92.2	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C4-PFHpA	IS	89.4	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C3-PFHxS	IS	90.6	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C5-PFNA	IS	87.5	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFOA	IS	87.8	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C8-PFOS	IS	92.5	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFDA	IS	73.9	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
d3-MeFOSAA	IS	57.2	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFUnA	IS	67.0	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
d5-EtFOSAA	IS	59.6	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFDoA	IS	60.9	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	1
13C2-PFTeDA	IS	67.4	50 - 150		B9G0190	21-Jul-19	1.21 g	24-Jul-19 10:09	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: NON-B04-SO-0.5-1

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 11-Jul-19 12:10

Laboratory Data

Lab Sample: 1902097-17
Date Received: 12-Jul-19 09:20
% 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	1.63	0.847	1.00	2.00	J	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFHxA	307-24-4	9.15	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFHpA	375-85-9	1.56	0.847	1.00	2.00	J	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFHxS	355-46-4	8.94	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFOA	335-67-1	1.34	0.847	1.00	2.00	J	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFNA	375-95-1	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFOS	1763-23-1	446	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFDA	335-76-2	4.21	0.847	1.00	2.00		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
MeFOSAA	2355-31-9	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
EtFOSAA	2991-50-6	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFUnA	2058-94-8	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFDoA	307-55-1	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFTrDA	72629-94-8	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
PFTeDA	376-06-7	ND	0.847	1.00	2.00	U	B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	91.1	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFHxA	IS	84.5	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C4-PFHpA	IS	82.9	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C3-PFHxS	IS	88.5	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C5-PFNA	IS	68.0	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFOA	IS	80.0	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C8-PFOS	IS	83.7	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFDA	IS	65.9	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
d3-MeFOSAA	IS	56.5	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFUnA	IS	69.3	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
d5-EtFOSAA	IS	63.9	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFDoA	IS	71.2	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	1
13C2-PFTeDA	IS	78.1	50 - 150		B9G0190	21-Jul-19	1.01 g	23-Jul-19 19:03	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: NON-B04-SO-4.5-5

PFAS Isotope Dilution Method

Client Data

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

Matrix: Soil
Date Collected: 11-Jul-19 12:30

Laboratory Data

Lab Sample: 1902097-18
Date Received: 12-Jul-19 09:20
% Solids: 97.0

Column: BEH C18

Analyte	CAS Number	Conc. (ug/kg)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	1.29	0.846	1.00	2.00	J	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFHxA	307-24-4	18.2	0.846	1.00	2.00		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFHpA	375-85-9	4.92	0.846	1.00	2.00		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFHxS	355-46-4	203	0.846	1.00	2.00		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFOA	335-67-1	62.1	0.846	1.00	2.00		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFNA	375-95-1	4.77	0.846	1.00	2.00		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFOS	1763-23-1	2480	8.46	10.0	20.0	D	B9G0190	21-Jul-19	1.03 g	24-Jul-19 10:41	10
PFDA	335-76-2	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
MeFOSAA	2355-31-9	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
EtFOSAA	2991-50-6	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFUnA	2058-94-8	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFDoA	307-55-1	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFTrDA	72629-94-8	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
PFTeDA	376-06-7	ND	0.846	1.00	2.00	U	B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	110	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C2-PFHxA	IS	90.1	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C4-PFHpA	IS	92.9	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C3-PFHxS	IS	93.1	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C5-PFNA	IS	86.7	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C2-PFOA	IS	89.1	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C8-PFOS	IS	91.3	50 - 150	D	B9G0190	21-Jul-19	1.03 g	24-Jul-19 10:41	10
13C2-PFDA	IS	71.3	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
d3-MeFOSAA	IS	51.4	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C2-PFUnA	IS	57.2	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
d5-EtFOSAA	IS	53.6	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C2-PFDoA	IS	56.3	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	1
13C2-PFTeDA	IS	66.2	50 - 150		B9G0190	21-Jul-19	1.03 g	23-Jul-19 19:14	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: Method Blank **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc. Matrix: Aqueous

Project: 4663.3803

Laboratory Data

Lab Sample: B9G0185-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	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFHxA	307-24-4	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFHpA	375-85-9	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFHxS	355-46-4	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFOA	335-67-1	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFNA	375-95-1	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFOS	1763-23-1	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFDA	335-76-2	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
MeFOSAA	2355-31-9	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
EtFOSAA	2991-50-6	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFUnA	2058-94-8	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFDoA	307-55-1	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFTrDA	72629-94-8	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
PFTeDA	376-06-7	ND	0.00274	0.00400	0.00800	U	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	100	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFHxA	IS	98.1	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C4-PFHpA	IS	97.6	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C3-PFHxS	IS	94.3	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C5-PFNA	IS	82.6	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFOA	IS	92.9	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C8-PFOS	IS	89.0	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFDA	IS	74.7	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
d3-MeFOSAA	IS	59.9	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFUnA	IS	62.1	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
d5-EtFOSAA	IS	59.7	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFDoA	IS	55.0	50 - 150		B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	1
13C2-PFTeDA	IS	41.5	50 - 150	H	B9G0185	19-Jul-19	0.125 L	22-Jul-19 14:58	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:	B9G0185-BS1/B9G0185-BSD1
Project:	4663.3803	QC Batch:	B9G0185
Matrix:	Aqueous	Samp Size:	0.125/0.125 L
		Date Extracted:	19-Jul-19
		Column:	BEH C18

Analyte	CAS Number	LCS (ug/L)	LCS Spike	LCS % Rec	LCS Quals	LCSD (ug/L)	LCSD Spike	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
PFBS	375-73-5	0.0781	0.0800	97.6		0.0828	0.0800	104	5.93		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFHxA	307-24-4	0.0796	0.0800	99.4		0.0862	0.0800	108	8.07		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFHpA	375-85-9	0.0756	0.0800	94.6		0.0875	0.0800	109	14.6		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFHxS	355-46-4	0.0821	0.0800	103		0.0873	0.0800	109	6.17		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFOA	335-67-1	0.0791	0.0800	98.9		0.0855	0.0800	107	7.67		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFNA	375-95-1	0.0814	0.0800	102		0.0885	0.0800	111	8.37		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFOS	1763-23-1	0.0776	0.0800	96.9		0.0899	0.0800	112	14.7		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFDA	335-76-2	0.0771	0.0800	96.4		0.0856	0.0800	107	10.4		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
MeFOSAA	2355-31-9	0.0760	0.0800	95.0		0.0774	0.0800	96.7	1.86		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
EtFOSAA	2991-50-6	0.0783	0.0800	97.9		0.0823	0.0800	103	4.92		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFUnA	2058-94-8	0.0808	0.0800	101		0.0896	0.0800	112	10.3		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFDoA	307-55-1	0.0804	0.0800	101		0.0849	0.0800	106	5.43		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFTrDA	72629-94-8	0.0705	0.0800	88.2		0.0725	0.0800	90.7	2.82		60-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1
PFTeDA	376-06-7	0.0772	0.0800	96.5		0.0883	0.0800	110	13.4		70-130	30	22-Jul-19 14:34	1	22-Jul-19 14:47	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	101		95.7		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFHxA	IS	102		102		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C4-PFHpA	IS	101		96.2		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C3-PFHxS	IS	101		94.7		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C5-PFNA	IS	85.4		80.7		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFOA	IS	92.1		92.8		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C8-PFOS	IS	93.5		90.7		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFDA	IS	75.7		71.4		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
d3-MeFOSAA	IS	76.8		74.0		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFUnA	IS	75.6		66.4		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
d5-EtFOSAA	IS	78.0		75.6		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFDoA	IS	71.8		72.1		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1
13C2-PFTeDA	IS	62.2		57.0		50-150	22-Jul-19 14:34	1	22-Jul-19 14:47	1

Sample ID: SAOA-B10-GW — **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 09-Jul-19 09:25

Laboratory Data

Lab Sample: 1902097-03
Date Received: 12-Jul-19 09:20
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFHxA	307-24-4	0.0401	0.00295	0.00431	0.00863		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFHpA	375-85-9	0.00352	0.00295	0.00431	0.00863	J	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFHxS	355-46-4	0.0422	0.00295	0.00431	0.00863		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFOA	335-67-1	0.00776	0.00295	0.00431	0.00863	J	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFNA	375-95-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFOS	1763-23-1	0.180	0.00295	0.00431	0.00863		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFDA	335-76-2	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
MeFOSAA	2355-31-9	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
EtFOSAA	2991-50-6	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFUnA	2058-94-8	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFDoA	307-55-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFTrDA	72629-94-8	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
PFTeDA	376-06-7	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	99.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFHxA	IS	95.4	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C4-PFHpA	IS	94.4	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C3-PFHxS	IS	103	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C5-PFNA	IS	91.8	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFOA	IS	93.9	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C8-PFOS	IS	97.4	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFDA	IS	85.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
d3-MeFOSAA	IS	81.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFUnA	IS	76.3	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
d5-EtFOSAA	IS	76.8	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFDoA	IS	57.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	1
13C2-PFTeDA	IS	20.1	50 - 150	H	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:08	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-B10-GW-D

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 09-Jul-19 09:30

Laboratory Data

Lab Sample: 1902097-04
Date Received: 12-Jul-19 09:20
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFHxA	307-24-4	0.0275	0.00280	0.00410	0.00817		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFHpA	375-85-9	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFHxS	355-46-4	0.0365	0.00280	0.00410	0.00817		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFOA	335-67-1	0.00604	0.00280	0.00410	0.00817	J	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFNA	375-95-1	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFOS	1763-23-1	0.144	0.00280	0.00410	0.00817		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFDA	335-76-2	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
MeFOSAA	2355-31-9	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
EtFOSAA	2991-50-6	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFUnA	2058-94-8	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFDoA	307-55-1	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFTrDA	72629-94-8	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
PFTeDA	376-06-7	ND	0.00280	0.00410	0.00817	U	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	99.6	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFHxA	IS	94.0	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C4-PFHpA	IS	92.9	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C3-PFHxS	IS	94.7	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C5-PFNA	IS	88.0	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFOA	IS	92.2	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C8-PFOS	IS	100	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFDA	IS	78.9	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
d3-MeFOSAA	IS	76.8	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFUnA	IS	73.4	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
d5-EtFOSAA	IS	76.6	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFDoA	IS	62.4	50 - 150		B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	1
13C2-PFTeDA	IS	28.0	50 - 150	H	B9G0185	19-Jul-19	0.122 L	22-Jul-19 15:19	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-07092019

PFAS Isotope Dilution Method

Client Data

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

Matrix: Aqueous
Date Collected: 09-Jul-19 16:45

Laboratory Data

Lab Sample: 1902097-05
Date Received: 12-Jul-19 09:20

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	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFHxA	307-24-4	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFHpA	375-85-9	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFHxS	355-46-4	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFOA	335-67-1	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFNA	375-95-1	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFOS	1763-23-1	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFDA	335-76-2	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
MeFOSAA	2355-31-9	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
EtFOSAA	2991-50-6	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFUnA	2058-94-8	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFDoA	307-55-1	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFTrDA	72629-94-8	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
PFTeDA	376-06-7	ND	0.00294	0.00431	0.00859	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	104	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFHxA	IS	94.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C4-PFHpA	IS	97.7	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C3-PFHxS	IS	107	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C5-PFNA	IS	87.7	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFOA	IS	89.7	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C8-PFOS	IS	89.9	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFDA	IS	78.2	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
d3-MeFOSAA	IS	75.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFUnA	IS	71.8	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
d5-EtFOSAA	IS	76.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFDoA	IS	70.2	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	1
13C2-PFTeDA	IS	76.2	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:30	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-07092019

PFAS Isotope Dilution Method

Client Data

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

Matrix: Aqueous
Date Collected: 09-Jul-19 17:05

Laboratory Data

Lab Sample: 1902097-07
Date Received: 12-Jul-19 09:20

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFHxA	307-24-4	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFHpA	375-85-9	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFHxS	355-46-4	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFOA	335-67-1	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFNA	375-95-1	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFOS	1763-23-1	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFDA	335-76-2	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
MeFOSAA	2355-31-9	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
EtFOSAA	2991-50-6	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFUnA	2058-94-8	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFDoA	307-55-1	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFTrDA	72629-94-8	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
PFTeDA	376-06-7	ND	0.00297	0.00435	0.00867	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	105	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFHxA	IS	95.7	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C4-PFHpA	IS	96.6	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C3-PFHxS	IS	104	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C5-PFNA	IS	83.3	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFOA	IS	89.0	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C8-PFOS	IS	91.1	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFDA	IS	74.7	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
d3-MeFOSAA	IS	73.0	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFUnA	IS	66.7	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
d5-EtFOSAA	IS	74.0	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFDoA	IS	67.9	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	1
13C2-PFTeDA	IS	75.2	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 15:40	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-07102019

PFAS Isotope Dilution Method

Client Data

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

Matrix: Aqueous
Date Collected: 10-Jul-19 16:50

Laboratory Data

Lab Sample: 1902097-14
Date Received: 12-Jul-19 09:20

Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFHxA	307-24-4	0.0594	0.00295	0.00431	0.00861		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFHpA	375-85-9	0.0185	0.00295	0.00431	0.00861		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFHxS	355-46-4	0.0122	0.00295	0.00431	0.00861		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFOA	335-67-1	0.00671	0.00295	0.00431	0.00861	J	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFNA	375-95-1	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFOS	1763-23-1	0.0706	0.00295	0.00431	0.00861		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFDA	335-76-2	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
MeFOSAA	2355-31-9	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
EtFOSAA	2991-50-6	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFUnA	2058-94-8	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFDoA	307-55-1	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFTrDA	72629-94-8	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
PFTeDA	376-06-7	ND	0.00295	0.00431	0.00861	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	99.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFHxA	IS	97.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C4-PFHpA	IS	97.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C3-PFHxS	IS	93.6	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C5-PFNA	IS	93.2	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFOA	IS	96.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C8-PFOS	IS	94.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFDA	IS	84.3	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
d3-MeFOSAA	IS	66.8	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFUnA	IS	77.4	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
d5-EtFOSAA	IS	82.4	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFDoA	IS	73.1	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	1
13C2-PFTeDA	IS	79.3	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 15:53	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-07102019 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 10-Jul-19 17:00

Laboratory Data

Lab Sample: 1902097-15
Date Received: 12-Jul-19 09:20
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFHxA	307-24-4	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFHpA	375-85-9	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFHxS	355-46-4	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFOA	335-67-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFNA	375-95-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFOS	1763-23-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFDA	335-76-2	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
MeFOSAA	2355-31-9	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
EtFOSAA	2991-50-6	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFUnA	2058-94-8	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFDoA	307-55-1	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFTrDA	72629-94-8	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
PFTeDA	376-06-7	ND	0.00295	0.00431	0.00863	U	B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	98.7	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFHxA	IS	100	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C4-PFHpA	IS	98.2	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C3-PFHxS	IS	102	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C5-PFNA	IS	87.6	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFOA	IS	95.6	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C8-PFOS	IS	102	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFDA	IS	77.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
d3-MeFOSAA	IS	67.5	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFUnA	IS	64.8	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
d5-EtFOSAA	IS	69.6	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFDoA	IS	63.0	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	1
13C2-PFTeDA	IS	77.9	50 - 150		B9G0185	19-Jul-19	0.116 L	22-Jul-19 16:03	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-07112019 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 11-Jul-19 12:50

Laboratory Data

Lab Sample: 1902097-19
Date Received: 12-Jul-19 09:20
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFHxA	307-24-4	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFHpA	375-85-9	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFHxS	355-46-4	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFOA	335-67-1	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFNA	375-95-1	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFOS	1763-23-1	0.0201	0.00297	0.00435	0.00866		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFDA	335-76-2	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
MeFOSAA	2355-31-9	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
EtFOSAA	2991-50-6	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFUnA	2058-94-8	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFDoA	307-55-1	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFTrDA	72629-94-8	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
PFTeDA	376-06-7	ND	0.00297	0.00435	0.00866	U	B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	98.1	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFHxA	IS	94.8	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C4-PFHpA	IS	95.3	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C3-PFHxS	IS	95.9	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C5-PFNA	IS	88.2	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFOA	IS	95.6	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C8-PFOS	IS	94.1	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFDA	IS	73.1	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
d3-MeFOSAA	IS	68.0	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFUnA	IS	68.9	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
d5-EtFOSAA	IS	72.8	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFDoA	IS	66.3	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	1
13C2-PFTeDA	IS	76.7	50 - 150		B9G0185	19-Jul-19	0.115 L	22-Jul-19 16:14	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-07112019 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech EC, Inc.
Project: 4663.3803
Location: Yuma, AZ
Matrix: Aqueous
Date Collected: 11-Jul-19 13:00

Laboratory Data

Lab Sample: 1902097-20
Date Received: 12-Jul-19 09:20
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	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFHxA	307-24-4	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFHpA	375-85-9	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFHxS	355-46-4	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFOA	335-67-1	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFNA	375-95-1	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFOS	1763-23-1	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFDA	335-76-2	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
MeFOSAA	2355-31-9	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
EtFOSAA	2991-50-6	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFUnA	2058-94-8	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFDoA	307-55-1	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFTrDA	72629-94-8	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
PFTeDA	376-06-7	ND	0.00294	0.00427	0.00858	U	B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	102	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFHxA	IS	101	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C4-PFHpA	IS	94.1	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C3-PFHxS	IS	105	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C5-PFNA	IS	90.8	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFOA	IS	96.0	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C8-PFOS	IS	100	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFDA	IS	83.4	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
d3-MeFOSAA	IS	78.0	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFUnA	IS	79.1	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
d5-EtFOSAA	IS	79.7	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFDoA	IS	60.1	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	1
13C2-PFTeDA	IS	79.7	50 - 150		B9G0185	19-Jul-19	0.117 L	22-Jul-19 16:24	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.

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

For Laboratory Use Only
Work Order #: 1902097 Temp: 0.8 °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	7/11/19	1640	FEDEX	7/11/19	1640
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
FedEx			B. Benedict	07/12/19	0920

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-B10-SO-1-1.5	7/9/19	0735	YUMA, AZ	1	P	SO			X						
SAOA-B10-SO-20-20.5	7/9/19	0830	Yuma, AZ	1	P	SO			X						
SAOA-B10-GW	7/9/19	0925	Yuma, AZ	2	P	AQ			X						
SAOA-B10-GW-D	7/9/19	0930	Yuma, AZ	2	P	AQ			X						
EB-07092019	7/9/19	1645	Yuma, AZ	2	P	AQ			X						
NON-B02-SO-1-1.5	7/9/19	1650	Yuma, AZ	1	P	SO			X						
FRB-07092019	7/9/19	1705	Yuma, AZ	2	P	AQ			X						
NON-B02-SO-15-15.5	7/9/19	1735	Yuma, AZ	1	P	SO			X						
SAOA-B01-SO-5-5.5	7/10/19	0815	Yuma, AZ	1	P	SO			X						
SAOA-B01-SO-20-20.5	7/10/19	0835	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

For Laboratory Use Only
Work Order #: 1902097 Temp: 0.8 °C
Storage ID: R-13 & WR-2 Storage Secured: Yes ☑ No ☐

Project ID: 4663.3803 PO#: 1164824 Sampler: Mckinstry/OSWALE (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	7/11/19	1640	FEDEX	7/11/19	1640
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
FedEx			B. Benedict Beth Benedict	07/12/19	0930

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

Container(s) | Mod. EPA Method 537 | EPA Method 537(DW only)

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below	PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
SAOA-B01-SO-36-36.5	7/10/19	1025	YUMA, AZ	1	P	SO			X						
NON-B01-SO-1-1.5	7/10/19	1300	Yuma, AZ	1	P	SO			X						
NON-B01-SO-15-15.5	7/10/19	1320	Yuma, AZ	1	P	SO			X						
EB-07102019	7/10/19	1650	Yuma, AZ	4	P	~~SO~~ AQ			X						
FRB-07102019	7/10/19	1700	Yuma, AZ	2	P	AQ			X						
NON-B01-SO-73-73.5	7/11/19	1150	Yuma, AZ	1	P	SO			X						
NON-B04-SO-0.5-1	7/11/19	1210	Yuma, AZ	1	P	SO			X						
NON-B04-SO-4.5-5	7/11/19	1230	YUMA, AZ	1	P	SO			X						
EB-07112019	7/11/19	1250	Yuma, AZ	2	P	AQ			X						
FRB-07112019	7/11/19	1300	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

Vista Work Order #: 1902097 Page # 1 of 1

TAT Std

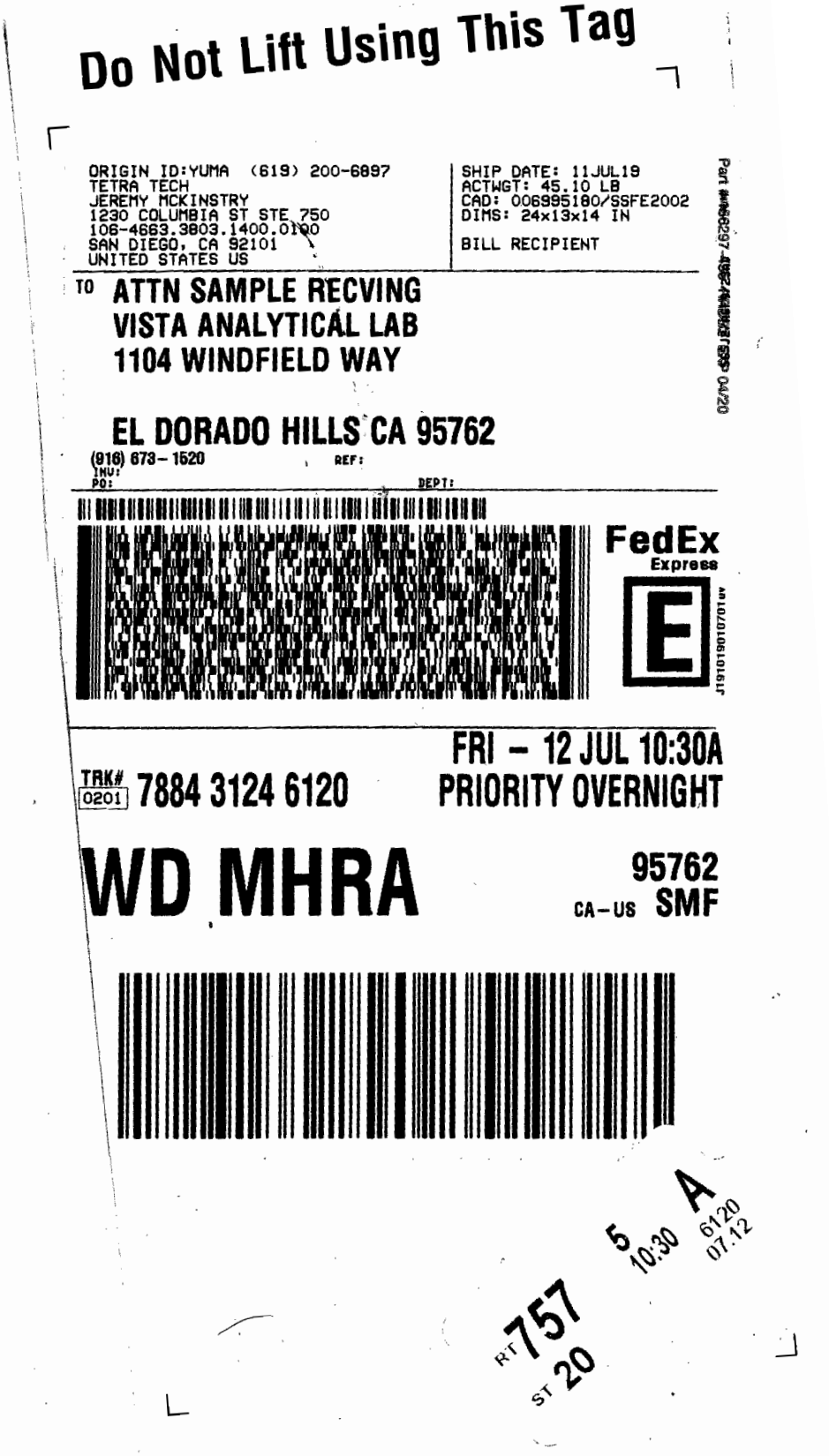
Samples Arrival:	**Date/Time** 07/12/19 0920	**Initials:** JBB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 07/12/19 1456	**Initials:** VL	**Location:** R-13 : A1 **Shelf/Rack:** WR-2 : A3

Delivered By:	(FedEx)	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Dry Ice		None
Temp °C: 0.8 (uncorrected)			**Probe used:** Y / (N)		**Thermometer ID:** IR-3		
Temp °C: 0.8 (corrected)							

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill ✓ Trk # 788 4 3124 6120	✓		
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:


Do Not Lift Using This Tag
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: 11JUL19
ACTWGT: 45.10 LB
CAD: 006995180/SSFE2002
DIMS: 24x13x14 IN
BILL RECIPIENT
TO ATTN SAMPLE RECVING
VISTA ANALYTICAL LAB
1104 WINDFIELD WAY
EL DORADO HILLS CA 95762
(916) 673-1520
REF:
INV:
PO:
DEPT:
FedEx
Express
TRK# 0201 7884 3124 6120
FRI - 12 JUL 10:30A
PRIORITY OVERNIGHT
WD MHRA
95762
CA-US SMF
RT 757
ST 20
5
10:30
A
6120
07.12

EXTRACTION INFORMATION

Process Sheet

Workorder: 1902097

Prep Expiration: 2019-09-07
Client: Tetra Tech EC, Inc.

Workorder Due: 26-Jul-19 00:00

TAT: 14

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

Prep Batch: B9G0190

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

Prep Data Entered: LW 07/23/19
Date and Initials

Initial Sequence: S9G00060

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1902097-01	A	☑	☑	SAOA-B10-SO-1-1.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-02		☑	☑	SAOA-B10-SO-20-20.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-06		☑	☑	NON-B02-SO-1-1.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-08		☑	☑	NON-B02-SO-15-15.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-09		☑	☑	SAOA-B01-SO-5-5.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-10		☑	☑	SAOA-B01-SO-20-20.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-11		☑	☑	SAOA-B01-SO-36-36.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-12		☑	☑	NON-B01-SO-1-1.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-13		☑	☑	NON-B01-SO-15-15.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-16		☑	☑	NON-B01-SO-73-73.5		WR-2 A-3	HDPE Jar, 6 oz
1902097-17		☑	☑	NON-B04-SO-0.5-1		WR-2 A-3	HDPE Jar, 6 oz
1902097-18		☑	☑	NON-B04-SO-4.5-5		WR-2 A-3	HDPE Jar, 6 oz

NO Comments: **Internal COC**

Pre-Prep Check Out: OPV 07/16/19
Pre-Prep Check In: OPV 07/16/19
Prep Check Out: HR 07/21/19
Prep Check In: HR 07/21/19
Prep Reconciled Initals/Date: OPV OPV 07/16/19
Spike Reconciled Initals/Date: HR 07/21/19
VialBoxID: Future

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

PREPARATION BENCH SHEET

B9G0190

Chemist: HR

Prep Date: 07/21/19

Prep Time: 12:11

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

Initial/Date: HR 07/21/19

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
☐	B9G0190-BLK1 (A)	(1.00)	HR 07/21/19	HR 07/21/19	HR 07/22/19	AE 07/23/19	HR 07/22/19	HR 07/22/19
☐	B9G0190-BS1 (A)	(1.00)	↓	↓	↓	↓	↓	↓
☐	B9G0190-MS1 (A) 1902097-06	1.01	↓	↓	↓	↓	↓	↓
☐	B9G0190-MSD1 (A) 1902097-06	1.01	↓	↓	↓	↓	↓	↓
☐	1902097-01 (A)	1.03 ✓	↓	↓	↓	↓	↓	↓
☐	1902097-02 (A)	1.05	↓	↓	↓	↓	↓	↓
☐	1902097-06 (A)	1.01	↓	↓	↓	↓	↓	↓
☐	1902097-08 (A)	1.08	↓	↓	↓	↓	↓	↓
☐	1902097-09 (A)	1.06	↓	↓	↓	↓	↓	↓
☐	1902097-10 (A)	1.24	↓	↓	↓	↓	↓	↓
☐	1902097-11 (A)	1.26	↓	↓	↓	↓	↓	↓
☐	1902097-12 (A)	1.19	↓	↓	↓	↓	↓	↓
☐	1902097-13 (A)	1.16	↓	↓	↓	↓	↓	↓
☐	1902097-16 (A)	1.21	↓	↓	↓	↓	↓	↓
☐	1902097-17 (A)	1.01	↓	↓	↓	↓	↓	↓

IS: 19E2201, 10mL, (V2)

IS SUP: N/A

NS: 19E2204, 10mL, (V2)

NS SUP: N/A

RS: 19E2202, 10mL, (V2)

SPE Chem: Strata X-AW 33 µm 200mg/6 mL

SPE Lot#: SLB-00683

Extraction Solvent: 1% MeOH:ACN

ENVI-Carb Lot#: A01431

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s) 1 mL

Notes:

(A) Cartridge drained prior to drying step. 07/22/19 AE

* 07/23/19 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)

PREPARATION BENCH SHEET

B9G0190

Chemist: HR
Prep Date: ~~07/21/19~~ HR 07/21/19
Prep Time: 12:11

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

Initial/Date: HR 07/21/19
BalanceID: HR MS-9

Cen	VISTA Sample ID	Sample Amt. (g)	IS/NS CHEM/WIT DATE	Pre-Ext	Extraction	SPE	ENVI-Carb	RS CHEM/WIT DATE
☐	1902097-18 (A)	1.03	HR 07/21/19	HR 07/21/19	HR 07/22/19	AE 07/22/19	HR 07/22/19	HR 07/22/19

IS: 19E2201, 10mL, (V2)
IS SUP: N/A
NS: 19E2204, 10mL, (V2)
NS SUP: N/A
RS: 19E2202, 10mL, (V8)

SPE Chem: Strata X-AW 33 µm 200mg/6mL
SPE Lot#: 518-006831
Extraction Solvent: 1:1 MeOH:ACN
ENVI-Carb Lot#: A01431
Ele SOLV: MeOH/0.5%NH4OH in MeOH
Final Volume(s) 1 mL

Notes:
(A) cartridge drained prior to drying step. 07/22/19 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

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B9G0160

Analyst: OPV ✓ **Test Code:** %Moist/%Solids

Analyte: **Units:** %

Dried at 110°C+/-5°C

Oven ID: *01* ✓ 02

Data Entry Verified by: (Initial and Date) HR 07/17/19

Inst HRMS-9 ✓

Date/Time IN: 7/16/19 14:29 ✓ Date/Time OUT: 7/17/19 8:07 ✓

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date:	OPV 07/16/19	ONL 07/17/19			OPV 07/16/19					OPV 07/16/19
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*
	1902097-01		Sample	1.3000 ✓	6.5900 ✓	6.4900 ✓	5.1900	98.11	Sediment	N/A	N/A	N/A	N/A	X
	1902097-02		Sample	1.2900 ✓	6.0100 ✓	5.7700 ✓	4.4800	94.92	Sand	N/A	N/A	N/A	N/A	X
	1902097-06		Sample	1.2900 ✓	6.1700 ✓	6.1100 ✓	4.8200	98.77	Sand	N/A	N/A	N/A	N/A	X
	1902097-08		Sample	1.3000 ✓	6.0500 ✓	5.7000 ✓	4.4000	92.63	Sediment	N/A	N/A	N/A	N/A	X
	1902097-09		Sample	1.3000 ✓	6.1800 ✓	5.9000 ✓	4.6000	94.26	Sediment	N/A	N/A	N/A	N/A	X
	1902097-10		Sample	1.2900 ✓	6.6500 ✓	5.6000 ✓	4.3100	80.41	Clay	N/A	N/A	N/A	N/A	X
	1902097-11		Sample	1.2900 ✓	6.4000 ✓	5.3300 ✓	4.0400	79.06	Clay	N/A	N/A	N/A	N/A	X
	1902097-12		Sample	1.3000 ✓	6.4800 ✓	5.6900 ✓	4.3900	84.75	Clay	N/A	N/A	N/A	N/A	X
	1902097-13		Sample	1.2800 ✓	6.1800 ✓	5.4900 ✓	4.2100	85.92	Clay	N/A	N/A	N/A	N/A	X
	1902097-16		Sample	1.2900 ✓	6.1600 ✓	5.3400 ✓	4.0500	83.16	Clay	N/A	N/A	N/A	N/A	X
	1902097-17		Sample	1.2900 ✓	6.1500 ✓	6.0900 ✓	4.8000	98.77	Dirt	N/A	N/A	N/A	N/A	X
	1902097-18		Sample	1.3000 ✓	6.3300 ✓	6.1800 ✓	4.8800	97.02	Clay	N/A	N/A	N/A	N/A	X

*Sample homogenized in sample container unless otherwise noted.

Percent Moisture/ Percent Solids

D2216-90 BATCH ID B9G0160

Analyst: OPV	**Test Code:** %Moist/%Solids	Data Entry Verified by: (Initial and Date) MA
Analyte:	**Units:** %	
Dried at 110°C+/-5°C		
Oven ID: (01) 02		

Inst HPMS-9

Date/Time IN: 07/16/19 14:29 Date/Time OUT 07/17/19 08:07

16 OPV 07/16/19

ONL 07/17/19

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date:	OPV 07/16/19	~~OPV 07/16/19~~			OPV 07/16/19					OPV 07/16/19
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*
	1902097-01	A	Sample	1.30	6.59	6.49			Sediment					✓
	1902097-02		Sample	1.29	6.01	5.77			Sand					✓
	1902097-06		Sample	1.29	6.17	6.11			Sand					✓
	1902097-08		Sample	1.30	6.05	5.70			Sediment					✓
	1902097-09		Sample	1.30	6.18	5.90			Sediment					✓
	1902097-10		Sample	1.29	6.65	5.60			clay					✓
	1902097-11		Sample	1.29	6.40	5.33			clay					✓
	1902097-12		Sample	1.30	6.48	5.69			clay					✓
	1902097-13		Sample	1.28	6.18	5.49			clay					✓
	1902097-16		Sample	1.29	6.16	5.34			clay					✓
	1902097-17		Sample	1.29	6.15	6.09			silt					✓
	1902097-18		Sample	1.30	6.33	6.18			clay					✓

MA

MA

*Sample homogenized in sample container unless otherwise noted.

Matrix: Solid

Method: Percent Solids

Vista Internal Chain-of-Custody

Vista Analytical Laboratory

~~B9G0160~~ NA

[illegible] 7/26/19

	Location		L2	W2	L2	L2	R12	L2	R12	L2	R12
	Reason		R1	R9	R1	pre-extraction	R9	R4	R2	R6	R9
	Initials		OPV	OPV	OM	HR	HR	HR	OE	HR	LW
	Date/Time		07/16/19 13:51	07/16/19 14:35	07/17/19 08:07	07/21/19 10:26	07/21/19 ~~05:34~~ **	07/22/19 05:34	07/22/19 14:13	07/23/19 06:45	07/23/19 12:49
Initial Storage	LabNumber	Cont									
WR-2 A-3	1902097-01	A	O	O	O	O	*~~O~~E	E	E	E	O
WR-2 A-3	1902097-02										
WR-2 A-3	1902097-06										
WR-2 A-3	1902097-08										
WR-2 A-3	1902097-09										
WR-2 A-3	1902097-10										
WR-2 A-3	1902097-11										
WR-2 A-3	1902097-12										
WR-2 A-3	1902097-13										
WR-2 A-3	1902097-16										
WR-2 A-3	1902097-17										
WR-2 A-3	1902097-18										

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

*HR 07/21/19

** 12:45 HR 07/22/19

Batch: B9G0190

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1902097-01	1.03	98.10963	1.0105	1000	21-Jul-19 12:11	HNR	N/A	N/A	Soil	VAL - PFAS DoD (LOQ as
1902097-02	1.05	94.91525	0.9966	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-06	1.01	98.77049	0.9976	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-08	1.08	92.63157	1.0004	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-09	1.06	94.2623	0.9992	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-10	1.24	80.41045	0.9971	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-11	1.26	79.06066	0.9962	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-12	1.19	84.74904	1.0085	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-13	1.16	85.91837	0.9967	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-16	1.21	83.16222	1.0063	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-17	1.01	98.76543	0.9975	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
1902097-18	1.03	97.01789	0.9993	1000	21-Jul-19 12:11	HNR			Soil	VAL - PFAS DoD (LOQ as
B9G0190-BLK1	1	100	(1.00)	1000	21-Jul-19 12:11	HNR				QC
B9G0190-BS1	1	100	(1.00)	1000	21-Jul-19 12:11	HNR	19E2204	10		QC
B9G0190-MS1	1.01	98.77049	0.9976	1000	21-Jul-19 12:11	HNR	19E2204	10		QC
B9G0190-MSD1	1.01	98.77049	0.9976	1000	21-Jul-19 12:11	HNR	19E2204	10		QC

All bolded data on report verified against written benchsheet by (initial/date) LW 07/23/19

Printed: 7/23/2019 7:44:35AM
Page 1 of 1

Process Sheet

Workorder: 1902097

Prep Expiration: 2019-07-23

Client: Tetra Tech EC, Inc.

Workorder Due: 26-Jul-19 00:00

TAT: 14

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

Matrix: **Aqueous**

Prep Batch: B9G0185

Prep Data Entered: FB 07/22/19 (Date and Initials)

Version: 537 (14 Analyte) - DoD Limits

DoD: DoD QSM 5.1

Initial Sequence: S9G0056

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1902097-03	A	☑	☑	SAOA-B10-GW		R-13 A-1	HDPE Bottle, 125 mL
1902097-04		☑	☑	SAOA-B10-GW-D		R-13 A-1	HDPE Bottle, 125 mL
1902097-05		☑	☑	EB-07092019		R-13 A-1	HDPE Bottle, 125 mL
1902097-07		☑	☑	FRB-07092019		R-13 A-1	HDPE Bottle, 125 mL
1902097-14		☑	☑	EB-07102019		R-13 A-1	HDPE Bottle, 125 mL
1902097-15		☑	☑	FRB-07102019		R-13 A-1	HDPE Bottle, 125 mL
1902097-19		☑	☑	EB-07112019		R-13 A-1	HDPE Bottle, 125 mL
1902097-20		☑	☑	FRB-07112019		R-13 A-1	HDPE Bottle, 125 mL

NO Comments: Internal COC

Pre-Prep Check Out: SAE 07/17/19

Pre-Prep Check In: SAE 07/17/19

Prep Check Out: HR 07/19/19

Prep Check In: N/A

Prep Reconciled Initals/Date: SAE 07/17/19

Spike Reconciled Initals/Date: HR 07/19/19

VialBoxID: Clam

Matrix: Aqueous

Method: 537M PFAS DOD (LOQ as mRL)

PREPARATION BENCH SHEET

B9G0185

Chemist: HR

Prep Date: 07/19/19

Prep Time: 06:00

Prepared using: ☐ Sonication Shaker ☑ SPE Extraction ☑ Centrifuge ID: C3

Date/Initals: SAE 07/17/19 BalanceID: HRMB-10

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
☑	B9G0185-BLK1	5	3	0	1	NA	NA	0.125	HR ONL 07/19/19	ONL 07/19/19	ONL 07/19/19	ONL ONL 07/19/19
☑	B9G0185-BS1	5	3	0	1	"	"	(0.125)	"	"	"	"
☑	B9G0185-BSD1	5	3	0	1	↓	↓	(0.125)	"	"	"	"
☑	1902097-03	7	3	0	2	142.66	26.73	0.11593	"	"	"	"
☑	1902097-04	7	3	0	2	149.17	26.71	0.12246	"	"	"	"
☐	1902097-05	5	3	0	1	143.29	26.84	0.11645	"	"	"	"
☐	1902097-07	5	3	0	1	142.07	26.68	0.11539	"	"	"	"
☐	1902097-14	5	3	0	1	142.98	26.84	0.11614	"	"	"	"
☐	1902097-15	5	3	0	1	142.68	26.74	0.11594	"	"	"	"
☐	1902097-19	5	3	0	1	142.27	26.84	0.11543	"	"	"	"
☐	1902097-20	5	3	0	1	143.27	26.69	0.11658	"	"	"	"

IS: 19E2201, 10uL (V2)

IS SUP: N/A

NS: 19E2304, 10uL (V2)

NS SUP: N/A

RS: 19E2202, 10µL (V2)

SPE Chem: Strata-X-AW 33µm 200mg/6mL

SPE Lot#: SLB-000831

ENVI-Carb Lot#: A0143

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s) 1 mL

Notes:

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)

Batch: B9G0185

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1902097-03	0.11593	N/A	N/A	1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-04	0.12246			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-05	0.11645			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-07	0.11539			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-14	0.11614			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-15	0.11594			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-19	0.11543			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
1902097-20	0.11658			1000	19-Jul-19 06:00	HNR			Aqueous	537M PFAS DOD (LOQ as
B9G0185-BLK1	0.125			1000	19-Jul-19 06:00	HNR				QC
B9G0185-BS1	0.125			1000	19-Jul-19 06:00	HNR	19E2204	10		QC
B9G0185-BSD1	0.125			1000	19-Jul-19 06:00	HNR	19E2204	10		QC

All bolded data on report verified against written benchsheet by (initial/date) FB 07/22/19

Printed: 7/22/2019 9:59:32AM
Page 1 of 1

Matrix: Aqueous

Method: 537M PFAS DOD (LOQ as mRL)

Vista Internal Chain-of-Custody

B9G0185

Vista Analytical Laboratory

	Location		L2	R-13	L2	R12	L2	R12	L4		
	Reason		Prep	R9	R4	R9	R6	R9	R8		
	Initials		SAE	SAE	HR	qs	LW	HR	CAH		
	Date/Time		07/17/19 10:20	07/17/19 10:42	07/19/19 05:47	07/19/19 12:58	07/22/19 04:13	07/22/19 12:59	07/22/19 14:21		
Initial Storage	LabNumber	Cont									
R-13 A-1	1902097-03	A	O	O	O	E	E	E	E		
R-13 A-1	1902097-04										
R-13 A-1	1902097-05										
R-13 A-1	1902097-07										
R-13 A-1	1902097-14										
R-13 A-1	1902097-15										
R-13 A-1	1902097-19										
R-13 A-1	1902097-20										

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

Sample Data – PFAS Isotope Dilution Method

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-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	1.54e0	1.38e3	1.00		2.47	2.46	0.0139	0.0393		2.694	NO
2	7	PFHxA	313.0 > 269.0		6.47e3	1.00		2.98						
3	11	PFHpA	363.0 > 318.9		7.80e3	1.00		3.60						
4	13	L-PFHxS	398.9 > 79.6		2.45e3	1.00		3.76						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	2.45e3	1.00		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	1.38e3	1.64e3	1.00	1.058	2.46	2.47	10.5	9.9261	79.4		
7	52	13C2-PFHxA	315.0 > 270.0	6.47e3	1.99e4	1.00	0.978	2.97	2.98	4.07	4.1640	83.3		
8	53	13C4-PFHpA	367.2 > 321.8	7.80e3	1.99e4	1.00	0.479	3.59	3.60	4.91	10.2636	82.1		
9	54	13C3-PFHxS	401.8 > 79.9	2.45e3	1.64e3	1.00	2.024	3.75	3.76	18.6	9.2099	73.7		
10	54	13C3-PFHxS	401.8 > 79.9	2.45e3	1.64e3	1.00	2.024	3.75	3.76	18.6	9.2099	73.7		
11	-1													
12	16	L-PFOA	412.8 > 368.9	6.83e1	1.35e4	1.00		4.13	4.13	0.0633	0.0170		8.013	YES
13	81	Total PFOA	412.8 > 368.9	6.83e1	1.35e4	1.00		4.21		0.0633	0.0170			
14	21	PFNA	463.0 > 418.8		1.32e4	1.00		4.57						
15	23	L-PFOS	498.9 > 79.9	2.85e0	3.02e3	1.00		4.66	4.56	0.0118	0.0295		2.942	NO
16	82	Total PFOS	498.9 > 79.9	2.85e0	3.02e3	1.00		4.74		0.0118	0.0295			
17	58	13C2-PFOA	414.9 > 369.7	1.35e4	2.73e4	1.00	0.681	4.12	4.13	6.18	9.0732	72.6		
18	58	13C2-PFOA	414.9 > 369.7	1.35e4	2.73e4	1.00	0.681	4.12	4.13	6.18	9.0732	72.6		
19	56	13C5-PFNA	468.2 > 422.9	1.32e4	1.98e4	1.00	1.002	4.57	4.57	8.34	8.3248	66.6		
20	59	13C8-PFOS	507.0 > 79.9	3.02e3	3.92e3	1.00	0.997	4.65	4.66	9.64	9.6732	77.4		
21	59	13C8-PFOS	507.0 > 79.9	3.02e3	3.92e3	1.00	0.997	4.65	4.66	9.64	9.6732	77.4		
22	-1													
23	26	PFDA	513 > 468.8		1.25e4	1.00		4.95						
24	29	L-MeFOSAA	570 > 419		2.70e3	1.00		5.11						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.70e3	1.00		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	4.01e1	1.37e4	1.00		5.28	5.28	0.0366			64.937	YES
27	37	PFDoA	612.9 > 569.0		1.29e4	1.00		5.57						
28	60	13C2-PFDA	515.1 > 469.9	1.25e4	2.56e4	1.00	0.819	4.95	4.95	6.09	7.4411	59.5		
29	62	d3-N-MeFOSAA	573.3 > 419	2.70e3	3.18e4	1.00	0.177	5.11	5.11	1.06	5.9719	47.8		
30	62	d3-N-MeFOSAA	573.3 > 419	2.70e3	3.18e4	1.00	0.177	5.11	5.11	1.06	5.9719	47.8		
31	63	13C2-PFUdA	565 > 519.8	1.37e4	3.18e4	1.00	0.889	5.28	5.28	5.37	6.0430	48.3		
32	65	13C2-PFDoA	614.7 > 569.7	1.29e4	2.56e4	1.00	1.087	5.57	5.57	6.30	5.7948	46.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.45e3	1.00		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.45e3	1.00		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.29e4	1.00		5.82						

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-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		1.06e4	1.00		6.05						
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.45e3	3.18e4	1.00	0.224	5.27	5.26	1.35	6.0467	48.4		
40	64	d5-N-EtFOSAA	589.3 > 419	3.45e3	3.18e4	1.00	0.224	5.27	5.26	1.35	6.0467	48.4		
41	65	13C2-PFDoA	614.7 > 569.7	1.29e4	2.56e4	1.00	1.087	5.57	5.57	6.30	5.7948	46.4		
42	67	13C2-PFTeDA	715.1 > 669.7	1.06e4	3.18e4	1.00	0.604	6.04	6.05	4.16	6.8818	55.1		
43	59	13C8-PFOS	507.0 > 79.9	3.02e3	3.92e3	1.00	0.997	4.65	4.66	9.64	9.6732	77.4		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.99e4	1.99e4	1.00	1.000	2.97	2.98	12.5	12.5000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.73e4	2.73e4	1.00	1.000	4.12	4.13	12.5	12.5000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.64e3	1.64e3	1.00	1.000	3.75	3.76	12.5	12.5000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.98e4	1.98e4	1.00	1.000	4.57	4.57	12.5	12.5000	100.0		
49	77	13C4-PFOS	503 > 79.9	3.92e3	3.92e3	1.00	1.000	4.65	4.66	12.5	12.5000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.56e4	2.56e4	1.00	1.000	4.95	4.95	12.5	12.5000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.18e4	3.18e4	1.00	1.000	5.28	5.28	12.5	12.5000	100.0		

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

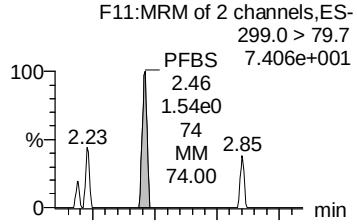
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

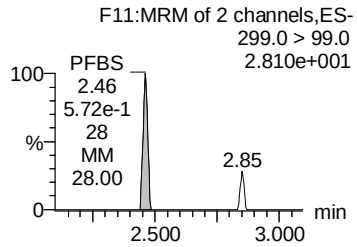
Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

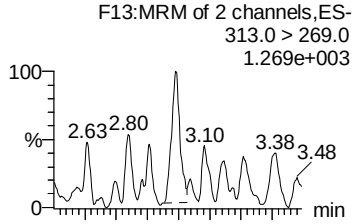
Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

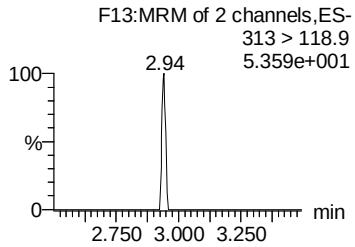
PFBS



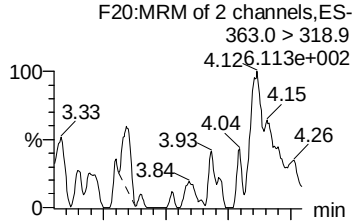


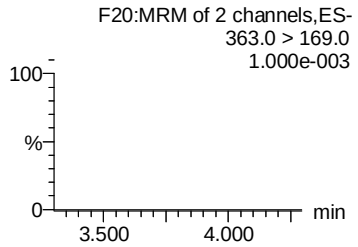
PFHxA



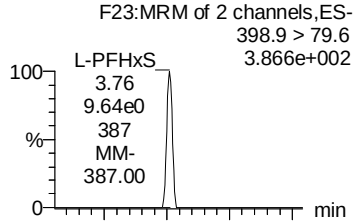


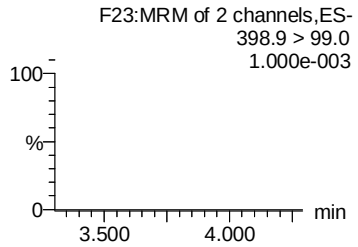
PFHpA



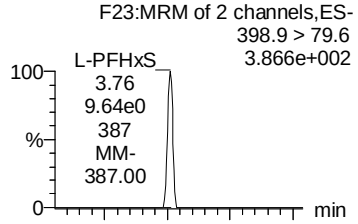


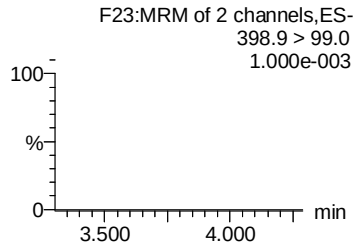
L-PFHxS



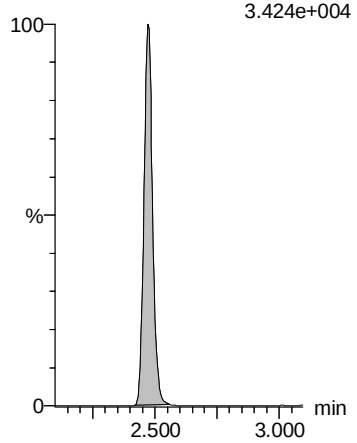


Total PFHxS

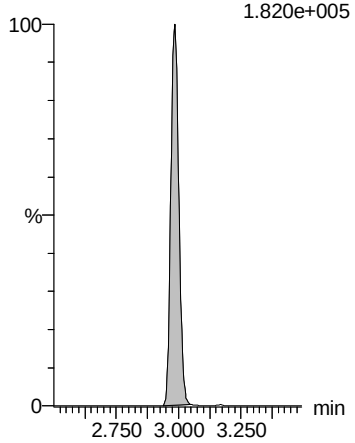




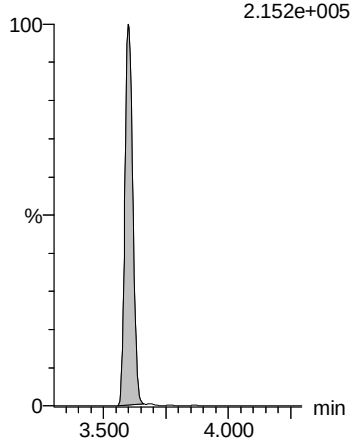
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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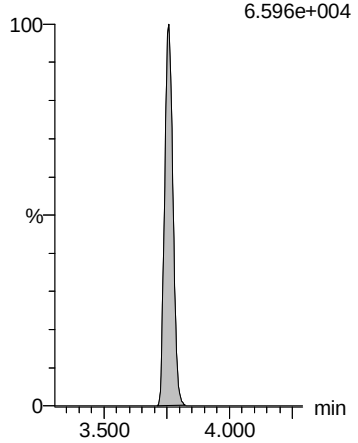
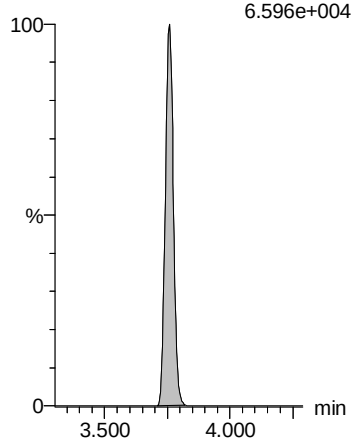


13C3-PFHxS



CGH 7/25/2019

Vista Analytical Laboratory L14

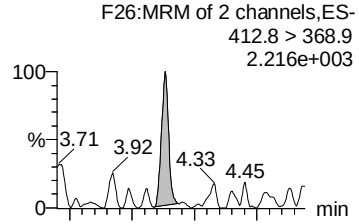
Review: AMR 7/25/2019

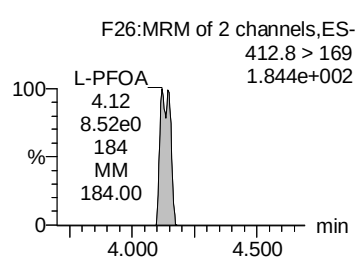
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

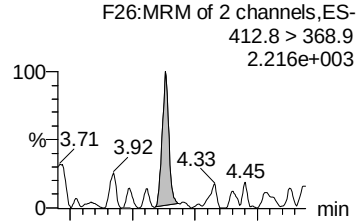
Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

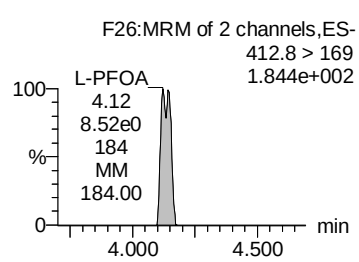
L-PFOA



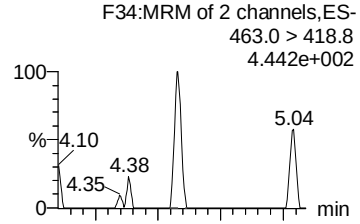


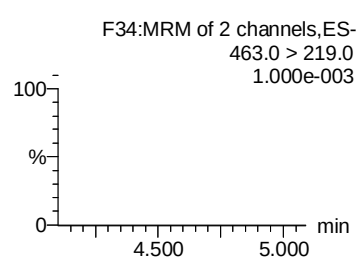
Total PFOA



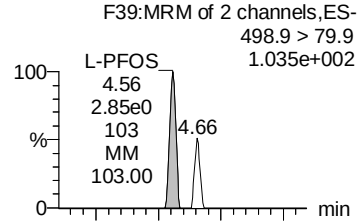


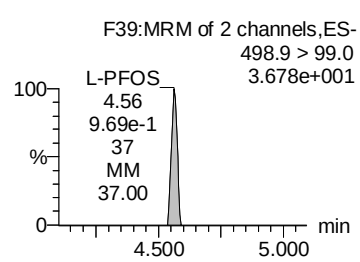
PFNA



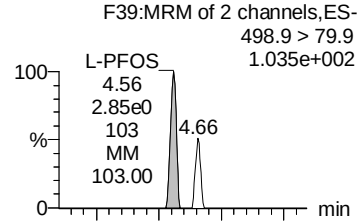


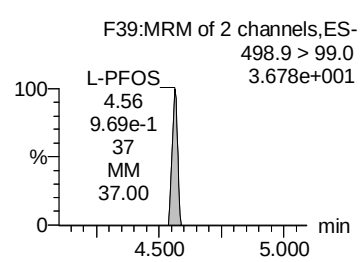
L-PFOS



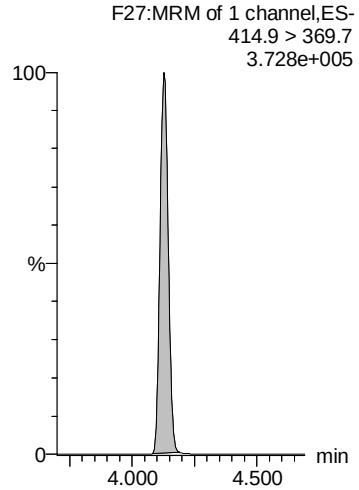


Total PFOS

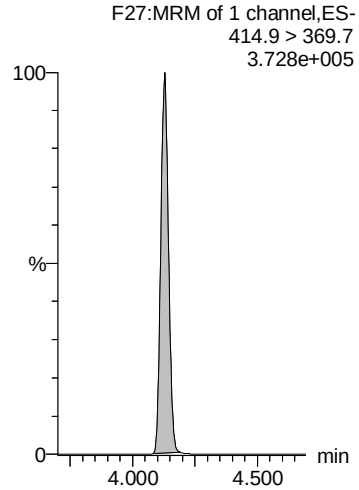




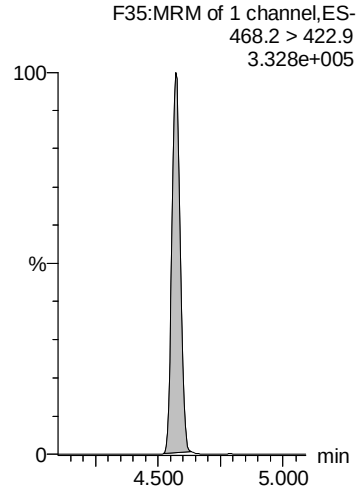
13C2-PFOA



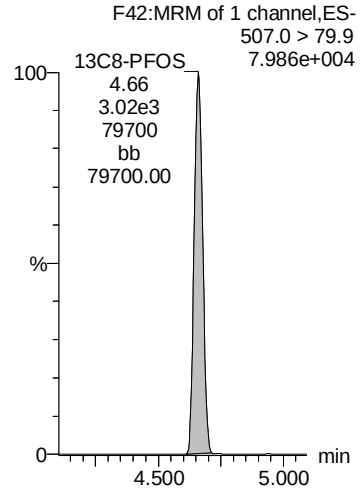
13C2-PFOA



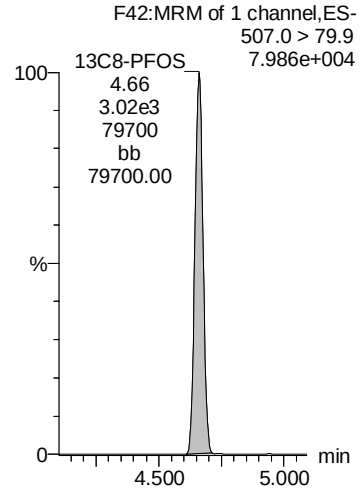
13C5-PFNA



13C8-PFOS



13C8-PFOS



CGH 7/25/2019

Vista Analytical Laboratory L14

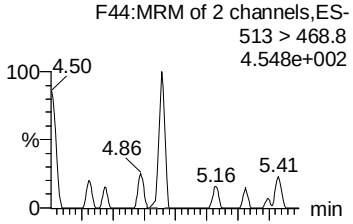
Review: AMR 7/25/2019

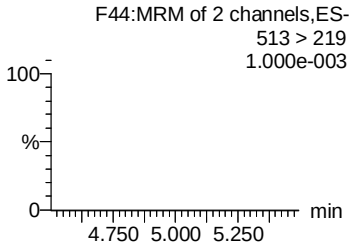
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

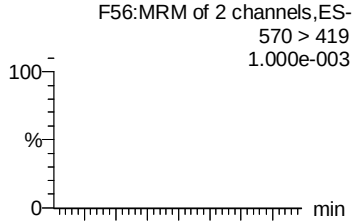
Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

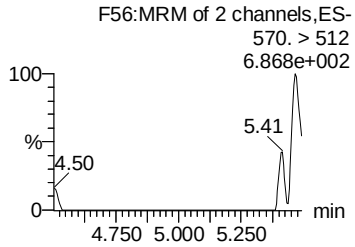
PFDA



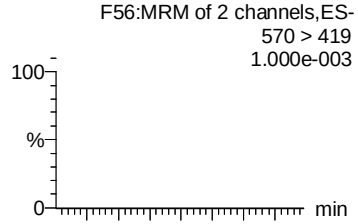


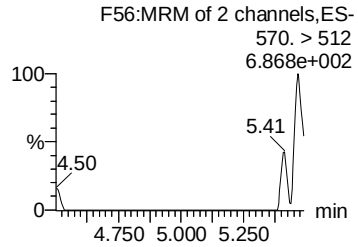
L-MeFOSAA



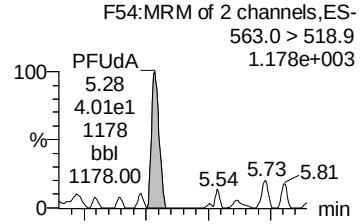


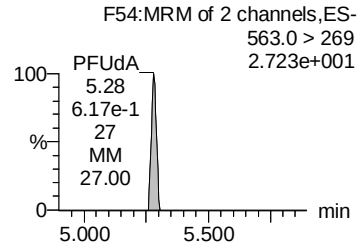
Total N-MeFOSAA



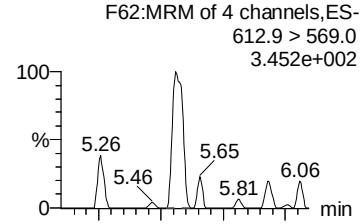


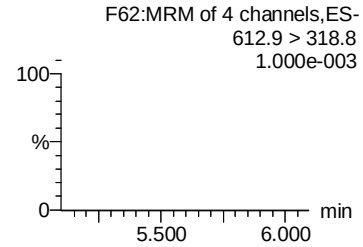
PFUdA



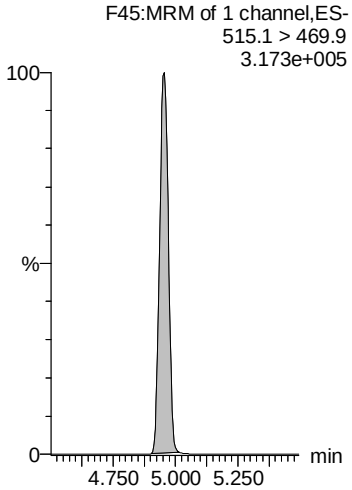


PFDoA

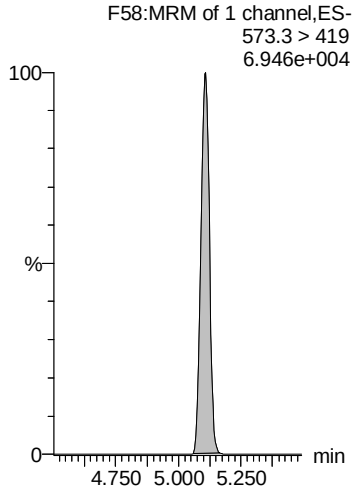




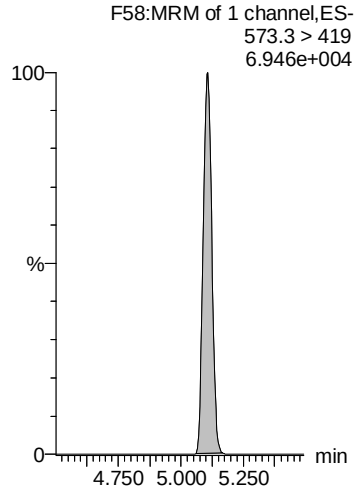
13C2-PFDA



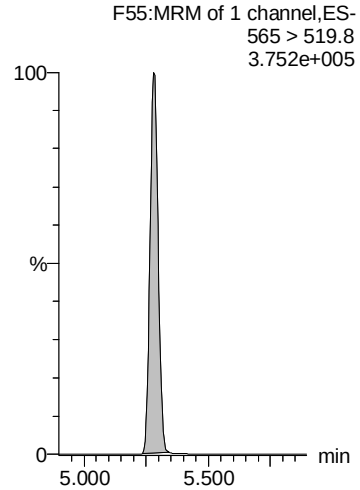
d3-N-MeFOSAA



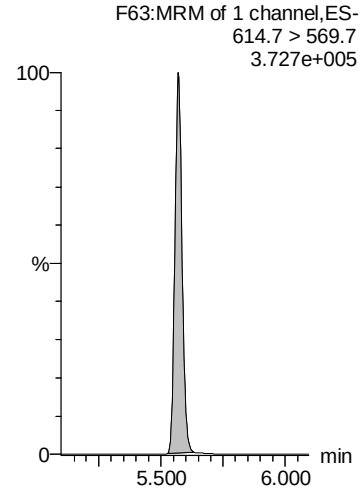
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/25/2019

Vista Analytical Laboratory L14

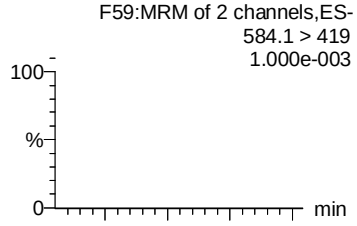
Review: AMR 7/25/2019

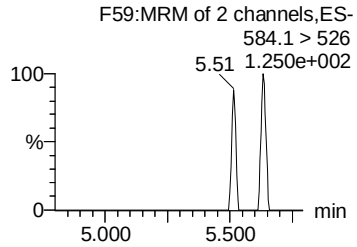
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

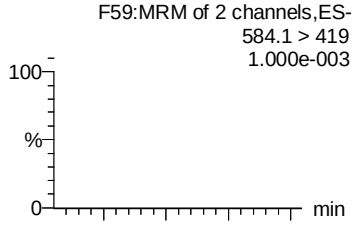
Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

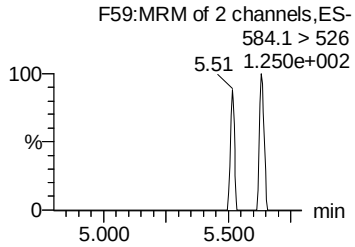
L-EtFOSAA



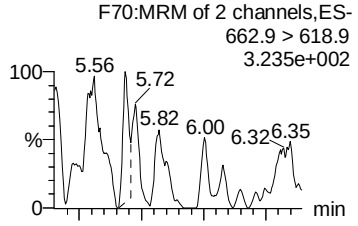


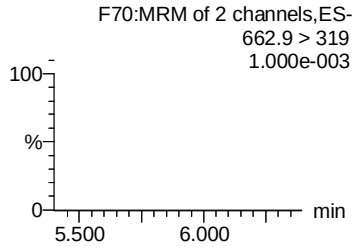
Total N-EtFOSAA



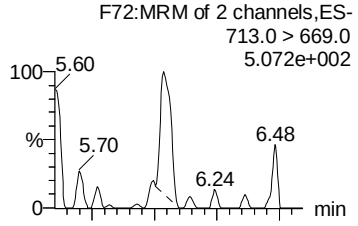


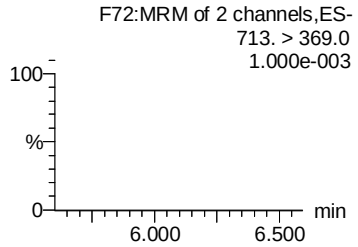
PFTrDA



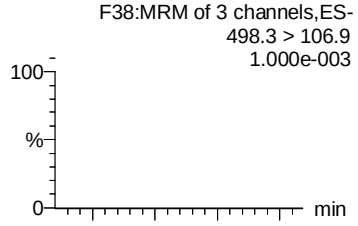


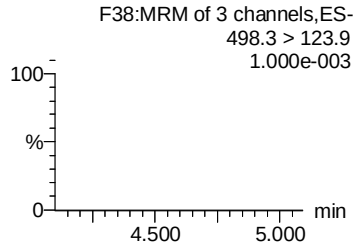
PFTeDA



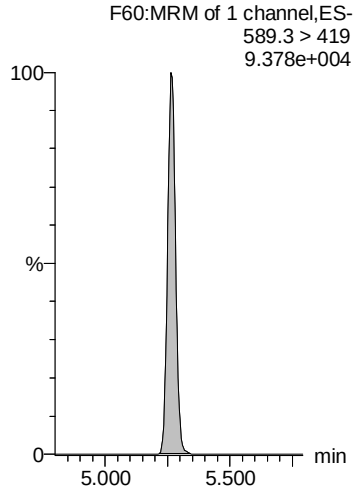


TDCA

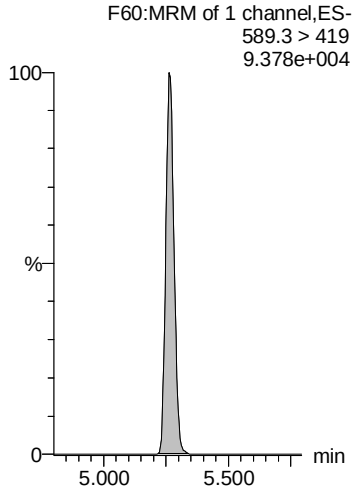




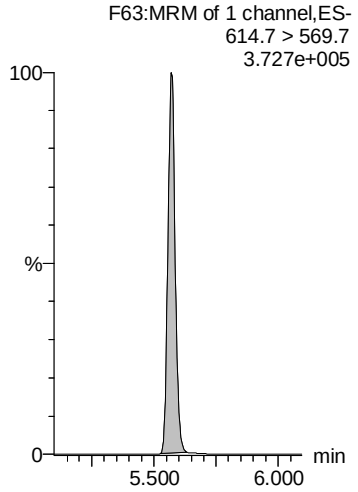
d5-N-EtFOSAA



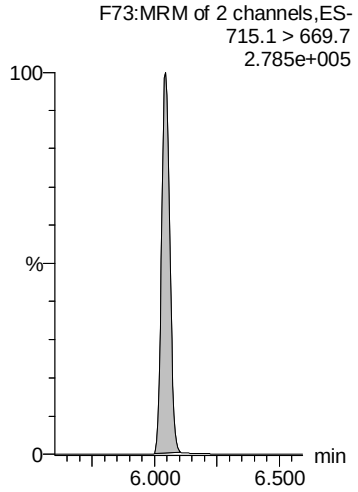
d5-N-EtFOSAA



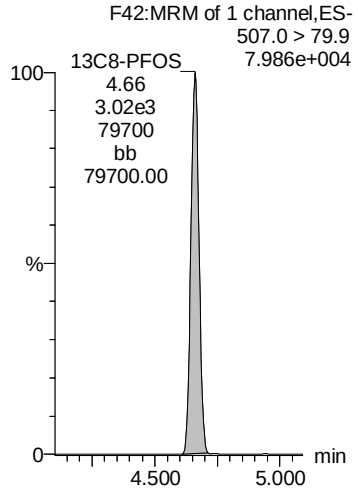
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/25/2019

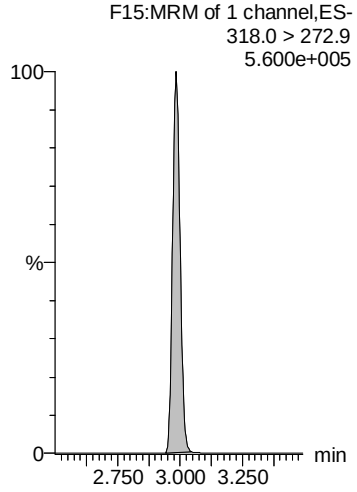
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-37.qld

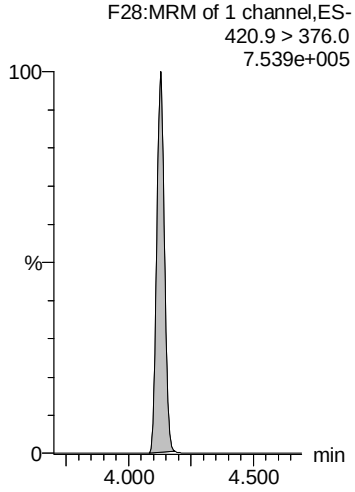
Last Altered: Wednesday, July 24, 2019 11:43:04 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:11:19 Pacific Daylight Time

Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

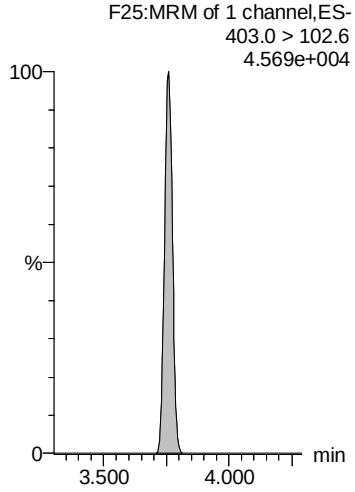
13C5-PFHxA



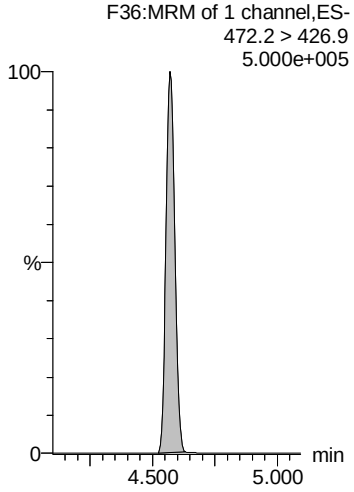
13C8-PFOA



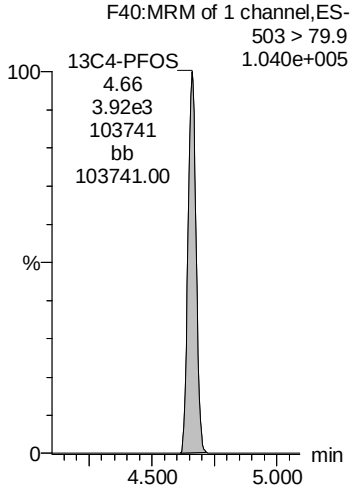
18O2-PFHxS



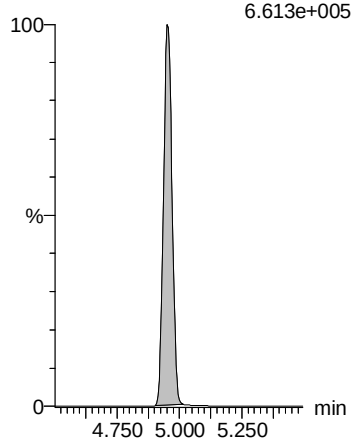
13C9-PFNA



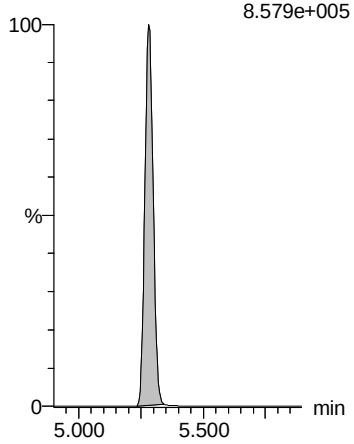
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-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	2.73e3	1.44e3	1.00		2.47	2.47	23.7	10.4539	104.5	3.132	NO
2	7	PFHxA	313.0 > 269.0	1.27e4	6.81e3	1.00		2.98	2.98	9.31	10.5520	105.5	15.834	NO
3	11	PFHpA	363.0 > 318.9	8.37e3	8.21e3	1.00		3.60	3.60	12.7	9.8404	98.4	9.285	NO
4	13	L-PFHxS	398.9 > 79.6	2.19e3	2.96e3	1.00		3.76	3.76	9.27	10.1654	101.7	2.176	NO
5	80	Total PFHxS	398.9 > 79.6	2.19e3	2.96e3	1.00		3.83		9.27	10.1654			
6	49	13C3-PFBS	302.0 > 98.8	1.44e3	1.44e3	1.00	1.058	2.46	2.47	12.5	11.8123	94.5		
7	52	13C2-PFHxA	315.0 > 270.0	6.81e3	1.83e4	1.00	0.978	2.97	2.98	4.65	4.7559	95.1		
8	53	13C4-PFHpA	367.2 > 321.8	8.21e3	1.83e4	1.00	0.479	3.59	3.60	5.61	11.7280	93.8		
9	54	13C3-PFHxS	401.8 > 79.9	2.96e3	1.44e3	1.00	2.024	3.75	3.76	25.7	12.6889	101.5		
10	54	13C3-PFHxS	401.8 > 79.9	2.96e3	1.44e3	1.00	2.024	3.75	3.76	25.7	12.6889	101.5		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.82e4	1.48e4	1.00		4.13	4.13	15.4	10.2089	102.1	3.939	NO
13	81	Total PFOA	412.8 > 368.9	1.82e4	1.48e4	1.00		4.21		15.4	10.2089			
14	21	PFNA	463.0 > 418.8	1.39e4	1.48e4	1.00		4.57	4.57	11.8	10.2174	102.2	3.857	NO
15	23	L-PFOS	498.9 > 79.9	2.55e3	2.96e3	1.00		4.66	4.66	10.8	10.0885	100.9	1.835	NO
16	82	Total PFOS	498.9 > 79.9	2.55e3	2.96e3	1.00		4.74		10.8	10.0885			
17	58	13C2-PFOA	414.9 > 369.7	1.48e4	2.52e4	1.00	0.681	4.12	4.13	7.37	10.8107	86.5		
18	58	13C2-PFOA	414.9 > 369.7	1.48e4	2.52e4	1.00	0.681	4.12	4.13	7.37	10.8107	86.5		
19	56	13C5-PFNA	468.2 > 422.9	1.48e4	1.80e4	1.00	1.002	4.57	4.57	10.3	10.2621	82.1		
20	59	13C8-PFOS	507.0 > 79.9	2.96e3	3.68e3	1.00	0.997	4.65	4.66	10.0	10.0709	80.6		
21	59	13C8-PFOS	507.0 > 79.9	2.96e3	3.68e3	1.00	0.997	4.65	4.66	10.0	10.0709	80.6		
22	-1													
23	26	PFDA	513 > 468.8	1.49e4	1.47e4	1.00		4.95	4.95	12.7	9.8506	98.5	5.662	NO
24	29	L-MeFOSAA	570 > 419	5.31e3	3.68e3	1.00		5.11	5.11	18.0	8.3742	83.7	2.412	NO
25	83	Total N-MeFOSAA	570. > 419	5.31e3	3.68e3	1.00		5.19		18.0	8.3742			
26	33	PFUdA	563.0 > 518.9	1.29e4	1.68e4	1.00		5.28	5.28	9.58	10.4828	104.8	8.915	NO
27	37	PFDoA	612.9 > 569.0	1.44e4	1.71e4	1.00		5.57	5.57	10.5	9.8057	98.1	8.439	NO
28	60	13C2-PFDA	515.1 > 469.9	1.47e4	2.48e4	1.00	0.819	4.95	4.95	7.39	9.0214	72.2		
29	62	d3-N-MeFOSAA	573.3 > 419	3.68e3	3.13e4	1.00	0.177	5.11	5.11	1.47	8.2771	66.2		
30	62	d3-N-MeFOSAA	573.3 > 419	3.68e3	3.13e4	1.00	0.177	5.11	5.11	1.47	8.2771	66.2		
31	63	13C2-PFUdA	565 > 519.8	1.68e4	3.13e4	1.00	0.889	5.28	5.28	6.69	7.5256	60.2		
32	65	13C2-PFDoA	614.7 > 569.7	1.71e4	2.48e4	1.00	1.087	5.57	5.57	8.61	7.9155	63.3		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	4.42e3	4.22e3	1.00		5.27	5.27	13.1	10.4838	104.8	1.492	NO
35	84	Total N-EtFOSAA	584.1 > 419	4.71e3	4.22e3	1.00		5.33		14.0	11.2113			
36	39	PFTrDA	662.9 > 618.9	1.70e4	1.71e4	1.00		5.82	5.82	12.4	10.8898	108.9	22.294	NO

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-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	1.68e4	1.35e4	1.00		6.05	6.05	15.5	10.2106	102.1	13.852	NO
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	4.22e3	3.13e4	1.00	0.224	5.27	5.27	1.68	7.5157	60.1		
40	64	d5-N-EtFOSAA	589.3 > 419	4.22e3	3.13e4	1.00	0.224	5.27	5.27	1.68	7.5157	60.1		
41	65	13C2-PFDoA	614.7 > 569.7	1.71e4	2.48e4	1.00	1.087	5.57	5.57	8.61	7.9155	63.3		
42	67	13C2-PFTeDA	715.1 > 669.7	1.35e4	3.13e4	1.00	0.604	6.04	6.05	5.40	8.9413	71.5		
43	59	13C8-PFOS	507.0 > 79.9	2.96e3	3.68e3	1.00	0.997	4.65	4.66	10.0	10.0709	80.6		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.83e4	1.83e4	1.00	1.000	2.97	2.98	12.5	12.5000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.52e4	2.52e4	1.00	1.000	4.12	4.13	12.5	12.5000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.44e3	1.44e3	1.00	1.000	3.75	3.76	12.5	12.5000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.80e4	1.80e4	1.00	1.000	4.57	4.57	12.5	12.5000	100.0		
49	77	13C4-PFOS	503 > 79.9	3.68e3	3.68e3	1.00	1.000	4.65	4.66	12.5	12.5000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.48e4	2.48e4	1.00	1.000	4.95	4.95	12.5	12.5000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.13e4	3.13e4	1.00	1.000	5.28	5.28	12.5	12.5000	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

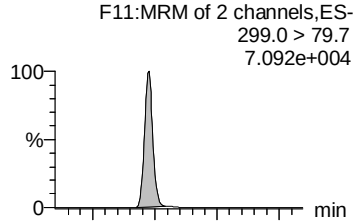
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

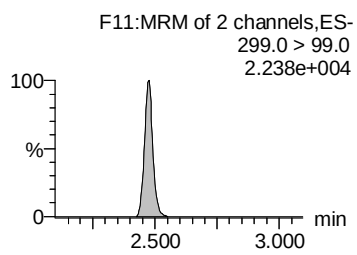
Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

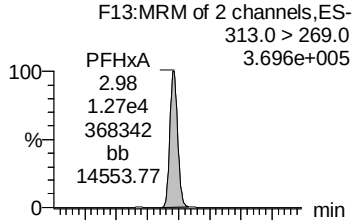
Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

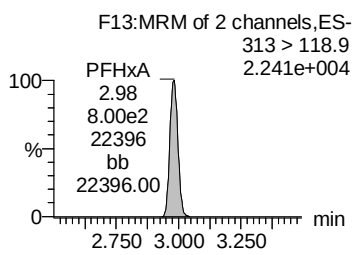
PFBS





PFHxA





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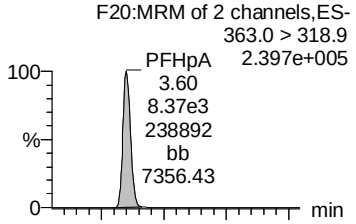

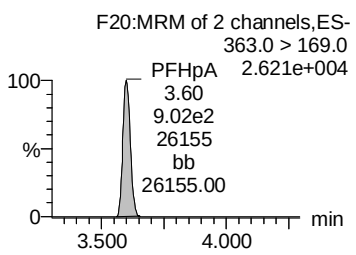

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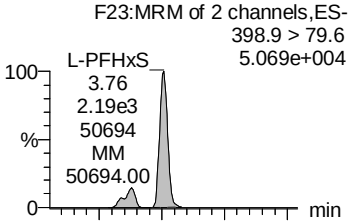

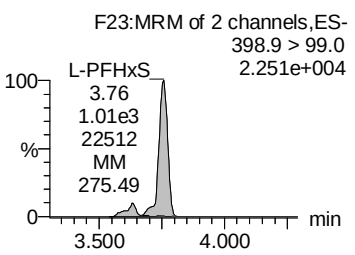

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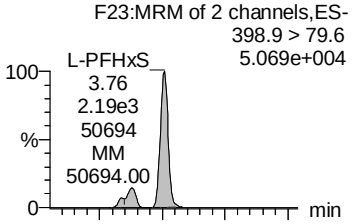

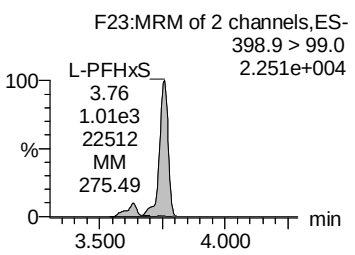

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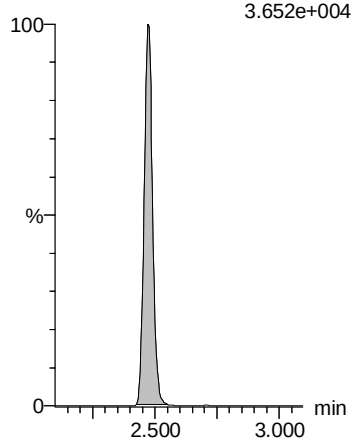

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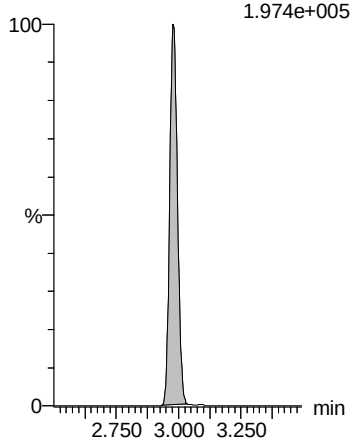

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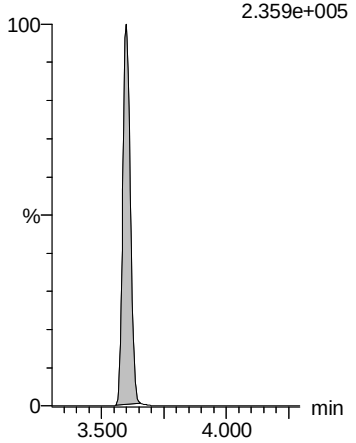

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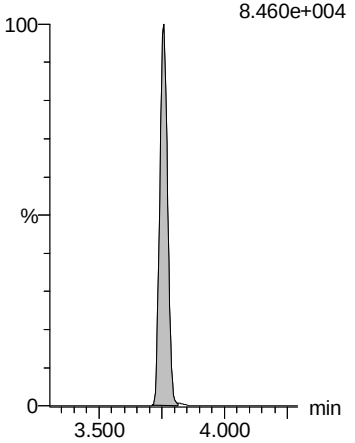

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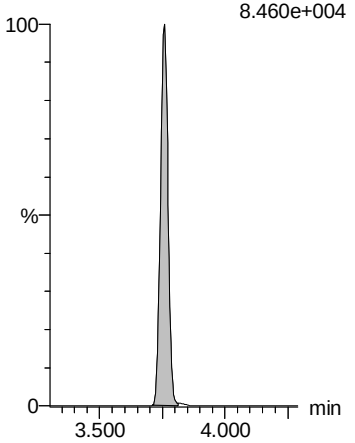


CGH 7/24/2019

Vista Analytical Laboratory L14

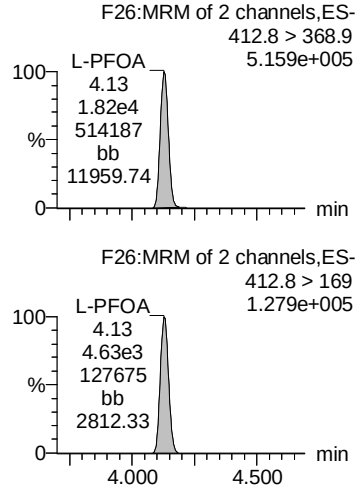
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

L-PFOA



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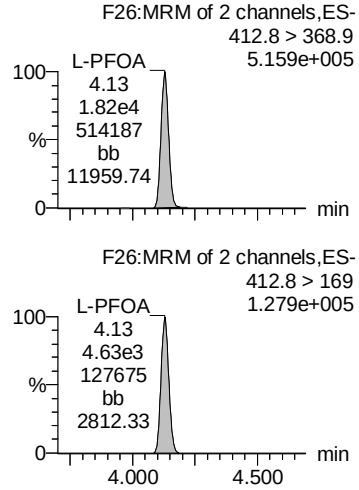
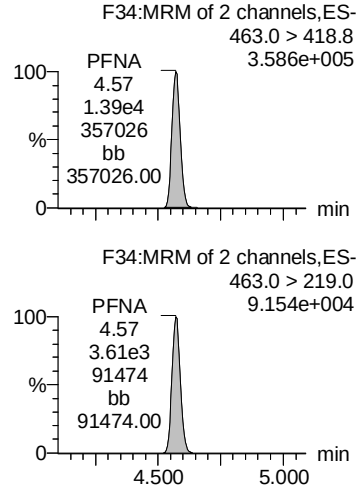
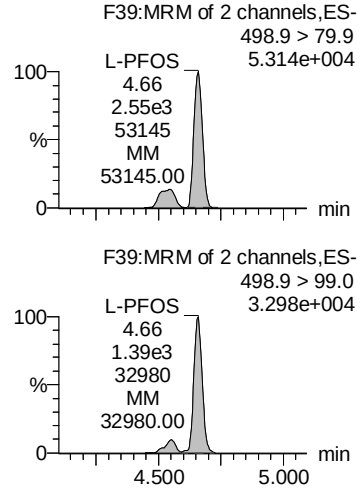


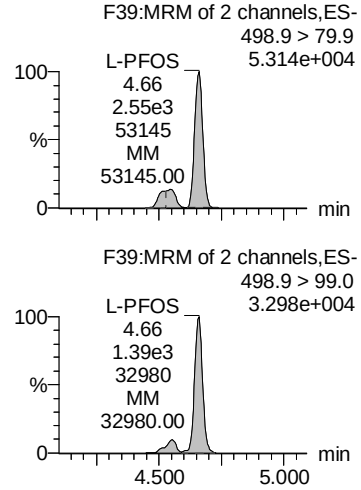
PFNA



L-PFOS



Total PFOS



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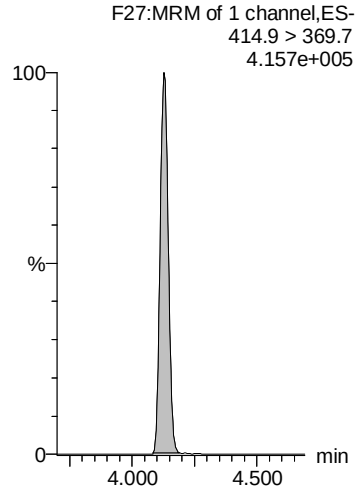

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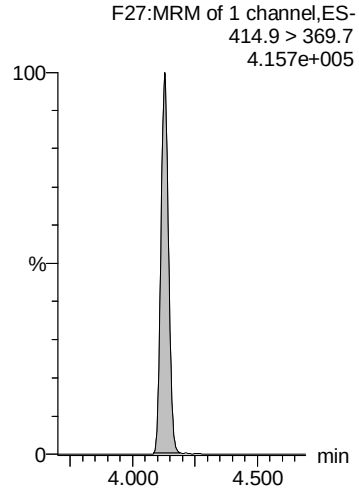

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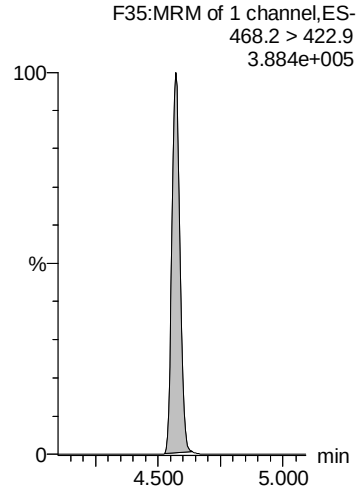
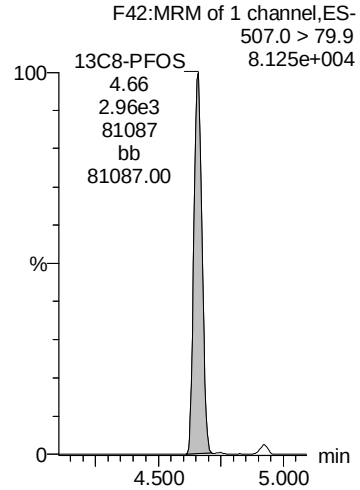


13C8-PFOS



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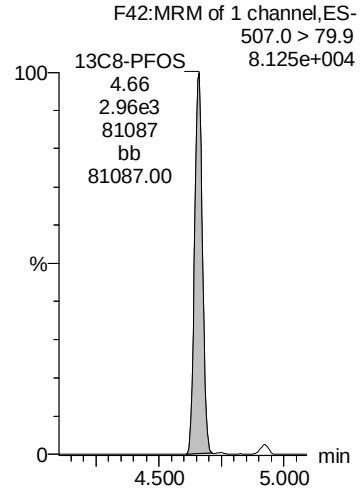

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

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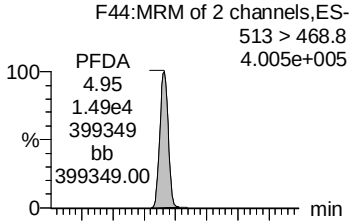
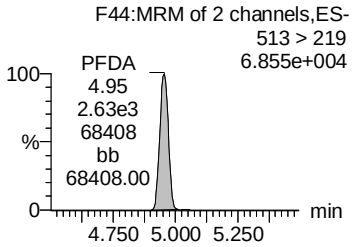
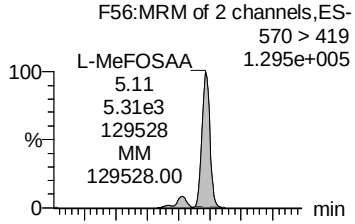
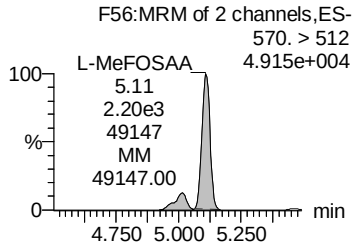




L-MeFOSAA





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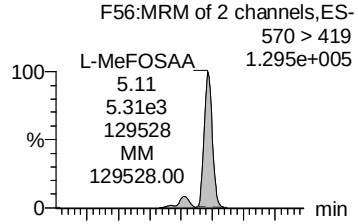

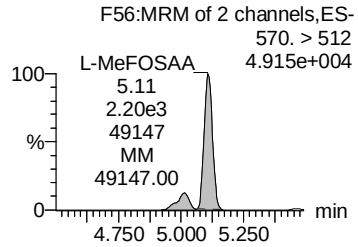

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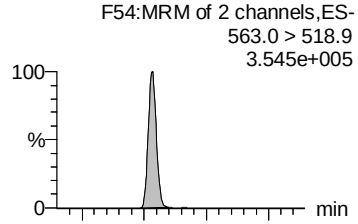

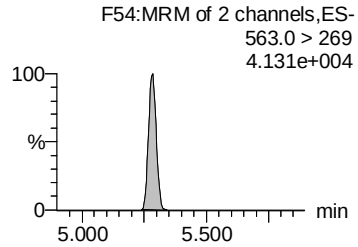

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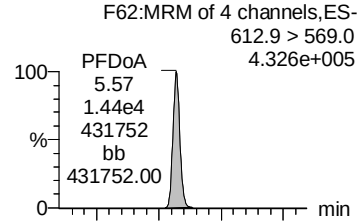

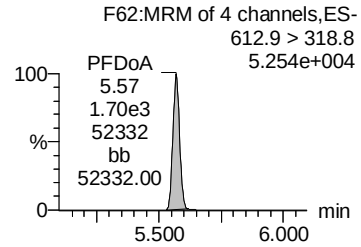

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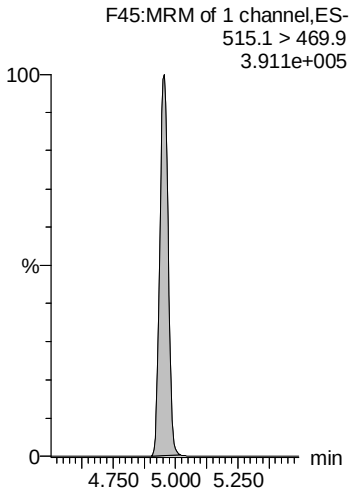

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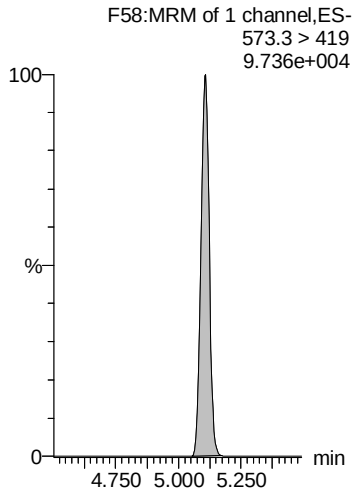
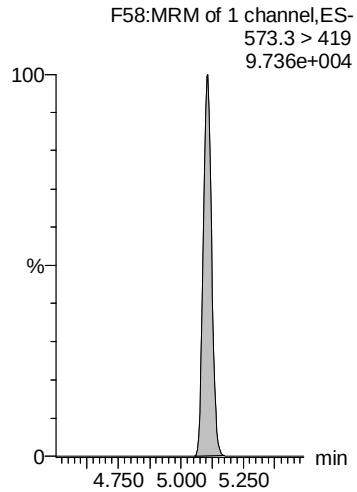


d3-N-MeFOSAA



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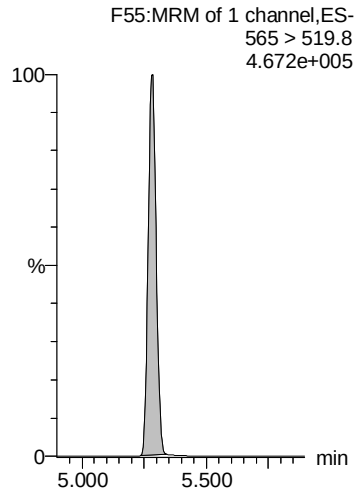

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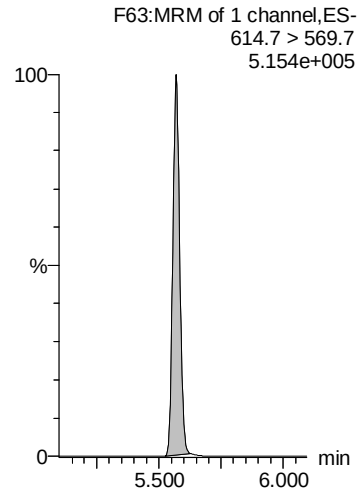


CGH 7/24/2019

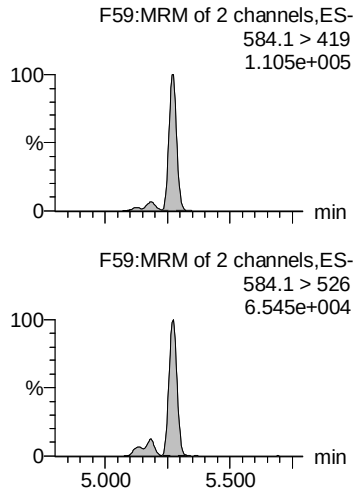
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

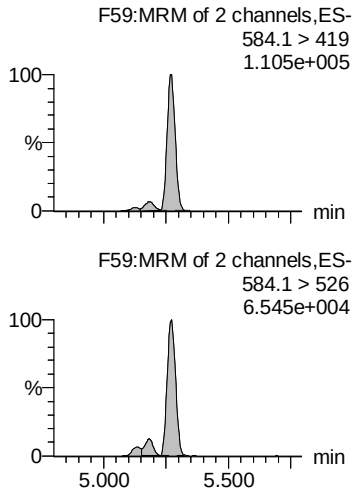
Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

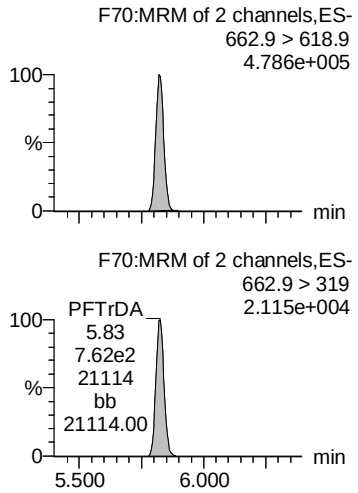
L-EtFOSAA



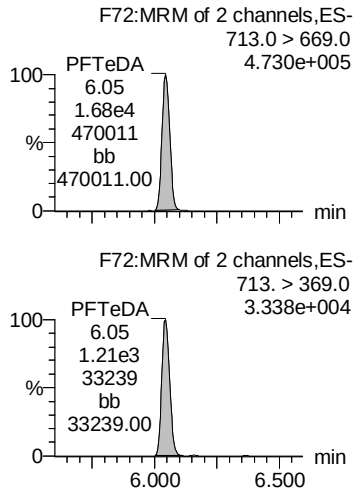
Total N-EtFOSAA



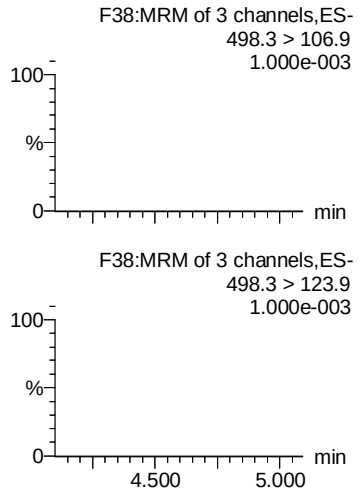
PFTrDA



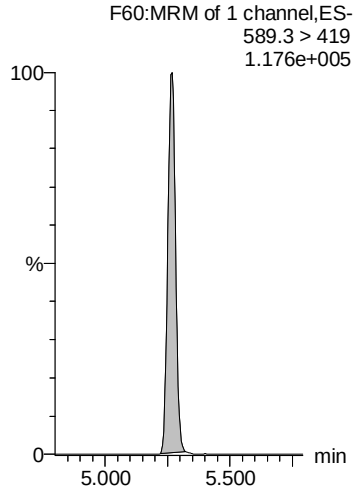
PFTeDA



TDCA



d5-N-EtFOSAA



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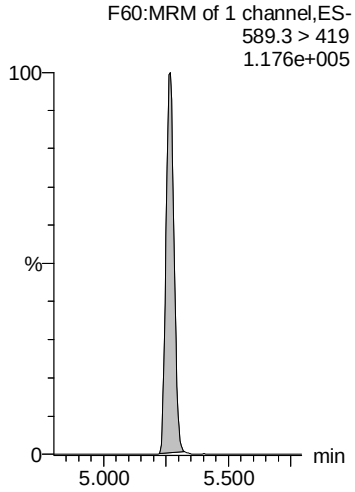
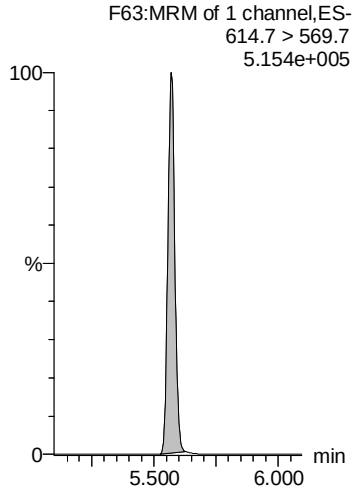
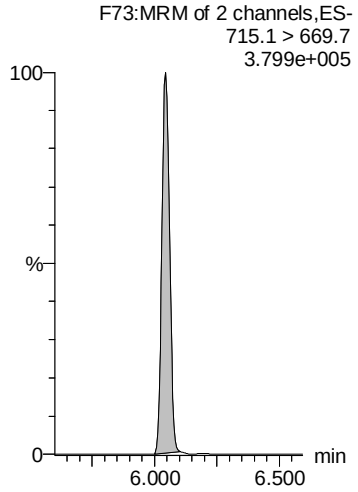


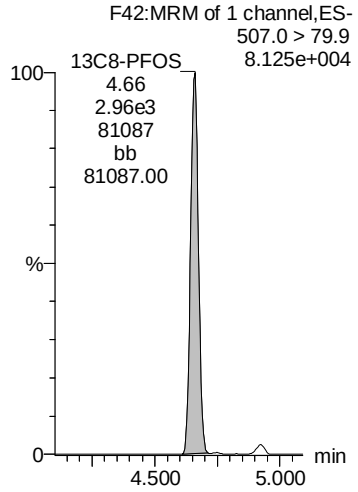
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

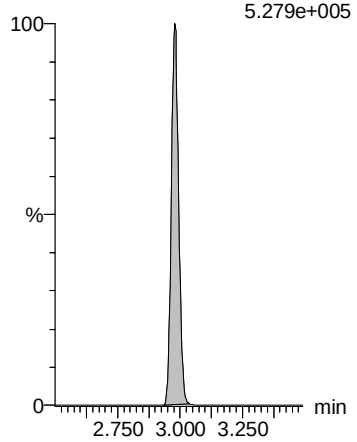
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-36.qld

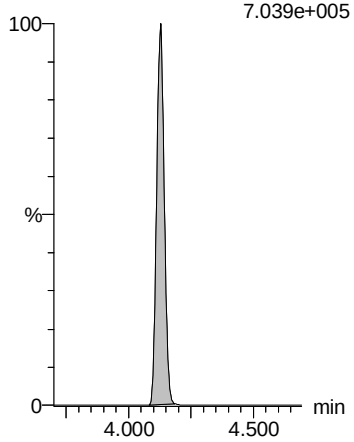
Last Altered: Wednesday, July 24, 2019 11:18:41 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:20:41 Pacific Daylight Time

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

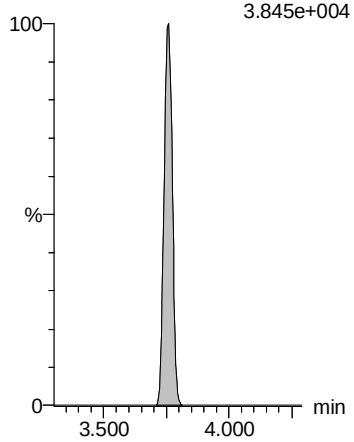
13C5-PFHxA



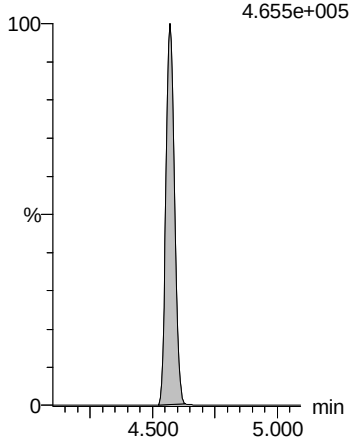
13C8-PFOA



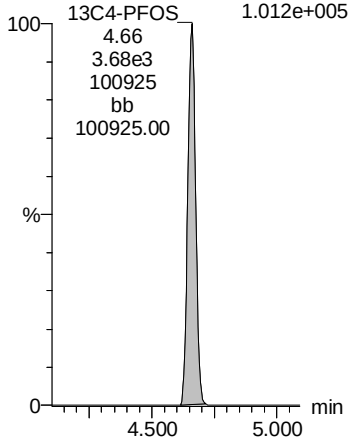
18O2-PFHxS



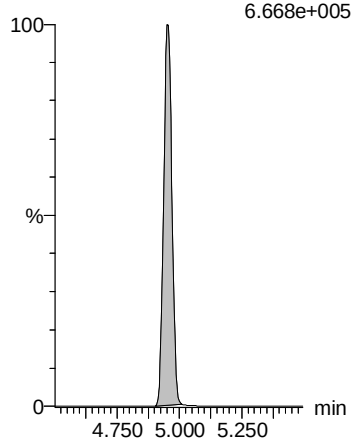
13C9-PFNA



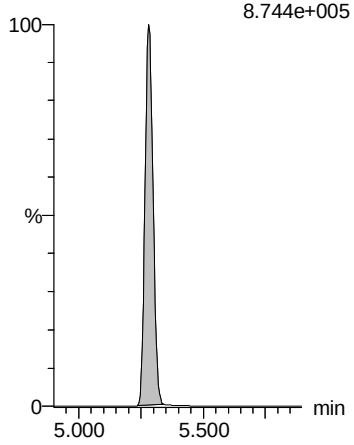
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-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	9.52e1	1.64e3	1.01		2.47	2.47	0.726	0.3483		4.919	YES
2	7	PFHxA	313.0 > 269.0	2.56e4	6.92e3	1.01		2.99	2.99	18.5	20.7840		15.324	NO
3	11	PFHpA	363.0 > 318.9	2.10e3	8.68e3	1.01		3.60	3.60	3.02	2.3128		10.369	NO
4	13	L-PFHxS	398.9 > 79.6	3.65e2	2.92e3	1.01		3.76	3.76	1.56	1.7032		2.265	NO
5	80	Total PFHxS	398.9 > 79.6	3.65e2	2.92e3	1.01		3.83		1.56	1.7032			
6	49	13C3-PFBS	302.0 > 98.8	1.64e3	1.50e3	1.01	1.058	2.46	2.47	13.7	12.7956	103.4		
7	52	13C2-PFHxA	315.0 > 270.0	6.92e3	1.77e4	1.01	0.978	2.97	2.99	4.88	4.9434	99.9		
8	53	13C4-PFHpA	367.2 > 321.8	8.68e3	1.77e4	1.01	0.479	3.59	3.60	6.13	12.6758	102.5		
9	54	13C3-PFHxS	401.8 > 79.9	2.92e3	1.50e3	1.01	2.024	3.75	3.76	24.3	11.9018	96.2		
10	54	13C3-PFHxS	401.8 > 79.9	2.92e3	1.50e3	1.01	2.024	3.75	3.76	24.3	11.9018	96.2		
11	-1													
12	16	L-PFOA	412.8 > 368.9	4.62e3	1.42e4	1.01		4.13	4.13	4.06	2.6477		4.233	NO
13	81	Total PFOA	412.8 > 368.9	4.62e3	1.42e4	1.01		4.21		4.06	2.6477			
14	21	PFNA	463.0 > 418.8	5.59e2	1.38e4	1.01		4.58	4.58	0.507	0.4112		6.017	YES
15	23	L-PFOS	498.9 > 79.9	1.69e3	3.17e3	1.01		4.66	4.66	6.67	6.1935		1.791	NO
16	82	Total PFOS	498.9 > 79.9	1.69e3	3.17e3	1.01		4.74		6.67	6.1935			
17	58	13C2-PFOA	414.9 > 369.7	1.42e4	2.45e4	1.01	0.681	4.12	4.13	7.27	10.5576	85.4		
18	58	13C2-PFOA	414.9 > 369.7	1.42e4	2.45e4	1.01	0.681	4.12	4.13	7.27	10.5576	85.4		
19	56	13C5-PFNA	468.2 > 422.9	1.38e4	1.81e4	1.01	1.002	4.57	4.58	9.52	9.4060	76.0		
20	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.64e3	1.01	0.997	4.65	4.66	10.9	10.8142	87.4		
21	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.64e3	1.01	0.997	4.65	4.66	10.9	10.8142	87.4		
22	-1													
23	26	PFDA	513 > 468.8	1.61e2	1.34e4	1.01		4.95	4.95	0.150	0.1119		3.493	NO
24	29	L-MeFOSAA	570 > 419		3.68e3	1.01		5.11						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	3.68e3	1.01		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	7.60e1	1.95e4	1.01		5.28	5.28	0.0488			8.019	NO
27	37	PFDoA	612.9 > 569.0	4.24e1	2.15e4	1.01		5.57	5.57	0.0247			6.604	NO
28	60	13C2-PFDA	515.1 > 469.9	1.34e4	2.42e4	1.01	0.819	4.95	4.95	6.96	8.4054	68.0		
29	62	d3-N-MeFOSAA	573.3 > 419	3.68e3	2.90e4	1.01	0.177	5.11	5.11	1.59	8.8493	71.5		
30	62	d3-N-MeFOSAA	573.3 > 419	3.68e3	2.90e4	1.01	0.177	5.11	5.11	1.59	8.8493	71.5		
31	63	13C2-PFUdA	565 > 519.8	1.95e4	2.90e4	1.01	0.889	5.28	5.28	8.39	9.3390	75.5		
32	65	13C2-PFDoA	614.7 > 569.7	2.15e4	2.42e4	1.01	1.087	5.57	5.57	11.1	10.1076	81.7		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		5.04e3	1.01		5.27						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	5.04e3	1.01		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.15e4	1.01		5.82						

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-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		1.55e4	1.01		6.05						
38	85	TDCA	498.3>106.9			1.01		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	5.04e3	2.90e4	1.01	0.224	5.27	5.27	2.17	9.5994	77.6		
40	64	d5-N-EtFOSAA	589.3 > 419	5.04e3	2.90e4	1.01	0.224	5.27	5.27	2.17	9.5994	77.6		
41	65	13C2-PFDoA	614.7 > 569.7	2.15e4	2.42e4	1.01	1.087	5.57	5.57	11.1	10.1076	81.7		
42	67	13C2-PFTeDA	715.1 > 669.7	1.55e4	2.90e4	1.01	0.604	6.04	6.05	6.67	10.9250	88.3		
43	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.64e3	1.01	0.997	4.65	4.66	10.9	10.8142	87.4		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.77e4	1.77e4	1.01	1.000	2.97	2.98	12.5	12.3698	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.45e4	2.45e4	1.01	1.000	4.12	4.13	12.5	12.3698	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.50e3	1.50e3	1.01	1.000	3.75	3.76	12.5	12.3698	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.81e4	1.81e4	1.01	1.000	4.57	4.58	12.5	12.3698	100.0		
49	77	13C4-PFOS	503 > 79.9	3.64e3	3.64e3	1.01	1.000	4.65	4.66	12.5	12.3698	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.42e4	2.42e4	1.01	1.000	4.95	4.95	12.5	12.3698	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.90e4	2.90e4	1.01	1.000	5.28	5.28	12.5	12.3698	100.0		

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

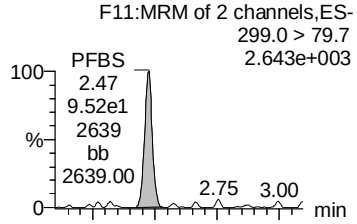
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

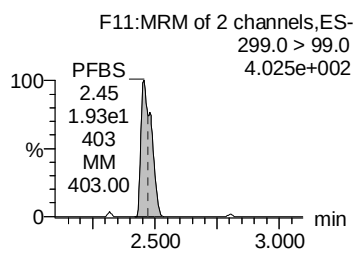
Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

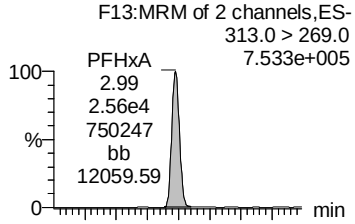
Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

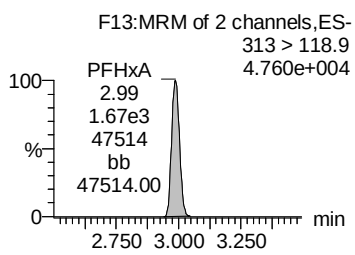
PFBS



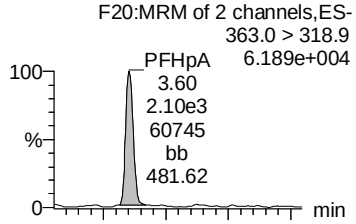


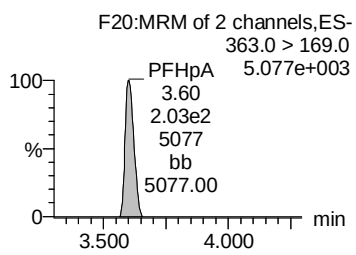
PFHxA



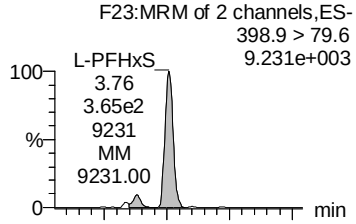


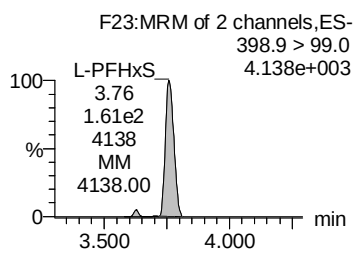
PFHpA



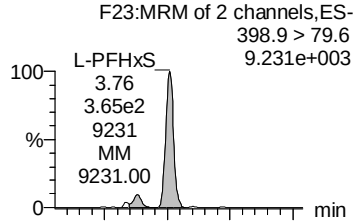


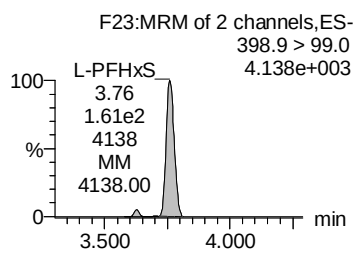
L-PFHxS



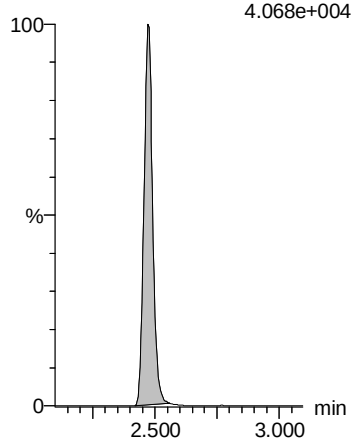


Total PFHxS

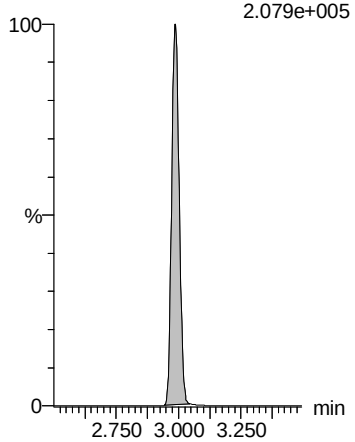




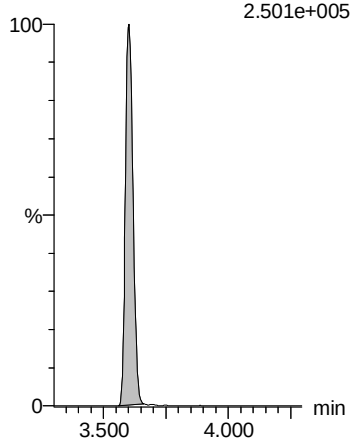
13C3-PFBS



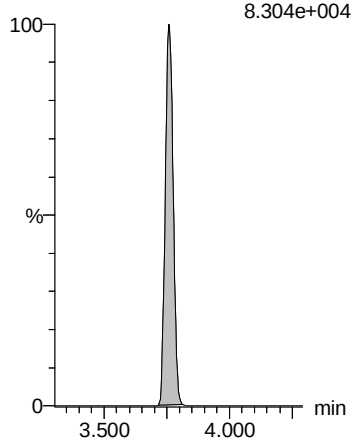
13C2-PFHxA



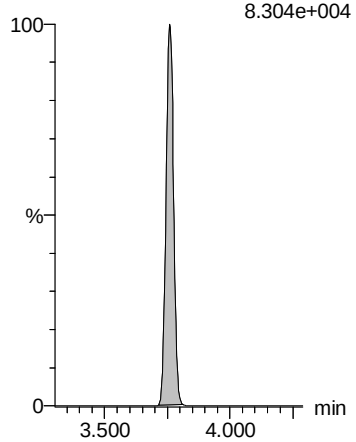
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



CGH 7/25/2019

Vista Analytical Laboratory L14

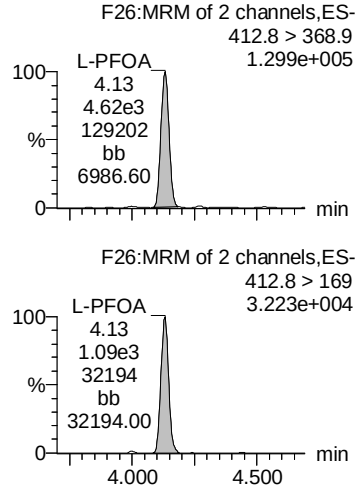
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

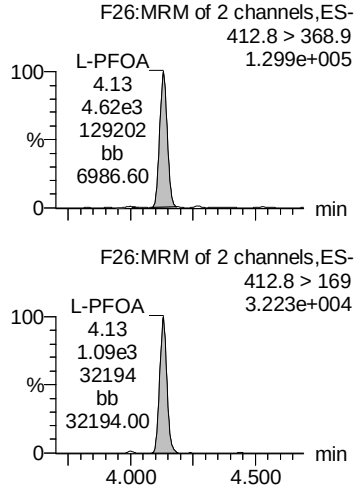
Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

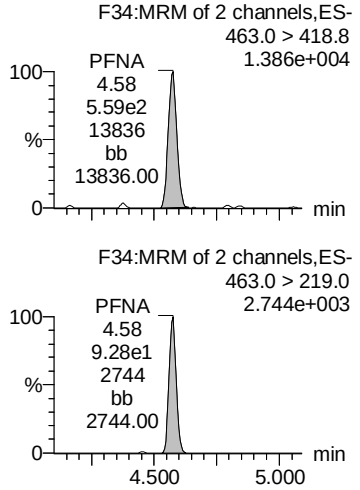
L-PFOA



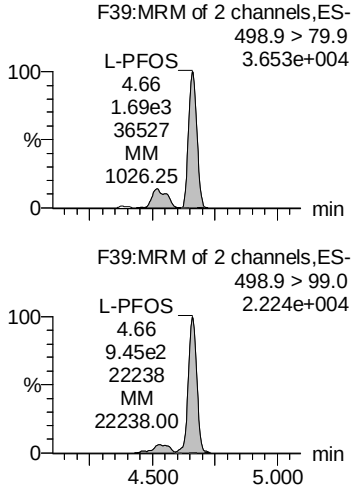
Total PFOA



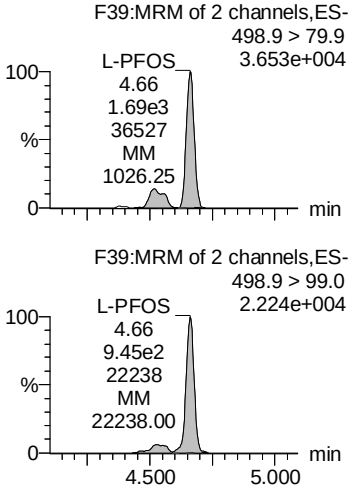
PFNA



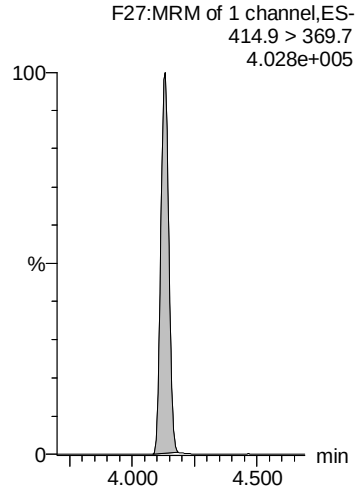
L-PFOS



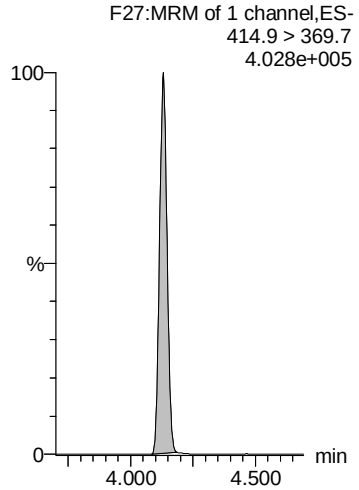
Total PFOS



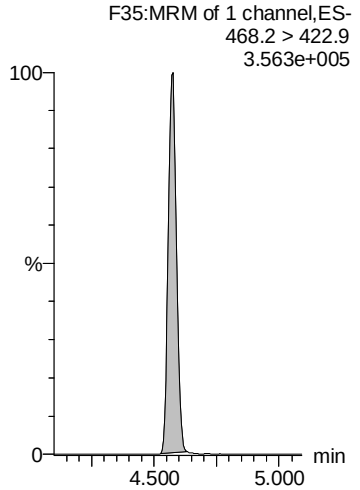
13C2-PFOA



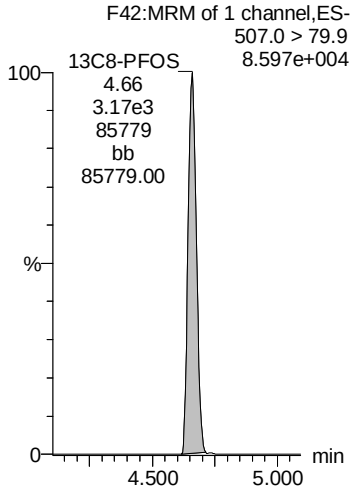
13C2-PFOA



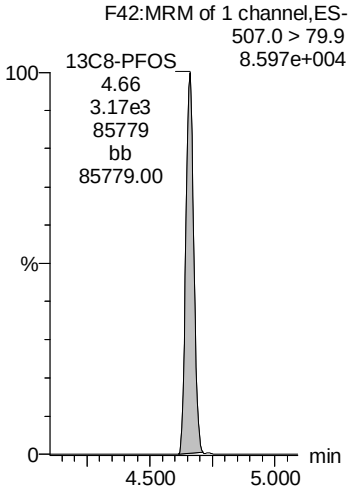
13C5-PFNA



13C8-PFOS



13C8-PFOS



CGH 7/25/2019

Vista Analytical Laboratory L14

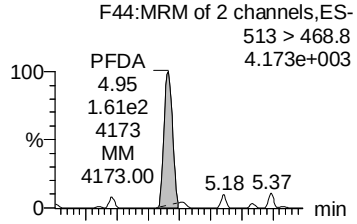
Review: AMR 7/25/2019

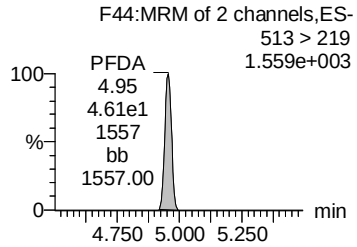
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

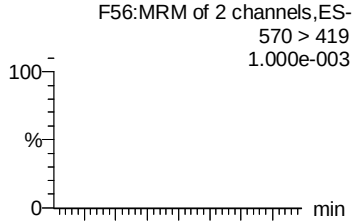
Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

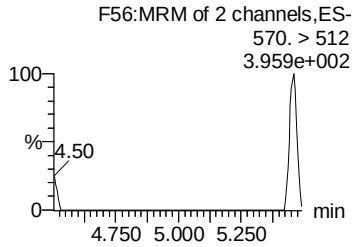
PFDA



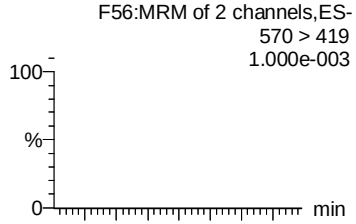


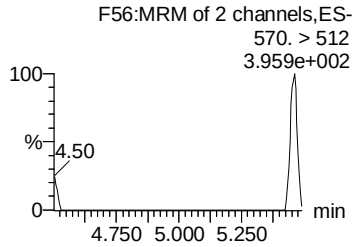
L-MeFOSAA



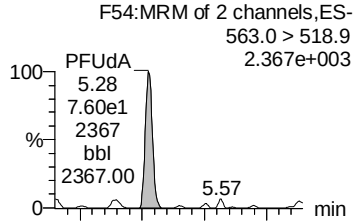


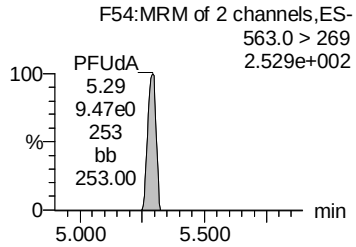
Total N-MeFOSAA



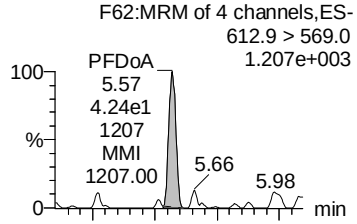


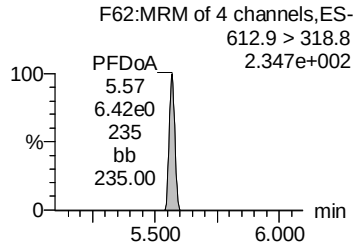
PFUdA



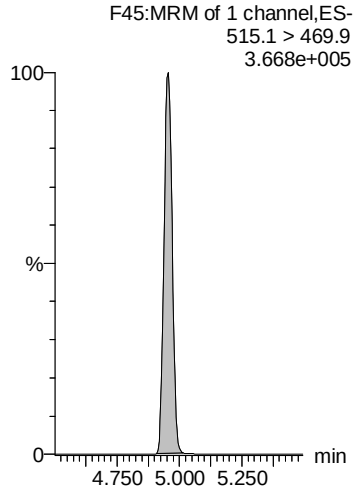


PFDoA

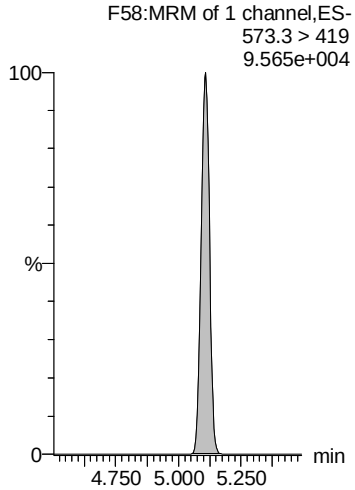




13C2-PFDA



d3-N-MeFOSAA



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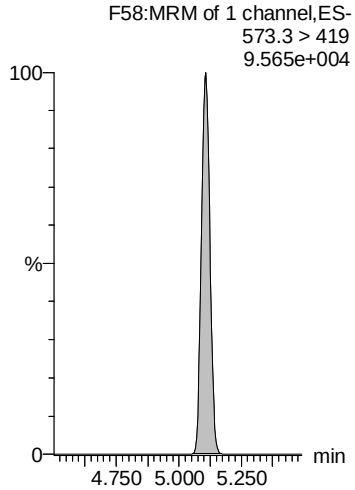
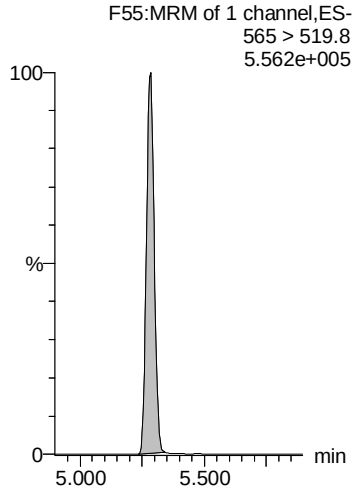
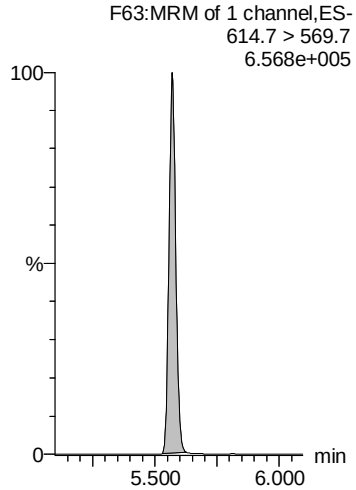


13C2-PFUdA



13C2-PFDoA



CGH 7/25/2019

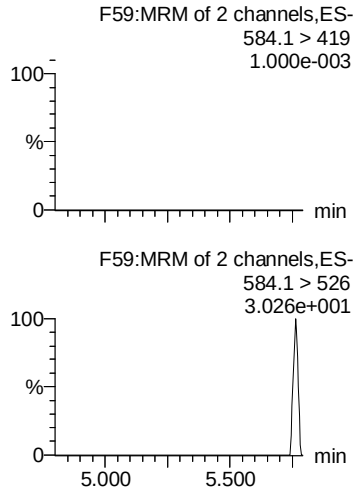
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

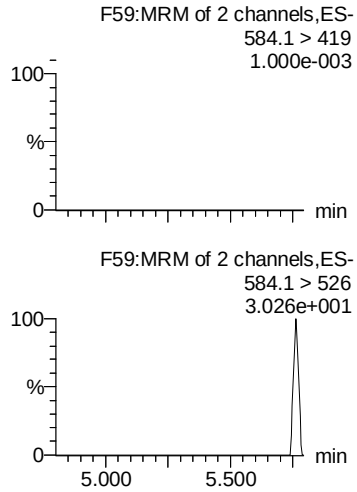
Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

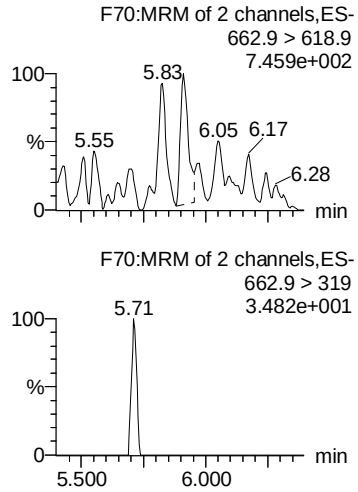
L-EtFOSAA



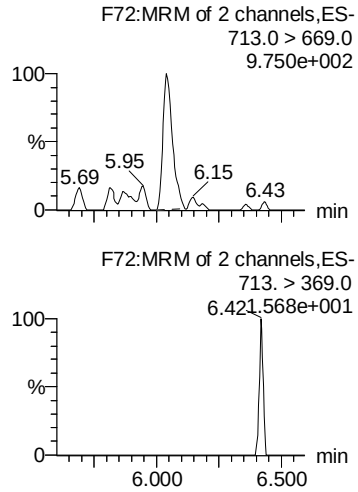
Total N-EtFOSAA



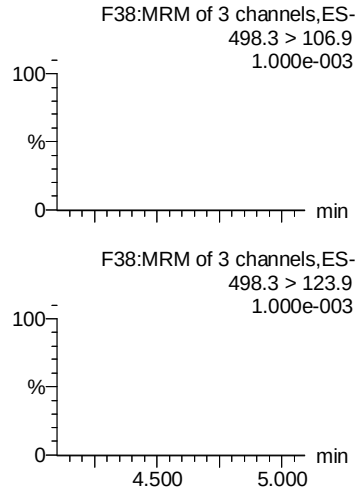
PFTrDA



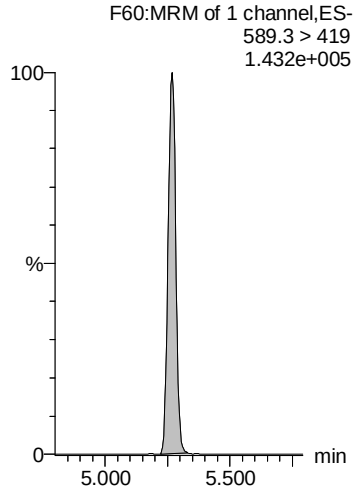
PFTeDA



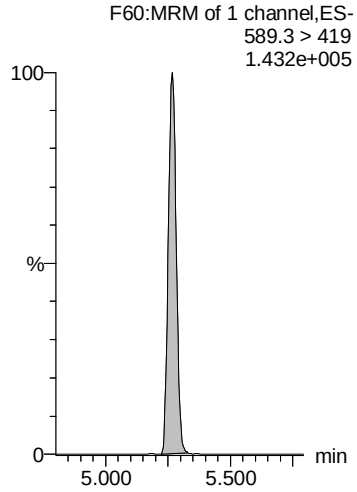
TDCA



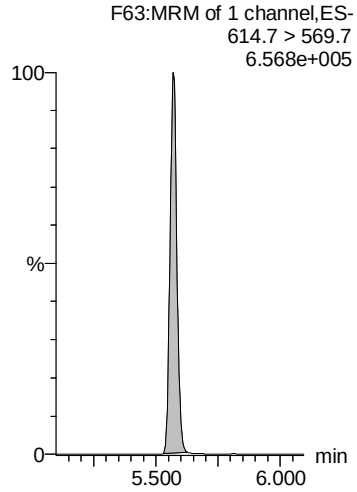
d5-N-EtFOSAA



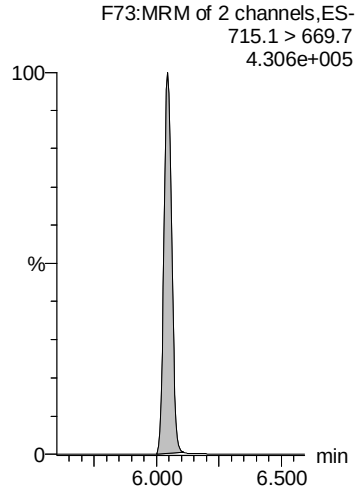
d5-N-EtFOSAA



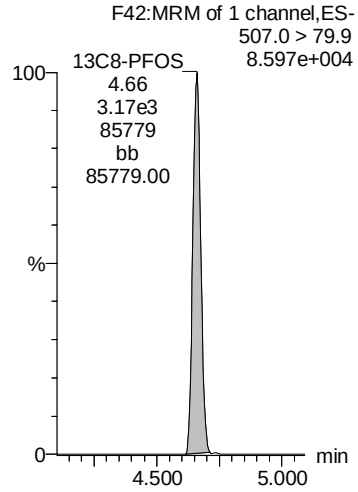
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/25/2019

Vista Analytical Laboratory L14

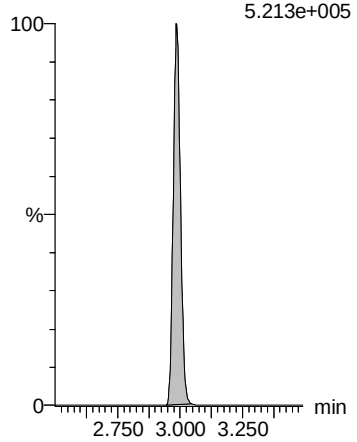
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-40.qld

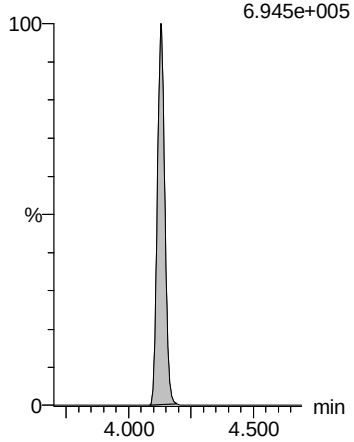
Last Altered: Thursday, July 25, 2019 09:57:31 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:33 Pacific Daylight Time

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

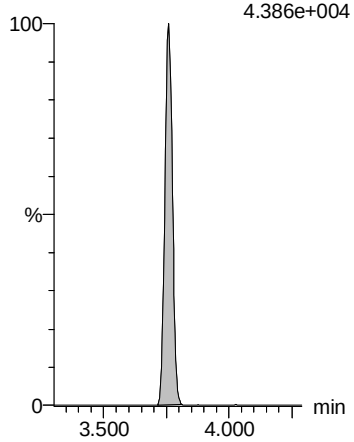
13C5-PFHxA



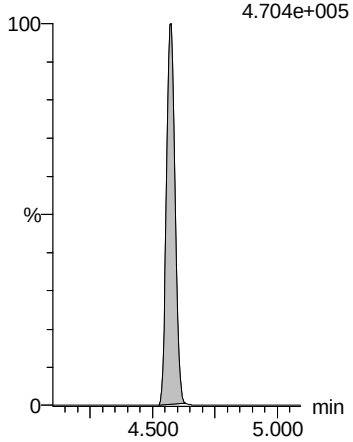
13C8-PFOA



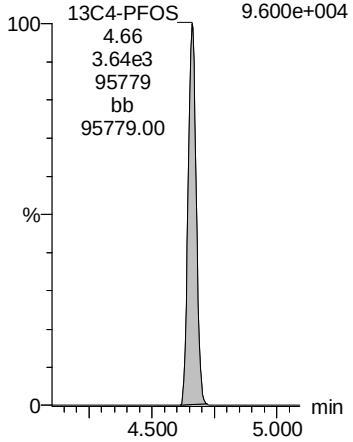
18O2-PFHxS



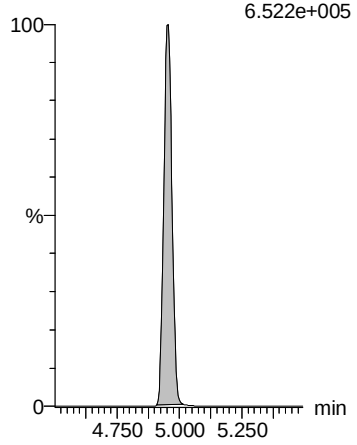
13C9-PFNA



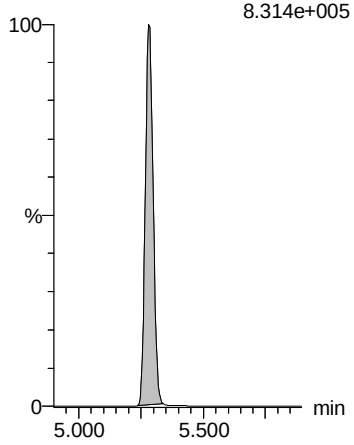
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-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	1.01e1	1.49e3	0.997		2.46	2.46	0.0849	0.0707		6.569	YES
2	7	PFHxA	313.0 > 269.0	1.06e3	6.82e3	0.997		2.97	2.97	0.776	0.8177		21.515	NO
3	11	PFHpA	363.0 > 318.9	1.39e2	7.96e3	0.997		3.58	3.58	0.218	0.1696		55.147	YES
4	13	L-PFHxS	398.9 > 79.6	8.29e1	2.82e3	0.997		3.74	3.74	0.367	0.4064		1.950	NO
5	80	Total PFHxS	398.9 > 79.6	8.29e1	2.82e3	0.997		3.83		0.367	0.4064			
6	49	13C3-PFBS	302.0 > 98.8	1.49e3	1.39e3	0.997	1.058	2.46	2.46	13.4	12.6768	101.1		
7	52	13C2-PFHxA	315.0 > 270.0	6.82e3	1.79e4	0.997	0.978	2.97	2.97	4.76	4.8808	97.3		
8	53	13C4-PFHpA	367.2 > 321.8	7.96e3	1.79e4	0.997	0.479	3.59	3.58	5.55	11.6354	92.8		
9	54	13C3-PFHxS	401.8 > 79.9	2.82e3	1.39e3	0.997	2.024	3.75	3.74	25.4	12.5763	100.3		
10	54	13C3-PFHxS	401.8 > 79.9	2.82e3	1.39e3	0.997	2.024	3.75	3.74	25.4	12.5763	100.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	3.46e2	1.41e4	0.997		4.11	4.11	0.307	0.1796		5.285	NO
13	81	Total PFOA	412.8 > 368.9	3.46e2	1.41e4	0.997		4.21		0.307	0.1796			
14	21	PFNA	463.0 > 418.8	6.77e1	1.41e4	0.997		4.56	4.56	0.0599	0.0270		89.462	YES
15	23	L-PFOS	498.9 > 79.9	2.75e2	3.10e3	0.997		4.64	4.64	1.11	1.0624		1.486	NO
16	82	Total PFOS	498.9 > 79.9	2.75e2	3.10e3	0.997		4.74		1.11	1.0624			
17	58	13C2-PFOA	414.9 > 369.7	1.41e4	2.32e4	0.997	0.681	4.12	4.11	7.61	11.2139	89.4		
18	58	13C2-PFOA	414.9 > 369.7	1.41e4	2.32e4	0.997	0.681	4.12	4.11	7.61	11.2139	89.4		
19	56	13C5-PFNA	468.2 > 422.9	1.41e4	1.76e4	0.997	1.002	4.57	4.56	10.0	10.0266	79.9		
20	59	13C8-PFOS	507.0 > 79.9	3.10e3	3.47e3	0.997	0.997	4.65	4.64	11.2	11.2263	89.5		
21	59	13C8-PFOS	507.0 > 79.9	3.10e3	3.47e3	0.997	0.997	4.65	4.64	11.2	11.2263	89.5		
22	-1													
23	26	PFDA	513 > 468.8	5.47e1	1.29e4	0.997		4.94	4.94	0.0530	0.0382		85.464	YES
24	29	L-MeFOSAA	570 > 419		3.19e3	0.997		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	3.19e3	0.997		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.63e4	0.997		5.27						
27	37	PFDoA	612.9 > 569.0		1.68e4	0.997		5.55						
28	60	13C2-PFDA	515.1 > 469.9	1.29e4	2.46e4	0.997	0.819	4.95	4.94	6.55	8.0217	64.0		
29	62	d3-N-MeFOSAA	573.3 > 419	3.19e3	2.89e4	0.997	0.177	5.11	5.09	1.38	7.7902	62.1		
30	62	d3-N-MeFOSAA	573.3 > 419	3.19e3	2.89e4	0.997	0.177	5.11	5.09	1.38	7.7902	62.1		
31	63	13C2-PFUdA	565 > 519.8	1.63e4	2.89e4	0.997	0.889	5.28	5.27	7.05	7.9534	63.4		
32	65	13C2-PFDoA	614.7 > 569.7	1.68e4	2.46e4	0.997	1.087	5.57	5.55	8.52	7.8610	62.7		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		4.27e3	0.997		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	4.27e3	0.997		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.68e4	0.997		5.81						

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-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		1.40e4	0.997		6.03						
38	85	TDCA	498.3>106.9			0.997		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	4.27e3	2.89e4	0.997	0.224	5.27	5.25	1.84	8.2687	65.9		
40	64	d5-N-EtFOSAA	589.3 > 419	4.27e3	2.89e4	0.997	0.224	5.27	5.25	1.84	8.2687	65.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.68e4	2.46e4	0.997	1.087	5.57	5.55	8.52	7.8610	62.7		
42	67	13C2-PFTeDA	715.1 > 669.7	1.40e4	2.89e4	0.997	0.604	6.04	6.03	6.02	10.0036	79.8		
43	59	13C8-PFOS	507.0 > 79.9	3.10e3	3.47e3	0.997	0.997	4.65	4.64	11.2	11.2263	89.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.79e4	1.79e4	0.997	1.000	2.97	2.97	12.5	12.5425	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.32e4	2.32e4	0.997	1.000	4.12	4.11	12.5	12.5425	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.39e3	1.39e3	0.997	1.000	3.75	3.74	12.5	12.5425	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.76e4	1.76e4	0.997	1.000	4.57	4.56	12.5	12.5425	100.0		
49	77	13C4-PFOS	503 > 79.9	3.47e3	3.47e3	0.997	1.000	4.65	4.64	12.5	12.5425	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.46e4	2.46e4	0.997	1.000	4.95	4.94	12.5	12.5425	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.89e4	2.89e4	0.997	1.000	5.28	5.26	12.5	12.5425	100.0		

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

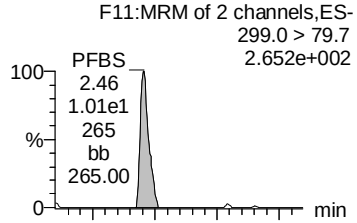
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

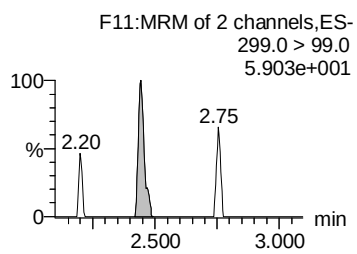
Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

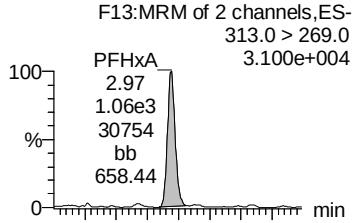
Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

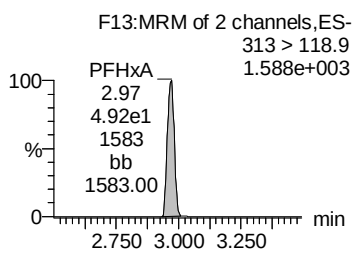
PFBS



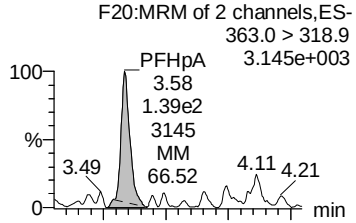


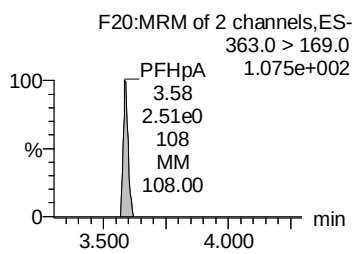
PFHxA



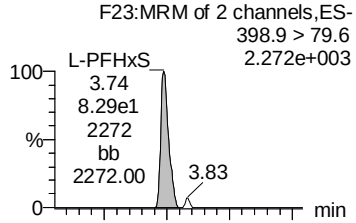


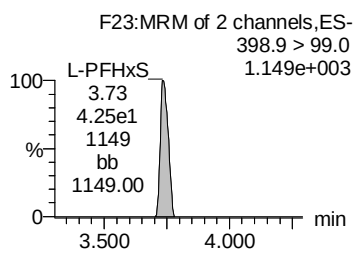
PFHpA





L-PFHxS





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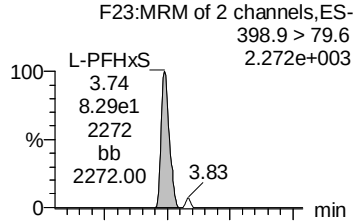
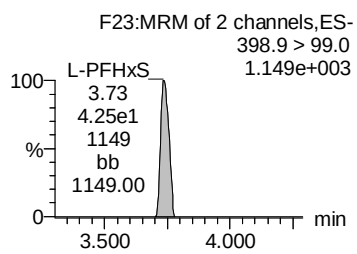
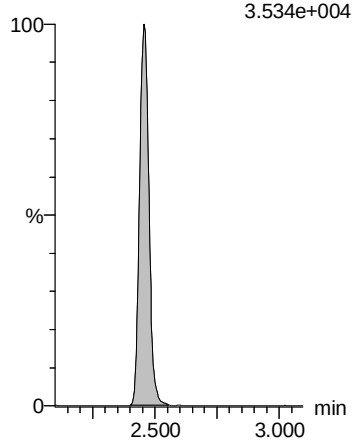




13C3-PFBS



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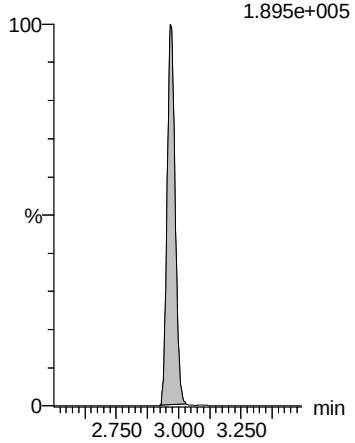

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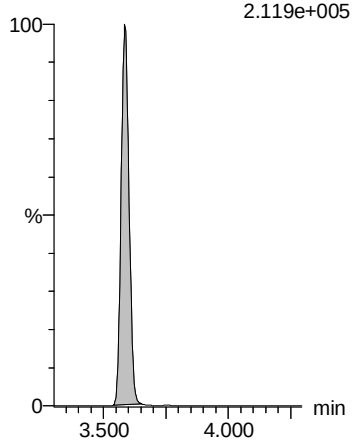

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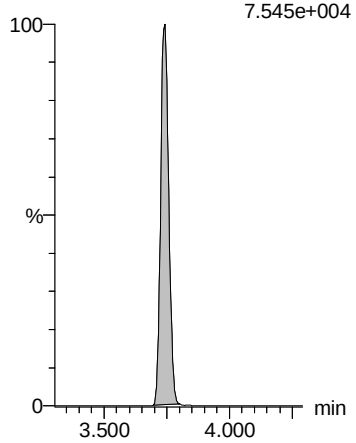

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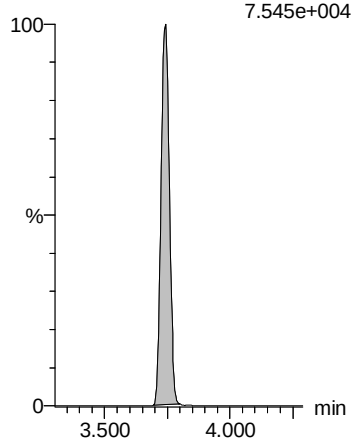


CGH 7/25/2019

Vista Analytical Laboratory L14

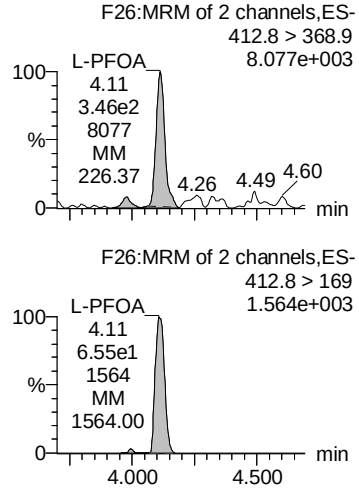
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

L-PFOA



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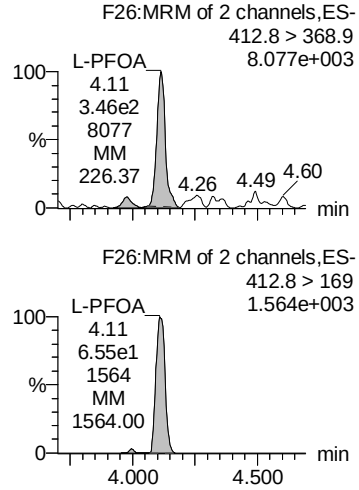
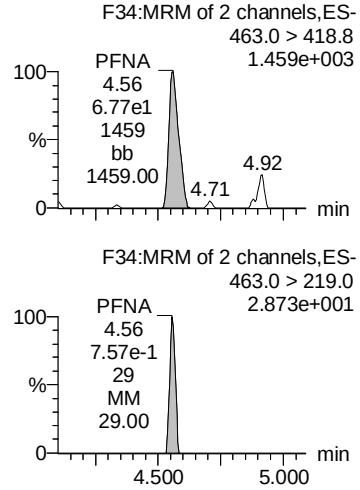
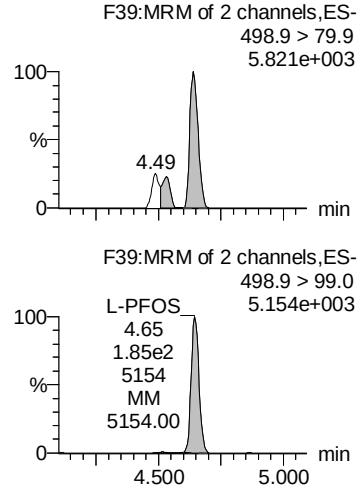


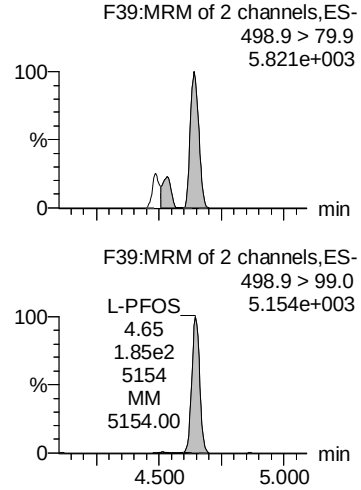
PFNA



L-PFOS



Total PFOS



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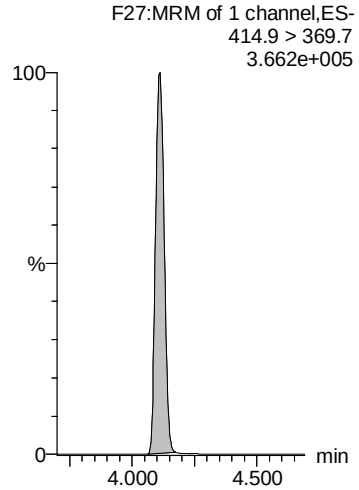

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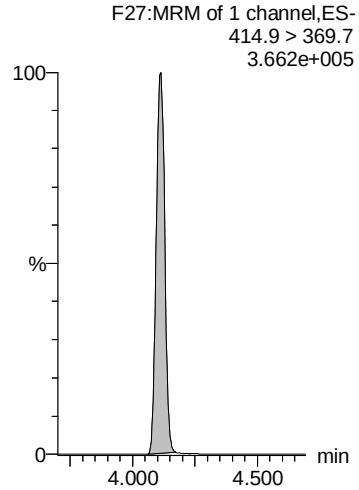
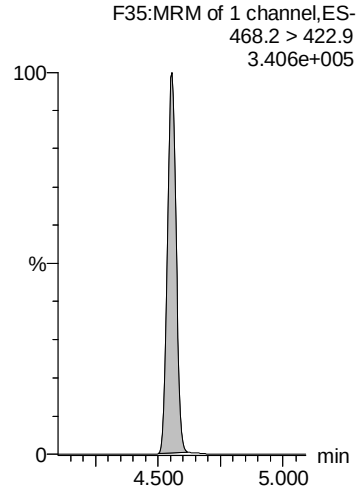
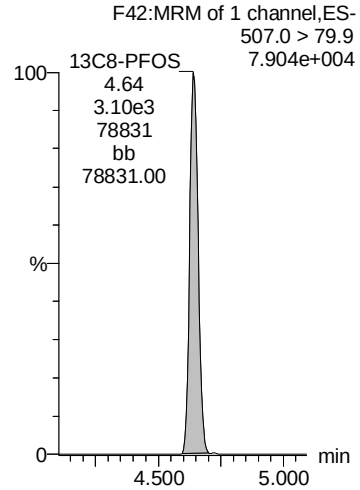


13C5-PFNA



13C8-PFOS



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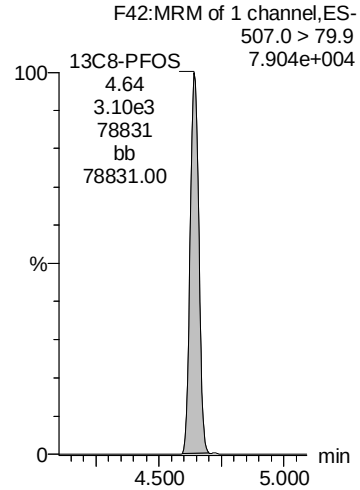


CGH 7/25/2019

Vista Analytical Laboratory L14

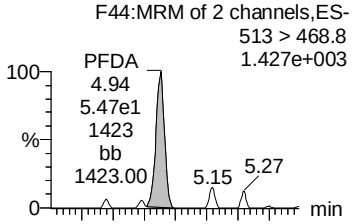
Review: AMR 7/25/2019

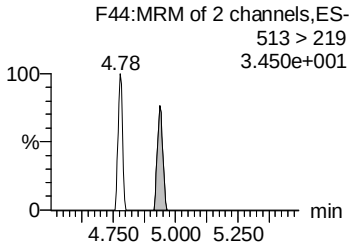
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

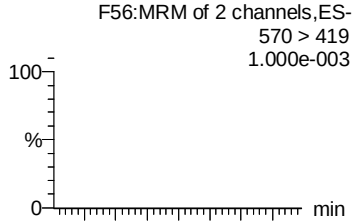
Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

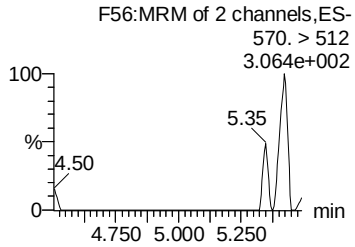
PFDA



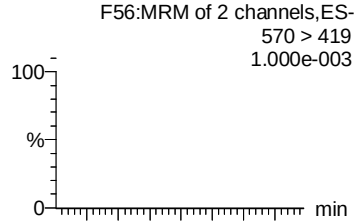


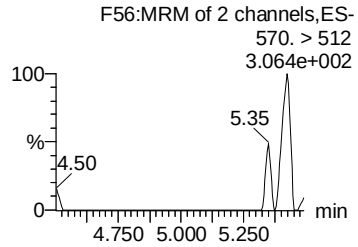
L-MeFOSAA



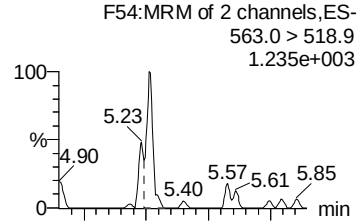


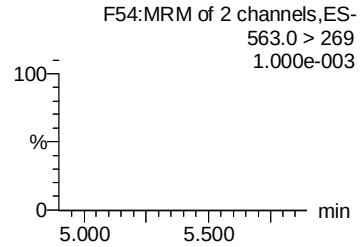
Total N-MeFOSAA



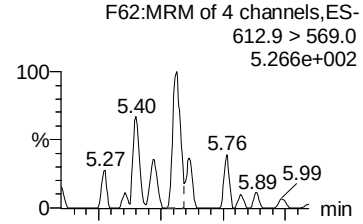


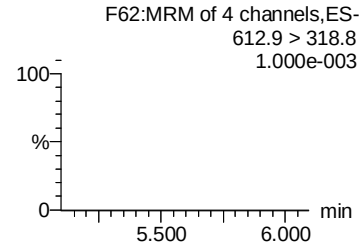
PFUdA





PFDoA





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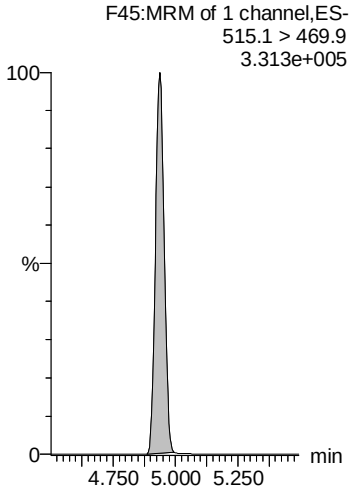
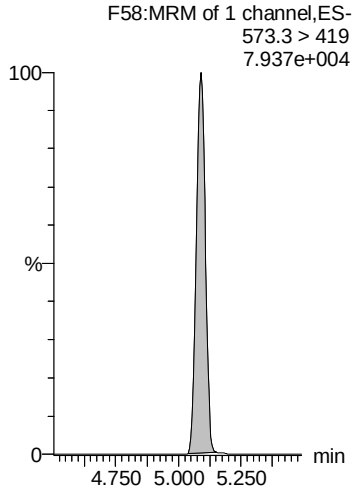
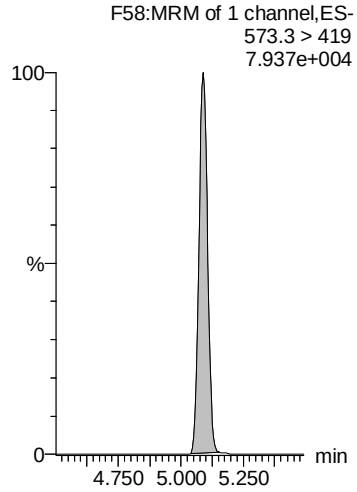


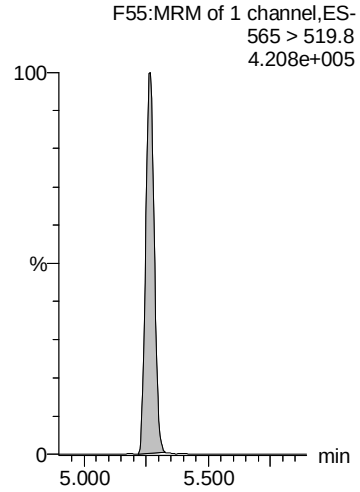
d3-N-MeFOSAA



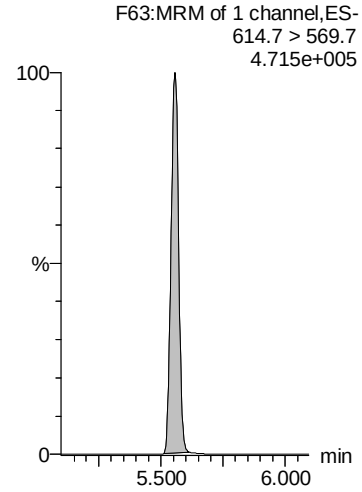
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/25/2019

Vista Analytical Laboratory L14

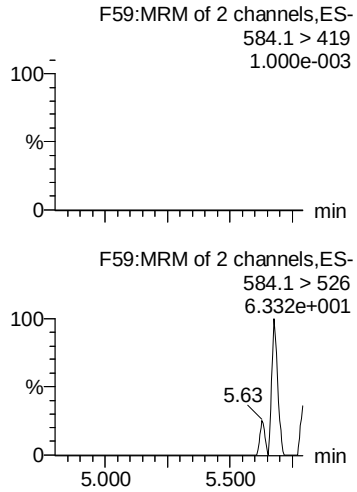
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

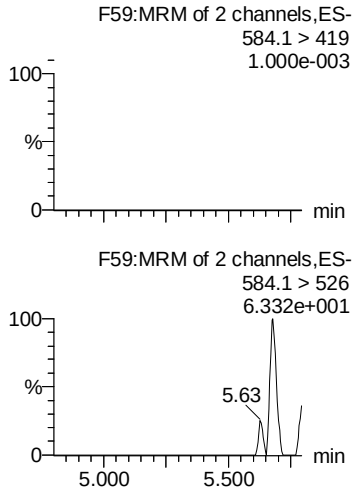
Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

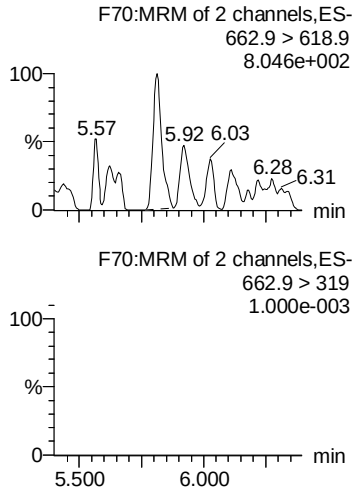
L-EtFOSAA



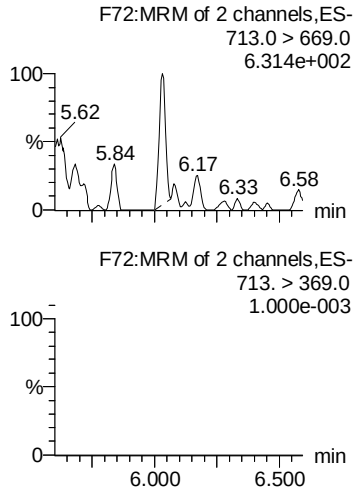
Total N-EtFOSAA



PFTrDA



PFTeDA



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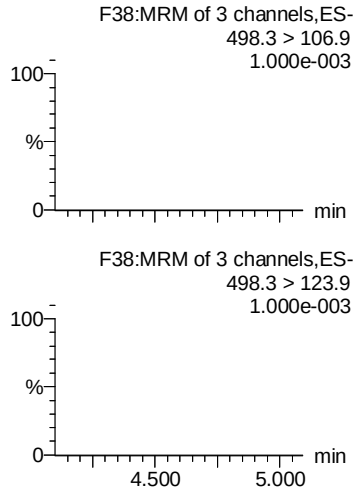
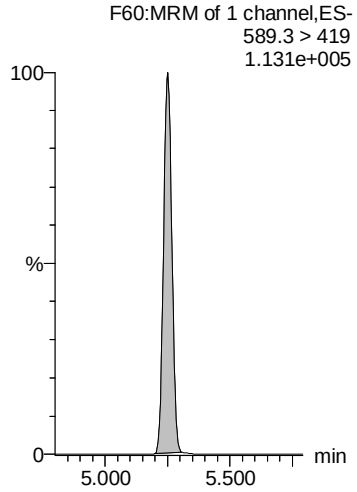
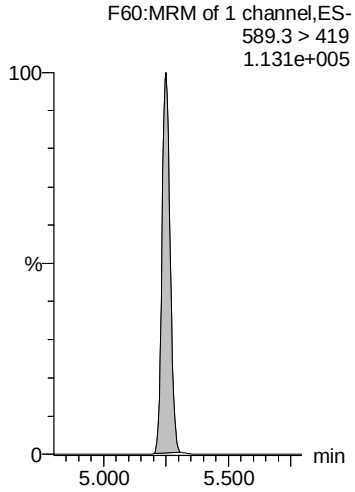


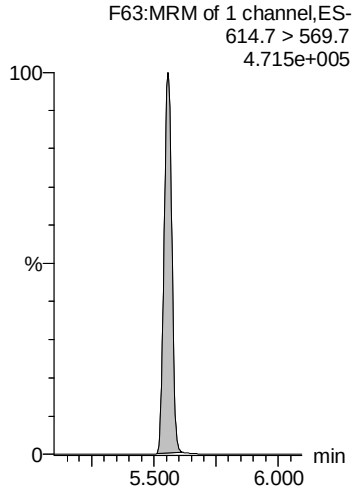
d5-N-EtFOSAA



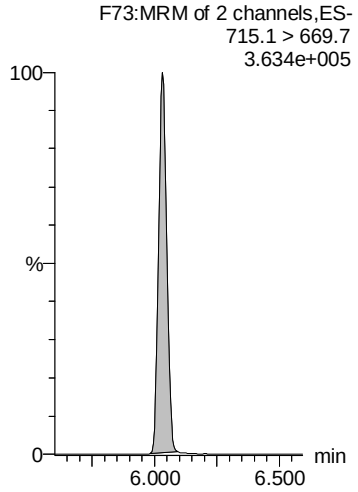
d5-N-EtFOSAA



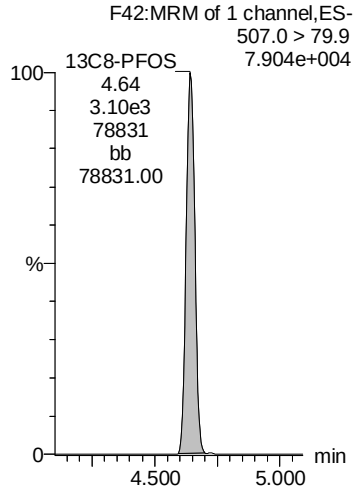
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/25/2019

Vista Analytical Laboratory L14

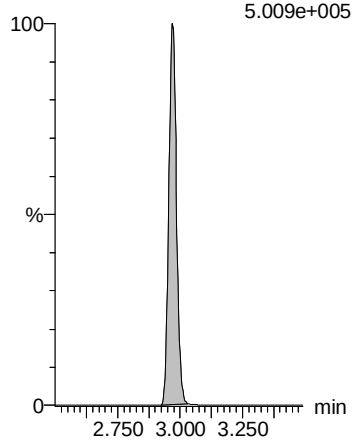
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-41.qld

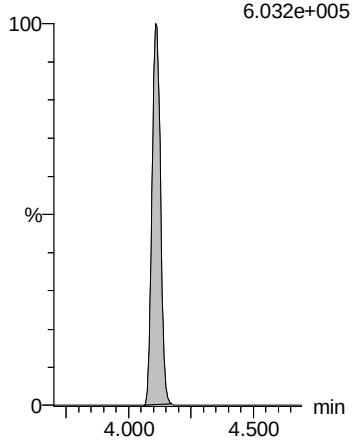
Last Altered: Thursday, July 25, 2019 10:00:50 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:10:00 Pacific Daylight Time

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

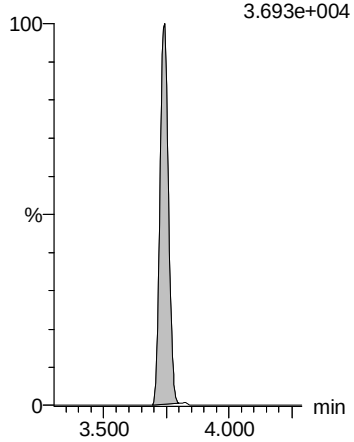
13C5-PFHxA



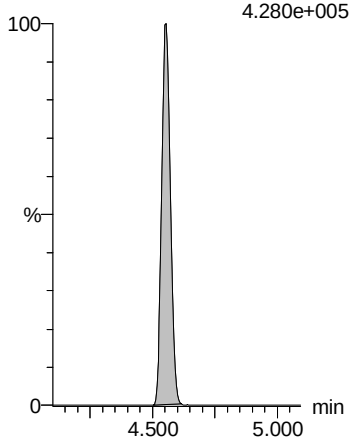
13C8-PFOA



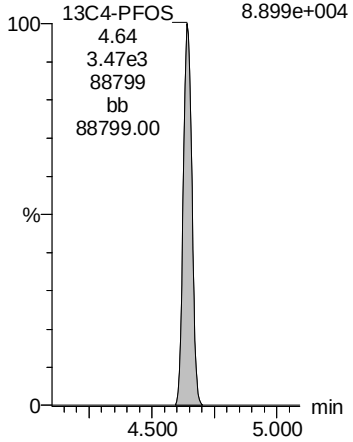
18O2-PFHxS



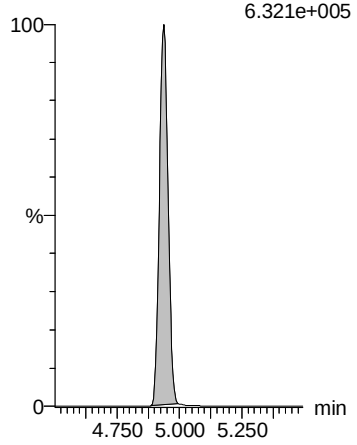
13C9-PFNA



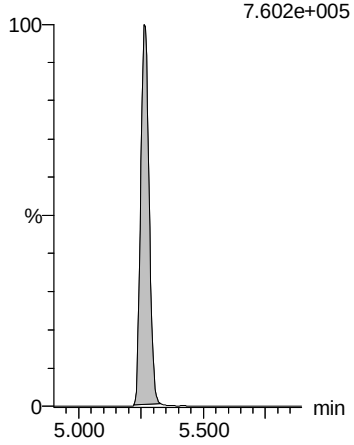
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-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	3.16e1	1.34e3	0.998		2.43	2.44	0.294	0.1627		5.127	YES
2	7	PFHxA	313.0 > 269.0	2.22e3	5.59e3	0.998		2.95	2.95	1.99	2.2046		16.306	NO
3	11	PFHpA	363.0 > 318.9	3.10e2	6.88e3	0.998		3.57	3.57	0.564	0.4377		9.228	NO
4	13	L-PFHxS	398.9 > 79.6	3.66e2	2.38e3	0.998		3.73	3.73	1.92	2.1228		2.191	NO
5	80	Total PFHxS	398.9 > 79.6	3.66e2	2.38e3	0.998		3.83		1.92	2.1228			
6	49	13C3-PFBS	302.0 > 98.8	1.34e3	1.24e3	0.998	1.058	2.46	2.43	13.5	12.8026	102.2		
7	52	13C2-PFHxA	315.0 > 270.0	5.59e3	1.48e4	0.998	0.978	2.97	2.95	4.71	4.8249	96.3		
8	53	13C4-PFHpA	367.2 > 321.8	6.88e3	1.48e4	0.998	0.479	3.59	3.57	5.79	12.1309	96.8		
9	54	13C3-PFHxS	401.8 > 79.9	2.38e3	1.24e3	0.998	2.024	3.75	3.73	23.9	11.8316	94.4		
10	54	13C3-PFHxS	401.8 > 79.9	2.38e3	1.24e3	0.998	2.024	3.75	3.73	23.9	11.8316	94.4		
11	-1													
12	16	L-PFOA	412.8 > 368.9	4.31e3	1.18e4	0.998		4.10	4.10	4.57	3.0224		3.901	NO
13	81	Total PFOA	412.8 > 368.9	4.31e3	1.18e4	0.998		4.21		4.57	3.0224			
14	21	PFNA	463.0 > 418.8	1.18e2	1.23e4	0.998		4.55	4.54	0.119	0.0789		12.274	YES
15	23	L-PFOS	498.9 > 79.9	6.27e2	2.88e3	0.998		4.63	4.63	2.72	2.5659		3.769	YES
16	82	Total PFOS	498.9 > 79.9	6.27e2	2.88e3	0.998		4.74		2.72	2.5659			
17	58	13C2-PFOA	414.9 > 369.7	1.18e4	2.04e4	0.998	0.681	4.12	4.10	7.23	10.6350	84.9		
18	58	13C2-PFOA	414.9 > 369.7	1.18e4	2.04e4	0.998	0.681	4.12	4.10	7.23	10.6350	84.9		
19	56	13C5-PFNA	468.2 > 422.9	1.23e4	1.54e4	0.998	1.002	4.57	4.55	10.0	10.0246	80.0		
20	59	13C8-PFOS	507.0 > 79.9	2.88e3	3.16e3	0.998	0.997	4.65	4.63	11.4	11.4899	91.7		
21	59	13C8-PFOS	507.0 > 79.9	2.88e3	3.16e3	0.998	0.997	4.65	4.63	11.4	11.4899	91.7		
22	-1													
23	26	PFDA	513 > 468.8	3.48e1	1.14e4	0.998		4.93	4.93	0.0381	0.0266		4.703	NO
24	29	L-MeFOSAA	570 > 419		2.79e3	0.998		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.79e3	0.998		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	4.41e1	1.52e4	0.998		5.26	5.26	0.0363			8.718	NO
27	37	PFDoA	612.9 > 569.0	3.58e1	1.64e4	0.998		5.55	5.55	0.0273			27.048	YES
28	60	13C2-PFDA	515.1 > 469.9	1.14e4	2.14e4	0.998	0.819	4.95	4.93	6.67	8.1611	65.1		
29	62	d3-N-MeFOSAA	573.3 > 419	2.79e3	2.62e4	0.998	0.177	5.11	5.08	1.33	7.5049	59.9		
30	62	d3-N-MeFOSAA	573.3 > 419	2.79e3	2.62e4	0.998	0.177	5.11	5.08	1.33	7.5049	59.9		
31	63	13C2-PFUdA	565 > 519.8	1.52e4	2.62e4	0.998	0.889	5.28	5.26	7.23	8.1510	65.1		
32	65	13C2-PFDoA	614.7 > 569.7	1.64e4	2.14e4	0.998	1.087	5.57	5.55	9.57	8.8241	70.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.98e3	0.998		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.98e3	0.998		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.64e4	0.998		5.80						

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-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		1.35e4	0.998		6.03						
38	85	TDCA	498.3>106.9			0.998		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.98e3	2.62e4	0.998	0.224	5.27	5.24	1.89	8.4841	67.7		
40	64	d5-N-EtFOSAA	589.3 > 419	3.98e3	2.62e4	0.998	0.224	5.27	5.24	1.89	8.4841	67.7		
41	65	13C2-PFDoA	614.7 > 569.7	1.64e4	2.14e4	0.998	1.087	5.57	5.55	9.57	8.8241	70.4		
42	67	13C2-PFTeDA	715.1 > 669.7	1.35e4	2.62e4	0.998	0.604	6.04	6.03	6.44	10.6789	85.2		
43	59	13C8-PFOS	507.0 > 79.9	2.88e3	3.16e3	0.998	0.997	4.65	4.63	11.4	11.4899	91.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.48e4	1.48e4	0.998	1.000	2.97	2.95	12.5	12.5303	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.04e4	2.04e4	0.998	1.000	4.12	4.10	12.5	12.5303	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.24e3	1.24e3	0.998	1.000	3.75	3.73	12.5	12.5303	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.54e4	1.54e4	0.998	1.000	4.57	4.55	12.5	12.5303	100.0		
49	77	13C4-PFOS	503 > 79.9	3.16e3	3.16e3	0.998	1.000	4.65	4.63	12.5	12.5303	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.14e4	2.14e4	0.998	1.000	4.95	4.93	12.5	12.5303	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.62e4	2.62e4	0.998	1.000	5.28	5.26	12.5	12.5303	100.0		

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Vista Analytical Laboratory L14

Review: AMR 7/25/2019

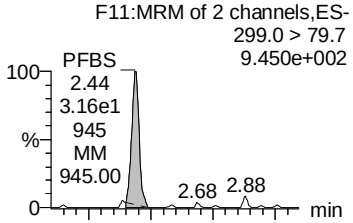
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

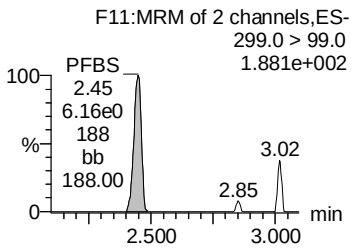
Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

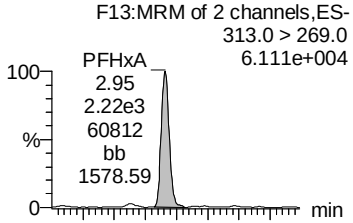
Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

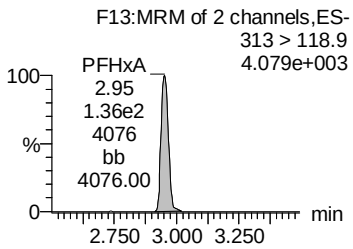
PFBS



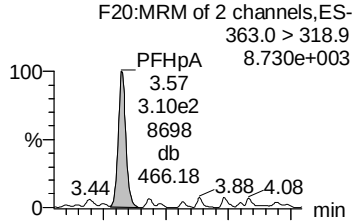


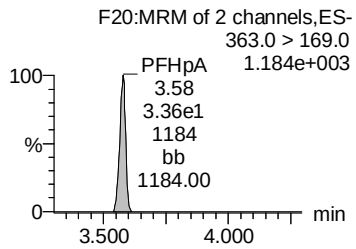
PFHxA



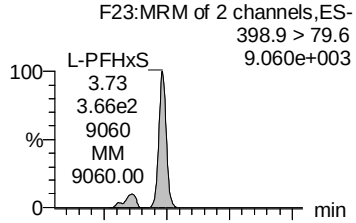


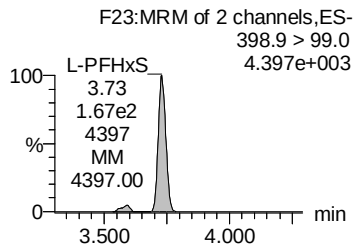
PFHpA



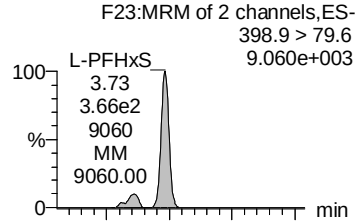


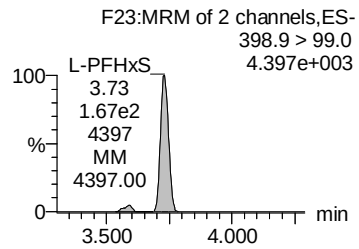
L-PFHxS



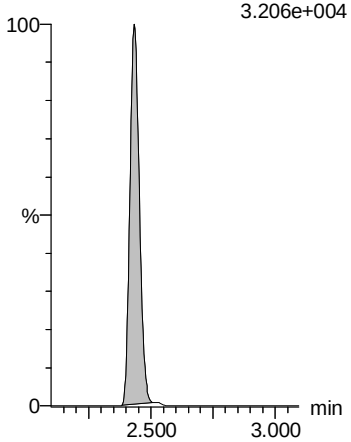


Total PFHxS

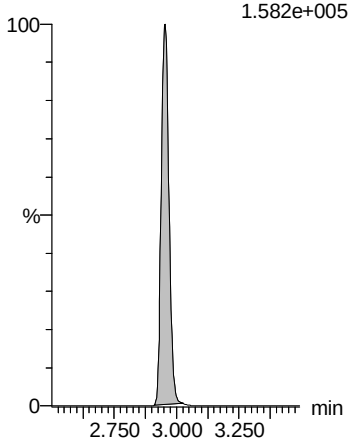




13C3-PFBS



13C2-PFHxA



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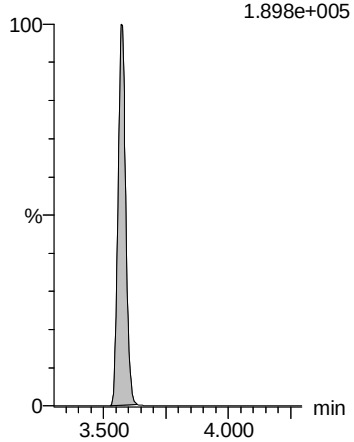

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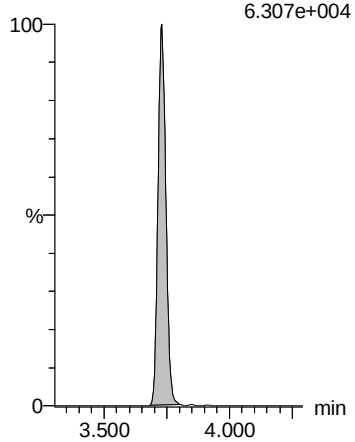

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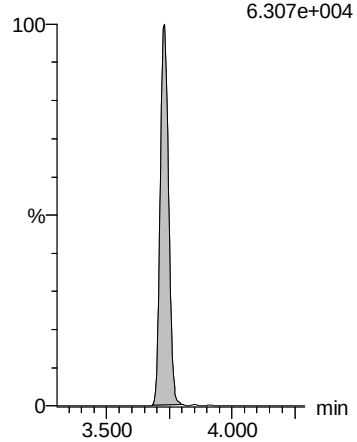


CGH 7/24/2019

Vista Analytical Laboratory L14

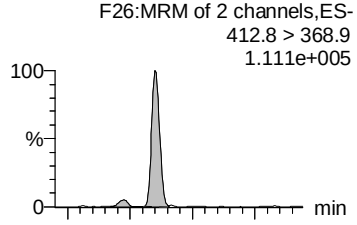
Review: AMR 7/25/2019

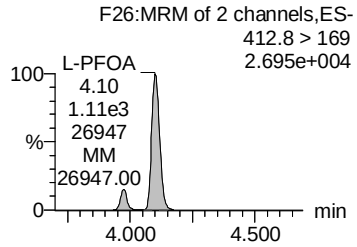
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

L-PFOA





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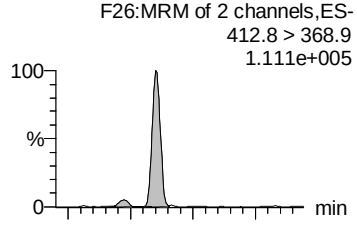

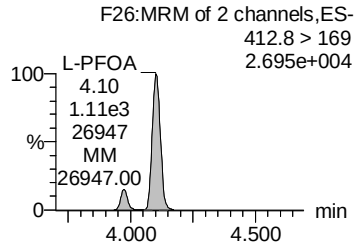

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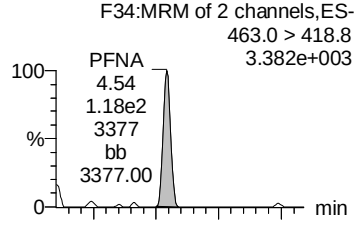

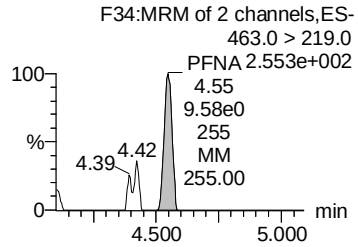

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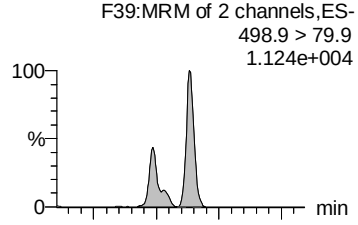
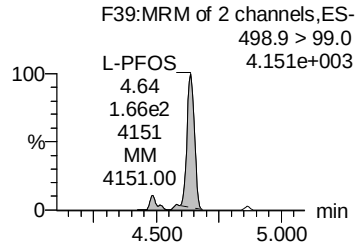
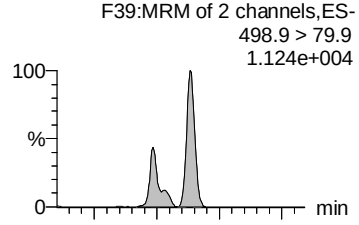
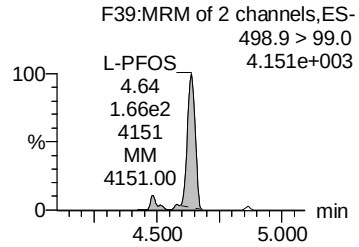


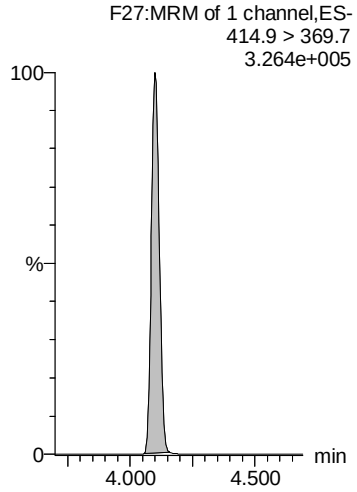


Total PFOS





13C2-PFOA



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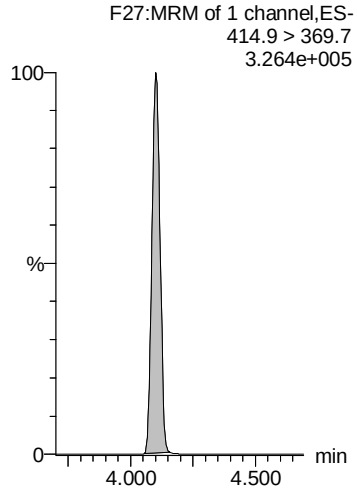

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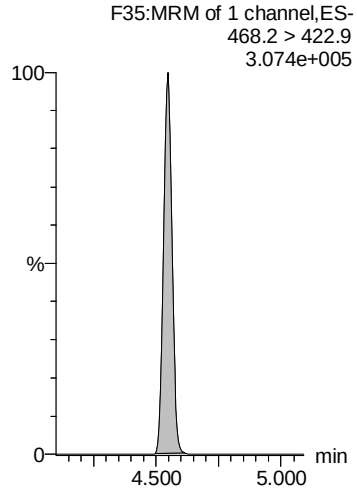
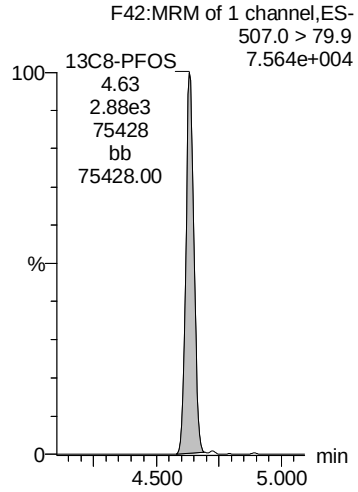
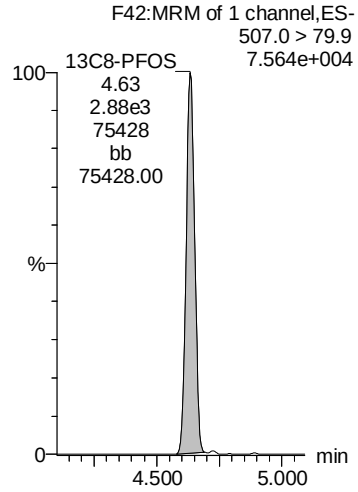


13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

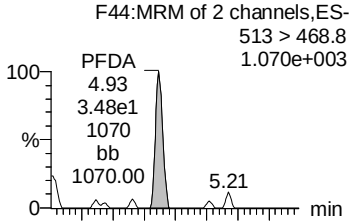
Review: AMR 7/25/2019

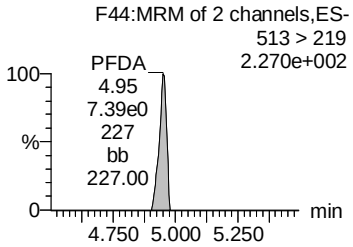
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

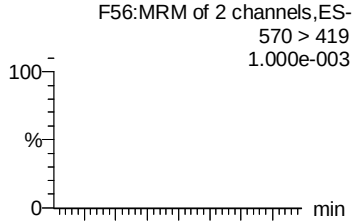
Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

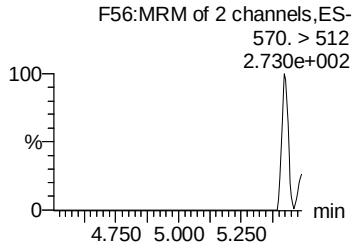
PFDA





L-MeFOSAA





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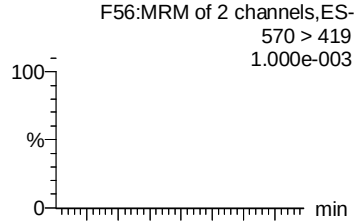

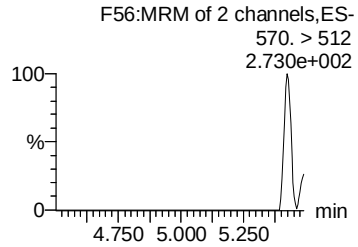

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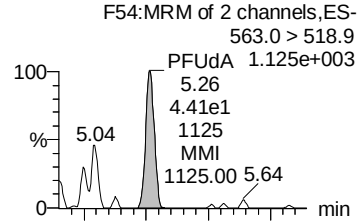

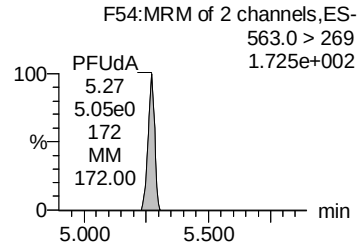

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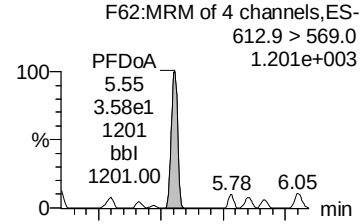

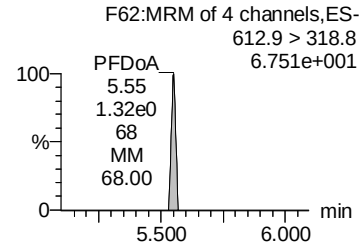

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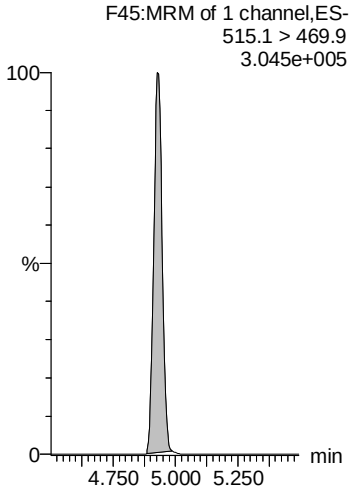

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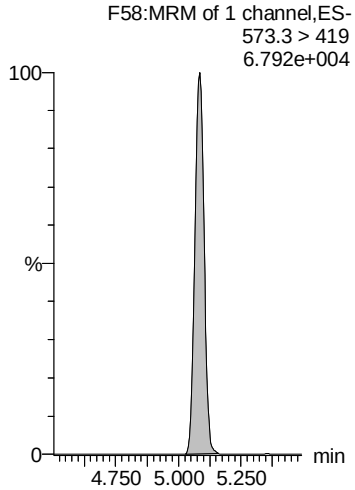

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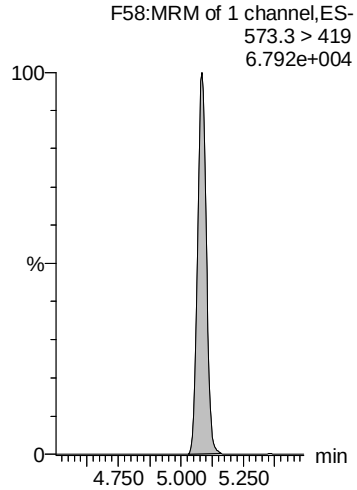

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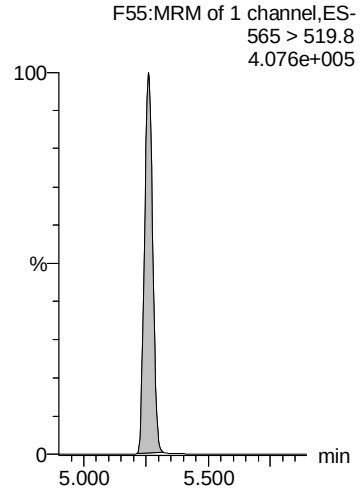

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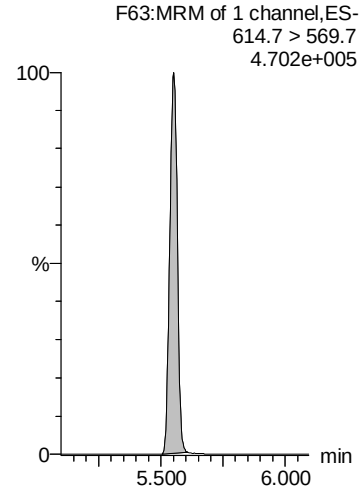


CGH 7/24/2019

Vista Analytical Laboratory L14

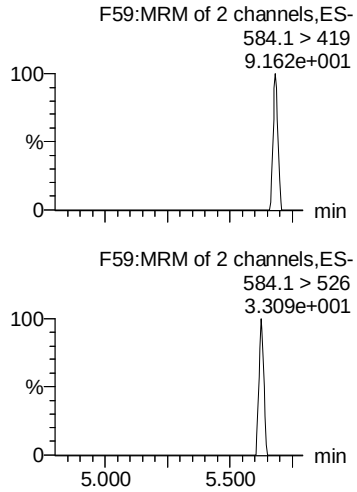
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

L-EtFOSAA



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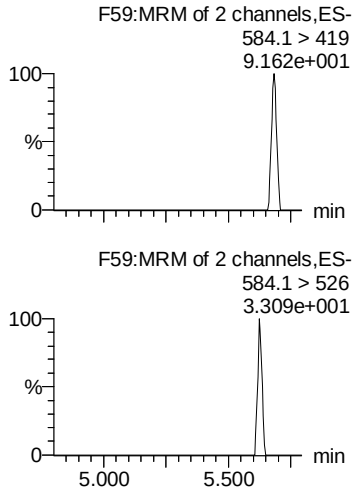
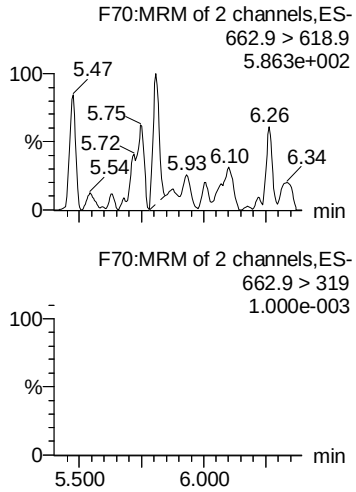


PFTrDA



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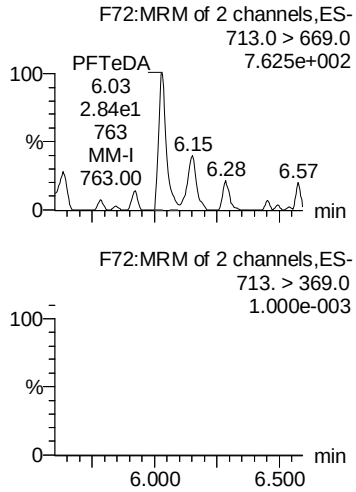

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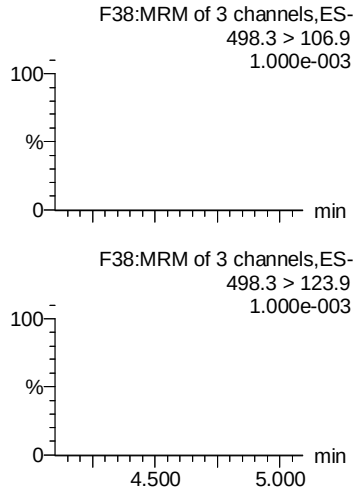
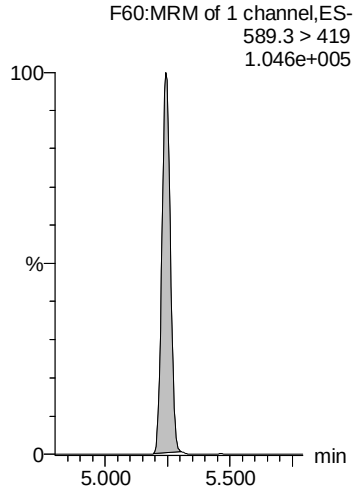


d5-N-EtFOSAA



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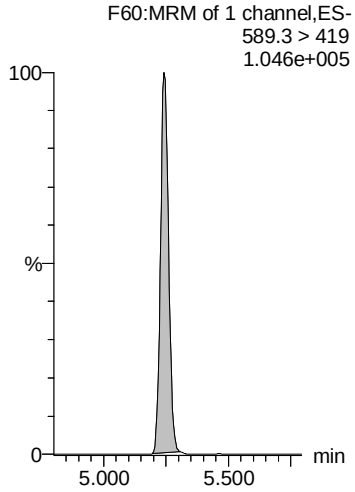

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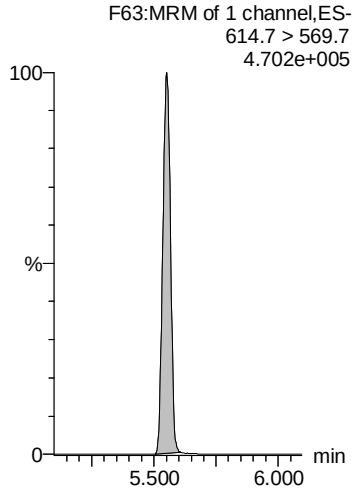

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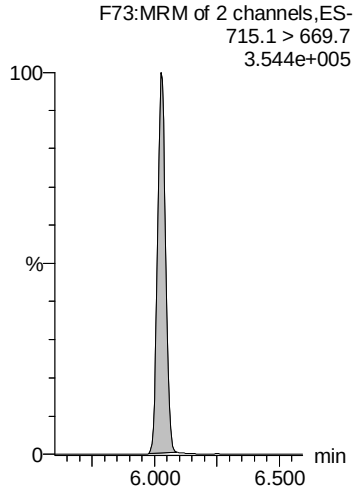

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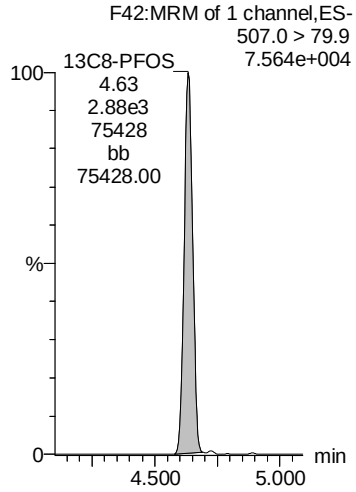


CGH 7/24/2019

Vista Analytical Laboratory L14

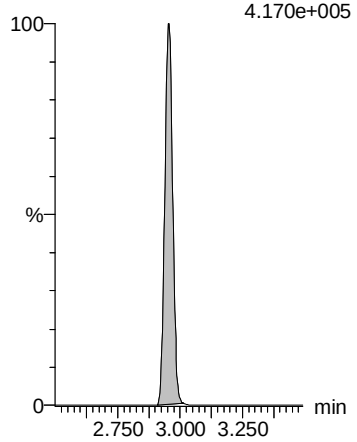
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-45.qld

Last Altered: Wednesday, July 24, 2019 12:09:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:10:43 Pacific Daylight Time

Name: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

13C5-PFHxA



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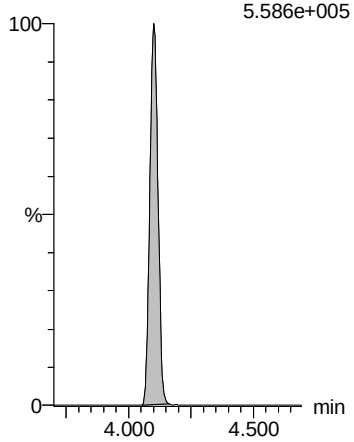
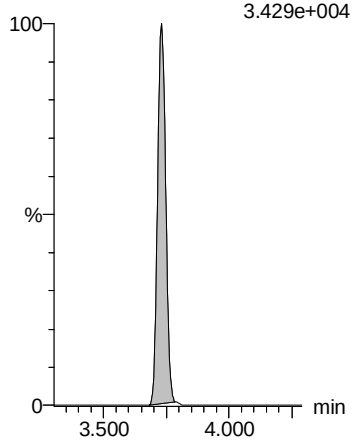


18O2-PFHxS



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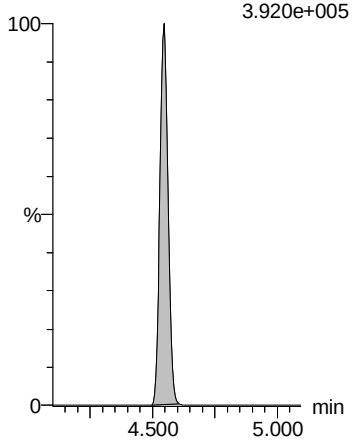

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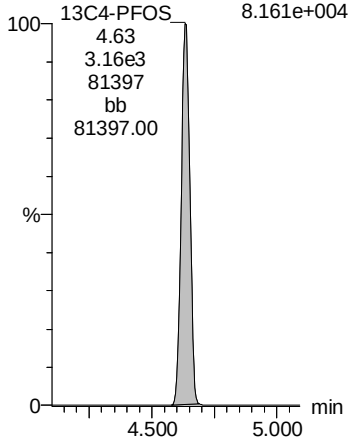

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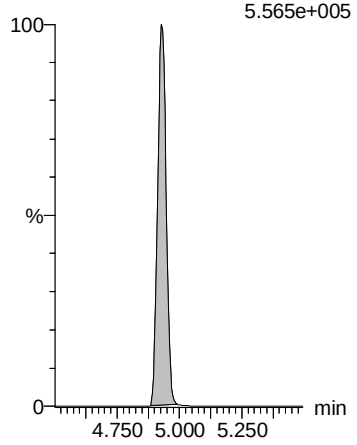
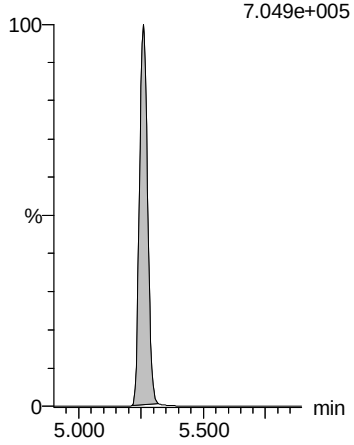


13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:51:15 Pacific Daylight Time

Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-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	2.98e3	1.60e3	0.998		2.47	2.47	23.3	10.3107		2.839	NO
2	7	PFHxA	313.0 > 269.0	1.61e4	7.05e3	0.998		2.98	2.98	11.4	12.9967		16.074	NO
3	11	PFHpA	363.0 > 318.9	9.18e3	8.65e3	0.998		3.60	3.60	13.3	10.2734		10.404	NO
4	13	L-PFHxS	398.9 > 79.6	2.85e3	3.30e3	0.998		3.76	3.76	10.8	11.8745		2.039	NO
5	80	Total PFHxS	398.9 > 79.6	2.85e3	3.30e3	0.998		3.83		10.8	11.8745			
6	49	13C3-PFBS	302.0 > 98.8	1.60e3	1.55e3	0.998	1.058	2.46	2.47	12.8	12.1659	97.1		
7	52	13C2-PFHxA	315.0 > 270.0	7.05e3	1.91e4	0.998	0.978	2.97	2.98	4.62	4.7338	94.4		
8	53	13C4-PFHpA	367.2 > 321.8	8.65e3	1.91e4	0.998	0.479	3.59	3.60	5.67	11.8736	94.8		
9	54	13C3-PFHxS	401.8 > 79.9	3.30e3	1.55e3	0.998	2.024	3.75	3.76	26.5	13.1313	104.8		
10	54	13C3-PFHxS	401.8 > 79.9	3.30e3	1.55e3	0.998	2.024	3.75	3.76	26.5	13.1313	104.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.34e4	1.52e4	0.998		4.13	4.13	19.2	12.8020		3.780	NO
13	81	Total PFOA	412.8 > 368.9	2.34e4	1.52e4	0.998		4.21		19.2	12.8020			
14	21	PFNA	463.0 > 418.8	1.37e4	1.50e4	0.998		4.58	4.58	11.4	9.9145		4.062	NO
15	23	L-PFOS	498.9 > 79.9	3.68e3	3.41e3	0.998		4.66	4.66	13.5	12.6711		2.272	NO
16	82	Total PFOS	498.9 > 79.9	3.68e3	3.41e3	0.998		4.74		13.5	12.6711			
17	58	13C2-PFOA	414.9 > 369.7	1.52e4	2.50e4	0.998	0.681	4.12	4.13	7.61	11.2034	89.4		
18	58	13C2-PFOA	414.9 > 369.7	1.52e4	2.50e4	0.998	0.681	4.12	4.13	7.61	11.2034	89.4		
19	56	13C5-PFNA	468.2 > 422.9	1.50e4	1.90e4	0.998	1.002	4.57	4.58	9.87	9.8745	78.8		
20	59	13C8-PFOS	507.0 > 79.9	3.41e3	3.86e3	0.998	0.997	4.65	4.66	11.0	11.1080	88.7		
21	59	13C8-PFOS	507.0 > 79.9	3.41e3	3.86e3	0.998	0.997	4.65	4.66	11.0	11.1080	88.7		
22	-1													
23	26	PFDA	513 > 468.8	1.48e4	1.36e4	0.998		4.95	4.95	13.7	10.6192		5.589	NO
24	29	L-MeFOSAA	570 > 419	6.58e3	3.97e3	0.998		5.11	5.11	20.7	9.6170		2.517	NO
25	83	Total N-MeFOSAA	570. > 419	6.58e3	3.97e3	0.998		5.19		20.7	9.6170			
26	33	PFUdA	563.0 > 518.9	1.35e4	1.81e4	0.998		5.28	5.28	9.34	10.2403		8.587	NO
27	37	PFDoA	612.9 > 569.0	1.63e4	1.92e4	0.998		5.57	5.57	10.6	9.9337		8.477	NO
28	60	13C2-PFDA	515.1 > 469.9	1.36e4	2.59e4	0.998	0.819	4.95	4.95	6.55	8.0207	64.0		
29	62	d3-N-MeFOSAA	573.3 > 419	3.97e3	3.11e4	0.998	0.177	5.11	5.11	1.60	9.0148	71.9		
30	62	d3-N-MeFOSAA	573.3 > 419	3.97e3	3.11e4	0.998	0.177	5.11	5.11	1.60	9.0148	71.9		
31	63	13C2-PFUdA	565 > 519.8	1.81e4	3.11e4	0.998	0.889	5.28	5.28	7.28	8.2051	65.5		
32	65	13C2-PFDoA	614.7 > 569.7	1.92e4	2.59e4	0.998	1.087	5.57	5.57	9.27	8.5462	68.2		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	5.17e3	5.28e3	0.998		5.27	5.27	12.3	9.8421		1.402	NO
35	84	Total N-EtFOSAA	584.1 > 419	5.17e3	5.28e3	0.998		5.33		12.3	9.8421			
36	39	PFTrDA	662.9 > 618.9	1.84e4	1.92e4	0.998		5.82	5.82	12.0	10.5618		20.666	NO

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:51:15 Pacific Daylight Time

Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-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	1.95e4	1.52e4	0.998		6.05	6.05	16.0	10.6131		14.366	NO
38	85	TDCA	498.3>106.9			0.998		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	5.28e3	3.11e4	0.998	0.224	5.27	5.27	2.12	9.4869	75.7		
40	64	d5-N-EtFOSAA	589.3 > 419	5.28e3	3.11e4	0.998	0.224	5.27	5.27	2.12	9.4869	75.7		
41	65	13C2-PFDoA	614.7 > 569.7	1.92e4	2.59e4	0.998	1.087	5.57	5.57	9.27	8.5462	68.2		
42	67	13C2-PFTeDA	715.1 > 669.7	1.52e4	3.11e4	0.998	0.604	6.04	6.05	6.09	10.1056	80.7		
43	59	13C8-PFOS	507.0 > 79.9	3.41e3	3.86e3	0.998	0.997	4.65	4.66	11.0	11.1080	88.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.91e4	1.91e4	0.998	1.000	2.97	2.98	12.5	12.5301	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.50e4	2.50e4	0.998	1.000	4.12	4.13	12.5	12.5301	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.55e3	1.55e3	0.998	1.000	3.75	3.76	12.5	12.5301	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.90e4	1.90e4	0.998	1.000	4.57	4.57	12.5	12.5301	100.0		
49	77	13C4-PFOS	503 > 79.9	3.86e3	3.86e3	0.998	1.000	4.65	4.66	12.5	12.5301	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.59e4	2.59e4	0.998	1.000	4.95	4.95	12.5	12.5301	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.11e4	3.11e4	0.998	1.000	5.28	5.28	12.5	12.5301	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

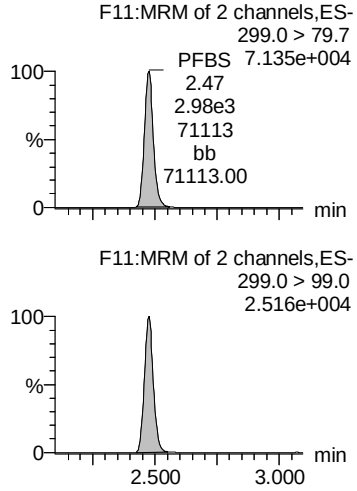
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:51:15 Pacific Daylight Time

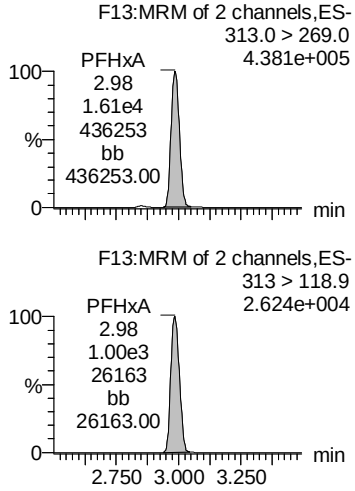
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

PFBS



PFHxA



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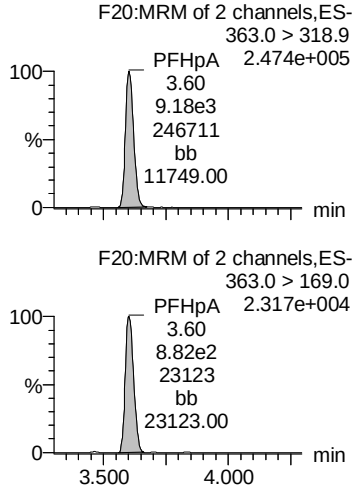
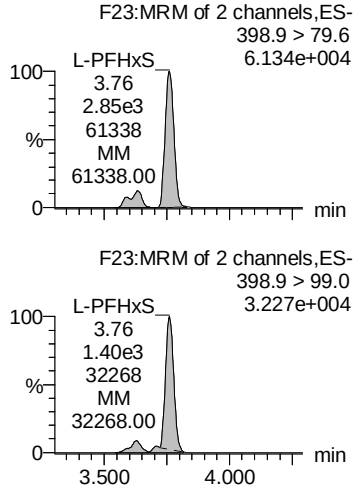


L-PFHxS



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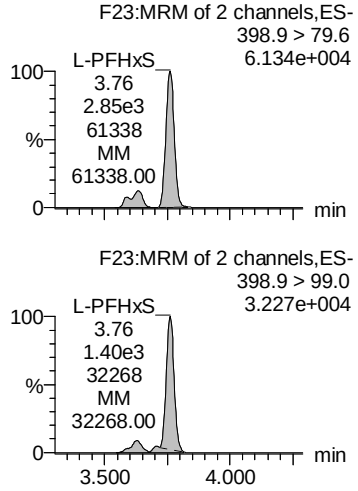
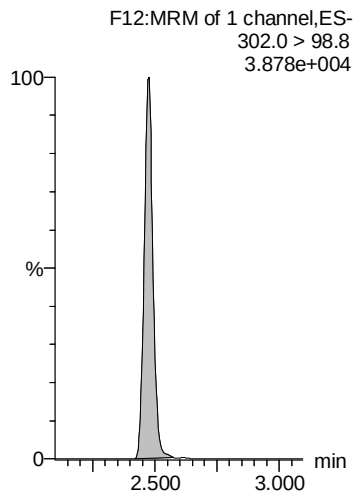


13C3-PFBS



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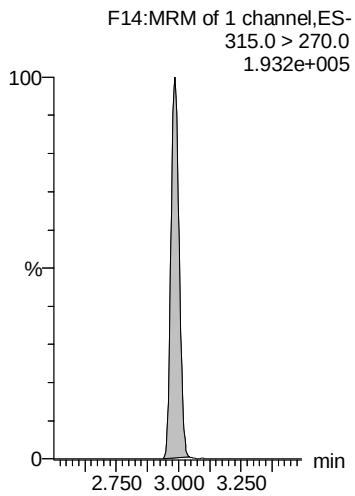

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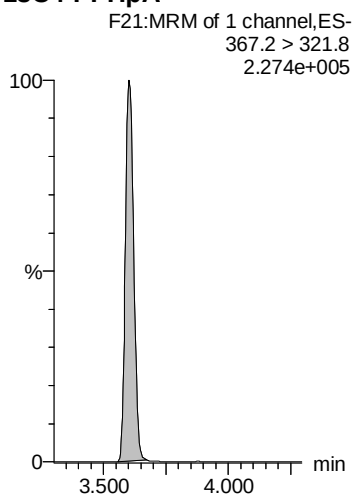

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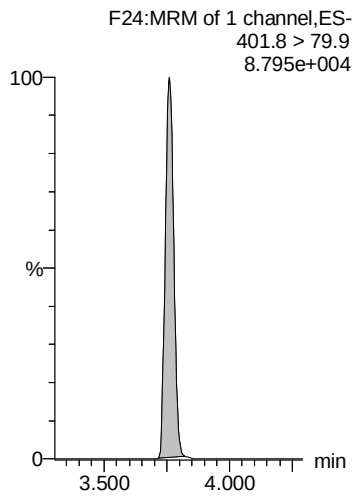

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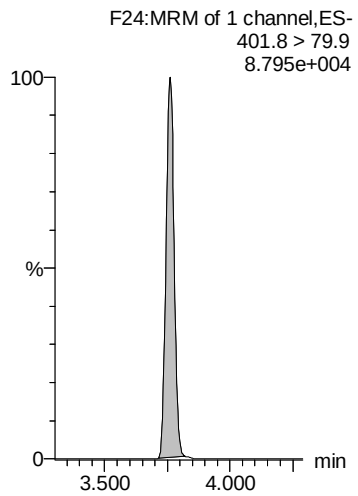

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
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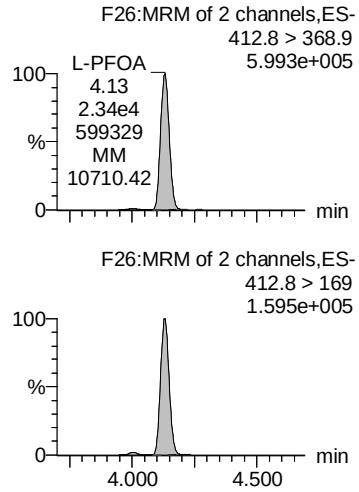
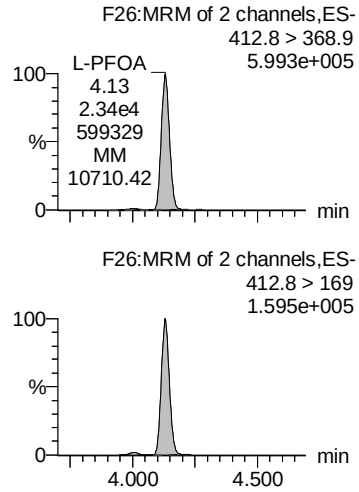
Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

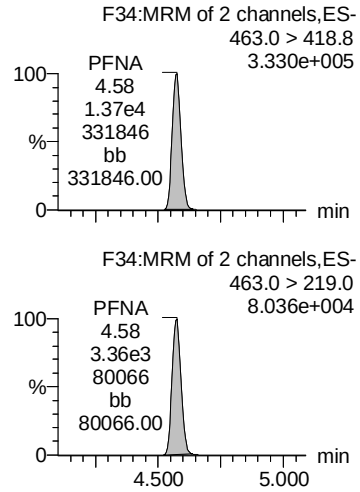
L-PFOA



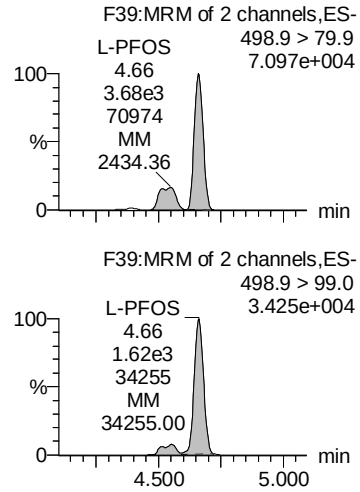
Total PFOA



PFNA



L-PFOS



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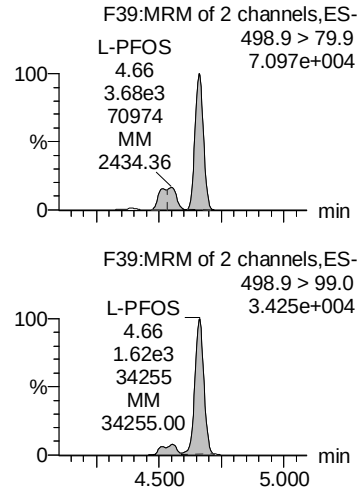

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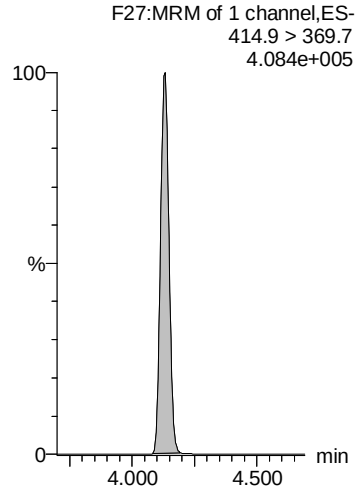

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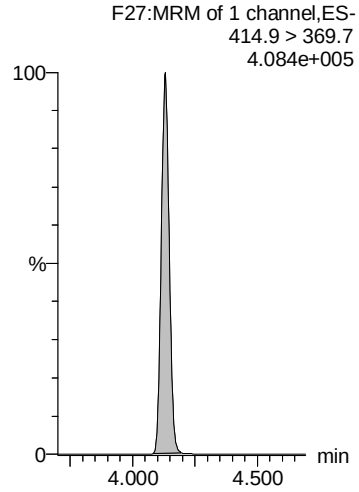

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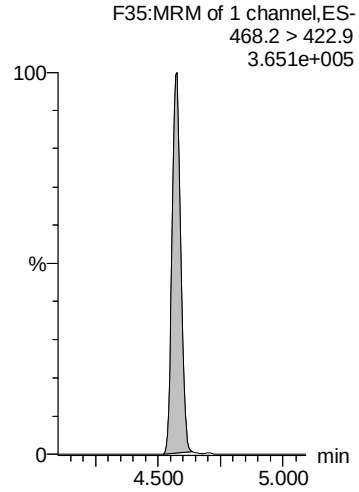
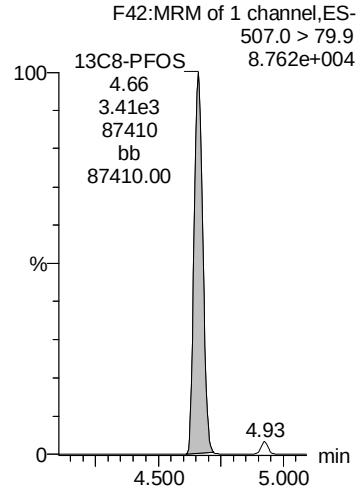


13C8-PFOS



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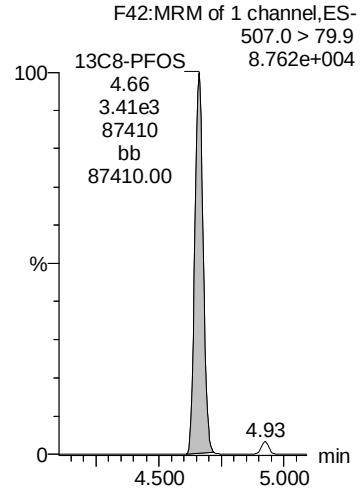

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
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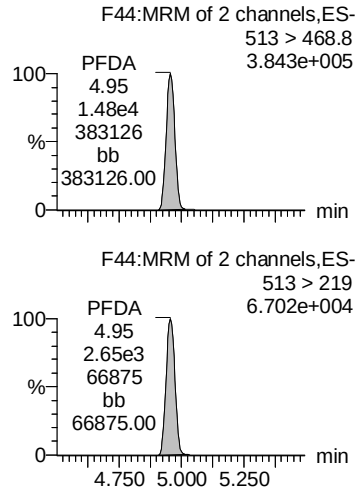
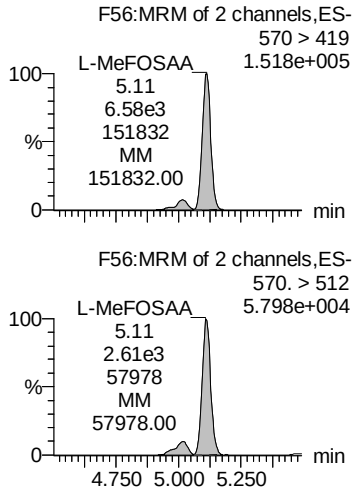
Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

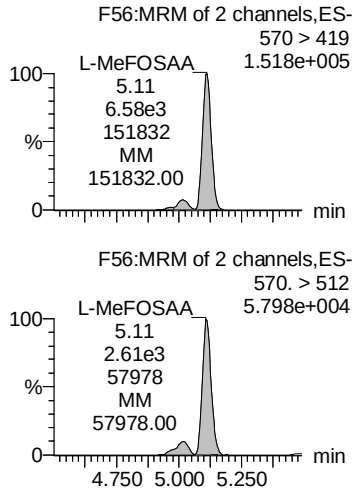
PFDA



L-MeFOSAA



Total N-MeFOSAA



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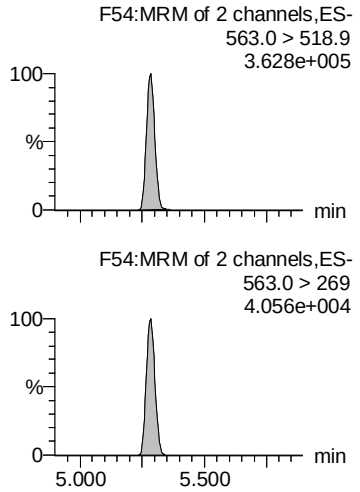

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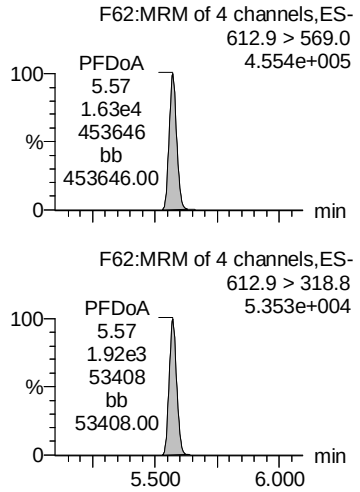

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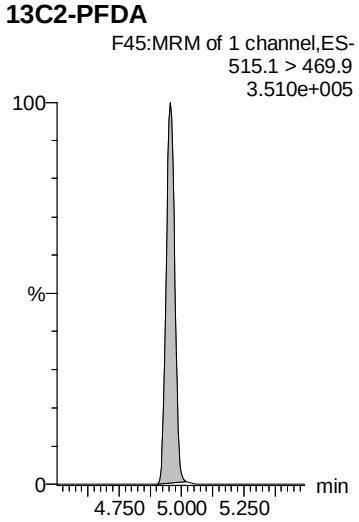

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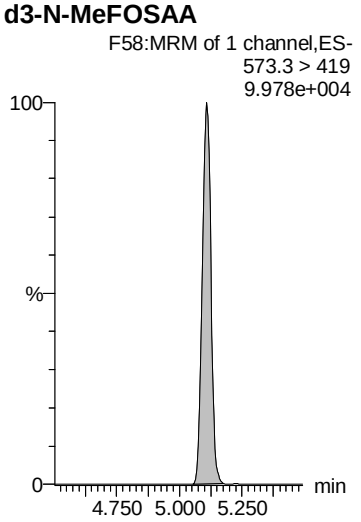
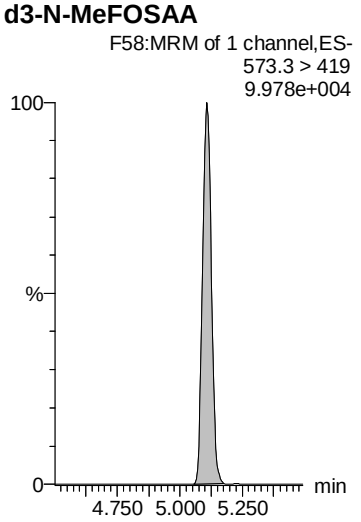
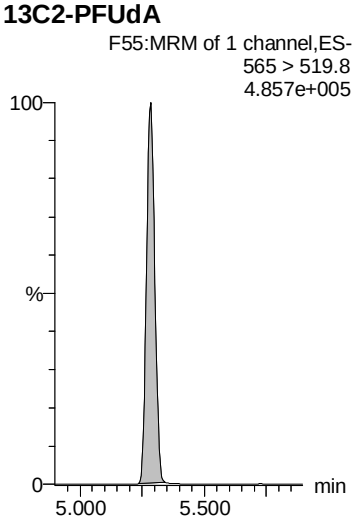


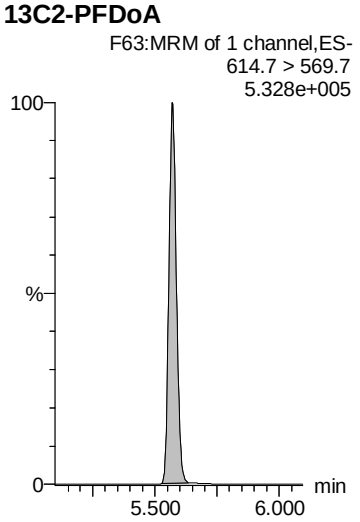
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

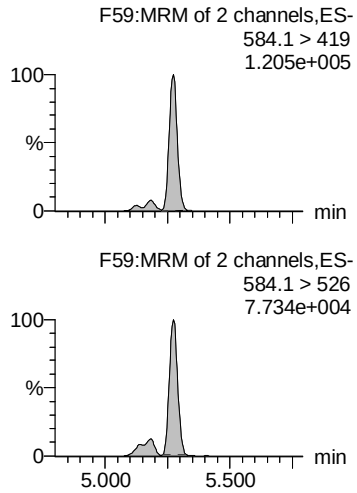
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

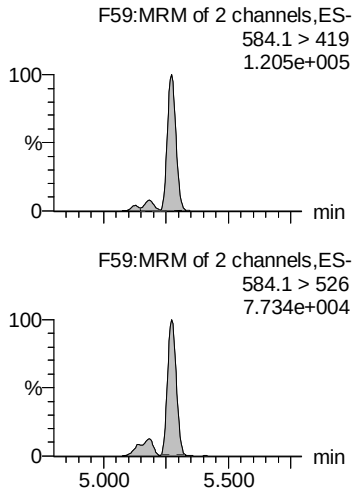
Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:51:15 Pacific Daylight Time

Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

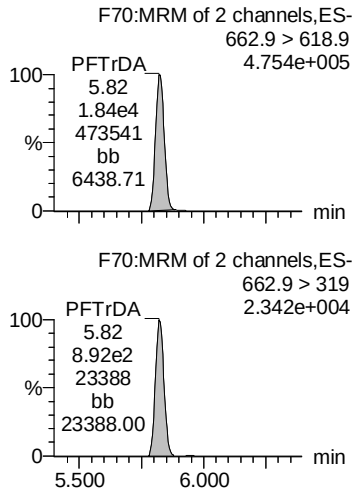
L-EtFOSAA



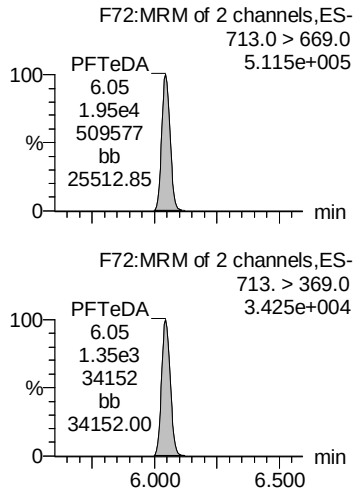
Total N-EtFOSAA



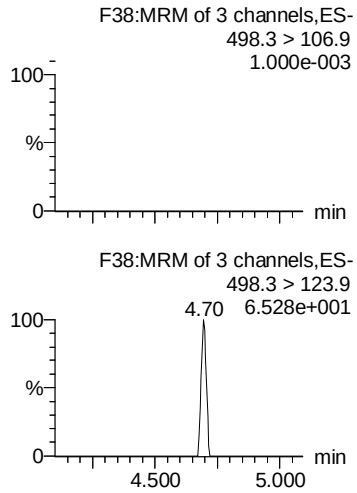
PFTrDA



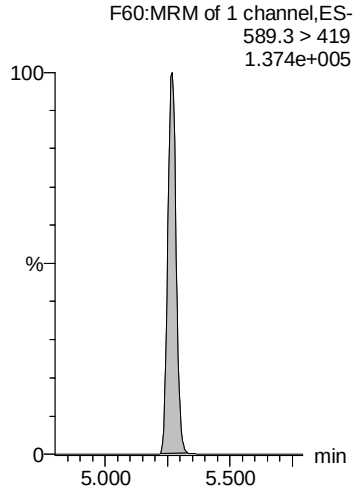
PFTeDA



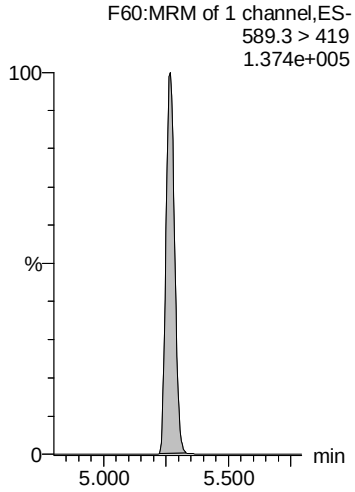
TDCA



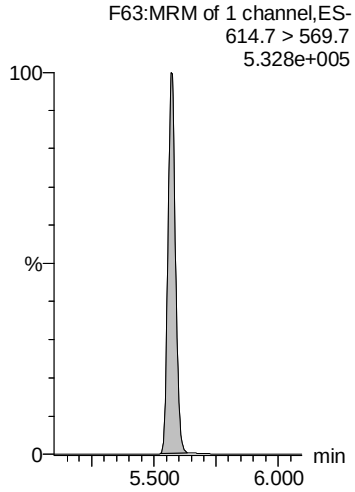
d5-N-EtFOSAA



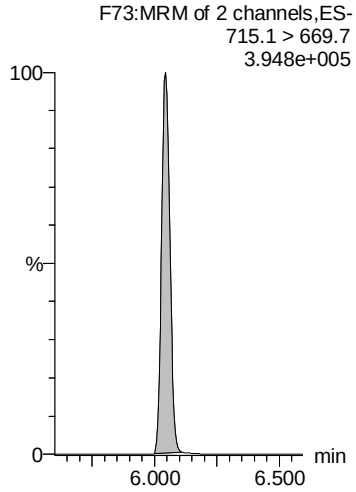
d5-N-EtFOSAA



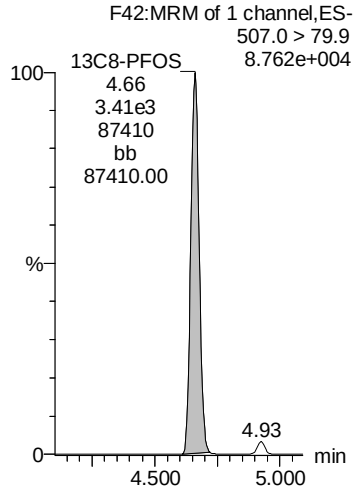
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

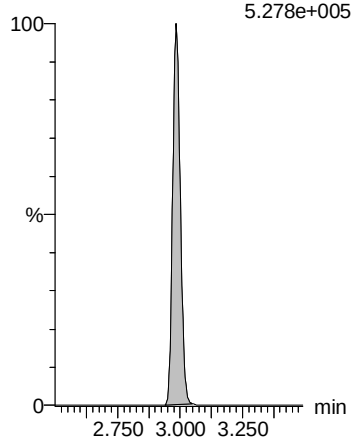
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-38.qld

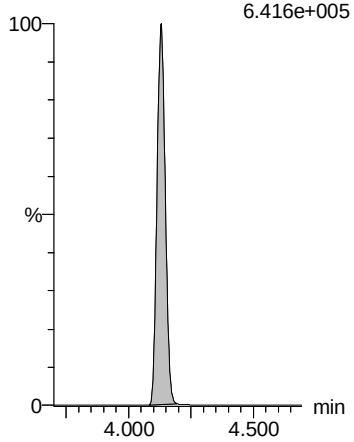
Last Altered: Wednesday, July 24, 2019 11:50:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:51:15 Pacific Daylight Time

Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

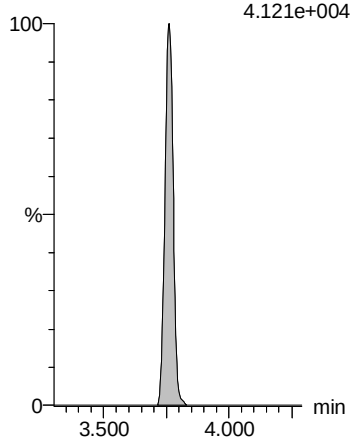
13C5-PFHxA



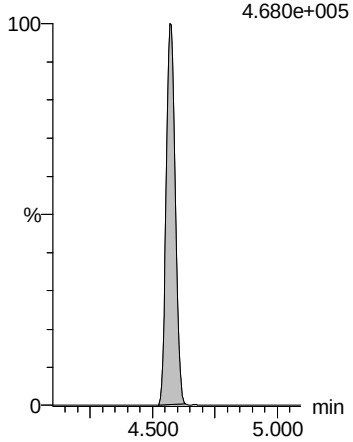
13C8-PFOA



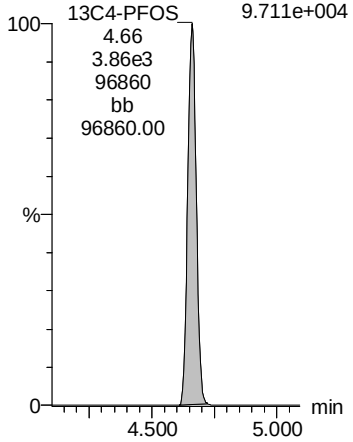
18O2-PFHxS



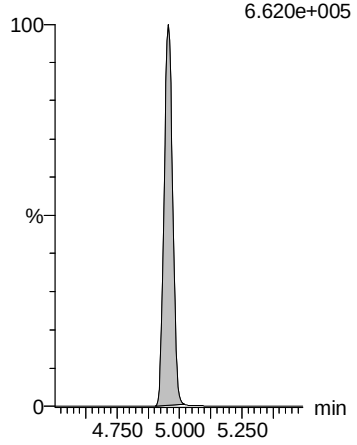
13C9-PFNA



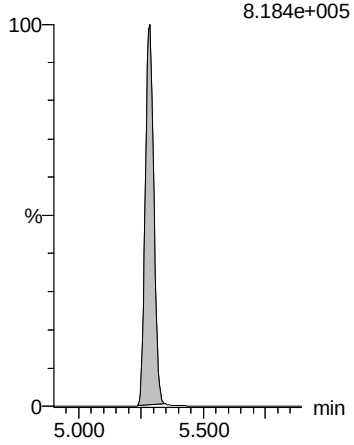
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, 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	2.96e3	1.52e3	0.998		2.47	2.47	24.3	10.7565		3.104	NO
2	7	PFHxA	313.0 > 269.0	1.48e4	6.07e3	0.998		2.98	2.98	12.2	13.9066		15.952	NO
3	11	PFHpA	363.0 > 318.9	8.38e3	7.90e3	0.998		3.60	3.60	13.3	10.2706		8.890	NO
4	13	L-PFHxS	398.9 > 79.6	2.82e3	2.83e3	0.998		3.76	3.76	12.5	13.6877		2.060	NO
5	80	Total PFHxS	398.9 > 79.6	2.82e3	2.83e3	0.998		3.83		12.5	13.6877			
6	49	13C3-PFBS	302.0 > 98.8	1.52e3	1.58e3	0.998	1.058	2.46	2.47	12.0	11.3923	90.9		
7	52	13C2-PFHxA	315.0 > 270.0	6.07e3	1.74e4	0.998	0.978	2.97	2.98	4.37	4.4763	89.3		
8	53	13C4-PFHpA	367.2 > 321.8	7.90e3	1.74e4	0.998	0.479	3.59	3.60	5.68	11.8917	94.9		
9	54	13C3-PFHxS	401.8 > 79.9	2.83e3	1.58e3	0.998	2.024	3.75	3.76	22.3	11.0642	88.3		
10	54	13C3-PFHxS	401.8 > 79.9	2.83e3	1.58e3	0.998	2.024	3.75	3.76	22.3	11.0642	88.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.27e4	1.40e4	0.998		4.13	4.13	20.3	13.4945		3.783	NO
13	81	Total PFOA	412.8 > 368.9	2.27e4	1.40e4	0.998		4.21		20.3	13.4945			
14	21	PFNA	463.0 > 418.8	1.47e4	1.44e4	0.998		4.58	4.57	12.8	11.1325		4.207	NO
15	23	L-PFOS	498.9 > 79.9	3.75e3	3.16e3	0.998		4.66	4.66	14.9	13.9483		2.289	NO
16	82	Total PFOS	498.9 > 79.9	3.75e3	3.16e3	0.998		4.74		14.9	13.9483			
17	58	13C2-PFOA	414.9 > 369.7	1.40e4	2.40e4	0.998	0.681	4.12	4.13	7.30	10.7453	85.8		
18	58	13C2-PFOA	414.9 > 369.7	1.40e4	2.40e4	0.998	0.681	4.12	4.13	7.30	10.7453	85.8		
19	56	13C5-PFNA	468.2 > 422.9	1.44e4	1.74e4	0.998	1.002	4.57	4.58	10.3	10.3555	82.6		
20	59	13C8-PFOS	507.0 > 79.9	3.16e3	3.76e3	0.998	0.997	4.65	4.66	10.5	10.5500	84.2		
21	59	13C8-PFOS	507.0 > 79.9	3.16e3	3.76e3	0.998	0.997	4.65	4.66	10.5	10.5500	84.2		
22	-1													
23	26	PFDA	513 > 468.8	1.53e4	1.38e4	0.998		4.95	4.95	13.9	10.8096		5.279	NO
24	29	L-MeFOSAA	570 > 419	6.91e3	3.88e3	0.998		5.11	5.11	22.3	10.3538		2.444	NO
25	83	Total N-MeFOSAA	570. > 419	6.91e3	3.88e3	0.998		5.19		22.3	10.3538			
26	33	PFUdA	563.0 > 518.9	1.41e4	1.78e4	0.998		5.28	5.28	9.91	10.8723		8.277	NO
27	37	PFDoA	612.9 > 569.0	1.74e4	1.92e4	0.998		5.57	5.57	11.3	10.6049		8.466	NO
28	60	13C2-PFDA	515.1 > 469.9	1.38e4	2.34e4	0.998	0.819	4.95	4.95	7.36	9.0126	71.9		
29	62	d3-N-MeFOSAA	573.3 > 419	3.88e3	3.04e4	0.998	0.177	5.11	5.11	1.60	9.0140	71.9		
30	62	d3-N-MeFOSAA	573.3 > 419	3.88e3	3.04e4	0.998	0.177	5.11	5.11	1.60	9.0140	71.9		
31	63	13C2-PFUdA	565 > 519.8	1.78e4	3.04e4	0.998	0.889	5.28	5.28	7.33	8.2625	65.9		
32	65	13C2-PFDoA	614.7 > 569.7	1.92e4	2.34e4	0.998	1.087	5.57	5.57	10.3	9.4613	75.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	5.32e3	5.13e3	0.998		5.27	5.27	13.0	10.4250		1.365	NO
35	84	Total N-EtFOSAA	584.1 > 419	5.32e3	5.13e3	0.998		5.33		13.0	10.4250			
36	39	PFTrDA	662.9 > 618.9	1.97e4	1.92e4	0.998		5.82	5.82	12.8	11.2747		21.098	NO

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, 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	2.02e4	1.52e4	0.998		6.04	6.04	16.5	10.9535		15.136	NO
38	85	TDCA	498.3>106.9			0.998		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	5.13e3	3.04e4	0.998	0.224	5.27	5.27	2.11	9.4458	75.4		
40	64	d5-N-EtFOSAA	589.3 > 419	5.13e3	3.04e4	0.998	0.224	5.27	5.27	2.11	9.4458	75.4		
41	65	13C2-PFDoA	614.7 > 569.7	1.92e4	2.34e4	0.998	1.087	5.57	5.57	10.3	9.4613	75.5		
42	67	13C2-PFTeDA	715.1 > 669.7	1.52e4	3.04e4	0.998	0.604	6.04	6.04	6.28	10.4102	83.1		
43	59	13C8-PFOS	507.0 > 79.9	3.16e3	3.76e3	0.998	0.997	4.65	4.66	10.5	10.5500	84.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.74e4	1.74e4	0.998	1.000	2.97	2.98	12.5	12.5301	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.40e4	2.40e4	0.998	1.000	4.12	4.13	12.5	12.5301	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.58e3	1.58e3	0.998	1.000	3.75	3.76	12.5	12.5301	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.74e4	1.74e4	0.998	1.000	4.57	4.57	12.5	12.5301	100.0		
49	77	13C4-PFOS	503 > 79.9	3.76e3	3.76e3	0.998	1.000	4.65	4.66	12.5	12.5301	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.34e4	2.34e4	0.998	1.000	4.95	4.95	12.5	12.5301	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.04e4	3.04e4	0.998	1.000	5.28	5.28	12.5	12.5301	100.0		

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Vista Analytical Laboratory L14

Review: AMR 7/25/2019

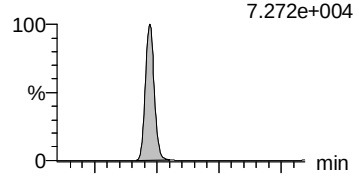
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

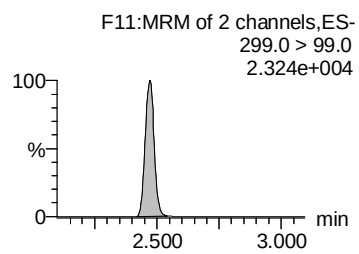
Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

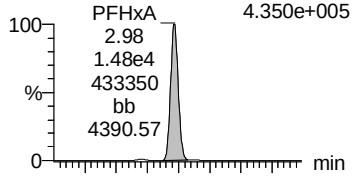
Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

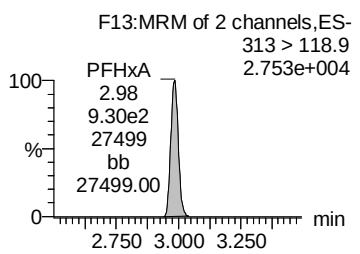
PFBS





PFHxA





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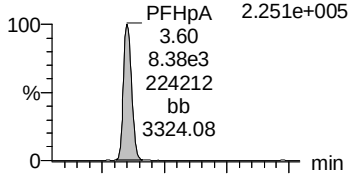
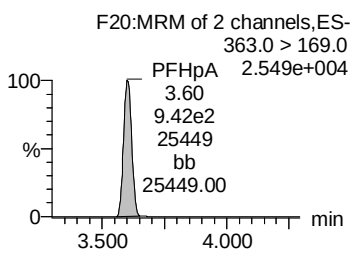
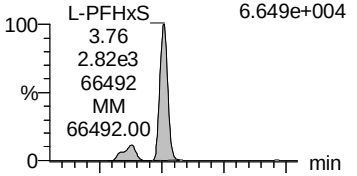
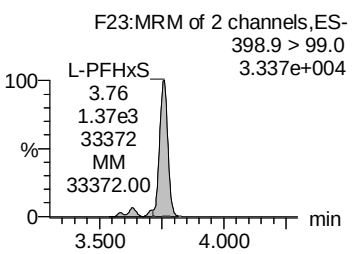


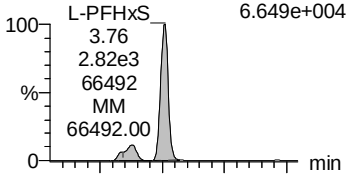


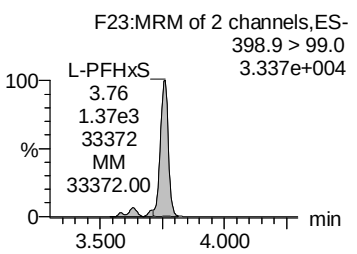
L-PFHxS



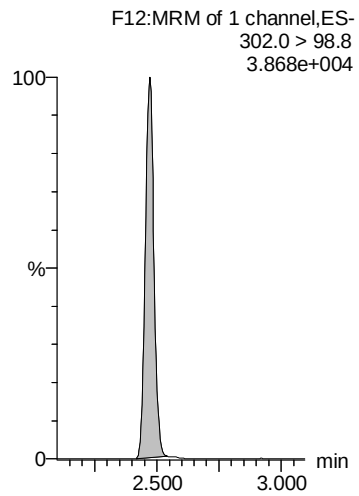


Total PFHxS

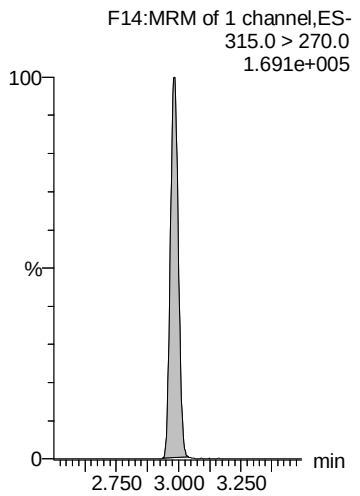




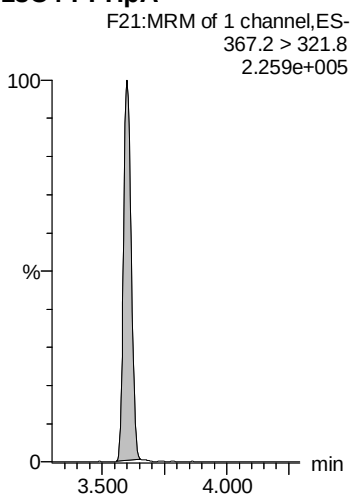
13C3-PFBS



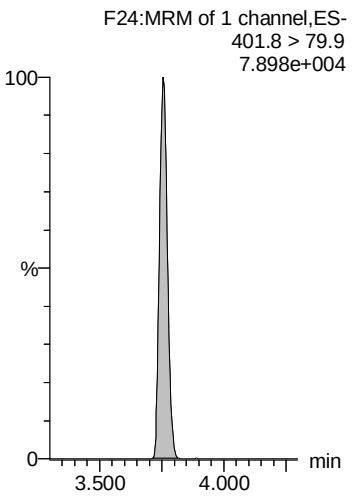
13C2-PFHxA



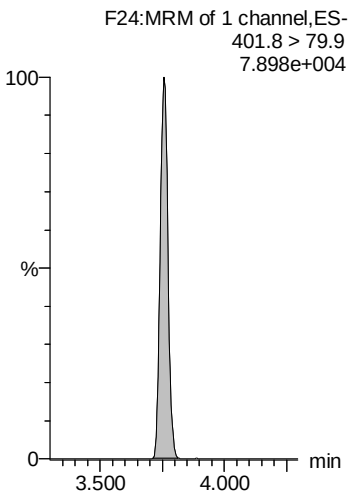
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



CGH 7/24/2019

Vista Analytical Laboratory L14

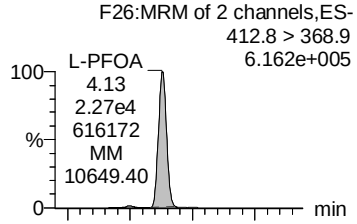
Review: AMR 7/25/2019

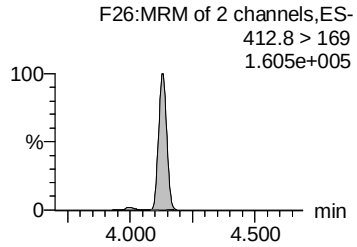
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

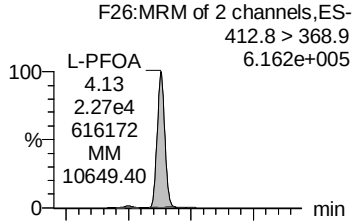
Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

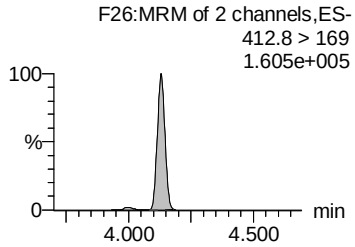
L-PFOA



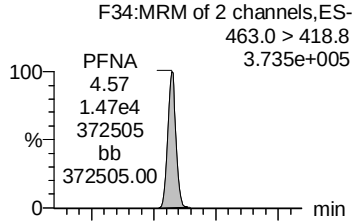


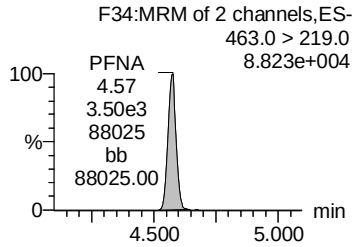
Total PFOA



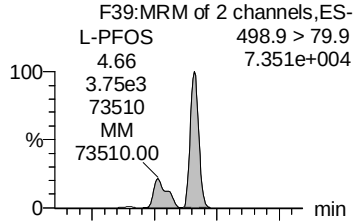


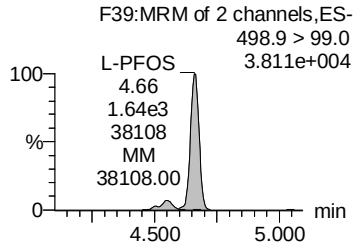
PFNA



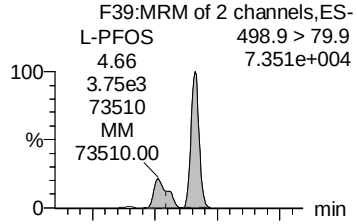


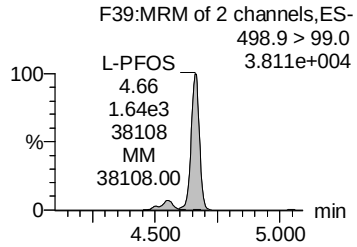
L-PFOS



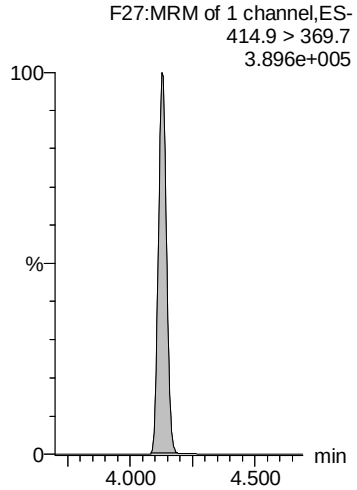


Total PFOS

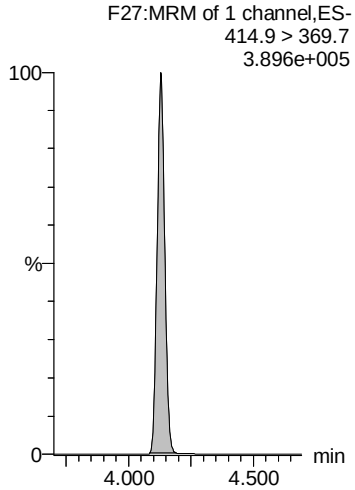




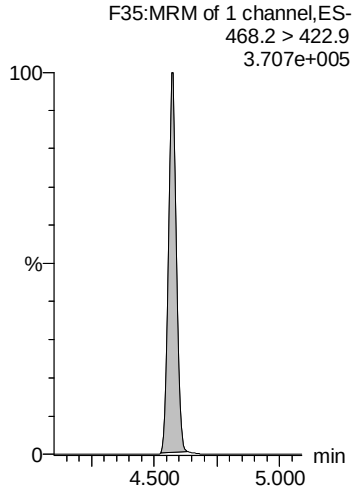
13C2-PFOA



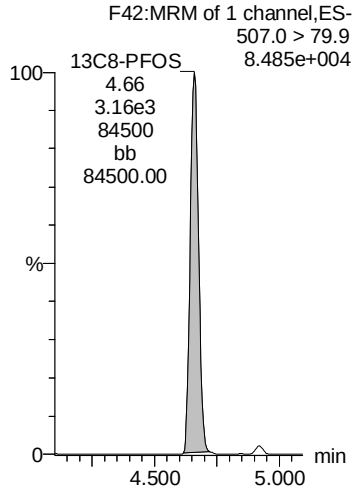
13C2-PFOA



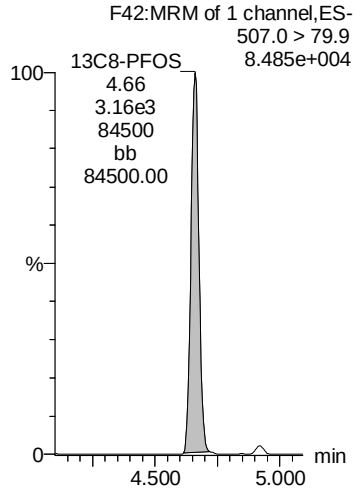
13C5-PFNA



13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

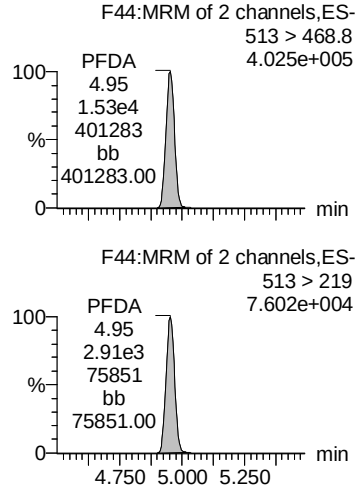
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

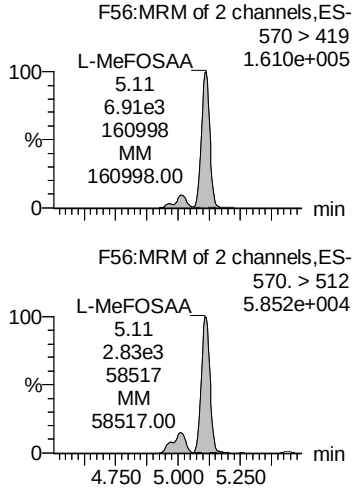
Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

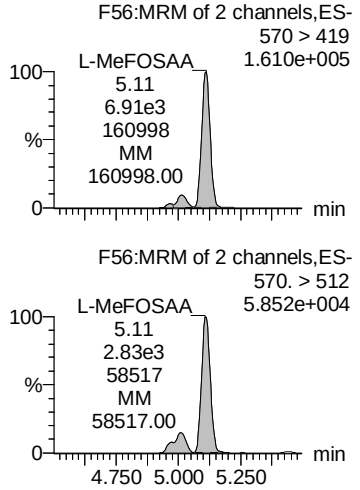
PFDA



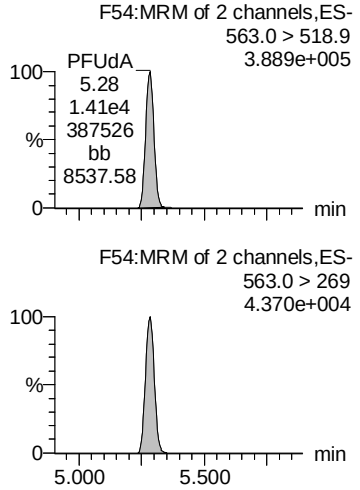
L-MeFOSAA



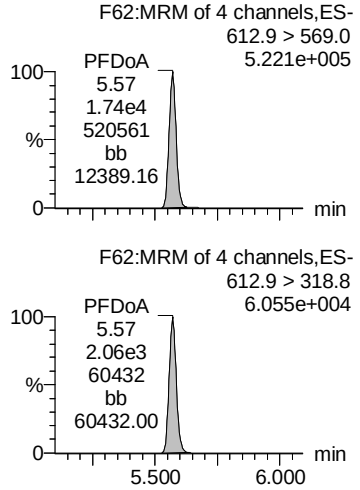
Total N-MeFOSAA



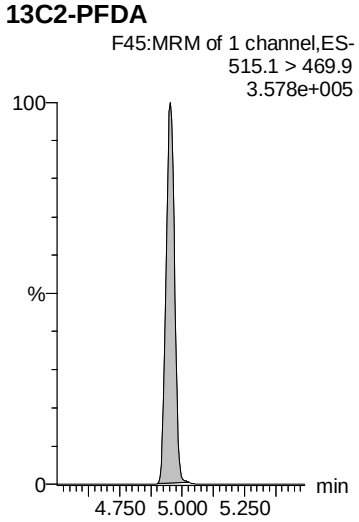
PFUdA



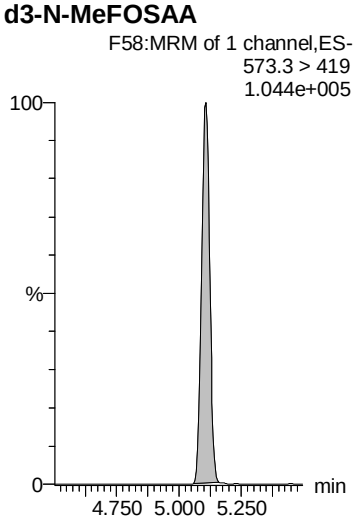
PFDoA



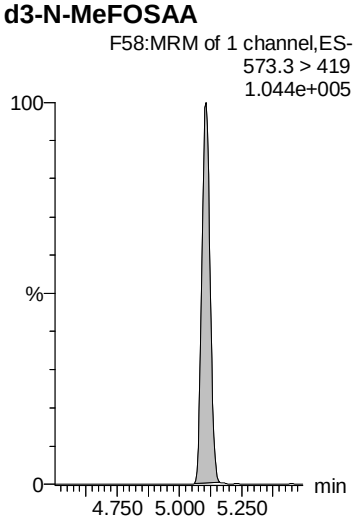
13C2-PFDA



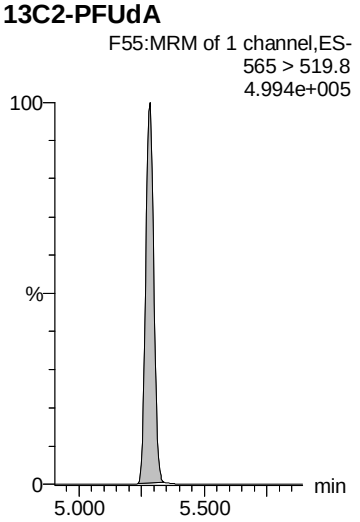
d3-N-MeFOSAA



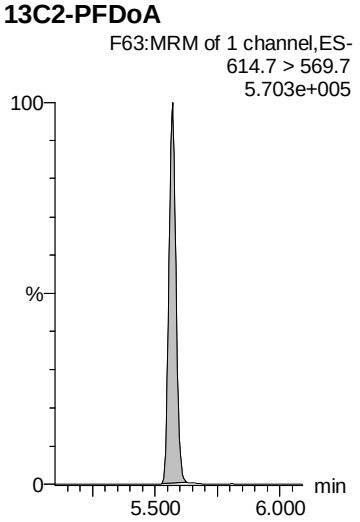
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

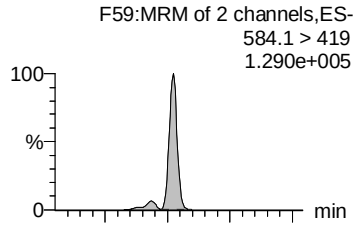
Review: AMR 7/25/2019

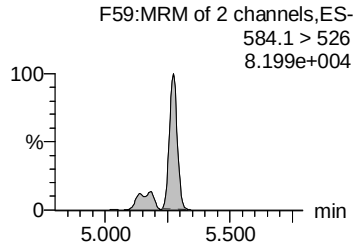
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

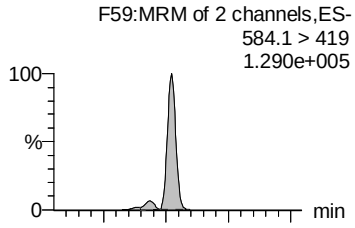
Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

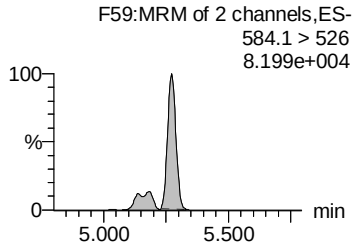
L-EtFOSAA



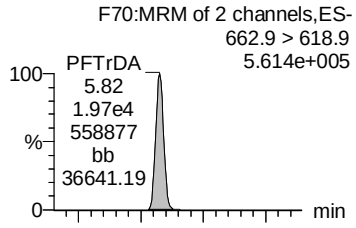


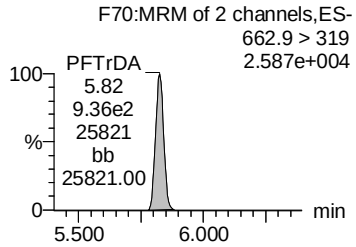
Total N-EtFOSAA



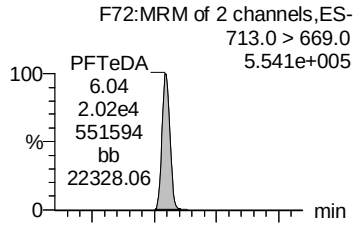


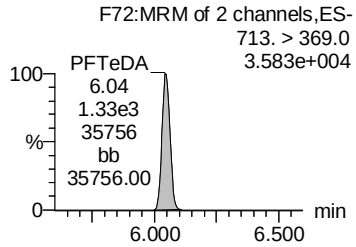
PFTrDA



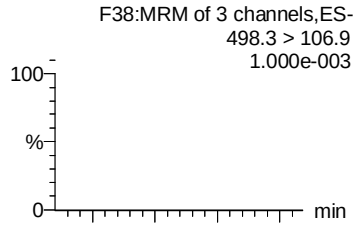


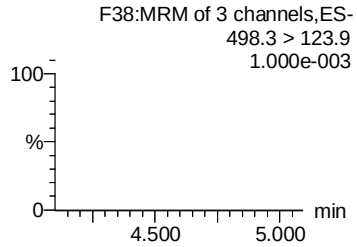
PFTeDA



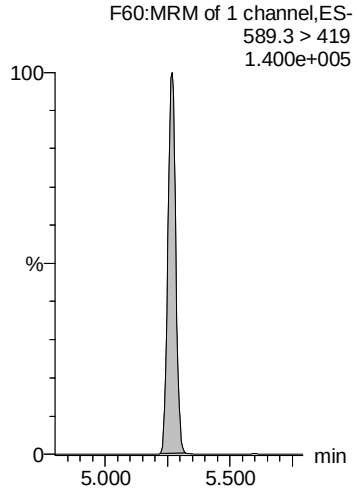


TDCA

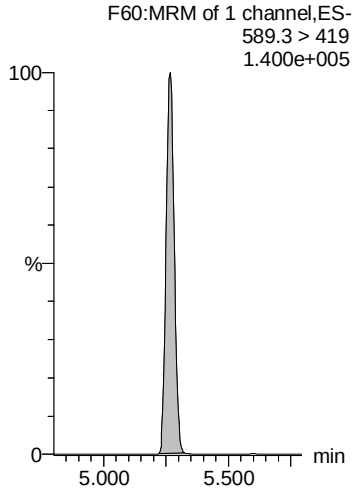




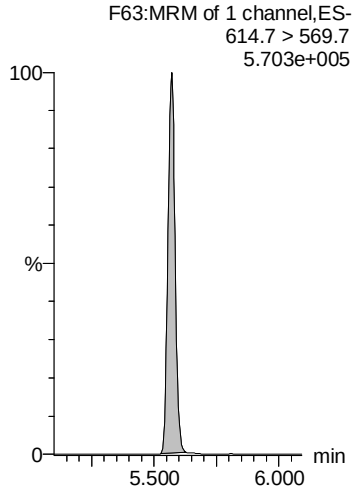
d5-N-EtFOSAA



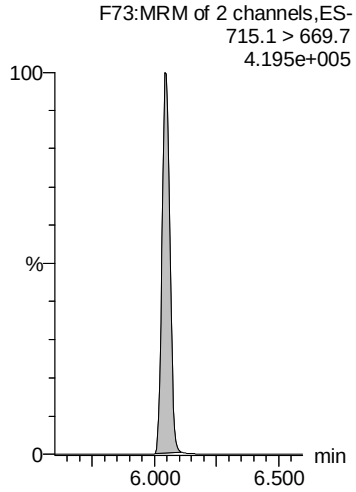
d5-N-EtFOSAA



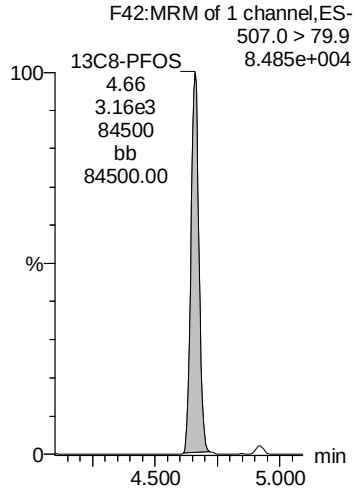
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

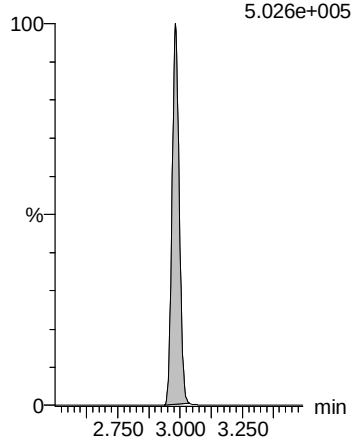
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-39.qld

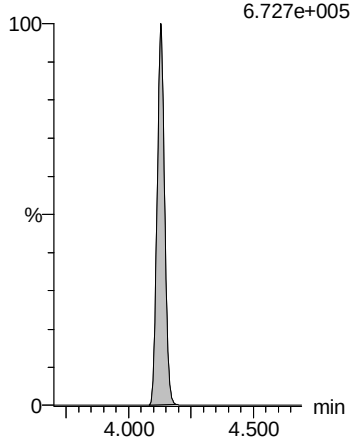
Last Altered: Wednesday, July 24, 2019 11:55:24 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 11:56:43 Pacific Daylight Time

Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

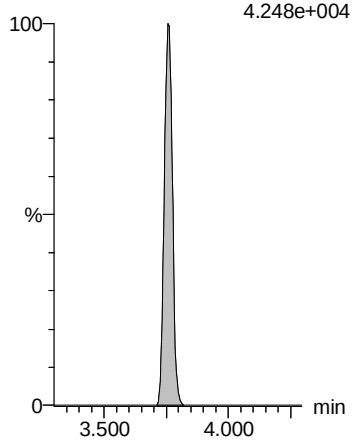
13C5-PFHxA



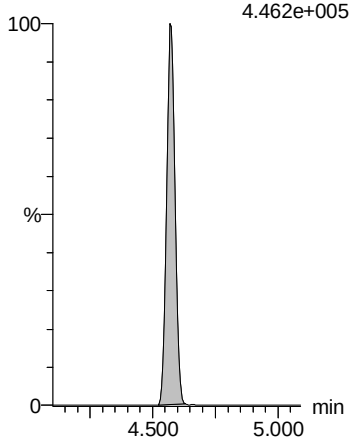
13C8-PFOA



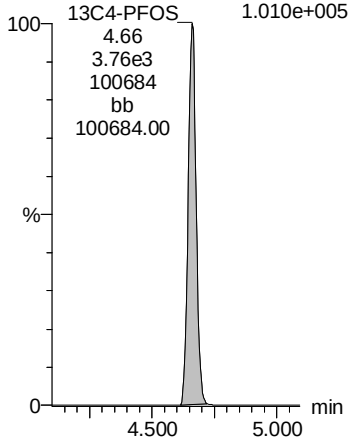
18O2-PFHxS



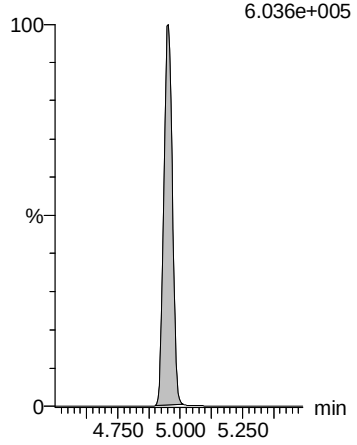
13C9-PFNA



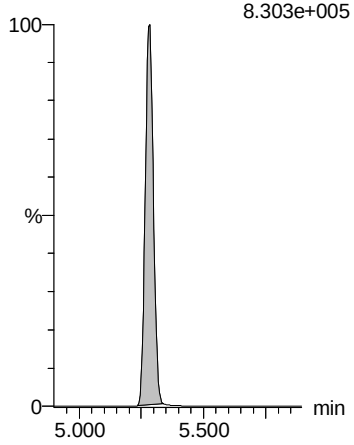
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

	#	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	2.93e1	1.38e3	1.00		2.43	2.43	0.266	0.1500		3.530	NO
2	7	PFHxA	313.0 > 269.0	3.15e3	6.21e3	1.00		2.95	2.95	2.54	2.8212		16.917	NO
3	11	PFHpA	363.0 > 318.9	2.92e2	7.74e3	1.00		3.57	3.57	0.471	0.3644		13.384	NO
4	13	L-PFHxS	398.9 > 79.6	2.47e2	2.60e3	1.00		3.73	3.73	1.19	1.3065		3.460	YES
5	80	Total PFHxS	398.9 > 79.6	2.47e2	2.60e3	1.00		3.83		1.19	1.3065			
6	49	13C3-PFBS	302.0 > 98.8	1.38e3	1.35e3	1.00	1.058	2.46	2.43	12.7	12.0106	96.1		
7	52	13C2-PFHxA	315.0 > 270.0	6.21e3	1.76e4	1.00	0.978	2.97	2.95	4.42	4.5175	90.4		
8	53	13C4-PFHpA	367.2 > 321.8	7.74e3	1.76e4	1.00	0.479	3.59	3.57	5.51	11.5115	92.1		
9	54	13C3-PFHxS	401.8 > 79.9	2.60e3	1.35e3	1.00	2.024	3.75	3.73	24.0	11.8737	95.0		
10	54	13C3-PFHxS	401.8 > 79.9	2.60e3	1.35e3	1.00	2.024	3.75	3.73	24.0	11.8737	95.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.30e3	1.39e4	1.00		4.10	4.10	2.06	1.3455		3.554	NO
13	81	Total PFOA	412.8 > 368.9	2.30e3	1.39e4	1.00		4.21		2.06	1.3455			
14	21	PFNA	463.0 > 418.8		1.31e4	1.00		4.55						
15	23	L-PFOS	498.9 > 79.9	3.65e2	2.85e3	1.00		4.64	4.64	1.60	1.5160		2.452	NO
16	82	Total PFOS	498.9 > 79.9	3.65e2	2.85e3	1.00		4.74		1.60	1.5160			
17	58	13C2-PFOA	414.9 > 369.7	1.39e4	2.29e4	1.00	0.681	4.12	4.10	7.61	11.1636	89.3		
18	58	13C2-PFOA	414.9 > 369.7	1.39e4	2.29e4	1.00	0.681	4.12	4.10	7.61	11.1636	89.3		
19	56	13C5-PFNA	468.2 > 422.9	1.31e4	1.67e4	1.00	1.002	4.57	4.55	9.80	9.7818	78.3		
20	59	13C8-PFOS	507.0 > 79.9	2.85e3	3.41e3	1.00	0.997	4.65	4.64	10.4	10.4623	83.7		
21	59	13C8-PFOS	507.0 > 79.9	2.85e3	3.41e3	1.00	0.997	4.65	4.64	10.4	10.4623	83.7		
22	-1													
23	26	PFDA	513 > 468.8		1.16e4	1.00		4.93						
24	29	L-MeFOSAA	570 > 419		2.64e3	1.00		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.64e3	1.00		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	4.50e1	1.34e4	1.00		5.26	5.26	0.0419			8.944	NO
27	37	PFDoA	612.9 > 569.0		1.29e4	1.00		5.55						
28	60	13C2-PFDA	515.1 > 469.9	1.16e4	2.29e4	1.00	0.819	4.95	4.93	6.34	7.7371	61.9		
29	62	d3-N-MeFOSAA	573.3 > 419	2.64e3	2.86e4	1.00	0.177	5.11	5.08	1.15	6.4938	52.0		
30	62	d3-N-MeFOSAA	573.3 > 419	2.64e3	2.86e4	1.00	0.177	5.11	5.08	1.15	6.4938	52.0		
31	63	13C2-PFUdA	565 > 519.8	1.34e4	2.86e4	1.00	0.889	5.28	5.26	5.87	6.6007	52.8		
32	65	13C2-PFDoA	614.7 > 569.7	1.29e4	2.29e4	1.00	1.087	5.57	5.55	7.03	6.4630	51.7		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.60e3	1.00		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.60e3	1.00		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.29e4	1.00		5.80						

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

	#	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		1.21e4	1.00		6.03						
38	85	TDCA	498.3>106.9			1.00		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.60e3	2.86e4	1.00	0.224	5.27	5.24	1.57	7.0251	56.2		
40	64	d5-N-EtFOSAA	589.3 > 419	3.60e3	2.86e4	1.00	0.224	5.27	5.24	1.57	7.0251	56.2		
41	65	13C2-PFDoA	614.7 > 569.7	1.29e4	2.29e4	1.00	1.087	5.57	5.55	7.03	6.4630	51.7		
42	67	13C2-PFTeDA	715.1 > 669.7	1.21e4	2.86e4	1.00	0.604	6.04	6.03	5.29	8.7474	70.0		
43	59	13C8-PFOS	507.0 > 79.9	2.85e3	3.41e3	1.00	0.997	4.65	4.64	10.4	10.4623	83.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.76e4	1.76e4	1.00	1.000	2.97	2.95	12.5	12.4947	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.29e4	2.29e4	1.00	1.000	4.12	4.10	12.5	12.4947	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.35e3	1.35e3	1.00	1.000	3.75	3.73	12.5	12.4947	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.67e4	1.67e4	1.00	1.000	4.57	4.55	12.5	12.4947	100.0		
49	77	13C4-PFOS	503 > 79.9	3.41e3	3.41e3	1.00	1.000	4.65	4.63	12.5	12.4947	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.29e4	2.29e4	1.00	1.000	4.95	4.93	12.5	12.4947	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.86e4	2.86e4	1.00	1.000	5.28	5.26	12.5	12.4947	100.0		

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

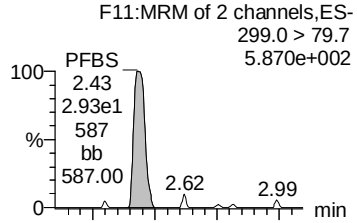
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

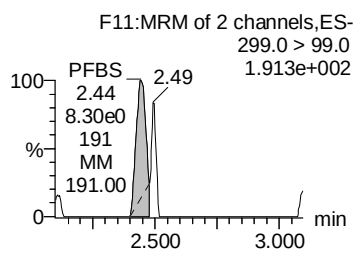
Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

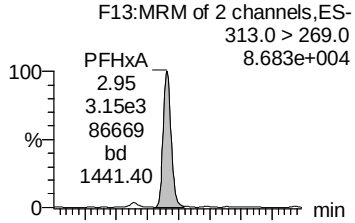
Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

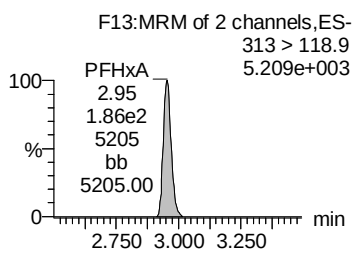
PFBS





PFHxA





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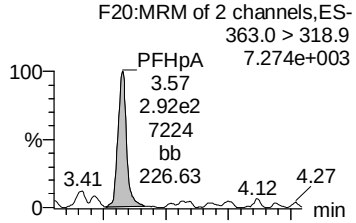
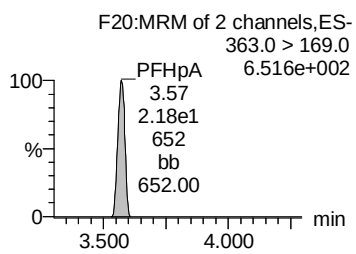
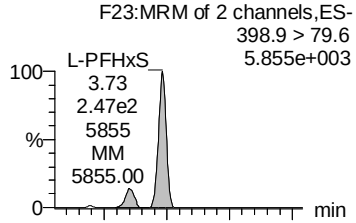
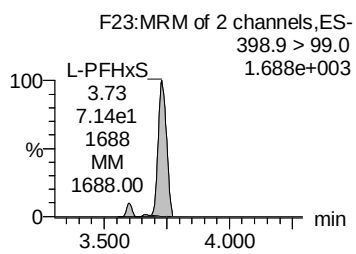


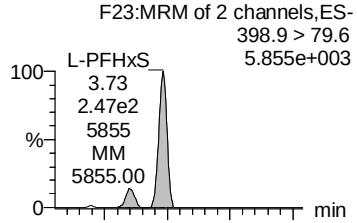


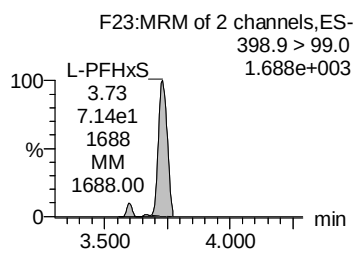
L-PFHxS



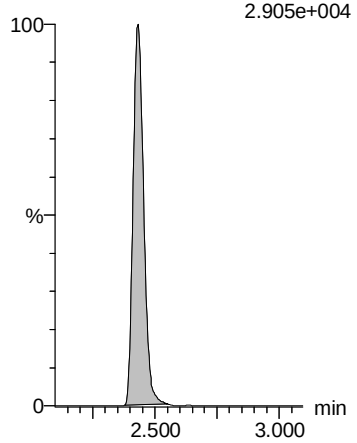


Total PFHxS

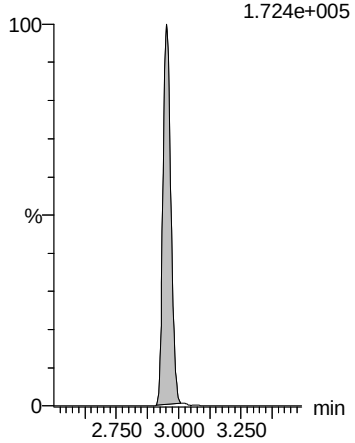




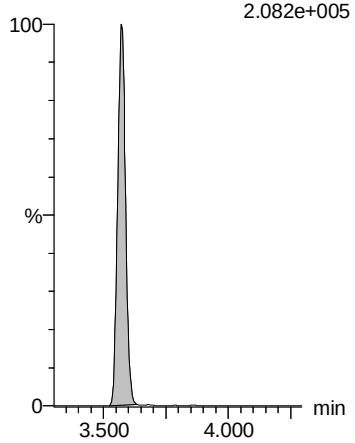
13C3-PFBS



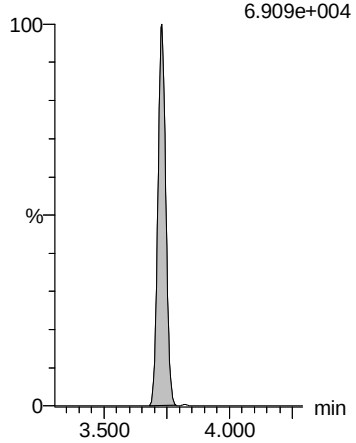
13C2-PFHxA



13C4-PFHpA



13C3-PFHxS



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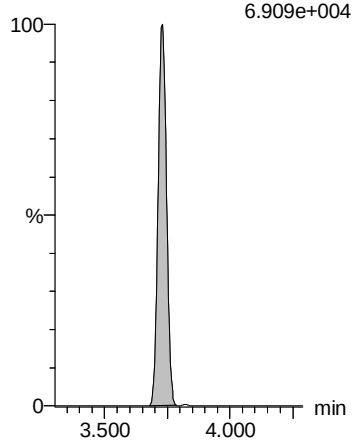


CGH 7/25/2019

Vista Analytical Laboratory L14

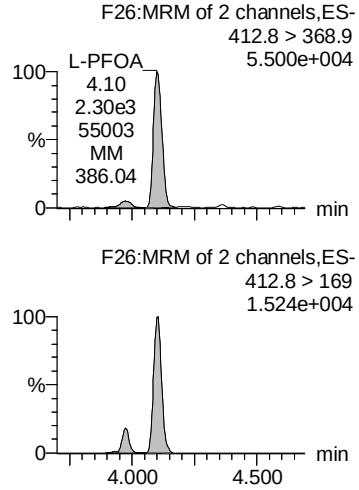
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

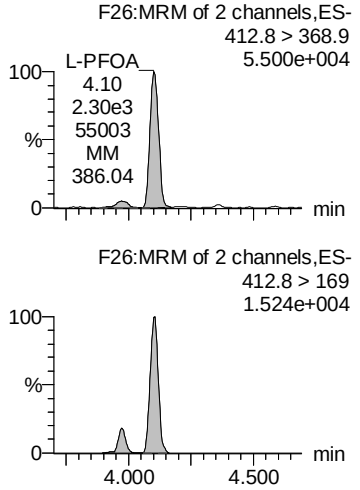
Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

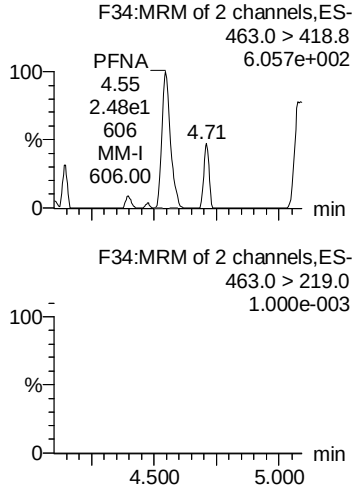
L-PFOA



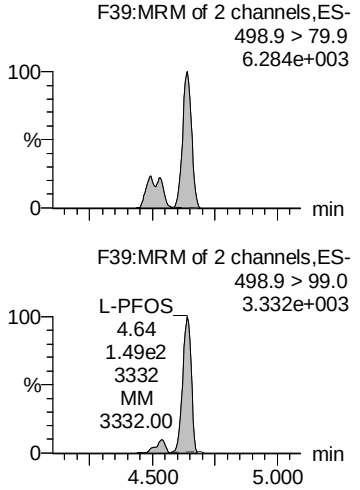
Total PFOA



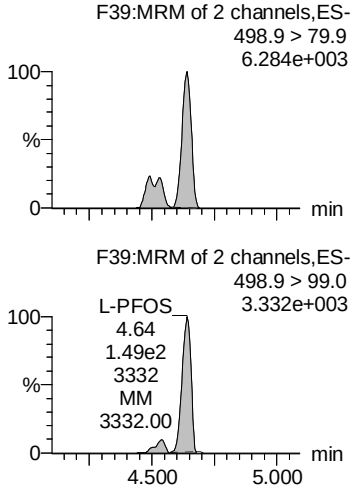
PFNA



L-PFOS



Total PFOS



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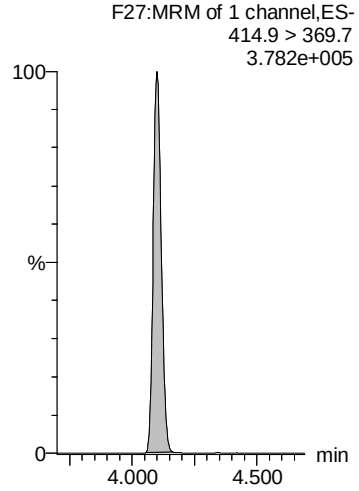
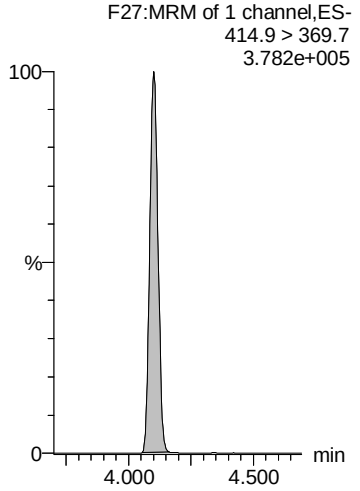
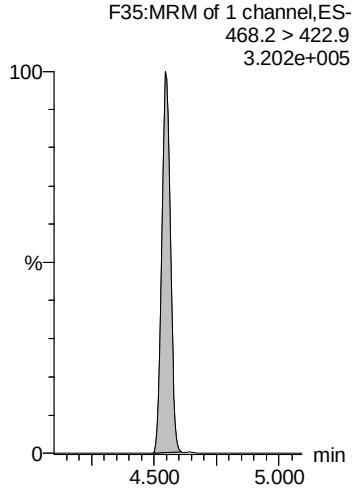


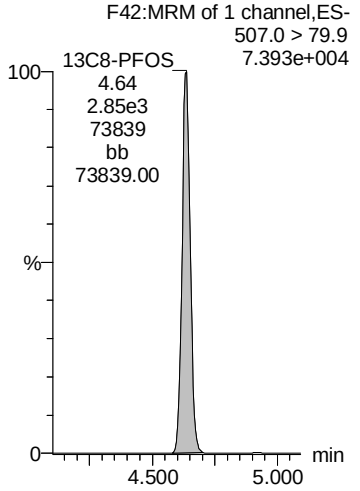
13C2-PFOA



13C5-PFNA



13C8-PFOS



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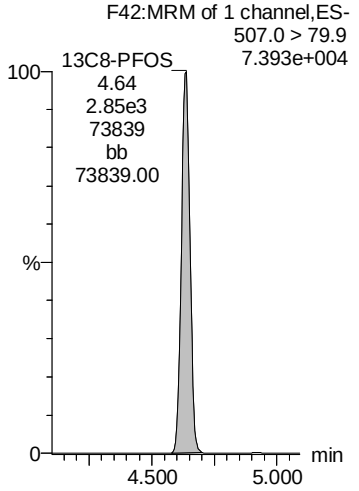

CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
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Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

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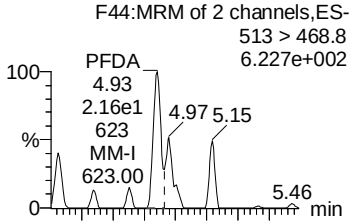
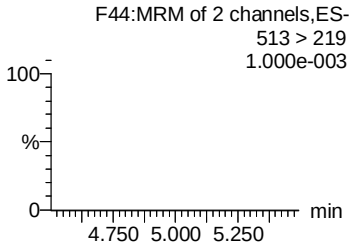
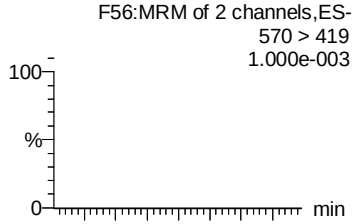
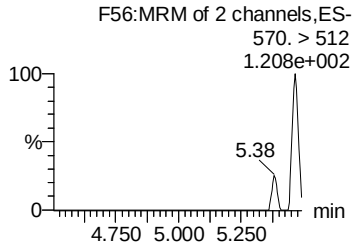


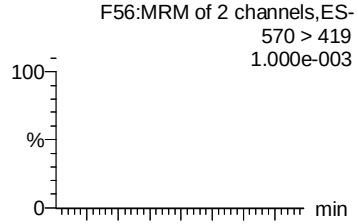


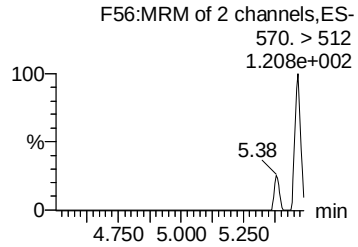
L-MeFOSAA



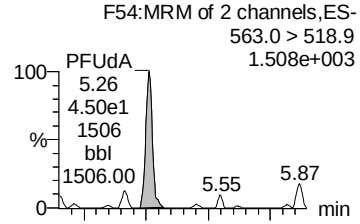


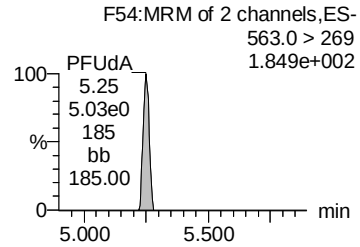
Total N-MeFOSAA



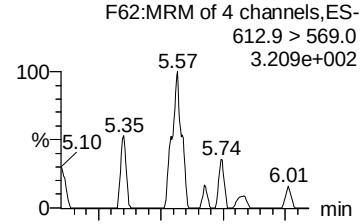


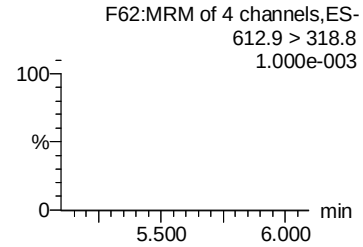
PFUdA



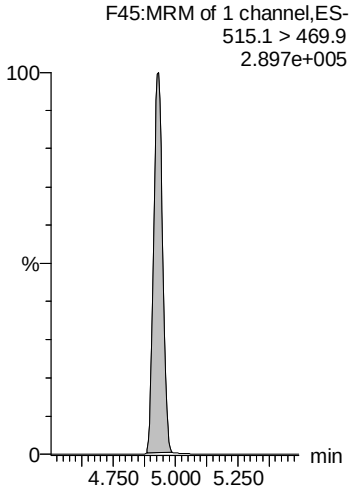


PFDoA

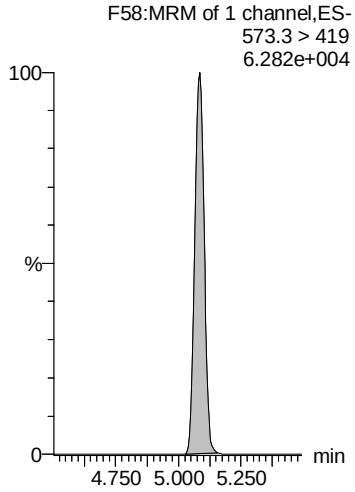




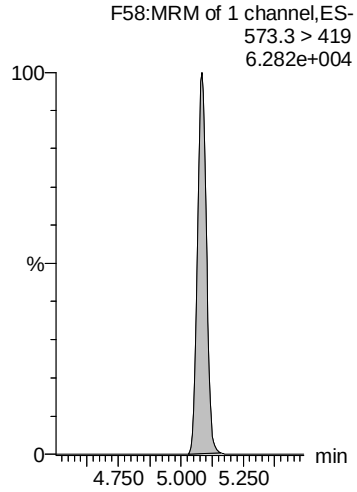
13C2-PFDA



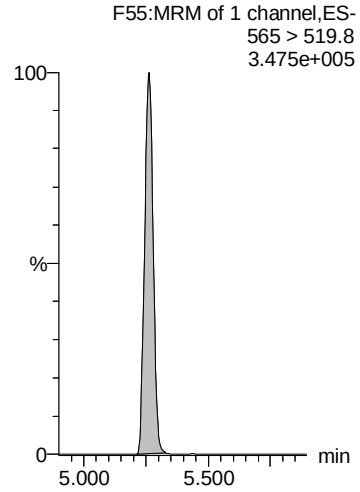
d3-N-MeFOSAA



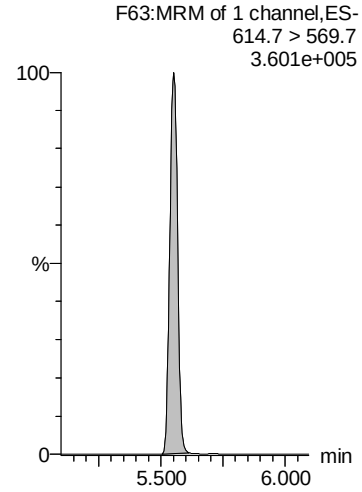
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/25/2019

Vista Analytical Laboratory L14

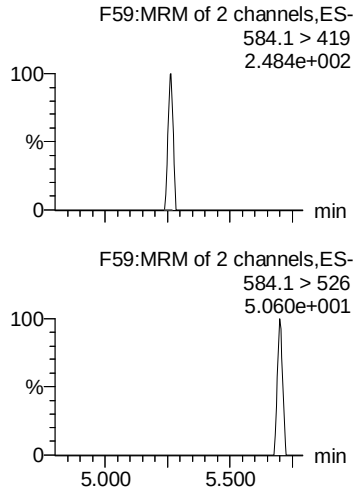
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

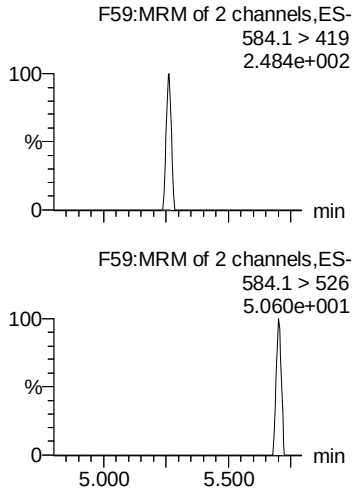
Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

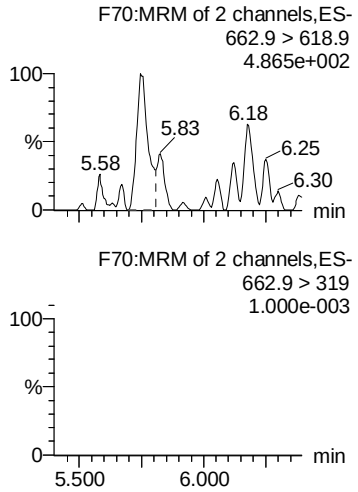
L-EtFOSAA



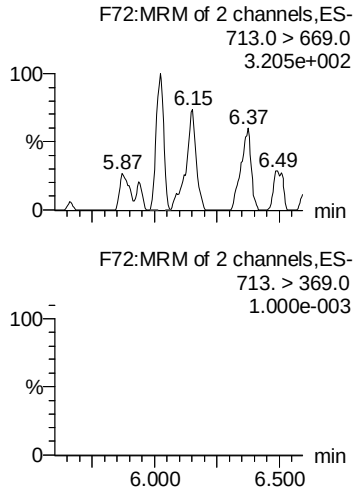
Total N-EtFOSAA



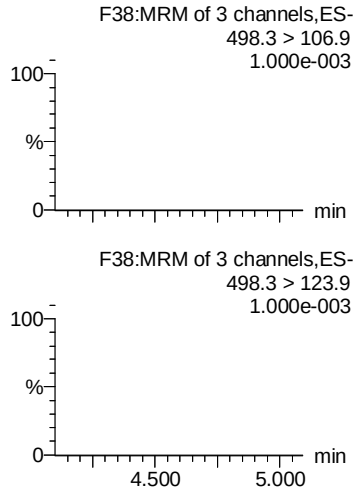
PFTrDA



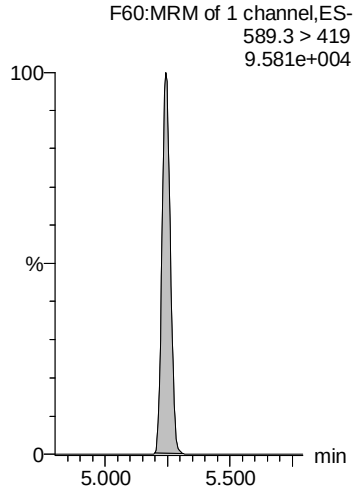
PFTeDA



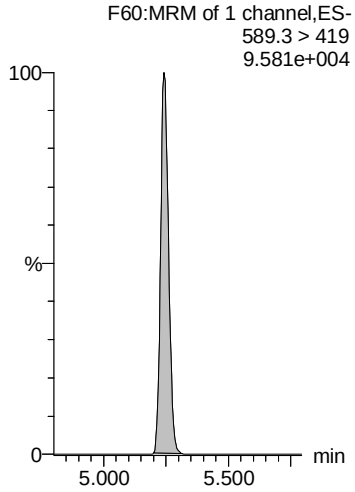
TDCA



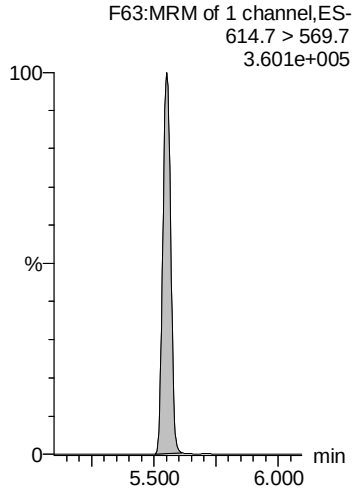
d5-N-EtFOSAA



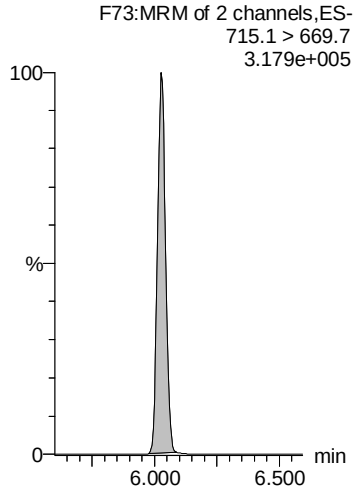
d5-N-EtFOSAA



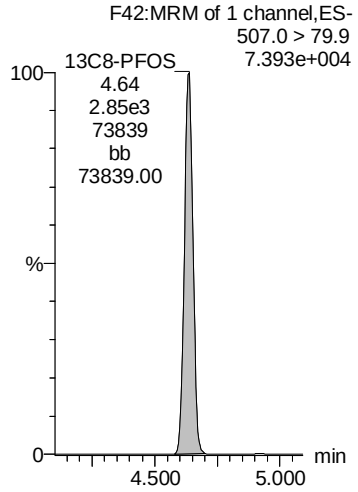
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/25/2019

Vista Analytical Laboratory L14

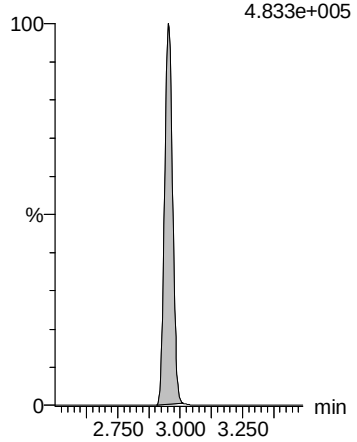
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-46.qld

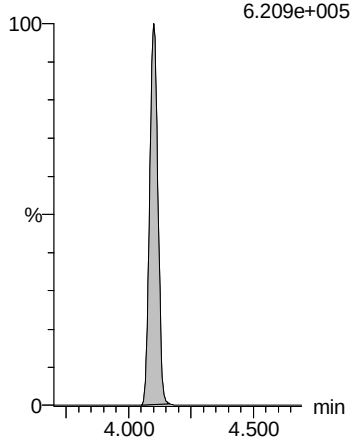
Last Altered: Thursday, July 25, 2019 10:01:58 Pacific Daylight Time
Printed: Thursday, July 25, 2019 10:09:27 Pacific Daylight Time

Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

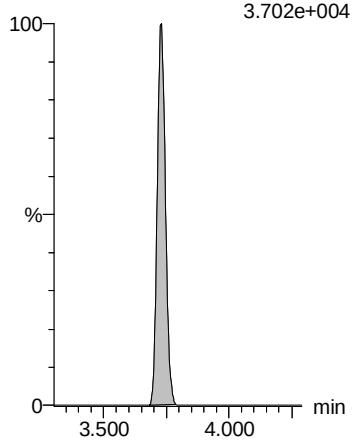
13C5-PFHxA



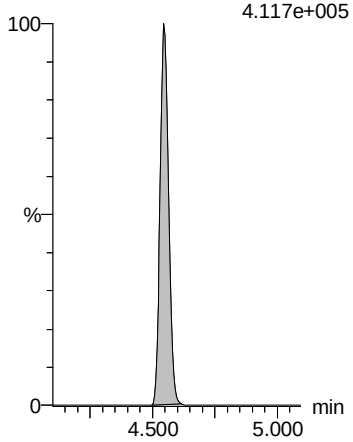
13C8-PFOA



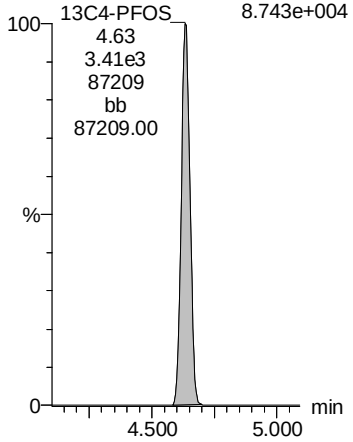
18O2-PFHxS



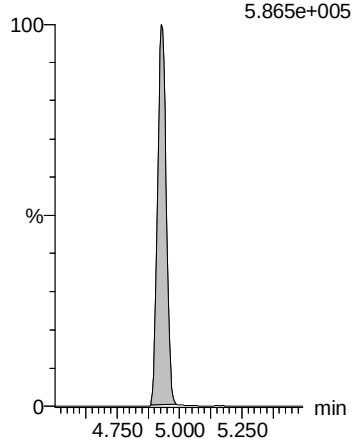
13C9-PFNA



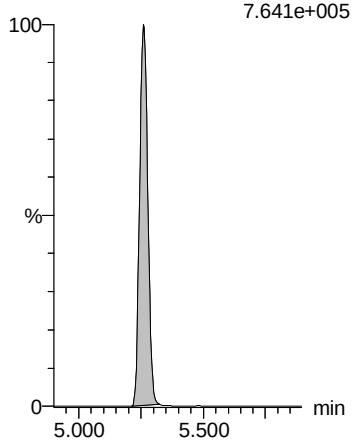
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

	#	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	3.61e2	1.52e3	0.999		2.44	2.44	2.97	1.3409		2.693	NO
2	7	PFHxA	313.0 > 269.0	1.79e4	6.50e3	0.999		2.96	2.96	13.8	15.6381		15.337	NO
3	11	PFHpA	363.0 > 318.9	3.04e3	7.70e3	0.999		3.58	3.58	4.93	3.8114		10.914	NO
4	13	L-PFHxS	398.9 > 79.6	2.71e3	2.85e3	0.999		3.73	3.73	11.9	13.0535		2.258	NO
5	80	Total PFHxS	398.9 > 79.6	2.71e3	2.85e3	0.999		3.83		11.9	13.0535			
6	49	13C3-PFBS	302.0 > 98.8	1.52e3	1.49e3	0.999	1.058	2.46	2.44	12.7	12.0652	96.4		
7	52	13C2-PFHxA	315.0 > 270.0	6.50e3	1.84e4	0.999	0.978	2.97	2.96	4.41	4.5126	90.2		
8	53	13C4-PFHpA	367.2 > 321.8	7.70e3	1.84e4	0.999	0.479	3.59	3.58	5.22	10.9162	87.3		
9	54	13C3-PFHxS	401.8 > 79.9	2.85e3	1.49e3	0.999	2.024	3.75	3.73	23.9	11.8341	94.6		
10	54	13C3-PFHxS	401.8 > 79.9	2.85e3	1.49e3	0.999	2.024	3.75	3.73	23.9	11.8341	94.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.18e4	1.41e4	0.999		4.10	4.10	10.5	6.9399		3.873	NO
13	81	Total PFOA	412.8 > 368.9	1.18e4	1.41e4	0.999		4.21		10.5	6.9399			
14	21	PFNA	463.0 > 418.8	4.96e2	1.47e4	0.999		4.55	4.55	0.422	0.3420		5.101	NO
15	23	L-PFOS	498.9 > 79.9	9.16e3	3.17e3	0.999		4.64	4.64	36.1	33.8147		2.121	NO
16	82	Total PFOS	498.9 > 79.9	9.16e3	3.17e3	0.999		4.74		36.1	33.8147			
17	58	13C2-PFOA	414.9 > 369.7	1.41e4	2.42e4	0.999	0.681	4.12	4.10	7.28	10.6916	85.5		
18	58	13C2-PFOA	414.9 > 369.7	1.41e4	2.42e4	0.999	0.681	4.12	4.10	7.28	10.6916	85.5		
19	56	13C5-PFNA	468.2 > 422.9	1.47e4	1.76e4	0.999	1.002	4.57	4.55	10.5	10.4427	83.5		
20	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.48e3	0.999	0.997	4.65	4.64	11.4	11.4271	91.3		
21	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.48e3	0.999	0.997	4.65	4.64	11.4	11.4271	91.3		
22	-1													
23	26	PFDA	513 > 468.8	8.88e1	1.36e4	0.999		4.93	4.93	0.0815	0.0603		115.310	YES
24	29	L-MeFOSAA	570 > 419		2.88e3	0.999		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.88e3	0.999		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.69e4	0.999		5.26						
27	37	PFDoA	612.9 > 569.0	2.14e1	1.56e4	0.999		5.55	5.56	0.0171			8.307	NO
28	60	13C2-PFDA	515.1 > 469.9	1.36e4	2.33e4	0.999	0.819	4.95	4.93	7.31	8.9374	71.4		
29	62	d3-N-MeFOSAA	573.3 > 419	2.88e3	2.95e4	0.999	0.177	5.11	5.08	1.22	6.8757	55.0		
30	62	d3-N-MeFOSAA	573.3 > 419	2.88e3	2.95e4	0.999	0.177	5.11	5.08	1.22	6.8757	55.0		
31	63	13C2-PFUdA	565 > 519.8	1.69e4	2.95e4	0.999	0.889	5.28	5.26	7.17	8.0767	64.6		
32	65	13C2-PFDoA	614.7 > 569.7	1.56e4	2.33e4	0.999	1.087	5.57	5.55	8.41	7.7370	61.8		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.80e3	0.999		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.80e3	0.999		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.56e4	0.999		5.80						

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

	#	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		1.33e4	0.999		6.03						
38	85	TDCA	498.3>106.9			0.999		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.80e3	2.95e4	0.999	0.224	5.27	5.25	1.61	7.2060	57.6		
40	64	d5-N-EtFOSAA	589.3 > 419	3.80e3	2.95e4	0.999	0.224	5.27	5.25	1.61	7.2060	57.6		
41	65	13C2-PFDoA	614.7 > 569.7	1.56e4	2.33e4	0.999	1.087	5.57	5.55	8.41	7.7370	61.8		
42	67	13C2-PFTeDA	715.1 > 669.7	1.33e4	2.95e4	0.999	0.604	6.04	6.03	5.63	9.3302	74.6		
43	59	13C8-PFOS	507.0 > 79.9	3.17e3	3.48e3	0.999	0.997	4.65	4.64	11.4	11.4271	91.3		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.84e4	1.84e4	0.999	1.000	2.97	2.96	12.5	12.5103	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.42e4	2.42e4	0.999	1.000	4.12	4.10	12.5	12.5103	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.49e3	1.49e3	0.999	1.000	3.75	3.73	12.5	12.5103	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.76e4	1.76e4	0.999	1.000	4.57	4.55	12.5	12.5103	100.0		
49	77	13C4-PFOS	503 > 79.9	3.48e3	3.48e3	0.999	1.000	4.65	4.64	12.5	12.5103	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.33e4	2.33e4	0.999	1.000	4.95	4.93	12.5	12.5103	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	2.95e4	2.95e4	0.999	1.000	5.28	5.26	12.5	12.5103	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

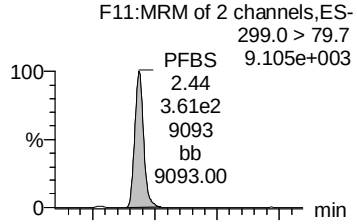
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

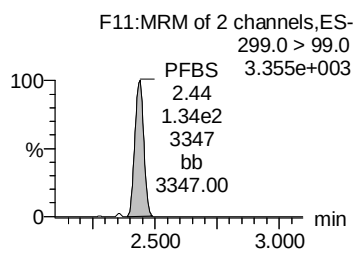
Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

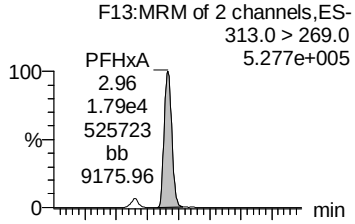
Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

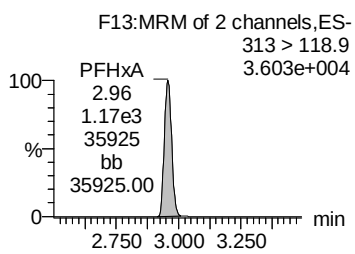
PFBS



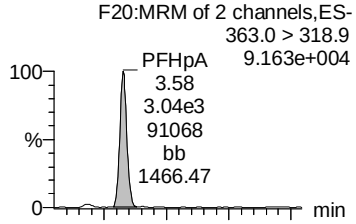


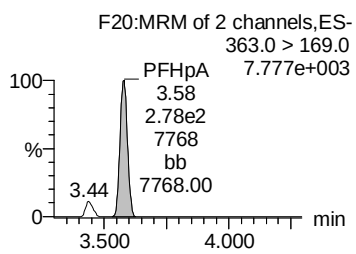
PFHxA



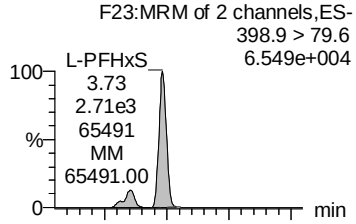


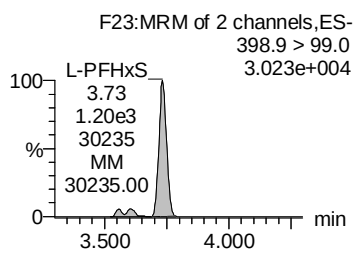
PFHpA



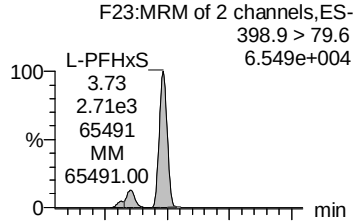


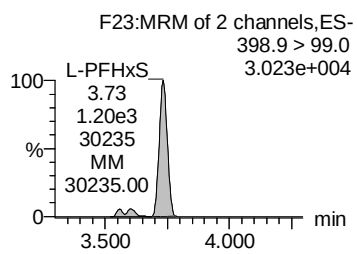
L-PFHxS



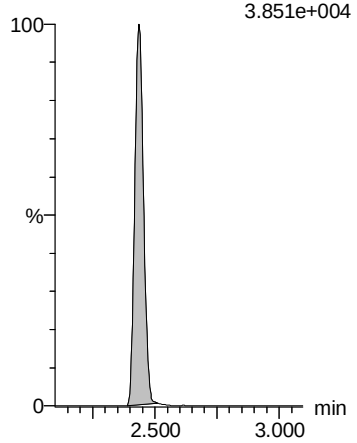


Total PFHxS

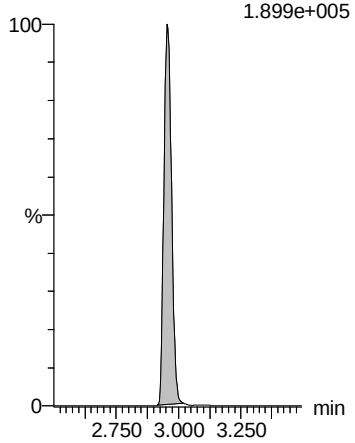




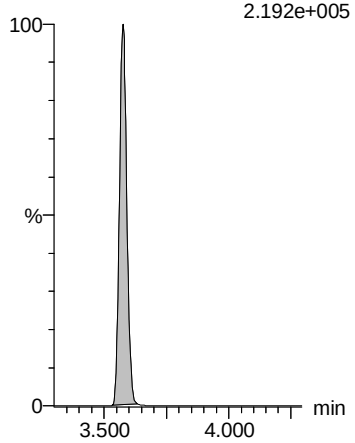
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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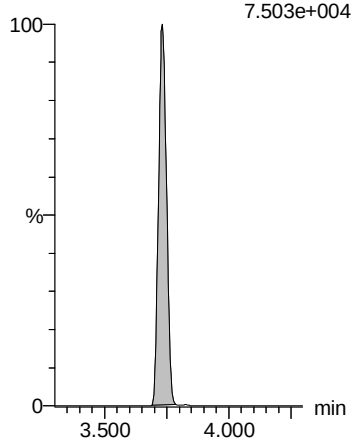

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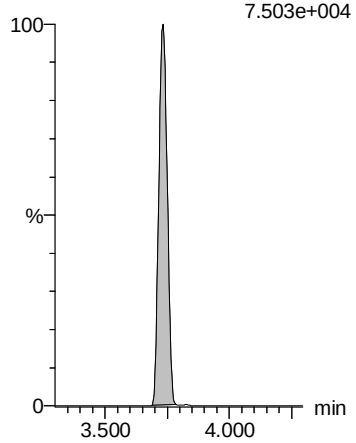


CGH 7/24/2019

Vista Analytical Laboratory L14

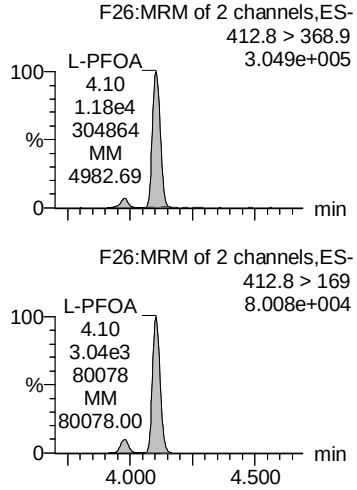
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

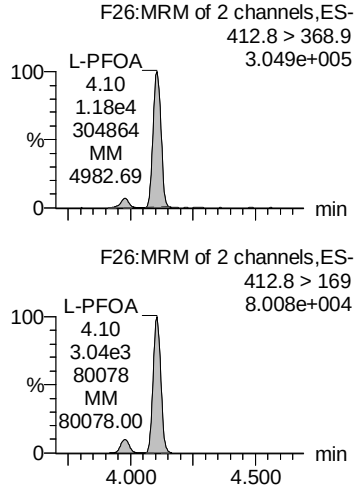
Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

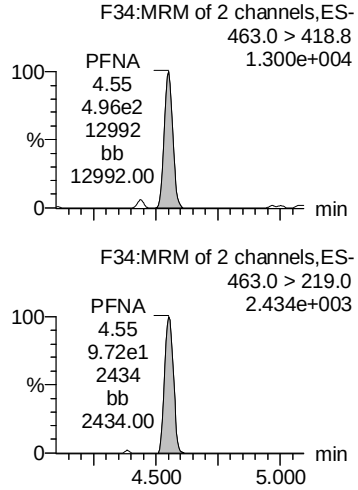
L-PFOA



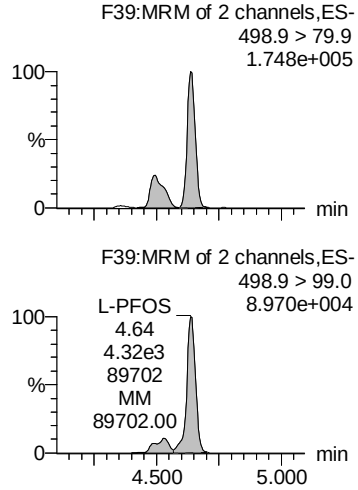
Total PFOA



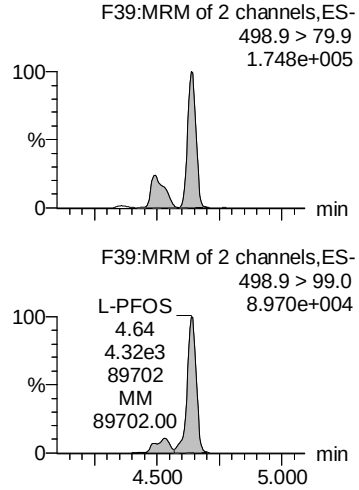
PFNA



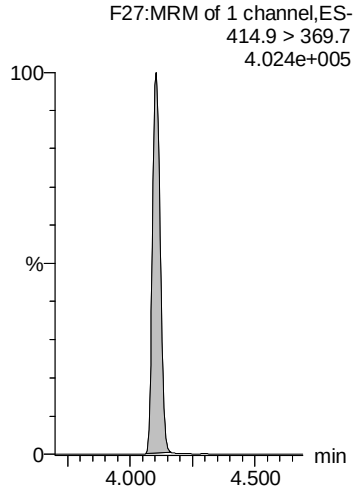
L-PFOS



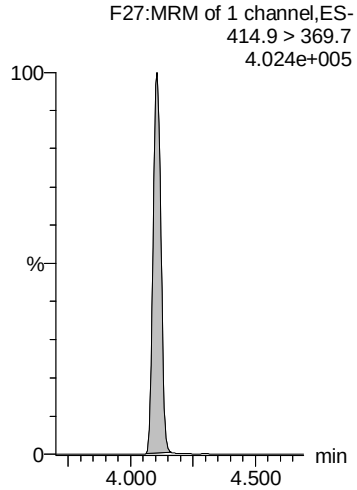
Total PFOS



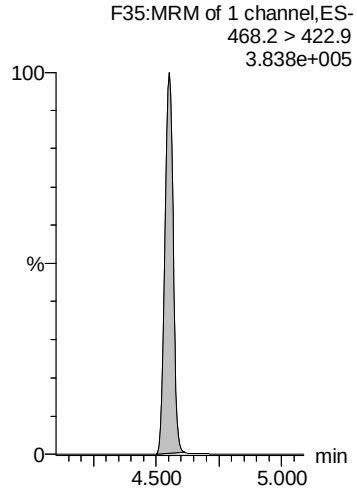
13C2-PFOA



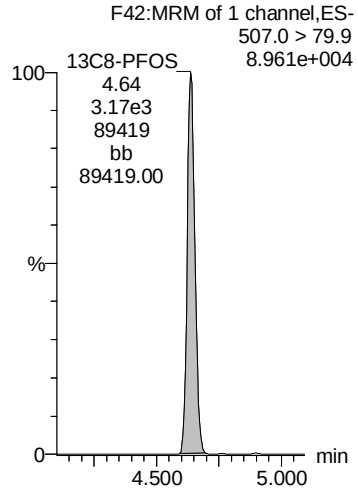
13C2-PFOA



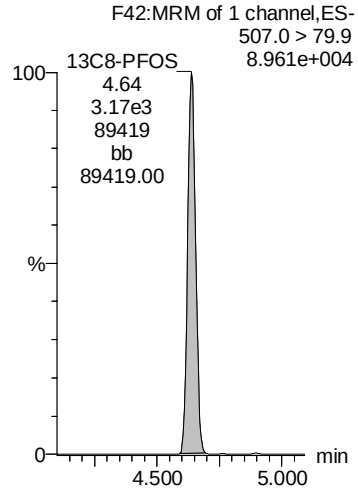
13C5-PFNA



13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

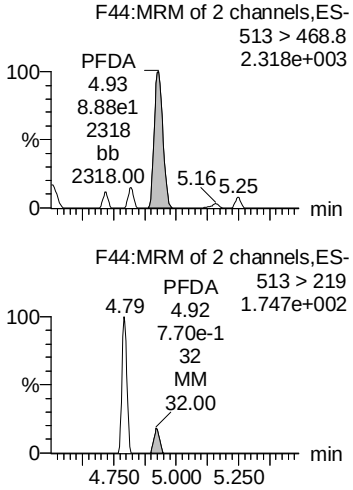
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

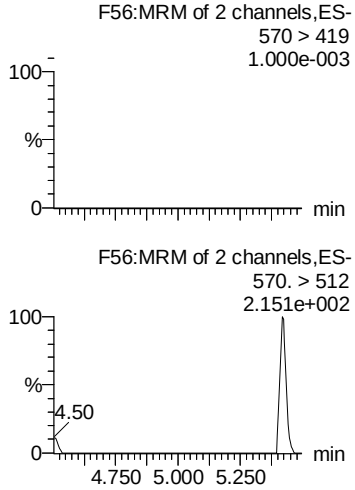
Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

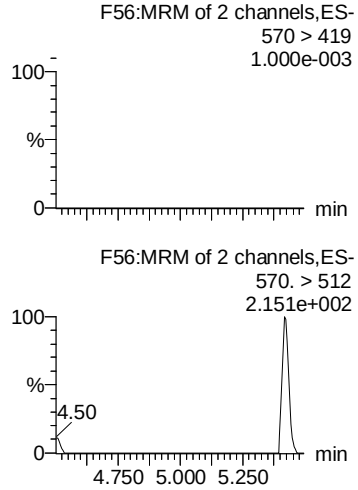
PFDA



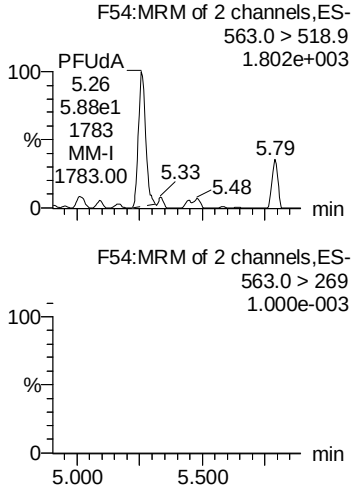
L-MeFOSAA



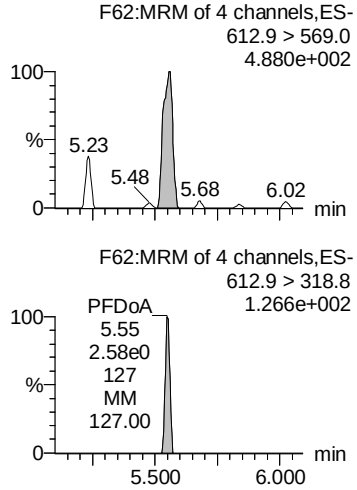
Total N-MeFOSAA



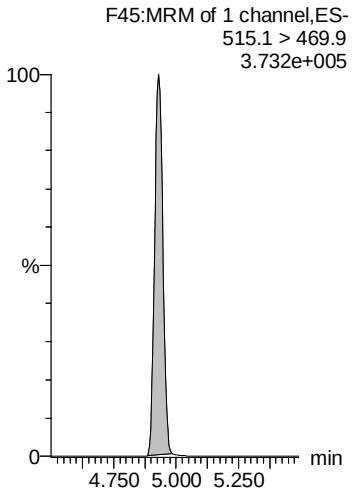
PFUdA



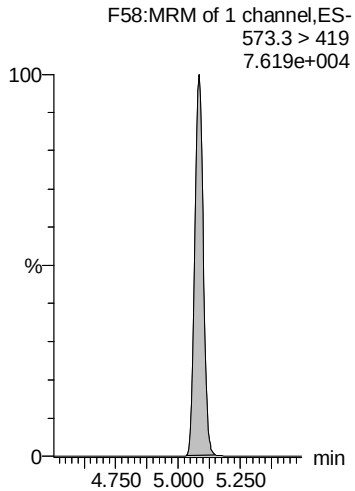
PFDoA



13C2-PFDA



d3-N-MeFOSAA



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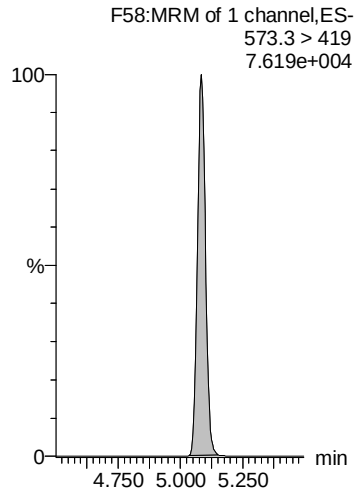
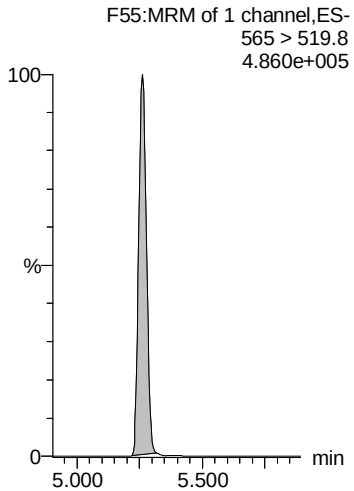
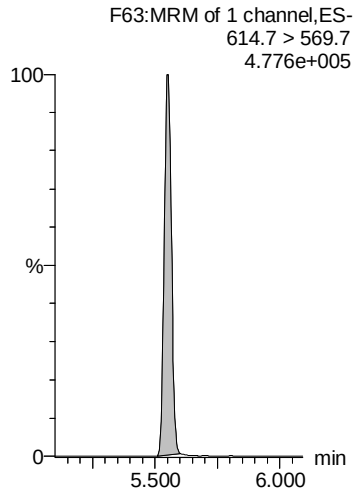


13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

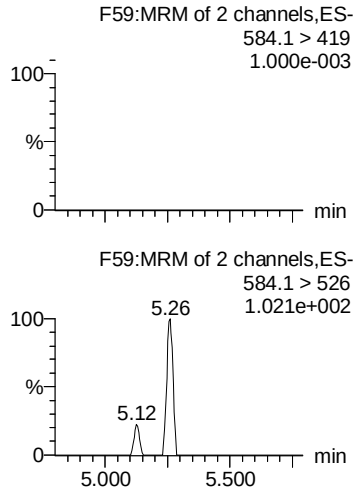
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

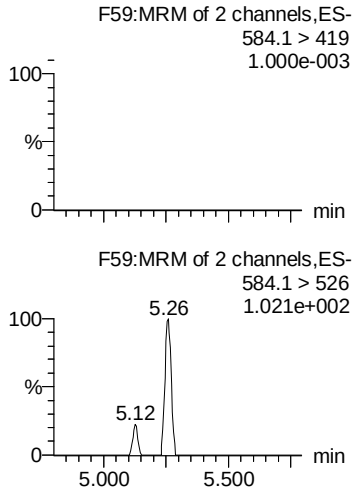
Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

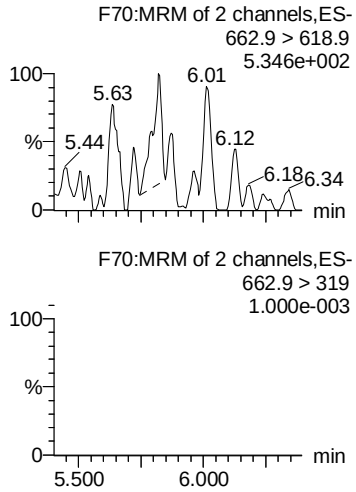
L-EtFOSAA



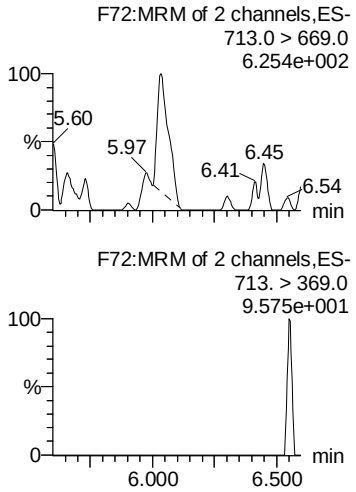
Total N-EtFOSAA



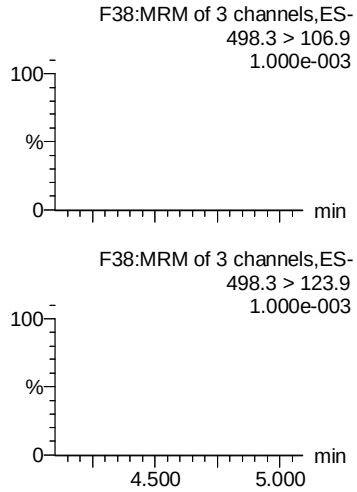
PFTrDA



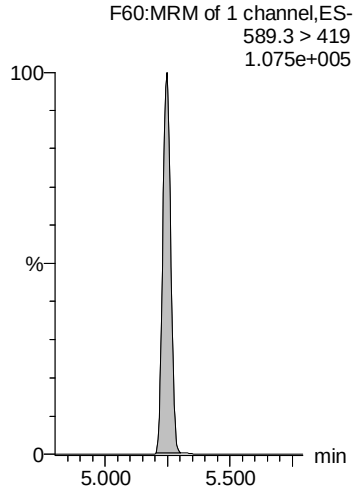
PFTeDA



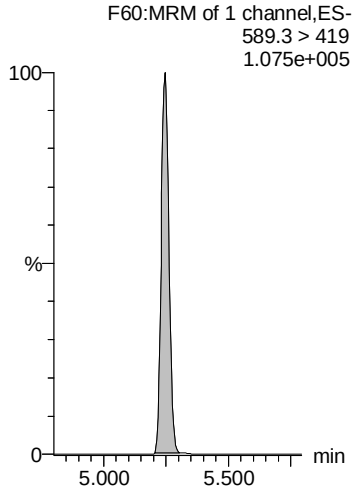
TDCA



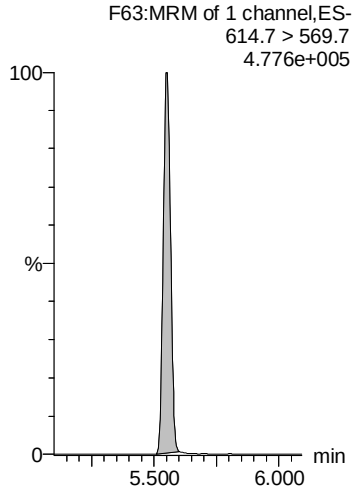
d5-N-EtFOSAA



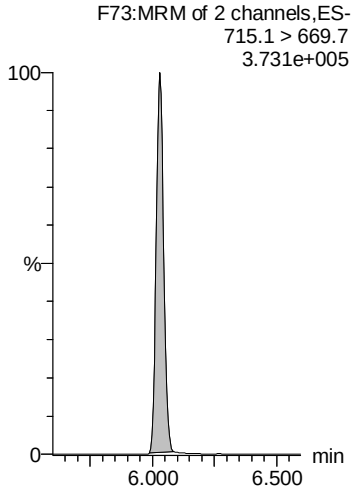
d5-N-EtFOSAA



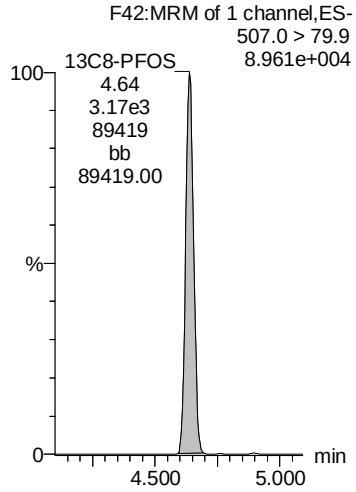
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

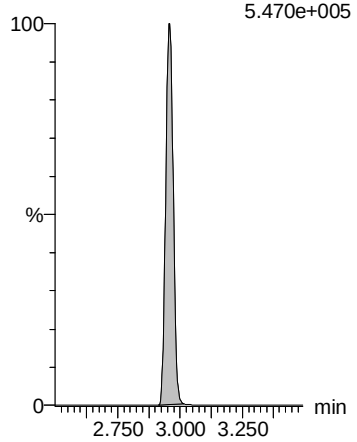
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-47.qld

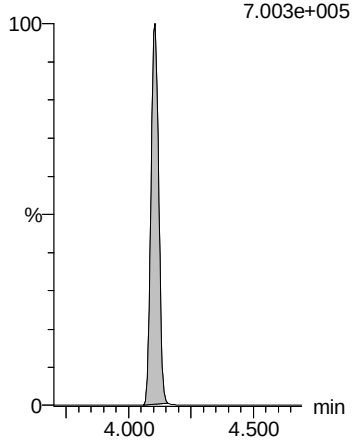
Last Altered: Wednesday, July 24, 2019 12:19:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:20:29 Pacific Daylight Time

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

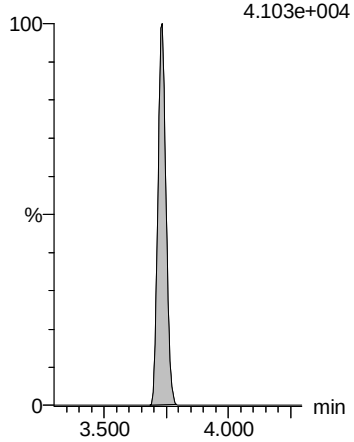
13C5-PFHxA



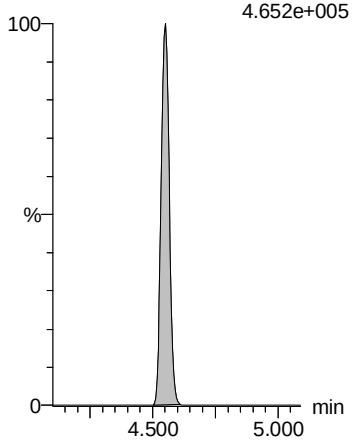
13C8-PFOA



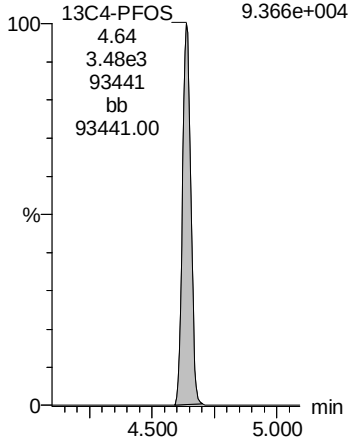
18O2-PFHxS



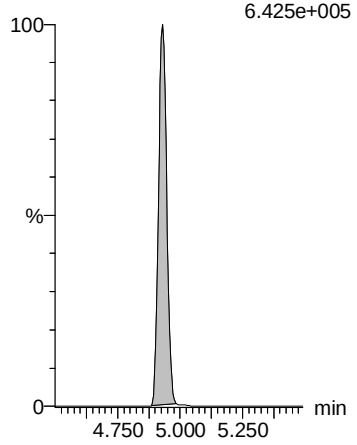
13C9-PFNA



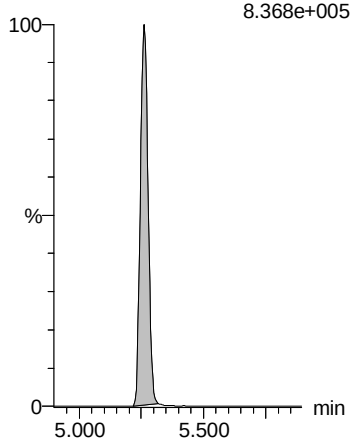
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:24:10 Pacific Daylight Time

Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-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	5.98e1	1.56e3	0.997		2.44	2.44	0.480	0.2448		2.420	NO
2	7	PFHxA	313.0 > 269.0	2.86e3	7.17e3	0.997		2.95	2.95	1.99	2.2109		16.373	NO
3	11	PFHpA	363.0 > 318.9	6.03e2	8.80e3	0.997		3.57	3.57	0.857	0.6644		9.562	NO
4	13	L-PFHxS	398.9 > 79.6	3.53e2	2.93e3	0.997		3.73	3.73	1.51	1.6637		2.917	NO
5	80	Total PFHxS	398.9 > 79.6	3.53e2	2.93e3	0.997		3.83		1.51	1.6637			
6	49	13C3-PFBS	302.0 > 98.8	1.56e3	1.54e3	0.997	1.058	2.46	2.44	12.6	11.9633	95.4		
7	52	13C2-PFHxA	315.0 > 270.0	7.17e3	2.04e4	0.997	0.978	2.97	2.95	4.39	4.5059	89.9		
8	53	13C4-PFHpA	367.2 > 321.8	8.80e3	2.04e4	0.997	0.479	3.59	3.57	5.39	11.3058	90.2		
9	54	13C3-PFHxS	401.8 > 79.9	2.93e3	1.54e3	0.997	2.024	3.75	3.73	23.8	11.7749	93.9		
10	54	13C3-PFHxS	401.8 > 79.9	2.93e3	1.54e3	0.997	2.024	3.75	3.73	23.8	11.7749	93.9		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.44e3	1.61e4	0.997		4.10	4.11	1.12	0.7211		4.541	NO
13	81	Total PFOA	412.8 > 368.9	1.44e3	1.61e4	0.997		4.21		1.12	0.7211			
14	21	PFNA	463.0 > 418.8	1.00e2	1.55e4	0.997		4.55	4.55	0.0807	0.0452		6.505	YES
15	23	L-PFOS	498.9 > 79.9	3.49e3	3.27e3	0.997		4.64	4.64	13.3	12.5140		1.956	NO
16	82	Total PFOS	498.9 > 79.9	3.49e3	3.27e3	0.997		4.74		13.3	12.5140			
17	58	13C2-PFOA	414.9 > 369.7	1.61e4	2.68e4	0.997	0.681	4.12	4.10	7.49	11.0258	87.9		
18	58	13C2-PFOA	414.9 > 369.7	1.61e4	2.68e4	0.997	0.681	4.12	4.10	7.49	11.0258	87.9		
19	56	13C5-PFNA	468.2 > 422.9	1.55e4	2.05e4	0.997	1.002	4.57	4.55	9.48	9.4932	75.7		
20	59	13C8-PFOS	507.0 > 79.9	3.27e3	3.72e3	0.997	0.997	4.65	4.64	11.0	11.0550	88.2		
21	59	13C8-PFOS	507.0 > 79.9	3.27e3	3.72e3	0.997	0.997	4.65	4.64	11.0	11.0550	88.2		
22	-1													
23	26	PFDA	513 > 468.8	3.18e1	1.44e4	0.997		4.93	4.93	0.0276	0.0185		3.584	NO
24	29	L-MeFOSAA	570 > 419		2.97e3	0.997		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.97e3	0.997		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.74e4	0.997		5.26						
27	37	PFDoA	612.9 > 569.0		1.71e4	0.997		5.55						
28	60	13C2-PFDA	515.1 > 469.9	1.44e4	2.68e4	0.997	0.819	4.95	4.93	6.71	8.2166	65.5		
29	62	d3-N-MeFOSAA	573.3 > 419	2.97e3	3.31e4	0.997	0.177	5.11	5.08	1.12	6.3261	50.5		
30	62	d3-N-MeFOSAA	573.3 > 419	2.97e3	3.31e4	0.997	0.177	5.11	5.08	1.12	6.3261	50.5		
31	63	13C2-PFUdA	565 > 519.8	1.74e4	3.31e4	0.997	0.889	5.28	5.26	6.57	7.4101	59.1		
32	65	13C2-PFDoA	614.7 > 569.7	1.71e4	2.68e4	0.997	1.087	5.57	5.55	7.97	7.3502	58.6		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.77e3	0.997		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.77e3	0.997		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.71e4	0.997		5.80						

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:24:10 Pacific Daylight Time

Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-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		1.39e4	0.997		6.03						
38	85	TDCA	498.3>106.9			0.997		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.77e3	3.31e4	0.997	0.224	5.27	5.24	1.42	6.3764	50.9		
40	64	d5-N-EtFOSAA	589.3 > 419	3.77e3	3.31e4	0.997	0.224	5.27	5.24	1.42	6.3764	50.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.71e4	2.68e4	0.997	1.087	5.57	5.55	7.97	7.3502	58.6		
42	67	13C2-PFTeDA	715.1 > 669.7	1.39e4	3.31e4	0.997	0.604	6.04	6.03	5.24	8.6980	69.4		
43	59	13C8-PFOS	507.0 > 79.9	3.27e3	3.72e3	0.997	0.997	4.65	4.64	11.0	11.0550	88.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.04e4	2.04e4	0.997	1.000	2.97	2.95	12.5	12.5365	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.68e4	2.68e4	0.997	1.000	4.12	4.10	12.5	12.5365	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.54e3	1.54e3	0.997	1.000	3.75	3.73	12.5	12.5365	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.05e4	2.05e4	0.997	1.000	4.57	4.55	12.5	12.5365	100.0		
49	77	13C4-PFOS	503 > 79.9	3.72e3	3.72e3	0.997	1.000	4.65	4.64	12.5	12.5365	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.68e4	2.68e4	0.997	1.000	4.95	4.93	12.5	12.5365	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.31e4	3.31e4	0.997	1.000	5.28	5.26	12.5	12.5365	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:24:10 Pacific Daylight Time

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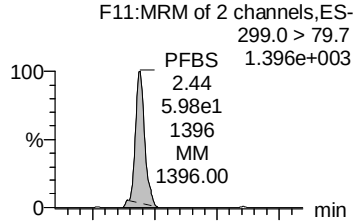
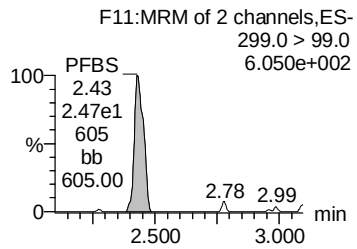
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

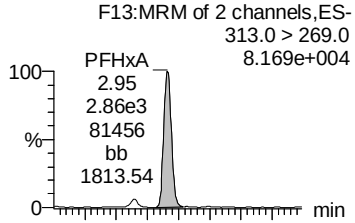
Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-B01-SO-20-20.5

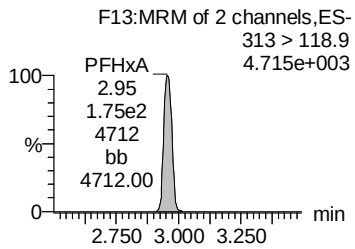
PFBS





PFHxA





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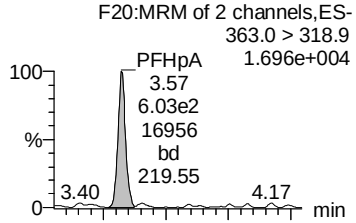
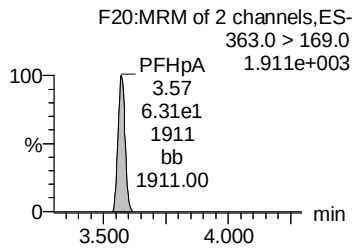
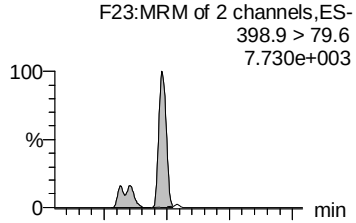
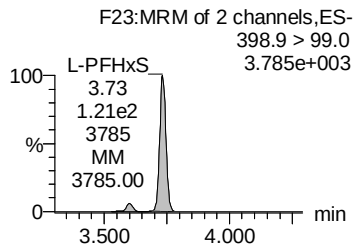


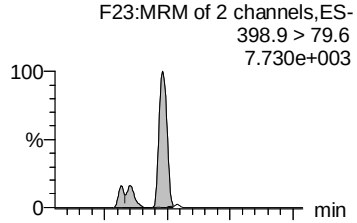


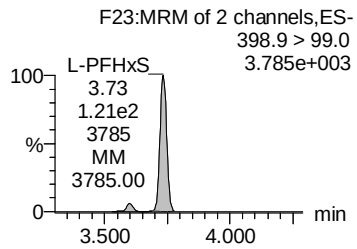
L-PFHxS



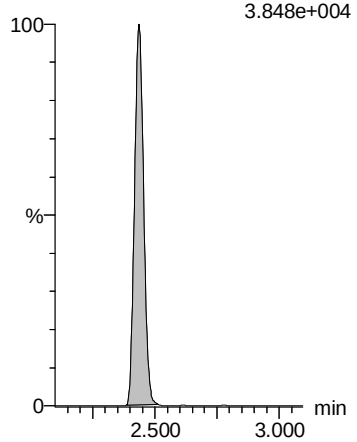


Total PFHxS





13C3-PFBS



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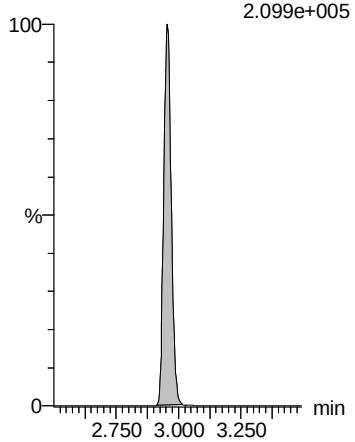

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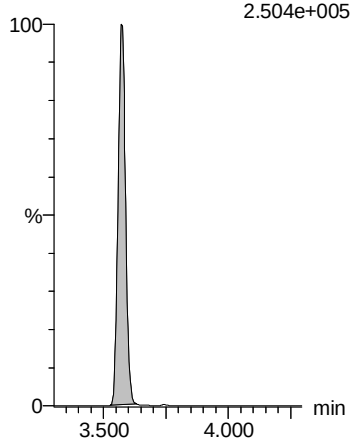

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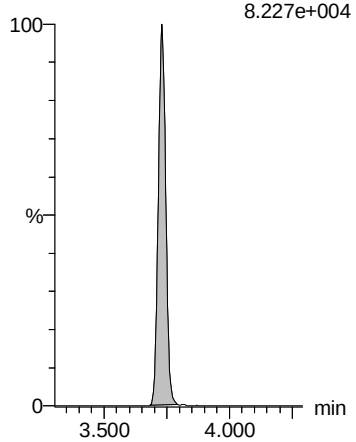

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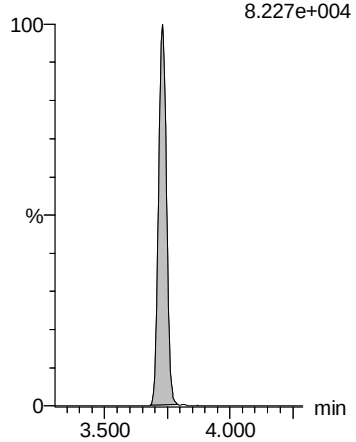

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
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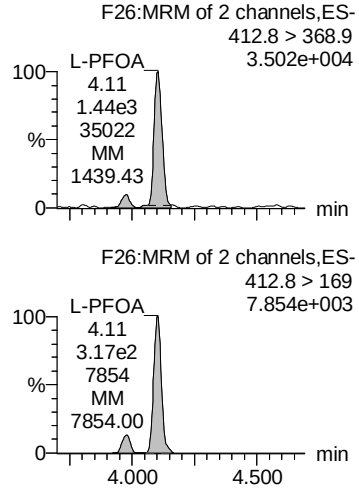
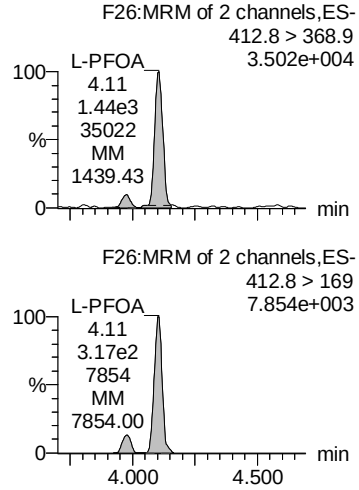
Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-B01-SO-20-20.5

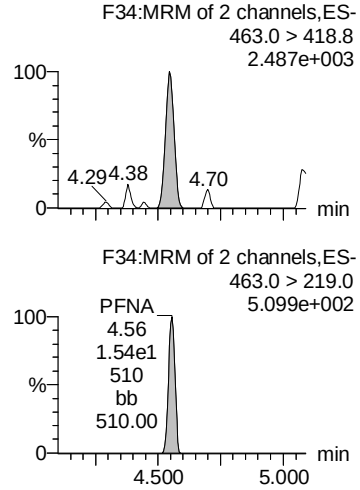
L-PFOA



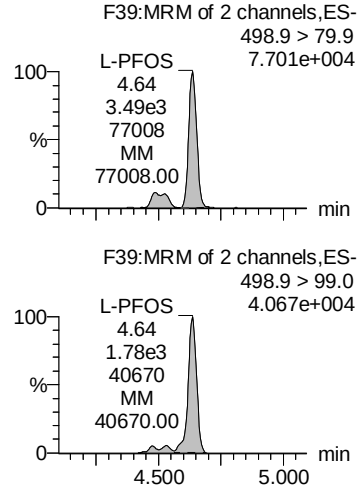
Total PFOA



PFNA



L-PFOS



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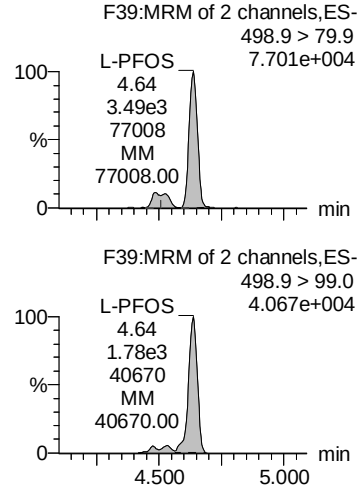

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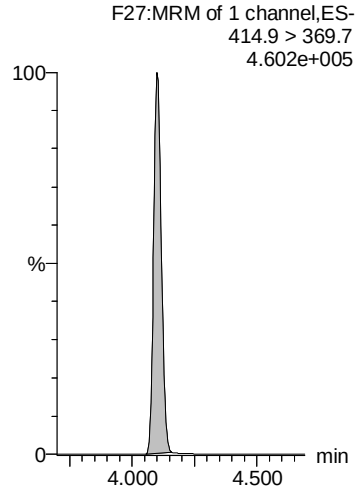

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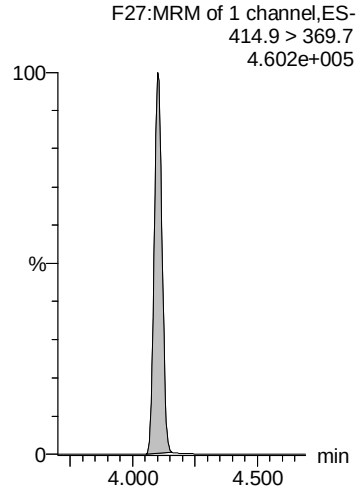

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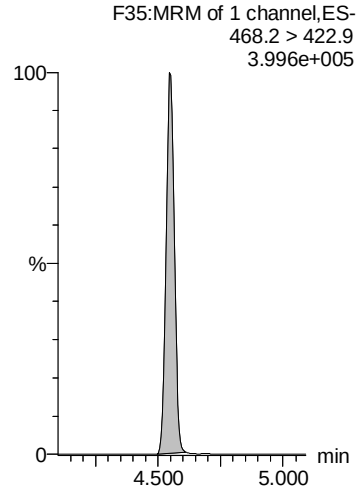
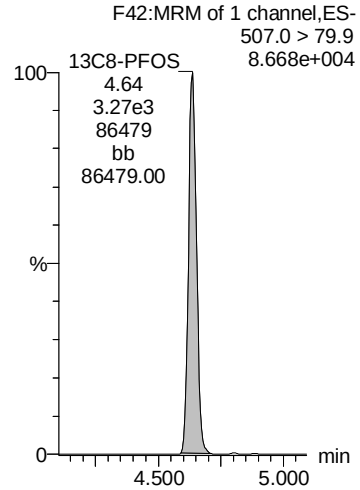


13C8-PFOS



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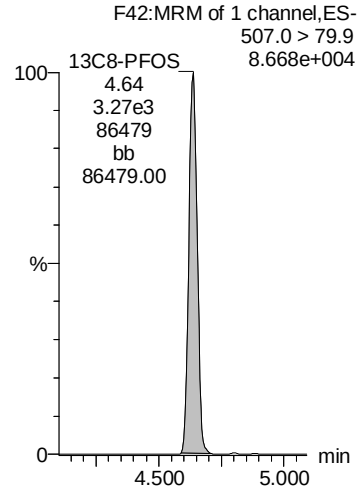

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
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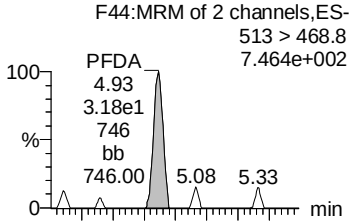
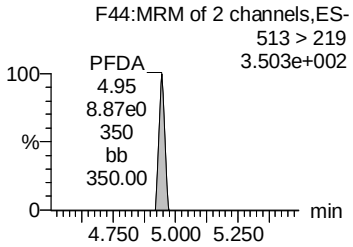
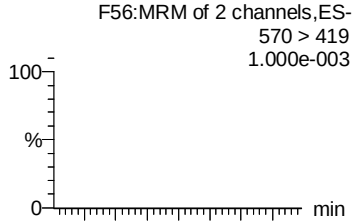
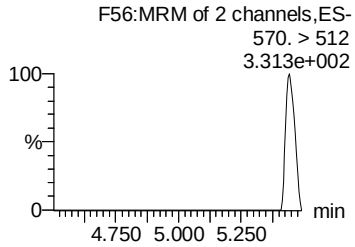


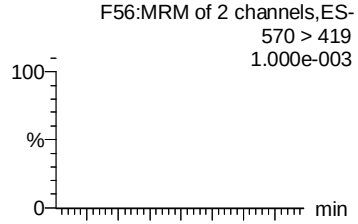


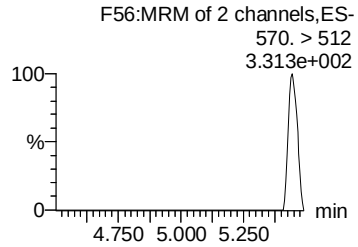
L-MeFOSAA



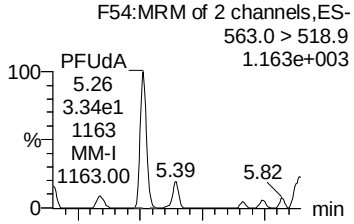


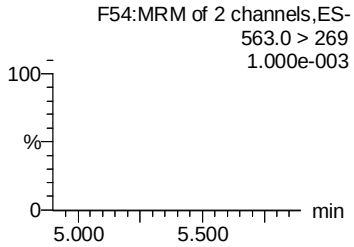
Total N-MeFOSAA



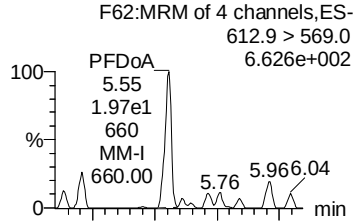


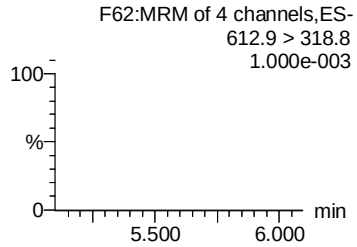
PFUdA



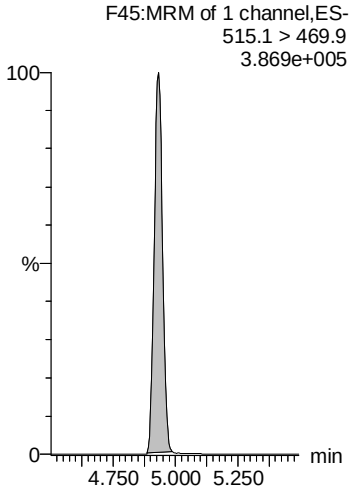


PFDoA

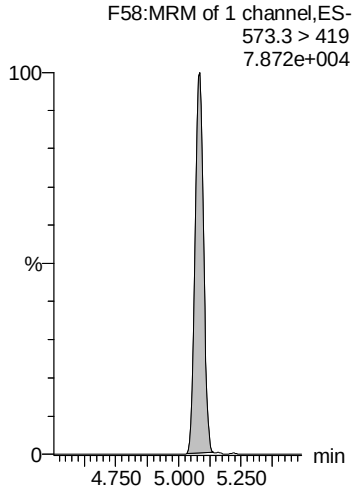




13C2-PFDA



d3-N-MeFOSAA



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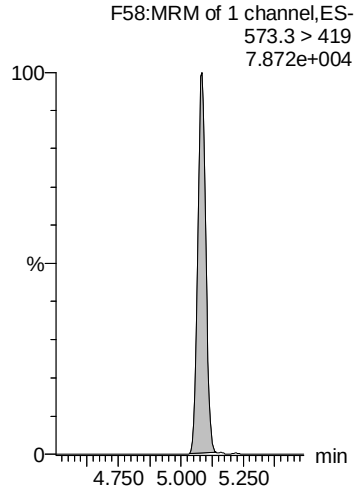
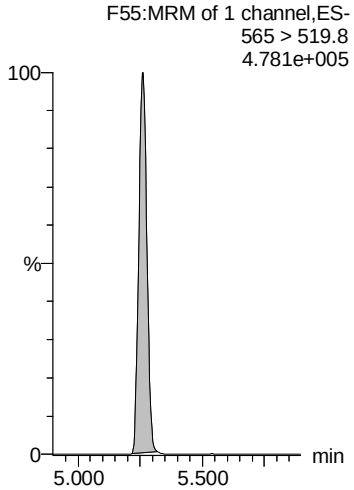
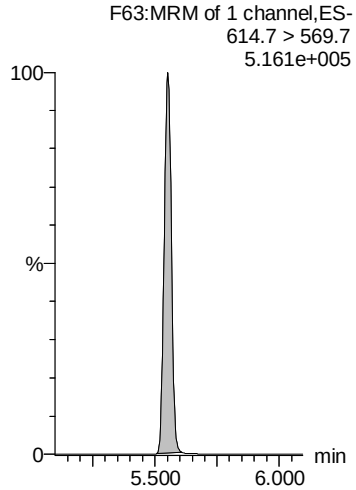


13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

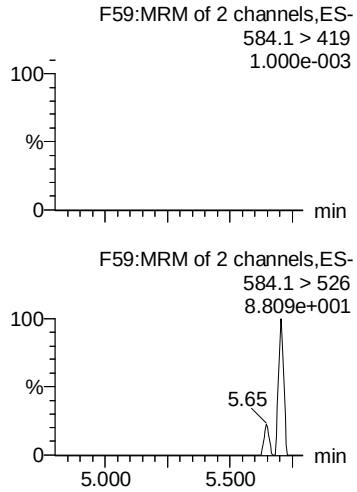
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

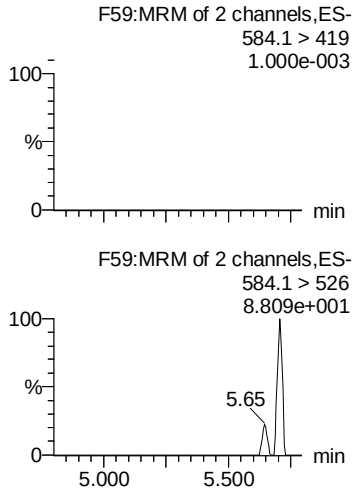
Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:24:10 Pacific Daylight Time

Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-B01-SO-20-20.5

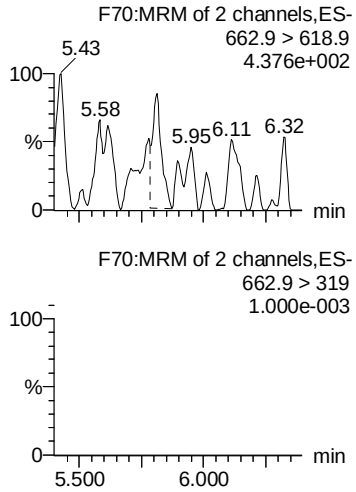
L-EtFOSAA



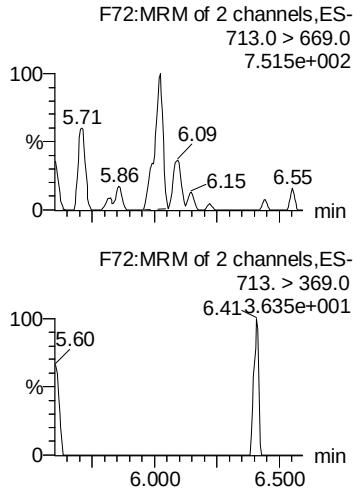
Total N-EtFOSAA



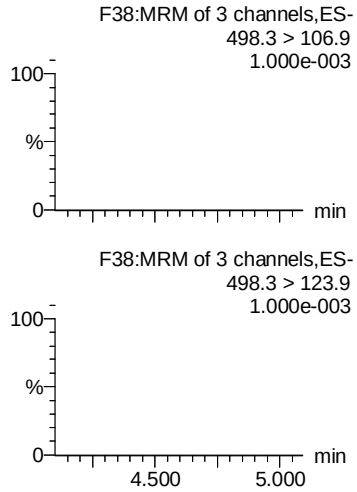
PFTrDA



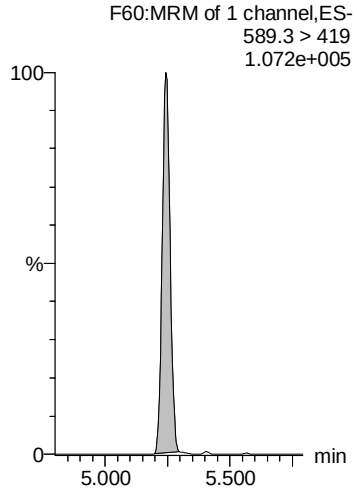
PFTeDA



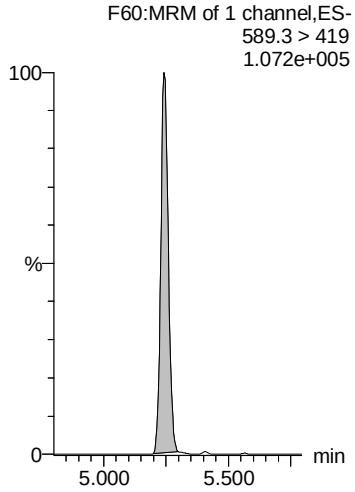
TDCA



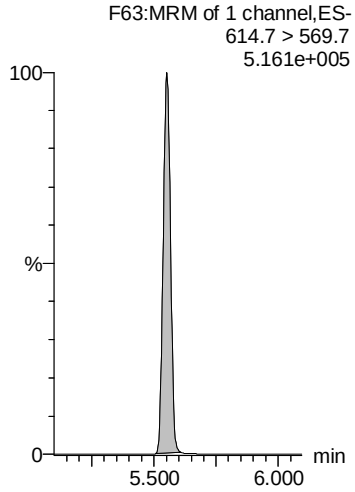
d5-N-EtFOSAA



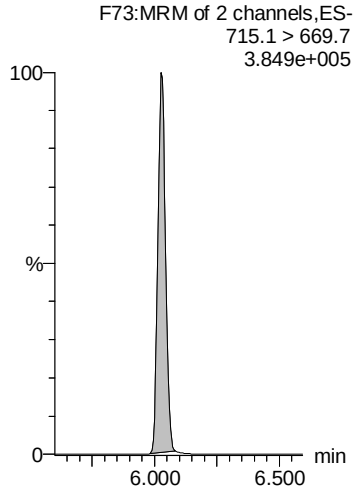
d5-N-EtFOSAA



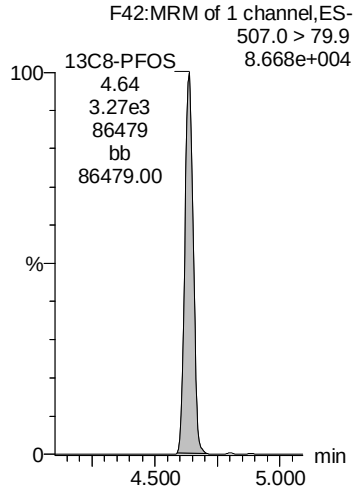
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

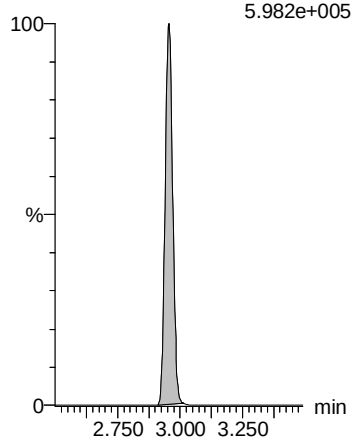
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-48.qld

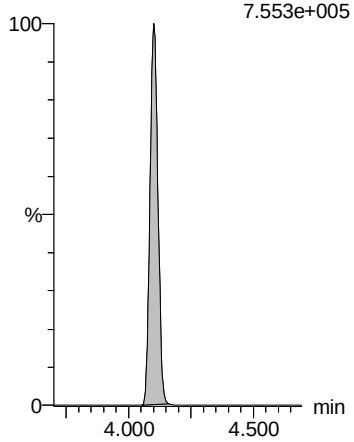
Last Altered: Wednesday, July 24, 2019 12:23:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:24:10 Pacific Daylight Time

Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-B01-SO-20-20.5

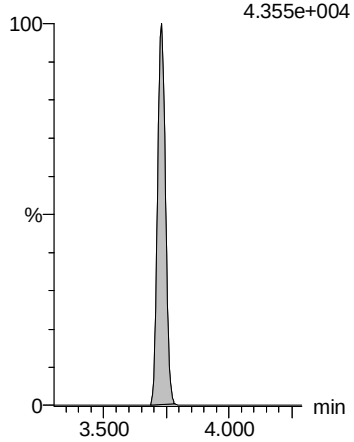
13C5-PFHxA



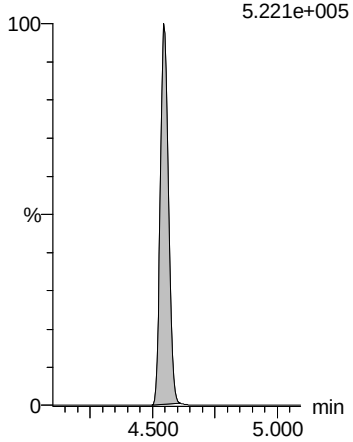
13C8-PFOA



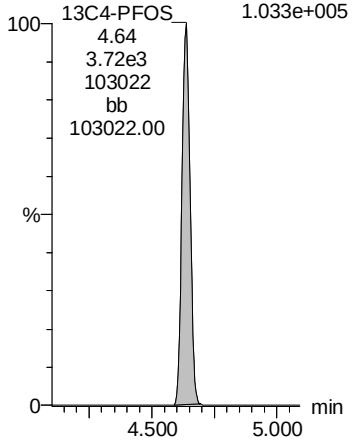
18O2-PFHxS



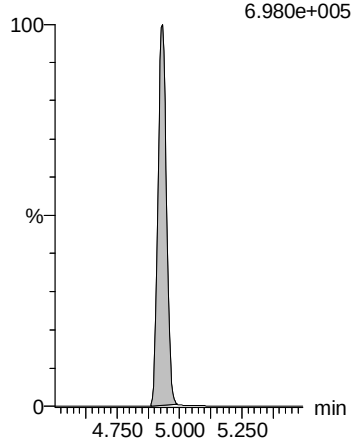
13C9-PFNA



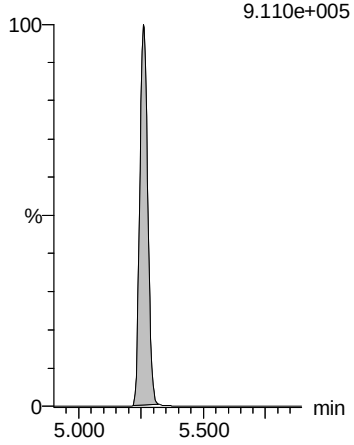
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

	#	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		1.46e3	0.996		2.44						
2	7	PFHxA	313.0 > 269.0	2.73e2	7.29e3	0.996		2.95	2.96	0.187	0.1442		24.951	YES
3	11	PFHpA	363.0 > 318.9		8.57e3	0.996		3.57						
4	13	L-PFHxS	398.9 > 79.6		2.74e3	0.996		3.73						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	2.74e3	0.996		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	1.46e3	1.40e3	0.996	1.058	2.46	2.44	13.1	12.4360	99.1		
7	52	13C2-PFHxA	315.0 > 270.0	7.29e3	2.12e4	0.996	0.978	2.97	2.95	4.30	4.4198	88.1		
8	53	13C4-PFHpA	367.2 > 321.8	8.57e3	2.12e4	0.996	0.479	3.59	3.57	5.06	10.6165	84.6		
9	54	13C3-PFHxS	401.8 > 79.9	2.74e3	1.40e3	0.996	2.024	3.75	3.73	24.5	12.1659	97.0		
10	54	13C3-PFHxS	401.8 > 79.9	2.74e3	1.40e3	0.996	2.024	3.75	3.73	24.5	12.1659	97.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9		1.54e4	0.996		4.10						
13	81	Total PFOA	412.8 > 368.9	0.00e0	1.54e4	0.996		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.63e4	0.996		4.55						
15	23	L-PFOS	498.9 > 79.9	4.54e3	3.11e3	0.996		4.63	4.64	18.2	17.1275		2.050	NO
16	82	Total PFOS	498.9 > 79.9	4.54e3	3.11e3	0.996		4.74		18.2	17.1275			
17	58	13C2-PFOA	414.9 > 369.7	1.54e4	2.73e4	0.996	0.681	4.12	4.10	7.06	10.4060	82.9		
18	58	13C2-PFOA	414.9 > 369.7	1.54e4	2.73e4	0.996	0.681	4.12	4.10	7.06	10.4060	82.9		
19	56	13C5-PFNA	468.2 > 422.9	1.63e4	2.02e4	0.996	1.002	4.57	4.55	10.1	10.1368	80.8		
20	59	13C8-PFOS	507.0 > 79.9	3.11e3	3.58e3	0.996	0.997	4.65	4.63	10.9	10.9395	87.2		
21	59	13C8-PFOS	507.0 > 79.9	3.11e3	3.58e3	0.996	0.997	4.65	4.63	10.9	10.9395	87.2		
22	-1													
23	26	PFDA	513 > 468.8		1.47e4	0.996		4.93						
24	29	L-MeFOSAA	570 > 419		2.89e3	0.996		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.89e3	0.996		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		1.83e4	0.996		5.26						
27	37	PFDoA	612.9 > 569.0		1.63e4	0.996		5.55						
28	60	13C2-PFDA	515.1 > 469.9	1.47e4	2.60e4	0.996	0.819	4.95	4.93	7.07	8.6697	69.1		
29	62	d3-N-MeFOSAA	573.3 > 419	2.89e3	3.24e4	0.996	0.177	5.11	5.08	1.11	6.2913	50.1		
30	62	d3-N-MeFOSAA	573.3 > 419	2.89e3	3.24e4	0.996	0.177	5.11	5.08	1.11	6.2913	50.1		
31	63	13C2-PFUdA	565 > 519.8	1.83e4	3.24e4	0.996	0.889	5.28	5.26	7.05	7.9629	63.5		
32	65	13C2-PFDoA	614.7 > 569.7	1.63e4	2.60e4	0.996	1.087	5.57	5.55	7.86	7.2594	57.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		3.79e3	0.996		5.24						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.79e3	0.996		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.63e4	0.996		5.80						

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

	#	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		1.23e4	0.996		6.03						
38	85	TDCA	498.3>106.9			0.996		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.79e3	3.24e4	0.996	0.224	5.27	5.24	1.46	6.5539	52.2		
40	64	d5-N-EtFOSAA	589.3 > 419	3.79e3	3.24e4	0.996	0.224	5.27	5.24	1.46	6.5539	52.2		
41	65	13C2-PFDoA	614.7 > 569.7	1.63e4	2.60e4	0.996	1.087	5.57	5.55	7.86	7.2594	57.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.23e4	3.24e4	0.996	0.604	6.04	6.03	4.75	7.8866	62.9		
43	59	13C8-PFOS	507.0 > 79.9	3.11e3	3.58e3	0.996	0.997	4.65	4.63	10.9	10.9395	87.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.12e4	2.12e4	0.996	1.000	2.97	2.95	12.5	12.5481	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.73e4	2.73e4	0.996	1.000	4.12	4.10	12.5	12.5481	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.40e3	1.40e3	0.996	1.000	3.75	3.73	12.5	12.5481	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.02e4	2.02e4	0.996	1.000	4.57	4.55	12.5	12.5481	100.0		
49	77	13C4-PFOS	503 > 79.9	3.58e3	3.58e3	0.996	1.000	4.65	4.63	12.5	12.5481	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.60e4	2.60e4	0.996	1.000	4.95	4.93	12.5	12.5481	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.24e4	3.24e4	0.996	1.000	5.28	5.26	12.5	12.5481	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

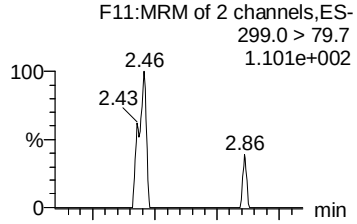
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

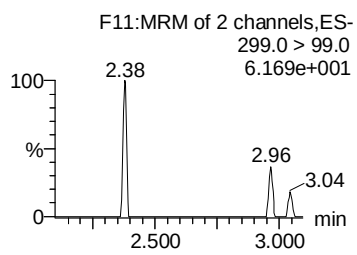
Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

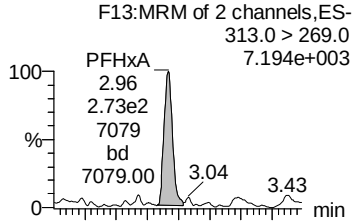
Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

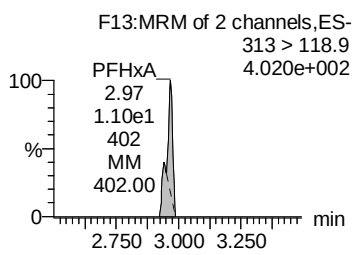
PFBS



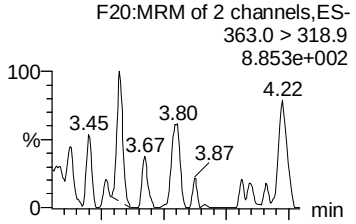


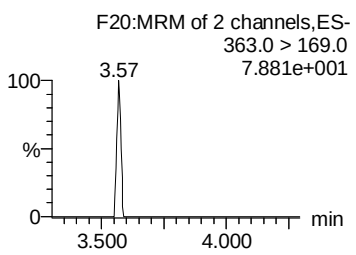
PFHxA



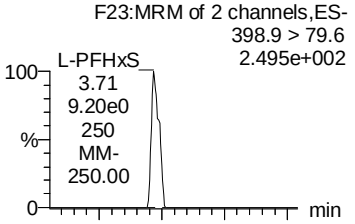


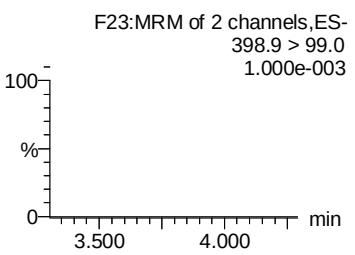
PFHpA



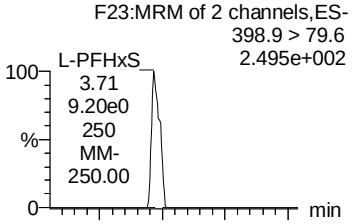


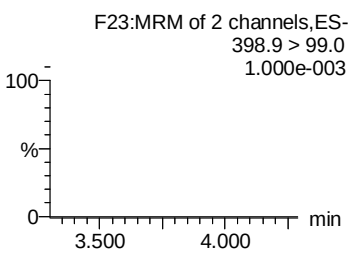
L-PFHxS



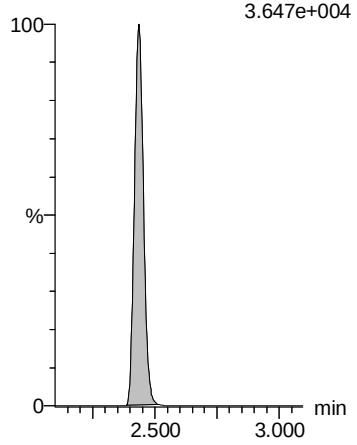


Total PFHxS

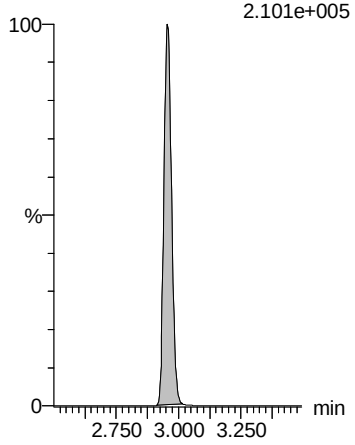




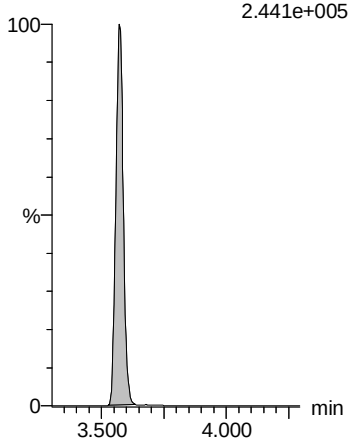
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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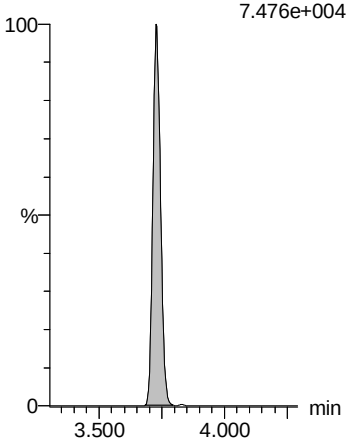

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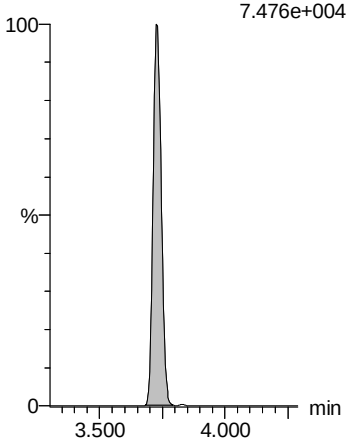


CGH 7/24/2019

Vista Analytical Laboratory L14

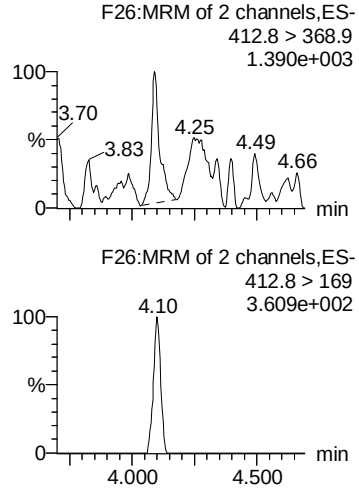
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

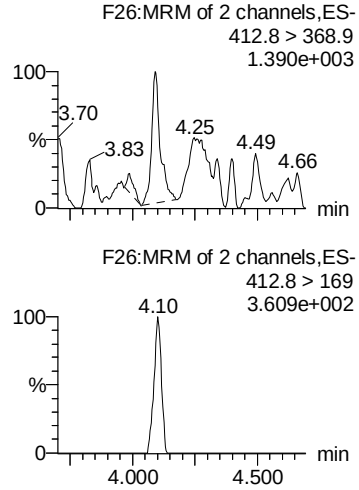
Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

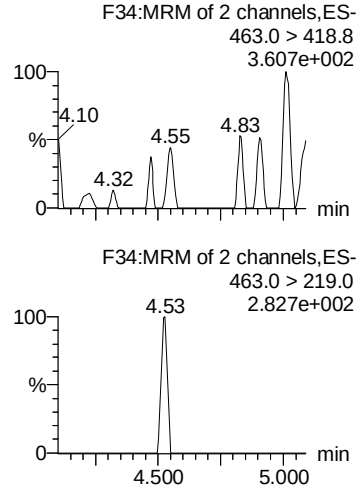
L-PFOA



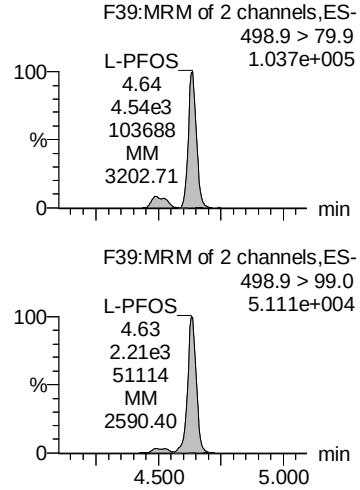
Total PFOA



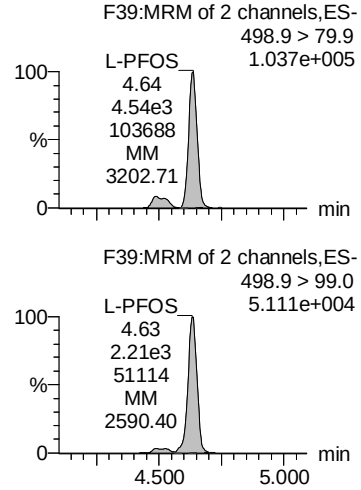
PFNA



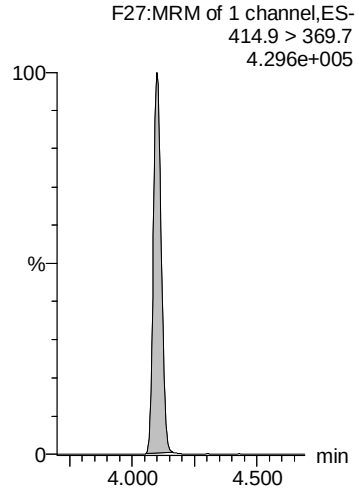
L-PFOS



Total PFOS



13C2-PFOA



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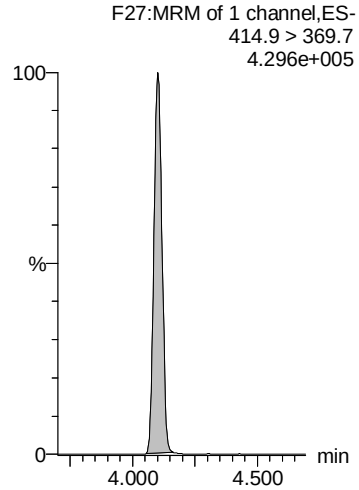
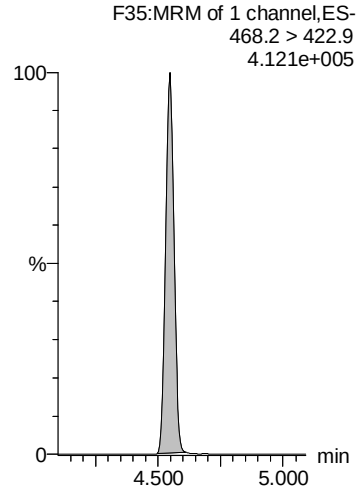
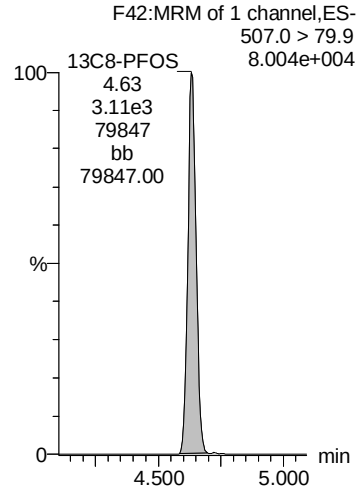


13C5-PFNA



13C8-PFOS



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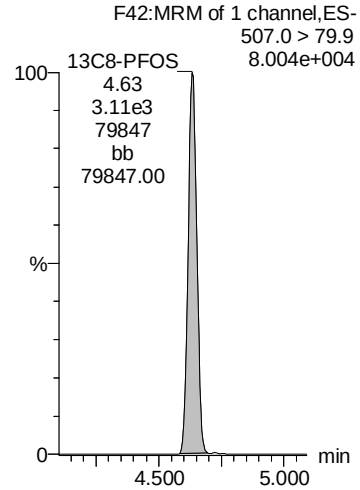


CGH 7/24/2019

Vista Analytical Laboratory L14

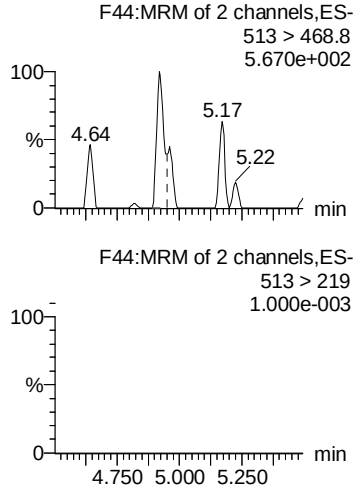
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

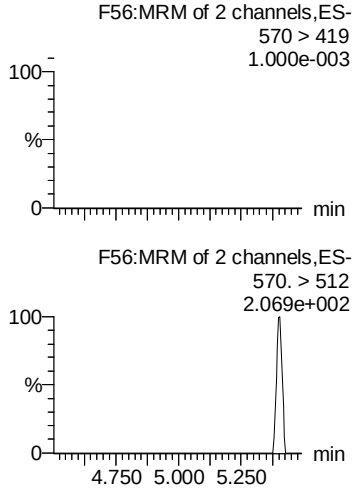
Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

PFDA



L-MeFOSAA



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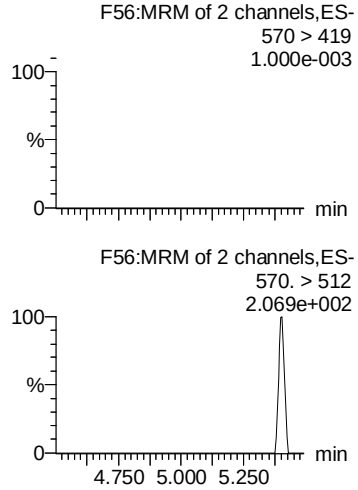
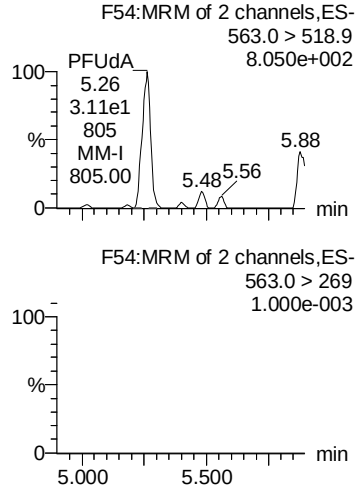
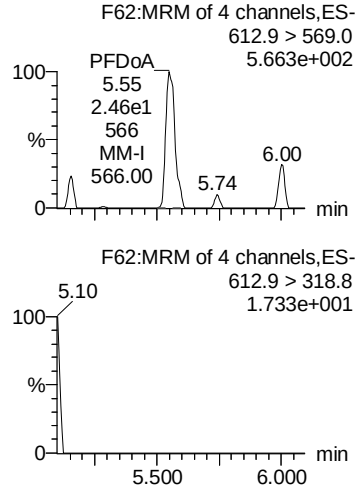


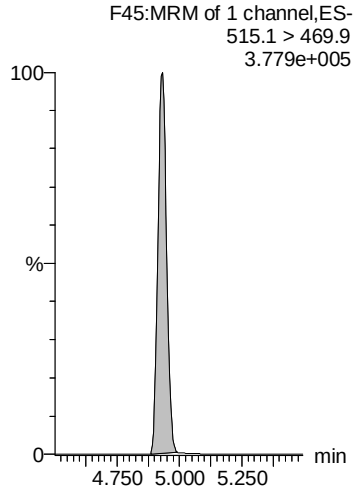
PFUdA



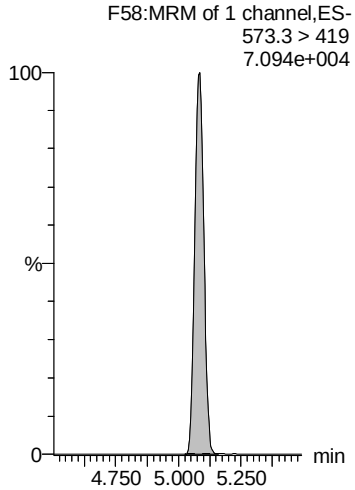
PFDoA



13C2-PFDA



d3-N-MeFOSAA



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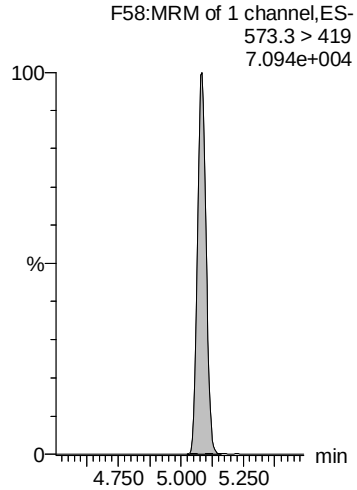

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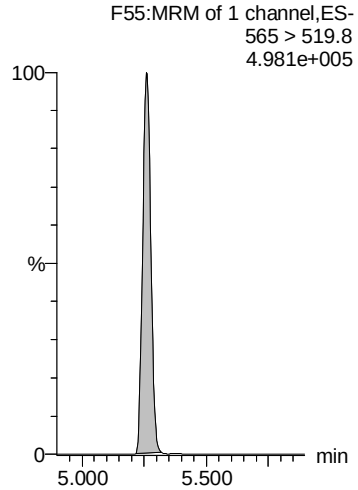
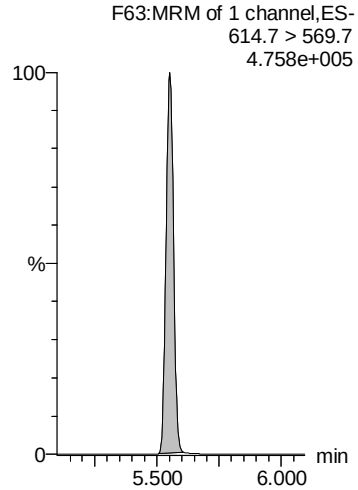


13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

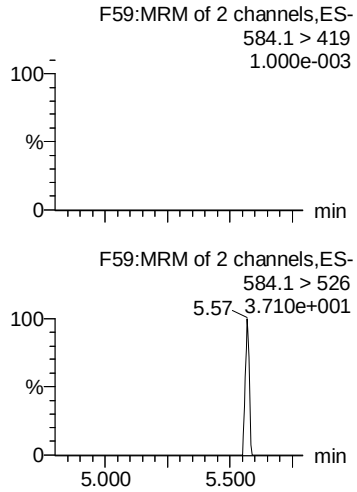
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

L-EtFOSAA



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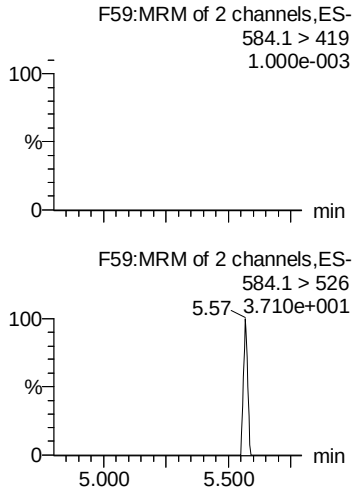
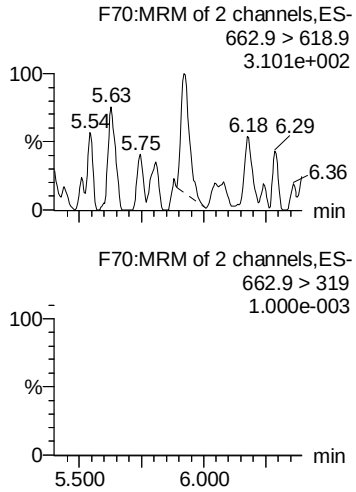
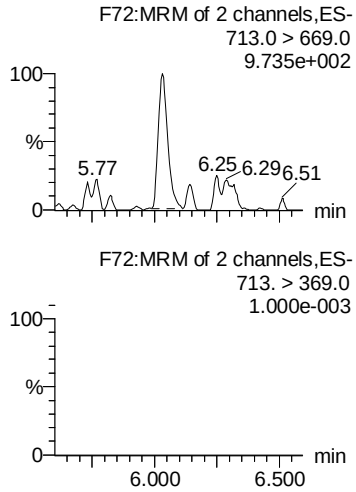


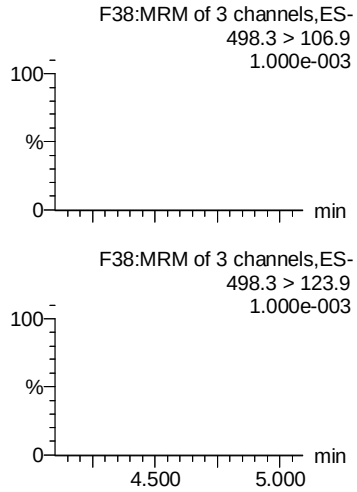
PFTrDA



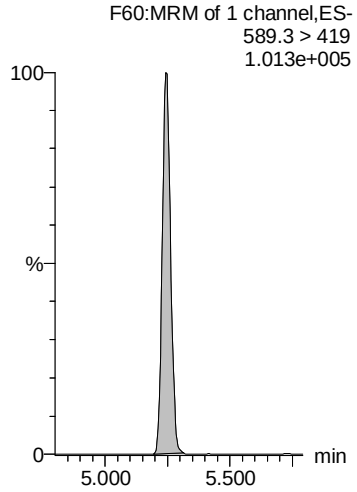
PFTeDA



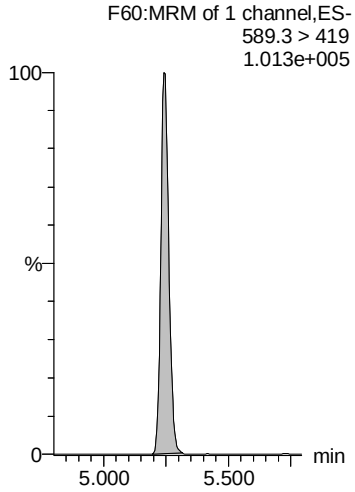
TDCA



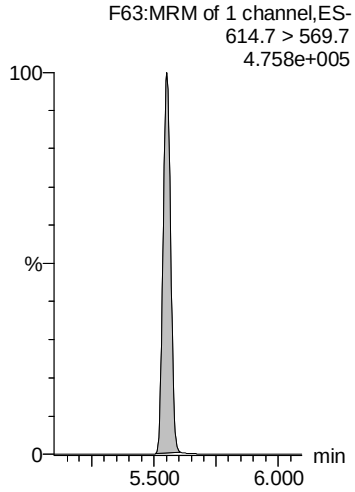
d5-N-EtFOSAA



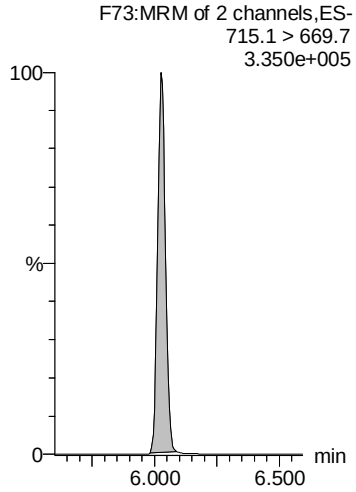
d5-N-EtFOSAA



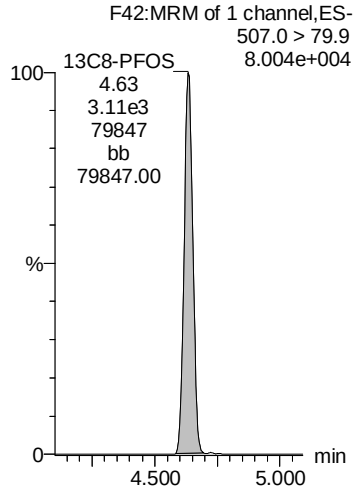
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

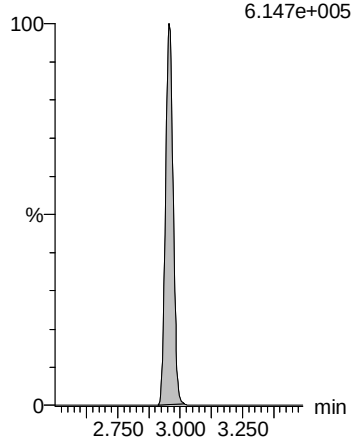
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-49.qld

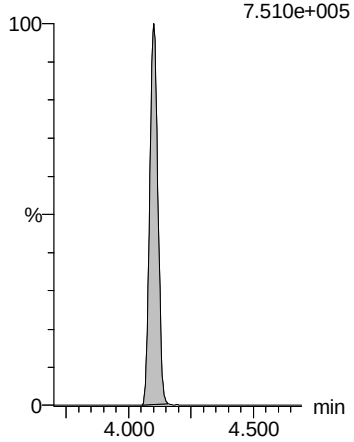
Last Altered: Wednesday, July 24, 2019 12:42:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:43:13 Pacific Daylight Time

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

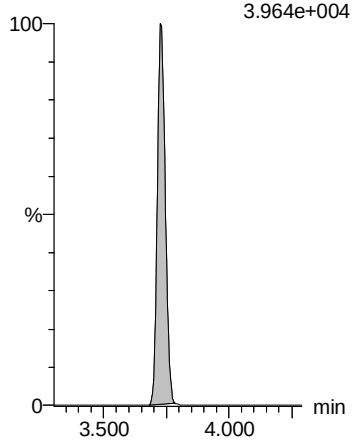
13C5-PFHxA



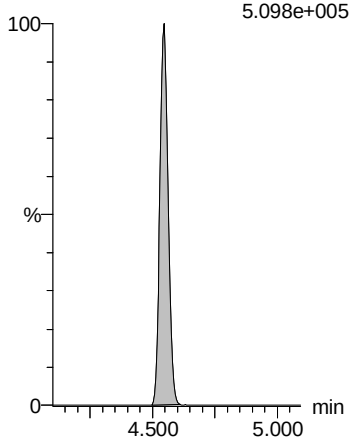
13C8-PFOA



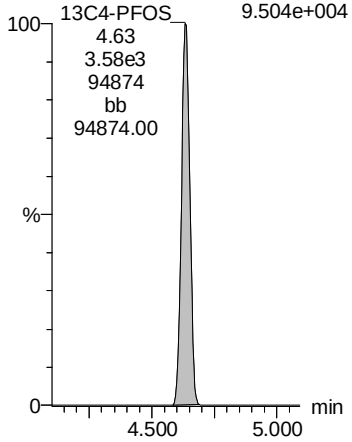
18O2-PFHxS



13C9-PFNA



13C4-PFOS



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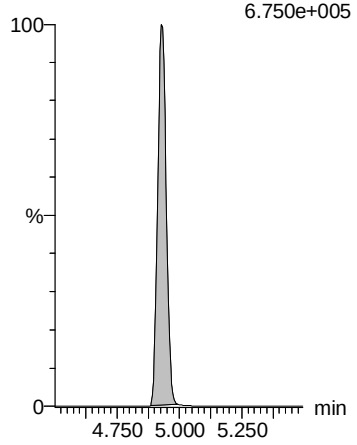
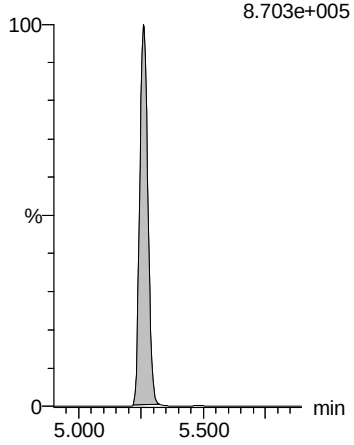


13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

*SEE DILUTION

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-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	1.02e3	1.50e3	1.01		2.44	2.44	8.56	3.7603		3.139	NO	
2	7	PFHxA	313.0 > 269.0	9.36e4	6.91e3	1.01		2.95	2.95	67.8	76.6218		15.604	NO	
3	11	PFHpA	363.0 > 318.9	3.29e4	8.78e3	1.01		3.57	3.57	46.8	35.8319		9.556	NO	
4	13	L-PFHxS	398.9 > 79.6	2.95e4	2.87e3	1.01		3.73	3.73	128	133.1943		1.944	NO	
5	80	Total PFHxS	398.9 > 79.6	2.95e4	2.87e3	1.01		3.83		128	133.1943				
6	49	13C3-PFBS	302.0 > 98.8	1.50e3	1.48e3	1.01	1.058	2.46	2.44	12.6	11.8471	95.6			
7	52	13C2-PFHxA	315.0 > 270.0	6.91e3	1.99e4	1.01	0.978	2.97	2.95	4.34	4.3971	88.7			
8	53	13C4-PFHpA	367.2 > 321.8	8.78e3	1.99e4	1.01	0.479	3.59	3.57	5.51	11.4228	92.2			
9	54	13C3-PFHxS	401.8 > 79.9	2.87e3	1.48e3	1.01	2.024	3.75	3.73	24.2	11.8802	95.9			
10	54	13C3-PFHxS	401.8 > 79.9	2.87e3	1.48e3	1.01	2.024	3.75	3.73	24.2	11.8802	95.9			
11	-1														
12	16	L-PFOA	412.8 > 368.9	4.99e4	1.62e4	1.01		4.10	4.10	38.6	25.4475		3.761	NO	
13	81	Total PFOA	412.8 > 368.9	4.99e4	1.62e4	1.01		4.21		38.6	25.4475				
14	21	PFNA	463.0 > 418.8	3.17e3	1.55e4	1.01		4.55	4.55	2.56	2.1847		4.155	NO	
15	23	L-PFOS	498.9 > 79.9	1.79e5	2.46e3	1.01		4.63	4.63	910	844.5423		2.076	NO	E*
16	82	Total PFOS	498.9 > 79.9	1.79e5	2.46e3	1.01		4.74		910	844.5423				
17	58	13C2-PFOA	414.9 > 369.7	1.62e4	2.70e4	1.01	0.681	4.12	4.10	7.50	10.9128	88.0			
18	58	13C2-PFOA	414.9 > 369.7	1.62e4	2.70e4	1.01	0.681	4.12	4.10	7.50	10.9128	88.0			
19	56	13C5-PFNA	468.2 > 422.9	1.55e4	1.96e4	1.01	1.002	4.57	4.55	9.84	9.7396	78.6			
20	59	13C8-PFOS	507.0 > 79.9	2.46e3	2.61e3	1.01	0.997	4.65	4.63	11.8	11.7004	94.4			
21	59	13C8-PFOS	507.0 > 79.9	2.46e3	2.61e3	1.01	0.997	4.65	4.63	11.8	11.7004	94.4			
22	-1														
23	26	PFDA	513 > 468.8	1.12e3	1.58e4	1.01		4.93	4.93	0.890	0.6819		6.946	NO	
24	29	L-MeFOSAA	570 > 419		3.37e3	1.01		5.08							
25	83	Total N-MeFOSAA	570. > 419	0.00e0	3.37e3	1.01		5.19		0.000					
26	33	PFUdA	563.0 > 518.9	4.64e1	1.95e4	1.01		5.26	5.26	0.0297			6.256	NO	
27	37	PFDoA	612.9 > 569.0	1.60e1	1.89e4	1.01		5.55	5.55	0.0106			26.949	YES	
28	60	13C2-PFDA	515.1 > 469.9	1.58e4	2.70e4	1.01	0.819	4.95	4.93	7.30	8.8381	71.3			
29	62	d3-N-MeFOSAA	573.3 > 419	3.37e3	3.31e4	1.01	0.177	5.11	5.08	1.27	7.1231	57.5			
30	62	d3-N-MeFOSAA	573.3 > 419	3.37e3	3.31e4	1.01	0.177	5.11	5.08	1.27	7.1231	57.5			
31	63	13C2-PFUdA	565 > 519.8	1.95e4	3.31e4	1.01	0.889	5.28	5.26	7.38	8.2296	66.4			
32	65	13C2-PFDoA	614.7 > 569.7	1.89e4	2.70e4	1.01	1.087	5.57	5.55	8.72	7.9556	64.2			
33	-1														
34	31	L-EtFOSAA	584.1 > 419		4.68e3	1.01		5.24							
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	4.68e3	1.01		5.33		0.000					
36	39	PFTrDA	662.9 > 618.9		1.89e4	1.01		5.80							

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-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		1.46e4	1.01		6.03						
38	85	TDCA	498.3>106.9			1.01		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	4.68e3	3.31e4	1.01	0.224	5.27	5.24	1.77	7.8390	63.2		
40	64	d5-N-EtFOSAA	589.3 > 419	4.68e3	3.31e4	1.01	0.224	5.27	5.24	1.77	7.8390	63.2		
41	65	13C2-PFDoA	614.7 > 569.7	1.89e4	2.70e4	1.01	1.087	5.57	5.55	8.72	7.9556	64.2		
42	67	13C2-PFTeDA	715.1 > 669.7	1.46e4	3.31e4	1.01	0.604	6.04	6.03	5.52	9.0597	73.1		
43	59	13C8-PFOS	507.0 > 79.9	2.46e3	2.61e3	1.01	0.997	4.65	4.63	11.8	11.7004	94.4		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.99e4	1.99e4	1.01	1.000	2.97	2.95	12.5	12.3945	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.70e4	2.70e4	1.01	1.000	4.12	4.10	12.5	12.3945	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.48e3	1.48e3	1.01	1.000	3.75	3.73	12.5	12.3945	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.96e4	1.96e4	1.01	1.000	4.57	4.55	12.5	12.3945	100.0		
49	77	13C4-PFOS	503 > 79.9	2.61e3	2.61e3	1.01	1.000	4.65	4.63	12.5	12.3945	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.70e4	2.70e4	1.01	1.000	4.95	4.93	12.5	12.3945	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.31e4	3.31e4	1.01	1.000	5.28	5.26	12.5	12.3945	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

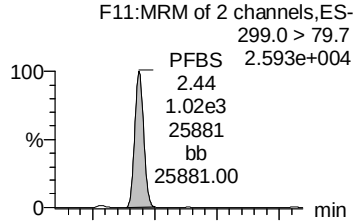
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

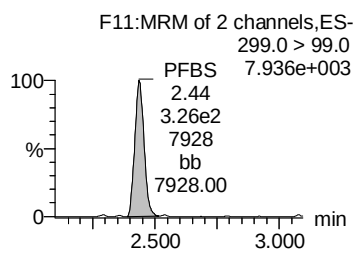
Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

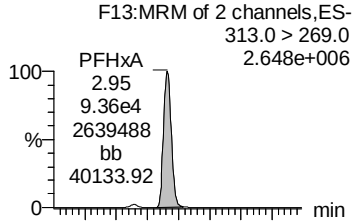
Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

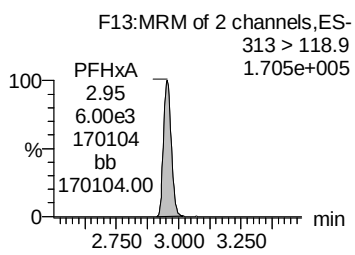
PFBS



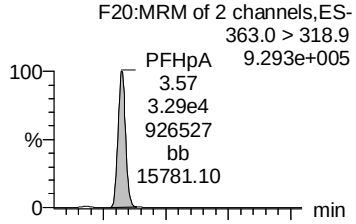


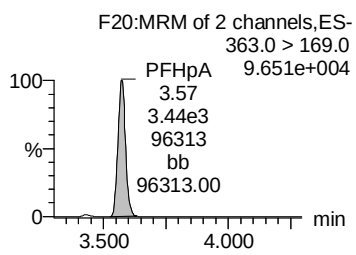
PFHxA



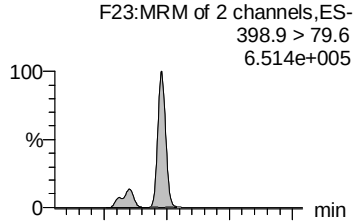


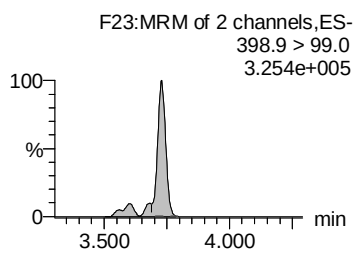
PFHpA



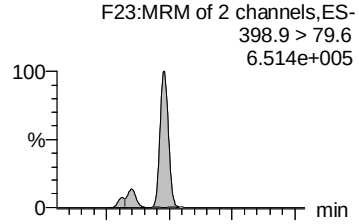


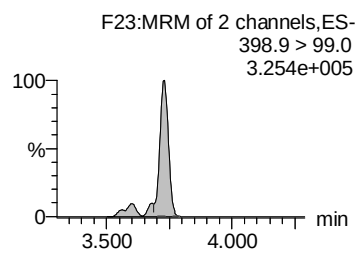
L-PFHxS





Total PFHxS





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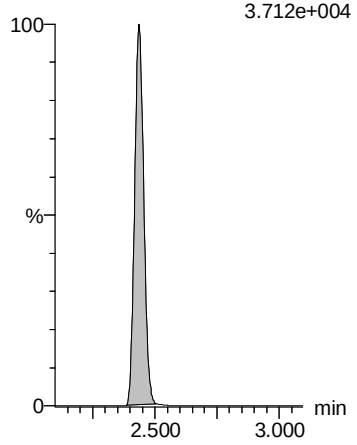
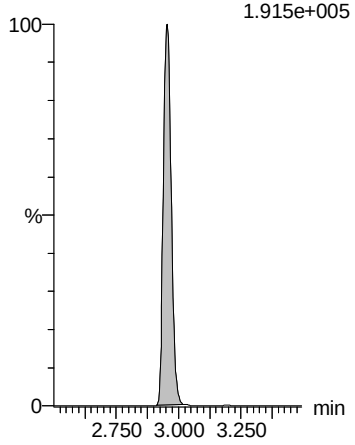
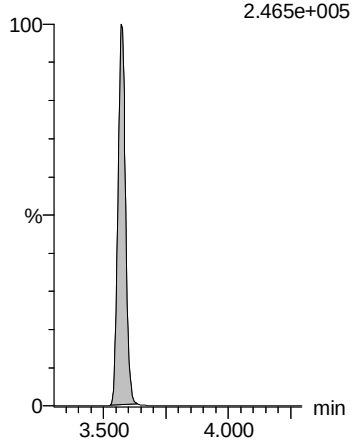


13C2-PFHxA



13C4-PFHpA



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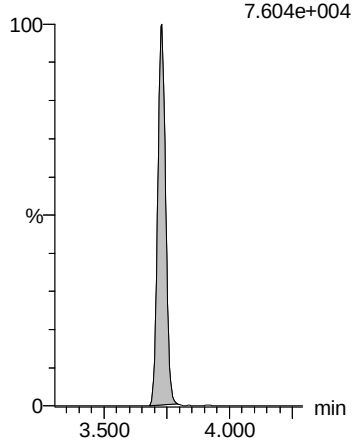

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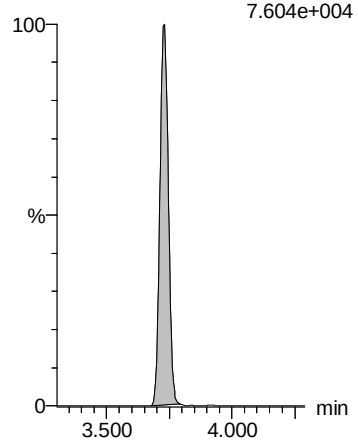


CGH 7/24/2019

Vista Analytical Laboratory L14

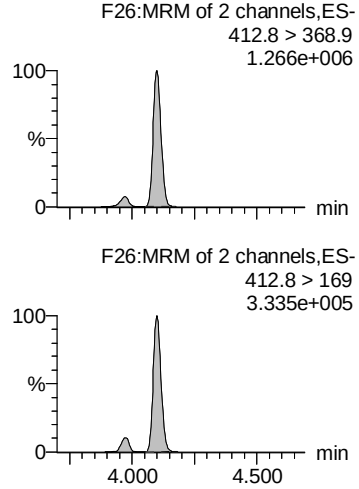
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

L-PFOA



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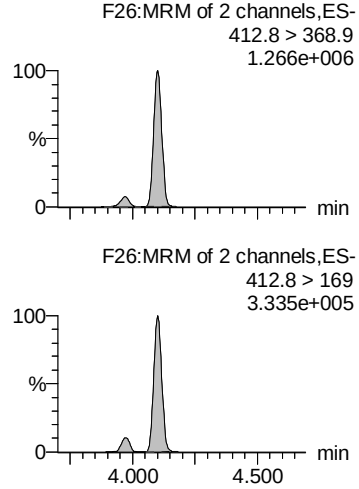

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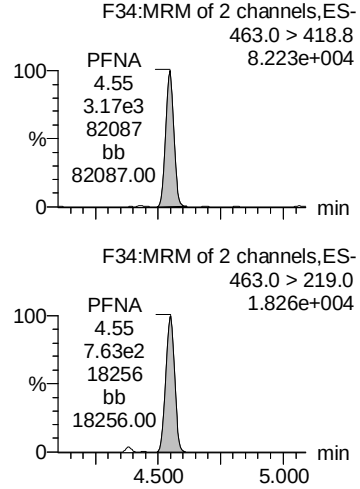
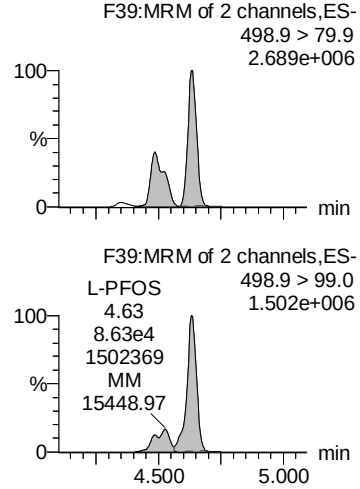
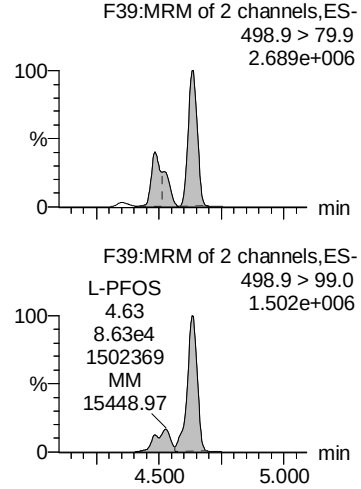


L-PFOS



Total PFOS



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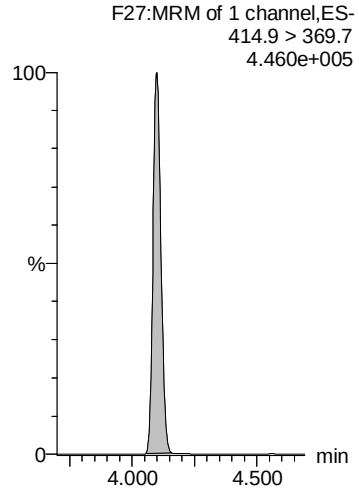

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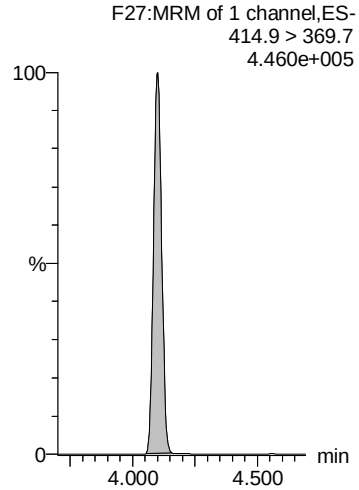
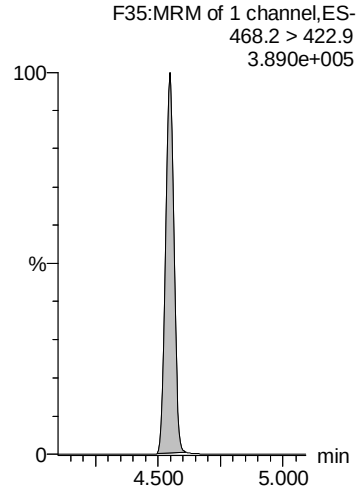
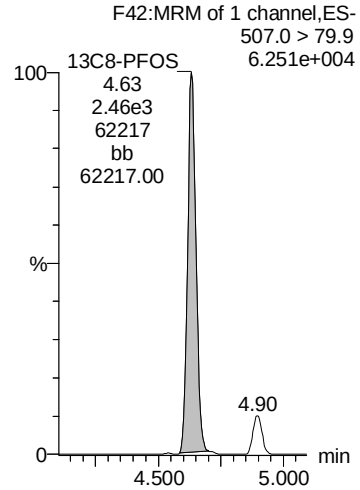


13C5-PFNA



13C8-PFOS



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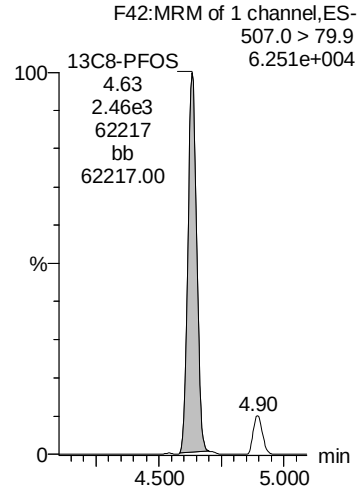

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

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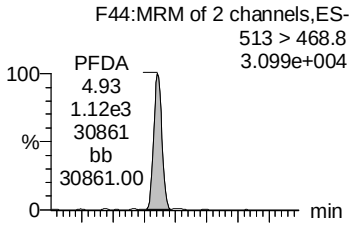
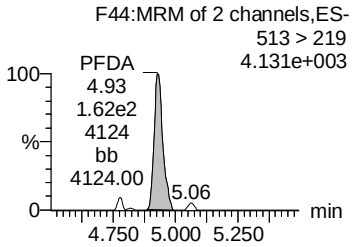
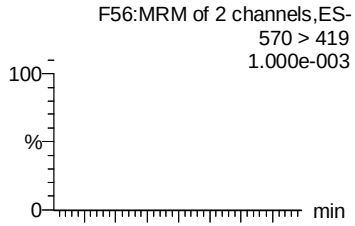
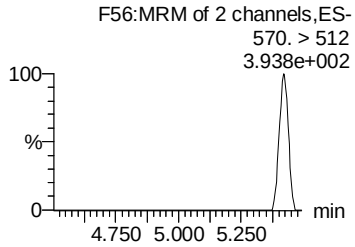


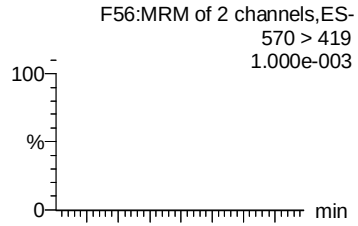


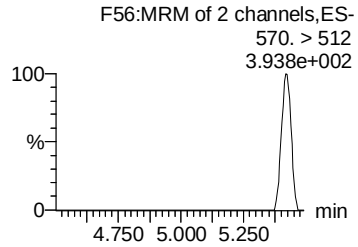
L-MeFOSAA



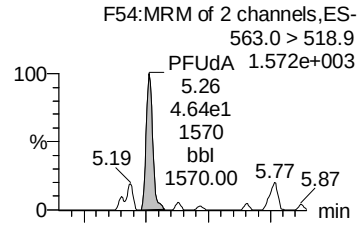


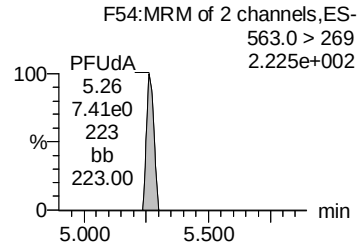
Total N-MeFOSAA



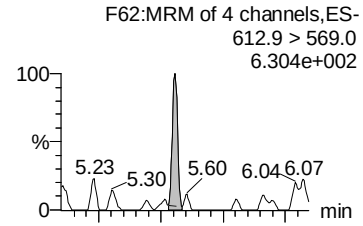


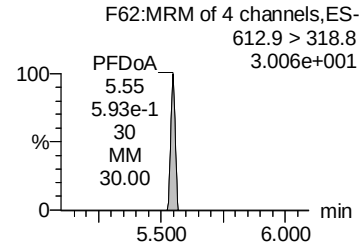
PFUdA



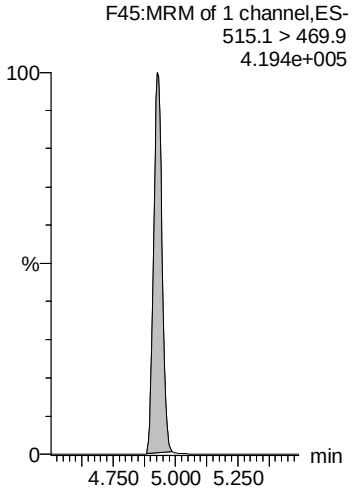


PFDoA

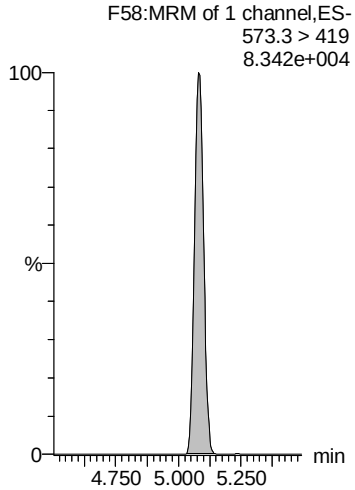




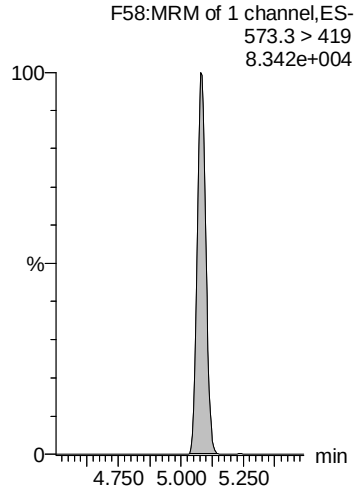
13C2-PFDA



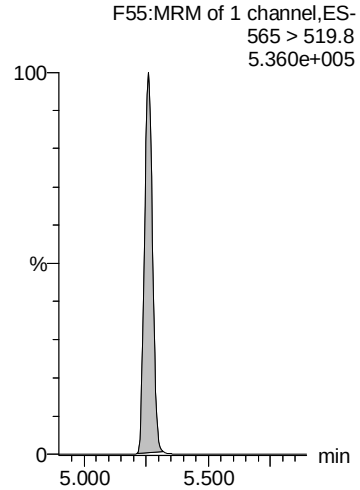
d3-N-MeFOSAA



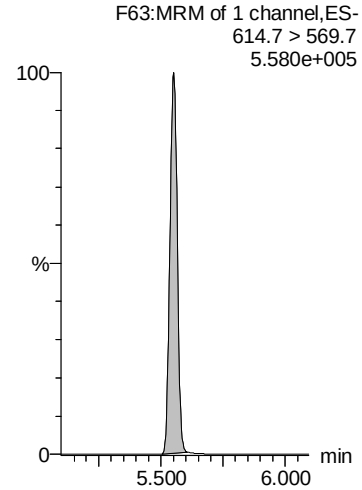
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

Vista Analytical Laboratory L14

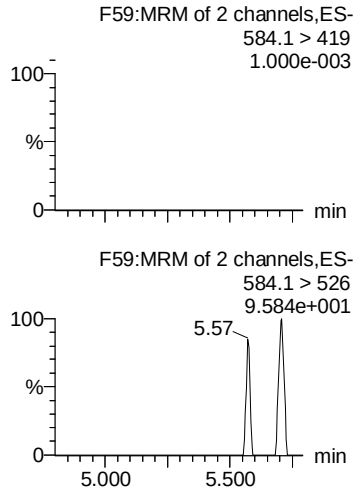
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

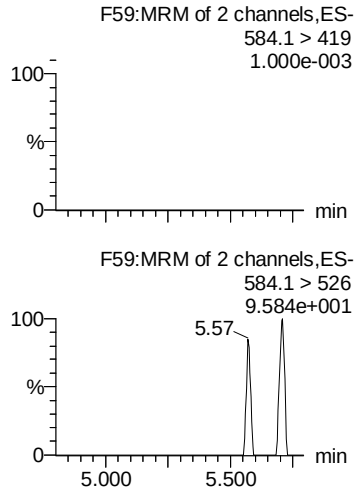
Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

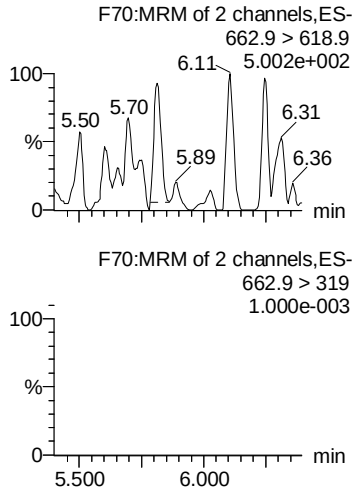
L-EtFOSAA



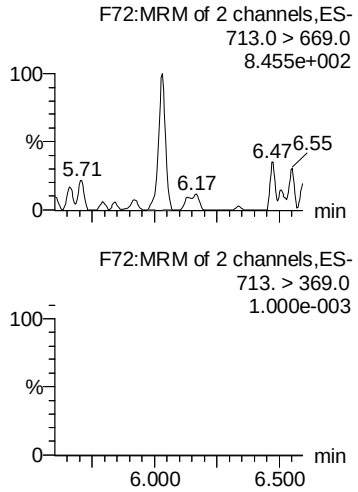
Total N-EtFOSAA



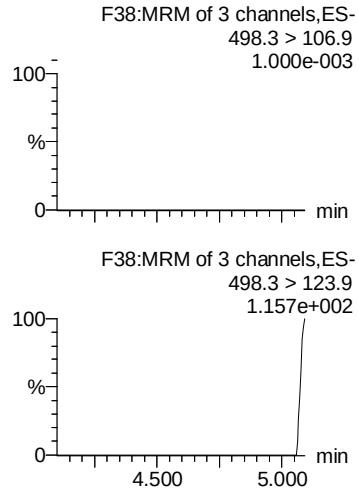
PFTrDA



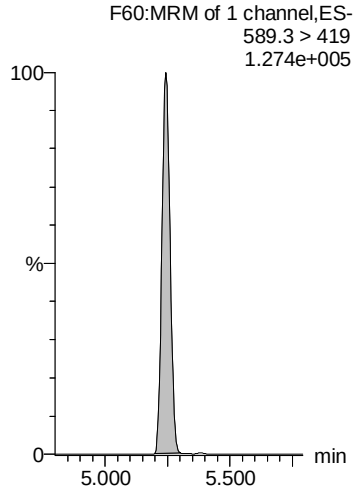
PFTeDA



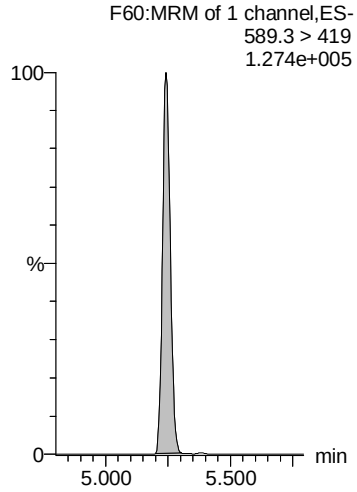
TDCA



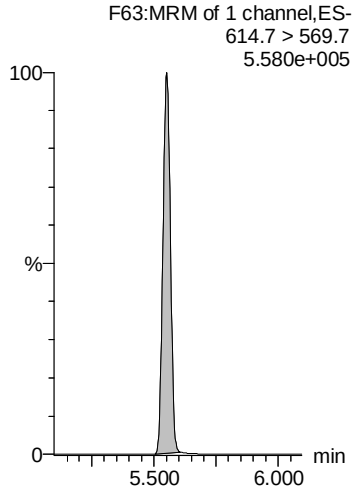
d5-N-EtFOSAA



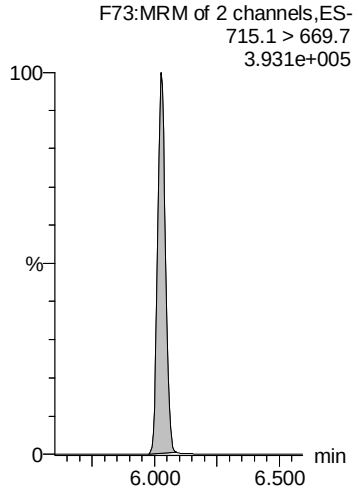
d5-N-EtFOSAA



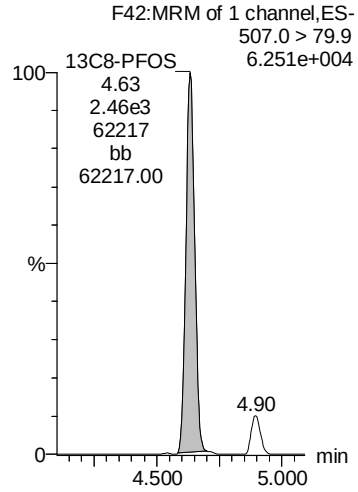
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

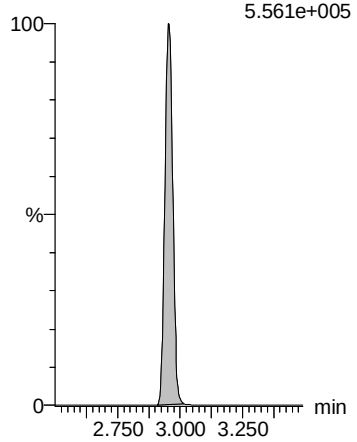
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-50.qld

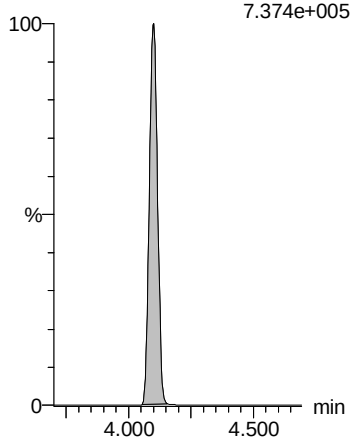
Last Altered: Wednesday, July 24, 2019 12:47:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:48:28 Pacific Daylight Time

Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

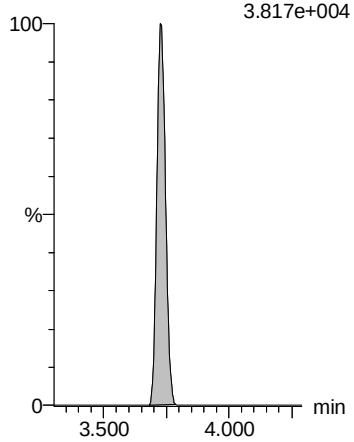
13C5-PFHxA



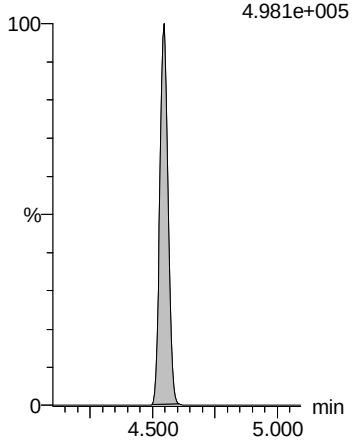
13C8-PFOA



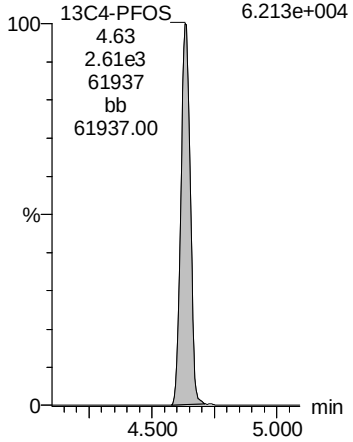
18O2-PFHxS



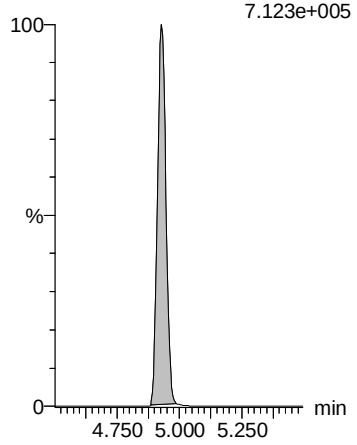
13C9-PFNA



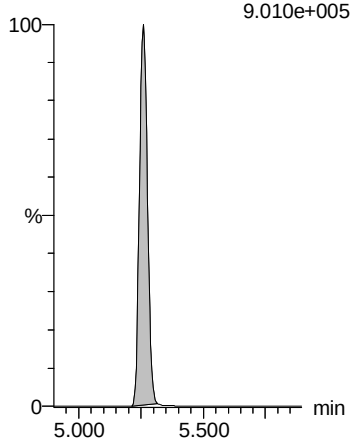
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-12.qld

Last Altered: Wednesday, July 24, 2019 13:21:52 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:22:58 Pacific Daylight Time

Name: 190724M1_12, Date: 24-Jul-2019, Time: 10:20:30, ID: 1902097-12@5X NON-B01-SO-1-1.5 1.19, Description: NON-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	23	L-PFOS	498.9 > 79.9	4.52e4	5.72e2	1.01		4.64	4.64	988	916.1771		2.114	NO
2	82	Total PFOS	498.9 > 79.9	4.52e4	5.72e2	1.01		4.74		988	916.1771			
3	85	TDCA	498.3>106.9			1.01		5.45						
4	77	13C4-PFOS	503 > 79.9	7.30e2	7.30e2	1.01	1.000	4.64	4.64	12.5	12.3945	100.0		
5	59	13C8-PFOS	507.0 > 79.9	5.72e2	7.30e2	1.01	0.997	4.64	4.64	9.80	9.7454	78.6		
6	59	13C8-PFOS	507.0 > 79.9	5.72e2	7.30e2	1.01	0.997	4.64	4.64	9.80	9.7454	78.6		
7	59	13C8-PFOS	507.0 > 79.9	5.72e2	7.30e2	1.01	0.997	4.64	4.64	9.80	9.7454	78.6		

CGH 7/24/2019

Vista Analytical Laboratory

Review: AMR 7/25/2019

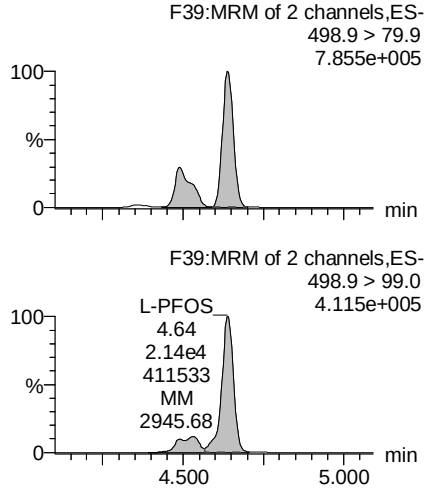
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-12.qld

Last Altered: Wednesday, July 24, 2019 13:21:52 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:22:58 Pacific Daylight Time

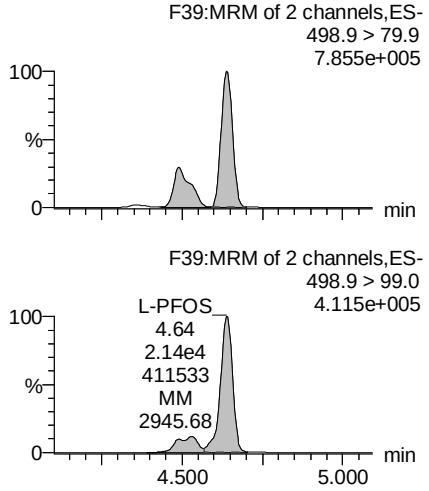
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_12, Date: 24-Jul-2019, Time: 10:20:30, ID: 1902097-12@5X NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

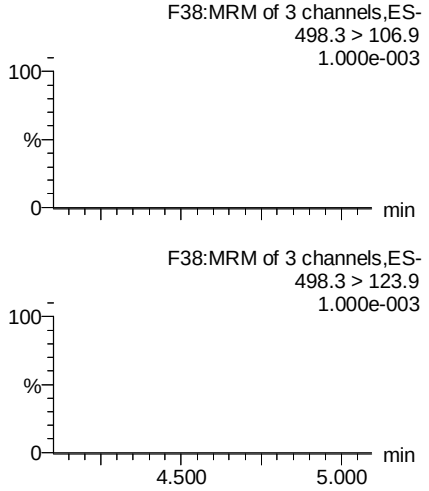
L-PFOS



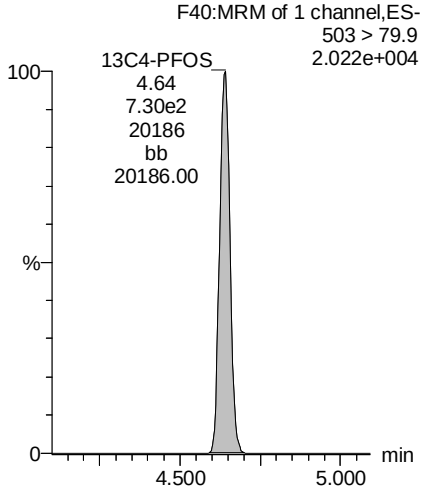
Total PFOS



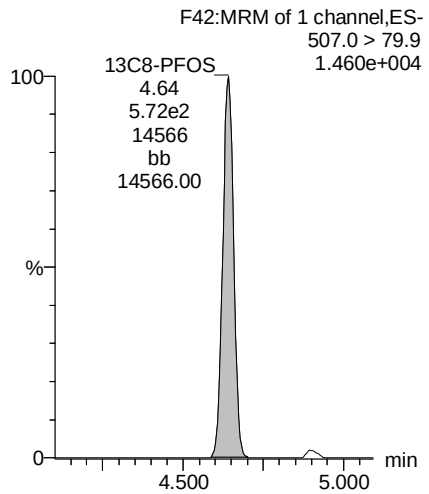
TDCA



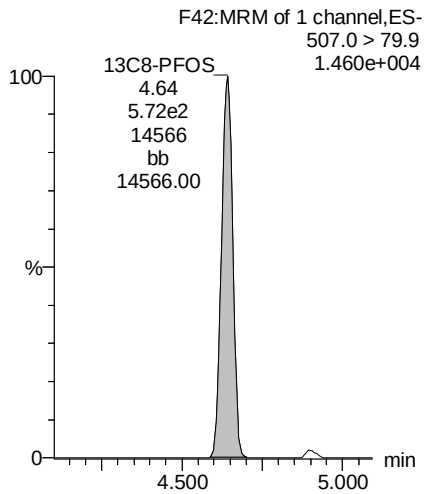
13C4-PFOS



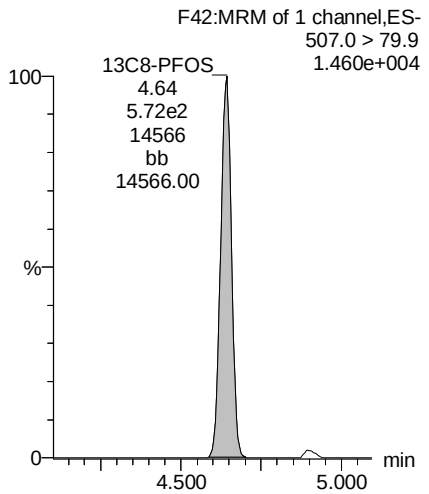
13C8-PFOS



13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

*SEE DILUTION

Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

	#	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	1.50e3	1.55e3	0.997		2.43	2.43	12.1	5.3665		3.216	NO	
2	7	PFHxA	313.0 > 269.0	5.85e4	7.54e3	0.997		2.95	2.95	38.8	44.3568		16.810	NO	
3	11	PFHpA	363.0 > 318.9	2.25e4	8.89e3	0.997		3.57	3.57	31.7	24.5427		9.500	NO	
4	13	L-PFHxS	398.9 > 79.6	3.63e4	2.87e3	0.997		3.73	3.73	158	163.8813		2.005	NO	
5	80	Total PFHxS	398.9 > 79.6	3.63e4	2.87e3	0.997		3.83		158	163.8813				
6	49	13C3-PFBS	302.0 > 98.8	1.55e3	1.42e3	0.997	1.058	2.46	2.43	13.7	12.9583	103.3			
7	52	13C2-PFHxA	315.0 > 270.0	7.54e3	2.06e4	0.997	0.978	2.97	2.95	4.58	4.6988	93.7			
8	53	13C4-PFHpA	367.2 > 321.8	8.89e3	2.06e4	0.997	0.479	3.59	3.57	5.40	11.3264	90.3			
9	54	13C3-PFHxS	401.8 > 79.9	2.87e3	1.42e3	0.997	2.024	3.75	3.73	25.3	12.5678	100.2			
10	54	13C3-PFHxS	401.8 > 79.9	2.87e3	1.42e3	0.997	2.024	3.75	3.73	25.3	12.5678	100.2			
11	-1														
12	16	L-PFOA	412.8 > 368.9	4.93e4	1.58e4	0.997		4.10	4.10	39.0	26.0240		3.537	NO	
13	81	Total PFOA	412.8 > 368.9	4.93e4	1.58e4	0.997		4.21		39.0	26.0240				
14	21	PFNA	463.0 > 418.8	2.05e3	1.56e4	0.997		4.55	4.55	1.64	1.4064		3.863	NO	
15	23	L-PFOS	498.9 > 79.9	1.74e5	2.66e3	0.997		4.64	4.64	820	769.5902		2.097	NO	E*
16	82	Total PFOS	498.9 > 79.9	1.74e5	2.66e3	0.997		4.74		820	769.5902				
17	58	13C2-PFOA	414.9 > 369.7	1.58e4	2.84e4	0.997	0.681	4.12	4.10	6.94	10.2278	81.5			
18	58	13C2-PFOA	414.9 > 369.7	1.58e4	2.84e4	0.997	0.681	4.12	4.10	6.94	10.2278	81.5			
19	56	13C5-PFNA	468.2 > 422.9	1.56e4	1.88e4	0.997	1.002	4.57	4.55	10.4	10.3946	82.9			
20	59	13C8-PFOS	507.0 > 79.9	2.66e3	2.94e3	0.997	0.997	4.65	4.64	11.3	11.3738	90.7			
21	59	13C8-PFOS	507.0 > 79.9	2.66e3	2.94e3	0.997	0.997	4.65	4.64	11.3	11.3738	90.7			
22	-1														
23	26	PFDA	513 > 468.8	3.26e2	1.47e4	0.997		4.93	4.93	0.277	0.2130		4.189	NO	
24	29	L-MeFOSAA	570 > 419		2.59e3	0.997		5.08							
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.59e3	0.997		5.19		0.000					
26	33	PFUdA	563.0 > 518.9	3.74e1	1.58e4	0.997		5.26	5.26	0.0295			42.938	YES	
27	37	PFDoA	612.9 > 569.0		1.39e4	0.997		5.55							
28	60	13C2-PFDA	515.1 > 469.9	1.47e4	2.76e4	0.997	0.819	4.95	4.93	6.65	8.1412	64.9			
29	62	d3-N-MeFOSAA	573.3 > 419	2.59e3	3.32e4	0.997	0.177	5.11	5.08	0.976	5.5209	44.0			
30	62	d3-N-MeFOSAA	573.3 > 419	2.59e3	3.32e4	0.997	0.177	5.11	5.08	0.976	5.5209	44.0			
31	63	13C2-PFUdA	565 > 519.8	1.58e4	3.32e4	0.997	0.889	5.28	5.26	5.97	6.7396	53.7			
32	65	13C2-PFDoA	614.7 > 569.7	1.39e4	2.76e4	0.997	1.087	5.57	5.55	6.27	5.7902	46.2			
33	-1														
34	31	L-EtFOSAA	584.1 > 419		3.81e3	0.997		5.25							
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.81e3	0.997		5.33		0.000					
36	39	PFTrDA	662.9 > 618.9		1.39e4	0.997		5.80							

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

	#	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		1.24e4	0.997		6.03						
38	85	TDCA	498.3>106.9			0.997		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.81e3	3.32e4	0.997	0.224	5.27	5.25	1.43	6.4300	51.3		
40	64	d5-N-EtFOSAA	589.3 > 419	3.81e3	3.32e4	0.997	0.224	5.27	5.25	1.43	6.4300	51.3		
41	65	13C2-PFDoA	614.7 > 569.7	1.39e4	2.76e4	0.997	1.087	5.57	5.55	6.27	5.7902	46.2		
42	67	13C2-PFTeDA	715.1 > 669.7	1.24e4	3.32e4	0.997	0.604	6.04	6.03	4.66	7.7419	61.7		
43	59	13C8-PFOS	507.0 > 79.9	2.66e3	2.94e3	0.997	0.997	4.65	4.64	11.3	11.3738	90.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.06e4	2.06e4	0.997	1.000	2.97	2.95	12.5	12.5420	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.84e4	2.84e4	0.997	1.000	4.12	4.10	12.5	12.5420	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.42e3	1.42e3	0.997	1.000	3.75	3.73	12.5	12.5420	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.88e4	1.88e4	0.997	1.000	4.57	4.55	12.5	12.5420	100.0		
49	77	13C4-PFOS	503 > 79.9	2.94e3	2.94e3	0.997	1.000	4.65	4.64	12.5	12.5420	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.76e4	2.76e4	0.997	1.000	4.95	4.93	12.5	12.5420	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.32e4	3.32e4	0.997	1.000	5.28	5.26	12.5	12.5420	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

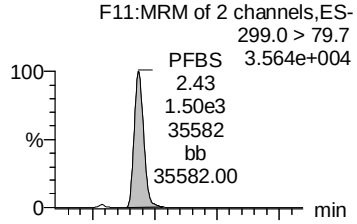
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

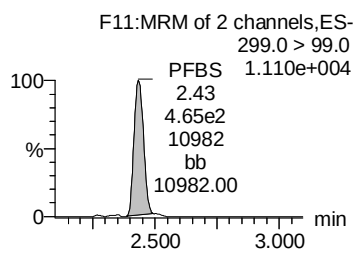
Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

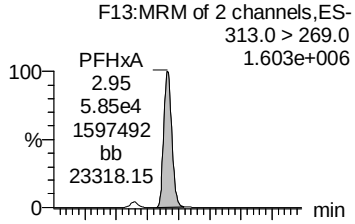
Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

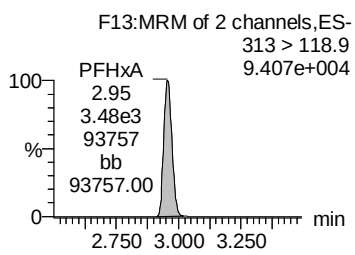
PFBS





PFHxA





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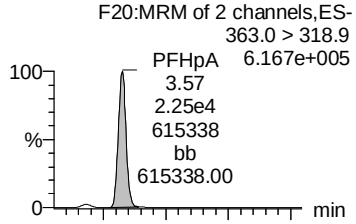

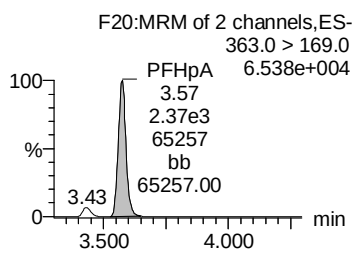

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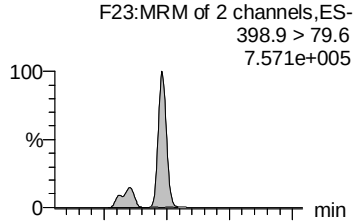

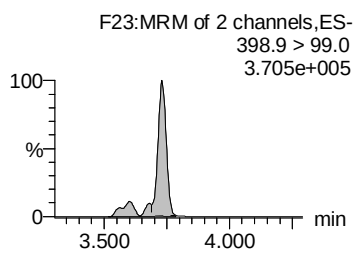

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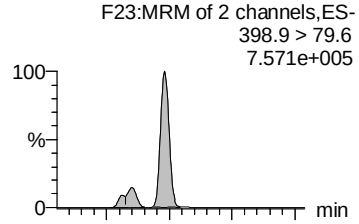

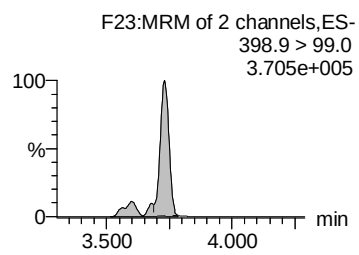

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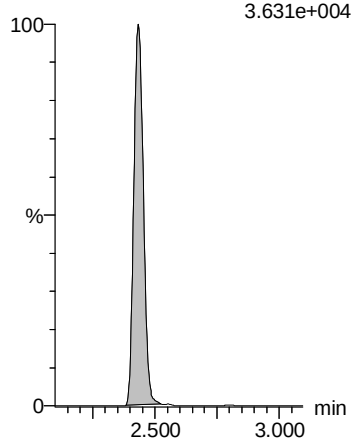

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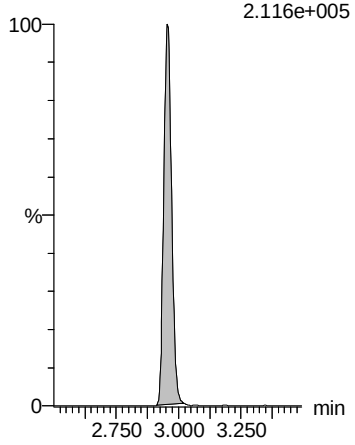

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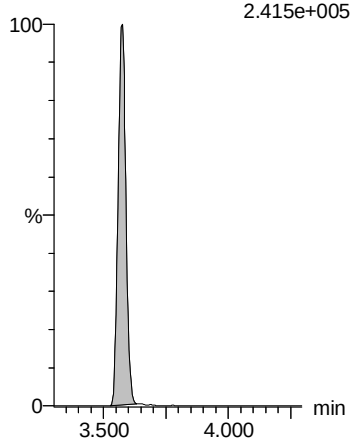

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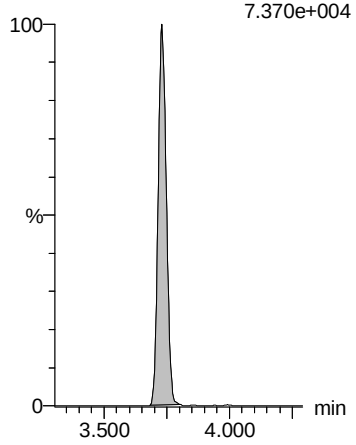

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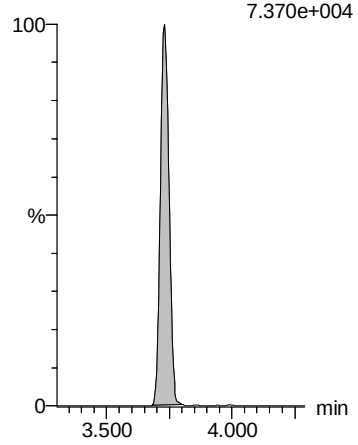


CGH 7/24/2019

Vista Analytical Laboratory L14

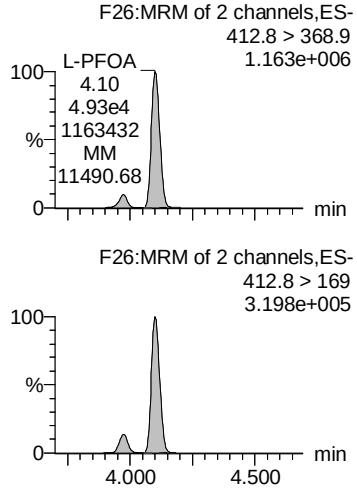
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

L-PFOA



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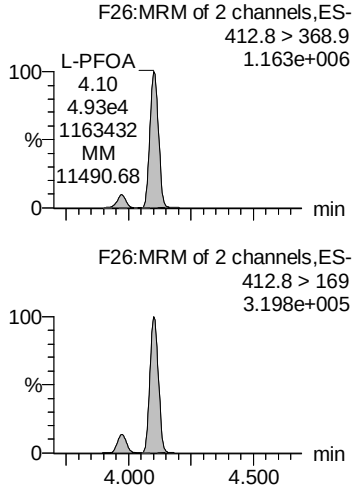

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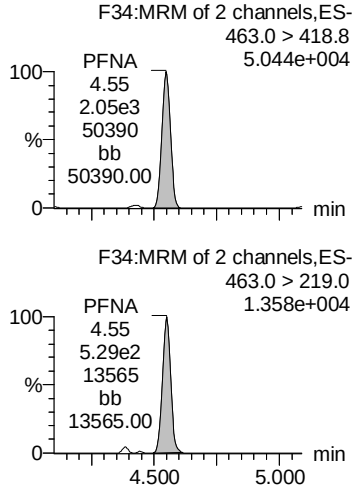
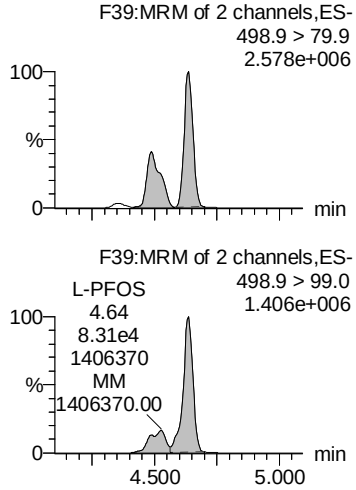


L-PFOS



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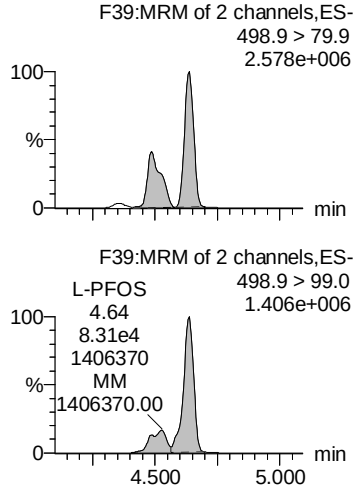

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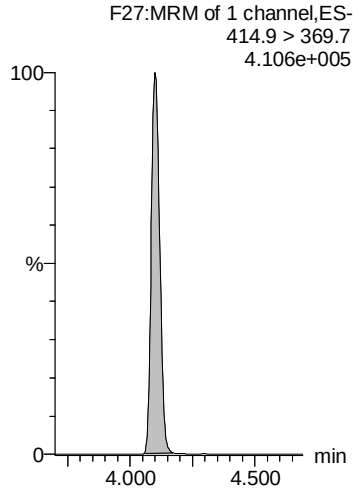

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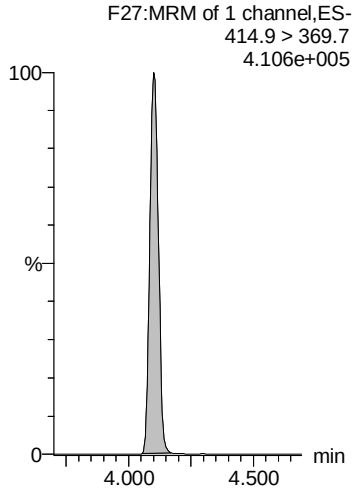

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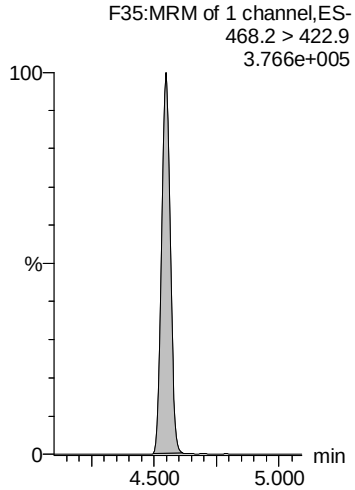
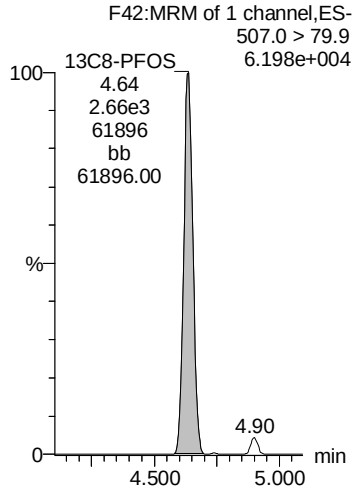


13C8-PFOS



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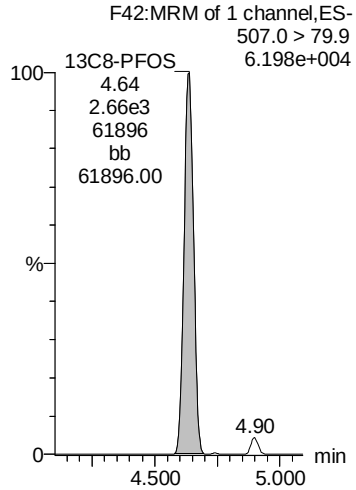


CGH 7/24/2019

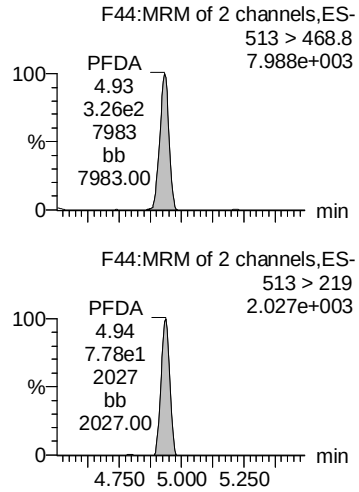
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

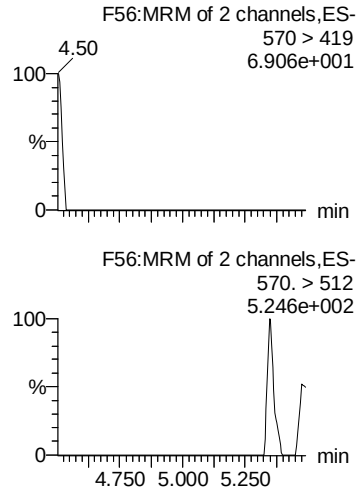
Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

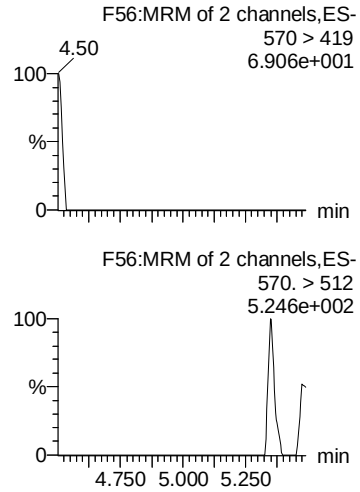
PFDA



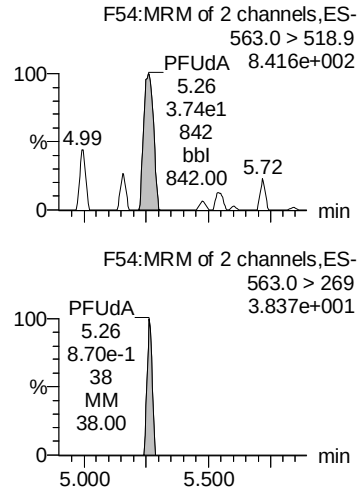
L-MeFOSAA



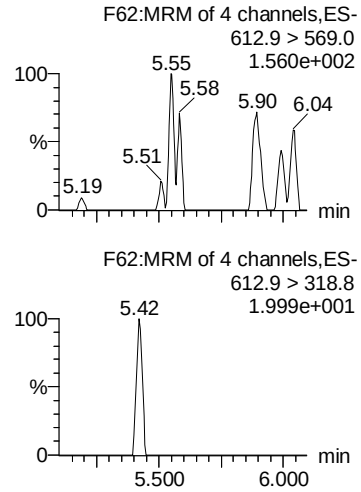
Total N-MeFOSAA



PFUdA



PFDoA



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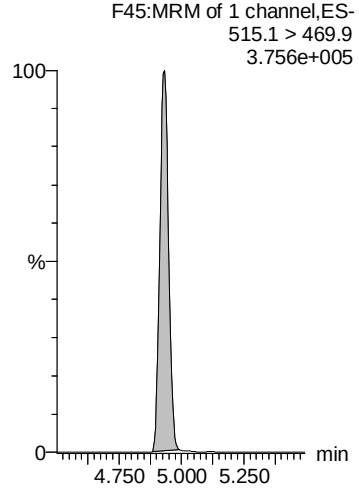
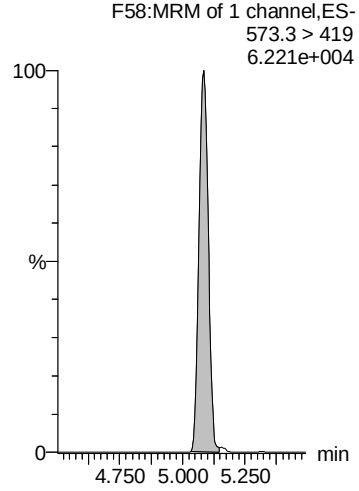


d3-N-MeFOSAA



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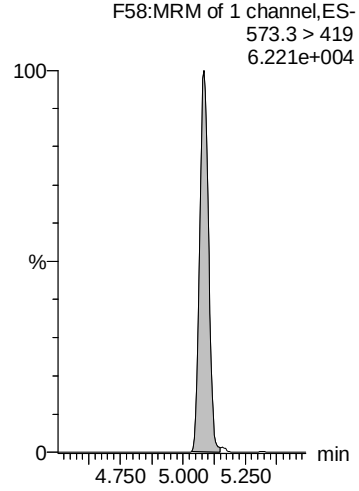

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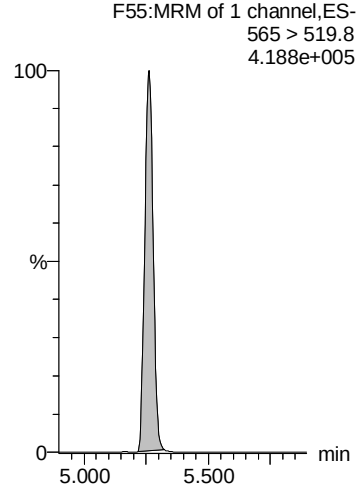

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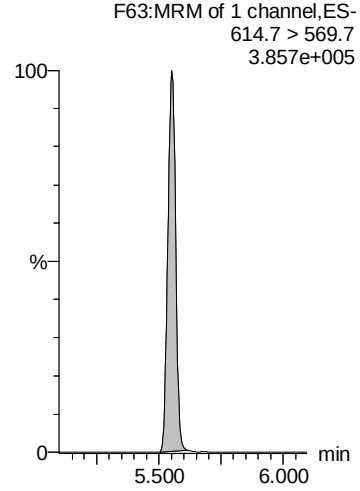

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
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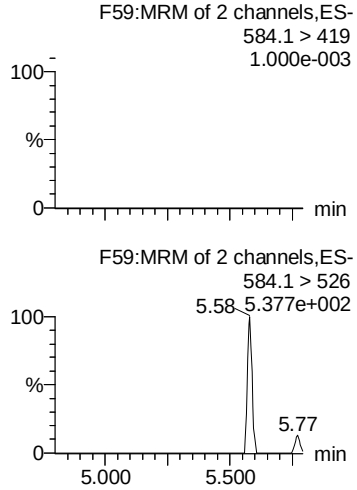
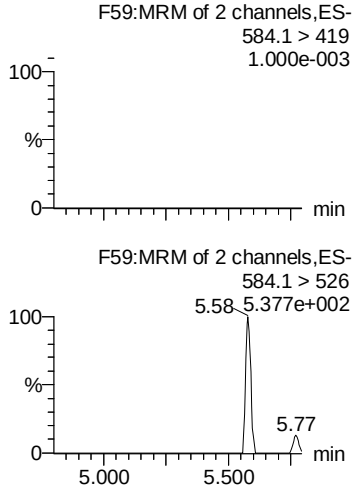
Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

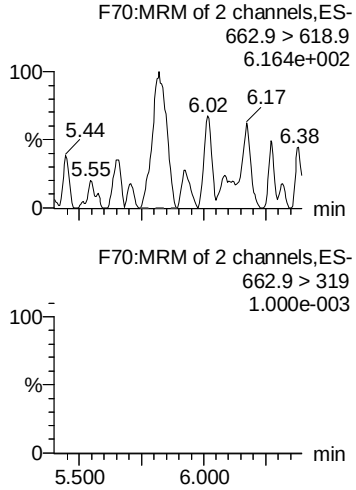
L-EtFOSAA



Total N-EtFOSAA



PFTrDA



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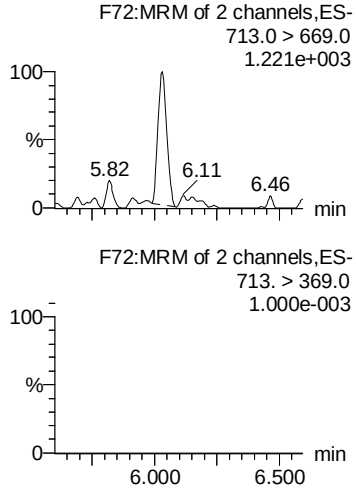

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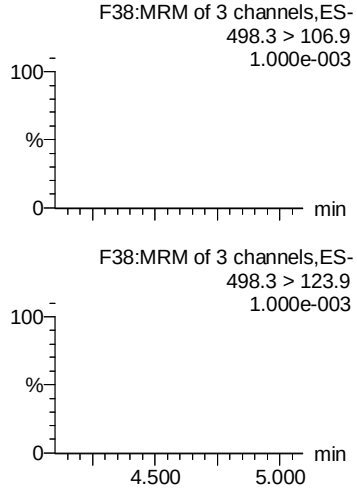
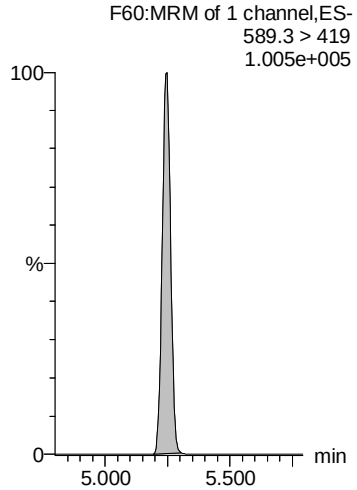
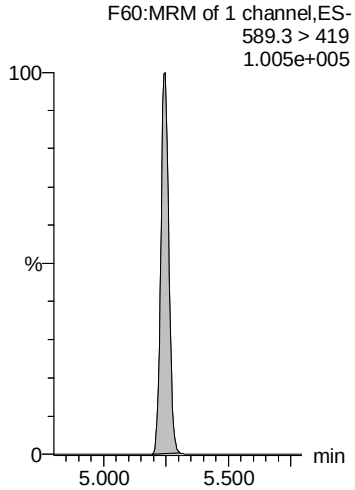


d5-N-EtFOSAA



d5-N-EtFOSAA



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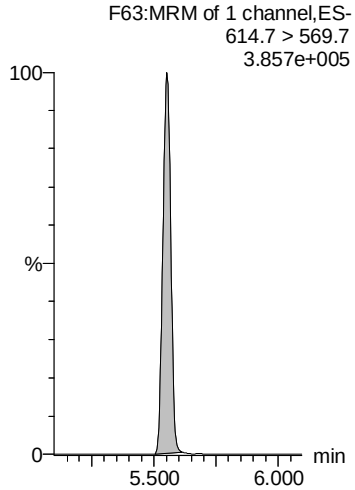
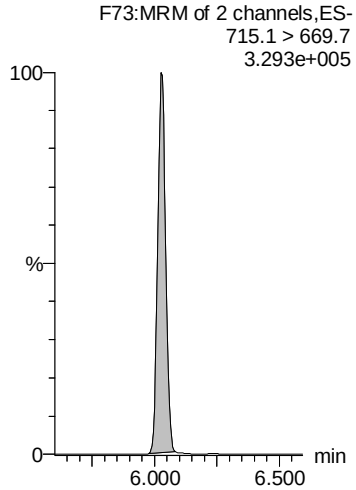
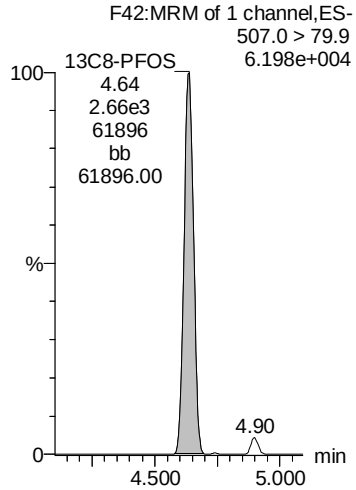


13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

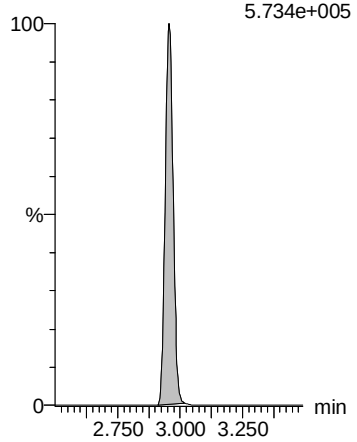
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-51.qld

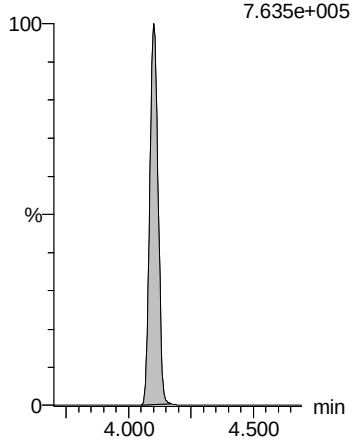
Last Altered: Wednesday, July 24, 2019 12:56:18 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 12:57:49 Pacific Daylight Time

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

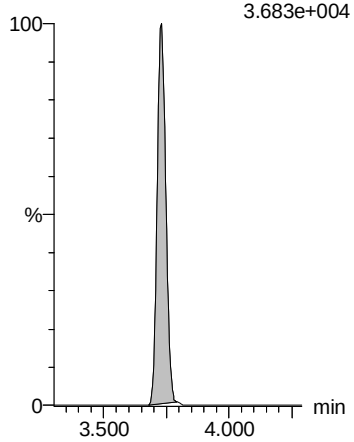
13C5-PFHxA



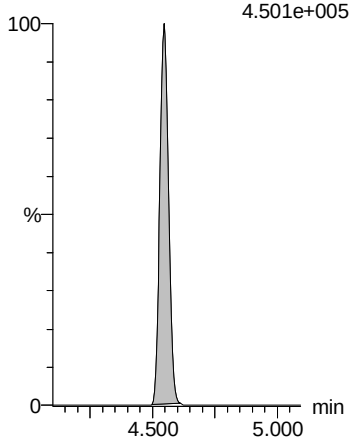
13C8-PFOA



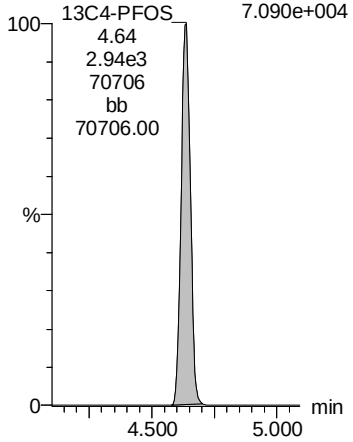
18O2-PFHxS



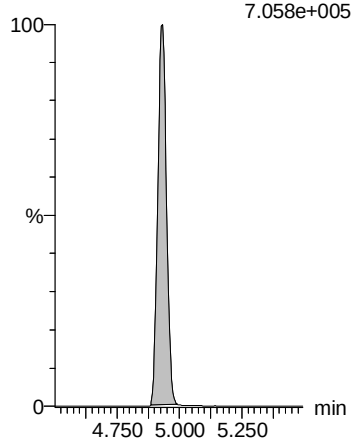
13C9-PFNA



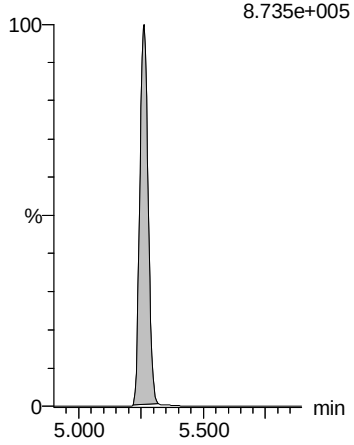
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-13.qld

Last Altered: Wednesday, July 24, 2019 13:28:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:28:46 Pacific Daylight Time

Name: 190724M1_13, Date: 24-Jul-2019, Time: 10:31:05, ID: 1902097-13@5X NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	23	L-PFOS	498.9 > 79.9	3.98e4	5.88e2	0.997		4.64	4.64	847	795.2880		2.070	NO
2	82	Total PFOS	498.9 > 79.9	3.98e4	5.88e2	0.997		4.74		847	795.2880			
3	85	TDCA	498.3>106.9			0.997		5.45						
4	77	13C4-PFOS	503 > 79.9	6.67e2	6.67e2	0.997	1.000	4.64	4.64	12.5	12.5420	100.0		
5	59	13C8-PFOS	507.0 > 79.9	5.88e2	6.67e2	0.997	0.997	4.64	4.64	11.0	11.0795	88.3		
6	59	13C8-PFOS	507.0 > 79.9	5.88e2	6.67e2	0.997	0.997	4.64	4.64	11.0	11.0795	88.3		
7	59	13C8-PFOS	507.0 > 79.9	5.88e2	6.67e2	0.997	0.997	4.64	4.64	11.0	11.0795	88.3		

CGH 7/24/2019

Vista Analytical Laboratory

Review: AMR 7/25/2019

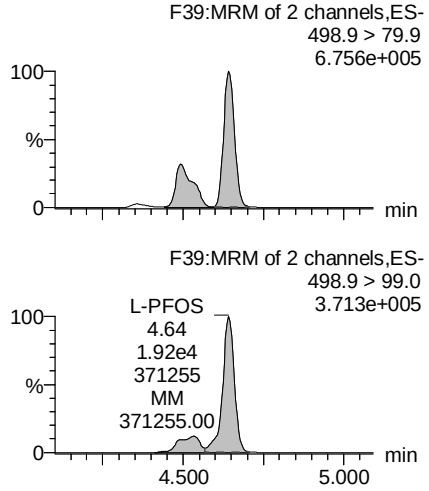
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-13.qld

Last Altered: Wednesday, July 24, 2019 13:28:22 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:28:46 Pacific Daylight Time

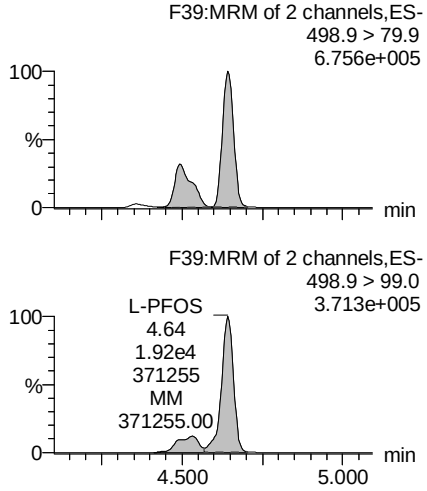
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_13, Date: 24-Jul-2019, Time: 10:31:05, ID: 1902097-13@5X NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

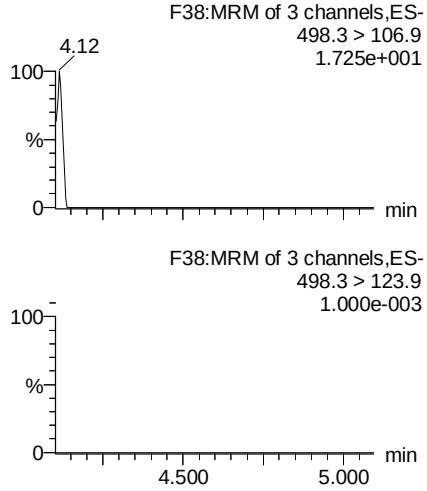
L-PFOS



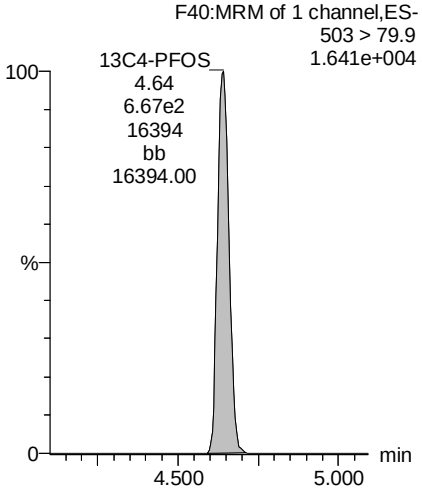
Total PFOS



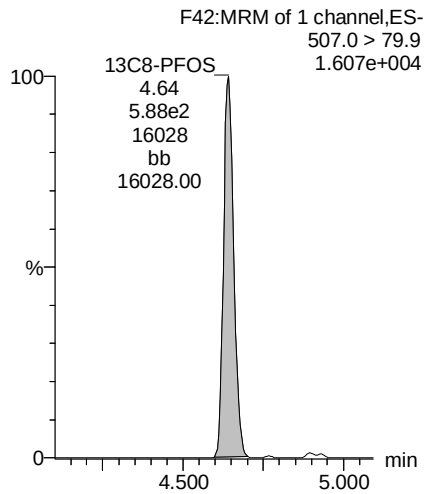
TDCA



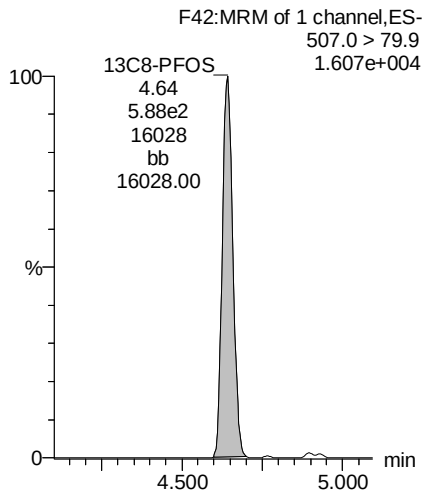
13C4-PFOS



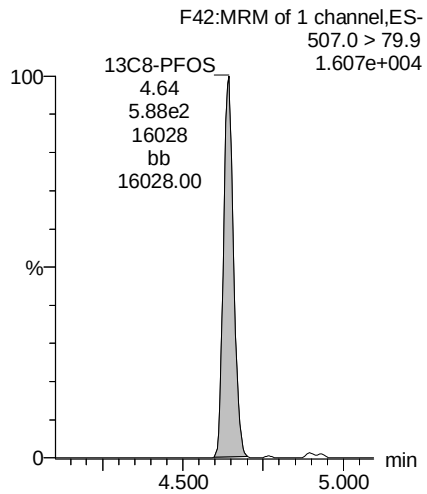
13C8-PFOS



13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

Last Altered: Wednesday, July 24, 2019 13:17:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

	#	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	2.93e1	1.59e3	1.01		2.44	2.44	0.231	0.1337		5.532	YES
2	7	PFHxA	313.0 > 269.0	9.31e1	8.10e3	1.01		2.95	2.95	0.0575			127.881	YES
3	11	PFHpA	363.0 > 318.9		9.61e3	1.01		3.57						
4	13	L-PFHxS	398.9 > 79.6	2.99e1	2.95e3	1.01		3.73	3.74	0.127	0.1398		2.010	NO
5	80	Total PFHxS	398.9 > 79.6	2.99e1	2.95e3	1.01		3.83		0.127	0.1398			
6	49	13C3-PFBS	302.0 > 98.8	1.59e3	1.61e3	1.01	1.058	2.44	2.44	12.3	11.5870	93.3		
7	52	13C2-PFHxA	315.0 > 270.0	8.10e3	2.25e4	1.01	0.978	2.95	2.95	4.51	4.5813	92.2		
8	53	13C4-PFHpA	367.2 > 321.8	9.61e3	2.25e4	1.01	0.479	3.57	3.57	5.35	11.1003	89.4		
9	54	13C3-PFHxS	401.8 > 79.9	2.95e3	1.61e3	1.01	2.024	3.73	3.73	22.9	11.2536	90.6		
10	54	13C3-PFHxS	401.8 > 79.9	2.95e3	1.61e3	1.01	2.024	3.73	3.73	22.9	11.2536	90.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9	1.26e2	1.70e4	1.01		4.11	4.10	0.0923	0.0361		4.997	NO
13	81	Total PFOA	412.8 > 368.9	1.26e2	1.70e4	1.01		4.21		0.0923	0.0361			
14	21	PFNA	463.0 > 418.8		1.77e4	1.01		4.55						
15	23	L-PFOS	498.9 > 79.9	3.01e2	3.50e3	1.01		4.64	4.64	1.08	1.0181		3.290	YES
16	82	Total PFOS	498.9 > 79.9	3.01e2	3.50e3	1.01		4.74		1.08	1.0181			
17	58	13C2-PFOA	414.9 > 369.7	1.70e4	2.84e4	1.01	0.681	4.11	4.11	7.48	10.9128	87.8		
18	58	13C2-PFOA	414.9 > 369.7	1.70e4	2.84e4	1.01	0.681	4.11	4.11	7.48	10.9128	87.8		
19	56	13C5-PFNA	468.2 > 422.9	1.77e4	2.02e4	1.01	1.002	4.55	4.55	11.0	10.8731	87.5		
20	59	13C8-PFOS	507.0 > 79.9	3.50e3	3.79e3	1.01	0.997	4.64	4.64	11.5	11.4862	92.5		
21	59	13C8-PFOS	507.0 > 79.9	3.50e3	3.79e3	1.01	0.997	4.64	4.64	11.5	11.4862	92.5		
22	-1													
23	26	PFDA	513 > 468.8		1.70e4	1.01		4.93						
24	29	L-MeFOSAA	570 > 419		3.46e3	1.01		5.08						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	3.46e3	1.01		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		2.03e4	1.01		5.26						
27	37	PFDoA	612.9 > 569.0		1.87e4	1.01		5.55						
28	60	13C2-PFDA	515.1 > 469.9	1.70e4	2.82e4	1.01	0.819	4.93	4.93	7.56	9.1757	73.9		
29	62	d3-N-MeFOSAA	573.3 > 419	3.46e3	3.41e4	1.01	0.177	5.08	5.08	1.27	7.1030	57.2		
30	62	d3-N-MeFOSAA	573.3 > 419	3.46e3	3.41e4	1.01	0.177	5.08	5.08	1.27	7.1030	57.2		
31	63	13C2-PFUdA	565 > 519.8	2.03e4	3.41e4	1.01	0.889	5.26	5.26	7.44	8.3209	67.0		
32	65	13C2-PFDoA	614.7 > 569.7	1.87e4	2.82e4	1.01	1.087	5.55	5.55	8.28	7.5659	60.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		4.55e3	1.01		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	4.55e3	1.01		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.87e4	1.01		5.80						

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

Last Altered: Wednesday, July 24, 2019 13:17:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

	#	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		1.39e4	1.01		6.03						
38	85	TDCA	498.3>106.9			1.01		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	4.55e3	3.41e4	1.01	0.224	5.25	5.25	1.67	7.3988	59.6		
40	64	d5-N-EtFOSAA	589.3 > 419	4.55e3	3.41e4	1.01	0.224	5.25	5.25	1.67	7.3988	59.6		
41	65	13C2-PFDoA	614.7 > 569.7	1.87e4	2.82e4	1.01	1.087	5.55	5.55	8.28	7.5659	60.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.39e4	3.41e4	1.01	0.604	6.03	6.03	5.09	8.3713	67.4		
43	59	13C8-PFOS	507.0 > 79.9	3.50e3	3.79e3	1.01	0.997	4.64	4.64	11.5	11.4862	92.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.25e4	2.25e4	1.01	1.000	2.95	2.95	12.5	12.4222	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.84e4	2.84e4	1.01	1.000	4.11	4.10	12.5	12.4222	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.61e3	1.61e3	1.01	1.000	3.73	3.73	12.5	12.4222	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.02e4	2.02e4	1.01	1.000	4.55	4.55	12.5	12.4222	100.0		
49	77	13C4-PFOS	503 > 79.9	3.79e3	3.79e3	1.01	1.000	4.64	4.64	12.5	12.4222	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.82e4	2.82e4	1.01	1.000	4.93	4.93	12.5	12.4222	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.41e4	3.41e4	1.01	1.000	5.26	5.26	12.5	12.4222	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

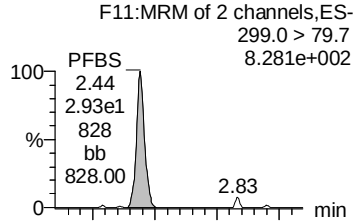
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

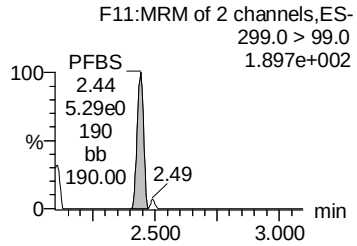
Last Altered: Wednesday, July 24, 2019 13:17:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

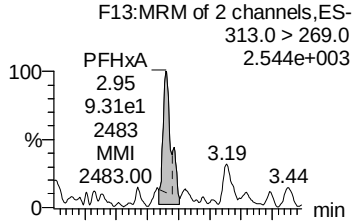
Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

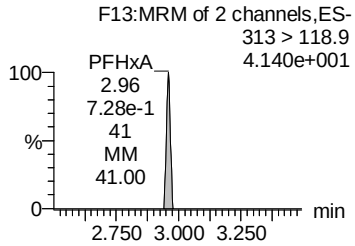
PFBS



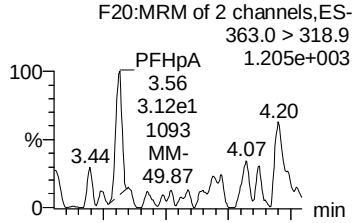


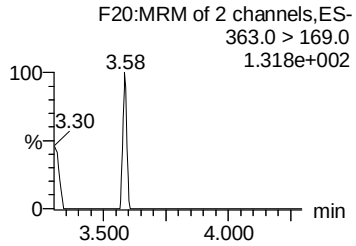
PFHxA



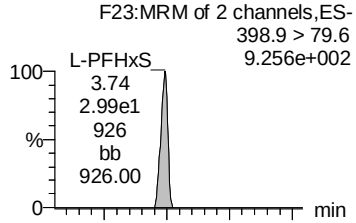


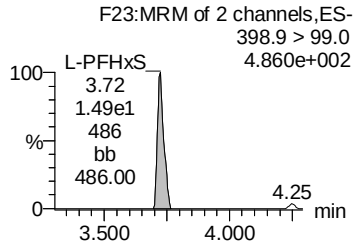
PFHpA



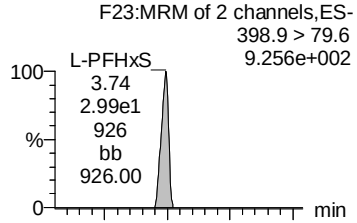


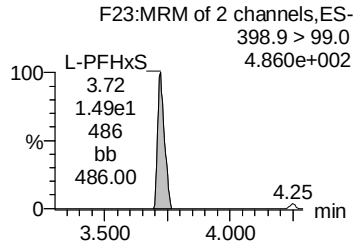
L-PFHxS



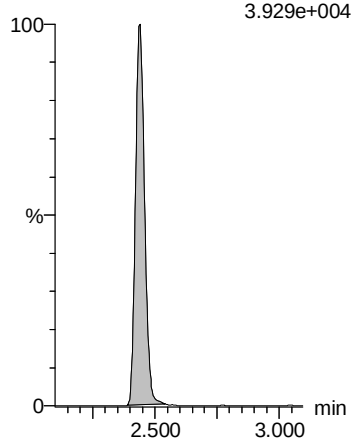


Total PFHxS





13C3-PFBS



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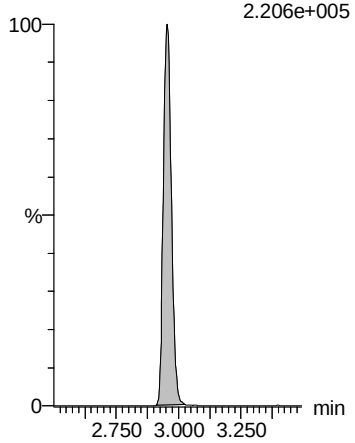

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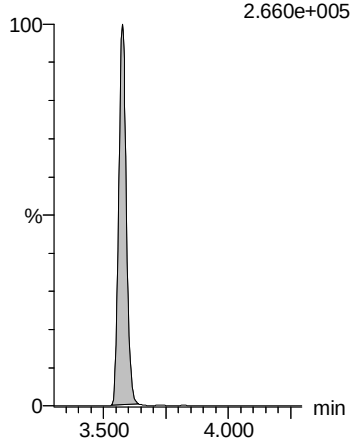

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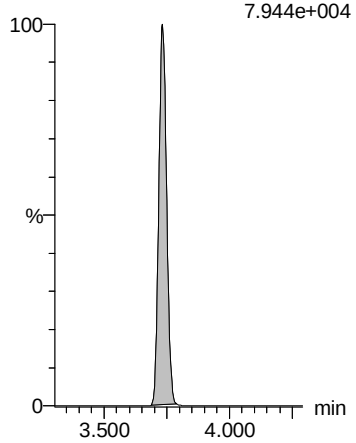

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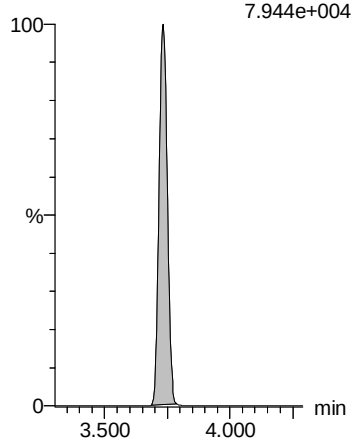

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

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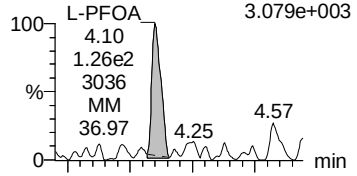
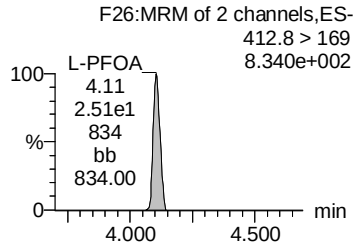
Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

L-PFOA





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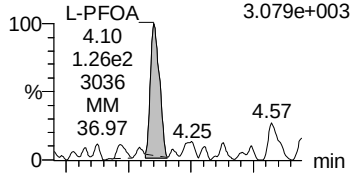

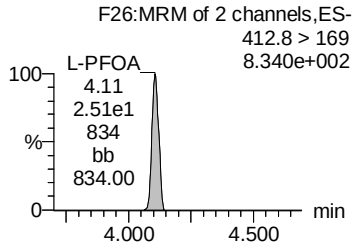

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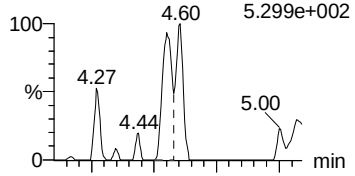
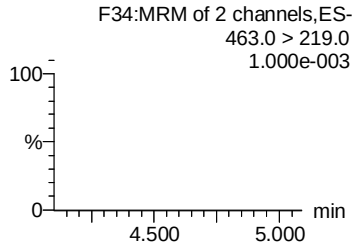
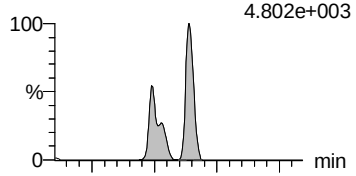
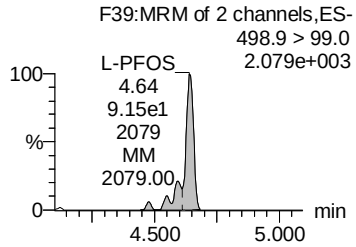




L-PFOS





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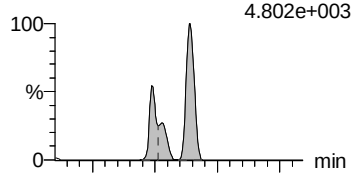

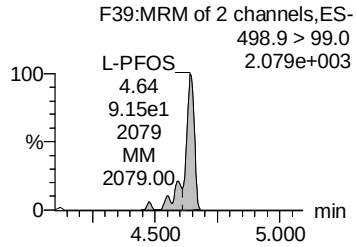

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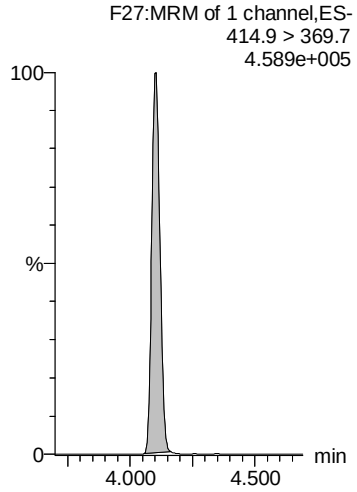

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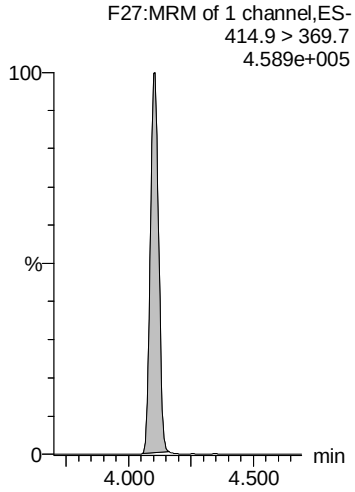

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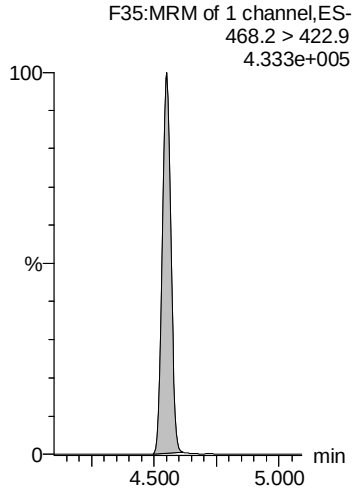
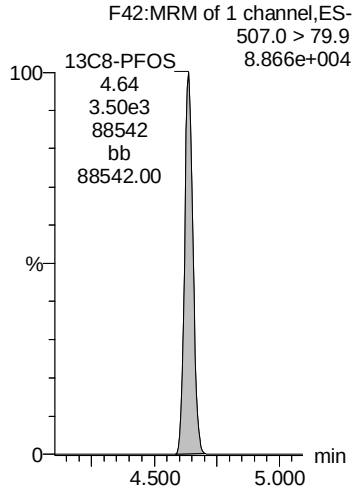


13C8-PFOS



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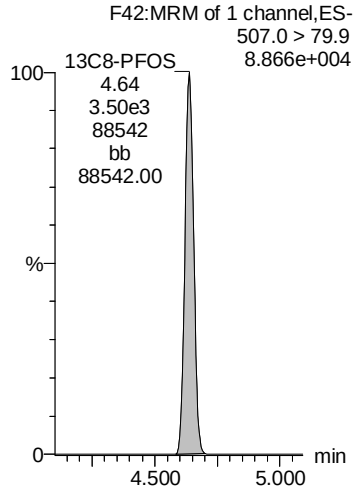

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

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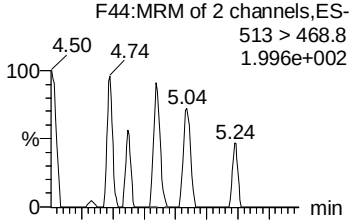
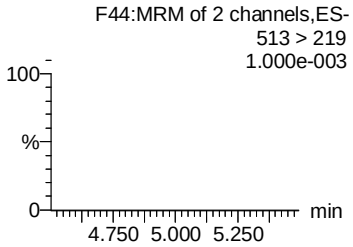
Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

PFDA





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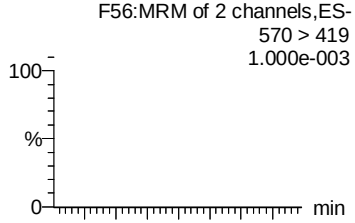

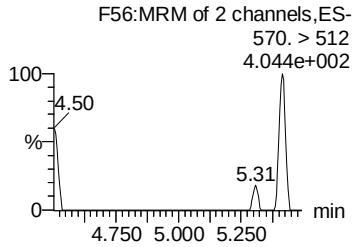

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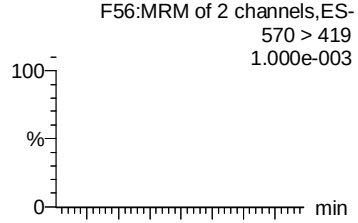

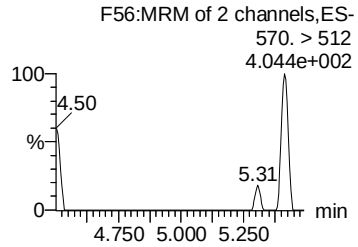

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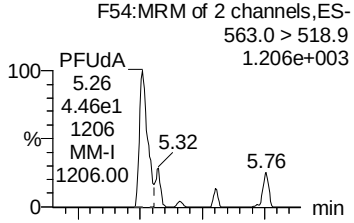

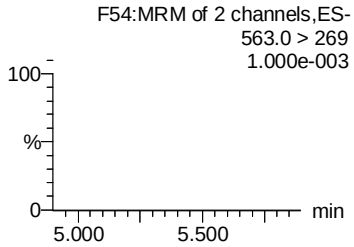

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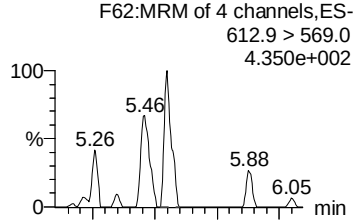

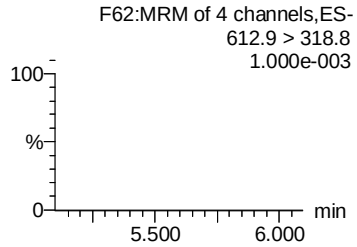

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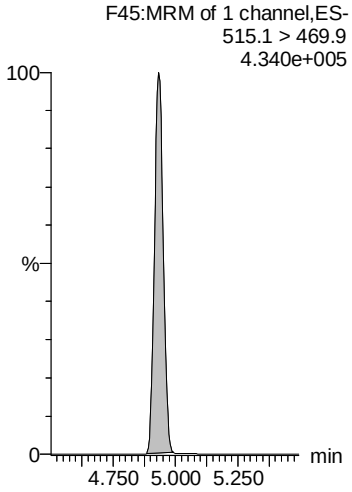

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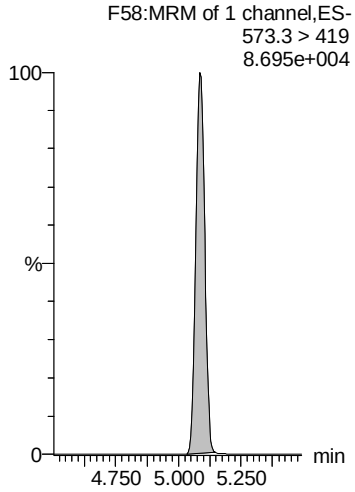

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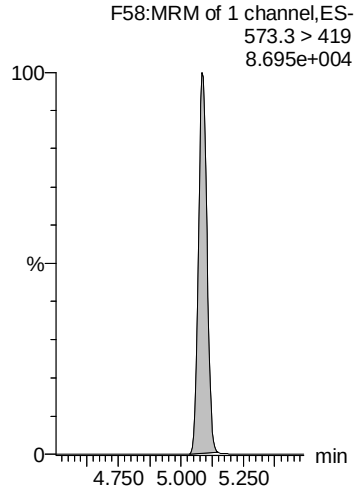

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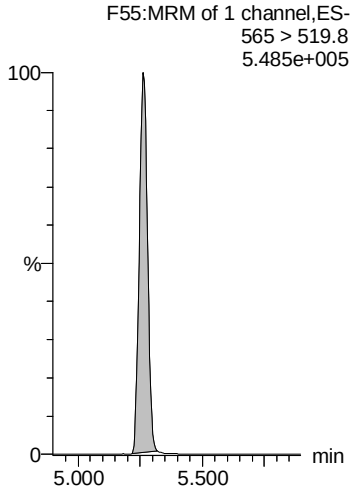

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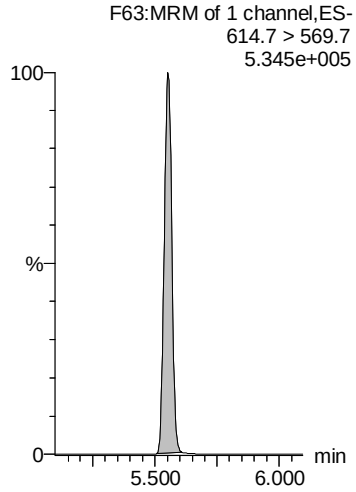

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

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Name: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

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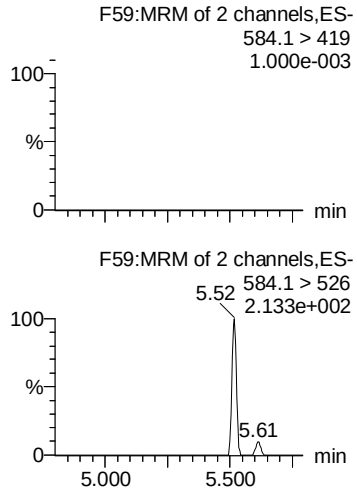

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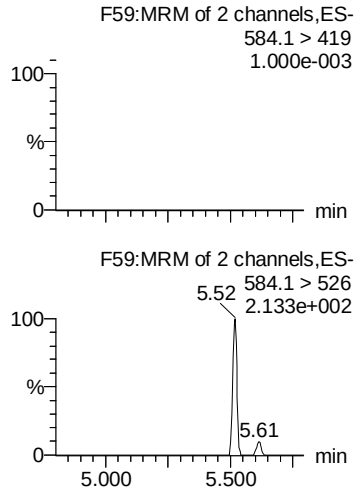

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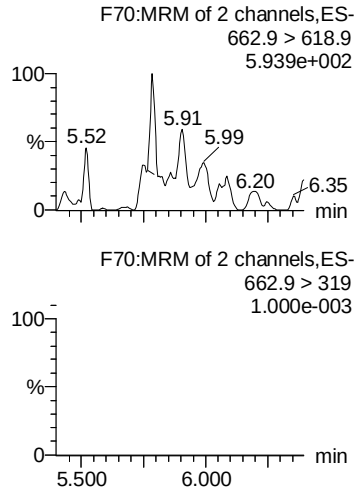

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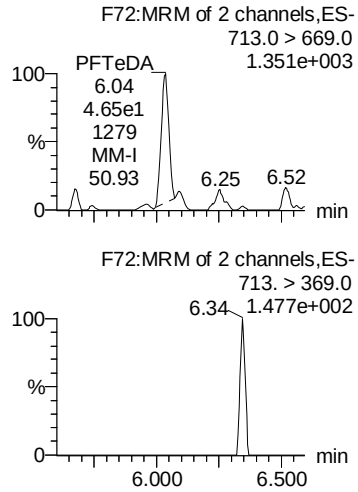

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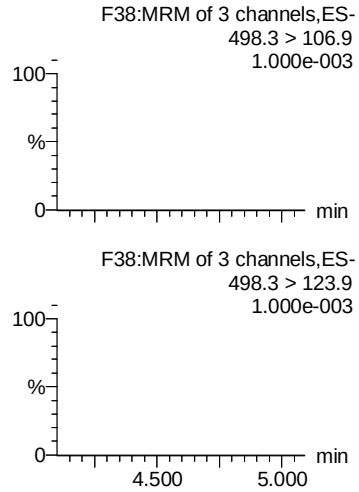

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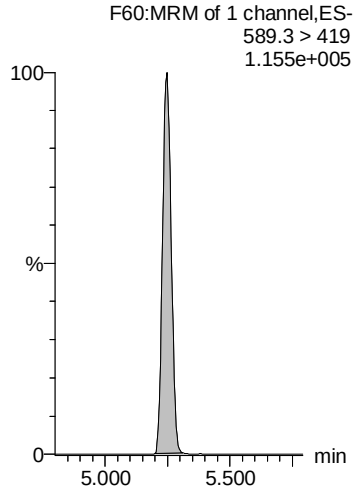

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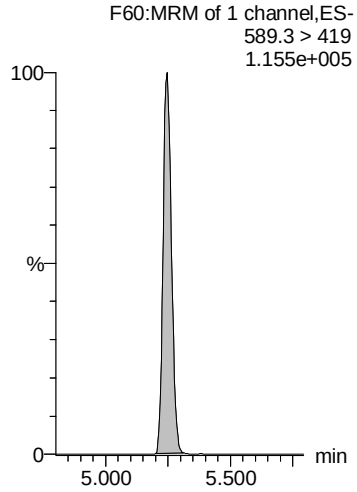

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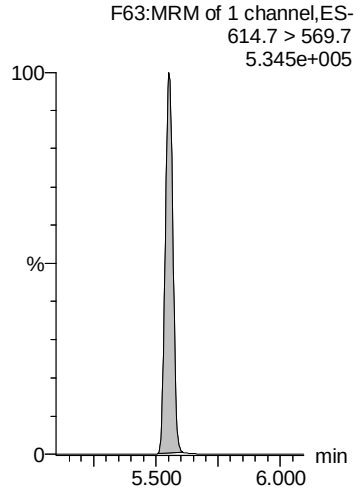

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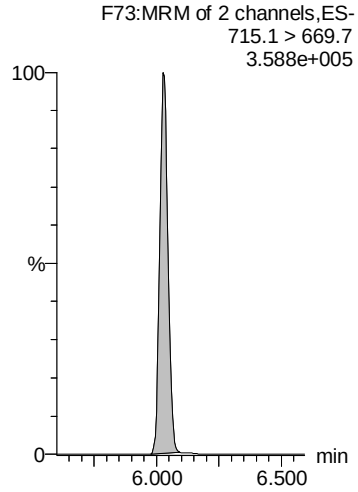

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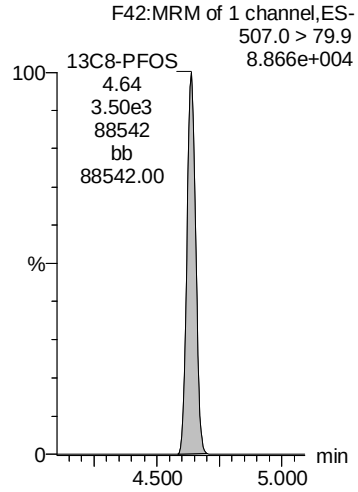

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-11.qld

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Printed: Wednesday, July 24, 2019 13:19:05 Pacific Daylight Time

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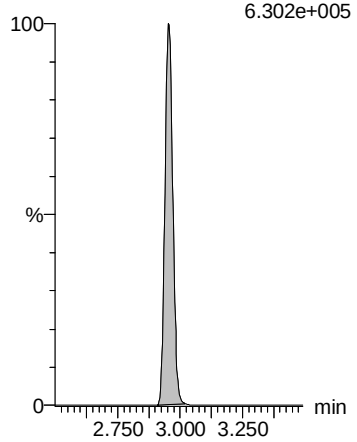

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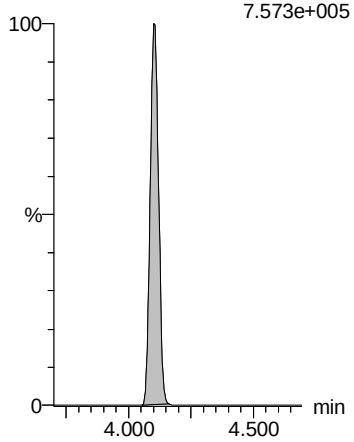

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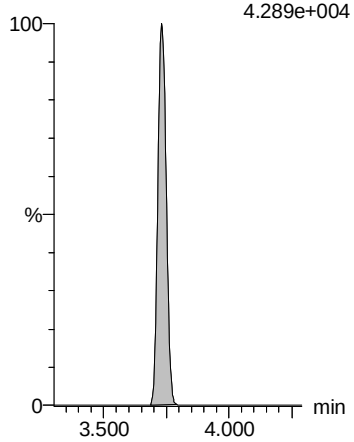

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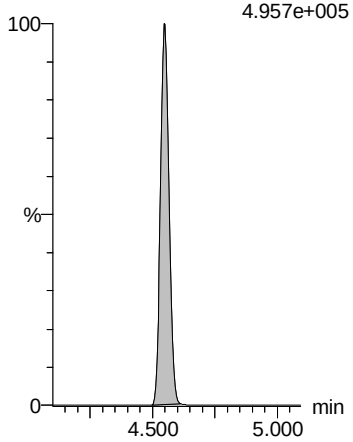

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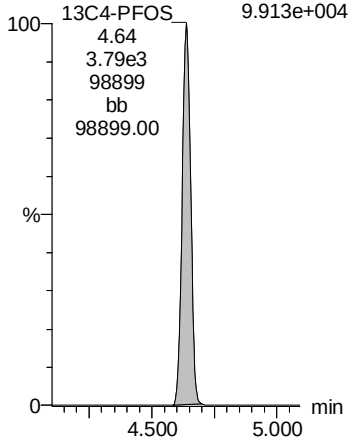
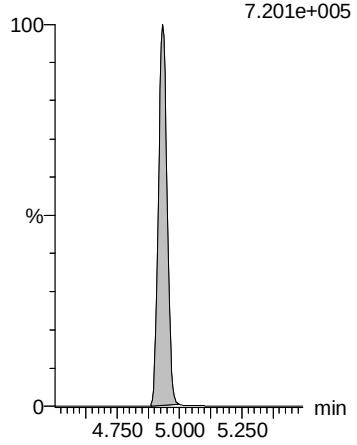
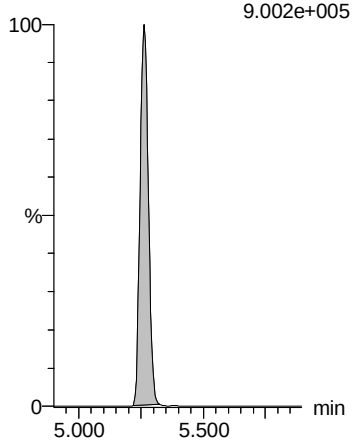


13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:06:38 Pacific Daylight Time

Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-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	4.12e2	1.42e3	0.998		2.44	2.44	3.62	1.6265		3.365	NO
2	7	PFHxA	313.0 > 269.0	1.05e4	6.54e3	0.998		2.95	2.95	8.06	9.1473		16.394	NO
3	11	PFHpA	363.0 > 318.9	1.26e3	7.85e3	0.998		3.57	3.57	2.01	1.5572		12.116	NO
4	13	L-PFHxS	398.9 > 79.6	1.72e3	2.65e3	0.998		3.73	3.73	8.13	8.9363		2.114	NO
5	80	Total PFHxS	398.9 > 79.6	1.72e3	2.65e3	0.998		3.83		8.13	8.9363			
6	49	13C3-PFBS	302.0 > 98.8	1.42e3	1.48e3	0.998	1.058	2.46	2.44	12.0	11.4113	91.1		
7	52	13C2-PFHxA	315.0 > 270.0	6.54e3	1.98e4	0.998	0.978	2.97	2.95	4.13	4.2377	84.5		
8	53	13C4-PFHpA	367.2 > 321.8	7.85e3	1.98e4	0.998	0.479	3.59	3.57	4.96	10.3828	82.9		
9	54	13C3-PFHxS	401.8 > 79.9	2.65e3	1.48e3	0.998	2.024	3.75	3.73	22.4	11.0908	88.5		
10	54	13C3-PFHxS	401.8 > 79.9	2.65e3	1.48e3	0.998	2.024	3.75	3.73	22.4	11.0908	88.5		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.32e3	1.42e4	0.998		4.10	4.10	2.05	1.3434		3.664	NO
13	81	Total PFOA	412.8 > 368.9	2.32e3	1.42e4	0.998		4.21		2.05	1.3434			
14	21	PFNA	463.0 > 418.8	5.49e2	1.26e4	0.998		4.55	4.55	0.544	0.4493		3.040	NO
15	23	L-PFOS	498.9 > 79.9	8.82e4	2.32e3	0.998		4.63	4.63	475	445.6388		1.972	NO
16	82	Total PFOS	498.9 > 79.9	8.82e4	2.32e3	0.998		4.74		475	445.6388			
17	58	13C2-PFOA	414.9 > 369.7	1.42e4	2.60e4	0.998	0.681	4.12	4.10	6.81	10.0187	80.0		
18	58	13C2-PFOA	414.9 > 369.7	1.42e4	2.60e4	0.998	0.681	4.12	4.10	6.81	10.0187	80.0		
19	56	13C5-PFNA	468.2 > 422.9	1.26e4	1.85e4	0.998	1.002	4.57	4.55	8.52	8.5260	68.0		
20	59	13C8-PFOS	507.0 > 79.9	2.32e3	2.78e3	0.998	0.997	4.65	4.63	10.4	10.4910	83.7		
21	59	13C8-PFOS	507.0 > 79.9	2.32e3	2.78e3	0.998	0.997	4.65	4.63	10.4	10.4910	83.7		
22	-1													
23	26	PFDA	513 > 468.8	5.83e3	1.35e4	0.998		4.93	4.93	5.42	4.2143		5.635	NO
24	29	L-MeFOSAA	570 > 419	1.79e1	3.06e3	0.998		5.08	5.08	0.0731	0.1041		1.914	NO
25	83	Total N-MeFOSAA	570. > 419	1.79e1	3.06e3	0.998		5.19		0.0731	0.1041			
26	33	PFUdA	563.0 > 518.9	4.52e2	1.88e4	0.998		5.26	5.26	0.301	0.2718		13.013	NO
27	37	PFDoA	612.9 > 569.0	5.27e2	1.93e4	0.998		5.55	5.55	0.341	0.2633		9.780	NO
28	60	13C2-PFDA	515.1 > 469.9	1.35e4	2.49e4	0.998	0.819	4.95	4.93	6.75	8.2562	65.9		
29	62	d3-N-MeFOSAA	573.3 > 419	3.06e3	3.05e4	0.998	0.177	5.11	5.08	1.25	7.0844	56.5		
30	62	d3-N-MeFOSAA	573.3 > 419	3.06e3	3.05e4	0.998	0.177	5.11	5.08	1.25	7.0844	56.5		
31	63	13C2-PFUdA	565 > 519.8	1.88e4	3.05e4	0.998	0.889	5.28	5.26	7.70	8.6848	69.3		
32	65	13C2-PFDoA	614.7 > 569.7	1.93e4	2.49e4	0.998	1.087	5.57	5.55	9.68	8.9267	71.2		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	5.49e1	4.36e3	0.998		5.24	5.24	0.157	0.1634		1.185	NO
35	84	Total N-EtFOSAA	584.1 > 419	5.49e1	4.36e3	0.998		5.33		0.157	0.1634			
36	39	PFTrDA	662.9 > 618.9	1.43e2	1.93e4	0.998		5.80	5.80	0.0927	0.0341		103.006	YES

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
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Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-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	2.05e2	1.44e4	0.998		6.03	6.03	0.178	0.0267		37.700	YES
38	85	TDCA	498.3>106.9			0.998		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	4.36e3	3.05e4	0.998	0.224	5.27	5.24	1.79	8.0066	63.9		
40	64	d5-N-EtFOSAA	589.3 > 419	4.36e3	3.05e4	0.998	0.224	5.27	5.24	1.79	8.0066	63.9		
41	65	13C2-PFDoA	614.7 > 569.7	1.93e4	2.49e4	0.998	1.087	5.57	5.55	9.68	8.9267	71.2		
42	67	13C2-PFTeDA	715.1 > 669.7	1.44e4	3.05e4	0.998	0.604	6.04	6.03	5.90	9.7820	78.1		
43	59	13C8-PFOS	507.0 > 79.9	2.32e3	2.78e3	0.998	0.997	4.65	4.63	10.4	10.4910	83.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	1.98e4	1.98e4	0.998	1.000	2.97	2.95	12.5	12.5309	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.60e4	2.60e4	0.998	1.000	4.12	4.10	12.5	12.5309	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.48e3	1.48e3	0.998	1.000	3.75	3.73	12.5	12.5309	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.85e4	1.85e4	0.998	1.000	4.57	4.55	12.5	12.5309	100.0		
49	77	13C4-PFOS	503 > 79.9	2.78e3	2.78e3	0.998	1.000	4.65	4.63	12.5	12.5309	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.49e4	2.49e4	0.998	1.000	4.95	4.93	12.5	12.5309	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.05e4	3.05e4	0.998	1.000	5.28	5.26	12.5	12.5309	100.0		

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:06:38 Pacific Daylight Time

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Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

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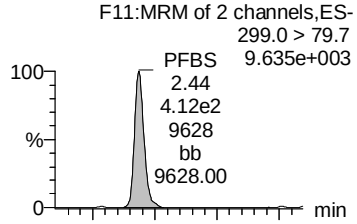

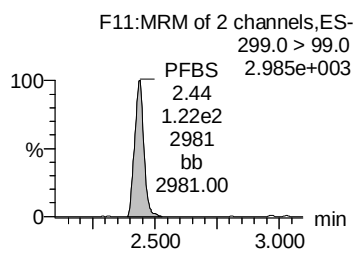

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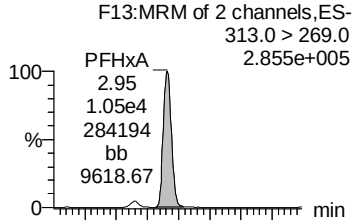

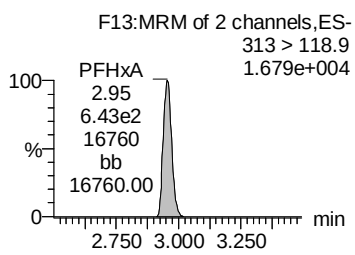

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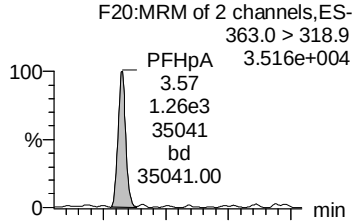

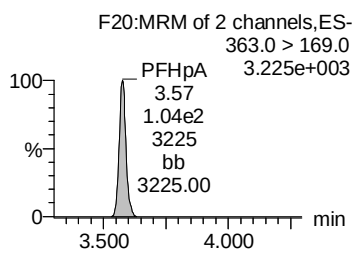

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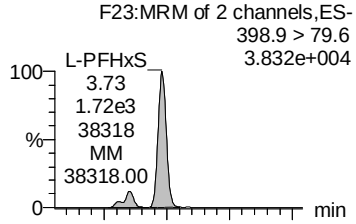

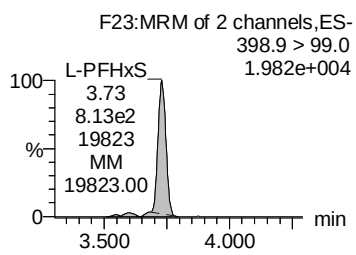

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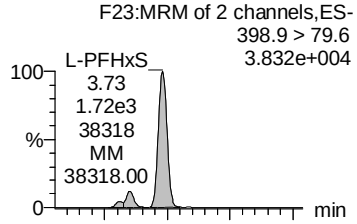

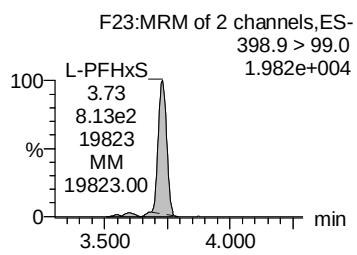

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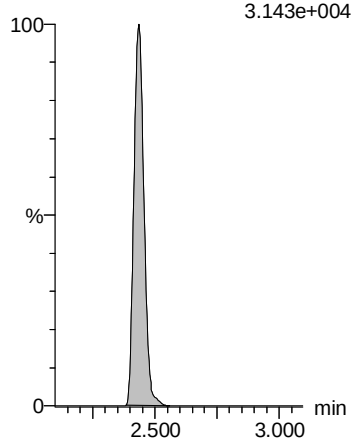

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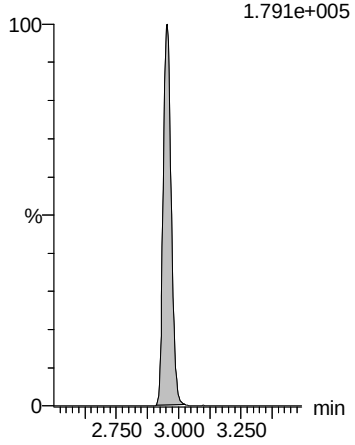

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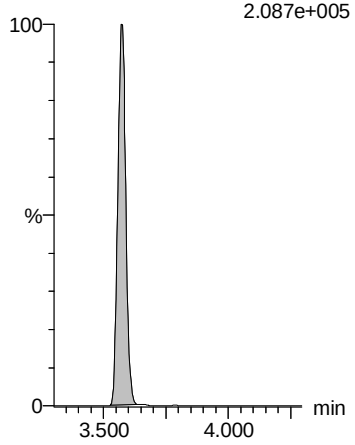

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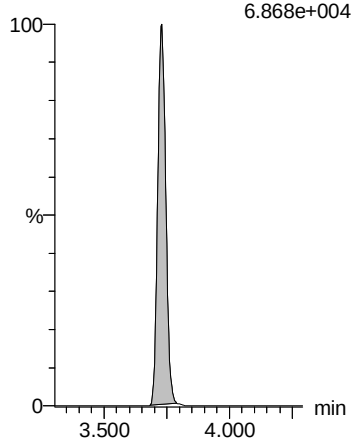

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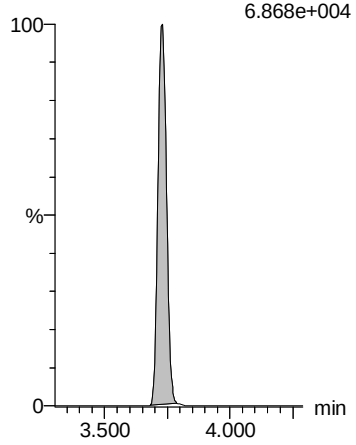

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
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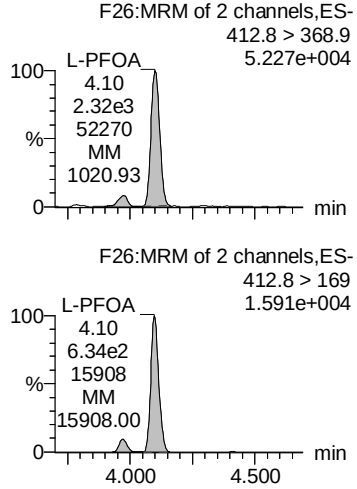
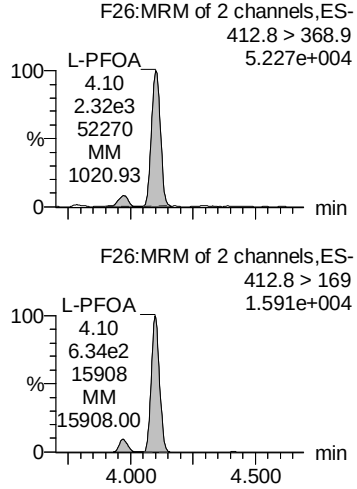
Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

L-PFOA



Total PFOA



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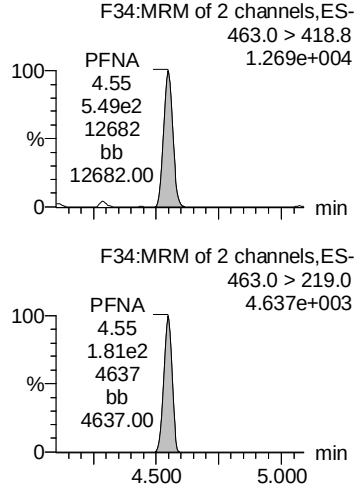

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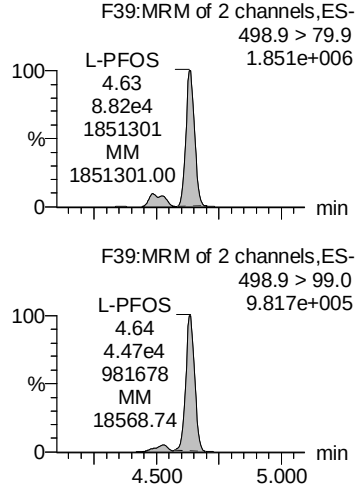
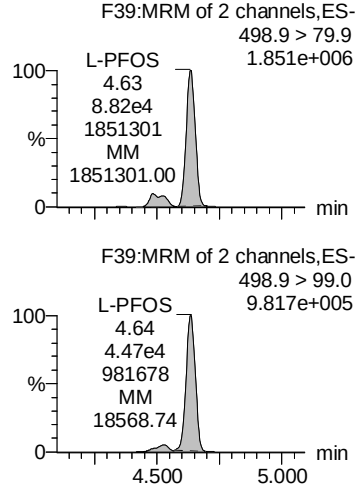


Total PFOS



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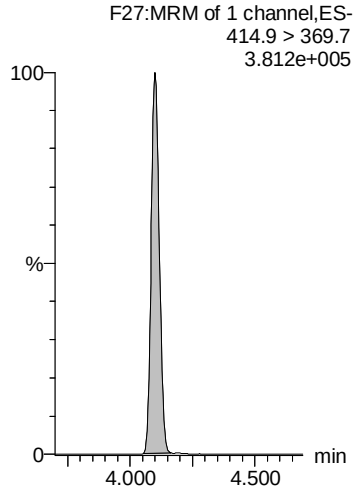

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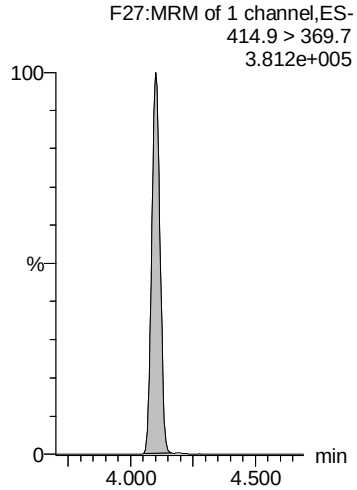

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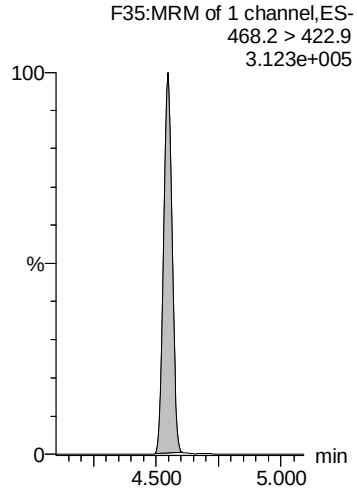
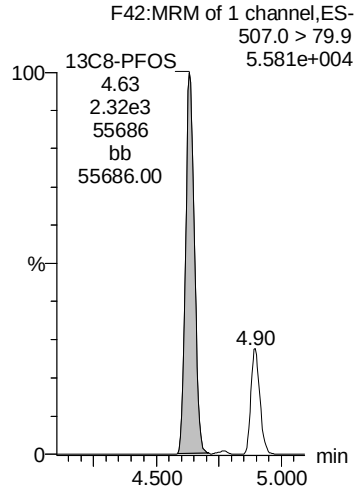


13C8-PFOS



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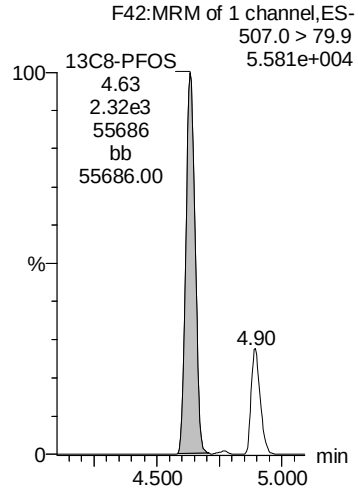

CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
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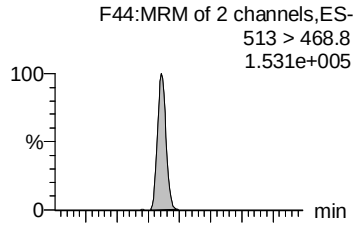
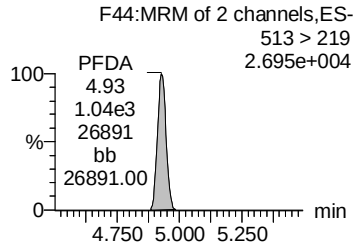
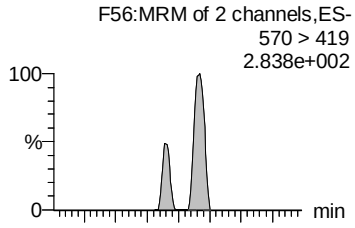
Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

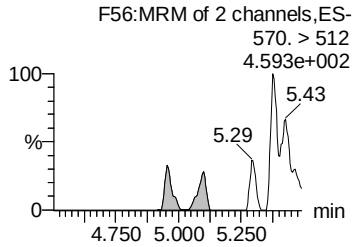
PFDA



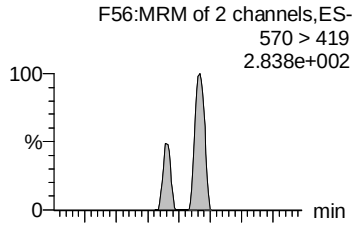


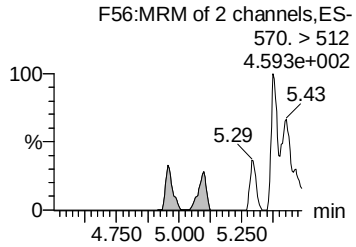
L-MeFOSAA



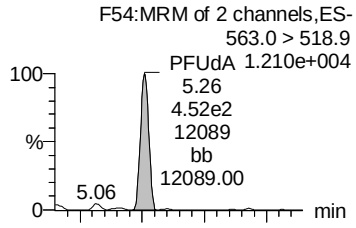


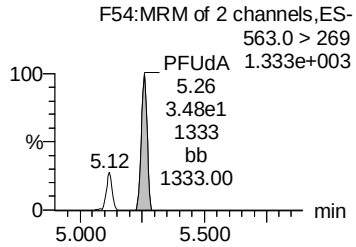
Total N-MeFOSAA



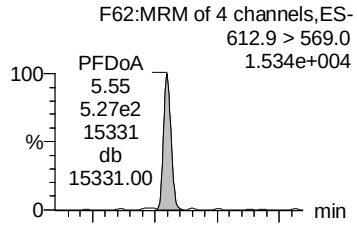


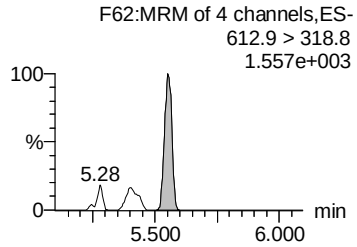
PFUdA



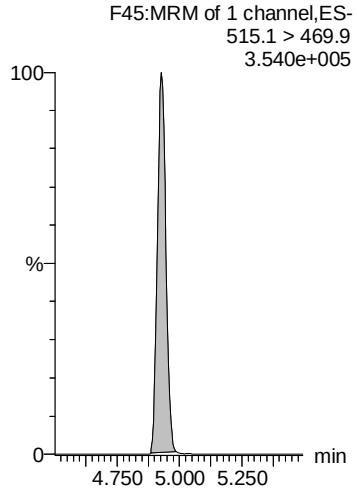


PFDoA

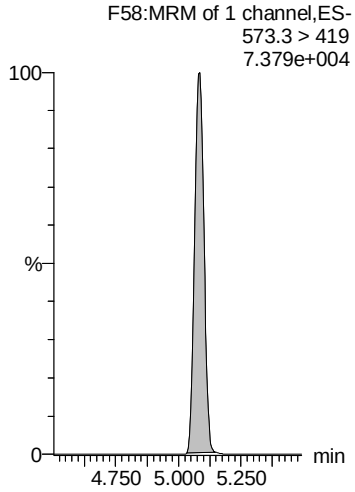




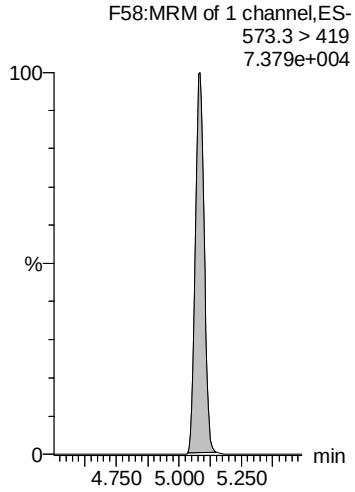
13C2-PFDA



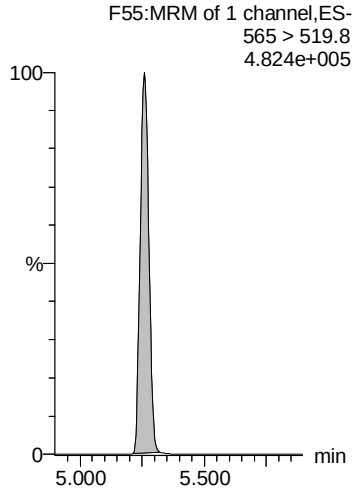
d3-N-MeFOSAA



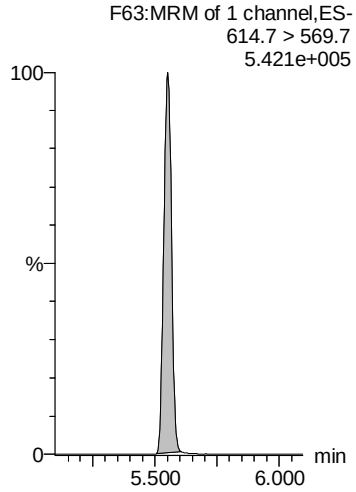
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



CGH 7/24/2019

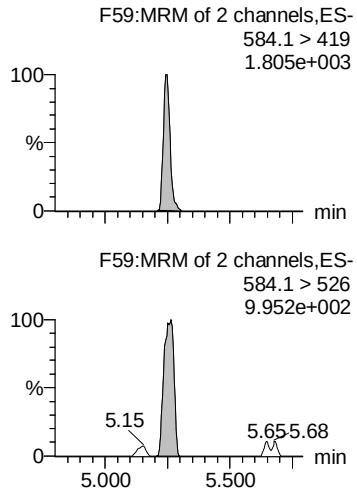
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

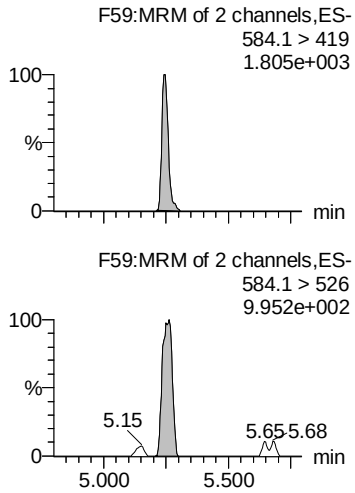
Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:06:38 Pacific Daylight Time

Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

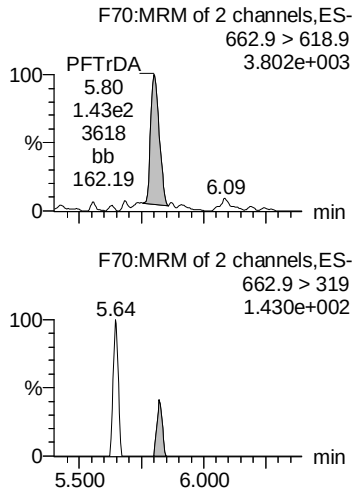
L-EtFOSAA



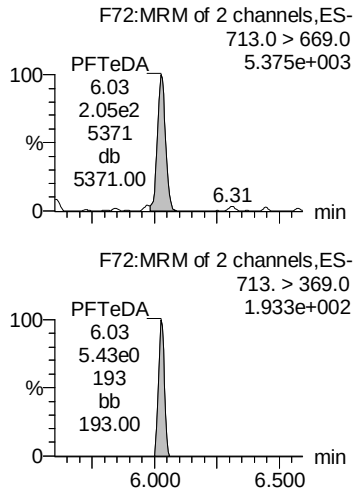
Total N-EtFOSAA



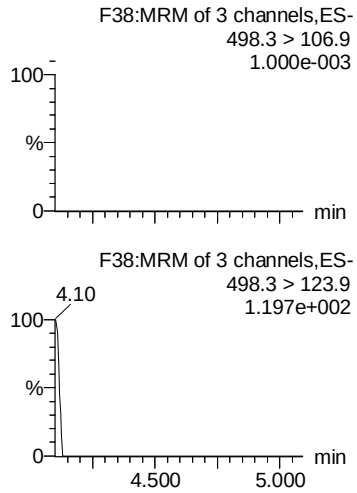
PFTrDA



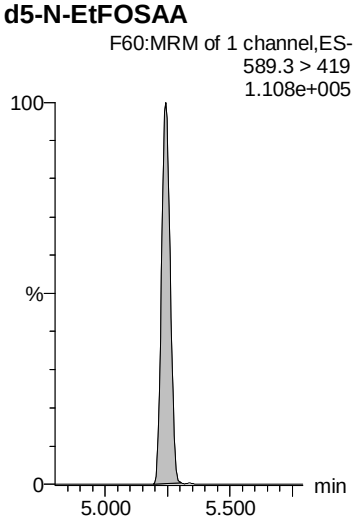
PFTeDA



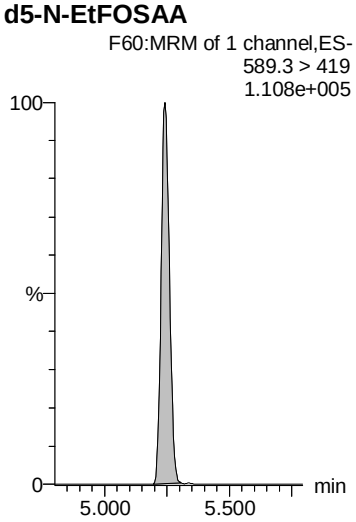
TDCA



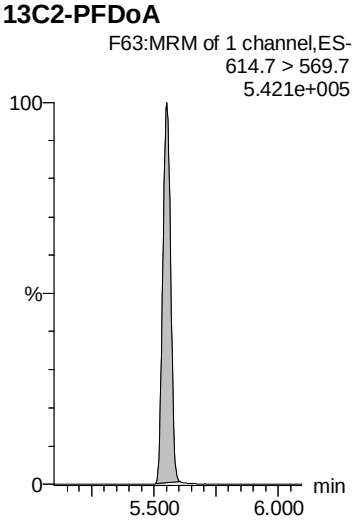
d5-N-EtFOSAA



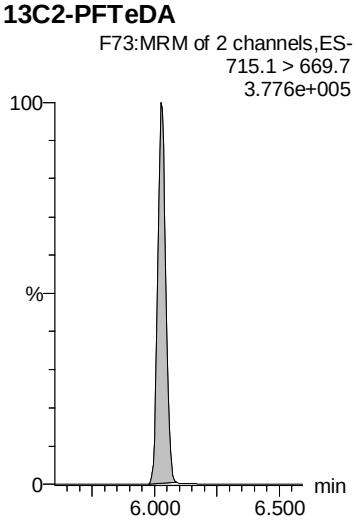
d5-N-EtFOSAA



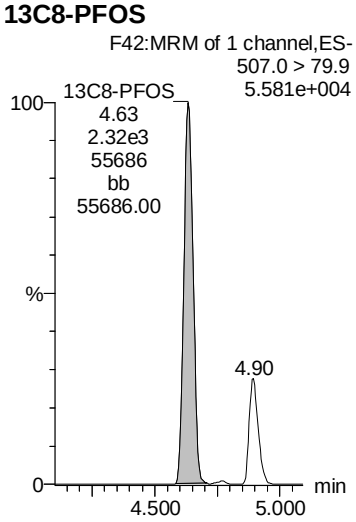
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

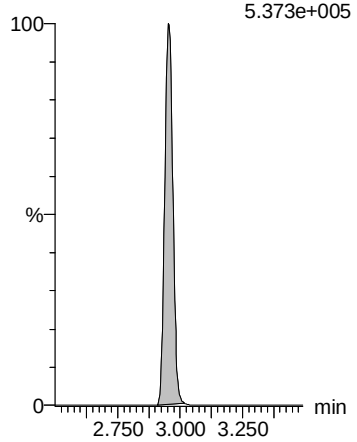
Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-53.qld

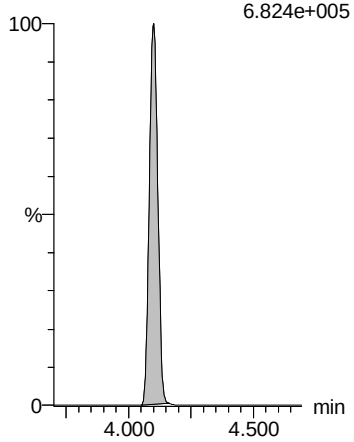
Last Altered: Wednesday, July 24, 2019 13:05:11 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:06:38 Pacific Daylight Time

Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

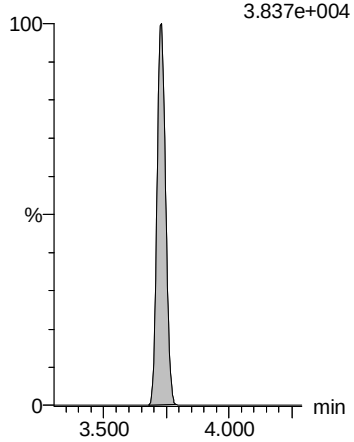
13C5-PFHxA



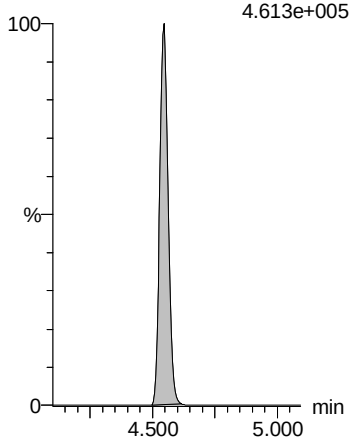
13C8-PFOA



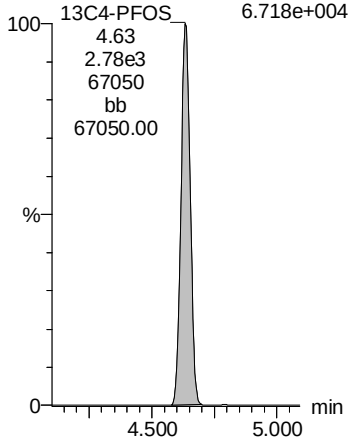
18O2-PFHxS



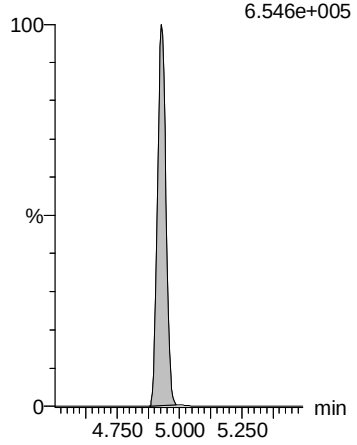
13C9-PFNA



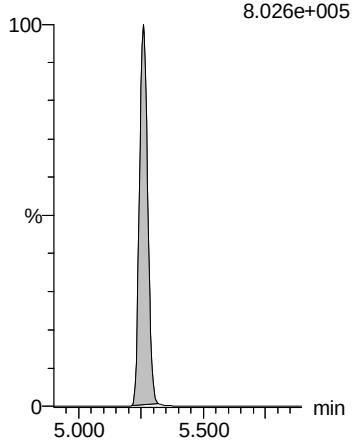
13C4-PFOS



13C6-PFDA



13C7-PFUdA



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/26/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190723M2\190723M2-54.qld

*See Dilution

Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	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	3.54e2	1.55e3	0.999		2.43	2.44	2.87	1.2928		2.778	NO	
2	7	PFHxA	313.0 > 269.0	2.39e4	7.46e3	0.999		2.95	2.95	16.0	18.2279		14.799	NO	
3	11	PFHpA	363.0 > 318.9	4.80e3	9.42e3	0.999		3.57	3.57	6.37	4.9235		8.601	NO	
4	13	L-PFHxS	398.9 > 79.6	3.99e4	2.50e3	0.999		3.73	3.73	199	203.1741		2.014	NO	
5	80	Total PFHxS	398.9 > 79.6	3.99e4	2.50e3	0.999		3.83		199	203.1741				
6	49	13C3-PFBS	302.0 > 98.8	1.55e3	1.33e3	0.999	1.058	2.46	2.43	14.6	13.7715	110.1			
7	52	13C2-PFHxA	315.0 > 270.0	7.46e3	2.12e4	0.999	0.978	2.97	2.95	4.40	4.5077	90.1			
8	53	13C4-PFHpA	367.2 > 321.8	9.42e3	2.12e4	0.999	0.479	3.59	3.57	5.56	11.6266	92.9			
9	54	13C3-PFHxS	401.8 > 79.9	2.50e3	1.33e3	0.999	2.024	3.75	3.73	23.5	11.6434	93.1			
10	54	13C3-PFHxS	401.8 > 79.9	2.50e3	1.33e3	0.999	2.024	3.75	3.73	23.5	11.6434	93.1			
11	-1														
12	16	L-PFOA	412.8 > 368.9	1.18e5	1.59e4	0.999		4.10	4.10	93.2	62.0922		3.618	NO	
13	81	Total PFOA	412.8 > 368.9	1.18e5	1.59e4	0.999		4.21		93.2	62.0922				
14	21	PFNA	463.0 > 418.8	6.40e3	1.45e4	0.999		4.55	4.55	5.51	4.7693		3.730	NO	
15	23	L-PFOS	498.9 > 79.9	4.30e5	1.73e3	0.999		4.64	4.64	3110	2914.4148		2.142	NO	*
16	82	Total PFOS	498.9 > 79.9	4.30e5	1.73e3	0.999		4.74		3110	2914.4148				
17	58	13C2-PFOA	414.9 > 369.7	1.59e4	2.62e4	0.999	0.681	4.12	4.10	7.59	11.1492	89.1			
18	58	13C2-PFOA	414.9 > 369.7	1.59e4	2.62e4	0.999	0.681	4.12	4.10	7.59	11.1492	89.1			
19	56	13C5-PFNA	468.2 > 422.9	1.45e4	1.67e4	0.999	1.002	4.57	4.55	10.9	10.8429	86.7			
20	59	13C8-PFOS	507.0 > 79.9	1.73e3	1.88e3	0.999	0.997	4.65	4.64	11.5	11.5331	92.2			
21	59	13C8-PFOS	507.0 > 79.9	1.73e3	1.88e3	0.999	0.997	4.65	4.64	11.5	11.5331	92.2			
22	-1														
23	26	PFDA	513 > 468.8	4.34e2	1.53e4	0.999		4.93	4.93	0.355	0.2725		5.239	NO	
24	29	L-MeFOSAA	570 > 419		2.90e3	0.999		5.08							
25	83	Total N-MeFOSAA	570. > 419	0.00e0	2.90e3	0.999		5.19		0.000					
26	33	PFUdA	563.0 > 518.9	6.86e1	1.62e4	0.999		5.26	5.27	0.0530			28.985	YES	
27	37	PFDoA	612.9 > 569.0	3.32e1	1.60e4	0.999		5.55	5.55	0.0259			67.296	YES	
28	60	13C2-PFDA	515.1 > 469.9	1.53e4	2.62e4	0.999	0.819	4.95	4.93	7.30	8.9202	71.3			
29	62	d3-N-MeFOSAA	573.3 > 419	2.90e3	3.18e4	0.999	0.177	5.11	5.08	1.14	6.4276	51.4			
30	62	d3-N-MeFOSAA	573.3 > 419	2.90e3	3.18e4	0.999	0.177	5.11	5.08	1.14	6.4276	51.4			
31	63	13C2-PFUdA	565 > 519.8	1.62e4	3.18e4	0.999	0.889	5.28	5.26	6.36	7.1577	57.2			
32	65	13C2-PFDoA	614.7 > 569.7	1.60e4	2.62e4	0.999	1.087	5.57	5.55	7.65	7.0418	56.3			
33	-1														
34	31	L-EtFOSAA	584.1 > 419		3.81e3	0.999		5.24							
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	3.81e3	0.999		5.33		0.000					
36	39	PFTrDA	662.9 > 618.9		1.60e4	0.999		5.80							

NY FOR CGH 7/26/2019

Vista Analytical Laboratory L14

Review: AMR 7/26/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190723M2\190723M2-54.qld

Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	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	3.18e1	1.27e4	0.999		6.03	6.03	0.0313			8.986	NO
38	85	TDCA	498.3>106.9			0.999		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	3.81e3	3.18e4	0.999	0.224	5.27	5.24	1.50	6.7048	53.6		
40	64	d5-N-EtFOSAA	589.3 > 419	3.81e3	3.18e4	0.999	0.224	5.27	5.24	1.50	6.7048	53.6		
41	65	13C2-PFDoA	614.7 > 569.7	1.60e4	2.62e4	0.999	1.087	5.57	5.55	7.65	7.0418	56.3		
42	67	13C2-PFTeDA	715.1 > 669.7	1.27e4	3.18e4	0.999	0.604	6.04	6.03	5.00	8.2778	66.2		
43	59	13C8-PFOS	507.0 > 79.9	1.73e3	1.88e3	0.999	0.997	4.65	4.64	11.5	11.5331	92.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.12e4	2.12e4	0.999	1.000	2.97	2.95	12.5	12.5090	100.0		
46	75	13C8-PFOA	420.9 > 376.0	2.62e4	2.62e4	0.999	1.000	4.12	4.10	12.5	12.5090	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.33e3	1.33e3	0.999	1.000	3.75	3.73	12.5	12.5090	100.0		
48	76	13C9-PFNA	472.2 > 426.9	1.67e4	1.67e4	0.999	1.000	4.57	4.55	12.5	12.5090	100.0		
49	77	13C4-PFOS	503 > 79.9	1.88e3	1.88e3	0.999	1.000	4.65	4.63	12.5	12.5090	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.62e4	2.62e4	0.999	1.000	4.95	4.93	12.5	12.5090	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.18e4	3.18e4	0.999	1.000	5.28	5.26	12.5	12.5090	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/26/2019

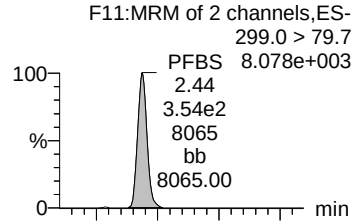
Dataset: Z:\Projects\PFAS.PRO\Results\190723M2\190723M2-54.qld

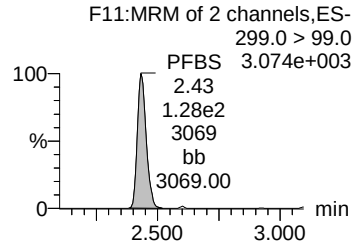
Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

PFBS





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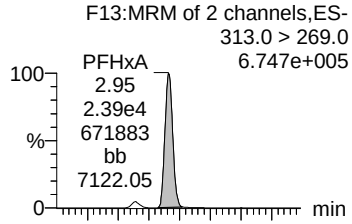

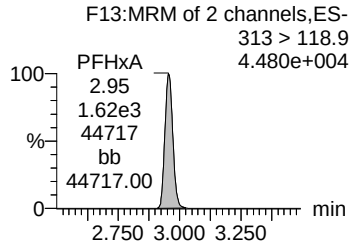

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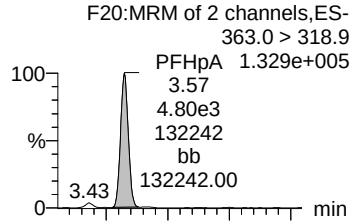
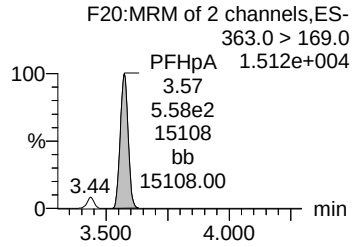
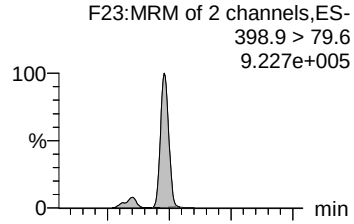
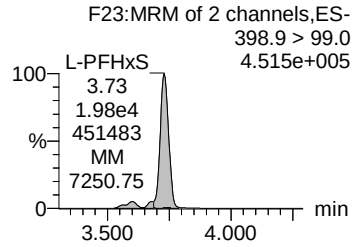




L-PFHxS





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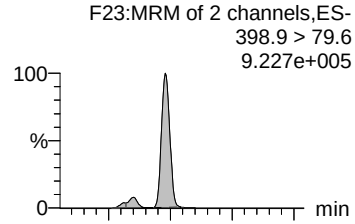
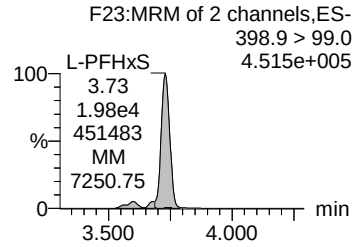
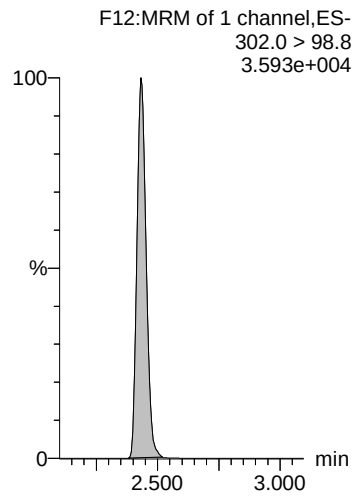




13C3-PFBS



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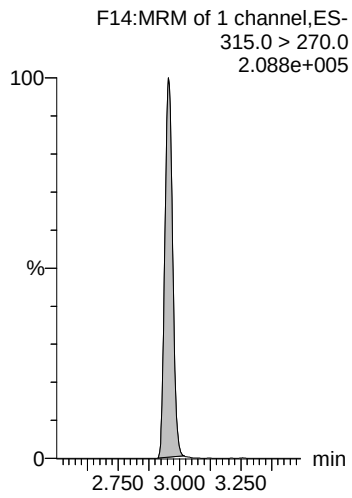

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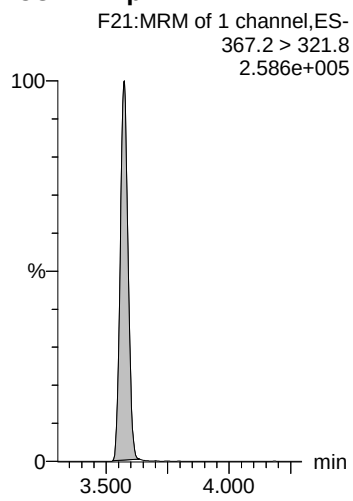

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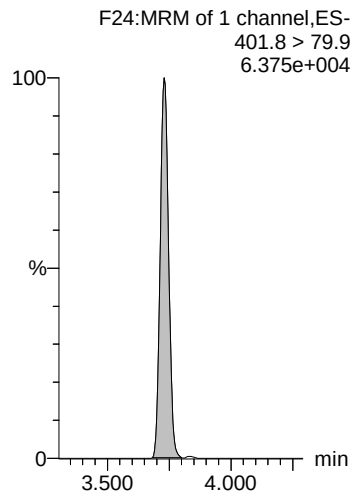

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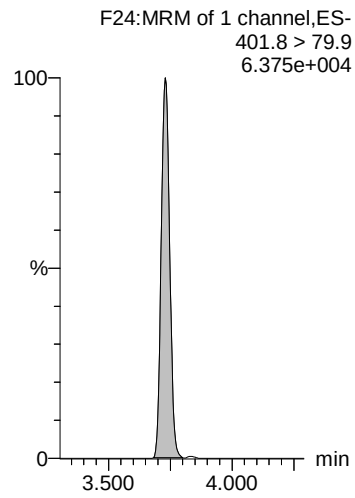


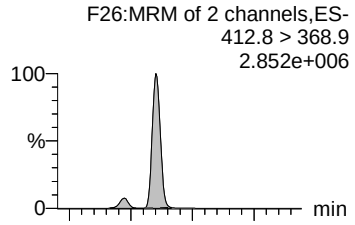
Review: AMR 7/26/2019

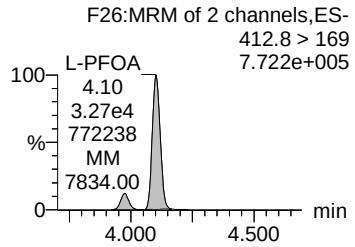
Dataset: Z:\Projects\PFAS.PRO\Results\190723M2\190723M2-54.qld

Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

L-PFOA





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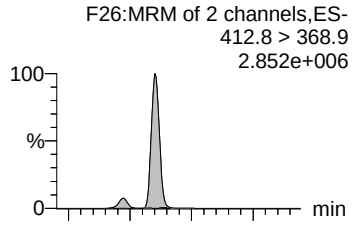

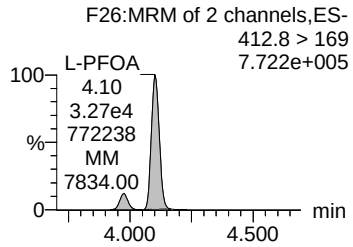

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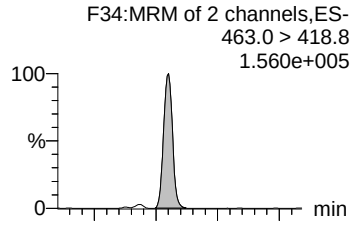
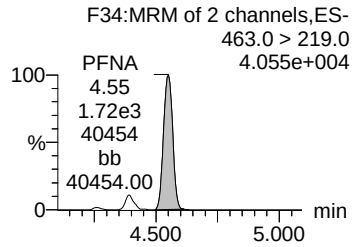
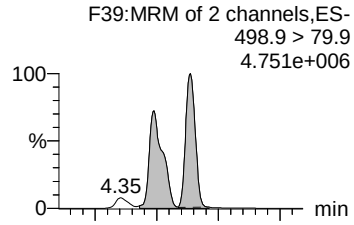
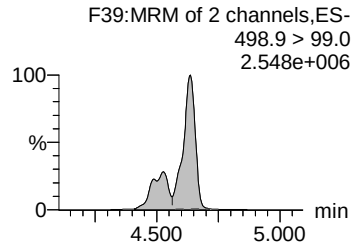




L-PFOS





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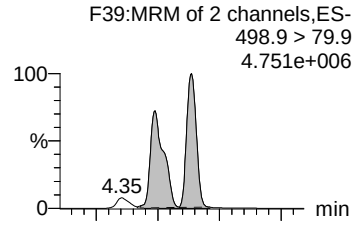
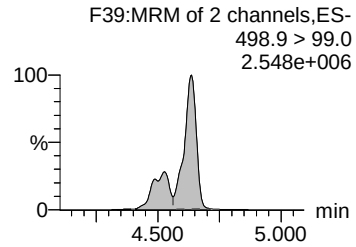
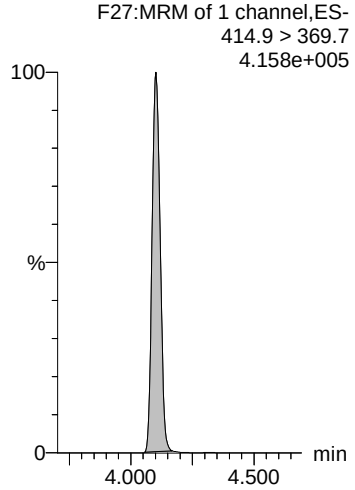




13C2-PFOA



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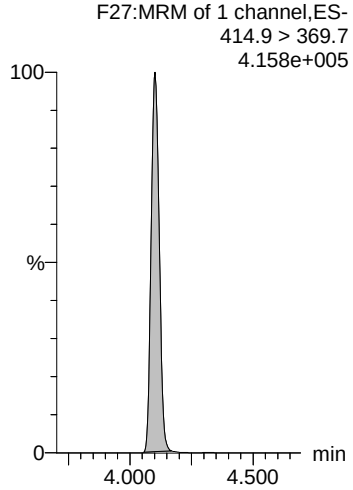

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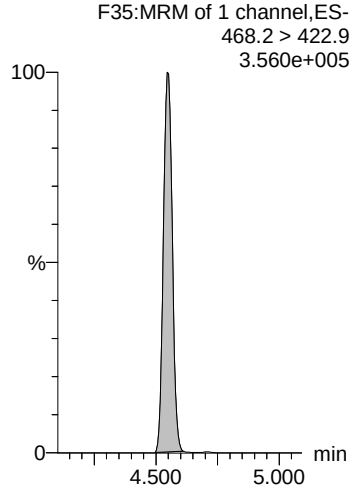

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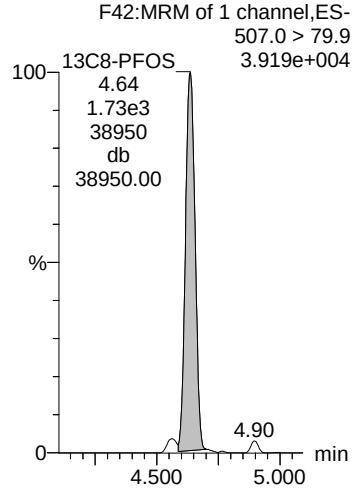

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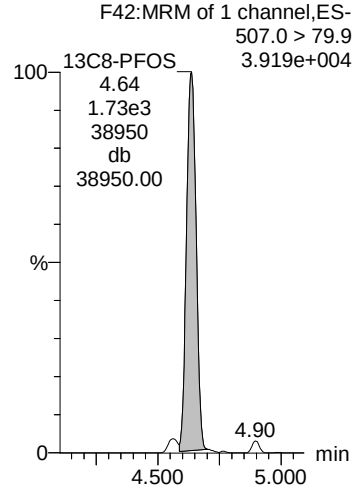

Review: AMR 7/26/2019

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Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

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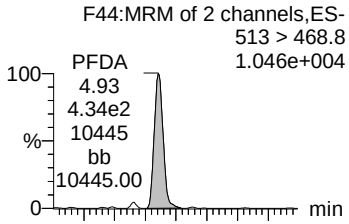
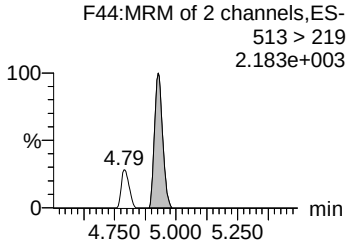
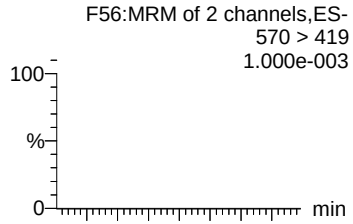
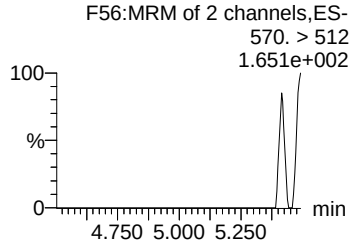




L-MeFOSAA





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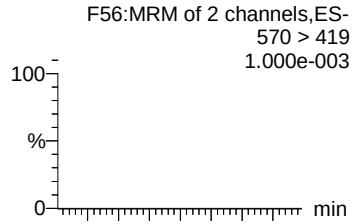

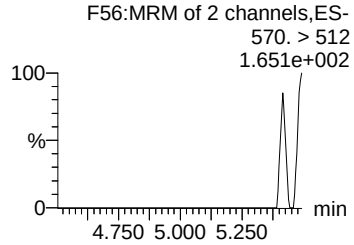

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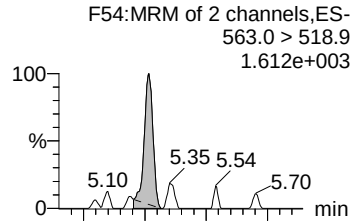
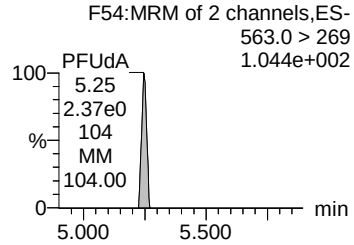
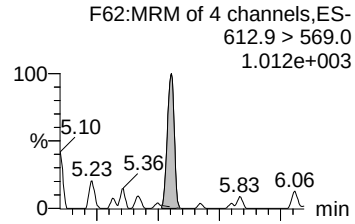
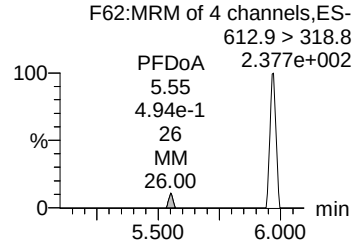


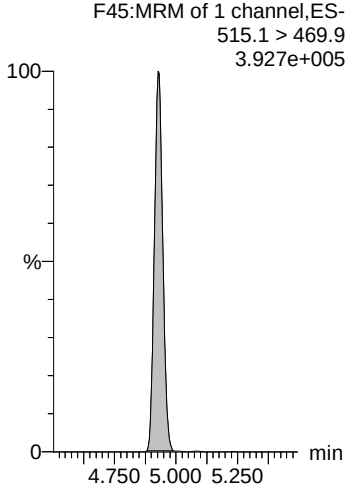


PFDoA

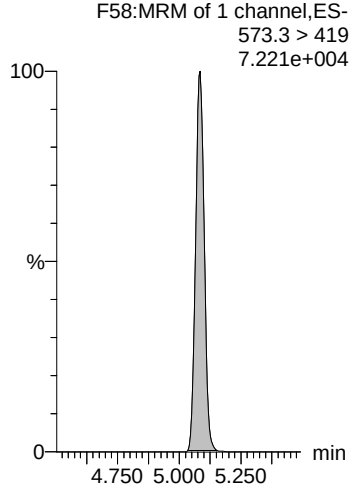




13C2-PFDA



d3-N-MeFOSAA



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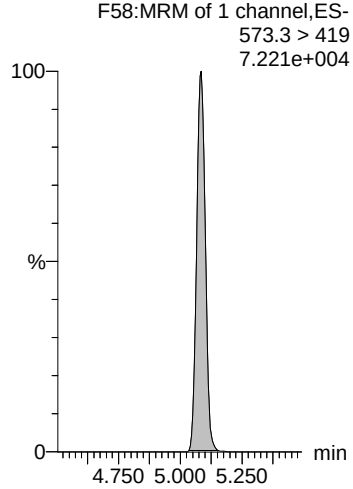

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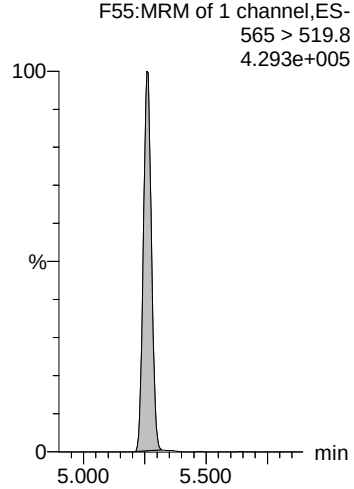

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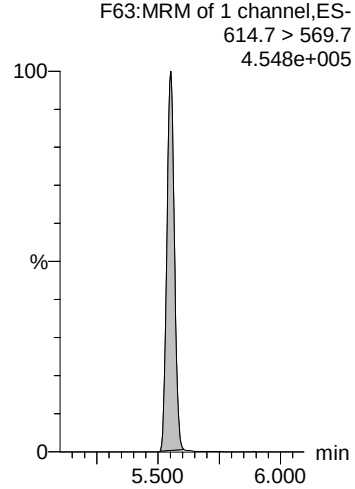

Review: AMR 7/26/2019

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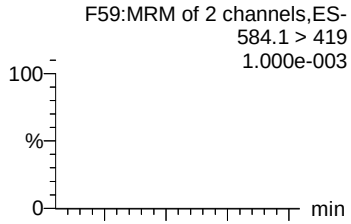
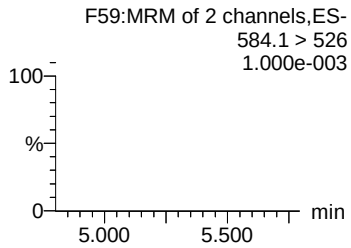
Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

L-EtFOSAA





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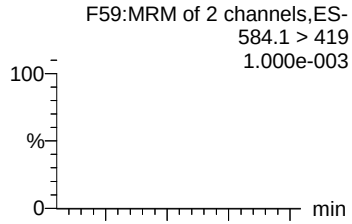

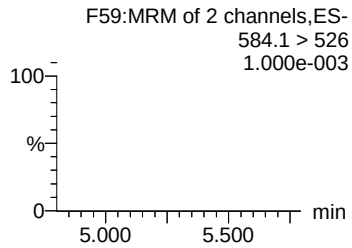

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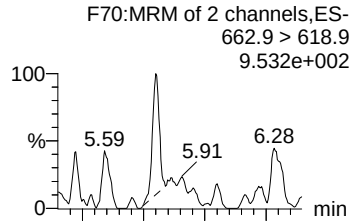

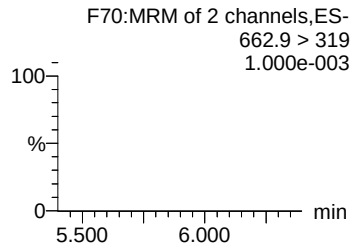

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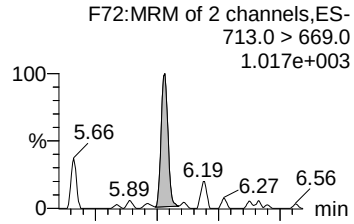
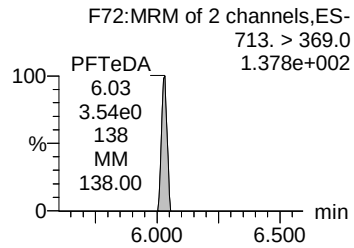
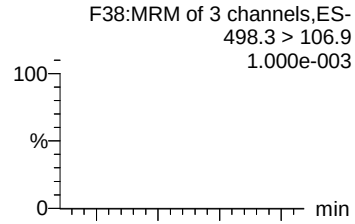
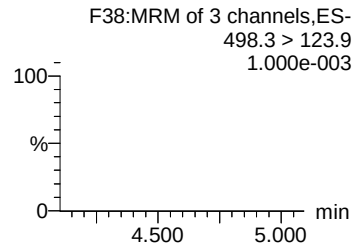


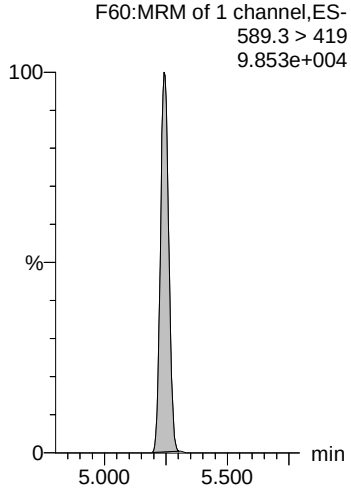


TDCA

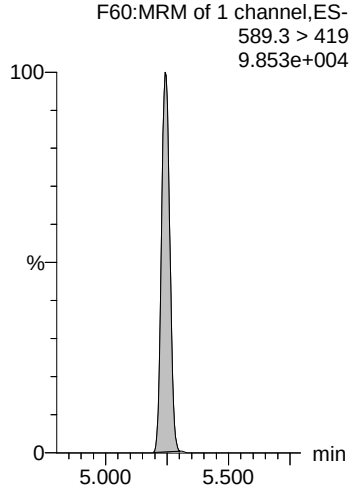




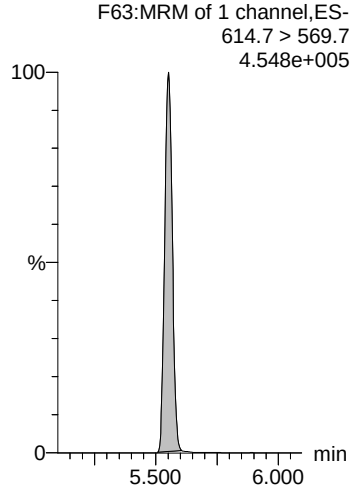
d5-N-EtFOSAA



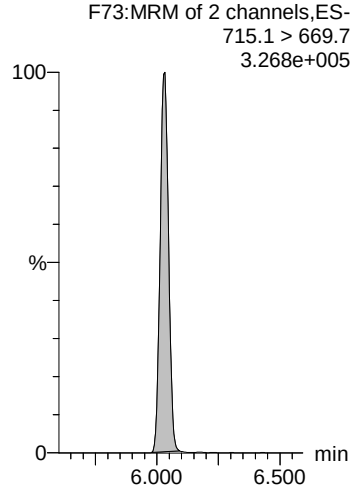
d5-N-EtFOSAA



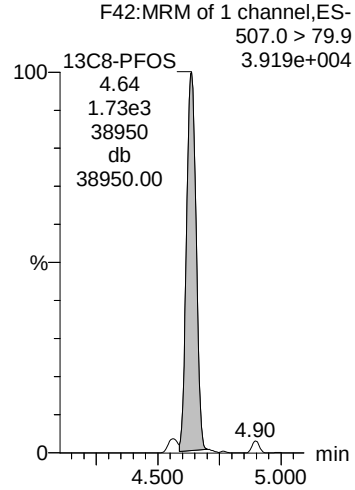
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



Vista Analytical Laboratory L14

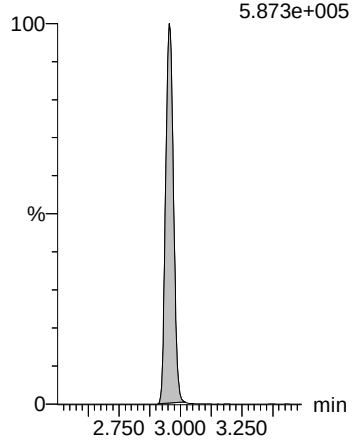
Review: AMR 7/26/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190723M2\190723M2-54.qld

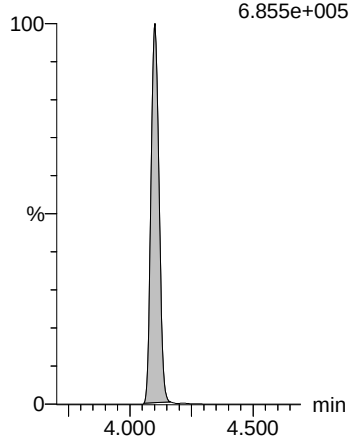
Last Altered: Wednesday, July 24, 2019 13:11:06 Pacific Daylight Time
Printed: Friday, July 26, 2019 10:57:21 Pacific Daylight Time

Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

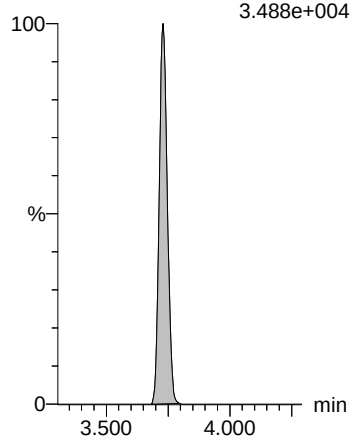
13C5-PFHxA



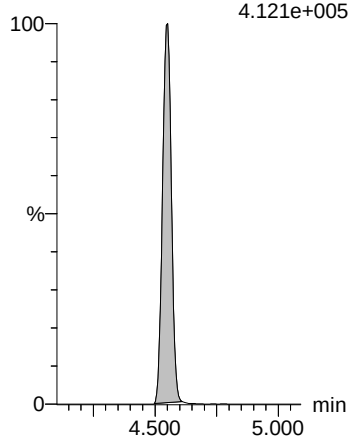
13C8-PFOA



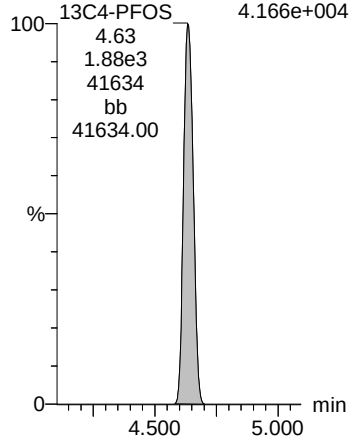
18O2-PFHxS



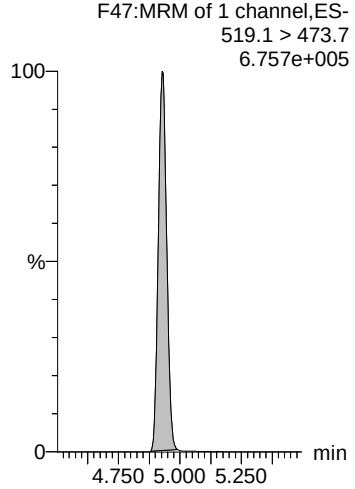
13C9-PFNA



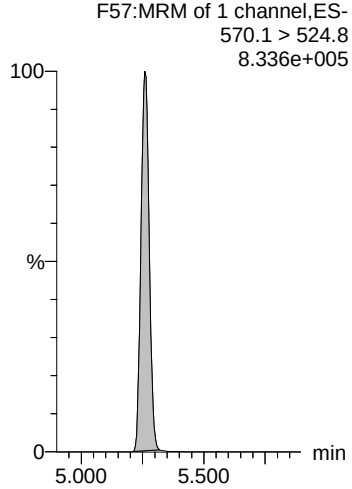
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Review: AMR 7/25/2019

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-14.qld

Last Altered: Wednesday, July 24, 2019 13:31:09 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:31:43 Pacific Daylight Time

Name: 190724M1_14, Date: 24-Jul-2019, Time: 10:41:38, ID: 1902097-18@10X NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	23	L-PFOS	498.9 > 79.9	7.05e4	3.33e2	0.999		4.64	4.64	2640	2475.2172		2.115	NO
2	82	Total PFOS	498.9 > 79.9	7.05e4	3.33e2	0.999		4.74		2640	2475.2172			
3	85	TDCA	498.3>106.9			0.999		5.45						
4	77	13C4-PFOS	503 > 79.9	3.66e2	3.66e2	0.999	1.000	4.64	4.64	12.5	12.5090	100.0		
5	59	13C8-PFOS	507.0 > 79.9	3.33e2	3.66e2	0.999	0.997	4.64	4.64	11.4	11.4266	91.3		
6	59	13C8-PFOS	507.0 > 79.9	3.33e2	3.66e2	0.999	0.997	4.64	4.64	11.4	11.4266	91.3		
7	59	13C8-PFOS	507.0 > 79.9	3.33e2	3.66e2	0.999	0.997	4.64	4.64	11.4	11.4266	91.3		

CGH 7/24/2019

Vista Analytical Laboratory

Review: AMR 7/25/2019

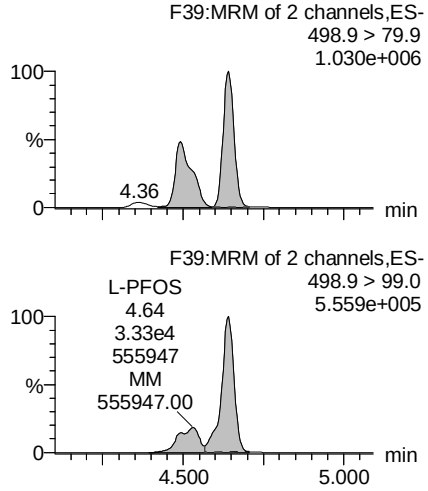
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-14.qld

Last Altered: Wednesday, July 24, 2019 13:31:09 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 13:31:43 Pacific Daylight Time

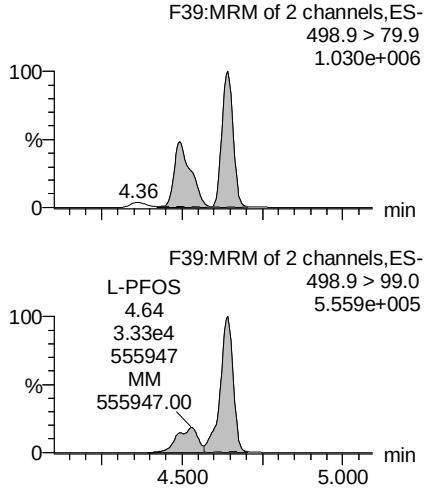
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_14, Date: 24-Jul-2019, Time: 10:41:38, ID: 1902097-18@10X NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

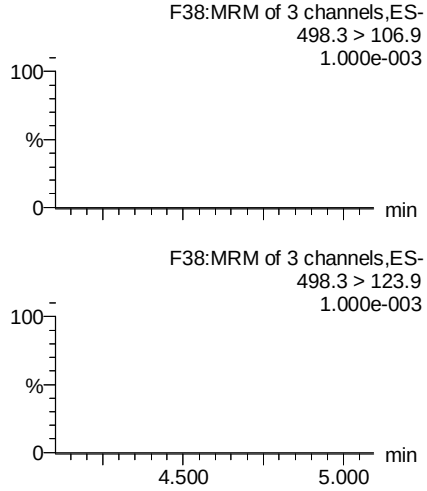
L-PFOS



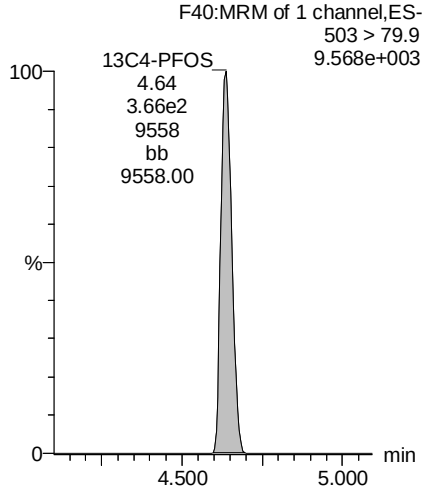
Total PFOS



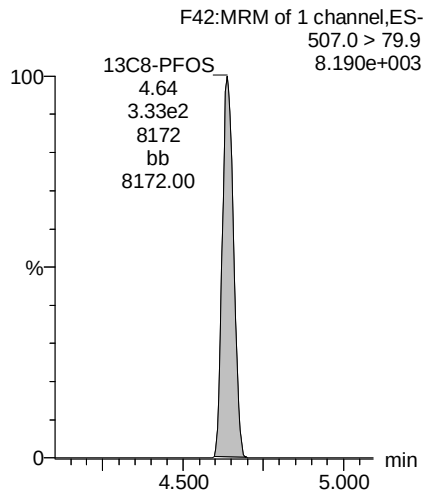
TDCA



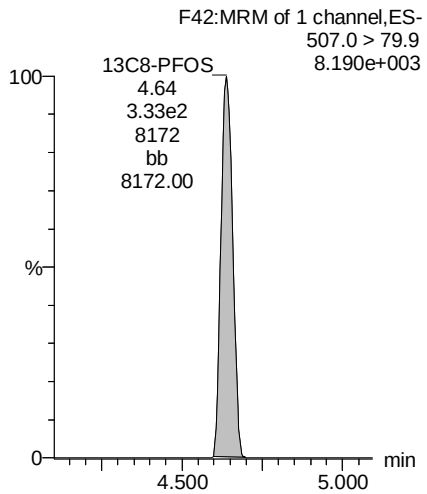
13C4-PFOS



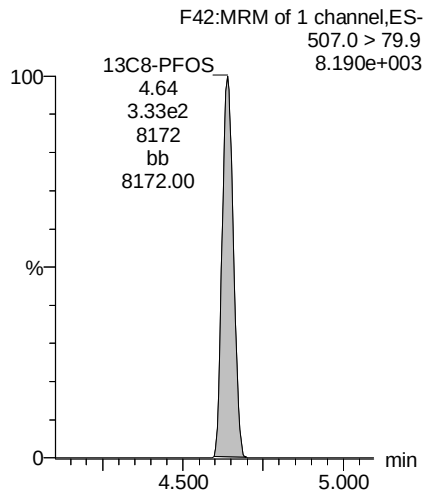
13C8-PFOS



13C8-PFOS



13C8-PFOS



CGH 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-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		2.17e3	0.125		2.45						
2	7	PFHxA	313.0 > 269.0		1.04e4	0.125		2.96						
3	11	PFHpA	363.0 > 318.9		1.27e4	0.125		3.58						
4	13	L-PFHxS	398.9 > 79.6	1.14e1	3.93e3	0.125		3.74	3.75	0.0362	0.3288		7.530	YES
5	80	Total PFHxS	398.9 > 79.6	1.14e1	3.93e3	0.125		3.83		0.0362	0.3288			
6	49	13C3-PFBS	302.0 > 98.8	2.17e3	2.06e3	0.125	1.058	2.45	2.45	13.2	99.9517	100.0		
7	52	13C2-PFHxA	315.0 > 270.0	1.04e4	2.71e4	0.125	0.978	2.96	2.96	4.79	39.2203	98.1		
8	53	13C4-PFHpA	367.2 > 321.8	1.27e4	2.71e4	0.125	0.479	3.59	3.58	5.84	97.6497	97.6		
9	54	13C3-PFHxS	401.8 > 79.9	3.93e3	2.06e3	0.125	2.024	3.75	3.74	23.9	94.3223	94.3		
10	54	13C3-PFHxS	401.8 > 79.9	3.93e3	2.06e3	0.125	2.024	3.75	3.74	23.9	94.3223	94.3		
11	-1													
12	16	L-PFOA	412.8 > 368.9	9.88e1	2.18e4	0.125		4.11	4.11	0.0566	0.1004		10.336	YES
13	81	Total PFOA	412.8 > 368.9	9.88e1	2.18e4	0.125		4.21		0.0566	0.1004			
14	21	PFNA	463.0 > 418.8		2.10e4	0.125		4.56						
15	23	L-PFOS	498.9 > 79.9		4.17e3	0.125		4.65						
16	82	Total PFOS	498.9 > 79.9	0.00e0	4.17e3	0.125		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	2.18e4	3.45e4	0.125	0.681	4.12	4.11	7.91	92.8930	92.9		
18	58	13C2-PFOA	414.9 > 369.7	2.18e4	3.45e4	0.125	0.681	4.12	4.11	7.91	92.8930	92.9		
19	56	13C5-PFNA	468.2 > 422.9	2.10e4	2.53e4	0.125	1.002	4.56	4.56	10.3	82.5816	82.6		
20	59	13C8-PFOS	507.0 > 79.9	4.17e3	4.71e3	0.125	0.997	4.65	4.65	11.1	88.9604	89.0		
21	59	13C8-PFOS	507.0 > 79.9	4.17e3	4.71e3	0.125	0.997	4.65	4.65	11.1	88.9604	89.0		
22	-1													
23	26	PFDA	513 > 468.8	3.90e1	1.96e4	0.125		4.94	4.95	0.0249	0.1304		42.567	YES
24	29	L-MeFOSAA	570 > 419		4.37e3	0.125		5.10						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.37e3	0.125		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		2.27e4	0.125		5.27						
27	37	PFDoA	612.9 > 569.0		1.91e4	0.125		5.56						
28	60	13C2-PFDA	515.1 > 469.9	1.96e4	3.20e4	0.125	0.819	4.95	4.94	7.65	74.7115	74.7		
29	62	d3-N-MeFOSAA	573.3 > 419	4.37e3	4.11e4	0.125	0.177	5.10	5.10	1.33	59.8968	59.9		
30	62	d3-N-MeFOSAA	573.3 > 419	4.37e3	4.11e4	0.125	0.177	5.10	5.10	1.33	59.8968	59.9		
31	63	13C2-PFUdA	565 > 519.8	2.27e4	4.11e4	0.125	0.889	5.28	5.27	6.90	62.1309	62.1		
32	65	13C2-PFDoA	614.7 > 569.7	1.91e4	3.20e4	0.125	1.087	5.57	5.56	7.48	55.0087	55.0		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		5.49e3	0.125		5.25						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	5.49e3	0.125		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		1.91e4	0.125		5.82						

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-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		1.03e4	0.125		6.04						
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	5.49e3	4.11e4	0.125	0.224	5.26	5.25	1.67	59.6526	59.7		
40	64	d5-N-EtFOSAA	589.3 > 419	5.49e3	4.11e4	0.125	0.224	5.26	5.25	1.67	59.6526	59.7		
41	65	13C2-PFDoA	614.7 > 569.7	1.91e4	3.20e4	0.125	1.087	5.57	5.56	7.48	55.0087	55.0		
42	67	13C2-PFTeDA	715.1 > 669.7	1.03e4	4.11e4	0.125	0.604	6.05	6.04	3.14	41.5254	41.5		
43	59	13C8-PFOS	507.0 > 79.9	4.17e3	4.71e3	0.125	0.997	4.65	4.65	11.1	88.9604	89.0		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.71e4	2.71e4	0.125	1.000	2.96	2.97	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.45e4	3.45e4	0.125	1.000	4.12	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.06e3	2.06e3	0.125	1.000	3.75	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.53e4	2.53e4	0.125	1.000	4.56	4.56	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	4.71e3	4.71e3	0.125	1.000	4.65	4.65	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.20e4	3.20e4	0.125	1.000	4.95	4.94	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.11e4	4.11e4	0.125	1.000	5.28	5.27	12.5	100.0000	100.0		

Review: AMR 7/24/2019

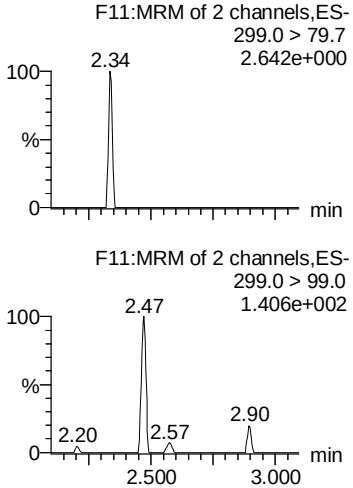
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

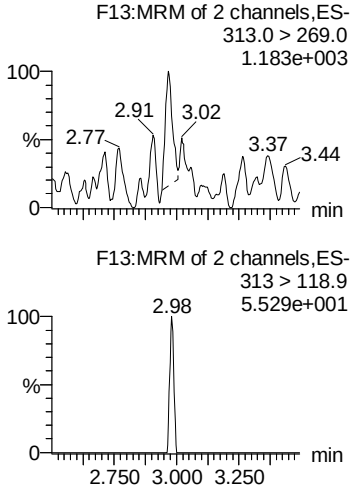
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

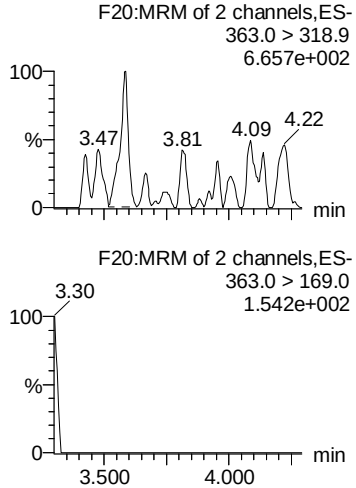
PFBS



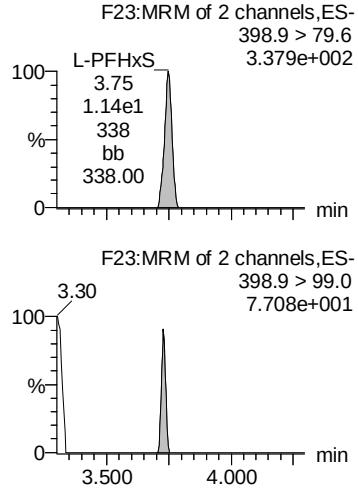
PFHxA



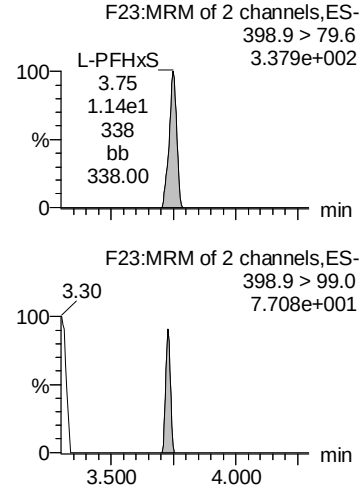
PFHpA



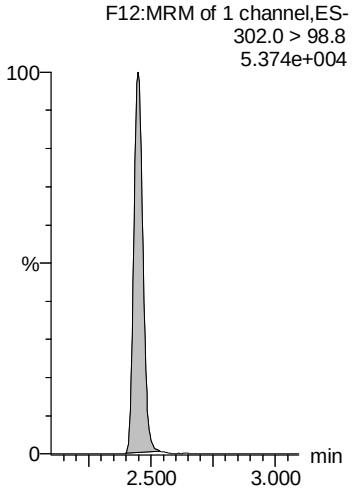
L-PFHxS



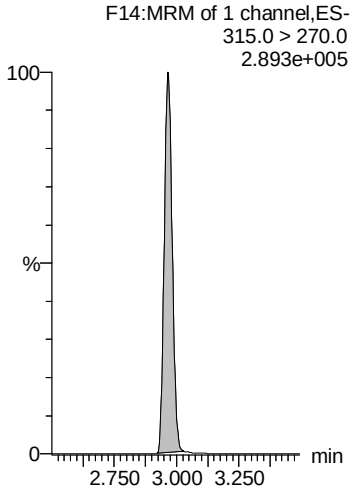
Total PFHxS



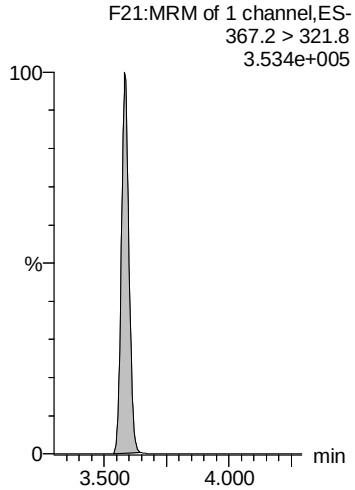
13C3-PFBS



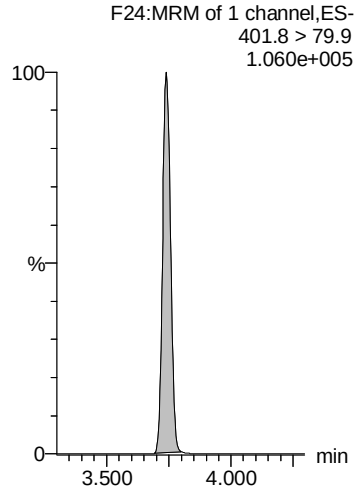
13C2-PFHxA



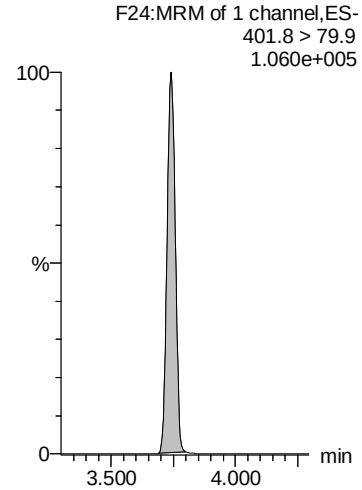
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



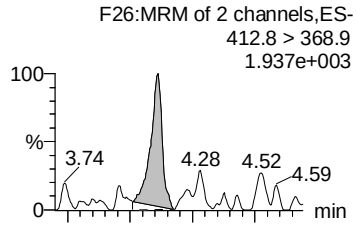
Review: AMR 7/24/2019

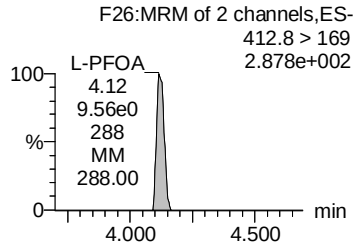
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

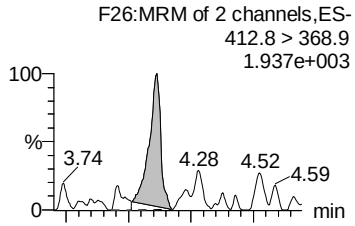
Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

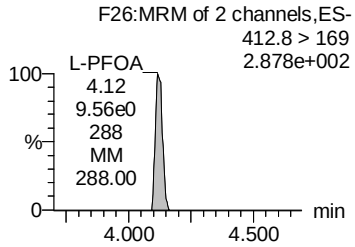
L-PFOA



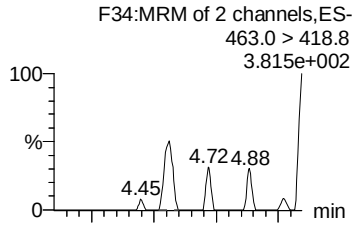


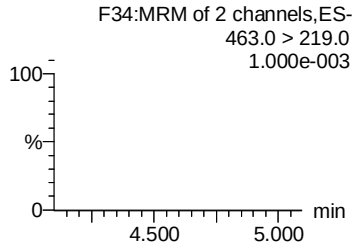
Total PFOA



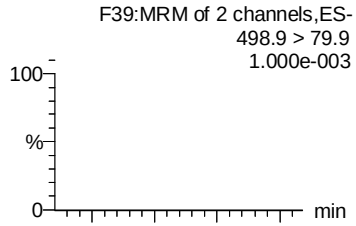


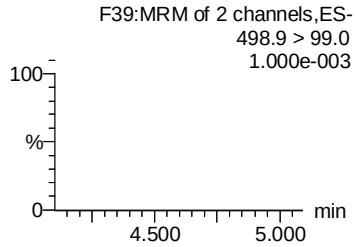
PFNA



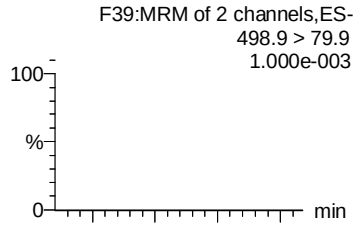


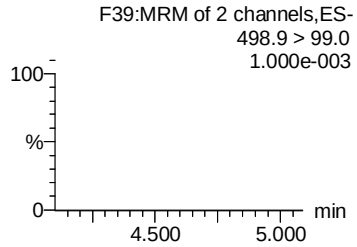
L-PFOS



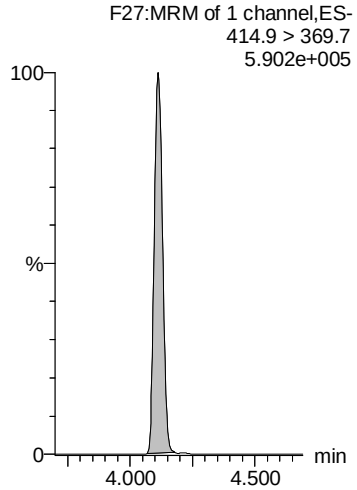


Total PFOS

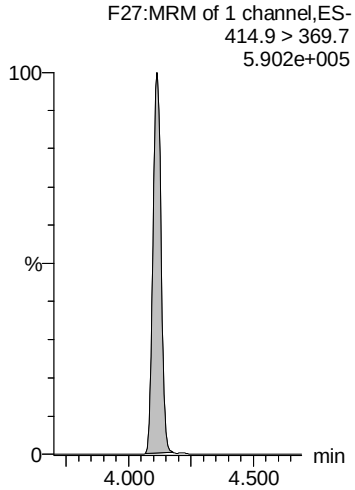




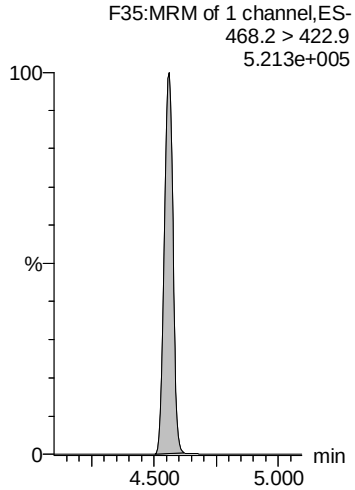
13C2-PFOA



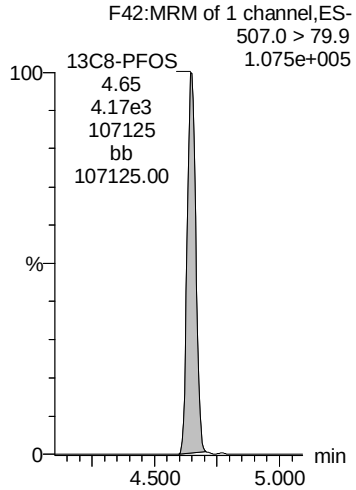
13C2-PFOA



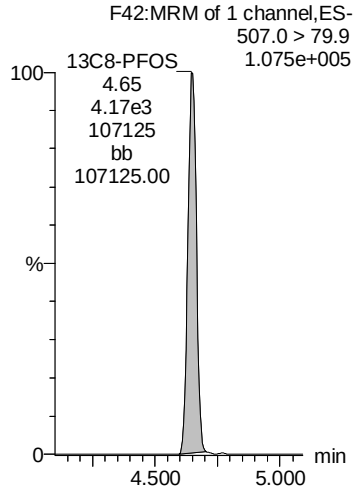
13C5-PFNA



13C8-PFOS



13C8-PFOS



GM 7/23/2019

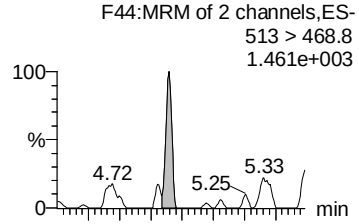
Review: AMR 7/24/2019

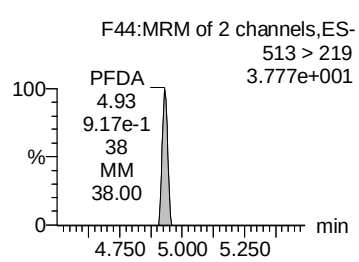
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

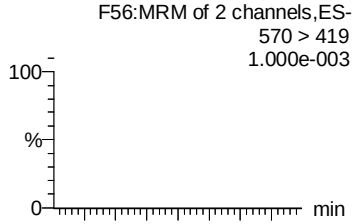
Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

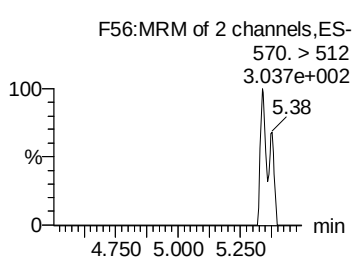
PFDA





L-MeFOSAA





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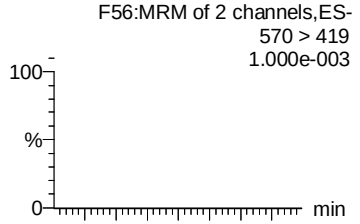
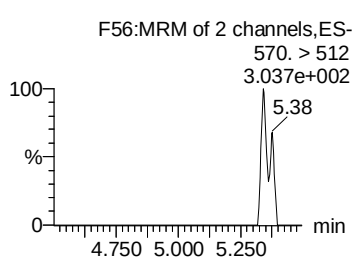
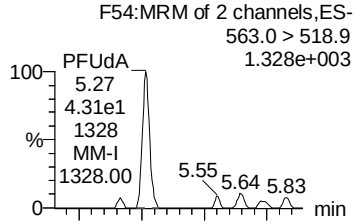
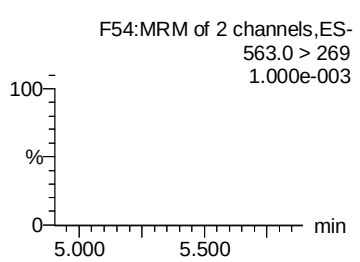


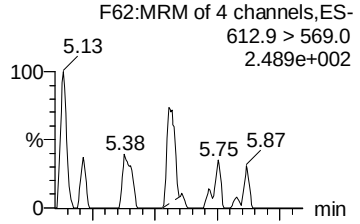


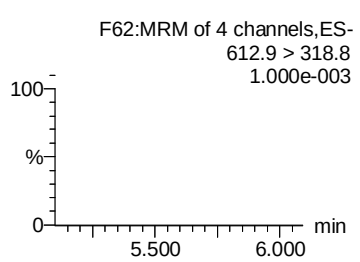
PFUdA



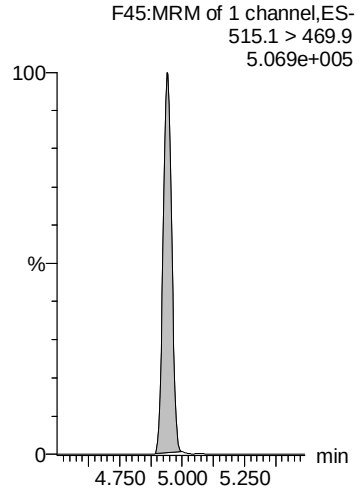


PFDoA

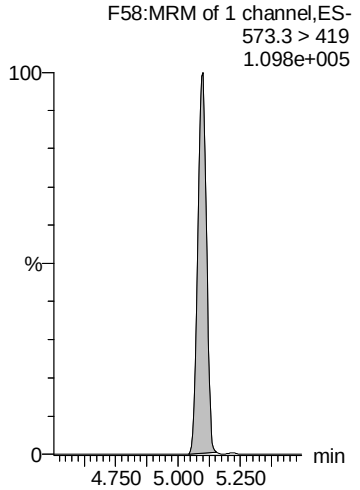




13C2-PFDA



d3-N-MeFOSAA



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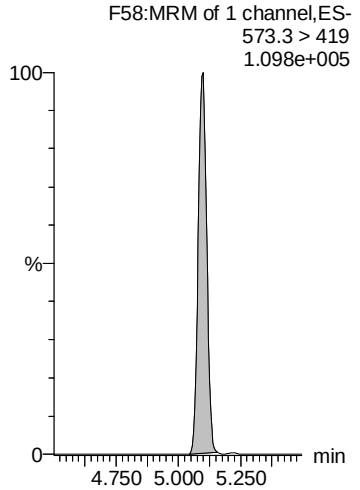
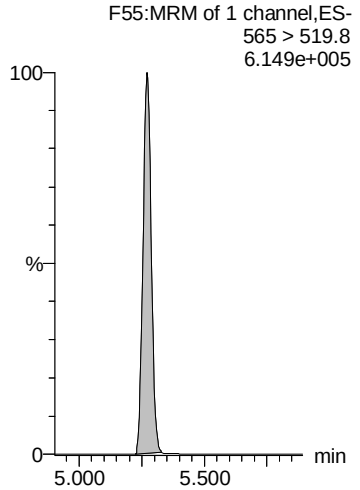
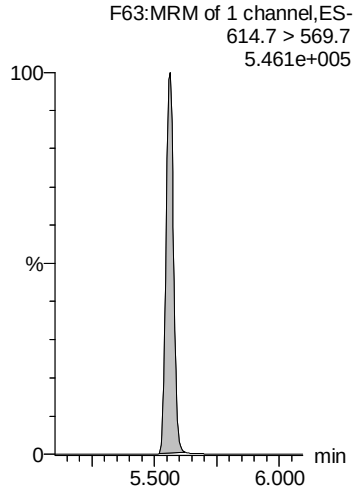


13C2-PFUdA



13C2-PFDoA



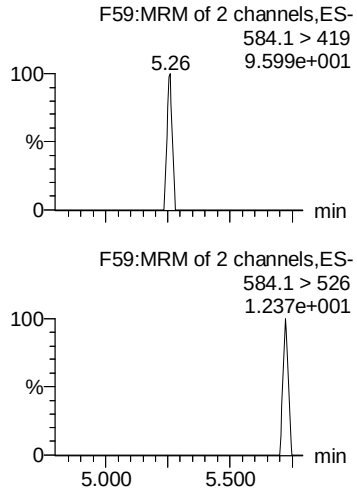
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

L-EtFOSAA



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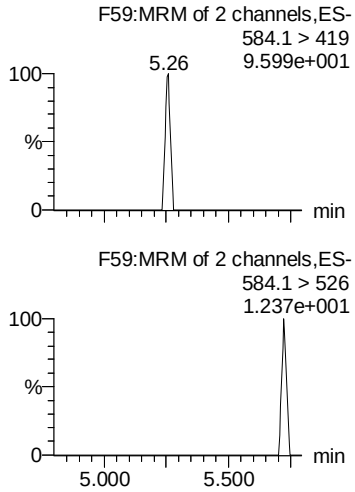
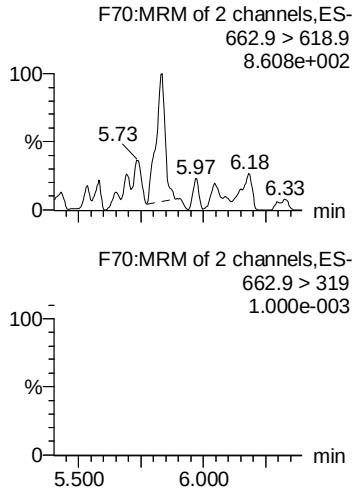
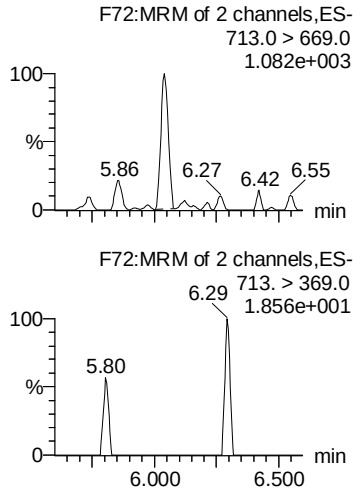


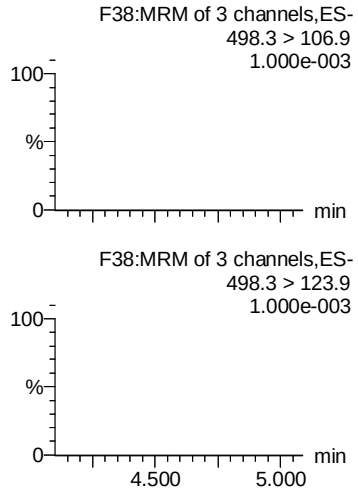
PFTrDA



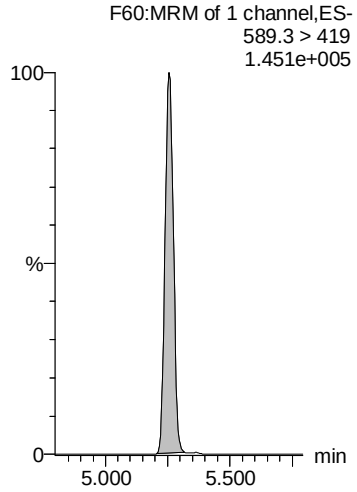
PFTeDA



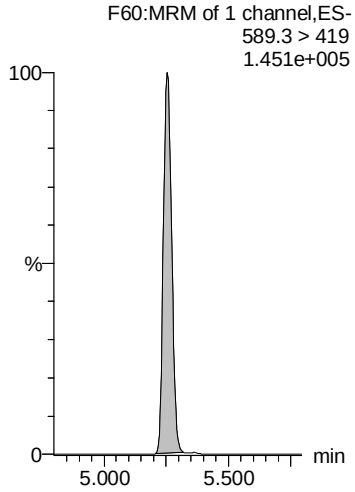
TDCA



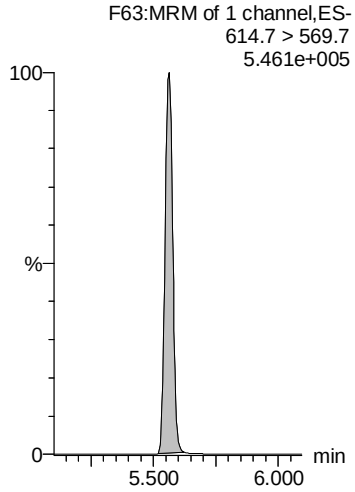
d5-N-EtFOSAA



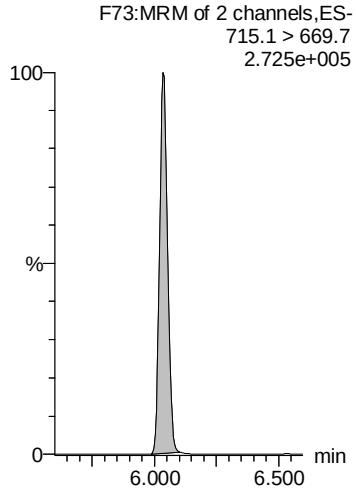
d5-N-EtFOSAA



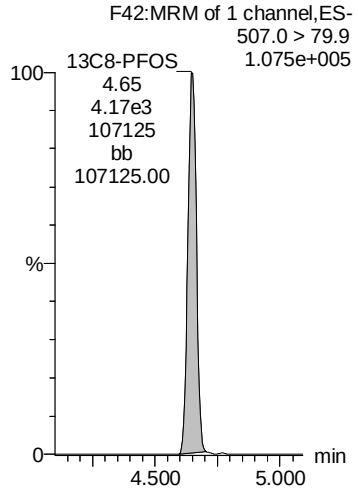
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



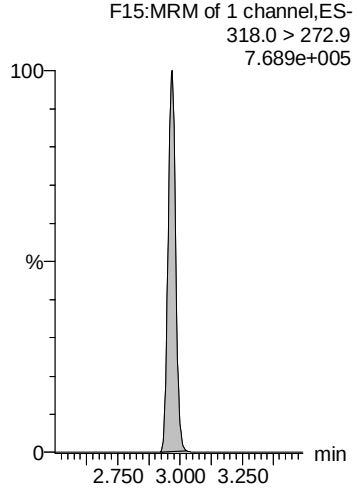
CM 7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-21.qld

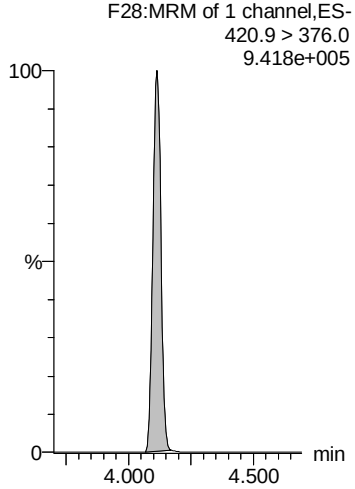
Last Altered: Tuesday, July 23, 2019 12:19:04 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:19:14 Pacific Daylight Time

Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

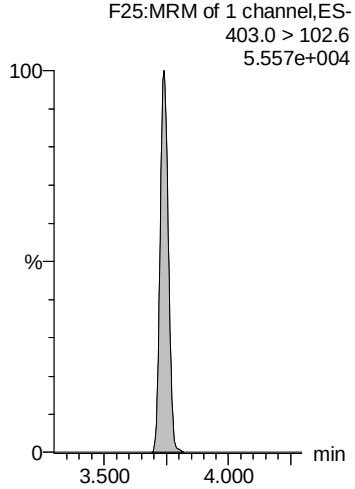
13C5-PFHxA



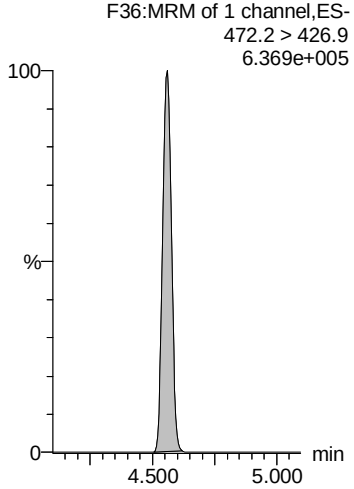
13C8-PFOA



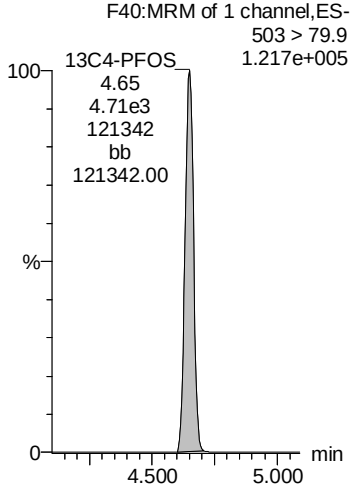
18O2-PFHxS



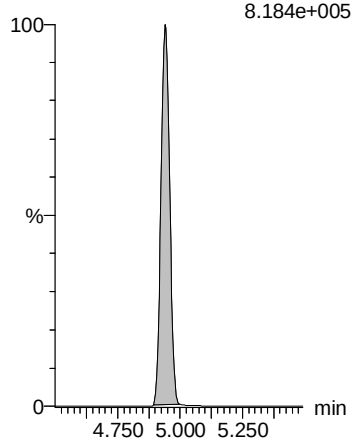
13C9-PFNA



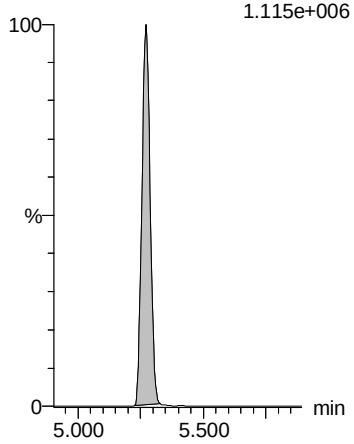
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-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	4.52e3	2.55e3	0.125		2.46	2.46	22.1	78.0539	97.6	3.070	NO
2	7	PFHxA	313.0 > 269.0	2.21e4	1.26e4	0.125		2.96	2.96	8.78	79.5599	99.4	14.941	NO
3	11	PFHpA	363.0 > 318.9	1.49e4	1.52e4	0.125		3.58	3.58	12.2	75.6489	94.6	9.126	NO
4	13	L-PFHxS	398.9 > 79.6	3.67e3	4.90e3	0.125		3.74	3.74	9.36	82.0829	102.6	2.147	NO
5	80	Total PFHxS	398.9 > 79.6	3.67e3	4.90e3	0.125		3.83		9.36	82.0829			
6	49	13C3-PFBS	302.0 > 98.8	2.55e3	2.40e3	0.125	1.058	2.45	2.46	13.3	100.4991	100.5		
7	52	13C2-PFHxA	315.0 > 270.0	1.26e4	3.15e4	0.125	0.978	2.96	2.96	4.99	40.7915	102.0		
8	53	13C4-PFHpA	367.2 > 321.8	1.52e4	3.15e4	0.125	0.479	3.59	3.58	6.02	100.6886	100.7		
9	54	13C3-PFHxS	401.8 > 79.9	4.90e3	2.40e3	0.125	2.024	3.75	3.74	25.5	100.8776	100.9		
10	54	13C3-PFHxS	401.8 > 79.9	4.90e3	2.40e3	0.125	2.024	3.75	3.74	25.5	100.8776	100.9		
11	-1													
12	16	L-PFOA	412.8 > 368.9	3.03e4	2.54e4	0.125		4.11	4.11	14.9	79.1383	98.9	3.954	NO
13	81	Total PFOA	412.8 > 368.9	3.03e4	2.54e4	0.125		4.21		14.9	79.1383			
14	21	PFNA	463.0 > 418.8	2.39e4	2.55e4	0.125		4.56	4.56	11.7	81.3901	101.7	4.084	NO
15	23	L-PFOS	498.9 > 79.9	4.35e3	5.26e3	0.125		4.65	4.65	10.3	77.5500	96.9	2.141	NO
16	82	Total PFOS	498.9 > 79.9	4.35e3	5.26e3	0.125		4.74		10.3	77.5500			
17	58	13C2-PFOA	414.9 > 369.7	2.54e4	4.05e4	0.125	0.681	4.12	4.11	7.85	92.1466	92.1		
18	58	13C2-PFOA	414.9 > 369.7	2.54e4	4.05e4	0.125	0.681	4.12	4.11	7.85	92.1466	92.1		
19	56	13C5-PFNA	468.2 > 422.9	2.55e4	2.97e4	0.125	1.002	4.56	4.56	10.7	85.4339	85.4		
20	59	13C8-PFOS	507.0 > 79.9	5.26e3	5.64e3	0.125	0.997	4.65	4.65	11.6	93.4898	93.5		
21	59	13C8-PFOS	507.0 > 79.9	5.26e3	5.64e3	0.125	0.997	4.65	4.65	11.6	93.4898	93.5		
22	-1													
23	26	PFDA	513 > 468.8	2.40e4	2.42e4	0.125		4.94	4.94	12.4	77.1326	96.4	5.263	NO
24	29	L-MeFOSAA	570 > 419	1.08e4	6.60e3	0.125		5.09	5.10	20.5	75.9659	95.0	2.540	NO
25	83	Total N-MeFOSAA	570. > 419	1.08e4	6.60e3	0.125		5.19		20.5	75.9659			
26	33	PFUdA	563.0 > 518.9	2.41e4	3.25e4	0.125		5.27	5.27	9.24	80.8323	101.0	8.471	NO
27	37	PFDoA	612.9 > 569.0	2.62e4	3.04e4	0.125		5.56	5.56	10.8	80.4237	100.5	8.200	NO
28	60	13C2-PFDA	515.1 > 469.9	2.42e4	3.89e4	0.125	0.819	4.95	4.94	7.75	75.7386	75.7		
29	62	d3-N-MeFOSAA	573.3 > 419	6.60e3	4.84e4	0.125	0.177	5.10	5.09	1.70	76.8255	76.8		
30	62	d3-N-MeFOSAA	573.3 > 419	6.60e3	4.84e4	0.125	0.177	5.10	5.09	1.70	76.8255	76.8		
31	63	13C2-PFUdA	565 > 519.8	3.25e4	4.84e4	0.125	0.889	5.28	5.27	8.41	75.6317	75.6		
32	65	13C2-PFDoA	614.7 > 569.7	3.04e4	3.89e4	0.125	1.087	5.57	5.56	9.76	71.8475	71.8		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	8.26e3	8.45e3	0.125		5.26	5.26	12.2	78.3456	97.9	1.363	NO
35	84	Total N-EtFOSAA	584.1 > 419	8.26e3	8.45e3	0.125		5.33		12.2	78.3456			
36	39	PFTrDA	662.9 > 618.9	2.45e4	3.04e4	0.125		5.82	5.81	10.1	70.5257	88.2	19.962	NO

AMR 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-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	2.13e4	1.82e4	0.125		6.04	6.04	14.6	77.2041	96.5	13.985	NO
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	8.45e3	4.84e4	0.125	0.224	5.26	5.26	2.18	77.9924	78.0		
40	64	d5-N-EtFOSAA	589.3 > 419	8.45e3	4.84e4	0.125	0.224	5.26	5.26	2.18	77.9924	78.0		
41	65	13C2-PFDoA	614.7 > 569.7	3.04e4	3.89e4	0.125	1.087	5.57	5.56	9.76	71.8475	71.8		
42	67	13C2-PFTeDA	715.1 > 669.7	1.82e4	4.84e4	0.125	0.604	6.05	6.04	4.69	62.1549	62.2		
43	59	13C8-PFOS	507.0 > 79.9	5.26e3	5.64e3	0.125	0.997	4.65	4.65	11.6	93.4898	93.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	3.15e4	3.15e4	0.125	1.000	2.96	2.96	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	4.05e4	4.05e4	0.125	1.000	4.12	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.40e3	2.40e3	0.125	1.000	3.75	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.97e4	2.97e4	0.125	1.000	4.56	4.56	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	5.64e3	5.64e3	0.125	1.000	4.65	4.65	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.89e4	3.89e4	0.125	1.000	4.95	4.94	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.84e4	4.84e4	0.125	1.000	5.28	5.27	12.5	100.0000	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

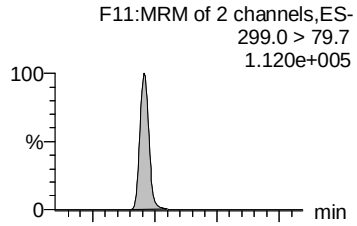
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

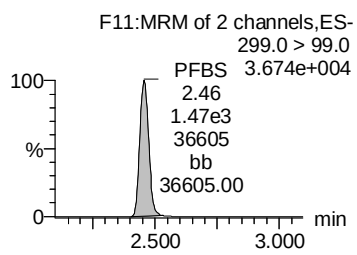
Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

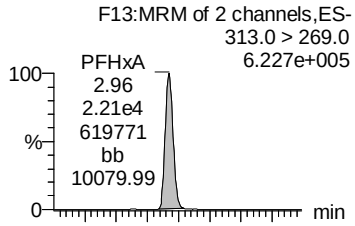
Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

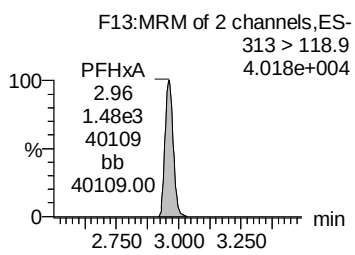
PFBS





PFHxA





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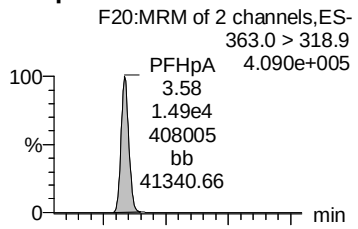
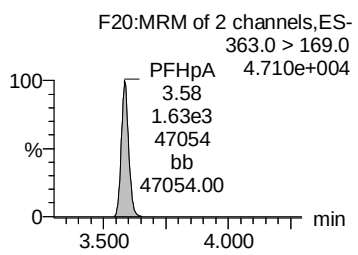
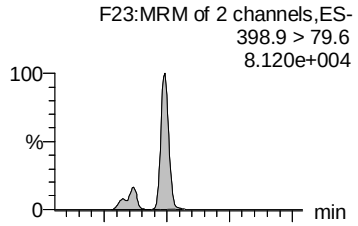
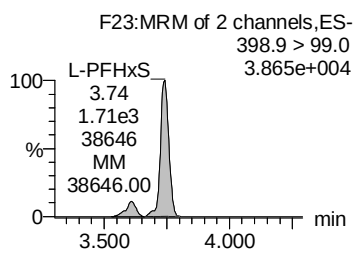




L-PFHxS





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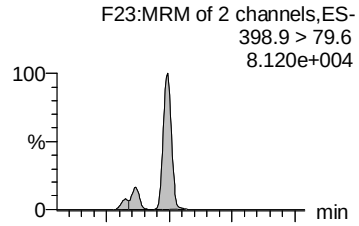

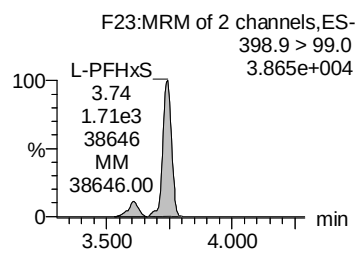

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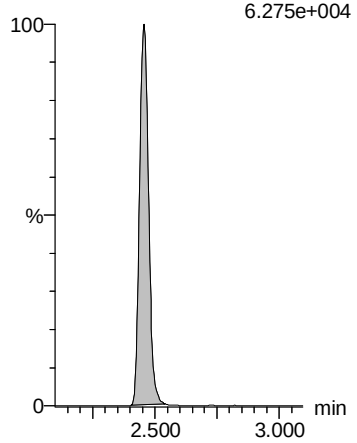

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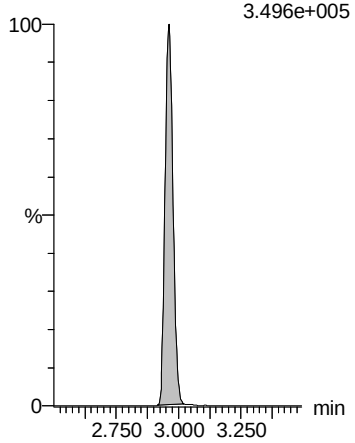

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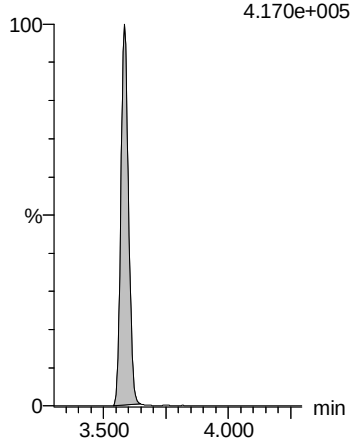
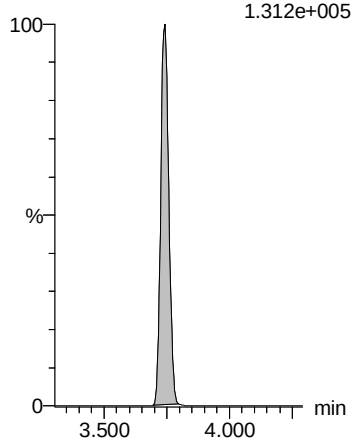


13C3-PFHxS



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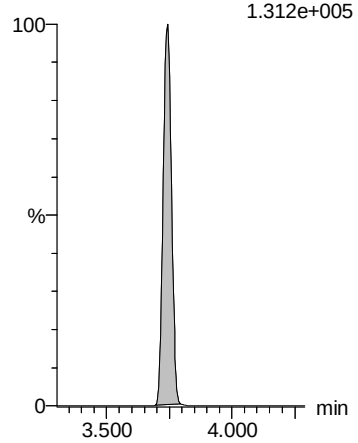


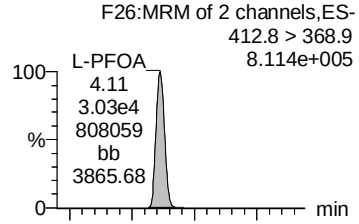
Review: AMR 7/24/2019

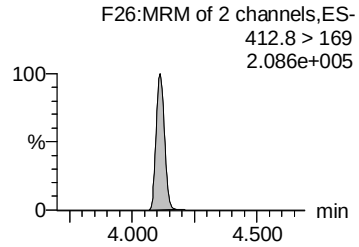
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

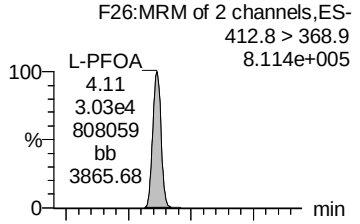
Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

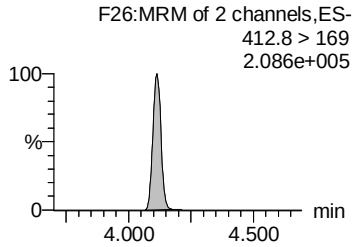
L-PFOA



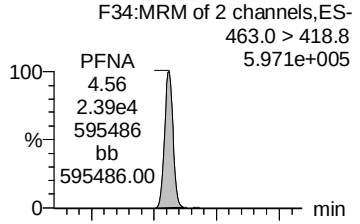


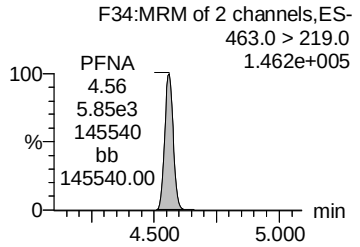
Total PFOA



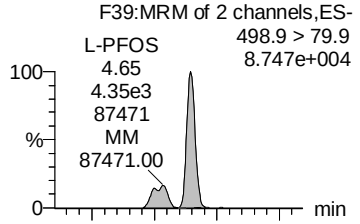


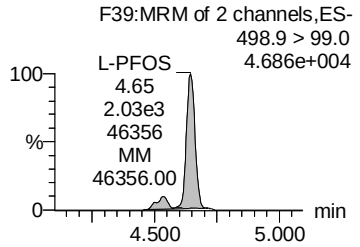
PFNA



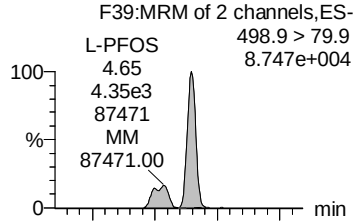


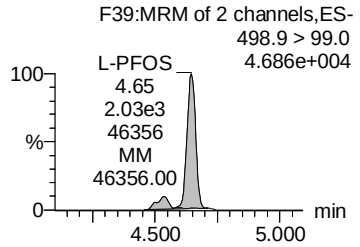
L-PFOS



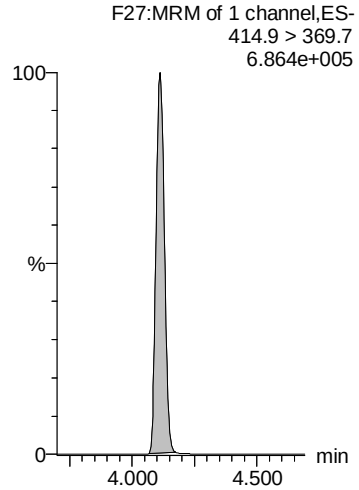


Total PFOS





13C2-PFOA



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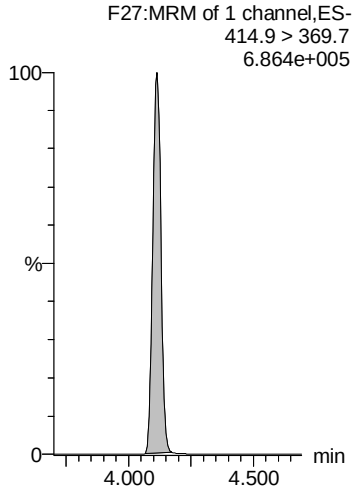

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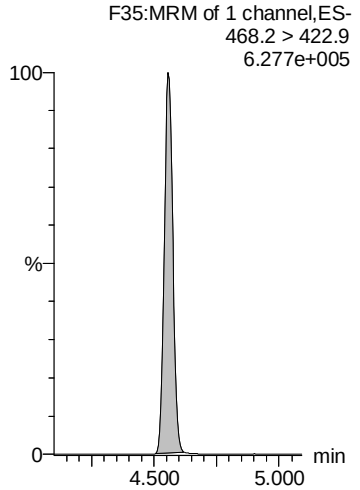

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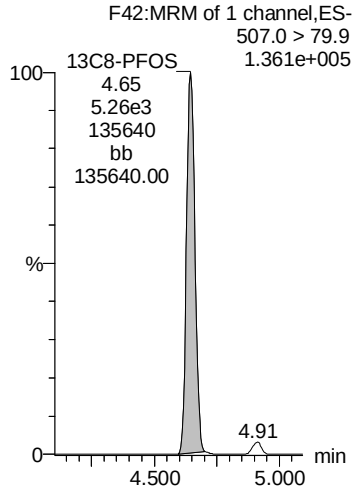
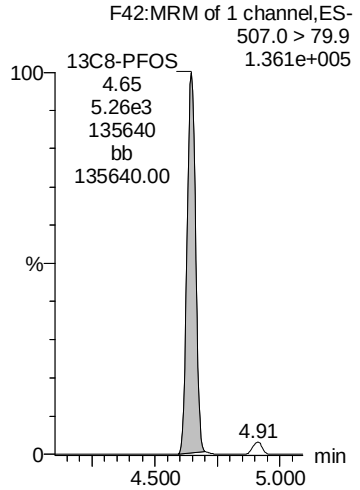


13C8-PFOS



AM 7/23/2019

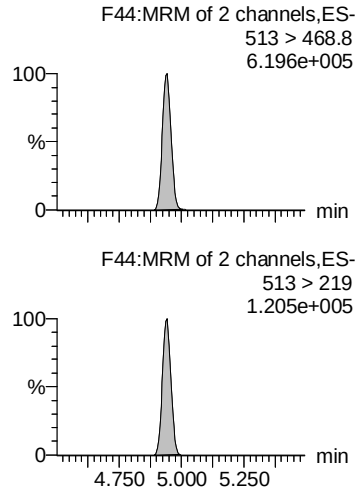
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

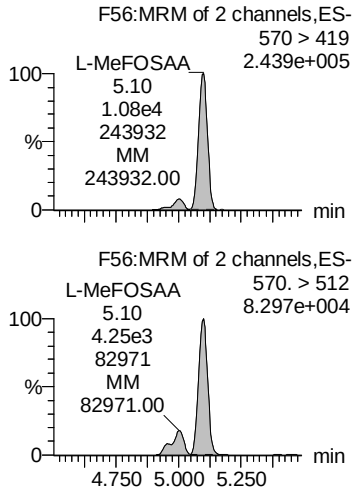
Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

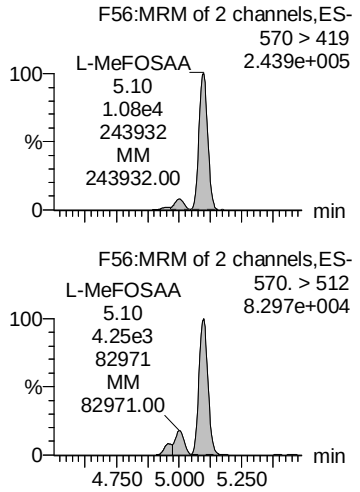
PFDA



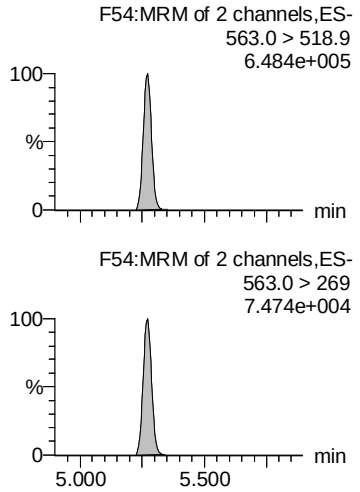
L-MeFOSAA



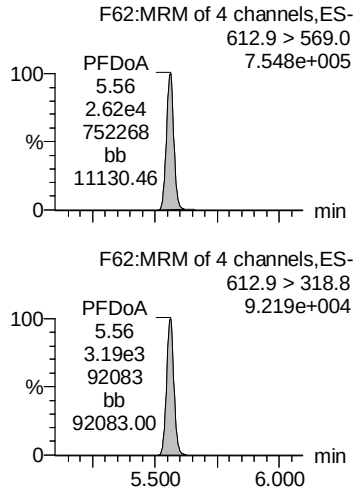
Total N-MeFOSAA



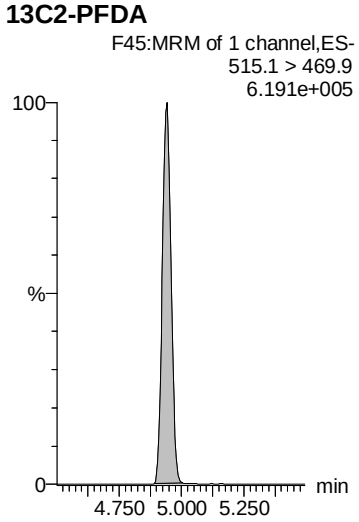
PFUdA



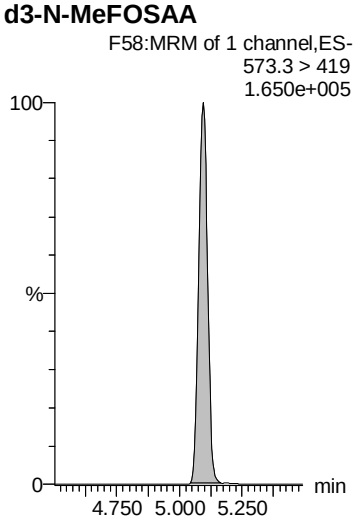
PFDoA



13C2-PFDA



d3-N-MeFOSAA



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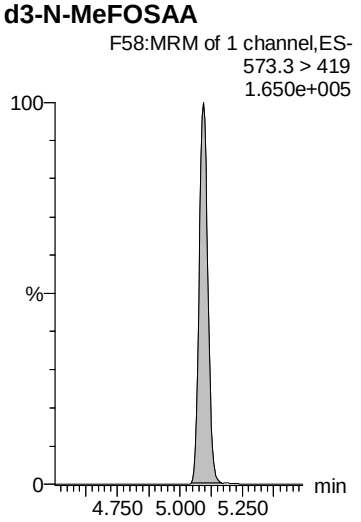
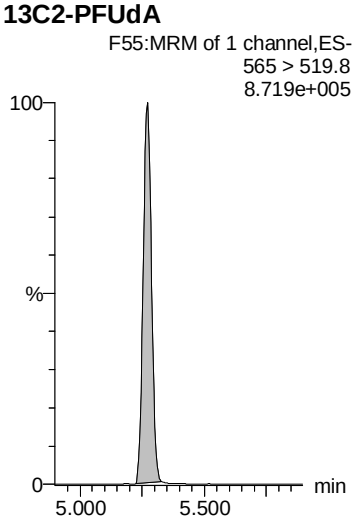
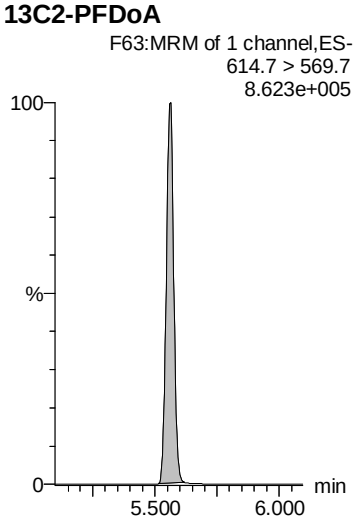


13C2-PFUdA



13C2-PFDoA



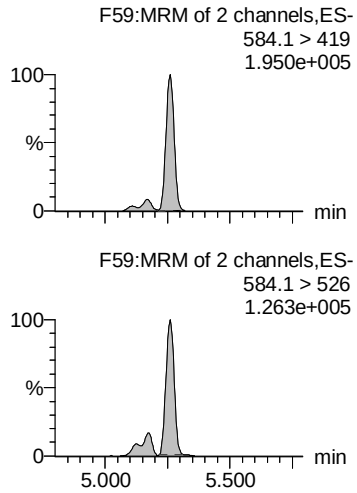
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

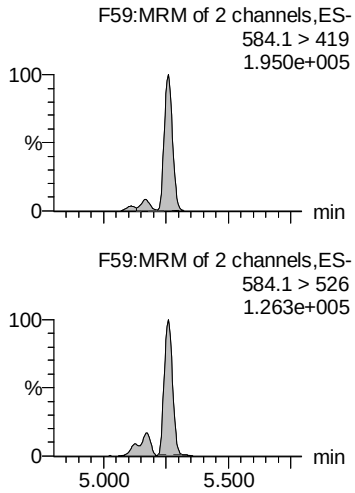
Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

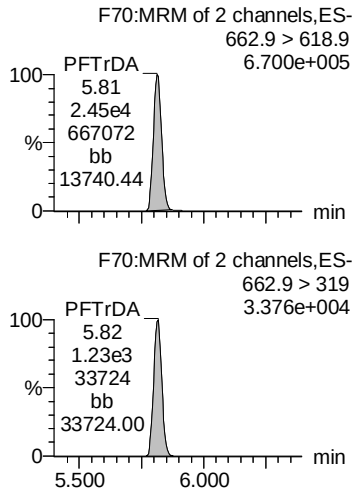
L-EtFOSAA



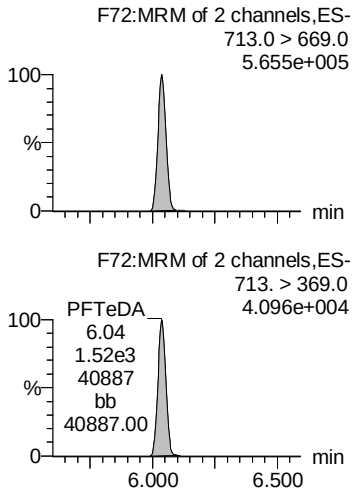
Total N-EtFOSAA



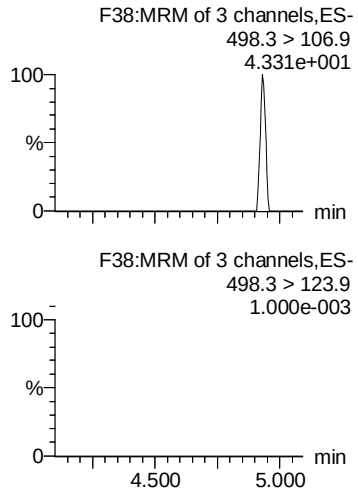
PFTrDA



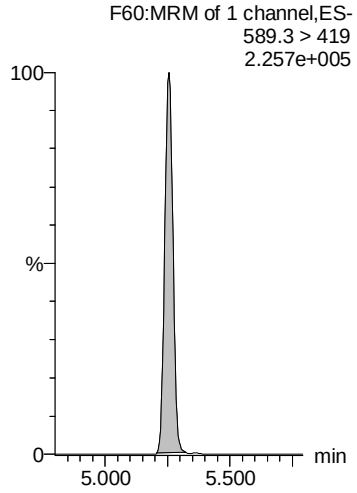
PFTeDA



TDCA



d5-N-EtFOSAA



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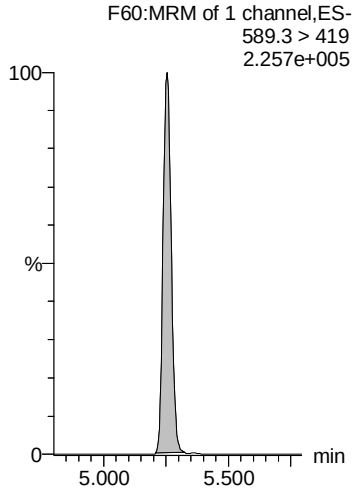
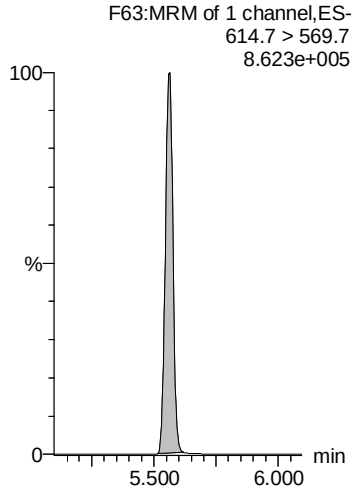
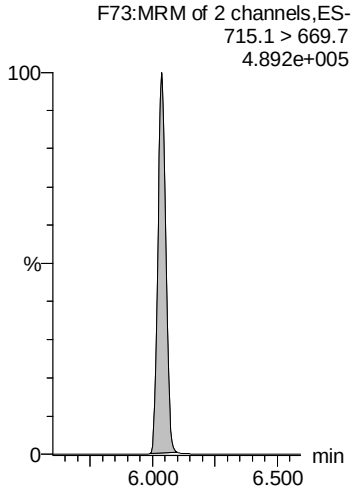


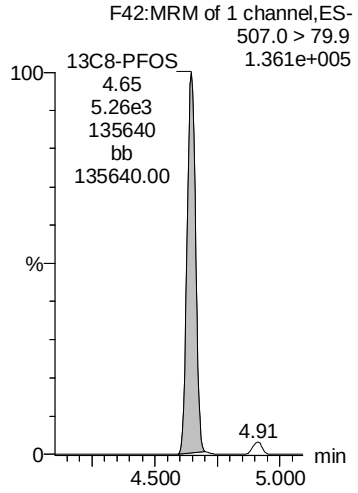
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS

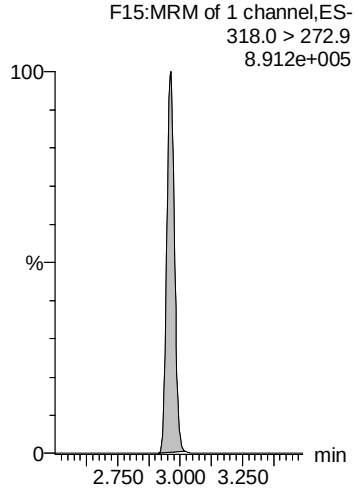


Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-19.qld

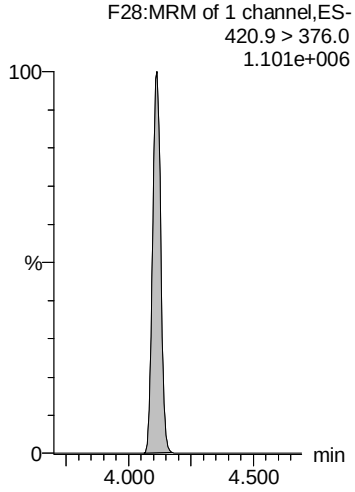
Last Altered: Tuesday, July 23, 2019 12:12:51 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:13:33 Pacific Daylight Time

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

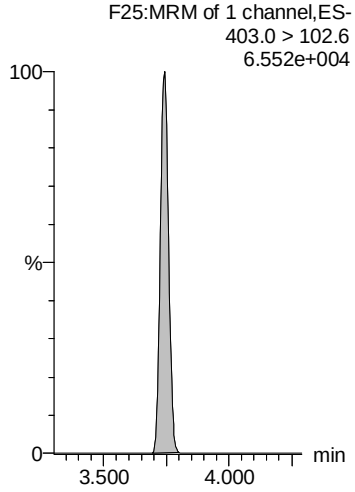
13C5-PFHxA



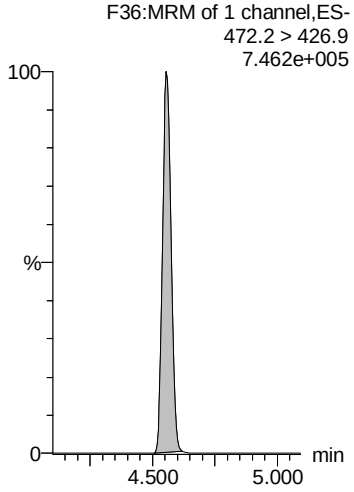
13C8-PFOA



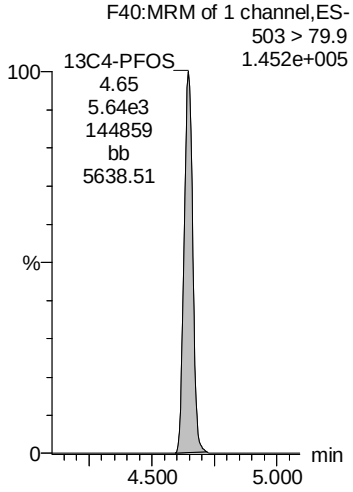
18O2-PFHxS



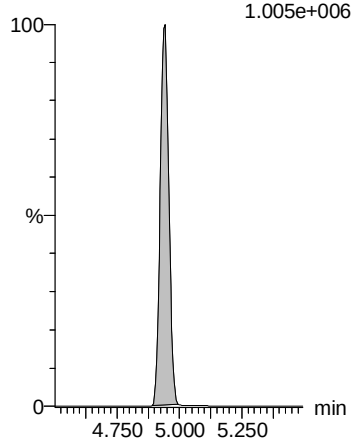
13C9-PFNA



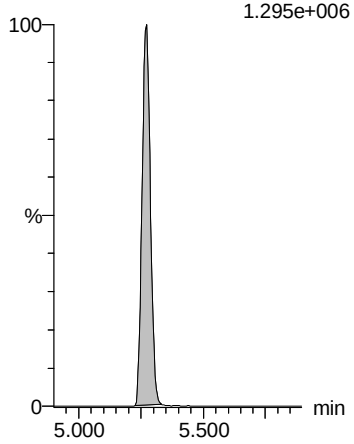
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-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	4.55e3	2.42e3	0.125		2.45	2.46	23.5	82.8238	103.5	3.013	NO
2	7	PFHxA	313.0 > 269.0	2.15e4	1.13e4	0.125		2.96	2.96	9.51	86.2495	107.8	15.049	NO
3	11	PFHpA	363.0 > 318.9	1.48e4	1.31e4	0.125		3.58	3.58	14.2	87.5303	109.4	9.788	NO
4	13	L-PFHxS	398.9 > 79.6	3.65e3	4.58e3	0.125		3.74	3.74	9.96	87.3120	109.1	2.042	NO
5	80	Total PFHxS	398.9 > 79.6	3.65e3	4.58e3	0.125		3.83		9.96	87.3120			
6	49	13C3-PFBS	302.0 > 98.8	2.42e3	2.39e3	0.125	1.058	2.45	2.45	12.6	95.6723	95.7		
7	52	13C2-PFHxA	315.0 > 270.0	1.13e4	2.84e4	0.125	0.978	2.96	2.96	4.96	40.6093	101.5		
8	53	13C4-PFHpA	367.2 > 321.8	1.31e4	2.84e4	0.125	0.479	3.59	3.58	5.76	96.2210	96.2		
9	54	13C3-PFHxS	401.8 > 79.9	4.58e3	2.39e3	0.125	2.024	3.75	3.74	24.0	94.6780	94.7		
10	54	13C3-PFHxS	401.8 > 79.9	4.58e3	2.39e3	0.125	2.024	3.75	3.74	24.0	94.6780	94.7		
11	-1													
12	16	L-PFOA	412.8 > 368.9	3.03e4	2.35e4	0.125		4.11	4.11	16.1	85.4502	106.8	4.038	NO
13	81	Total PFOA	412.8 > 368.9	3.03e4	2.35e4	0.125		4.21		16.1	85.4502			
14	21	PFNA	463.0 > 418.8	2.24e4	2.20e4	0.125		4.56	4.56	12.7	88.5003	110.6	3.979	NO
15	23	L-PFOS	498.9 > 79.9	4.55e3	4.74e3	0.125		4.65	4.65	12.0	89.8707	112.3	2.158	NO
16	82	Total PFOS	498.9 > 79.9	4.55e3	4.74e3	0.125		4.74		12.0	89.8707			
17	58	13C2-PFOA	414.9 > 369.7	2.35e4	3.73e4	0.125	0.681	4.12	4.11	7.90	92.7519	92.8		
18	58	13C2-PFOA	414.9 > 369.7	2.35e4	3.73e4	0.125	0.681	4.12	4.11	7.90	92.7519	92.8		
19	56	13C5-PFNA	468.2 > 422.9	2.20e4	2.71e4	0.125	1.002	4.56	4.56	10.1	80.7498	80.7		
20	59	13C8-PFOS	507.0 > 79.9	4.74e3	5.25e3	0.125	0.997	4.65	4.65	11.3	90.7037	90.7		
21	59	13C8-PFOS	507.0 > 79.9	4.74e3	5.25e3	0.125	0.997	4.65	4.65	11.3	90.7037	90.7		
22	-1													
23	26	PFDA	513 > 468.8	2.34e4	2.12e4	0.125		4.94	4.94	13.8	85.5817	107.0	5.238	NO
24	29	L-MeFOSAA	570 > 419	1.02e4	6.09e3	0.125		5.09	5.10	20.9	77.3939	96.7	2.407	NO
25	83	Total N-MeFOSAA	570. > 419	1.02e4	6.09e3	0.125		5.19		20.9	77.3939			
26	33	PFUdA	563.0 > 518.9	2.24e4	2.74e4	0.125		5.27	5.27	10.2	89.5693	112.0	7.854	NO
27	37	PFDoA	612.9 > 569.0	2.58e4	2.84e4	0.125		5.56	5.56	11.4	84.9127	106.1	8.493	NO
28	60	13C2-PFDA	515.1 > 469.9	2.12e4	3.63e4	0.125	0.819	4.95	4.94	7.31	71.4036	71.4		
29	62	d3-N-MeFOSAA	573.3 > 419	6.09e3	4.64e4	0.125	0.177	5.10	5.09	1.64	74.0421	74.0		
30	62	d3-N-MeFOSAA	573.3 > 419	6.09e3	4.64e4	0.125	0.177	5.10	5.09	1.64	74.0421	74.0		
31	63	13C2-PFUdA	565 > 519.8	2.74e4	4.64e4	0.125	0.889	5.28	5.27	7.38	66.3811	66.4		
32	65	13C2-PFDoA	614.7 > 569.7	2.84e4	3.63e4	0.125	1.087	5.57	5.56	9.80	72.0733	72.1		
33	-1													
34	31	L-EtFOSAA	584.1 > 419	8.06e3	7.84e3	0.125		5.26	5.26	12.8	82.2971	102.9	1.435	NO
35	84	Total N-EtFOSAA	584.1 > 419	8.06e3	7.84e3	0.125		5.33		12.8	82.2971			
36	39	PFTrDA	662.9 > 618.9	2.36e4	2.84e4	0.125		5.82	5.82	10.4	72.5425	90.7	19.458	NO

AMR 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-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	2.13e4	1.60e4	0.125		6.04	6.04	16.7	88.2557	110.3	16.116	NO
38	85	TDCA	498.3>106.9			0.125		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	7.84e3	4.64e4	0.125	0.224	5.26	5.26	2.11	75.5674	75.6		
40	64	d5-N-EtFOSAA	589.3 > 419	7.84e3	4.64e4	0.125	0.224	5.26	5.26	2.11	75.5674	75.6		
41	65	13C2-PFDoA	614.7 > 569.7	2.84e4	3.63e4	0.125	1.087	5.57	5.56	9.80	72.0733	72.1		
42	67	13C2-PFTeDA	715.1 > 669.7	1.60e4	4.64e4	0.125	0.604	6.05	6.04	4.30	56.9558	57.0		
43	59	13C8-PFOS	507.0 > 79.9	4.74e3	5.25e3	0.125	0.997	4.65	4.65	11.3	90.7037	90.7		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.84e4	2.84e4	0.125	1.000	2.96	2.96	12.5	100.0000	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.73e4	3.73e4	0.125	1.000	4.12	4.11	12.5	100.0000	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.39e3	2.39e3	0.125	1.000	3.75	3.74	12.5	100.0000	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.71e4	2.71e4	0.125	1.000	4.56	4.56	12.5	100.0000	100.0		
49	77	13C4-PFOS	503 > 79.9	5.25e3	5.25e3	0.125	1.000	4.65	4.65	12.5	100.0000	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.63e4	3.63e4	0.125	1.000	4.95	4.94	12.5	100.0000	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.64e4	4.64e4	0.125	1.000	5.28	5.27	12.5	100.0000	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

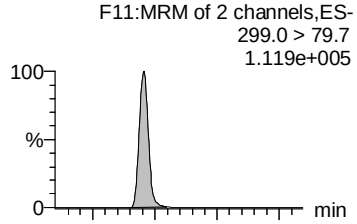
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

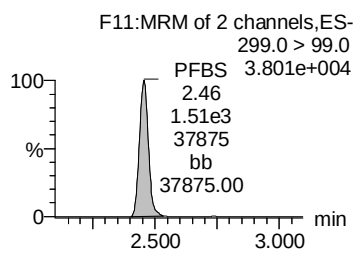
Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

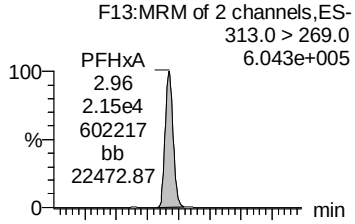
Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

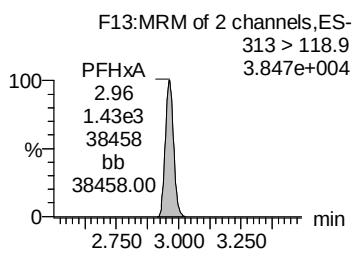
PFBS



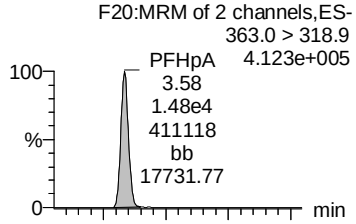


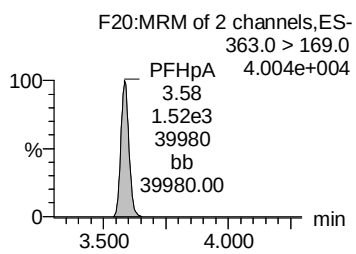
PFHxA



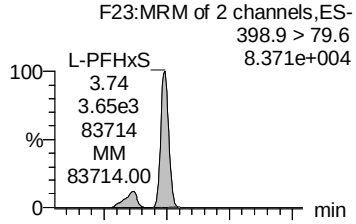


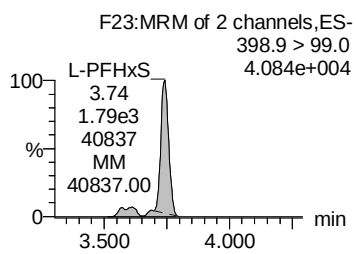
PFHpA



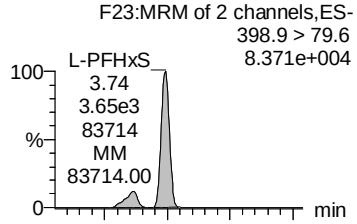


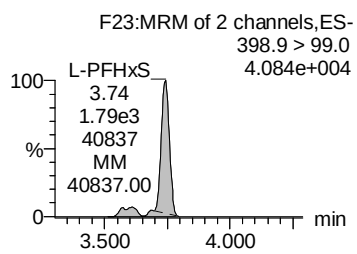
L-PFHxS



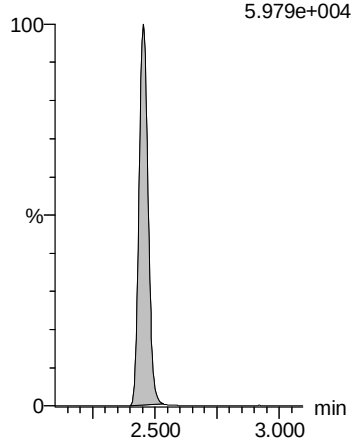


Total PFHxS

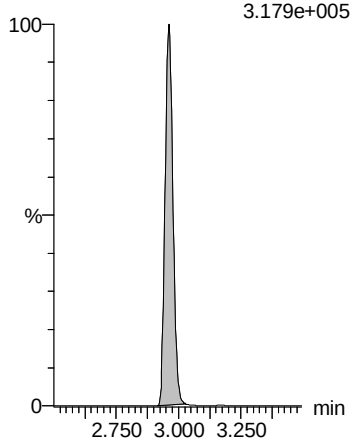




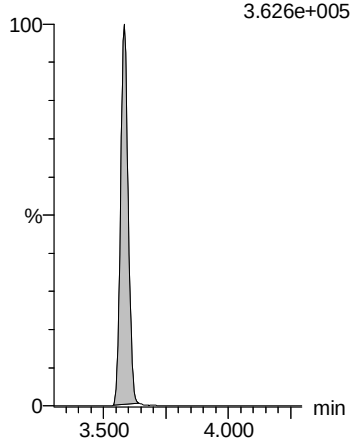
13C3-PFBS



13C2-PFHxA



13C4-PFHpA



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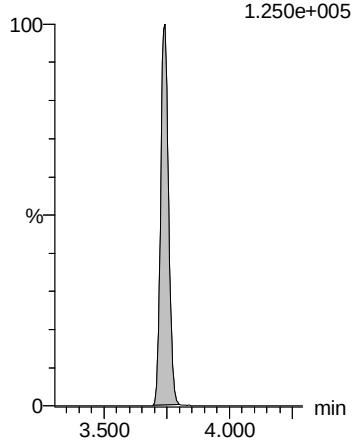
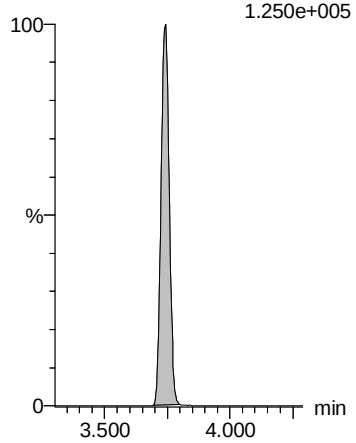


13C3-PFHxS



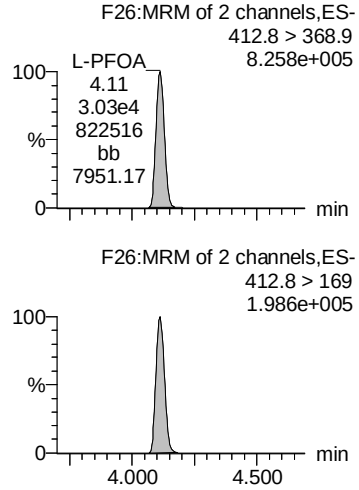
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

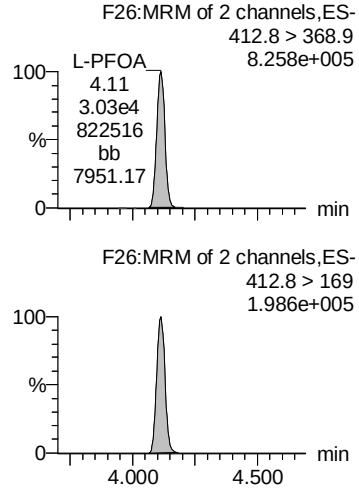
Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

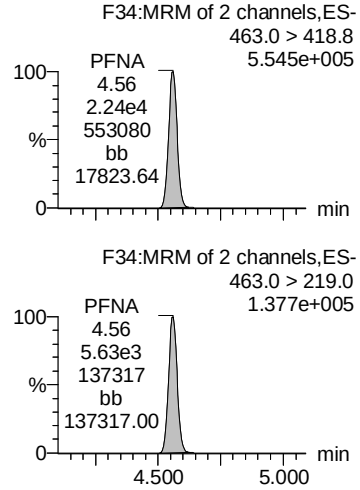
L-PFOA



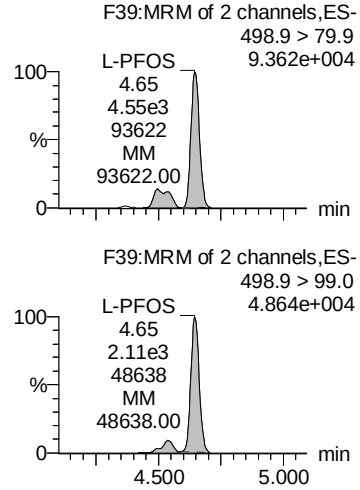
Total PFOA



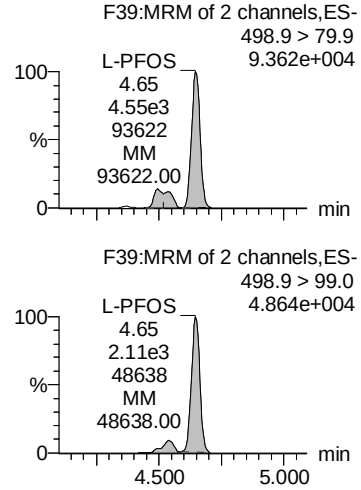
PFNA



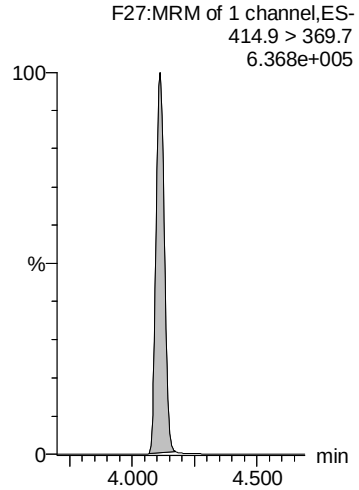
L-PFOS



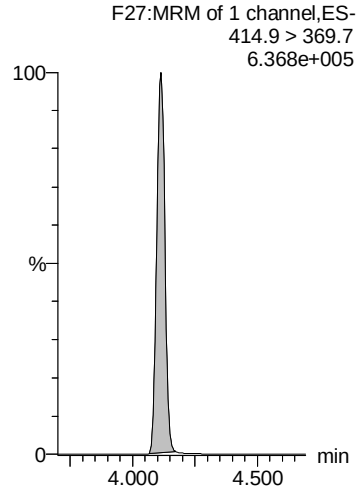
Total PFOS



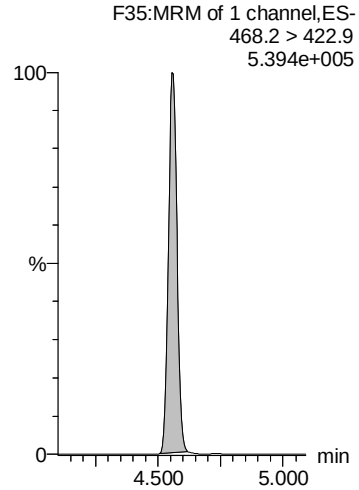
13C2-PFOA



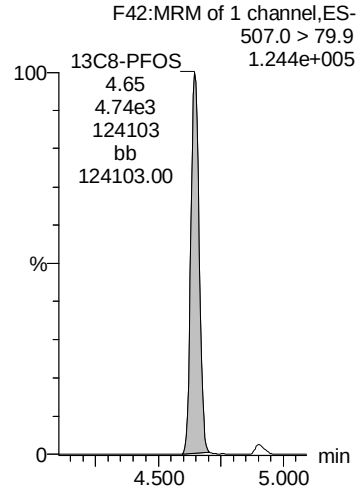
13C2-PFOA



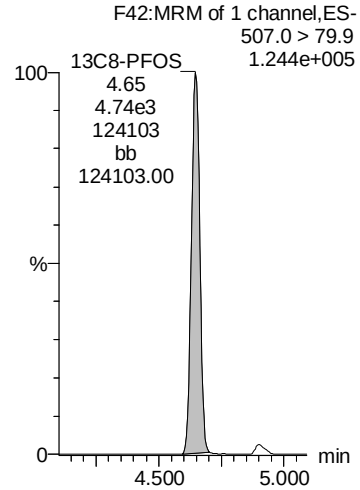
13C5-PFNA



13C8-PFOS



13C8-PFOS



AM 7/23/2019

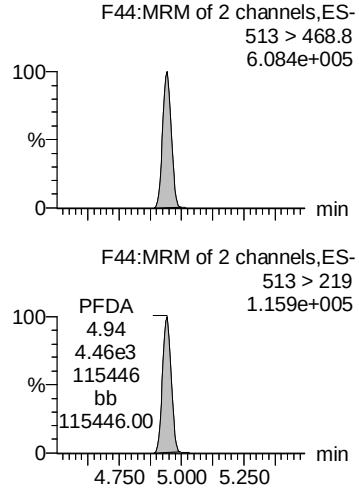
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

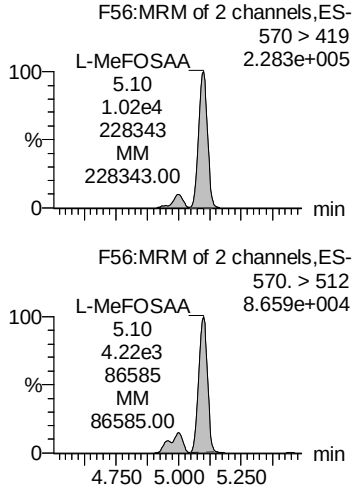
Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

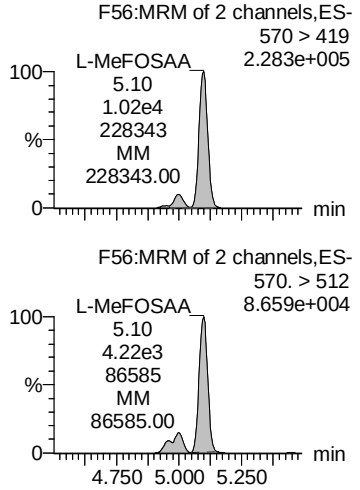
PFDA



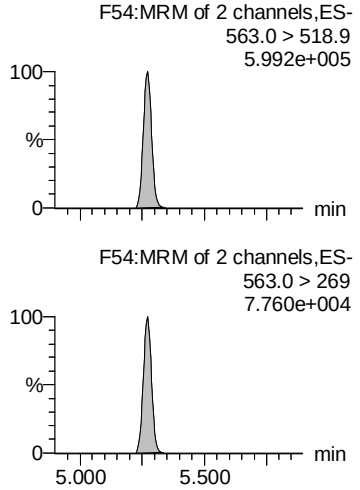
L-MeFOSAA



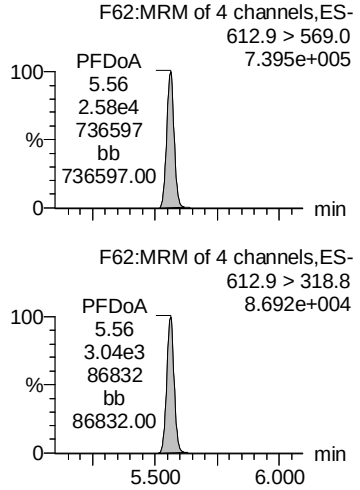
Total N-MeFOSAA



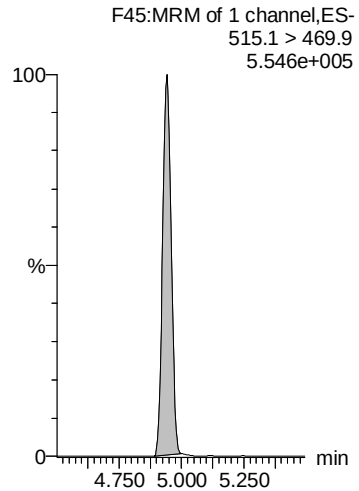
PFUdA



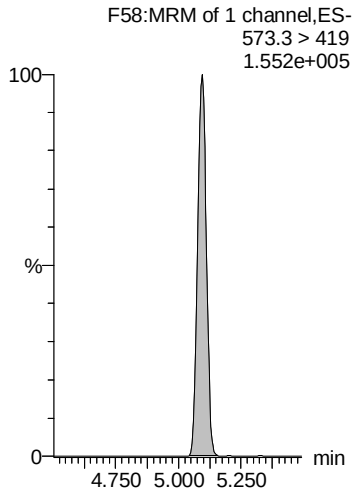
PFDoA



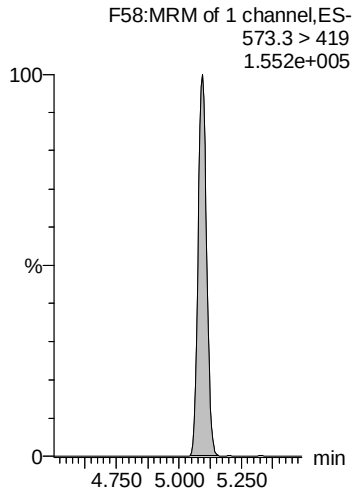
13C2-PFDA



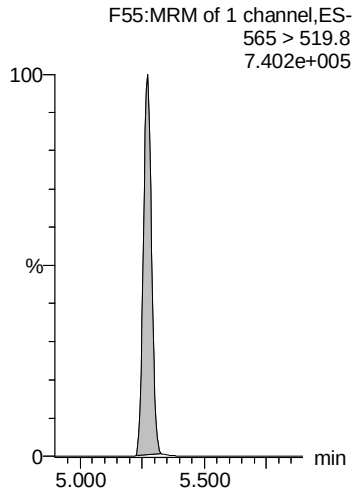
d3-N-MeFOSAA



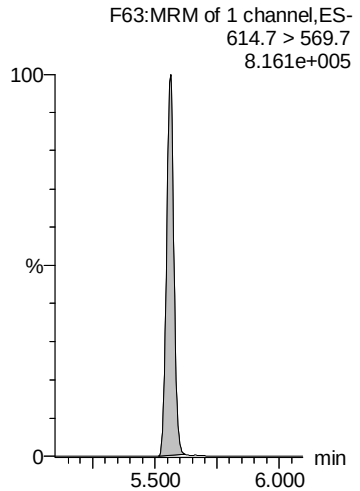
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



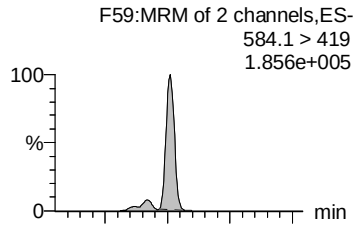
Review: AMR 7/24/2019

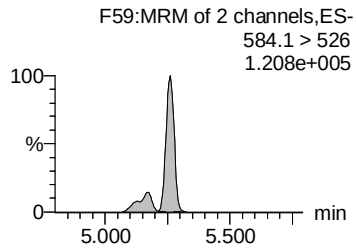
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

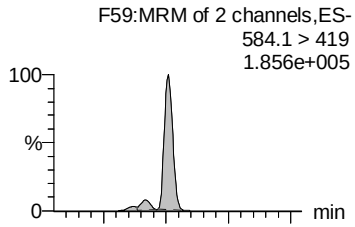
Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

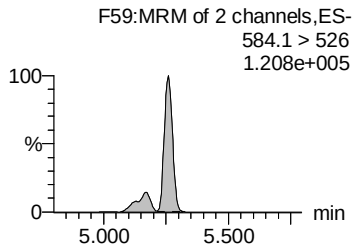
L-EtFOSAA



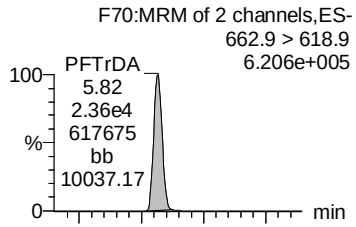


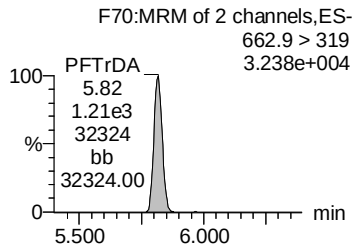
Total N-EtFOSAA



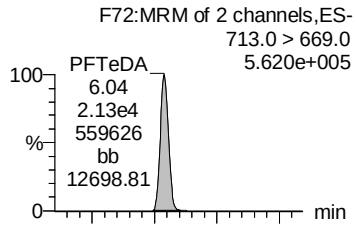


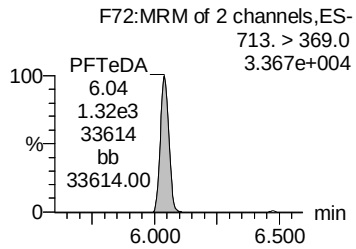
PFTrDA



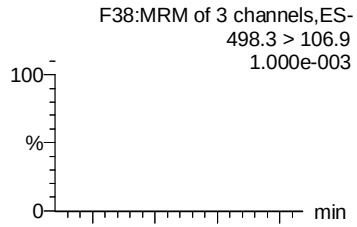


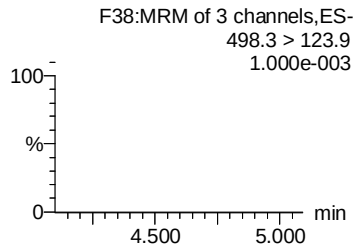
PFTeDA



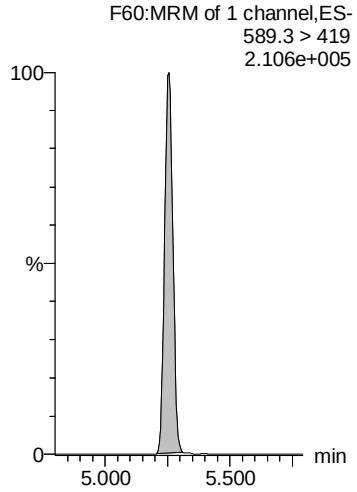


TDCA

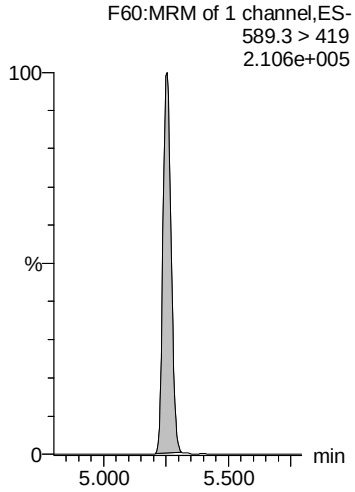




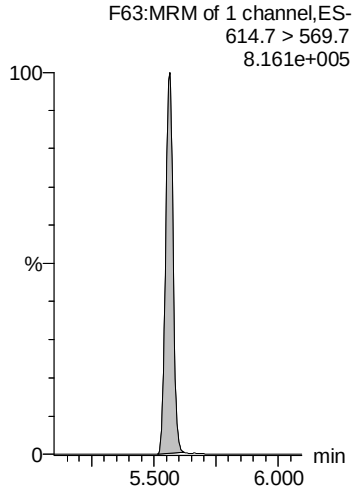
d5-N-EtFOSAA



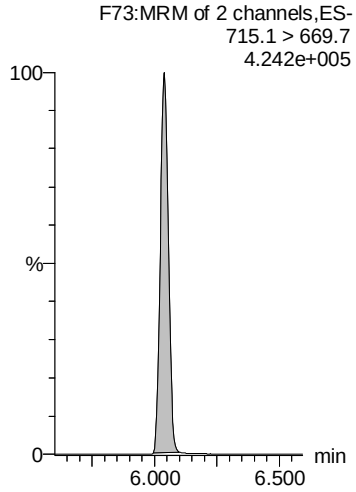
d5-N-EtFOSAA



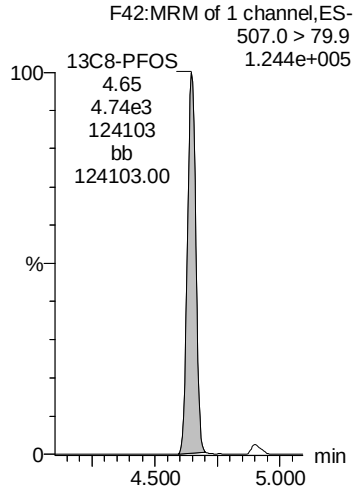
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



GM 7/23/2019

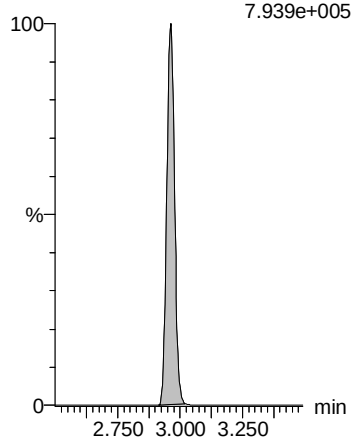
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-20.qld

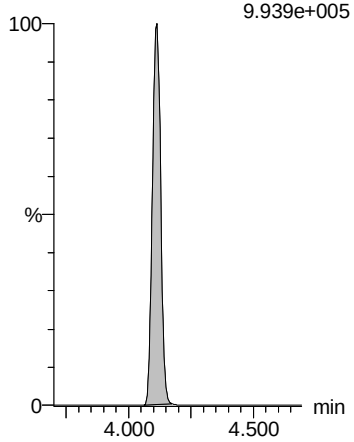
Last Altered: Tuesday, July 23, 2019 12:16:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:16:51 Pacific Daylight Time

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

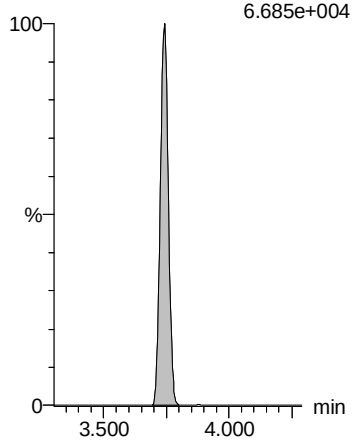
13C5-PFHxA



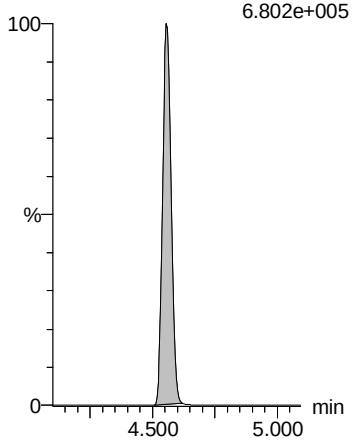
13C8-PFOA



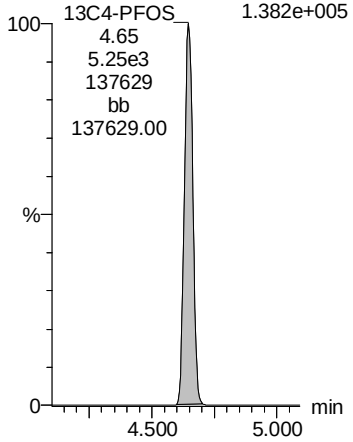
18O2-PFHxS



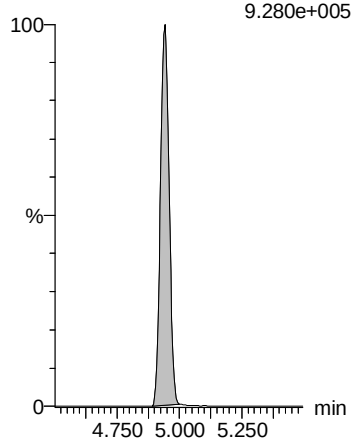
13C9-PFNA



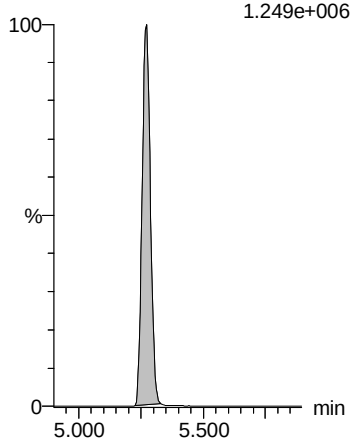
13C4-PFOS



13C6-PFDA



13C7-PFUdA



GM 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-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	1.21e2	2.28e3	0.116		2.45	2.45	0.664	2.8010		2.308	NO
2	7	PFHxA	313.0 > 269.0	8.68e3	1.05e4	0.116		2.96	2.96	4.14	40.1404		15.044	NO
3	11	PFHpA	363.0 > 318.9	5.34e2	1.27e4	0.116		3.58	3.59	0.527	3.5172		9.375	NO
4	13	L-PFHxS	398.9 > 79.6	1.62e3	4.55e3	0.116		3.75	3.75	4.45	42.2272		2.229	NO
5	80	Total PFHxS	398.9 > 79.6	1.62e3	4.55e3	0.116		3.83		4.45	42.2272			
6	49	13C3-PFBS	302.0 > 98.8	2.28e3	2.18e3	0.116	1.058	2.45	2.45	13.1	106.8130	99.1		
7	52	13C2-PFHxA	315.0 > 270.0	1.05e4	2.81e4	0.116	0.978	2.96	2.96	4.66	41.1538	95.4		
8	53	13C4-PFHpA	367.2 > 321.8	1.27e4	2.81e4	0.116	0.479	3.59	3.58	5.64	101.7317	94.4		
9	54	13C3-PFHxS	401.8 > 79.9	4.55e3	2.18e3	0.116	2.024	3.75	3.75	26.1	111.2236	103.2		
10	54	13C3-PFHxS	401.8 > 79.9	4.55e3	2.18e3	0.116	2.024	3.75	3.75	26.1	111.2236	103.2		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.53e3	2.27e4	0.116		4.12	4.12	1.39	7.7624		4.063	NO
13	81	Total PFOA	412.8 > 368.9	2.53e3	2.27e4	0.116		4.21		1.39	7.7624			
14	21	PFNA	463.0 > 418.8	3.73e2	2.43e4	0.116		4.56	4.56	0.192	1.2234		3.059	NO
15	23	L-PFOS	498.9 > 79.9	9.04e3	5.06e3	0.116		4.65	4.65	22.3	180.4162		2.207	NO
16	82	Total PFOS	498.9 > 79.9	9.04e3	5.06e3	0.116		4.74		22.3	180.4162			
17	58	13C2-PFOA	414.9 > 369.7	2.27e4	3.56e4	0.116	0.681	4.12	4.12	8.00	101.2493	93.9		
18	58	13C2-PFOA	414.9 > 369.7	2.27e4	3.56e4	0.116	0.681	4.12	4.12	8.00	101.2493	93.9		
19	56	13C5-PFNA	468.2 > 422.9	2.43e4	2.64e4	0.116	1.002	4.56	4.56	11.5	99.0274	91.8		
20	59	13C8-PFOS	507.0 > 79.9	5.06e3	5.21e3	0.116	0.997	4.65	4.65	12.1	105.0675	97.4		
21	59	13C8-PFOS	507.0 > 79.9	5.06e3	5.21e3	0.116	0.997	4.65	4.65	12.1	105.0675	97.4		
22	-1													
23	26	PFDA	513 > 468.8	2.77e2	2.41e4	0.116		4.94	4.94	0.144	0.9352		5.873	NO
24	29	L-MeFOSAA	570 > 419		6.13e3	0.116		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	6.13e3	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	1.11e2	2.87e4	0.116		5.27	5.27	0.0482			8.353	NO
27	37	PFDoA	612.9 > 569.0	4.97e1	2.16e4	0.116		5.56	5.57	0.0287			10.212	NO
28	60	13C2-PFDA	515.1 > 469.9	2.41e4	3.46e4	0.116	0.819	4.95	4.94	8.71	91.7629	85.1		
29	62	d3-N-MeFOSAA	573.3 > 419	6.13e3	4.24e4	0.116	0.177	5.10	5.09	1.81	87.8849	81.5		
30	62	d3-N-MeFOSAA	573.3 > 419	6.13e3	4.24e4	0.116	0.177	5.10	5.09	1.81	87.8849	81.5		
31	63	13C2-PFUdA	565 > 519.8	2.87e4	4.24e4	0.116	0.889	5.28	5.27	8.48	82.2825	76.3		
32	65	13C2-PFDoA	614.7 > 569.7	2.16e4	3.46e4	0.116	1.087	5.57	5.56	7.81	61.9680	57.5		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		7.29e3	0.116		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	7.29e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.16e4	0.116		5.82						

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-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		5.15e3	0.116		6.04						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	7.29e3	4.24e4	0.116	0.224	5.26	5.26	2.15	82.8478	76.8		
40	64	d5-N-EtFOSAA	589.3 > 419	7.29e3	4.24e4	0.116	0.224	5.26	5.26	2.15	82.8478	76.8		
41	65	13C2-PFDoA	614.7 > 569.7	2.16e4	3.46e4	0.116	1.087	5.57	5.56	7.81	61.9680	57.5		
42	67	13C2-PFTeDA	715.1 > 669.7	5.15e3	4.24e4	0.116	0.604	6.05	6.04	1.52	21.6873	20.1		
43	59	13C8-PFOS	507.0 > 79.9	5.06e3	5.21e3	0.116	0.997	4.65	4.65	12.1	105.0675	97.4		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.81e4	2.81e4	0.116	1.000	2.96	2.96	12.5	107.8237	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.56e4	3.56e4	0.116	1.000	4.12	4.11	12.5	107.8237	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.18e3	2.18e3	0.116	1.000	3.75	3.75	12.5	107.8237	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.64e4	2.64e4	0.116	1.000	4.56	4.56	12.5	107.8237	100.0		
49	77	13C4-PFOS	503 > 79.9	5.21e3	5.21e3	0.116	1.000	4.65	4.65	12.5	107.8237	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.46e4	3.46e4	0.116	1.000	4.95	4.94	12.5	107.8237	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.24e4	4.24e4	0.116	1.000	5.28	5.27	12.5	107.8237	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

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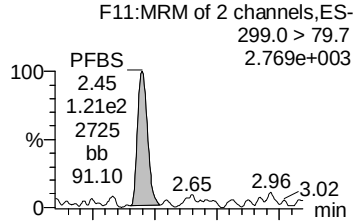
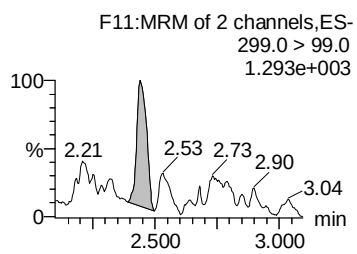
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

PFBS





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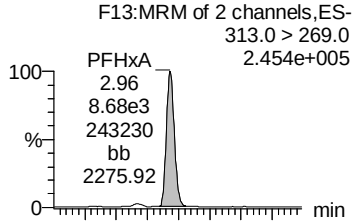

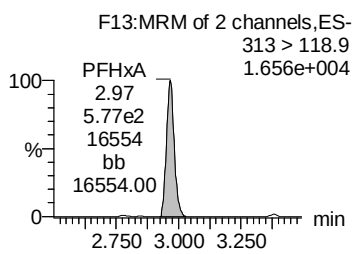

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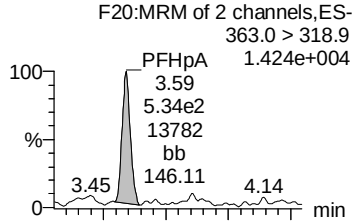
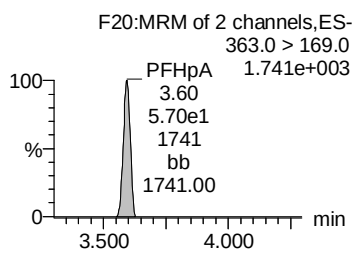
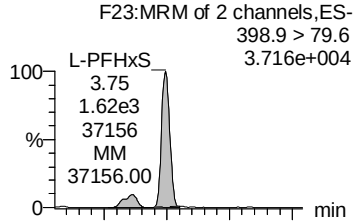
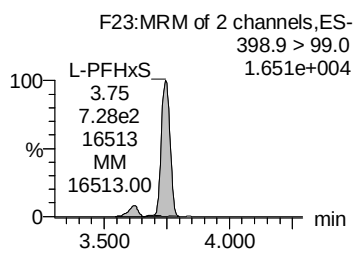




L-PFHxS





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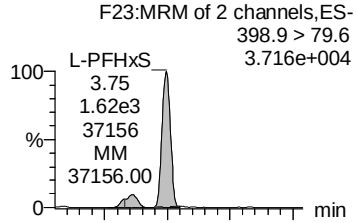

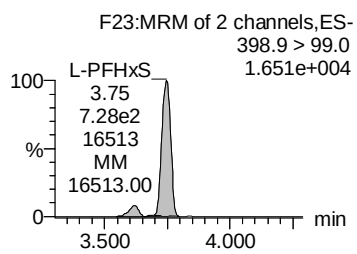

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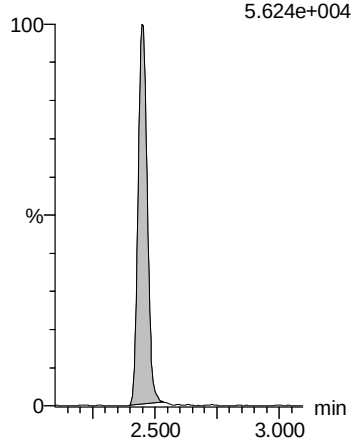

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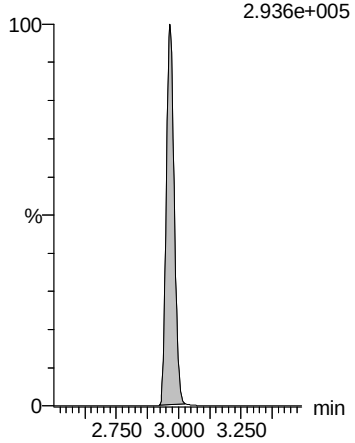

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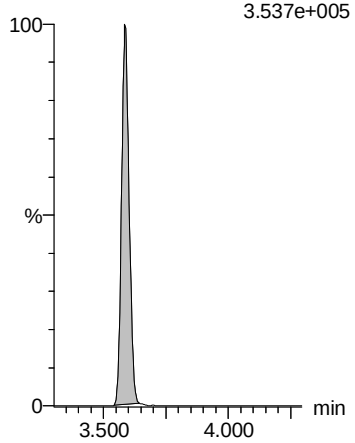

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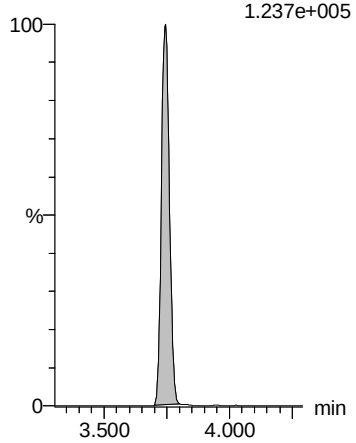

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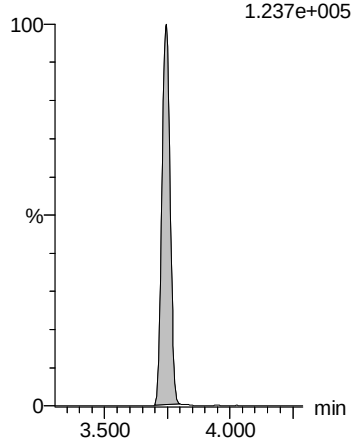

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
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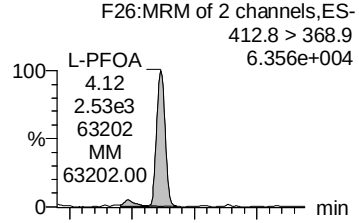
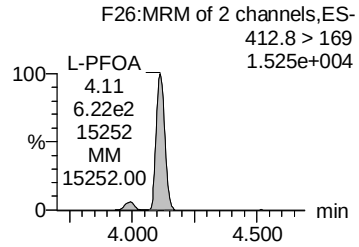
Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

L-PFOA





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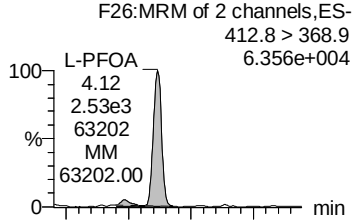

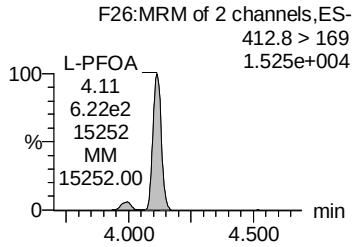

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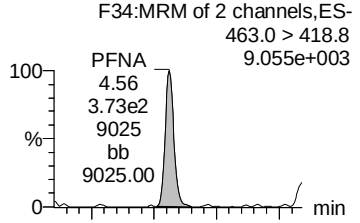
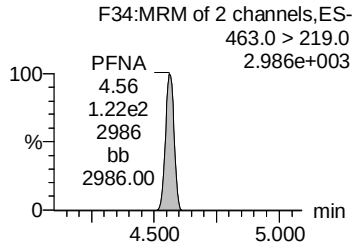
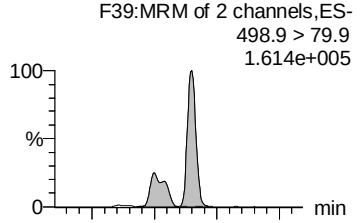
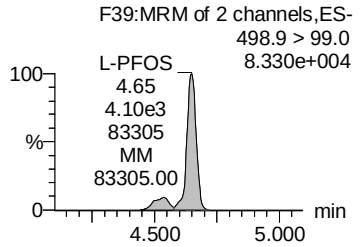


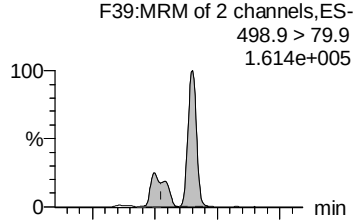


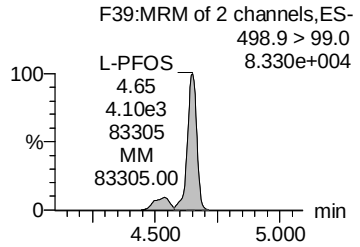
L-PFOS





Total PFOS





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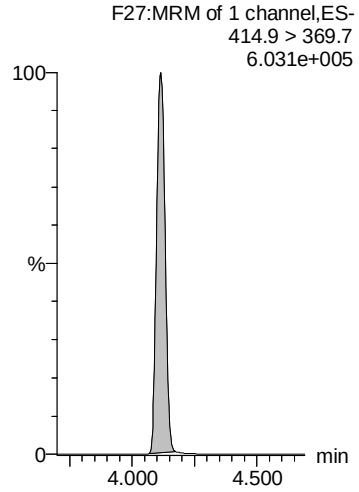

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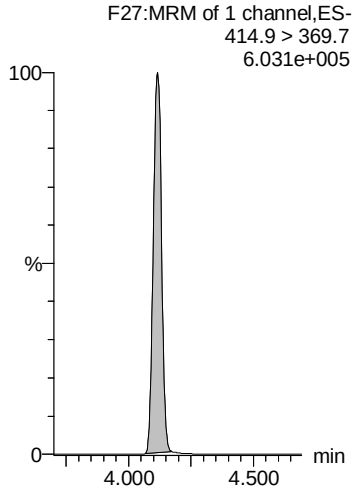

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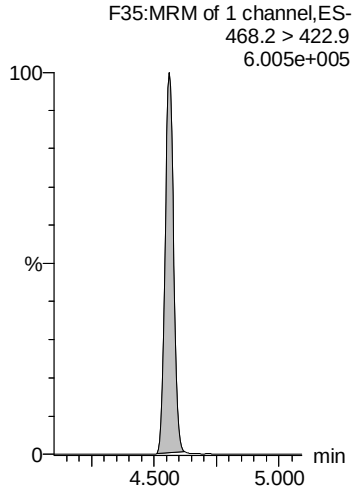

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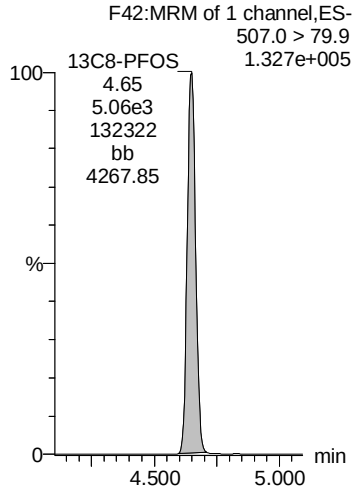
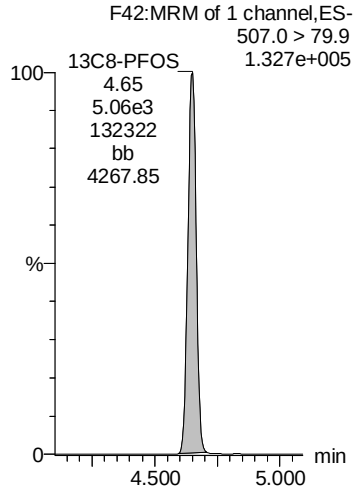


13C8-PFOS



GM 7/23/2019

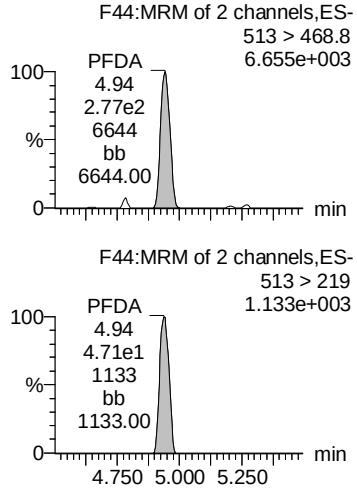
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

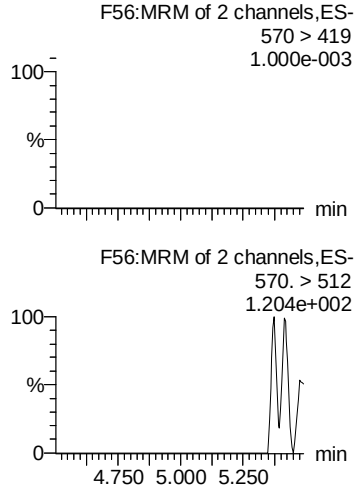
Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

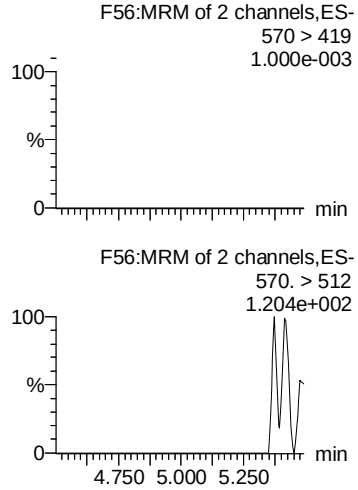
PFDA



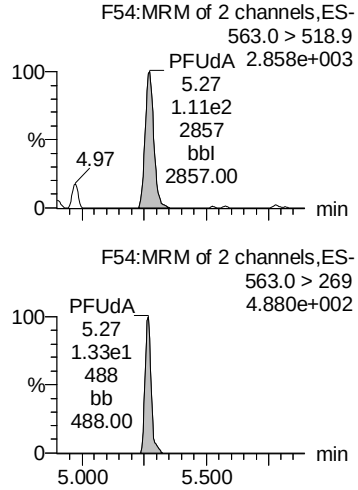
L-MeFOSAA



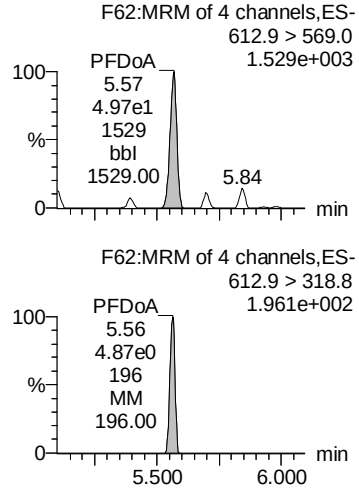
Total N-MeFOSAA



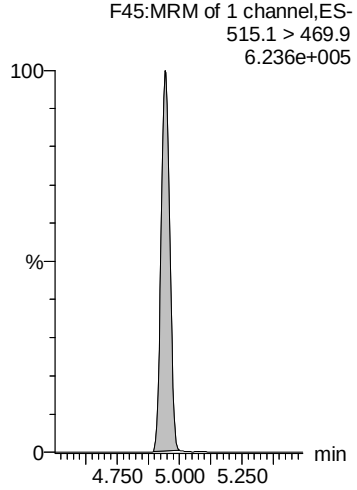
PFUdA



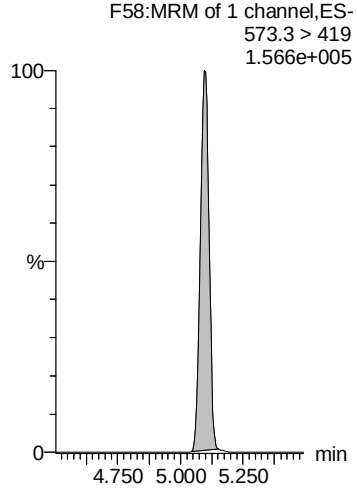
PFDoA



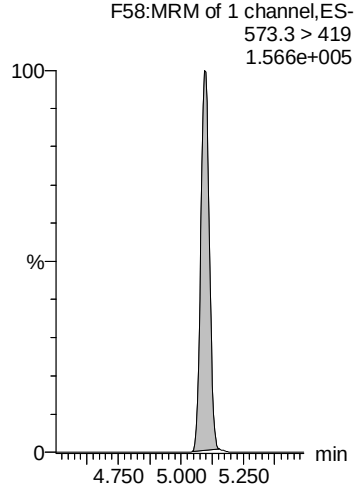
13C2-PFDA



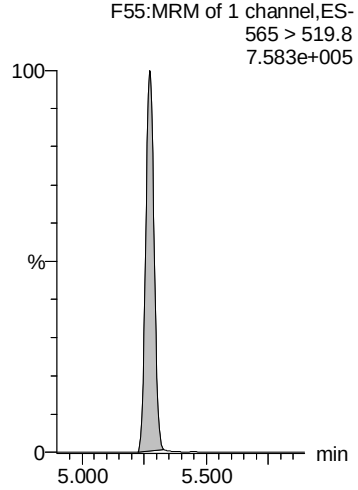
d3-N-MeFOSAA



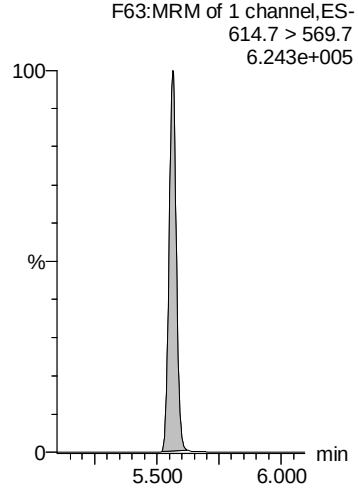
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA

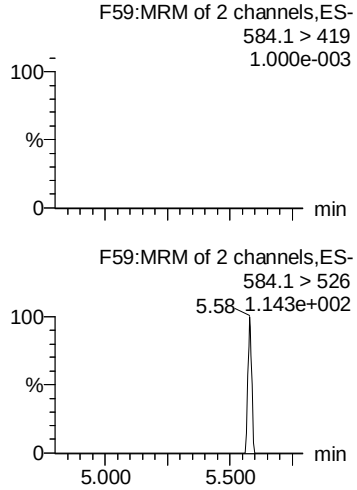


Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

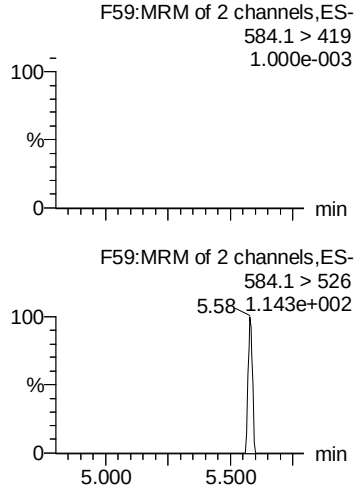
Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

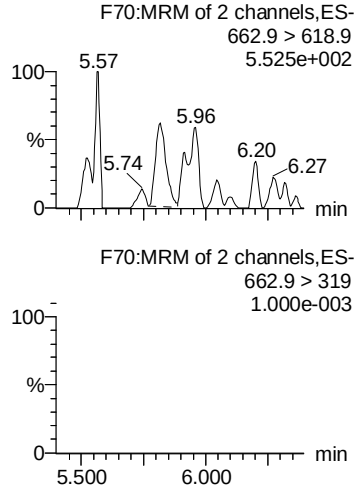
L-EtFOSAA



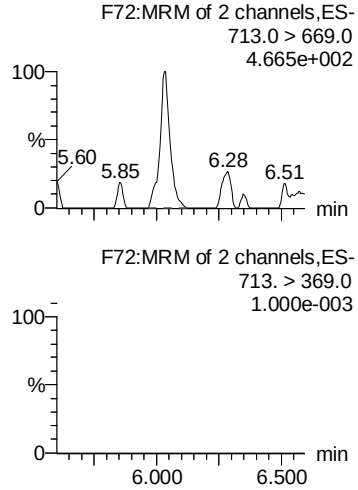
Total N-EtFOSAA



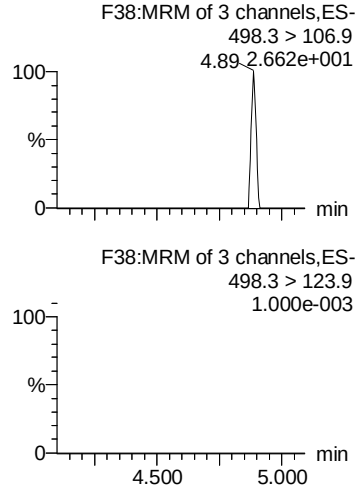
PFTrDA



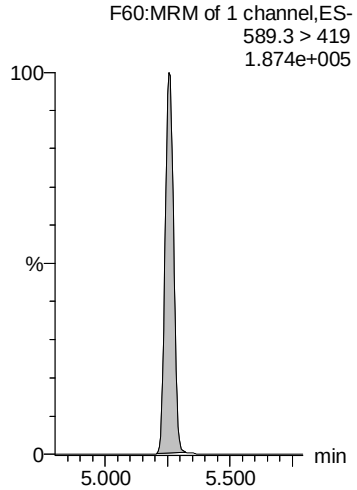
PFTeDA



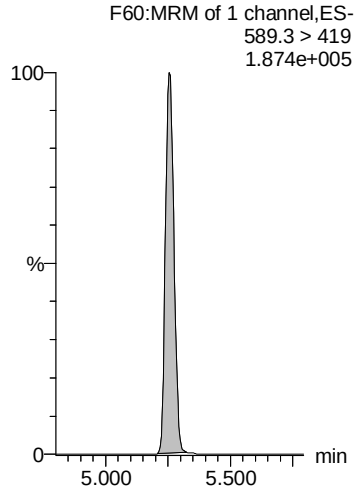
TDCA



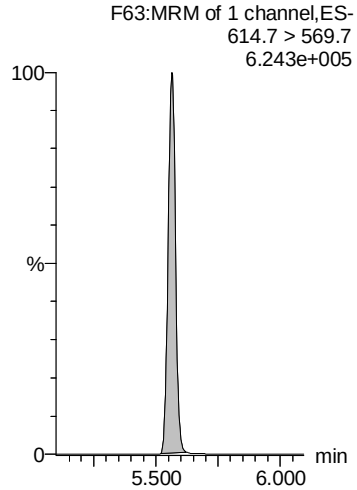
d5-N-EtFOSAA



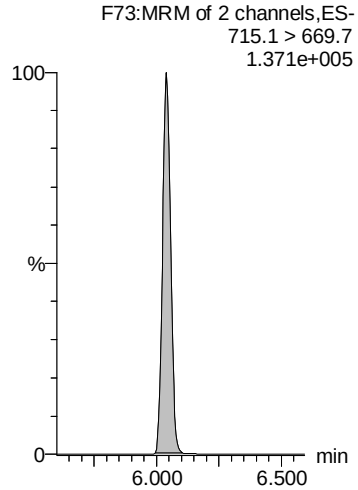
d5-N-EtFOSAA



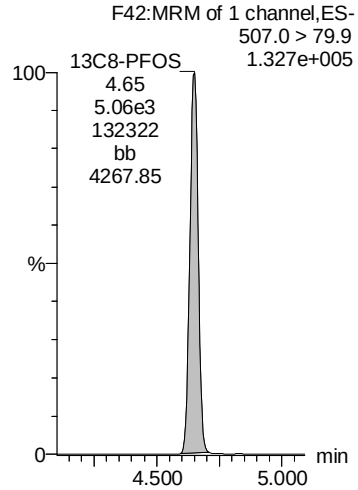
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



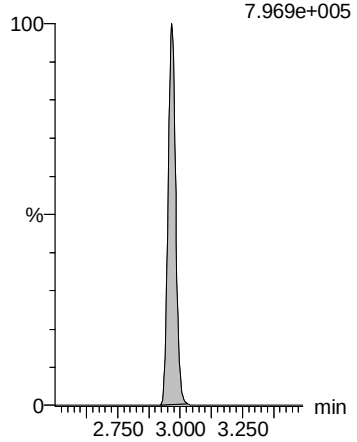
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-22.qld

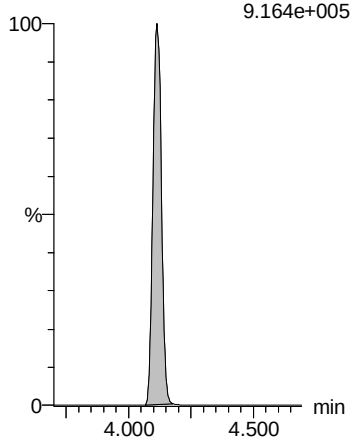
Last Altered: Tuesday, July 23, 2019 12:21:57 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:22:20 Pacific Daylight Time

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

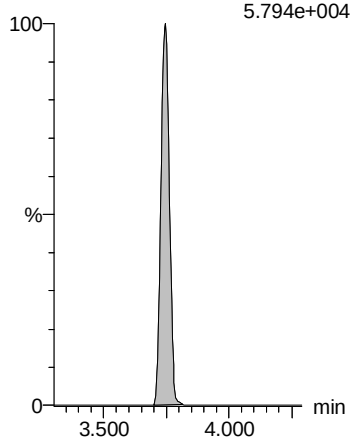
13C5-PFHxA



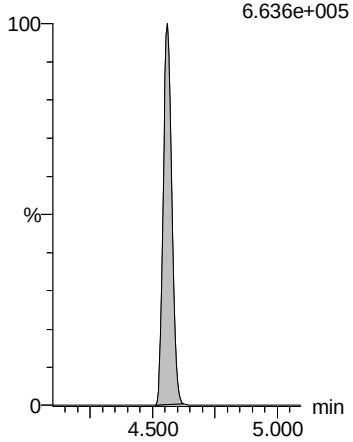
13C8-PFOA



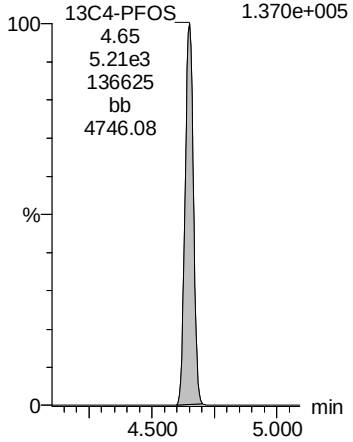
18O2-PFHxS



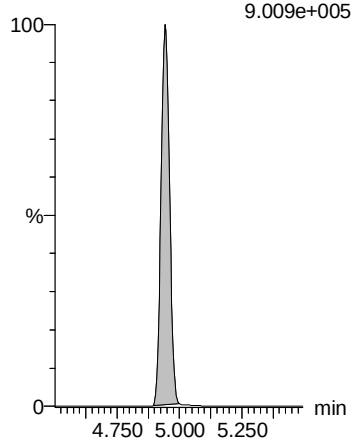
13C9-PFNA



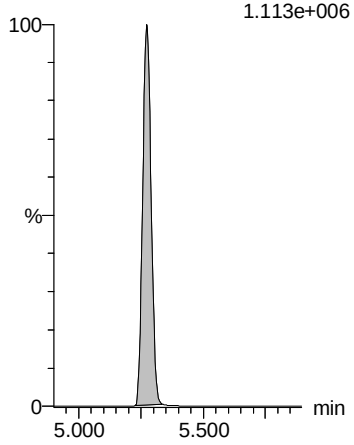
13C4-PFOS



13C6-PFDA



13C7-PFUdA



GM 9/23/2019

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-23.qld

Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-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	9.32e1	2.35e3	0.122		2.45	2.45	0.495	2.0472		2.287	NO
2	7	PFHxA	313.0 > 269.0	6.75e3	1.12e4	0.122		2.96	2.96	3.01	27.5093		15.535	NO
3	11	PFHpA	363.0 > 318.9	3.67e2	1.35e4	0.122		3.58	3.59	0.339	2.1472		9.372	NO
4	13	L-PFHxS	398.9 > 79.6	1.39e3	4.28e3	0.122		3.74	3.74	4.07	36.5028		2.341	NO
5	80	Total PFHxS	398.9 > 79.6	1.39e3	4.28e3	0.122		3.83		4.07	36.5028			
6	49	13C3-PFBS	302.0 > 98.8	2.35e3	2.23e3	0.122	1.058	2.45	2.45	13.2	101.6356	99.6		
7	52	13C2-PFHxA	315.0 > 270.0	1.12e4	3.04e4	0.122	0.978	2.96	2.96	4.60	38.3864	94.0		
8	53	13C4-PFHpA	367.2 > 321.8	1.35e4	3.04e4	0.122	0.479	3.59	3.58	5.56	94.8327	92.9		
9	54	13C3-PFHxS	401.8 > 79.9	4.28e3	2.23e3	0.122	2.024	3.75	3.74	24.0	96.6758	94.7		
10	54	13C3-PFHxS	401.8 > 79.9	4.28e3	2.23e3	0.122	2.024	3.75	3.74	24.0	96.6758	94.7		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.24e3	2.44e4	0.122		4.12	4.12	1.15	6.0435		4.060	NO
13	81	Total PFOA	412.8 > 368.9	2.24e3	2.44e4	0.122		4.21		1.15	6.0435			
14	21	PFNA	463.0 > 418.8	2.88e2	2.44e4	0.122		4.56	4.56	0.147	0.8396		3.769	NO
15	23	L-PFOS	498.9 > 79.9	7.81e3	5.19e3	0.122		4.65	4.65	18.8	143.8294		2.148	NO
16	82	Total PFOS	498.9 > 79.9	7.81e3	5.19e3	0.122		4.74		18.8	143.8294			
17	58	13C2-PFOA	414.9 > 369.7	2.44e4	3.88e4	0.122	0.681	4.12	4.12	7.85	94.1111	92.2		
18	58	13C2-PFOA	414.9 > 369.7	2.44e4	3.88e4	0.122	0.681	4.12	4.12	7.85	94.1111	92.2		
19	56	13C5-PFNA	468.2 > 422.9	2.44e4	2.77e4	0.122	1.002	4.56	4.56	11.0	89.8679	88.0		
20	59	13C8-PFOS	507.0 > 79.9	5.19e3	5.20e3	0.122	0.997	4.65	4.65	12.5	102.2614	100.2		
21	59	13C8-PFOS	507.0 > 79.9	5.19e3	5.20e3	0.122	0.997	4.65	4.65	12.5	102.2614	100.2		
22	-1													
23	26	PFDA	513 > 468.8	2.90e2	2.36e4	0.122		4.94	4.94	0.154	0.9495		7.382	NO
24	29	L-MeFOSAA	570 > 419		6.10e3	0.122		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	6.10e3	0.122		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	1.43e2	2.92e4	0.122		5.27	5.28	0.0612	0.0573		39.739	YES
27	37	PFDoA	612.9 > 569.0	7.80e1	2.47e4	0.122		5.56	5.57	0.0395			107.341	YES
28	60	13C2-PFDA	515.1 > 469.9	2.36e4	3.64e4	0.122	0.819	4.95	4.94	8.08	80.5530	78.9		
29	62	d3-N-MeFOSAA	573.3 > 419	6.10e3	4.48e4	0.122	0.177	5.10	5.09	1.70	78.3470	76.8		
30	62	d3-N-MeFOSAA	573.3 > 419	6.10e3	4.48e4	0.122	0.177	5.10	5.09	1.70	78.3470	76.8		
31	63	13C2-PFUdA	565 > 519.8	2.92e4	4.48e4	0.122	0.889	5.28	5.27	8.16	74.9394	73.4		
32	65	13C2-PFDoA	614.7 > 569.7	2.47e4	3.64e4	0.122	1.087	5.57	5.56	8.48	63.6850	62.4		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		7.69e3	0.122		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	7.69e3	0.122		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.47e4	0.122		5.82						

AMR 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-23.qld

Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-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		7.58e3	0.122		6.04						
38	85	TDCA	498.3>106.9			0.122		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	7.69e3	4.48e4	0.122	0.224	5.26	5.26	2.14	78.2137	76.6		
40	64	d5-N-EtFOSAA	589.3 > 419	7.69e3	4.48e4	0.122	0.224	5.26	5.26	2.14	78.2137	76.6		
41	65	13C2-PFDoA	614.7 > 569.7	2.47e4	3.64e4	0.122	1.087	5.57	5.56	8.48	63.6850	62.4		
42	67	13C2-PFTeDA	715.1 > 669.7	7.58e3	4.48e4	0.122	0.604	6.05	6.04	2.11	28.5685	28.0		
43	59	13C8-PFOS	507.0 > 79.9	5.19e3	5.20e3	0.122	0.997	4.65	4.65	12.5	102.2614	100.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	3.04e4	3.04e4	0.122	1.000	2.96	2.96	12.5	102.0741	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.88e4	3.88e4	0.122	1.000	4.12	4.12	12.5	102.0741	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.23e3	2.23e3	0.122	1.000	3.75	3.74	12.5	102.0741	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.77e4	2.77e4	0.122	1.000	4.56	4.56	12.5	102.0741	100.0		
49	77	13C4-PFOS	503 > 79.9	5.20e3	5.20e3	0.122	1.000	4.65	4.65	12.5	102.0741	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.64e4	3.64e4	0.122	1.000	4.95	4.94	12.5	102.0741	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.48e4	4.48e4	0.122	1.000	5.28	5.27	12.5	102.0741	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

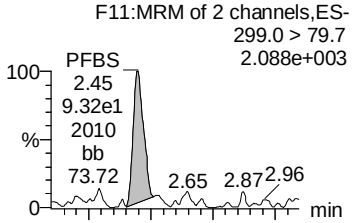
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-23.qld

Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

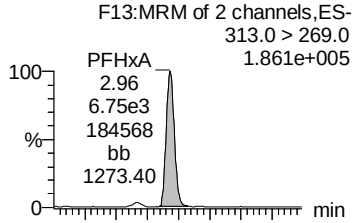
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

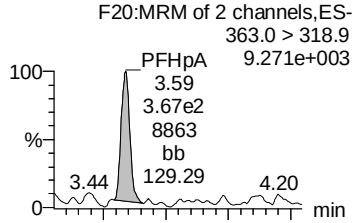
PFBS



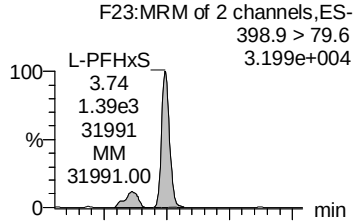
PFHxA



PFHpA



L-PFHxS



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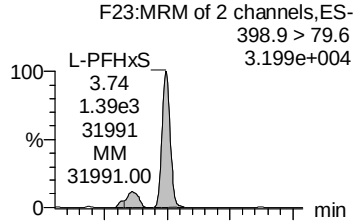
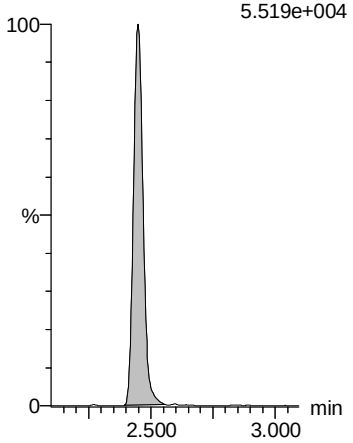


13C3-PFBS



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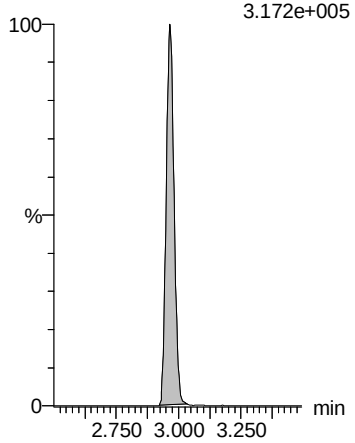

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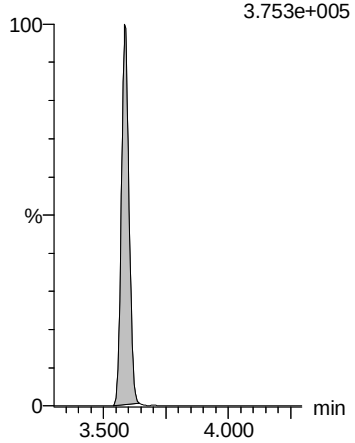

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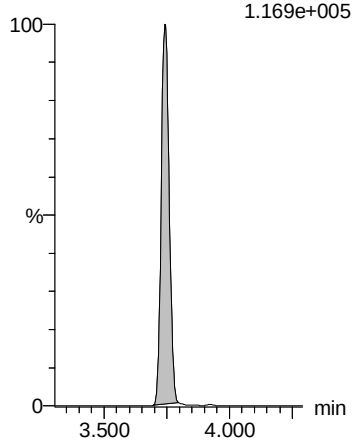

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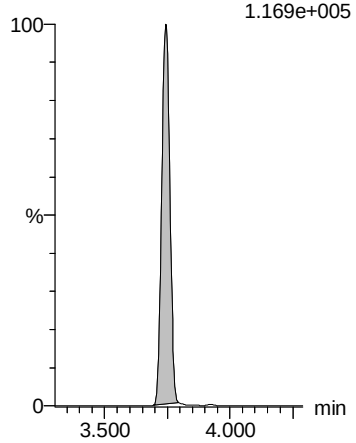


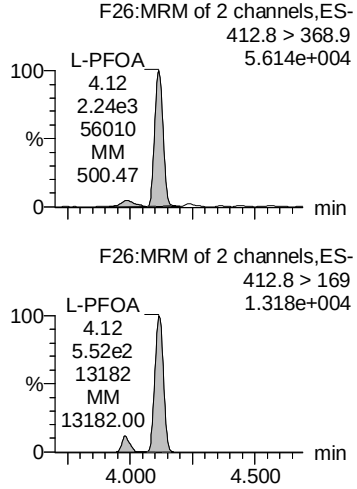
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-23.qld

Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

L-PFOA



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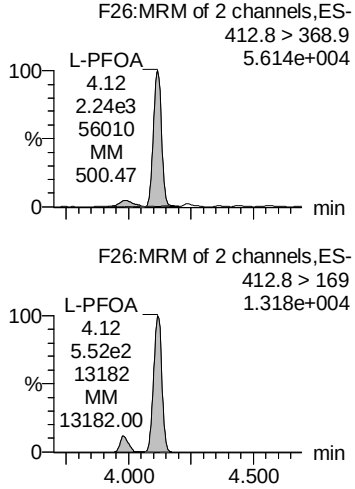

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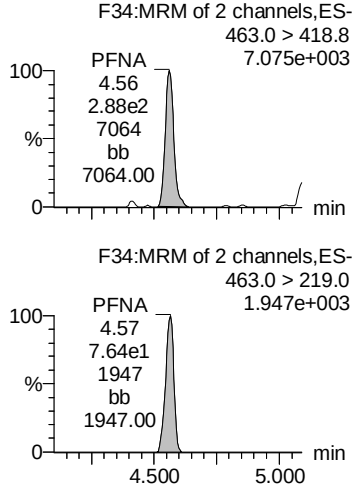
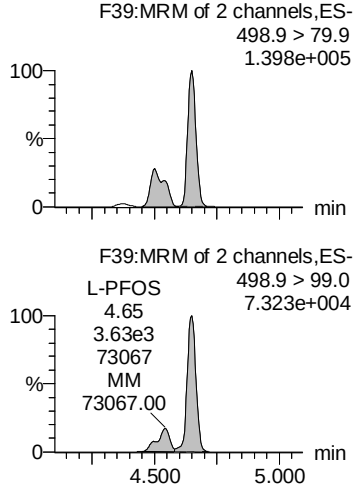
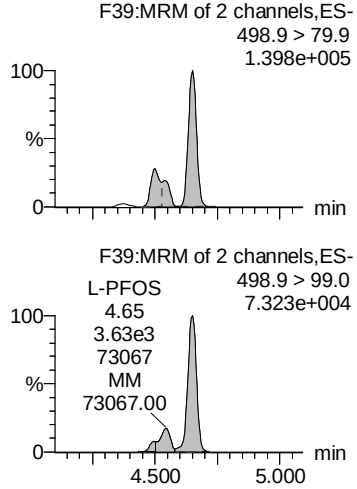


L-PFOS



Total PFOS



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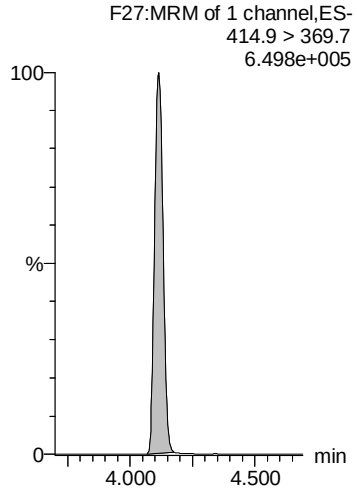

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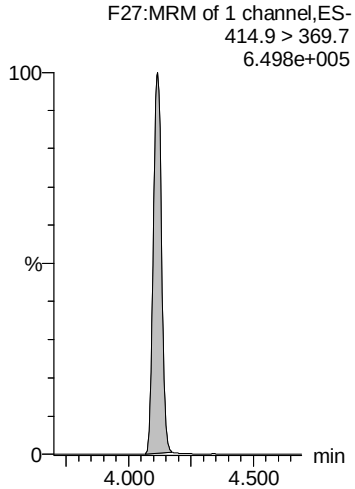

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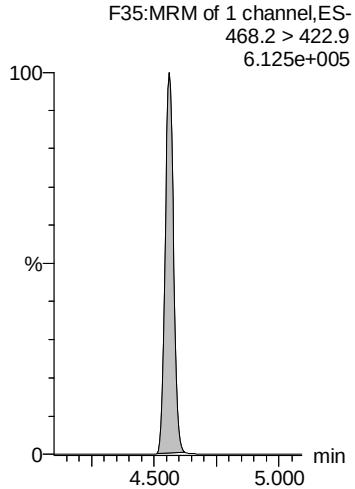
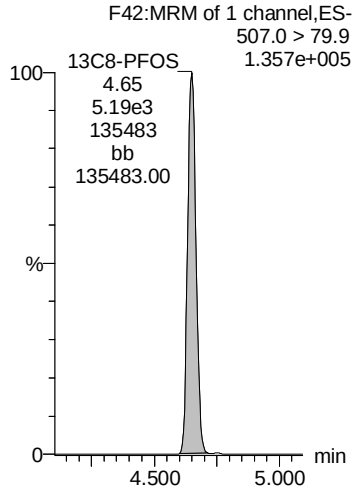


13C8-PFOS



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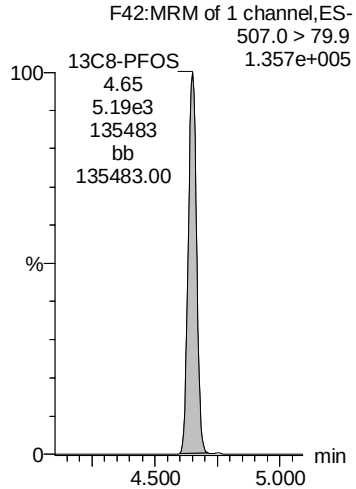

GM 7/23/2019

Review: AMR 7/24/2019

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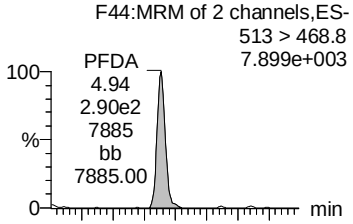
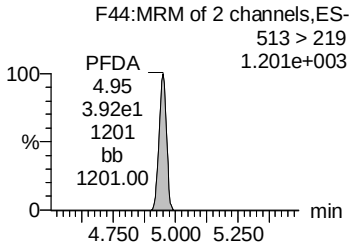
Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

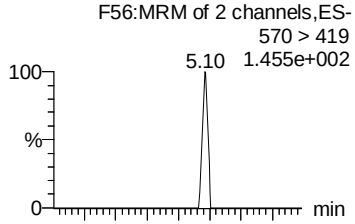
Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

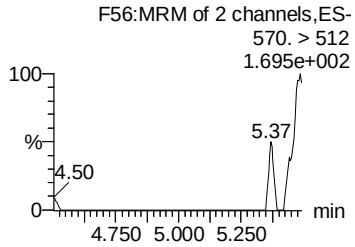
PFDA





L-MeFOSAA





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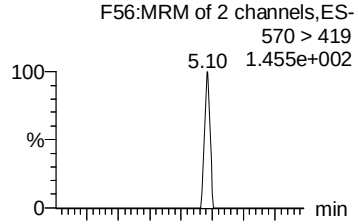

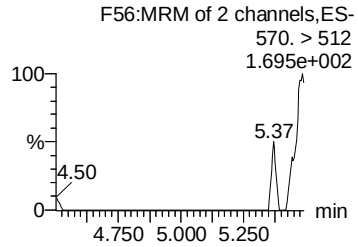

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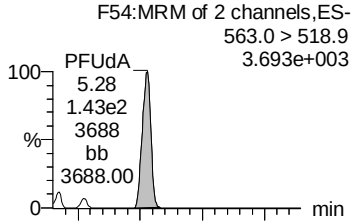

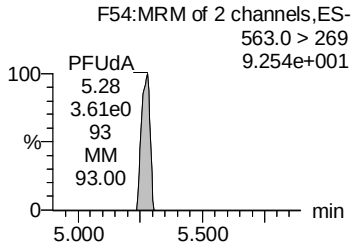

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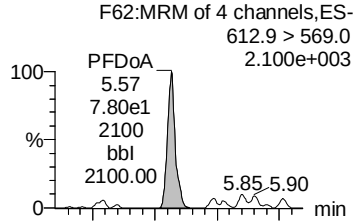

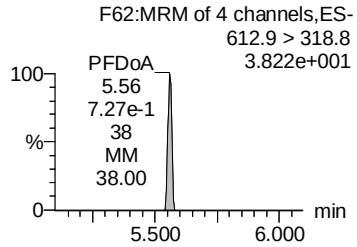

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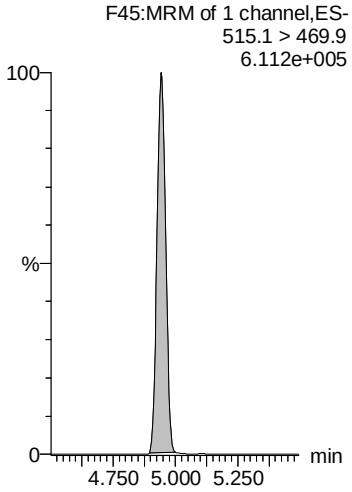

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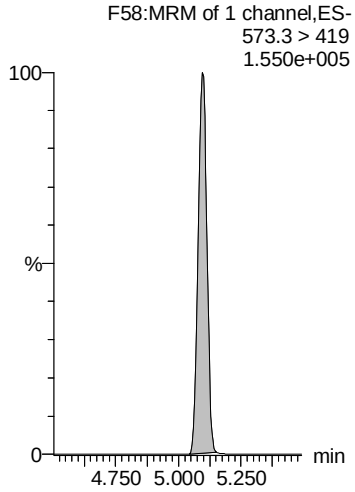

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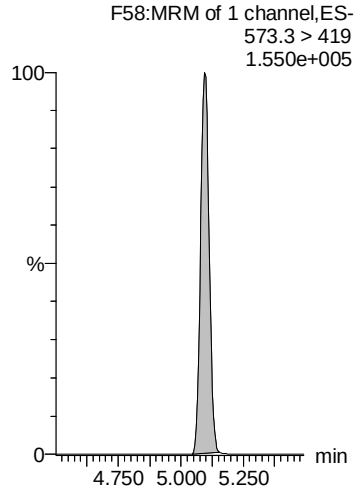
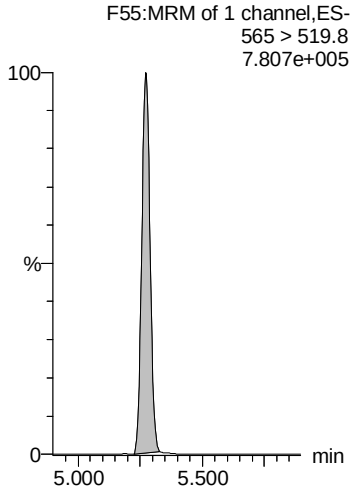
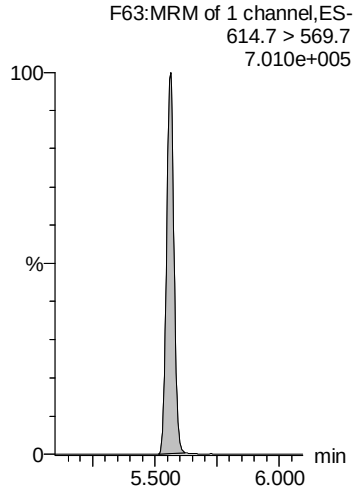


13C2-PFUdA



13C2-PFDoA



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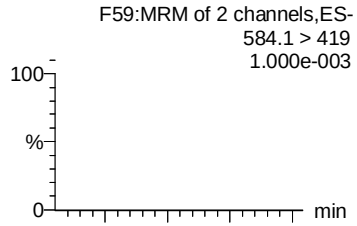
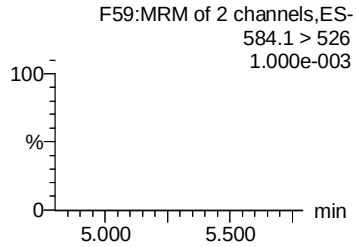
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

L-EtFOSAA





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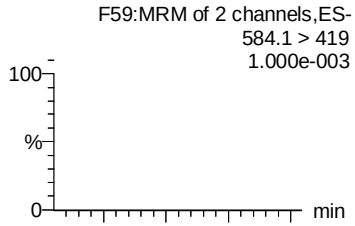

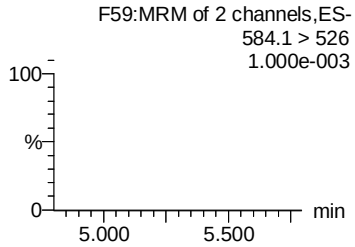

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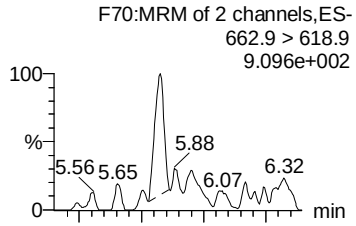
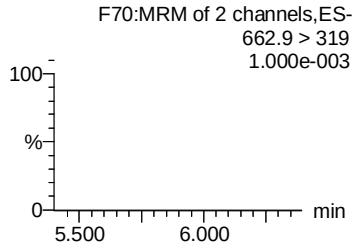
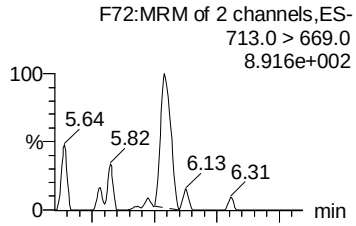
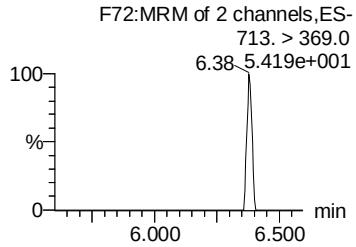




PFTeDA





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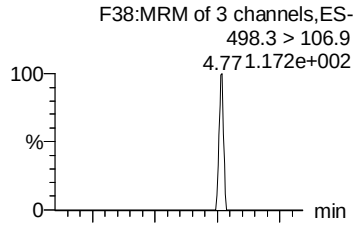
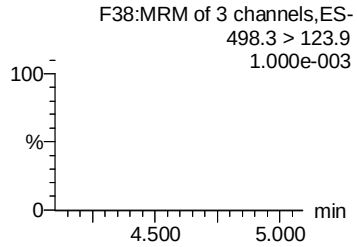
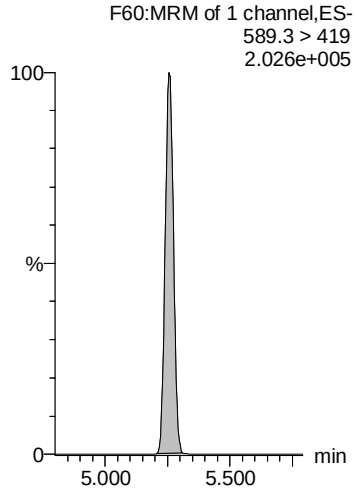
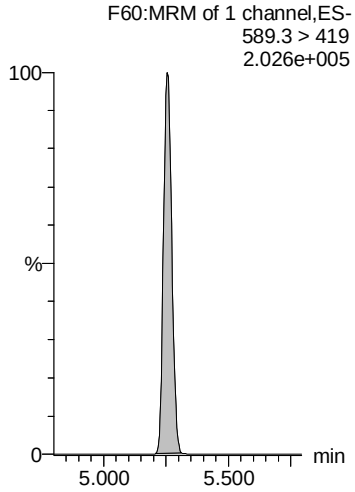




d5-N-EtFOSAA



d5-N-EtFOSAA



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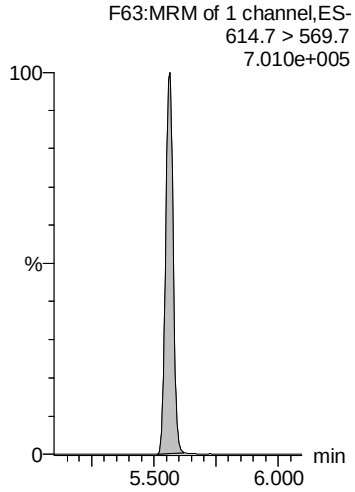
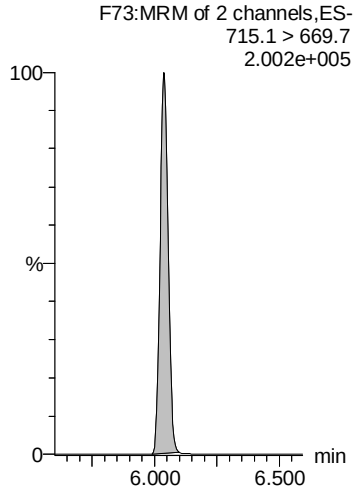
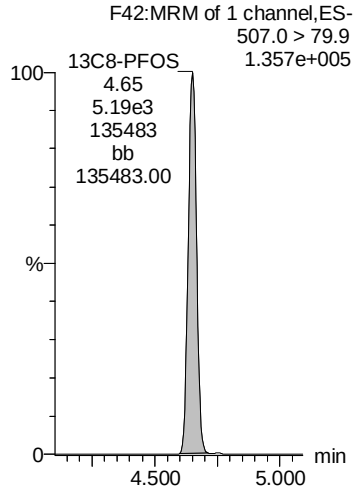


13C2-PFTeDA



13C8-PFOS



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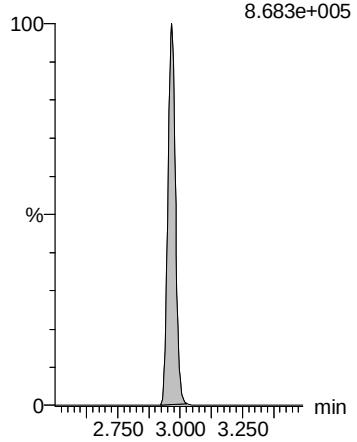
Last Altered: Tuesday, July 23, 2019 12:24:00 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:24:21 Pacific Daylight Time

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

13C5-PFHxA



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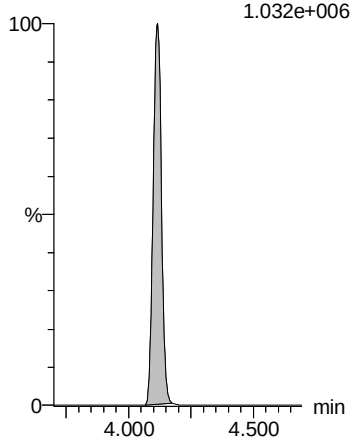
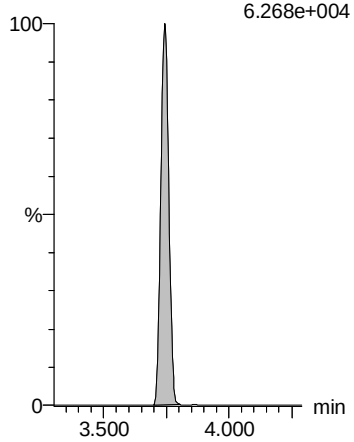
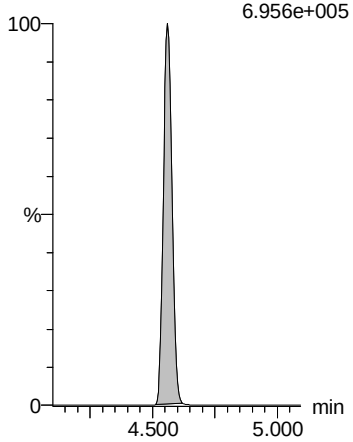


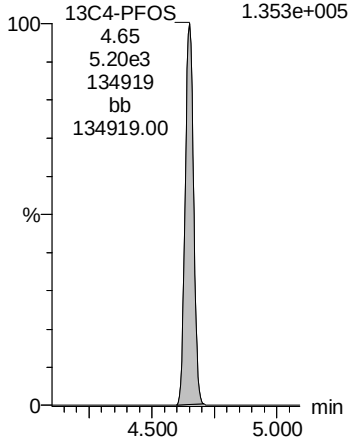
18O2-PFHxS



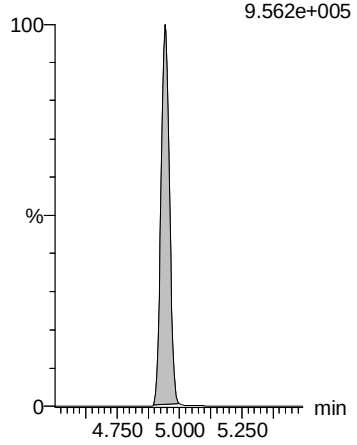
13C9-PFNA



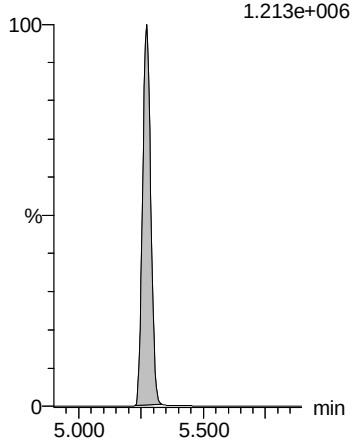
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

	#	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		2.06e3	0.116		2.45						
2	7	PFHxA	313.0 > 269.0	2.46e2	9.74e3	0.116		2.97	2.97	0.126	0.6337		24.376	YES
3	11	PFHpA	363.0 > 318.9		1.23e4	0.116		3.59						
4	13	L-PFHxS	398.9 > 79.6	1.31e1	4.05e3	0.116		3.75	3.73	0.0405	0.3936		3.778	YES
5	80	Total PFHxS	398.9 > 79.6	1.31e1	4.05e3	0.116		3.83		0.0405	0.3936			
6	49	13C3-PFBS	302.0 > 98.8	2.06e3	1.87e3	0.116	1.058	2.45	2.45	13.8	111.8926	104.2		
7	52	13C2-PFHxA	315.0 > 270.0	9.74e3	2.63e4	0.116	0.978	2.96	2.97	4.62	40.5967	94.5		
8	53	13C4-PFHpA	367.2 > 321.8	1.23e4	2.63e4	0.116	0.479	3.59	3.59	5.84	104.8676	97.7		
9	54	13C3-PFHxS	401.8 > 79.9	4.05e3	1.87e3	0.116	2.024	3.75	3.75	27.1	114.9768	107.1		
10	54	13C3-PFHxS	401.8 > 79.9	4.05e3	1.87e3	0.116	2.024	3.75	3.75	27.1	114.9768	107.1		
11	-1													
12	16	L-PFOA	412.8 > 368.9	7.88e1	1.97e4	0.116		4.12	4.11	0.0499	0.0694		11.519	YES
13	81	Total PFOA	412.8 > 368.9	7.88e1	1.97e4	0.116		4.21		0.0499	0.0694			
14	21	PFNA	463.0 > 418.8		2.01e4	0.116		4.56						
15	23	L-PFOS	498.9 > 79.9	3.50e1	4.19e3	0.116		4.65	4.65	0.104	0.9973		1.459	NO
16	82	Total PFOS	498.9 > 79.9	3.50e1	4.19e3	0.116		4.74		0.104	0.9973			
17	58	13C2-PFOA	414.9 > 369.7	1.97e4	3.23e4	0.116	0.681	4.12	4.12	7.64	96.2869	89.7		
18	58	13C2-PFOA	414.9 > 369.7	1.97e4	3.23e4	0.116	0.681	4.12	4.12	7.64	96.2869	89.7		
19	56	13C5-PFNA	468.2 > 422.9	2.01e4	2.28e4	0.116	1.002	4.56	4.56	11.0	94.1390	87.7		
20	59	13C8-PFOS	507.0 > 79.9	4.19e3	4.68e3	0.116	0.997	4.65	4.65	11.2	96.4652	89.9		
21	59	13C8-PFOS	507.0 > 79.9	4.19e3	4.68e3	0.116	0.997	4.65	4.65	11.2	96.4652	89.9		
22	-1													
23	26	PFDA	513 > 468.8	1.65e1	1.98e4	0.116		4.94	4.95	0.0104	0.0433		26.464	YES
24	29	L-MeFOSAA	570 > 419		5.14e3	0.116		5.10						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	5.14e3	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		2.46e4	0.116		5.28						
27	37	PFDoA	612.9 > 569.0		2.36e4	0.116		5.56						
28	60	13C2-PFDA	515.1 > 469.9	1.98e4	3.09e4	0.116	0.819	4.95	4.94	8.01	83.9542	78.2		
29	62	d3-N-MeFOSAA	573.3 > 419	5.14e3	3.85e4	0.116	0.177	5.10	5.10	1.67	80.6200	75.1		
30	62	d3-N-MeFOSAA	573.3 > 419	5.14e3	3.85e4	0.116	0.177	5.10	5.10	1.67	80.6200	75.1		
31	63	13C2-PFUdA	565 > 519.8	2.46e4	3.85e4	0.116	0.889	5.28	5.28	7.98	77.0701	71.8		
32	65	13C2-PFDoA	614.7 > 569.7	2.36e4	3.09e4	0.116	1.087	5.57	5.56	9.54	75.3229	70.2		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		6.56e3	0.116		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	6.56e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.36e4	0.116		5.82						

AM 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

	#	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		1.77e4	0.116		6.04						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	6.56e3	3.85e4	0.116	0.224	5.26	5.26	2.13	81.6849	76.1		
40	64	d5-N-EtFOSAA	589.3 > 419	6.56e3	3.85e4	0.116	0.224	5.26	5.26	2.13	81.6849	76.1		
41	65	13C2-PFDoA	614.7 > 569.7	2.36e4	3.09e4	0.116	1.087	5.57	5.56	9.54	75.3229	70.2		
42	67	13C2-PFTeDA	715.1 > 669.7	1.77e4	3.85e4	0.116	0.604	6.05	6.04	5.76	81.8255	76.2		
43	59	13C8-PFOS	507.0 > 79.9	4.19e3	4.68e3	0.116	0.997	4.65	4.65	11.2	96.4652	89.9		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.63e4	2.63e4	0.116	1.000	2.96	2.97	12.5	107.3422	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.23e4	3.23e4	0.116	1.000	4.12	4.12	12.5	107.3422	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.87e3	1.87e3	0.116	1.000	3.75	3.75	12.5	107.3422	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.28e4	2.28e4	0.116	1.000	4.56	4.56	12.5	107.3422	100.0		
49	77	13C4-PFOS	503 > 79.9	4.68e3	4.68e3	0.116	1.000	4.65	4.65	12.5	107.3422	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.09e4	3.09e4	0.116	1.000	4.95	4.94	12.5	107.3422	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.85e4	3.85e4	0.116	1.000	5.28	5.27	12.5	107.3422	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

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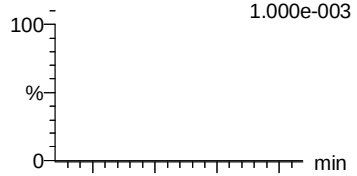
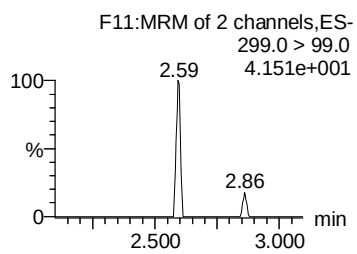
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

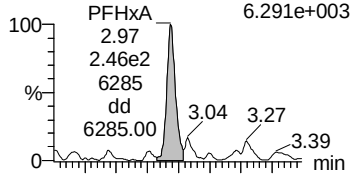
Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

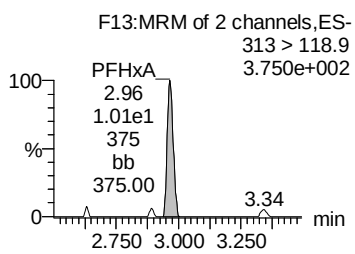
PFBS





PFHxA





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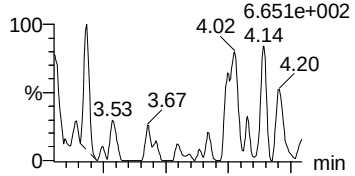
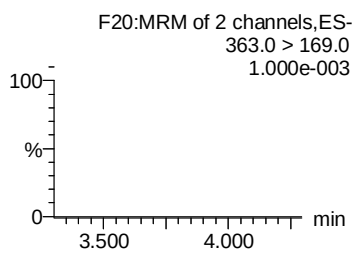
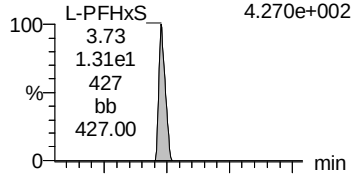
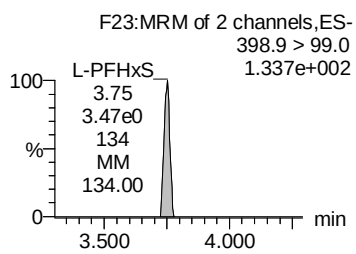




L-PFHxS





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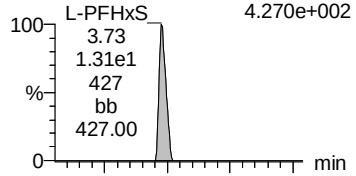
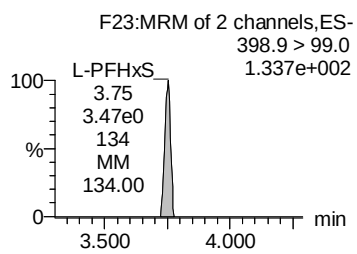
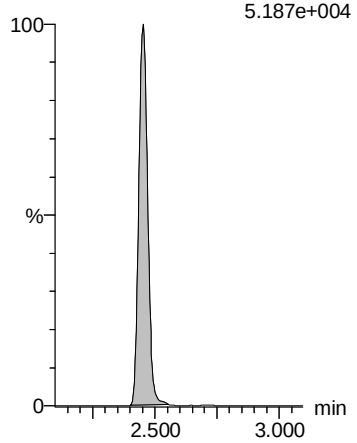
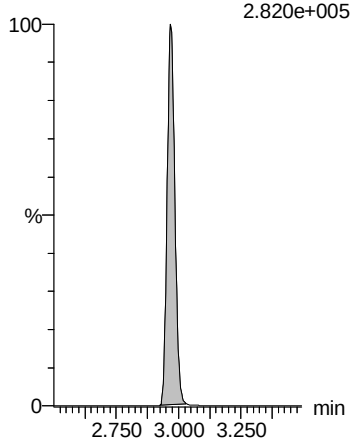




13C3-PFBS



13C2-PFHxA



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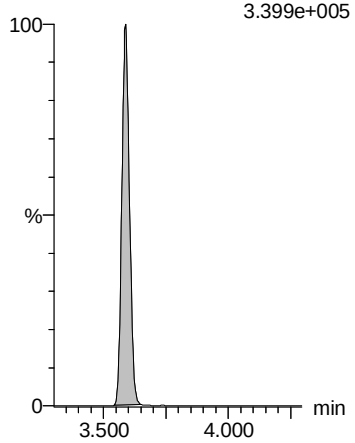

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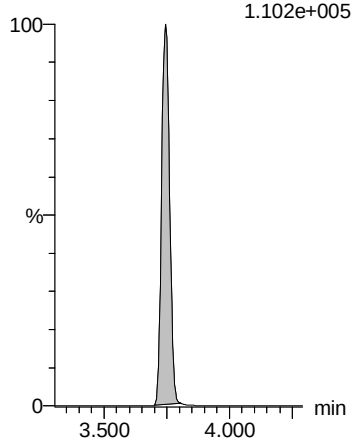

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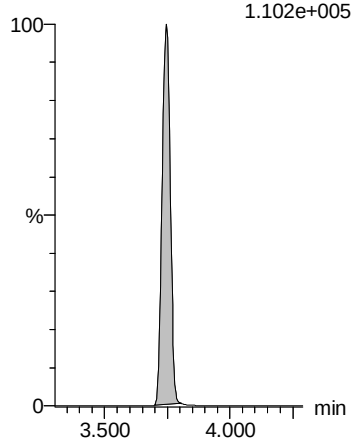


AMR 7/24/2019

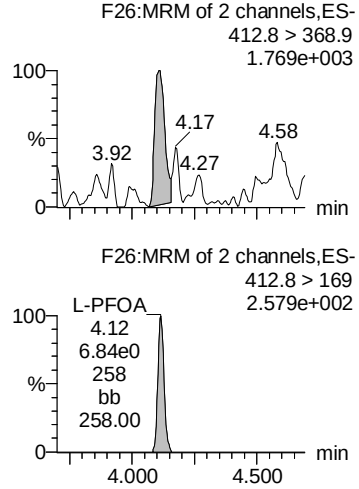
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

L-PFOA



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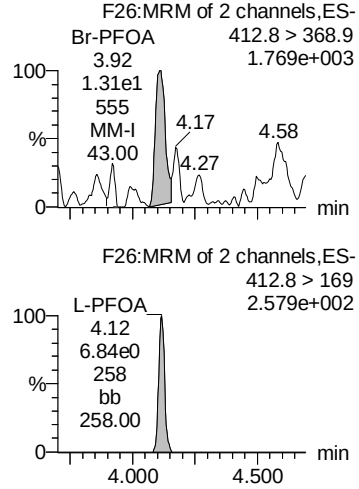
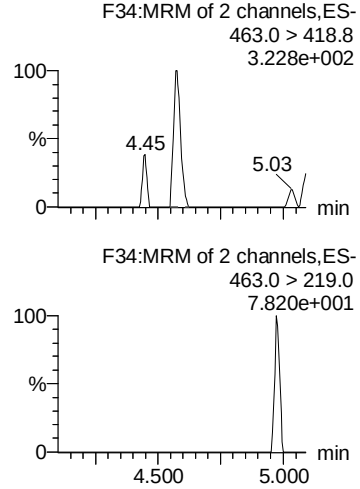
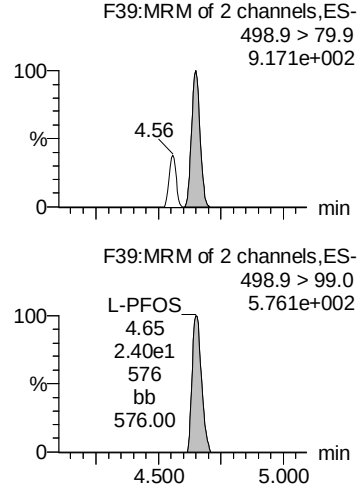


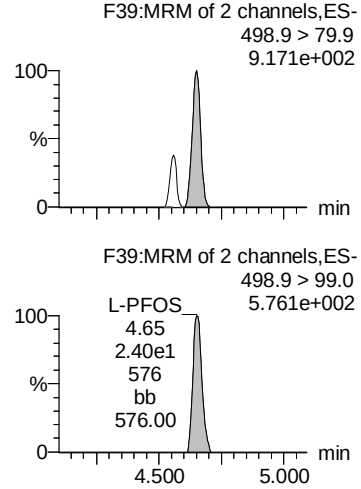
PFNA



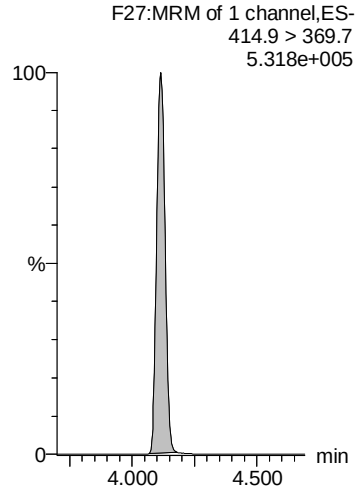
L-PFOS



Total PFOS



13C2-PFOA



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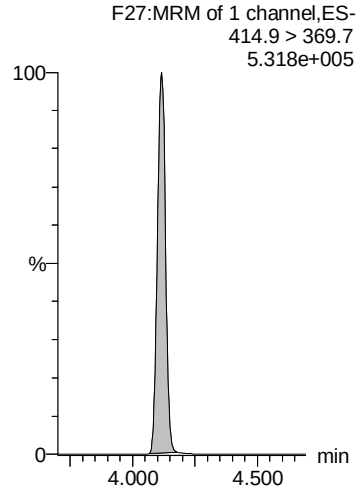
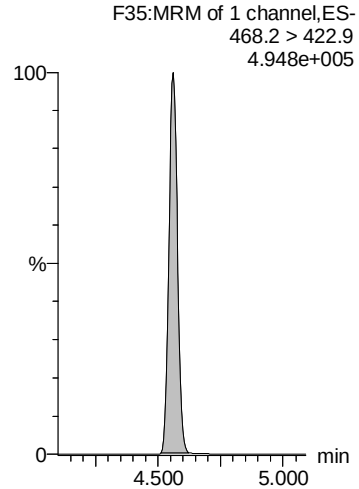
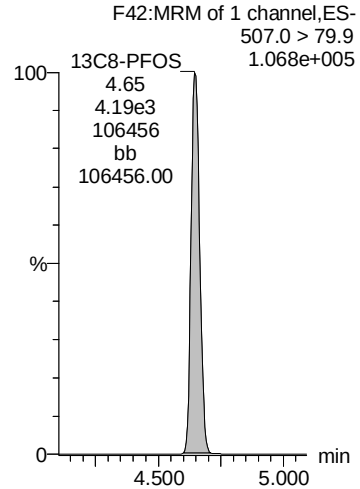


13C5-PFNA



13C8-PFOS



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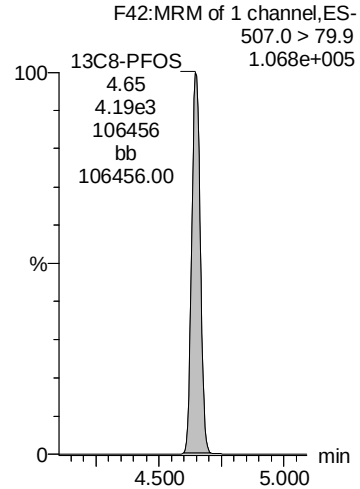
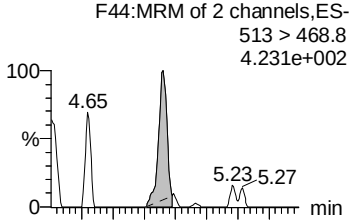


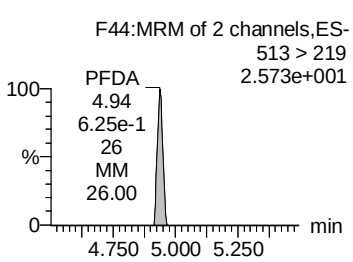
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

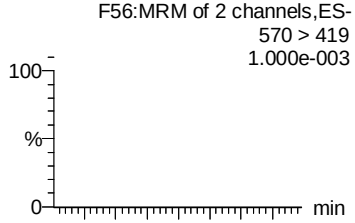
Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

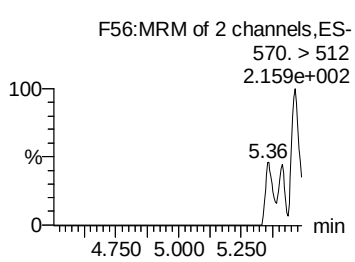
PFDA



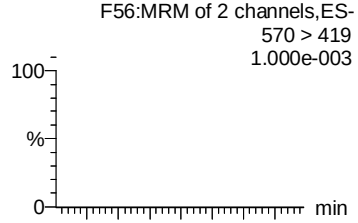


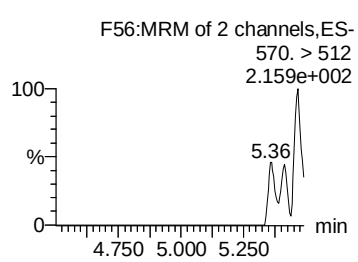
L-MeFOSAA



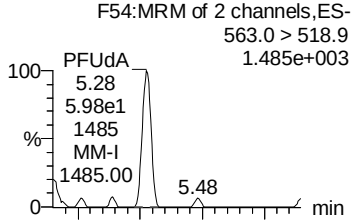


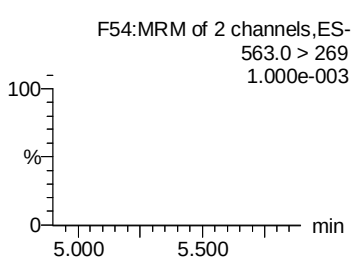
Total N-MeFOSAA



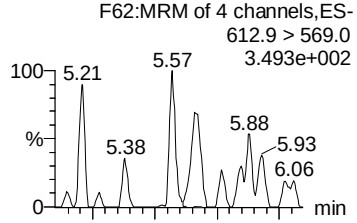


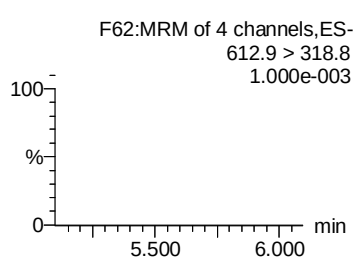
PFUdA



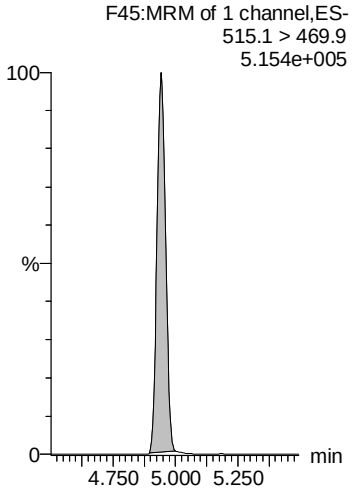


PFDoA

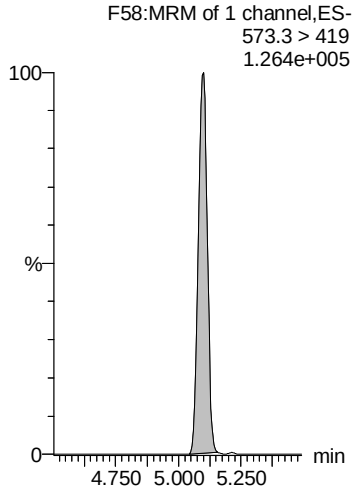




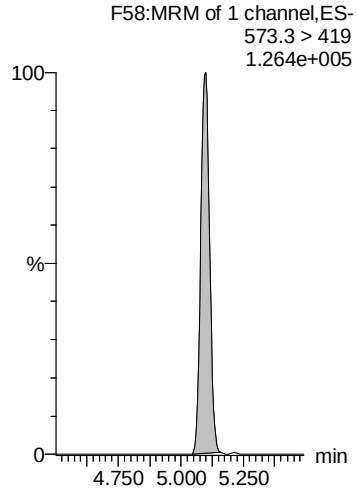
13C2-PFDA



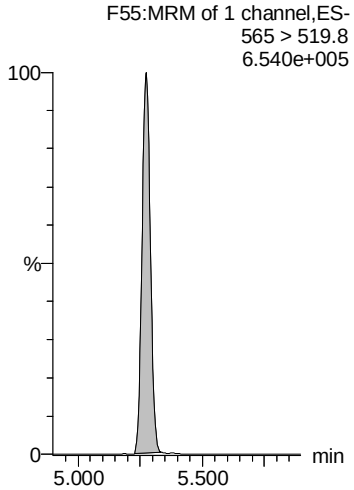
d3-N-MeFOSAA



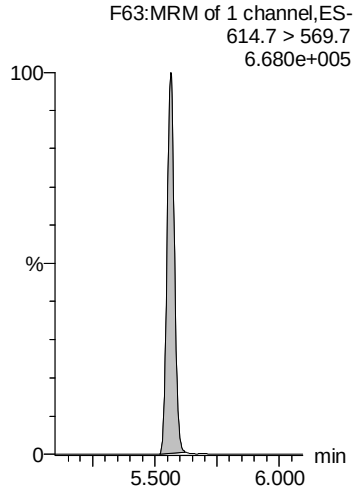
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



Vista Analytical Laboratory L14

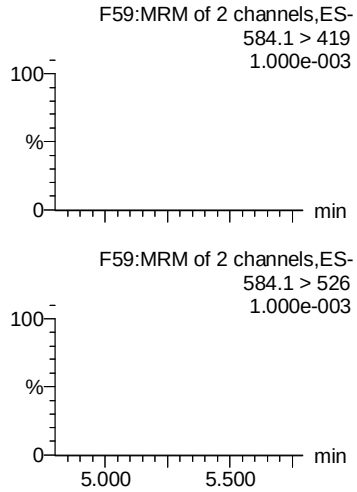
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

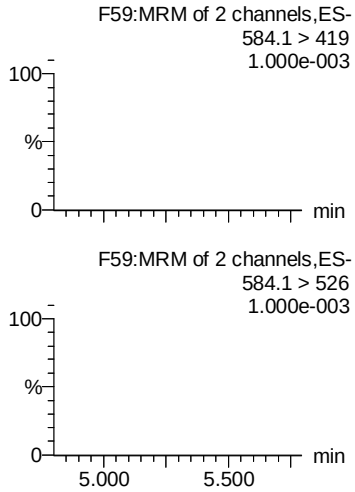
Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

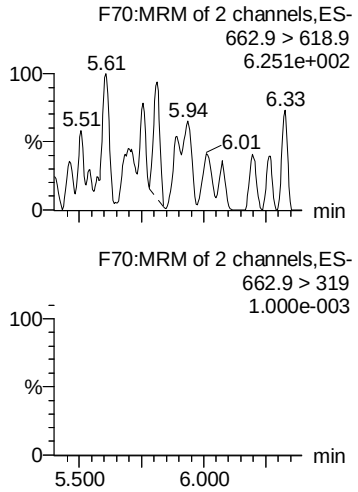
L-EtFOSAA



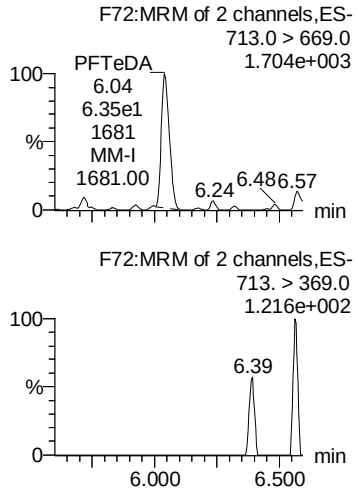
Total N-EtFOSAA



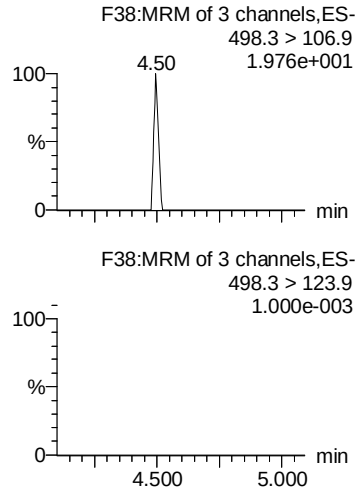
PFTrDA



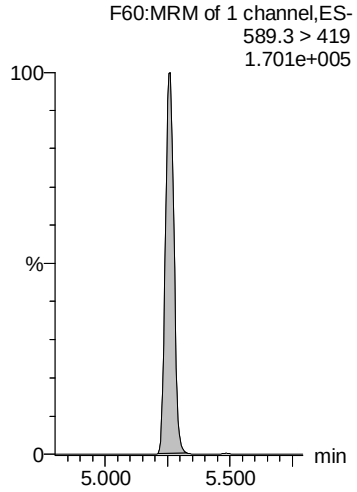
PFTeDA



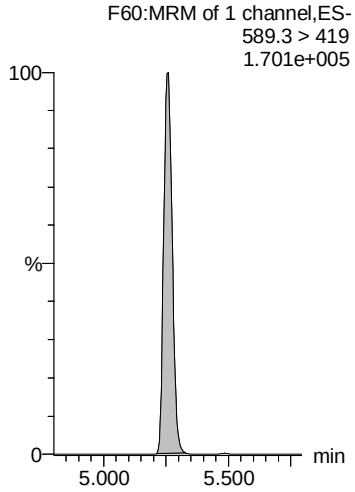
TDCA



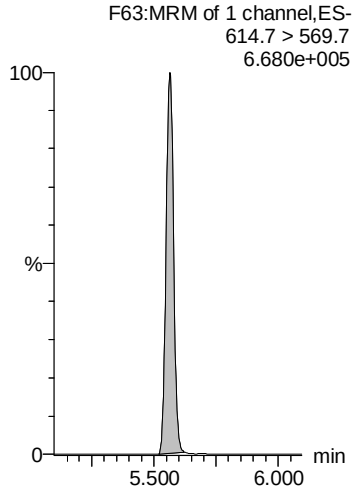
d5-N-EtFOSAA



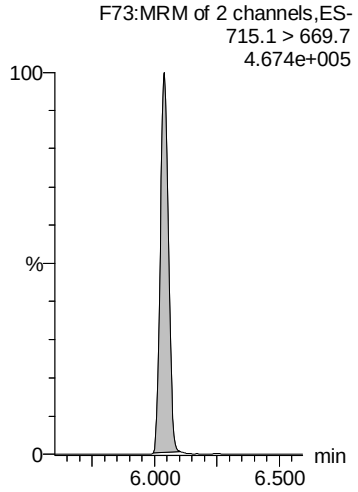
d5-N-EtFOSAA



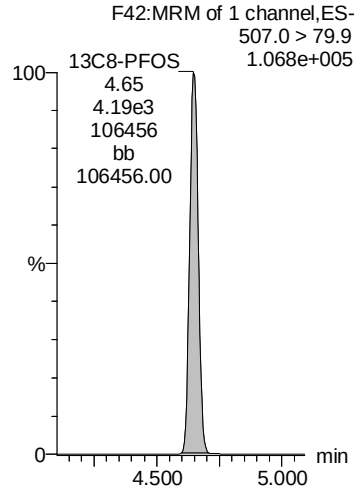
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



AM 7/23/2019

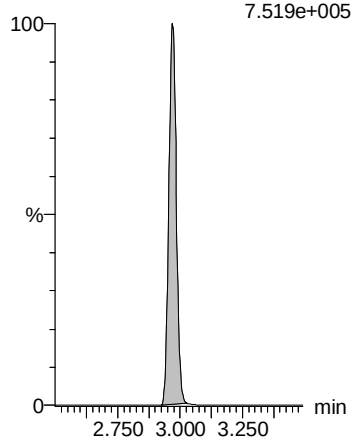
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-24.qld

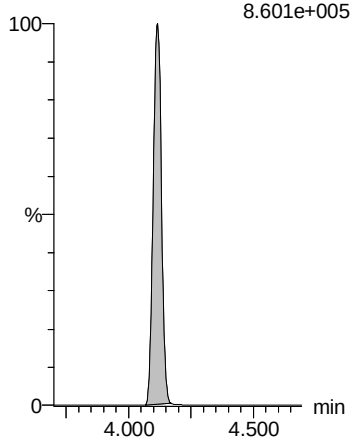
Last Altered: Tuesday, July 23, 2019 12:25:48 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:26:03 Pacific Daylight Time

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

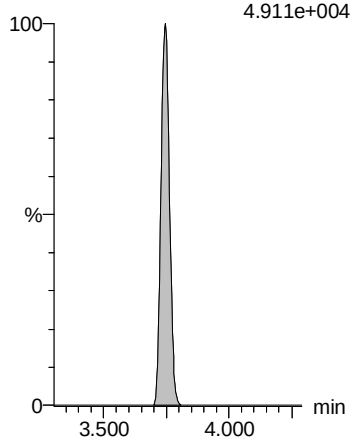
13C5-PFHxA



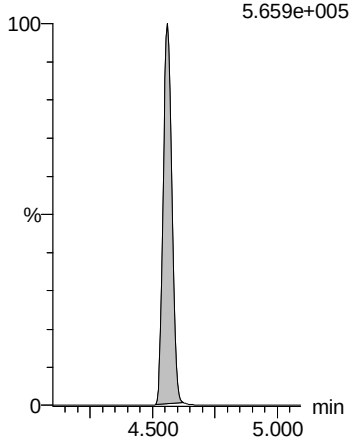
13C8-PFOA



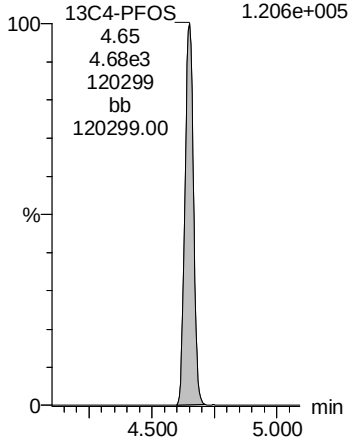
18O2-PFHxS



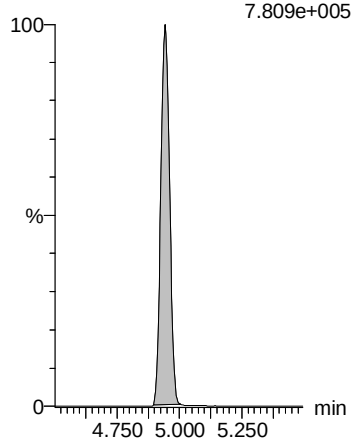
13C9-PFNA



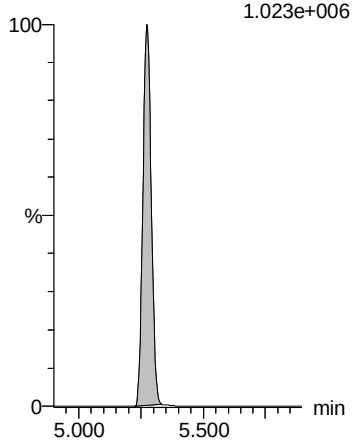
13C4-PFOS



13C6-PFDA



13C7-PFUdA



7/24/2019

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

	#	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		2.00e3	0.115		2.45						
2	7	PFHxA	313.0 > 269.0	6.23e1	9.18e3	0.115		2.97	2.97	0.0339			191.640	YES
3	11	PFHpA	363.0 > 318.9		1.13e4	0.115		3.58						
4	13	L-PFHxS	398.9 > 79.6		3.80e3	0.115		3.75						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	3.80e3	0.115		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	2.00e3	1.80e3	0.115	1.058	2.45	2.45	13.9	113.8181	105.1		
7	52	13C2-PFHxA	315.0 > 270.0	9.18e3	2.45e4	0.115	0.978	2.96	2.97	4.68	41.4648	95.7		
8	53	13C4-PFHpA	367.2 > 321.8	1.13e4	2.45e4	0.115	0.479	3.59	3.58	5.78	104.6227	96.6		
9	54	13C3-PFHxS	401.8 > 79.9	3.80e3	1.80e3	0.115	2.024	3.75	3.75	26.4	112.9091	104.2		
10	54	13C3-PFHxS	401.8 > 79.9	3.80e3	1.80e3	0.115	2.024	3.75	3.75	26.4	112.9091	104.2		
11	-1													
12	16	L-PFOA	412.8 > 368.9		1.91e4	0.115		4.12						
13	81	Total PFOA	412.8 > 368.9	0.00e0	1.91e4	0.115		4.21		0.000				
14	21	PFNA	463.0 > 418.8		1.93e4	0.115		4.56						
15	23	L-PFOS	498.9 > 79.9		4.37e3	0.115		4.65						
16	82	Total PFOS	498.9 > 79.9	0.00e0	4.37e3	0.115		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	1.91e4	3.16e4	0.115	0.681	4.12	4.12	7.58	96.3803	89.0		
18	58	13C2-PFOA	414.9 > 369.7	1.91e4	3.16e4	0.115	0.681	4.12	4.12	7.58	96.3803	89.0		
19	56	13C5-PFNA	468.2 > 422.9	1.93e4	2.32e4	0.115	1.002	4.56	4.56	10.4	90.2204	83.3		
20	59	13C8-PFOS	507.0 > 79.9	4.37e3	4.82e3	0.115	0.997	4.65	4.65	11.3	98.6443	91.1		
21	59	13C8-PFOS	507.0 > 79.9	4.37e3	4.82e3	0.115	0.997	4.65	4.65	11.3	98.6443	91.1		
22	-1													
23	26	PFDA	513 > 468.8		1.83e4	0.115		4.95						
24	29	L-MeFOSAA	570 > 419		4.88e3	0.115		5.10						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.88e3	0.115		5.19		0.000				
26	33	PFUdA	563.0 > 518.9		2.23e4	0.115		5.28						
27	37	PFDoA	612.9 > 569.0	1.72e1	2.21e4	0.115		5.56	5.57	0.00975			11.482	NO
28	60	13C2-PFDA	515.1 > 469.9	1.83e4	2.99e4	0.115	0.819	4.95	4.95	7.65	80.9172	74.7		
29	62	d3-N-MeFOSAA	573.3 > 419	4.88e3	3.77e4	0.115	0.177	5.10	5.10	1.62	79.1017	73.0		
30	62	d3-N-MeFOSAA	573.3 > 419	4.88e3	3.77e4	0.115	0.177	5.10	5.10	1.62	79.1017	73.0		
31	63	13C2-PFUdA	565 > 519.8	2.23e4	3.77e4	0.115	0.889	5.28	5.28	7.41	72.2056	66.7		
32	65	13C2-PFDoA	614.7 > 569.7	2.21e4	2.99e4	0.115	1.087	5.57	5.56	9.23	73.5653	67.9		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		6.24e3	0.115		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	6.24e3	0.115		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.21e4	0.115		5.82						

AM 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

	#	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		1.71e4	0.115		6.04						
38	85	TDCA	498.3>106.9			0.115		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	6.24e3	3.77e4	0.115	0.224	5.26	5.26	2.07	80.1399	74.0		
40	64	d5-N-EtFOSAA	589.3 > 419	6.24e3	3.77e4	0.115	0.224	5.26	5.26	2.07	80.1399	74.0		
41	65	13C2-PFDoA	614.7 > 569.7	2.21e4	2.99e4	0.115	1.087	5.57	5.56	9.23	73.5653	67.9		
42	67	13C2-PFTeDA	715.1 > 669.7	1.71e4	3.77e4	0.115	0.604	6.05	6.04	5.68	81.4327	75.2		
43	59	13C8-PFOS	507.0 > 79.9	4.37e3	4.82e3	0.115	0.997	4.65	4.65	11.3	98.6443	91.1		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.45e4	2.45e4	0.115	1.000	2.96	2.97	12.5	108.3283	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.16e4	3.16e4	0.115	1.000	4.12	4.12	12.5	108.3283	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	1.80e3	1.80e3	0.115	1.000	3.75	3.75	12.5	108.3283	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.32e4	2.32e4	0.115	1.000	4.56	4.56	12.5	108.3283	100.0		
49	77	13C4-PFOS	503 > 79.9	4.82e3	4.82e3	0.115	1.000	4.65	4.65	12.5	108.3283	100.0		
50	78	13C6-PFDA	519.1 > 473.7	2.99e4	2.99e4	0.115	1.000	4.95	4.95	12.5	108.3283	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.77e4	3.77e4	0.115	1.000	5.28	5.28	12.5	108.3283	100.0		

GM 9/3/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

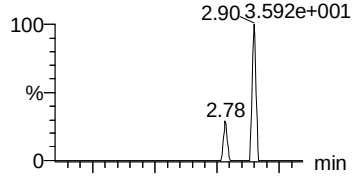
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

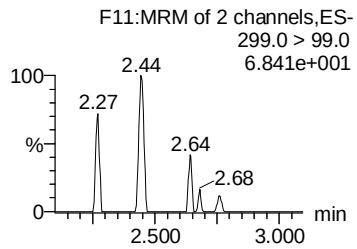
Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

PFBS





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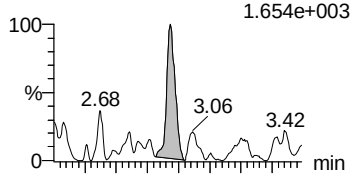

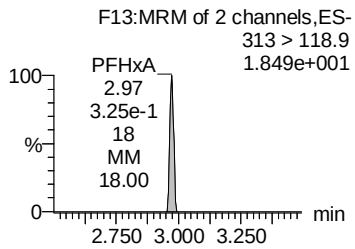

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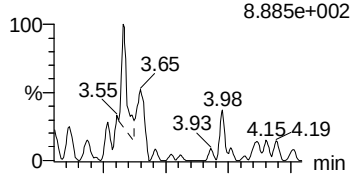

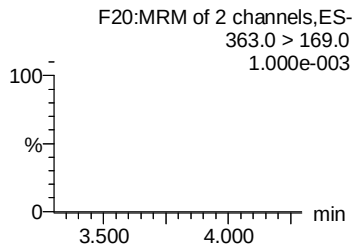

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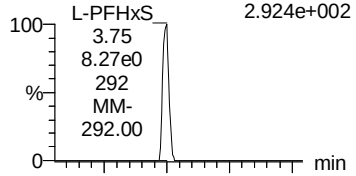

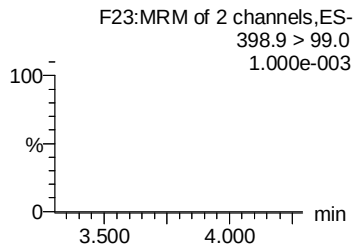

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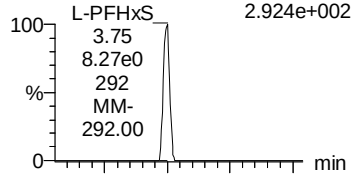

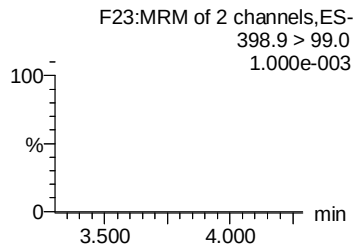

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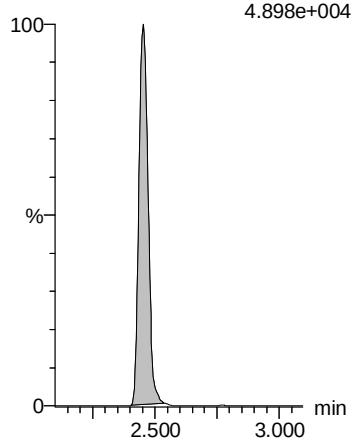

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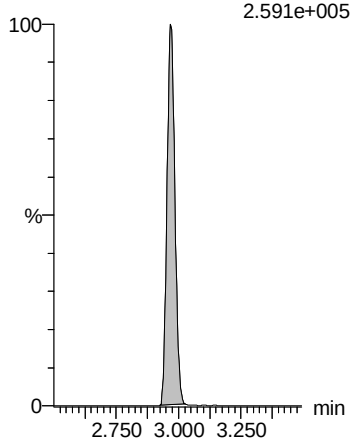

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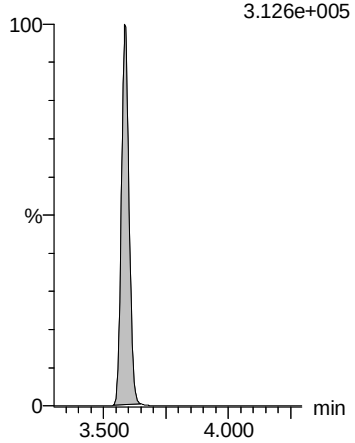

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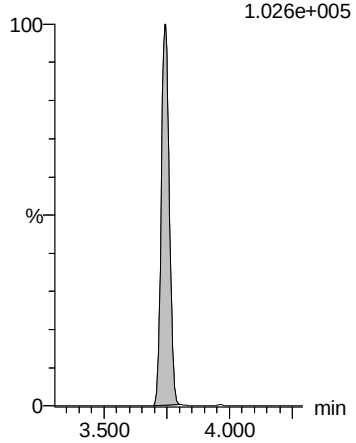

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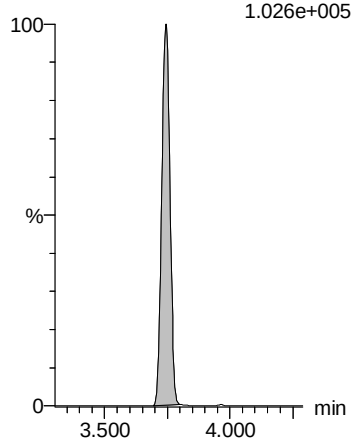


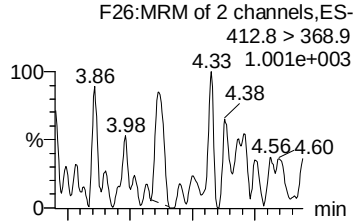
Review: AMR 7/24/2019

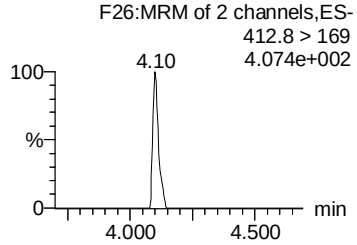
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

L-PFOA





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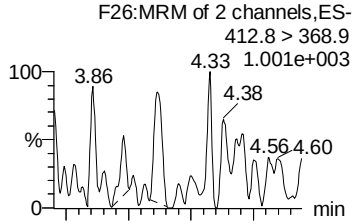

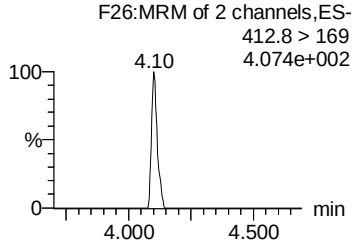

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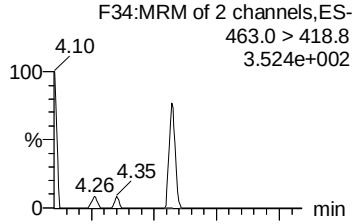
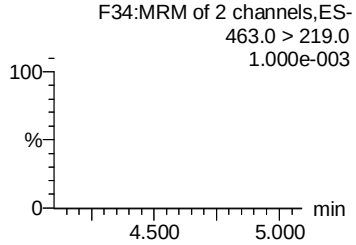
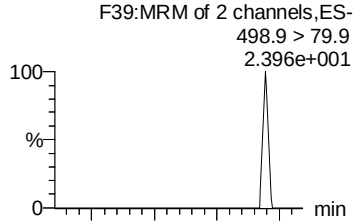
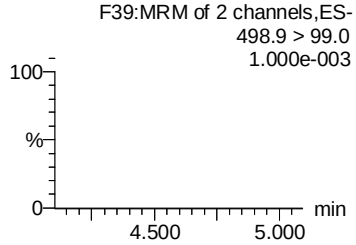




L-PFOS





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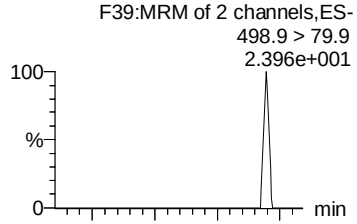
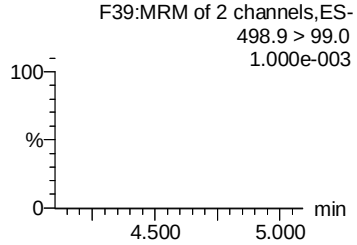
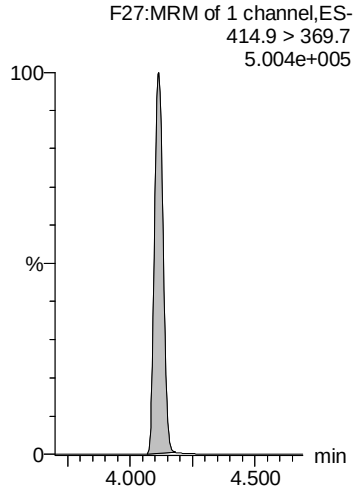




13C2-PFOA



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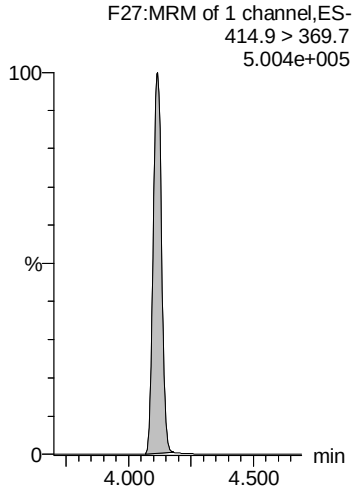

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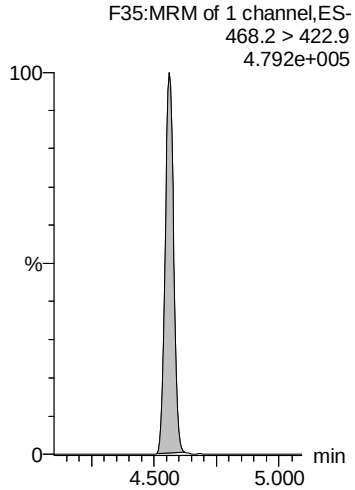

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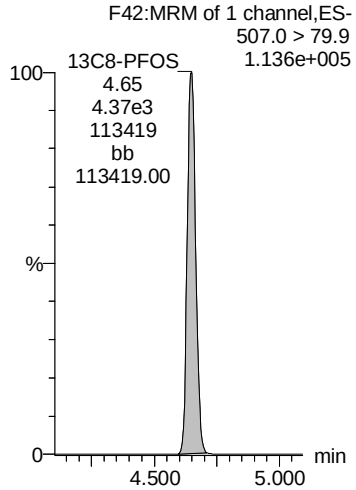

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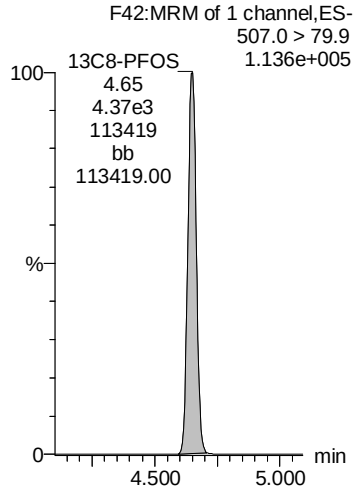

GM 7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

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Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

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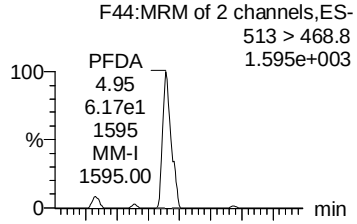

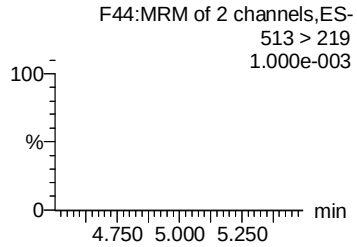

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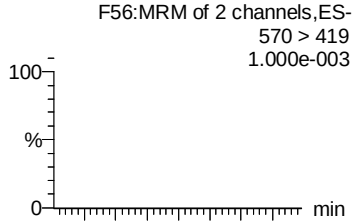

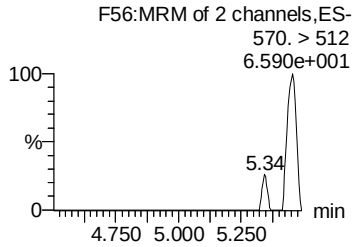

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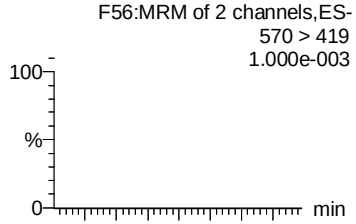

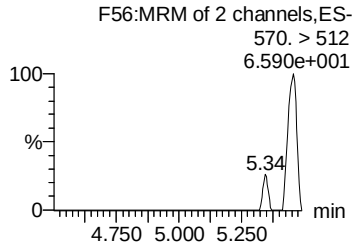

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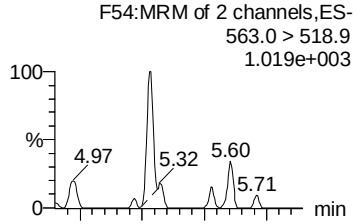
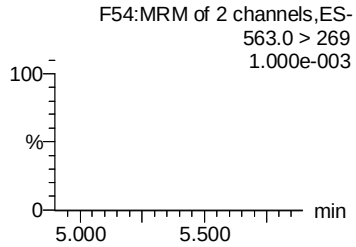
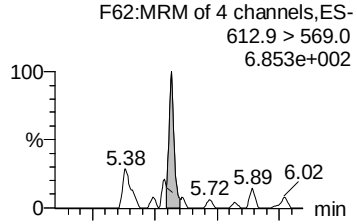
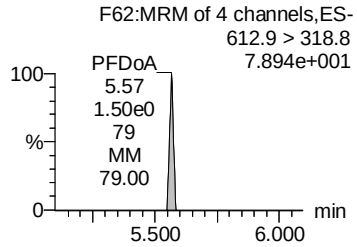




PFDoA





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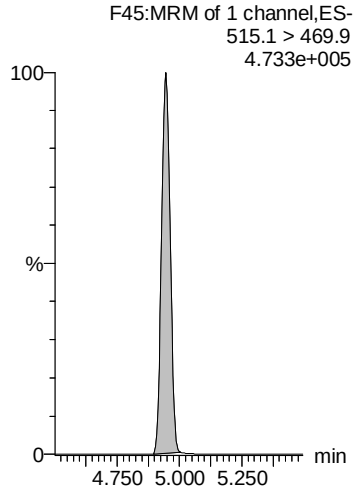
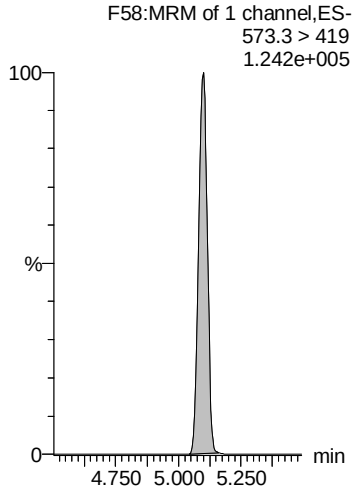


d3-N-MeFOSAA



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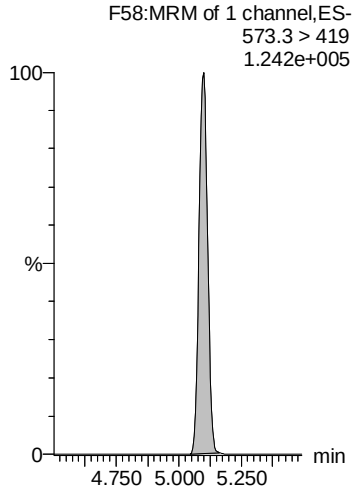

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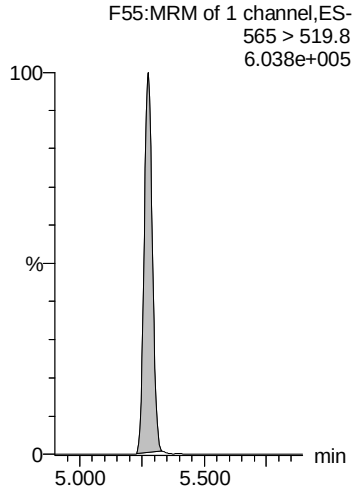

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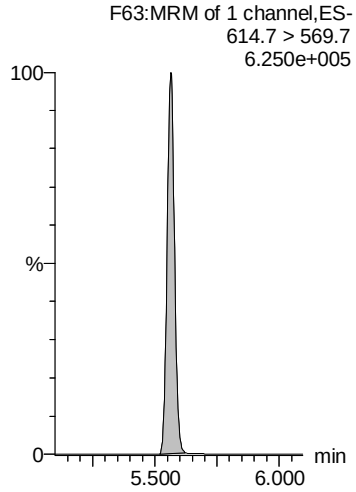


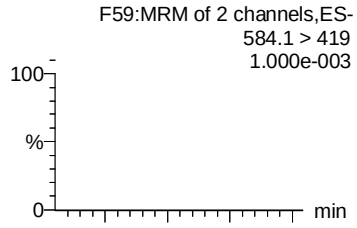
Review: AMR 7/24/2019

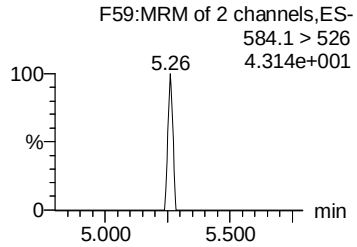
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

L-EtFOSAA





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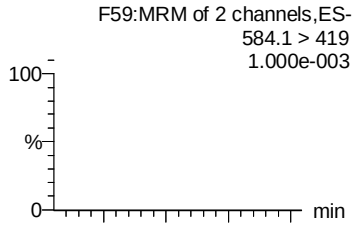

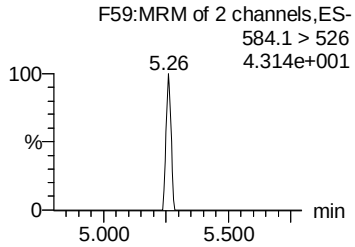

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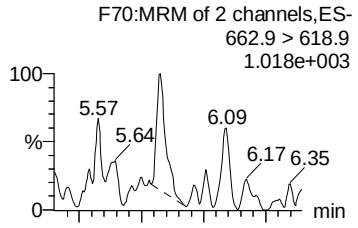

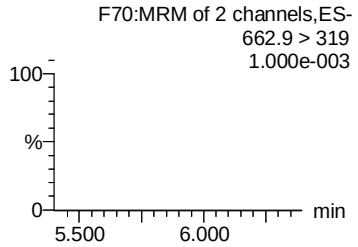

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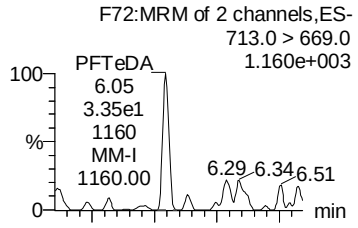

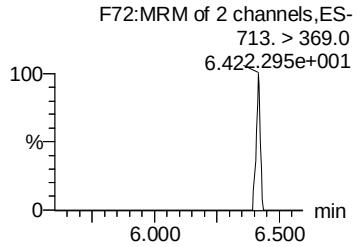

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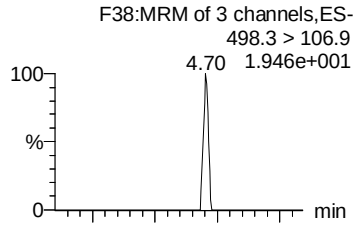
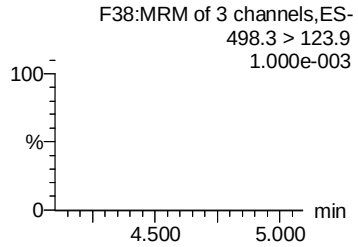
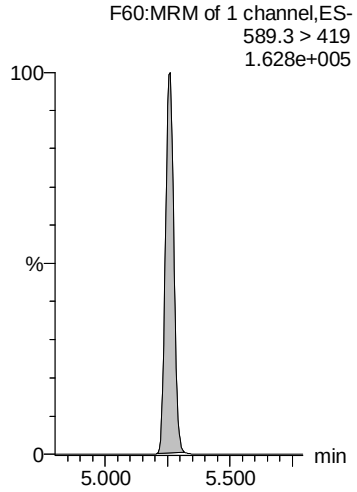




d5-N-EtFOSAA



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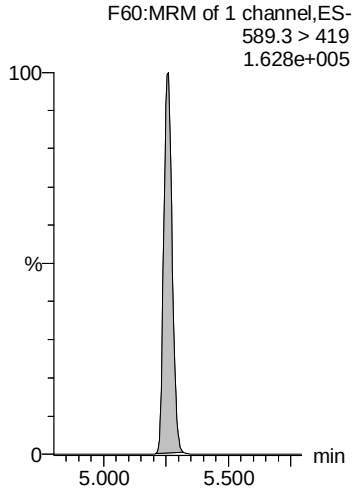
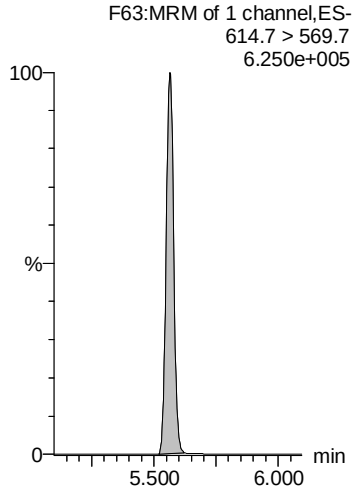
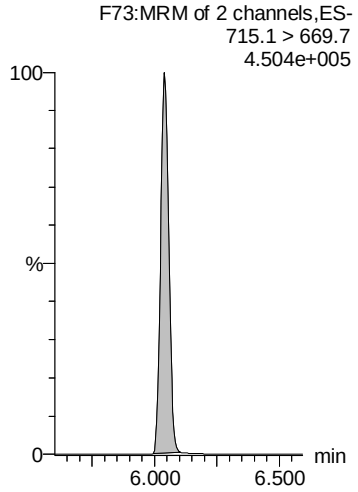


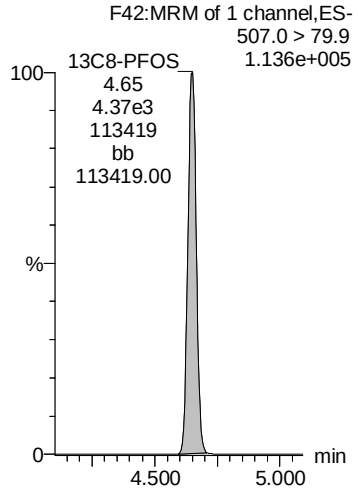
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



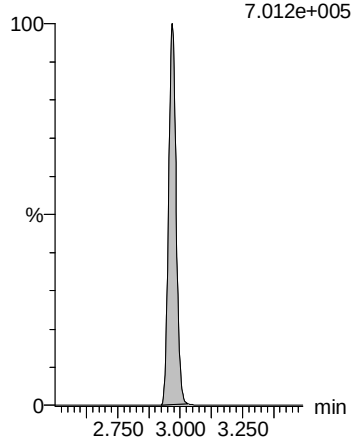
GM 7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-25.qld

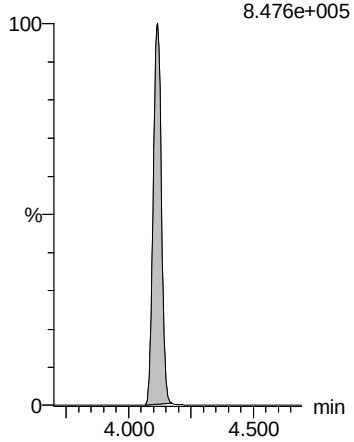
Last Altered: Tuesday, July 23, 2019 12:30:08 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:30:17 Pacific Daylight Time

Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

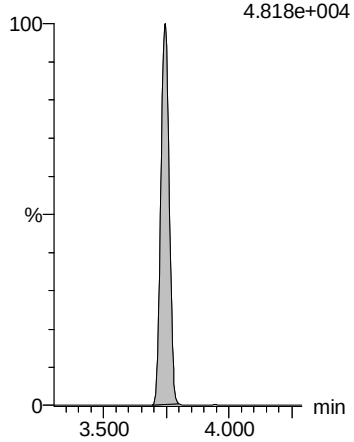
13C5-PFHxA



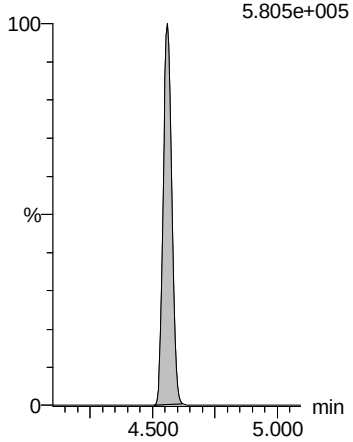
13C8-PFOA



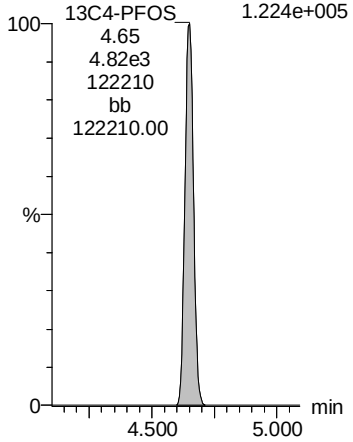
18O2-PFHxS



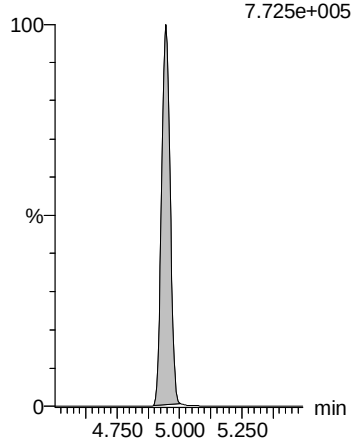
13C9-PFNA



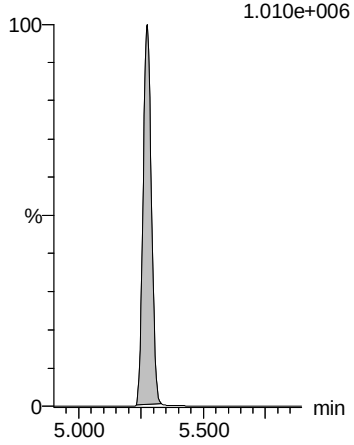
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

	#	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	7.23e1	2.18e3	0.116		2.46	2.46	0.415	1.8567		3.127	NO
2	7	PFHxA	313.0 > 269.0	1.43e4	1.17e4	0.116		2.96	2.96	6.11	59.4013		15.235	NO
3	11	PFHpA	363.0 > 318.9	3.17e3	1.43e4	0.116		3.58	3.58	2.78	18.4750		9.933	NO
4	13	L-PFHxS	398.9 > 79.6	4.06e2	3.93e3	0.116		3.74	3.75	1.29	12.2379		1.804	NO
5	80	Total PFHxS	398.9 > 79.6	4.06e2	3.93e3	0.116		3.83		1.29	12.2379			
6	49	13C3-PFBS	302.0 > 98.8	2.18e3	2.08e3	0.116	1.058	2.45	2.46	13.1	106.6470	99.1		
7	52	13C2-PFHxA	315.0 > 270.0	1.17e4	3.06e4	0.116	0.978	2.96	2.96	4.76	41.9583	97.5		
8	53	13C4-PFHpA	367.2 > 321.8	1.43e4	3.06e4	0.116	0.479	3.59	3.58	5.83	104.8941	97.5		
9	54	13C3-PFHxS	401.8 > 79.9	3.93e3	2.08e3	0.116	2.024	3.75	3.74	23.7	100.7286	93.6		
10	54	13C3-PFHxS	401.8 > 79.9	3.93e3	2.08e3	0.116	2.024	3.75	3.74	23.7	100.7286	93.6		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.36e3	2.44e4	0.116		4.12	4.12	1.21	6.7073		3.644	NO
13	81	Total PFOA	412.8 > 368.9	2.36e3	2.44e4	0.116		4.21		1.21	6.7073			
14	21	PFNA	463.0 > 418.8	2.72e2	2.50e4	0.116		4.56	4.56	0.136	0.8028		4.774	NO
15	23	L-PFOS	498.9 > 79.9	3.24e3	4.62e3	0.116		4.65	4.65	8.75	70.6442		2.212	NO
16	82	Total PFOS	498.9 > 79.9	3.24e3	4.62e3	0.116		4.74		8.75	70.6442			
17	58	13C2-PFOA	414.9 > 369.7	2.44e4	3.73e4	0.116	0.681	4.12	4.12	8.18	103.3998	96.1		
18	58	13C2-PFOA	414.9 > 369.7	2.44e4	3.73e4	0.116	0.681	4.12	4.12	8.18	103.3998	96.1		
19	56	13C5-PFNA	468.2 > 422.9	2.50e4	2.68e4	0.116	1.002	4.56	4.56	11.7	100.3230	93.2		
20	59	13C8-PFOS	507.0 > 79.9	4.62e3	4.91e3	0.116	0.997	4.65	4.65	11.8	101.7287	94.5		
21	59	13C8-PFOS	507.0 > 79.9	4.62e3	4.91e3	0.116	0.997	4.65	4.65	11.8	101.7287	94.5		
22	-1													
23	26	PFDA	513 > 468.8	3.64e2	2.20e4	0.116		4.94	4.94	0.207	1.3571		6.204	NO
24	29	L-MeFOSAA	570 > 419		4.57e3	0.116		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.57e3	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	1.32e2	2.65e4	0.116		5.27	5.27	0.0623	0.0709		25.680	YES
27	37	PFDoA	612.9 > 569.0	1.00e2	2.53e4	0.116		5.56	5.57	0.0495			7.236	NO
28	60	13C2-PFDA	515.1 > 469.9	2.20e4	3.19e4	0.116	0.819	4.95	4.94	8.63	90.7585	84.3		
29	62	d3-N-MeFOSAA	573.3 > 419	4.57e3	3.86e4	0.116	0.177	5.10	5.09	1.48	71.8428	66.8		
30	62	d3-N-MeFOSAA	573.3 > 419	4.57e3	3.86e4	0.116	0.177	5.10	5.09	1.48	71.8428	66.8		
31	63	13C2-PFUdA	565 > 519.8	2.65e4	3.86e4	0.116	0.889	5.28	5.27	8.60	83.3205	77.4		
32	65	13C2-PFDoA	614.7 > 569.7	2.53e4	3.19e4	0.116	1.087	5.57	5.56	9.93	78.6625	73.1		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		7.11e3	0.116		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	7.11e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.53e4	0.116		5.82						

AMR 7/24/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

	#	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	6.60e1	1.85e4	0.116		6.04	6.04	0.0447			38.692	YES
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	7.11e3	3.86e4	0.116	0.224	5.26	5.26	2.31	88.6826	82.4		
40	64	d5-N-EtFOSAA	589.3 > 419	7.11e3	3.86e4	0.116	0.224	5.26	5.26	2.31	88.6826	82.4		
41	65	13C2-PFDoA	614.7 > 569.7	2.53e4	3.19e4	0.116	1.087	5.57	5.56	9.93	78.6625	73.1		
42	67	13C2-PFTeDA	715.1 > 669.7	1.85e4	3.86e4	0.116	0.604	6.05	6.04	5.99	85.3344	79.3		
43	59	13C8-PFOS	507.0 > 79.9	4.62e3	4.91e3	0.116	0.997	4.65	4.65	11.8	101.7287	94.5		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	3.06e4	3.06e4	0.116	1.000	2.96	2.96	12.5	107.6287	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.73e4	3.73e4	0.116	1.000	4.12	4.11	12.5	107.6287	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.08e3	2.08e3	0.116	1.000	3.75	3.74	12.5	107.6287	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.68e4	2.68e4	0.116	1.000	4.56	4.56	12.5	107.6287	100.0		
49	77	13C4-PFOS	503 > 79.9	4.91e3	4.91e3	0.116	1.000	4.65	4.65	12.5	107.6287	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.19e4	3.19e4	0.116	1.000	4.95	4.94	12.5	107.6287	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.86e4	3.86e4	0.116	1.000	5.28	5.27	12.5	107.6287	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

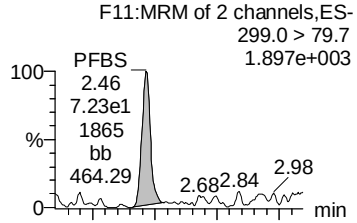
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

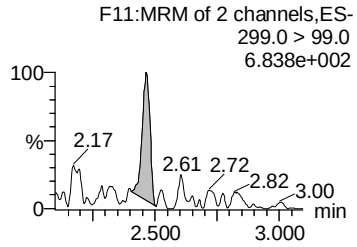
Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

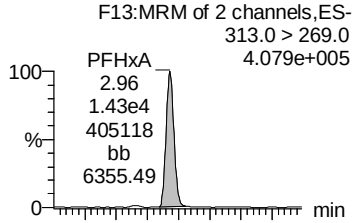
Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

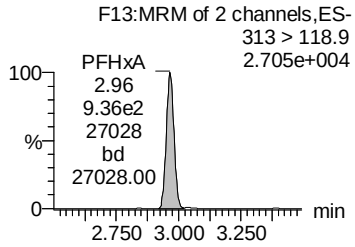
PFBS



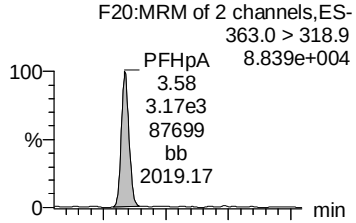


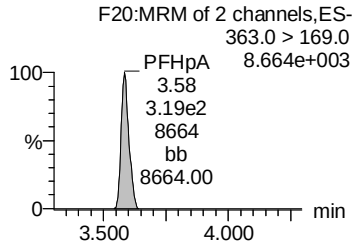
PFHxA



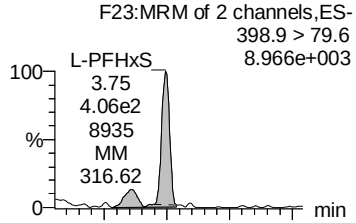


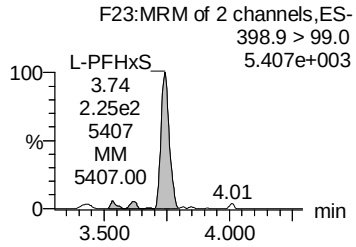
PFHpA



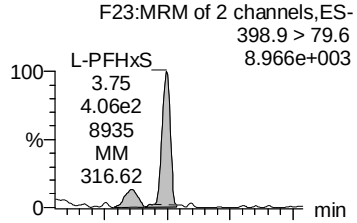


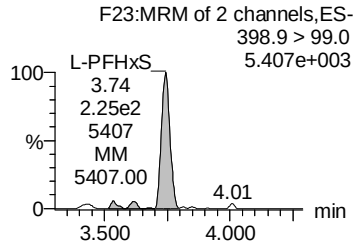
L-PFHxS



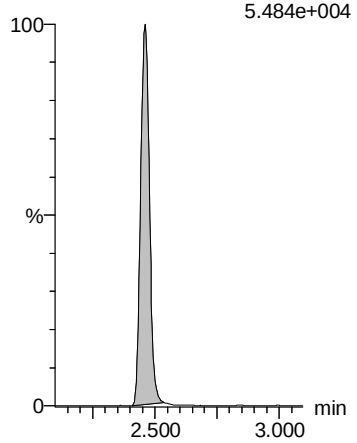


Total PFHxS

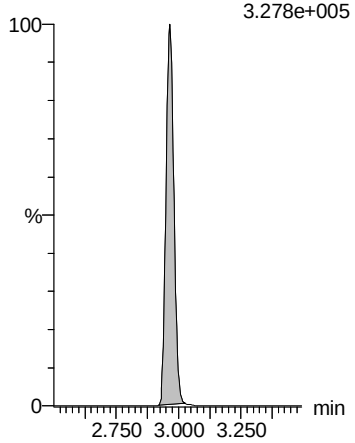




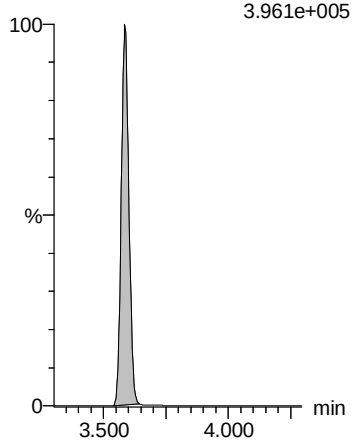
13C3-PFBS



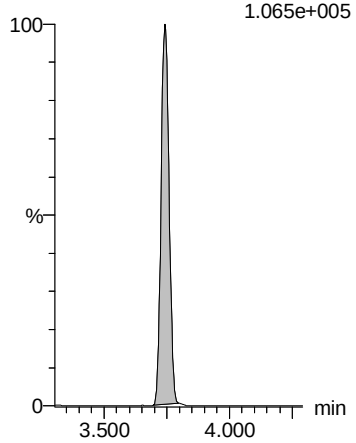
13C2-PFHxA



13C4-PFHpA



13C3-PFHxS



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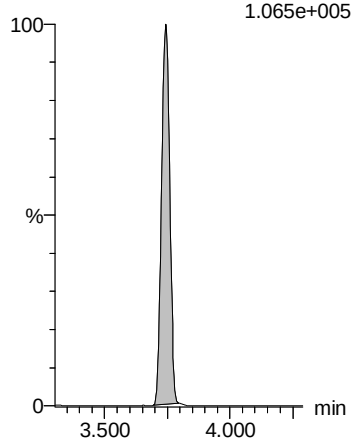


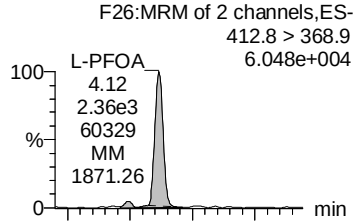
Review: AMR 7/24/2019

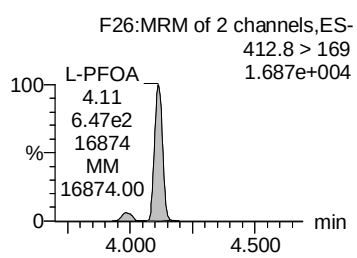
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

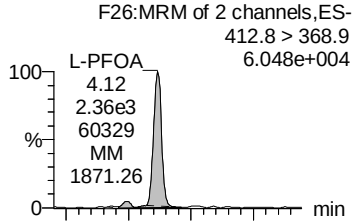
Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

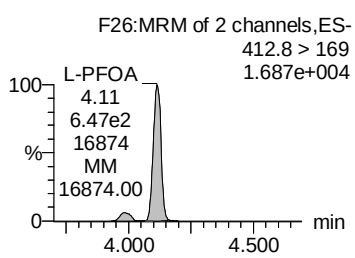
L-PFOA



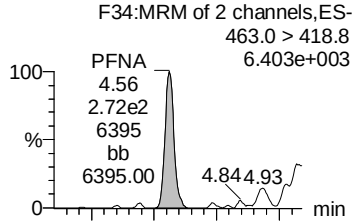


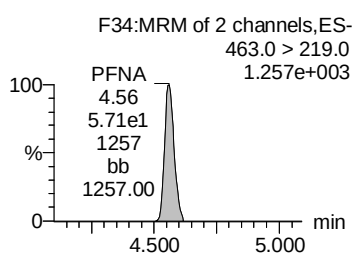
Total PFOA



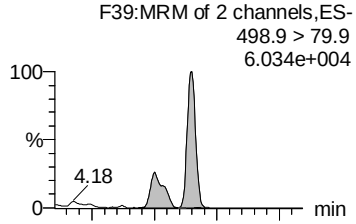


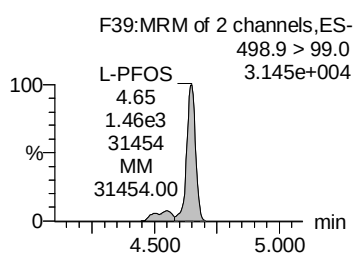
PFNA



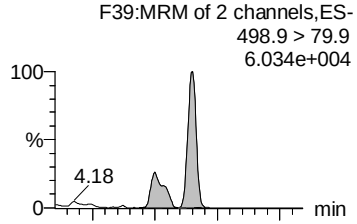


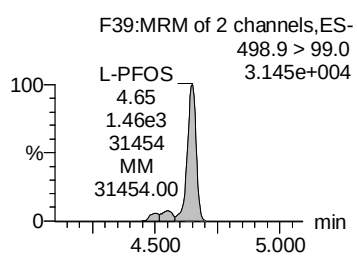
L-PFOS



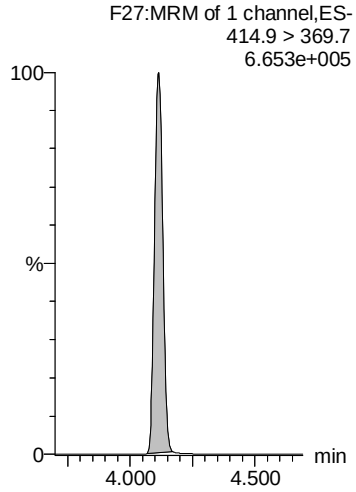


Total PFOS

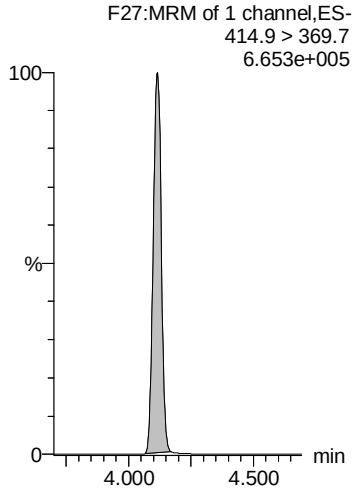




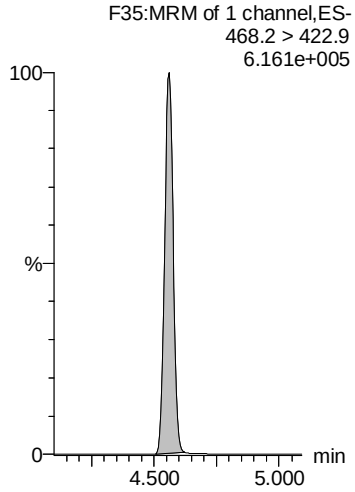
13C2-PFOA



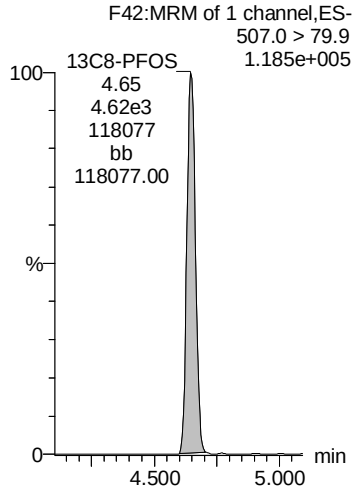
13C2-PFOA



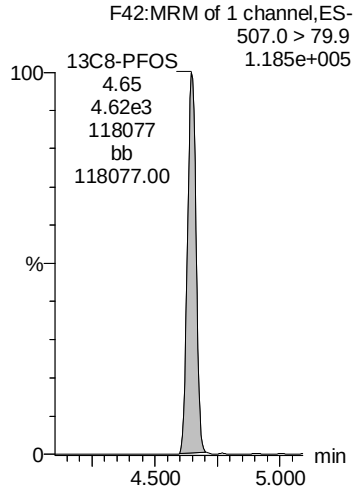
13C5-PFNA



13C8-PFOS



13C8-PFOS



AM 7/23/2019

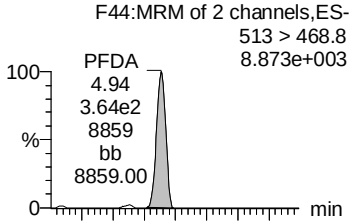
Review: AMR 7/24/2019

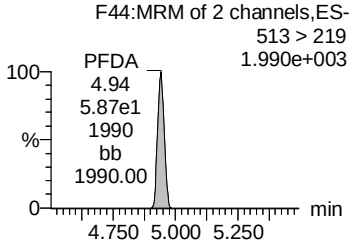
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

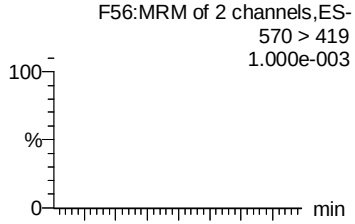
Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

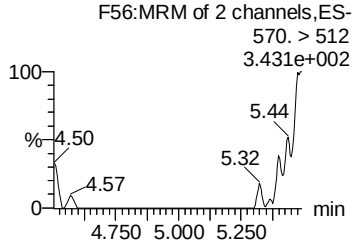
PFDA





L-MeFOSAA





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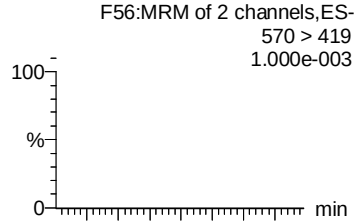
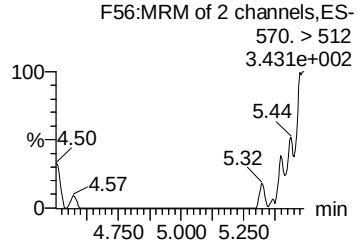
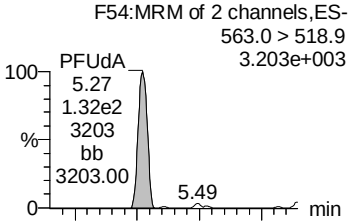
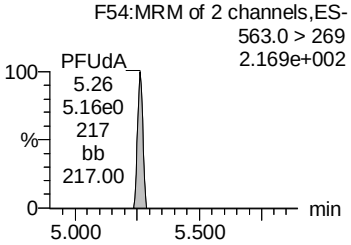


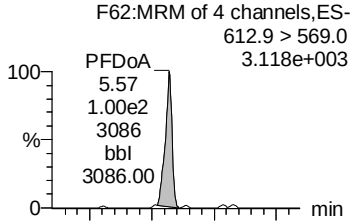


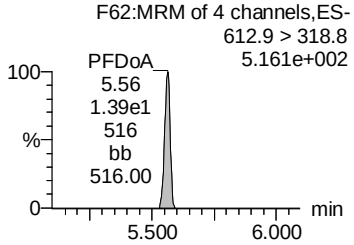
PFUdA



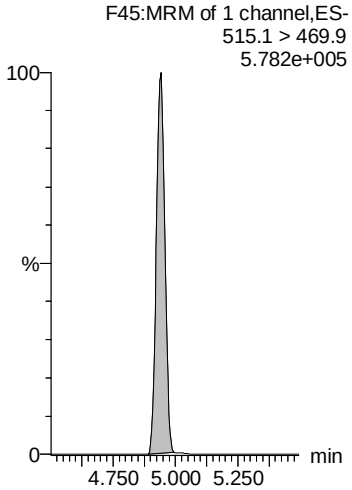


PFDoA

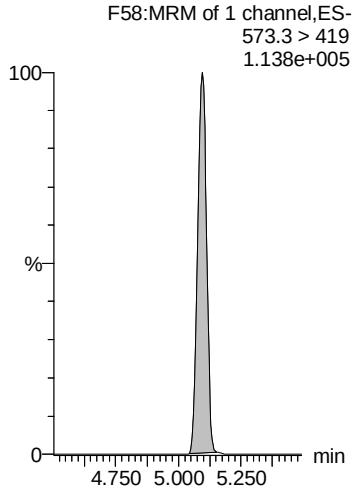




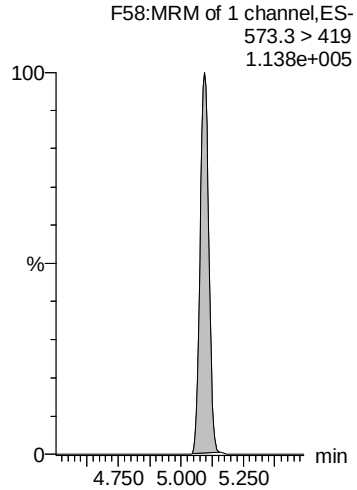
13C2-PFDA



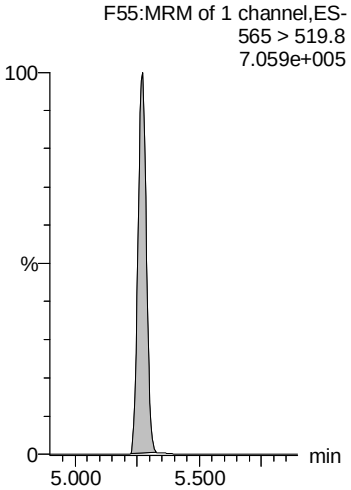
d3-N-MeFOSAA



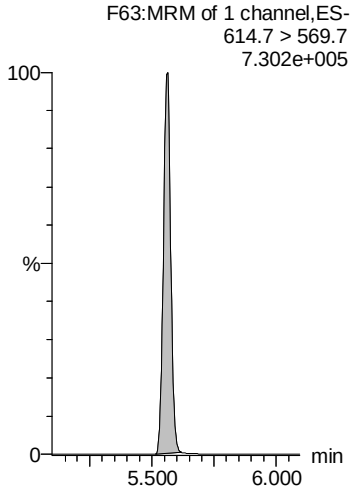
d3-N-MeFOSAA



13C2-PFUdA



13C2-PFDoA



Vista Analytical Laboratory L14

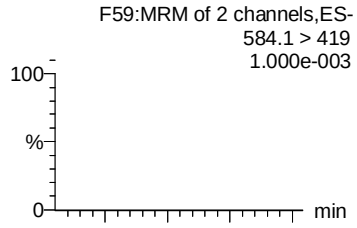
Review: AMR 7/24/2019

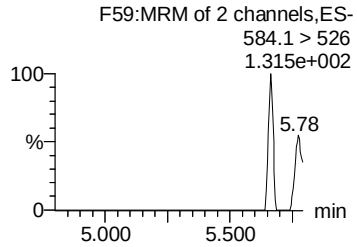
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

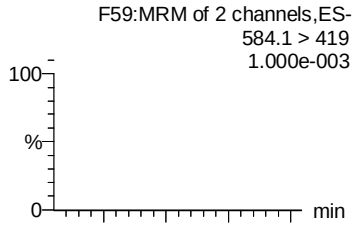
Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

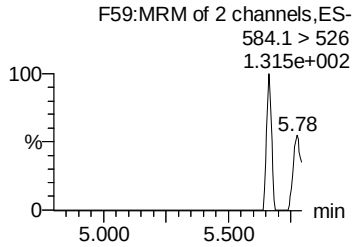
L-EtFOSAA



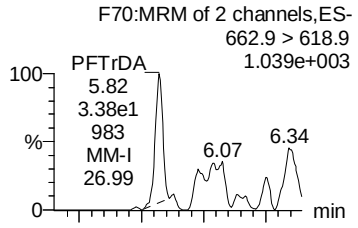


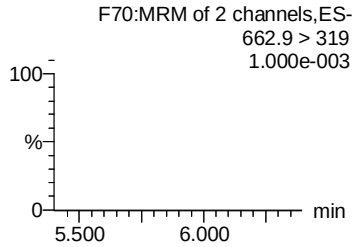
Total N-EtFOSAA



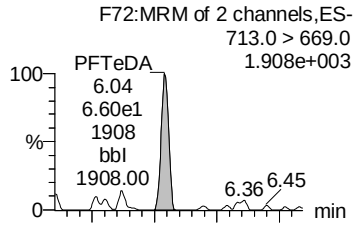


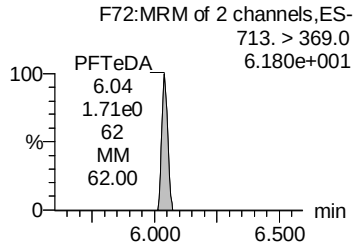
PFTrDA



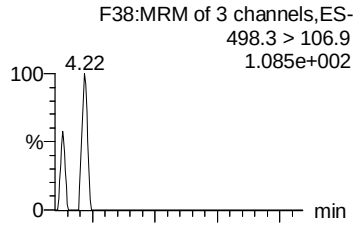


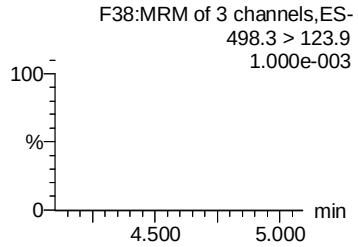
PFTeDA



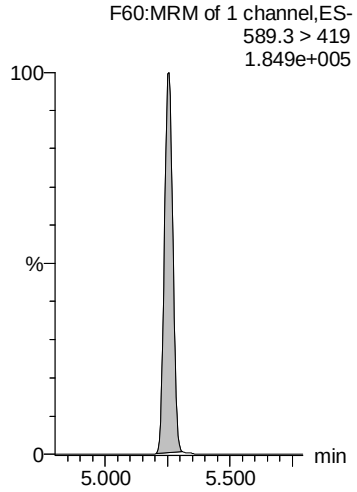


TDCA

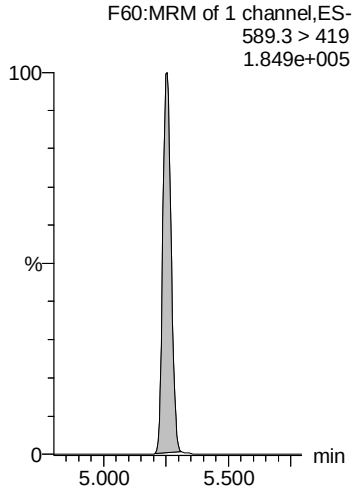




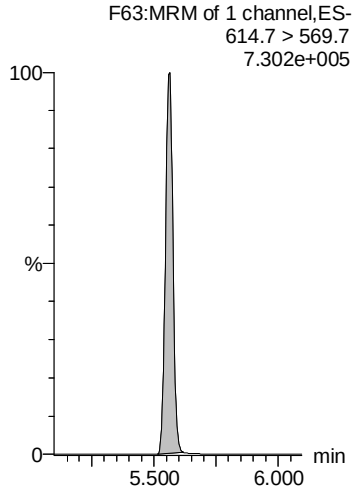
d5-N-EtFOSAA



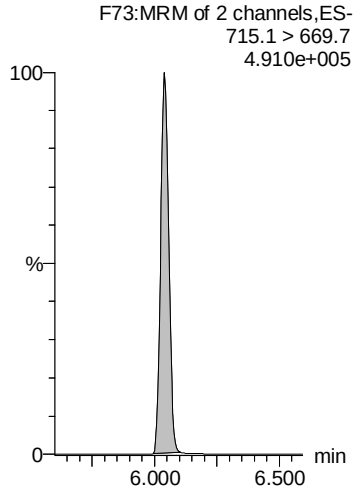
d5-N-EtFOSAA



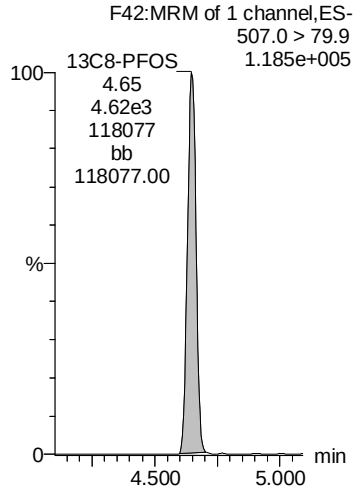
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



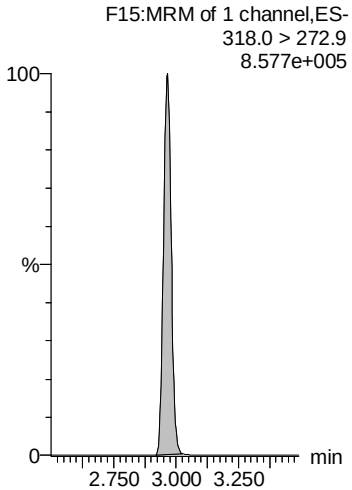
GM 7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-26.qld

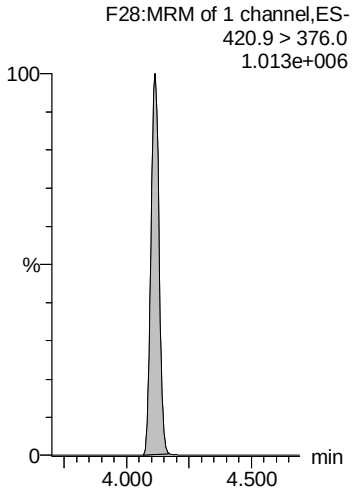
Last Altered: Tuesday, July 23, 2019 12:32:54 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:37:38 Pacific Daylight Time

Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

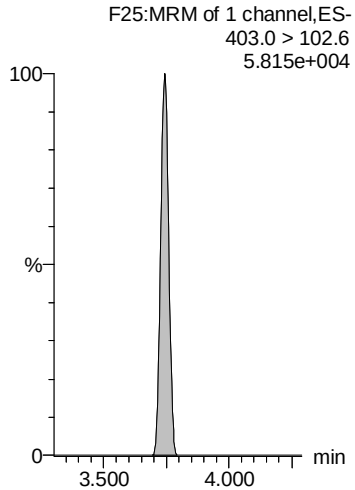
13C5-PFHxA



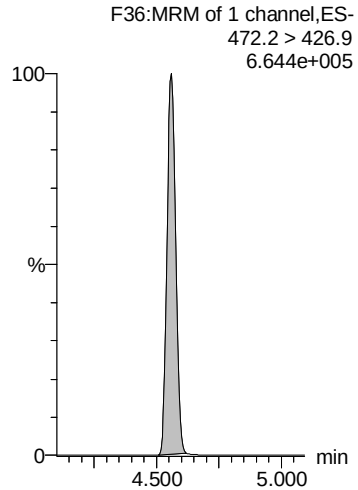
13C8-PFOA



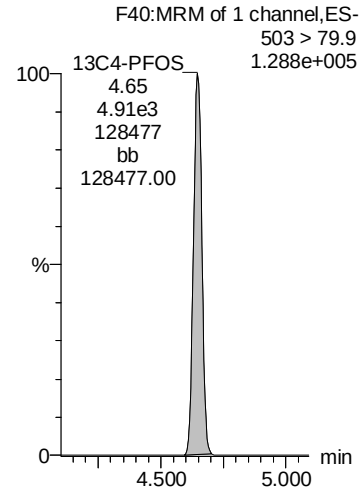
18O2-PFHxS



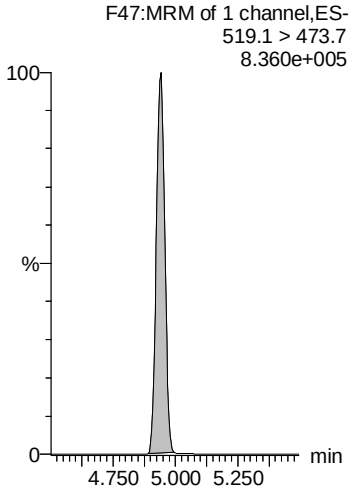
13C9-PFNA



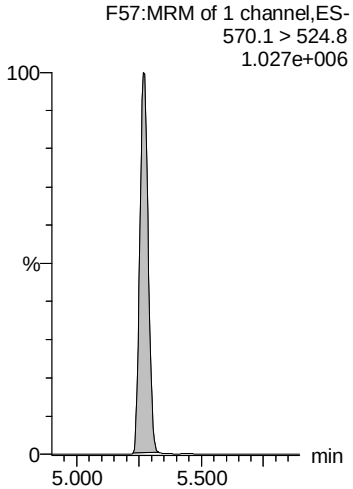
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

	#	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		2.19e3	0.116		2.45						
2	7	PFHxA	313.0 > 269.0		1.07e4	0.116		2.97						
3	11	PFHpA	363.0 > 318.9		1.28e4	0.116		3.59						
4	13	L-PFHxS	398.9 > 79.6	4.21e0	4.33e3	0.116		3.75	3.74	0.0122	0.1264		0.509	YES
5	80	Total PFHxS	398.9 > 79.6	4.21e0	4.33e3	0.116		3.83		0.0122	0.1264			
6	49	13C3-PFBS	302.0 > 98.8	2.19e3	2.10e3	0.116	1.058	2.45	2.45	13.0	106.4328	98.7		
7	52	13C2-PFHxA	315.0 > 270.0	1.07e4	2.72e4	0.116	0.978	2.96	2.97	4.89	43.1707	100.1		
8	53	13C4-PFHpA	367.2 > 321.8	1.28e4	2.72e4	0.116	0.479	3.59	3.59	5.88	105.9257	98.2		
9	54	13C3-PFHxS	401.8 > 79.9	4.33e3	2.10e3	0.116	2.024	3.75	3.75	25.8	109.7951	101.8		
10	54	13C3-PFHxS	401.8 > 79.9	4.33e3	2.10e3	0.116	2.024	3.75	3.75	25.8	109.7951	101.8		
11	-1													
12	16	L-PFOA	412.8 > 368.9		2.21e4	0.116		4.12						
13	81	Total PFOA	412.8 > 368.9	0.00e0	2.21e4	0.116		4.21		0.000				
14	21	PFNA	463.0 > 418.8		2.19e4	0.116		4.56						
15	23	L-PFOS	498.9 > 79.9		5.00e3	0.116		4.65						
16	82	Total PFOS	498.9 > 79.9	0.00e0	5.00e3	0.116		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	2.21e4	3.39e4	0.116	0.681	4.12	4.12	8.14	103.0278	95.6		
18	58	13C2-PFOA	414.9 > 369.7	2.21e4	3.39e4	0.116	0.681	4.12	4.12	8.14	103.0278	95.6		
19	56	13C5-PFNA	468.2 > 422.9	2.19e4	2.49e4	0.116	1.002	4.56	4.56	11.0	94.4881	87.6		
20	59	13C8-PFOS	507.0 > 79.9	5.00e3	4.93e3	0.116	0.997	4.65	4.65	12.7	109.7021	101.8		
21	59	13C8-PFOS	507.0 > 79.9	5.00e3	4.93e3	0.116	0.997	4.65	4.65	12.7	109.7021	101.8		
22	-1													
23	26	PFDA	513 > 468.8		2.09e4	0.116		4.94						
24	29	L-MeFOSAA	570 > 419		4.85e3	0.116		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.85e3	0.116		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	5.13e1	2.33e4	0.116		5.28	5.28	0.0275			15.735	YES
27	37	PFDoA	612.9 > 569.0		2.25e4	0.116		5.56						
28	60	13C2-PFDA	515.1 > 469.9	2.09e4	3.29e4	0.116	0.819	4.95	4.94	7.93	83.5111	77.5		
29	62	d3-N-MeFOSAA	573.3 > 419	4.85e3	4.05e4	0.116	0.177	5.10	5.09	1.50	72.7604	67.5		
30	62	d3-N-MeFOSAA	573.3 > 419	4.85e3	4.05e4	0.116	0.177	5.10	5.09	1.50	72.7604	67.5		
31	63	13C2-PFUdA	565 > 519.8	2.33e4	4.05e4	0.116	0.889	5.28	5.28	7.20	69.8591	64.8		
32	65	13C2-PFDoA	614.7 > 569.7	2.25e4	3.29e4	0.116	1.087	5.57	5.56	8.57	67.9568	63.0		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		6.31e3	0.116		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	6.31e3	0.116		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.25e4	0.116		5.82						

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

	#	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		1.91e4	0.116		6.04						
38	85	TDCA	498.3>106.9			0.116		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	6.31e3	4.05e4	0.116	0.224	5.26	5.26	1.95	75.0744	69.6		
40	64	d5-N-EtFOSAA	589.3 > 419	6.31e3	4.05e4	0.116	0.224	5.26	5.26	1.95	75.0744	69.6		
41	65	13C2-PFDoA	614.7 > 569.7	2.25e4	3.29e4	0.116	1.087	5.57	5.56	8.57	67.9568	63.0		
42	67	13C2-PFTeDA	715.1 > 669.7	1.91e4	4.05e4	0.116	0.604	6.05	6.04	5.89	84.0164	77.9		
43	59	13C8-PFOS	507.0 > 79.9	5.00e3	4.93e3	0.116	0.997	4.65	4.65	12.7	109.7021	101.8		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.72e4	2.72e4	0.116	1.000	2.96	2.97	12.5	107.8144	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.39e4	3.39e4	0.116	1.000	4.12	4.12	12.5	107.8144	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.10e3	2.10e3	0.116	1.000	3.75	3.75	12.5	107.8144	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.49e4	2.49e4	0.116	1.000	4.56	4.56	12.5	107.8144	100.0		
49	77	13C4-PFOS	503 > 79.9	4.93e3	4.93e3	0.116	1.000	4.65	4.65	12.5	107.8144	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.29e4	3.29e4	0.116	1.000	4.95	4.94	12.5	107.8144	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	4.05e4	4.05e4	0.116	1.000	5.28	5.27	12.5	107.8144	100.0		

AMR 7/25/2019

Vista Analytical Laboratory L14

Review: AMR 7/25/2019

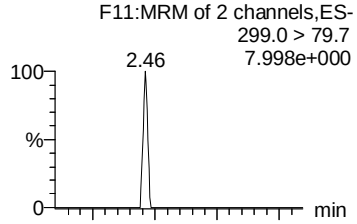
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

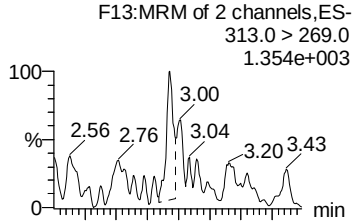
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

PFBS



PFHxA



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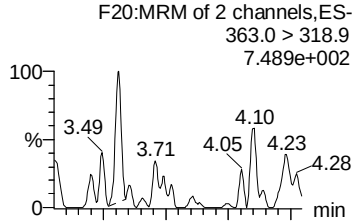
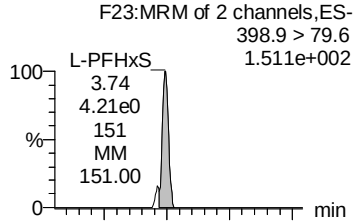


L-PFHxS



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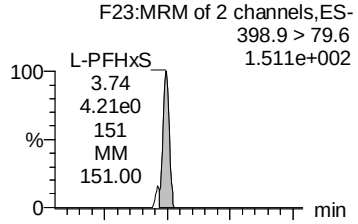

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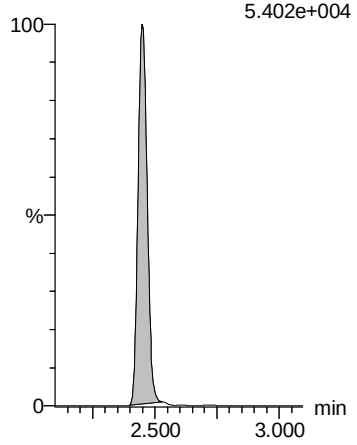

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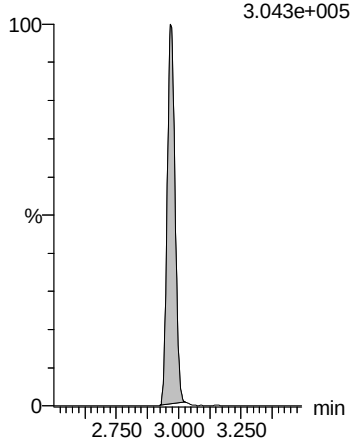

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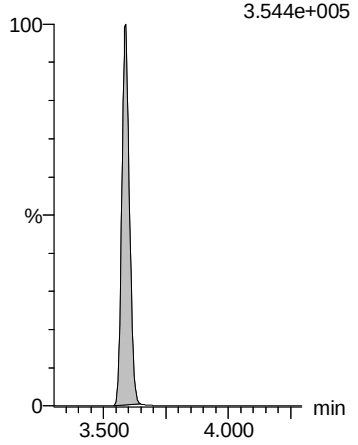

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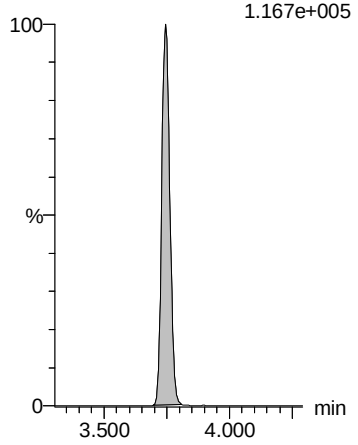

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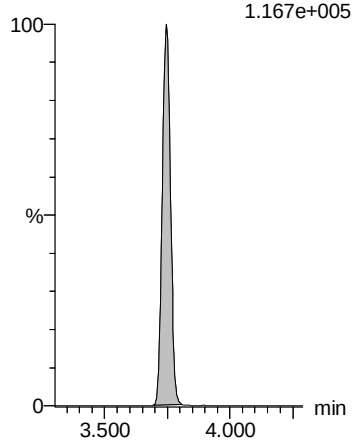
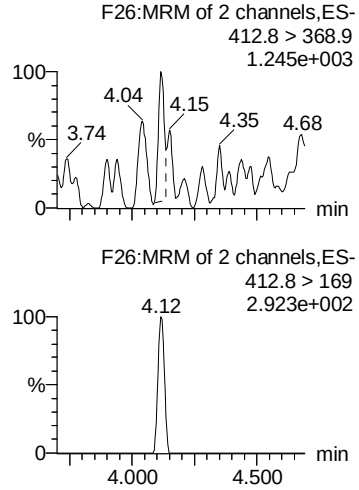


Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

L-PFOA



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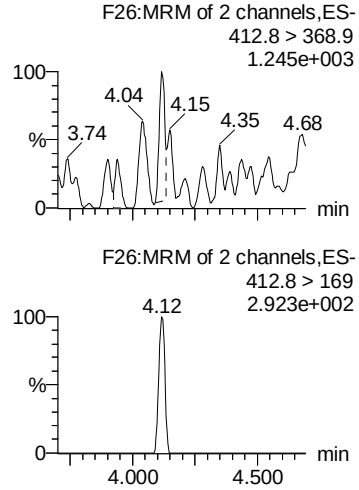

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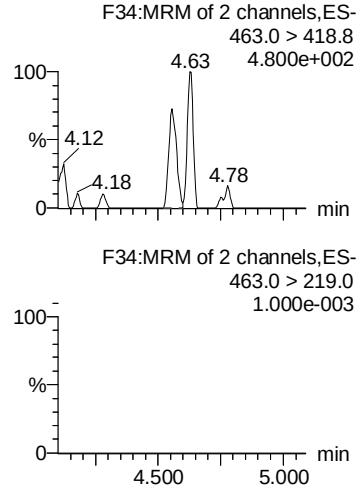
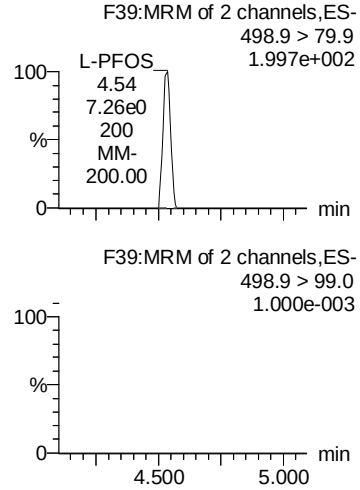


L-PFOS



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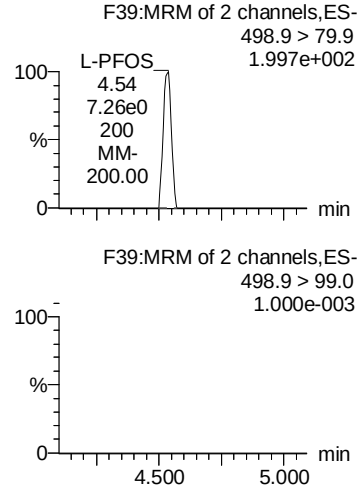

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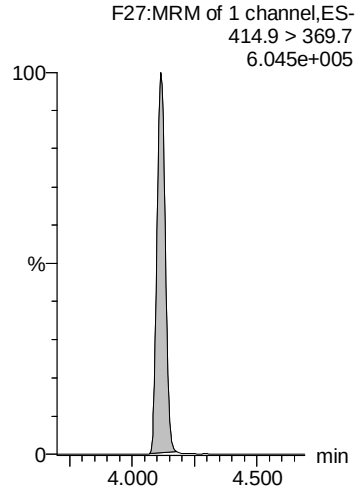

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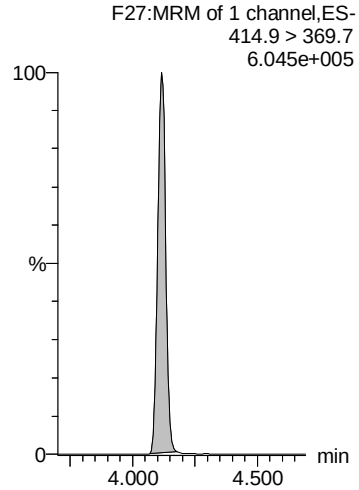

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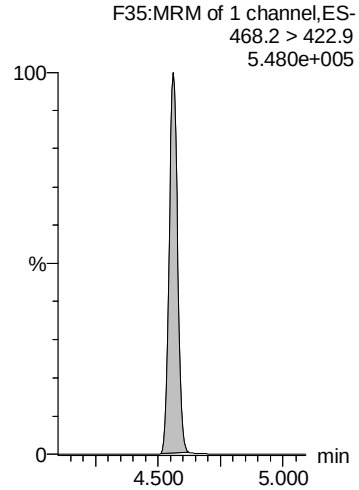

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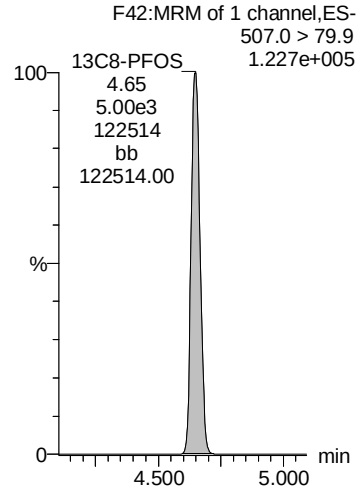

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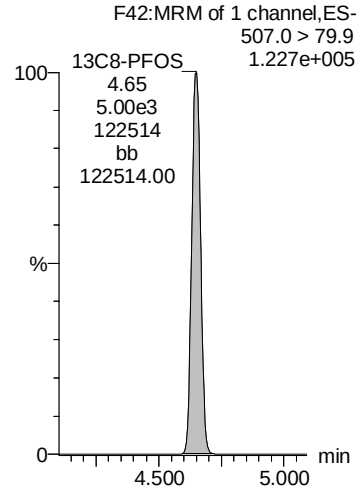


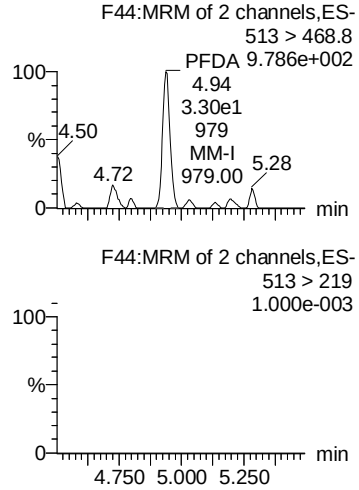
Review: AMR 7/25/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

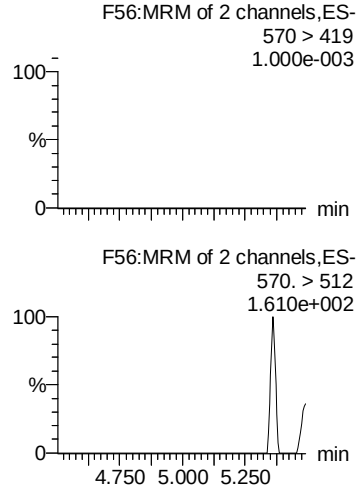
Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

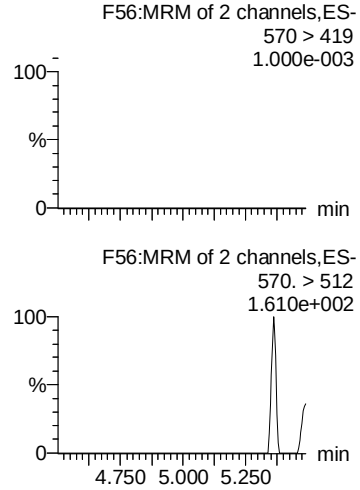
PFDA



L-MeFOSAA



Total N-MeFOSAA



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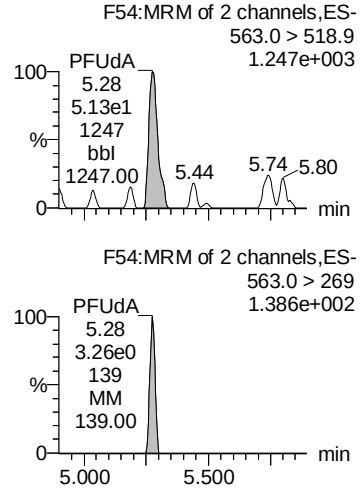

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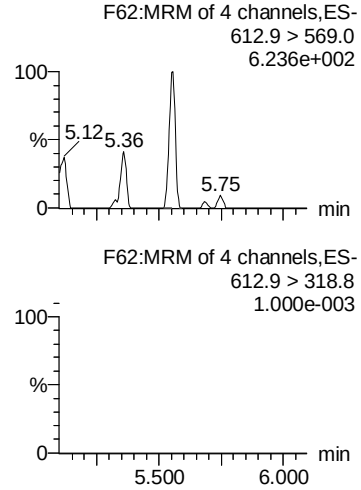

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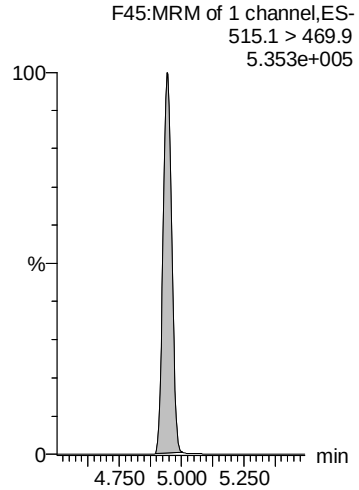

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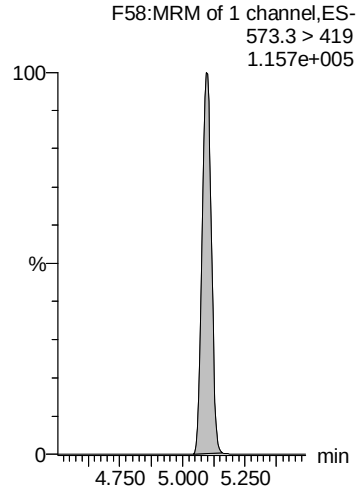

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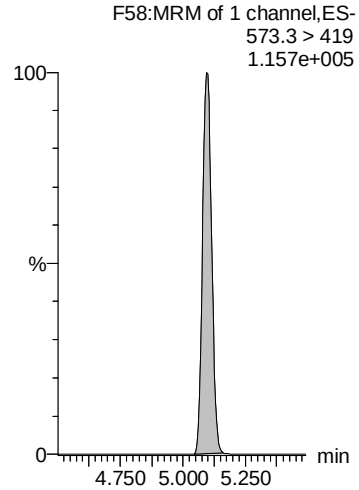

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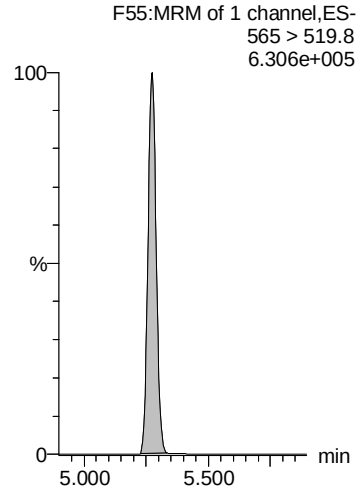

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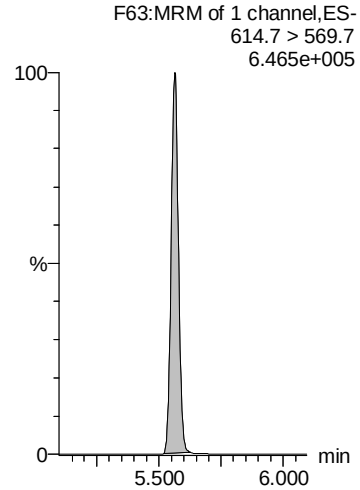


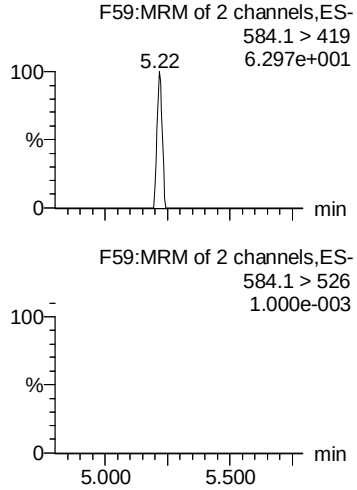
AM 7/25/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

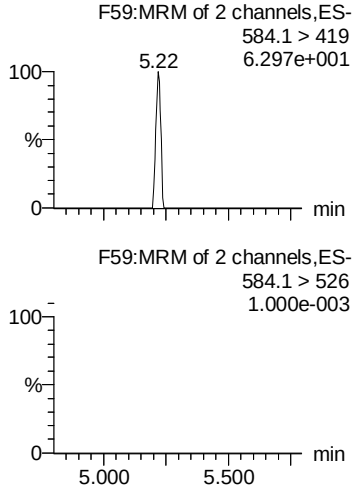
Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

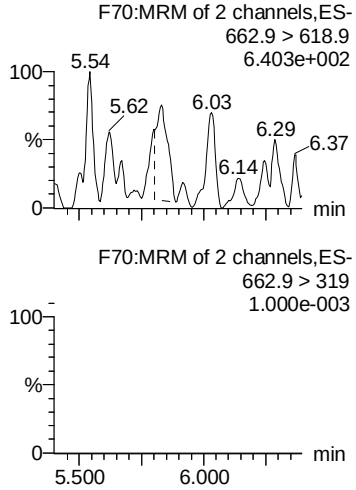
L-EtFOSAA



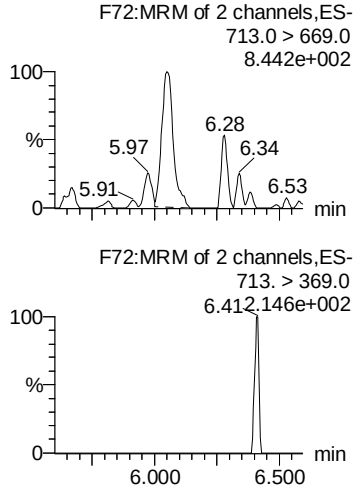
Total N-EtFOSAA



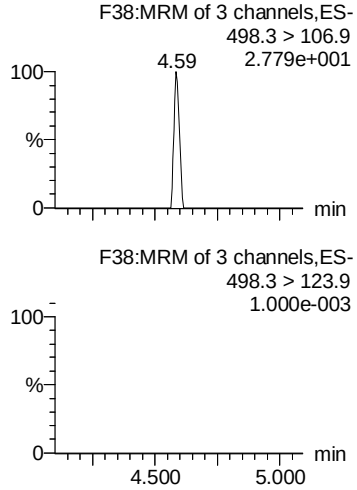
PFTrDA



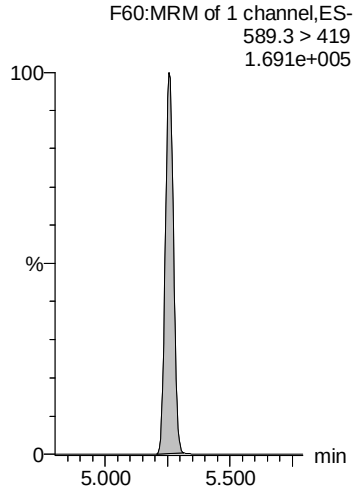
PFTeDA



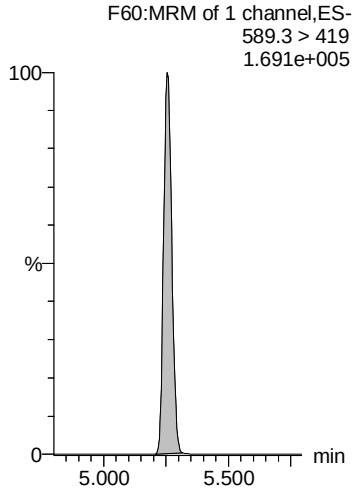
TDCA



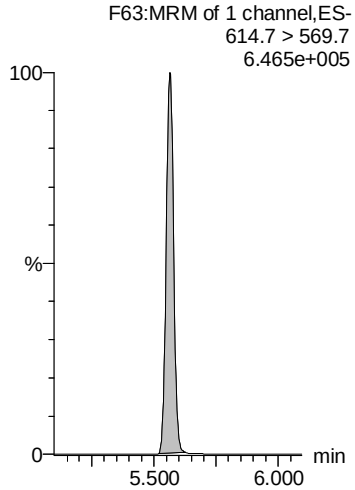
d5-N-EtFOSAA



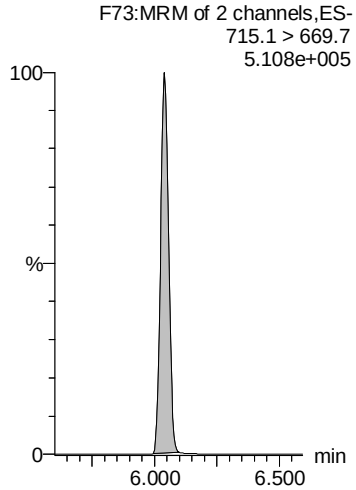
d5-N-EtFOSAA



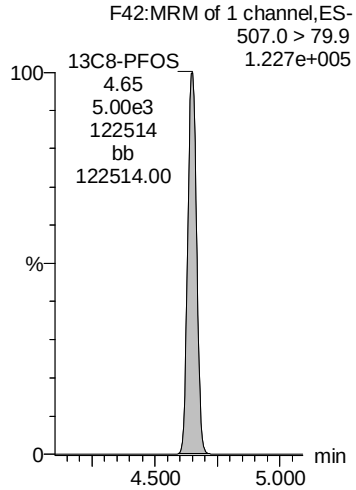
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS

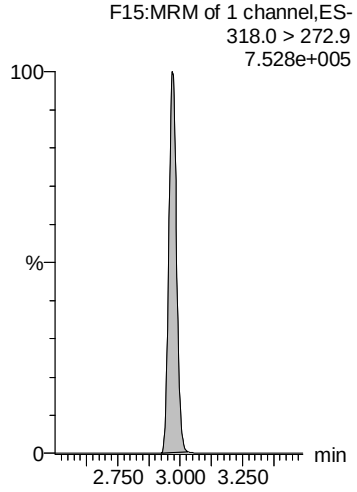


Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-27.qld

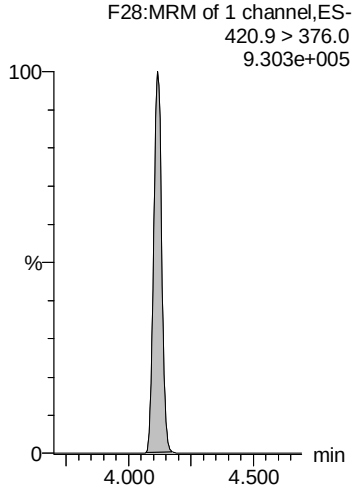
Last Altered: Wednesday, July 24, 2019 17:00:20 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 17:00:56 Pacific Daylight Time

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

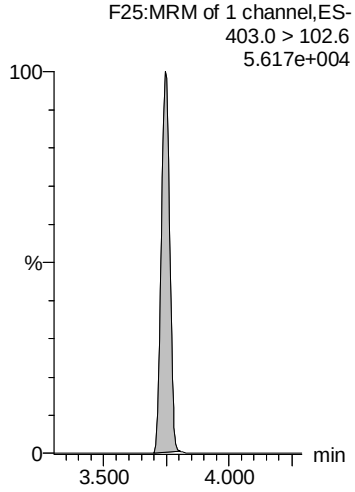
13C5-PFHxA



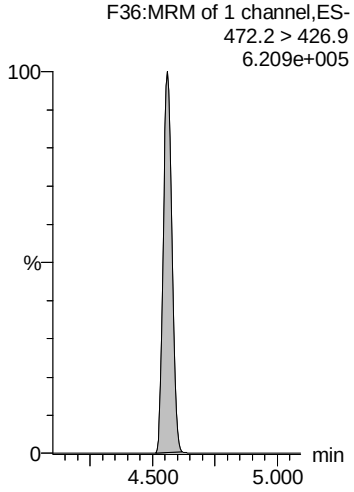
13C8-PFOA



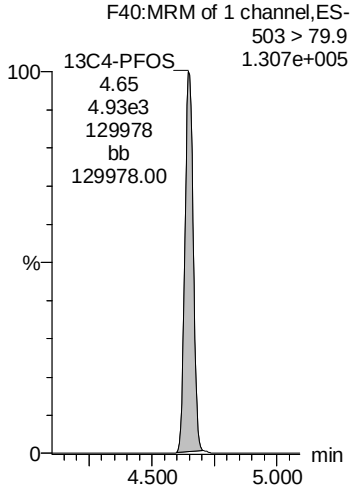
18O2-PFHxS



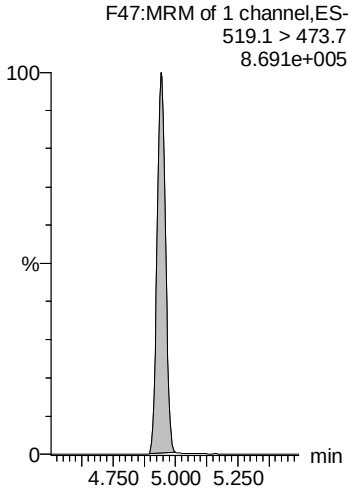
13C9-PFNA



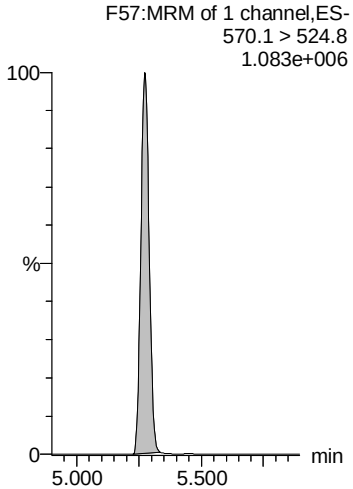
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

	#	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	0.115		2.45						
2	7	PFHxA	313.0 > 269.0	1.23e2	9.98e3	0.115		2.97	2.97	0.0618	0.0021		38.613	YES
3	11	PFHpA	363.0 > 318.9		1.23e4	0.115		3.59						
4	13	L-PFHxS	398.9 > 79.6	5.69e1	4.02e3	0.115		3.75	3.75	0.177	1.6959		6.004	YES
5	80	Total PFHxS	398.9 > 79.6	5.69e1	4.02e3	0.115		3.83		0.177	1.6959			
6	49	13C3-PFBS	302.0 > 98.8	2.15e3	2.07e3	0.115	1.058	2.45	2.45	13.0	106.2353	98.1		
7	52	13C2-PFHxA	315.0 > 270.0	9.98e3	2.69e4	0.115	0.978	2.96	2.97	4.64	41.0740	94.8		
8	53	13C4-PFHpA	367.2 > 321.8	1.23e4	2.69e4	0.115	0.479	3.59	3.59	5.70	103.2300	95.3		
9	54	13C3-PFHxS	401.8 > 79.9	4.02e3	2.07e3	0.115	2.024	3.75	3.75	24.3	103.8968	95.9		
10	54	13C3-PFHxS	401.8 > 79.9	4.02e3	2.07e3	0.115	2.024	3.75	3.75	24.3	103.8968	95.9		
11	-1													
12	16	L-PFOA	412.8 > 368.9	2.10e2	2.14e4	0.115		4.12	4.12	0.123	0.4895		5.429	NO
13	81	Total PFOA	412.8 > 368.9	2.10e2	2.14e4	0.115		4.21		0.123	0.4895			
14	21	PFNA	463.0 > 418.8		2.12e4	0.115		4.56						
15	23	L-PFOS	498.9 > 79.9	8.57e2	4.35e3	0.115		4.65	4.65	2.47	20.1389		2.100	NO
16	82	Total PFOS	498.9 > 79.9	8.57e2	4.35e3	0.115		4.74		2.47	20.1389			
17	58	13C2-PFOA	414.9 > 369.7	2.14e4	3.29e4	0.115	0.681	4.12	4.12	8.14	103.5692	95.6		
18	58	13C2-PFOA	414.9 > 369.7	2.14e4	3.29e4	0.115	0.681	4.12	4.12	8.14	103.5692	95.6		
19	56	13C5-PFNA	468.2 > 422.9	2.12e4	2.40e4	0.115	1.002	4.56	4.56	11.0	95.4706	88.2		
20	59	13C8-PFOS	507.0 > 79.9	4.35e3	4.63e3	0.115	0.997	4.65	4.65	11.7	101.9093	94.1		
21	59	13C8-PFOS	507.0 > 79.9	4.35e3	4.63e3	0.115	0.997	4.65	4.65	11.7	101.9093	94.1		
22	-1													
23	26	PFDA	513 > 468.8	4.00e1	1.96e4	0.115		4.95	4.95	0.0255	0.1447		9.939	YES
24	29	L-MeFOSAA	570 > 419		4.81e3	0.115		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.81e3	0.115		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	4.16e1	2.44e4	0.115		5.27	5.28	0.0213			45.597	YES
27	37	PFDoA	612.9 > 569.0		2.37e4	0.115		5.56						
28	60	13C2-PFDA	515.1 > 469.9	1.96e4	3.28e4	0.115	0.819	4.95	4.95	7.48	79.1393	73.1		
29	62	d3-N-MeFOSAA	573.3 > 419	4.81e3	3.99e4	0.115	0.177	5.10	5.09	1.51	73.6331	68.0		
30	62	d3-N-MeFOSAA	573.3 > 419	4.81e3	3.99e4	0.115	0.177	5.10	5.09	1.51	73.6331	68.0		
31	63	13C2-PFUdA	565 > 519.8	2.44e4	3.99e4	0.115	0.889	5.28	5.27	7.65	74.5633	68.9		
32	65	13C2-PFDoA	614.7 > 569.7	2.37e4	3.28e4	0.115	1.087	5.57	5.56	9.02	71.8325	66.3		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		6.50e3	0.115		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	6.50e3	0.115		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.37e4	0.115		5.82						

GM 9/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

	#	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		1.85e4	0.115		6.04						
38	85	TDCA	498.3>106.9			0.115		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	6.50e3	3.99e4	0.115	0.224	5.26	5.26	2.04	78.8290	72.8		
40	64	d5-N-EtFOSAA	589.3 > 419	6.50e3	3.99e4	0.115	0.224	5.26	5.26	2.04	78.8290	72.8		
41	65	13C2-PFDoA	614.7 > 569.7	2.37e4	3.28e4	0.115	1.087	5.57	5.56	9.02	71.8325	66.3		
42	67	13C2-PFTeDA	715.1 > 669.7	1.85e4	3.99e4	0.115	0.604	6.05	6.04	5.79	83.0745	76.7		
43	59	13C8-PFOS	507.0 > 79.9	4.35e3	4.63e3	0.115	0.997	4.65	4.65	11.7	101.9093	94.1		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	2.69e4	2.69e4	0.115	1.000	2.96	2.97	12.5	108.2907	100.0		
46	75	13C8-PFOA	420.9 > 376.0	3.29e4	3.29e4	0.115	1.000	4.12	4.12	12.5	108.2907	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.07e3	2.07e3	0.115	1.000	3.75	3.75	12.5	108.2907	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.40e4	2.40e4	0.115	1.000	4.56	4.56	12.5	108.2907	100.0		
49	77	13C4-PFOS	503 > 79.9	4.63e3	4.63e3	0.115	1.000	4.65	4.65	12.5	108.2907	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.28e4	3.28e4	0.115	1.000	4.95	4.95	12.5	108.2907	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.99e4	3.99e4	0.115	1.000	5.28	5.27	12.5	108.2907	100.0		

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

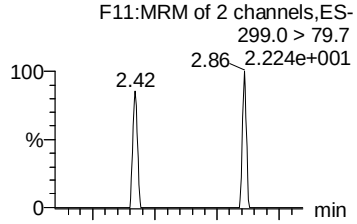
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

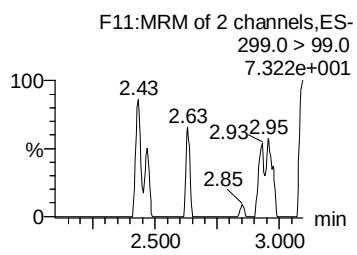
Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

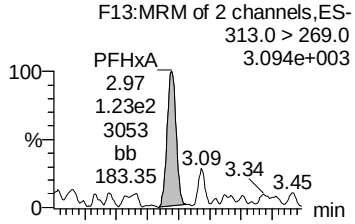
Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

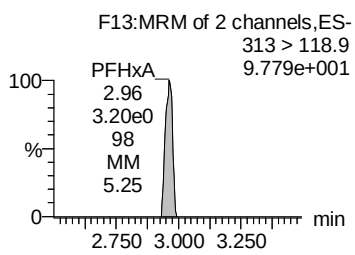
PFBS



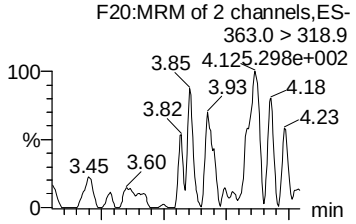


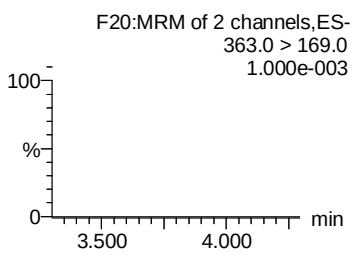
PFHxA



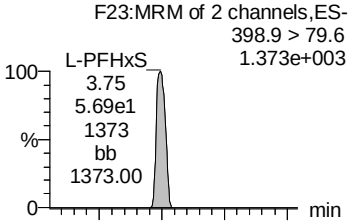


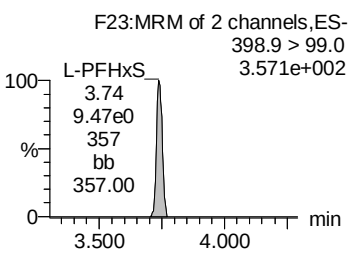
PFHpA



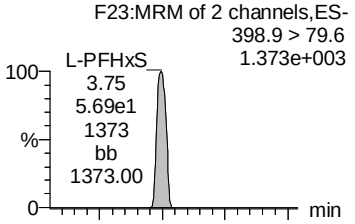


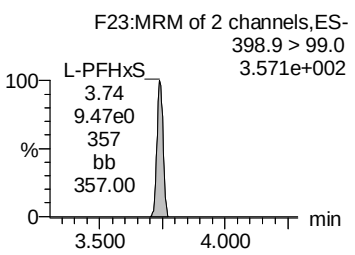
L-PFHxS



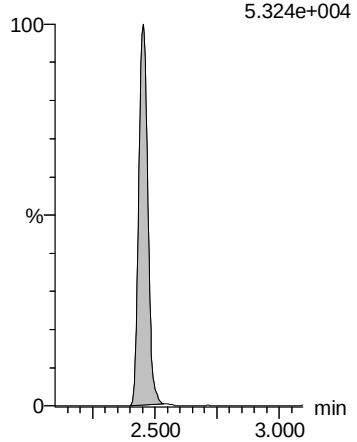


Total PFHxS

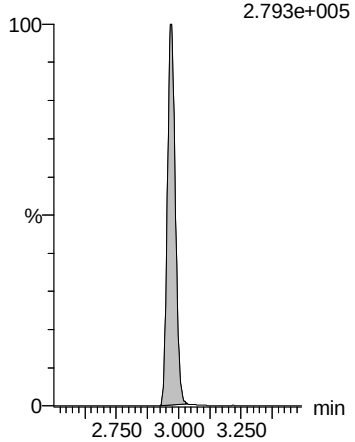




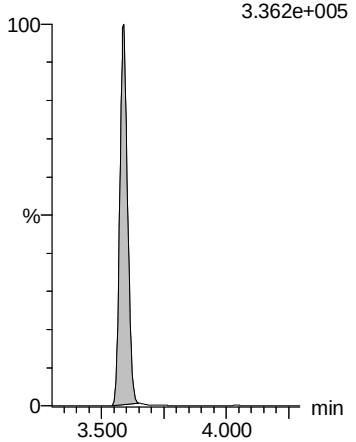
13C3-PFBS



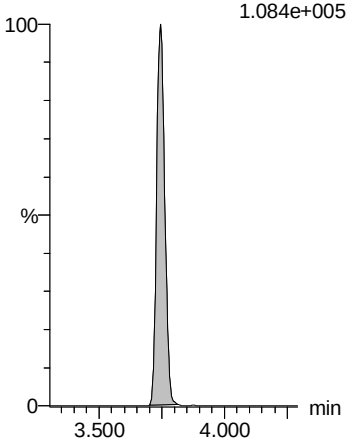
13C2-PFHxA



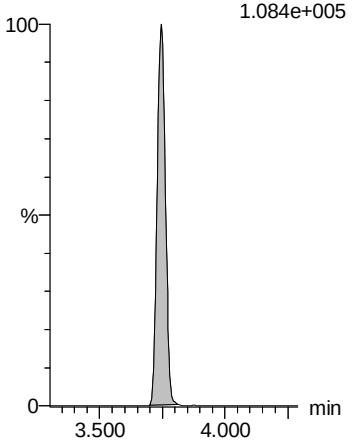
13C4-PFHpA



13C3-PFHxS



13C3-PFHxS



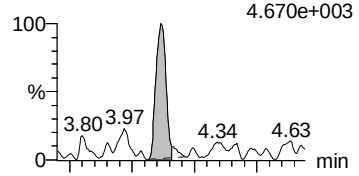
Review: AMR 7/24/2019

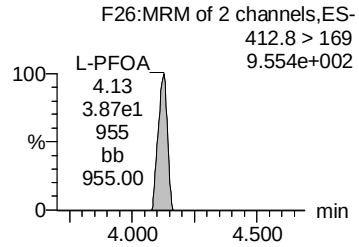
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

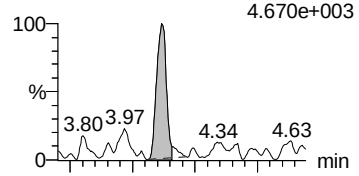
Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

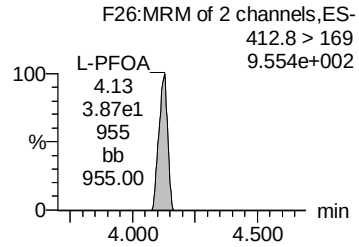
L-PFOA



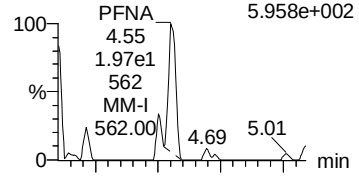


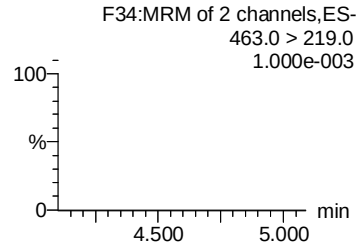
Total PFOA



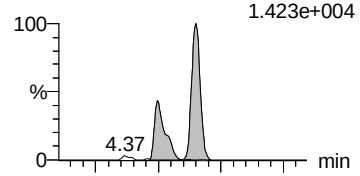


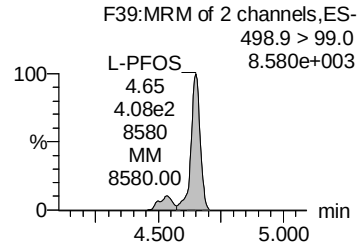
PFNA



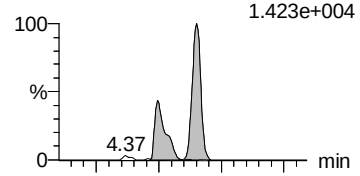


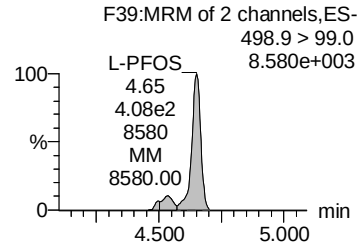
L-PFOS



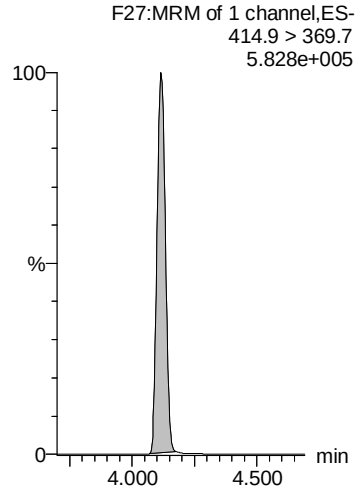


Total PFOS





13C2-PFOA



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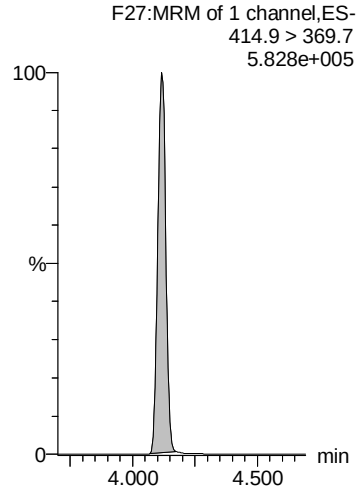

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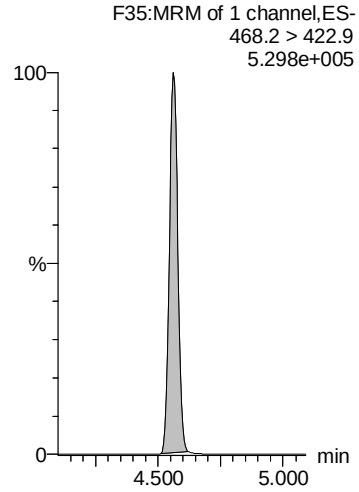
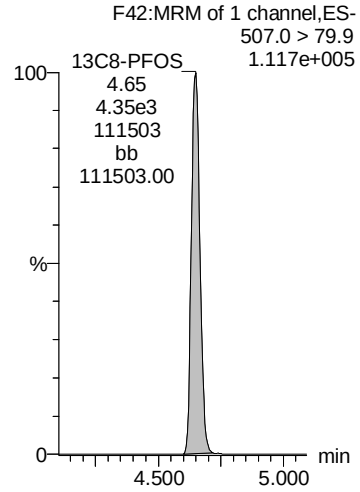


13C8-PFOS



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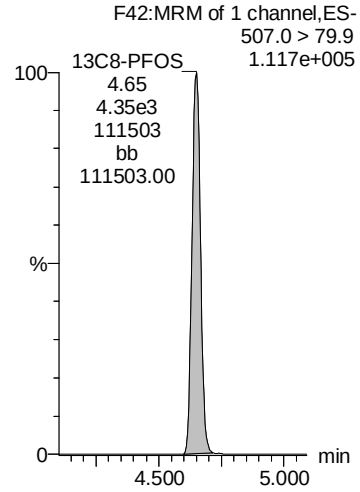


GM 9/23/2019

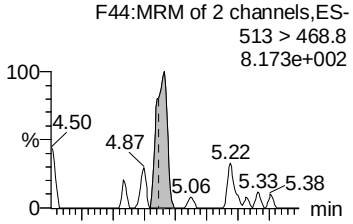
Review: AMR 7/24/2019

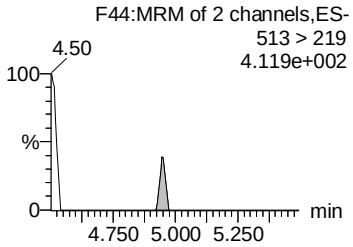
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

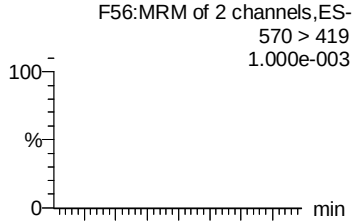
Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

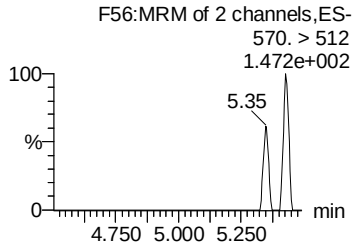
PFDA





L-MeFOSAA





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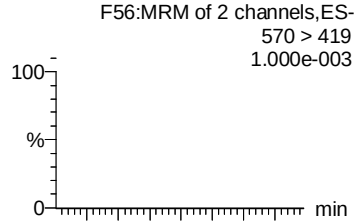
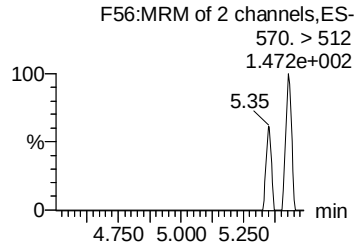
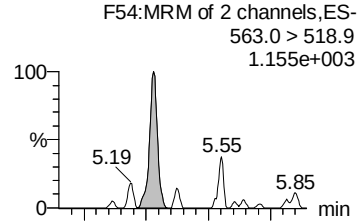
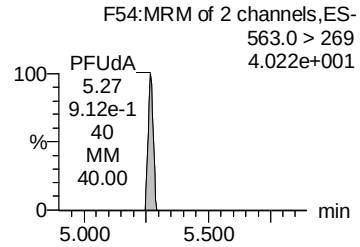


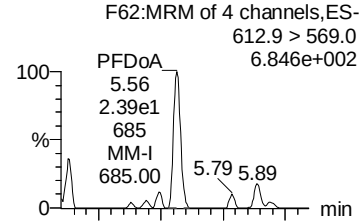


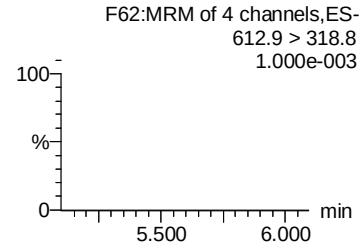
PFUdA



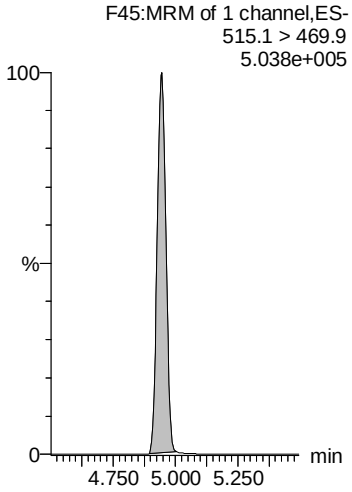


PFDoA

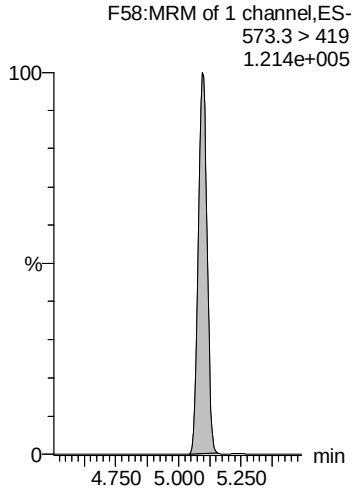




13C2-PFDA



d3-N-MeFOSAA



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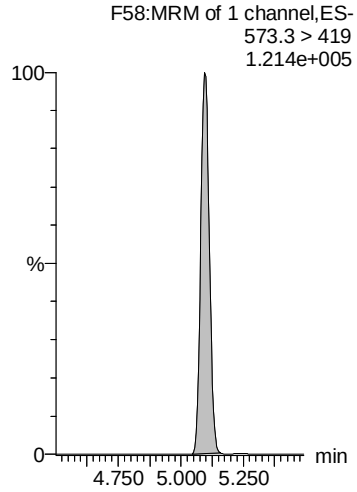
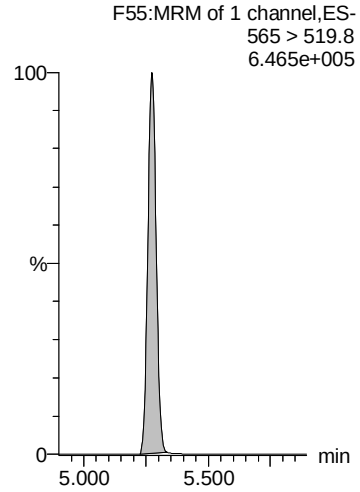
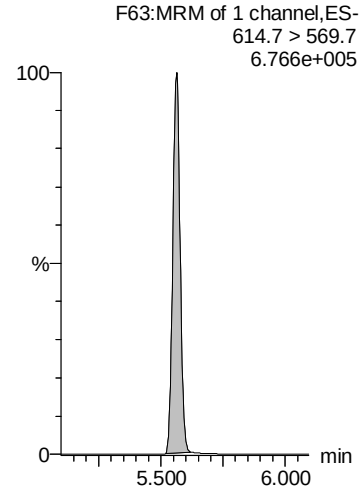


13C2-PFUdA



13C2-PFDoA



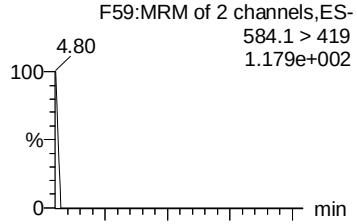
Review: AMR 7/24/2019

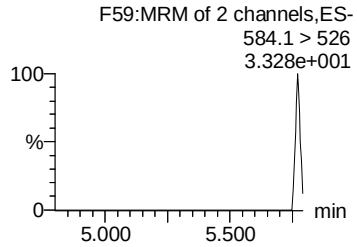
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

L-EtFOSAA





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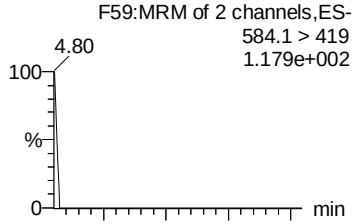
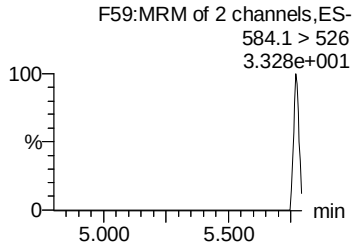
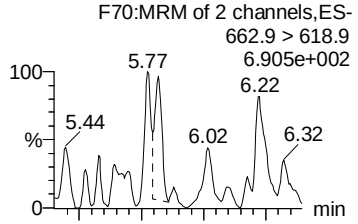
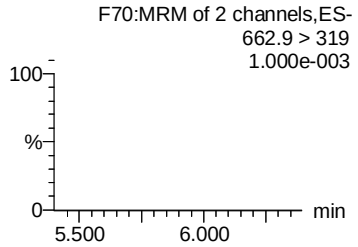


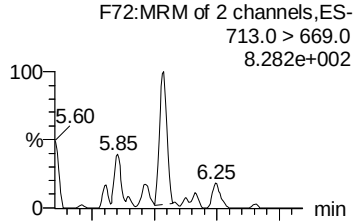


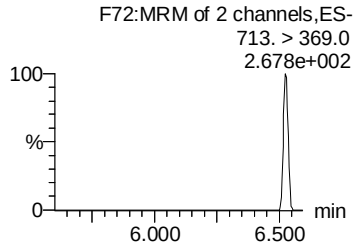
PFTrDA



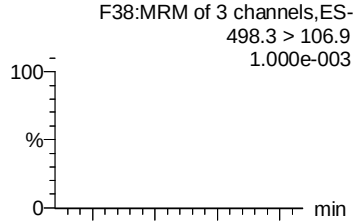


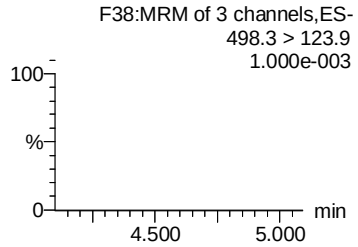
PFTeDA



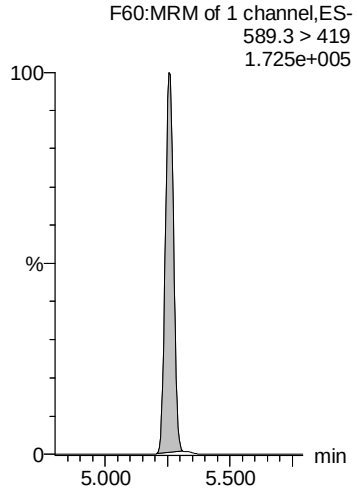


TDCA

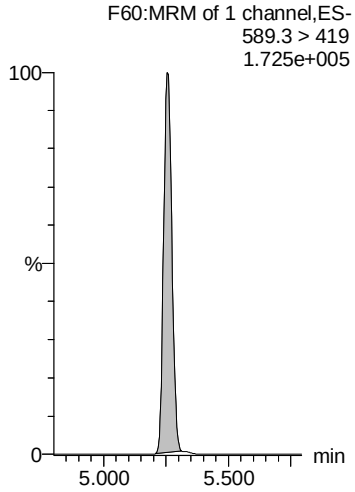




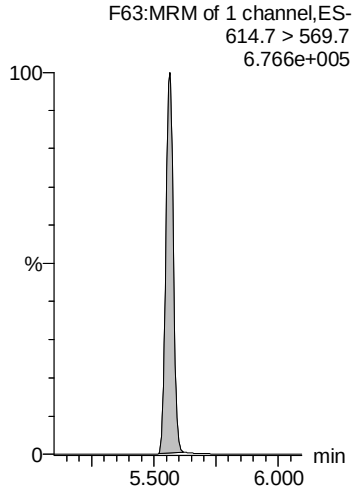
d5-N-EtFOSAA



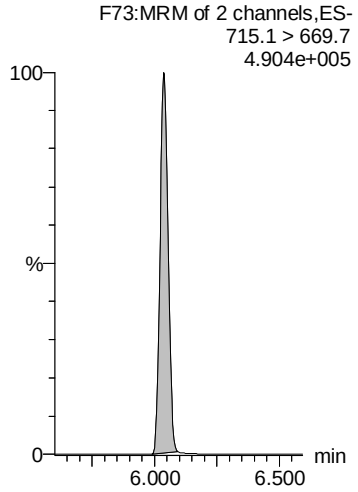
d5-N-EtFOSAA



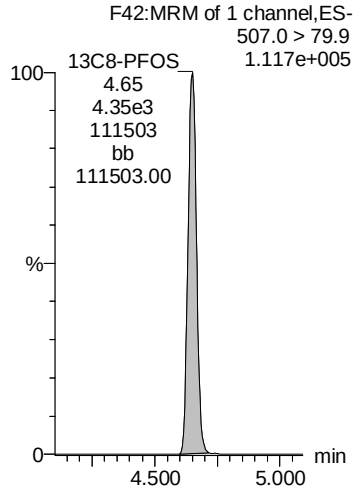
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



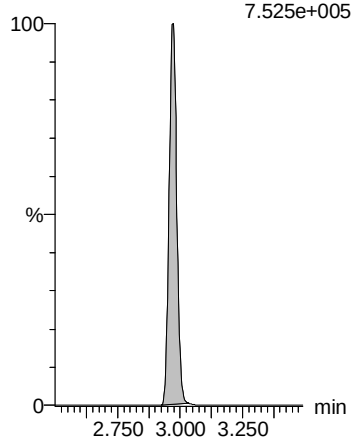
7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-28.qld

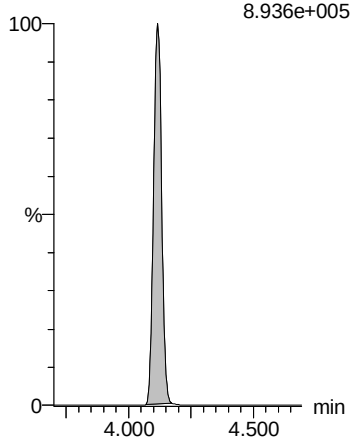
Last Altered: Tuesday, July 23, 2019 12:36:27 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:36:42 Pacific Daylight Time

Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

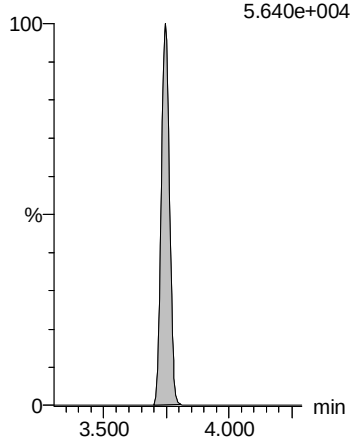
13C5-PFHxA



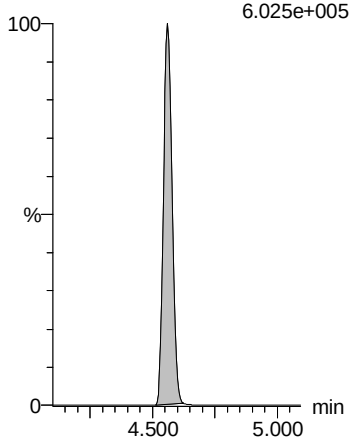
13C8-PFOA



18O2-PFHxS



13C9-PFNA



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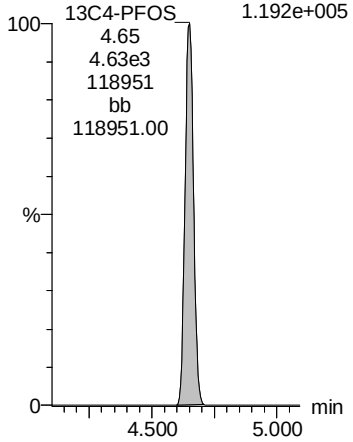
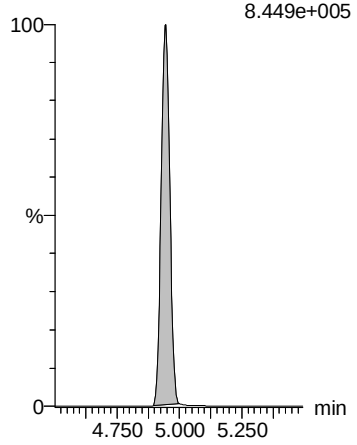
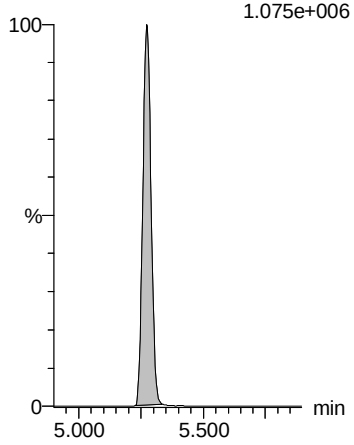


13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

	#	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		2.39e3	0.117		2.45						
2	7	PFHxA	313.0 > 269.0		1.40e4	0.117		2.97						
3	11	PFHpA	363.0 > 318.9		1.60e4	0.117		3.59						
4	13	L-PFHxS	398.9 > 79.6		4.71e3	0.117		3.75						
5	80	Total PFHxS	398.9 > 79.6	0.00e0	4.71e3	0.117		3.83		0.000				
6	49	13C3-PFBS	302.0 > 98.8	2.39e3	2.22e3	0.117	1.058	2.45	2.45	13.5	109.1321	101.8		
7	52	13C2-PFHxA	315.0 > 270.0	1.40e4	3.56e4	0.117	0.978	2.96	2.97	4.92	43.1838	100.7		
8	53	13C4-PFHpA	367.2 > 321.8	1.60e4	3.56e4	0.117	0.479	3.59	3.59	5.63	100.8884	94.1		
9	54	13C3-PFHxS	401.8 > 79.9	4.71e3	2.22e3	0.117	2.024	3.75	3.75	26.6	112.5421	105.0		
10	54	13C3-PFHxS	401.8 > 79.9	4.71e3	2.22e3	0.117	2.024	3.75	3.75	26.6	112.5421	105.0		
11	-1													
12	16	L-PFOA	412.8 > 368.9	8.69e1	2.79e4	0.117		4.12	4.12	0.0389	0.0066		13.184	YES
13	81	Total PFOA	412.8 > 368.9	8.69e1	2.79e4	0.117		4.21		0.0389	0.0066			
14	21	PFNA	463.0 > 418.8		2.59e4	0.117		4.56						
15	23	L-PFOS	498.9 > 79.9		5.10e3	0.117		4.65						
16	82	Total PFOS	498.9 > 79.9	0.00e0	5.10e3	0.117		4.74		0.000				
17	58	13C2-PFOA	414.9 > 369.7	2.79e4	4.27e4	0.117	0.681	4.12	4.12	8.18	102.9568	96.0		
18	58	13C2-PFOA	414.9 > 369.7	2.79e4	4.27e4	0.117	0.681	4.12	4.12	8.18	102.9568	96.0		
19	56	13C5-PFNA	468.2 > 422.9	2.59e4	2.85e4	0.117	1.002	4.56	4.56	11.4	97.3108	90.8		
20	59	13C8-PFOS	507.0 > 79.9	5.10e3	5.11e3	0.117	0.997	4.65	4.65	12.5	107.4413	100.2		
21	59	13C8-PFOS	507.0 > 79.9	5.10e3	5.11e3	0.117	0.997	4.65	4.65	12.5	107.4413	100.2		
22	-1													
23	26	PFDA	513 > 468.8	1.81e1	2.32e4	0.117		4.94	4.95	0.00975	0.0387		1.625	YES
24	29	L-MeFOSAA	570 > 419		4.64e3	0.117		5.09						
25	83	Total N-MeFOSAA	570. > 419	0.00e0	4.64e3	0.117		5.19		0.000				
26	33	PFUdA	563.0 > 518.9	7.33e1	2.36e4	0.117		5.27	5.28	0.0389			53.209	YES
27	37	PFDoA	612.9 > 569.0		2.22e4	0.117		5.56						
28	60	13C2-PFDA	515.1 > 469.9	2.32e4	3.39e4	0.117	0.819	4.95	4.94	8.54	89.4647	83.4		
29	62	d3-N-MeFOSAA	573.3 > 419	4.64e3	3.36e4	0.117	0.177	5.10	5.09	1.73	83.6073	78.0		
30	62	d3-N-MeFOSAA	573.3 > 419	4.64e3	3.36e4	0.117	0.177	5.10	5.09	1.73	83.6073	78.0		
31	63	13C2-PFUdA	565 > 519.8	2.36e4	3.36e4	0.117	0.889	5.28	5.27	8.79	84.7722	79.1		
32	65	13C2-PFDoA	614.7 > 569.7	2.22e4	3.39e4	0.117	1.087	5.57	5.56	8.17	64.4298	60.1		
33	-1													
34	31	L-EtFOSAA	584.1 > 419		5.99e3	0.117		5.26						
35	84	Total N-EtFOSAA	584.1 > 419	0.00e0	5.99e3	0.117		5.33		0.000				
36	39	PFTrDA	662.9 > 618.9		2.22e4	0.117		5.82						

AMR 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

	#	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		1.62e4	0.117		6.04						
38	85	TDCA	498.3>106.9			0.117		5.45						
39	64	d5-N-EtFOSAA	589.3 > 419	5.99e3	3.36e4	0.117	0.224	5.26	5.26	2.23	85.4838	79.7		
40	64	d5-N-EtFOSAA	589.3 > 419	5.99e3	3.36e4	0.117	0.224	5.26	5.26	2.23	85.4838	79.7		
41	65	13C2-PFDoA	614.7 > 569.7	2.22e4	3.39e4	0.117	1.087	5.57	5.56	8.17	64.4298	60.1		
42	67	13C2-PFTeDA	715.1 > 669.7	1.62e4	3.36e4	0.117	0.604	6.05	6.04	6.02	85.4988	79.7		
43	59	13C8-PFOS	507.0 > 79.9	5.10e3	5.11e3	0.117	0.997	4.65	4.65	12.5	107.4413	100.2		
44	-1													
45	73	13C5-PFHxA	318.0 > 272.9	3.56e4	3.56e4	0.117	1.000	2.96	2.97	12.5	107.2225	100.0		
46	75	13C8-PFOA	420.9 > 376.0	4.27e4	4.27e4	0.117	1.000	4.12	4.12	12.5	107.2225	100.0		
47	74	18O2-PFHxS	403.0 > 102.6	2.22e3	2.22e3	0.117	1.000	3.75	3.75	12.5	107.2225	100.0		
48	76	13C9-PFNA	472.2 > 426.9	2.85e4	2.85e4	0.117	1.000	4.56	4.56	12.5	107.2225	100.0		
49	77	13C4-PFOS	503 > 79.9	5.11e3	5.11e3	0.117	1.000	4.65	4.65	12.5	107.2225	100.0		
50	78	13C6-PFDA	519.1 > 473.7	3.39e4	3.39e4	0.117	1.000	4.95	4.94	12.5	107.2225	100.0		
51	79	13C7-PFUdA	570.1 > 524.8	3.36e4	3.36e4	0.117	1.000	5.28	5.27	12.5	107.2225	100.0		

AM 7/23/2019

Vista Analytical Laboratory L14

Review: AMR 7/24/2019

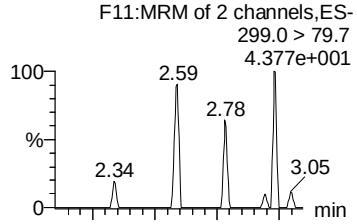
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

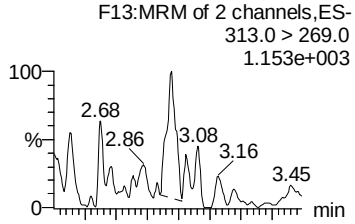
Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

PFBS



PFHxA



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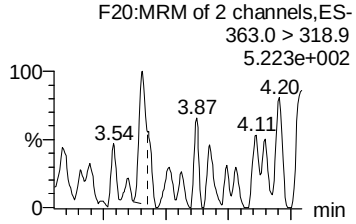

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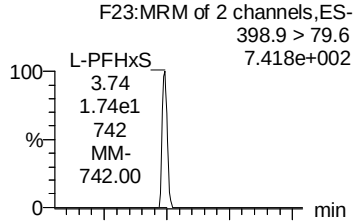

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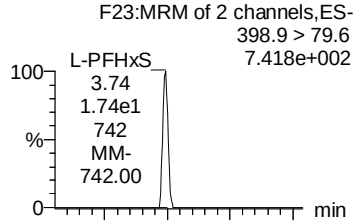
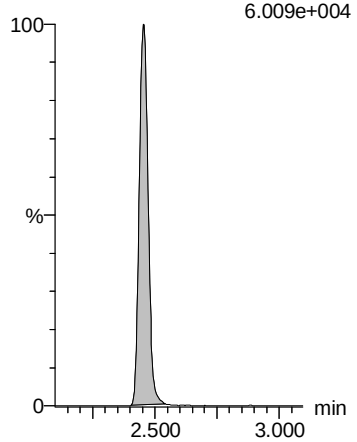


13C3-PFBS



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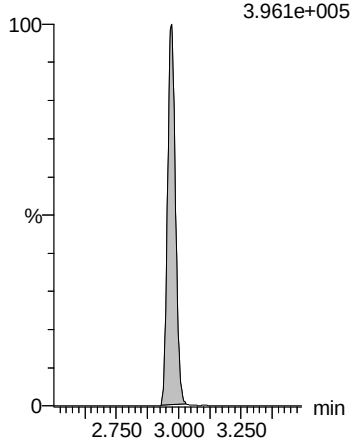

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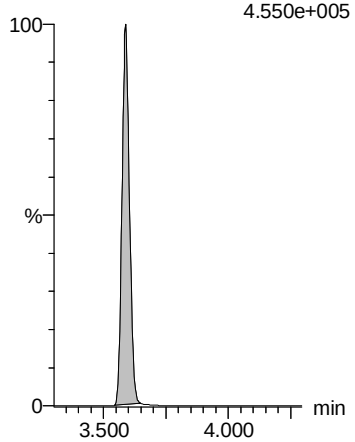

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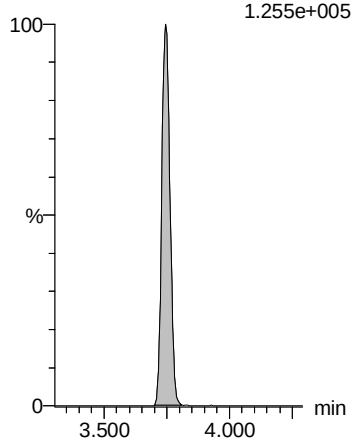

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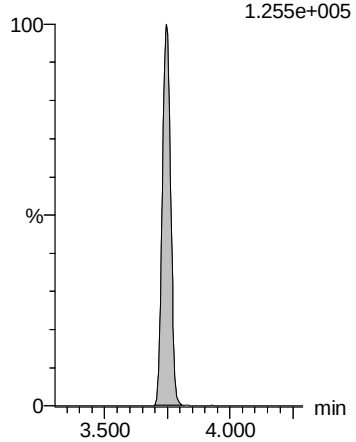


Vista Analytical Laboratory L14

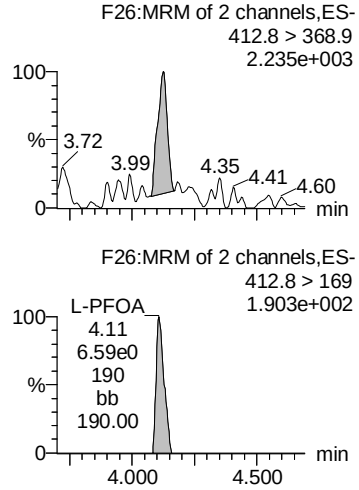
Review: AMR 7/24/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

L-PFOA



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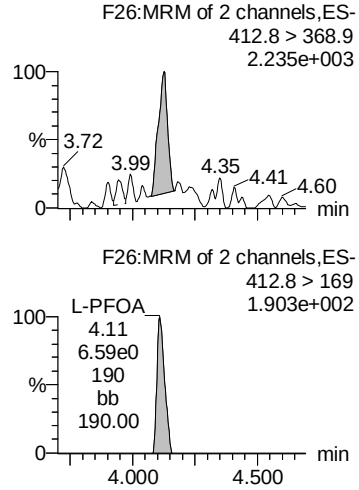

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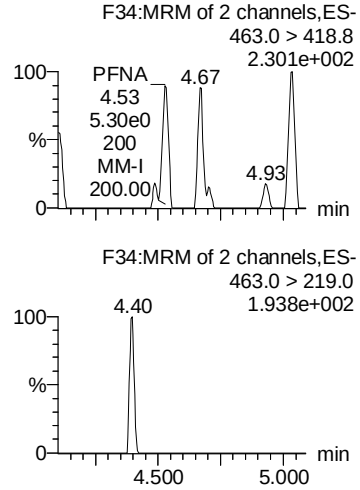
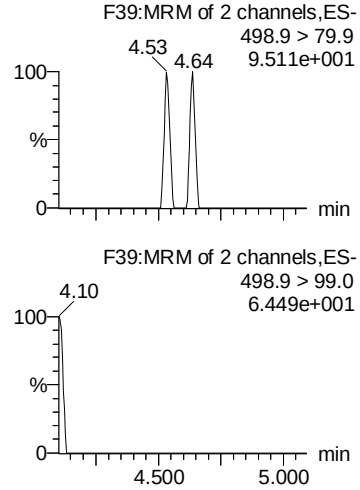
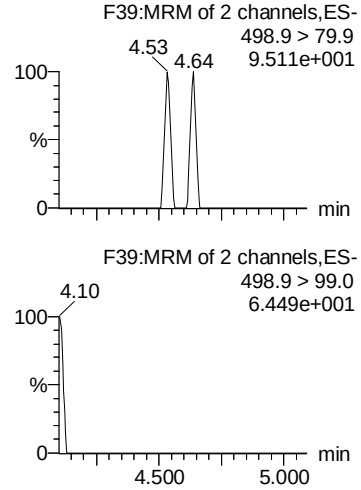


L-PFOS



Total PFOS



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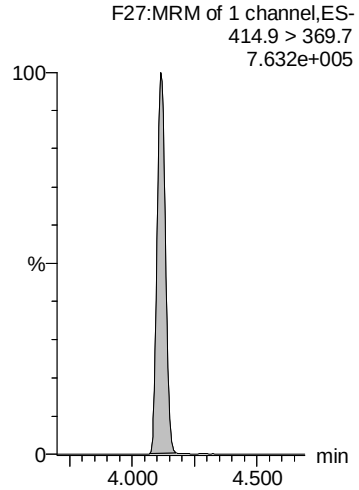

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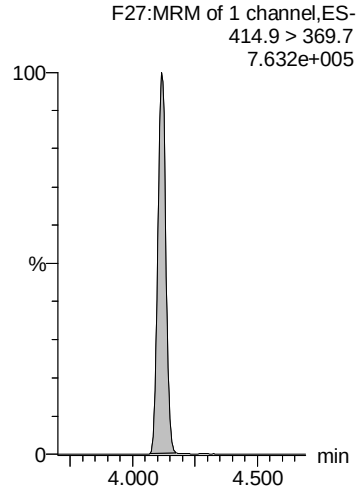
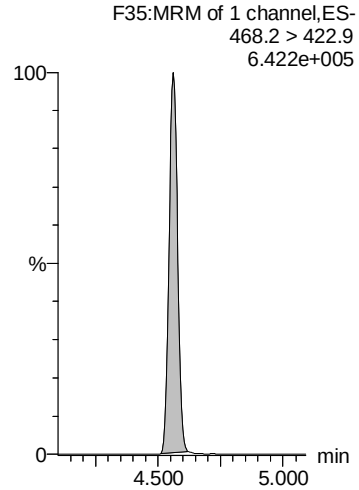
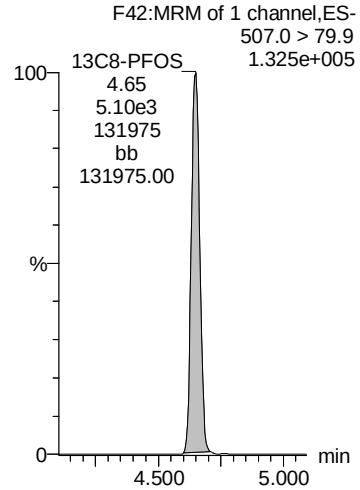


13C5-PFNA



13C8-PFOS



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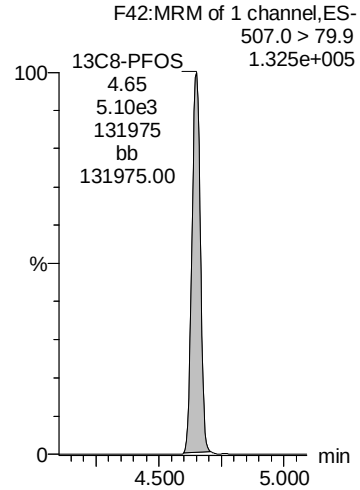


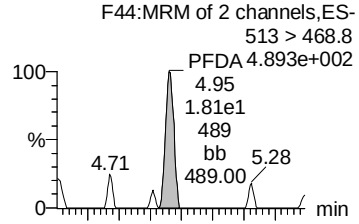
Review: AMR 7/24/2019

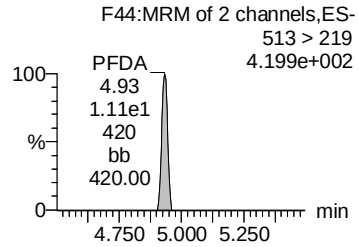
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

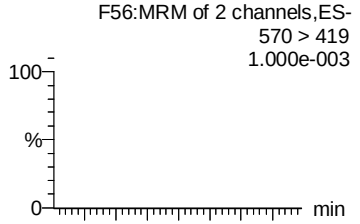
Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

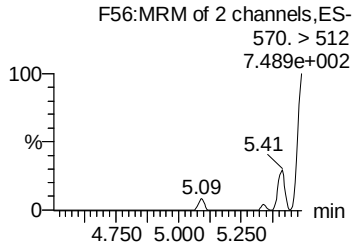
PFDA





L-MeFOSAA





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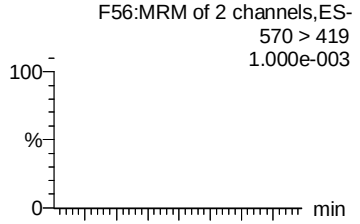

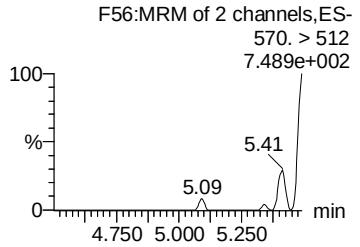

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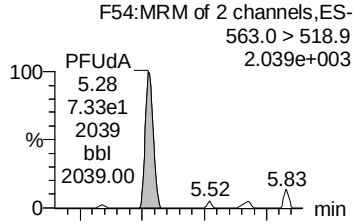
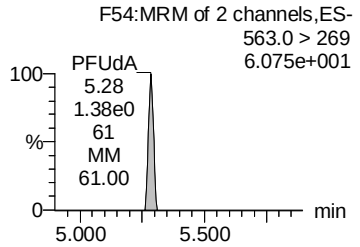
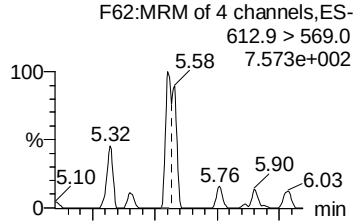
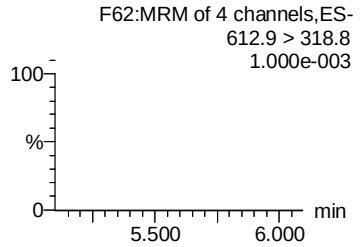




PFDoA





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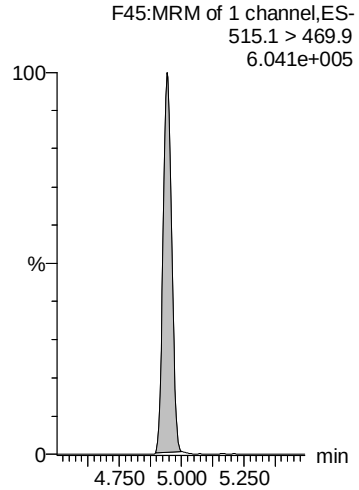
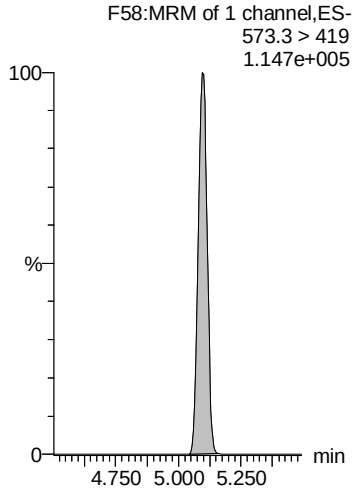
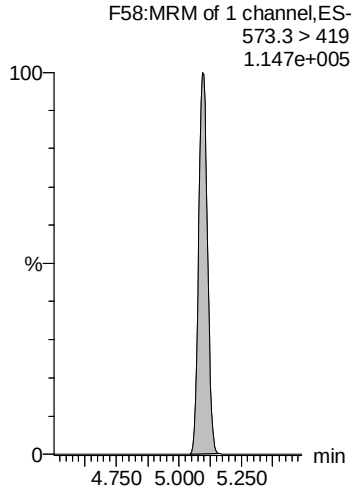


d3-N-MeFOSAA



d3-N-MeFOSAA



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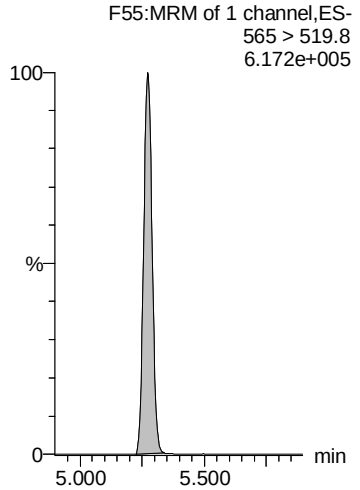

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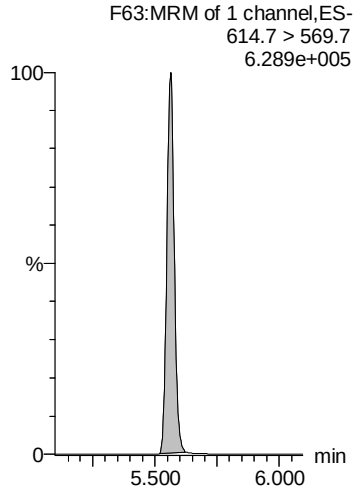


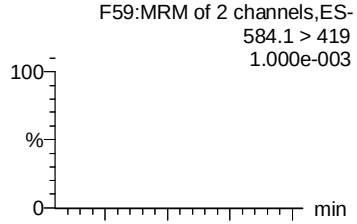
Review: AMR 7/24/2019

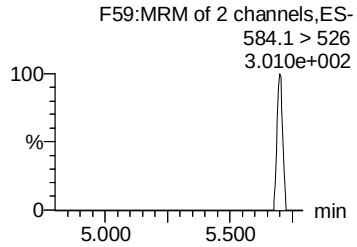
Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 12:39:17 Pacific Daylight Time

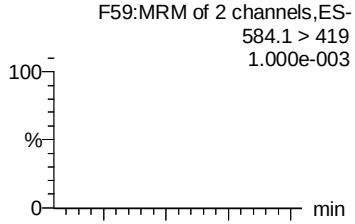
Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

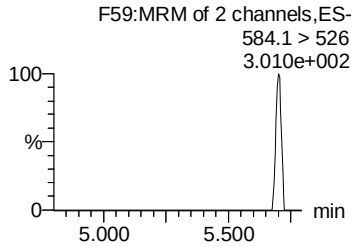
L-EtFOSAA



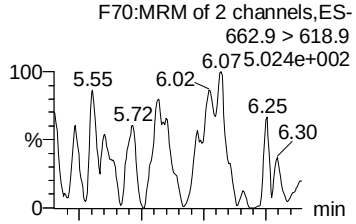


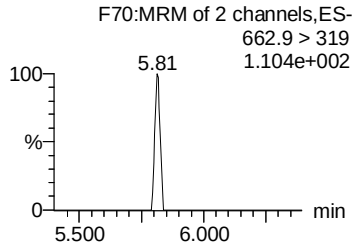
Total N-EtFOSAA



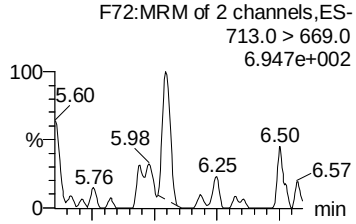


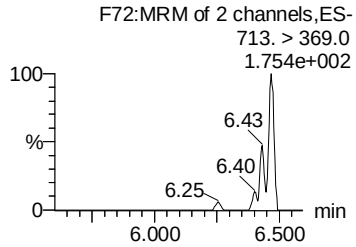
PFTrDA



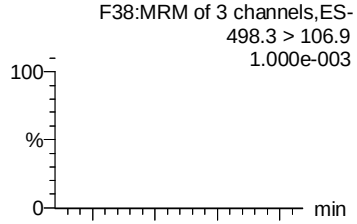


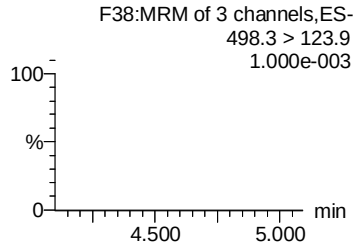
PFTeDA



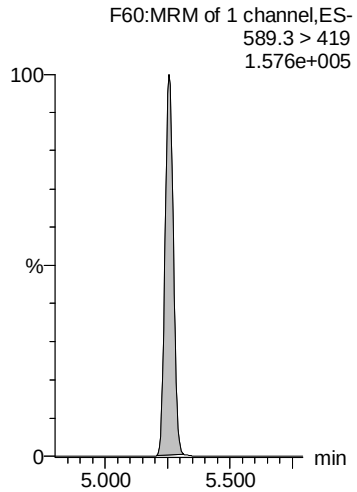


TDCA

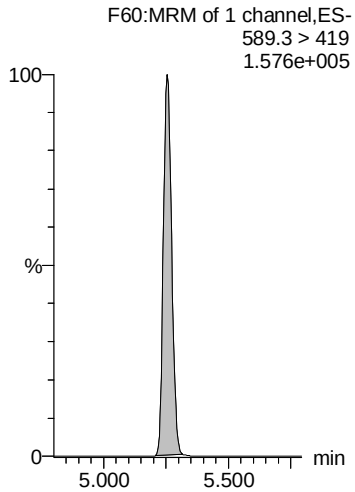




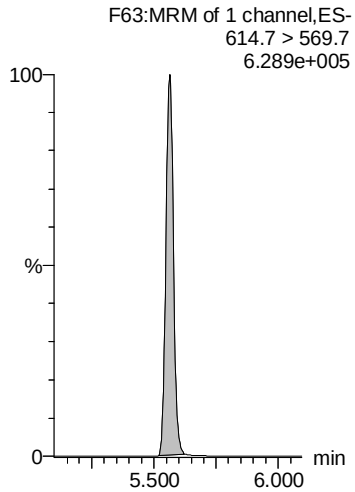
d5-N-EtFOSAA



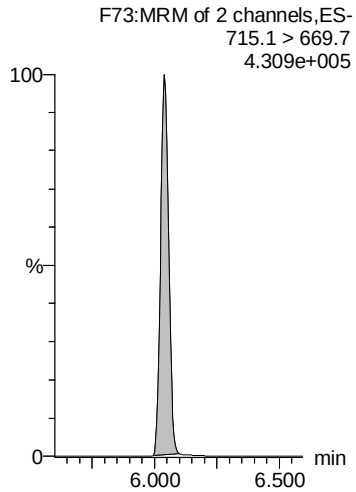
d5-N-EtFOSAA



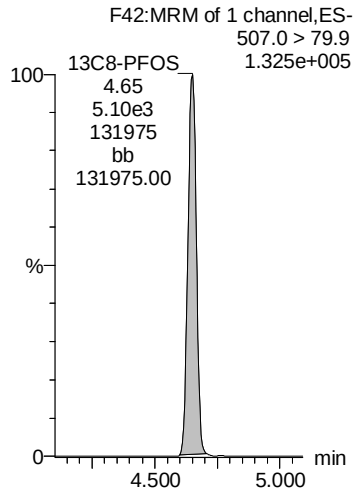
13C2-PFDoA



13C2-PFTeDA



13C8-PFOS



GM 7/23/2019

Dataset: Z:\Projects\PFAS.PRO\Results\190722M1\190722M1-29.qld

Last Altered: Tuesday, July 23, 2019 12:38:56 Pacific Daylight Time
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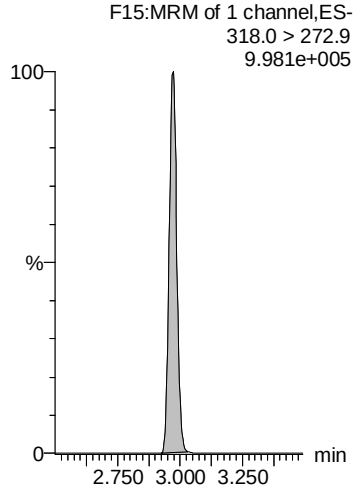
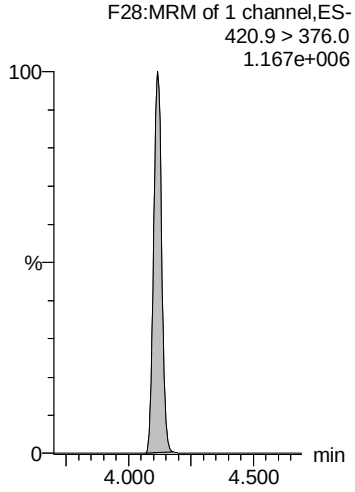
Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

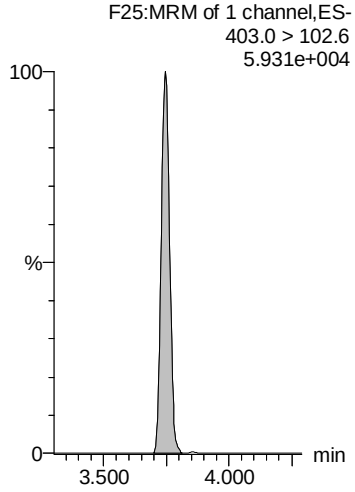
13C5-PFHxA



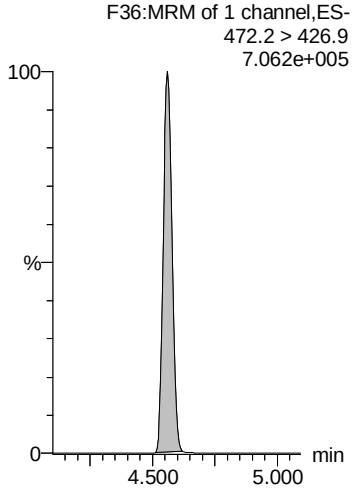
13C8-PFOA



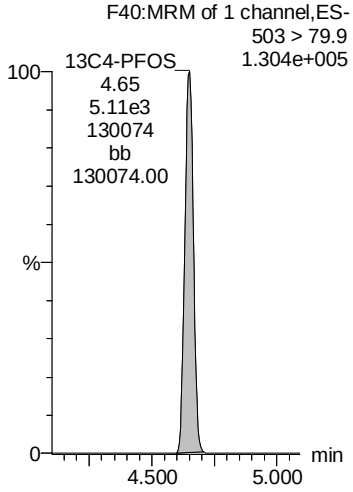
18O2-PFHxS



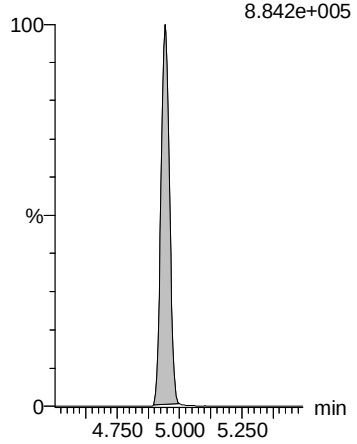
13C9-PFNA



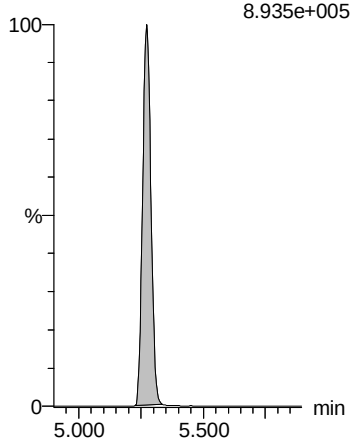
13C4-PFOS



13C6-PFDA



13C7-PFUdA



INJECTION INTERNAL STANDARD (IIS) AREAS,

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS CCV)

Dataset: Untitled

Last Altered: Tuesday, July 23, 2019 08:22:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 08:22:36 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_RS-07-11-19.mdb 11 Jul 2019 15:12:17
Calibration: 23 Jul 2019 08:22:13

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-6 PFC CS3 19G1106	1.06e4	100.0	NO
2	2	13C5-PFHxA	ST190722M1-6 PFC CS3 19G1106	3.12e4	100.0	NO
3	3	18O2-PFHxS	ST190722M1-6 PFC CS3 19G1106	2.04e3	100.0	NO
4	4	13C8-PFOA	ST190722M1-6 PFC CS3 19G1106	3.90e4	100.0	NO
5	5	13C9-PFNA	ST190722M1-6 PFC CS3 19G1106	2.69e4	100.0	NO
6	6	13C4-PFOS	ST190722M1-6 PFC CS3 19G1106	4.73e3	100.0	NO
7	7	13C6-PFDA	ST190722M1-6 PFC CS3 19G1106	3.41e4	100.0	NO
8	8	13C7-PFUdA	ST190722M1-6 PFC CS3 19G1106	4.15e4	100.0	NO

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-7 PFC CS4 19G1107	1.10e4	104.0	NO
2	2	13C5-PFHxA	ST190722M1-7 PFC CS4 19G1107	3.17e4	101.5	NO
3	3	18O2-PFHxS	ST190722M1-7 PFC CS4 19G1107	2.12e3	103.9	NO
4	4	13C8-PFOA	ST190722M1-7 PFC CS4 19G1107	3.83e4	98.2	NO
5	5	13C9-PFNA	ST190722M1-7 PFC CS4 19G1107	2.62e4	97.6	NO
6	6	13C4-PFOS	ST190722M1-7 PFC CS4 19G1107	4.82e3	101.9	NO
7	7	13C6-PFDA	ST190722M1-7 PFC CS4 19G1107	3.40e4	99.7	NO
8	8	13C7-PFUdA	ST190722M1-7 PFC CS4 19G1107	4.29e4	103.2	NO

Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-8 PFC CS5 19G1108	1.06e4	100.3	NO
2	2	13C5-PFHxA	ST190722M1-8 PFC CS5 19G1108	3.08e4	98.7	NO
3	3	18O2-PFHxS	ST190722M1-8 PFC CS5 19G1108	2.01e3	98.6	NO
4	4	13C8-PFOA	ST190722M1-8 PFC CS5 19G1108	3.72e4	95.4	NO
5	5	13C9-PFNA	ST190722M1-8 PFC CS5 19G1108	2.55e4	94.7	NO
6	6	13C4-PFOS	ST190722M1-8 PFC CS5 19G1108	4.69e3	99.0	NO
7	7	13C6-PFDA	ST190722M1-8 PFC CS5 19G1108	3.33e4	97.7	NO
8	8	13C7-PFUdA	ST190722M1-8 PFC CS5 19G1108	3.87e4	93.2	NO

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-9 PFC CS6 19G1109	1.08e4	102.3	NO
2	2	13C5-PFHxA	ST190722M1-9 PFC CS6 19G1109	2.68e4	85.7	NO
3	3	18O2-PFHxS	ST190722M1-9 PFC CS6 19G1109	1.78e3	87.2	NO
4	4	13C8-PFOA	ST190722M1-9 PFC CS6 19G1109	3.06e4	78.4	NO
5	5	13C9-PFNA	ST190722M1-9 PFC CS6 19G1109	2.27e4	84.6	NO
6	6	13C4-PFOS	ST190722M1-9 PFC CS6 19G1109	4.10e3	86.7	NO
7	7	13C6-PFDA	ST190722M1-9 PFC CS6 19G1109	2.83e4	83.0	NO
8	8	13C7-PFUdA	ST190722M1-9 PFC CS6 19G1109	3.34e4	80.4	NO

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Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-10 PFC CS7 19G1110	1.04e4	98.0	NO
2	2	13C5-PFHxA	ST190722M1-10 PFC CS7 19G1110	2.43e4	78.0	NO
3	3	18O2-PFHxS	ST190722M1-10 PFC CS7 19G1110	1.49e3	73.2	NO
4	4	13C8-PFOA	ST190722M1-10 PFC CS7 19G1110	2.54e4	65.0	NO
5	5	13C9-PFNA	ST190722M1-10 PFC CS7 19G1110	1.96e4	72.7	NO
6	6	13C4-PFOS	ST190722M1-10 PFC CS7 19G1110	3.69e3	78.0	NO
7	7	13C6-PFDA	ST190722M1-10 PFC CS7 19G1110	2.44e4	71.5	NO
8	8	13C7-PFUdA	ST190722M1-10 PFC CS7 19G1110	2.84e4	68.3	NO

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB	1.08e4	101.6	NO
2	2	13C5-PFHxA	IB	3.20e4	102.6	NO
3	3	18O2-PFHxS	IB	2.02e3	99.0	NO
4	4	13C8-PFOA	IB	3.95e4	101.2	NO
5	5	13C9-PFNA	IB	2.78e4	103.6	NO
6	6	13C4-PFOS	IB	4.72e3	99.7	NO
7	7	13C6-PFDA	IB	3.46e4	101.5	NO
8	8	13C7-PFUdA	IB	4.10e4	98.6	NO

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ICV190722M1-1 PFC ICV 19F2422	1.05e4	98.6	NO
2	2	13C5-PFHxA	ICV190722M1-1 PFC ICV 19F2422	3.10e4	99.4	NO
3	3	18O2-PFHxS	ICV190722M1-1 PFC ICV 19F2422	2.06e3	101.3	NO
4	4	13C8-PFOA	ICV190722M1-1 PFC ICV 19F2422	3.76e4	96.4	NO
5	5	13C9-PFNA	ICV190722M1-1 PFC ICV 19F2422	2.64e4	98.0	NO
6	6	13C4-PFOS	ICV190722M1-1 PFC ICV 19F2422	4.72e3	99.8	NO
7	7	13C6-PFDA	ICV190722M1-1 PFC ICV 19F2422	3.36e4	98.5	NO
8	8	13C7-PFUdA	ICV190722M1-1 PFC ICV 19F2422	4.14e4	99.7	NO

Name: 190722M1_16, Date: 22-Jul-2019, Time: 12:33:49, 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	5.29e0	0.0	YES

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Name: 190722M1_17, Date: 22-Jul-2019, Time: 14:12:03, ID: 1901887-01@10X Ivyland Mop Water 0.24039, Description: Ivyland Mop Water

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901887-01@10X Ivyland Mop Water 0....	1.09e3	10.3	YES
2	2	13C5-PFHxA	1901887-01@10X Ivyland Mop Water 0....	2.69e3	8.6	YES
3	3	18O2-PFHxS	1901887-01@10X Ivyland Mop Water 0....	1.73e2	8.5	YES
4	4	13C8-PFOA	1901887-01@10X Ivyland Mop Water 0....	3.21e3	8.2	YES
5	5	13C9-PFNA	1901887-01@10X Ivyland Mop Water 0....	2.31e3	8.6	YES
6	6	13C4-PFOS	1901887-01@10X Ivyland Mop Water 0....	4.29e2	9.1	YES
7	7	13C6-PFDA	1901887-01@10X Ivyland Mop Water 0....	2.89e3	8.5	YES
8	8	13C7-PFUdA	1901887-01@10X Ivyland Mop Water 0....	3.74e3	9.0	YES

Name: 190722M1_18, Date: 22-Jul-2019, Time: 14:22:44, ID: B9G0184-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0184-BLK1 Method Blank 0.25	9.72e3	91.6	NO
2	2	13C5-PFHxA	B9G0184-BLK1 Method Blank 0.25	2.07e4	66.3	NO
3	3	18O2-PFHxS	B9G0184-BLK1 Method Blank 0.25	1.64e3	80.6	NO
4	4	13C8-PFOA	B9G0184-BLK1 Method Blank 0.25	2.72e4	69.8	NO
5	5	13C9-PFNA	B9G0184-BLK1 Method Blank 0.25	2.01e4	74.8	NO
6	6	13C4-PFOS	B9G0184-BLK1 Method Blank 0.25	4.13e3	87.4	NO
7	7	13C6-PFDA	B9G0184-BLK1 Method Blank 0.25	2.63e4	77.2	NO
8	8	13C7-PFUdA	B9G0184-BLK1 Method Blank 0.25	3.25e4	78.2	NO

Name: 190722M1_19, Date: 22-Jul-2019, Time: 14:34:56, ID: B9G0185-BS1 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0185-BS1 OPR 0.125	1.64e4	154.8	YES
2	2	13C5-PFHxA	B9G0185-BS1 OPR 0.125	3.15e4	101.0	NO
3	3	18O2-PFHxS	B9G0185-BS1 OPR 0.125	2.40e3	117.8	NO
4	4	13C8-PFOA	B9G0185-BS1 OPR 0.125	4.05e4	103.8	NO
5	5	13C9-PFNA	B9G0185-BS1 OPR 0.125	2.97e4	110.6	NO
6	6	13C4-PFOS	B9G0185-BS1 OPR 0.125	5.64e3	119.2	NO
7	7	13C6-PFDA	B9G0185-BS1 OPR 0.125	3.89e4	114.2	NO
8	8	13C7-PFUdA	B9G0185-BS1 OPR 0.125	4.84e4	116.5	NO

Name: 190722M1_20, Date: 22-Jul-2019, Time: 14:47:45, ID: B9G0185-BSD1 LCSD 0.125, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0185-BSD1 LCSD 0.125	1.42e4	134.0	NO
2	2	13C5-PFHxA	B9G0185-BSD1 LCSD 0.125	2.84e4	91.1	NO
3	3	18O2-PFHxS	B9G0185-BSD1 LCSD 0.125	2.39e3	117.5	NO
4	4	13C8-PFOA	B9G0185-BSD1 LCSD 0.125	3.72e4	95.2	NO
5	5	13C9-PFNA	B9G0185-BSD1 LCSD 0.125	2.71e4	101.0	NO
6	6	13C4-PFOS	B9G0185-BSD1 LCSD 0.125	5.25e3	110.9	NO
7	7	13C6-PFDA	B9G0185-BSD1 LCSD 0.125	3.63e4	106.3	NO
8	8	13C7-PFUdA	B9G0185-BSD1 LCSD 0.125	4.64e4	111.6	NO

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Name: 190722M1_21, Date: 22-Jul-2019, Time: 14:58:19, ID: B9G0185-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0185-BLK1 Method Blank 0.125	1.46e4	137.4	NO
2	2	13C5-PFHxA	B9G0185-BLK1 Method Blank 0.125	2.71e4	86.7	NO
3	3	18O2-PFHxS	B9G0185-BLK1 Method Blank 0.125	2.06e3	101.0	NO
4	4	13C8-PFOA	B9G0185-BLK1 Method Blank 0.125	3.45e4	88.4	NO
5	5	13C9-PFNA	B9G0185-BLK1 Method Blank 0.125	2.53e4	94.2	NO
6	6	13C4-PFOS	B9G0185-BLK1 Method Blank 0.125	4.71e3	99.5	NO
7	7	13C6-PFDA	B9G0185-BLK1 Method Blank 0.125	3.20e4	93.8	NO
8	8	13C7-PFUdA	B9G0185-BLK1 Method Blank 0.125	4.11e4	98.9	NO

Name: 190722M1_22, Date: 22-Jul-2019, Time: 15:08:58, ID: 1902097-03 SAOA-B10-GW 0.11593, Description: SAOA-B10-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-03 SAOA-B10-GW 0.11593	1.44e4	135.4	NO
2	2	13C5-PFHxA	1902097-03 SAOA-B10-GW 0.11593	2.81e4	89.9	NO
3	3	18O2-PFHxS	1902097-03 SAOA-B10-GW 0.11593	2.18e3	107.1	NO
4	4	13C8-PFOA	1902097-03 SAOA-B10-GW 0.11593	3.56e4	91.1	NO
5	5	13C9-PFNA	1902097-03 SAOA-B10-GW 0.11593	2.64e4	98.1	NO
6	6	13C4-PFOS	1902097-03 SAOA-B10-GW 0.11593	5.21e3	110.1	NO
7	7	13C6-PFDA	1902097-03 SAOA-B10-GW 0.11593	3.46e4	101.4	NO
8	8	13C7-PFUdA	1902097-03 SAOA-B10-GW 0.11593	4.24e4	102.0	NO

Name: 190722M1_23, Date: 22-Jul-2019, Time: 15:19:36, ID: 1902097-04 SAOA-B10-GW-D 0.12246, Description: SAOA-B10-GW-D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-04 SAOA-B10-GW-D 0.12246	1.59e4	150.3	YES
2	2	13C5-PFHxA	1902097-04 SAOA-B10-GW-D 0.12246	3.04e4	97.5	NO
3	3	18O2-PFHxS	1902097-04 SAOA-B10-GW-D 0.12246	2.23e3	109.7	NO
4	4	13C8-PFOA	1902097-04 SAOA-B10-GW-D 0.12246	3.88e4	99.4	NO
5	5	13C9-PFNA	1902097-04 SAOA-B10-GW-D 0.12246	2.77e4	103.1	NO
6	6	13C4-PFOS	1902097-04 SAOA-B10-GW-D 0.12246	5.20e3	109.8	NO
7	7	13C6-PFDA	1902097-04 SAOA-B10-GW-D 0.12246	3.64e4	106.8	NO
8	8	13C7-PFUdA	1902097-04 SAOA-B10-GW-D 0.12246	4.48e4	107.9	NO

Name: 190722M1_24, Date: 22-Jul-2019, Time: 15:30:10, ID: 1902097-05 EB-07092019 0.11645, Description: EB-07092019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-05 EB-07092019 0.11645	1.27e4	119.7	NO
2	2	13C5-PFHxA	1902097-05 EB-07092019 0.11645	2.63e4	84.4	NO
3	3	18O2-PFHxS	1902097-05 EB-07092019 0.11645	1.87e3	91.7	NO
4	4	13C8-PFOA	1902097-05 EB-07092019 0.11645	3.23e4	82.8	NO
5	5	13C9-PFNA	1902097-05 EB-07092019 0.11645	2.28e4	84.9	NO
6	6	13C4-PFOS	1902097-05 EB-07092019 0.11645	4.68e3	98.8	NO
7	7	13C6-PFDA	1902097-05 EB-07092019 0.11645	3.09e4	90.7	NO
8	8	13C7-PFUdA	1902097-05 EB-07092019 0.11645	3.85e4	92.7	NO

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Name: 190722M1_25, Date: 22-Jul-2019, Time: 15:40:48, ID: 1902097-07 FRB-07092019 0.11539, Description: FRB-07092019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-07 FRB-07092019 0.11539	1.27e4	120.2	NO
2	2	13C5-PFHxA	1902097-07 FRB-07092019 0.11539	2.45e4	78.6	NO
3	3	18O2-PFHxS	1902097-07 FRB-07092019 0.11539	1.80e3	88.5	NO
4	4	13C8-PFOA	1902097-07 FRB-07092019 0.11539	3.16e4	80.9	NO
5	5	13C9-PFNA	1902097-07 FRB-07092019 0.11539	2.32e4	86.2	NO
6	6	13C4-PFOS	1902097-07 FRB-07092019 0.11539	4.82e3	101.8	NO
7	7	13C6-PFDA	1902097-07 FRB-07092019 0.11539	2.99e4	87.7	NO
8	8	13C7-PFUdA	1902097-07 FRB-07092019 0.11539	3.77e4	90.7	NO

Name: 190722M1_26, Date: 22-Jul-2019, Time: 15:53:08, ID: 1902097-14 EB-07102019 0.11614, Description: EB-07102019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-14 EB-07102019 0.11614	1.59e4	150.1	YES
2	2	13C5-PFHxA	1902097-14 EB-07102019 0.11614	3.06e4	98.1	NO
3	3	18O2-PFHxS	1902097-14 EB-07102019 0.11614	2.08e3	102.0	NO
4	4	13C8-PFOA	1902097-14 EB-07102019 0.11614	3.73e4	95.6	NO
5	5	13C9-PFNA	1902097-14 EB-07102019 0.11614	2.68e4	99.7	NO
6	6	13C4-PFOS	1902097-14 EB-07102019 0.11614	4.91e3	103.7	NO
7	7	13C6-PFDA	1902097-14 EB-07102019 0.11614	3.19e4	93.4	NO
8	8	13C7-PFUdA	1902097-14 EB-07102019 0.11614	3.86e4	92.8	NO

Name: 190722M1_27, Date: 22-Jul-2019, Time: 16:03:42, ID: 1902097-15 FRB-07102019 0.11594, Description: FRB-07102019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-15 FRB-07102019 0.11594	1.44e4	135.8	NO
2	2	13C5-PFHxA	1902097-15 FRB-07102019 0.11594	2.72e4	87.2	NO
3	3	18O2-PFHxS	1902097-15 FRB-07102019 0.11594	2.10e3	103.1	NO
4	4	13C8-PFOA	1902097-15 FRB-07102019 0.11594	3.39e4	86.9	NO
5	5	13C9-PFNA	1902097-15 FRB-07102019 0.11594	2.49e4	92.8	NO
6	6	13C4-PFOS	1902097-15 FRB-07102019 0.11594	4.93e3	104.2	NO
7	7	13C6-PFDA	1902097-15 FRB-07102019 0.11594	3.29e4	96.4	NO
8	8	13C7-PFUdA	1902097-15 FRB-07102019 0.11594	4.05e4	97.4	NO

Name: 190722M1_28, Date: 22-Jul-2019, Time: 16:14:14, ID: 1902097-19 EB-07112019 0.11543, Description: EB-07112019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-19 EB-07112019 0.11543	1.38e4	130.0	NO
2	2	13C5-PFHxA	1902097-19 EB-07112019 0.11543	2.69e4	86.2	NO
3	3	18O2-PFHxS	1902097-19 EB-07112019 0.11543	2.07e3	101.8	NO
4	4	13C8-PFOA	1902097-19 EB-07112019 0.11543	3.29e4	84.3	NO
5	5	13C9-PFNA	1902097-19 EB-07112019 0.11543	2.40e4	89.1	NO
6	6	13C4-PFOS	1902097-19 EB-07112019 0.11543	4.63e3	97.9	NO
7	7	13C6-PFDA	1902097-19 EB-07112019 0.11543	3.28e4	96.2	NO
8	8	13C7-PFUdA	1902097-19 EB-07112019 0.11543	3.99e4	96.0	NO

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Name: 190722M1_29, Date: 22-Jul-2019, Time: 16:24:52, ID: 1902097-20 FRB-07112019 0.11658, Description: FRB-07112019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-20 FRB-07112019 0.11658	2.01e4	189.4	YES
2	2	13C5-PFHxA	1902097-20 FRB-07112019 0.11658	3.56e4	114.1	NO
3	3	18O2-PFHxS	1902097-20 FRB-07112019 0.11658	2.22e3	108.9	NO
4	4	13C8-PFOA	1902097-20 FRB-07112019 0.11658	4.27e4	109.4	NO
5	5	13C9-PFNA	1902097-20 FRB-07112019 0.11658	2.85e4	106.1	NO
6	6	13C4-PFOS	1902097-20 FRB-07112019 0.11658	5.11e3	108.0	NO
7	7	13C6-PFDA	1902097-20 FRB-07112019 0.11658	3.39e4	99.5	NO
8	8	13C7-PFUdA	1902097-20 FRB-07112019 0.11658	3.36e4	80.8	NO

Name: 190722M1_30, Date: 22-Jul-2019, Time: 16:35:25, ID: B9G0208-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0208-BS1 OPR 0.25	1.66e4	156.3	YES
2	2	13C5-PFHxA	B9G0208-BS1 OPR 0.25	3.01e4	96.6	NO
3	3	18O2-PFHxS	B9G0208-BS1 OPR 0.25	2.02e3	99.1	NO
4	4	13C8-PFOA	B9G0208-BS1 OPR 0.25	3.68e4	94.4	NO
5	5	13C9-PFNA	B9G0208-BS1 OPR 0.25	2.69e4	100.1	NO
6	6	13C4-PFOS	B9G0208-BS1 OPR 0.25	5.05e3	106.7	NO
7	7	13C6-PFDA	B9G0208-BS1 OPR 0.25	3.33e4	97.7	NO
8	8	13C7-PFUdA	B9G0208-BS1 OPR 0.25	4.13e4	99.3	NO

Name: 190722M1_31, Date: 22-Jul-2019, Time: 16:46:04, ID: B9G0208-BSD1 LCSD 0.25, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0208-BSD1 LCSD 0.25	1.58e4	149.0	NO
2	2	13C5-PFHxA	B9G0208-BSD1 LCSD 0.25	3.02e4	96.8	NO
3	3	18O2-PFHxS	B9G0208-BSD1 LCSD 0.25	2.11e3	103.6	NO
4	4	13C8-PFOA	B9G0208-BSD1 LCSD 0.25	3.73e4	95.6	NO
5	5	13C9-PFNA	B9G0208-BSD1 LCSD 0.25	2.69e4	99.9	NO
6	6	13C4-PFOS	B9G0208-BSD1 LCSD 0.25	5.13e3	108.4	NO
7	7	13C6-PFDA	B9G0208-BSD1 LCSD 0.25	3.39e4	99.5	NO
8	8	13C7-PFUdA	B9G0208-BSD1 LCSD 0.25	4.36e4	104.9	NO

Name: 190722M1_32, Date: 22-Jul-2019, Time: 16:56:37, ID: B9G0208-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0208-BLK1 Method Blank 0.25	1.47e4	138.9	NO
2	2	13C5-PFHxA	B9G0208-BLK1 Method Blank 0.25	2.66e4	85.4	NO
3	3	18O2-PFHxS	B9G0208-BLK1 Method Blank 0.25	1.93e3	94.5	NO
4	4	13C8-PFOA	B9G0208-BLK1 Method Blank 0.25	3.46e4	88.6	NO
5	5	13C9-PFNA	B9G0208-BLK1 Method Blank 0.25	2.53e4	94.2	NO
6	6	13C4-PFOS	B9G0208-BLK1 Method Blank 0.25	4.57e3	96.6	NO
7	7	13C6-PFDA	B9G0208-BLK1 Method Blank 0.25	3.23e4	94.7	NO
8	8	13C7-PFUdA	B9G0208-BLK1 Method Blank 0.25	3.87e4	93.2	NO

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Name: 190722M1_33, Date: 22-Jul-2019, Time: 17:07:15, ID: 1902048-10RE1 EB06-070319 0.25028, Description: EB06-070319

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902048-10RE1 EB06-070319 0.25028	1.40e4	131.9	NO
2	2	13C5-PFHxA	1902048-10RE1 EB06-070319 0.25028	2.56e4	82.1	NO
3	3	18O2-PFHxS	1902048-10RE1 EB06-070319 0.25028	2.17e3	106.5	NO
4	4	13C8-PFOA	1902048-10RE1 EB06-070319 0.25028	3.18e4	81.4	NO
5	5	13C9-PFNA	1902048-10RE1 EB06-070319 0.25028	2.25e4	83.7	NO
6	6	13C4-PFOS	1902048-10RE1 EB06-070319 0.25028	5.06e3	106.9	NO
7	7	13C6-PFDA	1902048-10RE1 EB06-070319 0.25028	2.97e4	87.2	NO
8	8	13C7-PFUdA	1902048-10RE1 EB06-070319 0.25028	3.77e4	90.8	NO

Name: 190722M1_34, Date: 22-Jul-2019, Time: 17:17:49, ID: 1902049-03RE1 EB07-070819 0.24588, Description: EB07-070819

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902049-03RE1 EB07-070819 0.24588	1.42e4	133.8	NO
2	2	13C5-PFHxA	1902049-03RE1 EB07-070819 0.24588	2.76e4	88.4	NO
3	3	18O2-PFHxS	1902049-03RE1 EB07-070819 0.24588	1.99e3	97.6	NO
4	4	13C8-PFOA	1902049-03RE1 EB07-070819 0.24588	3.54e4	90.8	NO
5	5	13C9-PFNA	1902049-03RE1 EB07-070819 0.24588	2.53e4	93.9	NO
6	6	13C4-PFOS	1902049-03RE1 EB07-070819 0.24588	4.62e3	97.7	NO
7	7	13C6-PFDA	1902049-03RE1 EB07-070819 0.24588	3.34e4	98.0	NO
8	8	13C7-PFUdA	1902049-03RE1 EB07-070819 0.24588	4.09e4	98.5	NO

Name: 190722M1_35, Date: 22-Jul-2019, Time: 17:28:28, ID: 1902049-12RE1 EB08-070919 0.24611, Description: EB08-070919

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902049-12RE1 EB08-070919 0.24611	1.86e4	175.5	YES
2	2	13C5-PFHxA	1902049-12RE1 EB08-070919 0.24611	3.46e4	110.8	NO
3	3	18O2-PFHxS	1902049-12RE1 EB08-070919 0.24611	2.52e3	123.8	NO
4	4	13C8-PFOA	1902049-12RE1 EB08-070919 0.24611	4.39e4	112.5	NO
5	5	13C9-PFNA	1902049-12RE1 EB08-070919 0.24611	3.18e4	118.1	NO
6	6	13C4-PFOS	1902049-12RE1 EB08-070919 0.24611	6.00e3	126.9	NO
7	7	13C6-PFDA	1902049-12RE1 EB08-070919 0.24611	4.23e4	124.1	NO
8	8	13C7-PFUdA	1902049-12RE1 EB08-070919 0.24611	5.16e4	124.2	NO

Name: 190722M1_36, Date: 22-Jul-2019, Time: 17:39:06, ID: 1902158-01 REEPAC1734FS 0.1187, Description: REEPAC1734FS

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902158-01 REEPAC1734FS 0.1187	1.31e4	123.8	NO
2	2	13C5-PFHxA	1902158-01 REEPAC1734FS 0.1187	2.49e4	79.8	NO
3	3	18O2-PFHxS	1902158-01 REEPAC1734FS 0.1187	2.08e3	102.2	NO
4	4	13C8-PFOA	1902158-01 REEPAC1734FS 0.1187	3.01e4	77.2	NO
5	5	13C9-PFNA	1902158-01 REEPAC1734FS 0.1187	2.09e4	77.9	NO
6	6	13C4-PFOS	1902158-01 REEPAC1734FS 0.1187	4.89e3	103.4	NO
7	7	13C6-PFDA	1902158-01 REEPAC1734FS 0.1187	2.86e4	84.0	NO
8	8	13C7-PFUdA	1902158-01 REEPAC1734FS 0.1187	3.46e4	83.2	NO

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Name: 190722M1_37, Date: 22-Jul-2019, Time: 17:49:39, ID: B9G0149-BLK1 Method Blank 1, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0149-BLK1 Method Blank 1	1.52e4	143.4	NO
2	2	13C5-PFHxA	B9G0149-BLK1 Method Blank 1	2.87e4	91.9	NO
3	3	18O2-PFHxS	B9G0149-BLK1 Method Blank 1	1.87e3	92.0	NO
4	4	13C8-PFOA	B9G0149-BLK1 Method Blank 1	2.63e4	67.4	NO
5	5	13C9-PFNA	B9G0149-BLK1 Method Blank 1	1.37e4	50.8	NO
6	6	13C4-PFOS	B9G0149-BLK1 Method Blank 1	2.86e3	60.5	NO
7	7	13C6-PFDA	B9G0149-BLK1 Method Blank 1	9.83e3	28.8	YES
8	8	13C7-PFUdA	B9G0149-BLK1 Method Blank 1	4.11e3	9.9	YES

Name: 190722M1_38, Date: 22-Jul-2019, Time: 18:00:18, 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: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-11 PFC CS3 19G1106	1.06e4	100.0	NO
2	2	13C5-PFHxA	ST190722M1-11 PFC CS3 19G1106	3.26e4	104.3	NO
3	3	18O2-PFHxS	ST190722M1-11 PFC CS3 19G1106	2.21e3	108.5	NO
4	4	13C8-PFOA	ST190722M1-11 PFC CS3 19G1106	3.98e4	102.0	NO
5	5	13C9-PFNA	ST190722M1-11 PFC CS3 19G1106	2.80e4	104.2	NO
6	6	13C4-PFOS	ST190722M1-11 PFC CS3 19G1106	5.15e3	108.9	NO
7	7	13C6-PFDA	ST190722M1-11 PFC CS3 19G1106	3.72e4	109.0	NO
8	8	13C7-PFUdA	ST190722M1-11 PFC CS3 19G1106	4.24e4	102.1	NO

Name: 190722M1_40, Date: 22-Jul-2019, Time: 18:21:34, 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: 190722M1_41, Date: 22-Jul-2019, Time: 18:32:07, ID: B9G0183-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0183-BS1 OPR 0.25	1.69e4	159.2	YES
2	2	13C5-PFHxA	B9G0183-BS1 OPR 0.25	3.51e4	112.4	NO
3	3	18O2-PFHxS	B9G0183-BS1 OPR 0.25	2.58e3	126.7	NO
4	4	13C8-PFOA	B9G0183-BS1 OPR 0.25	4.34e4	111.3	NO
5	5	13C9-PFNA	B9G0183-BS1 OPR 0.25	3.16e4	117.5	NO
6	6	13C4-PFOS	B9G0183-BS1 OPR 0.25	6.47e3	136.7	NO
7	7	13C6-PFDA	B9G0183-BS1 OPR 0.25	4.31e4	126.5	NO
8	8	13C7-PFUdA	B9G0183-BS1 OPR 0.25	5.32e4	128.0	NO

Name: 190722M1_42, Date: 22-Jul-2019, Time: 18:42:46, ID: B9G0183-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0183-BLK1 Method Blank 0.25	1.38e4	129.7	NO
2	2	13C5-PFHxA	B9G0183-BLK1 Method Blank 0.25	2.82e4	90.5	NO
3	3	18O2-PFHxS	B9G0183-BLK1 Method Blank 0.25	2.00e3	98.0	NO
4	4	13C8-PFOA	B9G0183-BLK1 Method Blank 0.25	3.61e4	92.6	NO
5	5	13C9-PFNA	B9G0183-BLK1 Method Blank 0.25	2.62e4	97.5	NO
6	6	13C4-PFOS	B9G0183-BLK1 Method Blank 0.25	5.09e3	107.7	NO
7	7	13C6-PFDA	B9G0183-BLK1 Method Blank 0.25	3.37e4	98.9	NO
8	8	13C7-PFUdA	B9G0183-BLK1 Method Blank 0.25	4.24e4	102.1	NO

Name: 190722M1_43, Date: 22-Jul-2019, Time: 18:53:19, ID: 1901661-01RE1 WMP1906180936BRH 0.25118, Description: WMP1906180936BRH

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901661-01RE1 WMP1906180936BRH...	1.19e4	111.9	NO
2	2	13C5-PFHxA	1901661-01RE1 WMP1906180936BRH...	2.48e4	79.4	NO
3	3	18O2-PFHxS	1901661-01RE1 WMP1906180936BRH...	1.99e3	97.5	NO
4	4	13C8-PFOA	1901661-01RE1 WMP1906180936BRH...	2.69e4	68.8	NO
5	5	13C9-PFNA	1901661-01RE1 WMP1906180936BRH...	1.87e4	69.7	NO
6	6	13C4-PFOS	1901661-01RE1 WMP1906180936BRH...	4.14e3	87.5	NO
7	7	13C6-PFDA	1901661-01RE1 WMP1906180936BRH...	2.77e4	81.3	NO
8	8	13C7-PFUdA	1901661-01RE1 WMP1906180936BRH...	3.46e4	83.4	NO

Name: 190722M1_44, Date: 22-Jul-2019, Time: 19:03:58, ID: 1901661-02RE1 WEF1906180942BRH 0.24993, Description: WEF1906180942BRH

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901661-02RE1 WEF1906180942BRH...	9.68e3	91.3	NO
2	2	13C5-PFHxA	1901661-02RE1 WEF1906180942BRH...	1.87e4	59.8	NO
3	3	18O2-PFHxS	1901661-02RE1 WEF1906180942BRH...	1.89e3	92.9	NO
4	4	13C8-PFOA	1901661-02RE1 WEF1906180942BRH...	2.46e4	63.0	NO
5	5	13C9-PFNA	1901661-02RE1 WEF1906180942BRH...	1.74e4	64.6	NO
6	6	13C4-PFOS	1901661-02RE1 WEF1906180942BRH...	4.49e3	94.9	NO
7	7	13C6-PFDA	1901661-02RE1 WEF1906180942BRH...	2.35e4	68.9	NO
8	8	13C7-PFUdA	1901661-02RE1 WEF1906180942BRH...	3.01e4	72.6	NO

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Name: 190722M1_45, Date: 22-Jul-2019, Time: 19:14:36, ID: 1901661-03RE1 WEF1906180957BRH 0.25772, Description: WEF1906180957BRH

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901661-03RE1 WEF1906180957BRH...	1.23e4	116.2	NO
2	2	13C5-PFHxA	1901661-03RE1 WEF1906180957BRH...	2.38e4	76.4	NO
3	3	18O2-PFHxS	1901661-03RE1 WEF1906180957BRH...	2.27e3	111.4	NO
4	4	13C8-PFOA	1901661-03RE1 WEF1906180957BRH...	2.95e4	75.5	NO
5	5	13C9-PFNA	1901661-03RE1 WEF1906180957BRH...	2.06e4	76.5	NO
6	6	13C4-PFOS	1901661-03RE1 WEF1906180957BRH...	5.40e3	114.2	NO
7	7	13C6-PFDA	1901661-03RE1 WEF1906180957BRH...	2.67e4	78.3	NO
8	8	13C7-PFUdA	1901661-03RE1 WEF1906180957BRH...	3.33e4	80.1	NO

Name: 190722M1_46, Date: 22-Jul-2019, Time: 19:25:09, ID: 1902105-01 6C Discharge 0.24191, Description: 6C Discharge

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-01 6C Discharge 0.24191	1.27e4	119.3	NO
2	2	13C5-PFHxA	1902105-01 6C Discharge 0.24191	2.88e4	92.4	NO
3	3	18O2-PFHxS	1902105-01 6C Discharge 0.24191	2.26e3	110.8	NO
4	4	13C8-PFOA	1902105-01 6C Discharge 0.24191	4.01e4	102.8	NO
5	5	13C9-PFNA	1902105-01 6C Discharge 0.24191	2.88e4	107.3	NO
6	6	13C4-PFOS	1902105-01 6C Discharge 0.24191	5.35e3	113.1	NO
7	7	13C6-PFDA	1902105-01 6C Discharge 0.24191	3.68e4	107.8	NO
8	8	13C7-PFUdA	1902105-01 6C Discharge 0.24191	4.47e4	107.7	NO

Name: 190722M1_47, Date: 22-Jul-2019, Time: 19:35:47, ID: 1902105-02 5A Raw Leachate 0.24309, Description: 5A Raw Leachate

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-02 5A Raw Leachate 0.24309	6.28e3	59.2	NO
2	2	13C5-PFHxA	1902105-02 5A Raw Leachate 0.24309	1.30e4	41.7	YES
3	3	18O2-PFHxS	1902105-02 5A Raw Leachate 0.24309	1.83e3	89.8	NO
4	4	13C8-PFOA	1902105-02 5A Raw Leachate 0.24309	2.95e4	75.6	NO
5	5	13C9-PFNA	1902105-02 5A Raw Leachate 0.24309	2.50e4	93.2	NO
6	6	13C4-PFOS	1902105-02 5A Raw Leachate 0.24309	4.98e3	105.3	NO
7	7	13C6-PFDA	1902105-02 5A Raw Leachate 0.24309	3.35e4	98.3	NO
8	8	13C7-PFUdA	1902105-02 5A Raw Leachate 0.24309	4.18e4	100.6	NO

Name: 190722M1_48, Date: 22-Jul-2019, Time: 19:46:21, ID: 1902105-03 Field Blank 0.23889, Description: Field Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-03 Field Blank 0.23889	1.66e4	156.2	YES
2	2	13C5-PFHxA	1902105-03 Field Blank 0.23889	3.07e4	98.5	NO
3	3	18O2-PFHxS	1902105-03 Field Blank 0.23889	2.13e3	104.7	NO
4	4	13C8-PFOA	1902105-03 Field Blank 0.23889	3.91e4	100.1	NO
5	5	13C9-PFNA	1902105-03 Field Blank 0.23889	2.61e4	97.0	NO
6	6	13C4-PFOS	1902105-03 Field Blank 0.23889	5.21e3	110.0	NO
7	7	13C6-PFDA	1902105-03 Field Blank 0.23889	3.68e4	108.0	NO
8	8	13C7-PFUdA	1902105-03 Field Blank 0.23889	4.57e4	110.0	NO

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Name: 190722M1_49, Date: 22-Jul-2019, Time: 19:56:59, ID: 1902106-01 WT1907110855SK 0.23917, Description: WT1907110855SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902106-01 WT1907110855SK 0.23917	1.49e4	140.4	NO
2	2	13C5-PFHxA	1902106-01 WT1907110855SK 0.23917	2.98e4	95.5	NO
3	3	18O2-PFHxS	1902106-01 WT1907110855SK 0.23917	2.01e3	98.4	NO
4	4	13C8-PFOA	1902106-01 WT1907110855SK 0.23917	3.67e4	94.1	NO
5	5	13C9-PFNA	1902106-01 WT1907110855SK 0.23917	2.47e4	91.7	NO
6	6	13C4-PFOS	1902106-01 WT1907110855SK 0.23917	4.73e3	99.9	NO
7	7	13C6-PFDA	1902106-01 WT1907110855SK 0.23917	3.23e4	94.6	NO
8	8	13C7-PFUdA	1902106-01 WT1907110855SK 0.23917	4.14e4	99.6	NO

Name: 190722M1_50, Date: 22-Jul-2019, Time: 20:07:32, ID: 1902106-02 WR1907110930SK 0.24874, Description: WR1907110930SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902106-02 WR1907110930SK 0.24874	1.38e4	130.3	NO
2	2	13C5-PFHxA	1902106-02 WR1907110930SK 0.24874	2.70e4	86.5	NO
3	3	18O2-PFHxS	1902106-02 WR1907110930SK 0.24874	1.68e3	82.3	NO
4	4	13C8-PFOA	1902106-02 WR1907110930SK 0.24874	3.33e4	85.3	NO
5	5	13C9-PFNA	1902106-02 WR1907110930SK 0.24874	2.51e4	93.3	NO
6	6	13C4-PFOS	1902106-02 WR1907110930SK 0.24874	4.48e3	94.6	NO
7	7	13C6-PFDA	1902106-02 WR1907110930SK 0.24874	3.16e4	92.5	NO
8	8	13C7-PFUdA	1902106-02 WR1907110930SK 0.24874	3.93e4	94.5	NO

Name: 190722M1_51, Date: 22-Jul-2019, Time: 20:18:10, ID: B9G0153-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0153-BS1 OPR 0.25	1.47e4	139.0	NO
2	2	13C5-PFHxA	B9G0153-BS1 OPR 0.25	2.75e4	88.2	NO
3	3	18O2-PFHxS	B9G0153-BS1 OPR 0.25	1.70e3	83.5	NO
4	4	13C8-PFOA	B9G0153-BS1 OPR 0.25	3.08e4	78.8	NO
5	5	13C9-PFNA	B9G0153-BS1 OPR 0.25	1.81e4	67.4	NO
6	6	13C4-PFOS	B9G0153-BS1 OPR 0.25	2.85e3	60.1	NO
7	7	13C6-PFDA	B9G0153-BS1 OPR 0.25	1.48e4	43.4	YES
8	8	13C7-PFUdA	B9G0153-BS1 OPR 0.25	5.60e3	13.5	YES

Name: 190722M1_52, Date: 22-Jul-2019, Time: 20:28:44, ID: B9G0153-BSD1 LCSD 0.25, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0153-BSD1 LCSD 0.25	1.36e4	128.3	NO
2	2	13C5-PFHxA	B9G0153-BSD1 LCSD 0.25	2.51e4	80.4	NO
3	3	18O2-PFHxS	B9G0153-BSD1 LCSD 0.25	1.80e3	88.4	NO
4	4	13C8-PFOA	B9G0153-BSD1 LCSD 0.25	2.68e4	68.6	NO
5	5	13C9-PFNA	B9G0153-BSD1 LCSD 0.25	1.56e4	58.0	NO
6	6	13C4-PFOS	B9G0153-BSD1 LCSD 0.25	2.84e3	60.1	NO
7	7	13C6-PFDA	B9G0153-BSD1 LCSD 0.25	1.33e4	38.9	YES
8	8	13C7-PFUdA	B9G0153-BSD1 LCSD 0.25	6.16e3	14.8	YES

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Name: 190722M1_53, Date: 22-Jul-2019, Time: 20:39:22, ID: B9G0153-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0153-BLK1 Method Blank 0.25	1.61e4	151.5	YES
2	2	13C5-PFHxA	B9G0153-BLK1 Method Blank 0.25	2.82e4	90.5	NO
3	3	18O2-PFHxS	B9G0153-BLK1 Method Blank 0.25	1.71e3	83.9	NO
4	4	13C8-PFOA	B9G0153-BLK1 Method Blank 0.25	2.69e4	68.8	NO
5	5	13C9-PFNA	B9G0153-BLK1 Method Blank 0.25	1.48e4	55.1	NO
6	6	13C4-PFOS	B9G0153-BLK1 Method Blank 0.25	2.47e3	52.2	NO
7	7	13C6-PFDA	B9G0153-BLK1 Method Blank 0.25	1.04e4	30.5	YES
8	8	13C7-PFUdA	B9G0153-BLK1 Method Blank 0.25	2.77e3	6.7	YES

Name: 190722M1_54, Date: 22-Jul-2019, Time: 20:49:55, ID: 1902048-10 EB06-070319 0.2586, Description: EB06-070319

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902048-10 EB06-070319 0.2586	1.27e4	119.4	NO
2	2	13C5-PFHxA	1902048-10 EB06-070319 0.2586	2.44e4	78.1	NO
3	3	18O2-PFHxS	1902048-10 EB06-070319 0.2586	1.62e3	79.3	NO
4	4	13C8-PFOA	1902048-10 EB06-070319 0.2586	2.68e4	68.5	NO
5	5	13C9-PFNA	1902048-10 EB06-070319 0.2586	1.59e4	59.0	NO
6	6	13C4-PFOS	1902048-10 EB06-070319 0.2586	2.69e3	56.8	NO
7	7	13C6-PFDA	1902048-10 EB06-070319 0.2586	1.55e4	45.3	YES
8	8	13C7-PFUdA	1902048-10 EB06-070319 0.2586	7.98e3	19.2	YES

Name: 190722M1_55, Date: 22-Jul-2019, Time: 21:00:33, ID: 1902049-03 EB07-070819 0.25547, Description: EB07-070819

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902049-03 EB07-070819 0.25547	1.53e4	144.3	NO
2	2	13C5-PFHxA	1902049-03 EB07-070819 0.25547	2.69e4	86.2	NO
3	3	18O2-PFHxS	1902049-03 EB07-070819 0.25547	1.83e3	89.7	NO
4	4	13C8-PFOA	1902049-03 EB07-070819 0.25547	2.87e4	73.6	NO
5	5	13C9-PFNA	1902049-03 EB07-070819 0.25547	1.78e4	66.1	NO
6	6	13C4-PFOS	1902049-03 EB07-070819 0.25547	2.74e3	57.9	NO
7	7	13C6-PFDA	1902049-03 EB07-070819 0.25547	1.44e4	42.3	YES
8	8	13C7-PFUdA	1902049-03 EB07-070819 0.25547	5.60e3	13.5	YES

Name: 190722M1_56, Date: 22-Jul-2019, Time: 21:11:11, ID: 1902049-12 EB08-070919 0.25637, Description: EB08-070919

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902049-12 EB08-070919 0.25637	1.42e4	134.3	NO
2	2	13C5-PFHxA	1902049-12 EB08-070919 0.25637	2.64e4	84.6	NO
3	3	18O2-PFHxS	1902049-12 EB08-070919 0.25637	1.62e3	79.4	NO
4	4	13C8-PFOA	1902049-12 EB08-070919 0.25637	2.82e4	72.4	NO
5	5	13C9-PFNA	1902049-12 EB08-070919 0.25637	1.65e4	61.3	NO
6	6	13C4-PFOS	1902049-12 EB08-070919 0.25637	2.22e3	47.0	YES
7	7	13C6-PFDA	1902049-12 EB08-070919 0.25637	1.18e4	34.6	YES
8	8	13C7-PFUdA	1902049-12 EB08-070919 0.25637	3.65e3	8.8	YES

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Name: 190722M1_57, Date: 22-Jul-2019, Time: 21:21:45, 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	2.00e1	0.0	YES

Name: 190722M1_58, Date: 22-Jul-2019, Time: 21:32:24, ID: ST190722M1-12 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-12 PFC CS3 19G1106	1.12e4	105.9	NO
2	2	13C5-PFHxA	ST190722M1-12 PFC CS3 19G1106	3.41e4	109.2	NO
3	3	18O2-PFHxS	ST190722M1-12 PFC CS3 19G1106	2.11e3	103.5	NO
4	4	13C8-PFOA	ST190722M1-12 PFC CS3 19G1106	4.09e4	104.8	NO
5	5	13C9-PFNA	ST190722M1-12 PFC CS3 19G1106	2.80e4	104.1	NO
6	6	13C4-PFOS	ST190722M1-12 PFC CS3 19G1106	5.27e3	111.4	NO
7	7	13C6-PFDA	ST190722M1-12 PFC CS3 19G1106	3.76e4	110.3	NO
8	8	13C7-PFUdA	ST190722M1-12 PFC CS3 19G1106	4.43e4	106.7	NO

Name: 190722M1_59, Date: 22-Jul-2019, Time: 21:43:02, 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: 190722M1_60, Date: 22-Jul-2019, Time: 21:53:36, ID: B9G0134-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0134-BS1 OPR 0.25	1.40e4	131.7	NO
2	2	13C5-PFHxA	B9G0134-BS1 OPR 0.25	2.63e4	84.3	NO
3	3	18O2-PFHxS	B9G0134-BS1 OPR 0.25	1.89e3	92.8	NO
4	4	13C8-PFOA	B9G0134-BS1 OPR 0.25	3.29e4	84.2	NO
5	5	13C9-PFNA	B9G0134-BS1 OPR 0.25	2.39e4	88.8	NO
6	6	13C4-PFOS	B9G0134-BS1 OPR 0.25	4.54e3	96.0	NO
7	7	13C6-PFDA	B9G0134-BS1 OPR 0.25	3.18e4	93.3	NO
8	8	13C7-PFUdA	B9G0134-BS1 OPR 0.25	3.76e4	90.5	NO

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Name: 190722M1_61, Date: 22-Jul-2019, Time: 22:04:14, ID: B9G0134-BSD1 LCSD 0.25, Description: LCSD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0134-BSD1 LCSD 0.25	1.52e4	143.4	NO
2	2	13C5-PFHxA	B9G0134-BSD1 LCSD 0.25	2.92e4	93.5	NO
3	3	18O2-PFHxS	B9G0134-BSD1 LCSD 0.25	1.89e3	92.7	NO
4	4	13C8-PFOA	B9G0134-BSD1 LCSD 0.25	3.50e4	89.7	NO
5	5	13C9-PFNA	B9G0134-BSD1 LCSD 0.25	2.54e4	94.4	NO
6	6	13C4-PFOS	B9G0134-BSD1 LCSD 0.25	4.72e3	99.8	NO
7	7	13C6-PFDA	B9G0134-BSD1 LCSD 0.25	3.40e4	99.8	NO
8	8	13C7-PFUdA	B9G0134-BSD1 LCSD 0.25	3.96e4	95.3	NO

Name: 190722M1_62, Date: 22-Jul-2019, Time: 22:14:52, ID: B9G0134-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0134-BLK1 Method Blank 0.25	1.51e4	142.0	NO
2	2	13C5-PFHxA	B9G0134-BLK1 Method Blank 0.25	2.94e4	94.2	NO
3	3	18O2-PFHxS	B9G0134-BLK1 Method Blank 0.25	2.01e3	98.7	NO
4	4	13C8-PFOA	B9G0134-BLK1 Method Blank 0.25	3.74e4	95.8	NO
5	5	13C9-PFNA	B9G0134-BLK1 Method Blank 0.25	2.62e4	97.5	NO
6	6	13C4-PFOS	B9G0134-BLK1 Method Blank 0.25	4.73e3	99.9	NO
7	7	13C6-PFDA	B9G0134-BLK1 Method Blank 0.25	3.36e4	98.6	NO
8	8	13C7-PFUdA	B9G0134-BLK1 Method Blank 0.25	4.12e4	99.3	NO

Name: 190722M1_63, Date: 22-Jul-2019, Time: 22:25:25, ID: 1902003-01 REEPIN1709FS 0.11638, Description: REEPIN1709FS

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902003-01 REEPIN1709FS 0.11638	1.23e4	116.2	NO
2	2	13C5-PFHxA	1902003-01 REEPIN1709FS 0.11638	2.65e4	84.8	NO
3	3	18O2-PFHxS	1902003-01 REEPIN1709FS 0.11638	2.07e3	101.6	NO
4	4	13C8-PFOA	1902003-01 REEPIN1709FS 0.11638	3.41e4	87.3	NO
5	5	13C9-PFNA	1902003-01 REEPIN1709FS 0.11638	2.38e4	88.7	NO
6	6	13C4-PFOS	1902003-01 REEPIN1709FS 0.11638	4.96e3	104.8	NO
7	7	13C6-PFDA	1902003-01 REEPIN1709FS 0.11638	3.18e4	93.3	NO
8	8	13C7-PFUdA	1902003-01 REEPIN1709FS 0.11638	4.04e4	97.2	NO

Name: 190722M1_64, Date: 22-Jul-2019, Time: 22:36:03, ID: 1902014-03 FRB-07032019 0.11634, Description: FRB-07032019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-03 FRB-07032019 0.11634	1.08e4	102.0	NO
2	2	13C5-PFHxA	1902014-03 FRB-07032019 0.11634	2.48e4	79.4	NO
3	3	18O2-PFHxS	1902014-03 FRB-07032019 0.11634	1.89e3	92.7	NO
4	4	13C8-PFOA	1902014-03 FRB-07032019 0.11634	3.05e4	78.0	NO
5	5	13C9-PFNA	1902014-03 FRB-07032019 0.11634	2.25e4	83.6	NO
6	6	13C4-PFOS	1902014-03 FRB-07032019 0.11634	4.53e3	95.8	NO
7	7	13C6-PFDA	1902014-03 FRB-07032019 0.11634	2.96e4	86.8	NO
8	8	13C7-PFUdA	1902014-03 FRB-07032019 0.11634	3.74e4	90.1	NO

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Name: 190722M1_65, Date: 22-Jul-2019, Time: 22:46:42, ID: 1902014-04 EB-07032019 0.1175, Description: EB-07032019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-04 EB-07032019 0.1175	1.36e4	127.8	NO
2	2	13C5-PFHxA	1902014-04 EB-07032019 0.1175	2.84e4	90.9	NO
3	3	18O2-PFHxS	1902014-04 EB-07032019 0.1175	1.94e3	95.3	NO
4	4	13C8-PFOA	1902014-04 EB-07032019 0.1175	3.56e4	91.2	NO
5	5	13C9-PFNA	1902014-04 EB-07032019 0.1175	2.48e4	92.2	NO
6	6	13C4-PFOS	1902014-04 EB-07032019 0.1175	4.52e3	95.6	NO
7	7	13C6-PFDA	1902014-04 EB-07032019 0.1175	3.29e4	96.5	NO
8	8	13C7-PFUdA	1902014-04 EB-07032019 0.1175	3.97e4	95.5	NO

Name: 190722M1_66, Date: 22-Jul-2019, Time: 22:57:14, ID: 1902014-08 FRB-07082019 0.11724, Description: FRB-07082019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-08 FRB-07082019 0.11724	1.36e4	128.4	NO
2	2	13C5-PFHxA	1902014-08 FRB-07082019 0.11724	2.84e4	90.9	NO
3	3	18O2-PFHxS	1902014-08 FRB-07082019 0.11724	2.01e3	98.8	NO
4	4	13C8-PFOA	1902014-08 FRB-07082019 0.11724	3.52e4	90.2	NO
5	5	13C9-PFNA	1902014-08 FRB-07082019 0.11724	2.56e4	95.2	NO
6	6	13C4-PFOS	1902014-08 FRB-07082019 0.11724	4.97e3	105.1	NO
7	7	13C6-PFDA	1902014-08 FRB-07082019 0.11724	3.49e4	102.2	NO
8	8	13C7-PFUdA	1902014-08 FRB-07082019 0.11724	4.01e4	96.6	NO

Name: 190722M1_67, Date: 22-Jul-2019, Time: 23:07:44, ID: 1902014-09 CAOA-B01-GW 0.12758, Description: CAOA-B01-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-09 CAOA-B01-GW 0.12758	1.07e4	100.8	NO
2	2	13C5-PFHxA	1902014-09 CAOA-B01-GW 0.12758	2.31e4	73.9	NO
3	3	18O2-PFHxS	1902014-09 CAOA-B01-GW 0.12758	2.02e3	99.2	NO
4	4	13C8-PFOA	1902014-09 CAOA-B01-GW 0.12758	3.39e4	87.0	NO
5	5	13C9-PFNA	1902014-09 CAOA-B01-GW 0.12758	2.41e4	89.7	NO
6	6	13C4-PFOS	1902014-09 CAOA-B01-GW 0.12758	4.73e3	99.9	NO
7	7	13C6-PFDA	1902014-09 CAOA-B01-GW 0.12758	3.23e4	94.6	NO
8	8	13C7-PFUdA	1902014-09 CAOA-B01-GW 0.12758	3.95e4	95.1	NO

Name: 190722M1_68, Date: 22-Jul-2019, Time: 23:18:22, ID: 1902014-10 EB-07082019 0.11822, Description: EB-07082019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-10 EB-07082019 0.11822	1.40e4	131.6	NO
2	2	13C5-PFHxA	1902014-10 EB-07082019 0.11822	2.97e4	95.2	NO
3	3	18O2-PFHxS	1902014-10 EB-07082019 0.11822	2.03e3	99.7	NO
4	4	13C8-PFOA	1902014-10 EB-07082019 0.11822	3.72e4	95.3	NO
5	5	13C9-PFNA	1902014-10 EB-07082019 0.11822	2.64e4	98.3	NO
6	6	13C4-PFOS	1902014-10 EB-07082019 0.11822	4.99e3	105.4	NO
7	7	13C6-PFDA	1902014-10 EB-07082019 0.11822	3.48e4	102.1	NO
8	8	13C7-PFUdA	1902014-10 EB-07082019 0.11822	4.32e4	104.1	NO

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Name: 190722M1_69, Date: 22-Jul-2019, Time: 23:28:55, ID: 1902035-01 SWIN1907010900GGA 0.23211, Description: SWIN1907010900GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902035-01 SWIN1907010900GGA 0.2...	1.39e4	130.7	NO
2	2	13C5-PFHxA	1902035-01 SWIN1907010900GGA 0.2...	2.59e4	82.9	NO
3	3	18O2-PFHxS	1902035-01 SWIN1907010900GGA 0.2...	1.78e3	87.6	NO
4	4	13C8-PFOA	1902035-01 SWIN1907010900GGA 0.2...	3.19e4	81.7	NO
5	5	13C9-PFNA	1902035-01 SWIN1907010900GGA 0.2...	2.32e4	86.1	NO
6	6	13C4-PFOS	1902035-01 SWIN1907010900GGA 0.2...	4.12e3	87.0	NO
7	7	13C6-PFDA	1902035-01 SWIN1907010900GGA 0.2...	2.91e4	85.4	NO
8	8	13C7-PFUdA	1902035-01 SWIN1907010900GGA 0.2...	3.53e4	85.0	NO

Name: 190722M1_70, Date: 22-Jul-2019, Time: 23:39:34, ID: 1902036-01 SWIN1907011000GGA 0.24039, Description: SWIN1907011000GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902036-01 SWIN1907011000GGA 0.2...	1.64e4	154.9	YES
2	2	13C5-PFHxA	1902036-01 SWIN1907011000GGA 0.2...	2.98e4	95.4	NO
3	3	18O2-PFHxS	1902036-01 SWIN1907011000GGA 0.2...	2.00e3	98.3	NO
4	4	13C8-PFOA	1902036-01 SWIN1907011000GGA 0.2...	3.63e4	93.0	NO
5	5	13C9-PFNA	1902036-01 SWIN1907011000GGA 0.2...	2.60e4	96.5	NO
6	6	13C4-PFOS	1902036-01 SWIN1907011000GGA 0.2...	4.67e3	98.6	NO
7	7	13C6-PFDA	1902036-01 SWIN1907011000GGA 0.2...	3.38e4	99.2	NO
8	8	13C7-PFUdA	1902036-01 SWIN1907011000GGA 0.2...	3.99e4	96.0	NO

Name: 190722M1_71, Date: 22-Jul-2019, Time: 23:50:07, ID: 1902037-01 SWIN1907011400GGA 0.23721, Description: SWIN1907011400GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902037-01 SWIN1907011400GGA 0.2...	1.46e4	138.1	NO
2	2	13C5-PFHxA	1902037-01 SWIN1907011400GGA 0.2...	2.88e4	92.1	NO
3	3	18O2-PFHxS	1902037-01 SWIN1907011400GGA 0.2...	1.92e3	94.0	NO
4	4	13C8-PFOA	1902037-01 SWIN1907011400GGA 0.2...	3.49e4	89.3	NO
5	5	13C9-PFNA	1902037-01 SWIN1907011400GGA 0.2...	2.40e4	89.2	NO
6	6	13C4-PFOS	1902037-01 SWIN1907011400GGA 0.2...	4.68e3	98.9	NO
7	7	13C6-PFDA	1902037-01 SWIN1907011400GGA 0.2...	3.20e4	93.8	NO
8	8	13C7-PFUdA	1902037-01 SWIN1907011400GGA 0.2...	3.79e4	91.3	NO

Name: 190722M1_72, Date: 23-Jul-2019, Time: 00:00:45, ID: 1902038-01 SWIN1907020900GGA 0.23487, Description: SWIN1907020900GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902038-01 SWIN1907020900GGA 0.2...	1.52e4	143.7	NO
2	2	13C5-PFHxA	1902038-01 SWIN1907020900GGA 0.2...	2.98e4	95.6	NO
3	3	18O2-PFHxS	1902038-01 SWIN1907020900GGA 0.2...	2.03e3	99.6	NO
4	4	13C8-PFOA	1902038-01 SWIN1907020900GGA 0.2...	3.66e4	93.8	NO
5	5	13C9-PFNA	1902038-01 SWIN1907020900GGA 0.2...	2.64e4	98.2	NO
6	6	13C4-PFOS	1902038-01 SWIN1907020900GGA 0.2...	4.87e3	102.9	NO
7	7	13C6-PFDA	1902038-01 SWIN1907020900GGA 0.2...	3.41e4	100.0	NO
8	8	13C7-PFUdA	1902038-01 SWIN1907020900GGA 0.2...	3.97e4	95.6	NO

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Name: 190722M1_73, Date: 23-Jul-2019, Time: 00:11:18, ID: 1902039-01 SWIN1907021000GGA 0.22004, Description: SWIN1907021000GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902039-01 SWIN1907021000GGA 0.2...	1.58e4	148.8	NO
2	2	13C5-PFHxA	1902039-01 SWIN1907021000GGA 0.2...	2.98e4	95.5	NO
3	3	18O2-PFHxS	1902039-01 SWIN1907021000GGA 0.2...	2.02e3	99.1	NO
4	4	13C8-PFOA	1902039-01 SWIN1907021000GGA 0.2...	3.68e4	94.3	NO
5	5	13C9-PFNA	1902039-01 SWIN1907021000GGA 0.2...	2.57e4	95.4	NO
6	6	13C4-PFOS	1902039-01 SWIN1907021000GGA 0.2...	4.79e3	101.3	NO
7	7	13C6-PFDA	1902039-01 SWIN1907021000GGA 0.2...	3.45e4	101.3	NO
8	8	13C7-PFUdA	1902039-01 SWIN1907021000GGA 0.2...	4.16e4	100.2	NO

Name: 190722M1_74, Date: 23-Jul-2019, Time: 00:21:56, ID: 1902040-01 SWIN1907021100GGA 0.25691, Description: SWIN1907021100GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902040-01 SWIN1907021100GGA 0.2...	1.43e4	134.9	NO
2	2	13C5-PFHxA	1902040-01 SWIN1907021100GGA 0.2...	2.74e4	87.8	NO
3	3	18O2-PFHxS	1902040-01 SWIN1907021100GGA 0.2...	1.99e3	97.5	NO
4	4	13C8-PFOA	1902040-01 SWIN1907021100GGA 0.2...	3.55e4	90.9	NO
5	5	13C9-PFNA	1902040-01 SWIN1907021100GGA 0.2...	2.49e4	92.8	NO
6	6	13C4-PFOS	1902040-01 SWIN1907021100GGA 0.2...	4.75e3	100.5	NO
7	7	13C6-PFDA	1902040-01 SWIN1907021100GGA 0.2...	3.42e4	100.2	NO
8	8	13C7-PFUdA	1902040-01 SWIN1907021100GGA 0.2...	4.07e4	97.9	NO

Name: 190722M1_75, Date: 23-Jul-2019, Time: 00:32:34, 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: 190722M1_76, Date: 23-Jul-2019, Time: 00:43:07, ID: ST190722M1-13 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-13 PFC CS3 19G1106	1.10e4	103.6	NO
2	2	13C5-PFHxA	ST190722M1-13 PFC CS3 19G1106	3.49e4	111.8	NO
3	3	18O2-PFHxS	ST190722M1-13 PFC CS3 19G1106	2.18e3	107.0	NO
4	4	13C8-PFOA	ST190722M1-13 PFC CS3 19G1106	4.01e4	102.9	NO
5	5	13C9-PFNA	ST190722M1-13 PFC CS3 19G1106	2.84e4	105.6	NO
6	6	13C4-PFOS	ST190722M1-13 PFC CS3 19G1106	5.21e3	110.1	NO
7	7	13C6-PFDA	ST190722M1-13 PFC CS3 19G1106	3.60e4	105.4	NO
8	8	13C7-PFUdA	ST190722M1-13 PFC CS3 19G1106	4.36e4	104.9	NO

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Name: 190722M1_77, Date: 23-Jul-2019, Time: 00:53:46, 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: 190722M1_78, Date: 23-Jul-2019, Time: 01:04:19, ID: B9G0114-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0114-BS1 OPR 0.25	1.83e4	172.6	YES
2	2	13C5-PFHxA	B9G0114-BS1 OPR 0.25	3.41e4	109.3	NO
3	3	18O2-PFHxS	B9G0114-BS1 OPR 0.25	2.15e3	105.6	NO
4	4	13C8-PFOA	B9G0114-BS1 OPR 0.25	4.12e4	105.5	NO
5	5	13C9-PFNA	B9G0114-BS1 OPR 0.25	2.80e4	104.1	NO
6	6	13C4-PFOS	B9G0114-BS1 OPR 0.25	5.15e3	108.9	NO
7	7	13C6-PFDA	B9G0114-BS1 OPR 0.25	3.71e4	108.7	NO
8	8	13C7-PFUdA	B9G0114-BS1 OPR 0.25	4.55e4	109.5	NO

Name: 190722M1_79, Date: 23-Jul-2019, Time: 01:14:57, ID: B9G0114-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0114-BLK1 Method Blank 0.25	1.75e4	165.1	YES
2	2	13C5-PFHxA	B9G0114-BLK1 Method Blank 0.25	3.52e4	112.6	NO
3	3	18O2-PFHxS	B9G0114-BLK1 Method Blank 0.25	2.26e3	110.7	NO
4	4	13C8-PFOA	B9G0114-BLK1 Method Blank 0.25	4.26e4	109.3	NO
5	5	13C9-PFNA	B9G0114-BLK1 Method Blank 0.25	2.98e4	110.8	NO
6	6	13C4-PFOS	B9G0114-BLK1 Method Blank 0.25	5.37e3	113.5	NO
7	7	13C6-PFDA	B9G0114-BLK1 Method Blank 0.25	3.80e4	111.3	NO
8	8	13C7-PFUdA	B9G0114-BLK1 Method Blank 0.25	4.66e4	112.2	NO

Name: 190722M1_80, Date: 23-Jul-2019, Time: 01:25:35, ID: 1902005-01 SW1907030930GSC 0.23037, Description: SW1907030930GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902005-01 SW1907030930GSC 0.230...	1.47e4	138.4	NO
2	2	13C5-PFHxA	1902005-01 SW1907030930GSC 0.230...	2.89e4	92.5	NO
3	3	18O2-PFHxS	1902005-01 SW1907030930GSC 0.230...	2.10e3	103.1	NO
4	4	13C8-PFOA	1902005-01 SW1907030930GSC 0.230...	3.62e4	92.8	NO
5	5	13C9-PFNA	1902005-01 SW1907030930GSC 0.230...	2.62e4	97.4	NO
6	6	13C4-PFOS	1902005-01 SW1907030930GSC 0.230...	4.91e3	103.8	NO
7	7	13C6-PFDA	1902005-01 SW1907030930GSC 0.230...	3.48e4	102.0	NO
8	8	13C7-PFUdA	1902005-01 SW1907030930GSC 0.230...	4.12e4	99.1	NO

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Name: 190722M1_81, Date: 23-Jul-2019, Time: 01:36:09, ID: 1902005-02 EB1907030930GSC 0.25182, Description: EB1907030930GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902005-02 EB1907030930GSC 0.25182	1.87e4	176.6	YES
2	2	13C5-PFHxA	1902005-02 EB1907030930GSC 0.25182	3.73e4	119.6	NO
3	3	18O2-PFHxS	1902005-02 EB1907030930GSC 0.25182	2.75e3	135.2	NO
4	4	13C8-PFOA	1902005-02 EB1907030930GSC 0.25182	4.75e4	121.7	NO
5	5	13C9-PFNA	1902005-02 EB1907030930GSC 0.25182	3.39e4	126.1	NO
6	6	13C4-PFOS	1902005-02 EB1907030930GSC 0.25182	6.14e3	129.8	NO
7	7	13C6-PFDA	1902005-02 EB1907030930GSC 0.25182	4.46e4	130.7	NO
8	8	13C7-PFUdA	1902005-02 EB1907030930GSC 0.25182	5.48e4	131.8	NO

Name: 190722M1_82, Date: 23-Jul-2019, Time: 01:46:47, ID: 1902005-03 SW1907030950GSC 0.22959, Description: SW1907030950GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902005-03 SW1907030950GSC 0.229...	1.74e4	163.6	YES
2	2	13C5-PFHxA	1902005-03 SW1907030950GSC 0.229...	3.37e4	107.9	NO
3	3	18O2-PFHxS	1902005-03 SW1907030950GSC 0.229...	2.50e3	122.6	NO
4	4	13C8-PFOA	1902005-03 SW1907030950GSC 0.229...	4.29e4	109.9	NO
5	5	13C9-PFNA	1902005-03 SW1907030950GSC 0.229...	3.01e4	111.8	NO
6	6	13C4-PFOS	1902005-03 SW1907030950GSC 0.229...	5.57e3	117.8	NO
7	7	13C6-PFDA	1902005-03 SW1907030950GSC 0.229...	3.93e4	115.3	NO
8	8	13C7-PFUdA	1902005-03 SW1907030950GSC 0.229...	4.90e4	118.0	NO

Name: 190722M1_83, Date: 23-Jul-2019, Time: 01:57:19, ID: 1902005-04 SW1907031020GSC 0.21921, Description: SW1907031020GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902005-04 SW1907031020GSC 0.219...	1.66e4	156.0	YES
2	2	13C5-PFHxA	1902005-04 SW1907031020GSC 0.219...	3.21e4	102.9	NO
3	3	18O2-PFHxS	1902005-04 SW1907031020GSC 0.219...	2.23e3	109.5	NO
4	4	13C8-PFOA	1902005-04 SW1907031020GSC 0.219...	4.04e4	103.5	NO
5	5	13C9-PFNA	1902005-04 SW1907031020GSC 0.219...	2.91e4	108.2	NO
6	6	13C4-PFOS	1902005-04 SW1907031020GSC 0.219...	5.48e3	115.8	NO
7	7	13C6-PFDA	1902005-04 SW1907031020GSC 0.219...	3.78e4	111.0	NO
8	8	13C7-PFUdA	1902005-04 SW1907031020GSC 0.219...	4.57e4	110.0	NO

Name: 190722M1_84, Date: 23-Jul-2019, Time: 02:07:58, ID: 1902006-01 GWIN1907020935GSC 0.23844, Description: GWIN1907020935GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902006-01 GWIN1907020935GSC 0.2...	1.72e4	161.9	YES
2	2	13C5-PFHxA	1902006-01 GWIN1907020935GSC 0.2...	3.22e4	103.1	NO
3	3	18O2-PFHxS	1902006-01 GWIN1907020935GSC 0.2...	2.07e3	101.8	NO
4	4	13C8-PFOA	1902006-01 GWIN1907020935GSC 0.2...	3.82e4	97.9	NO
5	5	13C9-PFNA	1902006-01 GWIN1907020935GSC 0.2...	2.76e4	102.6	NO
6	6	13C4-PFOS	1902006-01 GWIN1907020935GSC 0.2...	4.74e3	100.2	NO
7	7	13C6-PFDA	1902006-01 GWIN1907020935GSC 0.2...	3.57e4	104.7	NO
8	8	13C7-PFUdA	1902006-01 GWIN1907020935GSC 0.2...	4.26e4	102.6	NO

Dataset: Untitled

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Name: 190722M1_85, Date: 23-Jul-2019, Time: 02:18:36, ID: 1902007-01 SWIN1907021055GSC 0.24055, Description: SWIN1907021055GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902007-01 SWIN1907021055GSC 0.2...	1.85e4	174.4	YES
2	2	13C5-PFHxA	1902007-01 SWIN1907021055GSC 0.2...	3.74e4	120.0	NO
3	3	18O2-PFHxS	1902007-01 SWIN1907021055GSC 0.2...	2.30e3	112.9	NO
4	4	13C8-PFOA	1902007-01 SWIN1907021055GSC 0.2...	4.52e4	115.8	NO
5	5	13C9-PFNA	1902007-01 SWIN1907021055GSC 0.2...	3.28e4	121.8	NO
6	6	13C4-PFOS	1902007-01 SWIN1907021055GSC 0.2...	6.11e3	129.2	NO
7	7	13C6-PFDA	1902007-01 SWIN1907021055GSC 0.2...	4.27e4	125.3	NO
8	8	13C7-PFUdA	1902007-01 SWIN1907021055GSC 0.2...	4.97e4	119.7	NO

Name: 190722M1_86, Date: 23-Jul-2019, Time: 02:29:09, ID: 1902008-01 SWIN1907021315GSC 0.24174, Description: SWIN1907021315GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902008-01 SWIN1907021315GSC 0.2...	1.78e4	168.0	YES
2	2	13C5-PFHxA	1902008-01 SWIN1907021315GSC 0.2...	3.34e4	107.0	NO
3	3	18O2-PFHxS	1902008-01 SWIN1907021315GSC 0.2...	2.14e3	105.3	NO
4	4	13C8-PFOA	1902008-01 SWIN1907021315GSC 0.2...	3.89e4	99.8	NO
5	5	13C9-PFNA	1902008-01 SWIN1907021315GSC 0.2...	2.76e4	102.7	NO
6	6	13C4-PFOS	1902008-01 SWIN1907021315GSC 0.2...	5.23e3	110.6	NO
7	7	13C6-PFDA	1902008-01 SWIN1907021315GSC 0.2...	3.72e4	108.9	NO
8	8	13C7-PFUdA	1902008-01 SWIN1907021315GSC 0.2...	4.45e4	107.0	NO

Name: 190722M1_87, Date: 23-Jul-2019, Time: 02:39:48, ID: 1902009-01 SWIN1907021500GSC 0.24302, Description: SWIN1907021500GSC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902009-01 SWIN1907021500GSC 0.2...	1.88e4	177.7	YES
2	2	13C5-PFHxA	1902009-01 SWIN1907021500GSC 0.2...	3.58e4	114.6	NO
3	3	18O2-PFHxS	1902009-01 SWIN1907021500GSC 0.2...	2.40e3	117.7	NO
4	4	13C8-PFOA	1902009-01 SWIN1907021500GSC 0.2...	4.32e4	110.8	NO
5	5	13C9-PFNA	1902009-01 SWIN1907021500GSC 0.2...	2.99e4	111.3	NO
6	6	13C4-PFOS	1902009-01 SWIN1907021500GSC 0.2...	5.35e3	113.1	NO
7	7	13C6-PFDA	1902009-01 SWIN1907021500GSC 0.2...	3.85e4	112.9	NO
8	8	13C7-PFUdA	1902009-01 SWIN1907021500GSC 0.2...	4.62e4	111.2	NO

Name: 190722M1_88, Date: 23-Jul-2019, Time: 02:50:21, ID: 1902009-02 SWIN1907021500GSC-FD 0.24258, Description: SWIN1907021500GSC-FD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902009-02 SWIN1907021500GSC-FD...	1.85e4	174.1	YES
2	2	13C5-PFHxA	1902009-02 SWIN1907021500GSC-FD...	3.65e4	116.9	NO
3	3	18O2-PFHxS	1902009-02 SWIN1907021500GSC-FD...	2.31e3	113.4	NO
4	4	13C8-PFOA	1902009-02 SWIN1907021500GSC-FD...	4.36e4	111.7	NO
5	5	13C9-PFNA	1902009-02 SWIN1907021500GSC-FD...	3.08e4	114.7	NO
6	6	13C4-PFOS	1902009-02 SWIN1907021500GSC-FD...	5.88e3	124.3	NO
7	7	13C6-PFDA	1902009-02 SWIN1907021500GSC-FD...	3.94e4	115.5	NO
8	8	13C7-PFUdA	1902009-02 SWIN1907021500GSC-FD...	4.91e4	118.1	NO

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Name: 190722M1_89, Date: 23-Jul-2019, Time: 03:01:00, ID: 1902019-01 SWIN1906271100GGA 0.23337, Description: SWIN1906271100GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902019-01 SWIN1906271100GGA 0.2...	1.44e4	135.5	NO
2	2	13C5-PFHxA	1902019-01 SWIN1906271100GGA 0.2...	2.84e4	90.9	NO
3	3	18O2-PFHxS	1902019-01 SWIN1906271100GGA 0.2...	1.87e3	91.7	NO
4	4	13C8-PFOA	1902019-01 SWIN1906271100GGA 0.2...	3.46e4	88.7	NO
5	5	13C9-PFNA	1902019-01 SWIN1906271100GGA 0.2...	2.41e4	89.6	NO
6	6	13C4-PFOS	1902019-01 SWIN1906271100GGA 0.2...	4.59e3	97.1	NO
7	7	13C6-PFDA	1902019-01 SWIN1906271100GGA 0.2...	3.15e4	92.5	NO
8	8	13C7-PFUdA	1902019-01 SWIN1906271100GGA 0.2...	3.80e4	91.3	NO

Name: 190722M1_90, Date: 23-Jul-2019, Time: 03:11:33, ID: 1902020-01 SWIN1906271400GGA 0.22976, Description: SWIN1906271400GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902020-01 SWIN1906271400GGA 0.2...	1.43e4	135.2	NO
2	2	13C5-PFHxA	1902020-01 SWIN1906271400GGA 0.2...	2.77e4	88.6	NO
3	3	18O2-PFHxS	1902020-01 SWIN1906271400GGA 0.2...	1.69e3	82.8	NO
4	4	13C8-PFOA	1902020-01 SWIN1906271400GGA 0.2...	3.38e4	86.7	NO
5	5	13C9-PFNA	1902020-01 SWIN1906271400GGA 0.2...	2.34e4	87.1	NO
6	6	13C4-PFOS	1902020-01 SWIN1906271400GGA 0.2...	4.66e3	98.4	NO
7	7	13C6-PFDA	1902020-01 SWIN1906271400GGA 0.2...	3.08e4	90.2	NO
8	8	13C7-PFUdA	1902020-01 SWIN1906271400GGA 0.2...	3.93e4	94.6	NO

Name: 190722M1_91, Date: 23-Jul-2019, Time: 03:22:11, 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: 190722M1_92, Date: 23-Jul-2019, Time: 03:32:45, ID: ST190722M1-14 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-14 PFC CS3 19G1106	1.09e4	103.1	NO
2	2	13C5-PFHxA	ST190722M1-14 PFC CS3 19G1106	3.51e4	112.5	NO
3	3	18O2-PFHxS	ST190722M1-14 PFC CS3 19G1106	2.21e3	108.5	NO
4	4	13C8-PFOA	ST190722M1-14 PFC CS3 19G1106	4.16e4	106.6	NO
5	5	13C9-PFNA	ST190722M1-14 PFC CS3 19G1106	2.92e4	108.8	NO
6	6	13C4-PFOS	ST190722M1-14 PFC CS3 19G1106	5.29e3	111.9	NO
7	7	13C6-PFDA	ST190722M1-14 PFC CS3 19G1106	3.77e4	110.4	NO
8	8	13C7-PFUdA	ST190722M1-14 PFC CS3 19G1106	4.57e4	110.0	NO

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Name: 190722M1_93, Date: 23-Jul-2019, Time: 03:43:23, 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: 190722M1_94, Date: 23-Jul-2019, Time: 03:54:01, ID: 1902021-01 SWIN1906280800GGA 0.21775, Description: SWIN1906280800GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902021-01 SWIN1906280800GGA 0.2...	1.41e4	132.7	NO
2	2	13C5-PFHxA	1902021-01 SWIN1906280800GGA 0.2...	2.77e4	88.6	NO
3	3	18O2-PFHxS	1902021-01 SWIN1906280800GGA 0.2...	1.78e3	87.2	NO
4	4	13C8-PFOA	1902021-01 SWIN1906280800GGA 0.2...	3.34e4	85.7	NO
5	5	13C9-PFNA	1902021-01 SWIN1906280800GGA 0.2...	2.47e4	91.8	NO
6	6	13C4-PFOS	1902021-01 SWIN1906280800GGA 0.2...	4.46e3	94.2	NO
7	7	13C6-PFDA	1902021-01 SWIN1906280800GGA 0.2...	3.19e4	93.4	NO
8	8	13C7-PFUdA	1902021-01 SWIN1906280800GGA 0.2...	3.64e4	87.5	NO

Name: 190722M1_95, Date: 23-Jul-2019, Time: 04:04:35, ID: 1902022-01 SWIN1906280900GGA 0.2307, Description: SWIN1906280900GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902022-01 SWIN1906280900GGA 0.2...	1.41e4	133.2	NO
2	2	13C5-PFHxA	1902022-01 SWIN1906280900GGA 0.2...	2.60e4	83.2	NO
3	3	18O2-PFHxS	1902022-01 SWIN1906280900GGA 0.2...	1.76e3	86.3	NO
4	4	13C8-PFOA	1902022-01 SWIN1906280900GGA 0.2...	3.12e4	79.9	NO
5	5	13C9-PFNA	1902022-01 SWIN1906280900GGA 0.2...	2.28e4	84.9	NO
6	6	13C4-PFOS	1902022-01 SWIN1906280900GGA 0.2...	4.02e3	85.0	NO
7	7	13C6-PFDA	1902022-01 SWIN1906280900GGA 0.2...	2.88e4	84.5	NO
8	8	13C7-PFUdA	1902022-01 SWIN1906280900GGA 0.2...	3.53e4	84.9	NO

Name: 190722M1_96, Date: 23-Jul-2019, Time: 04:15:13, ID: 1902023-01 SWIN1906281400GGA 0.23222, Description: SWIN1906281400GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902023-01 SWIN1906281400GGA 0.2...	1.31e4	123.1	NO
2	2	13C5-PFHxA	1902023-01 SWIN1906281400GGA 0.2...	2.54e4	81.3	NO
3	3	18O2-PFHxS	1902023-01 SWIN1906281400GGA 0.2...	1.68e3	82.6	NO
4	4	13C8-PFOA	1902023-01 SWIN1906281400GGA 0.2...	3.11e4	79.7	NO
5	5	13C9-PFNA	1902023-01 SWIN1906281400GGA 0.2...	2.10e4	78.3	NO
6	6	13C4-PFOS	1902023-01 SWIN1906281400GGA 0.2...	3.97e3	83.9	NO
7	7	13C6-PFDA	1902023-01 SWIN1906281400GGA 0.2...	2.87e4	84.2	NO
8	8	13C7-PFUdA	1902023-01 SWIN1906281400GGA 0.2...	3.46e4	83.3	NO

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Name: 190722M1_97, Date: 23-Jul-2019, Time: 04:25:46, ID: 1902024-01 SWIN1907030900GGA 0.23598, Description: SWIN1907030900GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902024-01 SWIN1907030900GGA 0.2...	1.38e4	130.3	NO
2	2	13C5-PFHxA	1902024-01 SWIN1907030900GGA 0.2...	2.65e4	84.8	NO
3	3	18O2-PFHxS	1902024-01 SWIN1907030900GGA 0.2...	1.73e3	84.8	NO
4	4	13C8-PFOA	1902024-01 SWIN1907030900GGA 0.2...	3.35e4	85.8	NO
5	5	13C9-PFNA	1902024-01 SWIN1907030900GGA 0.2...	2.24e4	83.2	NO
6	6	13C4-PFOS	1902024-01 SWIN1907030900GGA 0.2...	4.30e3	90.9	NO
7	7	13C6-PFDA	1902024-01 SWIN1907030900GGA 0.2...	3.00e4	88.0	NO
8	8	13C7-PFUdA	1902024-01 SWIN1907030900GGA 0.2...	3.71e4	89.4	NO

Name: 190722M1_98, Date: 23-Jul-2019, Time: 04:36:24, ID: 1902025-01 SWIN1907031200GGA 0.24424, Description: SWIN1907031200GGA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902025-01 SWIN1907031200GGA 0.2...	1.26e4	119.1	NO
2	2	13C5-PFHxA	1902025-01 SWIN1907031200GGA 0.2...	2.33e4	74.7	NO
3	3	18O2-PFHxS	1902025-01 SWIN1907031200GGA 0.2...	1.51e3	74.1	NO
4	4	13C8-PFOA	1902025-01 SWIN1907031200GGA 0.2...	2.92e4	74.7	NO
5	5	13C9-PFNA	1902025-01 SWIN1907031200GGA 0.2...	2.06e4	76.5	NO
6	6	13C4-PFOS	1902025-01 SWIN1907031200GGA 0.2...	3.62e3	76.6	NO
7	7	13C6-PFDA	1902025-01 SWIN1907031200GGA 0.2...	2.59e4	76.0	NO
8	8	13C7-PFUdA	1902025-01 SWIN1907031200GGA 0.2...	3.17e4	76.3	NO

Name: 190722M1_99, Date: 23-Jul-2019, Time: 04:46:58, ID: 1902025-02 SWIN1907031200GGA-FD 0.23286, Description: SWIN1907031200GGA-FD

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902025-02 SWIN1907031200GGA-FD...	1.31e4	123.9	NO
2	2	13C5-PFHxA	1902025-02 SWIN1907031200GGA-FD...	2.57e4	82.2	NO
3	3	18O2-PFHxS	1902025-02 SWIN1907031200GGA-FD...	1.73e3	84.9	NO
4	4	13C8-PFOA	1902025-02 SWIN1907031200GGA-FD...	3.11e4	79.7	NO
5	5	13C9-PFNA	1902025-02 SWIN1907031200GGA-FD...	2.09e4	77.8	NO
6	6	13C4-PFOS	1902025-02 SWIN1907031200GGA-FD...	4.16e3	87.8	NO
7	7	13C6-PFDA	1902025-02 SWIN1907031200GGA-FD...	2.81e4	82.3	NO
8	8	13C7-PFUdA	1902025-02 SWIN1907031200GGA-FD...	3.44e4	82.9	NO

Name: 190722M1_100, Date: 23-Jul-2019, Time: 04:57:36, 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: 190722M1_101, Date: 23-Jul-2019, Time: 05:08:08, ID: ST190722M1-15 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190722M1-15 PFC CS3 19G1106	1.16e4	109.0	NO
2	2	13C5-PFHxA	ST190722M1-15 PFC CS3 19G1106	3.42e4	109.4	NO
3	3	18O2-PFHxS	ST190722M1-15 PFC CS3 19G1106	2.26e3	110.7	NO
4	4	13C8-PFOA	ST190722M1-15 PFC CS3 19G1106	4.04e4	103.5	NO
5	5	13C9-PFNA	ST190722M1-15 PFC CS3 19G1106	2.92e4	108.5	NO
6	6	13C4-PFOS	ST190722M1-15 PFC CS3 19G1106	5.20e3	109.8	NO
7	7	13C6-PFDA	ST190722M1-15 PFC CS3 19G1106	3.78e4	110.8	NO
8	8	13C7-PFUdA	ST190722M1-15 PFC CS3 19G1106	4.67e4	112.4	NO

Name: 190722M1_102, Date: 23-Jul-2019, Time: 05:18:47, 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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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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		7501.880	1.00					NO		
2	2	PFPrS	248.9 > 79.9		2239.359	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		15758.199	1.00					NO		
4	4	PFPeA	263.1 > 218.9		15758.199	1.00					NO		
5	5	PFBS	299.0 > 79.7		2239.359	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		3672.193	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	7501.880	10359.297	1.00	1.16	9.052	12.3	98.7	NO		
8	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15758.199	32014.930	1.00	2.15	6.153	12.4	98.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15758.199	32014.930	1.00	2.15	6.153	12.4	98.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3672.193	2017.515	1.00	2.88	22.752	13.8	110.3	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		12146.366	1.00					NO		
15	8	PFPeS	349.1>80.1		2239.359	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1687.480	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		15326.061	1.00					NO		
18	11	PFHpA	363.0 > 318.9		15326.061	1.00					NO		
19	12	ADONA	376.8 > 250.9		15326.061	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	12146.366	32014.930	1.00	2.97	4.742	4.9	97.0	NO		
21	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1687.480	32014.930	1.00	3.18	0.659	4.9	98.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6		4156.333	1.00					NO		
28	15	6:2 FTS	427.0 > 406.9		2859.432	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	166.629	26409.393	1.00	4.11	0.079	0.0		NO	9.522	YES
30	18	PFecHS	460.8 > 381.0		26409.393	1.00					NO		
31	19	PFHpS	449.0 > 80.0		4842.980	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		26906.500	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	4156.333	2017.515	1.00	3.75	25.752	12.7	101.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2859.432	4717.761	1.00	4.06	7.576	14.1	113.0	NO		
35	58	13C2-PFOA	414.9 > 369.7	26409.393	39508.000	1.00	4.12	8.356	12.3	98.1	NO		
36	58	13C2-PFOA	414.9 > 369.7	26409.393	39508.000	1.00	4.12	8.356	12.3	98.1	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
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Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
38	56	13C5-PFNA	468.2 > 422.9	26906.500	27847.467	1.00	4.56	12.078	12.1	96.4	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		26906.500	1.00					NO		
41	22	PFOSA	497.9 > 77.9	8.148	6887.840	1.00	4.61	0.015	0.0		NO	5.678	YES
42	23	L-PFOS	498.9 > 79.9		4842.980	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		4842.980	1.00					NO		
44	26	PFDA	513 > 468.8		28506.688	1.00					NO		
45	27	8:2 FTS	527.0 > 506.9		2708.716	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	26906.500	27847.467	1.00	4.56	12.078	12.1	96.4	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6887.840	40970.465	1.00	4.62	2.101	12.5	100.3	NO		
48	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
49	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
50	60	13C2-PFDA	515.1 > 469.9	28506.688	34616.977	1.00	4.95	10.294	12.6	100.5	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2708.716	4717.761	1.00	4.91	7.177	12.9	103.2	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		4842.980	1.00					NO		
54	29	L-MeFOSAA	570 > 419	26.518	7441.581	1.00	5.11	0.045	0.1		NO	4.592	YES
55	31	L-EtFOSAA	584.1 > 419	12.900	9624.488	1.00	5.27	0.017	0.1		NO	8.710	YES
56	33	PFUdA	563.0 > 518.9		36902.512	1.00					NO		
57	34	PFDS	598.8 > 79.9		2708.716	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		35732.961	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7441.581	40970.465	1.00	5.10	2.270	12.8	102.4	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9624.488	40970.465	1.00	5.26	2.936	13.1	105.0	NO		
62	63	13C2-PFUdA	565 > 519.8	36902.512	40970.465	1.00	5.28	11.259	12.7	101.3	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2708.716	4717.761	1.00	4.91	7.177	12.9	103.2	NO		
64	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		2708.716	1.00					NO		
67	37	PFDoA	612.9 > 569.0	88.353	35732.961	1.00	5.55	0.031			NO	72.243	YES
68	38	N-MeFOSA	512.1 > 168.9		18006.295	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		35732.961	1.00					NO		
70	40	PFDoS	698.8 > 79.9		25005.998	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		25005.998	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18006.295	40970.465	1.00	5.75	5.494	143.7	95.8	NO		
75	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	25005.998	40970.465	1.00	6.04	7.629	12.6	101.0	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	25005.998	40970.465	1.00	6.04	7.629	12.6	101.0	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		21538.303	1.00					NO		
80	43	PFHxDA	813.1 > 768.6	194.032	12818.789	1.00	6.38	0.076	0.1		NO	39.720	YES
81	44	PFODA	913.1 > 868.8	169.569	12818.789	1.00	6.63	0.066	0.0		NO		
82	45	N-MeFOSE	616.1 > 58.9		14477.269	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		15601.422	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	10359.297	10359.297	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	21538.303	40970.465	1.00	6.16	6.571	147.8	98.6	NO		
86	69	13C2-PFHxDA	815 > 769.7	12818.789	40970.465	1.00	6.38	3.911	5.0	99.3	NO		
87	69	13C2-PFHxDA	815 > 769.7	12818.789	40970.465	1.00	6.38	3.911	5.0	99.3	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	14477.269	40970.465	1.00	6.34	4.417	141.1	94.1	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	15601.422	40970.465	1.00	6.49	4.760	144.9	96.6	NO		
90	73	13C5-PFHxA	318.0 > 272.9	32014.930	32014.930	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	39508.000	39508.000	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2017.515	2017.515	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	27847.467	27847.467	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	4717.761	4717.761	1.00	4.65	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	34616.977	34616.977	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	40970.465	40970.465	1.00	5.28	12.500	12.5	100.0	NO		

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Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
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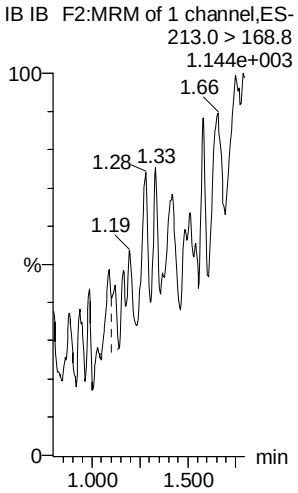
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

PFBA



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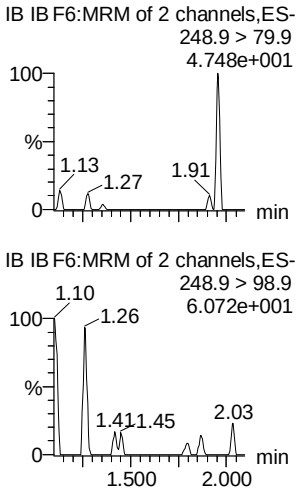
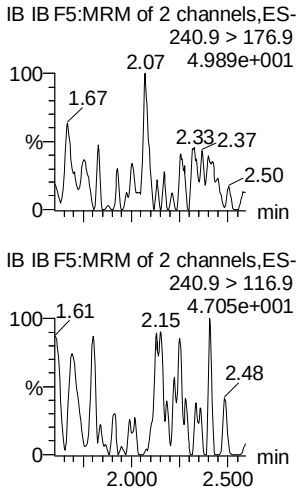


3:3 FTCA



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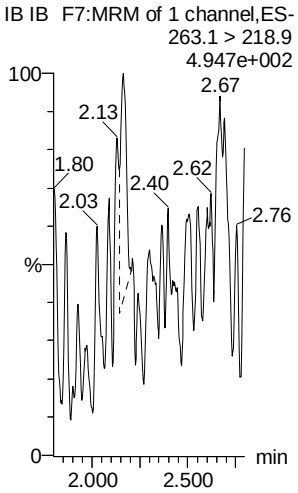

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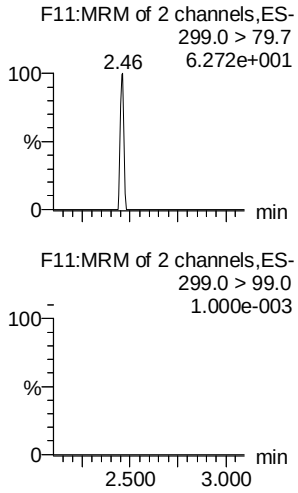
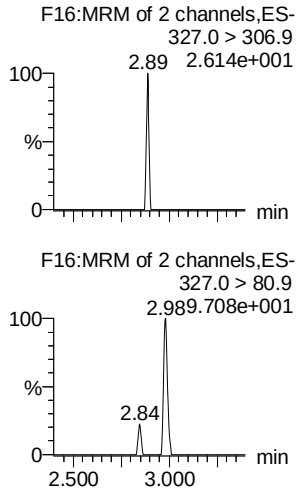
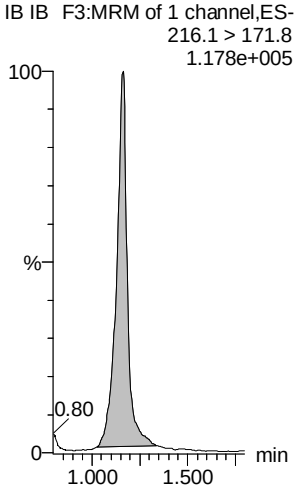


4:2 FTS



13C3-PFBA



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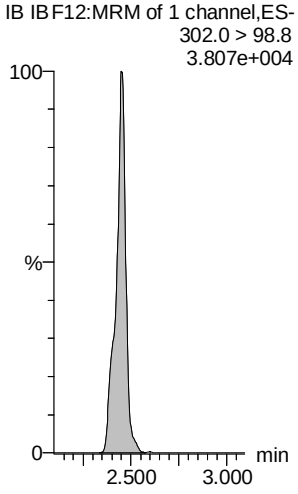

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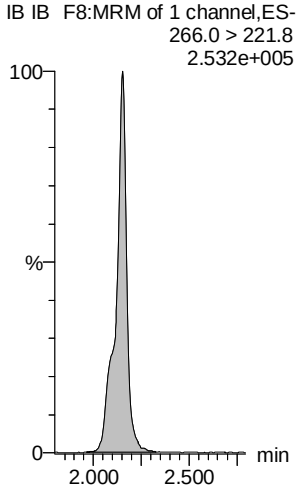

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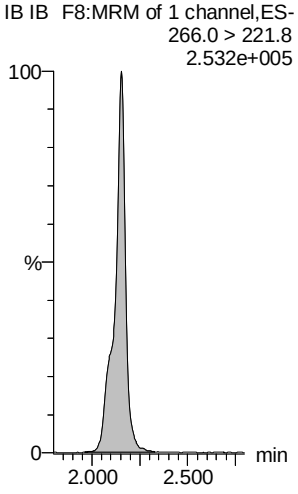

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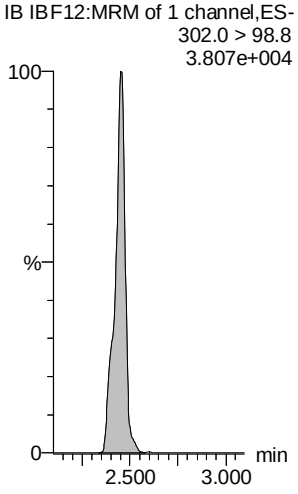
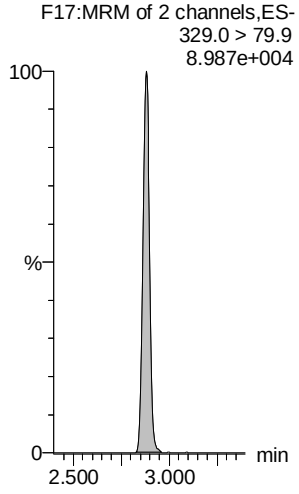


13C2-4:2 FTS



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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
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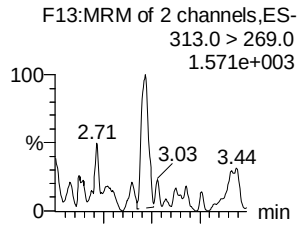
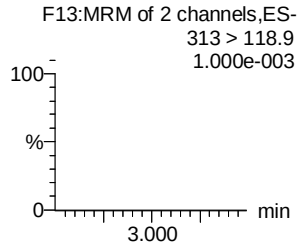
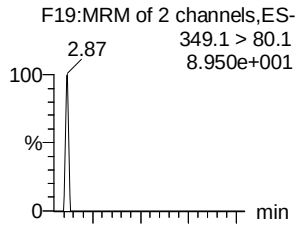
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

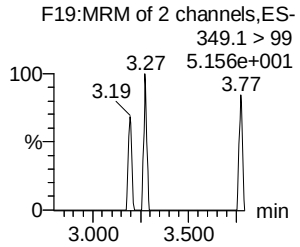
PFHxA



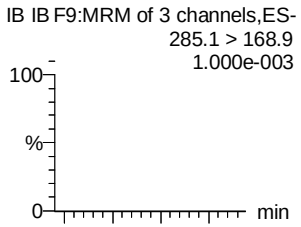


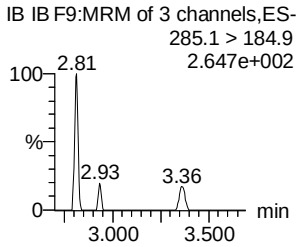
PFPeS



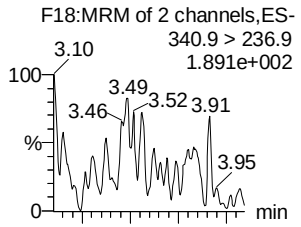


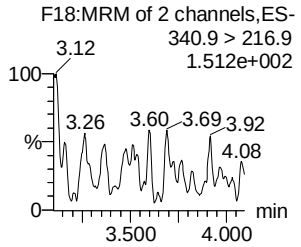
HFPO-DA





5:3 FTCA





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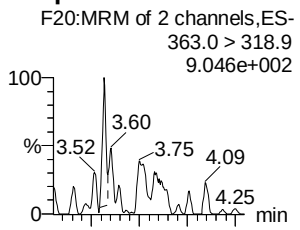
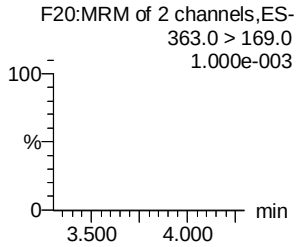
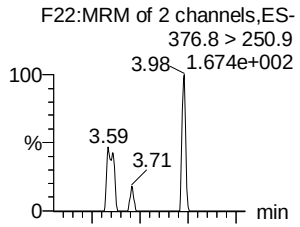
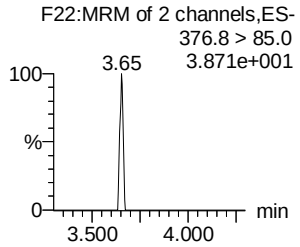




ADONA





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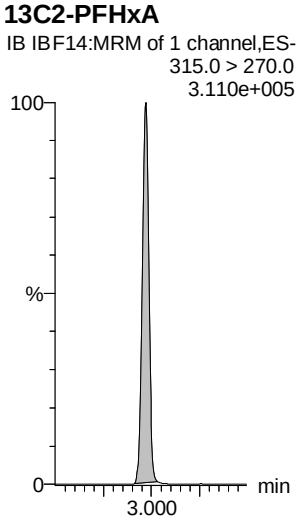
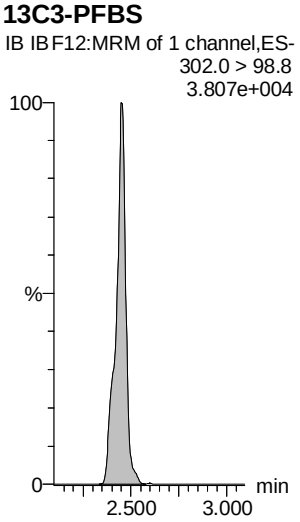
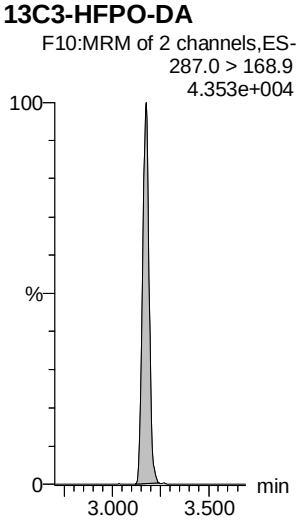


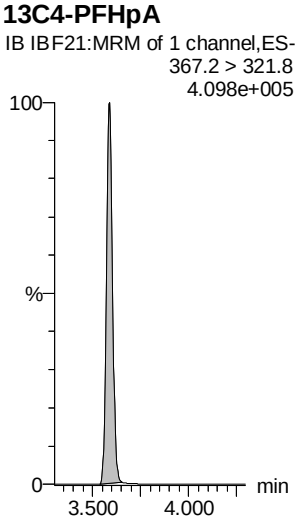
13C3-PFBS



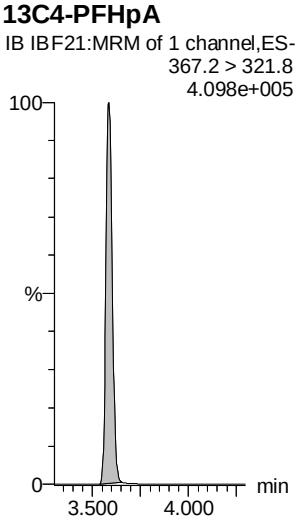
13C3-HFPO-DA



13C4-PFHpA



13C4-PFHpA



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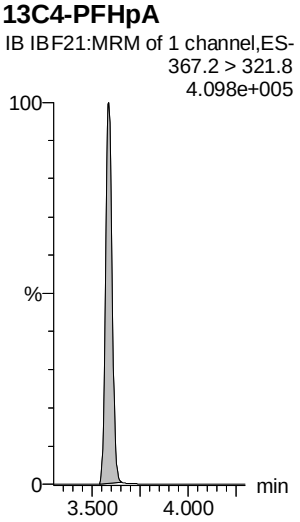

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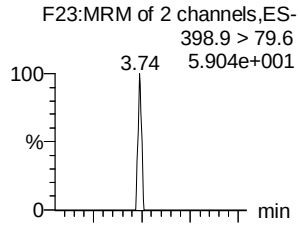
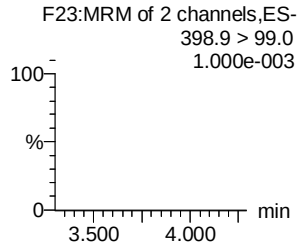
Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

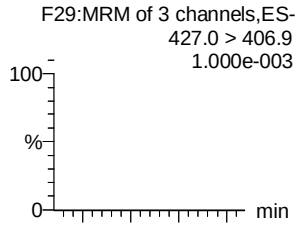
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

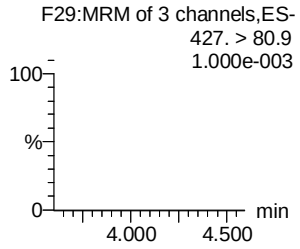
L-PFHxS





6:2 FTS





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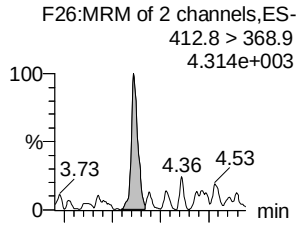

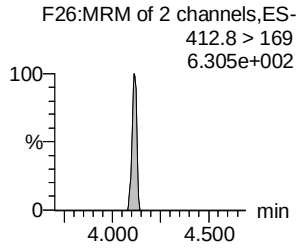

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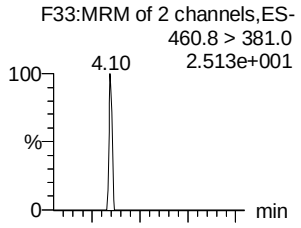

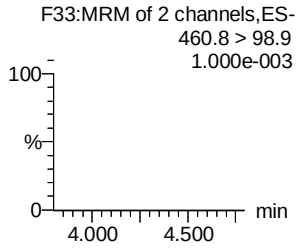

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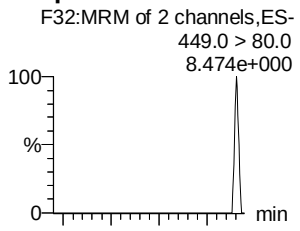
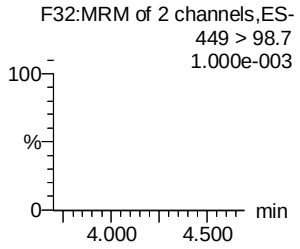
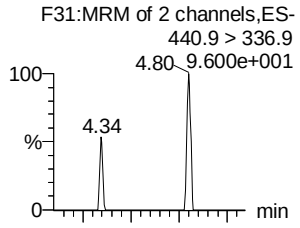
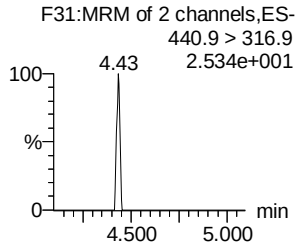


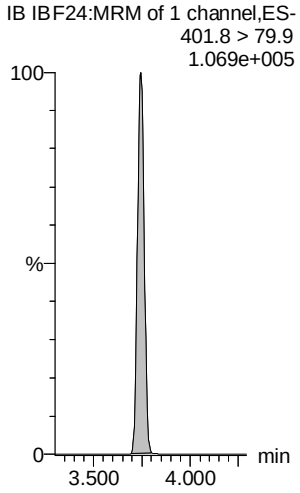


7:3 FTCA

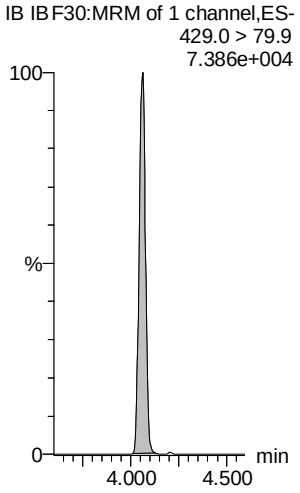




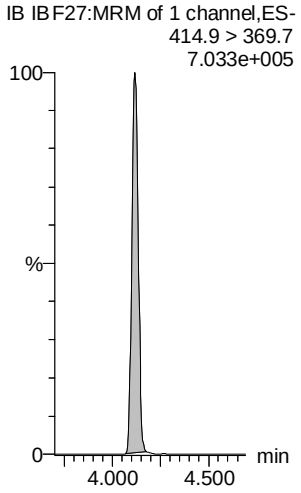
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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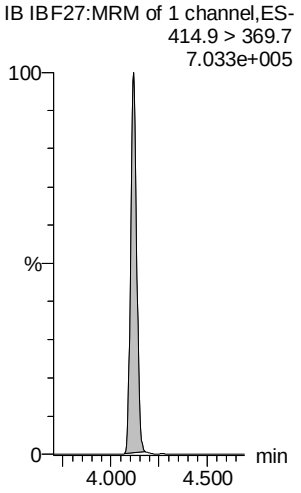
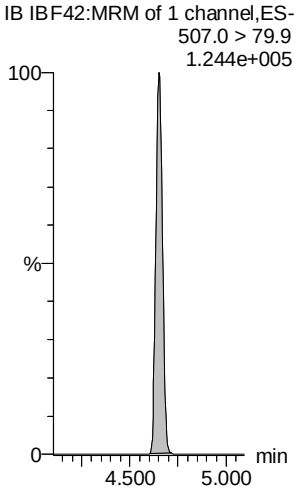
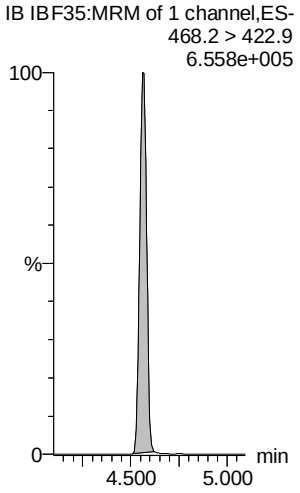


13C8-PFOS



13C5-PFNA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

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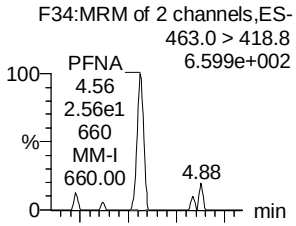

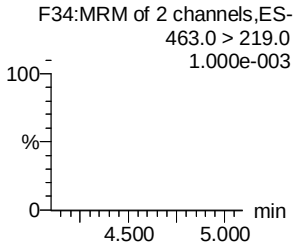

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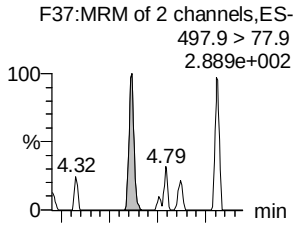
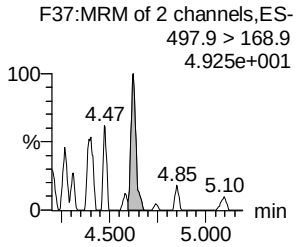
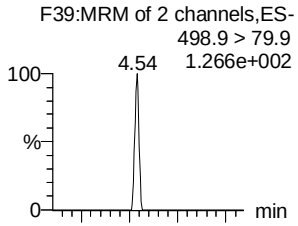
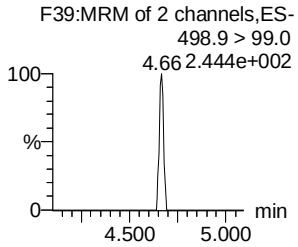




L-PFOS





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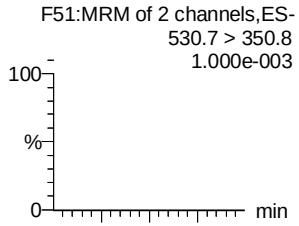

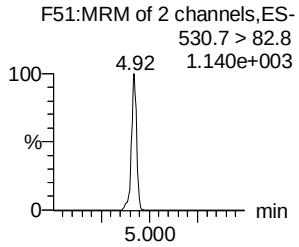

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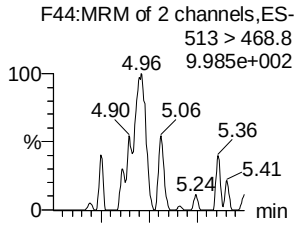

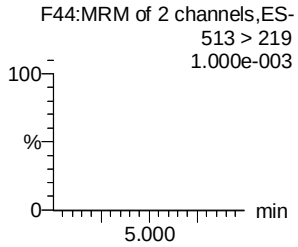

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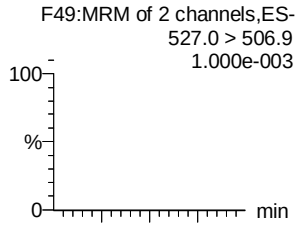

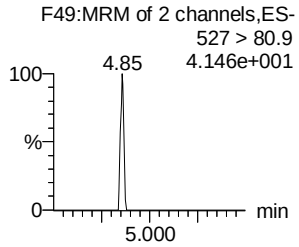

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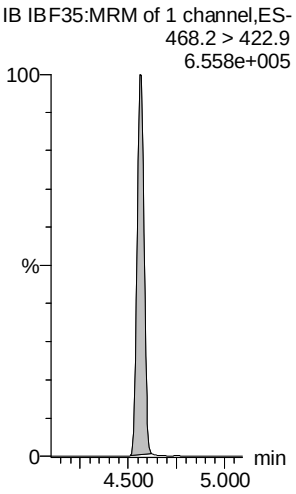
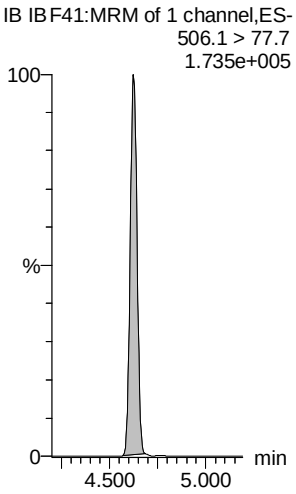


13C8-PFOSA



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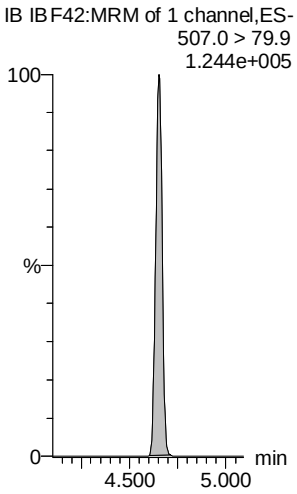

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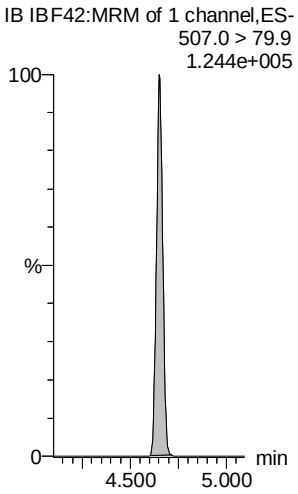
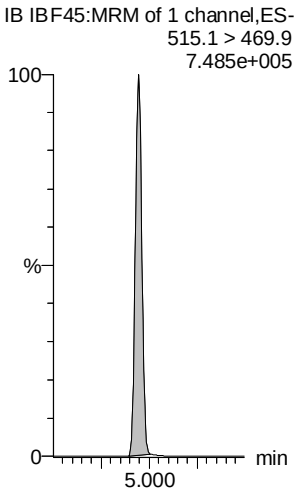
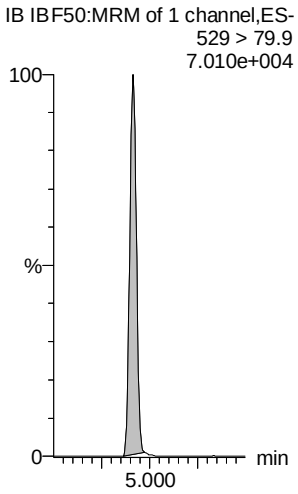


13C2-PFDA



13C2-8:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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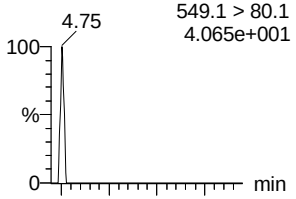
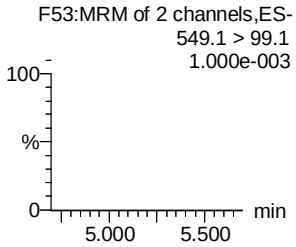
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

PFNS





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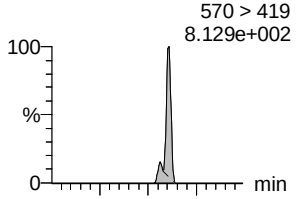
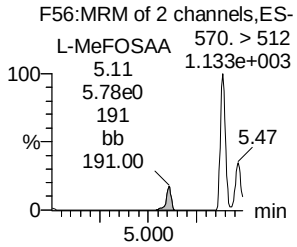
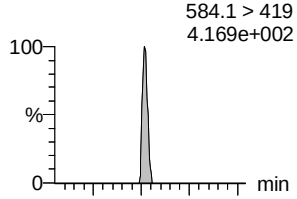
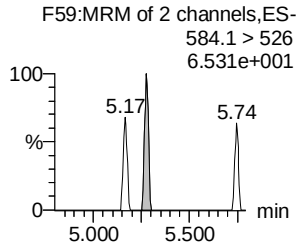


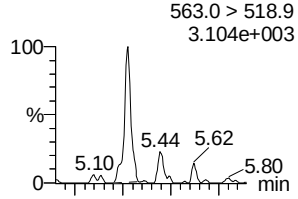


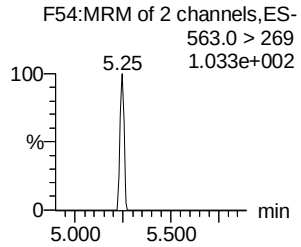
L-EtFOSAA





PFUdA





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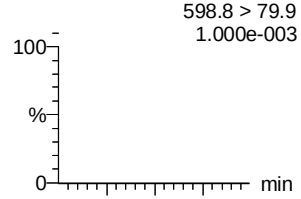
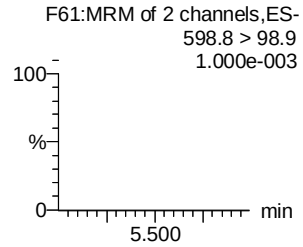
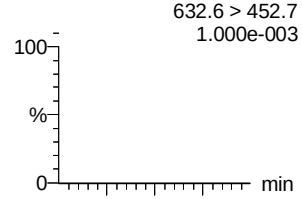
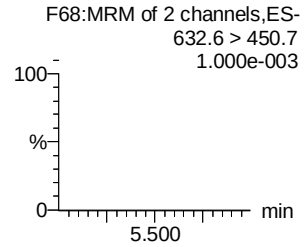


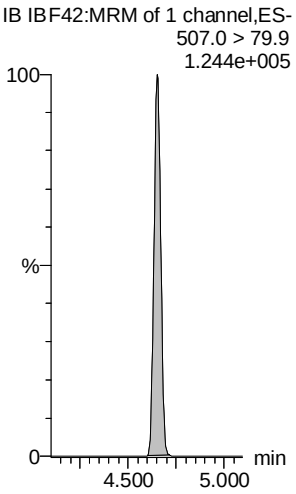


11Cl-PF30UdS

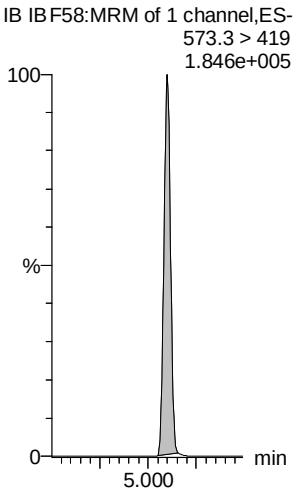




13C8-PFOS



d3-N-MeFOSAA



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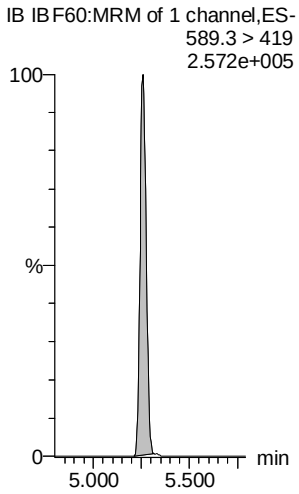
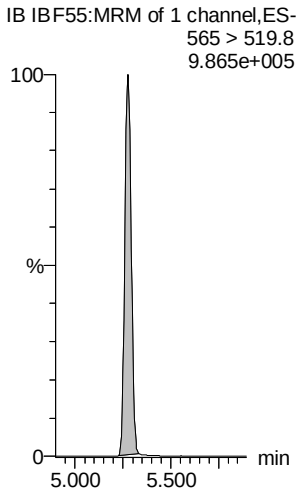
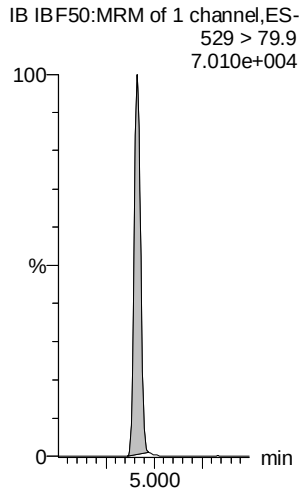


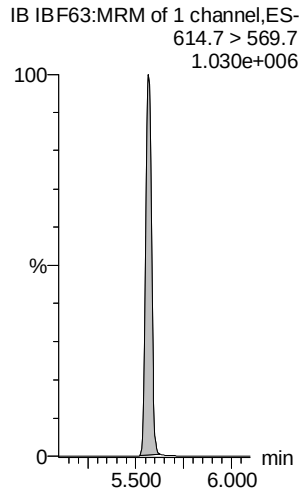
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

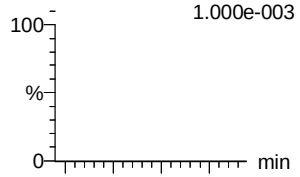


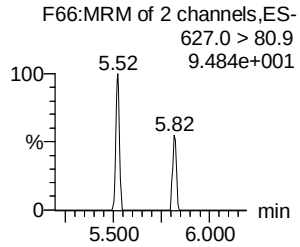
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

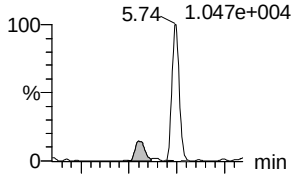
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

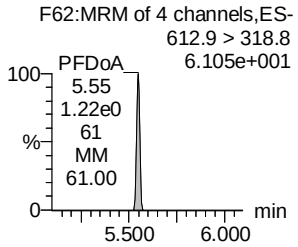
10:2 FTS



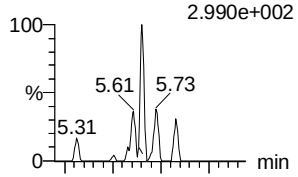


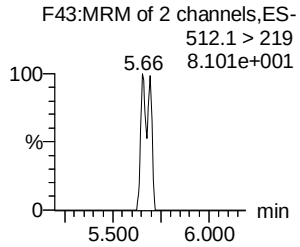
PFDoA



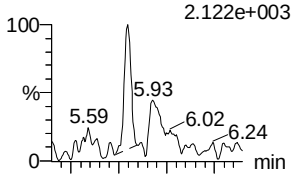


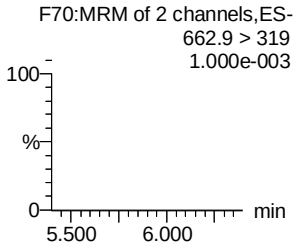
N-MeFOSA



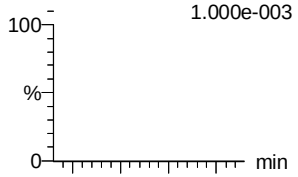


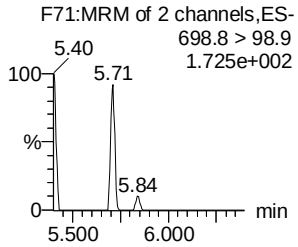
PFTrDA



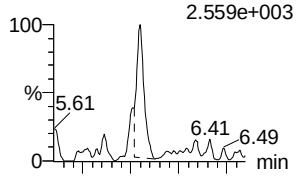


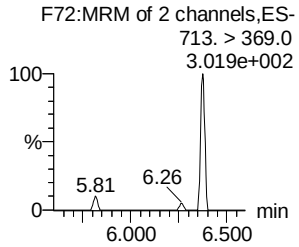
PFDoS



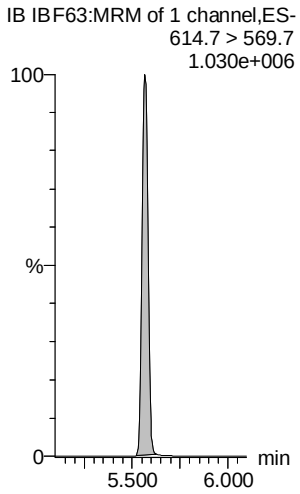


PFTeDA

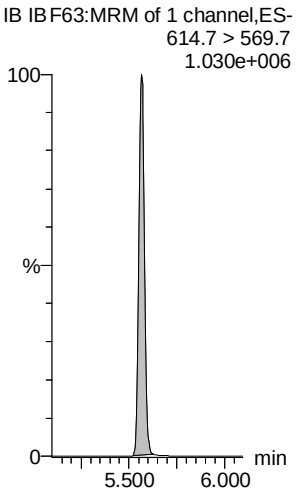




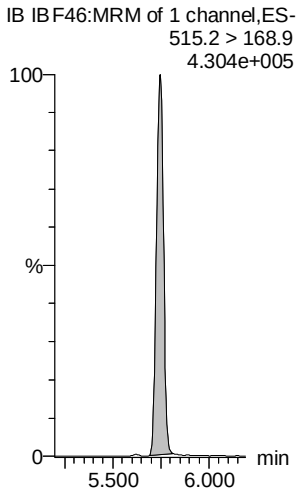
13C2-PFDoA



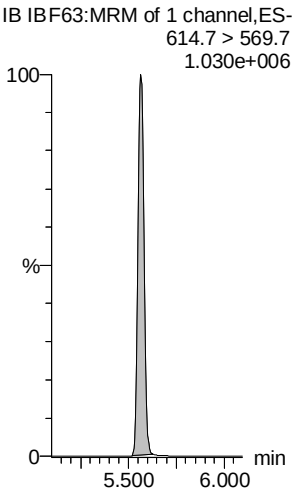
13C2-PFDoA



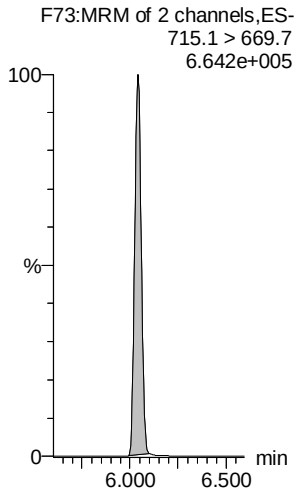
d3-N-MeFOSA



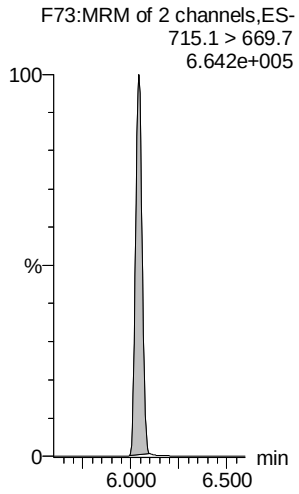
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

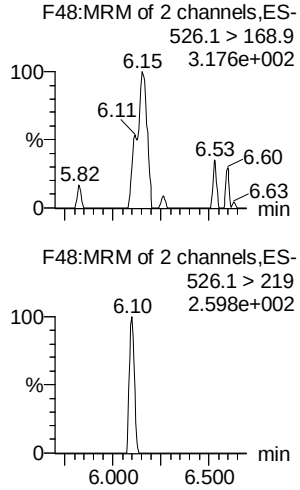


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

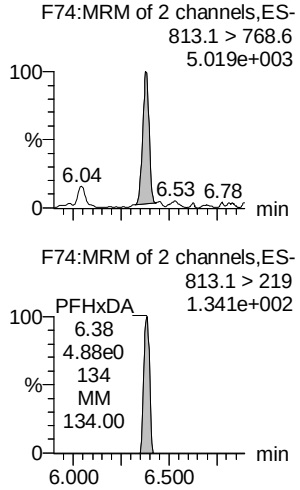
Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

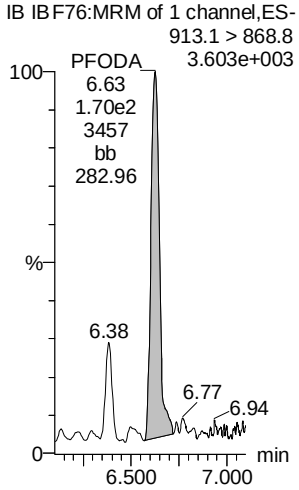
N-EtFOSA



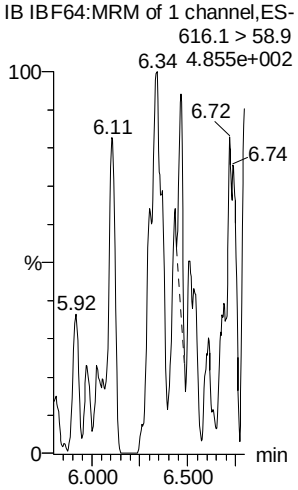
PFHxDA



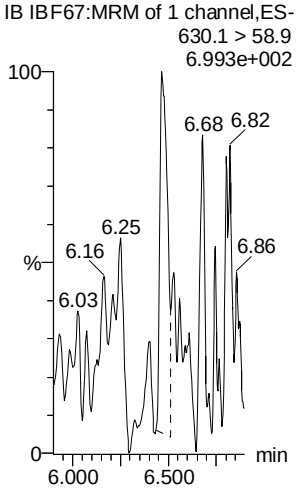
PFODA



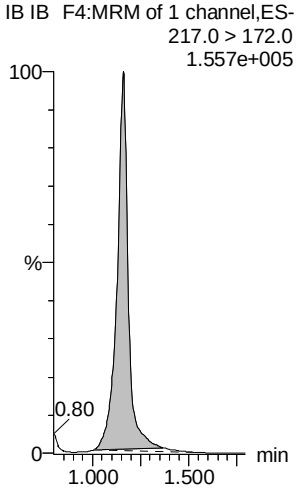
N-MeFOSE



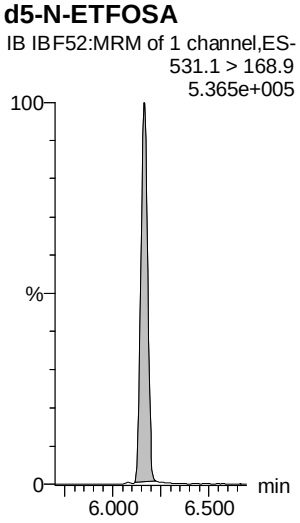
N-EtFOSE



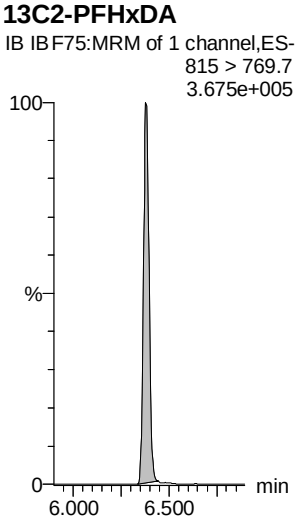
13C4-PFBA



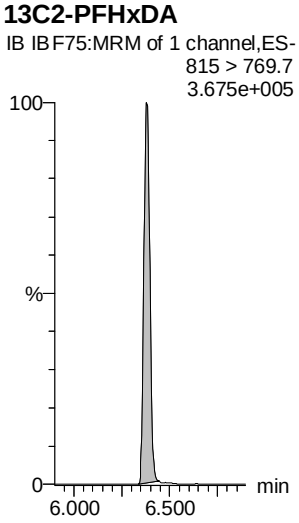
d5-N-ETFOSA



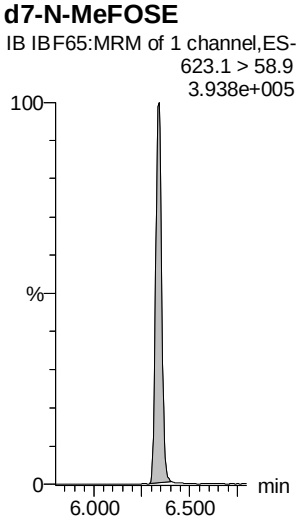
13C2-PFHxDA



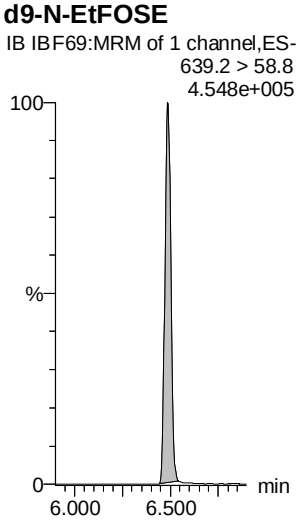
13C2-PFHxDA



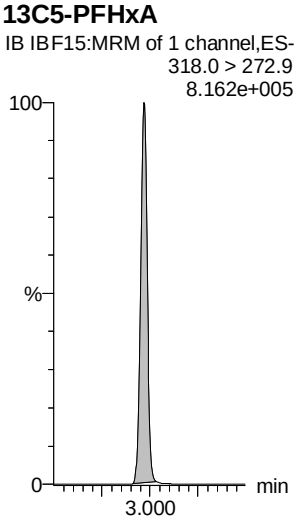
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

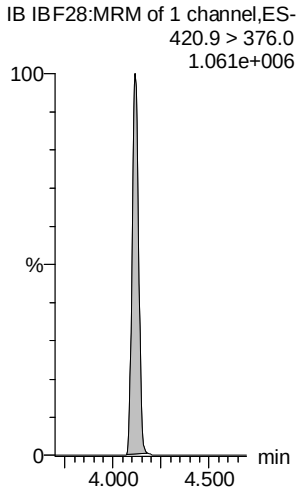


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

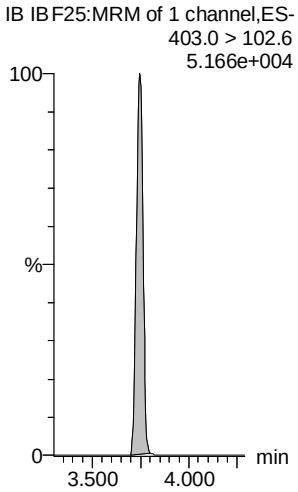
Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

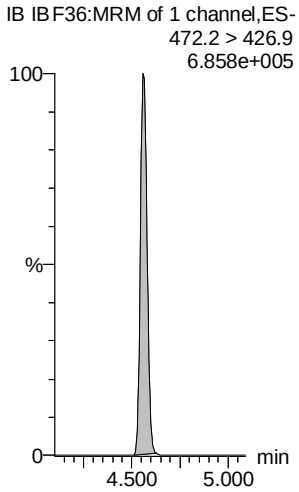
13C8-PFOA



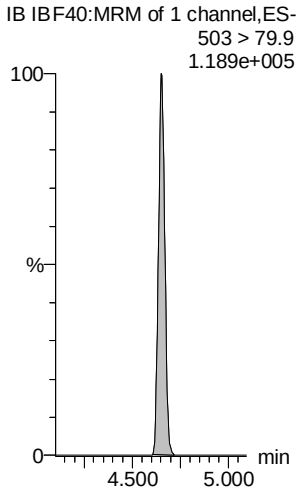
18O2-PFHxS



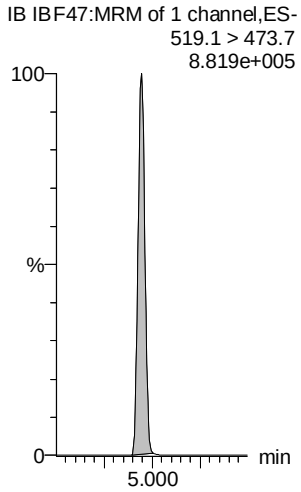
13C9-PFNA



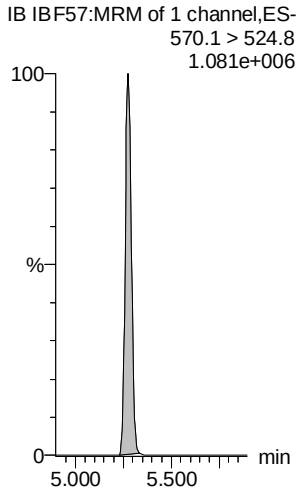
13C4-PFOS



13C6-PFDA



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:	ST190722M1-11	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	☐ N/A	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐ CaH 7/23/19	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 7/15/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☑

Reviewed By: CaH 7/23/19

Initials/Date

Comments:

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

JM 7/23/19

Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 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	7776.557	7631.951	1.00	1.16	12.737	10.2	102.2	NO		
2	2	PFPrS	248.9 > 79.9	1431.378	2228.684	1.00	1.53	8.028	8.6	86.3	NO	2.259	NO
3	3	3:3 FTCA	240.9 > 176.9	400.847	15631.644	1.00	2.00	0.321	9.3	93.4	NO	2.253	NO
4	4	PFPeA	263.1 > 218.9	11633.125	15631.644	1.00	2.16	9.303	10.1	100.6	NO		
5	5	PFBS	299.0 > 79.7	4153.692	2228.684	1.00	2.46	23.297	10.3	102.7	NO	3.105	NO
6	6	4:2 FTS	327.0 > 306.9	7219.098	3738.458	1.00	2.88	24.138	9.6	95.9	NO	1.753	NO
7	47	13C3-PFBA	216.1 > 171.8	7631.951	10100.251	1.00	1.17	9.445	12.9	103.0	NO		
8	49	13C3-PFBS	302.0 > 98.8	2228.684	2210.277	1.00	2.46	12.604	11.9	95.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15631.644	32569.846	1.00	2.15	5.999	12.0	96.4	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15631.644	32569.846	1.00	2.15	5.999	12.0	96.4	NO		
11	49	13C3-PFBS	302.0 > 98.8	2228.684	2210.277	1.00	2.46	12.604	11.9	95.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3738.458	2210.277	1.00	2.88	21.142	12.8	102.5	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	24289.338	12989.769	1.00	2.97	9.349	10.6	106.0	NO	15.672	NO
15	8	PFPeS	349.1>80.1	3038.218	2228.684	1.00	3.18	17.040	10.6	106.3	NO	1.595	NO
16	9	HFPO-DA	285.1 > 168.9	1976.706	1713.441	1.00	3.18	5.768	9.0	89.8	NO	2.498	NO
17	10	5:3 FTCA	340.9 > 236.9	2207.526	15410.236	1.00	3.52	1.791	9.7	97.2	NO	1.537	NO
18	11	PFHpA	363.0 > 318.9	16054.077	15410.236	1.00	3.59	13.022	10.1	100.6	NO	9.565	NO
19	12	ADONA	376.8 > 250.9	40009.344	15410.236	1.00	3.70	32.454	9.2	91.5	NO	3.646	NO
20	52	13C2-PFHxA	315.0 > 270.0	12989.769	32569.846	1.00	2.97	4.985	5.1	102.0	NO		
21	49	13C3-PFBS	302.0 > 98.8	2228.684	2210.277	1.00	2.46	12.604	11.9	95.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1713.441	32569.846	1.00	3.18	0.658	4.9	98.2	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15410.236	32569.846	1.00	3.59	5.914	12.4	98.9	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15410.236	32569.846	1.00	3.59	5.914	12.4	98.9	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15410.236	32569.846	1.00	3.59	5.914	12.4	98.9	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3541.442	4071.688	1.00	3.75	10.872	11.9	119.1	NO	2.256	NO
28	15	6:2 FTS	427.0 > 406.9	6933.122	2824.686	1.00	4.06	30.681	9.1	91.2	NO	2.099	NO
29	16	L-PFOA	412.8 > 368.9	32450.426	26195.865	1.00	4.12	15.485	10.3	102.8	NO	3.614	NO
30	18	PFecHS	460.8 > 381.0	4792.840	26195.865	1.00	4.14	2.287	9.9	99.3	NO	0.845	NO
31	19	PFHpS	449.0 > 80.0	3666.259	4866.841	1.00	4.24	9.416	10.7	106.9	NO	1.887	NO
32	20	7:3 FTCA	440.9 > 336.9	2349.597	29035.494	1.00	4.55	1.012	8.5	85.4	NO	1.746	NO
33	54	13C3-PFHxS	401.8 > 79.9	4071.688	2210.277	1.00	3.75	23.027	11.4	91.0	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2824.686	5152.653	1.00	4.06	6.853	12.8	102.2	NO		
35	58	13C2-PFOA	414.9 > 369.7	26195.865	39813.641	1.00	4.12	8.225	12.1	96.6	NO		
36	58	13C2-PFOA	414.9 > 369.7	26195.865	39813.641	1.00	4.12	8.225	12.1	96.6	NO		

CGH 7/23/19

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
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Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 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	4866.841	5152.653	1.00	4.65	11.807	11.8	94.8	NO		
38	56	13C5-PFNA	468.2 > 422.9	29035.494	28009.398	1.00	4.56	12.958	12.9	103.5	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	26893.742	29035.494	1.00	4.57	11.578	10.0	100.4	NO	3.951	NO
41	22	PFOSA	497.9 > 77.9	5445.763	6548.088	1.00	4.63	10.396	10.2	102.0	NO	25.870	NO
42	23	L-PFOS	498.9 > 79.9	4453.162	4866.841	1.00	4.65	11.438	10.7	107.2	NO	2.153	NO
43	25	9Cl-PF30NS	530.7 > 350.8	9031.995	4866.841	1.00	4.88	23.198	10.6	105.8	NO	16.680	NO
44	26	PFDA	513 > 468.8	32209.326	29919.842	1.00	4.95	13.457	10.4	104.4	NO	5.480	NO
45	27	8:2 FTS	527.0 > 506.9	4891.636	2827.545	1.00	4.91	21.625	10.6	106.4	NO	1.222	NO
46	56	13C5-PFNA	468.2 > 422.9	29035.494	28009.398	1.00	4.56	12.958	12.9	103.5	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6548.088	42414.391	1.00	4.62	1.930	11.5	92.1	NO		
48	59	13C8-PFOS	507.0 > 79.9	4866.841	5152.653	1.00	4.65	11.807	11.8	94.8	NO		
49	59	13C8-PFOS	507.0 > 79.9	4866.841	5152.653	1.00	4.65	11.807	11.8	94.8	NO		
50	60	13C2-PFDA	515.1 > 469.9	29919.842	37176.980	1.00	4.95	10.060	12.3	98.3	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2827.545	5152.653	1.00	4.91	6.859	12.3	98.6	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3111.602	4866.841	1.00	5.01	7.992	11.2	111.7	NO	1.798	NO
54	29	L-MeFOSAA	570 > 419	12940.113	7770.463	1.00	5.10	20.816	9.7	96.6	NO	2.587	NO
55	31	L-EtFOSAA	584.1 > 419	10168.522	10264.661	1.00	5.26	12.383	9.9	99.2	NO	1.379	NO
56	33	PFUdA	563.0 > 518.9	29279.168	38197.418	1.00	5.28	9.582	10.5	104.8	NO	8.894	NO
57	34	PFDS	598.8 > 79.9	4225.723	2827.545	1.00	5.33	18.681	11.0	109.6	NO	1.692	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1550.316	37414.086	1.00	5.50	0.518	9.0	90.0	NO	4.993	NO
59	59	13C8-PFOS	507.0 > 79.9	4866.841	5152.653	1.00	4.65	11.807	11.8	94.8	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7770.463	42414.391	1.00	5.10	2.290	12.9	103.2	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	10264.661	42414.391	1.00	5.26	3.025	13.5	108.1	NO		
62	63	13C2-PFUdA	565 > 519.8	38197.418	42414.391	1.00	5.28	11.257	12.7	101.3	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2827.545	5152.653	1.00	4.91	6.859	12.3	98.6	NO		
64	65	13C2-PFDoA	614.7 > 569.7	37414.086	37176.980	1.00	5.57	12.580	11.6	92.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	5756.032	2827.545	1.00	5.55	25.446	10.5	105.4	NO	1.567	NO
67	37	PFDoA	612.9 > 569.0	33128.176	37414.086	1.00	5.57	11.068	10.3	103.4	NO	8.541	NO
68	38	N-MeFOSA	512.1 > 168.9	7591.859	18230.494	1.00	5.72	62.466	53.0	106.0	NO	1.613	NO
69	39	PFTrDA	662.9 > 618.9	34561.418	37414.086	1.00	5.82	11.547	10.1	101.1	NO	18.992	NO
70	40	PFDoS	698.8 > 79.9	3500.884	26120.211	1.00	5.85	1.675	10.1	101.4	NO	1.886	NO
71	41	PFTeDA	713.0 > 669.0	32865.691	26120.211	1.00	6.04	15.728	10.4	103.9	NO	14.408	NO
72	65	13C2-PFDoA	614.7 > 569.7	37414.086	37176.980	1.00	5.57	12.580	11.6	92.6	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

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Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 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	37414.086	37176.980	1.00	5.57	12.580	11.6	92.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18230.494	42414.391	1.00	5.75	5.373	140.5	93.7	NO		
75	65	13C2-PFDoA	614.7 > 569.7	37414.086	37176.980	1.00	5.57	12.580	11.6	92.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	26120.211	42414.391	1.00	6.04	7.698	12.7	101.9	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	26120.211	42414.391	1.00	6.04	7.698	12.7	101.9	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	7847.951	22247.723	1.00	6.15	52.913	54.2	108.4	NO	1.774	NO
80	43	PFHxDA	813.1 > 768.6	17911.250	13326.335	1.00	6.38	6.720	10.2	102.2	NO	22.600	NO
81	44	PFODA	913.1 > 868.8	22639.619	13326.335	1.00	6.63	8.494	11.1	111.(	NO		
82	45	N-MeFOSE	616.1 > 58.9	5465.627	14086.332	1.00	6.35	58.201	52.1	104.2	NO		
83	46	N-EtFOSE	630.1 > 58.9	6703.675	15564.257	1.00	6.50	64.606	50.0	99.9	NO		
84	72	13C4-PFBA	217.0 > 172.0	10100.251	10100.251	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	22247.723	42414.391	1.00	6.17	6.557	147.5	98.3	NO		
86	69	13C2-PFHxDA	815 > 769.7	13326.335	42414.391	1.00	6.38	3.927	5.0	99.7	NO		
87	69	13C2-PFHxDA	815 > 769.7	13326.335	42414.391	1.00	6.38	3.927	5.0	99.7	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	14086.332	42414.391	1.00	6.34	4.151	132.6	88.4	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	15564.257	42414.391	1.00	6.49	4.587	139.6	93.1	NO		
90	73	13C5-PFHxA	318.0 > 272.9	32569.846	32569.846	1.00	2.97	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	39813.641	39813.641	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2210.277	2210.277	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	28009.398	28009.398	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5152.653	5152.653	1.00	4.65	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	37176.980	37176.980	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	42414.391	42414.391	1.00	5.28	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_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190722M1_1	IPA	22-Jul-19	09:54:51
2	2	190722M1_2	IPA	22-Jul-19	10:05:26
3	3	190722M1_3	IPA	22-Jul-19	10:16:04
4	4	190722M1_4	ST190722M1-1 PFC CS-2 19G1101	22-Jul-19	10:26:37
5	5	190722M1_5	ST190722M1-2 PFC CS-1 19G1102	22-Jul-19	10:37:15
6	6	190722M1_6	ST190722M1-3 PFC CS0 19G1103	22-Jul-19	10:47:48
7	7	190722M1_7	ST190722M1-4 PFC CS1 19G1104	22-Jul-19	10:58:26
8	8	190722M1_8	ST190722M1-5 PFC CS2 19G1105	22-Jul-19	11:09:04
9	9	190722M1_9	ST190722M1-6 PFC CS3 19G1106	22-Jul-19	11:19:37
10	10	190722M1_10	ST190722M1-7 PFC CS4 19G1107	22-Jul-19	11:30:15
11	11	190722M1_11	ST190722M1-8 PFC CS5 19G1108	22-Jul-19	11:40:48
12	12	190722M1_12	ST190722M1-9 PFC CS6 19G1109	22-Jul-19	11:51:27
13	13	190722M1_13	ST190722M1-10 PFC CS7 19G1110	22-Jul-19	12:02:00
14	14	190722M1_14	IB	22-Jul-19	12:12:38
15	15	190722M1_15	ICV190722M1-1 PFC ICV 19F2422	22-Jul-19	12:23:11
16	16	190722M1_16	IPA	22-Jul-19	12:33:49
17	17	190722M1_17	1901887-01@10X Ivyland Mop Water 0.24039	22-Jul-19	14:12:03
18	18	190722M1_18	B9G0184-BLK1 Method Blank 0.25	22-Jul-19	14:22:44
19	19	190722M1_19	B9G0185-BS1 OPR 0.125	22-Jul-19	14:34:56
20	20	190722M1_20	B9G0185-BSD1 LCSD 0.125	22-Jul-19	14:47:45
21	21	190722M1_21	B9G0185-BLK1 Method Blank 0.125	22-Jul-19	14:58:19
22	22	190722M1_22	1902097-03 SAOA-B10-GW 0.11593	22-Jul-19	15:08:58
23	23	190722M1_23	1902097-04 SAOA-B10-GW-D 0.12246	22-Jul-19	15:19:36
24	24	190722M1_24	1902097-05 EB-07092019 0.11645	22-Jul-19	15:30:10
25	25	190722M1_25	1902097-07 FRB-07092019 0.11539	22-Jul-19	15:40:48
26	26	190722M1_26	1902097-14 EB-07102019 0.11614	22-Jul-19	15:53:08
27	27	190722M1_27	1902097-15 FRB-07102019 0.11594	22-Jul-19	16:03:42
28	28	190722M1_28	1902097-19 EB-07112019 0.11543	22-Jul-19	16:14:14
29	29	190722M1_29	1902097-20 FRB-07112019 0.11658	22-Jul-19	16:24:52
30	30	190722M1_30	B9G0208-BS1 OPR 0.25	22-Jul-19	16:35:25
31	31	190722M1_31	B9G0208-BSD1 LCSD 0.25	22-Jul-19	16:46:04
32	32	190722M1_32	B9G0208-BLK1 Method Blank 0.25	22-Jul-19	16:56:37

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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190722M1_33	1902048-10RE1 EB06-070319 0.25028	22-Jul-19	17:07:15
34	34	190722M1_34	1902049-03RE1 EB07-070819 0.24588	22-Jul-19	17:17:49
35	35	190722M1_35	1902049-12RE1 EB08-070919 0.24611	22-Jul-19	17:28:28
36	36	190722M1_36	1902158-01 REEPAC1734FS 0.1187	22-Jul-19	17:39:06
37	37	190722M1_37	B9G0149-BLK1 Method Blank 1	22-Jul-19	17:49:39
38	38	190722M1_38	IPA	22-Jul-19	18:00:18
39	39	190722M1_39	ST190722M1-11 PFC CS3 19G1106	22-Jul-19	18:10:56
40	40	190722M1_40	IPA	22-Jul-19	18:21:34
41	41	190722M1_41	B9G0183-BS1 OPR 0.25	22-Jul-19	18:32:07
42	42	190722M1_42	B9G0183-BLK1 Method Blank 0.25	22-Jul-19	18:42:46
43	43	190722M1_43	1901661-01RE1 WMP1906180936BRH 0.25118	22-Jul-19	18:53:19
44	44	190722M1_44	1901661-02RE1 WEF1906180942BRH 0.24993	22-Jul-19	19:03:58
45	45	190722M1_45	1901661-03RE1 WEF1906180957BRH 0.25772	22-Jul-19	19:14:36
46	46	190722M1_46	1902105-01 6C Discharge 0.24191	22-Jul-19	19:25:09
47	47	190722M1_47	1902105-02 5A Raw Leachate 0.24309	22-Jul-19	19:35:47
48	48	190722M1_48	1902105-03 Field Blank 0.23889	22-Jul-19	19:46:21
49	49	190722M1_49	1902106-01 WT1907110855SK 0.23917	22-Jul-19	19:56:59
50	50	190722M1_50	1902106-02 WR1907110930SK 0.24874	22-Jul-19	20:07:32
51	51	190722M1_51	B9G0153-BS1 OPR 0.25	22-Jul-19	20:18:10
52	52	190722M1_52	B9G0153-BSD1 LCSD 0.25	22-Jul-19	20:28:44
53	53	190722M1_53	B9G0153-BLK1 Method Blank 0.25	22-Jul-19	20:39:22
54	54	190722M1_54	1902048-10 EB06-070319 0.2586	22-Jul-19	20:49:55
55	55	190722M1_55	1902049-03 EB07-070819 0.25547	22-Jul-19	21:00:33
56	56	190722M1_56	1902049-12 EB08-070919 0.25637	22-Jul-19	21:11:11
57	57	190722M1_57	IPA	22-Jul-19	21:21:45
58	58	190722M1_58	ST190722M1-12 PFC CS3 19G1106	22-Jul-19	21:32:24
59	59	190722M1_59	IPA	22-Jul-19	21:43:02
60	60	190722M1_60	B9G0134-BS1 OPR 0.25	22-Jul-19	21:53:36
61	61	190722M1_61	B9G0134-BSD1 LCSD 0.25	22-Jul-19	22:04:14
62	62	190722M1_62	B9G0134-BLK1 Method Blank 0.25	22-Jul-19	22:14:52
63	63	190722M1_63	1902003-01 REEPIN1709FS 0.11638	22-Jul-19	22:25:25
64	64	190722M1_64	1902014-03 FRB-07032019 0.11634	22-Jul-19	22:36:03
65	65	190722M1_65	1902014-04 EB-07032019 0.1175	22-Jul-19	22:46:42
66	66	190722M1_66	1902014-08 FRB-07082019 0.11724	22-Jul-19	22:57:14
67	67	190722M1_67	1902014-09 CAOA-B01-GW 0.12758	22-Jul-19	23:07:44
68	68	190722M1_68	1902014-10 EB-07082019 0.11822	22-Jul-19	23:18:22

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190722M1_69	1902035-01 SWIN1907010900GGA 0.23211	22-Jul-19	23:28:55
70	70 190722M1_70	1902036-01 SWIN1907011000GGA 0.24039	22-Jul-19	23:39:34
71	71 190722M1_71	1902037-01 SWIN1907011400GGA 0.23721	22-Jul-19	23:50:07
72	72 190722M1_72	1902038-01 SWIN1907020900GGA 0.23487	23-Jul-19	00:00:45
73	73 190722M1_73	1902039-01 SWIN1907021000GGA 0.22004	23-Jul-19	00:11:18
74	74 190722M1_74	1902040-01 SWIN1907021100GGA 0.25691	23-Jul-19	00:21:56
75	75 190722M1_75	IPA	23-Jul-19	00:32:34
76	76 190722M1_76	ST190722M1-13 PFC CS3 19G1106	23-Jul-19	00:43:07
77	77 190722M1_77	IPA	23-Jul-19	00:53:46
78	78 190722M1_78	B9G0114-BS1 OPR 0.25	23-Jul-19	01:04:19
79	79 190722M1_79	B9G0114-BLK1 Method Blank 0.25	23-Jul-19	01:14:57
80	80 190722M1_80	1902005-01 SW1907030930GSC 0.23037	23-Jul-19	01:25:35
81	81 190722M1_81	1902005-02 EB1907030930GSC 0.25182	23-Jul-19	01:36:09
82	82 190722M1_82	1902005-03 SW1907030950GSC 0.22959	23-Jul-19	01:46:47
83	83 190722M1_83	1902005-04 SW1907031020GSC 0.21921	23-Jul-19	01:57:19
84	84 190722M1_84	1902006-01 GWIN1907020935GSC 0.23844	23-Jul-19	02:07:58
85	85 190722M1_85	1902007-01 SWIN1907021055GSC 0.24055	23-Jul-19	02:18:36
86	86 190722M1_86	1902008-01 SWIN1907021315GSC 0.24174	23-Jul-19	02:29:09
87	87 190722M1_87	1902009-01 SWIN1907021500GSC 0.24302	23-Jul-19	02:39:48
88	88 190722M1_88	1902009-02 SWIN1907021500GSC-FD 0.24258	23-Jul-19	02:50:21
89	89 190722M1_89	1902019-01 SWIN1906271100GGA 0.23337	23-Jul-19	03:01:00
90	90 190722M1_90	1902020-01 SWIN1906271400GGA 0.22976	23-Jul-19	03:11:33
91	91 190722M1_91	IPA	23-Jul-19	03:22:11
92	92 190722M1_92	ST190722M1-14 PFC CS3 19G1106	23-Jul-19	03:32:45
93	93 190722M1_93	IPA	23-Jul-19	03:43:23
94	94 190722M1_94	1902021-01 SWIN1906280800GGA 0.21775	23-Jul-19	03:54:01
95	95 190722M1_95	1902022-01 SWIN1906280900GGA 0.2307	23-Jul-19	04:04:35
96	96 190722M1_96	1902023-01 SWIN1906281400GGA 0.23222	23-Jul-19	04:15:13
97	97 190722M1_97	1902024-01 SWIN1907030900GGA 0.23598	23-Jul-19	04:25:46
98	98 190722M1_98	1902025-01 SWIN1907031200GGA 0.24424	23-Jul-19	04:36:24
99	99 190722M1_99	1902025-02 SWIN1907031200GGA-FD 0.23286	23-Jul-19	04:46:58
100	100 190722M1_100	IPA	23-Jul-19	04:57:36
101	101 190722M1_101	ST190722M1-15 PFC CS3 19G1106	23-Jul-19	05:08:08
102	102 190722M1_102	IPA	23-Jul-19	05:18:47

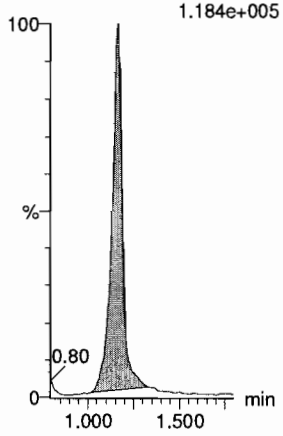
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

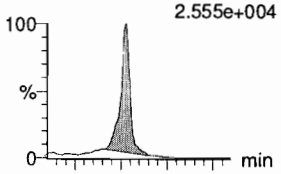
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

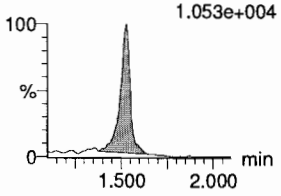
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.184e+005



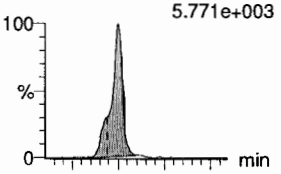
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.555e+004



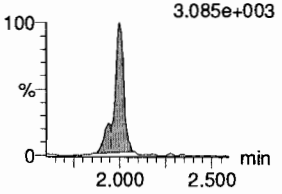
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.053e+004



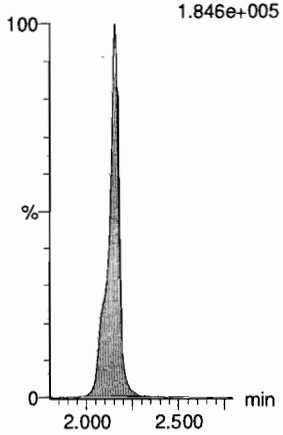
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
5.771e+003



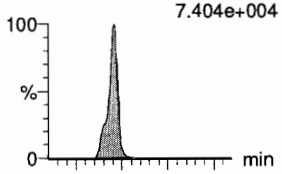
F5:MRM of 2 channels,ES-
240.9 > 116.9
3.085e+003



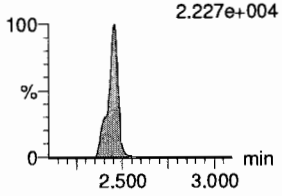
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.846e+005



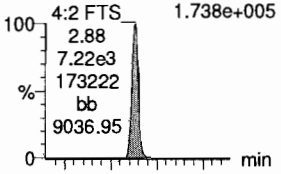
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
7.404e+004



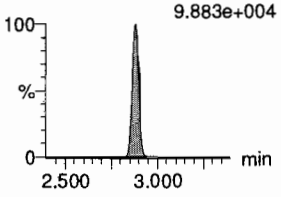
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.227e+004



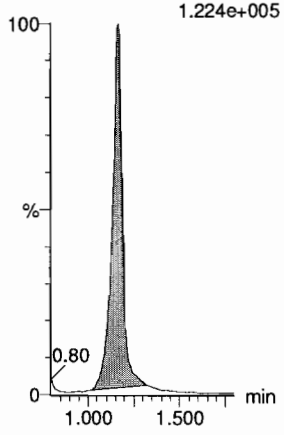
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.738e+005



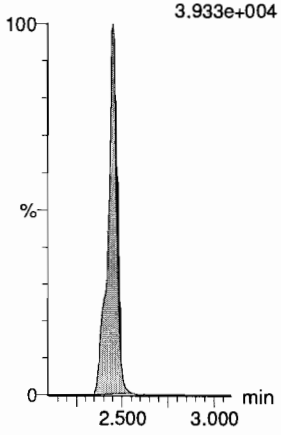
F16:MRM of 2 channels,ES-
327.0 > 80.9
9.883e+004



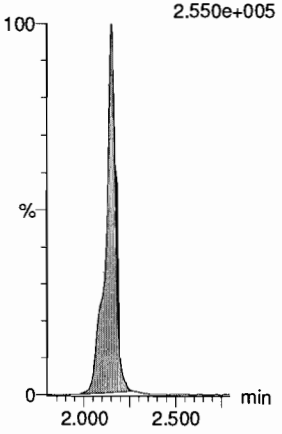
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.224e+005



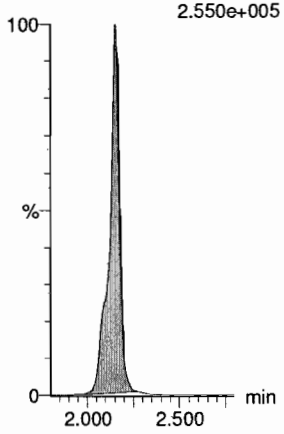
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.933e+004



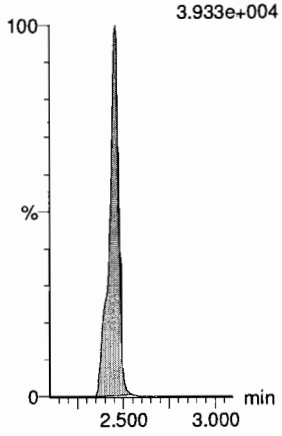
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.550e+005



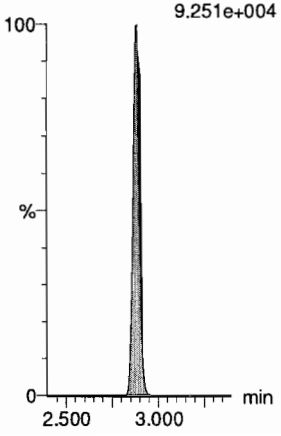
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.550e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.933e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.251e+004

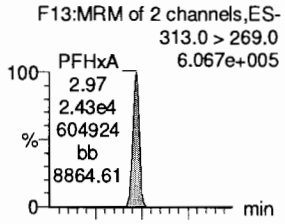


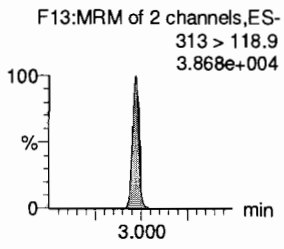
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

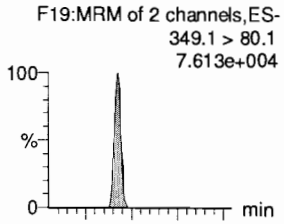
Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

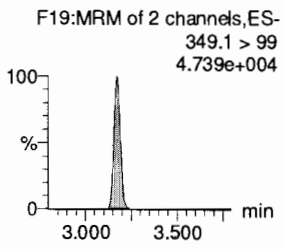
PFHxA



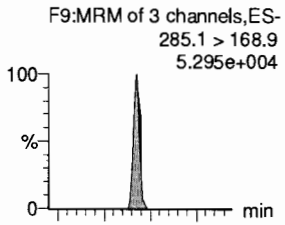


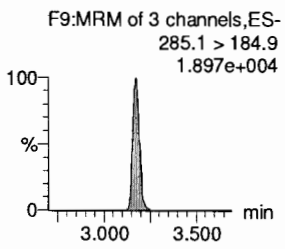
PFPeS



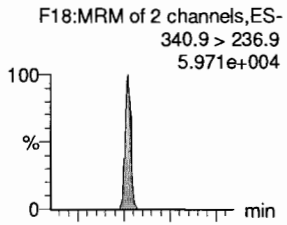


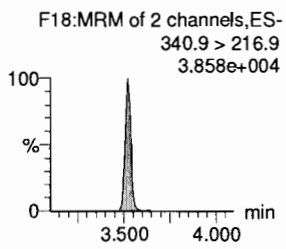
HFPO-DA



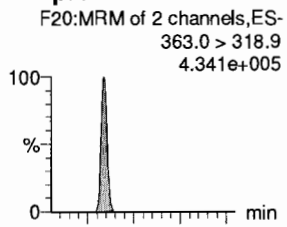


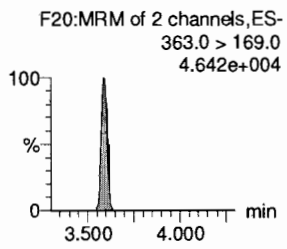
5:3 FTCA



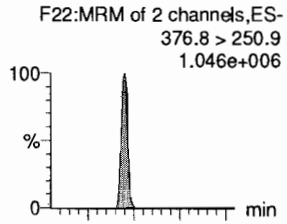


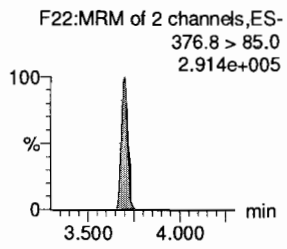
PFHpA



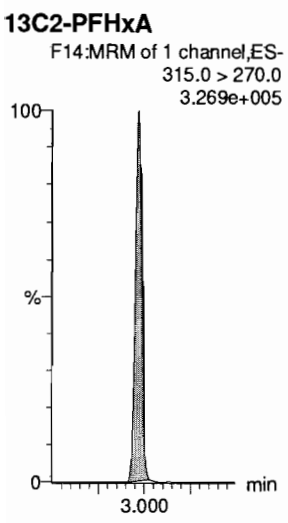


ADONA

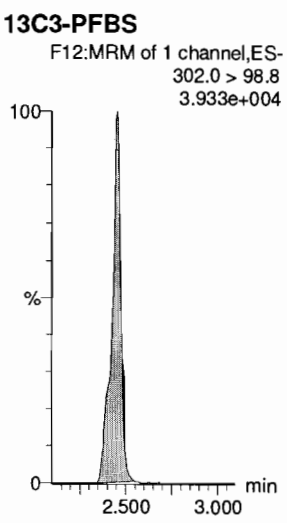




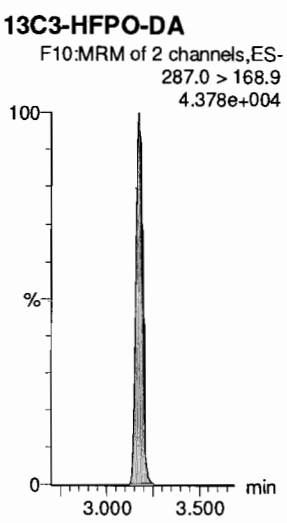
13C2-PFHxA



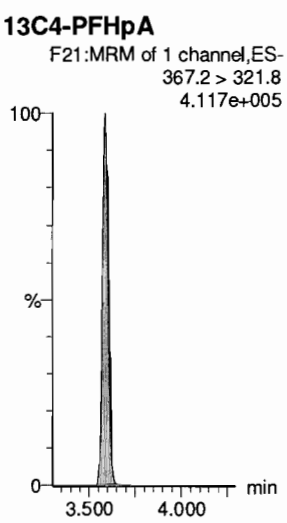
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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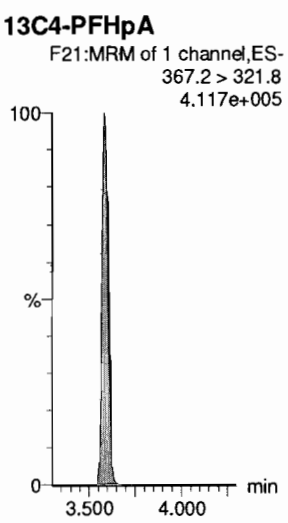
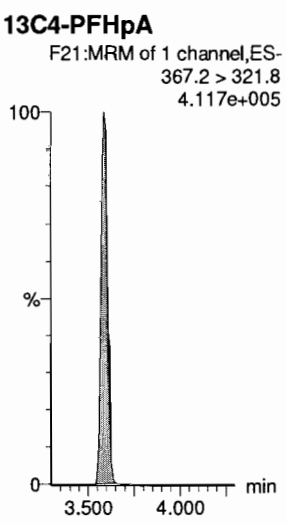


13C4-PFHpA

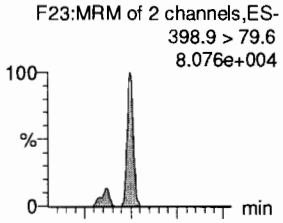


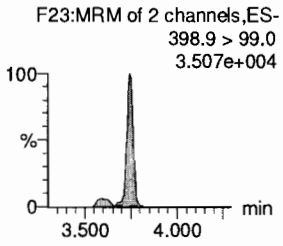
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

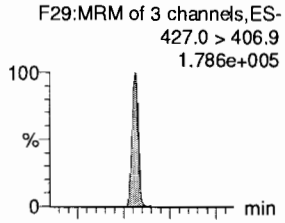
Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

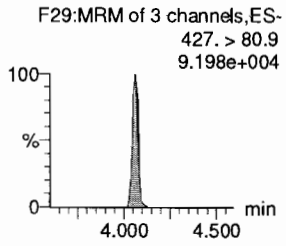
L-PFHxS



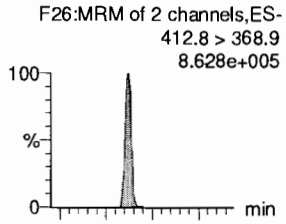


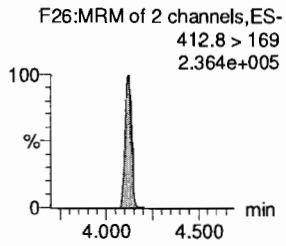
6:2 FTS



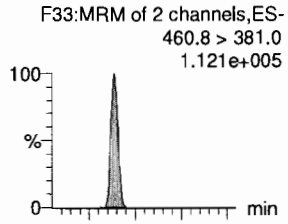


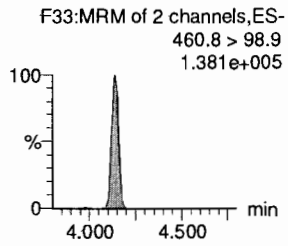
L-PFOA



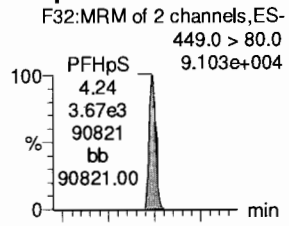


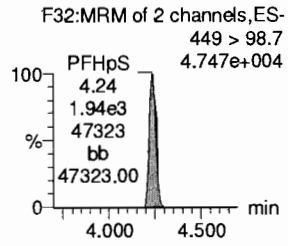
PFEChS



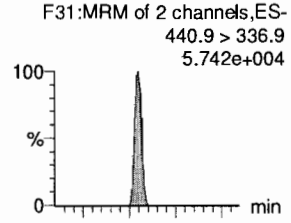


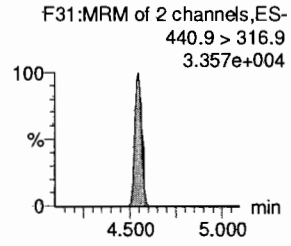
PFHpS



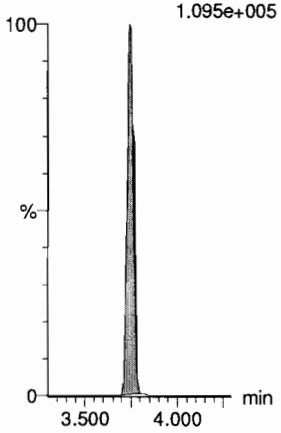


7:3 FTCA

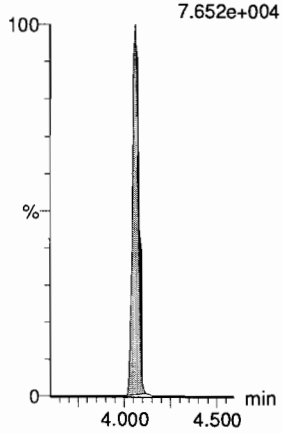




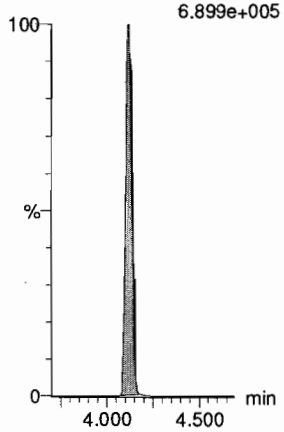
13C3-PFHxS



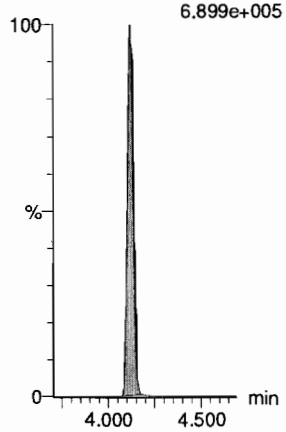
13C2-6:2 FTS



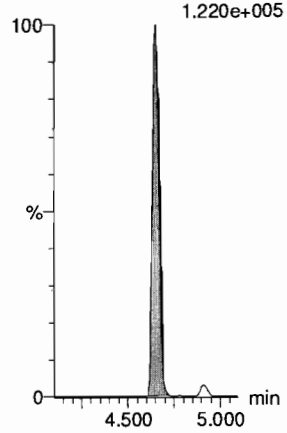
13C2-PFOA



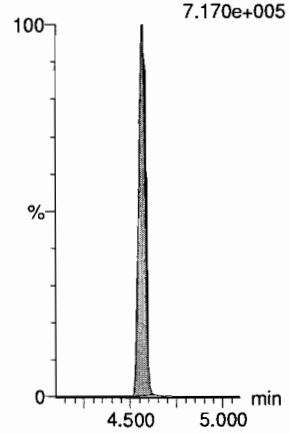
13C2-PFOA



13C8-PFOS



13C5-PFNA

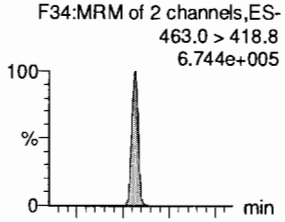


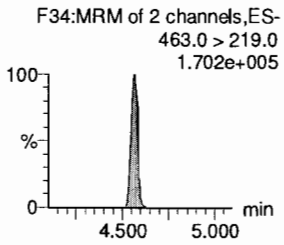
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

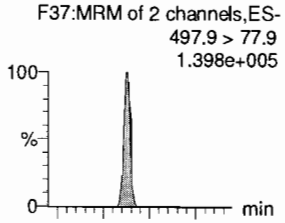
Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

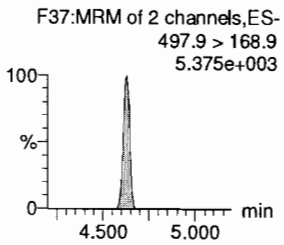
PFNA



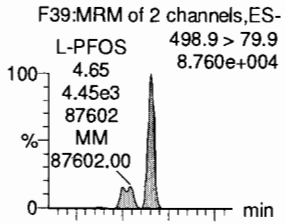


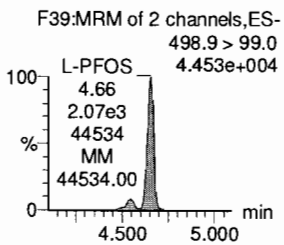
PFOSA



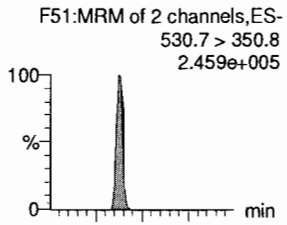


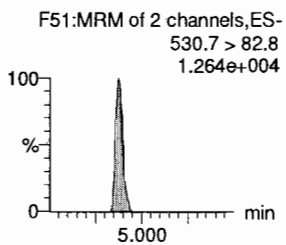
L-PFOS



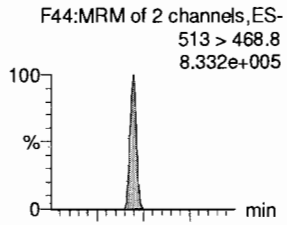


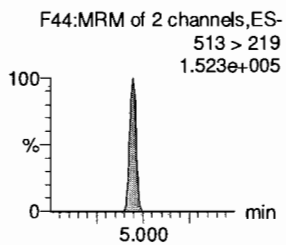
9Cl-PF30NS



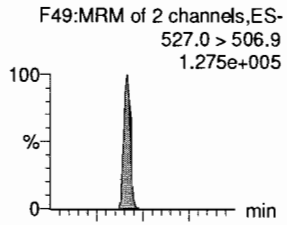


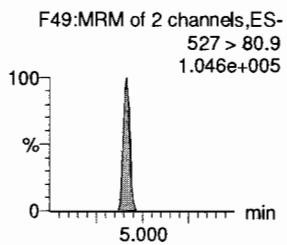
PFDA



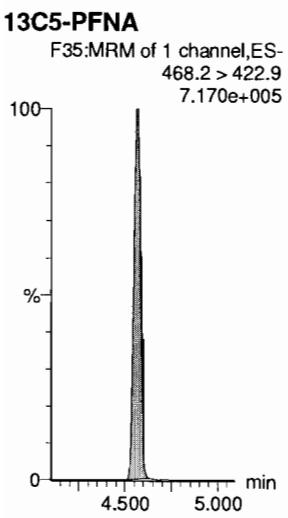


8:2 FTS

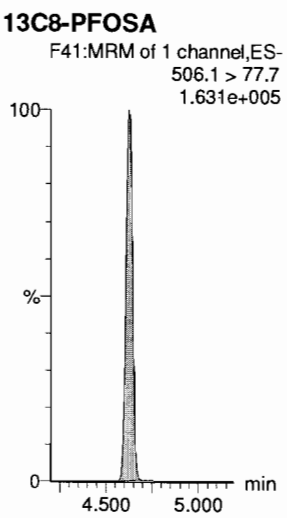




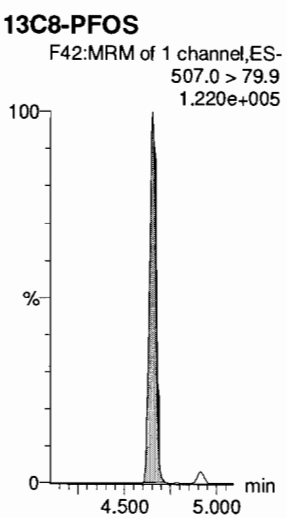
13C5-PFNA



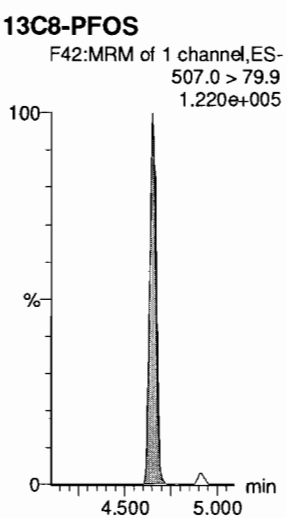
13C8-PFOSA



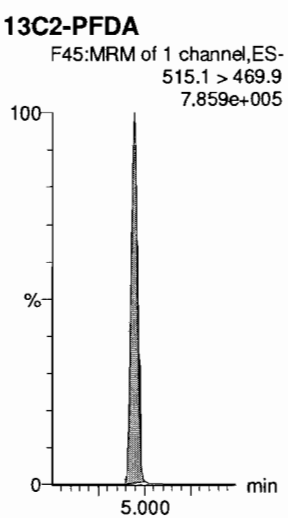
13C8-PFOS



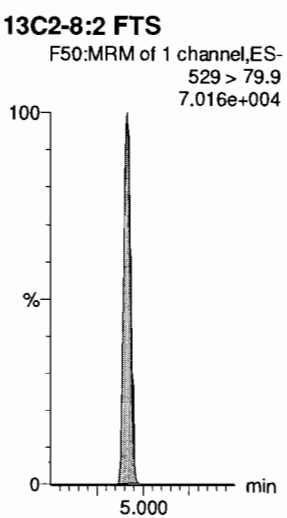
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

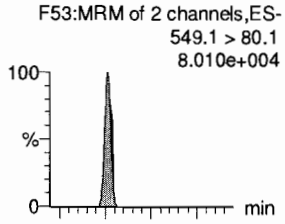


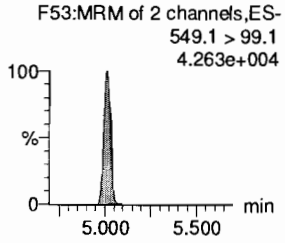
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

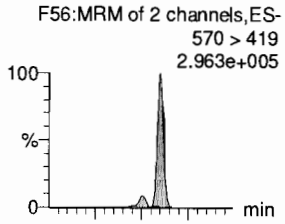
Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

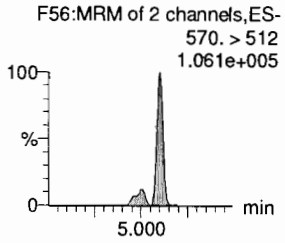
PFNS



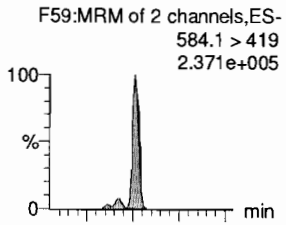


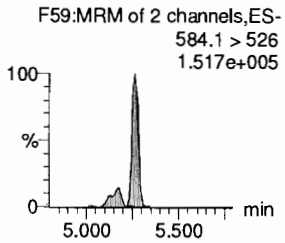
L-MeFOSAA



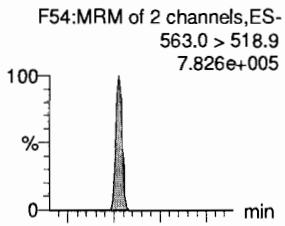


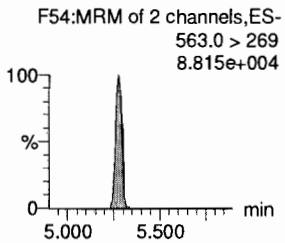
L-EtFOSAA



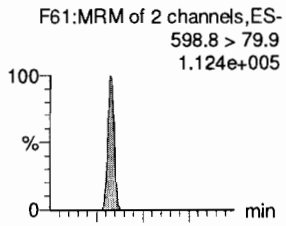


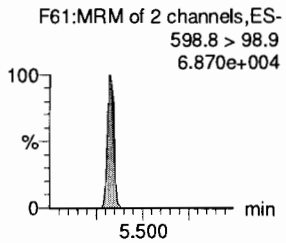
PFUdA



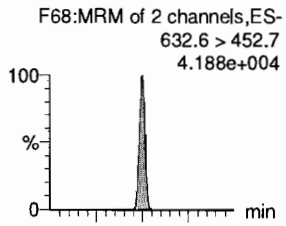


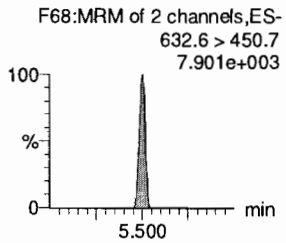
PFDS



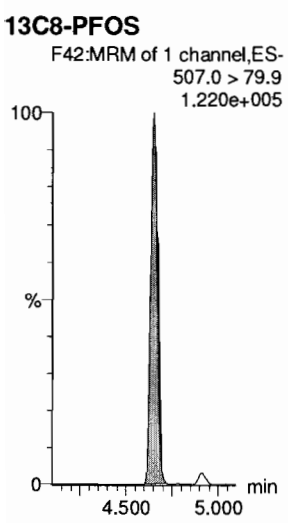


11Cl-PF30UdS

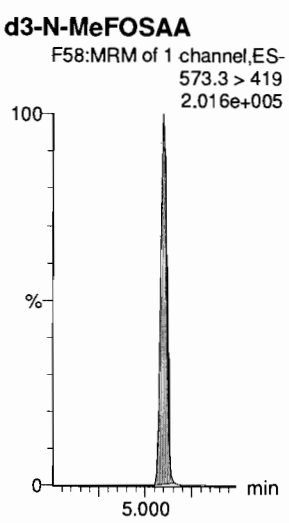




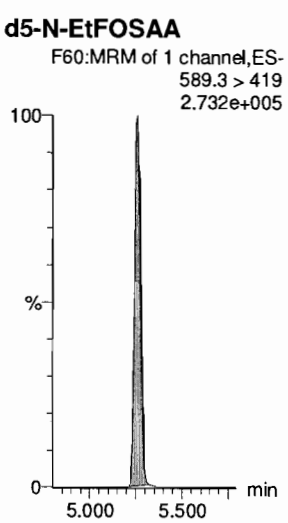
13C8-PFOS



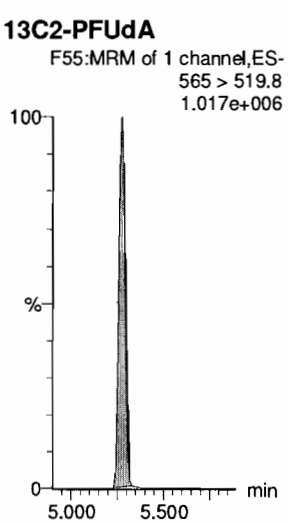
d3-N-MeFOSAA



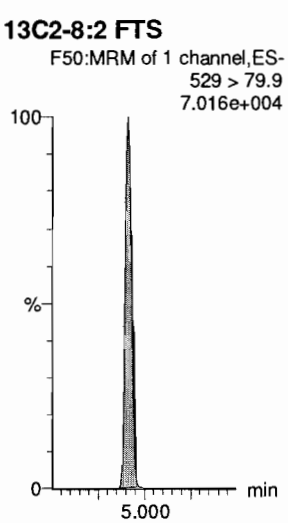
d5-N-EtFOSAA



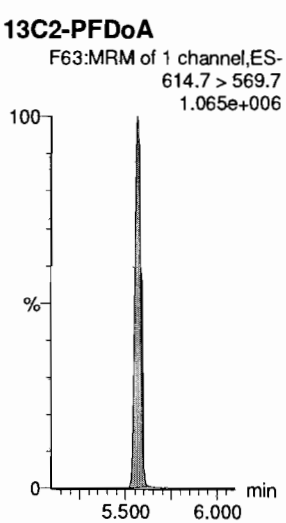
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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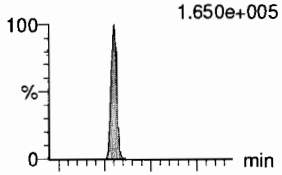
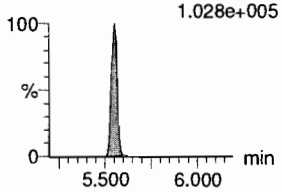
Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

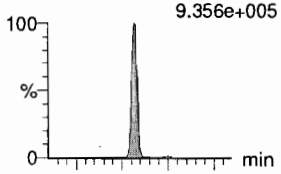
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.650e+005



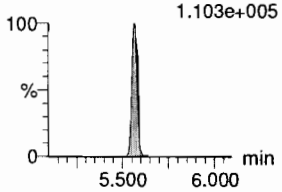
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.028e+005



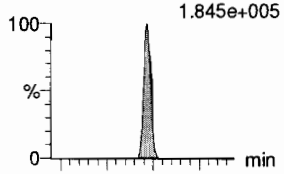
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
9.356e+005



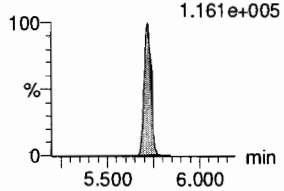
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.103e+005



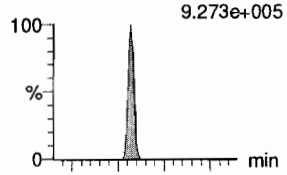
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.845e+005



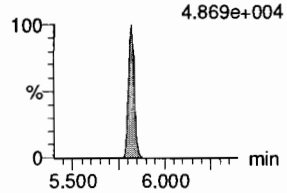
F43:MRM of 2 channels,ES-
512.1 > 219
1.161e+005



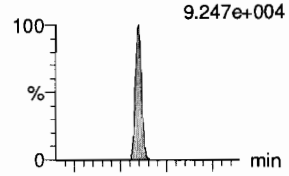
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
9.273e+005



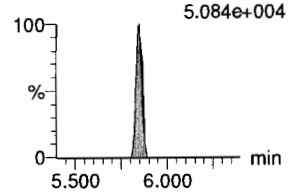
F70:MRM of 2 channels,ES-
662.9 > 319
4.869e+004



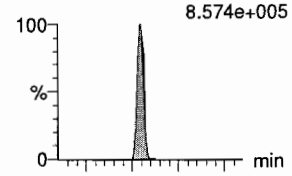
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
9.247e+004



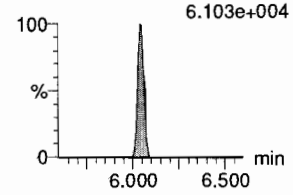
F71:MRM of 2 channels,ES-
698.8 > 98.9
5.084e+004



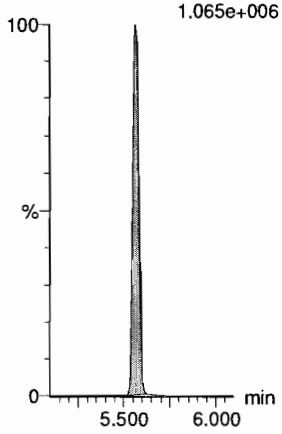
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
8.574e+005



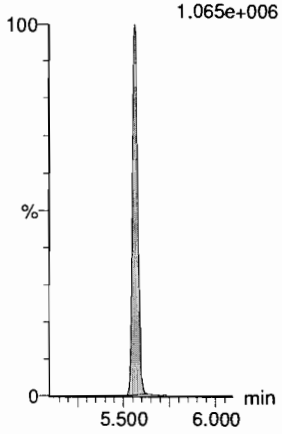
F72:MRM of 2 channels,ES-
713. > 369.0
6.103e+004



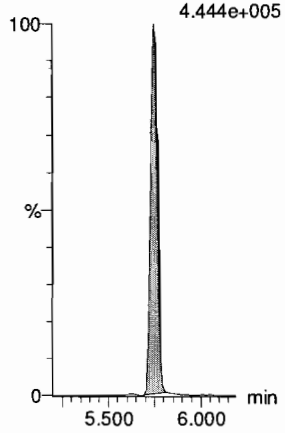
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.065e+006



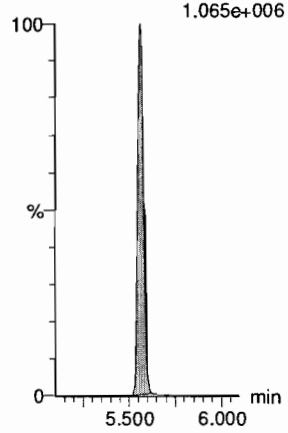
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.065e+006



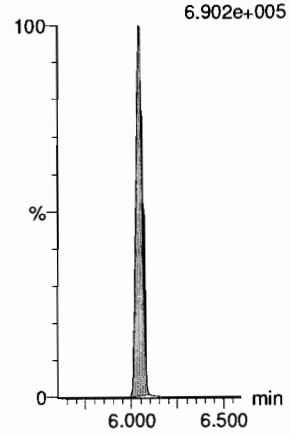
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.444e+005



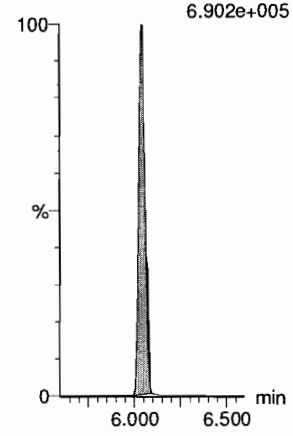
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.065e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.902e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.902e+005

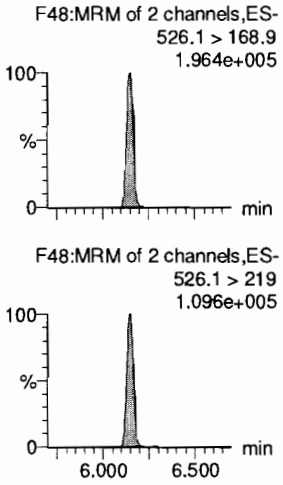


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

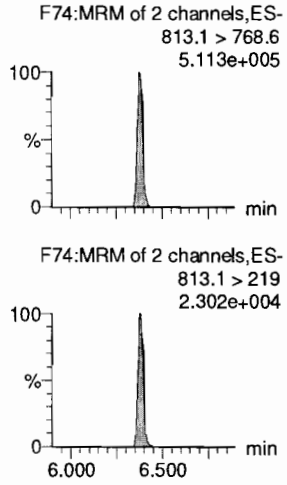
Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 07:50:39 Pacific Daylight Time

Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

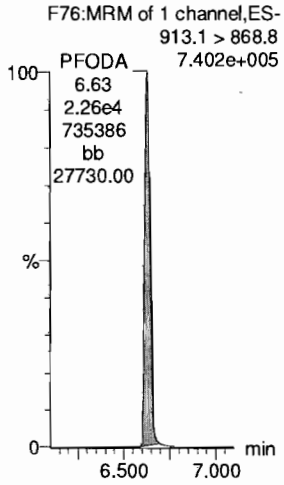
N-EtFOSA



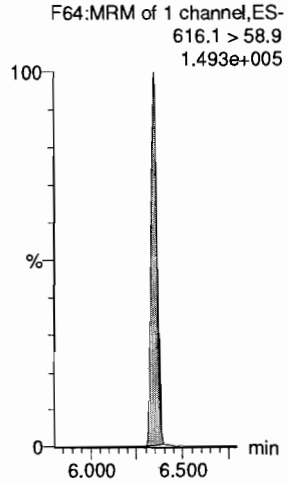
PFHxDA



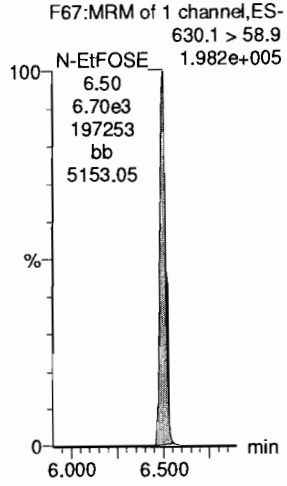
PFODA



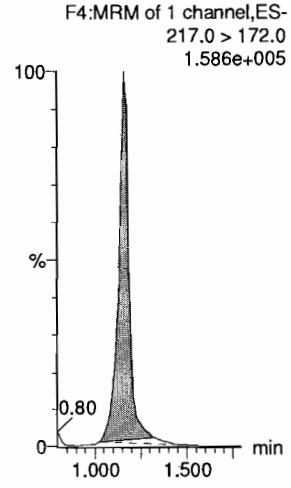
N-MeFOSE



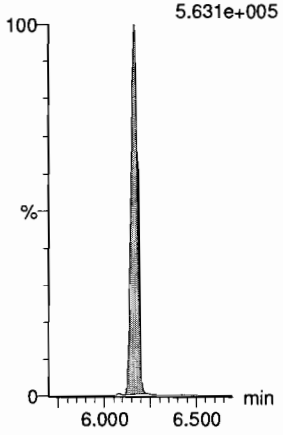
N-EtFOSE



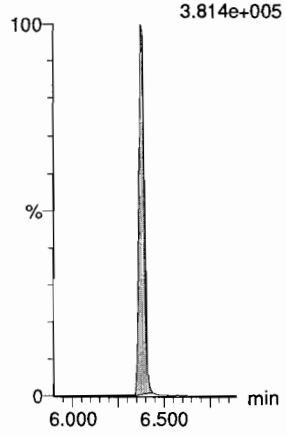
13C4-PFBA



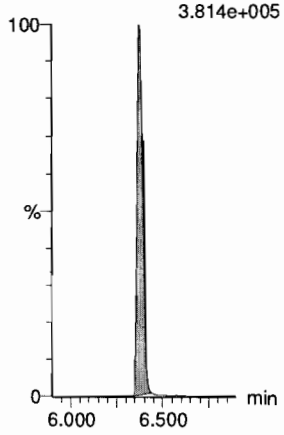
d5-N-ETFOSA



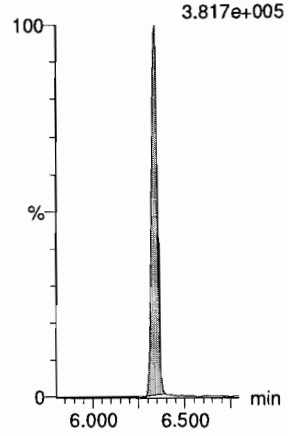
13C2-PFHxDA



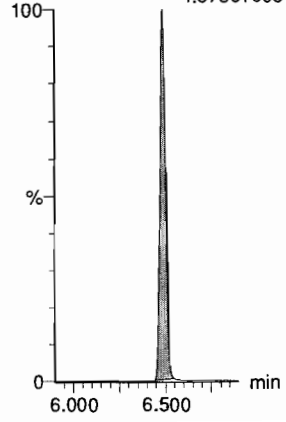
13C2-PFHxDA



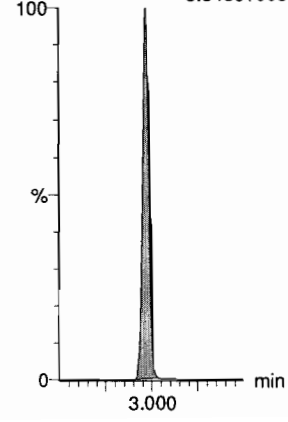
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-39.qld

Last Altered: Tuesday, July 23, 2019 07:50:13 Pacific Daylight Time
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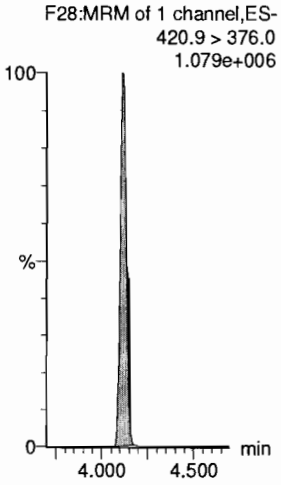
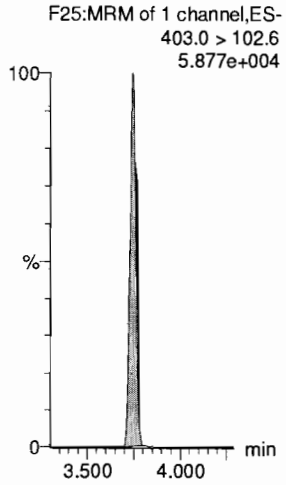
Name: 190722M1_39, Date: 22-Jul-2019, Time: 18:10:56, ID: ST190722M1-11 PFC CS3 19G1106, Description: PFC CS3 19G1106

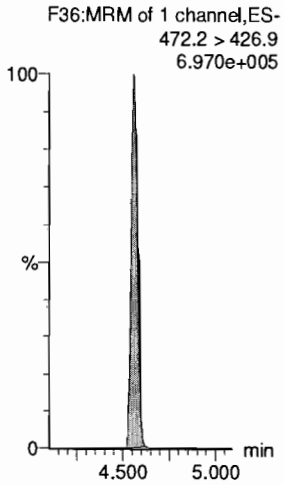
13C8-PFOA



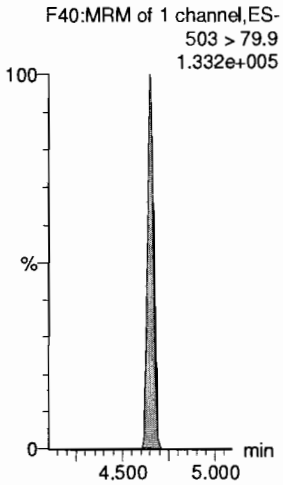
18O2-PFHxS



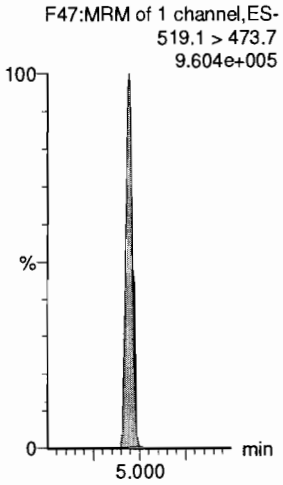
13C9-PFNA



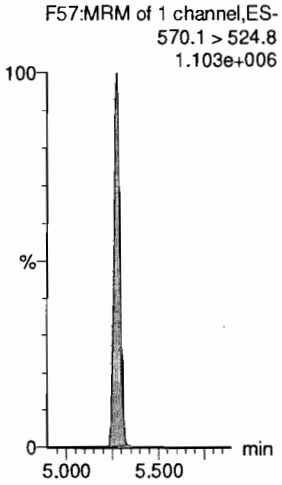
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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Last Altered: Wednesday, July 24, 2019 08:57:36 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_RS-07-13-19.mdb 23 Jul 2019 10:48:27
Calibration: 24 Jul 2019 08:57:36

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-1 PFC CS0 19G1103	1.09e4	100.0	NO
2	2	13C5-PFHxA	ST190723M2-1 PFC CS0 19G1103	3.42e4	100.0	NO
3	3	18O2-PFHxS	ST190723M2-1 PFC CS0 19G1103	2.13e3	100.0	NO
4	4	13C8-PFOA	ST190723M2-1 PFC CS0 19G1103	4.14e4	100.0	NO
5	5	13C9-PFNA	ST190723M2-1 PFC CS0 19G1103	2.95e4	100.0	NO
6	6	13C4-PFOS	ST190723M2-1 PFC CS0 19G1103	4.93e3	100.0	NO
7	7	13C6-PFDA	ST190723M2-1 PFC CS0 19G1103	3.69e4	100.0	NO
8	8	13C7-PFUdA	ST190723M2-1 PFC CS0 19G1103	4.65e4	100.0	NO

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB	9.73e3	89.3	NO
2	2	13C5-PFHxA	IB	3.26e4	95.4	NO
3	3	18O2-PFHxS	IB	1.95e3	91.4	NO
4	4	13C8-PFOA	IB	3.91e4	94.4	NO
5	5	13C9-PFNA	IB	2.81e4	95.3	NO
6	6	13C4-PFOS	IB	4.94e3	100.2	NO
7	7	13C6-PFDA	IB	3.54e4	95.8	NO
8	8	13C7-PFUdA	IB	4.24e4	91.1	NO

Name: 190723M2_4, Date: 23-Jul-2019, Time: 09:59:37, ID: B9G0208-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0208-BS1 OPR 0.25	1.68e4	154.0	YES
2	2	13C5-PFHxA	B9G0208-BS1 OPR 0.25	3.01e4	88.0	NO
3	3	18O2-PFHxS	B9G0208-BS1 OPR 0.25	2.27e3	106.3	NO
4	4	13C8-PFOA	B9G0208-BS1 OPR 0.25	3.77e4	91.0	NO
5	5	13C9-PFNA	B9G0208-BS1 OPR 0.25	2.75e4	93.3	NO
6	6	13C4-PFOS	B9G0208-BS1 OPR 0.25	5.22e3	105.9	NO
7	7	13C6-PFDA	B9G0208-BS1 OPR 0.25	3.50e4	94.7	NO
8	8	13C7-PFUdA	B9G0208-BS1 OPR 0.25	4.30e4	92.4	NO

Name: 190723M2_5, Date: 23-Jul-2019, Time: 10:11:24, ID: B9G0134-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0134-BS1 OPR 0.25	1.33e4	122.0	NO
2	2	13C5-PFHxA	B9G0134-BS1 OPR 0.25	2.57e4	75.2	NO
3	3	18O2-PFHxS	B9G0134-BS1 OPR 0.25	1.79e3	84.1	NO
4	4	13C8-PFOA	B9G0134-BS1 OPR 0.25	3.29e4	79.5	NO
5	5	13C9-PFNA	B9G0134-BS1 OPR 0.25	2.17e4	73.8	NO
6	6	13C4-PFOS	B9G0134-BS1 OPR 0.25	4.04e3	81.9	NO
7	7	13C6-PFDA	B9G0134-BS1 OPR 0.25	2.93e4	79.4	NO
8	8	13C7-PFUdA	B9G0134-BS1 OPR 0.25	3.59e4	77.2	NO

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:57:36 Pacific Daylight Time
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Name: 190723M2_6, Date: 23-Jul-2019, Time: 10:24:28, ID: 1902014-08 FRB-07082019 0.11724, Description: FRB-07082019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-08 FRB-07082019 0.11724	1.36e4	125.0	NO
2	2	13C5-PFHxA	1902014-08 FRB-07082019 0.11724	2.76e4	80.8	NO
3	3	18O2-PFHxS	1902014-08 FRB-07082019 0.11724	2.04e3	95.6	NO
4	4	13C8-PFOA	1902014-08 FRB-07082019 0.11724	3.68e4	88.9	NO
5	5	13C9-PFNA	1902014-08 FRB-07082019 0.11724	2.62e4	88.8	NO
6	6	13C4-PFOS	1902014-08 FRB-07082019 0.11724	4.84e3	98.1	NO
7	7	13C6-PFDA	1902014-08 FRB-07082019 0.11724	3.32e4	89.9	NO
8	8	13C7-PFUdA	1902014-08 FRB-07082019 0.11724	4.13e4	88.8	NO

Name: 190723M2_7, Date: 23-Jul-2019, Time: 10:35:01, ID: 1902014-09 CAOA-B01-GW 0.12758, Description: CAOA-B01-GW

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-09 CAOA-B01-GW 0.12758	1.04e4	95.8	NO
2	2	13C5-PFHxA	1902014-09 CAOA-B01-GW 0.12758	2.24e4	65.6	NO
3	3	18O2-PFHxS	1902014-09 CAOA-B01-GW 0.12758	1.92e3	90.1	NO
4	4	13C8-PFOA	1902014-09 CAOA-B01-GW 0.12758	3.20e4	77.4	NO
5	5	13C9-PFNA	1902014-09 CAOA-B01-GW 0.12758	2.41e4	81.8	NO
6	6	13C4-PFOS	1902014-09 CAOA-B01-GW 0.12758	4.55e3	92.2	NO
7	7	13C6-PFDA	1902014-09 CAOA-B01-GW 0.12758	3.02e4	81.9	NO
8	8	13C7-PFUdA	1902014-09 CAOA-B01-GW 0.12758	3.90e4	83.7	NO

Name: 190723M2_8, Date: 23-Jul-2019, Time: 10:45:40, ID: 1902014-10 EB-07082019 0.11822, Description: EB-07082019

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902014-10 EB-07082019 0.11822	1.44e4	132.4	NO
2	2	13C5-PFHxA	1902014-10 EB-07082019 0.11822	2.83e4	82.7	NO
3	3	18O2-PFHxS	1902014-10 EB-07082019 0.11822	2.12e3	99.2	NO
4	4	13C8-PFOA	1902014-10 EB-07082019 0.11822	3.72e4	89.9	NO
5	5	13C9-PFNA	1902014-10 EB-07082019 0.11822	2.68e4	91.0	NO
6	6	13C4-PFOS	1902014-10 EB-07082019 0.11822	4.68e3	95.0	NO
7	7	13C6-PFDA	1902014-10 EB-07082019 0.11822	3.49e4	94.4	NO
8	8	13C7-PFUdA	1902014-10 EB-07082019 0.11822	4.22e4	90.6	NO

Name: 190723M2_9, Date: 23-Jul-2019, Time: 10:56:13, 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

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:57:36 Pacific Daylight Time
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Name: 190723M2_10, Date: 23-Jul-2019, Time: 11:06:51, ID: ST190723M2-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-2 PFC CS3 19G1106	1.12e4	102.4	NO
2	2	13C5-PFHxA	ST190723M2-2 PFC CS3 19G1106	3.27e4	95.7	NO
3	3	18O2-PFHxS	ST190723M2-2 PFC CS3 19G1106	2.13e3	99.8	NO
4	4	13C8-PFOA	ST190723M2-2 PFC CS3 19G1106	4.03e4	97.5	NO
5	5	13C9-PFNA	ST190723M2-2 PFC CS3 19G1106	2.91e4	99.0	NO
6	6	13C4-PFOS	ST190723M2-2 PFC CS3 19G1106	5.24e3	106.2	NO
7	7	13C6-PFDA	ST190723M2-2 PFC CS3 19G1106	3.86e4	104.7	NO
8	8	13C7-PFUdA	ST190723M2-2 PFC CS3 19G1106	4.46e4	95.8	NO

Name: 190723M2_11, Date: 23-Jul-2019, Time: 11:17:24, 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: 190723M2_12, Date: 23-Jul-2019, Time: 11:35:40, ID: 1902105-02@5X 5A Raw Leachate 0.24309, Description: 5A Raw Leachate

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-02@5X 5A Raw Leachate 0.24...	2.75e3	25.2	YES
2	2	13C5-PFHxA	1902105-02@5X 5A Raw Leachate 0.24...	4.87e3	14.2	YES
3	3	18O2-PFHxS	1902105-02@5X 5A Raw Leachate 0.24...	4.41e2	20.7	YES
4	4	13C8-PFOA	1902105-02@5X 5A Raw Leachate 0.24...	7.25e3	17.5	YES
5	5	13C9-PFNA	1902105-02@5X 5A Raw Leachate 0.24...	5.52e3	18.8	YES
6	6	13C4-PFOS	1902105-02@5X 5A Raw Leachate 0.24...	1.05e3	21.2	YES
7	7	13C6-PFDA	1902105-02@5X 5A Raw Leachate 0.24...	7.33e3	19.9	YES
8	8	13C7-PFUdA	1902105-02@5X 5A Raw Leachate 0.24...	8.97e3	19.3	YES

Name: 190723M2_13, Date: 23-Jul-2019, Time: 11:46:14, 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: 190723M2_14, Date: 23-Jul-2019, Time: 11:56:46, ID: B9G0146-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0146-BS1 OPR 0.25	1.08e4	99.5	NO
2	2	13C5-PFHxA	B9G0146-BS1 OPR 0.25	2.10e4	61.5	NO
3	3	18O2-PFHxS	B9G0146-BS1 OPR 0.25	1.54e3	72.1	NO
4	4	13C8-PFOA	B9G0146-BS1 OPR 0.25	2.77e4	66.9	NO
5	5	13C9-PFNA	B9G0146-BS1 OPR 0.25	1.96e4	66.4	NO
6	6	13C4-PFOS	B9G0146-BS1 OPR 0.25	3.91e3	79.4	NO
7	7	13C6-PFDA	B9G0146-BS1 OPR 0.25	2.65e4	71.9	NO
8	8	13C7-PFUdA	B9G0146-BS1 OPR 0.25	3.21e4	68.9	NO

Name: 190723M2_15, Date: 23-Jul-2019, Time: 12:07:24, ID: B9G0146-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0146-BLK1 Method Blank 0.25	1.14e4	104.7	NO
2	2	13C5-PFHxA	B9G0146-BLK1 Method Blank 0.25	2.18e4	63.8	NO
3	3	18O2-PFHxS	B9G0146-BLK1 Method Blank 0.25	1.64e3	77.1	NO
4	4	13C8-PFOA	B9G0146-BLK1 Method Blank 0.25	2.88e4	69.7	NO
5	5	13C9-PFNA	B9G0146-BLK1 Method Blank 0.25	2.01e4	68.2	NO
6	6	13C4-PFOS	B9G0146-BLK1 Method Blank 0.25	4.26e3	86.4	NO
7	7	13C6-PFDA	B9G0146-BLK1 Method Blank 0.25	2.73e4	74.0	NO
8	8	13C7-PFUdA	B9G0146-BLK1 Method Blank 0.25	3.39e4	72.9	NO

Name: 190723M2_16, Date: 23-Jul-2019, Time: 12:17:57, ID: 1902079-01 AS-SW-06-0719 0.23394, Description: AS-SW-06-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-01 AS-SW-06-0719 0.23394	1.18e4	107.9	NO
2	2	13C5-PFHxA	1902079-01 AS-SW-06-0719 0.23394	2.36e4	68.9	NO
3	3	18O2-PFHxS	1902079-01 AS-SW-06-0719 0.23394	1.74e3	81.6	NO
4	4	13C8-PFOA	1902079-01 AS-SW-06-0719 0.23394	3.02e4	72.9	NO
5	5	13C9-PFNA	1902079-01 AS-SW-06-0719 0.23394	2.11e4	71.5	NO
6	6	13C4-PFOS	1902079-01 AS-SW-06-0719 0.23394	4.20e3	85.3	NO
7	7	13C6-PFDA	1902079-01 AS-SW-06-0719 0.23394	2.58e4	69.9	NO
8	8	13C7-PFUdA	1902079-01 AS-SW-06-0719 0.23394	3.36e4	72.1	NO

Name: 190723M2_17, Date: 23-Jul-2019, Time: 12:28:35, ID: 1902079-02 AS-PW-06-0719 0.23238, Description: AS-PW-06-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-02 AS-PW-06-0719 0.23238	1.47e4	134.4	NO
2	2	13C5-PFHxA	1902079-02 AS-PW-06-0719 0.23238	2.89e4	84.6	NO
3	3	18O2-PFHxS	1902079-02 AS-PW-06-0719 0.23238	2.06e3	96.8	NO
4	4	13C8-PFOA	1902079-02 AS-PW-06-0719 0.23238	3.50e4	84.5	NO
5	5	13C9-PFNA	1902079-02 AS-PW-06-0719 0.23238	2.43e4	82.7	NO
6	6	13C4-PFOS	1902079-02 AS-PW-06-0719 0.23238	4.53e3	91.9	NO
7	7	13C6-PFDA	1902079-02 AS-PW-06-0719 0.23238	2.96e4	80.2	NO
8	8	13C7-PFUdA	1902079-02 AS-PW-06-0719 0.23238	3.48e4	74.8	NO

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Name: 190723M2_18, Date: 23-Jul-2019, Time: 12:39:08, ID: 1902079-03 AS-SW-07-0719 0.22837, Description: AS-SW-07-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-03 AS-SW-07-0719 0.22837	1.36e4	124.5	NO
2	2	13C5-PFHxA	1902079-03 AS-SW-07-0719 0.22837	2.70e4	78.8	NO
3	3	18O2-PFHxS	1902079-03 AS-SW-07-0719 0.22837	1.92e3	90.2	NO
4	4	13C8-PFOA	1902079-03 AS-SW-07-0719 0.22837	3.31e4	80.0	NO
5	5	13C9-PFNA	1902079-03 AS-SW-07-0719 0.22837	2.34e4	79.5	NO
6	6	13C4-PFOS	1902079-03 AS-SW-07-0719 0.22837	4.82e3	97.8	NO
7	7	13C6-PFDA	1902079-03 AS-SW-07-0719 0.22837	3.01e4	81.7	NO
8	8	13C7-PFUdA	1902079-03 AS-SW-07-0719 0.22837	3.65e4	78.4	NO

Name: 190723M2_19, Date: 23-Jul-2019, Time: 12:49:46, ID: 1902079-04 AS-PW-07-0719 0.24286, Description: AS-PW-07-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-04 AS-PW-07-0719 0.24286	1.26e4	115.2	NO
2	2	13C5-PFHxA	1902079-04 AS-PW-07-0719 0.24286	2.46e4	71.9	NO
3	3	18O2-PFHxS	1902079-04 AS-PW-07-0719 0.24286	1.90e3	89.2	NO
4	4	13C8-PFOA	1902079-04 AS-PW-07-0719 0.24286	3.05e4	73.9	NO
5	5	13C9-PFNA	1902079-04 AS-PW-07-0719 0.24286	2.25e4	76.3	NO
6	6	13C4-PFOS	1902079-04 AS-PW-07-0719 0.24286	4.40e3	89.2	NO
7	7	13C6-PFDA	1902079-04 AS-PW-07-0719 0.24286	2.89e4	78.2	NO
8	8	13C7-PFUdA	1902079-04 AS-PW-07-0719 0.24286	3.53e4	75.8	NO

Name: 190723M2_20, Date: 23-Jul-2019, Time: 13:00:24, ID: 1902079-05 AS-SW-08-0719 0.22743, Description: AS-SW-08-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-05 AS-SW-08-0719 0.22743	1.42e4	130.0	NO
2	2	13C5-PFHxA	1902079-05 AS-SW-08-0719 0.22743	2.81e4	82.2	NO
3	3	18O2-PFHxS	1902079-05 AS-SW-08-0719 0.22743	1.98e3	93.0	NO
4	4	13C8-PFOA	1902079-05 AS-SW-08-0719 0.22743	3.46e4	83.5	NO
5	5	13C9-PFNA	1902079-05 AS-SW-08-0719 0.22743	2.41e4	82.0	NO
6	6	13C4-PFOS	1902079-05 AS-SW-08-0719 0.22743	4.45e3	90.3	NO
7	7	13C6-PFDA	1902079-05 AS-SW-08-0719 0.22743	3.20e4	86.8	NO
8	8	13C7-PFUdA	1902079-05 AS-SW-08-0719 0.22743	3.95e4	84.9	NO

Name: 190723M2_21, Date: 23-Jul-2019, Time: 13:10:57, ID: 1902079-06 AS-PW-08-0719 0.23443, Description: AS-PW-08-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-06 AS-PW-08-0719 0.23443	1.28e4	117.3	NO
2	2	13C5-PFHxA	1902079-06 AS-PW-08-0719 0.23443	2.45e4	71.7	NO
3	3	18O2-PFHxS	1902079-06 AS-PW-08-0719 0.23443	1.89e3	88.7	NO
4	4	13C8-PFOA	1902079-06 AS-PW-08-0719 0.23443	3.03e4	73.3	NO
5	5	13C9-PFNA	1902079-06 AS-PW-08-0719 0.23443	2.21e4	75.2	NO
6	6	13C4-PFOS	1902079-06 AS-PW-08-0719 0.23443	4.15e3	84.1	NO
7	7	13C6-PFDA	1902079-06 AS-PW-08-0719 0.23443	2.96e4	80.2	NO
8	8	13C7-PFUdA	1902079-06 AS-PW-08-0719 0.23443	3.39e4	72.8	NO

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Name: 190723M2_22, Date: 23-Jul-2019, Time: 13:21:35, ID: 1902079-07 AS-SW-09-0719 0.22416, Description: AS-SW-09-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-07 AS-SW-09-0719 0.22416	1.21e4	110.9	NO
2	2	13C5-PFHxA	1902079-07 AS-SW-09-0719 0.22416	2.30e4	67.3	NO
3	3	18O2-PFHxS	1902079-07 AS-SW-09-0719 0.22416	1.61e3	75.4	NO
4	4	13C8-PFOA	1902079-07 AS-SW-09-0719 0.22416	2.90e4	70.0	NO
5	5	13C9-PFNA	1902079-07 AS-SW-09-0719 0.22416	2.03e4	69.0	NO
6	6	13C4-PFOS	1902079-07 AS-SW-09-0719 0.22416	3.79e3	77.0	NO
7	7	13C6-PFDA	1902079-07 AS-SW-09-0719 0.22416	2.66e4	72.1	NO
8	8	13C7-PFUdA	1902079-07 AS-SW-09-0719 0.22416	3.24e4	69.7	NO

Name: 190723M2_23, Date: 23-Jul-2019, Time: 13:32:08, ID: 1902079-08 AS-PW-09-0719 0.2309, Description: AS-PW-09-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-08 AS-PW-09-0719 0.2309	1.17e4	107.8	NO
2	2	13C5-PFHxA	1902079-08 AS-PW-09-0719 0.2309	2.32e4	67.8	NO
3	3	18O2-PFHxS	1902079-08 AS-PW-09-0719 0.2309	1.58e3	74.1	NO
4	4	13C8-PFOA	1902079-08 AS-PW-09-0719 0.2309	3.00e4	72.6	NO
5	5	13C9-PFNA	1902079-08 AS-PW-09-0719 0.2309	2.07e4	70.4	NO
6	6	13C4-PFOS	1902079-08 AS-PW-09-0719 0.2309	4.26e3	86.4	NO
7	7	13C6-PFDA	1902079-08 AS-PW-09-0719 0.2309	2.84e4	77.0	NO
8	8	13C7-PFUdA	1902079-08 AS-PW-09-0719 0.2309	3.41e4	73.2	NO

Name: 190723M2_24, Date: 23-Jul-2019, Time: 13:42:46, ID: 1902079-09 AS-SW-10-0719 0.22745, Description: AS-SW-10-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-09 AS-SW-10-0719 0.22745	1.20e4	109.7	NO
2	2	13C5-PFHxA	1902079-09 AS-SW-10-0719 0.22745	2.43e4	71.0	NO
3	3	18O2-PFHxS	1902079-09 AS-SW-10-0719 0.22745	1.88e3	88.1	NO
4	4	13C8-PFOA	1902079-09 AS-SW-10-0719 0.22745	3.14e4	75.9	NO
5	5	13C9-PFNA	1902079-09 AS-SW-10-0719 0.22745	2.12e4	71.9	NO
6	6	13C4-PFOS	1902079-09 AS-SW-10-0719 0.22745	4.51e3	91.4	NO
7	7	13C6-PFDA	1902079-09 AS-SW-10-0719 0.22745	2.89e4	78.4	NO
8	8	13C7-PFUdA	1902079-09 AS-SW-10-0719 0.22745	3.50e4	75.2	NO

Name: 190723M2_25, Date: 23-Jul-2019, Time: 15:49:56, 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	5.81e0	0.0	YES
8	8	13C7-PFUdA	IPA			NO

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Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-3 PFC CS3 19G1106	1.07e4	97.8	NO
2	2	13C5-PFHxA	ST190723M2-3 PFC CS3 19G1106	3.39e4	99.2	NO
3	3	18O2-PFHxS	ST190723M2-3 PFC CS3 19G1106	2.28e3	106.8	NO
4	4	13C8-PFOA	ST190723M2-3 PFC CS3 19G1106	4.20e4	101.5	NO
5	5	13C9-PFNA	ST190723M2-3 PFC CS3 19G1106	2.95e4	100.2	NO
6	6	13C4-PFOS	ST190723M2-3 PFC CS3 19G1106	5.19e3	105.2	NO
7	7	13C6-PFDA	ST190723M2-3 PFC CS3 19G1106	3.96e4	107.3	NO
8	8	13C7-PFUdA	ST190723M2-3 PFC CS3 19G1106	4.58e4	98.3	NO

Name: 190723M2_27, Date: 23-Jul-2019, Time: 14:14:28, 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: 190723M2_28, Date: 23-Jul-2019, Time: 14:25:06, ID: 1902079-10 AS-PW-10-0719 0.24169, Description: AS-PW-10-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-10 AS-PW-10-0719 0.24169	1.17e4	107.0	NO
2	2	13C5-PFHxA	1902079-10 AS-PW-10-0719 0.24169	2.21e4	64.7	NO
3	3	18O2-PFHxS	1902079-10 AS-PW-10-0719 0.24169	1.79e3	83.9	NO
4	4	13C8-PFOA	1902079-10 AS-PW-10-0719 0.24169	2.85e4	69.0	NO
5	5	13C9-PFNA	1902079-10 AS-PW-10-0719 0.24169	2.06e4	70.0	NO
6	6	13C4-PFOS	1902079-10 AS-PW-10-0719 0.24169	3.94e3	80.0	NO
7	7	13C6-PFDA	1902079-10 AS-PW-10-0719 0.24169	2.60e4	70.4	NO
8	8	13C7-PFUdA	1902079-10 AS-PW-10-0719 0.24169	3.27e4	70.2	NO

Name: 190723M2_29, Date: 23-Jul-2019, Time: 14:35:39, ID: 1902079-11 AS-SW-11-0719 0.23337, Description: AS-SW-11-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-11 AS-SW-11-0719 0.23337	1.04e4	95.7	NO
2	2	13C5-PFHxA	1902079-11 AS-SW-11-0719 0.23337	2.01e4	58.9	NO
3	3	18O2-PFHxS	1902079-11 AS-SW-11-0719 0.23337	1.47e3	68.9	NO
4	4	13C8-PFOA	1902079-11 AS-SW-11-0719 0.23337	2.52e4	61.0	NO
5	5	13C9-PFNA	1902079-11 AS-SW-11-0719 0.23337	1.76e4	59.9	NO
6	6	13C4-PFOS	1902079-11 AS-SW-11-0719 0.23337	3.57e3	72.5	NO
7	7	13C6-PFDA	1902079-11 AS-SW-11-0719 0.23337	2.28e4	61.7	NO
8	8	13C7-PFUdA	1902079-11 AS-SW-11-0719 0.23337	2.79e4	59.9	NO

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Name: 190723M2_30, Date: 23-Jul-2019, Time: 14:46:18, ID: 1902079-12 AS-PW-11-0719 0.22599, Description: AS-PW-11-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-12 AS-PW-11-0719 0.22599	1.31e4	120.2	NO
2	2	13C5-PFHxA	1902079-12 AS-PW-11-0719 0.22599	2.52e4	73.5	NO
3	3	18O2-PFHxS	1902079-12 AS-PW-11-0719 0.22599	1.94e3	91.3	NO
4	4	13C8-PFOA	1902079-12 AS-PW-11-0719 0.22599	3.15e4	76.2	NO
5	5	13C9-PFNA	1902079-12 AS-PW-11-0719 0.22599	2.15e4	73.0	NO
6	6	13C4-PFOS	1902079-12 AS-PW-11-0719 0.22599	4.18e3	84.9	NO
7	7	13C6-PFDA	1902079-12 AS-PW-11-0719 0.22599	2.74e4	74.3	NO
8	8	13C7-PFUdA	1902079-12 AS-PW-11-0719 0.22599	3.49e4	74.9	NO

Name: 190723M2_31, Date: 23-Jul-2019, Time: 14:56:51, ID: 1902079-13 AS-SW-12-0719 0.23139, Description: AS-SW-12-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-13 AS-SW-12-0719 0.23139	1.21e4	111.1	NO
2	2	13C5-PFHxA	1902079-13 AS-SW-12-0719 0.23139	2.34e4	68.3	NO
3	3	18O2-PFHxS	1902079-13 AS-SW-12-0719 0.23139	1.42e3	66.7	NO
4	4	13C8-PFOA	1902079-13 AS-SW-12-0719 0.23139	2.80e4	67.7	NO
5	5	13C9-PFNA	1902079-13 AS-SW-12-0719 0.23139	2.04e4	69.2	NO
6	6	13C4-PFOS	1902079-13 AS-SW-12-0719 0.23139	3.74e3	75.9	NO
7	7	13C6-PFDA	1902079-13 AS-SW-12-0719 0.23139	2.57e4	69.6	NO
8	8	13C7-PFUdA	1902079-13 AS-SW-12-0719 0.23139	3.27e4	70.2	NO

Name: 190723M2_32, Date: 23-Jul-2019, Time: 15:07:29, ID: 1902079-14 AS-PW-12-0719 0.2447, Description: AS-PW-12-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-14 AS-PW-12-0719 0.2447	1.20e4	109.8	NO
2	2	13C5-PFHxA	1902079-14 AS-PW-12-0719 0.2447	2.39e4	70.0	NO
3	3	18O2-PFHxS	1902079-14 AS-PW-12-0719 0.2447	1.65e3	77.3	NO
4	4	13C8-PFOA	1902079-14 AS-PW-12-0719 0.2447	2.99e4	72.3	NO
5	5	13C9-PFNA	1902079-14 AS-PW-12-0719 0.2447	2.15e4	73.0	NO
6	6	13C4-PFOS	1902079-14 AS-PW-12-0719 0.2447	4.20e3	85.1	NO
7	7	13C6-PFDA	1902079-14 AS-PW-12-0719 0.2447	2.71e4	73.5	NO
8	8	13C7-PFUdA	1902079-14 AS-PW-12-0719 0.2447	3.27e4	70.2	NO

Name: 190723M2_33, Date: 23-Jul-2019, Time: 15:18:03, ID: 1902079-15 AS-SW-DUP-01-0719 0.22175, Description: AS-SW-DUP-01-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-15 AS-SW-DUP-01-0719 0.22...	1.23e4	112.5	NO
2	2	13C5-PFHxA	1902079-15 AS-SW-DUP-01-0719 0.22...	2.44e4	71.2	NO
3	3	18O2-PFHxS	1902079-15 AS-SW-DUP-01-0719 0.22...	1.72e3	80.8	NO
4	4	13C8-PFOA	1902079-15 AS-SW-DUP-01-0719 0.22...	3.02e4	73.0	NO
5	5	13C9-PFNA	1902079-15 AS-SW-DUP-01-0719 0.22...	2.09e4	71.0	NO
6	6	13C4-PFOS	1902079-15 AS-SW-DUP-01-0719 0.22...	4.40e3	89.2	NO
7	7	13C6-PFDA	1902079-15 AS-SW-DUP-01-0719 0.22...	2.83e4	76.6	NO
8	8	13C7-PFUdA	1902079-15 AS-SW-DUP-01-0719 0.22...	3.38e4	72.5	NO

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Name: 190723M2_34, Date: 23-Jul-2019, Time: 15:28:41, ID: 1902079-16 AS-PW-DUP-01-0719 0.24901, Description: AS-PW-DUP-01-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-16 AS-PW-DUP-01-0719 0.24...	1.32e4	120.8	NO
2	2	13C5-PFHxA	1902079-16 AS-PW-DUP-01-0719 0.24...	2.65e4	77.4	NO
3	3	18O2-PFHxS	1902079-16 AS-PW-DUP-01-0719 0.24...	1.88e3	88.4	NO
4	4	13C8-PFOA	1902079-16 AS-PW-DUP-01-0719 0.24...	3.39e4	82.0	NO
5	5	13C9-PFNA	1902079-16 AS-PW-DUP-01-0719 0.24...	2.37e4	80.6	NO
6	6	13C4-PFOS	1902079-16 AS-PW-DUP-01-0719 0.24...	4.58e3	92.9	NO
7	7	13C6-PFDA	1902079-16 AS-PW-DUP-01-0719 0.24...	3.16e4	85.7	NO
8	8	13C7-PFUdA	1902079-16 AS-PW-DUP-01-0719 0.24...	3.72e4	79.9	NO

Name: 190723M2_35, Date: 23-Jul-2019, Time: 15:39:15, ID: 1902079-17 AS-EB-0709 0.21355, Description: AS-EB-0709

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902079-17 AS-EB-0709 0.21355	1.26e4	115.7	NO
2	2	13C5-PFHxA	1902079-17 AS-EB-0709 0.21355	2.57e4	75.3	NO
3	3	18O2-PFHxS	1902079-17 AS-EB-0709 0.21355	2.12e3	99.4	NO
4	4	13C8-PFOA	1902079-17 AS-EB-0709 0.21355	3.27e4	79.0	NO
5	5	13C9-PFNA	1902079-17 AS-EB-0709 0.21355	2.26e4	76.7	NO
6	6	13C4-PFOS	1902079-17 AS-EB-0709 0.21355	4.80e3	97.4	NO
7	7	13C6-PFDA	1902079-17 AS-EB-0709 0.21355	3.00e4	81.2	NO
8	8	13C7-PFUdA	1902079-17 AS-EB-0709 0.21355	3.77e4	81.0	NO

Name: 190723M2_36, Date: 23-Jul-2019, Time: 16:03:38, ID: B9G0190-BS1 OPR 1, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0190-BS1 OPR 1	8.92e3	81.9	NO
2	2	13C5-PFHxA	B9G0190-BS1 OPR 1	1.83e4	53.5	NO
3	3	18O2-PFHxS	B9G0190-BS1 OPR 1	1.44e3	67.4	NO
4	4	13C8-PFOA	B9G0190-BS1 OPR 1	2.52e4	60.8	NO
5	5	13C9-PFNA	B9G0190-BS1 OPR 1	1.80e4	61.1	NO
6	6	13C4-PFOS	B9G0190-BS1 OPR 1	3.68e3	74.7	NO
7	7	13C6-PFDA	B9G0190-BS1 OPR 1	2.48e4	67.3	NO
8	8	13C7-PFUdA	B9G0190-BS1 OPR 1	3.13e4	67.3	NO

Name: 190723M2_37, Date: 23-Jul-2019, Time: 16:14:16, ID: B9G0190-BLK1 Method Blank 1, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0190-BLK1 Method Blank 1	9.26e3	84.9	NO
2	2	13C5-PFHxA	B9G0190-BLK1 Method Blank 1	1.99e4	58.1	NO
3	3	18O2-PFHxS	B9G0190-BLK1 Method Blank 1	1.64e3	77.2	NO
4	4	13C8-PFOA	B9G0190-BLK1 Method Blank 1	2.73e4	65.9	NO
5	5	13C9-PFNA	B9G0190-BLK1 Method Blank 1	1.98e4	67.1	NO
6	6	13C4-PFOS	B9G0190-BLK1 Method Blank 1	3.92e3	79.4	NO
7	7	13C6-PFDA	B9G0190-BLK1 Method Blank 1	2.56e4	69.3	NO
8	8	13C7-PFUdA	B9G0190-BLK1 Method Blank 1	3.18e4	68.4	NO

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Name: 190723M2_38, Date: 23-Jul-2019, Time: 16:24:49, ID: B9G0190-MS1 Matrix Spike 1.01, Description: Matrix Spike

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0190-MS1 Matrix Spike 1.01	9.44e3	86.6	NO
2	2	13C5-PFHxA	B9G0190-MS1 Matrix Spike 1.01	1.91e4	55.8	NO
3	3	18O2-PFHxS	B9G0190-MS1 Matrix Spike 1.01	1.55e3	72.9	NO
4	4	13C8-PFOA	B9G0190-MS1 Matrix Spike 1.01	2.50e4	60.4	NO
5	5	13C9-PFNA	B9G0190-MS1 Matrix Spike 1.01	1.90e4	64.4	NO
6	6	13C4-PFOS	B9G0190-MS1 Matrix Spike 1.01	3.86e3	78.3	NO
7	7	13C6-PFDA	B9G0190-MS1 Matrix Spike 1.01	2.59e4	70.1	NO
8	8	13C7-PFUdA	B9G0190-MS1 Matrix Spike 1.01	3.11e4	66.9	NO

Name: 190723M2_39, Date: 23-Jul-2019, Time: 16:35:27, ID: B9G0190-MSD1 Matrix Spike Dup 1.01, Description: Matrix Spike Dup

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0190-MSD1 Matrix Spike Dup 1.01	8.39e3	77.0	NO
2	2	13C5-PFHxA	B9G0190-MSD1 Matrix Spike Dup 1.01	1.74e4	50.8	NO
3	3	18O2-PFHxS	B9G0190-MSD1 Matrix Spike Dup 1.01	1.58e3	74.2	NO
4	4	13C8-PFOA	B9G0190-MSD1 Matrix Spike Dup 1.01	2.40e4	58.1	NO
5	5	13C9-PFNA	B9G0190-MSD1 Matrix Spike Dup 1.01	1.74e4	58.9	NO
6	6	13C4-PFOS	B9G0190-MSD1 Matrix Spike Dup 1.01	3.76e3	76.4	NO
7	7	13C6-PFDA	B9G0190-MSD1 Matrix Spike Dup 1.01	2.34e4	63.5	NO
8	8	13C7-PFUdA	B9G0190-MSD1 Matrix Spike Dup 1.01	3.04e4	65.3	NO

Name: 190723M2_40, Date: 23-Jul-2019, Time: 16:46:01, ID: 1902097-01 SAOA-B10-SO-1-1.5 1.03, Description: SAOA-B10-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-01 SAOA-B10-SO-1-1.5 1.03	8.59e3	78.8	NO
2	2	13C5-PFHxA	1902097-01 SAOA-B10-SO-1-1.5 1.03	1.77e4	51.8	NO
3	3	18O2-PFHxS	1902097-01 SAOA-B10-SO-1-1.5 1.03	1.50e3	70.3	NO
4	4	13C8-PFOA	1902097-01 SAOA-B10-SO-1-1.5 1.03	2.45e4	59.2	NO
5	5	13C9-PFNA	1902097-01 SAOA-B10-SO-1-1.5 1.03	1.81e4	61.4	NO
6	6	13C4-PFOS	1902097-01 SAOA-B10-SO-1-1.5 1.03	3.64e3	73.8	NO
7	7	13C6-PFDA	1902097-01 SAOA-B10-SO-1-1.5 1.03	2.42e4	65.4	NO
8	8	13C7-PFUdA	1902097-01 SAOA-B10-SO-1-1.5 1.03	2.90e4	62.3	NO

Name: 190723M2_41, Date: 23-Jul-2019, Time: 16:56:39, ID: 1902097-02 SAOA-B10-SO-20-20.5 1.05, Description: SAOA-B10-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-02 SAOA-B10-SO-20-20.5 1.05	8.88e3	81.4	NO
2	2	13C5-PFHxA	1902097-02 SAOA-B10-SO-20-20.5 1.05	1.79e4	52.4	NO
3	3	18O2-PFHxS	1902097-02 SAOA-B10-SO-20-20.5 1.05	1.39e3	65.3	NO
4	4	13C8-PFOA	1902097-02 SAOA-B10-SO-20-20.5 1.05	2.32e4	56.0	NO
5	5	13C9-PFNA	1902097-02 SAOA-B10-SO-20-20.5 1.05	1.76e4	59.9	NO
6	6	13C4-PFOS	1902097-02 SAOA-B10-SO-20-20.5 1.05	3.47e3	70.4	NO
7	7	13C6-PFDA	1902097-02 SAOA-B10-SO-20-20.5 1.05	2.46e4	66.7	NO
8	8	13C7-PFUdA	1902097-02 SAOA-B10-SO-20-20.5 1.05	2.89e4	62.2	NO

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Name: 190723M2_42, Date: 23-Jul-2019, Time: 17:07:18, 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: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-4 PFC CS3 19G1106	1.12e4	102.5	NO
2	2	13C5-PFHxA	ST190723M2-4 PFC CS3 19G1106	3.43e4	100.3	NO
3	3	18O2-PFHxS	ST190723M2-4 PFC CS3 19G1106	2.20e3	103.3	NO
4	4	13C8-PFOA	ST190723M2-4 PFC CS3 19G1106	4.15e4	100.3	NO
5	5	13C9-PFNA	ST190723M2-4 PFC CS3 19G1106	3.01e4	102.3	NO
6	6	13C4-PFOS	ST190723M2-4 PFC CS3 19G1106	5.35e3	108.6	NO
7	7	13C6-PFDA	ST190723M2-4 PFC CS3 19G1106	3.81e4	103.4	NO
8	8	13C7-PFUdA	ST190723M2-4 PFC CS3 19G1106	4.65e4	99.9	NO

Name: 190723M2_44, Date: 23-Jul-2019, Time: 17:28:29, 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: 190723M2_45, Date: 23-Jul-2019, Time: 17:39:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-06 NON-B02-SO-1-1.5 1.01	6.83e3	62.7	NO
2	2	13C5-PFHxA	1902097-06 NON-B02-SO-1-1.5 1.01	1.48e4	43.4	YES
3	3	18O2-PFHxS	1902097-06 NON-B02-SO-1-1.5 1.01	1.24e3	58.3	NO
4	4	13C8-PFOA	1902097-06 NON-B02-SO-1-1.5 1.01	2.04e4	49.4	YES
5	5	13C9-PFNA	1902097-06 NON-B02-SO-1-1.5 1.01	1.54e4	52.1	NO
6	6	13C4-PFOS	1902097-06 NON-B02-SO-1-1.5 1.01	3.16e3	64.0	NO
7	7	13C6-PFDA	1902097-06 NON-B02-SO-1-1.5 1.01	2.14e4	57.9	NO
8	8	13C7-PFUdA	1902097-06 NON-B02-SO-1-1.5 1.01	2.62e4	56.4	NO

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Name: 190723M2_46, Date: 23-Jul-2019, Time: 17:49:41, ID: 1902097-08 NON-B02-SO-15-15.5 1.08, Description: NON-B02-SO-15-15.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-08 NON-B02-SO-15-15.5 1.08	8.72e3	80.0	NO
2	2	13C5-PFHxA	1902097-08 NON-B02-SO-15-15.5 1.08	1.76e4	51.4	NO
3	3	18O2-PFHxS	1902097-08 NON-B02-SO-15-15.5 1.08	1.35e3	63.5	NO
4	4	13C8-PFOA	1902097-08 NON-B02-SO-15-15.5 1.08	2.29e4	55.3	NO
5	5	13C9-PFNA	1902097-08 NON-B02-SO-15-15.5 1.08	1.67e4	56.8	NO
6	6	13C4-PFOS	1902097-08 NON-B02-SO-15-15.5 1.08	3.41e3	69.2	NO
7	7	13C6-PFDA	1902097-08 NON-B02-SO-15-15.5 1.08	2.29e4	62.0	NO
8	8	13C7-PFUdA	1902097-08 NON-B02-SO-15-15.5 1.08	2.86e4	61.5	NO

Name: 190723M2_47, Date: 23-Jul-2019, Time: 18:00:14, ID: 1902097-09 SAOA-B01-SO-5-5.5 1.06, Description: SAOA-B01-SO-5-5.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-09 SAOA-B01-SO-5-5.5 1.06	9.25e3	84.9	NO
2	2	13C5-PFHxA	1902097-09 SAOA-B01-SO-5-5.5 1.06	1.84e4	53.9	NO
3	3	18O2-PFHxS	1902097-09 SAOA-B01-SO-5-5.5 1.06	1.49e3	69.7	NO
4	4	13C8-PFOA	1902097-09 SAOA-B01-SO-5-5.5 1.06	2.42e4	58.4	NO
5	5	13C9-PFNA	1902097-09 SAOA-B01-SO-5-5.5 1.06	1.76e4	59.7	NO
6	6	13C4-PFOS	1902097-09 SAOA-B01-SO-5-5.5 1.06	3.48e3	70.6	NO
7	7	13C6-PFDA	1902097-09 SAOA-B01-SO-5-5.5 1.06	2.33e4	63.0	NO
8	8	13C7-PFUdA	1902097-09 SAOA-B01-SO-5-5.5 1.06	2.95e4	63.3	NO

Name: 190723M2_48, Date: 23-Jul-2019, Time: 18:10:53, ID: 1902097-10 SAOA-B01-SO-20-20.5 1.24, Description: SAOA-B01-SO-20-20.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-10 SAOA-B01-SO-20-20.5 1.24	1.03e4	94.8	NO
2	2	13C5-PFHxA	1902097-10 SAOA-B01-SO-20-20.5 1.24	2.04e4	59.6	NO
3	3	18O2-PFHxS	1902097-10 SAOA-B01-SO-20-20.5 1.24	1.54e3	72.4	NO
4	4	13C8-PFOA	1902097-10 SAOA-B01-SO-20-20.5 1.24	2.68e4	64.9	NO
5	5	13C9-PFNA	1902097-10 SAOA-B01-SO-20-20.5 1.24	2.05e4	69.5	NO
6	6	13C4-PFOS	1902097-10 SAOA-B01-SO-20-20.5 1.24	3.72e3	75.5	NO
7	7	13C6-PFDA	1902097-10 SAOA-B01-SO-20-20.5 1.24	2.68e4	72.5	NO
8	8	13C7-PFUdA	1902097-10 SAOA-B01-SO-20-20.5 1.24	3.31e4	71.2	NO

Name: 190723M2_49, Date: 23-Jul-2019, Time: 18:21:26, ID: 1902097-11 SAOA-B01-SO-36-36.5 1.26, Description: SAOA-B01-SO-36-36.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-11 SAOA-B01-SO-36-36.5 1.26	1.05e4	96.7	NO
2	2	13C5-PFHxA	1902097-11 SAOA-B01-SO-36-36.5 1.26	2.12e4	61.9	NO
3	3	18O2-PFHxS	1902097-11 SAOA-B01-SO-36-36.5 1.26	1.40e3	65.5	NO
4	4	13C8-PFOA	1902097-11 SAOA-B01-SO-36-36.5 1.26	2.73e4	66.0	NO
5	5	13C9-PFNA	1902097-11 SAOA-B01-SO-36-36.5 1.26	2.02e4	68.5	NO
6	6	13C4-PFOS	1902097-11 SAOA-B01-SO-36-36.5 1.26	3.58e3	72.7	NO
7	7	13C6-PFDA	1902097-11 SAOA-B01-SO-36-36.5 1.26	2.60e4	70.4	NO
8	8	13C7-PFUdA	1902097-11 SAOA-B01-SO-36-36.5 1.26	3.24e4	69.7	NO

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Name: 190723M2_50, Date: 23-Jul-2019, Time: 18:32:04, ID: 1902097-12 NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-12 NON-B01-SO-1-1.5 1.19	1.04e4	95.1	NO
2	2	13C5-PFHxA	1902097-12 NON-B01-SO-1-1.5 1.19	1.99e4	58.2	NO
3	3	18O2-PFHxS	1902097-12 NON-B01-SO-1-1.5 1.19	1.48e3	69.4	NO
4	4	13C8-PFOA	1902097-12 NON-B01-SO-1-1.5 1.19	2.70e4	65.2	NO
5	5	13C9-PFNA	1902097-12 NON-B01-SO-1-1.5 1.19	1.96e4	66.7	NO
6	6	13C4-PFOS	1902097-12 NON-B01-SO-1-1.5 1.19	2.61e3	53.0	NO
7	7	13C6-PFDA	1902097-12 NON-B01-SO-1-1.5 1.19	2.70e4	73.2	NO
8	8	13C7-PFUdA	1902097-12 NON-B01-SO-1-1.5 1.19	3.31e4	71.1	NO

Name: 190723M2_51, Date: 23-Jul-2019, Time: 18:42:37, ID: 1902097-13 NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-13 NON-B01-SO-15-15.5 1.16	1.06e4	97.4	NO
2	2	13C5-PFHxA	1902097-13 NON-B01-SO-15-15.5 1.16	2.06e4	60.2	NO
3	3	18O2-PFHxS	1902097-13 NON-B01-SO-15-15.5 1.16	1.42e3	66.4	NO
4	4	13C8-PFOA	1902097-13 NON-B01-SO-15-15.5 1.16	2.84e4	68.6	NO
5	5	13C9-PFNA	1902097-13 NON-B01-SO-15-15.5 1.16	1.88e4	63.7	NO
6	6	13C4-PFOS	1902097-13 NON-B01-SO-15-15.5 1.16	2.94e3	59.6	NO
7	7	13C6-PFDA	1902097-13 NON-B01-SO-15-15.5 1.16	2.76e4	74.8	NO
8	8	13C7-PFUdA	1902097-13 NON-B01-SO-15-15.5 1.16	3.32e4	71.3	NO

Name: 190723M2_52, Date: 23-Jul-2019, Time: 18:53:15, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-16 NON-B01-SO-73-73.5 1.21	1.19e4	109.5	NO
2	2	13C5-PFHxA	1902097-16 NON-B01-SO-73-73.5 1.21	2.24e4	65.5	NO
3	3	18O2-PFHxS	1902097-16 NON-B01-SO-73-73.5 1.21	1.69e3	79.1	NO
4	4	13C8-PFOA	1902097-16 NON-B01-SO-73-73.5 1.21	2.91e4	70.5	NO
5	5	13C9-PFNA	1902097-16 NON-B01-SO-73-73.5 1.21	2.03e4	68.8	NO
6	6	13C4-PFOS	1902097-16 NON-B01-SO-73-73.5 1.21	3.97e3	80.5	NO
7	7	13C6-PFDA	1902097-16 NON-B01-SO-73-73.5 1.21	2.80e4	75.8	NO
8	8	13C7-PFUdA	1902097-16 NON-B01-SO-73-73.5 1.21	3.48e4	74.8	NO

Name: 190723M2_53, Date: 23-Jul-2019, Time: 19:03:53, ID: 1902097-17 NON-B04-SO-0.5-1 1.01, Description: NON-B04-SO-0.5-1

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-17 NON-B04-SO-0.5-1 1.01	9.83e3	90.1	NO
2	2	13C5-PFHxA	1902097-17 NON-B04-SO-0.5-1 1.01	1.98e4	57.9	NO
3	3	18O2-PFHxS	1902097-17 NON-B04-SO-0.5-1 1.01	1.48e3	69.3	NO
4	4	13C8-PFOA	1902097-17 NON-B04-SO-0.5-1 1.01	2.60e4	62.8	NO
5	5	13C9-PFNA	1902097-17 NON-B04-SO-0.5-1 1.01	1.85e4	62.8	NO
6	6	13C4-PFOS	1902097-17 NON-B04-SO-0.5-1 1.01	2.78e3	56.4	NO
7	7	13C6-PFDA	1902097-17 NON-B04-SO-0.5-1 1.01	2.49e4	67.6	NO
8	8	13C7-PFUdA	1902097-17 NON-B04-SO-0.5-1 1.01	3.05e4	65.4	NO

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Name: 190723M2_54, Date: 23-Jul-2019, Time: 19:14:26, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-18 NON-B04-SO-4.5-5 1.03	1.09e4	100.0	NO
2	2	13C5-PFHxA	1902097-18 NON-B04-SO-4.5-5 1.03	2.12e4	61.9	NO
3	3	18O2-PFHxS	1902097-18 NON-B04-SO-4.5-5 1.03	1.33e3	62.3	NO
4	4	13C8-PFOA	1902097-18 NON-B04-SO-4.5-5 1.03	2.62e4	63.2	NO
5	5	13C9-PFNA	1902097-18 NON-B04-SO-4.5-5 1.03	1.67e4	56.8	NO
6	6	13C4-PFOS	1902097-18 NON-B04-SO-4.5-5 1.03	1.88e3	38.1	YES
7	7	13C6-PFDA	1902097-18 NON-B04-SO-4.5-5 1.03	2.62e4	71.0	NO
8	8	13C7-PFUdA	1902097-18 NON-B04-SO-4.5-5 1.03	3.18e4	68.3	NO

Name: 190723M2_55, Date: 23-Jul-2019, Time: 19:25:05, 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: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-5 PFC CS3 19G1106	1.06e4	97.7	NO
2	2	13C5-PFHxA	ST190723M2-5 PFC CS3 19G1106	3.57e4	104.3	NO
3	3	18O2-PFHxS	ST190723M2-5 PFC CS3 19G1106	2.37e3	111.0	NO
4	4	13C8-PFOA	ST190723M2-5 PFC CS3 19G1106	4.21e4	101.8	NO
5	5	13C9-PFNA	ST190723M2-5 PFC CS3 19G1106	3.04e4	103.2	NO
6	6	13C4-PFOS	ST190723M2-5 PFC CS3 19G1106	5.21e3	105.7	NO
7	7	13C6-PFDA	ST190723M2-5 PFC CS3 19G1106	4.01e4	108.7	NO
8	8	13C7-PFUdA	ST190723M2-5 PFC CS3 19G1106	4.78e4	102.7	NO

Name: 190723M2_57, Date: 23-Jul-2019, Time: 19:46:16, 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: 190723M2_58, Date: 23-Jul-2019, Time: 19:56:49, ID: B9G0216-BS1 OPR 1, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0216-BS1 OPR 1	1.55e4	142.6	NO
2	2	13C5-PFHxA	B9G0216-BS1 OPR 1	3.03e4	88.6	NO
3	3	18O2-PFHxS	B9G0216-BS1 OPR 1	1.87e3	87.5	NO
4	4	13C8-PFOA	B9G0216-BS1 OPR 1	3.57e4	86.2	NO
5	5	13C9-PFNA	B9G0216-BS1 OPR 1	2.43e4	82.5	NO
6	6	13C4-PFOS	B9G0216-BS1 OPR 1	4.21e3	85.5	NO
7	7	13C6-PFDA	B9G0216-BS1 OPR 1	2.77e4	75.1	NO
8	8	13C7-PFUdA	B9G0216-BS1 OPR 1	2.22e4	47.6	YES

Name: 190723M2_59, Date: 23-Jul-2019, Time: 20:07:28, ID: B9G0216-BLK1 Method Blank 1, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0216-BLK1 Method Blank 1	1.46e4	134.0	NO
2	2	13C5-PFHxA	B9G0216-BLK1 Method Blank 1	2.53e4	74.0	NO
3	3	18O2-PFHxS	B9G0216-BLK1 Method Blank 1	1.77e3	83.1	NO
4	4	13C8-PFOA	B9G0216-BLK1 Method Blank 1	3.20e4	77.5	NO
5	5	13C9-PFNA	B9G0216-BLK1 Method Blank 1	2.18e4	73.9	NO
6	6	13C4-PFOS	B9G0216-BLK1 Method Blank 1	4.31e3	87.4	NO
7	7	13C6-PFDA	B9G0216-BLK1 Method Blank 1	2.75e4	74.5	NO
8	8	13C7-PFUdA	B9G0216-BLK1 Method Blank 1	2.81e4	60.4	NO

Name: 190723M2_60, Date: 23-Jul-2019, Time: 20:18:06, ID: 1902165-01 1901142-01 1.25, Description: 1901142-01

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-01 1901142-01 1.25	1.43e4	131.6	NO
2	2	13C5-PFHxA	1902165-01 1901142-01 1.25	2.57e4	75.1	NO
3	3	18O2-PFHxS	1902165-01 1901142-01 1.25	1.89e3	88.7	NO
4	4	13C8-PFOA	1902165-01 1901142-01 1.25	3.14e4	75.8	NO
5	5	13C9-PFNA	1902165-01 1901142-01 1.25	2.16e4	73.4	NO
6	6	13C4-PFOS	1902165-01 1901142-01 1.25	3.65e3	74.0	NO
7	7	13C6-PFDA	1902165-01 1901142-01 1.25	2.33e4	63.0	NO
8	8	13C7-PFUdA	1902165-01 1901142-01 1.25	1.59e4	34.1	YES

Name: 190723M2_61, Date: 23-Jul-2019, Time: 20:28:39, ID: 1902165-02 1901142-02 1.28, Description: 1901142-02

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-02 1901142-02 1.28	1.51e4	138.9	NO
2	2	13C5-PFHxA	1902165-02 1901142-02 1.28	2.98e4	87.1	NO
3	3	18O2-PFHxS	1902165-02 1901142-02 1.28	1.86e3	87.1	NO
4	4	13C8-PFOA	1902165-02 1901142-02 1.28	3.44e4	83.0	NO
5	5	13C9-PFNA	1902165-02 1901142-02 1.28	2.23e4	75.8	NO
6	6	13C4-PFOS	1902165-02 1901142-02 1.28	3.43e3	69.5	NO
7	7	13C6-PFDA	1902165-02 1901142-02 1.28	2.57e4	69.6	NO
8	8	13C7-PFUdA	1902165-02 1901142-02 1.28	2.16e4	46.4	YES

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Name: 190723M2_62, Date: 23-Jul-2019, Time: 20:39:17, ID: 1902165-03 1901142-03 1.26, Description: 1901142-03

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-03 1901142-03 1.26	1.54e4	141.2	NO
2	2	13C5-PFHxA	1902165-03 1901142-03 1.26	2.85e4	83.4	NO
3	3	18O2-PFHxS	1902165-03 1901142-03 1.26	2.09e3	97.9	NO
4	4	13C8-PFOA	1902165-03 1901142-03 1.26	3.62e4	87.6	NO
5	5	13C9-PFNA	1902165-03 1901142-03 1.26	2.35e4	79.9	NO
6	6	13C4-PFOS	1902165-03 1901142-03 1.26	3.96e3	80.4	NO
7	7	13C6-PFDA	1902165-03 1901142-03 1.26	2.63e4	71.2	NO
8	8	13C7-PFUdA	1902165-03 1901142-03 1.26	2.26e4	48.6	YES

Name: 190723M2_63, Date: 23-Jul-2019, Time: 20:49:56, ID: 1902165-04 1901142-04 1.26, Description: 1901142-04

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-04 1901142-04 1.26	1.57e4	144.2	NO
2	2	13C5-PFHxA	1902165-04 1901142-04 1.26	2.92e4	85.4	NO
3	3	18O2-PFHxS	1902165-04 1901142-04 1.26	1.94e3	90.9	NO
4	4	13C8-PFOA	1902165-04 1901142-04 1.26	3.53e4	85.4	NO
5	5	13C9-PFNA	1902165-04 1901142-04 1.26	2.30e4	78.1	NO
6	6	13C4-PFOS	1902165-04 1901142-04 1.26	4.04e3	82.0	NO
7	7	13C6-PFDA	1902165-04 1901142-04 1.26	2.84e4	76.8	NO
8	8	13C7-PFUdA	1902165-04 1901142-04 1.26	2.28e4	49.0	YES

Name: 190723M2_64, Date: 23-Jul-2019, Time: 21:00:34, ID: 1902165-05 1901142-05 1.23, Description: 1901142-05

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-05 1901142-05 1.23	1.43e4	131.6	NO
2	2	13C5-PFHxA	1902165-05 1901142-05 1.23	2.83e4	82.6	NO
3	3	18O2-PFHxS	1902165-05 1901142-05 1.23	1.86e3	87.4	NO
4	4	13C8-PFOA	1902165-05 1901142-05 1.23	3.34e4	80.8	NO
5	5	13C9-PFNA	1902165-05 1901142-05 1.23	2.10e4	71.1	NO
6	6	13C4-PFOS	1902165-05 1901142-05 1.23	3.41e3	69.2	NO
7	7	13C6-PFDA	1902165-05 1901142-05 1.23	2.39e4	64.7	NO
8	8	13C7-PFUdA	1902165-05 1901142-05 1.23	1.97e4	42.4	YES

Name: 190723M2_65, Date: 23-Jul-2019, Time: 21:11:08, ID: 1902165-06 1901142-06 1.25, Description: 1901142-06

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-06 1901142-06 1.25	1.38e4	126.3	NO
2	2	13C5-PFHxA	1902165-06 1901142-06 1.25	2.65e4	77.4	NO
3	3	18O2-PFHxS	1902165-06 1901142-06 1.25	1.80e3	84.3	NO
4	4	13C8-PFOA	1902165-06 1901142-06 1.25	3.27e4	79.1	NO
5	5	13C9-PFNA	1902165-06 1901142-06 1.25	2.09e4	71.1	NO
6	6	13C4-PFOS	1902165-06 1901142-06 1.25	3.41e3	69.2	NO
7	7	13C6-PFDA	1902165-06 1901142-06 1.25	2.37e4	64.1	NO
8	8	13C7-PFUdA	1902165-06 1901142-06 1.25	2.01e4	43.2	YES

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Name: 190723M2_66, Date: 23-Jul-2019, Time: 21:21:46, ID: 1902165-07 1901142-07 1.22, Description: 1901142-07

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-07 1901142-07 1.22	1.48e4	135.7	NO
2	2	13C5-PFHxA	1902165-07 1901142-07 1.22	2.62e4	76.7	NO
3	3	18O2-PFHxS	1902165-07 1901142-07 1.22	1.84e3	86.3	NO
4	4	13C8-PFOA	1902165-07 1901142-07 1.22	2.98e4	72.0	NO
5	5	13C9-PFNA	1902165-07 1901142-07 1.22	1.89e4	64.2	NO
6	6	13C4-PFOS	1902165-07 1901142-07 1.22	4.06e3	82.4	NO
7	7	13C6-PFDA	1902165-07 1901142-07 1.22	2.25e4	60.8	NO
8	8	13C7-PFUdA	1902165-07 1901142-07 1.22	1.80e4	38.8	YES

Name: 190723M2_67, Date: 23-Jul-2019, Time: 21:32:18, ID: 1902165-08 1901142-08 1.22, Description: 1901142-08

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-08 1901142-08 1.22	1.51e4	138.8	NO
2	2	13C5-PFHxA	1902165-08 1901142-08 1.22	2.73e4	79.7	NO
3	3	18O2-PFHxS	1902165-08 1901142-08 1.22	1.90e3	89.2	NO
4	4	13C8-PFOA	1902165-08 1901142-08 1.22	3.01e4	72.8	NO
5	5	13C9-PFNA	1902165-08 1901142-08 1.22	1.97e4	66.8	NO
6	6	13C4-PFOS	1902165-08 1901142-08 1.22	4.25e3	86.3	NO
7	7	13C6-PFDA	1902165-08 1901142-08 1.22	2.34e4	63.3	NO
8	8	13C7-PFUdA	1902165-08 1901142-08 1.22	2.19e4	47.2	YES

Name: 190723M2_68, Date: 23-Jul-2019, Time: 21:42:57, ID: 1902165-09 1901142-09 1.2, Description: 1901142-09

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-09 1901142-09 1.2	1.49e4	136.3	NO
2	2	13C5-PFHxA	1902165-09 1901142-09 1.2	2.76e4	80.7	NO
3	3	18O2-PFHxS	1902165-09 1901142-09 1.2	1.84e3	86.6	NO
4	4	13C8-PFOA	1902165-09 1901142-09 1.2	2.99e4	72.2	NO
5	5	13C9-PFNA	1902165-09 1901142-09 1.2	1.87e4	63.6	NO
6	6	13C4-PFOS	1902165-09 1901142-09 1.2	3.90e3	79.0	NO
7	7	13C6-PFDA	1902165-09 1901142-09 1.2	2.44e4	66.1	NO
8	8	13C7-PFUdA	1902165-09 1901142-09 1.2	2.26e4	48.5	YES

Name: 190723M2_69, Date: 23-Jul-2019, Time: 21:53:35, ID: 1902165-10 1901142-10 1.22, Description: 1901142-10

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-10 1901142-10 1.22	1.45e4	133.5	NO
2	2	13C5-PFHxA	1902165-10 1901142-10 1.22	2.69e4	78.6	NO
3	3	18O2-PFHxS	1902165-10 1901142-10 1.22	1.74e3	81.8	NO
4	4	13C8-PFOA	1902165-10 1901142-10 1.22	3.23e4	78.1	NO
5	5	13C9-PFNA	1902165-10 1901142-10 1.22	2.24e4	76.1	NO
6	6	13C4-PFOS	1902165-10 1901142-10 1.22	3.87e3	78.5	NO
7	7	13C6-PFDA	1902165-10 1901142-10 1.22	2.63e4	71.2	NO
8	8	13C7-PFUdA	1902165-10 1901142-10 1.22	2.18e4	46.7	YES

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Name: 190723M2_70, Date: 23-Jul-2019, Time: 22:04:08, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA	6.60e0	0.0	YES
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: 190723M2_71, Date: 23-Jul-2019, Time: 22:14:46, ID: ST190723M2-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-6 PFC CS3 19G1106	1.20e4	110.5	NO
2	2	13C5-PFHxA	ST190723M2-6 PFC CS3 19G1106	3.67e4	107.4	NO
3	3	18O2-PFHxS	ST190723M2-6 PFC CS3 19G1106	2.37e3	111.2	NO
4	4	13C8-PFOA	ST190723M2-6 PFC CS3 19G1106	4.31e4	104.3	NO
5	5	13C9-PFNA	ST190723M2-6 PFC CS3 19G1106	3.07e4	104.2	NO
6	6	13C4-PFOS	ST190723M2-6 PFC CS3 19G1106	5.63e3	114.3	NO
7	7	13C6-PFDA	ST190723M2-6 PFC CS3 19G1106	4.02e4	109.0	NO
8	8	13C7-PFUdA	ST190723M2-6 PFC CS3 19G1106	4.75e4	102.2	NO

Name: 190723M2_72, Date: 23-Jul-2019, Time: 22:25:18, 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: 190723M2_73, Date: 23-Jul-2019, Time: 22:35:57, ID: 1902165-11 1901142-11 1.22, Description: 1901142-11

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-11 1901142-11 1.22	1.47e4	134.5	NO
2	2	13C5-PFHxA	1902165-11 1901142-11 1.22	2.88e4	84.1	NO
3	3	18O2-PFHxS	1902165-11 1901142-11 1.22	1.81e3	84.9	NO
4	4	13C8-PFOA	1902165-11 1901142-11 1.22	3.49e4	84.4	NO
5	5	13C9-PFNA	1902165-11 1901142-11 1.22	2.18e4	74.1	NO
6	6	13C4-PFOS	1902165-11 1901142-11 1.22	3.39e3	68.7	NO
7	7	13C6-PFDA	1902165-11 1901142-11 1.22	2.47e4	67.0	NO
8	8	13C7-PFUdA	1902165-11 1901142-11 1.22	2.01e4	43.2	YES

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Name: 190723M2_74, Date: 23-Jul-2019, Time: 22:46:35, ID: 1902165-12 1901142-12 1.28, Description: 1901142-12

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-12 1901142-12 1.28	1.41e4	129.8	NO
2	2	13C5-PFHxA	1902165-12 1901142-12 1.28	2.53e4	73.9	NO
3	3	18O2-PFHxS	1902165-12 1901142-12 1.28	1.96e3	91.9	NO
4	4	13C8-PFOA	1902165-12 1901142-12 1.28	2.36e4	57.0	NO
5	5	13C9-PFNA	1902165-12 1901142-12 1.28	1.62e4	55.1	NO
6	6	13C4-PFOS	1902165-12 1901142-12 1.28	4.29e3	87.0	NO
7	7	13C6-PFDA	1902165-12 1901142-12 1.28	2.33e4	63.0	NO
8	8	13C7-PFUdA	1902165-12 1901142-12 1.28	2.50e4	53.6	NO

Name: 190723M2_75, Date: 23-Jul-2019, Time: 22:57:08, ID: 1902165-13 1901142-13 1.02, Description: 1901142-13

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-13 1901142-13 1.02	1.70e4	156.0	YES
2	2	13C5-PFHxA	1902165-13 1901142-13 1.02	3.13e4	91.4	NO
3	3	18O2-PFHxS	1902165-13 1901142-13 1.02	2.12e3	99.3	NO
4	4	13C8-PFOA	1902165-13 1901142-13 1.02	3.77e4	91.1	NO
5	5	13C9-PFNA	1902165-13 1901142-13 1.02	2.55e4	86.7	NO
6	6	13C4-PFOS	1902165-13 1901142-13 1.02	3.58e3	72.6	NO
7	7	13C6-PFDA	1902165-13 1901142-13 1.02	2.54e4	68.7	NO
8	8	13C7-PFUdA	1902165-13 1901142-13 1.02	1.56e4	33.5	YES

Name: 190723M2_76, Date: 23-Jul-2019, Time: 23:07:46, ID: 1902165-14 1901142-14 1.2, Description: 1901142-14

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-14 1901142-14 1.2	1.38e4	126.2	NO
2	2	13C5-PFHxA	1902165-14 1901142-14 1.2	2.36e4	69.0	NO
3	3	18O2-PFHxS	1902165-14 1901142-14 1.2	1.73e3	81.1	NO
4	4	13C8-PFOA	1902165-14 1901142-14 1.2	2.35e4	56.7	NO
5	5	13C9-PFNA	1902165-14 1901142-14 1.2	1.55e4	52.5	NO
6	6	13C4-PFOS	1902165-14 1901142-14 1.2	3.92e3	79.6	NO
7	7	13C6-PFDA	1902165-14 1901142-14 1.2	1.98e4	53.5	NO
8	8	13C7-PFUdA	1902165-14 1901142-14 1.2	2.07e4	44.5	YES

Name: 190723M2_77, Date: 23-Jul-2019, Time: 23:18:24, ID: 1902165-15 1901142-15 1.24, Description: 1901142-15

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-15 1901142-15 1.24	1.50e4	137.9	NO
2	2	13C5-PFHxA	1902165-15 1901142-15 1.24	2.89e4	84.4	NO
3	3	18O2-PFHxS	1902165-15 1901142-15 1.24	1.84e3	86.4	NO
4	4	13C8-PFOA	1902165-15 1901142-15 1.24	3.31e4	79.9	NO
5	5	13C9-PFNA	1902165-15 1901142-15 1.24	2.11e4	71.5	NO
6	6	13C4-PFOS	1902165-15 1901142-15 1.24	2.66e3	53.9	NO
7	7	13C6-PFDA	1902165-15 1901142-15 1.24	1.76e4	47.8	YES
8	8	13C7-PFUdA	1902165-15 1901142-15 1.24	9.91e3	21.3	YES

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Name: 190723M2_78, Date: 23-Jul-2019, Time: 23:28:57, ID: 1902165-16 1901142-16 1.22, Description: 1901142-16

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902165-16 1901142-16 1.22	1.34e4	123.1	NO
2	2	13C5-PFHxA	1902165-16 1901142-16 1.22	2.49e4	72.7	NO
3	3	18O2-PFHxS	1902165-16 1901142-16 1.22	1.71e3	80.0	NO
4	4	13C8-PFOA	1902165-16 1901142-16 1.22	2.85e4	69.0	NO
5	5	13C9-PFNA	1902165-16 1901142-16 1.22	2.04e4	69.2	NO
6	6	13C4-PFOS	1902165-16 1901142-16 1.22	4.10e3	83.2	NO
7	7	13C6-PFDA	1902165-16 1901142-16 1.22	2.55e4	69.2	NO
8	8	13C7-PFUdA	1902165-16 1901142-16 1.22	2.46e4	52.9	NO

Name: 190723M2_79, Date: 23-Jul-2019, Time: 23:39:36, ID: B9G0157-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0157-BS1 OPR 0.25	9.73e3	89.3	NO
2	2	13C5-PFHxA	B9G0157-BS1 OPR 0.25	1.93e4	56.4	NO
3	3	18O2-PFHxS	B9G0157-BS1 OPR 0.25	1.51e3	70.6	NO
4	4	13C8-PFOA	B9G0157-BS1 OPR 0.25	2.50e4	60.4	NO
5	5	13C9-PFNA	B9G0157-BS1 OPR 0.25	1.92e4	65.0	NO
6	6	13C4-PFOS	B9G0157-BS1 OPR 0.25	3.67e3	74.4	NO
7	7	13C6-PFDA	B9G0157-BS1 OPR 0.25	2.59e4	70.1	NO
8	8	13C7-PFUdA	B9G0157-BS1 OPR 0.25	3.16e4	67.9	NO

Name: 190723M2_80, Date: 23-Jul-2019, Time: 23:50:09, ID: B9G0157-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0157-BLK1 Method Blank 0.25	1.06e4	97.6	NO
2	2	13C5-PFHxA	B9G0157-BLK1 Method Blank 0.25	2.13e4	62.3	NO
3	3	18O2-PFHxS	B9G0157-BLK1 Method Blank 0.25	1.50e3	70.5	NO
4	4	13C8-PFOA	B9G0157-BLK1 Method Blank 0.25	2.65e4	64.2	NO
5	5	13C9-PFNA	B9G0157-BLK1 Method Blank 0.25	2.09e4	71.0	NO
6	6	13C4-PFOS	B9G0157-BLK1 Method Blank 0.25	3.72e3	75.5	NO
7	7	13C6-PFDA	B9G0157-BLK1 Method Blank 0.25	2.76e4	74.7	NO
8	8	13C7-PFUdA	B9G0157-BLK1 Method Blank 0.25	3.17e4	68.1	NO

Name: 190723M2_81, Date: 24-Jul-2019, Time: 00:00:48, ID: 1902093-01 AS-SW-13-0719 0.24744, Description: AS-SW-13-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-01 AS-SW-13-0719 0.24744	1.23e4	112.8	NO
2	2	13C5-PFHxA	1902093-01 AS-SW-13-0719 0.24744	2.39e4	69.9	NO
3	3	18O2-PFHxS	1902093-01 AS-SW-13-0719 0.24744	1.67e3	78.3	NO
4	4	13C8-PFOA	1902093-01 AS-SW-13-0719 0.24744	3.02e4	73.1	NO
5	5	13C9-PFNA	1902093-01 AS-SW-13-0719 0.24744	2.11e4	71.6	NO
6	6	13C4-PFOS	1902093-01 AS-SW-13-0719 0.24744	3.90e3	79.1	NO
7	7	13C6-PFDA	1902093-01 AS-SW-13-0719 0.24744	2.87e4	77.9	NO
8	8	13C7-PFUdA	1902093-01 AS-SW-13-0719 0.24744	3.41e4	73.4	NO

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Name: 190723M2_82, Date: 24-Jul-2019, Time: 00:11:20, ID: 1902093-02 AS-PW-13-0719 0.25205, Description: AS-PW-13-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-02 AS-PW-13-0719 0.25205	1.08e4	99.4	NO
2	2	13C5-PFHxA	1902093-02 AS-PW-13-0719 0.25205	2.08e4	60.8	NO
3	3	18O2-PFHxS	1902093-02 AS-PW-13-0719 0.25205	1.58e3	74.0	NO
4	4	13C8-PFOA	1902093-02 AS-PW-13-0719 0.25205	2.66e4	64.3	NO
5	5	13C9-PFNA	1902093-02 AS-PW-13-0719 0.25205	1.95e4	66.3	NO
6	6	13C4-PFOS	1902093-02 AS-PW-13-0719 0.25205	3.74e3	75.8	NO
7	7	13C6-PFDA	1902093-02 AS-PW-13-0719 0.25205	2.65e4	71.8	NO
8	8	13C7-PFUdA	1902093-02 AS-PW-13-0719 0.25205	3.10e4	66.6	NO

Name: 190723M2_83, Date: 24-Jul-2019, Time: 00:21:58, ID: 1902093-03 AS-SW-14-0719 0.23822, Description: AS-SW-14-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-03 AS-SW-14-0719 0.23822	1.11e4	101.7	NO
2	2	13C5-PFHxA	1902093-03 AS-SW-14-0719 0.23822	2.26e4	66.1	NO
3	3	18O2-PFHxS	1902093-03 AS-SW-14-0719 0.23822	1.44e3	67.8	NO
4	4	13C8-PFOA	1902093-03 AS-SW-14-0719 0.23822	2.65e4	64.0	NO
5	5	13C9-PFNA	1902093-03 AS-SW-14-0719 0.23822	1.88e4	63.7	NO
6	6	13C4-PFOS	1902093-03 AS-SW-14-0719 0.23822	3.62e3	73.5	NO
7	7	13C6-PFDA	1902093-03 AS-SW-14-0719 0.23822	2.48e4	67.2	NO
8	8	13C7-PFUdA	1902093-03 AS-SW-14-0719 0.23822	3.00e4	64.4	NO

Name: 190723M2_84, Date: 24-Jul-2019, Time: 00:32:30, 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

Name: 190723M2_85, Date: 24-Jul-2019, Time: 00:43:08, ID: ST190723M2-7 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-7 PFC CS3 19G1106	1.10e4	101.1	NO
2	2	13C5-PFHxA	ST190723M2-7 PFC CS3 19G1106	3.58e4	104.8	NO
3	3	18O2-PFHxS	ST190723M2-7 PFC CS3 19G1106	2.17e3	101.8	NO
4	4	13C8-PFOA	ST190723M2-7 PFC CS3 19G1106	4.38e4	105.8	NO
5	5	13C9-PFNA	ST190723M2-7 PFC CS3 19G1106	3.09e4	104.8	NO
6	6	13C4-PFOS	ST190723M2-7 PFC CS3 19G1106	5.52e3	111.9	NO
7	7	13C6-PFDA	ST190723M2-7 PFC CS3 19G1106	4.01e4	108.7	NO
8	8	13C7-PFUdA	ST190723M2-7 PFC CS3 19G1106	4.82e4	103.6	NO

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Name: 190723M2_86, Date: 24-Jul-2019, Time: 00:53:42, 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: 190723M2_87, Date: 24-Jul-2019, Time: 01:04:20, ID: 1902093-04 AS-PW-14-0719 0.25211, Description: AS-PW-14-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-04 AS-PW-14-0719 0.25211	1.27e4	116.3	NO
2	2	13C5-PFHxA	1902093-04 AS-PW-14-0719 0.25211	2.34e4	68.5	NO
3	3	18O2-PFHxS	1902093-04 AS-PW-14-0719 0.25211	1.60e3	75.0	NO
4	4	13C8-PFOA	1902093-04 AS-PW-14-0719 0.25211	2.84e4	68.7	NO
5	5	13C9-PFNA	1902093-04 AS-PW-14-0719 0.25211	2.10e4	71.2	NO
6	6	13C4-PFOS	1902093-04 AS-PW-14-0719 0.25211	3.79e3	77.0	NO
7	7	13C6-PFDA	1902093-04 AS-PW-14-0719 0.25211	2.70e4	73.2	NO
8	8	13C7-PFUdA	1902093-04 AS-PW-14-0719 0.25211	3.16e4	67.9	NO

Name: 190723M2_88, Date: 24-Jul-2019, Time: 01:14:53, ID: 1902093-05 AS-SW-15-0719 0.23059, Description: AS-SW-15-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-05 AS-SW-15-0719 0.23059	9.97e3	91.5	NO
2	2	13C5-PFHxA	1902093-05 AS-SW-15-0719 0.23059	2.01e4	58.8	NO
3	3	18O2-PFHxS	1902093-05 AS-SW-15-0719 0.23059	1.40e3	65.8	NO
4	4	13C8-PFOA	1902093-05 AS-SW-15-0719 0.23059	2.50e4	60.5	NO
5	5	13C9-PFNA	1902093-05 AS-SW-15-0719 0.23059	1.75e4	59.3	NO
6	6	13C4-PFOS	1902093-05 AS-SW-15-0719 0.23059	3.42e3	69.3	NO
7	7	13C6-PFDA	1902093-05 AS-SW-15-0719 0.23059	2.38e4	64.6	NO
8	8	13C7-PFUdA	1902093-05 AS-SW-15-0719 0.23059	2.82e4	60.7	NO

Name: 190723M2_89, Date: 24-Jul-2019, Time: 01:25:32, ID: 1902093-06 AS-PW-15-0719 0.25198, Description: AS-PW-15-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-06 AS-PW-15-0719 0.25198	9.92e3	91.0	NO
2	2	13C5-PFHxA	1902093-06 AS-PW-15-0719 0.25198	2.05e4	60.0	NO
3	3	18O2-PFHxS	1902093-06 AS-PW-15-0719 0.25198	1.57e3	73.7	NO
4	4	13C8-PFOA	1902093-06 AS-PW-15-0719 0.25198	2.64e4	63.9	NO
5	5	13C9-PFNA	1902093-06 AS-PW-15-0719 0.25198	1.92e4	65.1	NO
6	6	13C4-PFOS	1902093-06 AS-PW-15-0719 0.25198	3.85e3	78.0	NO
7	7	13C6-PFDA	1902093-06 AS-PW-15-0719 0.25198	2.51e4	68.0	NO
8	8	13C7-PFUdA	1902093-06 AS-PW-15-0719 0.25198	3.11e4	66.8	NO

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Name: 190723M2_90, Date: 24-Jul-2019, Time: 01:36:05, ID: 1902093-07 AS-SW-16-0719 0.24267, Description: AS-SW-16-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-07 AS-SW-16-0719 0.24267	1.36e4	125.2	NO
2	2	13C5-PFHxA	1902093-07 AS-SW-16-0719 0.24267	2.54e4	74.3	NO
3	3	18O2-PFHxS	1902093-07 AS-SW-16-0719 0.24267	1.73e3	81.2	NO
4	4	13C8-PFOA	1902093-07 AS-SW-16-0719 0.24267	3.16e4	76.4	NO
5	5	13C9-PFNA	1902093-07 AS-SW-16-0719 0.24267	2.28e4	77.4	NO
6	6	13C4-PFOS	1902093-07 AS-SW-16-0719 0.24267	4.37e3	88.6	NO
7	7	13C6-PFDA	1902093-07 AS-SW-16-0719 0.24267	3.09e4	83.7	NO
8	8	13C7-PFUdA	1902093-07 AS-SW-16-0719 0.24267	3.66e4	78.7	NO

Name: 190723M2_91, Date: 24-Jul-2019, Time: 01:46:35, ID: 1902093-08 AS-PW-16-0719 0.27834, Description: AS-PW-16-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-08 AS-PW-16-0719 0.27834	1.22e4	112.0	NO
2	2	13C5-PFHxA	1902093-08 AS-PW-16-0719 0.27834	2.34e4	68.4	NO
3	3	18O2-PFHxS	1902093-08 AS-PW-16-0719 0.27834	1.56e3	73.3	NO
4	4	13C8-PFOA	1902093-08 AS-PW-16-0719 0.27834	2.78e4	67.3	NO
5	5	13C9-PFNA	1902093-08 AS-PW-16-0719 0.27834	1.95e4	66.1	NO
6	6	13C4-PFOS	1902093-08 AS-PW-16-0719 0.27834	3.88e3	78.7	NO
7	7	13C6-PFDA	1902093-08 AS-PW-16-0719 0.27834	2.69e4	73.0	NO
8	8	13C7-PFUdA	1902093-08 AS-PW-16-0719 0.27834	3.46e4	74.3	NO

Name: 190723M2_92, Date: 24-Jul-2019, Time: 01:57:14, ID: 1902093-09 AS-SW-17-0719 0.23708, Description: AS-SW-17-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-09 AS-SW-17-0719 0.23708	1.22e4	112.1	NO
2	2	13C5-PFHxA	1902093-09 AS-SW-17-0719 0.23708	2.51e4	73.4	NO
3	3	18O2-PFHxS	1902093-09 AS-SW-17-0719 0.23708	1.82e3	85.6	NO
4	4	13C8-PFOA	1902093-09 AS-SW-17-0719 0.23708	2.95e4	71.3	NO
5	5	13C9-PFNA	1902093-09 AS-SW-17-0719 0.23708	2.22e4	75.4	NO
6	6	13C4-PFOS	1902093-09 AS-SW-17-0719 0.23708	4.30e3	87.3	NO
7	7	13C6-PFDA	1902093-09 AS-SW-17-0719 0.23708	2.84e4	77.0	NO
8	8	13C7-PFUdA	1902093-09 AS-SW-17-0719 0.23708	3.54e4	76.1	NO

Name: 190723M2_93, Date: 24-Jul-2019, Time: 02:07:52, ID: 1902093-10 AS-PW-17-0719 0.24621, Description: AS-PW-17-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-10 AS-PW-17-0719 0.24621	1.08e4	99.1	NO
2	2	13C5-PFHxA	1902093-10 AS-PW-17-0719 0.24621	2.20e4	64.2	NO
3	3	18O2-PFHxS	1902093-10 AS-PW-17-0719 0.24621	1.81e3	84.9	NO
4	4	13C8-PFOA	1902093-10 AS-PW-17-0719 0.24621	2.74e4	66.3	NO
5	5	13C9-PFNA	1902093-10 AS-PW-17-0719 0.24621	1.81e4	61.6	NO
6	6	13C4-PFOS	1902093-10 AS-PW-17-0719 0.24621	4.31e3	87.4	NO
7	7	13C6-PFDA	1902093-10 AS-PW-17-0719 0.24621	2.42e4	65.6	NO
8	8	13C7-PFUdA	1902093-10 AS-PW-17-0719 0.24621	3.17e4	68.1	NO

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Name: 190723M2_94, Date: 24-Jul-2019, Time: 02:18:25, ID: 1902107-01 GW0900931907101840RL 0.24624, Description: GW0900931907101840RL

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902107-01 GW0900931907101840RL ...	9.31e3	85.4	NO
2	2	13C5-PFHxA	1902107-01 GW0900931907101840RL ...	1.98e4	57.8	NO
3	3	18O2-PFHxS	1902107-01 GW0900931907101840RL ...	1.70e3	80.0	NO
4	4	13C8-PFOA	1902107-01 GW0900931907101840RL ...	2.50e4	60.4	NO
5	5	13C9-PFNA	1902107-01 GW0900931907101840RL ...	1.83e4	62.2	NO
6	6	13C4-PFOS	1902107-01 GW0900931907101840RL ...	4.00e3	81.1	NO
7	7	13C6-PFDA	1902107-01 GW0900931907101840RL ...	2.42e4	65.6	NO
8	8	13C7-PFUdA	1902107-01 GW0900931907101840RL ...	3.10e4	66.5	NO

Name: 190723M2_95, Date: 24-Jul-2019, Time: 02:29:03, 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: 190723M2_96, Date: 24-Jul-2019, Time: 02:39:36, ID: ST190723M2-8 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-8 PFC CS3 19G1106	1.12e4	102.9	NO
2	2	13C5-PFHxA	ST190723M2-8 PFC CS3 19G1106	3.56e4	104.1	NO
3	3	18O2-PFHxS	ST190723M2-8 PFC CS3 19G1106	2.22e3	104.4	NO
4	4	13C8-PFOA	ST190723M2-8 PFC CS3 19G1106	4.30e4	104.1	NO
5	5	13C9-PFNA	ST190723M2-8 PFC CS3 19G1106	2.93e4	99.6	NO
6	6	13C4-PFOS	ST190723M2-8 PFC CS3 19G1106	5.57e3	113.1	NO
7	7	13C6-PFDA	ST190723M2-8 PFC CS3 19G1106	4.10e4	111.1	NO
8	8	13C7-PFUdA	ST190723M2-8 PFC CS3 19G1106	4.80e4	103.2	NO

Name: 190723M2_97, Date: 24-Jul-2019, Time: 02:50:15, ID: IPA, Description: IPA

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IPA			NO
2	2	13C5-PFHxA	IPA	7.19e0	0.0	YES
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: 190723M2_98, Date: 24-Jul-2019, Time: 03:00:48, ID: B9G0150-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0150-BS1 OPR 0.25	1.02e4	93.2	NO
2	2	13C5-PFHxA	B9G0150-BS1 OPR 0.25	2.14e4	62.6	NO
3	3	18O2-PFHxS	B9G0150-BS1 OPR 0.25	1.77e3	83.0	NO
4	4	13C8-PFOA	B9G0150-BS1 OPR 0.25	2.72e4	65.9	NO
5	5	13C9-PFNA	B9G0150-BS1 OPR 0.25	2.05e4	69.7	NO
6	6	13C4-PFOS	B9G0150-BS1 OPR 0.25	4.26e3	86.4	NO
7	7	13C6-PFDA	B9G0150-BS1 OPR 0.25	2.83e4	76.8	NO
8	8	13C7-PFUdA	B9G0150-BS1 OPR 0.25	3.59e4	77.1	NO

Name: 190723M2_99, Date: 24-Jul-2019, Time: 03:11:27, ID: B9G0150-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0150-BLK1 Method Blank 0.25	1.01e4	93.0	NO
2	2	13C5-PFHxA	B9G0150-BLK1 Method Blank 0.25	2.10e4	61.3	NO
3	3	18O2-PFHxS	B9G0150-BLK1 Method Blank 0.25	1.86e3	87.3	NO
4	4	13C8-PFOA	B9G0150-BLK1 Method Blank 0.25	2.77e4	66.9	NO
5	5	13C9-PFNA	B9G0150-BLK1 Method Blank 0.25	2.13e4	72.4	NO
6	6	13C4-PFOS	B9G0150-BLK1 Method Blank 0.25	4.46e3	90.4	NO
7	7	13C6-PFDA	B9G0150-BLK1 Method Blank 0.25	2.87e4	77.7	NO
8	8	13C7-PFUdA	B9G0150-BLK1 Method Blank 0.25	3.58e4	76.9	NO

Name: 190723M2_100, Date: 24-Jul-2019, Time: 03:22:00, ID: 1902094-01 AS-SW-18-0719 0.24659, Description: AS-SW-18-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-01 AS-SW-18-0719 0.24659	1.14e4	104.7	NO
2	2	13C5-PFHxA	1902094-01 AS-SW-18-0719 0.24659	2.24e4	65.4	NO
3	3	18O2-PFHxS	1902094-01 AS-SW-18-0719 0.24659	1.72e3	80.6	NO
4	4	13C8-PFOA	1902094-01 AS-SW-18-0719 0.24659	2.82e4	68.2	NO
5	5	13C9-PFNA	1902094-01 AS-SW-18-0719 0.24659	2.04e4	69.4	NO
6	6	13C4-PFOS	1902094-01 AS-SW-18-0719 0.24659	4.18e3	84.7	NO
7	7	13C6-PFDA	1902094-01 AS-SW-18-0719 0.24659	2.75e4	74.5	NO
8	8	13C7-PFUdA	1902094-01 AS-SW-18-0719 0.24659	3.42e4	73.5	NO

Name: 190723M2_101, Date: 24-Jul-2019, Time: 03:32:38, ID: 1902094-02 AS-PW-18-0719 0.23578, Description: AS-PW-18-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-02 AS-PW-18-0719 0.23578	1.18e4	108.3	NO
2	2	13C5-PFHxA	1902094-02 AS-PW-18-0719 0.23578	2.28e4	66.7	NO
3	3	18O2-PFHxS	1902094-02 AS-PW-18-0719 0.23578	1.93e3	90.7	NO
4	4	13C8-PFOA	1902094-02 AS-PW-18-0719 0.23578	2.96e4	71.7	NO
5	5	13C9-PFNA	1902094-02 AS-PW-18-0719 0.23578	2.15e4	73.0	NO
6	6	13C4-PFOS	1902094-02 AS-PW-18-0719 0.23578	4.65e3	94.4	NO
7	7	13C6-PFDA	1902094-02 AS-PW-18-0719 0.23578	2.87e4	77.7	NO
8	8	13C7-PFUdA	1902094-02 AS-PW-18-0719 0.23578	3.47e4	74.5	NO

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Name: 190723M2_102, Date: 24-Jul-2019, Time: 03:43:11, ID: 1902094-03 AS-SW-19-0719 0.24013, Description: AS-SW-19-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-03 AS-SW-19-0719 0.24013	1.16e4	106.8	NO
2	2	13C5-PFHxA	1902094-03 AS-SW-19-0719 0.24013	2.34e4	68.4	NO
3	3	18O2-PFHxS	1902094-03 AS-SW-19-0719 0.24013	1.54e3	72.3	NO
4	4	13C8-PFOA	1902094-03 AS-SW-19-0719 0.24013	2.83e4	68.3	NO
5	5	13C9-PFNA	1902094-03 AS-SW-19-0719 0.24013	1.98e4	67.1	NO
6	6	13C4-PFOS	1902094-03 AS-SW-19-0719 0.24013	4.05e3	82.1	NO
7	7	13C6-PFDA	1902094-03 AS-SW-19-0719 0.24013	2.56e4	69.2	NO
8	8	13C7-PFUdA	1902094-03 AS-SW-19-0719 0.24013	3.26e4	69.9	NO

Name: 190723M2_103, Date: 24-Jul-2019, Time: 03:53:50, ID: 1902094-04 AS-PW-19-0719 0.24356, Description: AS-PW-19-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-04 AS-PW-19-0719 0.24356	1.09e4	100.1	NO
2	2	13C5-PFHxA	1902094-04 AS-PW-19-0719 0.24356	2.32e4	67.8	NO
3	3	18O2-PFHxS	1902094-04 AS-PW-19-0719 0.24356	1.74e3	81.8	NO
4	4	13C8-PFOA	1902094-04 AS-PW-19-0719 0.24356	2.84e4	68.8	NO
5	5	13C9-PFNA	1902094-04 AS-PW-19-0719 0.24356	2.04e4	69.4	NO
6	6	13C4-PFOS	1902094-04 AS-PW-19-0719 0.24356	4.37e3	88.5	NO
7	7	13C6-PFDA	1902094-04 AS-PW-19-0719 0.24356	2.75e4	74.5	NO
8	8	13C7-PFUdA	1902094-04 AS-PW-19-0719 0.24356	3.27e4	70.3	NO

Name: 190723M2_104, Date: 24-Jul-2019, Time: 04:04:23, ID: 1902094-05 AS-SW-20-0719 0.23482, Description: AS-SW-20-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-05 AS-SW-20-0719 0.23482	1.14e4	104.9	NO
2	2	13C5-PFHxA	1902094-05 AS-SW-20-0719 0.23482	2.25e4	65.8	NO
3	3	18O2-PFHxS	1902094-05 AS-SW-20-0719 0.23482	1.63e3	76.4	NO
4	4	13C8-PFOA	1902094-05 AS-SW-20-0719 0.23482	2.79e4	67.4	NO
5	5	13C9-PFNA	1902094-05 AS-SW-20-0719 0.23482	2.00e4	68.0	NO
6	6	13C4-PFOS	1902094-05 AS-SW-20-0719 0.23482	4.16e3	84.5	NO
7	7	13C6-PFDA	1902094-05 AS-SW-20-0719 0.23482	2.74e4	74.2	NO
8	8	13C7-PFUdA	1902094-05 AS-SW-20-0719 0.23482	3.36e4	72.2	NO

Name: 190723M2_105, Date: 24-Jul-2019, Time: 04:15:01, ID: 1902094-06 AS-PW-20-0719 0.24648, Description: AS-PW-20-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-06 AS-PW-20-0719 0.24648	1.40e4	128.4	NO
2	2	13C5-PFHxA	1902094-06 AS-PW-20-0719 0.24648	2.77e4	81.0	NO
3	3	18O2-PFHxS	1902094-06 AS-PW-20-0719 0.24648	1.80e3	84.3	NO
4	4	13C8-PFOA	1902094-06 AS-PW-20-0719 0.24648	3.35e4	81.0	NO
5	5	13C9-PFNA	1902094-06 AS-PW-20-0719 0.24648	2.36e4	80.0	NO
6	6	13C4-PFOS	1902094-06 AS-PW-20-0719 0.24648	4.37e3	88.6	NO
7	7	13C6-PFDA	1902094-06 AS-PW-20-0719 0.24648	3.15e4	85.2	NO
8	8	13C7-PFUdA	1902094-06 AS-PW-20-0719 0.24648	3.70e4	79.4	NO

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Name: 190723M2_106, Date: 24-Jul-2019, Time: 04:25:34, ID: 1902094-07 AS-SW-21-0719 0.22902, Description: AS-SW-21-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-07 AS-SW-21-0719 0.22902	1.15e4	105.8	NO
2	2	13C5-PFHxA	1902094-07 AS-SW-21-0719 0.22902	2.44e4	71.4	NO
3	3	18O2-PFHxS	1902094-07 AS-SW-21-0719 0.22902	1.74e3	81.6	NO
4	4	13C8-PFOA	1902094-07 AS-SW-21-0719 0.22902	3.11e4	75.2	NO
5	5	13C9-PFNA	1902094-07 AS-SW-21-0719 0.22902	2.26e4	76.6	NO
6	6	13C4-PFOS	1902094-07 AS-SW-21-0719 0.22902	4.15e3	84.2	NO
7	7	13C6-PFDA	1902094-07 AS-SW-21-0719 0.22902	2.86e4	77.6	NO
8	8	13C7-PFUdA	1902094-07 AS-SW-21-0719 0.22902	3.57e4	76.7	NO

Name: 190723M2_107, Date: 24-Jul-2019, Time: 04:36:12, ID: 1902094-08 AS-PW-21-0719 0.22795, Description: AS-PW-21-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-08 AS-PW-21-0719 0.22795	1.16e4	106.2	NO
2	2	13C5-PFHxA	1902094-08 AS-PW-21-0719 0.22795	2.35e4	68.7	NO
3	3	18O2-PFHxS	1902094-08 AS-PW-21-0719 0.22795	1.76e3	82.6	NO
4	4	13C8-PFOA	1902094-08 AS-PW-21-0719 0.22795	2.98e4	72.1	NO
5	5	13C9-PFNA	1902094-08 AS-PW-21-0719 0.22795	2.20e4	74.6	NO
6	6	13C4-PFOS	1902094-08 AS-PW-21-0719 0.22795	4.35e3	88.2	NO
7	7	13C6-PFDA	1902094-08 AS-PW-21-0719 0.22795	2.90e4	78.6	NO
8	8	13C7-PFUdA	1902094-08 AS-PW-21-0719 0.22795	3.71e4	79.8	NO

Name: 190723M2_108, Date: 24-Jul-2019, Time: 04:46:46, ID: 1902094-09 AS-SW-22-0719 0.23746, Description: AS-SW-22-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-09 AS-SW-22-0719 0.23746	1.39e4	127.3	NO
2	2	13C5-PFHxA	1902094-09 AS-SW-22-0719 0.23746	2.66e4	77.6	NO
3	3	18O2-PFHxS	1902094-09 AS-SW-22-0719 0.23746	1.76e3	82.6	NO
4	4	13C8-PFOA	1902094-09 AS-SW-22-0719 0.23746	3.19e4	77.0	NO
5	5	13C9-PFNA	1902094-09 AS-SW-22-0719 0.23746	2.18e4	73.9	NO
6	6	13C4-PFOS	1902094-09 AS-SW-22-0719 0.23746	4.23e3	85.8	NO
7	7	13C6-PFDA	1902094-09 AS-SW-22-0719 0.23746	2.77e4	75.1	NO
8	8	13C7-PFUdA	1902094-09 AS-SW-22-0719 0.23746	3.26e4	70.1	NO

Name: 190723M2_109, Date: 24-Jul-2019, Time: 04:57:24, ID: 1902094-10 AS-PW-22-0719 0.23721, Description: AS-PW-22-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-10 AS-PW-22-0719 0.23721	1.18e4	107.9	NO
2	2	13C5-PFHxA	1902094-10 AS-PW-22-0719 0.23721	2.40e4	70.2	NO
3	3	18O2-PFHxS	1902094-10 AS-PW-22-0719 0.23721	1.67e3	78.2	NO
4	4	13C8-PFOA	1902094-10 AS-PW-22-0719 0.23721	3.01e4	72.8	NO
5	5	13C9-PFNA	1902094-10 AS-PW-22-0719 0.23721	2.12e4	71.9	NO
6	6	13C4-PFOS	1902094-10 AS-PW-22-0719 0.23721	4.12e3	83.6	NO
7	7	13C6-PFDA	1902094-10 AS-PW-22-0719 0.23721	2.83e4	76.6	NO
8	8	13C7-PFUdA	1902094-10 AS-PW-22-0719 0.23721	3.34e4	71.8	NO

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Name: 190723M2_110, Date: 24-Jul-2019, Time: 05:07:57, 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: 190723M2_111, Date: 24-Jul-2019, Time: 05:18:35, ID: ST190723M2-9 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-9 PFC CS3 19G1106	1.34e4	123.4	NO
2	2	13C5-PFHxA	ST190723M2-9 PFC CS3 19G1106	3.65e4	106.9	NO
3	3	18O2-PFHxS	ST190723M2-9 PFC CS3 19G1106	2.27e3	106.6	NO
4	4	13C8-PFOA	ST190723M2-9 PFC CS3 19G1106	4.29e4	103.6	NO
5	5	13C9-PFNA	ST190723M2-9 PFC CS3 19G1106	3.07e4	104.3	NO
6	6	13C4-PFOS	ST190723M2-9 PFC CS3 19G1106	5.44e3	110.3	NO
7	7	13C6-PFDA	ST190723M2-9 PFC CS3 19G1106	3.97e4	107.6	NO
8	8	13C7-PFUdA	ST190723M2-9 PFC CS3 19G1106	4.76e4	102.3	NO

Name: 190723M2_112, Date: 24-Jul-2019, Time: 05:29:14, 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: 190723M2_113, Date: 24-Jul-2019, Time: 05:39:47, ID: 1902094-11 AS-SW-23-0719 0.24375, Description: AS-SW-23-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-11 AS-SW-23-0719 0.24375	1.20e4	109.7	NO
2	2	13C5-PFHxA	1902094-11 AS-SW-23-0719 0.24375	2.49e4	72.9	NO
3	3	18O2-PFHxS	1902094-11 AS-SW-23-0719 0.24375	1.76e3	82.4	NO
4	4	13C8-PFOA	1902094-11 AS-SW-23-0719 0.24375	3.13e4	75.8	NO
5	5	13C9-PFNA	1902094-11 AS-SW-23-0719 0.24375	2.23e4	75.7	NO
6	6	13C4-PFOS	1902094-11 AS-SW-23-0719 0.24375	4.22e3	85.5	NO
7	7	13C6-PFDA	1902094-11 AS-SW-23-0719 0.24375	3.00e4	81.2	NO
8	8	13C7-PFUdA	1902094-11 AS-SW-23-0719 0.24375	3.60e4	77.4	NO

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Name: 190723M2_114, Date: 24-Jul-2019, Time: 05:50:25, ID: 1902094-12 AS-PW-23-0719 0.25506, Description: AS-PW-23-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-12 AS-PW-23-0719 0.25506	1.08e4	99.1	NO
2	2	13C5-PFHxA	1902094-12 AS-PW-23-0719 0.25506	2.19e4	64.1	NO
3	3	18O2-PFHxS	1902094-12 AS-PW-23-0719 0.25506	1.57e3	73.4	NO
4	4	13C8-PFOA	1902094-12 AS-PW-23-0719 0.25506	2.70e4	65.3	NO
5	5	13C9-PFNA	1902094-12 AS-PW-23-0719 0.25506	1.98e4	67.1	NO
6	6	13C4-PFOS	1902094-12 AS-PW-23-0719 0.25506	3.87e3	78.6	NO
7	7	13C6-PFDA	1902094-12 AS-PW-23-0719 0.25506	2.62e4	70.9	NO
8	8	13C7-PFUdA	1902094-12 AS-PW-23-0719 0.25506	3.21e4	69.0	NO

Name: 190723M2_115, Date: 24-Jul-2019, Time: 06:00:58, ID: 1902094-13 AS-SW-DUP-02-0719 0.24241, Description: AS-SW-DUP-02-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-13 AS-SW-DUP-02-0719 0.24...	1.15e4	105.8	NO
2	2	13C5-PFHxA	1902094-13 AS-SW-DUP-02-0719 0.24...	2.31e4	67.5	NO
3	3	18O2-PFHxS	1902094-13 AS-SW-DUP-02-0719 0.24...	1.60e3	75.2	NO
4	4	13C8-PFOA	1902094-13 AS-SW-DUP-02-0719 0.24...	2.89e4	69.9	NO
5	5	13C9-PFNA	1902094-13 AS-SW-DUP-02-0719 0.24...	2.06e4	69.9	NO
6	6	13C4-PFOS	1902094-13 AS-SW-DUP-02-0719 0.24...	4.14e3	84.0	NO
7	7	13C6-PFDA	1902094-13 AS-SW-DUP-02-0719 0.24...	2.71e4	73.5	NO
8	8	13C7-PFUdA	1902094-13 AS-SW-DUP-02-0719 0.24...	3.24e4	69.6	NO

Name: 190723M2_116, Date: 24-Jul-2019, Time: 06:11:36, ID: 1902094-14 AS-PW-DUP-02-0719 0.25117, Description: AS-PW-DUP-02-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902094-14 AS-PW-DUP-02-0719 0.25...	9.69e3	88.9	NO
2	2	13C5-PFHxA	1902094-14 AS-PW-DUP-02-0719 0.25...	2.01e4	58.7	NO
3	3	18O2-PFHxS	1902094-14 AS-PW-DUP-02-0719 0.25...	1.50e3	70.3	NO
4	4	13C8-PFOA	1902094-14 AS-PW-DUP-02-0719 0.25...	2.62e4	63.2	NO
5	5	13C9-PFNA	1902094-14 AS-PW-DUP-02-0719 0.25...	1.94e4	65.9	NO
6	6	13C4-PFOS	1902094-14 AS-PW-DUP-02-0719 0.25...	3.89e3	79.0	NO
7	7	13C6-PFDA	1902094-14 AS-PW-DUP-02-0719 0.25...	2.50e4	67.8	NO
8	8	13C7-PFUdA	1902094-14 AS-PW-DUP-02-0719 0.25...	3.21e4	68.9	NO

Name: 190723M2_117, Date: 24-Jul-2019, Time: 06:22:09, 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

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:57:36 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 08:58:01 Pacific Daylight Time

Name: 190723M2_118, Date: 24-Jul-2019, Time: 06:32:47, ID: ST190723M2-10 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190723M2-10 PFC CS3 19G1106	1.21e4	111.3	NO
2	2	13C5-PFHxA	ST190723M2-10 PFC CS3 19G1106	3.60e4	105.4	NO
3	3	18O2-PFHxS	ST190723M2-10 PFC CS3 19G1106	2.43e3	114.2	NO
4	4	13C8-PFOA	ST190723M2-10 PFC CS3 19G1106	4.39e4	106.1	NO
5	5	13C9-PFNA	ST190723M2-10 PFC CS3 19G1106	3.11e4	105.4	NO
6	6	13C4-PFOS	ST190723M2-10 PFC CS3 19G1106	5.31e3	107.8	NO
7	7	13C6-PFDA	ST190723M2-10 PFC CS3 19G1106	4.06e4	110.0	NO
8	8	13C7-PFUdA	ST190723M2-10 PFC CS3 19G1106	4.80e4	103.2	NO

Name: 190723M2_119, Date: 24-Jul-2019, Time: 06:43:21, 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

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, 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		7334.414	1.00					NO		
2	2	PFPrS	248.9 > 79.9		2234.030	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		15417.167	1.00					NO		
4	4	PFPeA	263.1 > 218.9		15417.167	1.00					NO		
5	5	PFBS	299.0 > 79.7		2234.030	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		3833.274	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	7334.414	9731.031	1.00	1.17	9.421	12.8	102.7	NO		
8	49	13C3-PFBS	302.0 > 98.8	2234.030	1948.001	1.00	2.46	14.335	13.6	108.4	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15417.167	32641.725	1.00	2.16	5.904	11.9	94.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15417.167	32641.725	1.00	2.16	5.904	11.9	94.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	2234.030	1948.001	1.00	2.46	14.335	13.6	108.4	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3833.274	1948.001	1.00	2.89	24.597	14.9	119.3	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		12115.146	1.00					NO		
15	8	PFPeS	349.1>80.1		2234.030	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1746.255	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		15362.537	1.00					NO		
18	11	PFHpA	363.0 > 318.9		15362.537	1.00					NO		
19	12	ADONA	376.8 > 250.9		15362.537	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	12115.146	32641.725	1.00	2.97	4.639	4.7	94.9	NO		
21	49	13C3-PFBS	302.0 > 98.8	2234.030	1948.001	1.00	2.46	14.335	13.6	108.4	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1746.255	32641.725	1.00	3.18	0.669	5.0	99.8	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15362.537	32641.725	1.00	3.59	5.883	12.3	98.4	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15362.537	32641.725	1.00	3.59	5.883	12.3	98.4	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15362.537	32641.725	1.00	3.59	5.883	12.3	98.4	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	1.840	4130.793	1.00	3.76	0.006	0.0		NO	2.480	NO
28	15	6:2 FTS	427.0 > 406.9		2677.942	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	123.343	26054.779	1.00	4.13	0.059	0.0		NO	3.463	NO
30	18	PFecHS	460.8 > 381.0		26054.779	1.00					NO		
31	19	PFHpS	449.0 > 80.0		4851.601	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		27182.754	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	4130.793	1948.001	1.00	3.75	26.507	13.1	104.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2677.942	4937.149	1.00	4.06	6.780	12.6	101.2	NO		
35	58	13C2-PFOA	414.9 > 369.7	26054.779	39227.555	1.00	4.12	8.302	12.2	97.5	NO		
36	58	13C2-PFOA	414.9 > 369.7	26054.779	39227.555	1.00	4.12	8.302	12.2	97.5	NO		

CGH 7/23/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
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Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, 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	4851.601	4937.149	1.00	4.66	12.283	12.3	98.6	NO		
38	56	13C5-PFNA	468.2 > 422.9	27182.754	28063.043	1.00	4.57	12.108	12.1	96.7	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		27182.754	1.00					NO		
41	22	PFOSA	497.9 > 77.9	22.798	6395.649	1.00	4.62	0.045	0.1		NO	296.078	YES
42	23	L-PFOS	498.9 > 79.9		4851.601	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		4851.601	1.00					NO		
44	26	PFDA	513 > 468.8	9.291	28500.447	1.00	4.95	0.004	0.0		NO	0.675	YES
45	27	8:2 FTS	527.0 > 506.9		2869.692	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	27182.754	28063.043	1.00	4.57	12.108	12.1	96.7	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6395.649	42416.449	1.00	4.63	1.885	11.2	90.0	NO		
48	59	13C8-PFOS	507.0 > 79.9	4851.601	4937.149	1.00	4.66	12.283	12.3	98.6	NO		
49	59	13C8-PFOS	507.0 > 79.9	4851.601	4937.149	1.00	4.66	12.283	12.3	98.6	NO		
50	60	13C2-PFDA	515.1 > 469.9	28500.447	35369.445	1.00	4.95	10.072	12.3	98.4	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2869.692	4937.149	1.00	4.91	7.266	13.1	104.4	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		4851.601	1.00					NO		
54	29	L-MeFOSAA	570 > 419		7274.845	1.00					NO		
55	31	L-EtFOSAA	584.1 > 419		9557.013	1.00					NO		
56	33	PFUdA	563.0 > 518.9		37311.535	1.00					NO		
57	34	PFDS	598.8 > 79.9		2869.692	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		35996.309	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	4851.601	4937.149	1.00	4.66	12.283	12.3	98.6	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7274.845	42416.449	1.00	5.10	2.144	12.1	96.6	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9557.013	42416.449	1.00	5.26	2.816	12.6	100.7	NO		
62	63	13C2-PFUdA	565 > 519.8	37311.535	42416.449	1.00	5.28	10.996	12.4	98.9	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2869.692	4937.149	1.00	4.91	7.266	13.1	104.4	NO		
64	65	13C2-PFDoA	614.7 > 569.7	35996.309	35369.445	1.00	5.57	12.722	11.7	93.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		2869.692	1.00					NO		
67	37	PFDoA	612.9 > 569.0		35996.309	1.00					NO		
68	38	N-MeFOSA	512.1 > 168.9		16960.900	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		35996.309	1.00					NO		
70	40	PFDoS	698.8 > 79.9		26086.451	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		26086.451	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	35996.309	35369.445	1.00	5.57	12.722	11.7	93.6	NO		

CGH 7/23/2019

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, 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	35996.309	35369.445	1.00	5.57	12.722	11.7	93.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	16960.900	42416.449	1.00	5.76	4.998	130.7	87.1	NO		
75	65	13C2-PFDoA	614.7 > 569.7	35996.309	35369.445	1.00	5.57	12.722	11.7	93.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	26086.451	42416.449	1.00	6.04	7.688	12.7	101.8	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	26086.451	42416.449	1.00	6.04	7.688	12.7	101.8	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		19533.613	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		13059.006	1.00					NO		
81	44	PFODA	913.1 > 868.8	15.290	13059.006	1.00	6.62	0.006			NO		
82	45	N-MeFOSE	616.1 > 58.9		13106.260	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		14433.443	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	9731.031	9731.031	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	19533.613	42416.449	1.00	6.18	5.756	129.5	86.3	NO		
86	69	13C2-PFHxDA	815 > 769.7	13059.006	42416.449	1.00	6.38	3.848	4.9	97.7	NO		
87	69	13C2-PFHxDA	815 > 769.7	13059.006	42416.449	1.00	6.38	3.848	4.9	97.7	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	13106.260	42416.449	1.00	6.34	3.862	123.4	82.3	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	14433.443	42416.449	1.00	6.49	4.253	129.5	86.3	NO		
90	73	13C5-PFHxA	318.0 > 272.9	32641.725	32641.725	1.00	2.97	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	39227.555	39227.555	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	1948.001	1948.001	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	28063.043	28063.043	1.00	4.57	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	4937.149	4937.149	1.00	4.66	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	35369.445	35369.445	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	42416.449	42416.449	1.00	5.28	12.500	12.5	100.0	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

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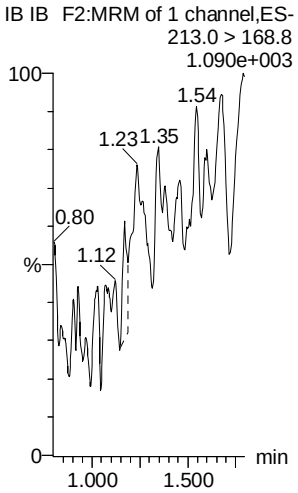
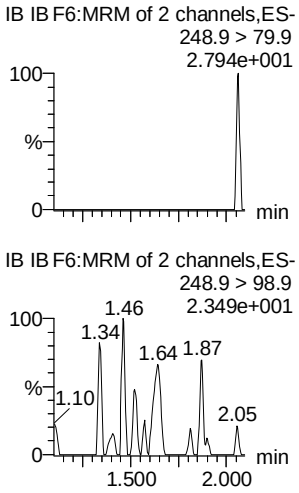
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

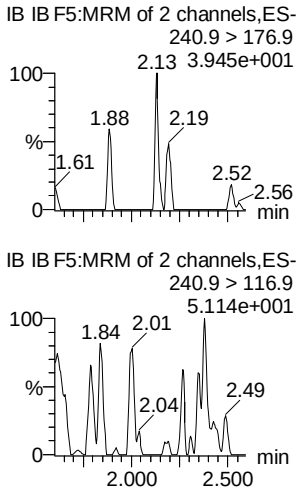
PFBA



PFPrS



3:3 FTCA



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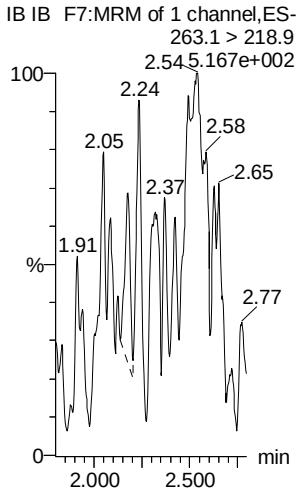
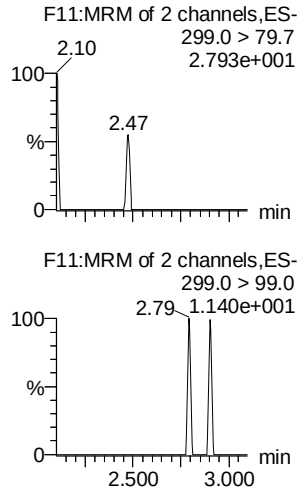
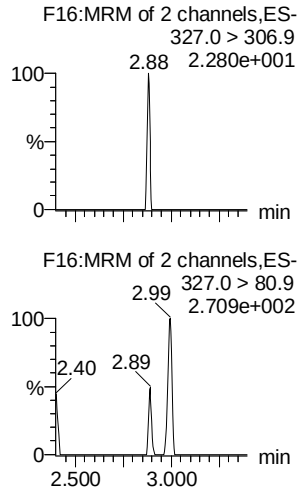


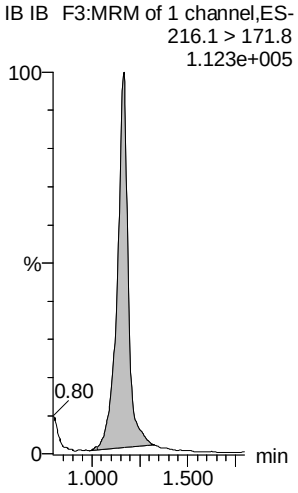
PFBS



4:2 FTS



13C3-PFBA



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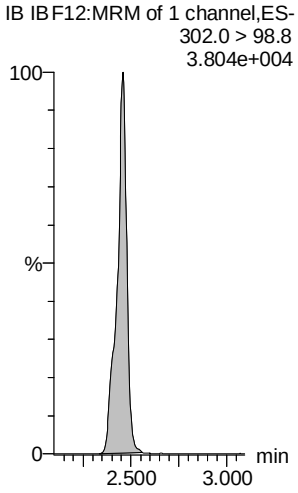

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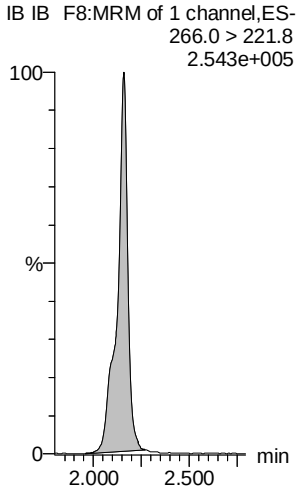

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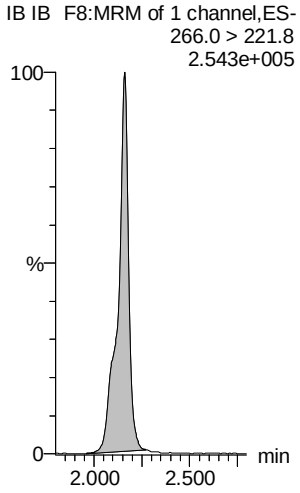

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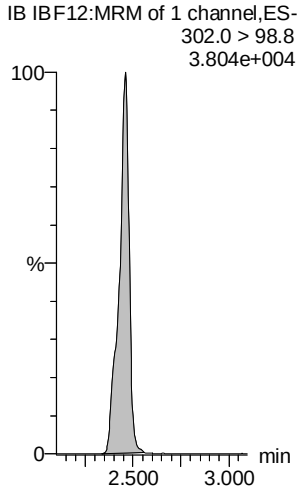
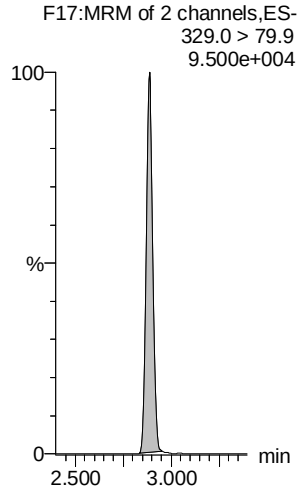


13C2-4:2 FTS

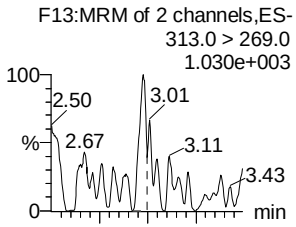


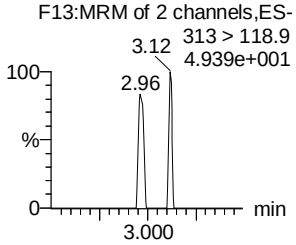
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

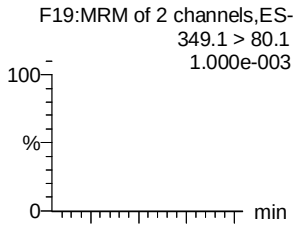
Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

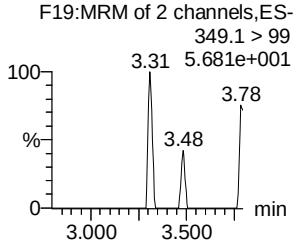
PFHxA



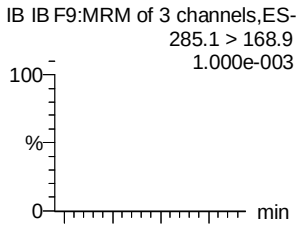


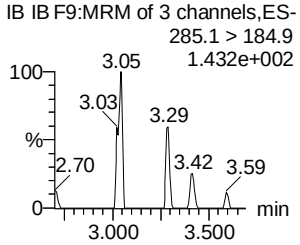
PFPeS



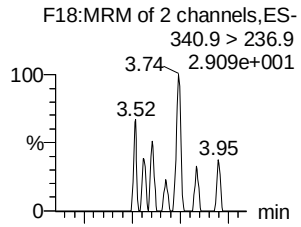


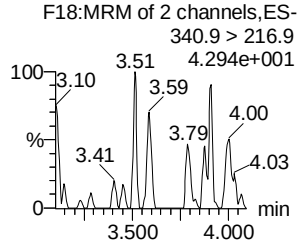
HFPO-DA





5:3 FTCA





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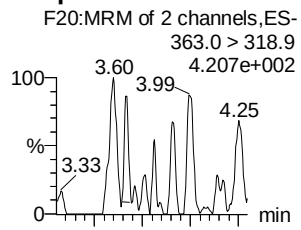

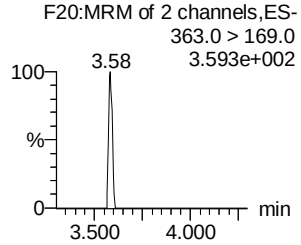

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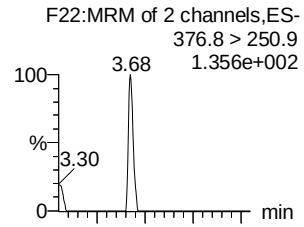

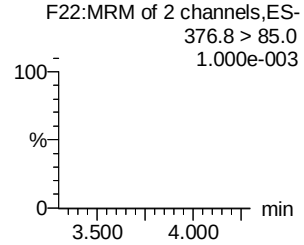

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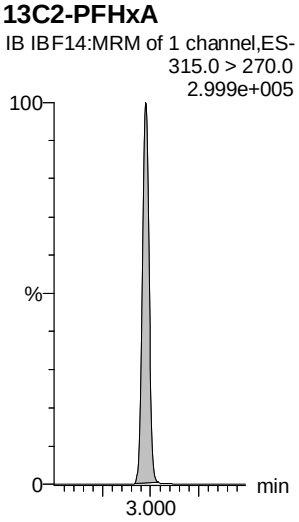

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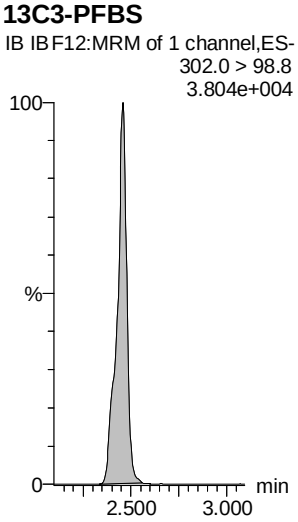

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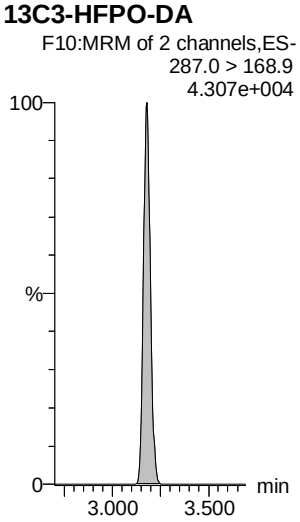

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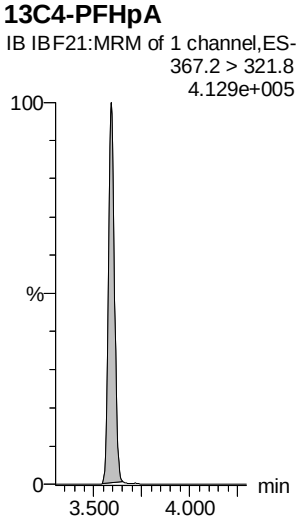

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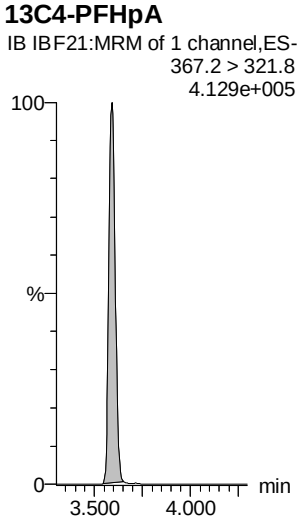

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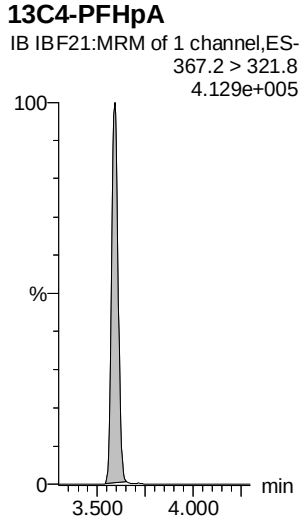

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Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

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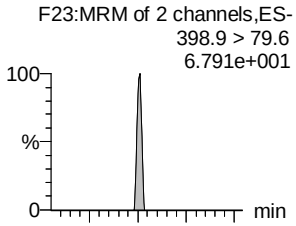

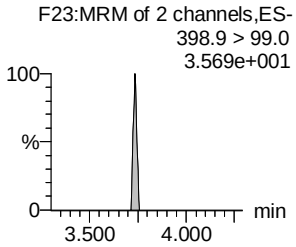

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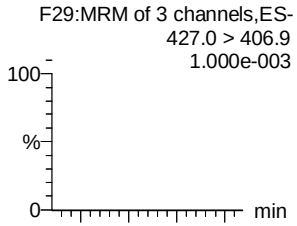

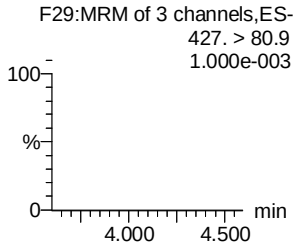

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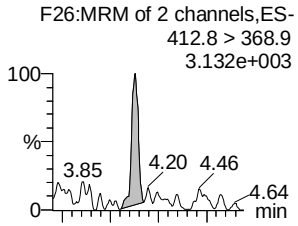

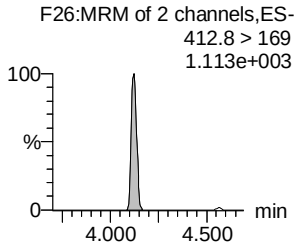

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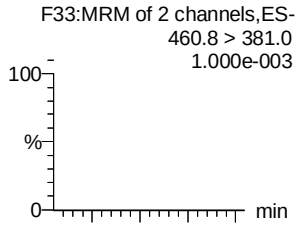

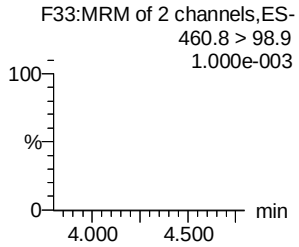

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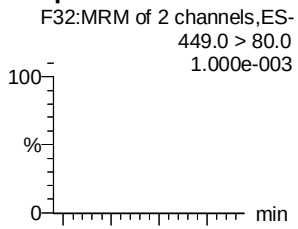
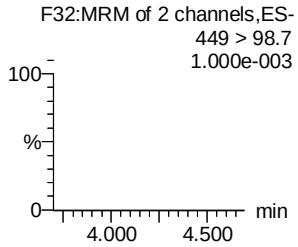
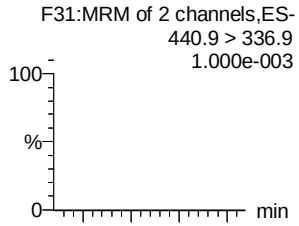
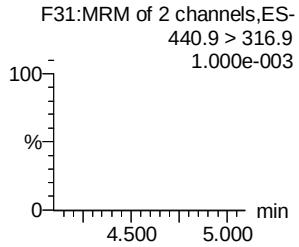




7:3 FTCA





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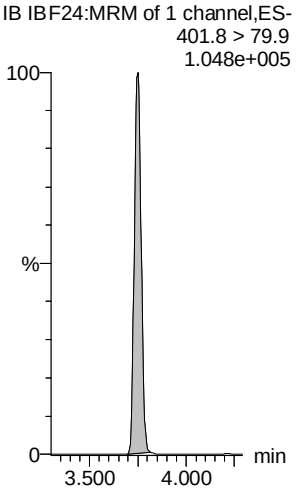
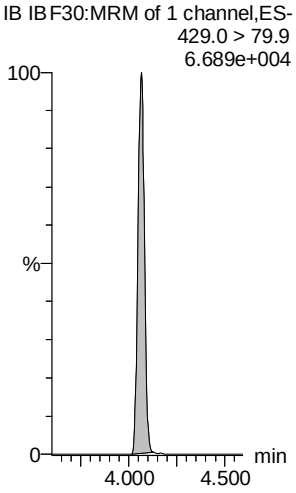


13C2-6:2 FTS



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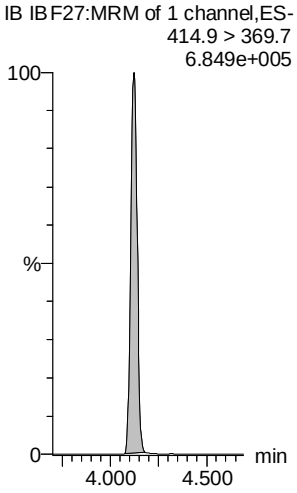

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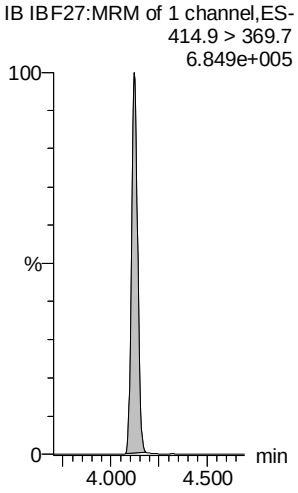
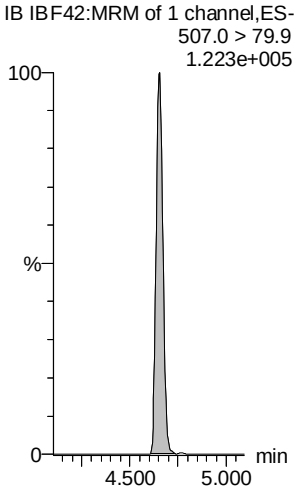


13C8-PFOS



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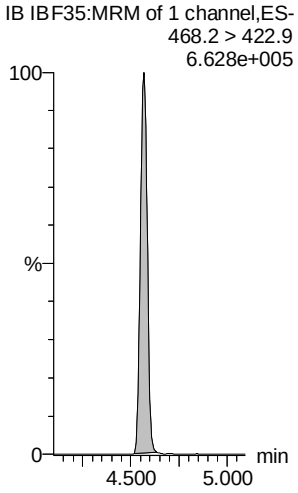

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Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
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Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

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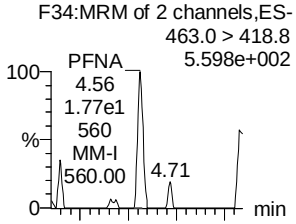

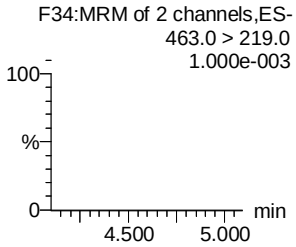

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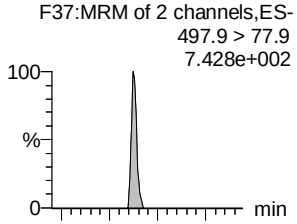
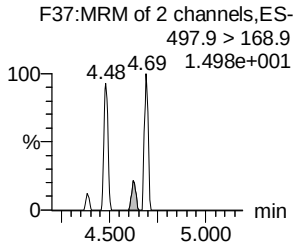
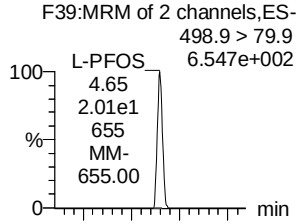
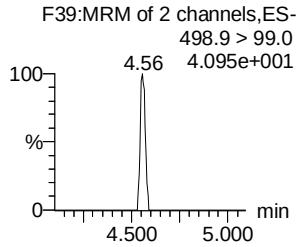




L-PFOS





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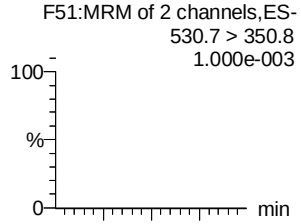

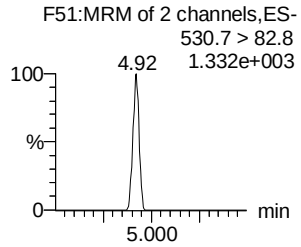

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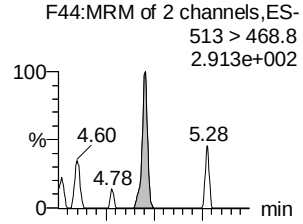

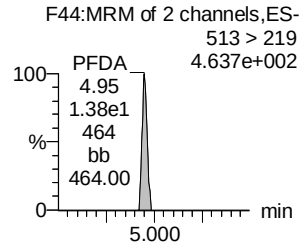

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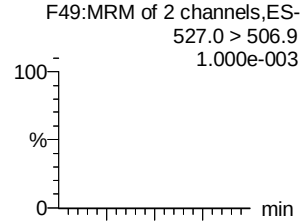

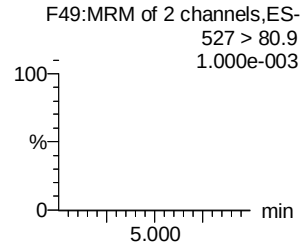

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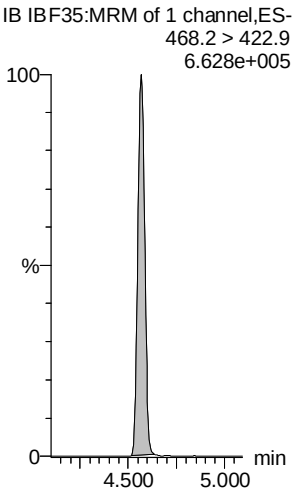

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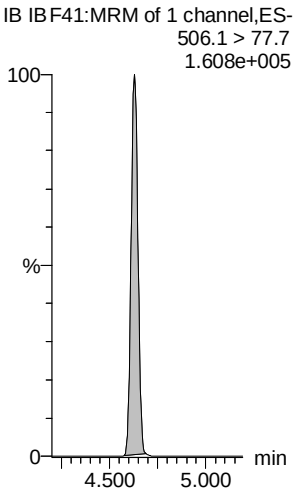

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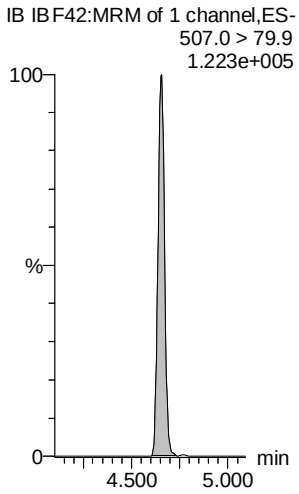

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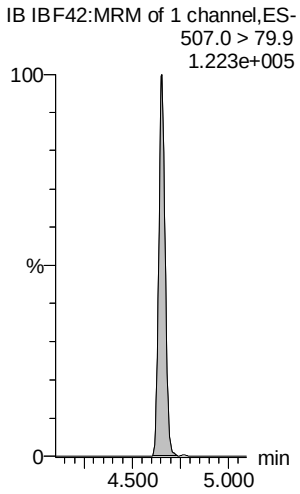

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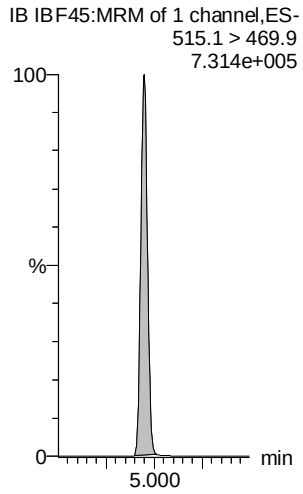

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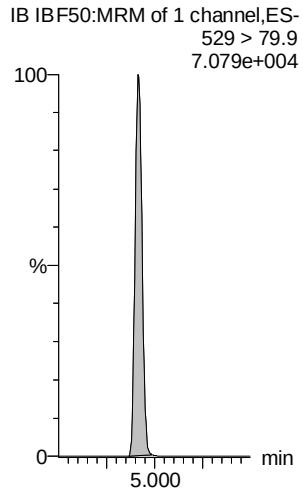
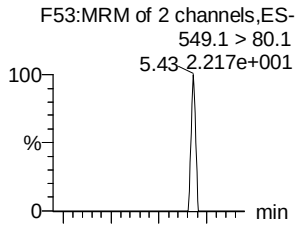


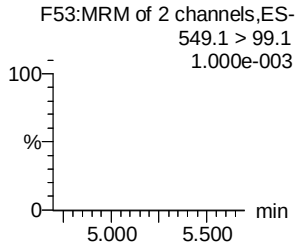
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

PFNS





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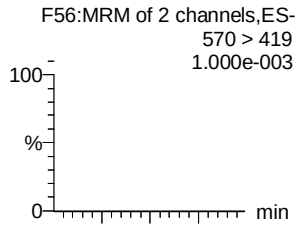

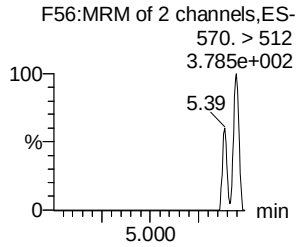

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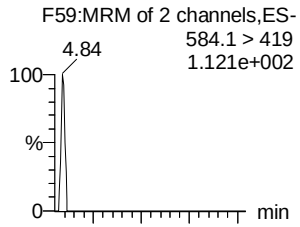
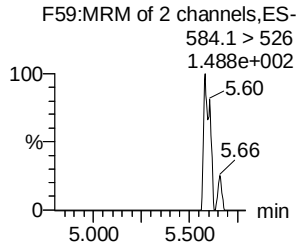
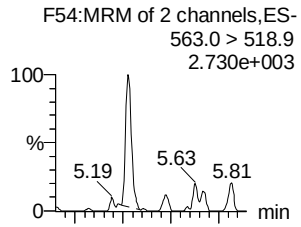
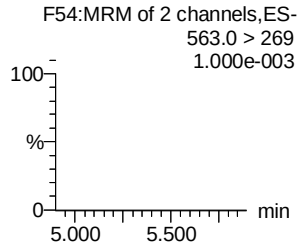


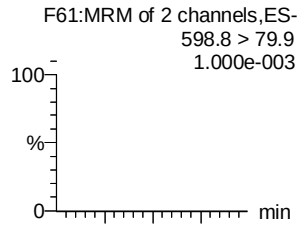


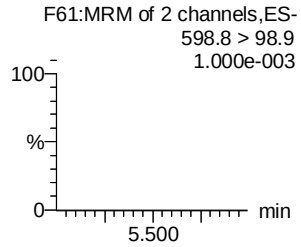
PFUdA



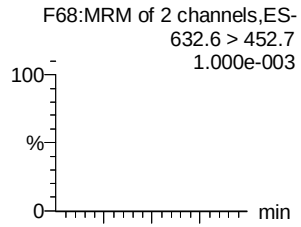


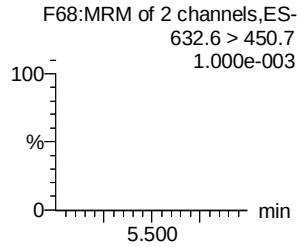
PFDS



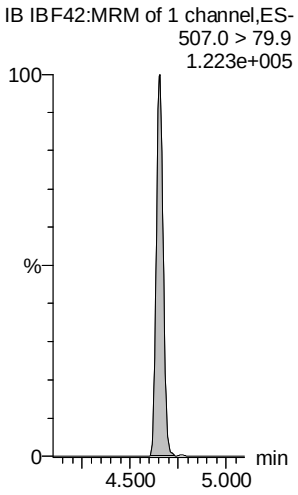


11Cl-PF30UdS

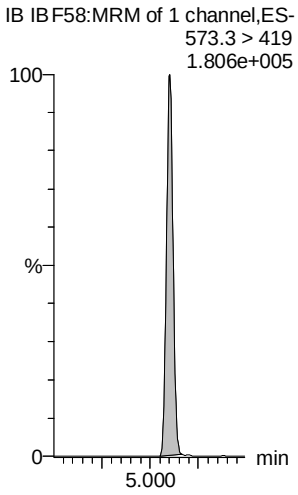




13C8-PFOS



d3-N-MeFOSAA



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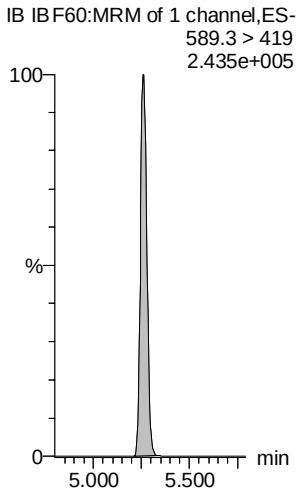
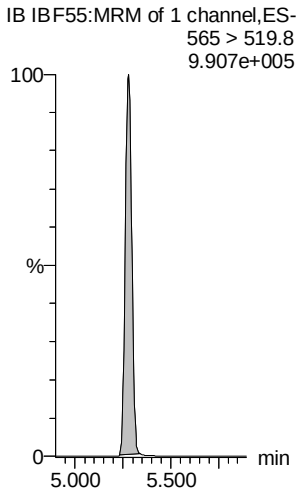
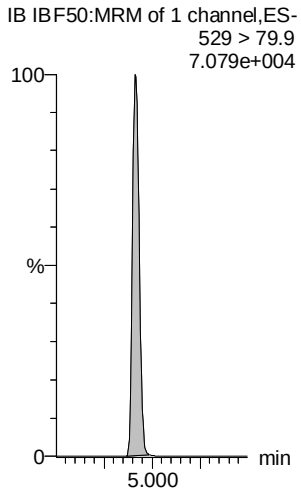


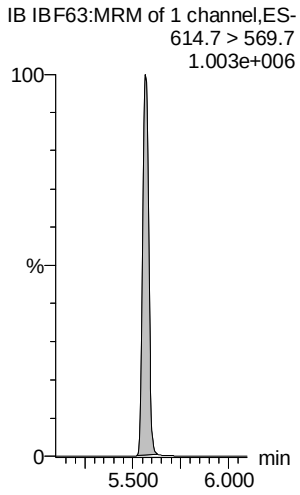
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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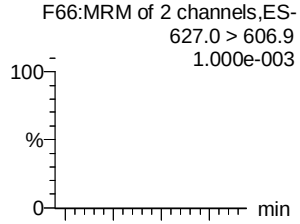
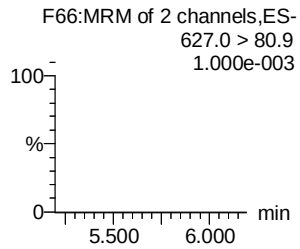
Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

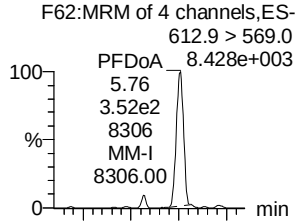
Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

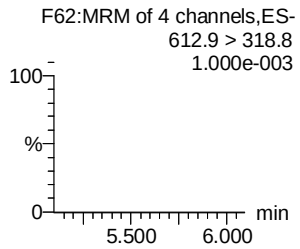
10:2 FTS





PFDoA





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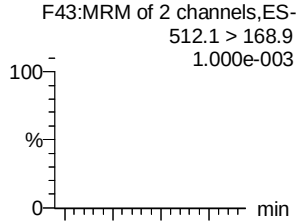

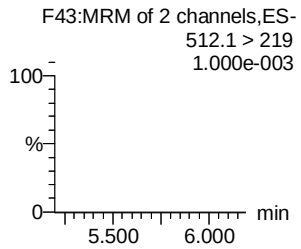

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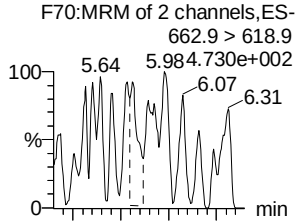
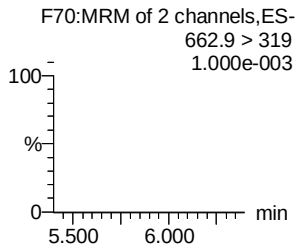
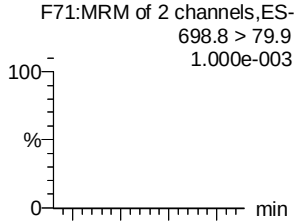
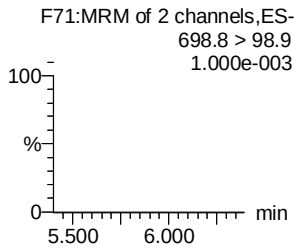




PFDoS





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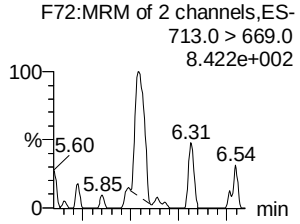

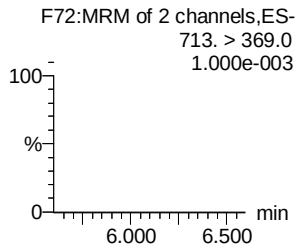

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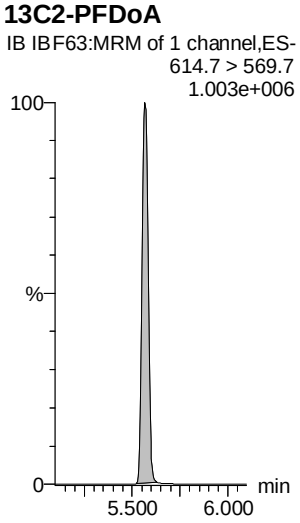

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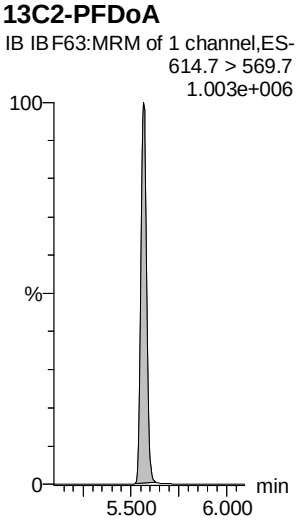
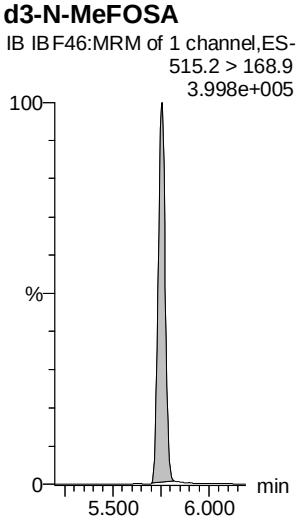


d3-N-MeFOSA



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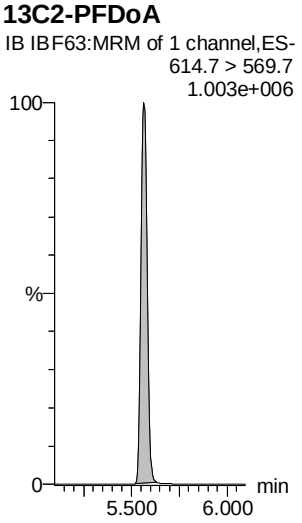

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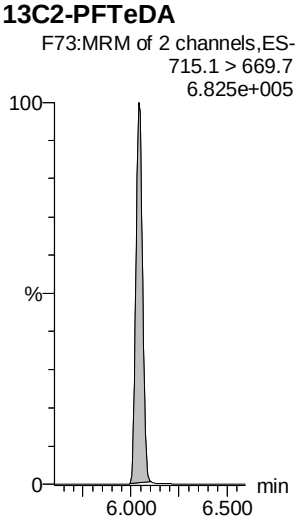

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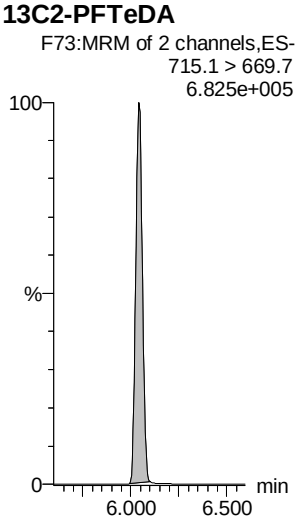

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

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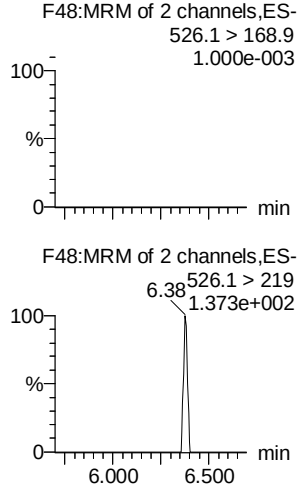
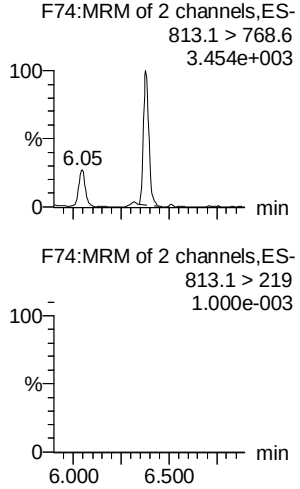
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

N-EtFOSA



PFHxDA



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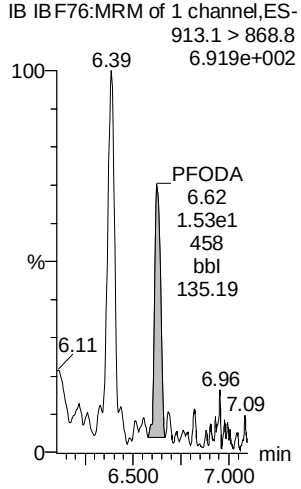
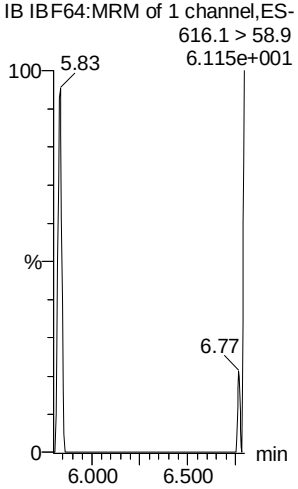


N-MeFOSE



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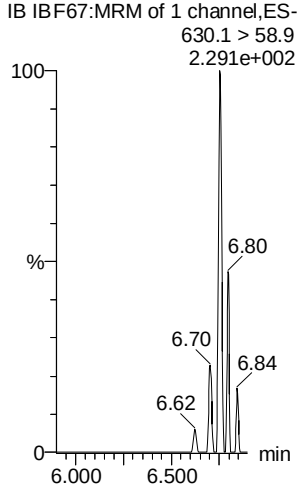

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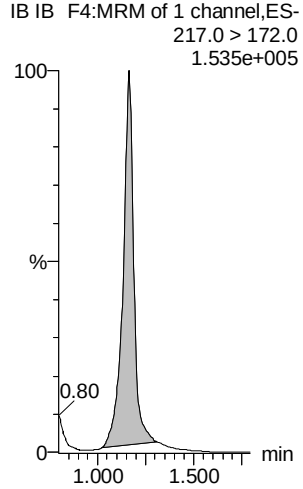
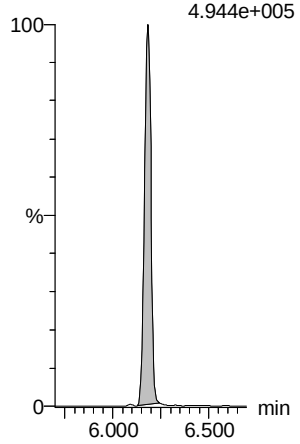


d5-N-ETFOSA



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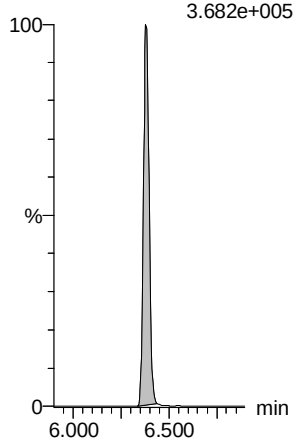

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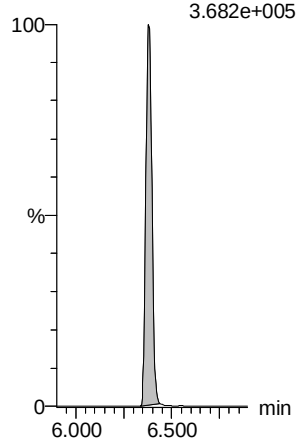
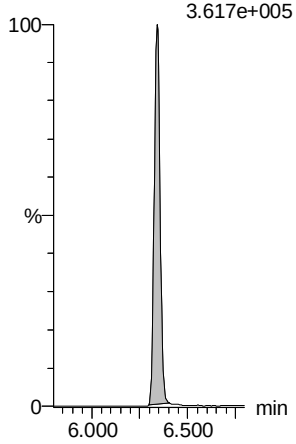


d7-N-MeFOSE



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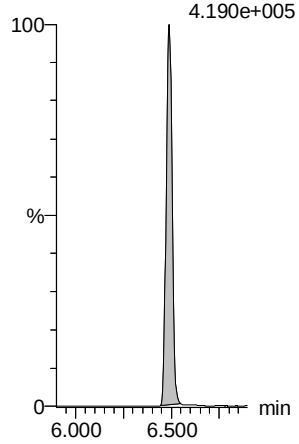

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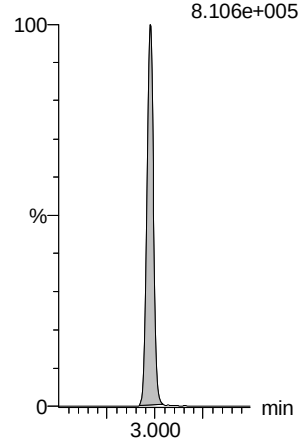
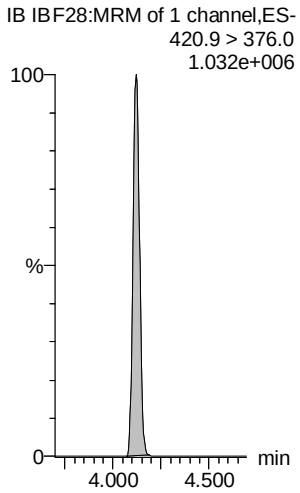


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-IB.qld

Last Altered: Tuesday, July 23, 2019 11:39:58 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:40:11 Pacific Daylight Time

Name: 190723M2_3, Date: 23-Jul-2019, Time: 09:48:56, ID: IB, Description: IB

13C8-PFOA



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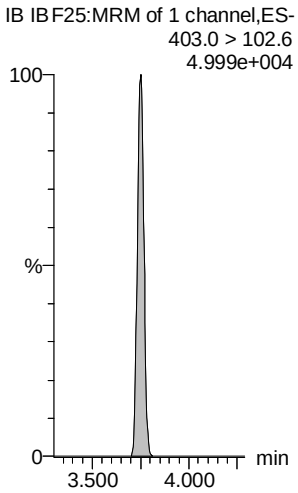

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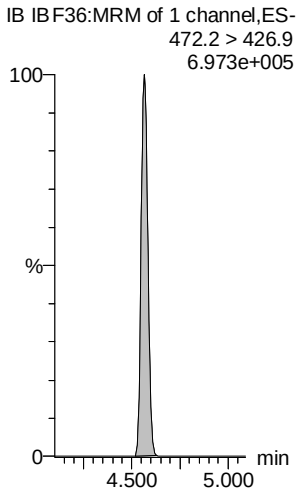

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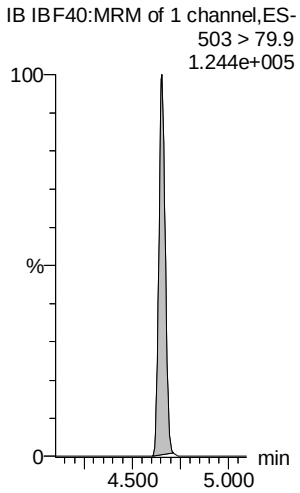

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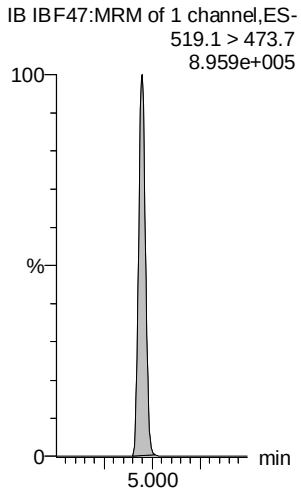
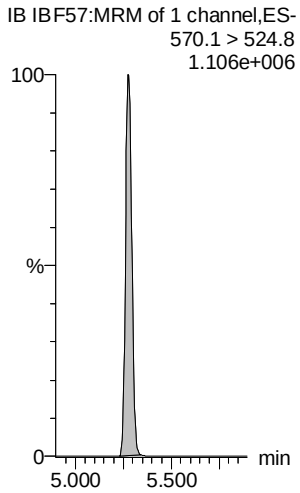


13C7-PFUdA



LC Calibration Standards Review Checklist QY

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID:	ST190723M2-1	L M H	☑	☐	☑	☑	☑	☐	☐
Calibration ID:	↓ -2	L M H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐ N/A cal 7/23/19	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 7/15/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☑

Reviewed By: On 7/23/19
Initials/Date

Comments:

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-10.qld

Last Altered: Tuesday, July 23, 2019 11:28:06 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:30:35 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_10, Date: 23-Jul-2019, Time: 11:06:51, ID: ST190723M2-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	PFBA	1.17	1.18			
2	PFPrS	1.54	1.54	2.148	2.148	NO
3	3:3 FTCA	2.03	2.01	2.067	2.067	NO
4	PFPeA	2.17	2.17			
5	PFBS	2.46	2.47	2.952	2.952	NO
6	4:2 FTS	2.89	2.89	1.833	1.833	NO
7	PFHxA	2.97	2.97	15.725	15.725	NO
8	PFPeS	3.18	3.18	1.415	1.415	NO
9	HFPO-DA	3.19	3.19	2.480	2.480	NO
10	5:3 FTCA	3.52	3.53	1.502	1.502	NO
11	PFHpA	3.59	3.59	9.454	9.454	NO
12	ADONA	3.71	3.71	3.472	3.472	NO
13	L-PFHxS	3.75	3.75	2.144	2.144	NO
14	6:2 FTS	4.07	4.07	2.275	2.275	NO
15	L-PFOA	4.12	4.12	3.804	3.804	NO
16	PFecHS	4.14	4.14	0.954	0.954	NO
17	PFHpS	4.24	4.24	1.776	1.776	NO
18	7:3 FTCA	4.56	4.55	1.858	1.858	NO
19	PFNA	4.57	4.57	3.934	3.934	NO
20	PFOSA	4.63	4.63	27.345	27.345	NO
21	L-PFOS	4.65	4.66	2.012	2.012	NO
22	9Cl-PF30NS	4.88	4.88	16.574	16.574	NO
23	PFDA	4.95	4.95	5.580	5.580	NO
24	8:2 FTS	4.92	4.92	1.219	1.219	NO
25	PFNS	5.02	5.02	1.727	1.727	NO
26	L-MeFOSAA	5.11	5.11	2.447	2.447	NO

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Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-10.qld

Last Altered: Tuesday, July 23, 2019 11:28:06 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:30:53 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_10, Date: 23-Jul-2019, Time: 11:06:51, ID: ST190723M2-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.27	5.27	1.367	1.367	NO
2	PFUdA	5.28	5.28	8.766	8.766	NO
3	PFDS	5.33	5.33	1.883	1.883	NO
4	11Cl-PF30UdS	5.50	5.50	5.861	5.861	NO
5	10:2 FTS	5.55	5.55	1.516	1.516	NO
6	PFDoA	5.57	5.57	9.058	9.058	NO
7	N-MeFOSA	5.73	5.73	1.515	1.515	NO
8	PFTrDA	5.82	5.82	20.874	20.874	NO
9	PFDoS	5.85	5.85	1.859	1.859	NO
10	PFTeDA	6.04	6.04	14.344	14.344	NO
11	N-EtFOSA	6.17	6.17	1.606	1.606	NO
12	PFHxDA	6.38	6.39	21.465	21.465	NO
13	PFODA	6.63	6.63			
14	N-MeFOSE	6.35	6.35			
15	N-EtFOSE	6.50	6.50			

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-2.qld

Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Jan 7/23/19

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 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	742.085	8004.546	1.00	1.15	1.159	0.9	92.8	NO		
2	2	PFPrS	248.9 > 79.9	128.754	2233.653	1.00	1.52	0.721	1.0	95.5	NO	2.288	NO
3	3	3:3 FTCA	240.9 > 176.9	31.681	15740.246	1.00	2.00	0.025	0.8	81.9	NO	1.865	NO
4	4	PFPeA	263.1 > 218.9	1180.804	15740.246	1.00	2.16	0.938	1.0	102.9	NO		
5	5	PFBS	299.0 > 79.7	398.088	2233.653	1.00	2.46	2.228	1.0	101.2	NO	3.482	NO
6	6	4:2 FTS	327.0 > 306.9	736.733	3869.564	1.00	2.89	2.380	1.0	97.9	NO	1.855	NO
7	47	13C3-PFBA	216.1 > 171.8	8004.546	10900.226	1.00	1.15	9.179	12.5	100.1	NO		
8	49	13C3-PFBS	302.0 > 98.8	2233.653	2135.187	1.00	2.46	13.076	12.4	98.9	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15740.246	34202.559	1.00	2.16	5.753	11.5	92.4	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15740.246	34202.559	1.00	2.16	5.753	11.5	92.4	NO		
11	49	13C3-PFBS	302.0 > 98.8	2233.653	2135.187	1.00	2.46	13.076	12.4	98.9	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3869.564	2135.187	1.00	2.88	22.654	13.7	109.8	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	2388.287	12936.442	1.00	2.97	0.923	1.0	98.3	NO	16.343	NO
15	8	PFPeS	349.1>80.1	267.523	2233.653	1.00	3.18	1.497	0.9	94.9	NO	1.526	NO
16	9	HFPO-DA	285.1 > 168.9	165.500	1738.549	1.00	3.18	0.476	1.0	100.8	NO	1.897	NO
17	10	5:3 FTCA	340.9 > 236.9	213.264	16020.092	1.00	3.52	0.166	1.0	96.5	NO	1.465	NO
18	11	PFHpA	363.0 > 318.9	1699.625	16020.092	1.00	3.59	1.326	1.0	102.5	NO	12.372	NO
19	12	ADONA	376.8 > 250.9	4134.596	16020.092	1.00	3.70	3.226	1.0	98.5	NO	3.685	NO
20	52	13C2-PFHxA	315.0 > 270.0	12936.442	34202.559	1.00	2.97	4.728	4.8	96.7	NO		
21	49	13C3-PFBS	302.0 > 98.8	2233.653	2135.187	1.00	2.46	13.076	12.4	98.9	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1738.549	34202.559	1.00	3.18	0.635	4.7	94.9	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16020.092	34202.559	1.00	3.59	5.855	12.2	97.9	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16020.092	34202.559	1.00	3.59	5.855	12.2	97.9	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16020.092	34202.559	1.00	3.59	5.855	12.2	97.9	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	307.633	4353.479	1.00	3.75	0.883	1.0	97.3	NO	2.032	NO
28	15	6:2 FTS	427.0 > 406.9	702.233	2882.938	1.00	4.06	3.045	0.9	95.0	NO	2.045	NO
29	16	L-PFOA	412.8 > 368.9	3361.626	27810.945	1.00	4.12	1.511	1.0	98.1	NO	3.967	NO
30	18	PFecHS	460.8 > 381.0	465.906	27810.945	1.00	4.14	0.209	0.9	92.7	NO	1.043	NO
31	19	PFHpS	449.0 > 80.0	364.182	4996.940	1.00	4.24	0.911	1.0	103.9	NO	2.013	NO
32	20	7:3 FTCA	440.9 > 336.9	255.815	28234.070	1.00	4.55	0.113	1.1	111.9	NO	1.926	NO
33	54	13C3-PFHxS	401.8 > 79.9	4353.479	2135.187	1.00	3.75	25.487	12.6	100.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2882.938	4929.473	1.00	4.06	7.310	13.6	109.1	NO		
35	58	13C2-PFOA	414.9 > 369.7	27810.945	41365.055	1.00	4.12	8.404	12.3	98.7	NO		
36	58	13C2-PFOA	414.9 > 369.7	27810.945	41365.055	1.00	4.12	8.404	12.3	98.7	NO		

CCH 7/23/19

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-2.qld

Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 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	4996.940	4929.473	1.00	4.65	12.671	12.7	101.7	NO		
38	56	13C5-PFNA	468.2 > 422.9	28234.070	29453.916	1.00	4.56	11.982	12.0	95.7	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	2699.413	28234.070	1.00	4.56	1.195	1.0	101.4	NO	4.308	NO
41	22	PFOSA	497.9 > 77.9	515.916	6471.938	1.00	4.63	0.996	1.0	98.9	NO	25.965	NO
42	23	L-PFOS	498.9 > 79.9	455.151	4996.940	1.00	4.65	1.139	1.1	108.4	NO	2.386	NO
43	25	9Cl-PF30NS	530.7 > 350.8	825.826	4996.940	1.00	4.88	2.066	1.0	99.4	NO	9.402	NO
44	26	PFDA	513 > 468.8	3113.701	29637.842	1.00	4.95	1.313	1.0	101.6	NO	6.222	NO
45	27	8:2 FTS	527.0 > 506.9	468.161	3079.798	1.00	4.92	1.900	1.0	97.3	NO	1.059	NO
46	56	13C5-PFNA	468.2 > 422.9	28234.070	29453.916	1.00	4.56	11.982	12.0	95.7	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6471.938	46537.668	1.00	4.63	1.738	10.4	83.0	NO		
48	59	13C8-PFOS	507.0 > 79.9	4996.940	4929.473	1.00	4.65	12.671	12.7	101.7	NO		
49	59	13C8-PFOS	507.0 > 79.9	4996.940	4929.473	1.00	4.65	12.671	12.7	101.7	NO		
50	60	13C2-PFDA	515.1 > 469.9	29637.842	36908.715	1.00	4.95	10.038	12.3	98.0	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3079.798	4929.473	1.00	4.92	7.810	14.0	112.3	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	242.629	4996.940	1.00	5.01	0.607	0.8	77.3	NO	1.535	NO
54	29	L-MeFOSAA	570 > 419	1206.926	7790.198	1.00	5.11	1.937	1.0	96.1	NO	2.497	NO
55	31	L-EtFOSAA	584.1 > 419	893.174	10069.540	1.00	5.27	1.109	0.9	92.2	NO	1.302	NO
56	33	PFUdA	563.0 > 518.9	3167.324	38844.832	1.00	5.28	1.019	1.1	106.1	NO	7.255	NO
57	34	PFDS	598.8 > 79.9	365.298	3079.798	1.00	5.33	1.483	0.9	91.6	NO	1.482	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	130.042	38862.906	1.00	5.50	0.042	0.9	92.0	NO	7.066	NO
59	59	13C8-PFOS	507.0 > 79.9	4996.940	4929.473	1.00	4.65	12.671	12.7	101.7	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7790.198	46537.668	1.00	5.10	2.092	11.8	94.3	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	10069.540	46537.668	1.00	5.26	2.705	12.1	96.7	NO		
62	63	13C2-PFUdA	565 > 519.8	38844.832	46537.668	1.00	5.28	10.434	11.7	93.9	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3079.798	4929.473	1.00	4.92	7.810	14.0	112.3	NO		
64	65	13C2-PFDoA	614.7 > 569.7	38862.906	36908.715	1.00	5.57	13.162	12.1	96.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	611.478	3079.798	1.00	5.55	2.482	1.0	102.6	NO	1.541	NO
67	37	PFDoA	612.9 > 569.0	3209.784	38862.906	1.00	5.57	1.032	0.9	91.0	NO	8.206	NO
68	38	N-MeFOSA	512.1 > 168.9	745.782	17923.717	1.00	5.72	6.241	5.2	104.8	NO	1.563	NO
69	39	PFTrDA	662.9 > 618.9	3366.406	38862.906	1.00	5.82	1.083	0.9	90.1	NO	30.441	NO
70	40	PFDoS	698.8 > 79.9	343.210	27080.408	1.00	5.85	0.158	1.0	98.3	NO	2.434	NO
71	41	PFTeDA	713.0 > 669.0	3616.123	27080.408	1.00	6.04	1.669	1.0	102.0	NO	21.707	YES
72	65	13C2-PFDoA	614.7 > 569.7	38862.906	36908.715	1.00	5.57	13.162	12.1	96.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-2.qld

Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 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	38862.906	36908.715	1.00	5.57	13.162	12.1	96.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	17923.717	46537.668	1.00	5.76	4.814	125.9	83.9	NO		
75	65	13C2-PFDoA	614.7 > 569.7	38862.906	36908.715	1.00	5.57	13.162	12.1	96.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	27080.408	46537.668	1.00	6.04	7.274	12.0	96.3	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	27080.408	46537.668	1.00	6.04	7.274	12.0	96.3	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	670.297	22513.891	1.00	6.17	4.466	4.8	96.8	NO	1.469	NO
80	43	PFHxDA	813.1 > 768.6	1847.029	13879.883	1.00	6.40	0.665	1.0	96.7	NO	17.319	NO
81	44	PFODA	913.1 > 868.8	2183.897	13879.883	1.00	6.65	0.787	1.0	96.4	NO		
82	45	N-MeFOSE	616.1 > 58.9	494.809	13785.733	1.00	6.37	5.384	4.8	96.3	NO		
83	46	N-EtFOSE	630.1 > 58.9	646.843	14460.354	1.00	6.52	6.710	5.2	104.9	NO		
84	72	13C4-PFBA	217.0 > 172.0	10900.226	10900.226	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	22513.891	46537.668	1.00	6.18	6.047	136.0	90.7	NO		
86	69	13C2-PFHxDA	815 > 769.7	13879.883	46537.668	1.00	6.40	3.728	4.7	94.7	NO		
87	69	13C2-PFHxDA	815 > 769.7	13879.883	46537.668	1.00	6.40	3.728	4.7	94.7	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	13785.733	46537.668	1.00	6.36	3.703	118.3	78.9	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	14460.354	46537.668	1.00	6.51	3.884	118.2	78.8	NO		
90	73	13C5-PFHxA	318.0 > 272.9	34202.559	34202.559	1.00	2.97	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	41365.055	41365.055	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2135.187	2135.187	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	29453.916	29453.916	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	4929.473	4929.473	1.00	4.65	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	36908.715	36908.715	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	46537.668	46537.668	1.00	5.27	12.500	12.5	100.0	NO		

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Dataset: Untitled

Last Altered: Tuesday, July 23, 2019 11:36:07 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:36:37 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190723M2_1	IPA	23-Jul-19	09:27:47
2	2	190723M2_2	ST190723M2-1 PFC CS0 19G1103	23-Jul-19	09:38:23
3	3	190723M2_3	IB	23-Jul-19	09:48:56
4	4	190723M2_4	B9G0208-BS1 OPR 0.25	23-Jul-19	09:59:37
5	5	190723M2_5	B9G0134-BS1 OPR 0.25	23-Jul-19	10:11:24
6	6	190723M2_6	1902014-08 FRB-07082019 0.11724	23-Jul-19	10:24:28
7	7	190723M2_7	1902014-09 CAOA-B01-GW 0.12758	23-Jul-19	10:35:01
8	8	190723M2_8	1902014-10 EB-07082019 0.11822	23-Jul-19	10:45:40
9	9	190723M2_9	IPA	23-Jul-19	10:56:13
10	10	190723M2_10	ST190723M2-2 PFC CS3 19G1106	23-Jul-19	11:06:51
11	11	190723M2_11	IPA	23-Jul-19	11:17:24

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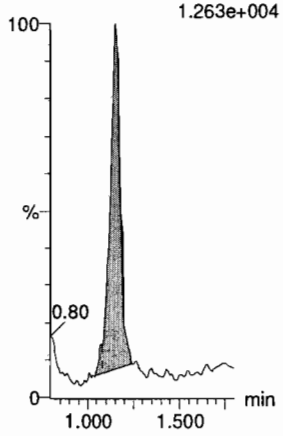
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-2.qld

Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

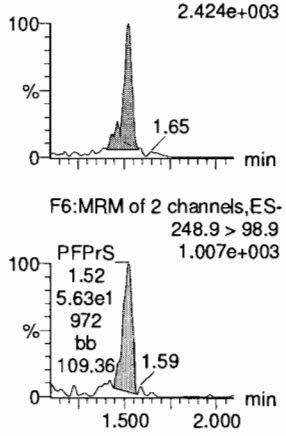
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

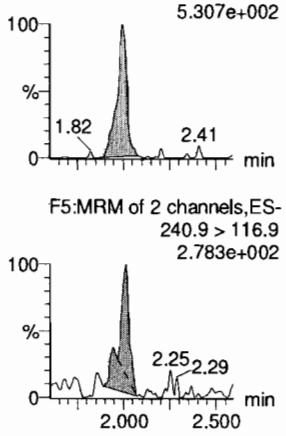
PFBA



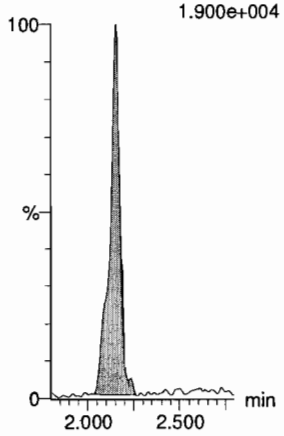
PFPrS



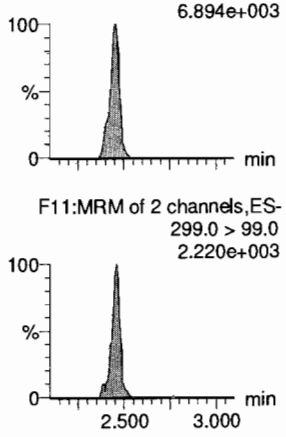
3:3 FTCA



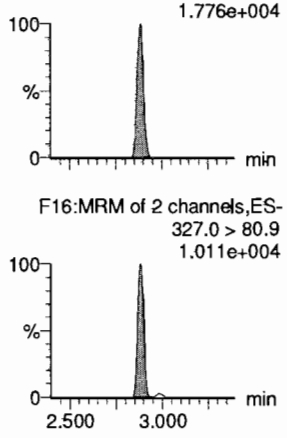
PFPeA



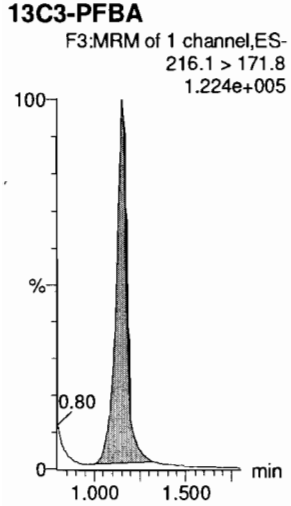
PFBS



4:2 FTS



13C3-PFBA



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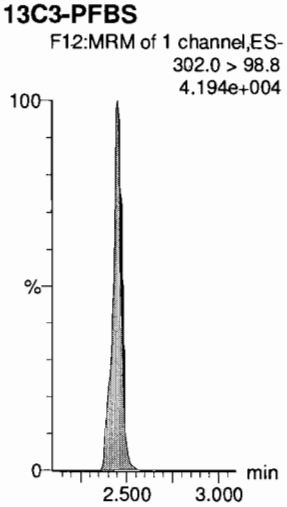

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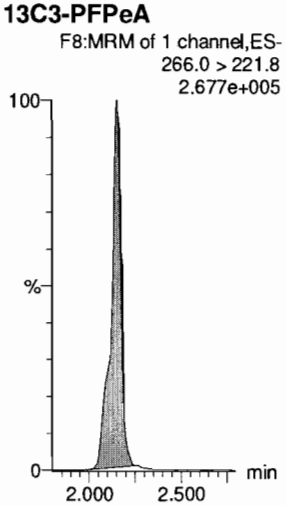

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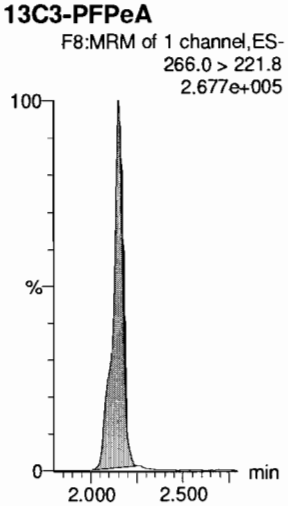

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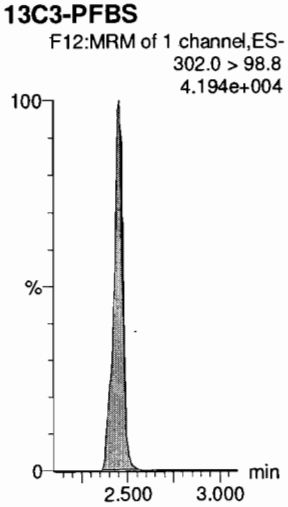
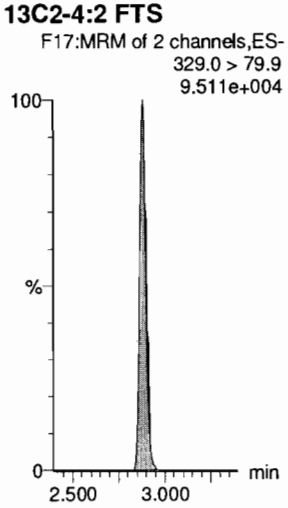


13C2-4:2 FTS



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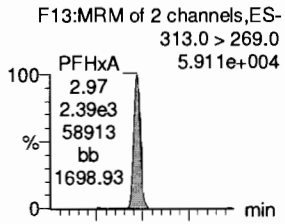
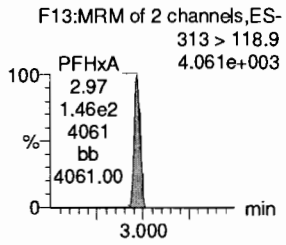
Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

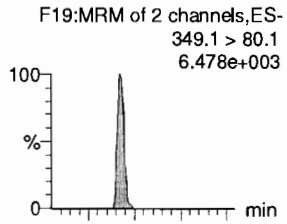
Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

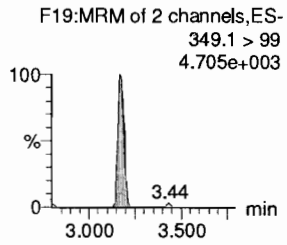
PFHxA



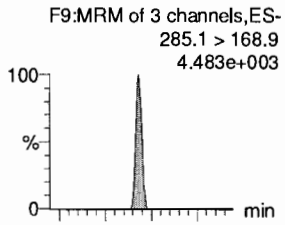


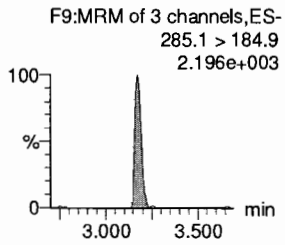
PFPeS



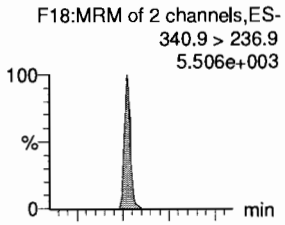


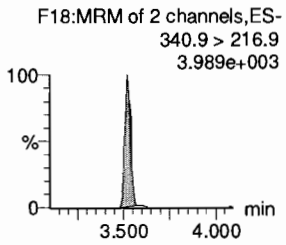
HFPO-DA





5:3 FTCA





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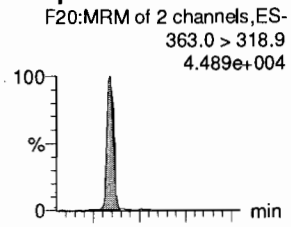

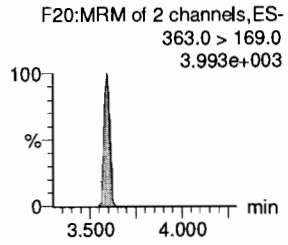

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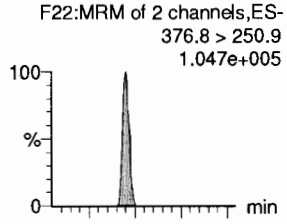

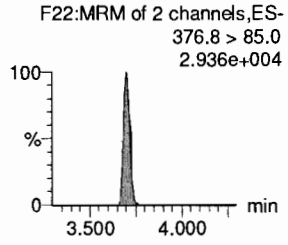

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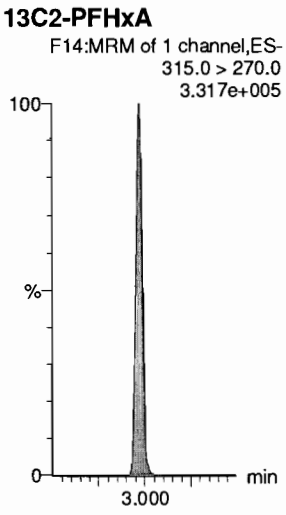
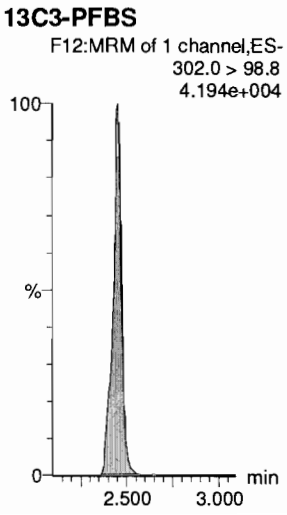
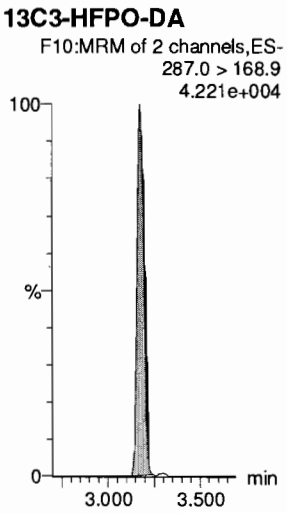


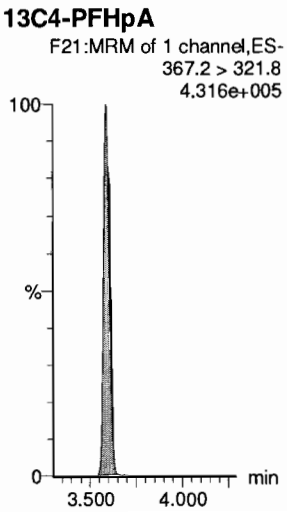
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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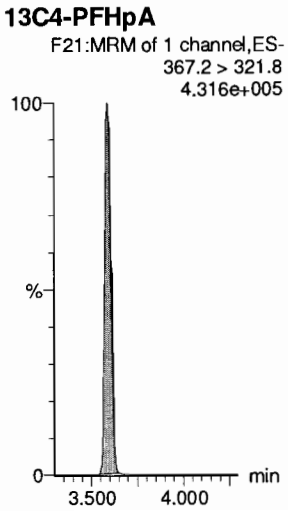

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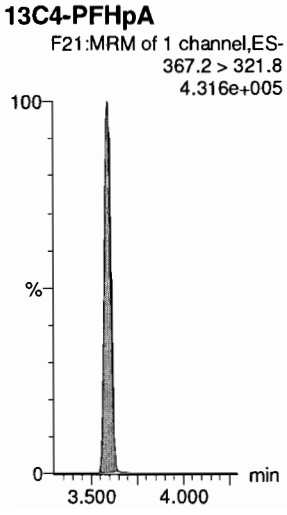

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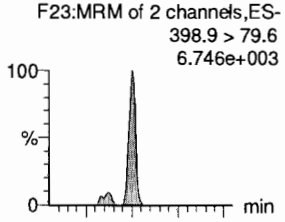
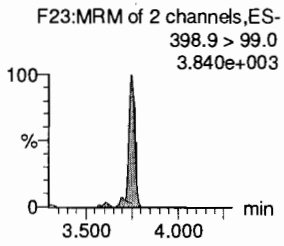
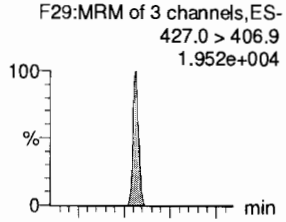
Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

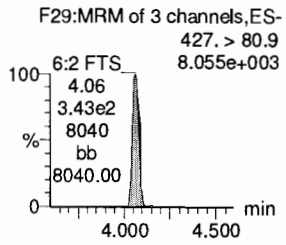
L-PFHxS



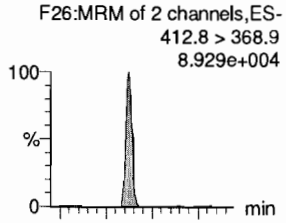


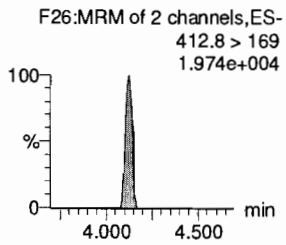
6:2 FTS





L-PFOA





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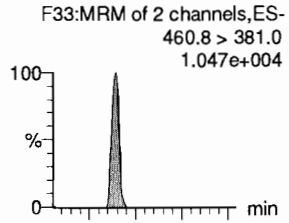
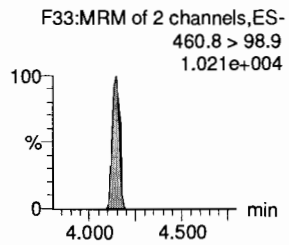
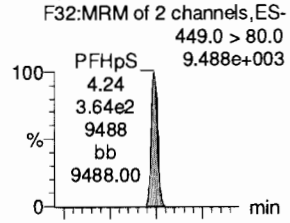
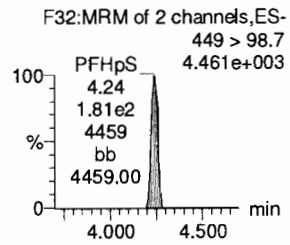


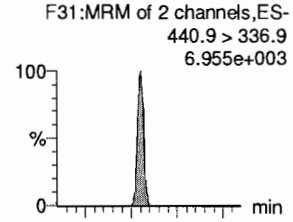


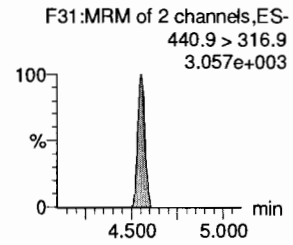
PFHpS



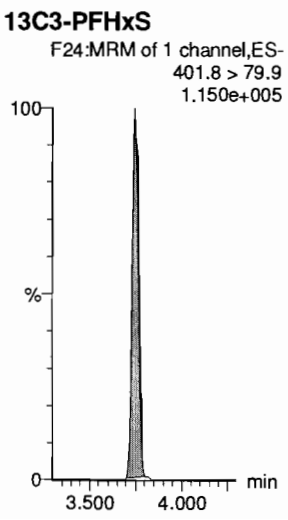


7:3 FTCA

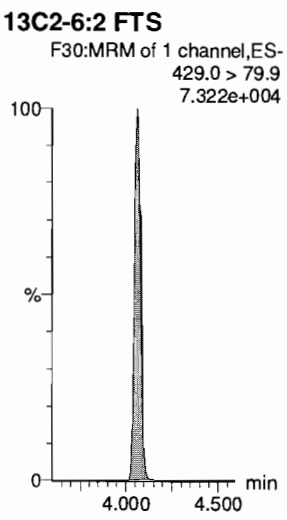




13C3-PFHxS



13C2-6:2 FTS



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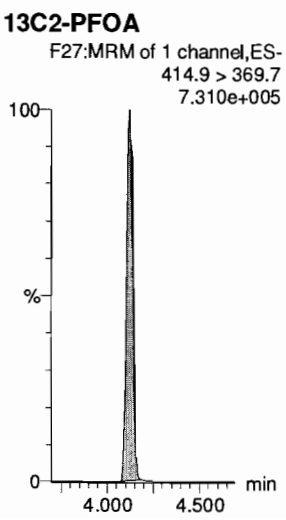

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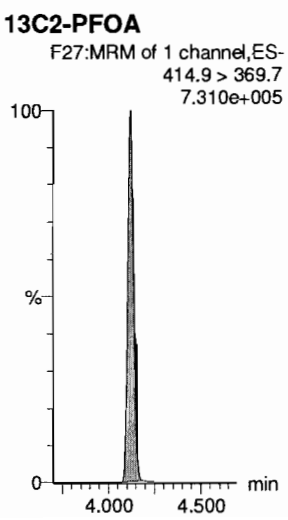
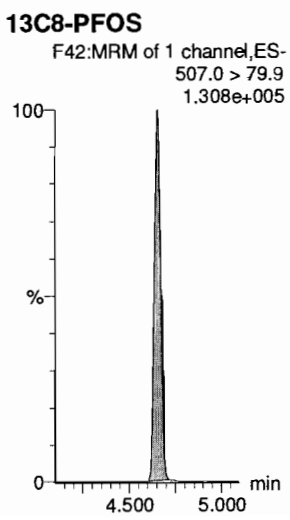


13C8-PFOS



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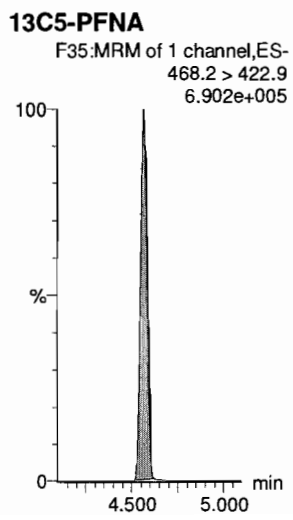

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Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

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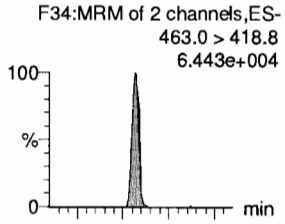
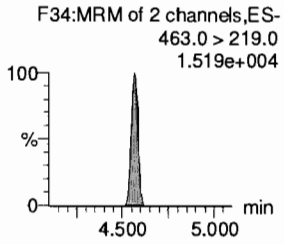
PFNA





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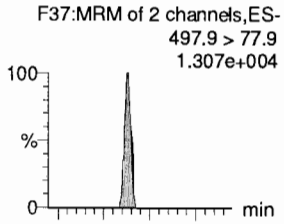
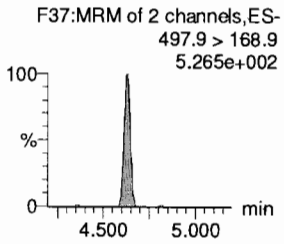
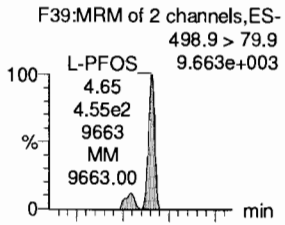
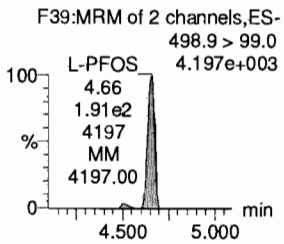




L-PFOS





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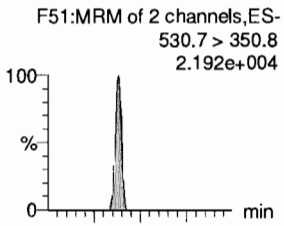
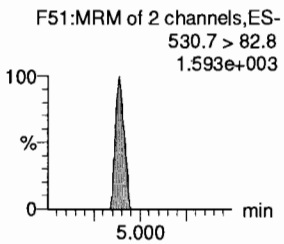
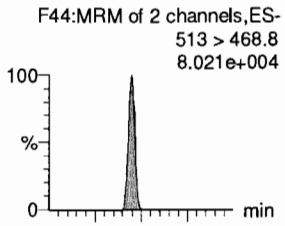
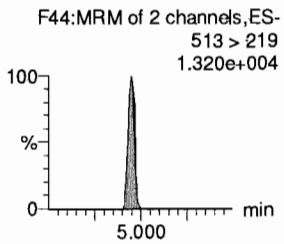


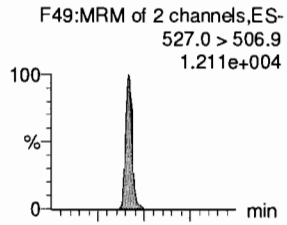


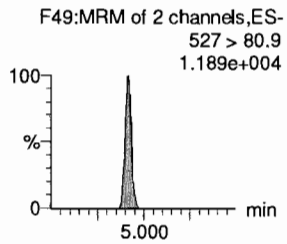
PFDA



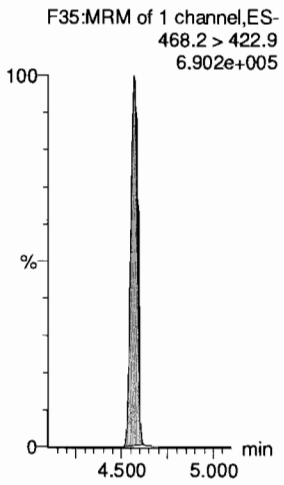


8:2 FTS

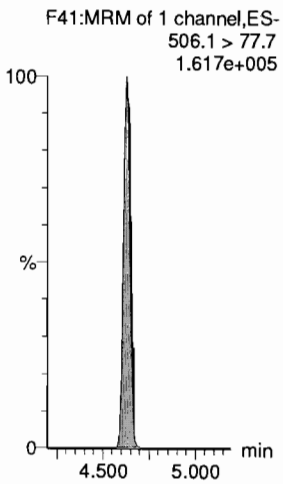




13C5-PFNA



13C8-PFOSA



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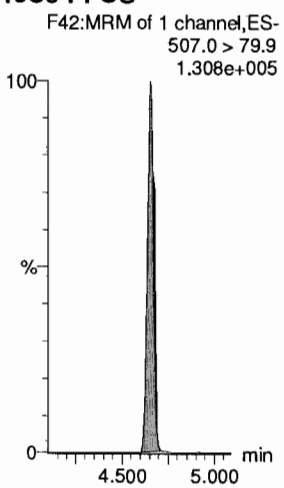

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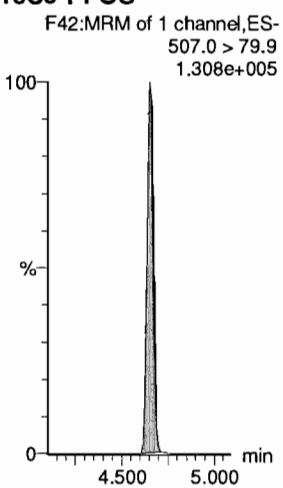
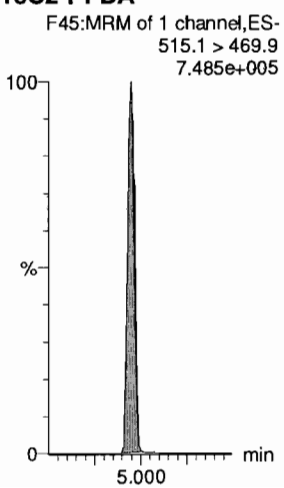
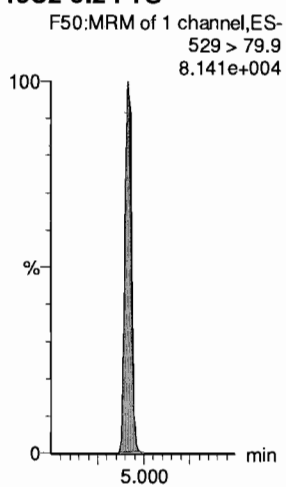


13C2-PFDA



13C2-8:2 FTS



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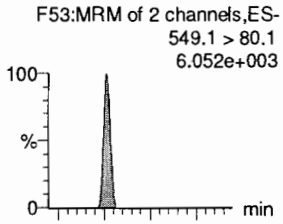
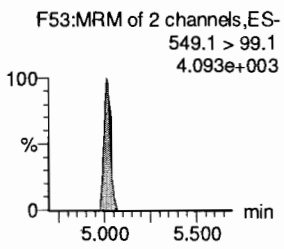
Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

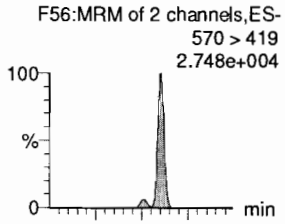
Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

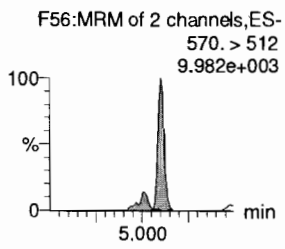
PFNS





L-MeFOSAA





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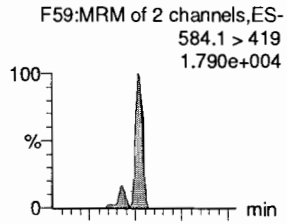
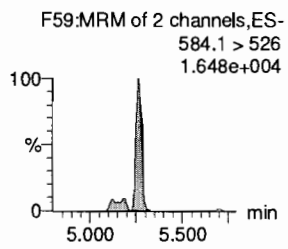
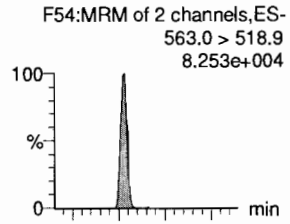
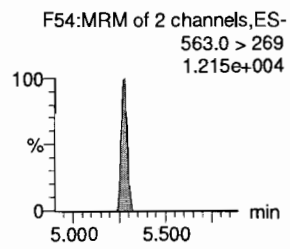




PFUdA





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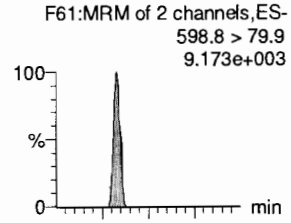

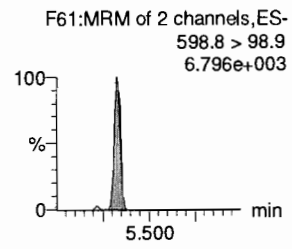

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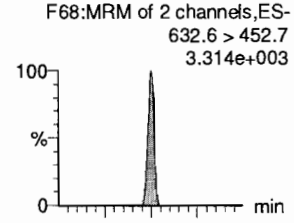
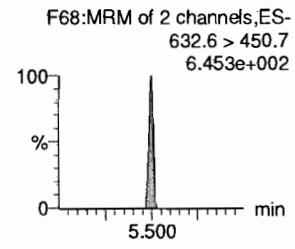
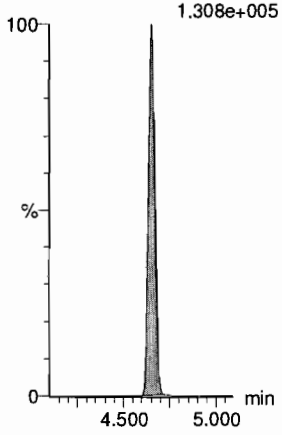
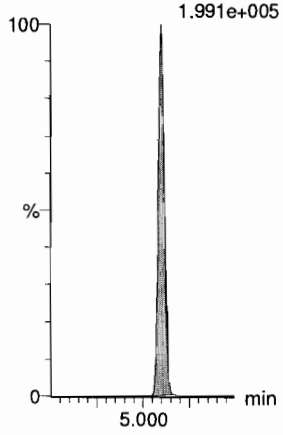




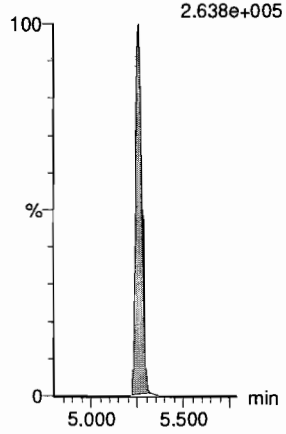
13C8-PFOS



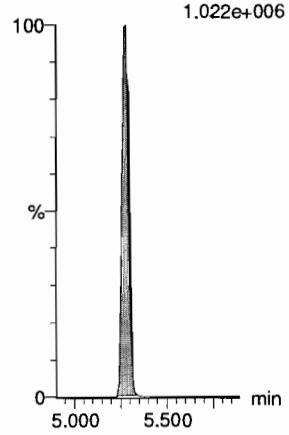
d3-N-MeFOSAA



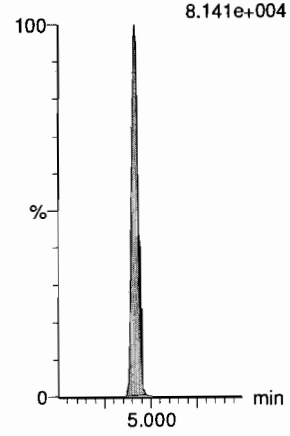
d5-N-EtFOSAA



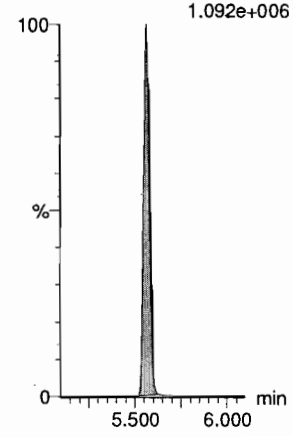
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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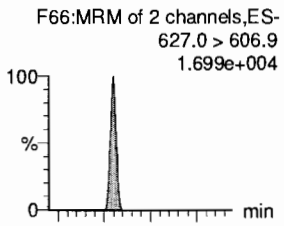
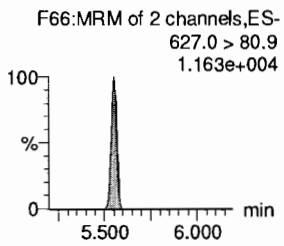
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

10:2 FTS





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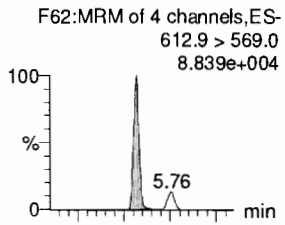
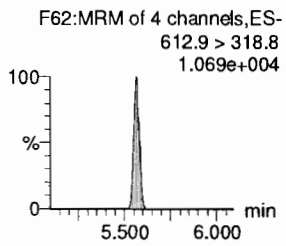
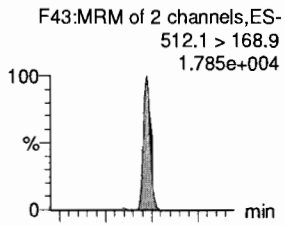
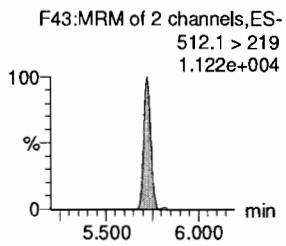


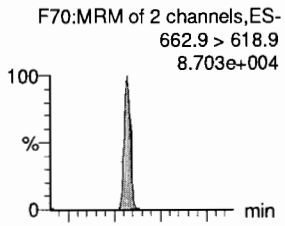


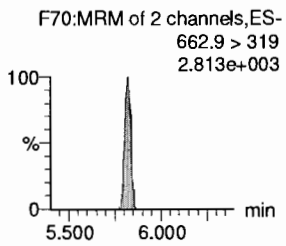
N-MeFOSA



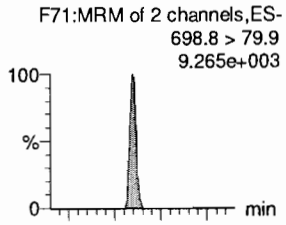


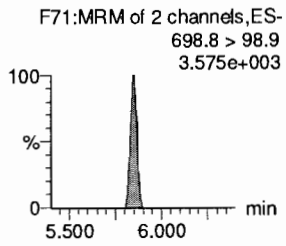
PFTrDA



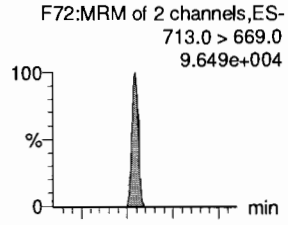


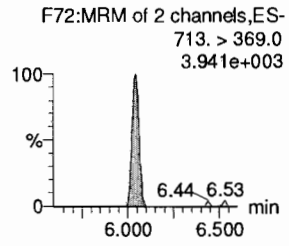
PFDoS



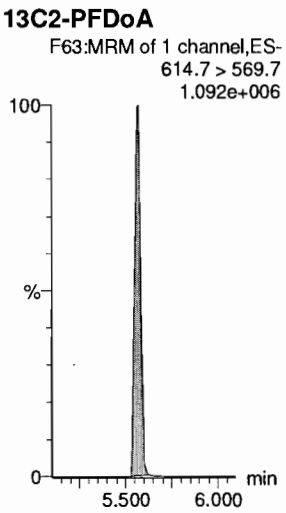


PFTeDA





13C2-PFDoA



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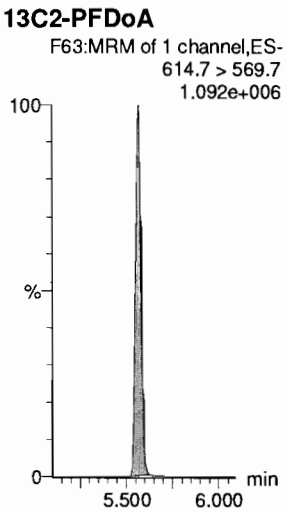
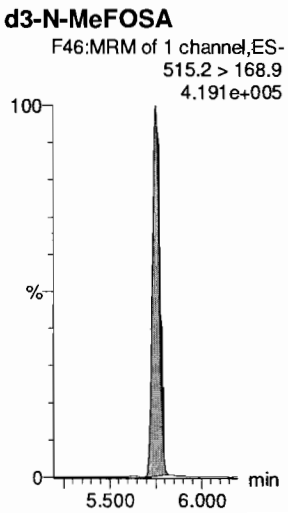


d3-N-MeFOSA



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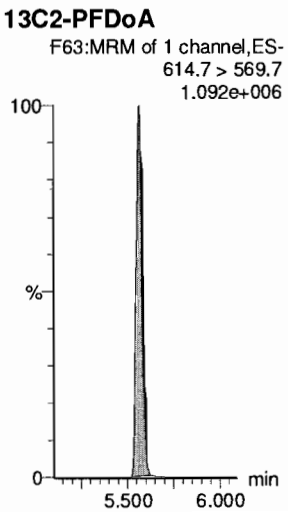

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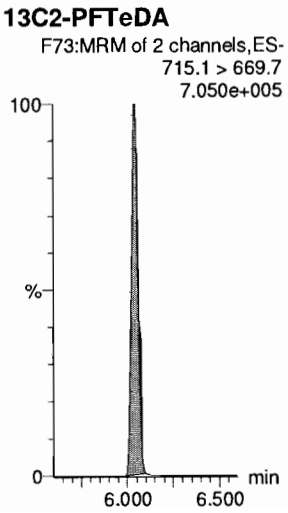

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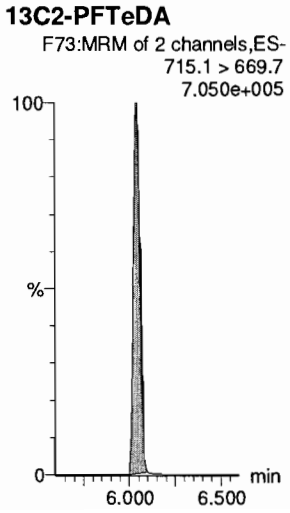

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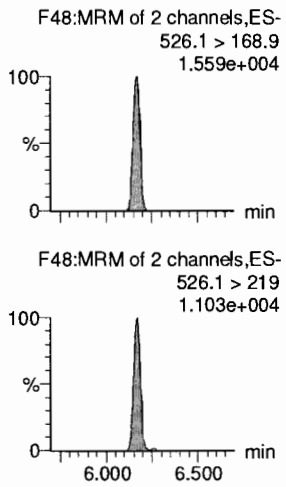
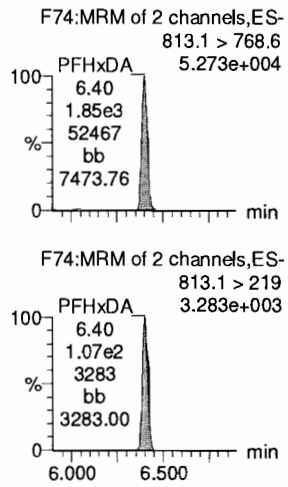
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

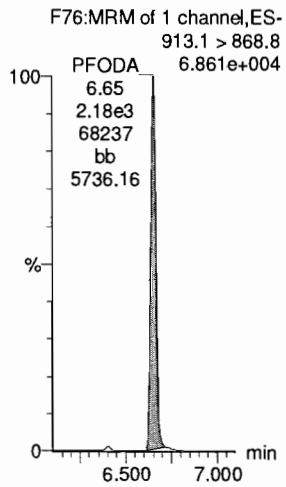
N-EtFOSA



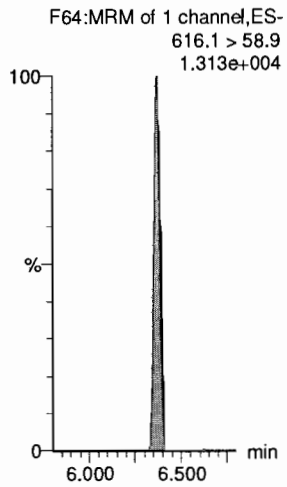
PFHxDA



PFODA



N-MeFOSE



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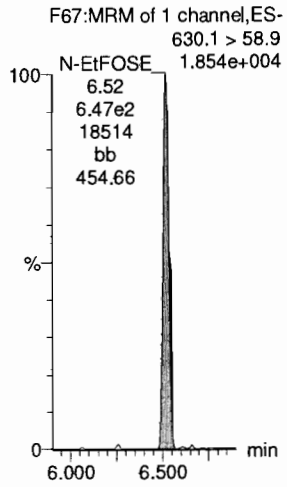

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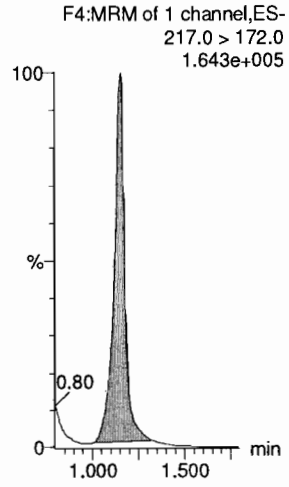
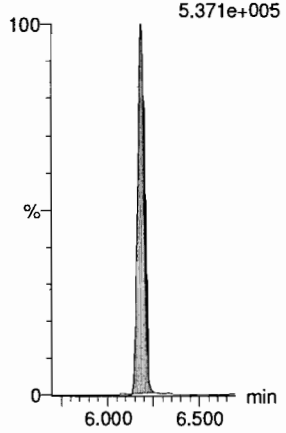
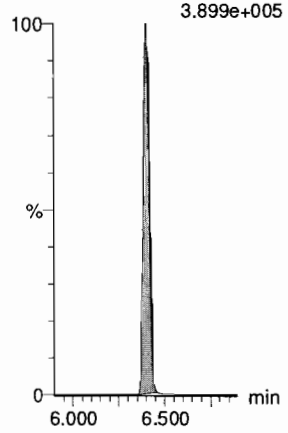


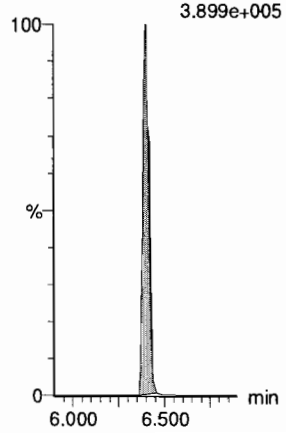
d5-N-ETFOSA



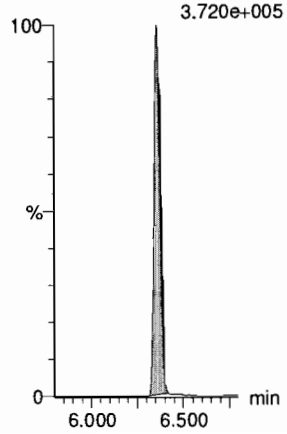
13C2-PFHxDA



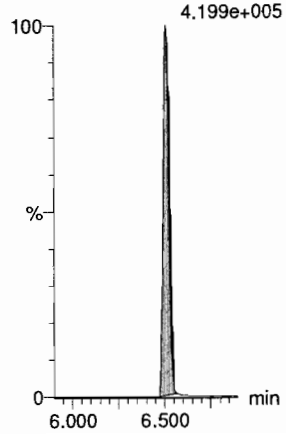
13C2-PFHxDA



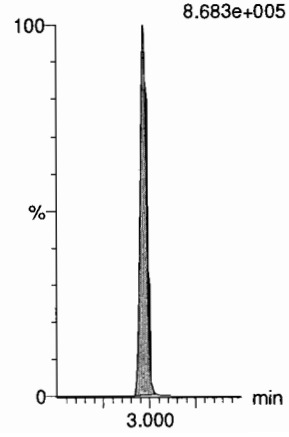
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

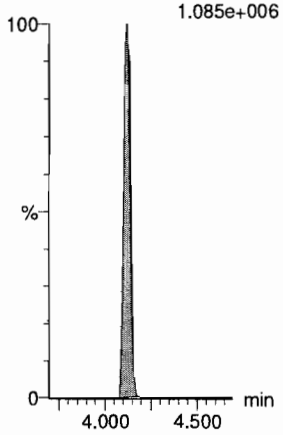


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-2.qld

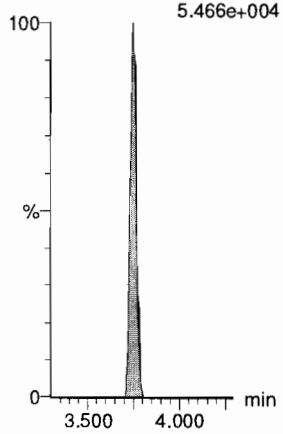
Last Altered: Tuesday, July 23, 2019 11:34:37 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 11:35:16 Pacific Daylight Time

Name: 190723M2_2, Date: 23-Jul-2019, Time: 09:38:23, ID: ST190723M2-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

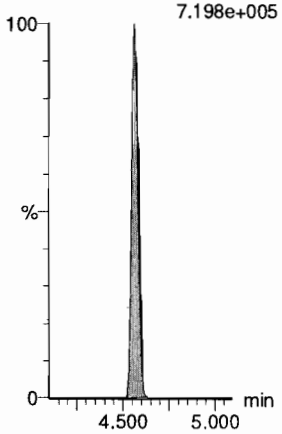
13C8-PFOA



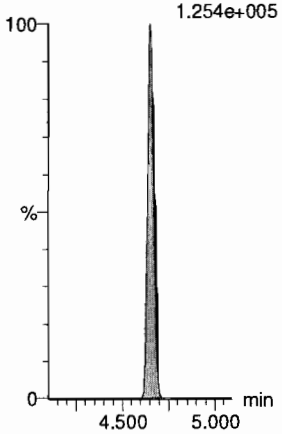
18O2-PFHxS



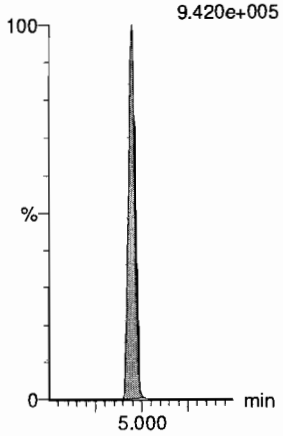
13C9-PFNA



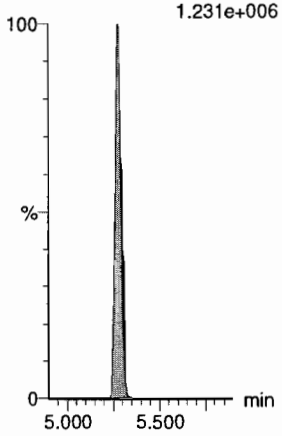
13C4-PFOS



13C6-PFDA



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:	ST190723M2-3	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID:	-4	L M H	☑	☑	☐	☑	☑	☑	☐
Calibration ID:	-5	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID:	-6	L M H	☑	☑ (A)	☑	☑	☑	☑	☐
Calibration ID:	-7	L M H	☑	☑	☑	☑	☑	☐	☐
Calibration ID:	-8	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID:	-9	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID:	-10	L M H	☑	☑	☑	☑	☑	☑	☑
~~Calibration ID:~~		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

JM 7/24/19

Full Mass Cal. Date: 07/15/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☑

Reviewed By: JM 7/24/19
Initials/Date

Comments:

(A) HFPO-DA L701.

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

7/24/19

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 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	7596.807	7376.756	1.00	1.18	12.873	10.3	103.3	NO		
2	2	PFPrS	248.9 > 79.9	1614.729	2271.781	1.00	1.54	8.885	9.5	95.3	NO	2.605	NO
3	3	3:3 FTCA	240.9 > 176.9	347.923	16863.156	1.00	2.01	0.258	7.5	75.4	NO	2.168	NO
4	4	PFPeA	263.1 > 218.9	12258.017	16863.156	1.00	2.17	9.086	9.8	98.3	NO		
5	5	PFBS	299.0 > 79.7	4229.262	2271.781	1.00	2.47	23.271	10.3	102.6	NO	2.919	NO
6	6	4:2 FTS	327.0 > 306.9	7581.641	3765.525	1.00	2.89	25.168	10.0	100.0	NO	1.868	NO
7	47	13C3-PFBA	216.1 > 171.8	7376.756	10657.437	1.00	1.18	8.652	11.8	94.3	NO		
8	49	13C3-PFBS	302.0 > 98.8	2271.781	2277.328	1.00	2.47	12.470	11.8	94.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	16863.156	33924.418	1.00	2.17	6.214	12.5	99.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	16863.156	33924.418	1.00	2.17	6.214	12.5	99.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	2271.781	2277.328	1.00	2.47	12.470	11.8	94.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3765.525	2277.328	1.00	2.89	20.669	12.5	100.2	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	24610.578	13086.595	1.00	2.98	9.403	10.7	106.6	NO	15.072	NO
15	8	PFPeS	349.1>80.1	3275.728	2271.781	1.00	3.18	18.024	11.3	112.5	NO	1.557	NO
16	9	HFPO-DA	285.1 > 168.9	2001.963	1814.165	1.00	3.18	5.518	8.6	86.0	NO	2.330	NO
17	10	5:3 FTCA	340.9 > 236.9	2155.666	15974.885	1.00	3.53	1.687	9.2	91.6	NO	1.569	NO
18	11	PFHpA	363.0 > 318.9	16799.518	15974.885	1.00	3.60	13.145	10.2	101.5	NO	9.137	NO
19	12	ADONA	376.8 > 250.9	43373.000	15974.885	1.00	3.71	33.938	9.6	95.7	NO	3.489	NO
20	52	13C2-PFHxA	315.0 > 270.0	13086.595	33924.418	1.00	2.98	4.822	4.9	98.6	NO		
21	49	13C3-PFBS	302.0 > 98.8	2271.781	2277.328	1.00	2.47	12.470	11.8	94.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1814.165	33924.418	1.00	3.18	0.668	5.0	99.8	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15974.885	33924.418	1.00	3.60	5.886	12.3	98.4	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15974.885	33924.418	1.00	3.60	5.886	12.3	98.4	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15974.885	33924.418	1.00	3.60	5.886	12.3	98.4	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3449.195	4511.176	1.00	3.76	9.557	10.5	104.8	NO	2.075	NO
28	15	6:2 FTS	427.0 > 406.9	7285.794	2785.161	1.00	4.07	32.699	9.7	97.2	NO	2.107	NO
29	16	L-PFOA	412.8 > 368.9	35716.910	29535.846	1.00	4.13	15.116	10.0	100.4	NO	3.933	NO
30	18	PFecHS	460.8 > 381.0	5193.606	29535.846	1.00	4.15	2.198	9.5	95.4	NO	0.901	NO
31	19	PFHpS	449.0 > 80.0	3821.210	5409.744	1.00	4.24	8.829	10.0	100.2	NO	1.796	NO
32	20	7:3 FTCA	440.9 > 336.9	2443.731	29549.586	1.00	4.56	1.034	8.7	87.3	NO	2.112	NO
33	54	13C3-PFHxS	401.8 > 79.9	4511.176	2277.328	1.00	3.76	24.761	12.2	97.9	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2785.161	5186.883	1.00	4.07	6.712	12.5	100.1	NO		
35	58	13C2-PFOA	414.9 > 369.7	29535.846	42002.375	1.00	4.13	8.790	12.9	103.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	29535.846	42002.375	1.00	4.13	8.790	12.9	103.2	NO		

7/23/19

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 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	5409.744	5186.883	1.00	4.66	13.037	13.1	104.6	NO		
38	56	13C5-PFNA	468.2 > 422.9	29549.586	29501.258	1.00	4.57	12.520	12.5	100.0	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	28492.686	29549.586	1.00	4.57	12.053	10.5	104.6	NO	4.217	NO
41	22	PFOSA	497.9 > 77.9	5384.034	6166.876	1.00	4.64	10.913	10.7	107.1	NO	30.860	NO
42	23	L-PFOS	498.9 > 79.9	4558.088	5409.744	1.00	4.66	10.532	9.9	98.7	NO	1.939	NO
43	25	9Cl-PF30NS	530.7 > 350.8	8972.070	5409.744	1.00	4.88	20.731	9.5	94.6	NO	16.213	NO
44	26	PFDA	513 > 468.8	32267.867	31037.938	1.00	4.95	12.995	10.1	100.8	NO	5.488	NO
45	27	8:2 FTS	527.0 > 506.9	5159.669	2810.417	1.00	4.92	22.949	11.3	112.9	NO	1.245	NO
46	56	13C5-PFNA	468.2 > 422.9	29549.586	29501.258	1.00	4.57	12.520	12.5	100.0	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6166.876	45760.543	1.00	4.63	1.685	10.1	80.4	NO		
48	59	13C8-PFOS	507.0 > 79.9	5409.744	5186.883	1.00	4.66	13.037	13.1	104.6	NO		
49	59	13C8-PFOS	507.0 > 79.9	5409.744	5186.883	1.00	4.66	13.037	13.1	104.6	NO		
50	60	13C2-PFDA	515.1 > 469.9	31037.938	39611.637	1.00	4.95	9.794	12.0	95.7	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2810.417	5186.883	1.00	4.92	6.773	12.2	97.4	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3128.283	5409.744	1.00	5.02	7.228	10.1	100.9	NO	1.715	NO
54	29	L-MeFOSAA	570 > 419	13391.842	7315.749	1.00	5.11	22.882	10.6	106.1	NO	2.427	NO
55	31	L-EtFOSAA	584.1 > 419	10521.411	9991.480	1.00	5.27	13.163	10.5	105.4	NO	1.371	NO
56	33	PFUdA	563.0 > 518.9	30506.283	39642.250	1.00	5.28	9.619	10.5	105.2	NO	8.835	NO
57	34	PFDS	598.8 > 79.9	4348.706	2810.417	1.00	5.34	19.342	11.3	113.3	NO	1.782	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1947.998	39088.273	1.00	5.51	0.623	10.8	107.9	NO	5.108	NO
59	59	13C8-PFOS	507.0 > 79.9	5409.744	5186.883	1.00	4.66	13.037	13.1	104.6	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7315.749	45760.543	1.00	5.11	1.998	11.3	90.1	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9991.480	45760.543	1.00	5.27	2.729	12.2	97.5	NO		
62	63	13C2-PFUdA	565 > 519.8	39642.250	45760.543	1.00	5.28	10.829	12.2	97.4	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2810.417	5186.883	1.00	4.92	6.773	12.2	97.4	NO		
64	65	13C2-PFDoA	614.7 > 569.7	39088.273	39611.637	1.00	5.57	12.335	11.3	90.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	5923.499	2810.417	1.00	5.56	26.346	10.9	109.2	NO	1.615	NO
67	37	PFDoA	612.9 > 569.0	33668.398	39088.273	1.00	5.57	10.767	10.1	100.6	NO	8.404	NO
68	38	N-MeFOSA	512.1 > 168.9	7594.636	18246.941	1.00	5.73	62.432	53.0	106.0	NO	1.566	NO
69	39	PFTrDA	662.9 > 618.9	38164.969	39088.273	1.00	5.83	12.205	10.7	107.0	NO	20.636	NO
70	40	PFDoS	698.8 > 79.9	3575.521	28005.801	1.00	5.85	1.596	9.7	96.6	NO	1.910	NO
71	41	PFTeDA	713.0 > 669.0	35120.980	28005.801	1.00	6.05	15.676	10.4	103.5	NO	14.821	NO
72	65	13C2-PFDoA	614.7 > 569.7	39088.273	39611.637	1.00	5.57	12.335	11.3	90.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 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	39088.273	39611.637	1.00	5.57	12.335	11.3	90.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18246.941	45760.543	1.00	5.76	4.984	130.4	86.9	NO		
75	65	13C2-PFDoA	614.7 > 569.7	39088.273	39611.637	1.00	5.57	12.335	11.3	90.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	28005.801	45760.543	1.00	6.05	7.650	12.7	101.3	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	28005.801	45760.543	1.00	6.05	7.650	12.7	101.3	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	7922.889	21140.617	1.00	6.17	56.216	57.6	115.2	NO	1.682	NO
80	43	PFHxDA	813.1 > 768.6	19384.574	14447.535	1.00	6.38	6.709	10.2	102.0	NO	20.389	NO
81	44	PFODA	913.1 > 868.8	23411.408	14447.535	1.00	6.63	8.102	10.6	105.9	NO		
82	45	N-MeFOSE	616.1 > 58.9	5175.397	13350.985	1.00	6.35	58.146	52.0	104.1	NO		
83	46	N-EtFOSE	630.1 > 58.9	6405.130	14823.614	1.00	6.50	64.813	50.1	100.2	NO		
84	72	13C4-PFBA	217.0 > 172.0	10657.437	10657.437	1.00	1.17	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	21140.617	45760.543	1.00	6.19	5.775	129.9	86.6	NO		
86	69	13C2-PFHxDA	815 > 769.7	14447.535	45760.543	1.00	6.38	3.947	5.0	100.2	NO		
87	69	13C2-PFHxDA	815 > 769.7	14447.535	45760.543	1.00	6.38	3.947	5.0	100.2	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	13350.985	45760.543	1.00	6.34	3.647	116.5	77.7	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	14823.614	45760.543	1.00	6.49	4.049	123.2	82.2	NO		
90	73	13C5-PFHxA	318.0 > 272.9	33924.418	33924.418	1.00	2.98	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	42002.375	42002.375	1.00	4.13	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2277.328	2277.328	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	29501.258	29501.258	1.00	4.57	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5186.883	5186.883	1.00	4.66	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	39611.637	39611.637	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	45760.543	45760.543	1.00	5.28	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time	
1	1	190723M2_1	IPA	23-Jul-19	09:27:47	
2	2	190723M2_2	ST190723M2-1 PFC CS0 19G1103	23-Jul-19	09:38:23	
3	3	190723M2_3	IB	23-Jul-19	09:48:56	
4	4	190723M2_4	B9G0208-BS1 OPR 0.25	23-Jul-19	09:59:37	
5	5	190723M2_5	B9G0134-BS1 OPR 0.25	23-Jul-19	10:11:24	
6	6	190723M2_6	1902014-08 FRB-07082019 0.11724	23-Jul-19	10:24:28	
7	7	190723M2_7	1902014-09 CAOA-B01-GW 0.12758	23-Jul-19	10:35:01	
8	8	190723M2_8	1902014-10 EB-07082019 0.11822	23-Jul-19	10:45:40	
9	9	190723M2_9	IPA	23-Jul-19	10:56:13	
10	10	190723M2_10	ST190723M2-2 PFC CS3 19G1106	23-Jul-19	11:06:51	
11	11	190723M2_11	IPA	23-Jul-19	11:17:24	
12	12	190723M2_12	1902105-02@5X 5A Raw Leachate 0.24309	23-Jul-19	11:35:40	
13	13	190723M2_13	IPA	23-Jul-19	11:46:14	
14	14	190723M2_14	B9G0146-BS1 OPR 0.25	23-Jul-19	11:56:46	
15	15	190723M2_15	B9G0146-BLK1 Method Blank 0.25	23-Jul-19	12:07:24	
16	16	190723M2_16	1902079-01 AS-SW-06-0719 0.23394	23-Jul-19	12:17:57	
17	17	190723M2_17	1902079-02 AS-PW-06-0719 0.23238	23-Jul-19	12:28:35	
18	18	190723M2_18	1902079-03 AS-SW-07-0719 0.22837	23-Jul-19	12:39:08	
19	19	190723M2_19	1902079-04 AS-PW-07-0719 0.24286	23-Jul-19	12:49:46	
20	20	190723M2_20	1902079-05 AS-SW-08-0719 0.22743	23-Jul-19	13:00:24	
21	21	190723M2_21	1902079-06 AS-PW-08-0719 0.23443	23-Jul-19	13:10:57	
22	22	190723M2_22	1902079-07 AS-SW-09-0719 0.22416	23-Jul-19	13:21:35	
23	23	190723M2_23	1902079-08 AS-PW-09-0719 0.2309	23-Jul-19	13:32:08	
24	24	190723M2_24	1902079-09 AS-SW-10-0719 0.22745	23-Jul-19	13:42:46	
25	25	190723M2_25	IPA	23-Jul-19	15:49:56	IPA INJECTED OUT OF ORDER
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27	27	190723M2_27	IPA	23-Jul-19	14:14:28	
28	28	190723M2_28	1902079-10 AS-PW-10-0719 0.24169	23-Jul-19	14:25:06	
29	29	190723M2_29	1902079-11 AS-SW-11-0719 0.23337	23-Jul-19	14:35:39	
30	30	190723M2_30	1902079-12 AS-PW-11-0719 0.22599	23-Jul-19	14:46:18	
31	31	190723M2_31	1902079-13 AS-SW-12-0719 0.23139	23-Jul-19	14:56:51	
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Compound name: PFBA

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34	34	190723M2_34	1902079-16 AS-PW-DUP-01-0719 0.24901	23-Jul-19	15:28:41
35	35	190723M2_35	1902079-17 AS-EB-0709 0.21355	23-Jul-19	15:39:15
36	36	190723M2_36	B9G0190-BS1 OPR 1	23-Jul-19	16:03:38
37	37	190723M2_37	B9G0190-BLK1 Method Blank 1	23-Jul-19	16:14:16
38	38	190723M2_38	B9G0190-MS1 Matrix Spike 1.01	23-Jul-19	16:24:49
39	39	190723M2_39	B9G0190-MSD1 Matrix Spike Dup 1.01	23-Jul-19	16:35:27
40	40	190723M2_40	1902097-01 SAOA-B10-SO-1-1.5 1.03	23-Jul-19	16:46:01
41	41	190723M2_41	1902097-02 SAOA-B10-SO-20-20.5 1.05	23-Jul-19	16:56:39
42	42	190723M2_42	IPA	23-Jul-19	17:07:18
43	43	190723M2_43	ST190723M2-4 PFC CS3 19G1106	23-Jul-19	17:17:51
44	44	190723M2_44	IPA	23-Jul-19	17:28:29
45	45	190723M2_45	1902097-06 NON-B02-SO-1-1.5 1.01	23-Jul-19	17:39:03
46	46	190723M2_46	1902097-08 NON-B02-SO-15-15.5 1.08	23-Jul-19	17:49:41
47	47	190723M2_47	1902097-09 SAOA-B01-SO-5-5.5 1.06	23-Jul-19	18:00:14
48	48	190723M2_48	1902097-10 SAOA-B01-SO-20-20.5 1.24	23-Jul-19	18:10:53
49	49	190723M2_49	1902097-11 SAOA-B01-SO-36-36.5 1.26	23-Jul-19	18:21:26
50	50	190723M2_50	1902097-12 NON-B01-SO-1-1.5 1.19	23-Jul-19	18:32:04
51	51	190723M2_51	1902097-13 NON-B01-SO-15-15.5 1.16	23-Jul-19	18:42:37
52	52	190723M2_52	1902097-16 NON-B01-SO-73-73.5 1.21	23-Jul-19	18:53:15
53	53	190723M2_53	1902097-17 NON-B04-SO-0.5-1 1.01	23-Jul-19	19:03:53
54	54	190723M2_54	1902097-18 NON-B04-SO-4.5-5 1.03	23-Jul-19	19:14:26
55	55	190723M2_55	IPA	23-Jul-19	19:25:05
56	56	190723M2_56	ST190723M2-5 PFC CS3 19G1106	23-Jul-19	19:35:38
57	57	190723M2_57	IPA	23-Jul-19	19:46:16
58	58	190723M2_58	B9G0216-BS1 OPR 1	23-Jul-19	19:56:49
59	59	190723M2_59	B9G0216-BLK1 Method Blank 1	23-Jul-19	20:07:28
60	60	190723M2_60	1902165-01 1901142-01 1.25	23-Jul-19	20:18:06
61	61	190723M2_61	1902165-02 1901142-02 1.28	23-Jul-19	20:28:39
62	62	190723M2_62	1902165-03 1901142-03 1.26	23-Jul-19	20:39:17
63	63	190723M2_63	1902165-04 1901142-04 1.26	23-Jul-19	20:49:56
64	64	190723M2_64	1902165-05 1901142-05 1.23	23-Jul-19	21:00:34
65	65	190723M2_65	1902165-06 1901142-06 1.25	23-Jul-19	21:11:08
66	66	190723M2_66	1902165-07 1901142-07 1.22	23-Jul-19	21:21:46
67	67	190723M2_67	1902165-08 1901142-08 1.22	23-Jul-19	21:32:18
68	68	190723M2_68	1902165-09 1901142-09 1.2	23-Jul-19	21:42:57

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Compound name: PFBA

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71	71 190723M2_71	ST190723M2-6 PFC CS3 19G1106	23-Jul-19	22:14:46
72	72 190723M2_72	IPA	23-Jul-19	22:25:18
73	73 190723M2_73	1902165-11 1901142-11 1.22	23-Jul-19	22:35:57
74	74 190723M2_74	1902165-12 1901142-12 1.28	23-Jul-19	22:46:35
75	75 190723M2_75	1902165-13 1901142-13 1.02	23-Jul-19	22:57:08
76	76 190723M2_76	1902165-14 1901142-14 1.2	23-Jul-19	23:07:46
77	77 190723M2_77	1902165-15 1901142-15 1.24	23-Jul-19	23:18:24
78	78 190723M2_78	1902165-16 1901142-16 1.22	23-Jul-19	23:28:57
79	79 190723M2_79	B9G0157-BS1 OPR 0.25	23-Jul-19	23:39:36
80	80 190723M2_80	B9G0157-BLK1 Method Blank 0.25	23-Jul-19	23:50:09
81	81 190723M2_81	1902093-01 AS-SW-13-0719 0.24744	24-Jul-19	00:00:48
82	82 190723M2_82	1902093-02 AS-PW-13-0719 0.25205	24-Jul-19	00:11:20
83	83 190723M2_83	1902093-03 AS-SW-14-0719 0.23822	24-Jul-19	00:21:58
84	84 190723M2_84	IPA	24-Jul-19	00:32:30
85	85 190723M2_85	ST190723M2-7 PFC CS3 19G1106	24-Jul-19	00:43:08
86	86 190723M2_86	IPA	24-Jul-19	00:53:42
87	87 190723M2_87	1902093-04 AS-PW-14-0719 0.25211	24-Jul-19	01:04:20
88	88 190723M2_88	1902093-05 AS-SW-15-0719 0.23059	24-Jul-19	01:14:53
89	89 190723M2_89	1902093-06 AS-PW-15-0719 0.25198	24-Jul-19	01:25:32
90	90 190723M2_90	1902093-07 AS-SW-16-0719 0.24267	24-Jul-19	01:36:05
91	91 190723M2_91	1902093-08 AS-PW-16-0719 0.27834	24-Jul-19	01:46:35
92	92 190723M2_92	1902093-09 AS-SW-17-0719 0.23708	24-Jul-19	01:57:14
93	93 190723M2_93	1902093-10 AS-PW-17-0719 0.24621	24-Jul-19	02:07:52
94	94 190723M2_94	1902107-01 GW0900931907101840RL 0.24624	24-Jul-19	02:18:25
95	95 190723M2_95	IPA	24-Jul-19	02:29:03
96	96 190723M2_96	ST190723M2-8 PFC CS3 19G1106	24-Jul-19	02:39:36
97	97 190723M2_97	IPA	24-Jul-19	02:50:15
98	98 190723M2_98	B9G0150-BS1 OPR 0.25	24-Jul-19	03:00:48
99	99 190723M2_99	B9G0150-BLK1 Method Blank 0.25	24-Jul-19	03:11:27
100	100 190723M2_100	1902094-01 AS-SW-18-0719 0.24659	24-Jul-19	03:22:00
101	101 190723M2_101	1902094-02 AS-PW-18-0719 0.23578	24-Jul-19	03:32:38
102	102 190723M2_102	1902094-03 AS-SW-19-0719 0.24013	24-Jul-19	03:43:11
103	103 190723M2_103	1902094-04 AS-PW-19-0719 0.24356	24-Jul-19	03:53:50
104	104 190723M2_104	1902094-05 AS-SW-20-0719 0.23482	24-Jul-19	04:04:23

Vista Analytical Laboratory

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Compound name: PFBA

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106	106 190723M2_106	1902094-07 AS-SW-21-0719 0.22902	24-Jul-19	04:25:34
107	107 190723M2_107	1902094-08 AS-PW-21-0719 0.22795	24-Jul-19	04:36:12
108	108 190723M2_108	1902094-09 AS-SW-22-0719 0.23746	24-Jul-19	04:46:46
109	109 190723M2_109	1902094-10 AS-PW-22-0719 0.23721	24-Jul-19	04:57:24
110	110 190723M2_110	IPA	24-Jul-19	05:07:57
111	111 190723M2_111	ST190723M2-9 PFC CS3 19G1106	24-Jul-19	05:18:35
112	112 190723M2_112	IPA	24-Jul-19	05:29:14
113	113 190723M2_113	1902094-11 AS-SW-23-0719 0.24375	24-Jul-19	05:39:47
114	114 190723M2_114	1902094-12 AS-PW-23-0719 0.25506	24-Jul-19	05:50:25
115	115 190723M2_115	1902094-13 AS-SW-DUP-02-0719 0.24241	24-Jul-19	06:00:58
116	116 190723M2_116	1902094-14 AS-PW-DUP-02-0719 0.25117	24-Jul-19	06:11:36
117	117 190723M2_117	IPA	24-Jul-19	06:22:09
118	118 190723M2_118	ST190723M2-10 PFC CS3 19G1106	24-Jul-19	06:32:47
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Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
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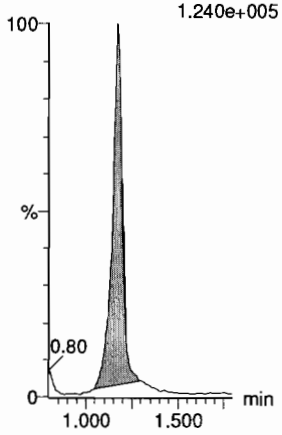
Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFBA



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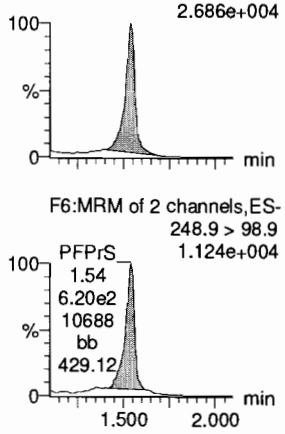

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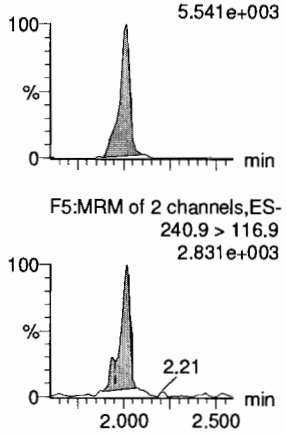

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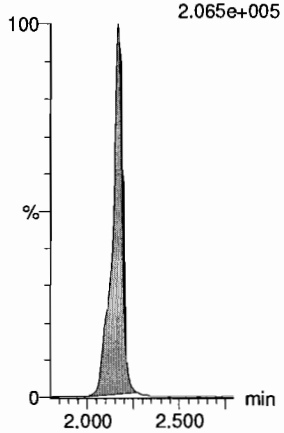

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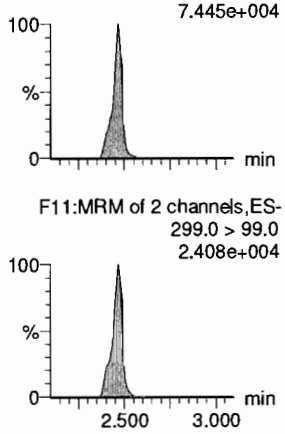
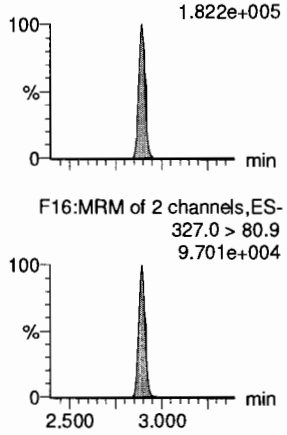
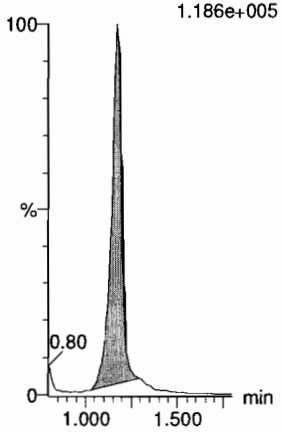


4:2 FTS



13C3-PFBA



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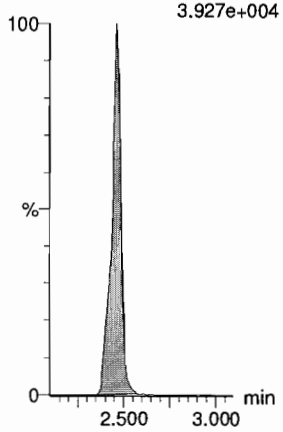

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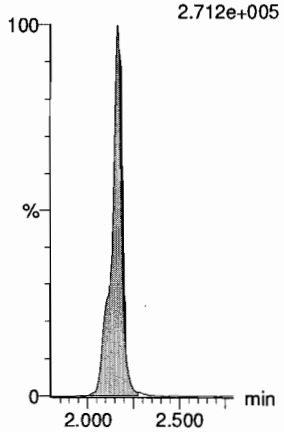

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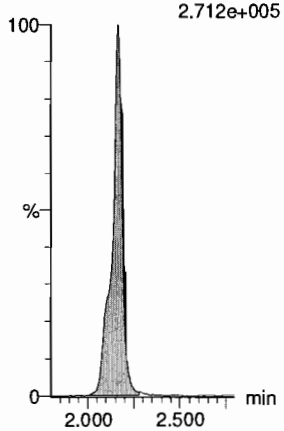

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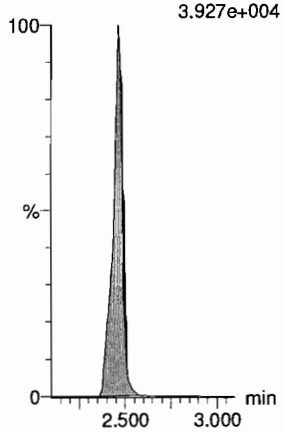

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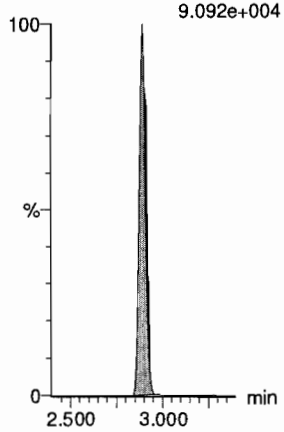

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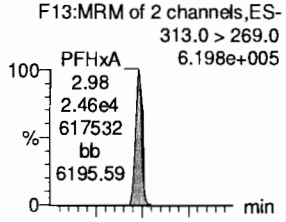
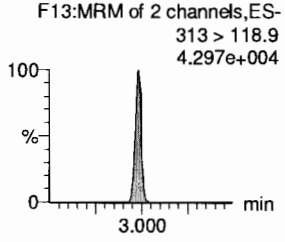
Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFHxA





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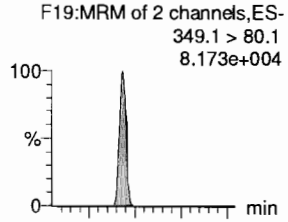
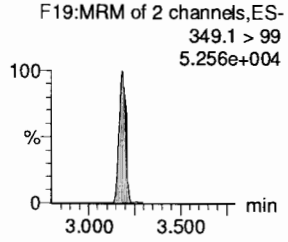
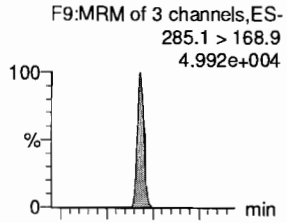
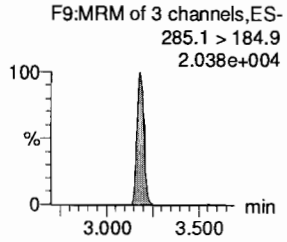




HFPO-DA





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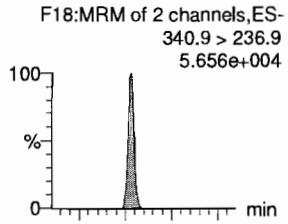

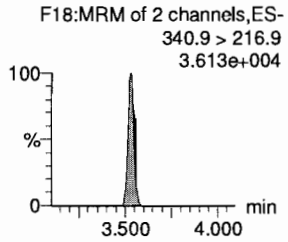

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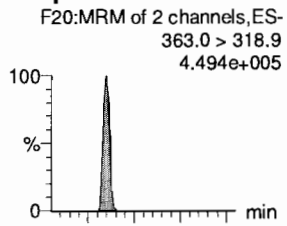

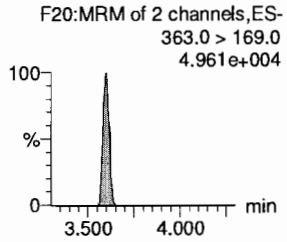

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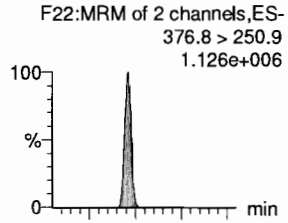
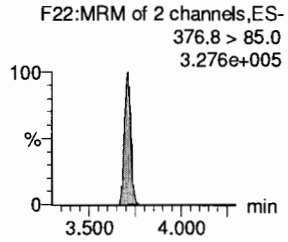
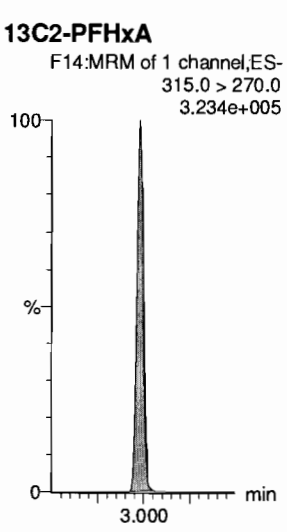
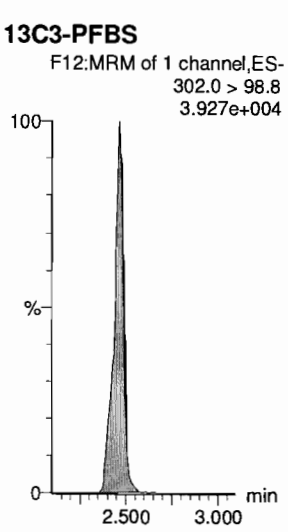




13C2-PFHxA



13C3-PFBS



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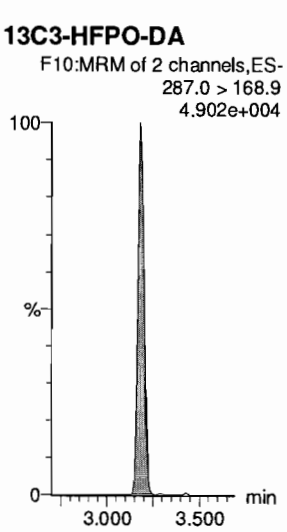

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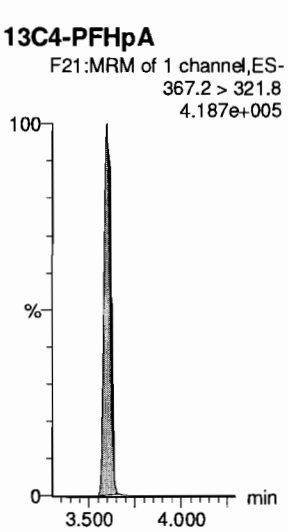

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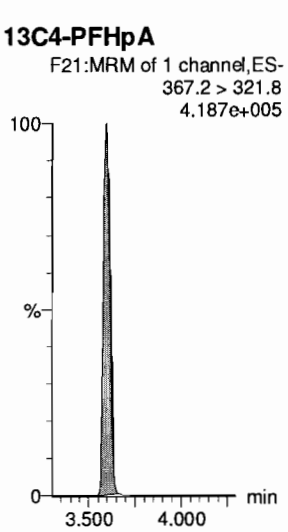

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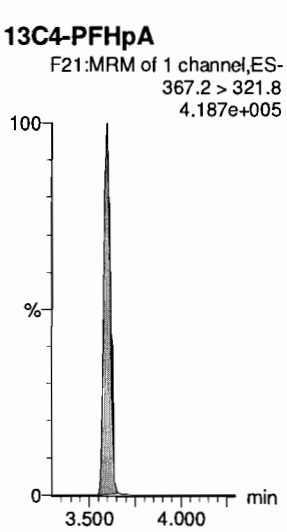

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Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

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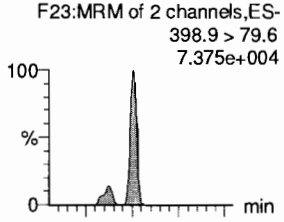
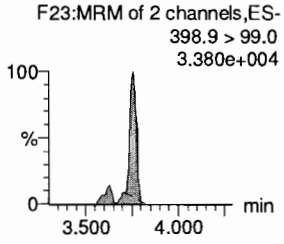
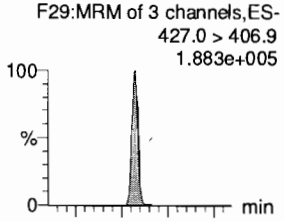
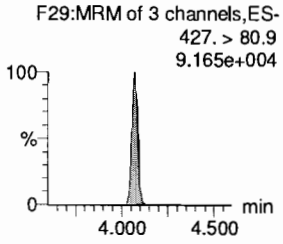




6:2 FTS





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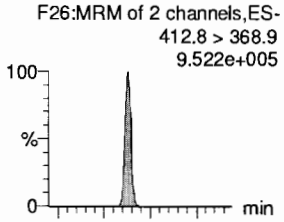

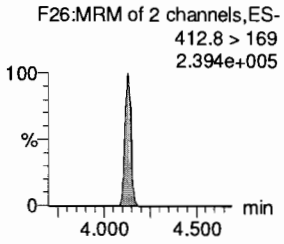

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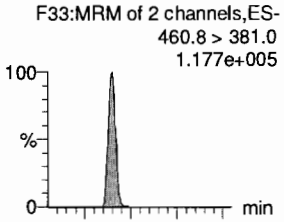

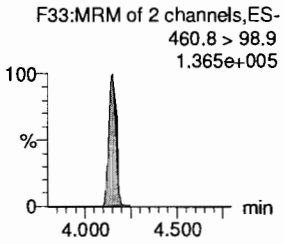

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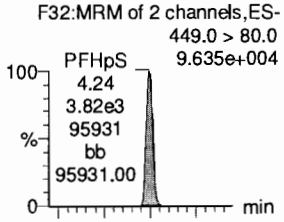
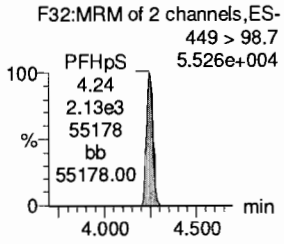
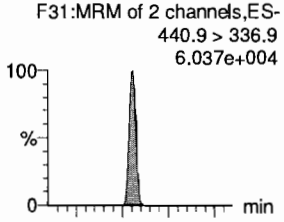
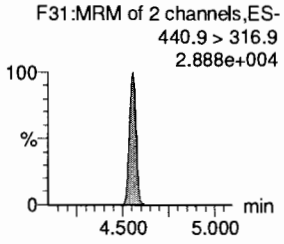


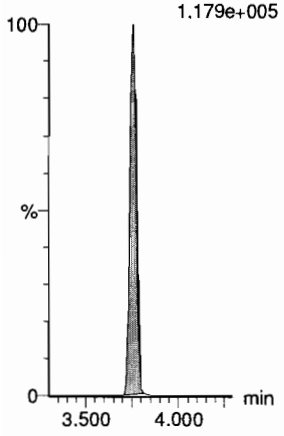


7:3 FTCA

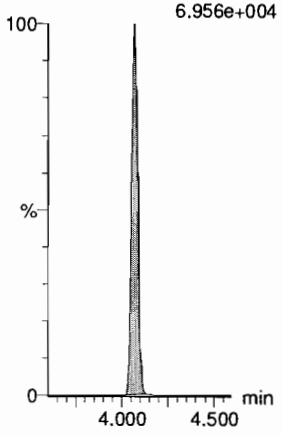




13C3-PFHxS



13C2-6:2 FTS



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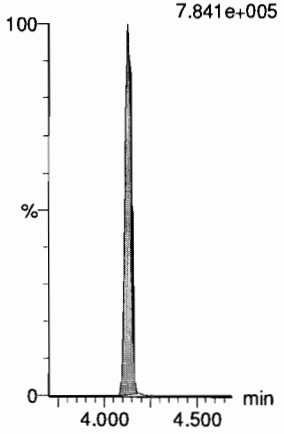

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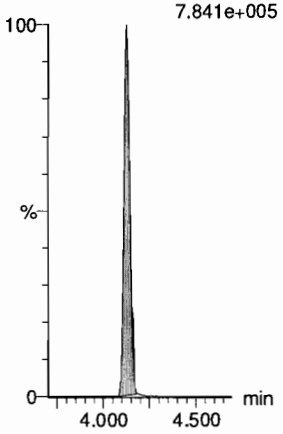
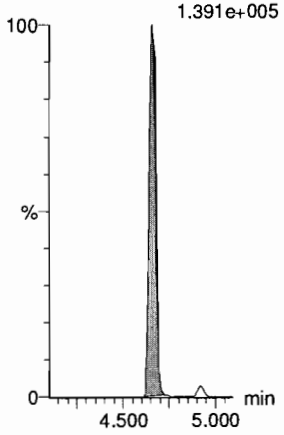
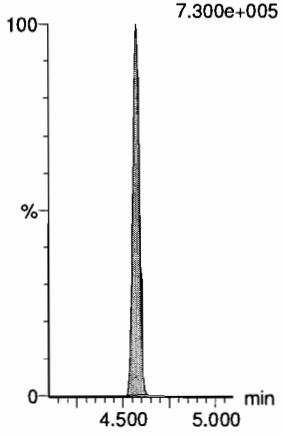


13C8-PFOS



13C5-PFNA



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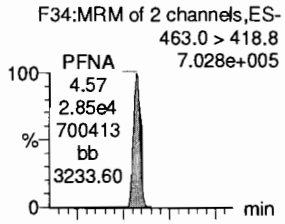
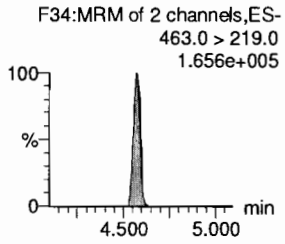
Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNA





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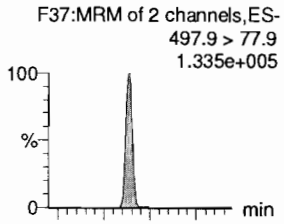
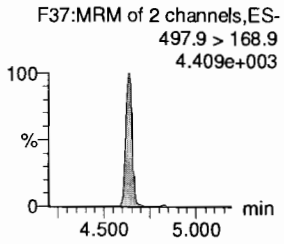
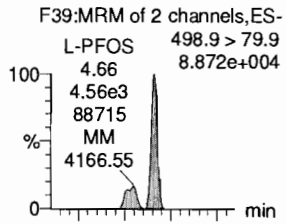
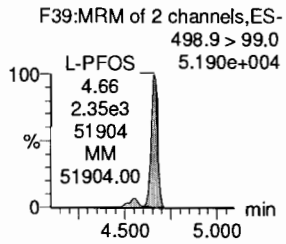


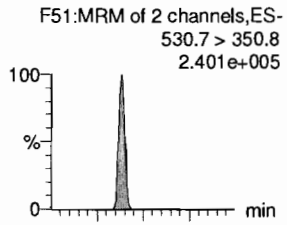


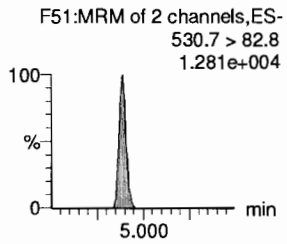
L-PFOS





9Cl-PF30NS





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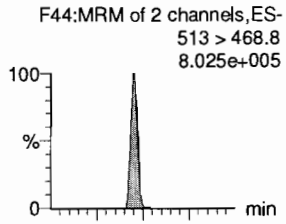

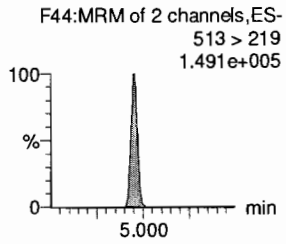

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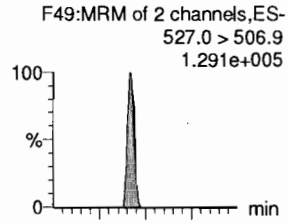

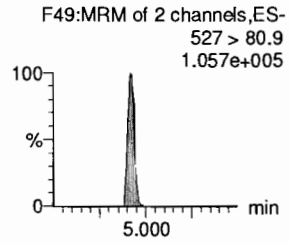

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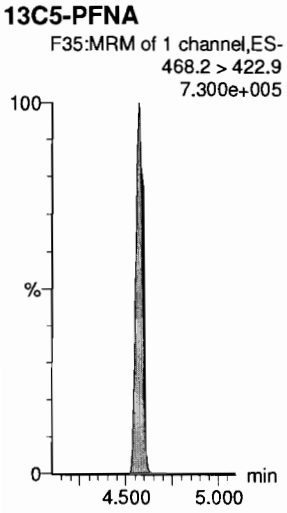

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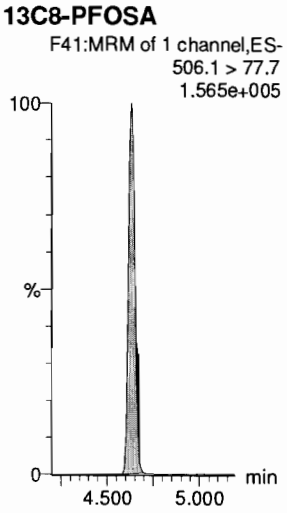

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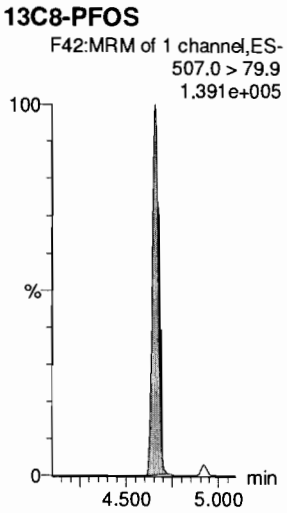

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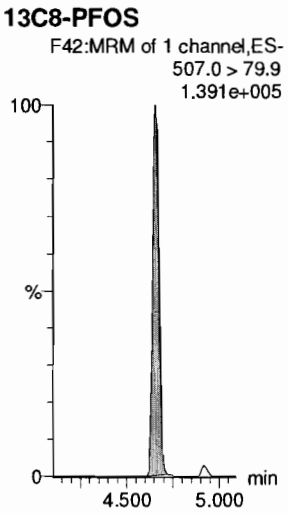
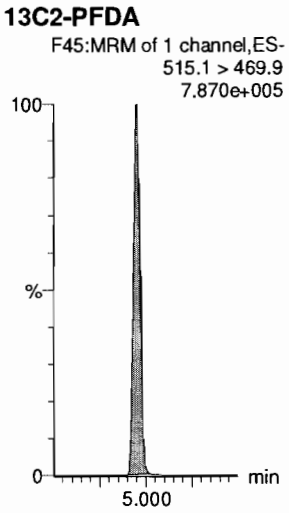


13C2-PFDA



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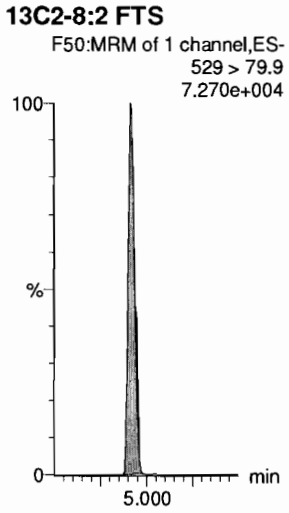

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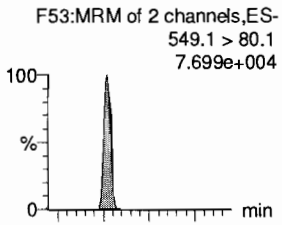
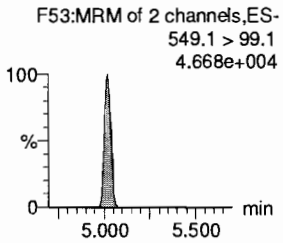
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

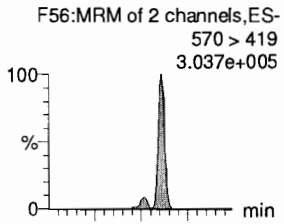
Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

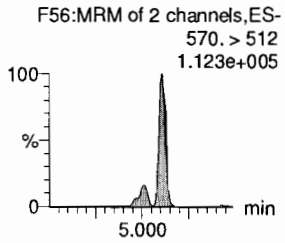
PFNS





L-MeFOSAA





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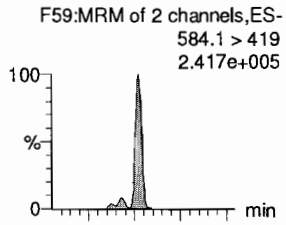
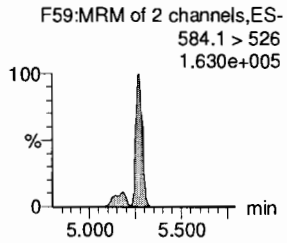
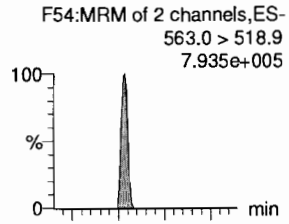
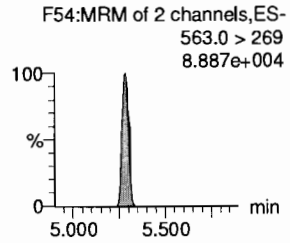


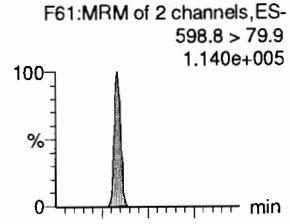


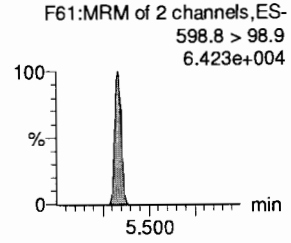
PFUdA



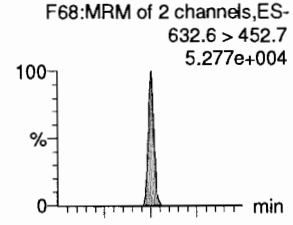


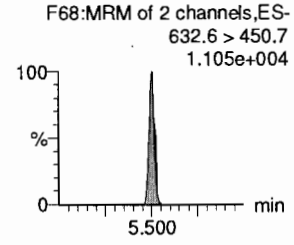
PFDS



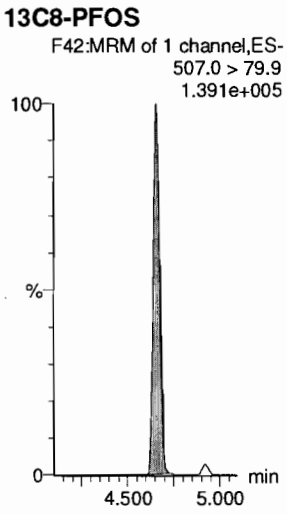


11Cl-PF30UdS

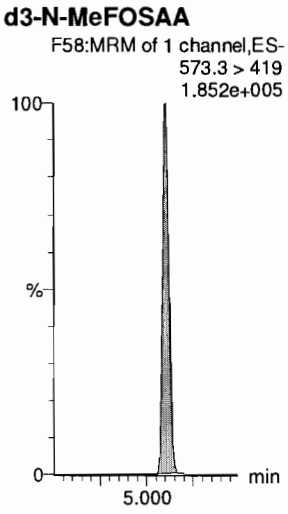




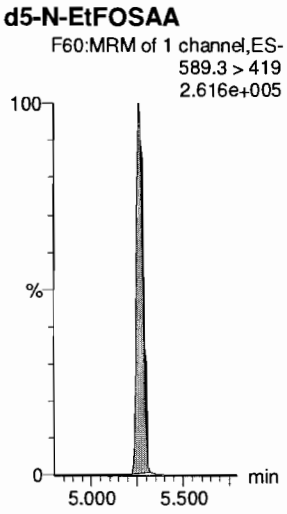
13C8-PFOS



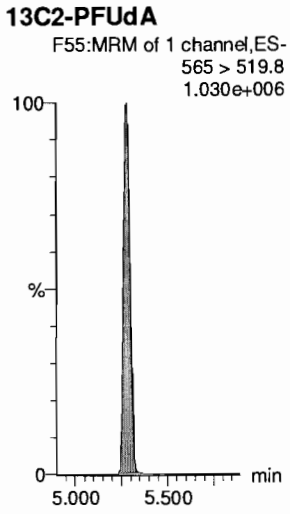
d3-N-MeFOSAA



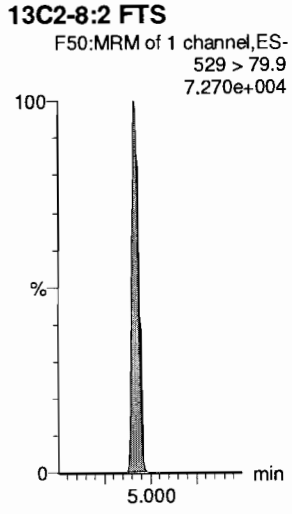
d5-N-EtFOSAA



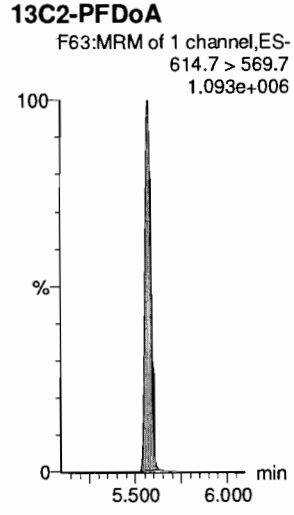
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

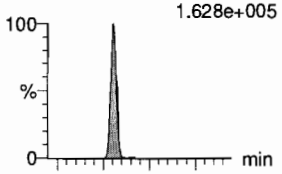


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

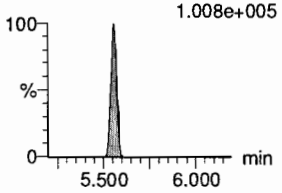
Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

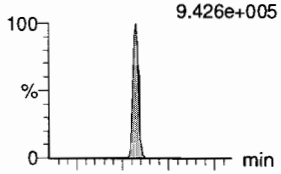
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.628e+005



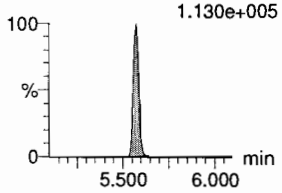
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.008e+005



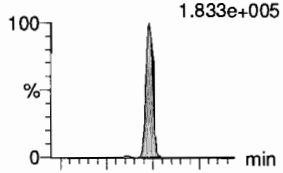
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
9.426e+005



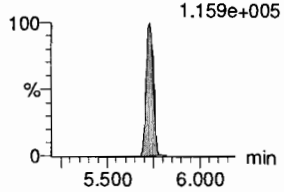
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.130e+005



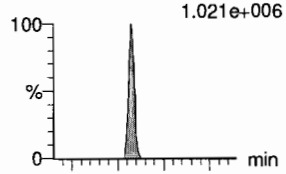
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.833e+005



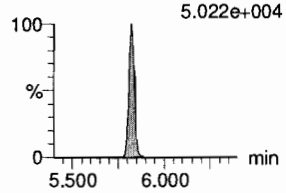
F43:MRM of 2 channels,ES-
512.1 > 219
1.159e+005



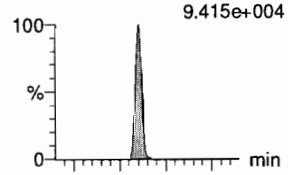
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.021e+006



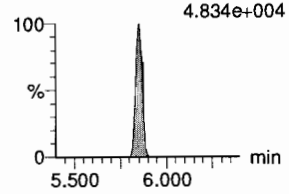
F70:MRM of 2 channels,ES-
662.9 > 319
5.022e+004



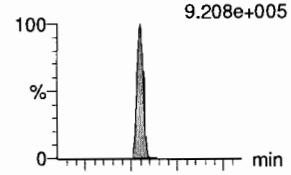
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
9.415e+004



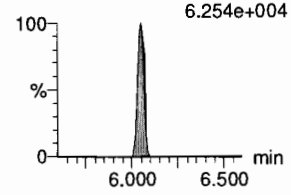
F71:MRM of 2 channels,ES-
698.8 > 98.9
4.834e+004



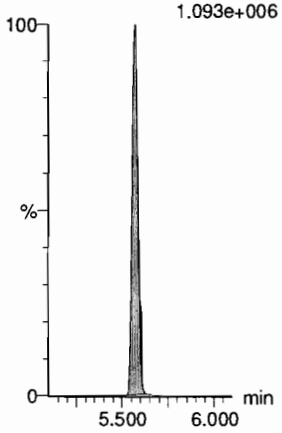
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
9.208e+005



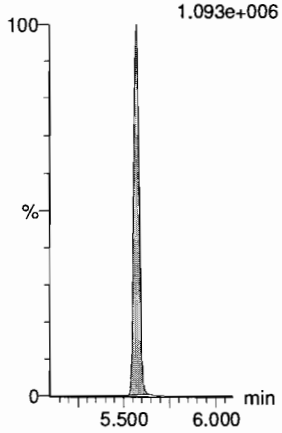
F72:MRM of 2 channels,ES-
713. > 369.0
6.254e+004



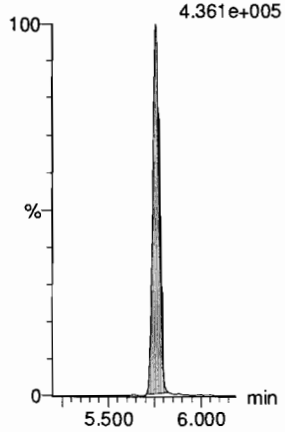
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.093e+006



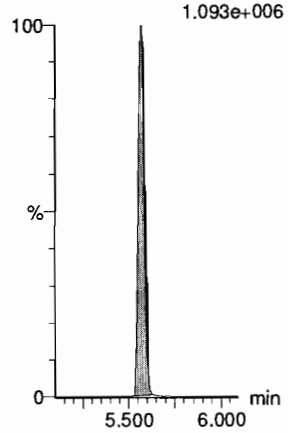
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.093e+006



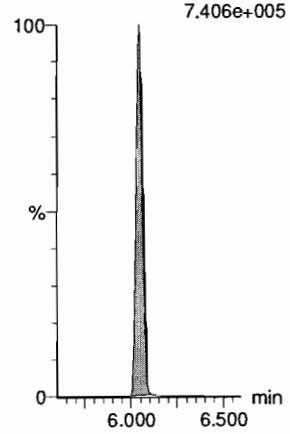
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.361e+005



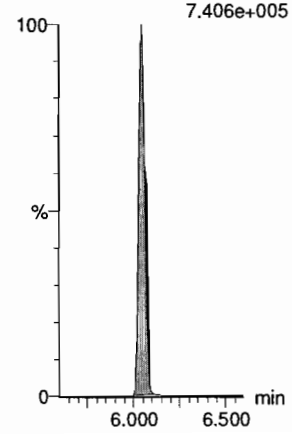
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.093e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.406e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.406e+005

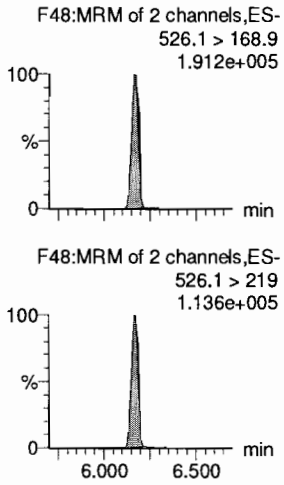


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

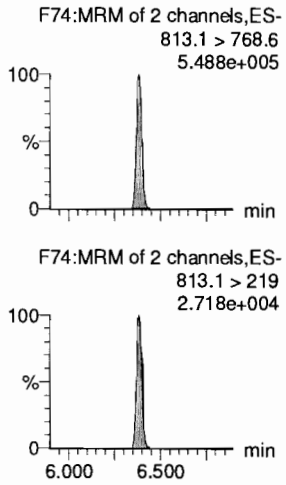
Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

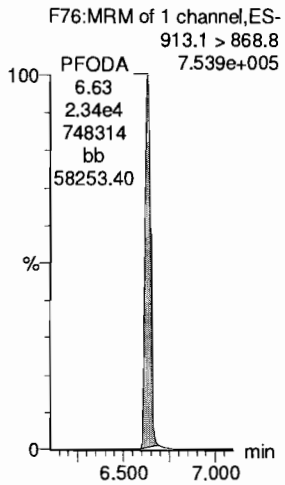
N-EtFOSA



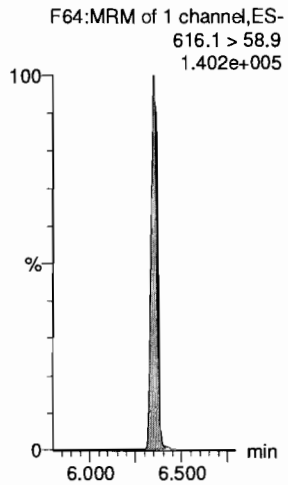
PFHxDA



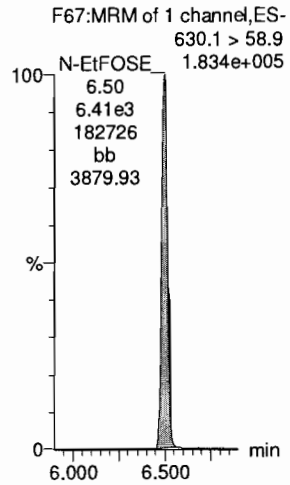
PFODA



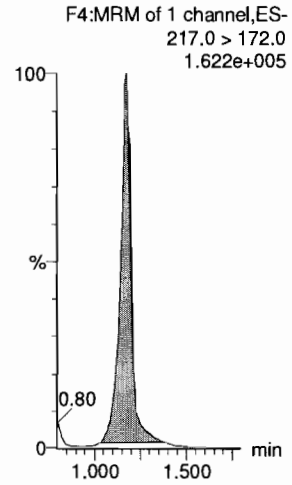
N-MeFOSE



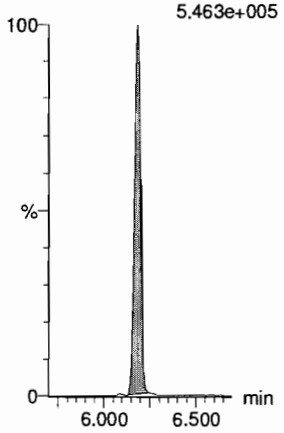
N-EtFOSE



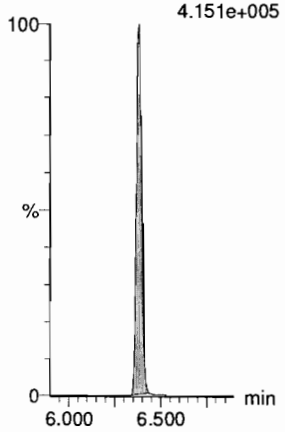
13C4-PFBA



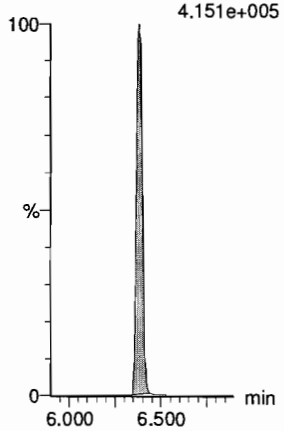
d5-N-ETFOSA



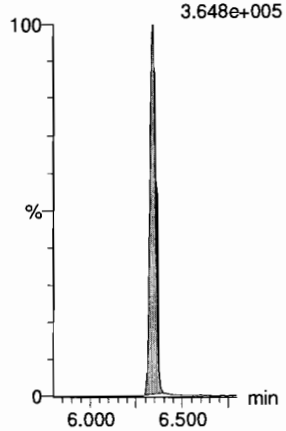
13C2-PFHxDA



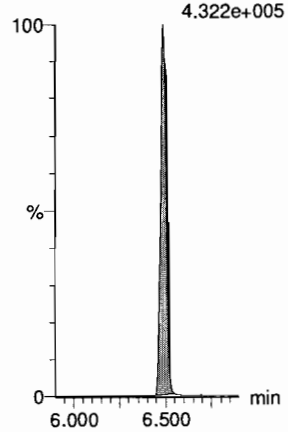
13C2-PFHxDA



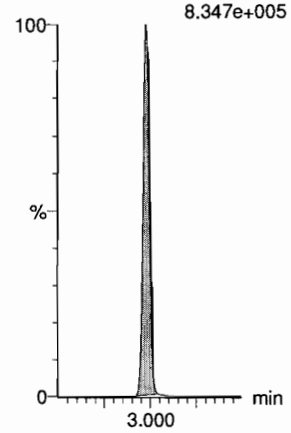
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

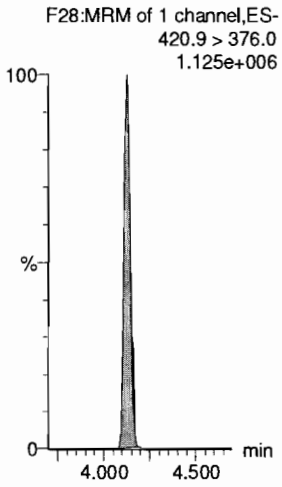


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-26.qld

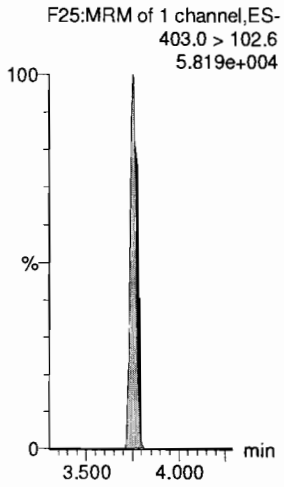
Last Altered: Tuesday, July 23, 2019 15:35:34 Pacific Daylight Time
Printed: Tuesday, July 23, 2019 15:36:54 Pacific Daylight Time

Name: 190723M2_26, Date: 23-Jul-2019, Time: 14:03:58, ID: ST190723M2-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

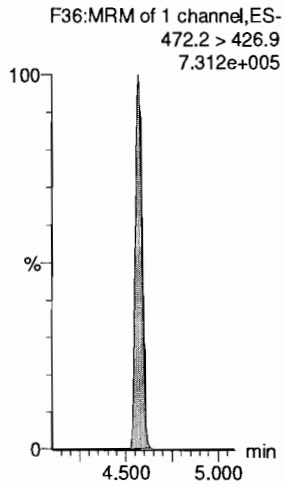
13C8-PFOA



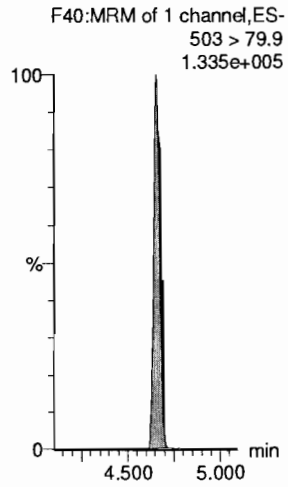
18O2-PFHxS



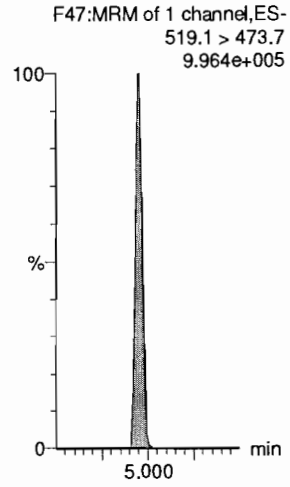
13C9-PFNA



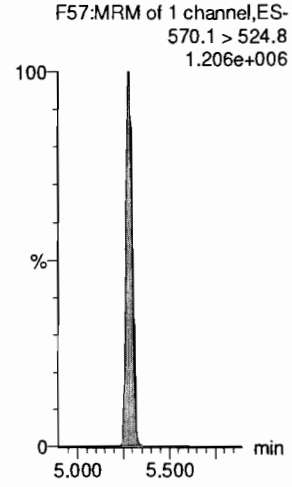
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

VJm 7/24/19

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 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	8643.260	8375.206	1.00	1.15	12.900	10.4	103.5	NO		
2	2	PFPrS	248.9 > 79.9	1933.752	2292.609	1.00	1.51	10.543	11.3	112.6	NO	2.438	NO
3	3	3:3 FTCA	240.9 > 176.9	451.431	16974.016	1.00	1.98	0.332	9.7	96.8	NO	2.077	NO
4	4	PFPeA	263.1 > 218.9	12691.554	16974.016	1.00	2.13	9.346	10.1	101.1	NO		
5	5	PFBS	299.0 > 79.7	4359.492	2292.609	1.00	2.44	23.769	10.5	104.8	NO	2.979	NO
6	6	4:2 FTS	327.0 > 306.9	7421.910	3574.079	1.00	2.86	25.957	10.3	103.1	NO	1.724	NO
7	47	13C3-PFBA	216.1 > 171.8	8375.206	11177.050	1.00	1.15	9.367	12.8	102.1	NO		
8	49	13C3-PFBS	302.0 > 98.8	2292.609	2200.804	1.00	2.44	13.021	12.3	98.5	NO		
9	48	13C3-PFPeA	266.0 > 221.8	16974.016	34301.680	1.00	2.14	6.186	12.4	99.3	NO		
10	48	13C3-PFPeA	266.0 > 221.8	16974.016	34301.680	1.00	2.14	6.186	12.4	99.3	NO		
11	49	13C3-PFBS	302.0 > 98.8	2292.609	2200.804	1.00	2.44	13.021	12.3	98.5	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3574.079	2200.804	1.00	2.86	20.300	12.3	98.4	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	25671.254	13334.417	1.00	2.95	9.626	10.9	109.1	NO	15.121	NO
15	8	PFPeS	349.1>80.1	3085.408	2292.609	1.00	3.16	16.823	10.5	105.0	NO	1.477	NO
16	9	HFPO-DA	285.1 > 168.9	2144.848	1825.396	1.00	3.16	5.875	9.1	91.5	NO	2.558	NO
17	10	5:3 FTCA	340.9 > 236.9	2519.703	16530.100	1.00	3.50	1.905	10.3	103.3	NO	1.576	NO
18	11	PFHpA	363.0 > 318.9	16888.182	16530.100	1.00	3.57	12.771	9.9	98.7	NO	9.458	NO
19	12	ADONA	376.8 > 250.9	41670.426	16530.100	1.00	3.68	31.511	8.9	88.9	NO	3.440	NO
20	52	13C2-PFHxA	315.0 > 270.0	13334.417	34301.680	1.00	2.95	4.859	5.0	99.4	NO		
21	49	13C3-PFBS	302.0 > 98.8	2292.609	2200.804	1.00	2.44	13.021	12.3	98.5	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1825.396	34301.680	1.00	3.17	0.665	5.0	99.3	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16530.100	34301.680	1.00	3.57	6.024	12.6	100.7	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16530.100	34301.680	1.00	3.57	6.024	12.6	100.7	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16530.100	34301.680	1.00	3.57	6.024	12.6	100.7	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3329.818	4471.335	1.00	3.73	9.309	10.2	102.1	NO	2.003	NO
28	15	6:2 FTS	427.0 > 406.9	7609.080	2987.582	1.00	4.04	31.836	9.5	94.6	NO	2.175	NO
29	16	L-PFOA	412.8 > 368.9	33564.207	27932.279	1.00	4.10	15.020	10.0	99.7	NO	3.657	NO
30	18	PFecHS	460.8 > 381.0	4909.398	27932.279	1.00	4.12	2.197	9.5	95.4	NO	0.899	NO
31	19	PFHpS	449.0 > 80.0	3621.089	5229.274	1.00	4.22	8.656	9.8	98.2	NO	1.636	NO
32	20	7:3 FTCA	440.9 > 336.9	2723.212	29279.934	1.00	4.53	1.163	9.8	97.9	NO	1.980	NO
33	54	13C3-PFHxS	401.8 > 79.9	4471.335	2200.804	1.00	3.73	25.396	12.5	100.4	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2987.582	5354.475	1.00	4.04	6.974	13.0	104.1	NO		
35	58	13C2-PFOA	414.9 > 369.7	27932.279	41486.805	1.00	4.10	8.416	12.4	98.8	NO		
36	58	13C2-PFOA	414.9 > 369.7	27932.279	41486.805	1.00	4.10	8.416	12.4	98.8	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

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Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 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	5229.274	5354.475	1.00	4.63	12.208	12.2	98.0	NO		
38	56	13C5-PFNA	468.2 > 422.9	29279.934	30131.889	1.00	4.55	12.147	12.1	97.0	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	28276.789	29279.934	1.00	4.55	12.072	10.5	104.7	NO	4.037	NO
41	22	PFOSA	497.9 > 77.9	5980.819	6903.651	1.00	4.61	10.829	10.6	106.2	NO	30.510	NO
42	23	L-PFOS	498.9 > 79.9	4319.204	5229.274	1.00	4.63	10.325	9.7	96.8	NO	2.076	NO
43	25	9Cl-PF30NS	530.7 > 350.8	9304.619	5229.274	1.00	4.86	22.242	10.1	101.5	NO	16.213	NO
44	26	PFDA	513 > 468.8	32880.078	30327.725	1.00	4.93	13.552	10.5	105.2	NO	5.650	NO
45	27	8:2 FTS	527.0 > 506.9	5311.703	3053.655	1.00	4.90	21.743	10.7	107.0	NO	1.183	NO
46	56	13C5-PFNA	468.2 > 422.9	29279.934	30131.889	1.00	4.55	12.147	12.1	97.0	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6903.651	46510.902	1.00	4.61	1.855	11.1	88.6	NO		
48	59	13C8-PFOS	507.0 > 79.9	5229.274	5354.475	1.00	4.63	12.208	12.2	98.0	NO		
49	59	13C8-PFOS	507.0 > 79.9	5229.274	5354.475	1.00	4.63	12.208	12.2	98.0	NO		
50	60	13C2-PFDA	515.1 > 469.9	30327.725	38145.926	1.00	4.93	9.938	12.1	97.1	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3053.655	5354.475	1.00	4.90	7.129	12.8	102.5	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3212.532	5229.274	1.00	5.00	7.679	10.7	107.3	NO	1.644	NO
54	29	L-MeFOSAA	570 > 419	12569.791	7159.295	1.00	5.08	21.947	10.2	101.8	NO	2.494	NO
55	31	L-EtFOSAA	584.1 > 419	10281.529	9843.040	1.00	5.25	13.057	10.5	104.6	NO	1.367	NO
56	33	PFUdA	563.0 > 518.9	32342.885	40618.352	1.00	5.26	9.953	10.9	108.9	NO	8.991	NO
57	34	PFDS	598.8 > 79.9	4346.550	3053.655	1.00	5.31	17.792	10.5	104.5	NO	1.793	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1624.288	37971.602	1.00	5.48	0.535	9.3	92.9	NO	4.607	NO
59	59	13C8-PFOS	507.0 > 79.9	5229.274	5354.475	1.00	4.63	12.208	12.2	98.0	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7159.295	46510.902	1.00	5.08	1.924	10.8	86.7	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9843.040	46510.902	1.00	5.24	2.645	11.8	94.5	NO		
62	63	13C2-PFUdA	565 > 519.8	40618.352	46510.902	1.00	5.26	10.916	12.3	98.2	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3053.655	5354.475	1.00	4.90	7.129	12.8	102.5	NO		
64	65	13C2-PFDoA	614.7 > 569.7	37971.602	38145.926	1.00	5.55	12.443	11.4	91.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	6134.389	3053.655	1.00	5.53	25.111	10.4	104.0	NO	1.575	NO
67	37	PFDoA	612.9 > 569.0	34271.676	37971.602	1.00	5.55	11.282	10.5	105.4	NO	8.104	NO
68	38	N-MeFOSA	512.1 > 168.9	8203.671	19510.848	1.00	5.70	63.070	53.5	107.1	NO	1.531	NO
69	39	PFTrDA	662.9 > 618.9	36841.809	37971.602	1.00	5.80	12.128	10.6	106.3	NO	20.970	NO
70	40	PFDoS	698.8 > 79.9	3797.889	26876.887	1.00	5.83	1.766	10.7	106.9	NO	1.863	NO
71	41	PFTeDA	713.0 > 669.0	35777.477	26876.887	1.00	6.03	16.640	11.0	110.0	NO	14.275	NO
72	65	13C2-PFDoA	614.7 > 569.7	37971.602	38145.926	1.00	5.55	12.443	11.4	91.6	NO		

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Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 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	37971.602	38145.926	1.00	5.55	12.443	11.4	91.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	19510.848	46510.902	1.00	5.73	5.244	137.1	91.4	NO		
75	65	13C2-PFDoA	614.7 > 569.7	37971.602	38145.926	1.00	5.55	12.443	11.4	91.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	26876.887	46510.902	1.00	6.03	7.223	12.0	95.6	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	26876.887	46510.902	1.00	6.03	7.223	12.0	95.6	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	9219.595	26518.572	1.00	6.15	52.150	53.4	106.9	NO	1.684	NO
80	43	PFHxDA	813.1 > 768.6	19615.137	14227.976	1.00	6.39	6.893	10.5	104.8	NO	20.245	NO
81	44	PFODA	913.1 > 868.8	23819.711	14227.976	1.00	6.64	8.371	10.9	109.4	NO		
82	45	N-MeFOSE	616.1 > 58.9	6000.275	16507.676	1.00	6.36	54.523	48.8	97.6	NO		
83	46	N-EtFOSE	630.1 > 58.9	7457.118	17244.193	1.00	6.51	64.866	50.2	100.3	NO		
84	72	13C4-PFBA	217.0 > 172.0	11177.050	11177.050	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	26518.572	46510.902	1.00	6.17	7.127	160.3	106.9	NO		
86	69	13C2-PFHxDA	815 > 769.7	14227.976	46510.902	1.00	6.39	3.824	4.9	97.1	NO		
87	69	13C2-PFHxDA	815 > 769.7	14227.976	46510.902	1.00	6.39	3.824	4.9	97.1	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	16507.676	46510.902	1.00	6.35	4.437	141.7	94.5	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	17244.193	46510.902	1.00	6.50	4.634	141.0	94.0	NO		
90	73	13C5-PFHxA	318.0 > 272.9	34301.680	34301.680	1.00	2.95	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	41486.805	41486.805	1.00	4.10	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2200.804	2200.804	1.00	3.73	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	30131.889	30131.889	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5354.475	5354.475	1.00	4.63	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	38145.926	38145.926	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	46510.902	46510.902	1.00	5.26	12.500	12.5	100.0	NO		

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time	
1	1	190723M2_1	IPA	23-Jul-19	09:27:47	
2	2	190723M2_2	ST190723M2-1 PFC CS0 19G1103	23-Jul-19	09:38:23	
3	3	190723M2_3	IB	23-Jul-19	09:48:56	
4	4	190723M2_4	B9G0208-BS1 OPR 0.25	23-Jul-19	09:59:37	
5	5	190723M2_5	B9G0134-BS1 OPR 0.25	23-Jul-19	10:11:24	
6	6	190723M2_6	1902014-08 FRB-07082019 0.11724	23-Jul-19	10:24:28	
7	7	190723M2_7	1902014-09 CAOA-B01-GW 0.12758	23-Jul-19	10:35:01	
8	8	190723M2_8	1902014-10 EB-07082019 0.11822	23-Jul-19	10:45:40	
9	9	190723M2_9	IPA	23-Jul-19	10:56:13	
10	10	190723M2_10	ST190723M2-2 PFC CS3 19G1106	23-Jul-19	11:06:51	
11	11	190723M2_11	IPA	23-Jul-19	11:17:24	
12	12	190723M2_12	1902105-02@5X 5A Raw Leachate 0.24309	23-Jul-19	11:35:40	
13	13	190723M2_13	IPA	23-Jul-19	11:46:14	
14	14	190723M2_14	B9G0146-BS1 OPR 0.25	23-Jul-19	11:56:46	
15	15	190723M2_15	B9G0146-BLK1 Method Blank 0.25	23-Jul-19	12:07:24	
16	16	190723M2_16	1902079-01 AS-SW-06-0719 0.23394	23-Jul-19	12:17:57	
17	17	190723M2_17	1902079-02 AS-PW-06-0719 0.23238	23-Jul-19	12:28:35	
18	18	190723M2_18	1902079-03 AS-SW-07-0719 0.22837	23-Jul-19	12:39:08	
19	19	190723M2_19	1902079-04 AS-PW-07-0719 0.24286	23-Jul-19	12:49:46	
20	20	190723M2_20	1902079-05 AS-SW-08-0719 0.22743	23-Jul-19	13:00:24	
21	21	190723M2_21	1902079-06 AS-PW-08-0719 0.23443	23-Jul-19	13:10:57	
22	22	190723M2_22	1902079-07 AS-SW-09-0719 0.22416	23-Jul-19	13:21:35	
23	23	190723M2_23	1902079-08 AS-PW-09-0719 0.2309	23-Jul-19	13:32:08	
24	24	190723M2_24	1902079-09 AS-SW-10-0719 0.22745	23-Jul-19	13:42:46	
25	25	190723M2_25	IPA	23-Jul-19	15:49:56	IPA INJECTED OUT OF ORDER
26	26	190723M2_26	ST190723M2-3 PFC CS3 19G1106	23-Jul-19	14:03:58	
27	27	190723M2_27	IPA	23-Jul-19	14:14:28	
28	28	190723M2_28	1902079-10 AS-PW-10-0719 0.24169	23-Jul-19	14:25:06	
29	29	190723M2_29	1902079-11 AS-SW-11-0719 0.23337	23-Jul-19	14:35:39	
30	30	190723M2_30	1902079-12 AS-PW-11-0719 0.22599	23-Jul-19	14:46:18	
31	31	190723M2_31	1902079-13 AS-SW-12-0719 0.23139	23-Jul-19	14:56:51	
32	32	190723M2_32	1902079-14 AS-PW-12-0719 0.2447	23-Jul-19	15:07:29	

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
33	33 190723M2_33	1902079-15 AS-SW-DUP-01-0719 0.22175	23-Jul-19	15:18:03
34	34 190723M2_34	1902079-16 AS-PW-DUP-01-0719 0.24901	23-Jul-19	15:28:41
35	35 190723M2_35	1902079-17 AS-EB-0709 0.21355	23-Jul-19	15:39:15
36	36 190723M2_36	B9G0190-BS1 OPR 1	23-Jul-19	16:03:38
37	37 190723M2_37	B9G0190-BLK1 Method Blank 1	23-Jul-19	16:14:16
38	38 190723M2_38	B9G0190-MS1 Matrix Spike 1.01	23-Jul-19	16:24:49
39	39 190723M2_39	B9G0190-MSD1 Matrix Spike Dup 1.01	23-Jul-19	16:35:27
40	40 190723M2_40	1902097-01 SAOA-B10-SO-1-1.5 1.03	23-Jul-19	16:46:01
41	41 190723M2_41	1902097-02 SAOA-B10-SO-20-20.5 1.05	23-Jul-19	16:56:39
42	42 190723M2_42	IPA	23-Jul-19	17:07:18
43	43 190723M2_43	ST190723M2-4 PFC CS3 19G1106	23-Jul-19	17:17:51
44	44 190723M2_44	IPA	23-Jul-19	17:28:29
45	45 190723M2_45	1902097-06 NON-B02-SO-1-1.5 1.01	23-Jul-19	17:39:03
46	46 190723M2_46	1902097-08 NON-B02-SO-15-15.5 1.08	23-Jul-19	17:49:41
47	47 190723M2_47	1902097-09 SAOA-B01-SO-5-5.5 1.06	23-Jul-19	18:00:14
48	48 190723M2_48	1902097-10 SAOA-B01-SO-20-20.5 1.24	23-Jul-19	18:10:53
49	49 190723M2_49	1902097-11 SAOA-B01-SO-36-36.5 1.26	23-Jul-19	18:21:26
50	50 190723M2_50	1902097-12 NON-B01-SO-1-1.5 1.19	23-Jul-19	18:32:04
51	51 190723M2_51	1902097-13 NON-B01-SO-15-15.5 1.16	23-Jul-19	18:42:37
52	52 190723M2_52	1902097-16 NON-B01-SO-73-73.5 1.21	23-Jul-19	18:53:15
53	53 190723M2_53	1902097-17 NON-B04-SO-0.5-1 1.01	23-Jul-19	19:03:53
54	54 190723M2_54	1902097-18 NON-B04-SO-4.5-5 1.03	23-Jul-19	19:14:26
55	55 190723M2_55	IPA	23-Jul-19	19:25:05
56	56 190723M2_56	ST190723M2-5 PFC CS3 19G1106	23-Jul-19	19:35:38
57	57 190723M2_57	IPA	23-Jul-19	19:46:16
58	58 190723M2_58	B9G0216-BS1 OPR 1	23-Jul-19	19:56:49
59	59 190723M2_59	B9G0216-BLK1 Method Blank 1	23-Jul-19	20:07:28
60	60 190723M2_60	1902165-01 1901142-01 1.25	23-Jul-19	20:18:06
61	61 190723M2_61	1902165-02 1901142-02 1.28	23-Jul-19	20:28:39
62	62 190723M2_62	1902165-03 1901142-03 1.26	23-Jul-19	20:39:17
63	63 190723M2_63	1902165-04 1901142-04 1.26	23-Jul-19	20:49:56
64	64 190723M2_64	1902165-05 1901142-05 1.23	23-Jul-19	21:00:34
65	65 190723M2_65	1902165-06 1901142-06 1.25	23-Jul-19	21:11:08
66	66 190723M2_66	1902165-07 1901142-07 1.22	23-Jul-19	21:21:46
67	67 190723M2_67	1902165-08 1901142-08 1.22	23-Jul-19	21:32:18
68	68 190723M2_68	1902165-09 1901142-09 1.2	23-Jul-19	21:42:57

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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
69	69	190723M2_69	1902165-10 1901142-10 1.22	23-Jul-19	21:53:35
70	70	190723M2_70	IPA	23-Jul-19	22:04:08
71	71	190723M2_71	ST190723M2-6 PFC CS3 19G1106	23-Jul-19	22:14:46
72	72	190723M2_72	IPA	23-Jul-19	22:25:18
73	73	190723M2_73	1902165-11 1901142-11 1.22	23-Jul-19	22:35:57
74	74	190723M2_74	1902165-12 1901142-12 1.28	23-Jul-19	22:46:35
75	75	190723M2_75	1902165-13 1901142-13 1.02	23-Jul-19	22:57:08
76	76	190723M2_76	1902165-14 1901142-14 1.2	23-Jul-19	23:07:46
77	77	190723M2_77	1902165-15 1901142-15 1.24	23-Jul-19	23:18:24
78	78	190723M2_78	1902165-16 1901142-16 1.22	23-Jul-19	23:28:57
79	79	190723M2_79	B9G0157-BS1 OPR 0.25	23-Jul-19	23:39:36
80	80	190723M2_80	B9G0157-BLK1 Method Blank 0.25	23-Jul-19	23:50:09
81	81	190723M2_81	1902093-01 AS-SW-13-0719 0.24744	24-Jul-19	00:00:48
82	82	190723M2_82	1902093-02 AS-PW-13-0719 0.25205	24-Jul-19	00:11:20
83	83	190723M2_83	1902093-03 AS-SW-14-0719 0.23822	24-Jul-19	00:21:58
84	84	190723M2_84	IPA	24-Jul-19	00:32:30
85	85	190723M2_85	ST190723M2-7 PFC CS3 19G1106	24-Jul-19	00:43:08
86	86	190723M2_86	IPA	24-Jul-19	00:53:42
87	87	190723M2_87	1902093-04 AS-PW-14-0719 0.25211	24-Jul-19	01:04:20
88	88	190723M2_88	1902093-05 AS-SW-15-0719 0.23059	24-Jul-19	01:14:53
89	89	190723M2_89	1902093-06 AS-PW-15-0719 0.25198	24-Jul-19	01:25:32
90	90	190723M2_90	1902093-07 AS-SW-16-0719 0.24267	24-Jul-19	01:36:05
91	91	190723M2_91	1902093-08 AS-PW-16-0719 0.27834	24-Jul-19	01:46:35
92	92	190723M2_92	1902093-09 AS-SW-17-0719 0.23708	24-Jul-19	01:57:14
93	93	190723M2_93	1902093-10 AS-PW-17-0719 0.24621	24-Jul-19	02:07:52
94	94	190723M2_94	1902107-01 GW0900931907101840RL 0.24624	24-Jul-19	02:18:25
95	95	190723M2_95	IPA	24-Jul-19	02:29:03
96	96	190723M2_96	ST190723M2-8 PFC CS3 19G1106	24-Jul-19	02:39:36
97	97	190723M2_97	IPA	24-Jul-19	02:50:15
98	98	190723M2_98	B9G0150-BS1 OPR 0.25	24-Jul-19	03:00:48
99	99	190723M2_99	B9G0150-BLK1 Method Blank 0.25	24-Jul-19	03:11:27
100	100	190723M2_100	1902094-01 AS-SW-18-0719 0.24659	24-Jul-19	03:22:00
101	101	190723M2_101	1902094-02 AS-PW-18-0719 0.23578	24-Jul-19	03:32:38
102	102	190723M2_102	1902094-03 AS-SW-19-0719 0.24013	24-Jul-19	03:43:11
103	103	190723M2_103	1902094-04 AS-PW-19-0719 0.24356	24-Jul-19	03:53:50
104	104	190723M2_104	1902094-05 AS-SW-20-0719 0.23482	24-Jul-19	04:04:23

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
105	105 190723M2_105	1902094-06 AS-PW-20-0719 0.24648	24-Jul-19	04:15:01
106	106 190723M2_106	1902094-07 AS-SW-21-0719 0.22902	24-Jul-19	04:25:34
107	107 190723M2_107	1902094-08 AS-PW-21-0719 0.22795	24-Jul-19	04:36:12
108	108 190723M2_108	1902094-09 AS-SW-22-0719 0.23746	24-Jul-19	04:46:46
109	109 190723M2_109	1902094-10 AS-PW-22-0719 0.23721	24-Jul-19	04:57:24
110	110 190723M2_110	IPA	24-Jul-19	05:07:57
111	111 190723M2_111	ST190723M2-9 PFC CS3 19G1106	24-Jul-19	05:18:35
112	112 190723M2_112	IPA	24-Jul-19	05:29:14
113	113 190723M2_113	1902094-11 AS-SW-23-0719 0.24375	24-Jul-19	05:39:47
114	114 190723M2_114	1902094-12 AS-PW-23-0719 0.25506	24-Jul-19	05:50:25
115	115 190723M2_115	1902094-13 AS-SW-DUP-02-0719 0.24241	24-Jul-19	06:00:58
116	116 190723M2_116	1902094-14 AS-PW-DUP-02-0719 0.25117	24-Jul-19	06:11:36
117	117 190723M2_117	IPA	24-Jul-19	06:22:09
118	118 190723M2_118	ST190723M2-10 PFC CS3 19G1106	24-Jul-19	06:32:47
119	119 190723M2_119	IPA	24-Jul-19	06:43:21

Vista Analytical Laboratory

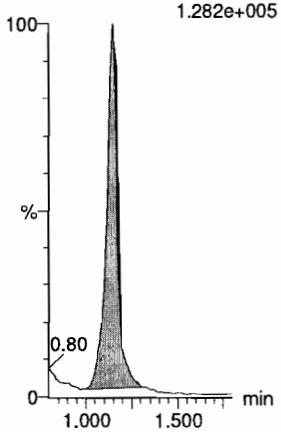
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

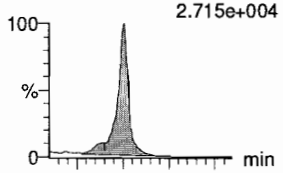
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

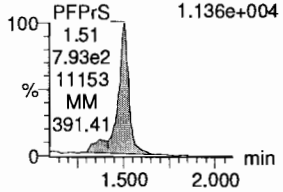
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.282e+005



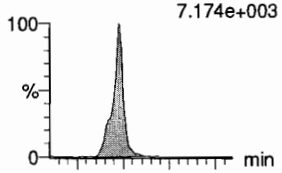
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.715e+004



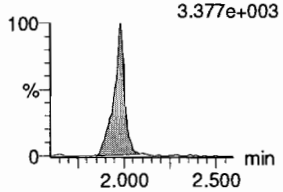
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.136e+004



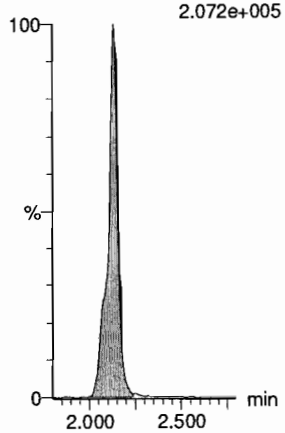
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
7.174e+003



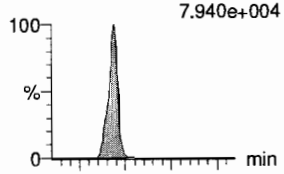
F5:MRM of 2 channels,ES-
240.9 > 116.9
3.377e+003



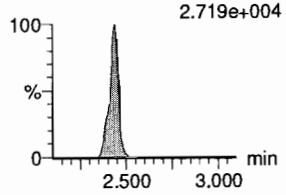
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
2.072e+005



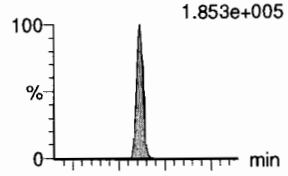
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
7.940e+004



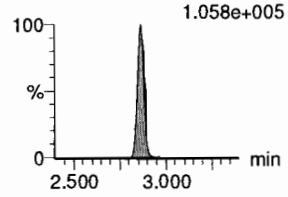
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.719e+004



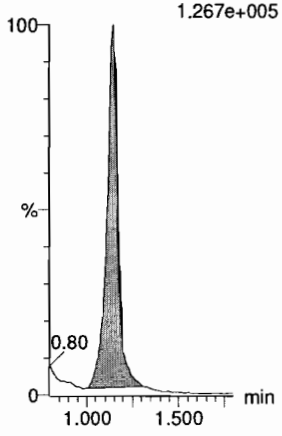
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.853e+005



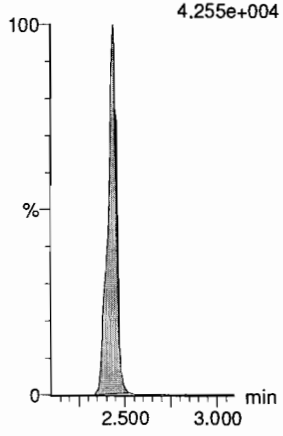
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.058e+005



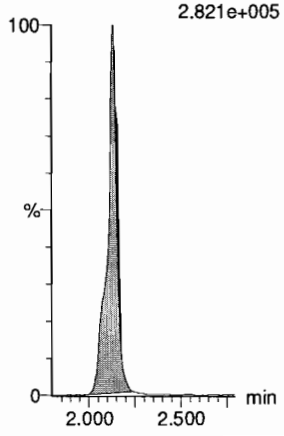
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.267e+005



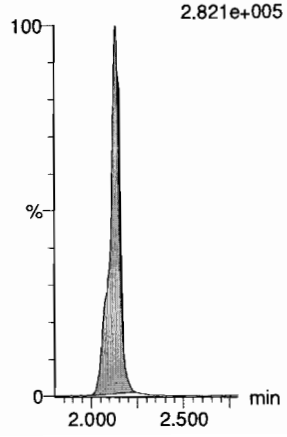
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.255e+004



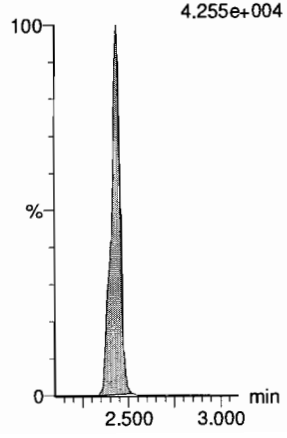
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.821e+005



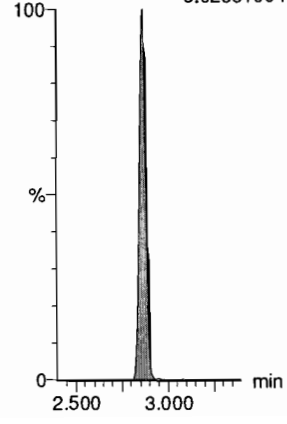
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.821e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.255e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.029e+004

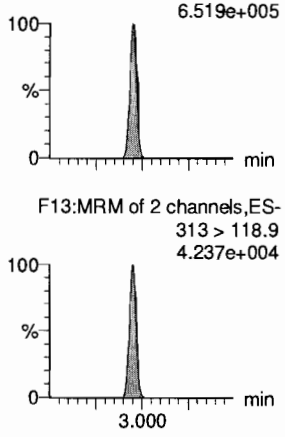


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

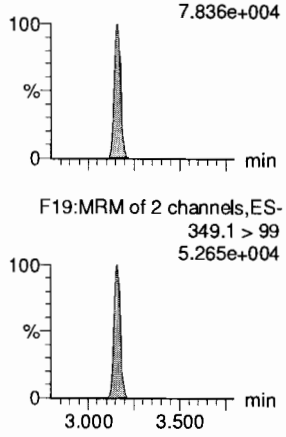
Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

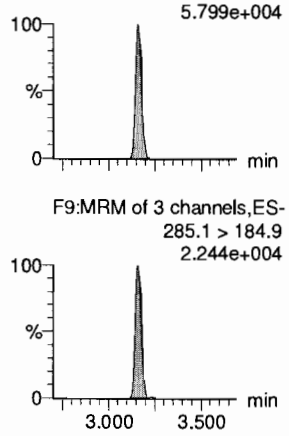
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
6.519e+005
F13:MRM of 2 channels,ES-
313 > 118.9
4.237e+004



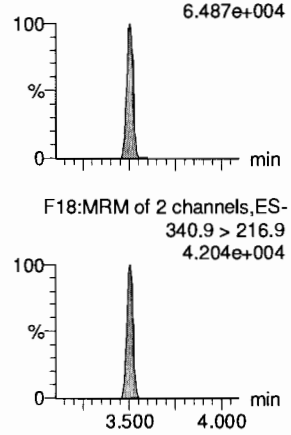
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
7.836e+004
F19:MRM of 2 channels,ES-
349.1 > 99
5.265e+004



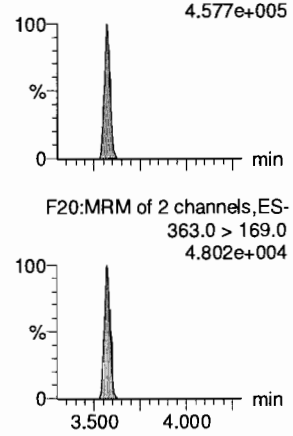
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
5.799e+004
F9:MRM of 3 channels,ES-
285.1 > 184.9
2.244e+004



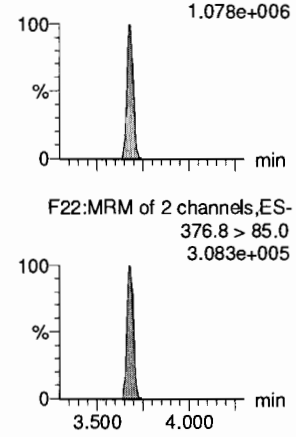
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
6.487e+004
F18:MRM of 2 channels,ES-
340.9 > 216.9
4.204e+004



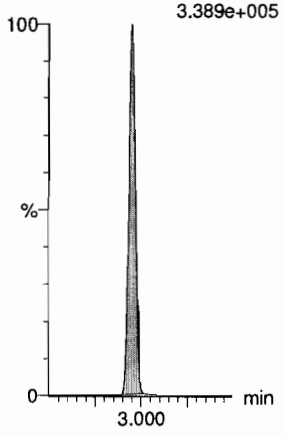
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
4.577e+005
F20:MRM of 2 channels,ES-
363.0 > 169.0
4.802e+004



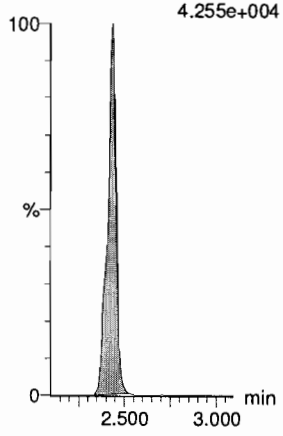
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
1.078e+006
F22:MRM of 2 channels,ES-
376.8 > 85.0
3.083e+005



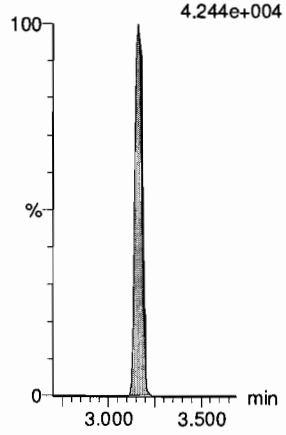
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.389e+005



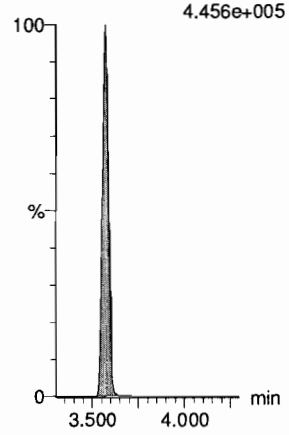
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.255e+004



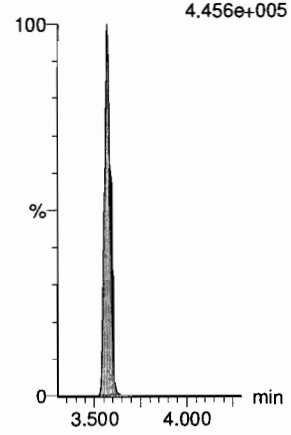
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.244e+004



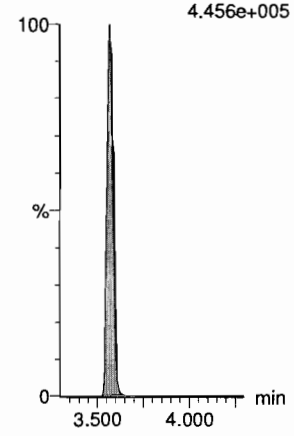
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.456e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.456e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.456e+005

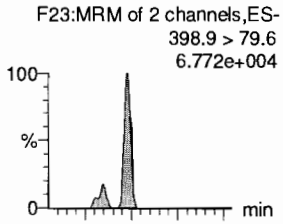


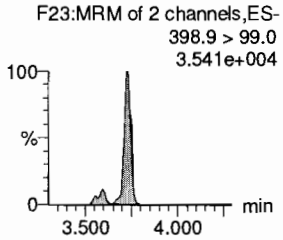
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

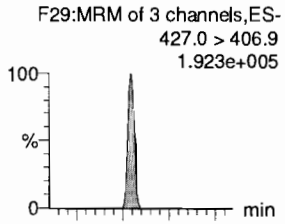
Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

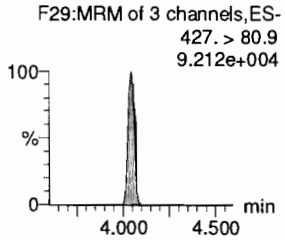
L-PFHxS



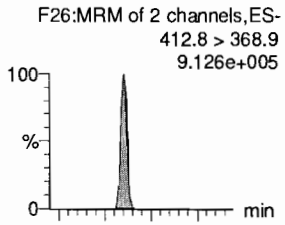


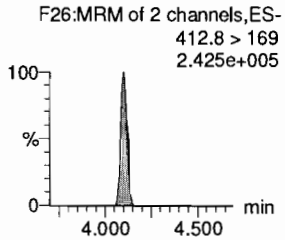
6:2 FTS



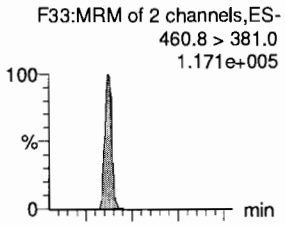


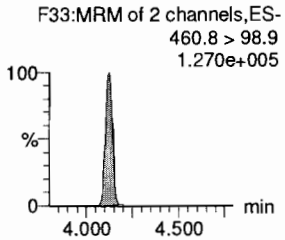
L-PFOA



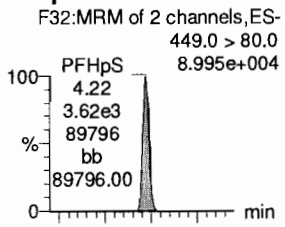


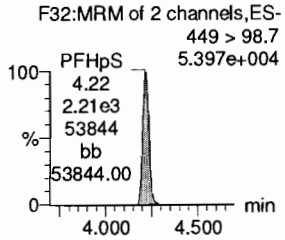
PFEChS



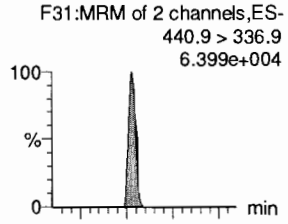


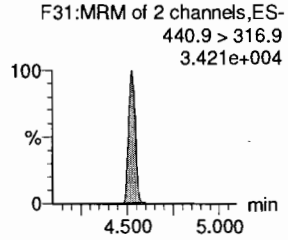
PFHpS



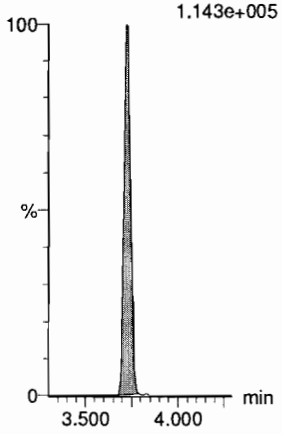


7:3 FTCA

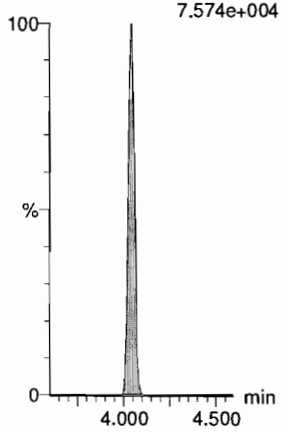




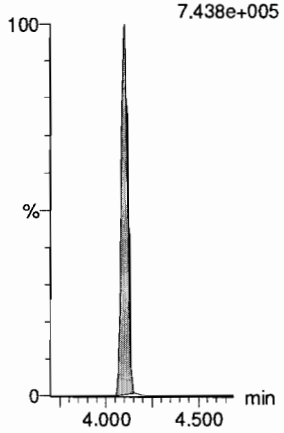
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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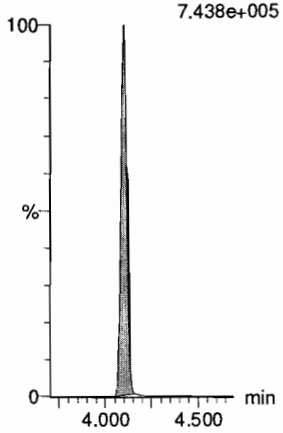
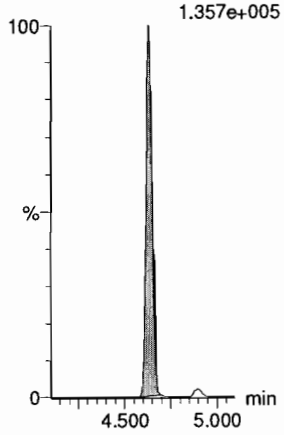
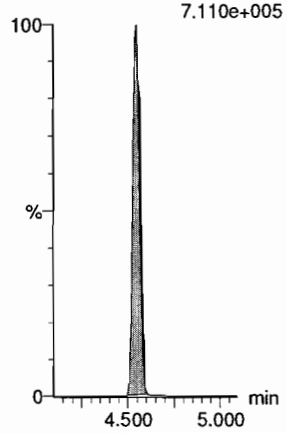


13C8-PFOS



13C5-PFNA



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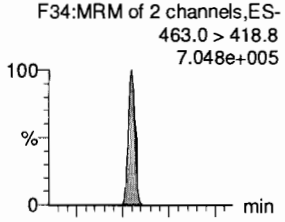
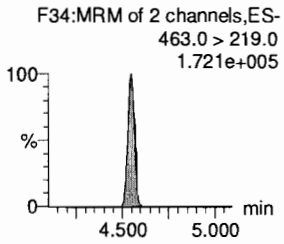
Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

PFNA





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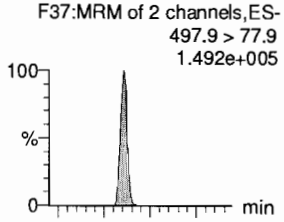
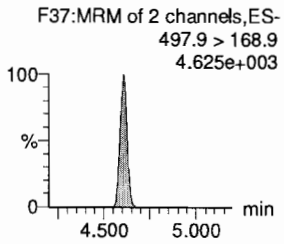
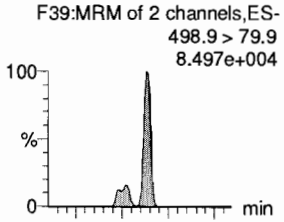
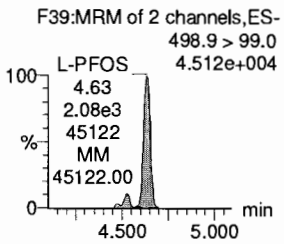


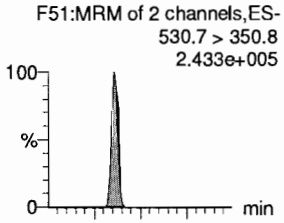


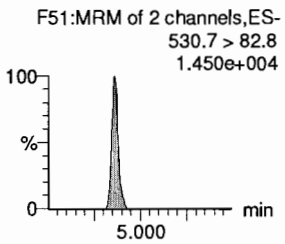
L-PFOS



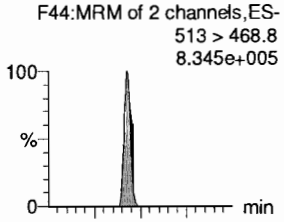


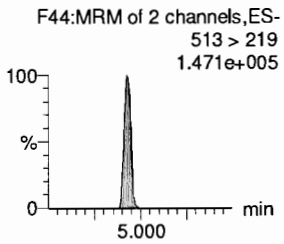
9Cl-PF30NS



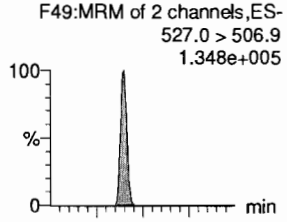


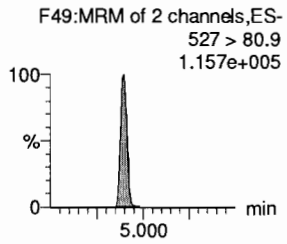
PFDA



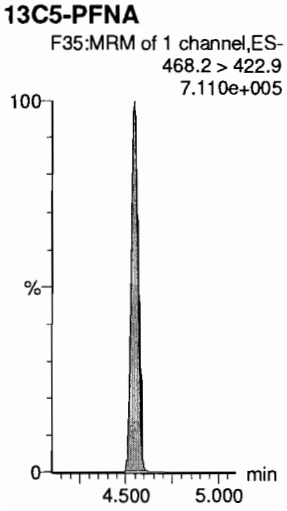


8:2 FTS

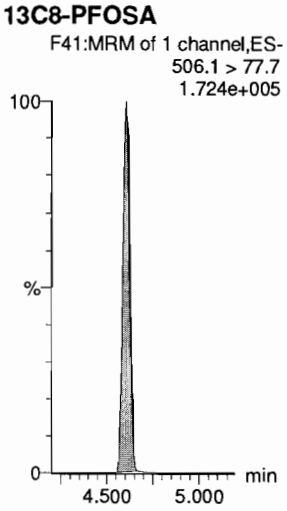




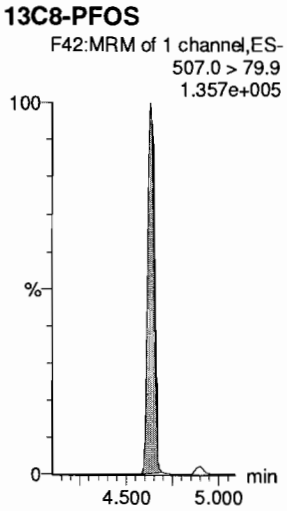
13C5-PFNA



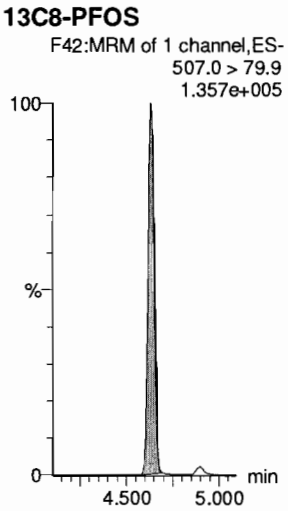
13C8-PFOSA



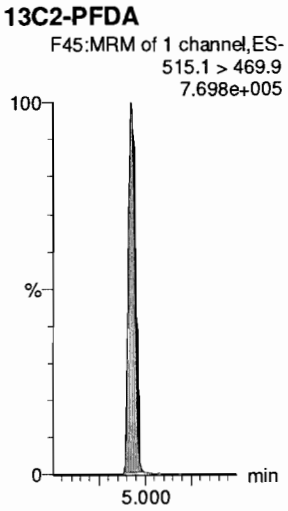
13C8-PFOS



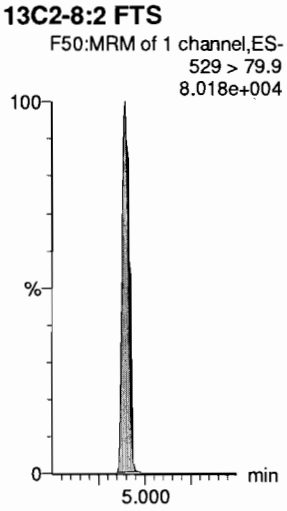
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

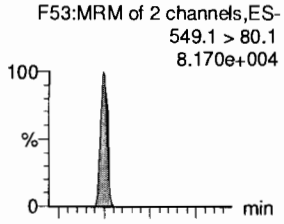


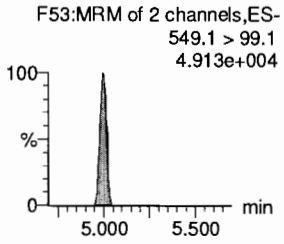
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

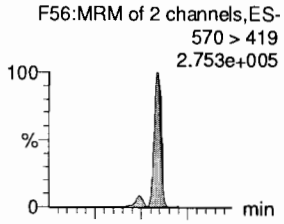
Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

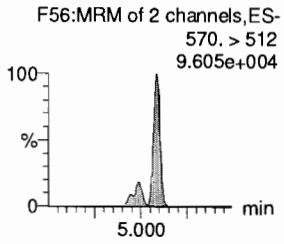
PFNS



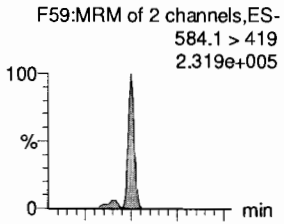


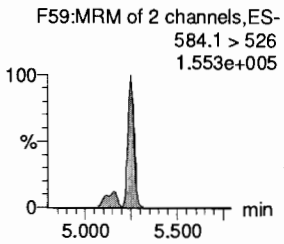
L-MeFOSAA



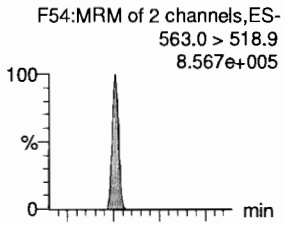


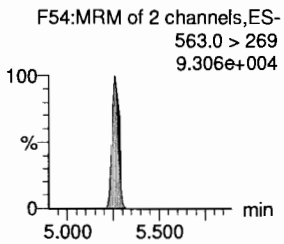
L-EtFOSAA



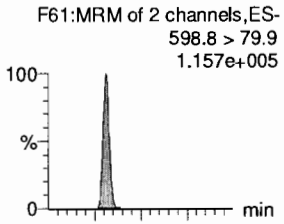


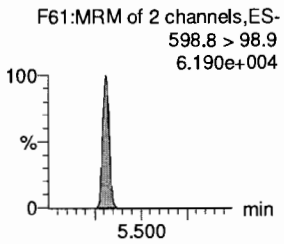
PFUdA



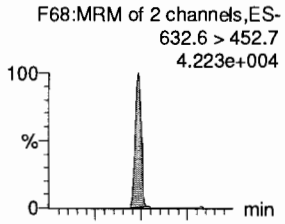


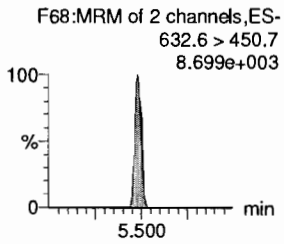
PFDS



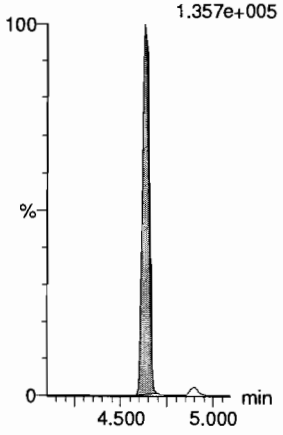


11Cl-PF30UdS

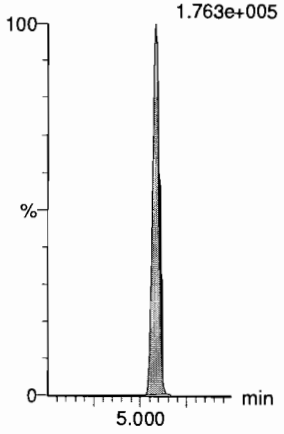




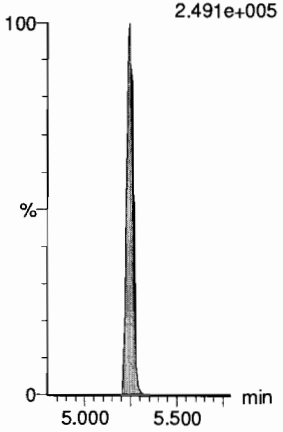
13C8-PFOS



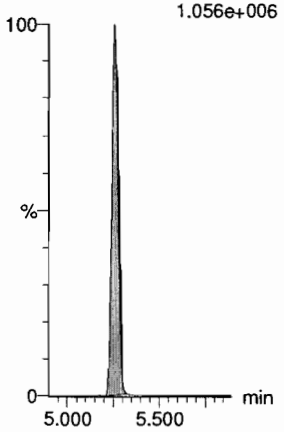
d3-N-MeFOSAA



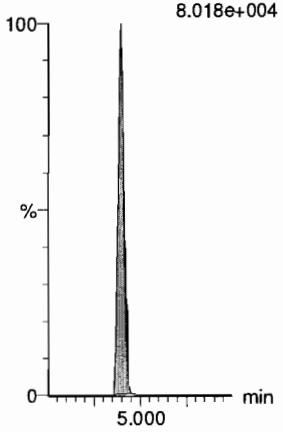
d5-N-EtFOSAA



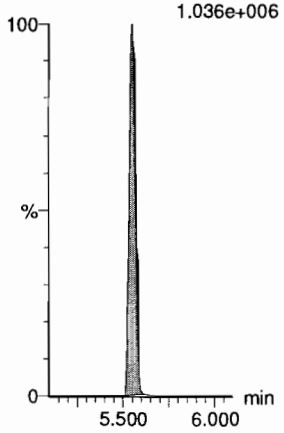
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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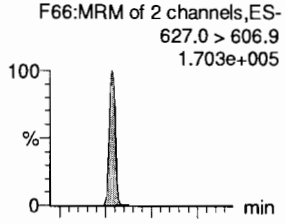
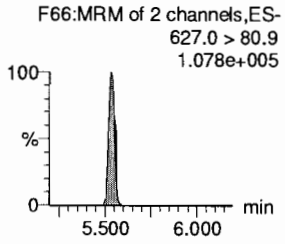
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

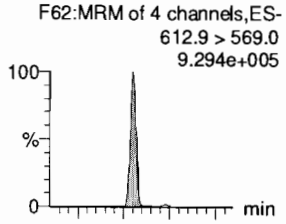
Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

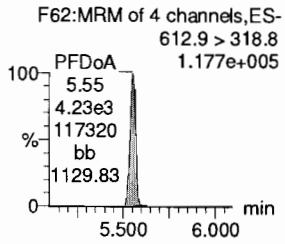
10:2 FTS



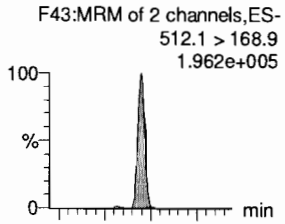


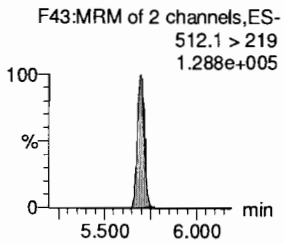
PFDoA



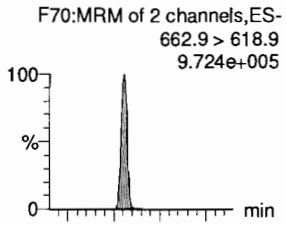


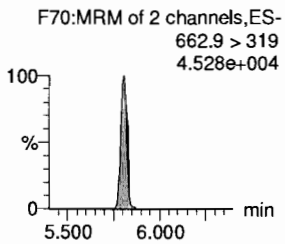
N-MeFOSA



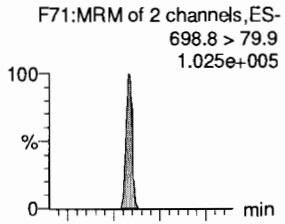


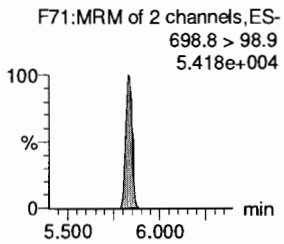
PFTrDA



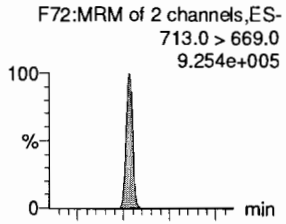


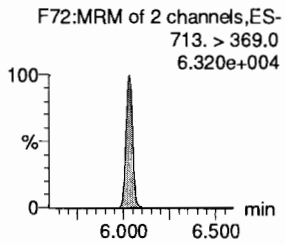
PFDoS



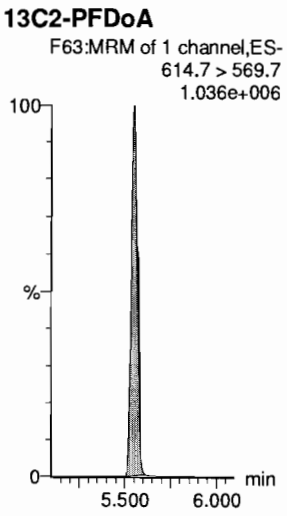


PFTeDA

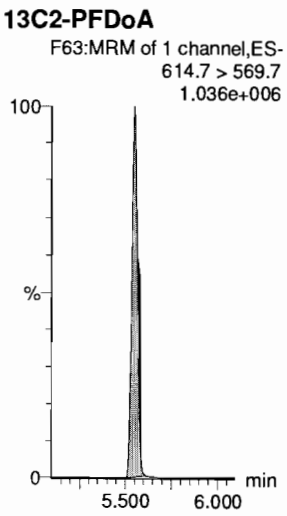




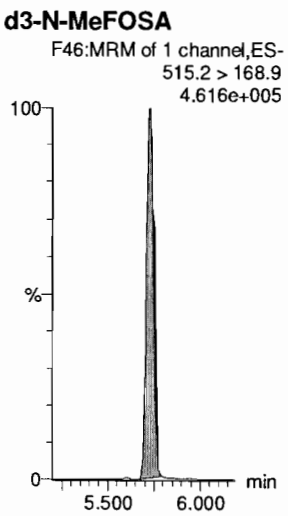
13C2-PFDoA



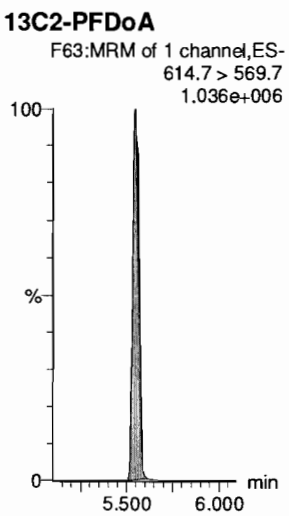
13C2-PFDoA



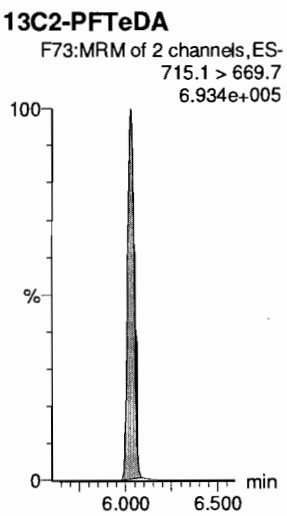
d3-N-MeFOSA



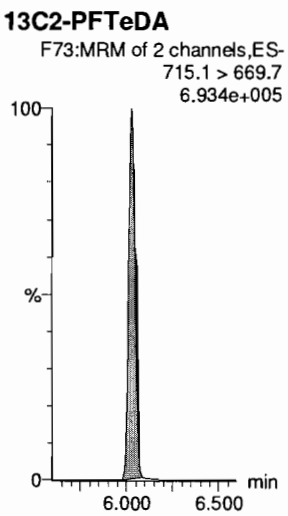
13C2-PFDoA



13C2-PFTeDA



13C2-PFTeDA

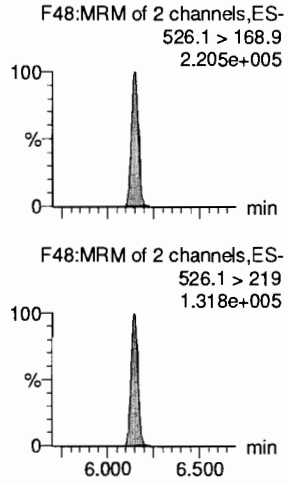


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

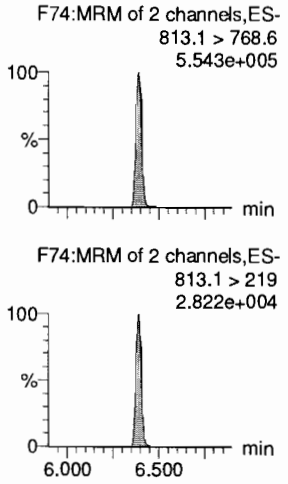
Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

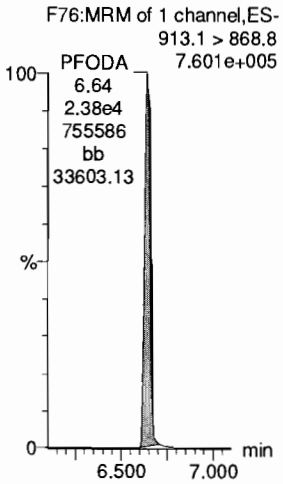
N-EtFOSA



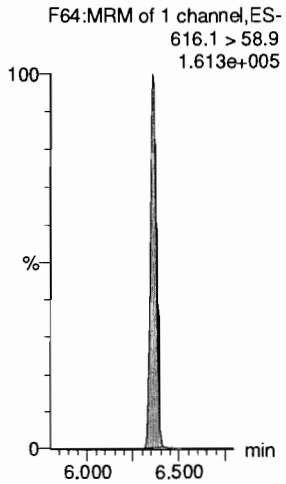
PFHxDA



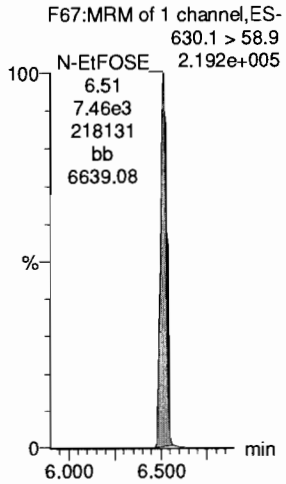
PFODA



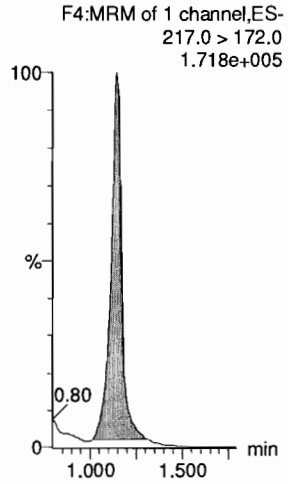
N-MeFOSE



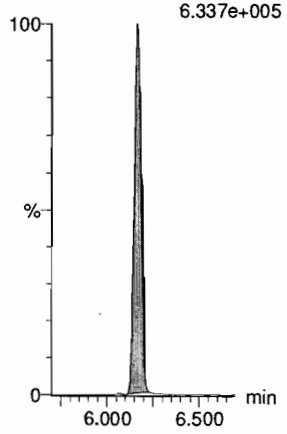
N-EtFOSE



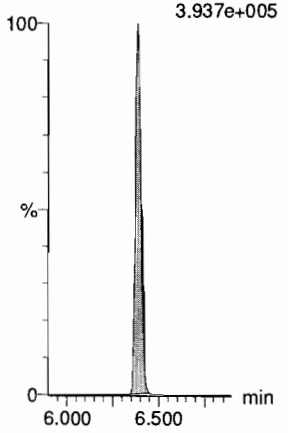
13C4-PFBA



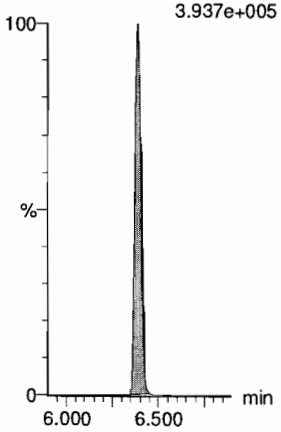
d5-N-ETFOSA



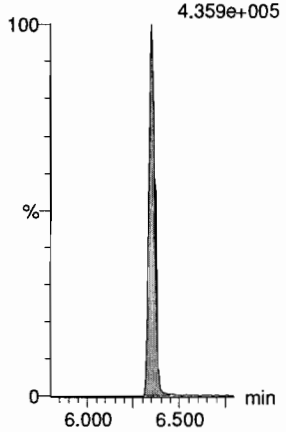
13C2-PFHxDA



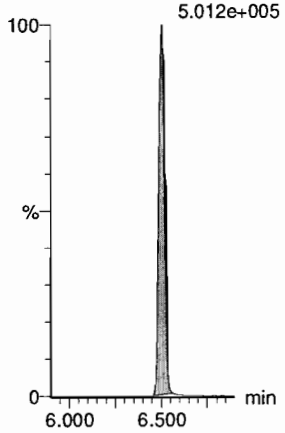
13C2-PFHxDA



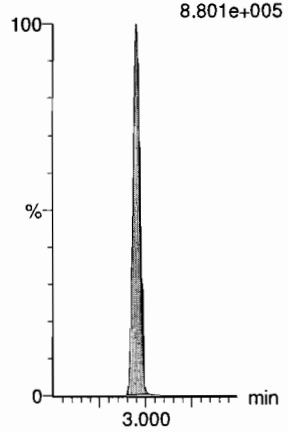
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

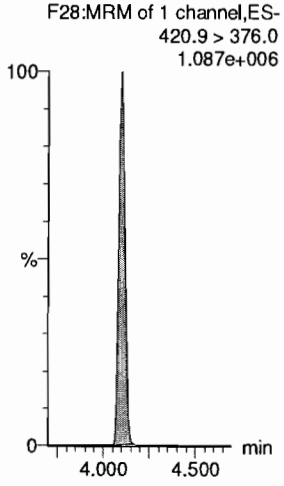


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-43.qld

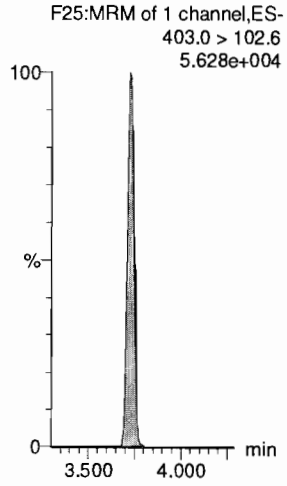
Last Altered: Wednesday, July 24, 2019 07:38:42 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:39:33 Pacific Daylight Time

Name: 190723M2_43, Date: 23-Jul-2019, Time: 17:17:51, ID: ST190723M2-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

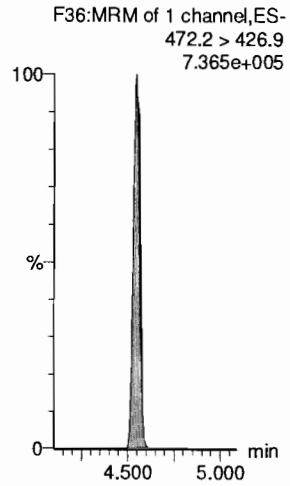
13C8-PFOA



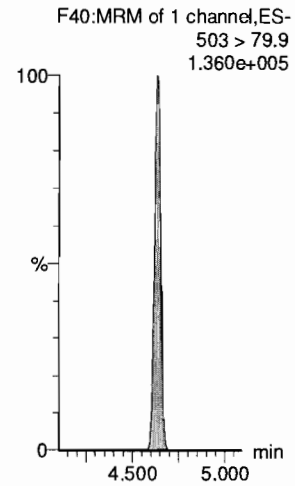
18O2-PFHxS



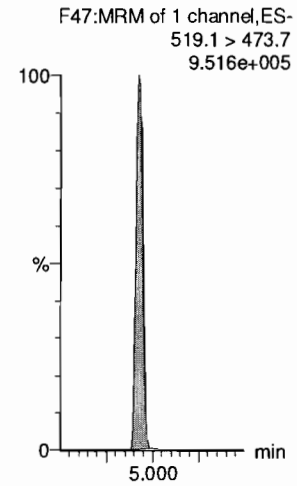
13C9-PFNA



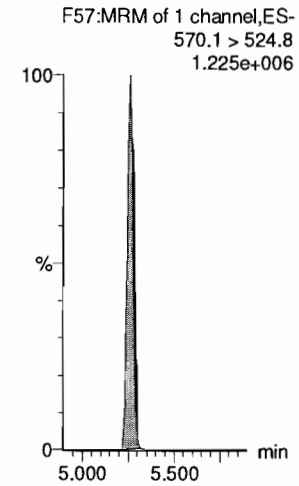
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

JAM 7/24/19

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 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	8000.456	7669.734	1.00	1.15	13.039	10.5	104.6	NO		
2	2	PFPrS	248.9 > 79.9	1690.515	2478.005	1.00	1.51	8.528	9.2	91.6	NO	2.599	NO
3	3	3:3 FTCA	240.9 > 176.9	466.686	17474.143	1.00	1.98	0.334	9.7	97.2	NO	2.127	NO
4	4	PFPeA	263.1 > 218.9	13067.830	17474.143	1.00	2.13	9.348	10.1	101.1	NO		
5	5	PFBS	299.0 > 79.7	4527.266	2478.005	1.00	2.44	22.837	10.1	100.7	NO	3.130	NO
6	6	4:2 FTS	327.0 > 306.9	7776.427	3860.622	1.00	2.86	25.179	10.0	100.0	NO	1.786	NO
7	47	13C3-PFBA	216.1 > 171.8	7669.734	10647.901	1.00	1.15	9.004	12.3	98.2	NO		
8	49	13C3-PFBS	302.0 > 98.8	2478.005	2365.767	1.00	2.44	13.093	12.4	99.0	NO		
9	48	13C3-PFPeA	266.0 > 221.8	17474.143	35674.000	1.00	2.14	6.123	12.3	98.3	NO		
10	48	13C3-PFPeA	266.0 > 221.8	17474.143	35674.000	1.00	2.14	6.123	12.3	98.3	NO		
11	49	13C3-PFBS	302.0 > 98.8	2478.005	2365.767	1.00	2.44	13.093	12.4	99.0	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3860.622	2365.767	1.00	2.86	20.398	12.4	98.9	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	25949.244	13728.085	1.00	2.95	9.451	10.7	107.1	NO	15.587	NO
15	8	PFPeS	349.1>80.1	3234.792	2478.005	1.00	3.16	16.318	10.2	101.8	NO	1.450	NO
16	9	HFPO-DA	285.1 > 168.9	2204.388	2025.584	1.00	3.16	5.441	8.5	84.8	NO	2.343	NO
17	10	5:3 FTCA	340.9 > 236.9	2464.733	16508.105	1.00	3.49	1.866	10.1	101.2	NO	1.530	NO
18	11	PFHpA	363.0 > 318.9	16983.117	16508.105	1.00	3.55	12.860	9.9	99.3	NO	9.734	NO
19	12	ADONA	376.8 > 250.9	43912.031	16508.105	1.00	3.67	33.250	9.4	93.8	NO	3.612	NO
20	52	13C2-PFHxA	315.0 > 270.0	13728.085	35674.000	1.00	2.95	4.810	4.9	98.4	NO		
21	49	13C3-PFBS	302.0 > 98.8	2478.005	2365.767	1.00	2.44	13.093	12.4	99.0	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	2025.584	35674.000	1.00	3.16	0.710	5.3	106.0	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16508.105	35674.000	1.00	3.55	5.784	12.1	96.7	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16508.105	35674.000	1.00	3.55	5.784	12.1	96.7	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16508.105	35674.000	1.00	3.55	5.784	12.1	96.7	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3761.707	4417.626	1.00	3.72	10.644	11.7	116.6	NO	2.171	NO
28	15	6:2 FTS	427.0 > 406.9	7671.341	2988.308	1.00	4.04	32.089	9.5	95.4	NO	2.382	NO
29	16	L-PFOA	412.8 > 368.9	35197.527	29508.545	1.00	4.09	14.910	9.9	99.0	NO	3.670	NO
30	18	PFecHS	460.8 > 381.0	5273.755	29508.545	1.00	4.11	2.234	9.7	97.0	NO	0.902	NO
31	19	PFHpS	449.0 > 80.0	3720.604	5386.261	1.00	4.22	8.634	9.8	98.0	NO	1.663	NO
32	20	7:3 FTCA	440.9 > 336.9	2766.827	30929.250	1.00	4.53	1.118	9.4	94.2	NO	1.911	NO
33	54	13C3-PFHxS	401.8 > 79.9	4417.626	2365.767	1.00	3.71	23.341	11.5	92.3	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2988.308	5210.393	1.00	4.04	7.169	13.4	107.0	NO		
35	58	13C2-PFOA	414.9 > 369.7	29508.545	42127.512	1.00	4.09	8.756	12.9	102.8	NO		
36	58	13C2-PFOA	414.9 > 369.7	29508.545	42127.512	1.00	4.09	8.756	12.9	102.8	NO		

CdH 7/24/19

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 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	5386.261	5210.393	1.00	4.63	12.922	13.0	103.7	NO		
38	56	13C5-PFNA	468.2 > 422.9	30929.250	30390.695	1.00	4.55	12.722	12.7	101.6	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	30213.980	30929.250	1.00	4.55	12.211	10.6	105.9	NO	4.173	NO
41	22	PFOSA	497.9 > 77.9	6068.577	6939.885	1.00	4.61	10.931	10.7	107.2	NO	26.505	NO
42	23	L-PFOS	498.9 > 79.9	4726.796	5386.261	1.00	4.64	10.970	10.3	102.8	NO	2.161	NO
43	25	9Cl-PF30NS	530.7 > 350.8	9766.397	5386.261	1.00	4.86	22.665	10.3	103.4	NO	18.280	NO
44	26	PFDA	513 > 468.8	33888.512	30654.693	1.00	4.93	13.819	10.7	107.2	NO	5.387	NO
45	27	8:2 FTS	527.0 > 506.9	5644.500	3153.838	1.00	4.90	22.372	11.0	110.1	NO	1.272	NO
46	56	13C5-PFNA	468.2 > 422.9	30929.250	30390.695	1.00	4.55	12.722	12.7	101.6	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6939.885	47771.227	1.00	4.61	1.816	10.8	86.7	NO		
48	59	13C8-PFOS	507.0 > 79.9	5386.261	5210.393	1.00	4.63	12.922	13.0	103.7	NO		
49	59	13C8-PFOS	507.0 > 79.9	5386.261	5210.393	1.00	4.63	12.922	13.0	103.7	NO		
50	60	13C2-PFDA	515.1 > 469.9	30654.693	40105.348	1.00	4.93	9.554	11.7	93.3	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3153.838	5210.393	1.00	4.90	7.566	13.6	108.8	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3306.983	5386.261	1.00	5.00	7.675	10.7	107.2	NO	1.613	NO
54	29	L-MeFOSAA	570 > 419	13092.336	7115.602	1.00	5.09	22.999	10.7	106.7	NO	2.627	NO
55	31	L-EtFOSAA	584.1 > 419	9986.030	9532.234	1.00	5.25	13.095	10.5	104.9	NO	1.353	NO
56	33	PFUdA	563.0 > 518.9	31844.076	40789.961	1.00	5.26	9.759	10.7	106.7	NO	8.824	NO
57	34	PFDS	598.8 > 79.9	4410.441	3153.838	1.00	5.31	17.480	10.3	102.7	NO	1.734	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1975.374	40820.082	1.00	5.48	0.605	10.5	104.9	NO	4.564	NO
59	59	13C8-PFOS	507.0 > 79.9	5386.261	5210.393	1.00	4.63	12.922	13.0	103.7	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7115.602	47771.227	1.00	5.08	1.862	10.5	83.9	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9532.234	47771.227	1.00	5.25	2.494	11.1	89.1	NO		
62	63	13C2-PFUdA	565 > 519.8	40789.961	47771.227	1.00	5.26	10.673	12.0	96.0	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3153.838	5210.393	1.00	4.90	7.566	13.6	108.8	NO		
64	65	13C2-PFDoA	614.7 > 569.7	40820.082	40105.348	1.00	5.55	12.723	11.7	93.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	6492.973	3153.838	1.00	5.54	25.734	10.7	106.6	NO	1.649	NO
67	37	PFDoA	612.9 > 569.0	36204.020	40820.082	1.00	5.55	11.086	10.4	103.6	NO	8.387	NO
68	38	N-MeFOSA	512.1 > 168.9	8213.458	20316.877	1.00	5.70	60.640	51.5	102.9	NO	1.552	NO
69	39	PFTrDA	662.9 > 618.9	39076.727	40820.082	1.00	5.81	11.966	10.5	104.9	NO	21.083	NO
70	40	PFDoS	698.8 > 79.9	3859.643	28842.930	1.00	5.83	1.673	10.1	101.3	NO	1.766	NO
71	41	PFTeDA	713.0 > 669.0	36565.059	28842.930	1.00	6.03	15.847	10.5	104.7	NO	13.849	NO
72	65	13C2-PFDoA	614.7 > 569.7	40820.082	40105.348	1.00	5.55	12.723	11.7	93.6	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 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	40820.082	40105.348	1.00	5.55	12.723	11.7	93.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	20316.877	47771.227	1.00	5.73	5.316	139.0	92.7	NO		
75	65	13C2-PFDoA	614.7 > 569.7	40820.082	40105.348	1.00	5.55	12.723	11.7	93.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	28842.930	47771.227	1.00	6.03	7.547	12.5	99.9	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	28842.930	47771.227	1.00	6.03	7.547	12.5	99.9	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	9149.658	27336.498	1.00	6.14	50.206	51.4	102.9	NO	1.631	NO
80	43	PFHxDA	813.1 > 768.6	19613.488	14491.781	1.00	6.37	6.767	10.3	102.9	NO	22.940	NO
81	44	PFODA	913.1 > 868.8	24371.119	14491.781	1.00	6.62	8.409	11.0	109.9	NO		
82	45	N-MeFOSE	616.1 > 58.9	6319.406	16736.998	1.00	6.34	56.636	50.7	101.4	NO		
83	46	N-EtFOSE	630.1 > 58.9	7479.170	17702.162	1.00	6.49	63.375	49.0	98.0	NO		
84	72	13C4-PFBA	217.0 > 172.0	10647.901	10647.901	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	27336.498	47771.227	1.00	6.16	7.153	160.9	107.3	NO		
86	69	13C2-PFHxDA	815 > 769.7	14491.781	47771.227	1.00	6.37	3.792	4.8	96.3	NO		
87	69	13C2-PFHxDA	815 > 769.7	14491.781	47771.227	1.00	6.37	3.792	4.8	96.3	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	16736.998	47771.227	1.00	6.33	4.379	139.9	93.3	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	17702.162	47771.227	1.00	6.48	4.632	141.0	94.0	NO		
90	73	13C5-PFHxA	318.0 > 272.9	35674.000	35674.000	1.00	2.95	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	42127.512	42127.512	1.00	4.09	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2365.767	2365.767	1.00	3.71	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	30390.695	30390.695	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5210.393	5210.393	1.00	4.63	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	40105.348	40105.348	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	47771.227	47771.227	1.00	5.26	12.500	12.5	100.0	NO		

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Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time	
1	1	190723M2_1	IPA	23-Jul-19	09:27:47	
2	2	190723M2_2	ST190723M2-1 PFC CS0 19G1103	23-Jul-19	09:38:23	
3	3	190723M2_3	IB	23-Jul-19	09:48:56	
4	4	190723M2_4	B9G0208-BS1 OPR 0.25	23-Jul-19	09:59:37	
5	5	190723M2_5	B9G0134-BS1 OPR 0.25	23-Jul-19	10:11:24	
6	6	190723M2_6	1902014-08 FRB-07082019 0.11724	23-Jul-19	10:24:28	
7	7	190723M2_7	1902014-09 CAOA-B01-GW 0.12758	23-Jul-19	10:35:01	
8	8	190723M2_8	1902014-10 EB-07082019 0.11822	23-Jul-19	10:45:40	
9	9	190723M2_9	IPA	23-Jul-19	10:56:13	
10	10	190723M2_10	ST190723M2-2 PFC CS3 19G1106	23-Jul-19	11:06:51	
11	11	190723M2_11	IPA	23-Jul-19	11:17:24	
12	12	190723M2_12	1902105-02@5X 5A Raw Leachate 0.24309	23-Jul-19	11:35:40	
13	13	190723M2_13	IPA	23-Jul-19	11:46:14	
14	14	190723M2_14	B9G0146-BS1 OPR 0.25	23-Jul-19	11:56:46	
15	15	190723M2_15	B9G0146-BLK1 Method Blank 0.25	23-Jul-19	12:07:24	
16	16	190723M2_16	1902079-01 AS-SW-06-0719 0.23394	23-Jul-19	12:17:57	
17	17	190723M2_17	1902079-02 AS-PW-06-0719 0.23238	23-Jul-19	12:28:35	
18	18	190723M2_18	1902079-03 AS-SW-07-0719 0.22837	23-Jul-19	12:39:08	
19	19	190723M2_19	1902079-04 AS-PW-07-0719 0.24286	23-Jul-19	12:49:46	
20	20	190723M2_20	1902079-05 AS-SW-08-0719 0.22743	23-Jul-19	13:00:24	
21	21	190723M2_21	1902079-06 AS-PW-08-0719 0.23443	23-Jul-19	13:10:57	
22	22	190723M2_22	1902079-07 AS-SW-09-0719 0.22416	23-Jul-19	13:21:35	
23	23	190723M2_23	1902079-08 AS-PW-09-0719 0.2309	23-Jul-19	13:32:08	
24	24	190723M2_24	1902079-09 AS-SW-10-0719 0.22745	23-Jul-19	13:42:46	
25	25	190723M2_25	IPA	23-Jul-19	15:49:56	IPA INJECTED OUT OF ORDER
26	26	190723M2_26	ST190723M2-3 PFC CS3 19G1106	23-Jul-19	14:03:58	
27	27	190723M2_27	IPA	23-Jul-19	14:14:28	
28	28	190723M2_28	1902079-10 AS-PW-10-0719 0.24169	23-Jul-19	14:25:06	
29	29	190723M2_29	1902079-11 AS-SW-11-0719 0.23337	23-Jul-19	14:35:39	
30	30	190723M2_30	1902079-12 AS-PW-11-0719 0.22599	23-Jul-19	14:46:18	
31	31	190723M2_31	1902079-13 AS-SW-12-0719 0.23139	23-Jul-19	14:56:51	
32	32	190723M2_32	1902079-14 AS-PW-12-0719 0.2447	23-Jul-19	15:07:29	

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 08:32:40 Pacific Daylight Time

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190723M2_33	1902079-15 AS-SW-DUP-01-0719 0.22175	23-Jul-19	15:18:03
34	34	190723M2_34	1902079-16 AS-PW-DUP-01-0719 0.24901	23-Jul-19	15:28:41
35	35	190723M2_35	1902079-17 AS-EB-0709 0.21355	23-Jul-19	15:39:15
36	36	190723M2_36	B9G0190-BS1 OPR 1	23-Jul-19	16:03:38
37	37	190723M2_37	B9G0190-BLK1 Method Blank 1	23-Jul-19	16:14:16
38	38	190723M2_38	B9G0190-MS1 Matrix Spike 1.01	23-Jul-19	16:24:49
39	39	190723M2_39	B9G0190-MSD1 Matrix Spike Dup 1.01	23-Jul-19	16:35:27
40	40	190723M2_40	1902097-01 SAOA-B10-SO-1-1.5 1.03	23-Jul-19	16:46:01
41	41	190723M2_41	1902097-02 SAOA-B10-SO-20-20.5 1.05	23-Jul-19	16:56:39
42	42	190723M2_42	IPA	23-Jul-19	17:07:18
43	43	190723M2_43	ST190723M2-4 PFC CS3 19G1106	23-Jul-19	17:17:51
44	44	190723M2_44	IPA	23-Jul-19	17:28:29
45	45	190723M2_45	1902097-06 NON-B02-SO-1-1.5 1.01	23-Jul-19	17:39:03
46	46	190723M2_46	1902097-08 NON-B02-SO-15-15.5 1.08	23-Jul-19	17:49:41
47	47	190723M2_47	1902097-09 SAOA-B01-SO-5-5.5 1.06	23-Jul-19	18:00:14
48	48	190723M2_48	1902097-10 SAOA-B01-SO-20-20.5 1.24	23-Jul-19	18:10:53
49	49	190723M2_49	1902097-11 SAOA-B01-SO-36-36.5 1.26	23-Jul-19	18:21:26
50	50	190723M2_50	1902097-12 NON-B01-SO-1-1.5 1.19	23-Jul-19	18:32:04
51	51	190723M2_51	1902097-13 NON-B01-SO-15-15.5 1.16	23-Jul-19	18:42:37
52	52	190723M2_52	1902097-16 NON-B01-SO-73-73.5 1.21	23-Jul-19	18:53:15
53	53	190723M2_53	1902097-17 NON-B04-SO-0.5-1 1.01	23-Jul-19	19:03:53
54	54	190723M2_54	1902097-18 NON-B04-SO-4.5-5 1.03	23-Jul-19	19:14:26
55	55	190723M2_55	IPA	23-Jul-19	19:25:05
56	56	190723M2_56	ST190723M2-5 PFC CS3 19G1106	23-Jul-19	19:35:38
57	57	190723M2_57	IPA	23-Jul-19	19:46:16
58	58	190723M2_58	B9G0216-BS1 OPR 1	23-Jul-19	19:56:49
59	59	190723M2_59	B9G0216-BLK1 Method Blank 1	23-Jul-19	20:07:28
60	60	190723M2_60	1902165-01 1901142-01 1.25	23-Jul-19	20:18:06
61	61	190723M2_61	1902165-02 1901142-02 1.28	23-Jul-19	20:28:39
62	62	190723M2_62	1902165-03 1901142-03 1.26	23-Jul-19	20:39:17
63	63	190723M2_63	1902165-04 1901142-04 1.26	23-Jul-19	20:49:56
64	64	190723M2_64	1902165-05 1901142-05 1.23	23-Jul-19	21:00:34
65	65	190723M2_65	1902165-06 1901142-06 1.25	23-Jul-19	21:11:08
66	66	190723M2_66	1902165-07 1901142-07 1.22	23-Jul-19	21:21:46
67	67	190723M2_67	1902165-08 1901142-08 1.22	23-Jul-19	21:32:18
68	68	190723M2_68	1902165-09 1901142-09 1.2	23-Jul-19	21:42:57

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Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190723M2_69	1902165-10 1901142-10 1.22	23-Jul-19	21:53:35
70	70 190723M2_70	IPA	23-Jul-19	22:04:08
71	71 190723M2_71	ST190723M2-6 PFC CS3 19G1106	23-Jul-19	22:14:46
72	72 190723M2_72	IPA	23-Jul-19	22:25:18
73	73 190723M2_73	1902165-11 1901142-11 1.22	23-Jul-19	22:35:57
74	74 190723M2_74	1902165-12 1901142-12 1.28	23-Jul-19	22:46:35
75	75 190723M2_75	1902165-13 1901142-13 1.02	23-Jul-19	22:57:08
76	76 190723M2_76	1902165-14 1901142-14 1.2	23-Jul-19	23:07:46
77	77 190723M2_77	1902165-15 1901142-15 1.24	23-Jul-19	23:18:24
78	78 190723M2_78	1902165-16 1901142-16 1.22	23-Jul-19	23:28:57
79	79 190723M2_79	B9G0157-BS1 OPR 0.25	23-Jul-19	23:39:36
80	80 190723M2_80	B9G0157-BLK1 Method Blank 0.25	23-Jul-19	23:50:09
81	81 190723M2_81	1902093-01 AS-SW-13-0719 0.24744	24-Jul-19	00:00:48
82	82 190723M2_82	1902093-02 AS-PW-13-0719 0.25205	24-Jul-19	00:11:20
83	83 190723M2_83	1902093-03 AS-SW-14-0719 0.23822	24-Jul-19	00:21:58
84	84 190723M2_84	IPA	24-Jul-19	00:32:30
85	85 190723M2_85	ST190723M2-7 PFC CS3 19G1106	24-Jul-19	00:43:08
86	86 190723M2_86	IPA	24-Jul-19	00:53:42
87	87 190723M2_87	1902093-04 AS-PW-14-0719 0.25211	24-Jul-19	01:04:20
88	88 190723M2_88	1902093-05 AS-SW-15-0719 0.23059	24-Jul-19	01:14:53
89	89 190723M2_89	1902093-06 AS-PW-15-0719 0.25198	24-Jul-19	01:25:32
90	90 190723M2_90	1902093-07 AS-SW-16-0719 0.24267	24-Jul-19	01:36:05
91	91 190723M2_91	1902093-08 AS-PW-16-0719 0.27834	24-Jul-19	01:46:35
92	92 190723M2_92	1902093-09 AS-SW-17-0719 0.23708	24-Jul-19	01:57:14
93	93 190723M2_93	1902093-10 AS-PW-17-0719 0.24621	24-Jul-19	02:07:52
94	94 190723M2_94	1902107-01 GW0900931907101840RL 0.24624	24-Jul-19	02:18:25
95	95 190723M2_95	IPA	24-Jul-19	02:29:03
96	96 190723M2_96	ST190723M2-8 PFC CS3 19G1106	24-Jul-19	02:39:36
97	97 190723M2_97	IPA	24-Jul-19	02:50:15
98	98 190723M2_98	B9G0150-BS1 OPR 0.25	24-Jul-19	03:00:48
99	99 190723M2_99	B9G0150-BLK1 Method Blank 0.25	24-Jul-19	03:11:27
100	100 190723M2_100	1902094-01 AS-SW-18-0719 0.24659	24-Jul-19	03:22:00
101	101 190723M2_101	1902094-02 AS-PW-18-0719 0.23578	24-Jul-19	03:32:38
102	102 190723M2_102	1902094-03 AS-SW-19-0719 0.24013	24-Jul-19	03:43:11
103	103 190723M2_103	1902094-04 AS-PW-19-0719 0.24356	24-Jul-19	03:53:50
104	104 190723M2_104	1902094-05 AS-SW-20-0719 0.23482	24-Jul-19	04:04:23

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Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 08:32:26 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 08:32:40 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
105	105 190723M2_105	1902094-06 AS-PW-20-0719 0.24648	24-Jul-19	04:15:01
106	106 190723M2_106	1902094-07 AS-SW-21-0719 0.22902	24-Jul-19	04:25:34
107	107 190723M2_107	1902094-08 AS-PW-21-0719 0.22795	24-Jul-19	04:36:12
108	108 190723M2_108	1902094-09 AS-SW-22-0719 0.23746	24-Jul-19	04:46:46
109	109 190723M2_109	1902094-10 AS-PW-22-0719 0.23721	24-Jul-19	04:57:24
110	110 190723M2_110	IPA	24-Jul-19	05:07:57
111	111 190723M2_111	ST190723M2-9 PFC CS3 19G1106	24-Jul-19	05:18:35
112	112 190723M2_112	IPA	24-Jul-19	05:29:14
113	113 190723M2_113	1902094-11 AS-SW-23-0719 0.24375	24-Jul-19	05:39:47
114	114 190723M2_114	1902094-12 AS-PW-23-0719 0.25506	24-Jul-19	05:50:25
115	115 190723M2_115	1902094-13 AS-SW-DUP-02-0719 0.24241	24-Jul-19	06:00:58
116	116 190723M2_116	1902094-14 AS-PW-DUP-02-0719 0.25117	24-Jul-19	06:11:36
117	117 190723M2_117	IPA	24-Jul-19	06:22:09
118	118 190723M2_118	ST190723M2-10 PFC CS3 19G1106	24-Jul-19	06:32:47
119	119 190723M2_119	IPA	24-Jul-19	06:43:21

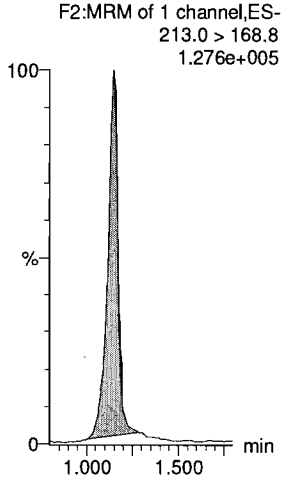
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

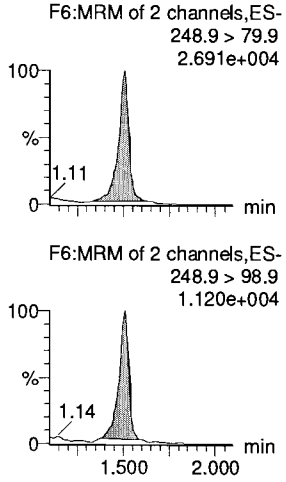
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072319.mdb 23 Jul 2019 11:28:05
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

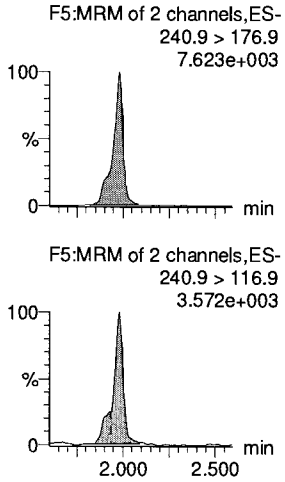
PFBA



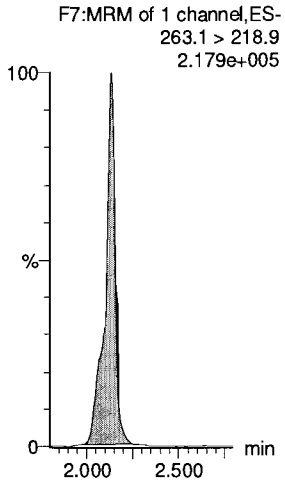
PFPrS



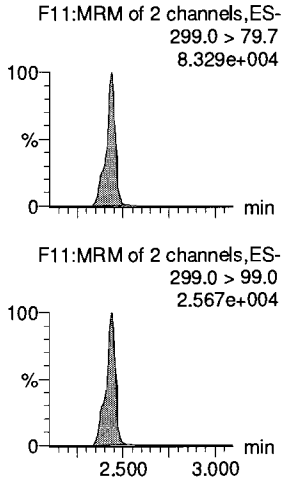
3:3 FTCA



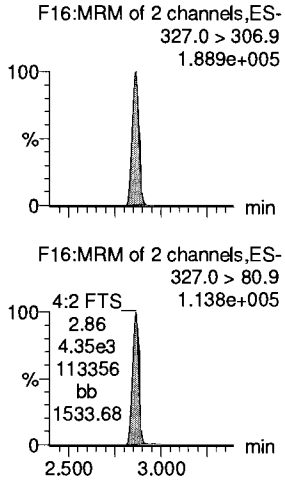
PFPeA



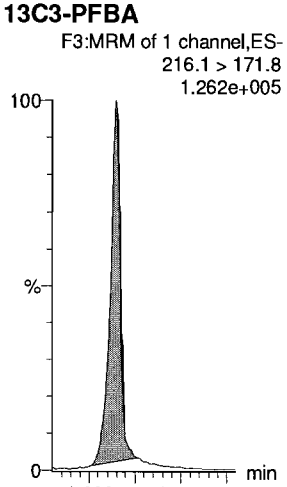
PFBS



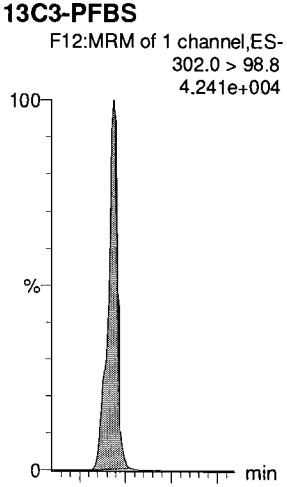
4:2 FTS



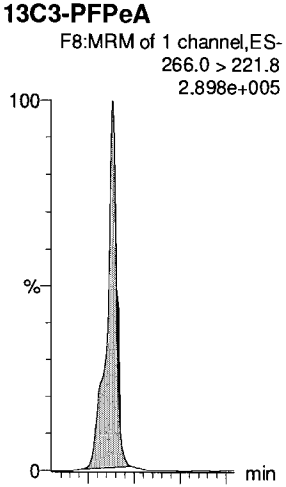
13C3-PFBA



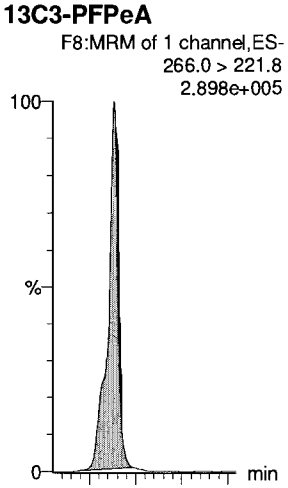
13C3-PFBS



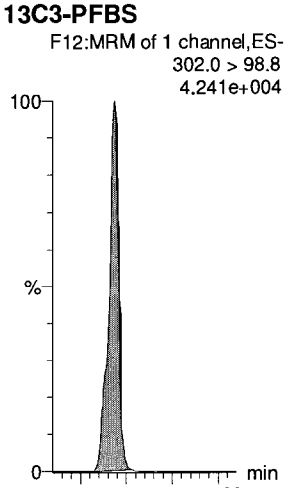
13C3-PFPeA



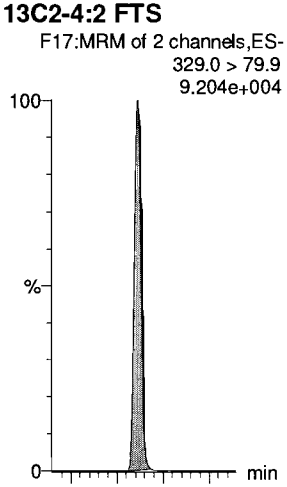
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

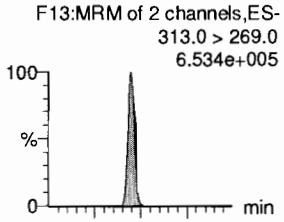


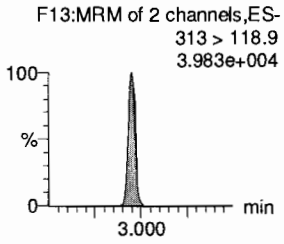
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

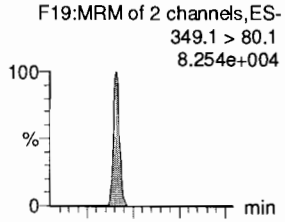
Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

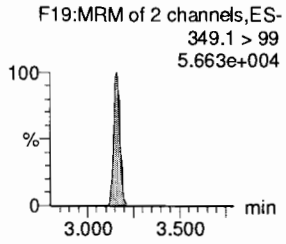
PFHxA



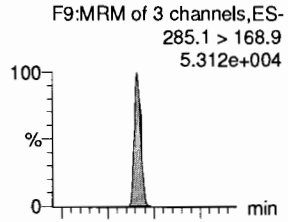


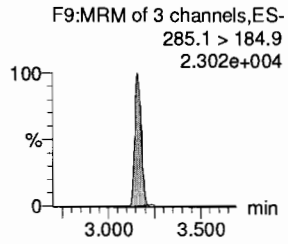
PFPeS



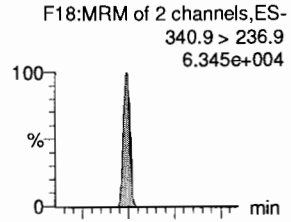


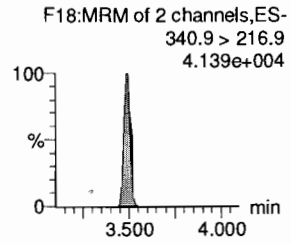
HFPO-DA



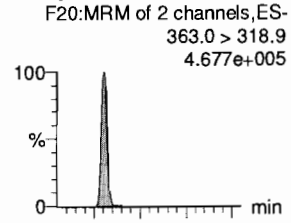


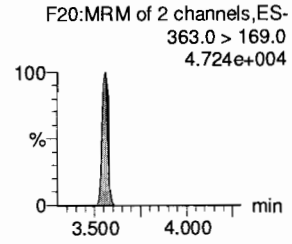
5:3 FTCA



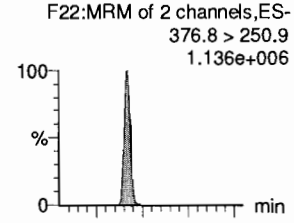


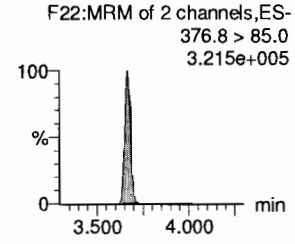
PFHpA



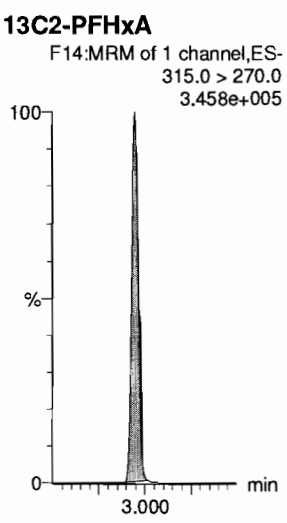


ADONA

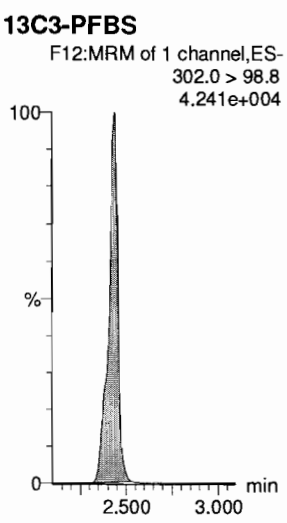




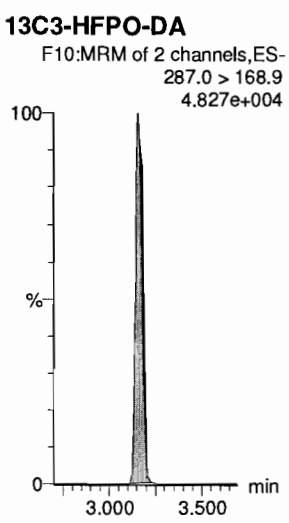
13C2-PFHxA



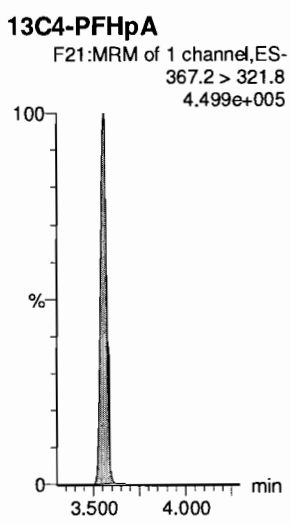
13C3-PFBS



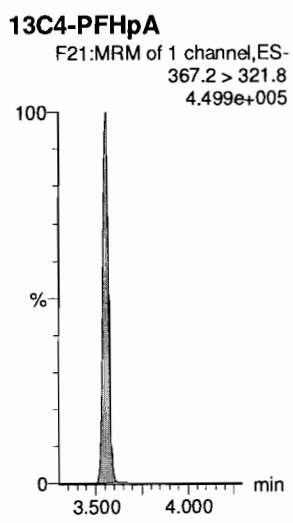
13C3-HFPO-DA



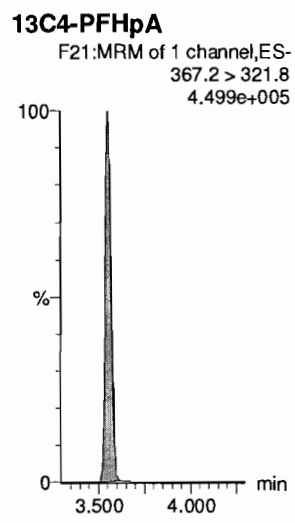
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

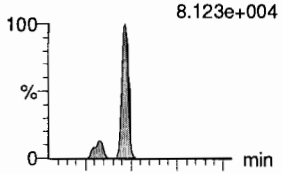


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

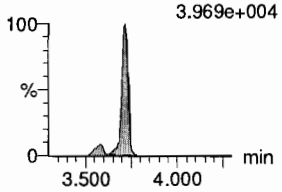
Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

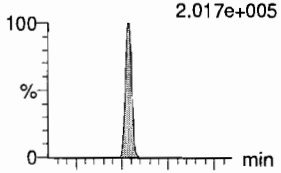
L-PFHxS
F23:MRM of 2 channels,ES-
398.9 > 79.6
8.123e+004



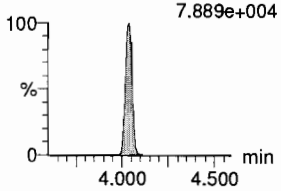
F23:MRM of 2 channels,ES-
398.9 > 99.0
3.969e+004



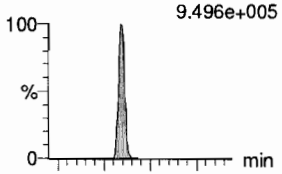
6:2 FTS
F29:MRM of 3 channels,ES-
427.0 > 406.9
2.017e+005



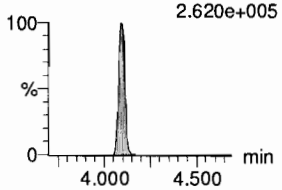
F29:MRM of 3 channels,ES-
427. > 80.9
7.889e+004



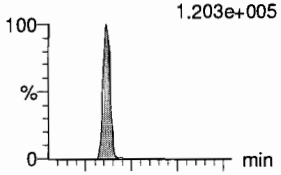
L-PFOA
F26:MRM of 2 channels,ES-
412.8 > 368.9
9.496e+005



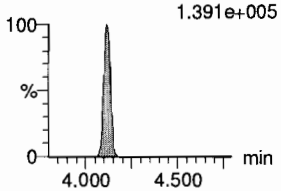
F26:MRM of 2 channels,ES-
412.8 > 169
2.620e+005



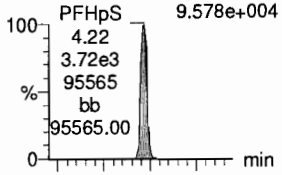
PFEChS
F33:MRM of 2 channels,ES-
460.8 > 381.0
1.203e+005



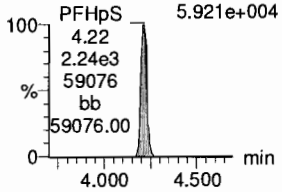
F33:MRM of 2 channels,ES-
460.8 > 98.9
1.391e+005



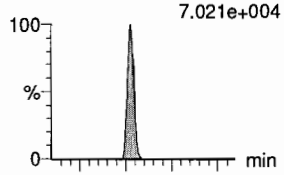
PFHpS
F32:MRM of 2 channels,ES-
449.0 > 80.0
9.578e+004
PFHpS
4.22
3.72e3
95565
bb
95565.00



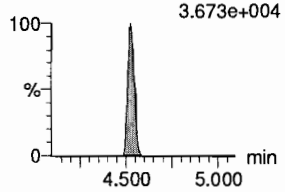
F32:MRM of 2 channels,ES-
449 > 98.7
5.921e+004
PFHpS
4.22
2.24e3
59076
bb
59076.00



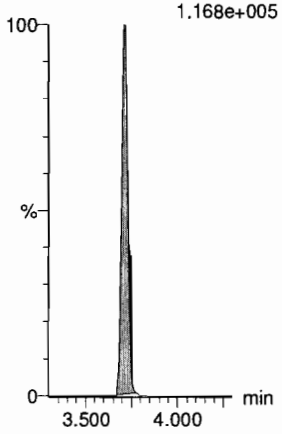
7:3 FTCA
F31:MRM of 2 channels,ES-
440.9 > 336.9
7.021e+004



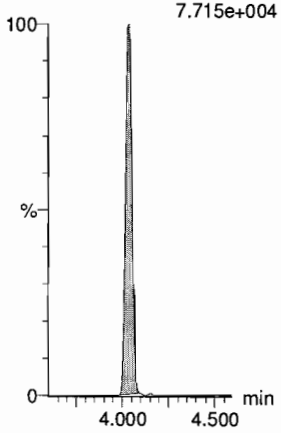
F31:MRM of 2 channels,ES-
440.9 > 316.9
3.673e+004



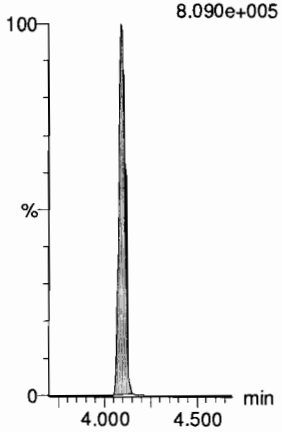
13C3-PFHxS
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.168e+005



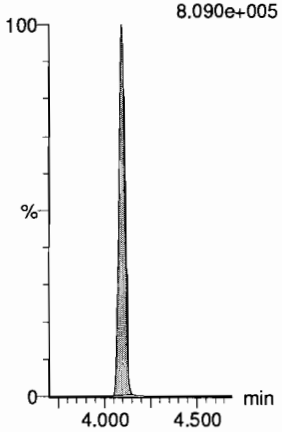
13C2-6:2 FTS
F30:MRM of 1 channel,ES-
429.0 > 79.9
7.715e+004



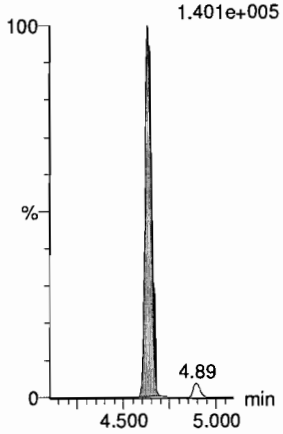
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
8.090e+005



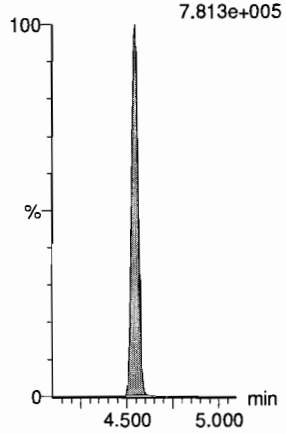
13C2-PFOA
F27:MRM of 1 channel,ES-
414.9 > 369.7
8.090e+005



13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.401e+005
4.89



13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
7.813e+005

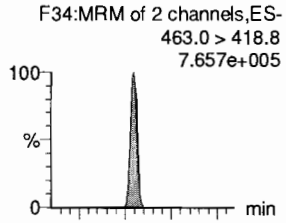


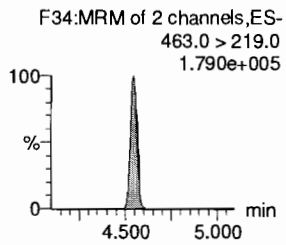
Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

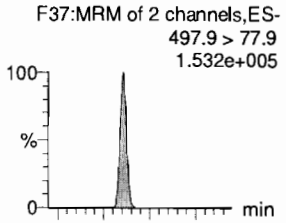
Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

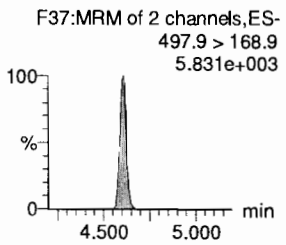
PFNA



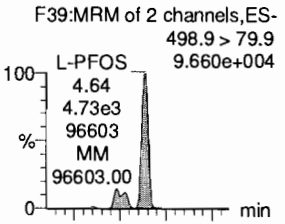


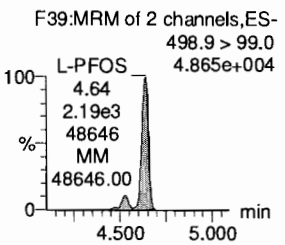
PFOSA



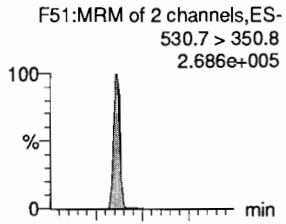


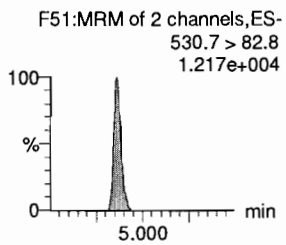
L-PFOS





9Cl-PF30NS





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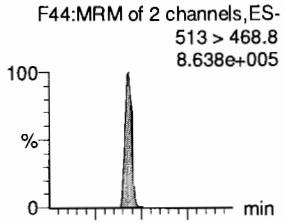
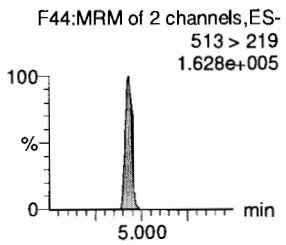
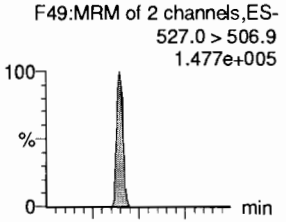
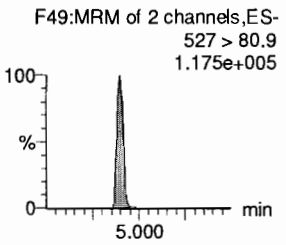


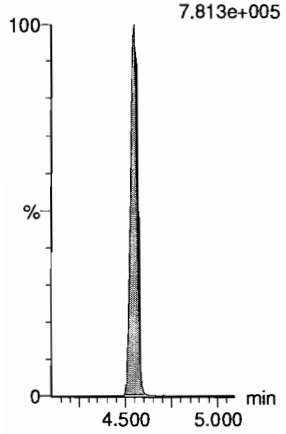


8:2 FTS

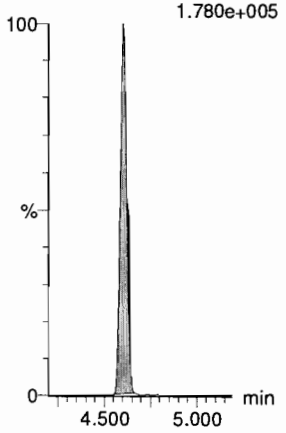




13C5-PFNA



13C8-PFOSA



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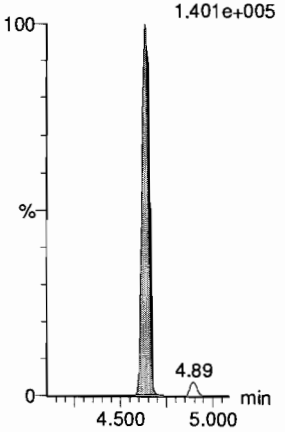
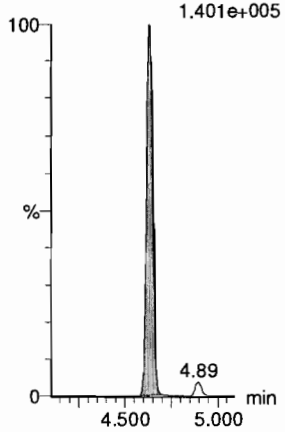
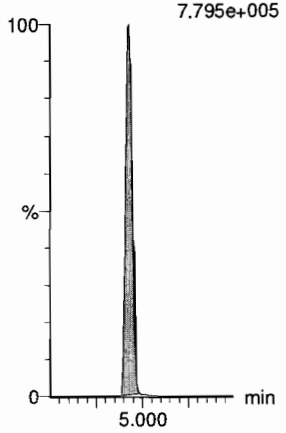


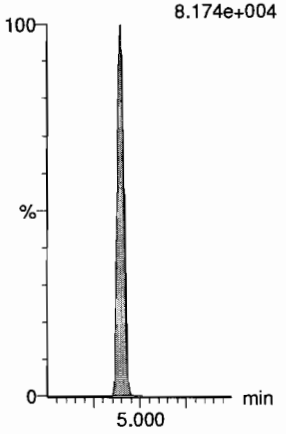
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



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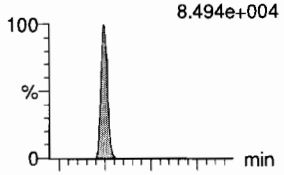
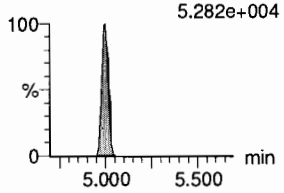
Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

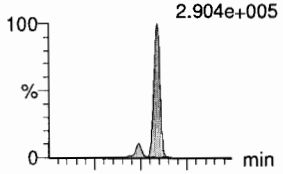
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
8.494e+004



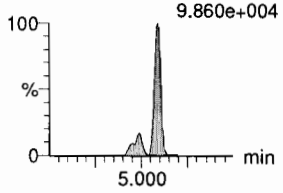
F53:MRM of 2 channels,ES-
549.1 > 99.1
5.282e+004



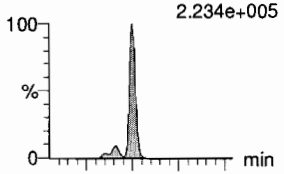
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
2.904e+005



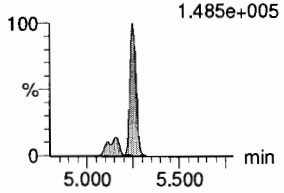
F56:MRM of 2 channels,ES-
570. > 512
9.860e+004



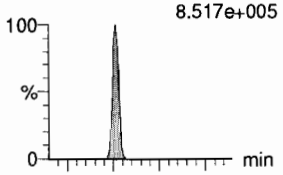
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
2.234e+005



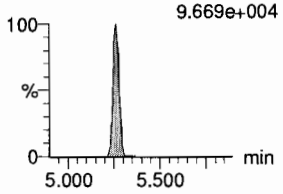
F59:MRM of 2 channels,ES-
584.1 > 526
1.485e+005



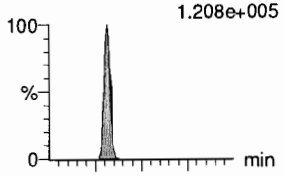
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
8.517e+005



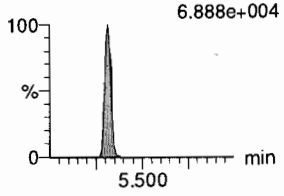
F54:MRM of 2 channels,ES-
563.0 > 269
9.669e+004



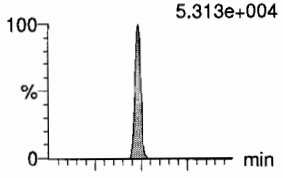
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
1.208e+005



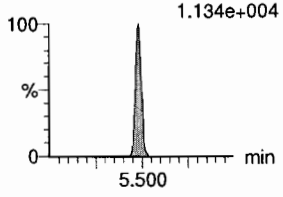
F61:MRM of 2 channels,ES-
598.8 > 98.9
6.888e+004



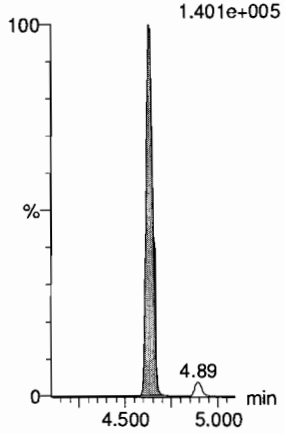
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
5.313e+004



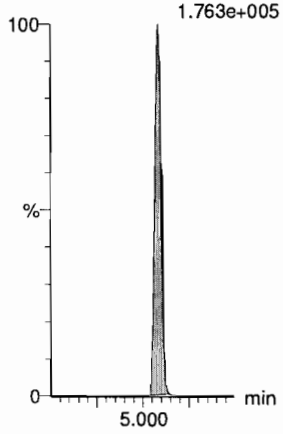
F68:MRM of 2 channels,ES-
632.6 > 450.7
1.134e+004



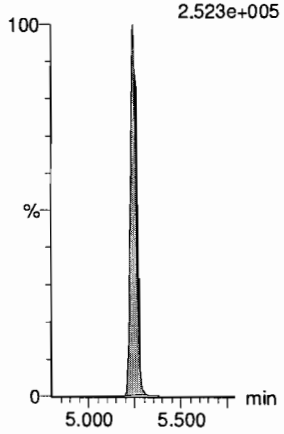
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.401e+005



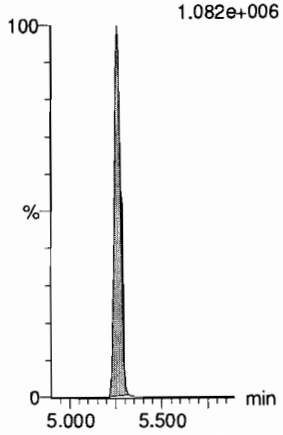
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
1.763e+005



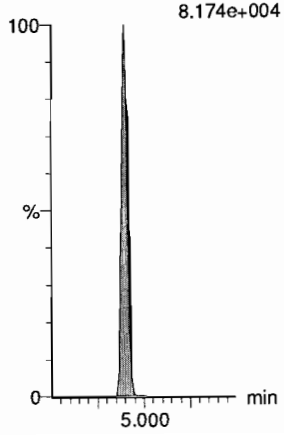
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
2.523e+005



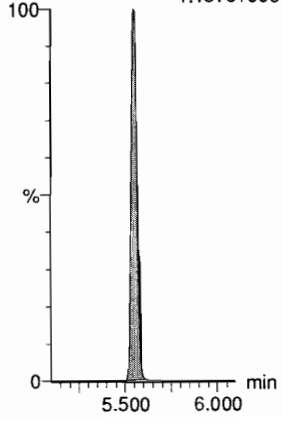
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
1.082e+006



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
8.174e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.157e+006



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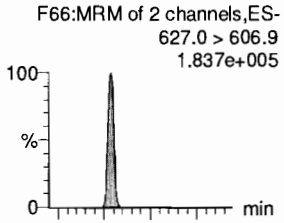
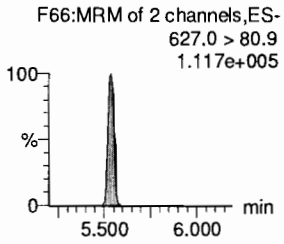
Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

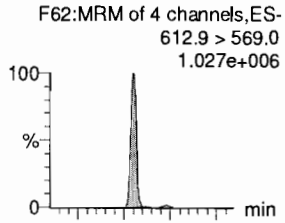
Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

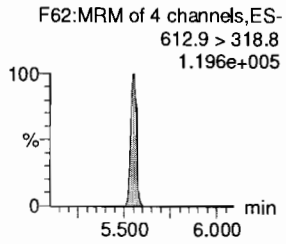
10:2 FTS



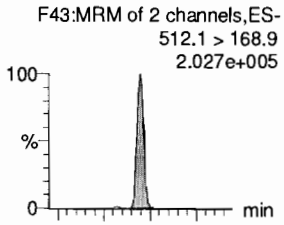


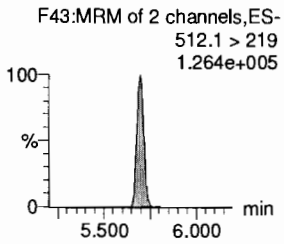
PFDoA



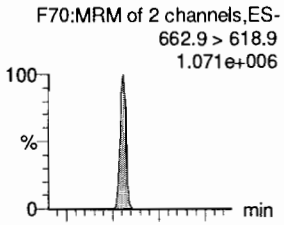


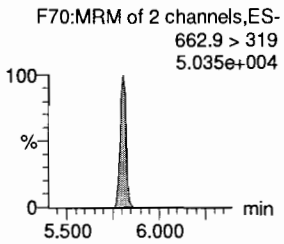
N-MeFOSA



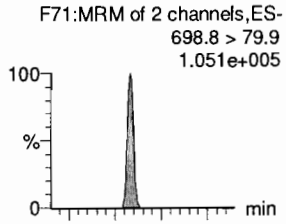


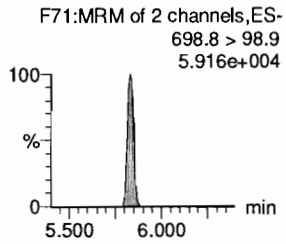
PFTrDA



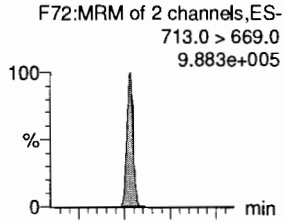


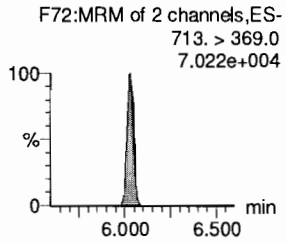
PFDoS



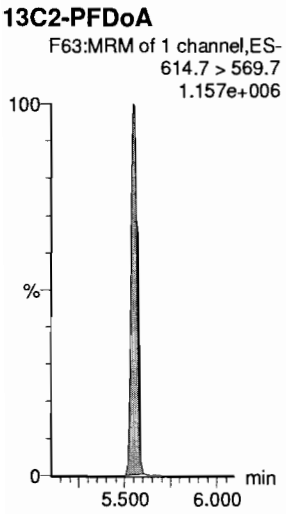


PFTeDA





13C2-PFDoA



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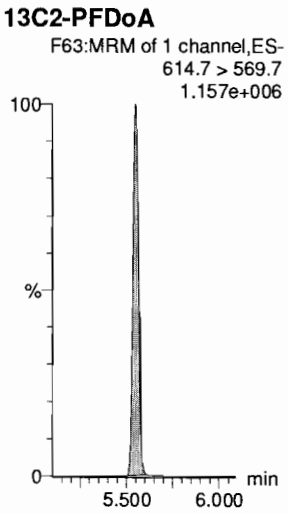
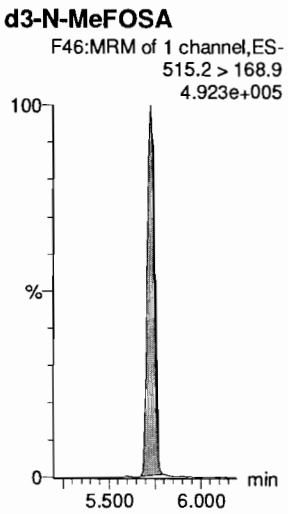


d3-N-MeFOSA



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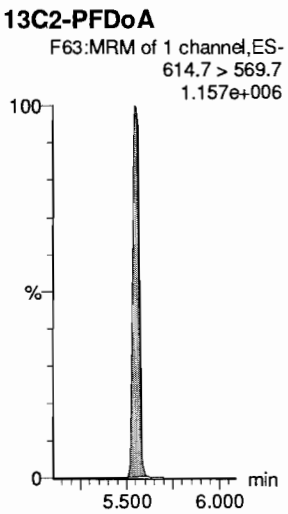
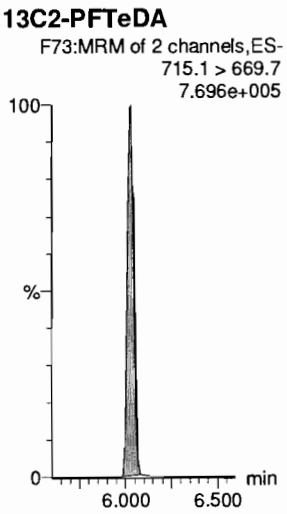
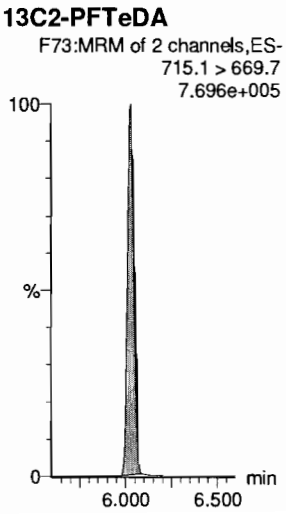


13C2-PFTeDA



13C2-PFTeDA

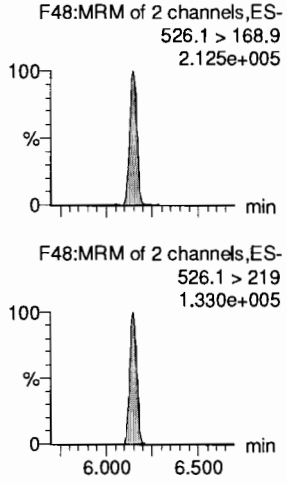


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

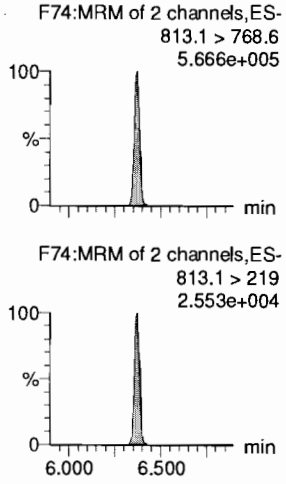
Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

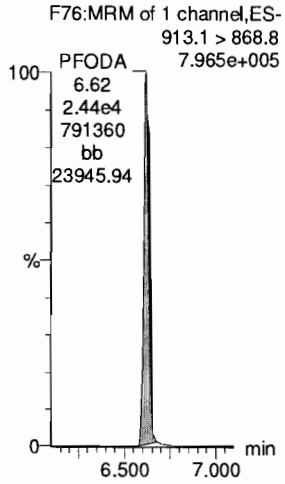
N-EtFOSA



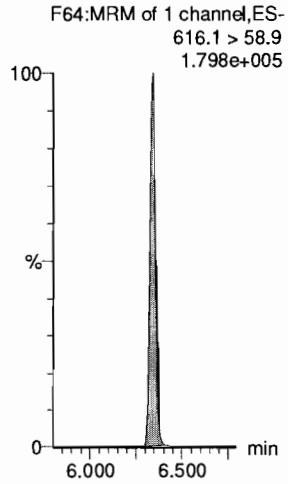
PFHxDA



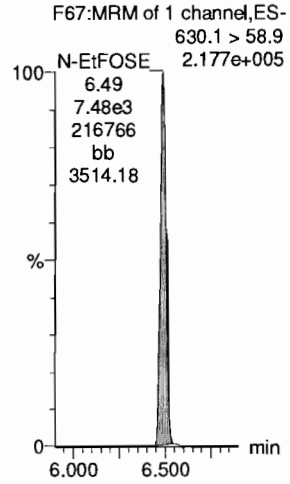
PFODA



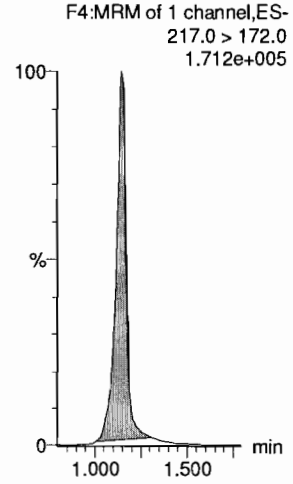
N-MeFOSE



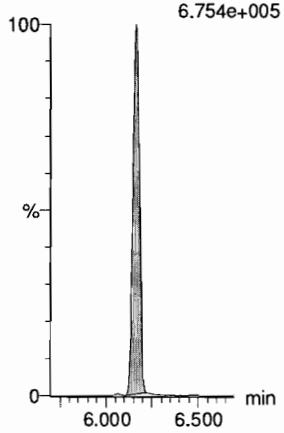
N-EtFOSE



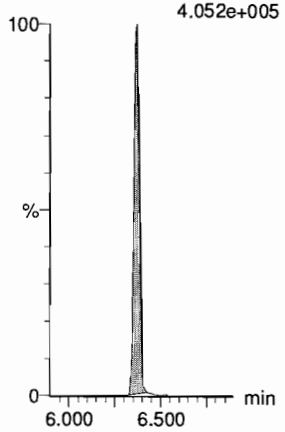
13C4-PFBA



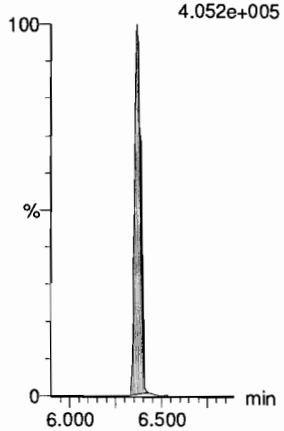
d5-N-ETFOSA



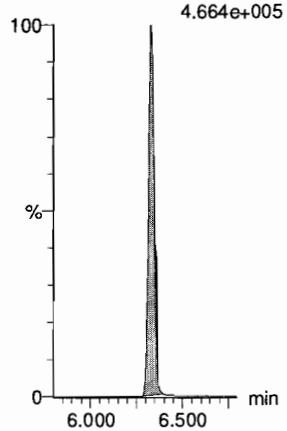
13C2-PFHxDA



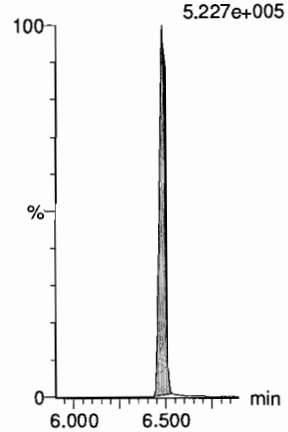
13C2-PFHxDA



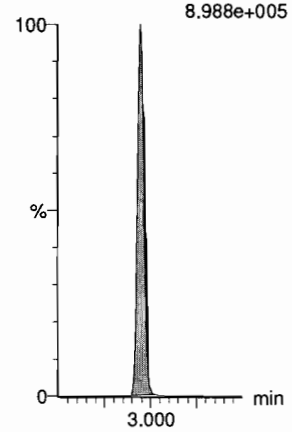
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

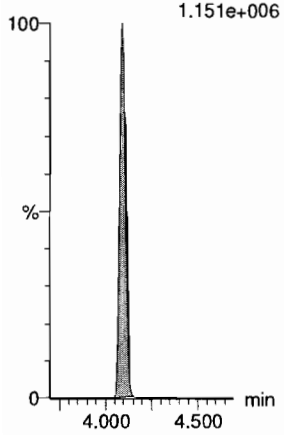


Dataset: F:\Projects\PFAS.PRO\Results\190723M2\190723M2-56.qld

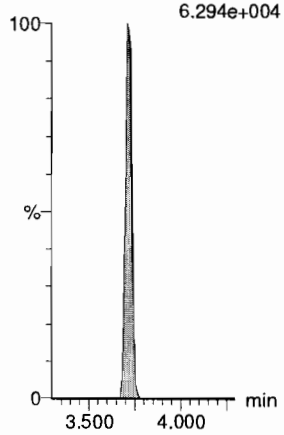
Last Altered: Wednesday, July 24, 2019 07:42:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 07:43:21 Pacific Daylight Time

Name: 190723M2_56, Date: 23-Jul-2019, Time: 19:35:38, ID: ST190723M2-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

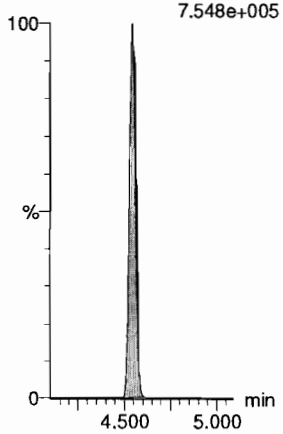
13C8-PFOA



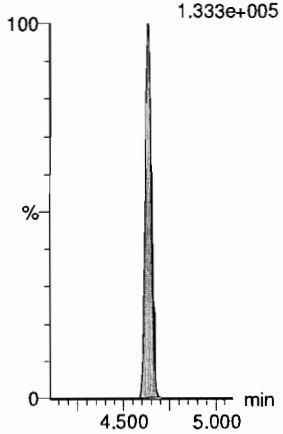
18O2-PFHxS



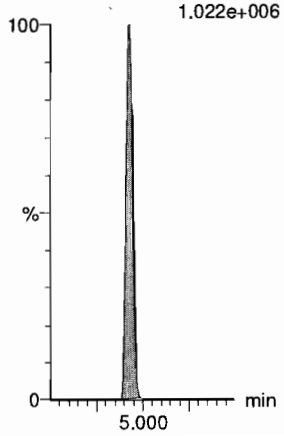
13C9-PFNA



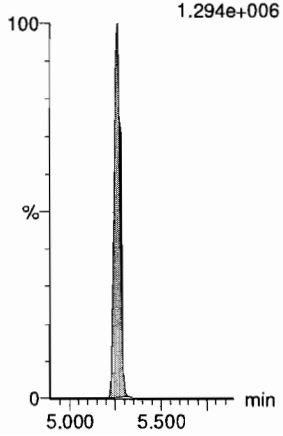
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
Printed: Thursday, July 25, 2019 08:13:01 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_RS-07-13-19.mdb 23 Jul 2019 10:48:27
Calibration: 25 Jul 2019 08:12:14

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-1 PFC CS0 19G1103	1.05e4	100.0	NO
2	2	13C5-PFHxA	ST190724M1-1 PFC CS0 19G1103	3.56e4	100.0	NO
3	3	18O2-PFHxS	ST190724M1-1 PFC CS0 19G1103	2.25e3	100.0	NO
4	4	13C8-PFOA	ST190724M1-1 PFC CS0 19G1103	4.22e4	100.0	NO
5	5	13C9-PFNA	ST190724M1-1 PFC CS0 19G1103	3.07e4	100.0	NO
6	6	13C4-PFOS	ST190724M1-1 PFC CS0 19G1103	5.22e3	100.0	NO
7	7	13C6-PFDA	ST190724M1-1 PFC CS0 19G1103	3.88e4	100.0	NO
8	8	13C7-PFUdA	ST190724M1-1 PFC CS0 19G1103	4.71e4	100.0	NO

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IB	9.82e3	93.9	NO
2	2	13C5-PFHxA	IB	3.28e4	92.3	NO
3	3	18O2-PFHxS	IB	2.19e3	97.7	NO
4	4	13C8-PFOA	IB	4.12e4	97.6	NO
5	5	13C9-PFNA	IB	2.86e4	93.1	NO
6	6	13C4-PFOS	IB	5.09e3	97.4	NO
7	7	13C6-PFDA	IB	3.72e4	96.0	NO
8	8	13C7-PFUdA	IB	4.42e4	93.9	NO

Name: 190724M1_4, Date: 24-Jul-2019, Time: 08:28:11, ID: 1901616-01@5X 053119B 5, Description: 053119B

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1901616-01@5X 053119B 5	2.47e3	23.6	YES
2	2	13C5-PFHxA	1901616-01@5X 053119B 5	4.80e3	13.5	YES
3	3	18O2-PFHxS	1901616-01@5X 053119B 5	2.79e2	12.4	YES
4	4	13C8-PFOA	1901616-01@5X 053119B 5	5.28e3	12.5	YES
5	5	13C9-PFNA	1901616-01@5X 053119B 5	2.89e3	9.4	YES
6	6	13C4-PFOS	1901616-01@5X 053119B 5	3.70e2	7.1	YES
7	7	13C6-PFDA	1901616-01@5X 053119B 5	2.82e3	7.3	YES
8	8	13C7-PFUdA	1901616-01@5X 053119B 5	2.07e3	4.4	YES

Name: 190724M1_5, Date: 24-Jul-2019, Time: 08:38:46, 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

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
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Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-2 PFC CS3 19G1106	1.19e4	114.0	NO
2	2	13C5-PFHxA	ST190724M1-2 PFC CS3 19G1106	3.51e4	98.8	NO
3	3	18O2-PFHxS	ST190724M1-2 PFC CS3 19G1106	2.23e3	99.2	NO
4	4	13C8-PFOA	ST190724M1-2 PFC CS3 19G1106	4.27e4	101.1	NO
5	5	13C9-PFNA	ST190724M1-2 PFC CS3 19G1106	3.12e4	101.6	NO
6	6	13C4-PFOS	ST190724M1-2 PFC CS3 19G1106	5.39e3	103.2	NO
7	7	13C6-PFDA	ST190724M1-2 PFC CS3 19G1106	4.01e4	103.4	NO
8	8	13C7-PFUdA	ST190724M1-2 PFC CS3 19G1106	4.69e4	99.5	NO

Name: 190724M1_7, Date: 24-Jul-2019, Time: 08:59:58, 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: 190724M1_8, Date: 24-Jul-2019, Time: 09:38:03, ID: 1902097-06 NON-B02-SO-1-1.5 1.01, Description: NON-B02-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-06 NON-B02-SO-1-1.5 1.01	7.16e3	68.5	NO
2	2	13C5-PFHxA	1902097-06 NON-B02-SO-1-1.5 1.01	1.47e4	41.5	YES
3	3	18O2-PFHxS	1902097-06 NON-B02-SO-1-1.5 1.01	1.29e3	57.5	NO
4	4	13C8-PFOA	1902097-06 NON-B02-SO-1-1.5 1.01	2.03e4	48.2	YES
5	5	13C9-PFNA	1902097-06 NON-B02-SO-1-1.5 1.01	1.59e4	51.9	NO
6	6	13C4-PFOS	1902097-06 NON-B02-SO-1-1.5 1.01	3.13e3	59.9	NO
7	7	13C6-PFDA	1902097-06 NON-B02-SO-1-1.5 1.01	2.26e4	58.2	NO
8	8	13C7-PFUdA	1902097-06 NON-B02-SO-1-1.5 1.01	2.84e4	60.2	NO

Name: 190724M1_9, Date: 24-Jul-2019, Time: 09:48:36, ID: 1902097-18 NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-18 NON-B04-SO-4.5-5 1.03	1.02e4	97.5	NO
2	2	13C5-PFHxA	1902097-18 NON-B04-SO-4.5-5 1.03	2.03e4	57.0	NO
3	3	18O2-PFHxS	1902097-18 NON-B04-SO-4.5-5 1.03	1.30e3	58.1	NO
4	4	13C8-PFOA	1902097-18 NON-B04-SO-4.5-5 1.03	2.61e4	61.8	NO
5	5	13C9-PFNA	1902097-18 NON-B04-SO-4.5-5 1.03	1.68e4	54.7	NO
6	6	13C4-PFOS	1902097-18 NON-B04-SO-4.5-5 1.03	1.85e3	35.5	YES
7	7	13C6-PFDA	1902097-18 NON-B04-SO-4.5-5 1.03	2.57e4	66.2	NO
8	8	13C7-PFUdA	1902097-18 NON-B04-SO-4.5-5 1.03	3.11e4	65.9	NO

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
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Name: 190724M1_10, Date: 24-Jul-2019, Time: 09:59:18, 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: 190724M1_11, Date: 24-Jul-2019, Time: 10:09:53, ID: 1902097-16 NON-B01-SO-73-73.5 1.21, Description: NON-B01-SO-73-73.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-16 NON-B01-SO-73-73.5 1.21	1.14e4	108.8	NO
2	2	13C5-PFHxA	1902097-16 NON-B01-SO-73-73.5 1.21	2.25e4	63.2	NO
3	3	18O2-PFHxS	1902097-16 NON-B01-SO-73-73.5 1.21	1.61e3	71.6	NO
4	4	13C8-PFOA	1902097-16 NON-B01-SO-73-73.5 1.21	2.84e4	67.3	NO
5	5	13C9-PFNA	1902097-16 NON-B01-SO-73-73.5 1.21	2.02e4	65.8	NO
6	6	13C4-PFOS	1902097-16 NON-B01-SO-73-73.5 1.21	3.79e3	72.6	NO
7	7	13C6-PFDA	1902097-16 NON-B01-SO-73-73.5 1.21	2.82e4	72.6	NO
8	8	13C7-PFUdA	1902097-16 NON-B01-SO-73-73.5 1.21	3.41e4	72.4	NO

Name: 190724M1_12, Date: 24-Jul-2019, Time: 10:20:30, ID: 1902097-12@5X NON-B01-SO-1-1.5 1.19, Description: NON-B01-SO-1-1.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-12@5X NON-B01-SO-1-1.5 1....	2.02e3	19.3	YES
2	2	13C5-PFHxA	1902097-12@5X NON-B01-SO-1-1.5 1....	4.27e3	12.0	YES
3	3	18O2-PFHxS	1902097-12@5X NON-B01-SO-1-1.5 1....	3.41e2	15.2	YES
4	4	13C8-PFOA	1902097-12@5X NON-B01-SO-1-1.5 1....	5.52e3	13.1	YES
5	5	13C9-PFNA	1902097-12@5X NON-B01-SO-1-1.5 1....	4.21e3	13.7	YES
6	6	13C4-PFOS	1902097-12@5X NON-B01-SO-1-1.5 1....	7.30e2	14.0	YES
7	7	13C6-PFDA	1902097-12@5X NON-B01-SO-1-1.5 1....	5.42e3	14.0	YES
8	8	13C7-PFUdA	1902097-12@5X NON-B01-SO-1-1.5 1....	6.91e3	14.7	YES

Name: 190724M1_13, Date: 24-Jul-2019, Time: 10:31:05, ID: 1902097-13@5X NON-B01-SO-15-15.5 1.16, Description: NON-B01-SO-15-15.5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-13@5X NON-B01-SO-15-15.5...	1.98e3	18.9	YES
2	2	13C5-PFHxA	1902097-13@5X NON-B01-SO-15-15.5...	3.93e3	11.0	YES
3	3	18O2-PFHxS	1902097-13@5X NON-B01-SO-15-15.5...	2.18e2	9.7	YES
4	4	13C8-PFOA	1902097-13@5X NON-B01-SO-15-15.5...	5.36e3	12.7	YES
5	5	13C9-PFNA	1902097-13@5X NON-B01-SO-15-15.5...	3.86e3	12.6	YES
6	6	13C4-PFOS	1902097-13@5X NON-B01-SO-15-15.5...	6.67e2	12.8	YES
7	7	13C6-PFDA	1902097-13@5X NON-B01-SO-15-15.5...	5.24e3	13.5	YES
8	8	13C7-PFUdA	1902097-13@5X NON-B01-SO-15-15.5...	6.25e3	13.3	YES

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
Printed: Thursday, July 25, 2019 08:13:01 Pacific Daylight Time

Name: 190724M1_14, Date: 24-Jul-2019, Time: 10:41:38, ID: 1902097-18@10X NON-B04-SO-4.5-5 1.03, Description: NON-B04-SO-4.5-5

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902097-18@10X NON-B04-SO-4.5-5 ...	1.20e3	11.5	YES
2	2	13C5-PFHxA	1902097-18@10X NON-B04-SO-4.5-5 ...	2.37e3	6.7	YES
3	3	18O2-PFHxS	1902097-18@10X NON-B04-SO-4.5-5 ...	1.57e2	7.0	YES
4	4	13C8-PFOA	1902097-18@10X NON-B04-SO-4.5-5 ...	3.13e3	7.4	YES
5	5	13C9-PFNA	1902097-18@10X NON-B04-SO-4.5-5 ...	2.13e3	6.9	YES
6	6	13C4-PFOS	1902097-18@10X NON-B04-SO-4.5-5 ...	3.66e2	7.0	YES
7	7	13C6-PFDA	1902097-18@10X NON-B04-SO-4.5-5 ...	3.01e3	7.7	YES
8	8	13C7-PFUdA	1902097-18@10X NON-B04-SO-4.5-5 ...	3.30e3	7.0	YES

Name: 190724M1_15, Date: 24-Jul-2019, Time: 10:52:18, ID: 1902093-08 AS-PW-16-0719 0.27834, Description: AS-PW-16-0719

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902093-08 AS-PW-16-0719 0.27834	1.22e4	116.3	NO
2	2	13C5-PFHxA	1902093-08 AS-PW-16-0719 0.27834	2.30e4	64.8	NO
3	3	18O2-PFHxS	1902093-08 AS-PW-16-0719 0.27834	1.52e3	67.5	NO
4	4	13C8-PFOA	1902093-08 AS-PW-16-0719 0.27834	2.77e4	65.6	NO
5	5	13C9-PFNA	1902093-08 AS-PW-16-0719 0.27834	2.02e4	65.6	NO
6	6	13C4-PFOS	1902093-08 AS-PW-16-0719 0.27834	3.80e3	72.7	NO
7	7	13C6-PFDA	1902093-08 AS-PW-16-0719 0.27834	2.80e4	72.2	NO
8	8	13C7-PFUdA	1902093-08 AS-PW-16-0719 0.27834	3.52e4	74.7	NO

Name: 190724M1_16, Date: 24-Jul-2019, Time: 11:02:54, 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: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-3 PFC CS3 19G1106	1.11e4	106.6	NO
2	2	13C5-PFHxA	ST190724M1-3 PFC CS3 19G1106	3.56e4	100.2	NO
3	3	18O2-PFHxS	ST190724M1-3 PFC CS3 19G1106	2.11e3	93.8	NO
4	4	13C8-PFOA	ST190724M1-3 PFC CS3 19G1106	4.23e4	100.1	NO
5	5	13C9-PFNA	ST190724M1-3 PFC CS3 19G1106	2.97e4	96.8	NO
6	6	13C4-PFOS	ST190724M1-3 PFC CS3 19G1106	5.40e3	103.4	NO
7	7	13C6-PFDA	ST190724M1-3 PFC CS3 19G1106	3.84e4	98.8	NO
8	8	13C7-PFUdA	ST190724M1-3 PFC CS3 19G1106	4.72e4	100.2	NO

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Name: 190724M1_18, Date: 24-Jul-2019, Time: 11:24:05, 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: 190724M1_19, Date: 24-Jul-2019, Time: 11:36:53, ID: IS + RS QC, Description: IS + RS QC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	IS + RS QC	6.20e3	59.3	NO
2	2	13C5-PFHxA	IS + RS QC	1.87e4	52.6	NO
3	3	18O2-PFHxS	IS + RS QC	1.65e3	73.6	NO
4	4	13C8-PFOA	IS + RS QC	3.13e4	74.1	NO
5	5	13C9-PFNA	IS + RS QC	2.28e4	74.1	NO
6	6	13C4-PFOS	IS + RS QC	3.92e3	75.0	NO
7	7	13C6-PFDA	IS + RS QC	3.90e4	100.6	NO
8	8	13C7-PFUdA	IS + RS QC	3.70e4	78.5	NO

Name: 190724M1_20, Date: 24-Jul-2019, Time: 11:47:31, ID: B9G0232-BS1 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0232-BS1 OPR 0.125	1.03e4	98.6	NO
2	2	13C5-PFHxA	B9G0232-BS1 OPR 0.125	2.06e4	57.8	NO
3	3	18O2-PFHxS	B9G0232-BS1 OPR 0.125	1.47e3	65.2	NO
4	4	13C8-PFOA	B9G0232-BS1 OPR 0.125	2.55e4	60.3	NO
5	5	13C9-PFNA	B9G0232-BS1 OPR 0.125	1.89e4	61.4	NO
6	6	13C4-PFOS	B9G0232-BS1 OPR 0.125	3.62e3	69.3	NO
7	7	13C6-PFDA	B9G0232-BS1 OPR 0.125	2.55e4	65.7	NO
8	8	13C7-PFUdA	B9G0232-BS1 OPR 0.125	2.94e4	62.5	NO

Name: 190724M1_21, Date: 24-Jul-2019, Time: 11:58:04, ID: B9G0232-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0232-BLK1 Method Blank 0.125	1.43e4	137.2	NO
2	2	13C5-PFHxA	B9G0232-BLK1 Method Blank 0.125	2.77e4	77.9	NO
3	3	18O2-PFHxS	B9G0232-BLK1 Method Blank 0.125	1.88e3	83.8	NO
4	4	13C8-PFOA	B9G0232-BLK1 Method Blank 0.125	3.24e4	76.8	NO
5	5	13C9-PFNA	B9G0232-BLK1 Method Blank 0.125	2.40e4	78.0	NO
6	6	13C4-PFOS	B9G0232-BLK1 Method Blank 0.125	4.26e3	81.6	NO
7	7	13C6-PFDA	B9G0232-BLK1 Method Blank 0.125	3.02e4	77.9	NO
8	8	13C7-PFUdA	B9G0232-BLK1 Method Blank 0.125	3.73e4	79.2	NO

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Name: 190724M1_22, Date: 24-Jul-2019, Time: 12:08:42, ID: 1902101-01RE1 536 0.11805, Description: 536

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902101-01RE1 536 0.11805	1.17e4	111.9	NO
2	2	13C5-PFHxA	1902101-01RE1 536 0.11805	2.41e4	67.8	NO
3	3	18O2-PFHxS	1902101-01RE1 536 0.11805	1.61e3	71.7	NO
4	4	13C8-PFOA	1902101-01RE1 536 0.11805	2.86e4	67.7	NO
5	5	13C9-PFNA	1902101-01RE1 536 0.11805	2.03e4	65.9	NO
6	6	13C4-PFOS	1902101-01RE1 536 0.11805	4.01e3	76.8	NO
7	7	13C6-PFDA	1902101-01RE1 536 0.11805	2.70e4	69.5	NO
8	8	13C7-PFUdA	1902101-01RE1 536 0.11805	3.38e4	71.6	NO

Name: 190724M1_23, Date: 24-Jul-2019, Time: 12:19:18, 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: 190724M1_24, Date: 24-Jul-2019, Time: 12:29:54, ID: ST190724M1-4 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-4 PFC CS3 19G1106	1.17e4	111.5	NO
2	2	13C5-PFHxA	ST190724M1-4 PFC CS3 19G1106	3.57e4	100.4	NO
3	3	18O2-PFHxS	ST190724M1-4 PFC CS3 19G1106	2.23e3	99.1	NO
4	4	13C8-PFOA	ST190724M1-4 PFC CS3 19G1106	4.30e4	101.8	NO
5	5	13C9-PFNA	ST190724M1-4 PFC CS3 19G1106	3.04e4	99.1	NO
6	6	13C4-PFOS	ST190724M1-4 PFC CS3 19G1106	5.43e3	103.9	NO
7	7	13C6-PFDA	ST190724M1-4 PFC CS3 19G1106	3.86e4	99.5	NO
8	8	13C7-PFUdA	ST190724M1-4 PFC CS3 19G1106	4.76e4	100.9	NO

Name: 190724M1_25, Date: 24-Jul-2019, Time: 12:40:26, 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: 190724M1_26, Date: 24-Jul-2019, Time: 13:27:23, ID: LCMS-190724-1, Description: PIECES QC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190724-1	1.35e4	128.7	NO
2	2	13C5-PFHxA	LCMS-190724-1	2.47e4	69.4	NO
3	3	18O2-PFHxS	LCMS-190724-1	1.50e3	66.9	NO
4	4	13C8-PFOA	LCMS-190724-1	3.08e4	73.0	NO
5	5	13C9-PFNA	LCMS-190724-1	2.21e4	72.0	NO
6	6	13C4-PFOS	LCMS-190724-1	3.91e3	74.8	NO
7	7	13C6-PFDA	LCMS-190724-1	2.93e4	75.5	NO
8	8	13C7-PFUdA	LCMS-190724-1	3.47e4	73.6	NO

Name: 190724M1_27, Date: 24-Jul-2019, Time: 13:38:05, ID: LCMS-190724-2, Description: PIECES QC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190724-2	1.65e4	158.1	YES
2	2	13C5-PFHxA	LCMS-190724-2	3.24e4	91.2	NO
3	3	18O2-PFHxS	LCMS-190724-2	2.06e3	91.8	NO
4	4	13C8-PFOA	LCMS-190724-2	3.96e4	93.9	NO
5	5	13C9-PFNA	LCMS-190724-2	2.75e4	89.4	NO
6	6	13C4-PFOS	LCMS-190724-2	4.98e3	95.3	NO
7	7	13C6-PFDA	LCMS-190724-2	3.82e4	98.3	NO
8	8	13C7-PFUdA	LCMS-190724-2	4.43e4	93.9	NO

Name: 190724M1_28, Date: 24-Jul-2019, Time: 13:48:36, ID: LCMS-190724-3, Description: PIECES QC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190724-3	1.48e4	142.0	NO
2	2	13C5-PFHxA	LCMS-190724-3	2.79e4	78.3	NO
3	3	18O2-PFHxS	LCMS-190724-3	1.77e3	78.6	NO
4	4	13C8-PFOA	LCMS-190724-3	3.46e4	81.9	NO
5	5	13C9-PFNA	LCMS-190724-3	2.45e4	79.8	NO
6	6	13C4-PFOS	LCMS-190724-3	4.35e3	83.3	NO
7	7	13C6-PFDA	LCMS-190724-3	3.12e4	80.4	NO
8	8	13C7-PFUdA	LCMS-190724-3	3.59e4	76.2	NO

Name: 190724M1_29, Date: 24-Jul-2019, Time: 13:59:14, ID: LCMS-190724-4, Description: PIECES QC

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190724-4	1.38e4	132.2	NO
2	2	13C5-PFHxA	LCMS-190724-4	2.98e4	83.7	NO
3	3	18O2-PFHxS	LCMS-190724-4	1.74e3	77.4	NO
4	4	13C8-PFOA	LCMS-190724-4	3.52e4	83.3	NO
5	5	13C9-PFNA	LCMS-190724-4	2.60e4	84.5	NO
6	6	13C4-PFOS	LCMS-190724-4	4.26e3	81.6	NO
7	7	13C6-PFDA	LCMS-190724-4	3.32e4	85.4	NO
8	8	13C7-PFUdA	LCMS-190724-4	3.97e4	84.3	NO

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Name: 190724M1_30, Date: 24-Jul-2019, Time: 14:14:20, ID: B9G0227-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0227-BS1 OPR 0.25	1.25e4	119.5	NO
2	2	13C5-PFHxA	B9G0227-BS1 OPR 0.25	2.49e4	70.1	NO
3	3	18O2-PFHxS	B9G0227-BS1 OPR 0.25	1.62e3	72.2	NO
4	4	13C8-PFOA	B9G0227-BS1 OPR 0.25	3.01e4	71.3	NO
5	5	13C9-PFNA	B9G0227-BS1 OPR 0.25	2.16e4	70.2	NO
6	6	13C4-PFOS	B9G0227-BS1 OPR 0.25	4.01e3	76.7	NO
7	7	13C6-PFDA	B9G0227-BS1 OPR 0.25	3.01e4	77.6	NO
8	8	13C7-PFUdA	B9G0227-BS1 OPR 0.25	3.34e4	70.9	NO

Name: 190724M1_31, Date: 24-Jul-2019, Time: 14:24:53, ID: B9G0227-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0227-BLK1 Method Blank 0.25	1.21e4	115.4	NO
2	2	13C5-PFHxA	B9G0227-BLK1 Method Blank 0.25	2.41e4	67.8	NO
3	3	18O2-PFHxS	B9G0227-BLK1 Method Blank 0.25	1.54e3	68.7	NO
4	4	13C8-PFOA	B9G0227-BLK1 Method Blank 0.25	2.80e4	66.4	NO
5	5	13C9-PFNA	B9G0227-BLK1 Method Blank 0.25	2.08e4	67.6	NO
6	6	13C4-PFOS	B9G0227-BLK1 Method Blank 0.25	3.89e3	74.4	NO
7	7	13C6-PFDA	B9G0227-BLK1 Method Blank 0.25	2.79e4	71.8	NO
8	8	13C7-PFUdA	B9G0227-BLK1 Method Blank 0.25	3.25e4	69.0	NO

Name: 190724M1_32, Date: 24-Jul-2019, Time: 14:35:32, ID: 1902146-01 Purge Water 001 0.24849, Description: Purge Water 001

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902146-01 Purge Water 001 0.24849	1.26e4	120.1	NO
2	2	13C5-PFHxA	1902146-01 Purge Water 001 0.24849	2.52e4	70.9	NO
3	3	18O2-PFHxS	1902146-01 Purge Water 001 0.24849	1.77e3	79.0	NO
4	4	13C8-PFOA	1902146-01 Purge Water 001 0.24849	3.03e4	71.8	NO
5	5	13C9-PFNA	1902146-01 Purge Water 001 0.24849	2.24e4	72.9	NO
6	6	13C4-PFOS	1902146-01 Purge Water 001 0.24849	3.99e3	76.4	NO
7	7	13C6-PFDA	1902146-01 Purge Water 001 0.24849	2.96e4	76.3	NO
8	8	13C7-PFUdA	1902146-01 Purge Water 001 0.24849	3.50e4	74.3	NO

Name: 190724M1_33, Date: 24-Jul-2019, Time: 14:46:04, ID: 1902190-01 WMP1907170935JSJ 0.25276, Description: WMP1907170935JSJ

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902190-01 WMP1907170935JSJ 0.25...	1.25e4	119.2	NO
2	2	13C5-PFHxA	1902190-01 WMP1907170935JSJ 0.25...	2.45e4	68.8	NO
3	3	18O2-PFHxS	1902190-01 WMP1907170935JSJ 0.25...	1.77e3	79.0	NO
4	4	13C8-PFOA	1902190-01 WMP1907170935JSJ 0.25...	2.59e4	61.3	NO
5	5	13C9-PFNA	1902190-01 WMP1907170935JSJ 0.25...	2.09e4	67.9	NO
6	6	13C4-PFOS	1902190-01 WMP1907170935JSJ 0.25...	3.58e3	68.6	NO
7	7	13C6-PFDA	1902190-01 WMP1907170935JSJ 0.25...	2.86e4	73.7	NO
8	8	13C7-PFUdA	1902190-01 WMP1907170935JSJ 0.25...	3.32e4	70.5	NO

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Name: 190724M1_34, Date: 24-Jul-2019, Time: 14:56:43, ID: 1902190-02 WMP1907170952JSJ 0.25992, Description: WMP1907170952JSJ

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902190-02 WMP1907170952JSJ 0.25...	1.40e4	133.8	NO
2	2	13C5-PFHxA	1902190-02 WMP1907170952JSJ 0.25...	2.81e4	78.9	NO
3	3	18O2-PFHxS	1902190-02 WMP1907170952JSJ 0.25...	1.90e3	84.4	NO
4	4	13C8-PFOA	1902190-02 WMP1907170952JSJ 0.25...	3.26e4	77.2	NO
5	5	13C9-PFNA	1902190-02 WMP1907170952JSJ 0.25...	2.39e4	77.7	NO
6	6	13C4-PFOS	1902190-02 WMP1907170952JSJ 0.25...	4.74e3	90.7	NO
7	7	13C6-PFDA	1902190-02 WMP1907170952JSJ 0.25...	3.20e4	82.4	NO
8	8	13C7-PFUdA	1902190-02 WMP1907170952JSJ 0.25...	3.56e4	75.5	NO

Name: 190724M1_35, Date: 24-Jul-2019, Time: 15:07:21, ID: 1902190-03 WMP1907171000JSJ 0.25713, Description: WMP1907171000JSJ

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902190-03 WMP1907171000JSJ 0.25...	1.36e4	130.1	NO
2	2	13C5-PFHxA	1902190-03 WMP1907171000JSJ 0.25...	2.57e4	72.4	NO
3	3	18O2-PFHxS	1902190-03 WMP1907171000JSJ 0.25...	1.66e3	74.0	NO
4	4	13C8-PFOA	1902190-03 WMP1907171000JSJ 0.25...	3.11e4	73.7	NO
5	5	13C9-PFNA	1902190-03 WMP1907171000JSJ 0.25...	2.25e4	73.2	NO
6	6	13C4-PFOS	1902190-03 WMP1907171000JSJ 0.25...	4.31e3	82.4	NO
7	7	13C6-PFDA	1902190-03 WMP1907171000JSJ 0.25...	3.05e4	78.6	NO
8	8	13C7-PFUdA	1902190-03 WMP1907171000JSJ 0.25...	3.43e4	72.8	NO

Name: 190724M1_36, Date: 24-Jul-2019, Time: 15:17:54, ID: B9G0244-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0244-BS1 OPR 0.25	1.35e4	129.0	NO
2	2	13C5-PFHxA	B9G0244-BS1 OPR 0.25	2.73e4	76.7	NO
3	3	18O2-PFHxS	B9G0244-BS1 OPR 0.25	1.70e3	75.8	NO
4	4	13C8-PFOA	B9G0244-BS1 OPR 0.25	3.20e4	75.8	NO
5	5	13C9-PFNA	B9G0244-BS1 OPR 0.25	2.26e4	73.4	NO
6	6	13C4-PFOS	B9G0244-BS1 OPR 0.25	4.20e3	80.4	NO
7	7	13C6-PFDA	B9G0244-BS1 OPR 0.25	2.86e4	73.8	NO
8	8	13C7-PFUdA	B9G0244-BS1 OPR 0.25	3.16e4	67.1	NO

Name: 190724M1_37, Date: 24-Jul-2019, Time: 15:28:32, ID: B9G0244-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0244-BLK1 Method Blank 0.25	1.28e4	122.3	NO
2	2	13C5-PFHxA	B9G0244-BLK1 Method Blank 0.25	2.48e4	69.8	NO
3	3	18O2-PFHxS	B9G0244-BLK1 Method Blank 0.25	1.53e3	68.2	NO
4	4	13C8-PFOA	B9G0244-BLK1 Method Blank 0.25	2.96e4	70.1	NO
5	5	13C9-PFNA	B9G0244-BLK1 Method Blank 0.25	2.03e4	66.2	NO
6	6	13C4-PFOS	B9G0244-BLK1 Method Blank 0.25	3.74e3	71.6	NO
7	7	13C6-PFDA	B9G0244-BLK1 Method Blank 0.25	2.64e4	68.0	NO
8	8	13C7-PFUdA	B9G0244-BLK1 Method Blank 0.25	2.99e4	63.4	NO

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Name: 190724M1_38, Date: 24-Jul-2019, Time: 15:39:06, ID: 1902105-01RE1 6C Discharge 0.24181, Description: 6C Discharge

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-01RE1 6C Discharge 0.24181	1.02e4	97.4	NO
2	2	13C5-PFHxA	1902105-01RE1 6C Discharge 0.24181	2.22e4	62.6	NO
3	3	18O2-PFHxS	1902105-01RE1 6C Discharge 0.24181	1.76e3	78.3	NO
4	4	13C8-PFOA	1902105-01RE1 6C Discharge 0.24181	3.07e4	72.8	NO
5	5	13C9-PFNA	1902105-01RE1 6C Discharge 0.24181	2.26e4	73.6	NO
6	6	13C4-PFOS	1902105-01RE1 6C Discharge 0.24181	3.89e3	74.4	NO
7	7	13C6-PFDA	1902105-01RE1 6C Discharge 0.24181	2.82e4	72.7	NO
8	8	13C7-PFUdA	1902105-01RE1 6C Discharge 0.24181	2.84e4	60.2	NO

Name: 190724M1_39, Date: 24-Jul-2019, Time: 15:49:44, ID: 1902105-02RE1 5A Raw Leachate 0.24304, Description: 5A Raw Leachate

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902105-02RE1 5A Raw Leachate 0.24...	3.81e3	36.4	YES
2	2	13C5-PFHxA	1902105-02RE1 5A Raw Leachate 0.24...	1.17e4	32.9	YES
3	3	18O2-PFHxS	1902105-02RE1 5A Raw Leachate 0.24...	1.41e3	62.6	NO
4	4	13C8-PFOA	1902105-02RE1 5A Raw Leachate 0.24...	2.11e4	50.0	NO
5	5	13C9-PFNA	1902105-02RE1 5A Raw Leachate 0.24...	1.53e4	49.6	YES
6	6	13C4-PFOS	1902105-02RE1 5A Raw Leachate 0.24...	3.38e3	64.7	NO
7	7	13C6-PFDA	1902105-02RE1 5A Raw Leachate 0.24...	1.63e4	42.1	YES
8	8	13C7-PFUdA	1902105-02RE1 5A Raw Leachate 0.24...	1.34e4	28.5	YES

Name: 190724M1_40, Date: 24-Jul-2019, Time: 16:00:17, ID: 1902106-01RE1 WT1907110855SK 0.24808, Description: WT1907110855SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902106-01RE1 WT1907110855SK 0.2...	1.19e4	114.2	NO
2	2	13C5-PFHxA	1902106-01RE1 WT1907110855SK 0.2...	2.37e4	66.6	NO
3	3	18O2-PFHxS	1902106-01RE1 WT1907110855SK 0.2...	1.66e3	73.9	NO
4	4	13C8-PFOA	1902106-01RE1 WT1907110855SK 0.2...	2.86e4	67.8	NO
5	5	13C9-PFNA	1902106-01RE1 WT1907110855SK 0.2...	1.80e4	58.6	NO
6	6	13C4-PFOS	1902106-01RE1 WT1907110855SK 0.2...	3.45e3	66.0	NO
7	7	13C6-PFDA	1902106-01RE1 WT1907110855SK 0.2...	1.99e4	51.1	NO
8	8	13C7-PFUdA	1902106-01RE1 WT1907110855SK 0.2...	1.41e4	30.0	YES

Name: 190724M1_41, Date: 24-Jul-2019, Time: 16:10:55, ID: 1902106-02RE1 WR1907110930SK 0.24265, Description: WR1907110930SK

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902106-02RE1 WR1907110930SK 0.2...	1.18e4	112.5	NO
2	2	13C5-PFHxA	1902106-02RE1 WR1907110930SK 0.2...	2.26e4	63.6	NO
3	3	18O2-PFHxS	1902106-02RE1 WR1907110930SK 0.2...	1.47e3	65.3	NO
4	4	13C8-PFOA	1902106-02RE1 WR1907110930SK 0.2...	2.71e4	64.1	NO
5	5	13C9-PFNA	1902106-02RE1 WR1907110930SK 0.2...	1.88e4	61.2	NO
6	6	13C4-PFOS	1902106-02RE1 WR1907110930SK 0.2...	3.43e3	65.7	NO
7	7	13C6-PFDA	1902106-02RE1 WR1907110930SK 0.2...	2.15e4	55.3	NO
8	8	13C7-PFUdA	1902106-02RE1 WR1907110930SK 0.2...	2.12e4	45.0	YES

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Name: 190724M1_42, Date: 24-Jul-2019, Time: 16:21:28, 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: 190724M1_43, Date: 24-Jul-2019, Time: 16:32:06, ID: ST190724M1-5 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-5 PFC CS3 19G1106	1.16e4	110.6	NO
2	2	13C5-PFHxA	ST190724M1-5 PFC CS3 19G1106	3.54e4	99.5	NO
3	3	18O2-PFHxS	ST190724M1-5 PFC CS3 19G1106	2.09e3	93.0	NO
4	4	13C8-PFOA	ST190724M1-5 PFC CS3 19G1106	4.21e4	99.7	NO
5	5	13C9-PFNA	ST190724M1-5 PFC CS3 19G1106	2.96e4	96.3	NO
6	6	13C4-PFOS	ST190724M1-5 PFC CS3 19G1106	5.31e3	101.6	NO
7	7	13C6-PFDA	ST190724M1-5 PFC CS3 19G1106	3.93e4	101.2	NO
8	8	13C7-PFUdA	ST190724M1-5 PFC CS3 19G1106	4.62e4	98.1	NO

Name: 190724M1_44, Date: 24-Jul-2019, Time: 16:42:45, 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: 190724M1_45, Date: 24-Jul-2019, Time: 16:53:18, ID: B9G0195-BS1 OPR 0.25, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0195-BS1 OPR 0.25	1.18e4	112.4	NO
2	2	13C5-PFHxA	B9G0195-BS1 OPR 0.25	2.35e4	66.0	NO
3	3	18O2-PFHxS	B9G0195-BS1 OPR 0.25	1.63e3	72.4	NO
4	4	13C8-PFOA	B9G0195-BS1 OPR 0.25	2.92e4	69.1	NO
5	5	13C9-PFNA	B9G0195-BS1 OPR 0.25	2.07e4	67.3	NO
6	6	13C4-PFOS	B9G0195-BS1 OPR 0.25	4.00e3	76.6	NO
7	7	13C6-PFDA	B9G0195-BS1 OPR 0.25	2.82e4	72.7	NO
8	8	13C7-PFUdA	B9G0195-BS1 OPR 0.25	3.32e4	70.5	NO

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Name: 190724M1_46, Date: 24-Jul-2019, Time: 17:03:56, ID: B9G0195-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0195-BLK1 Method Blank 0.25	1.44e4	137.3	NO
2	2	13C5-PFHxA	B9G0195-BLK1 Method Blank 0.25	2.86e4	80.4	NO
3	3	18O2-PFHxS	B9G0195-BLK1 Method Blank 0.25	1.98e3	88.3	NO
4	4	13C8-PFOA	B9G0195-BLK1 Method Blank 0.25	3.51e4	83.1	NO
5	5	13C9-PFNA	B9G0195-BLK1 Method Blank 0.25	2.47e4	80.3	NO
6	6	13C4-PFOS	B9G0195-BLK1 Method Blank 0.25	4.87e3	93.2	NO
7	7	13C6-PFDA	B9G0195-BLK1 Method Blank 0.25	3.28e4	84.4	NO
8	8	13C7-PFUdA	B9G0195-BLK1 Method Blank 0.25	4.04e4	85.6	NO

Name: 190724M1_47, Date: 24-Jul-2019, Time: 17:14:29, ID: 1902150-01 FB-10:10 0.24051, Description: FB-10:10

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902150-01 FB-10:10 0.24051	1.23e4	117.4	NO
2	2	13C5-PFHxA	1902150-01 FB-10:10 0.24051	2.41e4	67.7	NO
3	3	18O2-PFHxS	1902150-01 FB-10:10 0.24051	1.59e3	71.0	NO
4	4	13C8-PFOA	1902150-01 FB-10:10 0.24051	2.89e4	68.5	NO
5	5	13C9-PFNA	1902150-01 FB-10:10 0.24051	2.14e4	69.6	NO
6	6	13C4-PFOS	1902150-01 FB-10:10 0.24051	4.00e3	76.5	NO
7	7	13C6-PFDA	1902150-01 FB-10:10 0.24051	2.89e4	74.6	NO
8	8	13C7-PFUdA	1902150-01 FB-10:10 0.24051	3.49e4	74.1	NO

Name: 190724M1_48, Date: 24-Jul-2019, Time: 17:25:08, ID: 1902150-02 EB-14:15 0.2424, Description: EB-14:15

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902150-02 EB-14:15 0.2424	1.22e4	116.9	NO
2	2	13C5-PFHxA	1902150-02 EB-14:15 0.2424	2.44e4	68.5	NO
3	3	18O2-PFHxS	1902150-02 EB-14:15 0.2424	1.55e3	69.1	NO
4	4	13C8-PFOA	1902150-02 EB-14:15 0.2424	3.01e4	71.3	NO
5	5	13C9-PFNA	1902150-02 EB-14:15 0.2424	2.19e4	71.3	NO
6	6	13C4-PFOS	1902150-02 EB-14:15 0.2424	3.86e3	73.8	NO
7	7	13C6-PFDA	1902150-02 EB-14:15 0.2424	2.89e4	74.4	NO
8	8	13C7-PFUdA	1902150-02 EB-14:15 0.2424	3.50e4	74.2	NO

Name: 190724M1_49, Date: 24-Jul-2019, Time: 17:35:41, ID: 1902151-01 MW-1D 0.24757, Description: MW-1D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-01 MW-1D 0.24757	1.22e4	117.1	NO
2	2	13C5-PFHxA	1902151-01 MW-1D 0.24757	2.34e4	65.8	NO
3	3	18O2-PFHxS	1902151-01 MW-1D 0.24757	1.61e3	71.8	NO
4	4	13C8-PFOA	1902151-01 MW-1D 0.24757	2.94e4	69.6	NO
5	5	13C9-PFNA	1902151-01 MW-1D 0.24757	2.01e4	65.4	NO
6	6	13C4-PFOS	1902151-01 MW-1D 0.24757	3.81e3	72.9	NO
7	7	13C6-PFDA	1902151-01 MW-1D 0.24757	2.82e4	72.7	NO
8	8	13C7-PFUdA	1902151-01 MW-1D 0.24757	3.22e4	68.3	NO

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Name: 190724M1_50, Date: 24-Jul-2019, Time: 17:46:19, ID: 1902151-02 Dupe 0.23938, Description: Dupe

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-02 Dupe 0.23938	1.29e4	122.9	NO
2	2	13C5-PFHxA	1902151-02 Dupe 0.23938	2.63e4	73.8	NO
3	3	18O2-PFHxS	1902151-02 Dupe 0.23938	1.74e3	77.4	NO
4	4	13C8-PFOA	1902151-02 Dupe 0.23938	3.21e4	76.1	NO
5	5	13C9-PFNA	1902151-02 Dupe 0.23938	2.17e4	70.5	NO
6	6	13C4-PFOS	1902151-02 Dupe 0.23938	4.03e3	77.2	NO
7	7	13C6-PFDA	1902151-02 Dupe 0.23938	2.98e4	76.8	NO
8	8	13C7-PFUdA	1902151-02 Dupe 0.23938	3.55e4	75.3	NO

Name: 190724M1_51, Date: 24-Jul-2019, Time: 17:56:57, ID: 1902151-03 MW-2S 0.23167, Description: MW-2S

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-03 MW-2S 0.23167	1.13e4	108.5	NO
2	2	13C5-PFHxA	1902151-03 MW-2S 0.23167	2.25e4	63.4	NO
3	3	18O2-PFHxS	1902151-03 MW-2S 0.23167	1.54e3	68.7	NO
4	4	13C8-PFOA	1902151-03 MW-2S 0.23167	2.77e4	65.6	NO
5	5	13C9-PFNA	1902151-03 MW-2S 0.23167	1.93e4	62.6	NO
6	6	13C4-PFOS	1902151-03 MW-2S 0.23167	3.95e3	75.5	NO
7	7	13C6-PFDA	1902151-03 MW-2S 0.23167	2.55e4	65.7	NO
8	8	13C7-PFUdA	1902151-03 MW-2S 0.23167	3.06e4	65.0	NO

Name: 190724M1_52, Date: 24-Jul-2019, Time: 18:07:30, ID: 1902151-04 MW-4S 0.24228, Description: MW-4S

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-04 MW-4S 0.24228	1.24e4	118.3	NO
2	2	13C5-PFHxA	1902151-04 MW-4S 0.24228	2.36e4	66.4	NO
3	3	18O2-PFHxS	1902151-04 MW-4S 0.24228	1.59e3	70.9	NO
4	4	13C8-PFOA	1902151-04 MW-4S 0.24228	2.85e4	67.4	NO
5	5	13C9-PFNA	1902151-04 MW-4S 0.24228	2.02e4	65.8	NO
6	6	13C4-PFOS	1902151-04 MW-4S 0.24228	3.90e3	74.6	NO
7	7	13C6-PFDA	1902151-04 MW-4S 0.24228	2.79e4	71.9	NO
8	8	13C7-PFUdA	1902151-04 MW-4S 0.24228	3.24e4	68.7	NO

Name: 190724M1_53, Date: 24-Jul-2019, Time: 18:18:08, ID: 1902151-05 MW-5D 0.25154, Description: MW-5D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-05 MW-5D 0.25154	1.18e4	113.1	NO
2	2	13C5-PFHxA	1902151-05 MW-5D 0.25154	2.31e4	65.1	NO
3	3	18O2-PFHxS	1902151-05 MW-5D 0.25154	1.55e3	69.1	NO
4	4	13C8-PFOA	1902151-05 MW-5D 0.25154	2.87e4	68.0	NO
5	5	13C9-PFNA	1902151-05 MW-5D 0.25154	1.98e4	64.5	NO
6	6	13C4-PFOS	1902151-05 MW-5D 0.25154	3.72e3	71.3	NO
7	7	13C6-PFDA	1902151-05 MW-5D 0.25154	2.76e4	71.1	NO
8	8	13C7-PFUdA	1902151-05 MW-5D 0.25154	3.20e4	67.9	NO

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Name: 190724M1_54, Date: 24-Jul-2019, Time: 18:28:41, ID: 1902151-06 MW-3D 0.23649, Description: MW-3D

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-06 MW-3D 0.23649	1.14e4	109.3	NO
2	2	13C5-PFHxA	1902151-06 MW-3D 0.23649	2.30e4	64.6	NO
3	3	18O2-PFHxS	1902151-06 MW-3D 0.23649	1.56e3	69.5	NO
4	4	13C8-PFOA	1902151-06 MW-3D 0.23649	2.88e4	68.3	NO
5	5	13C9-PFNA	1902151-06 MW-3D 0.23649	1.93e4	62.7	NO
6	6	13C4-PFOS	1902151-06 MW-3D 0.23649	3.61e3	69.1	NO
7	7	13C6-PFDA	1902151-06 MW-3D 0.23649	2.66e4	68.4	NO
8	8	13C7-PFUdA	1902151-06 MW-3D 0.23649	3.17e4	67.3	NO

Name: 190724M1_55, Date: 24-Jul-2019, Time: 18:39:19, ID: 1902151-07 MW-6S 0.25146, Description: MW-6S

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-07 MW-6S 0.25146	1.22e4	116.4	NO
2	2	13C5-PFHxA	1902151-07 MW-6S 0.25146	2.29e4	64.5	NO
3	3	18O2-PFHxS	1902151-07 MW-6S 0.25146	1.48e3	65.7	NO
4	4	13C8-PFOA	1902151-07 MW-6S 0.25146	2.87e4	67.9	NO
5	5	13C9-PFNA	1902151-07 MW-6S 0.25146	1.98e4	64.6	NO
6	6	13C4-PFOS	1902151-07 MW-6S 0.25146	3.71e3	70.9	NO
7	7	13C6-PFDA	1902151-07 MW-6S 0.25146	2.69e4	69.3	NO
8	8	13C7-PFUdA	1902151-07 MW-6S 0.25146	3.19e4	67.7	NO

Name: 190724M1_56, Date: 24-Jul-2019, Time: 18:49:52, ID: 1902151-08 MW-7 0.24442, Description: MW-7

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	1902151-08 MW-7 0.24442	1.14e4	109.1	NO
2	2	13C5-PFHxA	1902151-08 MW-7 0.24442	2.16e4	60.6	NO
3	3	18O2-PFHxS	1902151-08 MW-7 0.24442	1.45e3	64.5	NO
4	4	13C8-PFOA	1902151-08 MW-7 0.24442	2.65e4	62.7	NO
5	5	13C9-PFNA	1902151-08 MW-7 0.24442	1.86e4	60.4	NO
6	6	13C4-PFOS	1902151-08 MW-7 0.24442	3.51e3	67.2	NO
7	7	13C6-PFDA	1902151-08 MW-7 0.24442	2.53e4	65.2	NO
8	8	13C7-PFUdA	1902151-08 MW-7 0.24442	2.99e4	63.4	NO

Name: 190724M1_57, Date: 24-Jul-2019, Time: 19:00:31, ID: B9G0242-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0242-BLK1 Method Blank 0.125	1.17e4	111.4	NO
2	2	13C5-PFHxA	B9G0242-BLK1 Method Blank 0.125	2.34e4	65.8	NO
3	3	18O2-PFHxS	B9G0242-BLK1 Method Blank 0.125	1.45e3	64.7	NO
4	4	13C8-PFOA	B9G0242-BLK1 Method Blank 0.125	2.82e4	66.9	NO
5	5	13C9-PFNA	B9G0242-BLK1 Method Blank 0.125	1.98e4	64.3	NO
6	6	13C4-PFOS	B9G0242-BLK1 Method Blank 0.125	3.80e3	72.7	NO
7	7	13C6-PFDA	B9G0242-BLK1 Method Blank 0.125	2.70e4	69.7	NO
8	8	13C7-PFUdA	B9G0242-BLK1 Method Blank 0.125	3.10e4	65.8	NO

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Name: 190724M1_58, Date: 24-Jul-2019, Time: 19:11:09, ID: B9G0242-BS2 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0242-BS2 OPR 0.125	1.22e4	116.4	NO
2	2	13C5-PFHxA	B9G0242-BS2 OPR 0.125	2.33e4	65.5	NO
3	3	18O2-PFHxS	B9G0242-BS2 OPR 0.125	1.45e3	64.5	NO
4	4	13C8-PFOA	B9G0242-BS2 OPR 0.125	2.86e4	67.7	NO
5	5	13C9-PFNA	B9G0242-BS2 OPR 0.125	2.08e4	67.6	NO
6	6	13C4-PFOS	B9G0242-BS2 OPR 0.125	3.69e3	70.7	NO
7	7	13C6-PFDA	B9G0242-BS2 OPR 0.125	2.70e4	69.6	NO
8	8	13C7-PFUdA	B9G0242-BS2 OPR 0.125	3.23e4	68.5	NO

Name: 190724M1_59, Date: 24-Jul-2019, Time: 19:21:42, ID: B9G0242-BS3 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0242-BS3 OPR 0.125	1.20e4	115.0	NO
2	2	13C5-PFHxA	B9G0242-BS3 OPR 0.125	2.28e4	64.0	NO
3	3	18O2-PFHxS	B9G0242-BS3 OPR 0.125	1.53e3	68.3	NO
4	4	13C8-PFOA	B9G0242-BS3 OPR 0.125	2.88e4	68.2	NO
5	5	13C9-PFNA	B9G0242-BS3 OPR 0.125	2.02e4	65.6	NO
6	6	13C4-PFOS	B9G0242-BS3 OPR 0.125	3.78e3	72.3	NO
7	7	13C6-PFDA	B9G0242-BS3 OPR 0.125	2.72e4	70.2	NO
8	8	13C7-PFUdA	B9G0242-BS3 OPR 0.125	3.20e4	67.9	NO

Name: 190724M1_60, Date: 24-Jul-2019, Time: 19:32:20, ID: B9G0242-BS4 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0242-BS4 OPR 0.125	1.25e4	119.8	NO
2	2	13C5-PFHxA	B9G0242-BS4 OPR 0.125	2.39e4	67.3	NO
3	3	18O2-PFHxS	B9G0242-BS4 OPR 0.125	1.46e3	65.2	NO
4	4	13C8-PFOA	B9G0242-BS4 OPR 0.125	2.96e4	70.2	NO
5	5	13C9-PFNA	B9G0242-BS4 OPR 0.125	2.10e4	68.3	NO
6	6	13C4-PFOS	B9G0242-BS4 OPR 0.125	3.59e3	68.6	NO
7	7	13C6-PFDA	B9G0242-BS4 OPR 0.125	2.73e4	70.5	NO
8	8	13C7-PFUdA	B9G0242-BS4 OPR 0.125	3.17e4	67.3	NO

Name: 190724M1_61, Date: 24-Jul-2019, Time: 19:42:54, ID: B9G0242-BS5 OPR 0.125, Description: OPR

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	B9G0242-BS5 OPR 0.125	1.23e4	117.3	NO
2	2	13C5-PFHxA	B9G0242-BS5 OPR 0.125	2.30e4	64.6	NO
3	3	18O2-PFHxS	B9G0242-BS5 OPR 0.125	1.48e3	65.8	NO
4	4	13C8-PFOA	B9G0242-BS5 OPR 0.125	2.86e4	67.7	NO
5	5	13C9-PFNA	B9G0242-BS5 OPR 0.125	2.06e4	66.9	NO
6	6	13C4-PFOS	B9G0242-BS5 OPR 0.125	3.80e3	72.7	NO
7	7	13C6-PFDA	B9G0242-BS5 OPR 0.125	2.70e4	69.7	NO
8	8	13C7-PFUdA	B9G0242-BS5 OPR 0.125	3.27e4	69.4	NO

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
Printed: Thursday, July 25, 2019 08:13:01 Pacific Daylight Time

Name: 190724M1_62, Date: 24-Jul-2019, Time: 19:53:32, 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: 190724M1_63, Date: 24-Jul-2019, Time: 20:04:06, ID: ST190724M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	ST190724M1-6 PFC CS3 19G1106	1.37e4	130.9	NO
2	2	13C5-PFHxA	ST190724M1-6 PFC CS3 19G1106	3.73e4	104.8	NO
3	3	18O2-PFHxS	ST190724M1-6 PFC CS3 19G1106	2.34e3	104.2	NO
4	4	13C8-PFOA	ST190724M1-6 PFC CS3 19G1106	4.41e4	104.5	NO
5	5	13C9-PFNA	ST190724M1-6 PFC CS3 19G1106	3.08e4	100.3	NO
6	6	13C4-PFOS	ST190724M1-6 PFC CS3 19G1106	5.57e3	106.7	NO
7	7	13C6-PFDA	ST190724M1-6 PFC CS3 19G1106	4.21e4	108.5	NO
8	8	13C7-PFUdA	ST190724M1-6 PFC CS3 19G1106	4.86e4	103.1	NO

Name: 190724M1_64, Date: 24-Jul-2019, Time: 20:14:44, 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: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-1			
2	2	13C5-PFHxA	LCMS-190723-1			
3	3	18O2-PFHxS	LCMS-190723-1			
4	4	13C8-PFOA	LCMS-190723-1			
5	5	13C9-PFNA	LCMS-190723-1			
6	6	13C4-PFOS	LCMS-190723-1			
7	7	13C6-PFDA	LCMS-190723-1			
8	8	13C7-PFUdA	LCMS-190723-1			

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
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Name: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-2			
2	2	13C5-PFHxA	LCMS-190723-2			
3	3	18O2-PFHxS	LCMS-190723-2			
4	4	13C8-PFOA	LCMS-190723-2			
5	5	13C9-PFNA	LCMS-190723-2			
6	6	13C4-PFOS	LCMS-190723-2			
7	7	13C6-PFDA	LCMS-190723-2			
8	8	13C7-PFUdA	LCMS-190723-2			

Name: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-3			
2	2	13C5-PFHxA	LCMS-190723-3			
3	3	18O2-PFHxS	LCMS-190723-3			
4	4	13C8-PFOA	LCMS-190723-3			
5	5	13C9-PFNA	LCMS-190723-3			
6	6	13C4-PFOS	LCMS-190723-3			
7	7	13C6-PFDA	LCMS-190723-3			
8	8	13C7-PFUdA	LCMS-190723-3			

Name: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-4			
2	2	13C5-PFHxA	LCMS-190723-4			
3	3	18O2-PFHxS	LCMS-190723-4			
4	4	13C8-PFOA	LCMS-190723-4			
5	5	13C9-PFNA	LCMS-190723-4			
6	6	13C4-PFOS	LCMS-190723-4			
7	7	13C6-PFDA	LCMS-190723-4			
8	8	13C7-PFUdA	LCMS-190723-4			

Name: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-5			
2	2	13C5-PFHxA	LCMS-190723-5			
3	3	18O2-PFHxS	LCMS-190723-5			
4	4	13C8-PFOA	LCMS-190723-5			
5	5	13C9-PFNA	LCMS-190723-5			
6	6	13C4-PFOS	LCMS-190723-5			
7	7	13C6-PFDA	LCMS-190723-5			
8	8	13C7-PFUdA	LCMS-190723-5			

Dataset: Untitled

Last Altered: Thursday, July 25, 2019 08:12:14 Pacific Daylight Time
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Name: , Date: , Time: , ID: , Description:

	#	Name	ID	Area	%Rec	Area Out
1	1	13C4-PFBA	LCMS-190723-6			
2	2	13C5-PFHxA	LCMS-190723-6			
3	3	18O2-PFHxS	LCMS-190723-6			
4	4	13C8-PFOA	LCMS-190723-6			
5	5	13C9-PFNA	LCMS-190723-6			
6	6	13C4-PFOS	LCMS-190723-6			
7	7	13C6-PFDA	LCMS-190723-6			
8	8	13C7-PFUdA	LCMS-190723-6			

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, 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		7017.208	1.00					NO		
2	2	PFPrS	248.9 > 79.9		2295.111	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		15845.718	1.00					NO		
4	4	PFPeA	263.1 > 218.9		15845.718	1.00					NO		
5	5	PFBS	299.0 > 79.7		2295.111	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		3705.303	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	7017.208	9816.444	1.00	1.15	8.936	12.2	97.4	NO		
8	49	13C3-PFBS	302.0 > 98.8	2295.111	2194.626	1.00	2.44	13.072	12.4	98.9	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15845.718	32810.598	1.00	2.14	6.037	12.1	97.0	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15845.718	32810.598	1.00	2.14	6.037	12.1	97.0	NO		
11	49	13C3-PFBS	302.0 > 98.8	2295.111	2194.626	1.00	2.44	13.072	12.4	98.9	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3705.303	2194.626	1.00	2.86	21.104	12.8	102.3	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		12765.200	1.00					NO		
15	8	PFPeS	349.1>80.1		2295.111	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1513.831	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		15618.501	1.00					NO		
18	11	PFHpA	363.0 > 318.9		15618.501	1.00					NO		
19	12	ADONA	376.8 > 250.9		15618.501	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	12765.200	32810.598	1.00	2.95	4.863	5.0	99.5	NO		
21	49	13C3-PFBS	302.0 > 98.8	2295.111	2194.626	1.00	2.44	13.072	12.4	98.9	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1513.831	32810.598	1.00	3.17	0.577	4.3	86.1	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15618.501	32810.598	1.00	3.57	5.950	12.4	99.5	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15618.501	32810.598	1.00	3.57	5.950	12.4	99.5	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15618.501	32810.598	1.00	3.57	5.950	12.4	99.5	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	15.610	4266.780	1.00	3.73	0.046	0.1		NO	12.660	YES
28	15	6:2 FTS	427.0 > 406.9		2802.140	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	102.587	28275.900	1.00	4.11	0.045	0.0		NO	3.830	NO
30	18	PFecHS	460.8 > 381.0		28275.900	1.00					NO		
31	19	PFHpS	449.0 > 80.0		4956.286	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		28380.881	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	4266.780	2194.626	1.00	3.73	24.302	12.0	96.1	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2802.140	5086.805	1.00	4.05	6.886	12.8	102.7	NO		
35	58	13C2-PFOA	414.9 > 369.7	28275.900	41222.570	1.00	4.10	8.574	12.6	100.7	NO		
36	58	13C2-PFOA	414.9 > 369.7	28275.900	41222.570	1.00	4.10	8.574	12.6	100.7	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, 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	4956.286	5086.805	1.00	4.64	12.179	12.2	97.8	NO		
38	56	13C5-PFNA	468.2 > 422.9	28380.881	28607.855	1.00	4.55	12.401	12.4	99.0	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		28380.881	1.00					NO		
41	22	PFOSA	497.9 > 77.9	8.241	6290.756	1.00	4.61	0.016	0.0		NO	8.470	YES
42	23	L-PFOS	498.9 > 79.9	2.216	4956.286	1.00	4.61	0.006	0.0		NO	0.221	YES
43	25	9Cl-PF30NS	530.7 > 350.8		4956.286	1.00					NO		
44	26	PFDA	513 > 468.8	26.178	29754.965	1.00	4.93	0.011	0.0		NO	17.177	YES
45	27	8:2 FTS	527.0 > 506.9		3154.096	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	28380.881	28607.855	1.00	4.55	12.401	12.4	99.0	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6290.756	44238.398	1.00	4.61	1.778	10.6	84.9	NO		
48	59	13C8-PFOS	507.0 > 79.9	4956.286	5086.805	1.00	4.64	12.179	12.2	97.8	NO		
49	59	13C8-PFOS	507.0 > 79.9	4956.286	5086.805	1.00	4.64	12.179	12.2	97.8	NO		
50	60	13C2-PFDA	515.1 > 469.9	29754.965	37249.633	1.00	4.93	9.985	12.2	97.5	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3154.096	5086.805	1.00	4.90	7.751	13.9	111.4	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		4956.286	1.00					NO		
54	29	L-MeFOSAA	570 > 419	8.126	6779.052	1.00	5.08	0.015	0.1		NO	4.583	YES
55	31	L-EtFOSAA	584.1 > 419		9295.889	1.00					NO		
56	33	PFUdA	563.0 > 518.9		39239.285	1.00					NO		
57	34	PFDS	598.8 > 79.9		3154.096	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		39471.000	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	4956.286	5086.805	1.00	4.64	12.179	12.2	97.8	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	6779.052	44238.398	1.00	5.08	1.915	10.8	86.4	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9295.889	44238.398	1.00	5.25	2.627	11.7	93.9	NO		
62	63	13C2-PFUdA	565 > 519.8	39239.285	44238.398	1.00	5.26	11.087	12.5	99.8	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3154.096	5086.805	1.00	4.90	7.751	13.9	111.4	NO		
64	65	13C2-PFDoA	614.7 > 569.7	39471.000	37249.633	1.00	5.55	13.245	12.2	97.5	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		3154.096	1.00					NO		
67	37	PFDoA	612.9 > 569.0		39471.000	1.00					NO		
68	38	N-MeFOSA	512.1 > 168.9		18233.041	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		39471.000	1.00					NO		
70	40	PFDoS	698.8 > 79.9		26309.576	1.00					NO		
71	41	PFTeDA	713.0 > 669.0	44.360	26309.576	1.00	6.03	0.021			NO	28.291	YES
72	65	13C2-PFDoA	614.7 > 569.7	39471.000	37249.633	1.00	5.55	13.245	12.2	97.5	NO		

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Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
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Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, 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	39471.000	37249.633	1.00	5.55	13.245	12.2	97.5	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18233.041	44238.398	1.00	5.73	5.152	134.7	89.8	NO		
75	65	13C2-PFDoA	614.7 > 569.7	39471.000	37249.633	1.00	5.55	13.245	12.2	97.5	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	26309.576	44238.398	1.00	6.03	7.434	12.3	98.4	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	26309.576	44238.398	1.00	6.03	7.434	12.3	98.4	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		23255.154	1.00					NO		
80	43	PFHxDA	813.1 > 768.6	125.736	14426.755	1.00	6.37	0.044	0.0		NO	226.960	YES
81	44	PFODA	913.1 > 868.8	16.670	14426.755	1.00	6.62	0.006			NO		
82	45	N-MeFOSE	616.1 > 58.9		14474.362	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		14970.317	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	9816.444	9816.444	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	23255.154	44238.398	1.00	6.17	6.571	147.8	98.5	NO		
86	69	13C2-PFHxDA	815 > 769.7	14426.755	44238.398	1.00	6.37	4.076	5.2	103.5	NO		
87	69	13C2-PFHxDA	815 > 769.7	14426.755	44238.398	1.00	6.37	4.076	5.2	103.5	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	14474.362	44238.398	1.00	6.33	4.090	130.7	87.1	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	14970.317	44238.398	1.00	6.48	4.230	128.7	85.8	NO		
90	73	13C5-PFHxA	318.0 > 272.9	32810.598	32810.598	1.00	2.95	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	41222.570	41222.570	1.00	4.10	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2194.626	2194.626	1.00	3.73	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	28607.855	28607.855	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5086.805	5086.805	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	37249.633	37249.633	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	44238.398	44238.398	1.00	5.26	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

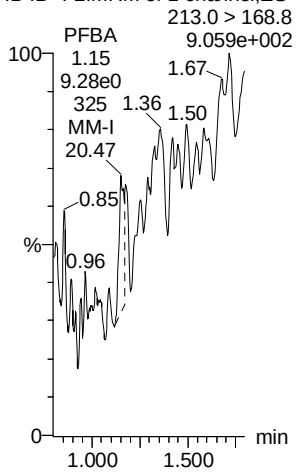
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

PFBA



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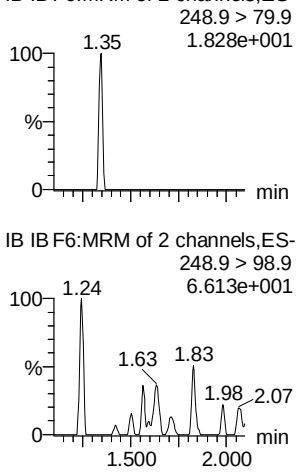
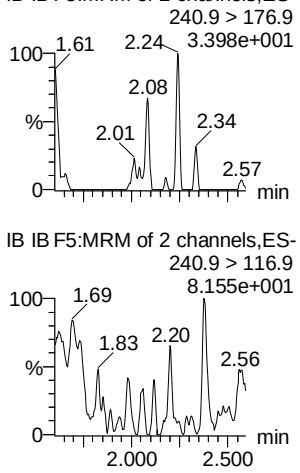


3:3 FTCA



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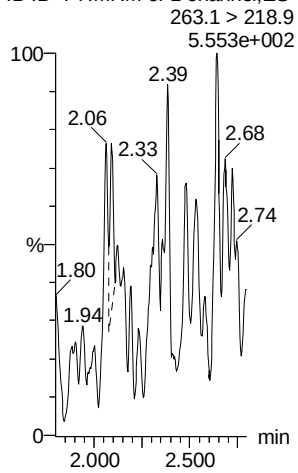
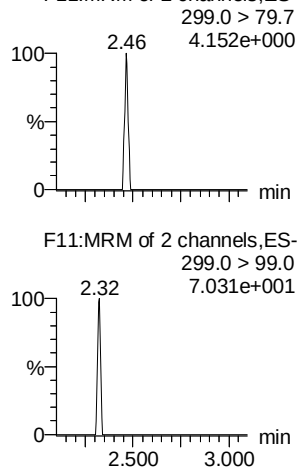
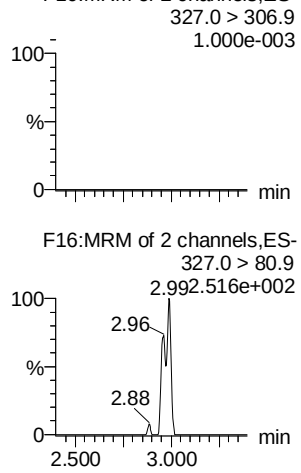


PFBS



4:2 FTS



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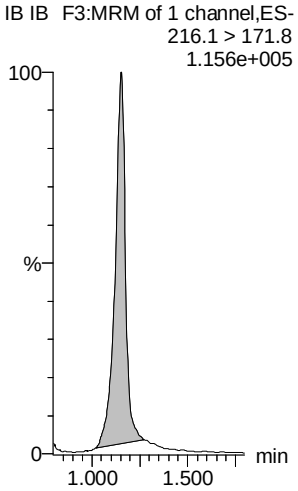

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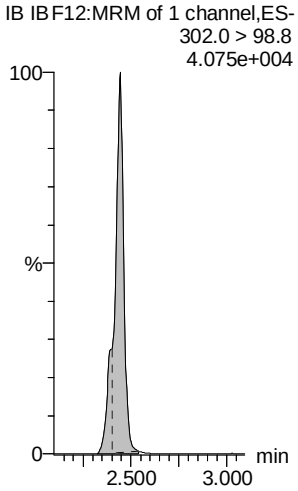

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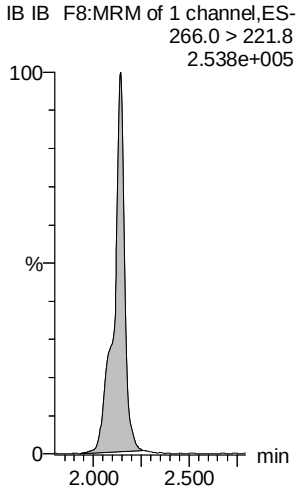

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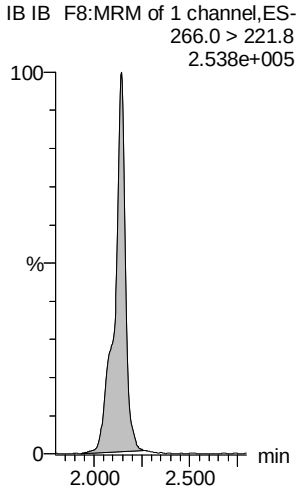

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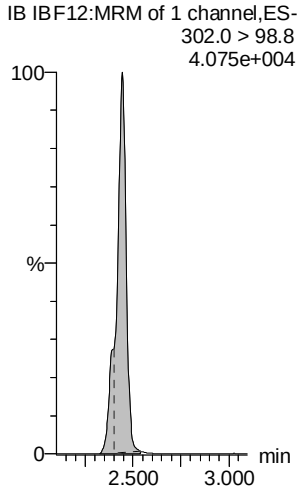
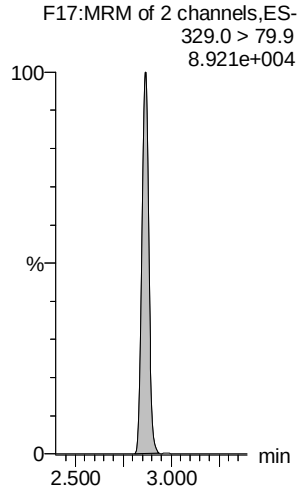


13C2-4:2 FTS

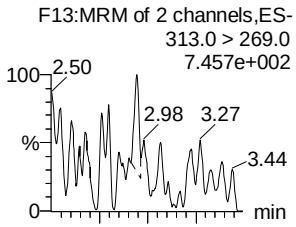


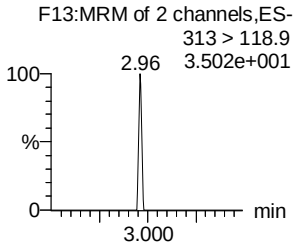
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

PFHxA





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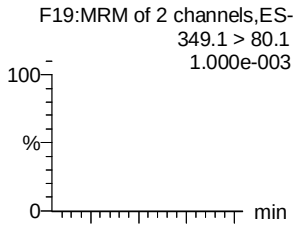
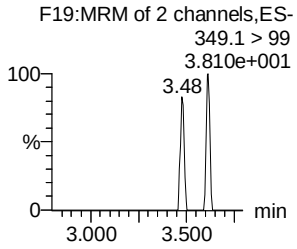
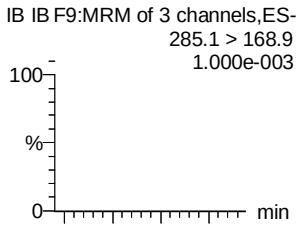
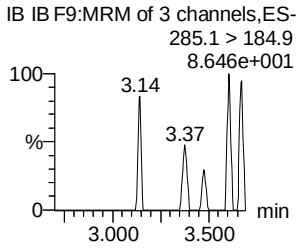




HFPO-DA





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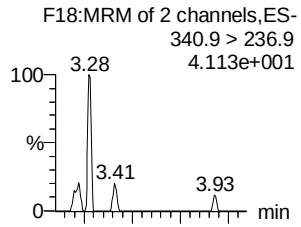

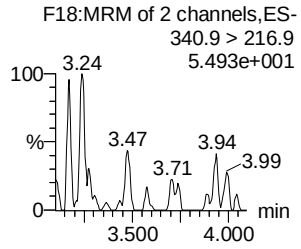

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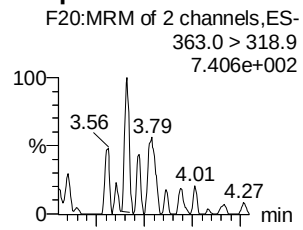
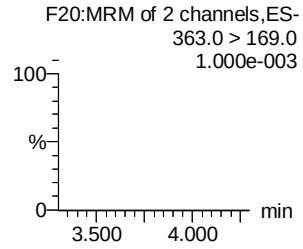
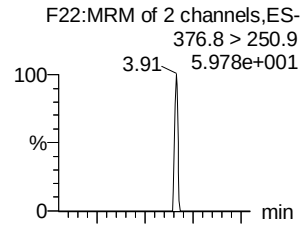
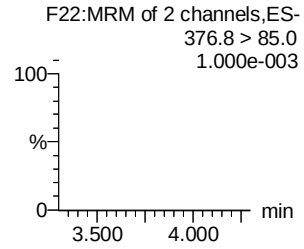




ADONA





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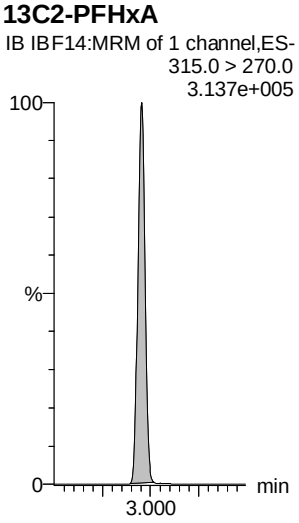

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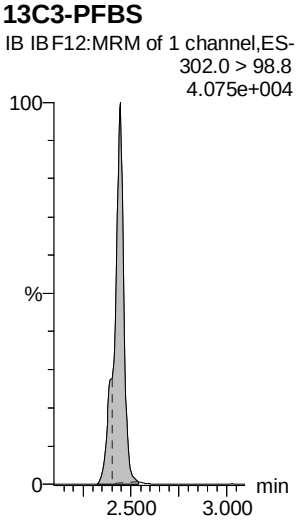
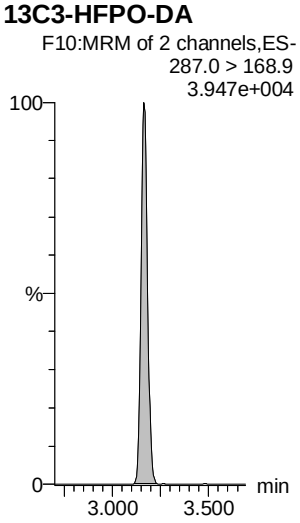
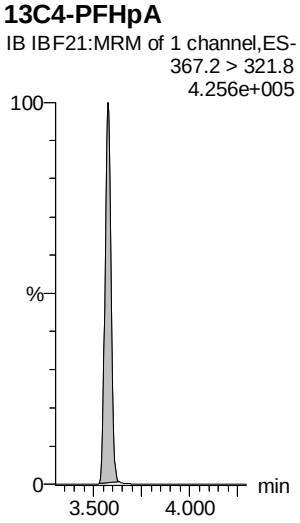


13C3-HFPO-DA



13C4-PFHpA



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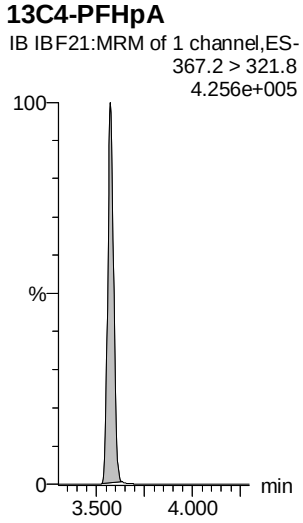

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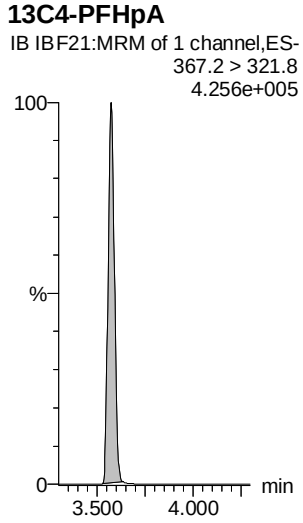

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

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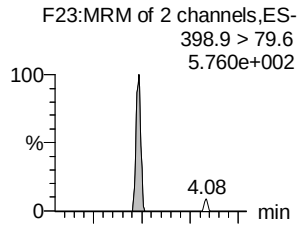
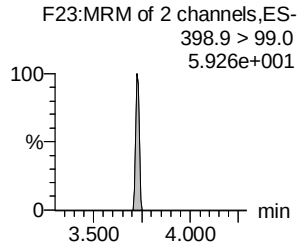
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

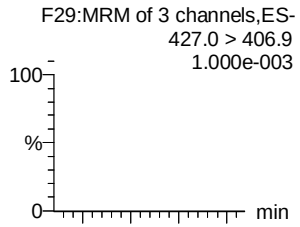
Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

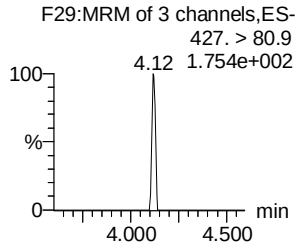
L-PFHxS



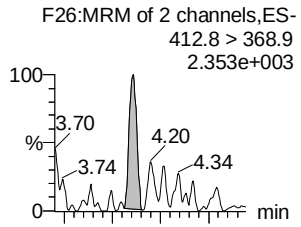


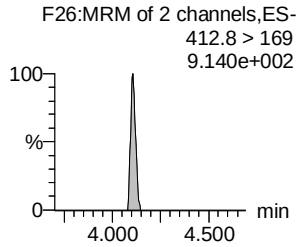
6:2 FTS





L-PFOA





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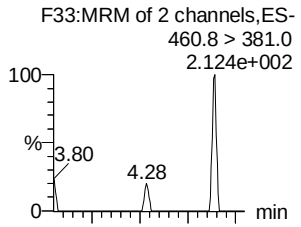
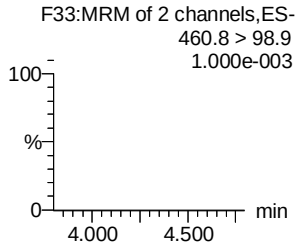
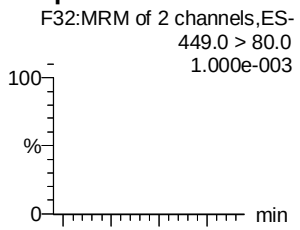
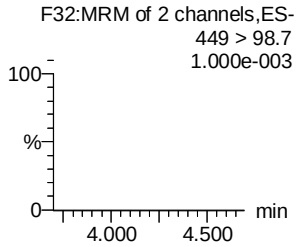


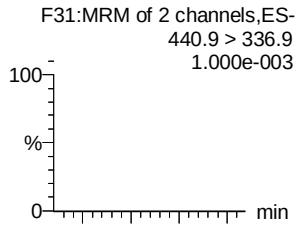


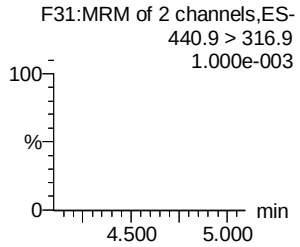
PFHpS



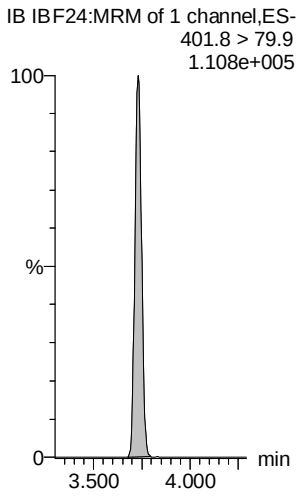


7:3 FTCA

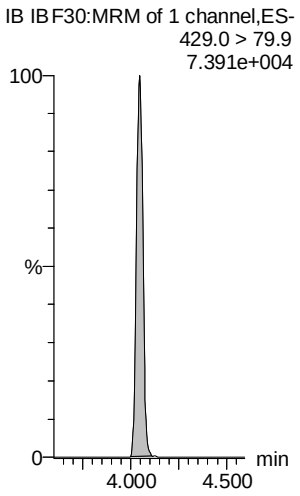




13C3-PFHxS



13C2-6:2 FTS



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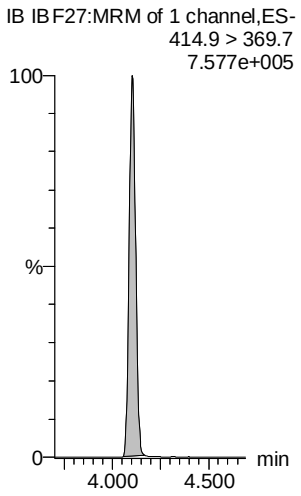

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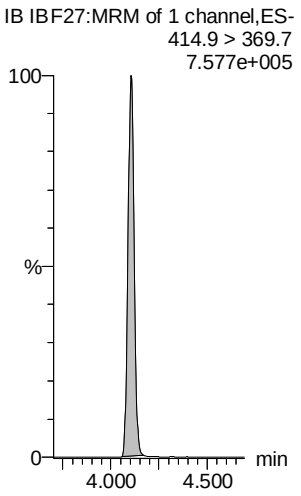

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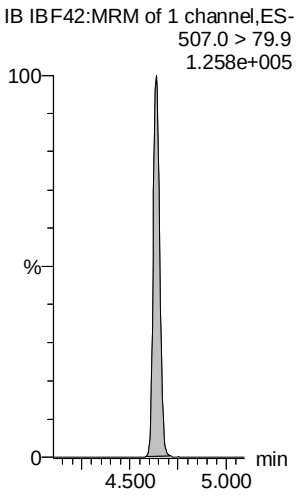

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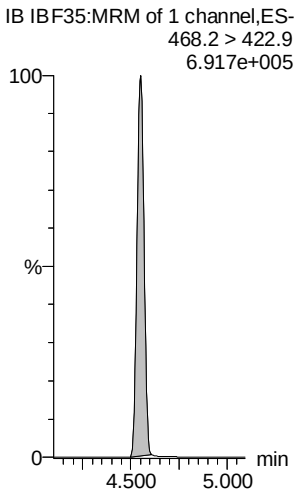
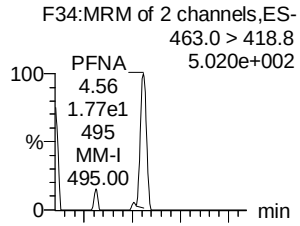


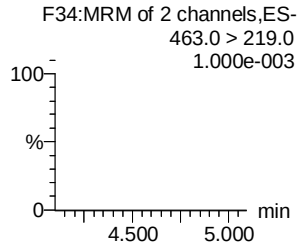
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

PFNA





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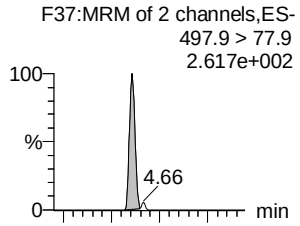
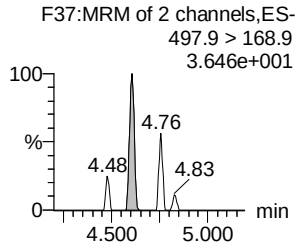
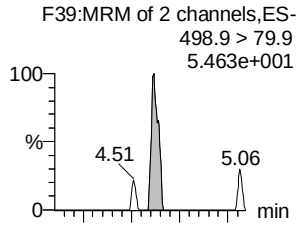
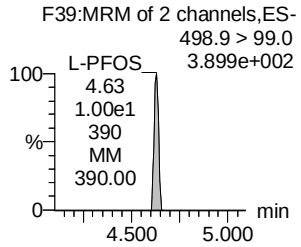


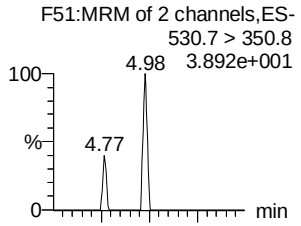


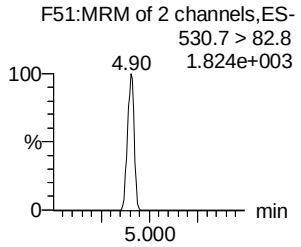
L-PFOS





9Cl-PF30NS





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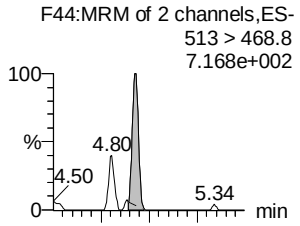

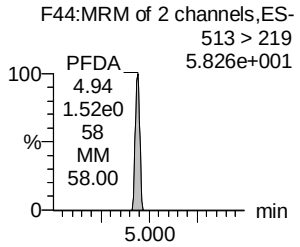

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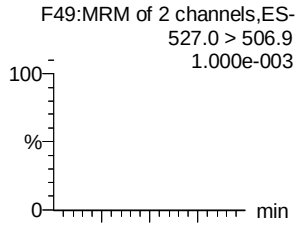

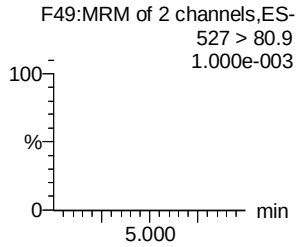

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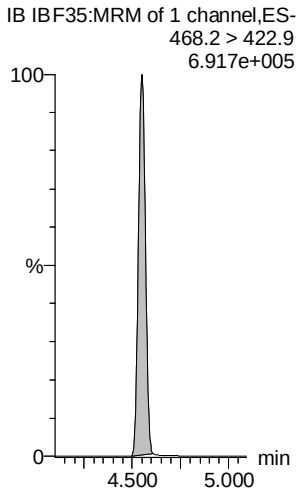
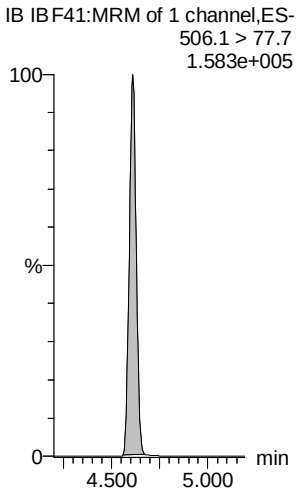


13C8-PFOSA



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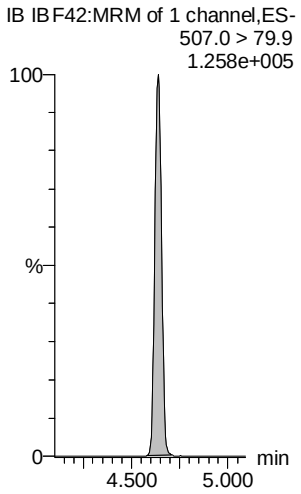

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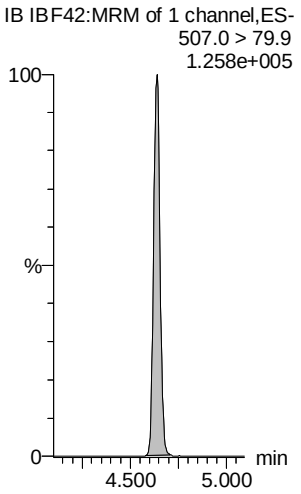

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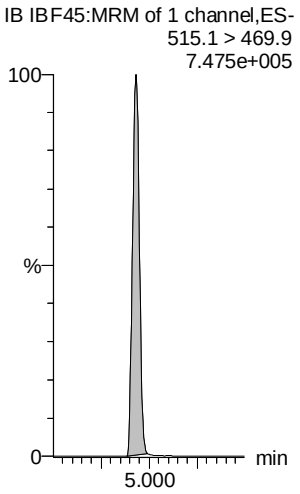
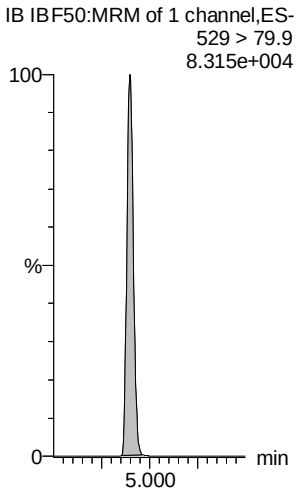


13C2-8:2 FTS

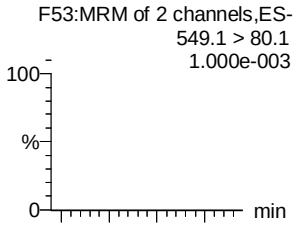


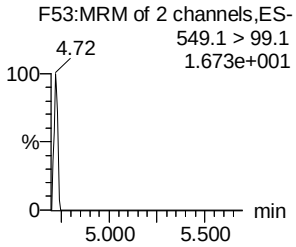
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

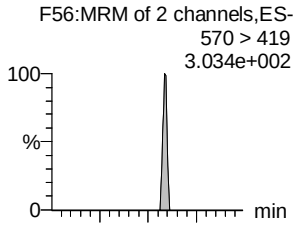
Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

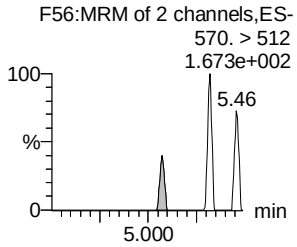
PFNS





L-MeFOSAA





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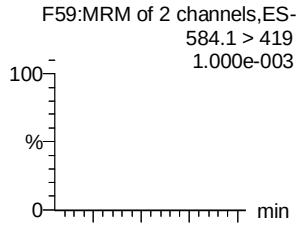

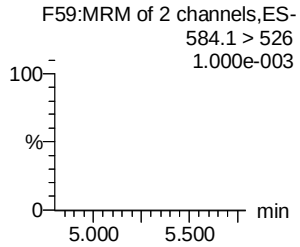

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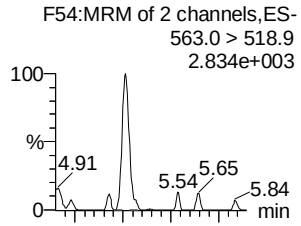

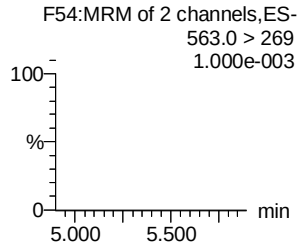

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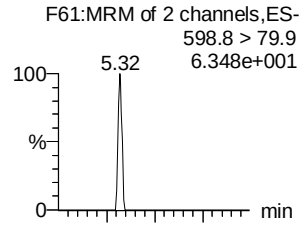

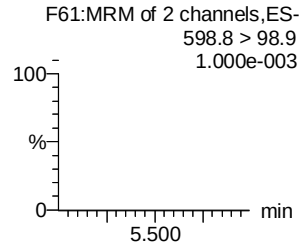

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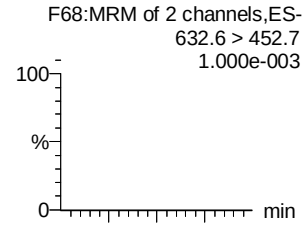
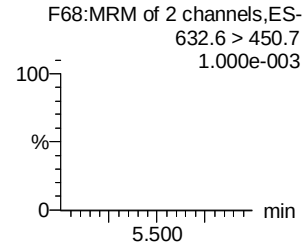
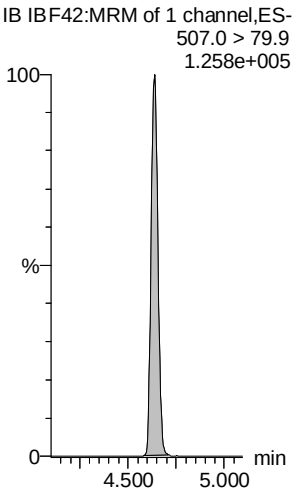
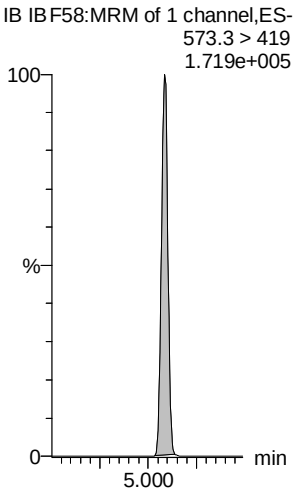




13C8-PFOS



d3-N-MeFOSAA



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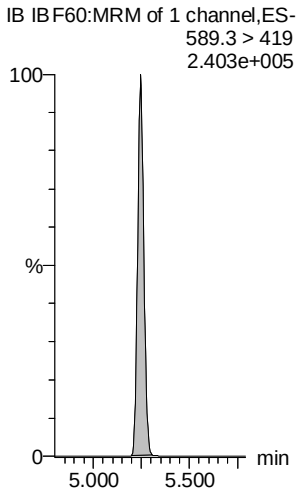
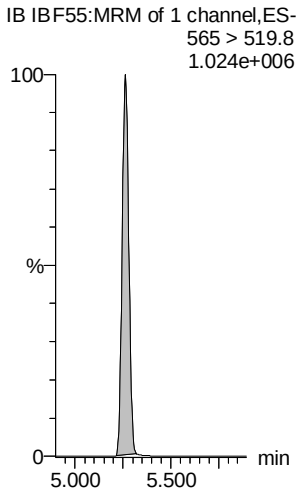
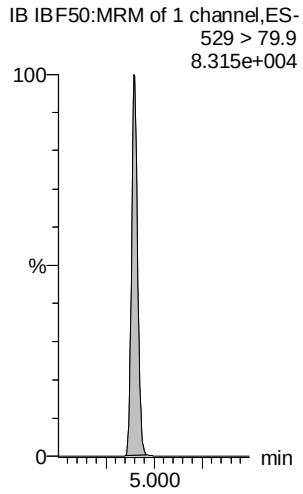


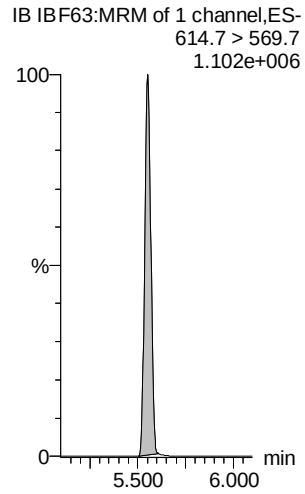
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

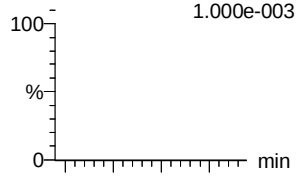


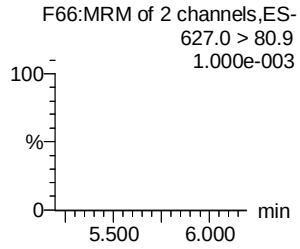
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

10:2 FTS





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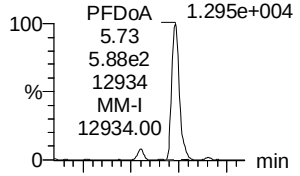
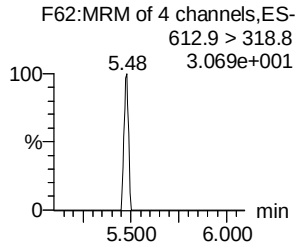
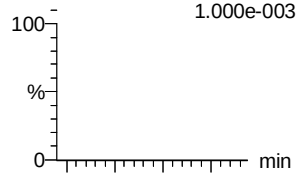
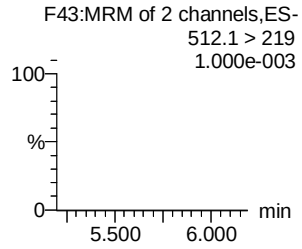




N-MeFOSA





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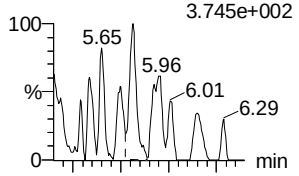

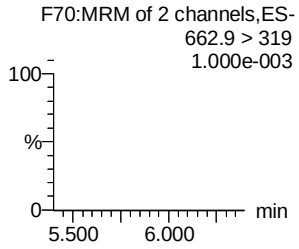

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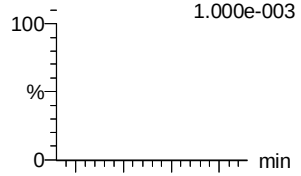

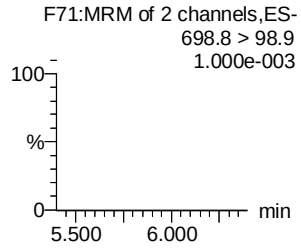

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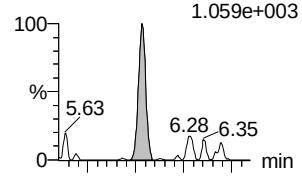
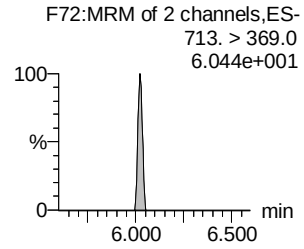
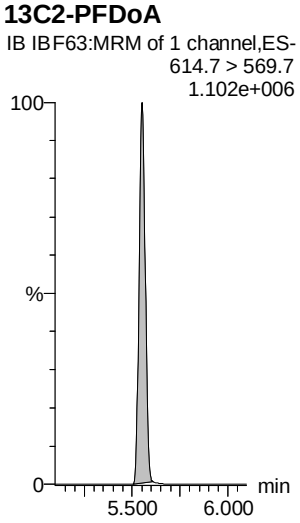




13C2-PFDoA



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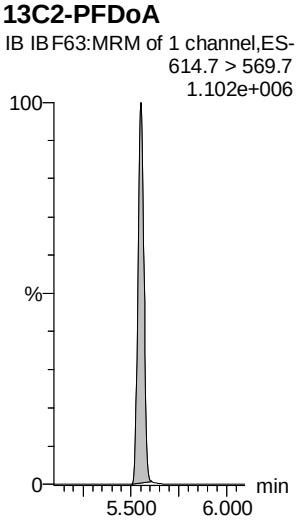
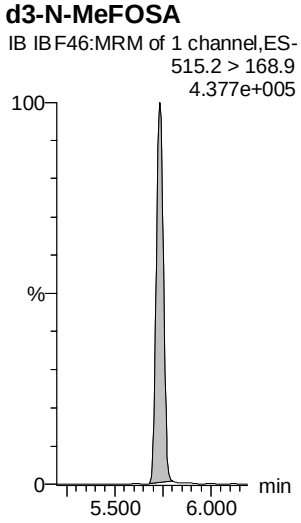


d3-N-MeFOSA



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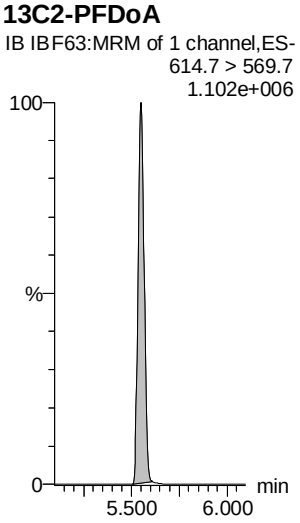

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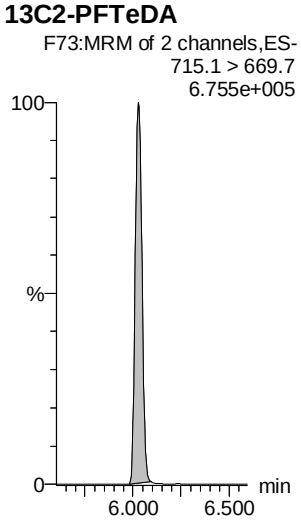

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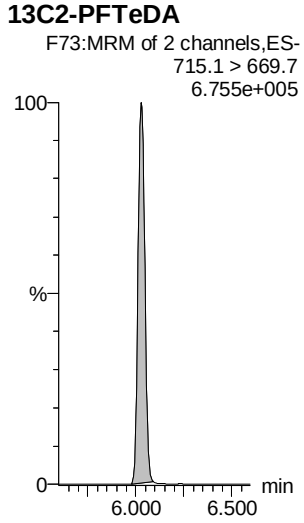
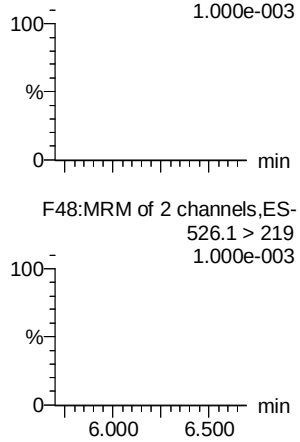


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

N-EtFOSA



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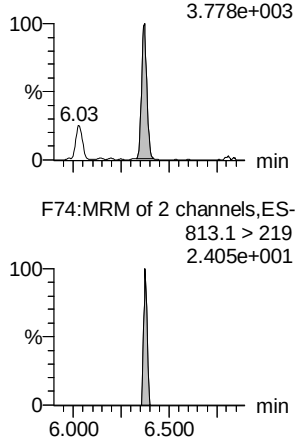

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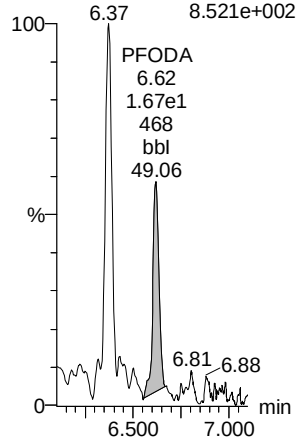
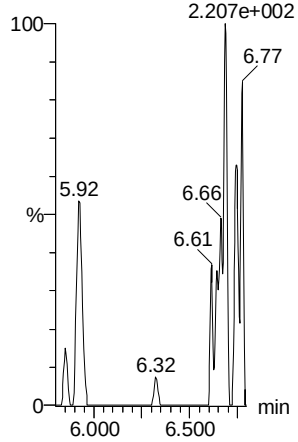
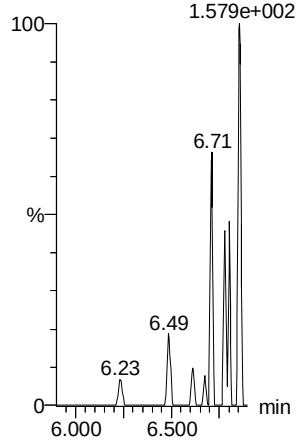


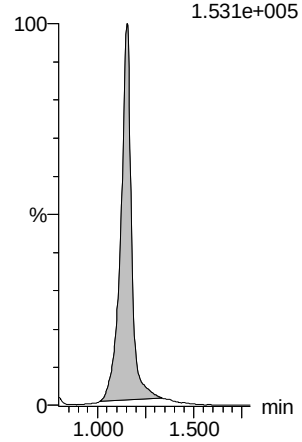
N-MeFOSE



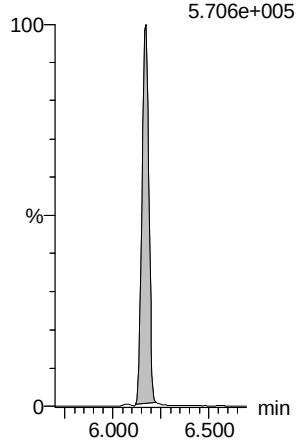
N-EtFOSE



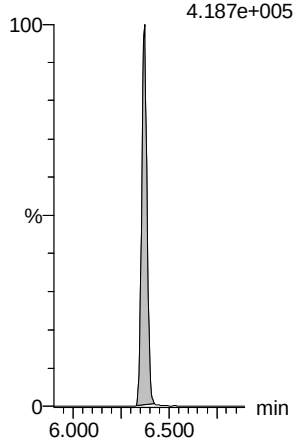
13C4-PFBA



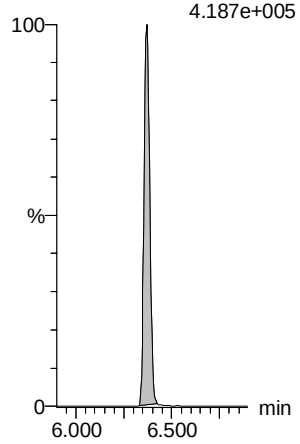
d5-N-ETFOSA



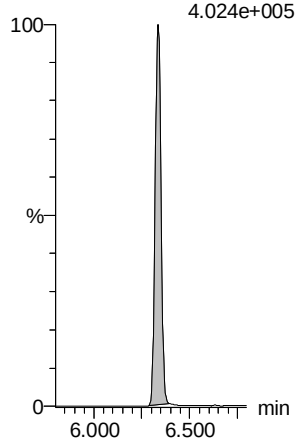
13C2-PFHxDA



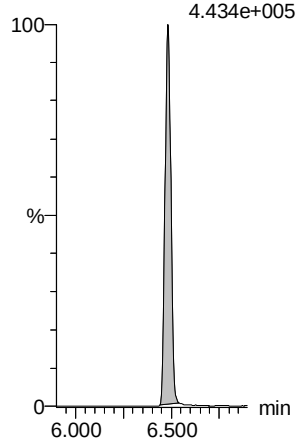
13C2-PFHxDA



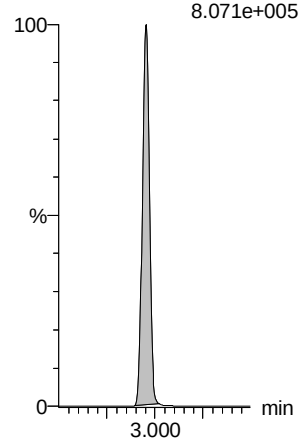
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

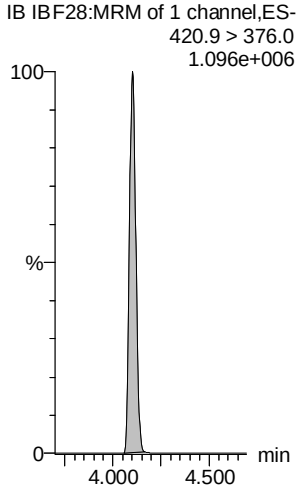


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-IB.qld

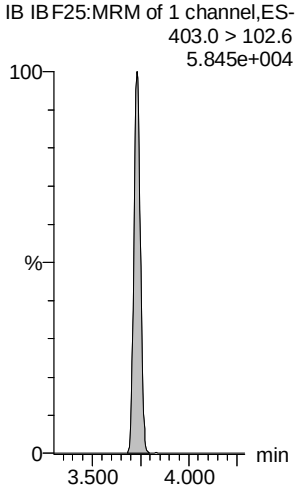
Last Altered: Wednesday, July 24, 2019 09:21:04 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:21:28 Pacific Daylight Time

Name: 190724M1_3, Date: 24-Jul-2019, Time: 08:17:30, ID: IB, Description: IB

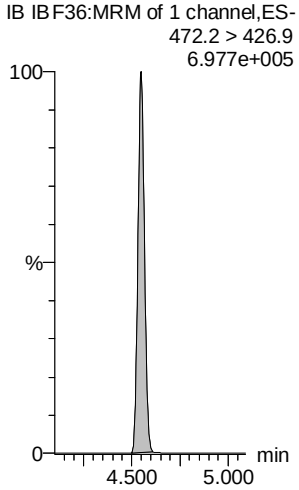
13C8-PFOA



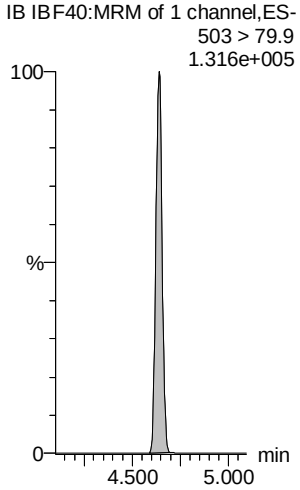
18O2-PFHxS



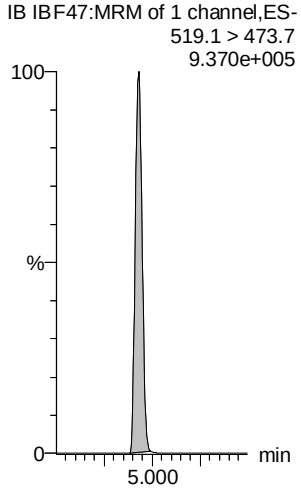
13C9-PFNA



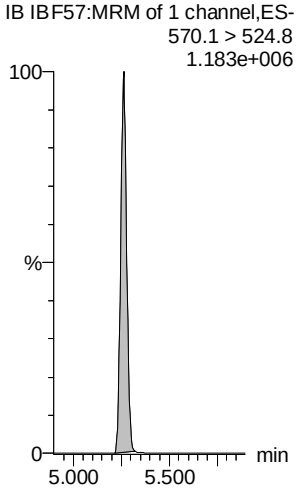
13C4-PFOS



13C6-PFDA



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: ST190724M1 -1	L M H	☑	☑	☑	☑	☑	☑	☐
Calibration ID: ↓ -2	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	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

N/A CGH 7/24/19

Full Mass Cal. Date: 07/15/19

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☐ N/A

Reviewed By: JM 7/24/19
Initials/Date

Comments:

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:06:11 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 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	1.52	1.52	2.691	2.691	NO
3	3:3 FTCA	2.01	1.98	2.233	2.233	NO
4	PFPeA	2.14	2.14			
5	PFBS	2.44	2.44	3.012	3.012	NO
6	4:2 FTS	2.87	2.87	1.872	1.872	NO
7	PFHxA	2.95	2.95	15.645	15.645	NO
8	PFPeS	3.16	3.16	1.483	1.483	NO
9	HFPO-DA	3.17	3.16	2.534	2.534	NO
10	5:3 FTCA	3.50	3.51	1.564	1.564	NO
11	PFHpA	3.57	3.58	9.821	9.821	NO
12	ADONA	3.68	3.68	3.605	3.605	NO
13	L-PFHxS	3.73	3.73	2.152	2.152	NO
14	6:2 FTS	4.05	4.05	2.178	2.178	NO
15	L-PFOA	4.11	4.11	3.800	3.800	NO
16	PFecHS	4.13	4.13	0.933	0.933	NO
17	PFHpS	4.23	4.23	1.768	1.768	NO
18	7:3 FTCA	4.54	4.54	2.034	2.034	NO
19	PFNA	4.55	4.55	4.075	4.075	NO
20	PFOSA	4.61	4.61	28.995	28.995	NO
21	L-PFOS	4.64	4.64	2.157	2.157	NO
22	9Cl-PF30NS	4.87	4.87	19.341	19.341	NO
23	PFDA	4.93	4.93	5.702	5.702	NO
24	8:2 FTS	4.90	4.90	1.263	1.263	NO
25	PFNS	5.00	5.00	1.709	1.709	NO
26	L-MeFOSAA	5.08	5.09	2.501	2.501	NO

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:06:34 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.25	5.25	1.352	1.352	NO
2	PFUdA	5.26	5.26	8.800	8.800	NO
3	PFDS	5.31	5.31	1.888	1.888	NO
4	11Cl-PF30UdS	5.48	5.48	5.345	5.345	NO
5	10:2 FTS	5.54	5.54	1.579	1.579	NO
6	PFDoA	5.55	5.55	8.784	8.784	NO
7	N-MeFOSA	5.70	5.70	1.585	1.585	NO
8	PFTrDA	5.80	5.80	23.127	23.127	NO
9	PFDoS	5.84	5.84	1.848	1.848	NO
10	PFTeDA	6.03	6.03	14.588	14.588	NO
11	N-EtFOSA	6.15	6.15	1.609	1.609	NO
12	PFHxDA	6.39	6.39	23.343	23.343	NO
13	PFODA	6.64	6.64			
14	N-MeFOSE	6.36	6.36			
15	N-EtFOSE	6.51	6.51			

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

JJM 7/24/19

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 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	725.824	7486.190	1.00	1.15	1.212	1.0	97.1	NO		
2	2	PFPrS	248.9 > 79.9	146.101	2335.790	1.00	1.51	0.782	1.0	101.9	NO	2.497	NO
3	3	3:3 FTCA	240.9 > 176.9	33.997	16619.332	1.00	1.99	0.026	0.8	83.1	NO	1.272	NO
4	4	PFPeA	263.1 > 218.9	1132.102	16619.332	1.00	2.14	0.851	0.9	93.6	NO		
5	5	PFBS	299.0 > 79.7	414.087	2335.790	1.00	2.44	2.216	1.0	100.7	NO	2.895	NO
6	6	4:2 FTS	327.0 > 306.9	661.338	3751.975	1.00	2.87	2.203	0.9	90.9	NO	1.521	NO
7	47	13C3-PFBA	216.1 > 171.8	7486.190	10456.272	1.00	1.15	8.949	12.2	97.6	NO		
8	49	13C3-PFBS	302.0 > 98.8	2335.790	2246.975	1.00	2.44	12.994	12.3	98.3	NO		
9	48	13C3-PFPeA	266.0 > 221.8	16619.332	35554.043	1.00	2.14	5.843	11.7	93.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	16619.332	35554.043	1.00	2.14	5.843	11.7	93.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	2335.790	2246.975	1.00	2.44	12.994	12.3	98.3	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3751.975	2246.975	1.00	2.87	20.872	12.7	101.2	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	2661.125	13606.937	1.00	2.95	0.978	1.0	104.5	NO	16.013	NO
15	8	PFPeS	349.1>80.1	301.005	2335.790	1.00	3.16	1.611	1.0	102.0	NO	1.568	NO
16	9	HFPO-DA	285.1 > 168.9	200.748	1845.242	1.00	3.15	0.544	1.1	110.9	NO	2.662	NO
17	10	5:3 FTCA	340.9 > 236.9	235.996	16259.853	1.00	3.51	0.181	1.0	104.7	NO	1.711	NO
18	11	PFHpA	363.0 > 318.9	1779.236	16259.853	1.00	3.57	1.368	1.1	105.7	NO	12.667	NO
19	12	ADONA	376.8 > 250.9	4156.767	16259.853	1.00	3.68	3.196	1.0	97.7	NO	3.287	NO
20	52	13C2-PFHxA	315.0 > 270.0	13606.937	35554.043	1.00	2.95	4.784	4.9	97.9	NO		
21	49	13C3-PFBS	302.0 > 98.8	2335.790	2246.975	1.00	2.44	12.994	12.3	98.3	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1845.242	35554.043	1.00	3.16	0.649	4.8	96.9	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16259.853	35554.043	1.00	3.57	5.717	11.9	95.6	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16259.853	35554.043	1.00	3.57	5.717	11.9	95.6	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16259.853	35554.043	1.00	3.57	5.717	11.9	95.6	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	327.873	4739.005	1.00	3.73	0.865	1.0	95.3	NO	2.477	NO
28	15	6:2 FTS	427.0 > 406.9	676.910	2929.559	1.00	4.05	2.888	0.9	90.3	NO	2.436	NO
29	16	L-PFOA	412.8 > 368.9	3668.336	30052.174	1.00	4.10	1.526	1.0	99.1	NO	4.274	NO
30	18	PFecHS	460.8 > 381.0	399.883	30052.174	1.00	4.13	0.166	0.7	74.0	NO	0.781	NO
31	19	PFHpS	449.0 > 80.0	278.765	5402.305	1.00	4.22	0.645	0.7	73.8	NO	1.599	NO
32	20	7:3 FTCA	440.9 > 336.9	255.188	30642.133	1.00	4.53	0.104	1.0	104.3	NO	1.988	NO
33	54	13C3-PFHxS	401.8 > 79.9	4739.005	2246.975	1.00	3.73	26.363	13.0	104.2	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2929.559	5224.663	1.00	4.04	7.009	13.1	104.6	NO		
35	58	13C2-PFOA	414.9 > 369.7	30052.174	42230.469	1.00	4.10	8.895	13.1	104.5	NO		
36	58	13C2-PFOA	414.9 > 369.7	30052.174	42230.469	1.00	4.10	8.895	13.1	104.5	NO		

CEH 7/24/19

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 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	5402.305	5224.663	1.00	4.63	12.925	13.0	103.7	NO		
38	56	13C5-PFNA	468.2 > 422.9	30642.133	30737.727	1.00	4.55	12.461	12.4	99.5	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	2895.558	30642.133	1.00	4.55	1.181	1.0	100.2	NO	4.292	NO
41	22	PFOSA	497.9 > 77.9	508.127	7122.545	1.00	4.61	0.892	0.9	88.6	NO	32.562	NO
42	23	L-PFOS	498.9 > 79.9	412.446	5402.305	1.00	4.64	0.954	0.9	91.1	NO	1.917	NO
43	25	9Cl-PF30NS	530.7 > 350.8	843.220	5402.305	1.00	4.86	1.951	0.9	94.2	NO	13.632	NO
44	26	PFDA	513 > 468.8	3316.168	32194.707	1.00	4.93	1.288	1.0	99.6	NO	6.155	NO
45	27	8:2 FTS	527.0 > 506.9	485.846	3141.936	1.00	4.90	1.933	1.0	98.9	NO	1.133	NO
46	56	13C5-PFNA	468.2 > 422.9	30642.133	30737.727	1.00	4.55	12.461	12.4	99.5	NO		
47	57	13C8-PFOSA	506.1 > 77.7	7122.545	47129.484	1.00	4.61	1.889	11.3	90.2	NO		
48	59	13C8-PFOS	507.0 > 79.9	5402.305	5224.663	1.00	4.63	12.925	13.0	103.7	NO		
49	59	13C8-PFOS	507.0 > 79.9	5402.305	5224.663	1.00	4.63	12.925	13.0	103.7	NO		
50	60	13C2-PFDA	515.1 > 469.9	32194.707	38819.867	1.00	4.93	10.367	12.7	101.3	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3141.936	5224.663	1.00	4.90	7.517	13.5	108.1	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	240.392	5402.305	1.00	5.00	0.556	0.7	70.1	NO	1.363	NO
54	29	L-MeFOSAA	570 > 419	1249.510	7674.548	1.00	5.09	2.035	1.0	100.6	NO	2.972	NO
55	31	L-EtFOSAA	584.1 > 419	979.748	10594.184	1.00	5.25	1.156	1.0	96.0	NO	1.275	NO
56	33	PFUdA	563.0 > 518.9	3221.288	42176.859	1.00	5.26	0.955	1.0	99.0	NO	14.113	YES
57	34	PFDS	598.8 > 79.9	423.185	3141.936	1.00	5.31	1.684	1.0	103.7	NO	2.274	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	144.791	40790.613	1.00	5.48	0.044	1.0	96.3	NO	2.858	NO
59	59	13C8-PFOS	507.0 > 79.9	5402.305	5224.663	1.00	4.63	12.925	13.0	103.7	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7674.548	47129.484	1.00	5.08	2.035	11.5	91.8	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	10594.184	47129.484	1.00	5.24	2.810	12.6	100.4	NO		
62	63	13C2-PFUdA	565 > 519.8	42176.859	47129.484	1.00	5.26	11.186	12.6	100.7	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3141.936	5224.663	1.00	4.90	7.517	13.5	108.1	NO		
64	65	13C2-PFDoA	614.7 > 569.7	40790.613	38819.867	1.00	5.55	13.135	12.1	96.6	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	728.007	3141.936	1.00	5.53	2.896	1.2	119.7	NO	1.763	NO
67	37	PFDoA	612.9 > 569.0	3545.348	40790.613	1.00	5.55	1.086	1.0	96.0	NO	9.007	NO
68	38	N-MeFOSA	512.1 > 168.9	834.925	18927.730	1.00	5.70	6.617	5.6	111.2	NO	1.721	NO
69	39	PFTrDA	662.9 > 618.9	3765.600	40790.613	1.00	5.80	1.154	1.0	96.3	NO	21.026	NO
70	40	PFDoS	698.8 > 79.9	354.284	28901.174	1.00	5.83	0.153	1.0	95.2	NO	1.780	NO
71	41	PFTeDA	713.0 > 669.0	3547.217	28901.174	1.00	6.03	1.534	0.9	93.0	NO	15.143	NO
72	65	13C2-PFDoA	614.7 > 569.7	40790.613	38819.867	1.00	5.55	13.135	12.1	96.6	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 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	40790.613	38819.867	1.00	5.55	13.135	12.1	96.6	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18927.730	47129.484	1.00	5.73	5.020	131.3	87.5	NO		
75	65	13C2-PFDoA	614.7 > 569.7	40790.613	38819.867	1.00	5.55	13.135	12.1	96.6	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	28901.174	47129.484	1.00	6.03	7.665	12.7	101.5	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	28901.174	47129.484	1.00	6.03	7.665	12.7	101.5	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	844.766	25289.287	1.00	6.15	5.011	5.4	107.8	NO	1.820	NO
80	43	PFHxDA	813.1 > 768.6	2056.678	14633.046	1.00	6.37	0.703	1.0	102.4	NO	19.619	NO
81	44	PFODA	913.1 > 868.8	2242.106	14633.046	1.00	6.62	0.766	0.9	93.7	NO		
82	45	N-MeFOSE	616.1 > 58.9	601.630	15268.751	1.00	6.34	5.910	5.3	105.7	NO		
83	46	N-EtFOSE	630.1 > 58.9	656.255	16503.592	1.00	6.49	5.965	4.7	93.4	NO		
84	72	13C4-PFBA	217.0 > 172.0	10456.272	10456.272	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	25289.287	47129.484	1.00	6.17	6.707	150.9	100.6	NO		
86	69	13C2-PFHxDA	815 > 769.7	14633.046	47129.484	1.00	6.37	3.881	4.9	98.6	NO		
87	69	13C2-PFHxDA	815 > 769.7	14633.046	47129.484	1.00	6.37	3.881	4.9	98.6	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	15268.751	47129.484	1.00	6.33	4.050	129.4	86.3	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	16503.592	47129.484	1.00	6.48	4.377	133.2	88.8	NO		
90	73	13C5-PFHxA	318.0 > 272.9	35554.043	35554.043	1.00	2.95	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	42230.469	42230.469	1.00	4.10	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2246.975	2246.975	1.00	3.73	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	30737.727	30737.727	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5224.663	5224.663	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	38819.867	38819.867	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	47129.484	47129.484	1.00	5.26	12.500	12.5	100.0	NO		

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 09:11:07 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190724M1_1	IPA	24-Jul-19	07:56:19
2	2	190724M1_2	ST190724M1-1 PFC CS0 19G1103	24-Jul-19	08:06:51
3	3	190724M1_3	IB	24-Jul-19	08:17:30
4	4	190724M1_4	1901616-01@5X 053119B 5	24-Jul-19	08:28:11
5	5	190724M1_5	IPA	24-Jul-19	08:38:46
6	6	190724M1_6	ST190724M1-2 PFC CS3 19G1106	24-Jul-19	08:49:25
7	7	190724M1_7	IPA	24-Jul-19	08:59:58

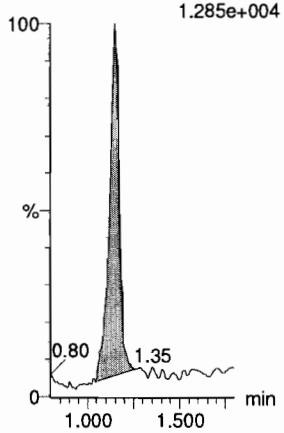
Vista Analytical Laboratory

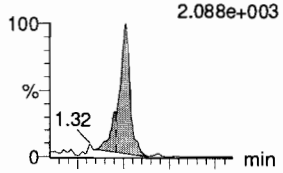
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

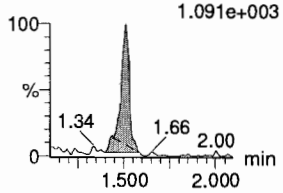
Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

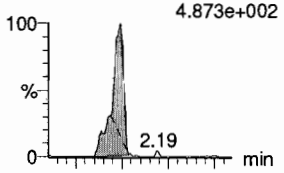
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

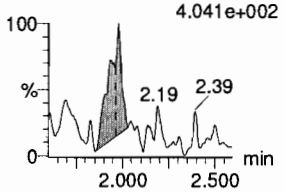
Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

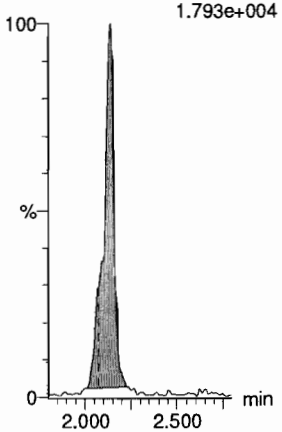
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.285e+004


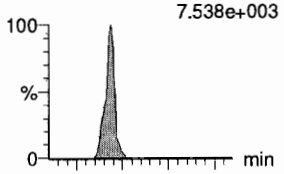
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.088e+003


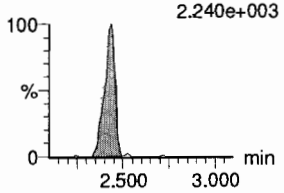
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.091e+003


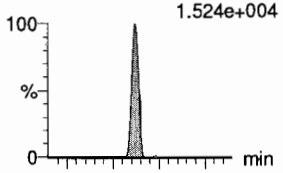
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
4.873e+002


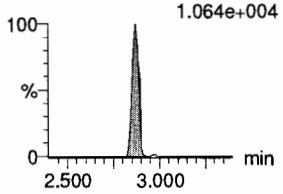
F5:MRM of 2 channels,ES-
240.9 > 116.9
4.041e+002


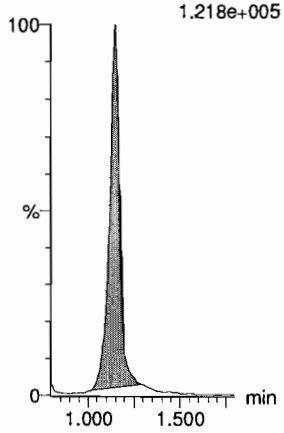
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.793e+004


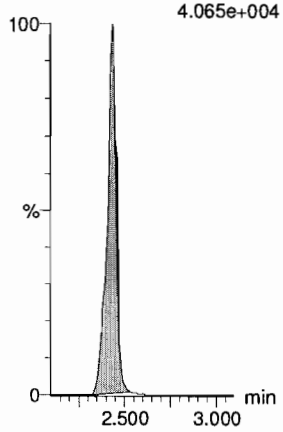
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
7.538e+003


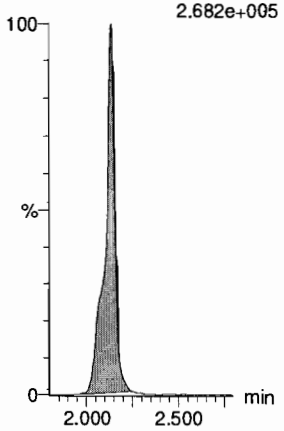
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.240e+003


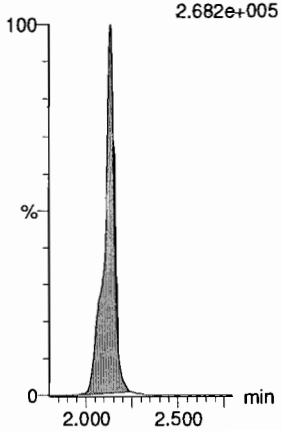
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.524e+004


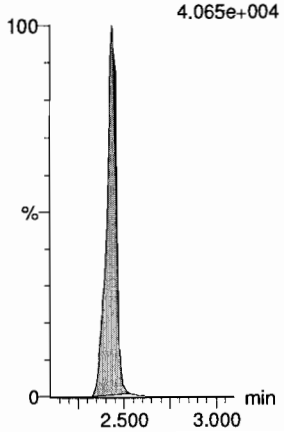
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.064e+004


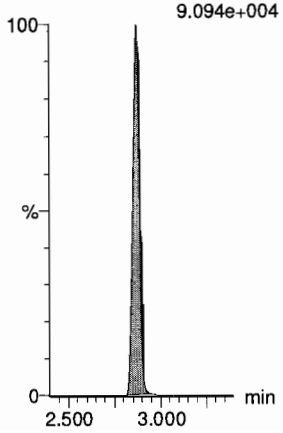
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.218e+005


13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.065e+004


13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.682e+005


13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.682e+005


13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.065e+004


13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.094e+004


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
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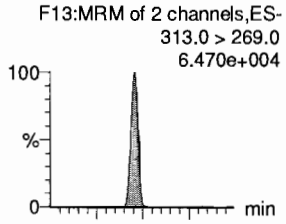
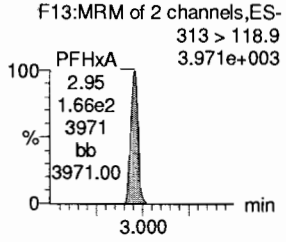
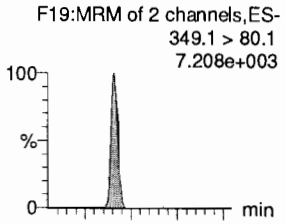
Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

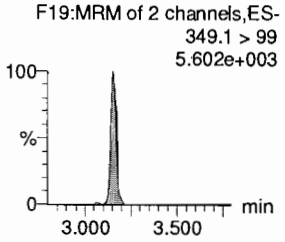
PFHxA



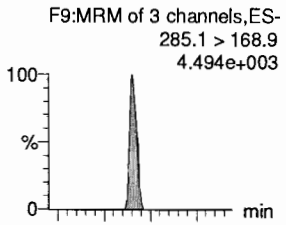


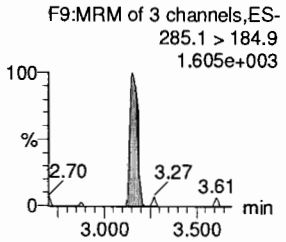
PFPeS



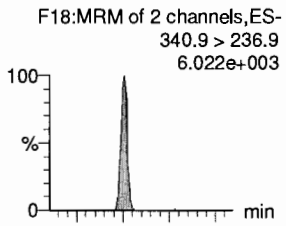


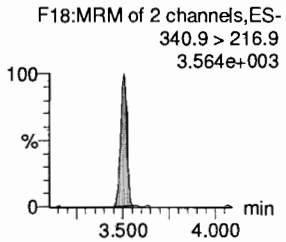
HFPO-DA



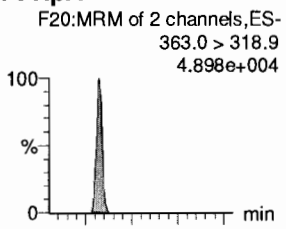


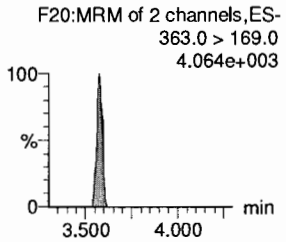
5:3 FTCA



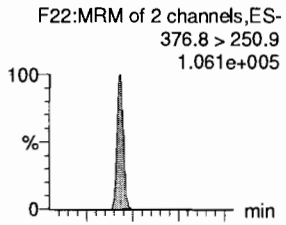


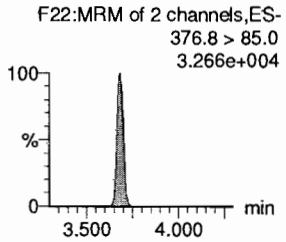
PFHpA



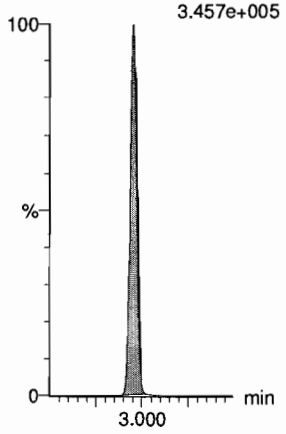


ADONA

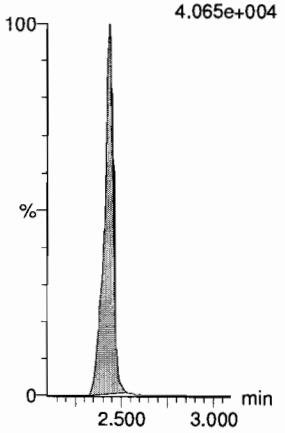




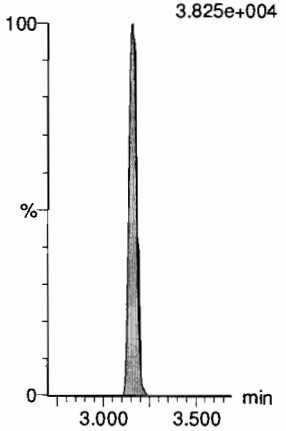
13C2-PFHxA



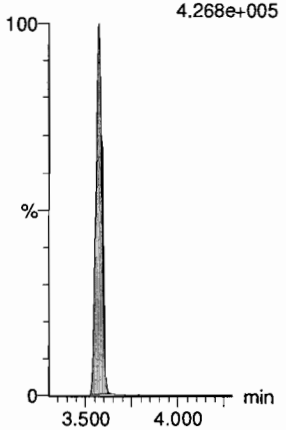
13C3-PFBS



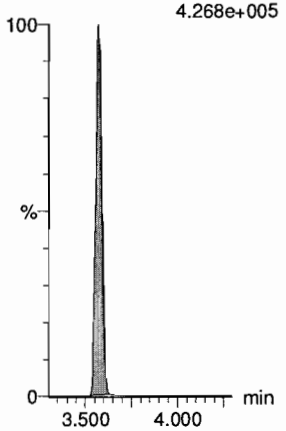
13C3-HFPO-DA



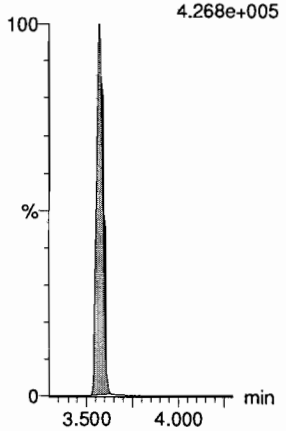
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

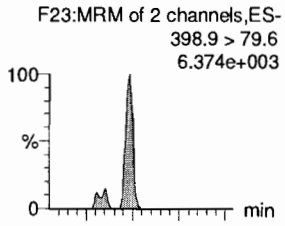


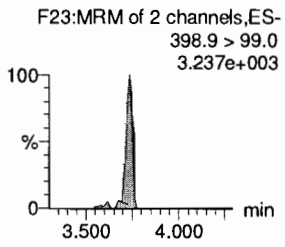
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

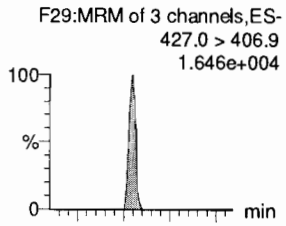
Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

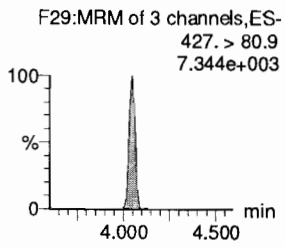
L-PFHxS



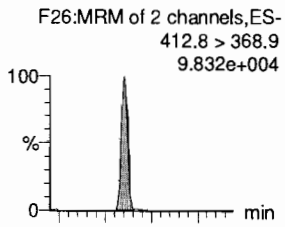


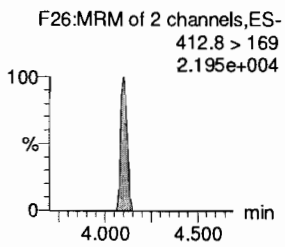
6:2 FTS





L-PFOA





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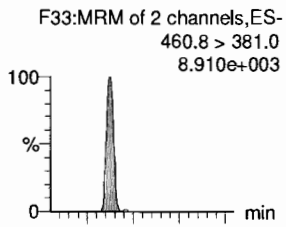

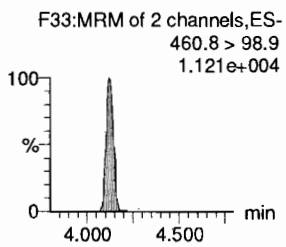

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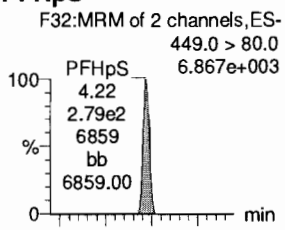
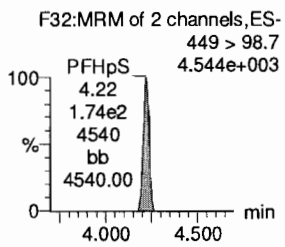
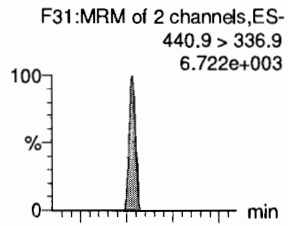
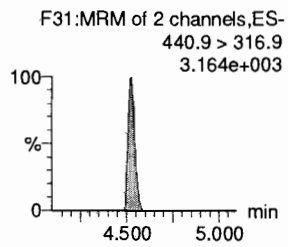


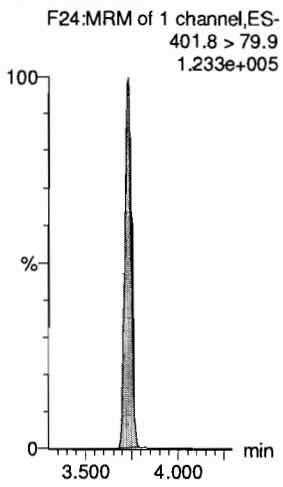


7:3 FTCA

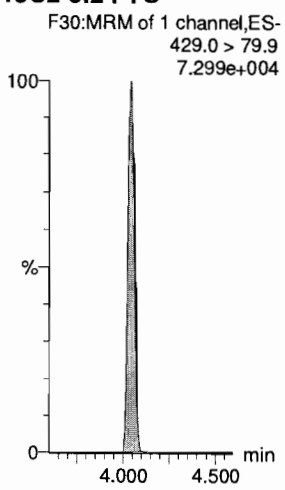




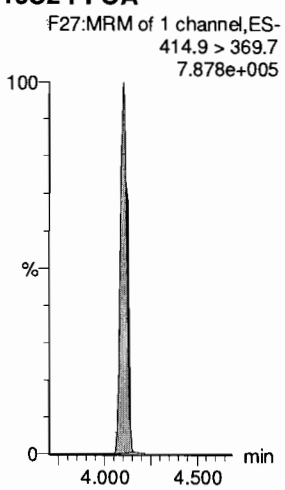
13C3-PFHxS



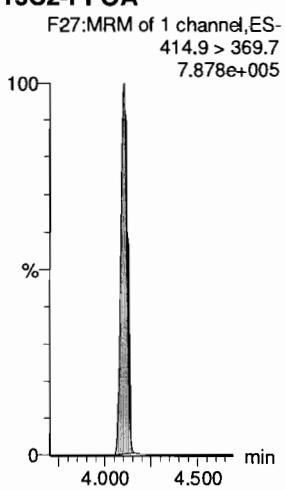
13C2-6:2 FTS



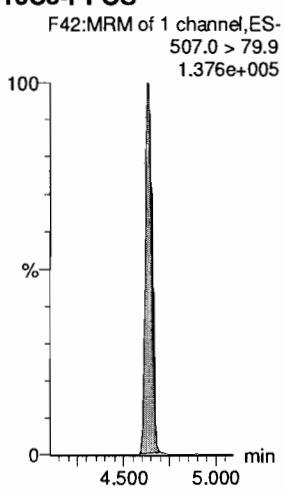
13C2-PFOA



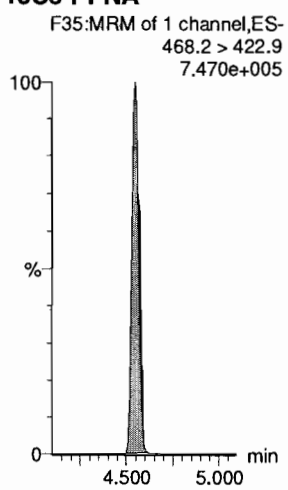
13C2-PFOA



13C8-PFOS



13C5-PFNA



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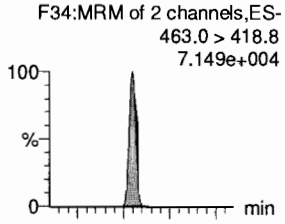
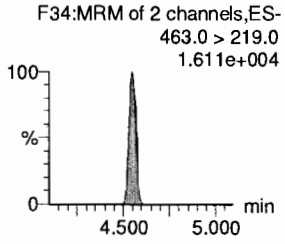
Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

PFNA





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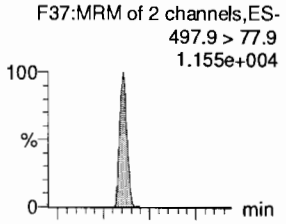
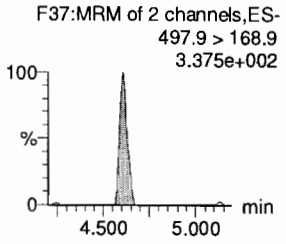
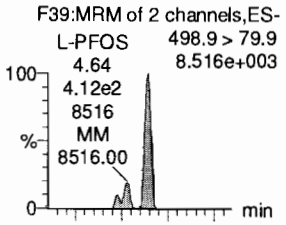
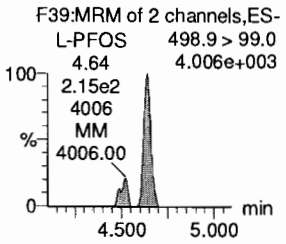


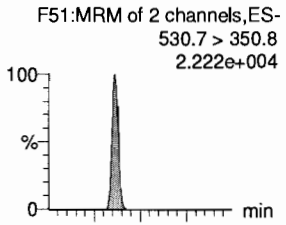


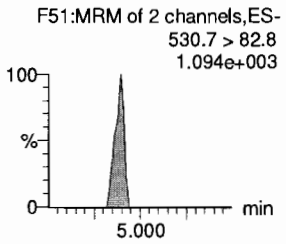
L-PFOS





9Cl-PF30NS





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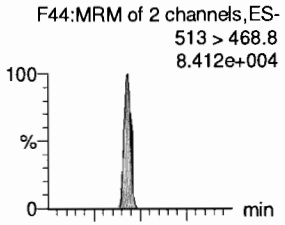
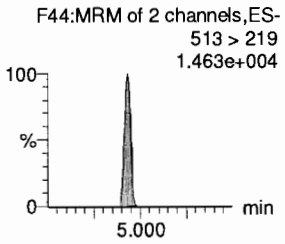
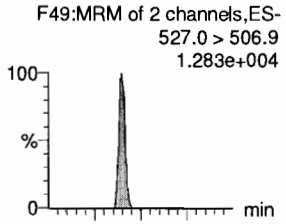
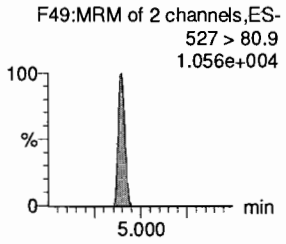


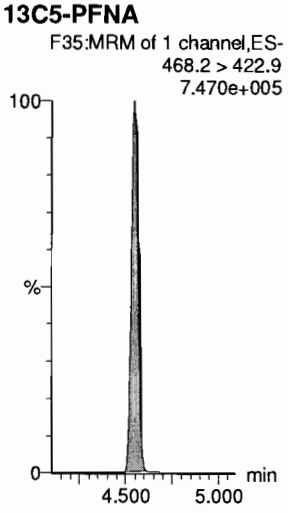


8:2 FTS

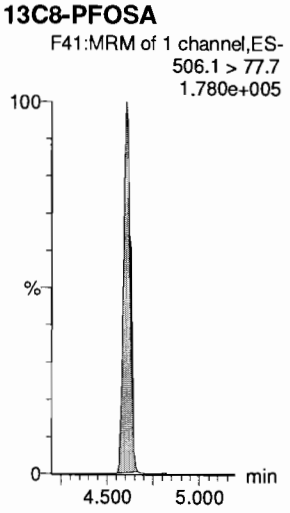




13C5-PFNA



13C8-PFOSA



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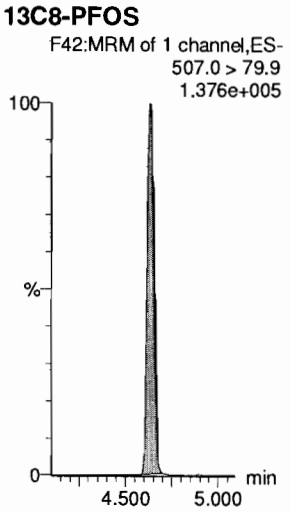
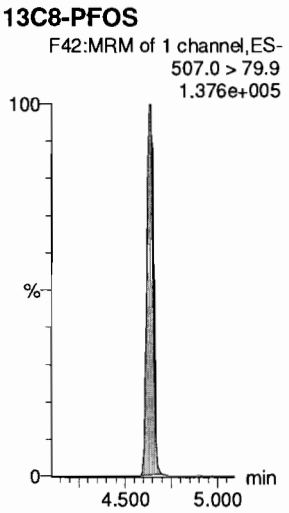


13C8-PFOS



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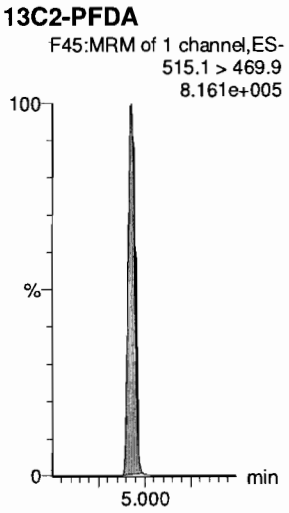
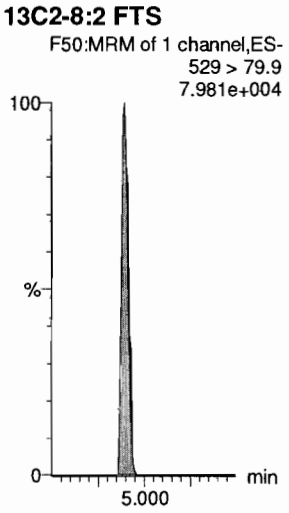


13C2-8:2 FTS



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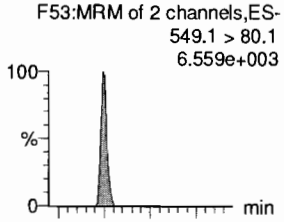
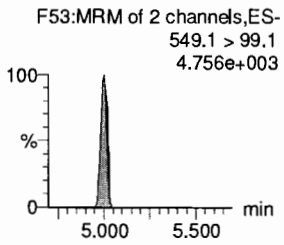
Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

PFNS





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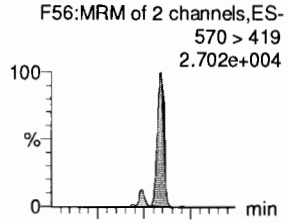
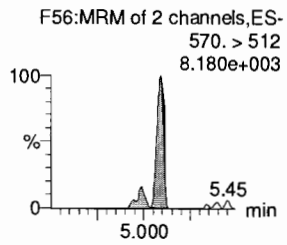
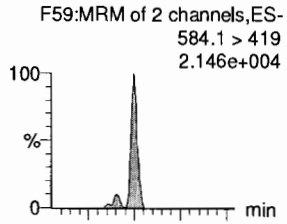
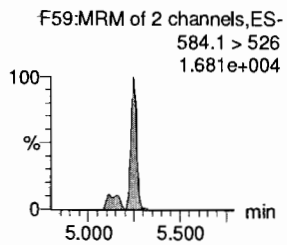


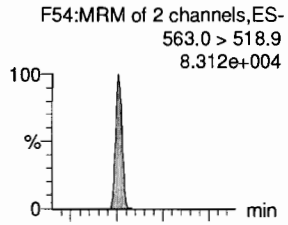


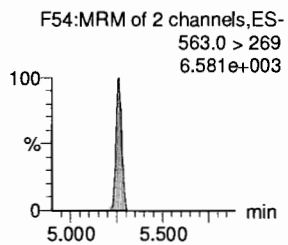
L-EtFOSAA





PFUdA





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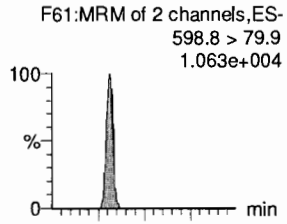

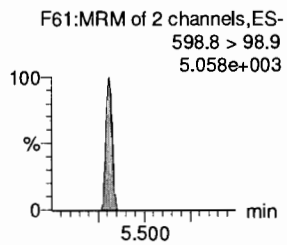

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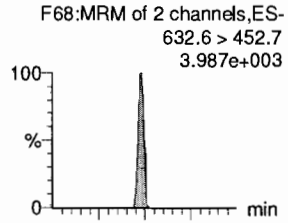
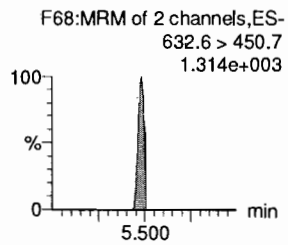
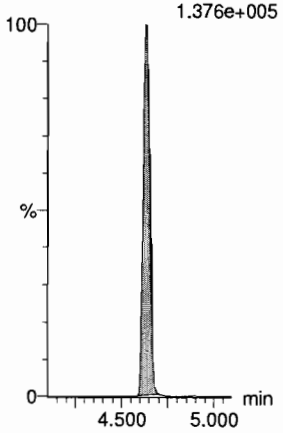
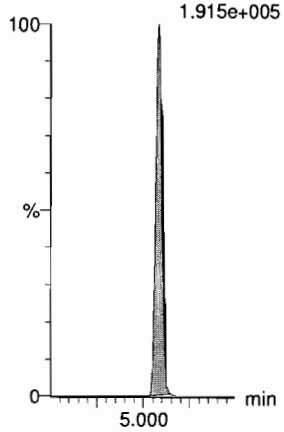




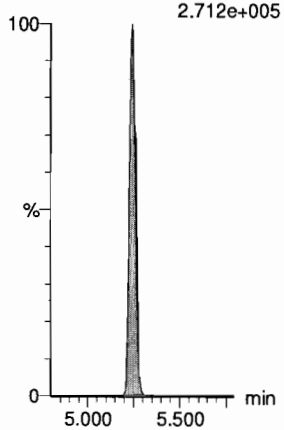
13C8-PFOS



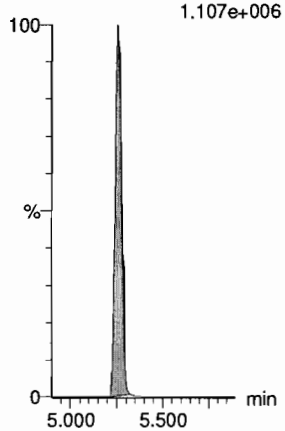
d3-N-MeFOSAA



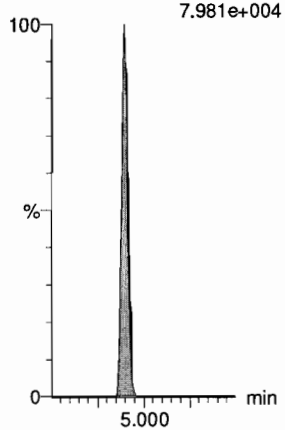
d5-N-EtFOSAA



13C2-PFUdA



13C2-8:2 FTS



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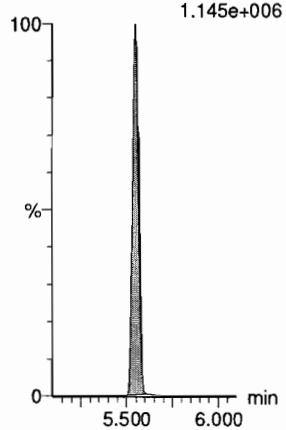

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Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
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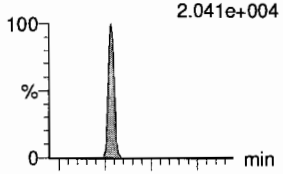
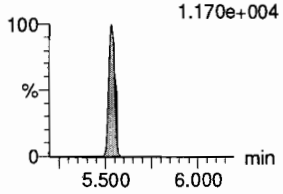
Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

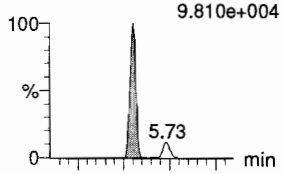
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
2.041e+004



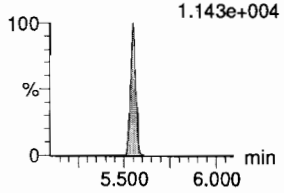
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.170e+004



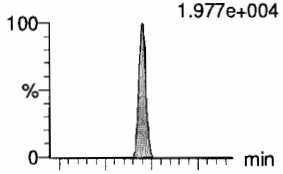
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
9.810e+004



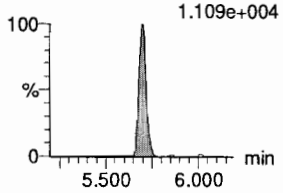
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.143e+004



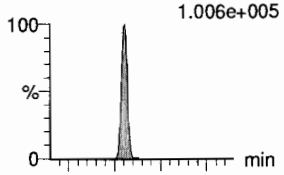
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.977e+004



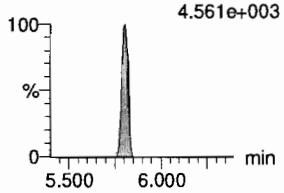
F43:MRM of 2 channels,ES-
512.1 > 219
1.109e+004



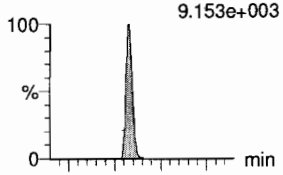
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.006e+005



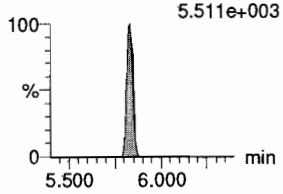
F70:MRM of 2 channels,ES-
662.9 > 319
4.561e+003



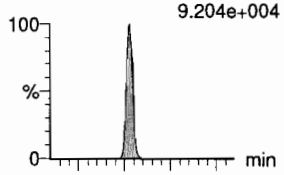
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
9.153e+003



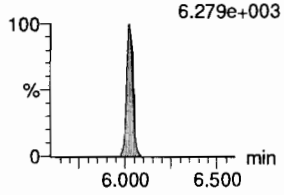
F71:MRM of 2 channels,ES-
698.8 > 98.9
5.511e+003



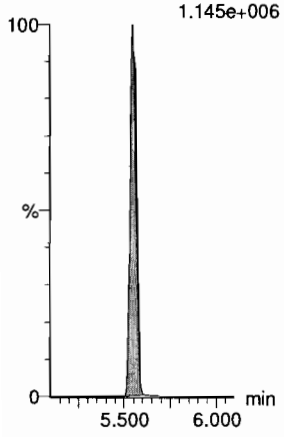
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
9.204e+004



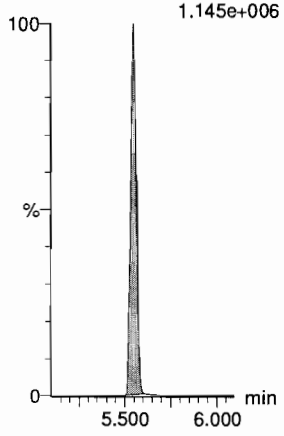
F72:MRM of 2 channels,ES-
713. > 369.0
6.279e+003



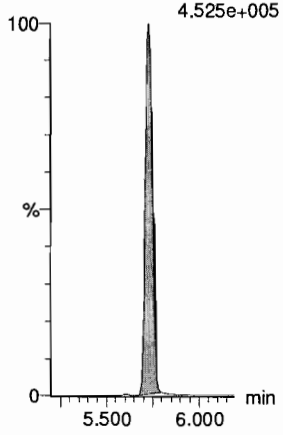
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.145e+006



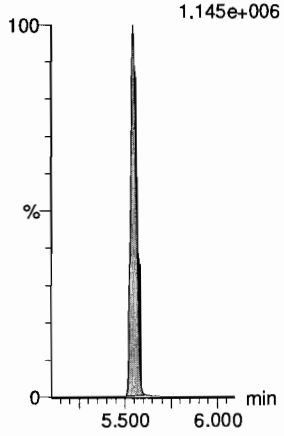
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.145e+006



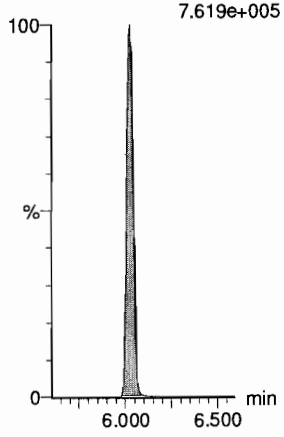
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.525e+005



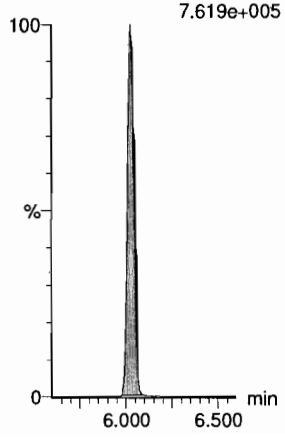
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.145e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.619e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.619e+005

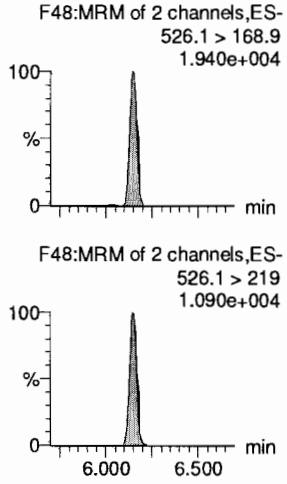


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

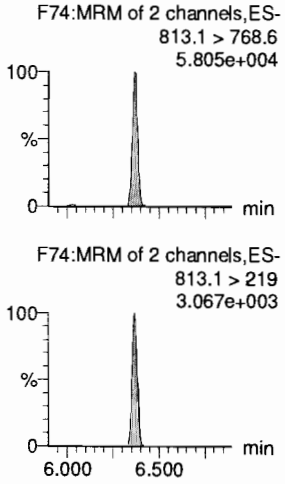
Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

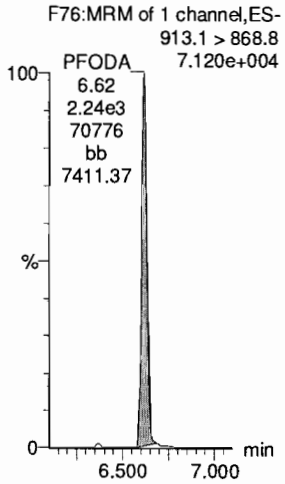
N-EtFOSA



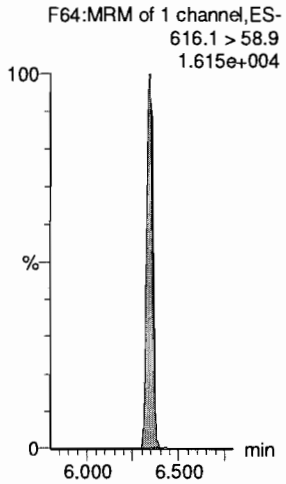
PFHxDA



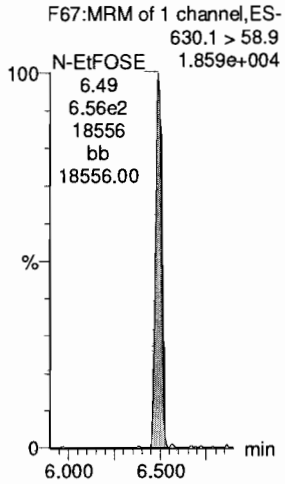
PFODA



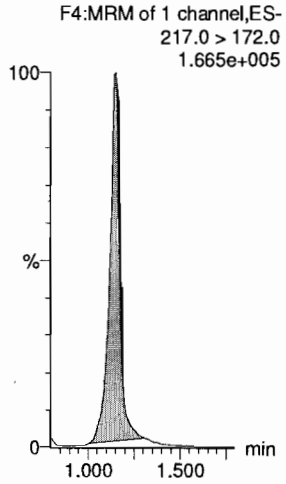
N-MeFOSE



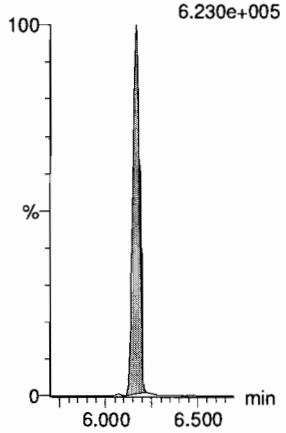
N-EtFOSE



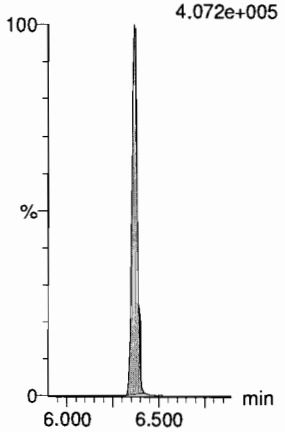
13C4-PFBA



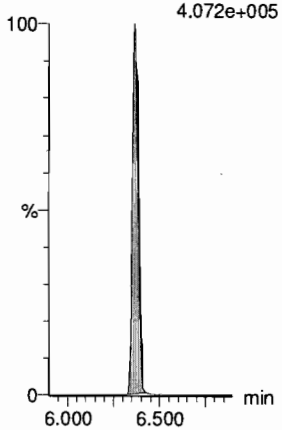
d5-N-ETFOSA



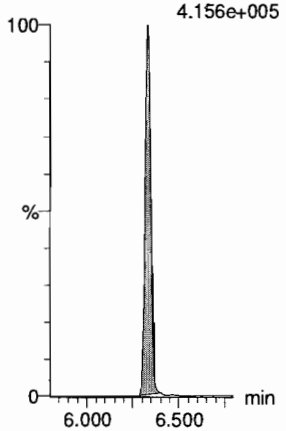
13C2-PFHxDA



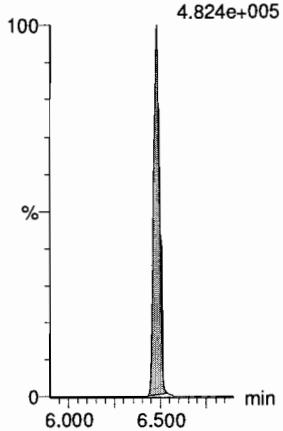
13C2-PFHxDA



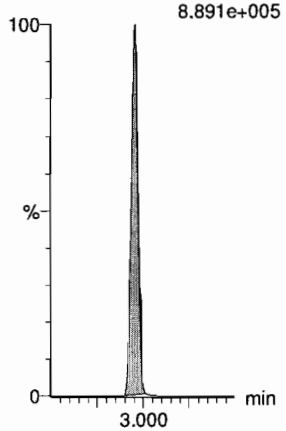
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

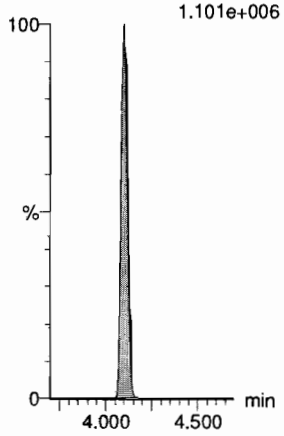


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-2.qld

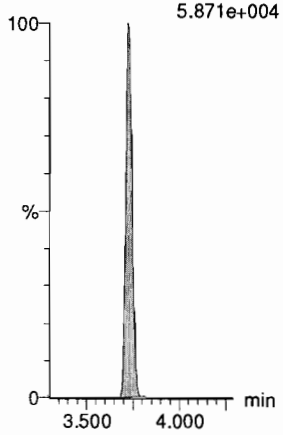
Last Altered: Wednesday, July 24, 2019 09:14:25 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:14:46 Pacific Daylight Time

Name: 190724M1_2, Date: 24-Jul-2019, Time: 08:06:51, ID: ST190724M1-1 PFC CS0 19G1103, Description: PFC CS0 19G1103

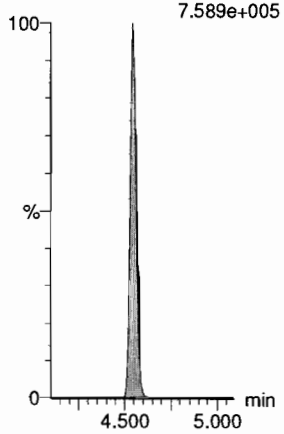
13C8-PFOA



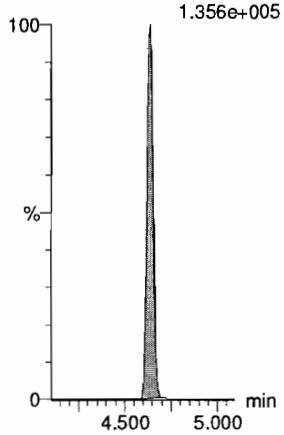
18O2-PFHxS



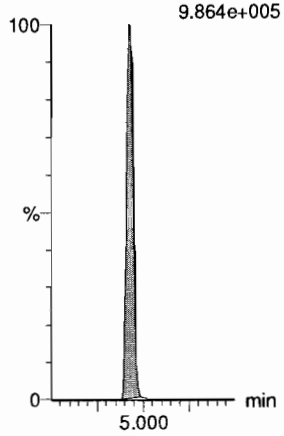
13C9-PFNA



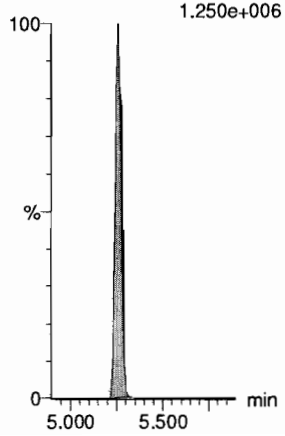
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

JAM 7/23/19

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 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	8578.688	8078.000	1.00	1.15	13.275	10.7	106.5	NO		
2	2	PFPrS	248.9 > 79.9	1753.290	2391.056	1.00	1.52	9.166	9.8	98.2	NO	2.691	NO
3	3	3:3 FTCA	240.9 > 176.9	449.621	17126.783	1.00	1.98	0.328	9.6	95.6	NO	2.233	NO
4	4	PFPeA	263.1 > 218.9	13026.083	17126.783	1.00	2.14	9.507	10.3	102.8	NO		
5	5	PFBS	299.0 > 79.7	4488.325	2391.056	1.00	2.44	23.464	10.3	103.4	NO	3.012	NO
6	6	4:2 FTS	327.0 > 306.9	7969.782	3940.071	1.00	2.87	25.284	10.0	100.5	NO	1.872	NO
7	47	13C3-PFBA	216.1 > 171.8	8078.000	11117.378	1.00	1.15	9.083	12.4	99.0	NO		
8	49	13C3-PFBS	302.0 > 98.8	2391.056	2229.535	1.00	2.44	13.406	12.7	101.4	NO		
9	48	13C3-PFPeA	266.0 > 221.8	17126.783	35118.898	1.00	2.14	6.096	12.2	97.9	NO		
10	48	13C3-PFPeA	266.0 > 221.8	17126.783	35118.898	1.00	2.14	6.096	12.2	97.9	NO		
11	49	13C3-PFBS	302.0 > 98.8	2391.056	2229.535	1.00	2.44	13.406	12.7	101.4	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3940.071	2229.535	1.00	2.87	22.090	13.4	107.1	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	25761.986	13870.568	1.00	2.95	9.287	10.5	105.3	NO	15.645	NO
15	8	PFPeS	349.1>80.1	3133.970	2391.056	1.00	3.16	16.384	10.2	102.2	NO	1.483	NO
16	9	HFPO-DA	285.1 > 168.9	1999.037	2037.121	1.00	3.16	4.907	7.7	76.7	NO	2.534	NO
17	10	5:3 FTCA	340.9 > 236.9	2455.972	16729.611	1.00	3.51	1.835	10.0	99.5	NO	1.564	NO
18	11	PFHpA	363.0 > 318.9	17540.336	16729.611	1.00	3.58	13.106	10.1	101.2	NO	9.821	NO
19	12	ADONA	376.8 > 250.9	44714.070	16729.611	1.00	3.68	33.409	9.4	94.2	NO	3.605	NO
20	52	13C2-PFHxA	315.0 > 270.0	13870.568	35118.898	1.00	2.95	4.937	5.0	101.0	NO		
21	49	13C3-PFBS	302.0 > 98.8	2391.056	2229.535	1.00	2.44	13.406	12.7	101.4	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	2037.121	35118.898	1.00	3.17	0.725	5.4	108.3	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16729.611	35118.898	1.00	3.57	5.955	12.4	99.5	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16729.611	35118.898	1.00	3.57	5.955	12.4	99.5	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16729.611	35118.898	1.00	3.57	5.955	12.4	99.5	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3546.057	4669.472	1.00	3.73	9.493	10.4	104.1	NO	2.152	NO
28	15	6:2 FTS	427.0 > 406.9	7678.958	2916.727	1.00	4.05	32.909	9.8	97.8	NO	2.178	NO
29	16	L-PFOA	412.8 > 368.9	35447.270	30334.994	1.00	4.11	14.607	9.7	97.0	NO	3.800	NO
30	18	PFecHS	460.8 > 381.0	5548.249	30334.994	1.00	4.13	2.286	9.9	99.3	NO	0.933	NO
31	19	PFHpS	449.0 > 80.0	3869.758	5299.051	1.00	4.23	9.128	10.4	103.6	NO	1.768	NO
32	20	7:3 FTCA	440.9 > 336.9	2702.885	29700.229	1.00	4.54	1.138	9.6	95.8	NO	2.034	NO
33	54	13C3-PFHxS	401.8 > 79.9	4669.472	2229.535	1.00	3.73	26.180	12.9	103.5	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2916.727	5392.490	1.00	4.05	6.761	12.6	100.9	NO		
35	58	13C2-PFOA	414.9 > 369.7	30334.994	42701.020	1.00	4.11	8.880	13.0	104.3	NO		
36	58	13C2-PFOA	414.9 > 369.7	30334.994	42701.020	1.00	4.11	8.880	13.0	104.3	NO		

CDH 7/24/19

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 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	5299.051	5392.490	1.00	4.64	12.283	12.3	98.6	NO		
38	56	13C5-PFNA	468.2 > 422.9	29700.229	31235.320	1.00	4.55	11.886	11.9	94.9	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	29308.729	29700.229	1.00	4.55	12.335	10.7	107.0	NO	4.075	NO
41	22	PFOSA	497.9 > 77.9	5940.204	6670.929	1.00	4.61	11.131	10.9	109.2	NO	28.995	NO
42	23	L-PFOS	498.9 > 79.9	4763.127	5299.051	1.00	4.64	11.236	10.5	105.3	NO	2.157	NO
43	25	9Cl-PF30NS	530.7 > 350.8	9065.751	5299.051	1.00	4.87	21.385	9.8	97.6	NO	19.341	NO
44	26	PFDA	513 > 468.8	34340.395	31665.141	1.00	4.93	13.556	10.5	105.2	NO	5.702	NO
45	27	8:2 FTS	527.0 > 506.9	5678.750	3243.855	1.00	4.90	21.883	10.8	107.7	NO	1.263	NO
46	56	13C5-PFNA	468.2 > 422.9	29700.229	31235.320	1.00	4.55	11.886	11.9	94.9	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6670.929	46881.891	1.00	4.61	1.779	10.6	84.9	NO		
48	59	13C8-PFOS	507.0 > 79.9	5299.051	5392.490	1.00	4.64	12.283	12.3	98.6	NO		
49	59	13C8-PFOS	507.0 > 79.9	5299.051	5392.490	1.00	4.64	12.283	12.3	98.6	NO		
50	60	13C2-PFDA	515.1 > 469.9	31665.141	40147.855	1.00	4.93	9.859	12.0	96.3	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3243.855	5392.490	1.00	4.90	7.519	13.5	108.1	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3369.122	5299.051	1.00	5.00	7.947	11.1	111.0	NO	1.709	NO
54	29	L-MeFOSAA	570 > 419	13093.050	6922.465	1.00	5.09	23.642	11.0	109.6	NO	2.501	NO
55	31	L-EtFOSAA	584.1 > 419	10229.828	9625.239	1.00	5.25	13.285	10.6	106.4	NO	1.352	NO
56	33	PFUdA	563.0 > 518.9	32124.355	40632.379	1.00	5.26	9.883	10.8	108.1	NO	8.800	NO
57	34	PFDS	598.8 > 79.9	4745.177	3243.855	1.00	5.31	18.285	10.7	107.3	NO	1.888	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1892.190	40967.398	1.00	5.48	0.577	10.0	100.2	NO	5.345	NO
59	59	13C8-PFOS	507.0 > 79.9	5299.051	5392.490	1.00	4.64	12.283	12.3	98.6	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	6922.465	46881.891	1.00	5.08	1.846	10.4	83.2	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9625.239	46881.891	1.00	5.25	2.566	11.5	91.7	NO		
62	63	13C2-PFUdA	565 > 519.8	40632.379	46881.891	1.00	5.26	10.834	12.2	97.5	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3243.855	5392.490	1.00	4.90	7.519	13.5	108.1	NO		
64	65	13C2-PFDoA	614.7 > 569.7	40967.398	40147.855	1.00	5.55	12.755	11.7	93.8	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	6646.416	3243.855	1.00	5.54	25.612	10.6	106.1	NO	1.579	NO
67	37	PFDoA	612.9 > 569.0	36153.465	40967.398	1.00	5.55	11.031	10.3	103.1	NO	8.784	NO
68	38	N-MeFOSA	512.1 > 168.9	8263.282	20264.230	1.00	5.70	61.167	51.9	103.8	NO	1.585	NO
69	39	PFTrDA	662.9 > 618.9	37986.211	40967.398	1.00	5.80	11.590	10.2	101.5	NO	23.127	NO
70	40	PFDoS	698.8 > 79.9	3816.245	28402.365	1.00	5.84	1.680	10.2	101.7	NO	1.848	NO
71	41	PFTeDA	713.0 > 669.0	37097.734	28402.365	1.00	6.03	16.327	10.8	107.9	NO	14.588	NO
72	65	13C2-PFDoA	614.7 > 569.7	40967.398	40147.855	1.00	5.55	12.755	11.7	93.8	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
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Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 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	40967.398	40147.855	1.00	5.55	12.755	11.7	93.8	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	20264.230	46881.891	1.00	5.73	5.403	141.3	94.2	NO		
75	65	13C2-PFDoA	614.7 > 569.7	40967.398	40147.855	1.00	5.55	12.755	11.7	93.8	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	28402.365	46881.891	1.00	6.03	7.573	12.5	100.3	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	28402.365	46881.891	1.00	6.03	7.573	12.5	100.3	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	8845.448	26265.350	1.00	6.15	50.516	51.8	103.5	NO	1.609	NO
80	43	PFHxDA	813.1 > 768.6	19816.395	14626.552	1.00	6.39	6.774	10.3	103.0	NO	23.343	NO
81	44	PFODA	913.1 > 868.8	24003.119	14626.552	1.00	6.64	8.205	10.7	107.2	NO		
82	45	N-MeFOSE	616.1 > 58.9	5731.313	15957.485	1.00	6.36	53.874	48.2	96.4	NO		
83	46	N-EtFOSE	630.1 > 58.9	7135.994	16668.078	1.00	6.51	64.219	49.7	99.3	NO		
84	72	13C4-PFBA	217.0 > 172.0	11117.378	11117.378	1.00	1.15	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	26265.350	46881.891	1.00	6.17	7.003	157.5	105.0	NO		
86	69	13C2-PFHxDA	815 > 769.7	14626.552	46881.891	1.00	6.39	3.900	5.0	99.0	NO		
87	69	13C2-PFHxDA	815 > 769.7	14626.552	46881.891	1.00	6.39	3.900	5.0	99.0	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	15957.485	46881.891	1.00	6.35	4.255	135.9	90.6	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	16668.078	46881.891	1.00	6.50	4.444	135.3	90.2	NO		
90	73	13C5-PFHxA	318.0 > 272.9	35118.898	35118.898	1.00	2.95	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	42701.020	42701.020	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2229.535	2229.535	1.00	3.73	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	31235.320	31235.320	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5392.490	5392.490	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	40147.855	40147.855	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	46881.891	46881.891	1.00	5.26	12.500	12.5	100.0	NO		

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Dataset: Untitled

Last Altered: Wednesday, July 24, 2019 09:11:07 Pacific Daylight Time
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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

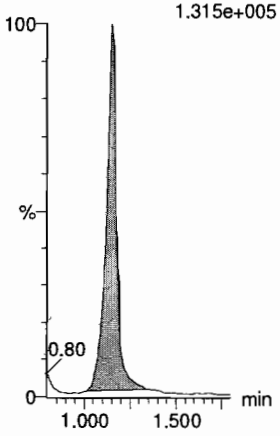
	#	Name	ID	Acq.Date	Acq.Time
1	1	190724M1_1	IPA	24-Jul-19	07:56:19
2	2	190724M1_2	ST190724M1-1 PFC CS0 19G1103	24-Jul-19	08:06:51
3	3	190724M1_3	IB	24-Jul-19	08:17:30
4	4	190724M1_4	1901616-01@5X 053119B 5	24-Jul-19	08:28:11
5	5	190724M1_5	IPA	24-Jul-19	08:38:46
6	6	190724M1_6	ST190724M1-2 PFC CS3 19G1106	24-Jul-19	08:49:25
7	7	190724M1_7	IPA	24-Jul-19	08:59:58

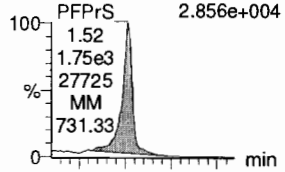
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

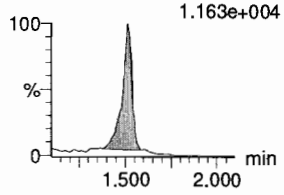
Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

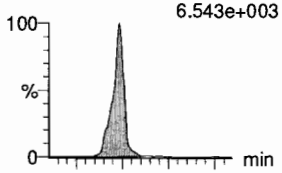
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

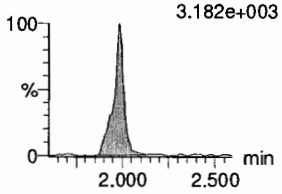
Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

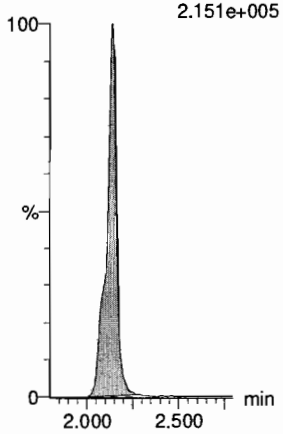
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.315e+005


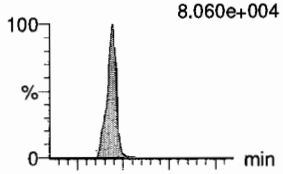
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.856e+004
PFPrS
1.52
1.75e3
27725
MM
731.33


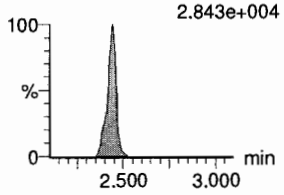
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.163e+004


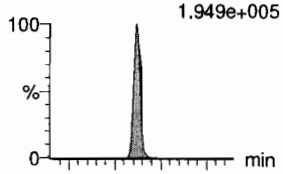
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
6.543e+003


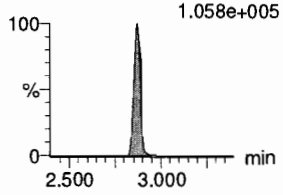
F5:MRM of 2 channels,ES-
240.9 > 116.9
3.182e+003


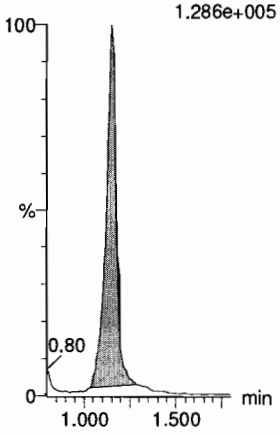
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
2.151e+005


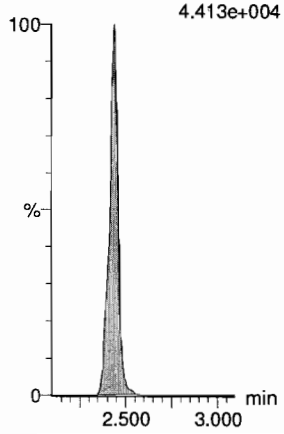
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
8.060e+004


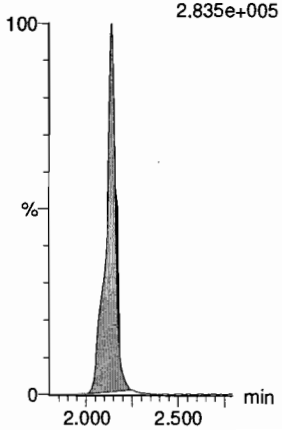
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.843e+004


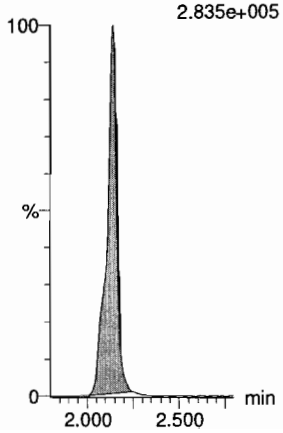
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.949e+005


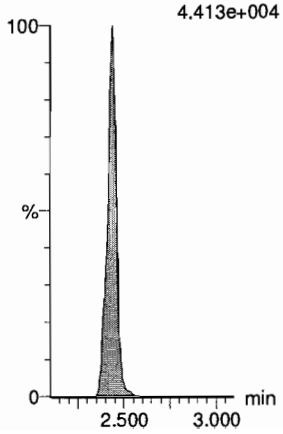
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.058e+005


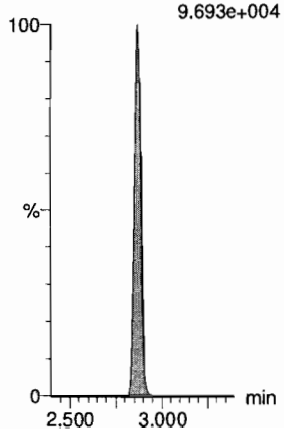
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.286e+005


13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.413e+004


13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.835e+005


13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.835e+005


13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.413e+004


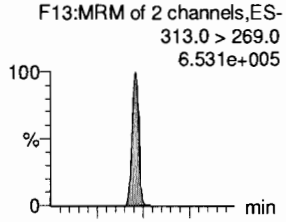
13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.693e+004


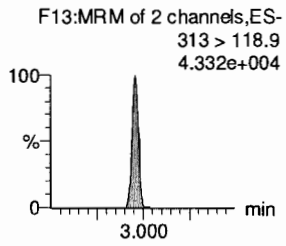
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

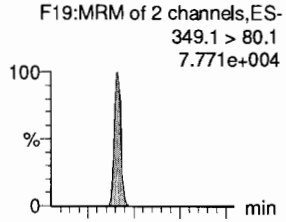
Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

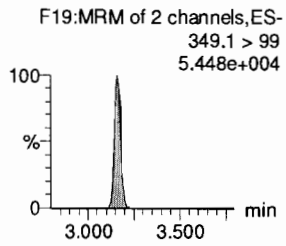
PFHxA



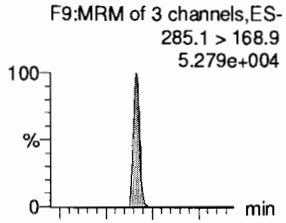


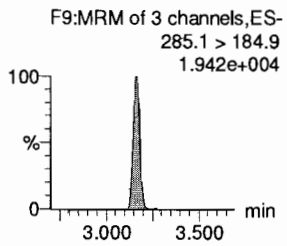
PFPeS



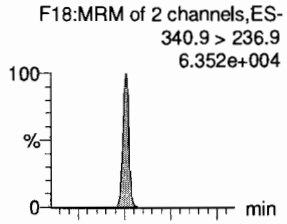


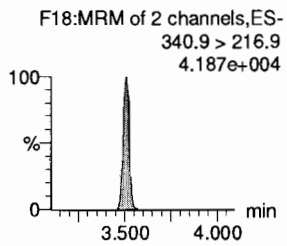
HFPO-DA



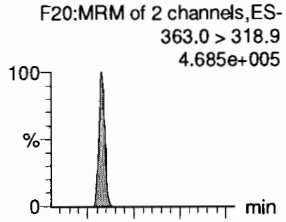


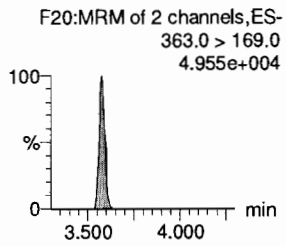
5:3 FTCA





PFHpA





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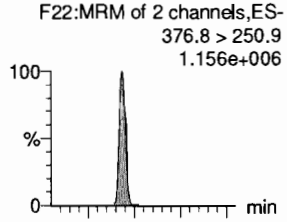

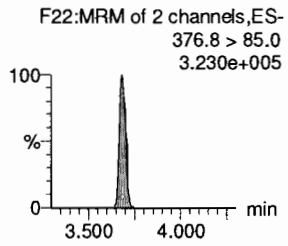

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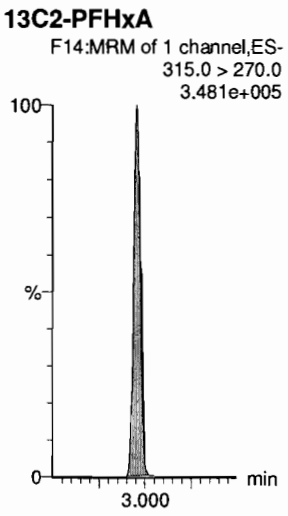

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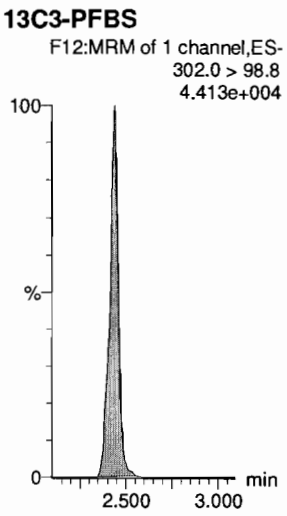

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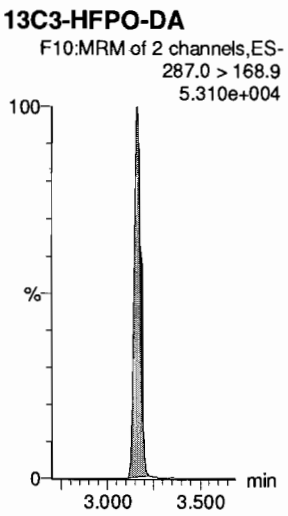

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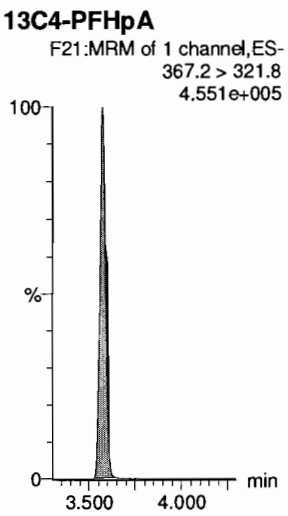

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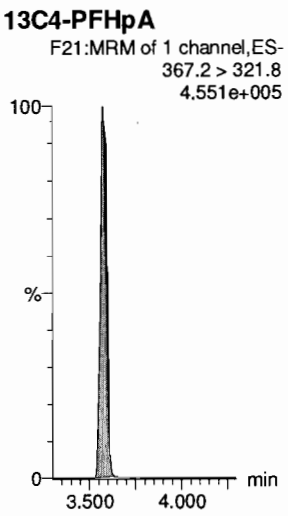

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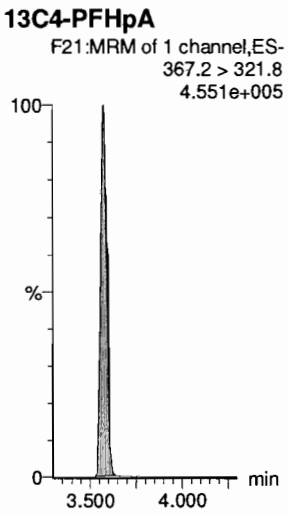

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Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

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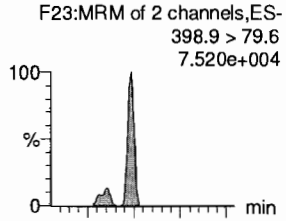

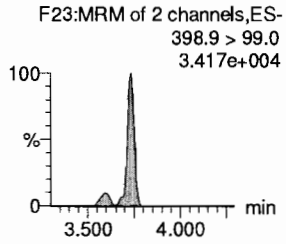

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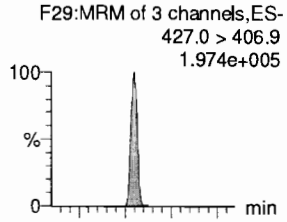

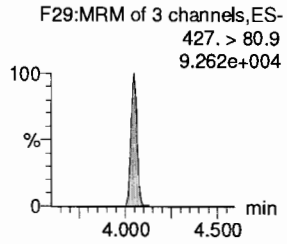

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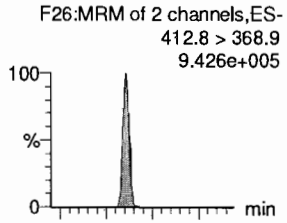

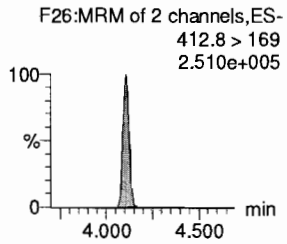

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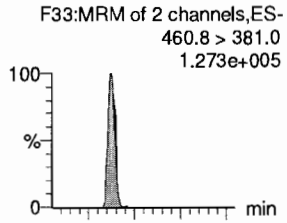

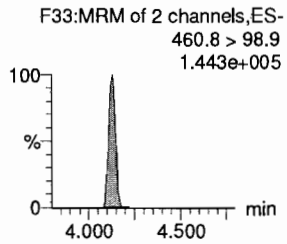

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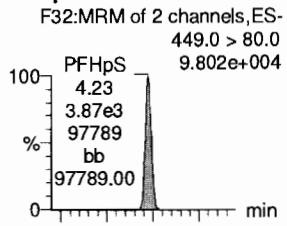

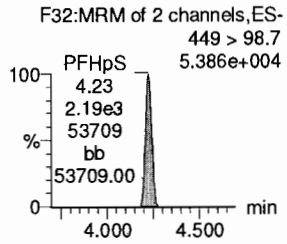

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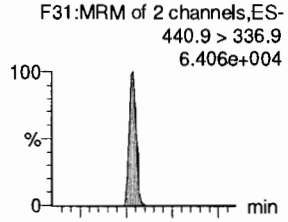

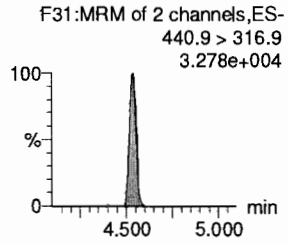

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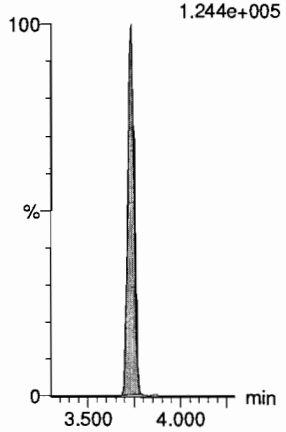
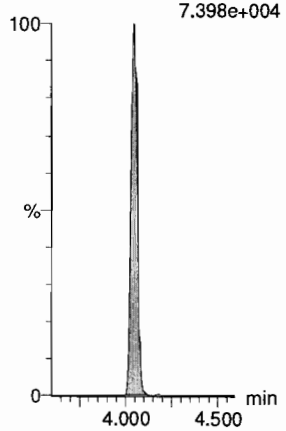


13C2-6:2 FTS



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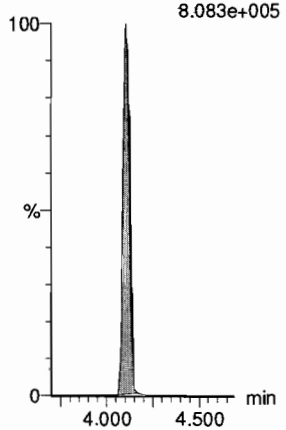

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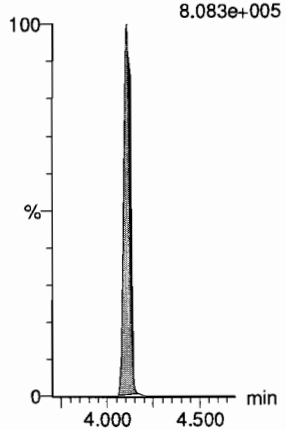
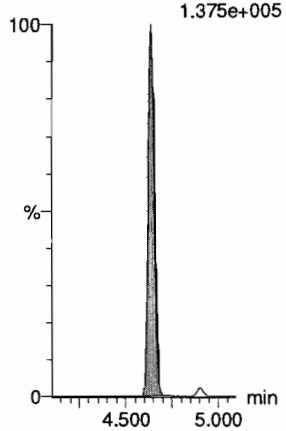


13C8-PFOS



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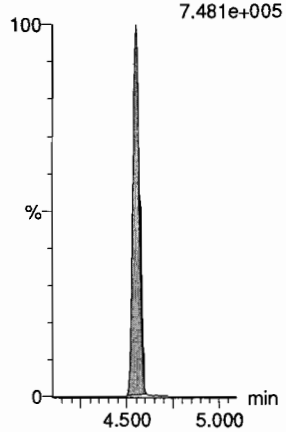

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Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

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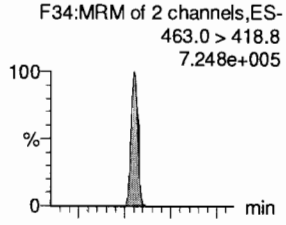

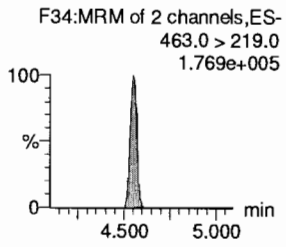

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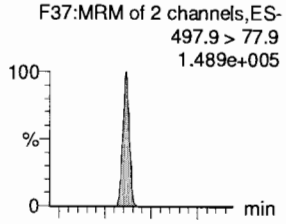
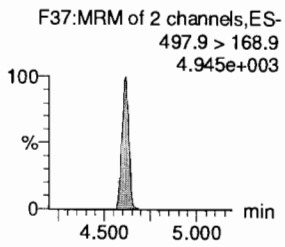
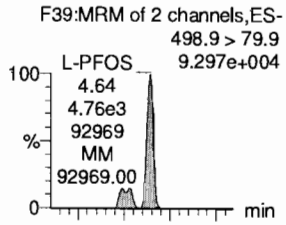
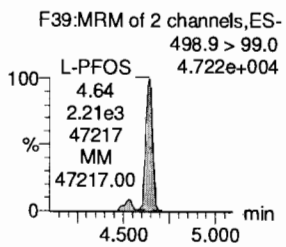




L-PFOS





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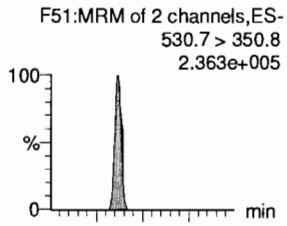

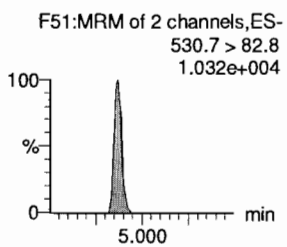

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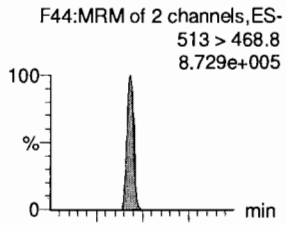

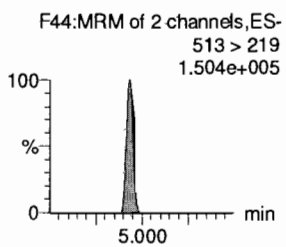

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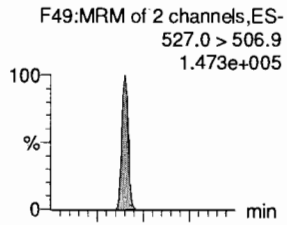

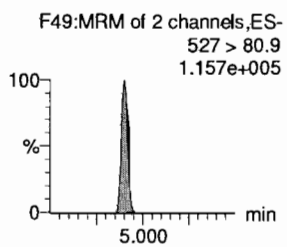

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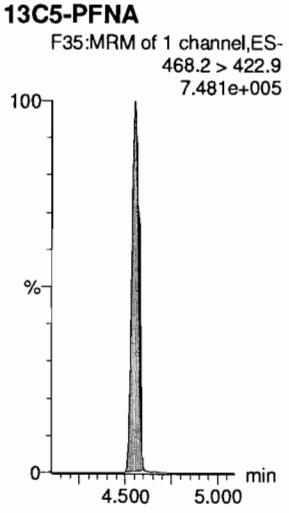

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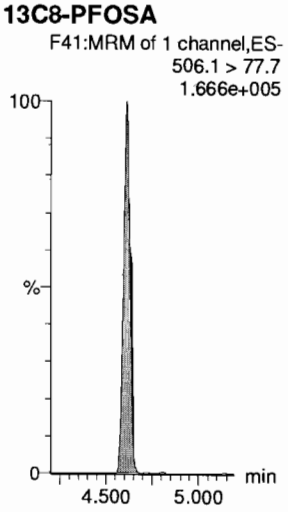

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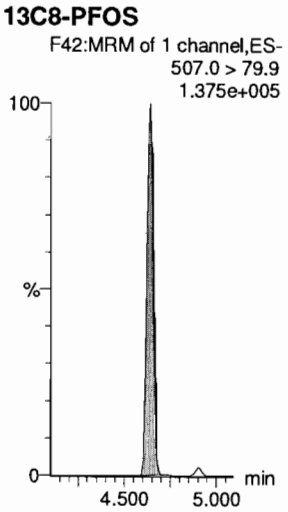

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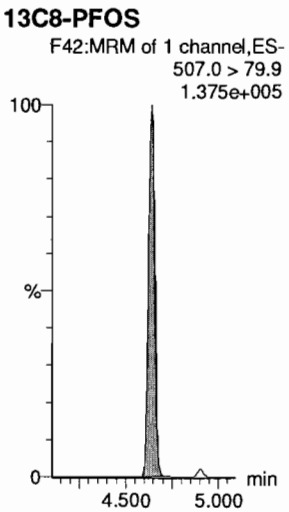

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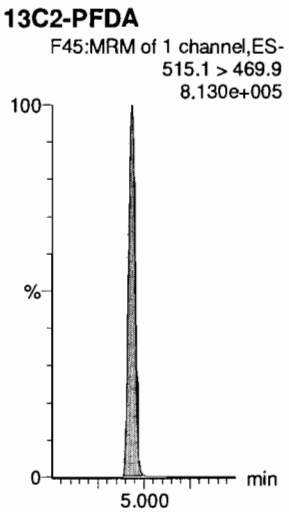

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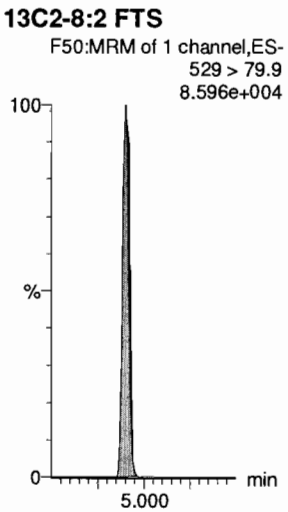

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Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

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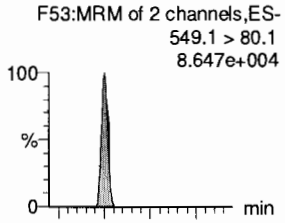

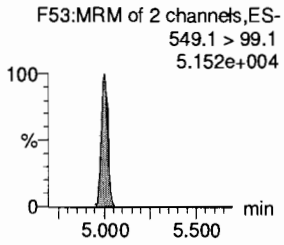

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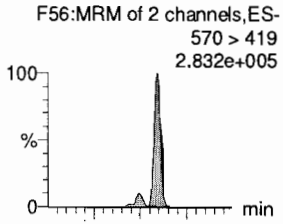

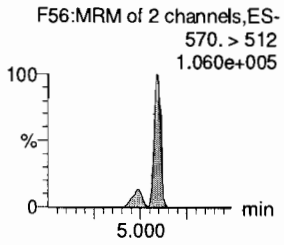

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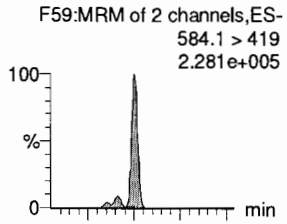
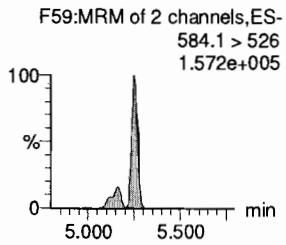
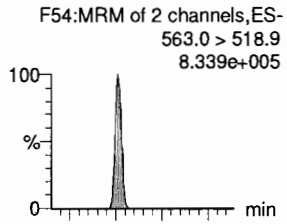
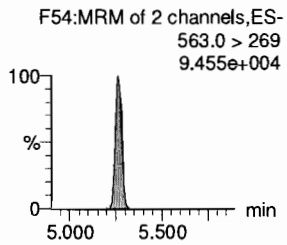


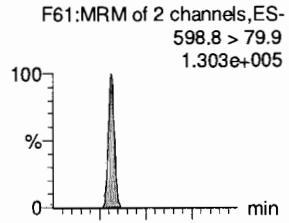


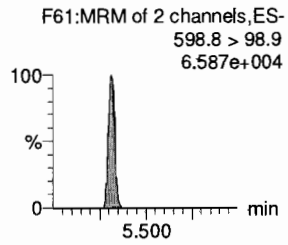
PFUdA



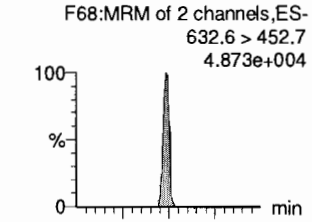


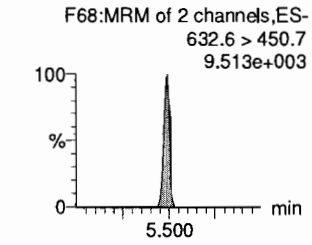
PFDS



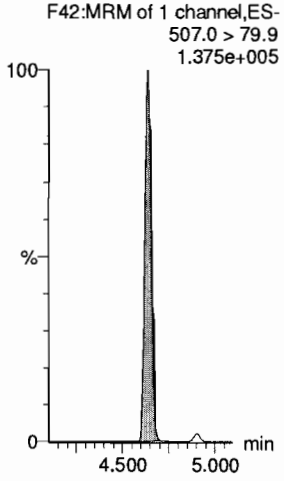


11Cl-PF30UdS

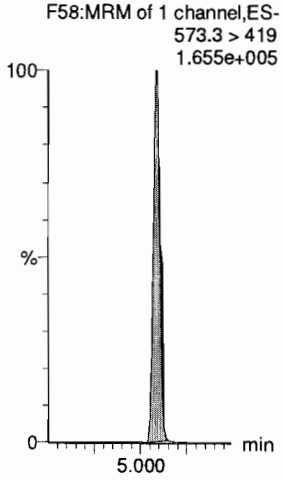




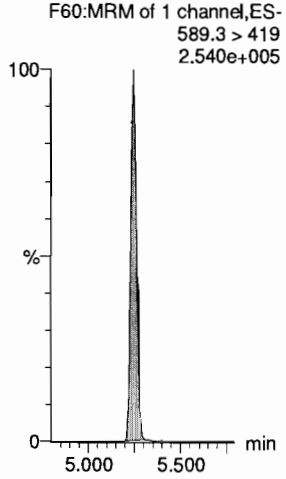
13C8-PFOS



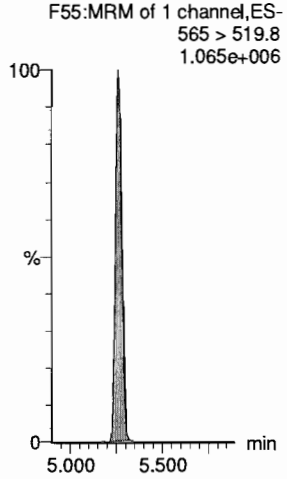
d3-N-MeFOSAA



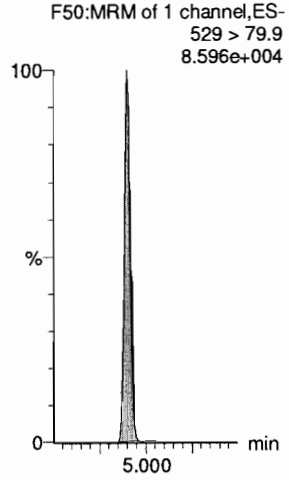
d5-N-EtFOSAA



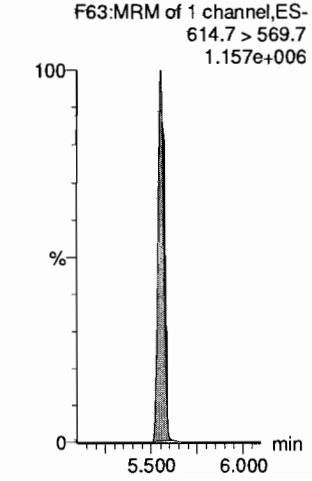
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

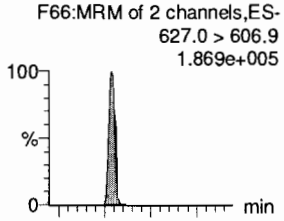


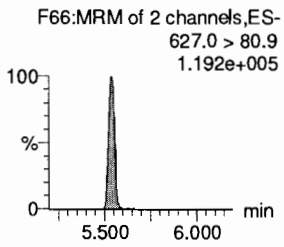
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

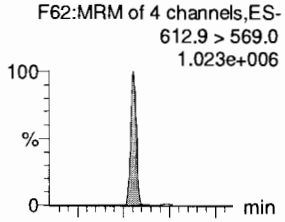
Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

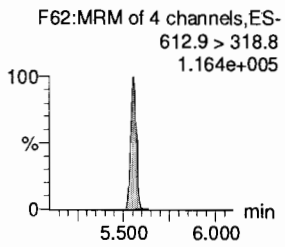
10:2 FTS



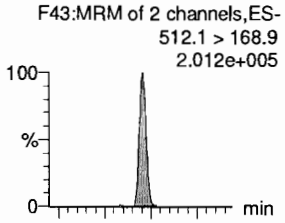


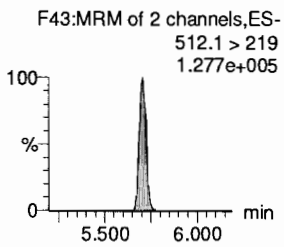
PFDoA



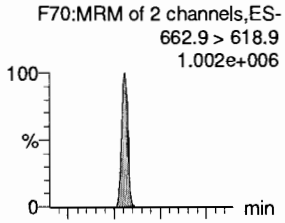


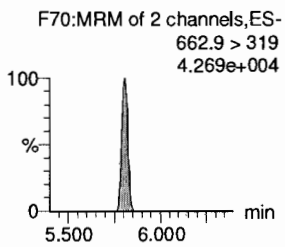
N-MeFOSA



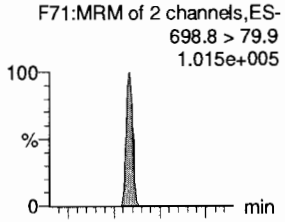


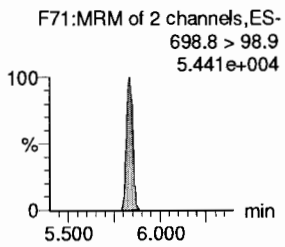
PFTrDA



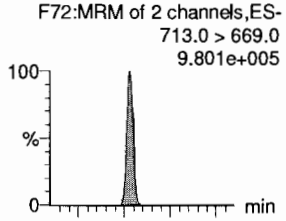


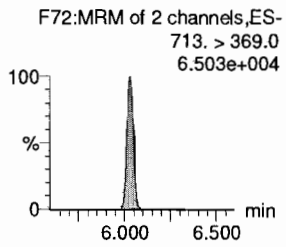
PFDoS



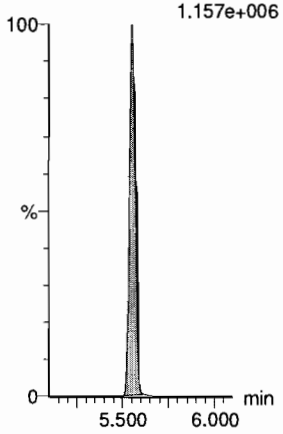


PFTeDA

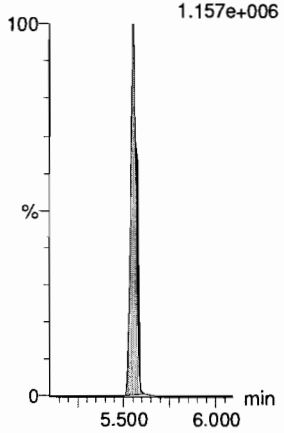




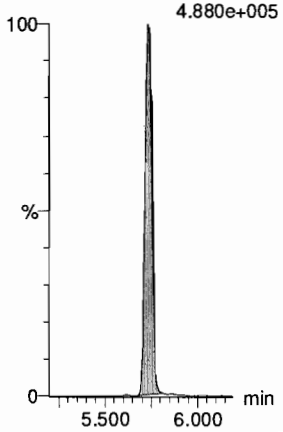
13C2-PFDoA



13C2-PFDoA



d3-N-MeFOSA



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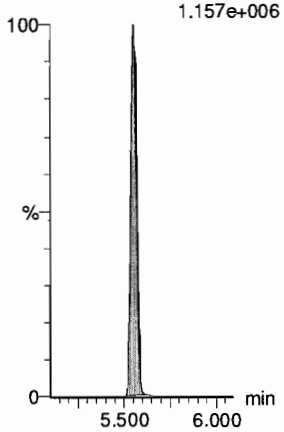

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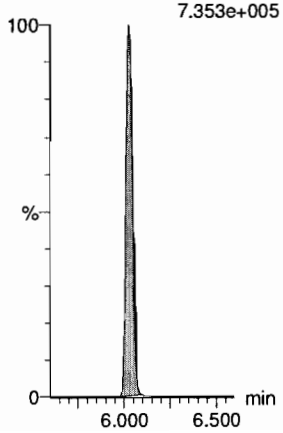
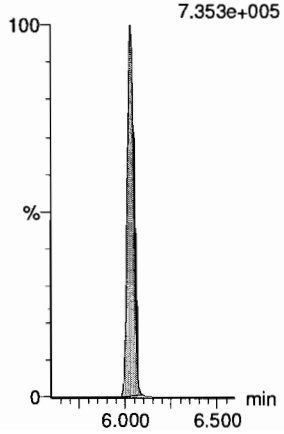


13C2-PFTeDA

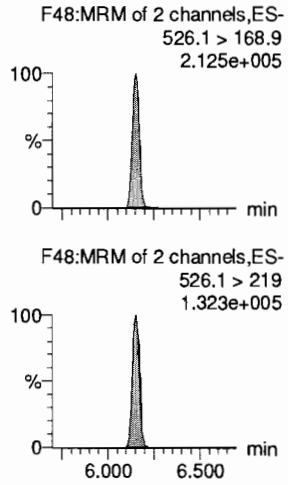


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

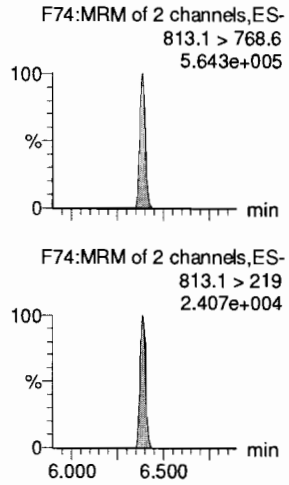
Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

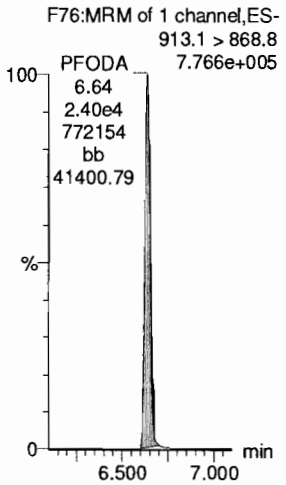
N-EtFOSA



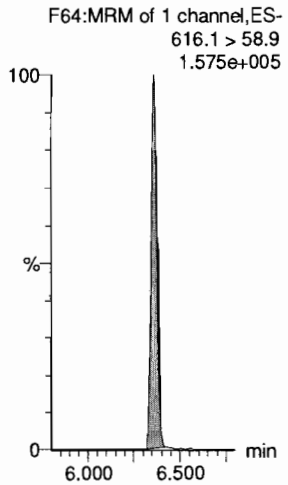
PFHxDA



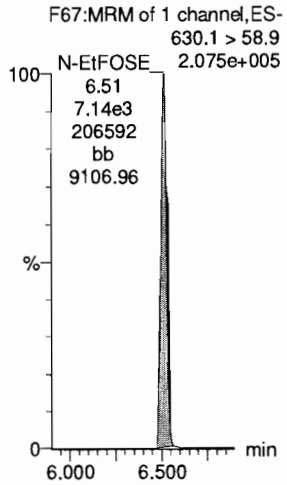
PFODA



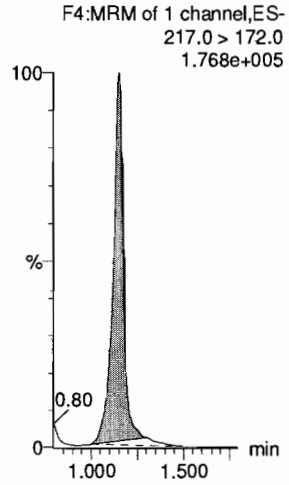
N-MeFOSE



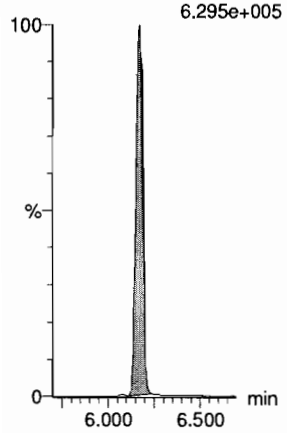
N-EtFOSE



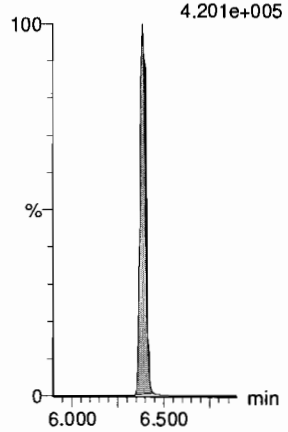
13C4-PFBA



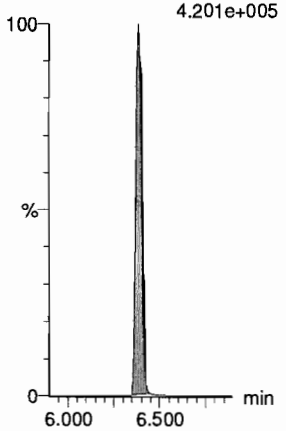
d5-N-ETFOSA



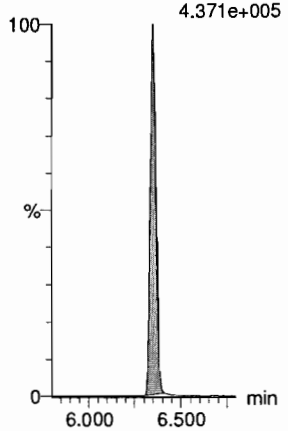
13C2-PFHxDA



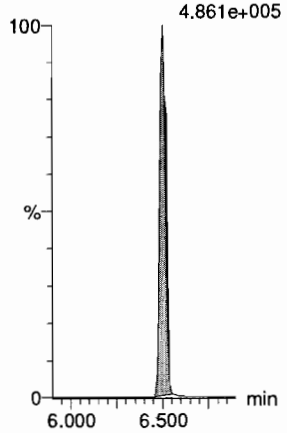
13C2-PFHxDA



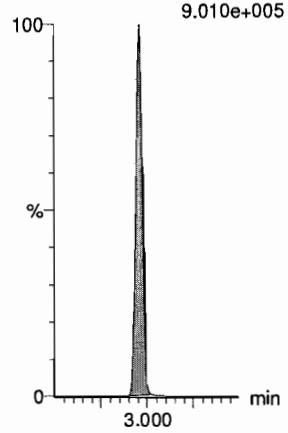
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

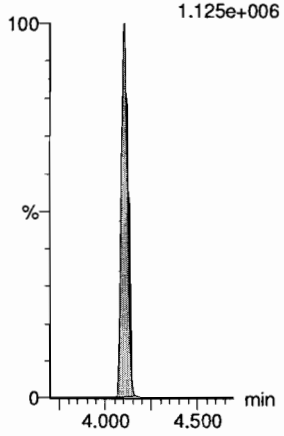


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-6.qld

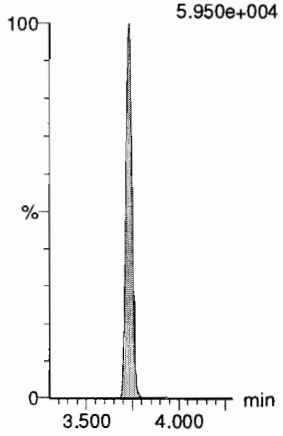
Last Altered: Wednesday, July 24, 2019 09:05:01 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 09:05:30 Pacific Daylight Time

Name: 190724M1_6, Date: 24-Jul-2019, Time: 08:49:25, ID: ST190724M1-2 PFC CS3 19G1106, Description: PFC CS3 19G1106

13C8-PFOA



18O2-PFHxS



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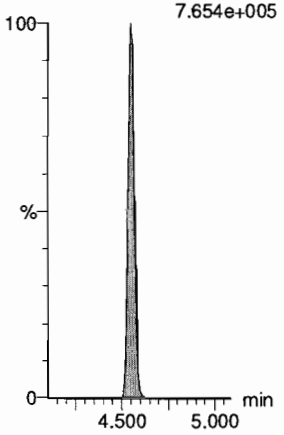
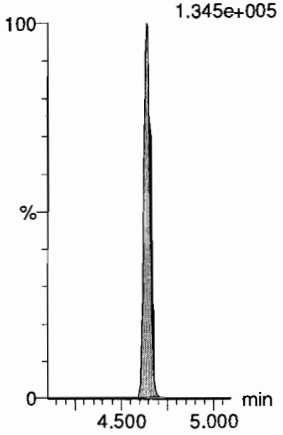
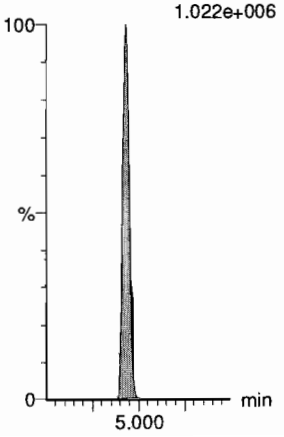


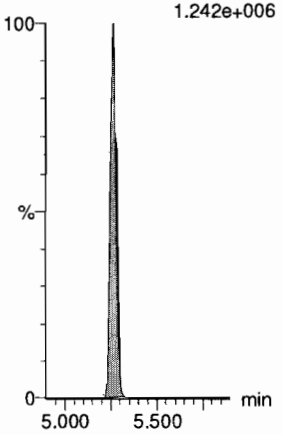
13C4-PFOS



13C6-PFDA



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:	ST190724M1-3	L M H	☒	☒	☒	☒	☒	☐	☐
Calibration ID:	-4	L M H	☒	☒	☒	☒	☒	☐	☐
Calibration ID:	-5	L M H	☒	☒	☒	☒	☒	☐	☐
Calibration ID:	-6	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	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

N/A Cal 7/25/19

Full Mass Cal. Date: 07/15/19

Run Log Present: ☒

# of Samples per Sequence Checked: ☒

Instrument Blank Saved ☒

All Branches in Acquisition Window ☒

IIS Area Saved ☒

Reviewed By: JR 07/26/19
Initials/Date

Comments:

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 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	8565.922	8253.516	1.00	1.15	12.973	10.4	104.1	NO		
2	2	PFPrS	248.9 > 79.9	1922.571	2381.196	1.00	1.52	10.092	10.8	107.9	NO	2.510	NO
3	3	3:3 FTCA	240.9 > 176.9	429.043	17213.785	1.00	1.99	0.312	9.1	90.8	NO	1.955	NO
4	4	PFPeA	263.1 > 218.9	12513.665	17213.785	1.00	2.14	9.087	9.8	98.3	NO		
5	5	PFBS	299.0 > 79.7	4426.137	2381.196	1.00	2.44	23.235	10.2	102.4	NO	3.008	NO
6	6	4:2 FTS	327.0 > 306.9	7631.749	3887.087	1.00	2.87	24.542	9.8	97.5	NO	1.738	NO
7	47	13C3-PFBA	216.1 > 171.8	8253.516	11149.337	1.00	1.15	9.253	12.6	100.9	NO		
8	49	13C3-PFBS	302.0 > 98.8	2381.196	2106.685	1.00	2.44	14.129	13.4	106.9	NO		
9	48	13C3-PFPeA	266.0 > 221.8	17213.785	35615.355	1.00	2.14	6.042	12.1	97.0	NO		
10	48	13C3-PFPeA	266.0 > 221.8	17213.785	35615.355	1.00	2.14	6.042	12.1	97.0	NO		
11	49	13C3-PFBS	302.0 > 98.8	2381.196	2106.685	1.00	2.44	14.129	13.4	106.9	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3887.087	2106.685	1.00	2.87	23.064	14.0	111.8	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	25629.430	13756.365	1.00	2.96	9.315	10.6	105.6	NO	15.281	NO
15	8	PFPeS	349.1>80.1	3254.737	2381.196	1.00	3.16	17.086	10.7	106.6	NO	1.485	NO
16	9	HFPO-DA	285.1 > 168.9	2035.398	1925.083	1.00	3.16	5.287	8.2	82.5	NO	2.449	NO
17	10	5:3 FTCA	340.9 > 236.9	2396.906	16661.523	1.00	3.51	1.798	9.8	97.6	NO	1.553	NO
18	11	PFHpA	363.0 > 318.9	17379.250	16661.523	1.00	3.58	13.038	10.1	100.7	NO	10.330	NO
19	12	ADONA	376.8 > 250.9	44161.930	16661.523	1.00	3.69	33.132	9.3	93.4	NO	3.582	NO
20	52	13C2-PFHxA	315.0 > 270.0	13756.365	35615.355	1.00	2.96	4.828	4.9	98.8	NO		
21	49	13C3-PFBS	302.0 > 98.8	2381.196	2106.685	1.00	2.44	14.129	13.4	106.9	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1925.083	35615.355	1.00	3.17	0.676	5.0	100.9	NO		
23	53	13C4-PFHpA	367.2 > 321.8	16661.523	35615.355	1.00	3.58	5.848	12.2	97.8	NO		
24	53	13C4-PFHpA	367.2 > 321.8	16661.523	35615.355	1.00	3.58	5.848	12.2	97.8	NO		
25	53	13C4-PFHpA	367.2 > 321.8	16661.523	35615.355	1.00	3.58	5.848	12.2	97.8	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	3492.799	4427.818	1.00	3.74	9.860	10.8	108.1	NO	2.031	NO
28	15	6:2 FTS	427.0 > 406.9	7505.899	2930.714	1.00	4.05	32.014	9.5	95.2	NO	2.212	NO
29	16	L-PFOA	412.8 > 368.9	35469.730	29231.723	1.00	4.11	15.167	10.1	100.7	NO	3.655	NO
30	18	PFecHS	460.8 > 381.0	5256.639	29231.723	1.00	4.13	2.248	9.8	97.6	NO	0.911	NO
31	19	PFHpS	449.0 > 80.0	3758.663	5447.488	1.00	4.23	8.625	9.8	97.9	NO	1.793	NO
32	20	7:3 FTCA	440.9 > 336.9	2512.288	30383.244	1.00	4.54	1.034	8.7	87.3	NO	1.846	NO
33	54	13C3-PFHxS	401.8 > 79.9	4427.818	2106.685	1.00	3.73	26.272	13.0	103.9	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2930.714	5400.902	1.00	4.05	6.783	12.6	101.2	NO		
35	58	13C2-PFOA	414.9 > 369.7	29231.723	42267.988	1.00	4.11	8.645	12.7	101.5	NO		
36	58	13C2-PFOA	414.9 > 369.7	29231.723	42267.988	1.00	4.11	8.645	12.7	101.5	NO		

✓ FR 07/26/19

CAH 7/25/19

Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 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	5447.488	5400.902	1.00	4.64	12.608	12.6	101.2	NO		
38	56	13C5-PFNA	468.2 > 422.9	30383.244	29746.072	1.00	4.55	12.768	12.7	102.0	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	29444.857	30383.244	1.00	4.55	12.114	10.5	105.1	NO	4.015	NO
41	22	PFOSA	497.9 > 77.9	5486.232	6598.827	1.00	4.61	10.392	10.2	102.0	NO	26.644	NO
42	23	L-PFOS	498.9 > 79.9	4634.971	5447.488	1.00	4.64	10.636	10.0	99.7	NO	1.985	NO
43	25	9Cl-PF30NS	530.7 > 350.8	9419.075	5447.488	1.00	4.87	21.613	9.9	98.6	NO	18.044	NO
44	26	PFDA	513 > 468.8	36136.840	31108.029	1.00	4.94	14.521	11.3	112.7	NO	5.918	NO
45	27	8:2 FTS	527.0 > 506.9	5428.596	3102.530	1.00	4.90	21.872	10.8	107.6	NO	1.275	NO
46	56	13C5-PFNA	468.2 > 422.9	30383.244	29746.072	1.00	4.55	12.768	12.7	102.0	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6598.827	47239.137	1.00	4.61	1.746	10.4	83.4	NO		
48	59	13C8-PFOS	507.0 > 79.9	5447.488	5400.902	1.00	4.64	12.608	12.6	101.2	NO		
49	59	13C8-PFOS	507.0 > 79.9	5447.488	5400.902	1.00	4.64	12.608	12.6	101.2	NO		
50	60	13C2-PFDA	515.1 > 469.9	31108.029	38368.730	1.00	4.94	10.135	12.4	99.0	NO		
51	61	13C2-8:2 FTS	529 > 79.9	3102.530	5400.902	1.00	4.90	7.181	12.9	103.2	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	3284.779	5447.488	1.00	5.00	7.537	10.5	105.3	NO	1.712	NO
54	29	L-MeFOSAA	570 > 419	13529.522	7084.854	1.00	5.09	23.871	11.1	110.7	NO	2.586	NO
55	31	L-EtFOSAA	584.1 > 419	10828.258	9998.375	1.00	5.25	13.538	10.8	108.4	NO	1.356	NO
56	33	PFUdA	563.0 > 518.9	31027.201	40600.023	1.00	5.26	9.553	10.4	104.5	NO	8.814	NO
57	34	PFDS	598.8 > 79.9	4597.457	3102.530	1.00	5.31	18.523	10.9	108.7	NO	1.826	NO
58	35	11Cl-PF30UdS	632.6 > 452.7	1845.818	41341.453	1.00	5.48	0.558	9.7	96.9	NO	5.089	NO
59	59	13C8-PFOS	507.0 > 79.9	5447.488	5400.902	1.00	4.64	12.608	12.6	101.2	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7084.854	47239.137	1.00	5.09	1.875	10.6	84.5	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9998.375	47239.137	1.00	5.25	2.646	11.8	94.6	NO		
62	63	13C2-PFUdA	565 > 519.8	40600.023	47239.137	1.00	5.26	10.743	12.1	96.7	NO		
63	61	13C2-8:2 FTS	529 > 79.9	3102.530	5400.902	1.00	4.90	7.181	12.9	103.2	NO		
64	65	13C2-PFDoA	614.7 > 569.7	41341.453	38368.730	1.00	5.55	13.468	12.4	99.1	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9	6350.054	3102.530	1.00	5.54	25.584	10.6	106.0	NO	1.604	NO
67	37	PFDoA	612.9 > 569.0	35788.262	41341.453	1.00	5.55	10.821	10.1	101.1	NO	8.353	NO
68	38	N-MeFOSA	512.1 > 168.9	7822.434	19931.664	1.00	5.70	58.869	50.0	99.9	NO	1.495	NO
69	39	PFTrDA	662.9 > 618.9	38832.164	41341.453	1.00	5.80	11.741	10.3	102.9	NO	20.504	NO
70	40	PFDoS	698.8 > 79.9	3730.069	28939.785	1.00	5.83	1.611	9.8	97.5	NO	1.907	NO
71	41	PFTeDA	713.0 > 669.0	37023.359	28939.785	1.00	6.03	15.992	10.6	105.6	NO	14.589	NO
72	65	13C2-PFDoA	614.7 > 569.7	41341.453	38368.730	1.00	5.55	13.468	12.4	99.1	NO		

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Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 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	41341.453	38368.730	1.00	5.55	13.468	12.4	99.1	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	19931.664	47239.137	1.00	5.73	5.274	137.9	92.0	NO		
75	65	13C2-PFDoA	614.7 > 569.7	41341.453	38368.730	1.00	5.55	13.468	12.4	99.1	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	28939.785	47239.137	1.00	6.03	7.658	12.7	101.4	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	28939.785	47239.137	1.00	6.03	7.658	12.7	101.4	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9	8974.467	25075.561	1.00	6.15	53.685	55.0	110.0	NO	1.630	NO
80	43	PFHxDA	813.1 > 768.6	19452.809	13702.650	1.00	6.37	7.098	10.8	108.0	NO	23.072	NO
81	44	PFODA	913.1 > 868.8	24145.822	13702.650	1.00	6.62	8.811	11.5	115.2	NO		
82	45	N-MeFOSE	616.1 > 58.9	5771.735	15069.573	1.00	6.34	57.451	51.4	102.8	NO		
83	46	N-EtFOSE	630.1 > 58.9	7136.157	16223.644	1.00	6.49	65.979	51.0	102.0	NO		
84	72	13C4-PFBA	217.0 > 172.0	11149.337	11149.337	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	25075.561	47239.137	1.00	6.17	6.635	149.3	99.5	NO		
86	69	13C2-PFHxDA	815 > 769.7	13702.650	47239.137	1.00	6.37	3.626	4.6	92.1	NO		
87	69	13C2-PFHxDA	815 > 769.7	13702.650	47239.137	1.00	6.37	3.626	4.6	92.1	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	15069.573	47239.137	1.00	6.33	3.988	127.4	84.9	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	16223.644	47239.137	1.00	6.48	4.293	130.7	87.1	NO		
90	73	13C5-PFHxA	318.0 > 272.9	35615.355	35615.355	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	42267.988	42267.988	1.00	4.11	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2106.685	2106.685	1.00	3.73	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	29746.072	29746.072	1.00	4.55	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	5400.902	5400.902	1.00	4.64	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	38368.730	38368.730	1.00	4.93	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	47239.137	47239.137	1.00	5.26	12.500	12.5	100.0	NO		

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190724M1_1	IPA	24-Jul-19	07:56:19
2	2	190724M1_2	ST190724M1-1 PFC CS0 19G1103	24-Jul-19	08:06:51
3	3	190724M1_3	IB	24-Jul-19	08:17:30
4	4	190724M1_4	1901616-01@5X 053119B 5	24-Jul-19	08:28:11
5	5	190724M1_5	IPA	24-Jul-19	08:38:46
6	6	190724M1_6	ST190724M1-2 PFC CS3 19G1106	24-Jul-19	08:49:25
7	7	190724M1_7	IPA	24-Jul-19	08:59:58
8	8	190724M1_8	1902097-06 NON-B02-SO-1-1.5 1.01	24-Jul-19	09:38:03
9	9	190724M1_9	1902097-18 NON-B04-SO-4.5-5 1.03	24-Jul-19	09:48:36
10	10	190724M1_10	IPA	24-Jul-19	09:59:18
11	11	190724M1_11	1902097-16 NON-B01-SO-73-73.5 1.21	24-Jul-19	10:09:53
12	12	190724M1_12	1902097-12@5X NON-B01-SO-1-1.5 1.19	24-Jul-19	10:20:30
13	13	190724M1_13	1902097-13@5X NON-B01-SO-15-15.5 1.16	24-Jul-19	10:31:05
14	14	190724M1_14	1902097-18@10X NON-B04-SO-4.5-5 1.03	24-Jul-19	10:41:38
15	15	190724M1_15	1902093-08 AS-PW-16-0719 0.27834	24-Jul-19	10:52:18
16	16	190724M1_16	IPA	24-Jul-19	11:02:54
17	17	190724M1_17	ST190724M1-3 PFC CS3 19G1106	24-Jul-19	11:13:27
18	18	190724M1_18	IPA	24-Jul-19	11:24:05
19	19	190724M1_19	IS + RS QC	24-Jul-19	11:36:53
20	20	190724M1_20	B9G0232-BS1 OPR 0.125	24-Jul-19	11:47:31
21	21	190724M1_21	B9G0232-BLK1 Method Blank 0.125	24-Jul-19	11:58:04
22	22	190724M1_22	1902101-01RE1 536 0.11805	24-Jul-19	12:08:42
23	23	190724M1_23	IPA	24-Jul-19	12:19:18
24	24	190724M1_24	ST190724M1-4 PFC CS3 19G1106	24-Jul-19	12:29:54
25	25	190724M1_25	IPA	24-Jul-19	12:40:26
26	26	190724M1_26	LCMS-190724-1	24-Jul-19	13:27:23
27	27	190724M1_27	LCMS-190724-2	24-Jul-19	13:38:05
28	28	190724M1_28	LCMS-190724-3	24-Jul-19	13:48:36
29	29	190724M1_29	LCMS-190724-4	24-Jul-19	13:59:14
30	30	190724M1_30	B9G0227-BS1 OPR 0.25	24-Jul-19	14:14:20
31	31	190724M1_31	B9G0227-BLK1 Method Blank 0.25	24-Jul-19	14:24:53
32	32	190724M1_32	1902146-01 Purge Water 001 0.24849	24-Jul-19	14:35:32

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Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
33	33	190724M1_33	1902190-01 WMP1907170935JSJ 0.25276	24-Jul-19	14:46:04
34	34	190724M1_34	1902190-02 WMP1907170952JSJ 0.25992	24-Jul-19	14:56:43
35	35	190724M1_35	1902190-03 WMP1907171000JSJ 0.25713	24-Jul-19	15:07:21
36	36	190724M1_36	B9G0244-BS1 OPR 0.25	24-Jul-19	15:17:54
37	37	190724M1_37	B9G0244-BLK1 Method Blank 0.25	24-Jul-19	15:28:32
38	38	190724M1_38	1902105-01RE1 6C Discharge 0.24181	24-Jul-19	15:39:06
39	39	190724M1_39	1902105-02RE1 5A Raw Leachate 0.24304	24-Jul-19	15:49:44
40	40	190724M1_40	1902106-01RE1 WT1907110855SK 0.24808	24-Jul-19	16:00:17
41	41	190724M1_41	1902106-02RE1 WR1907110930SK 0.24265	24-Jul-19	16:10:55
42	42	190724M1_42	IPA	24-Jul-19	16:21:28
43	43	190724M1_43	ST190724M1-5 PFC CS3 19G1106	24-Jul-19	16:32:06
44	44	190724M1_44	IPA	24-Jul-19	16:42:45
45	45	190724M1_45	B9G0195-BS1 OPR 0.25	24-Jul-19	16:53:18
46	46	190724M1_46	B9G0195-BLK1 Method Blank 0.25	24-Jul-19	17:03:56
47	47	190724M1_47	1902150-01 FB-10:10 0.24051	24-Jul-19	17:14:29
48	48	190724M1_48	1902150-02 EB-14:15 0.2424	24-Jul-19	17:25:08
49	49	190724M1_49	1902151-01 MW-1D 0.24757	24-Jul-19	17:35:41
50	50	190724M1_50	1902151-02 Dupe 0.23938	24-Jul-19	17:46:19
51	51	190724M1_51	1902151-03 MW-2S 0.23167	24-Jul-19	17:56:57
52	52	190724M1_52	1902151-04 MW-4S 0.24228	24-Jul-19	18:07:30
53	53	190724M1_53	1902151-05 MW-5D 0.25154	24-Jul-19	18:18:08
54	54	190724M1_54	1902151-06 MW-3D 0.23649	24-Jul-19	18:28:41
55	55	190724M1_55	1902151-07 MW-6S 0.25146	24-Jul-19	18:39:19
56	56	190724M1_56	1902151-08 MW-7 0.24442	24-Jul-19	18:49:52
57	57	190724M1_57	B9G0242-BLK1 Method Blank 0.125	24-Jul-19	19:00:31
58	58	190724M1_58	B9G0242-BS2 OPR 0.125	24-Jul-19	19:11:09
59	59	190724M1_59	B9G0242-BS3 OPR 0.125	24-Jul-19	19:21:42
60	60	190724M1_60	B9G0242-BS4 OPR 0.125	24-Jul-19	19:32:20
61	61	190724M1_61	B9G0242-BS5 OPR 0.125	24-Jul-19	19:42:54
62	62	190724M1_62	IPA	24-Jul-19	19:53:32
63	63	190724M1_63	ST190724M1-6 PFC CS3 19G1106	24-Jul-19	20:04:06
64	64	190724M1_64	IPA	24-Jul-19	20:14:44
65	65	190724M1_65	LCMS-190723-1		
66	66	190724M1_66	LCMS-190723-2		
67	67	190724M1_67	LCMS-190723-3		
68	68	190724M1_68	LCMS-190723-4		

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 190724M1_69	LCMS-190723-5		
70	70 190724M1_70	LCMS-190723-6		

Vista Analytical Laboratory

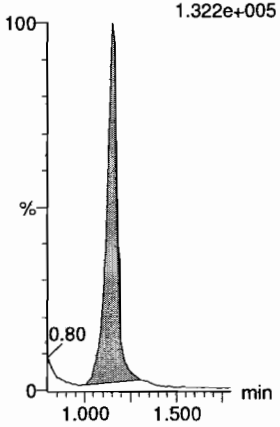
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

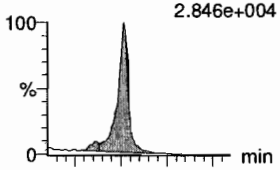
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072419.mdb 24 Jul 2019 09:05:00
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

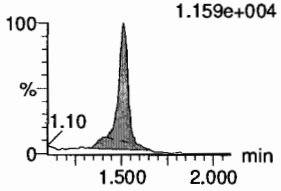
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.322e+005



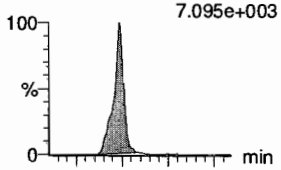
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.846e+004



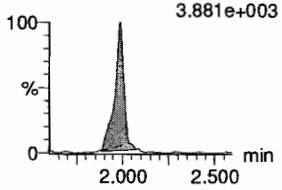
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.159e+004



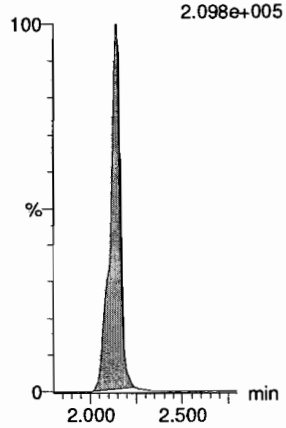
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
7.095e+003



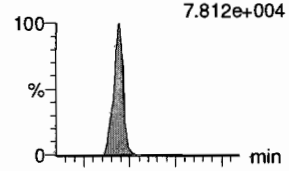
F5:MRM of 2 channels,ES-
240.9 > 116.9
3.881e+003



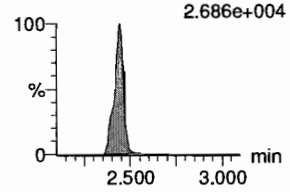
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
2.098e+005



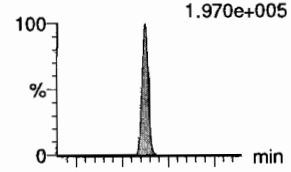
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
7.812e+004



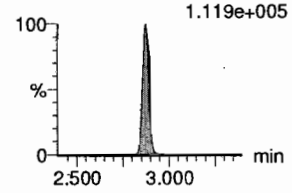
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.686e+004



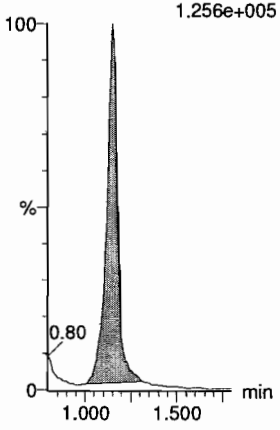
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.970e+005



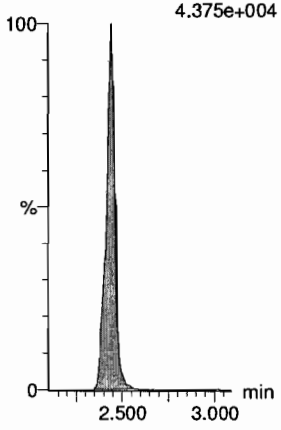
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.119e+005



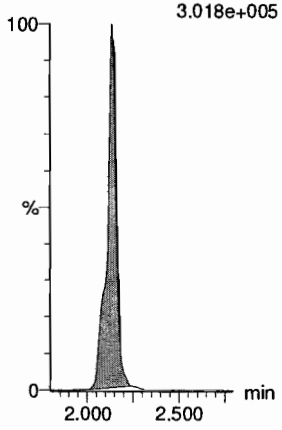
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.256e+005



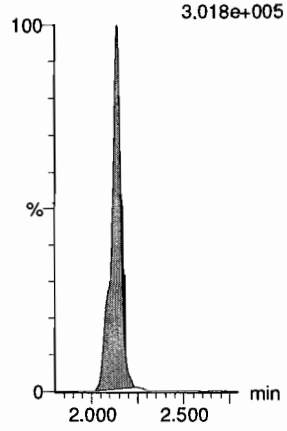
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.375e+004



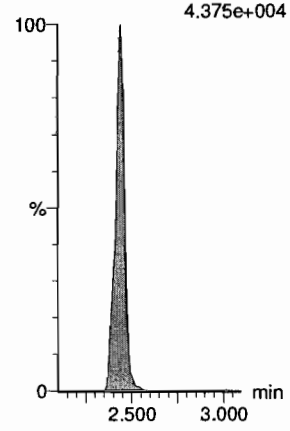
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
3.018e+005



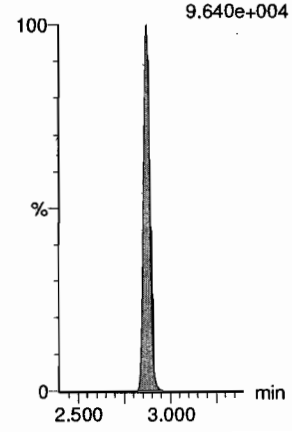
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
3.018e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.375e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.640e+004

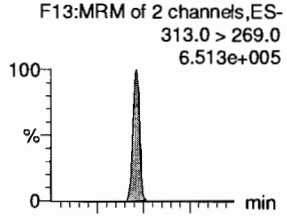


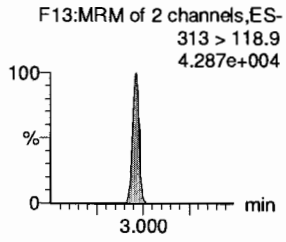
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

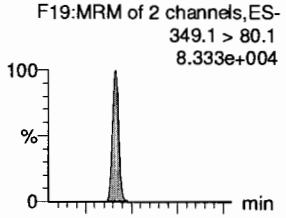
Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

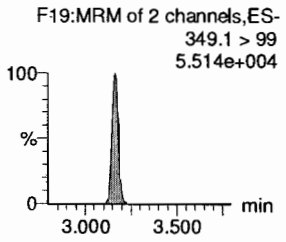
PFHxA



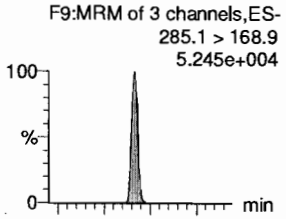


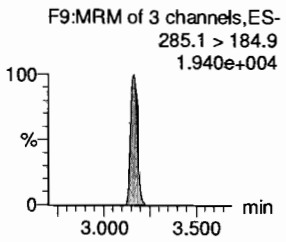
PFPeS



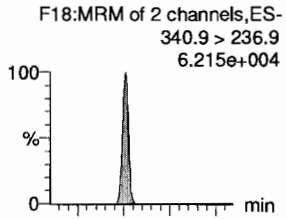


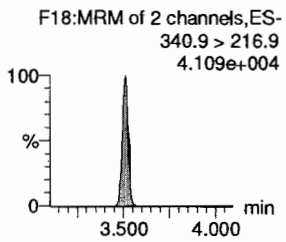
HFPO-DA



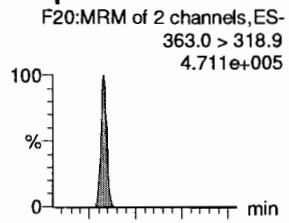


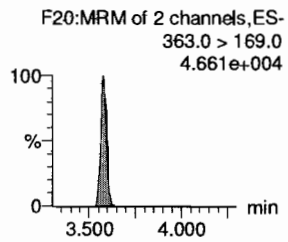
5:3 FTCA



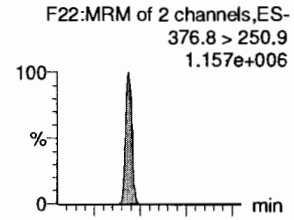


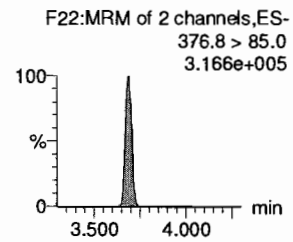
PFHpA



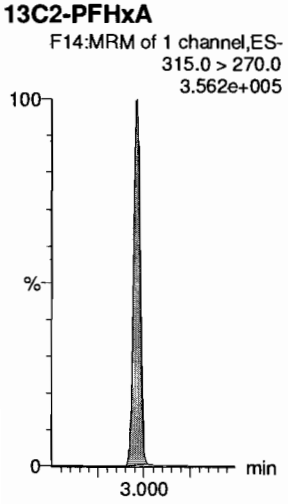


ADONA

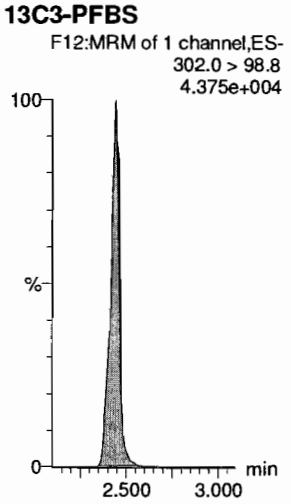




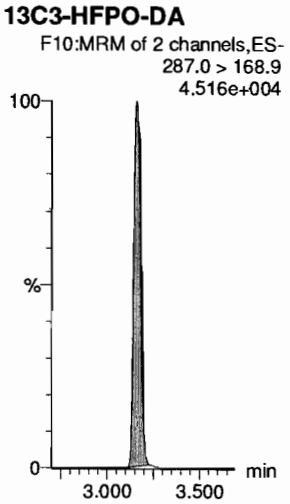
13C2-PFHxA



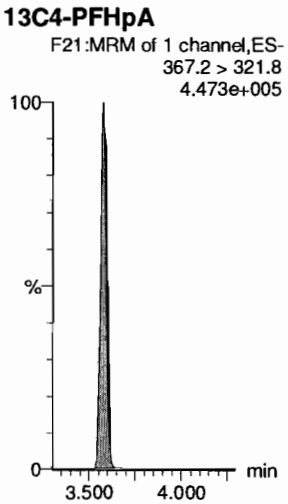
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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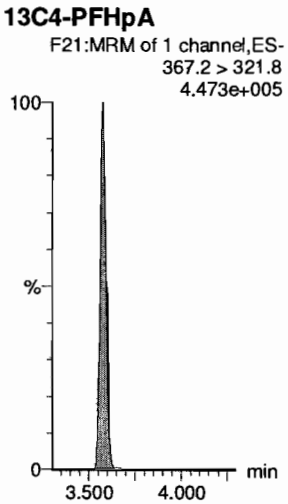
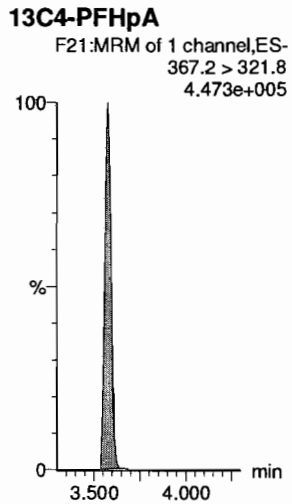


13C4-PFHpA

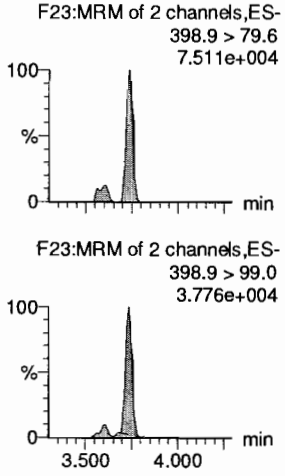


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

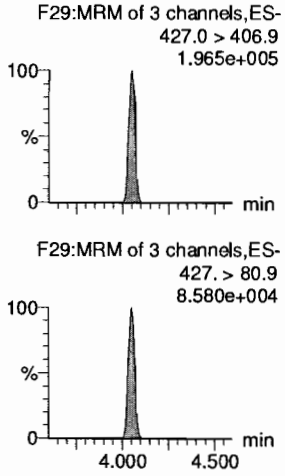
Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

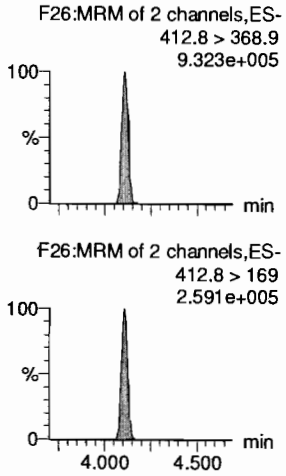
L-PFHxS



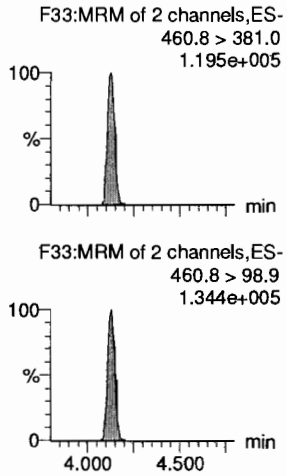
6:2 FTS



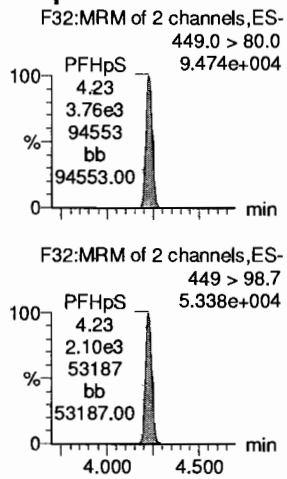
L-PFOA



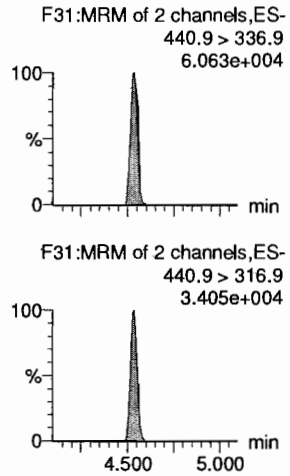
PFEChS



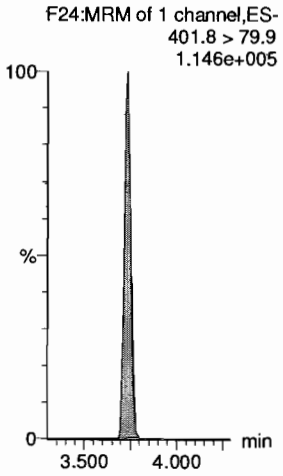
PFHpS



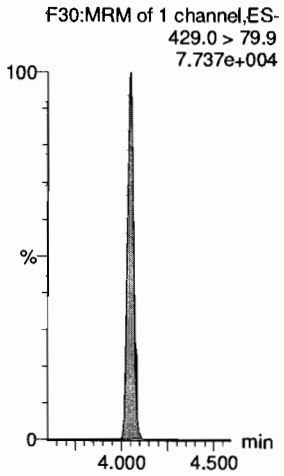
7:3 FTCA



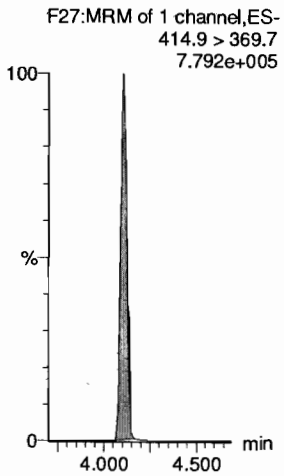
13C3-PFHxS



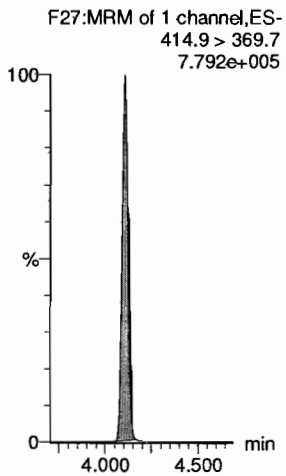
13C2-6:2 FTS



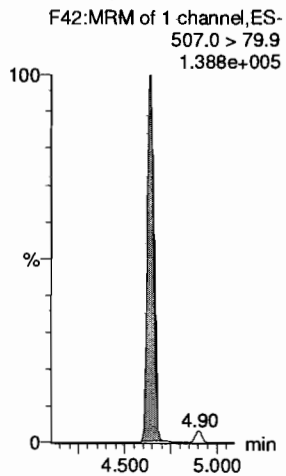
13C2-PFOA



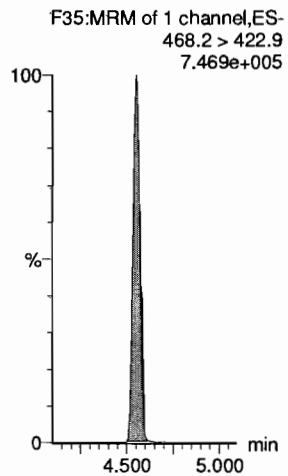
13C2-PFOA



13C8-PFOS



13C5-PFNA

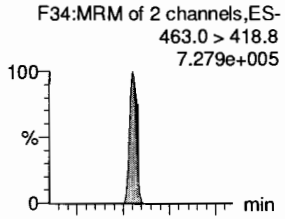


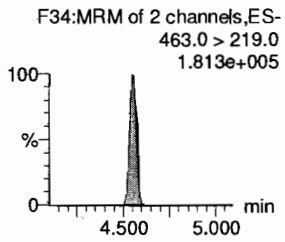
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

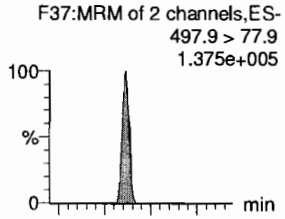
Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

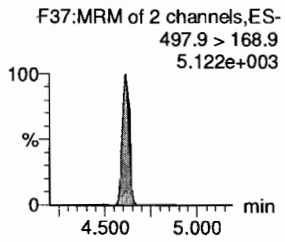
PFNA



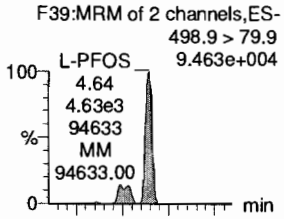


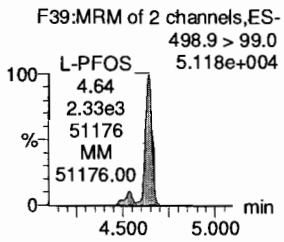
PFOSA



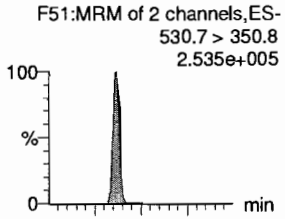


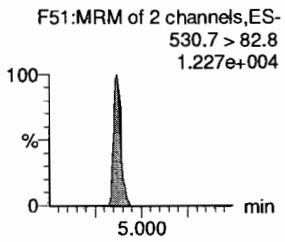
L-PFOS



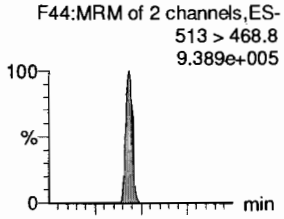


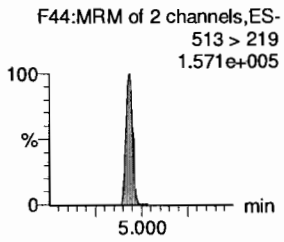
9Cl-PF30NS



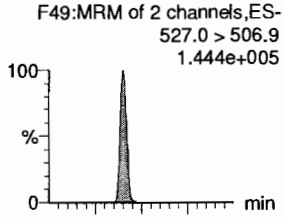


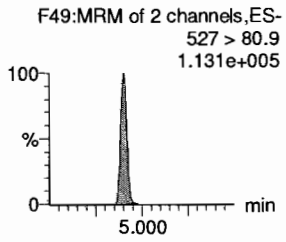
PFDA



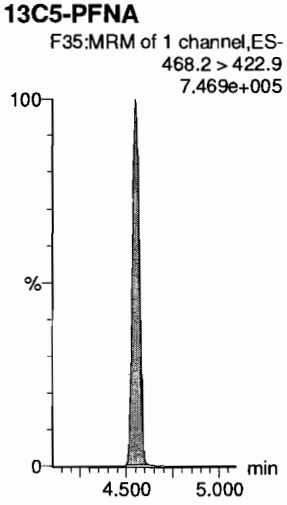


8:2 FTS

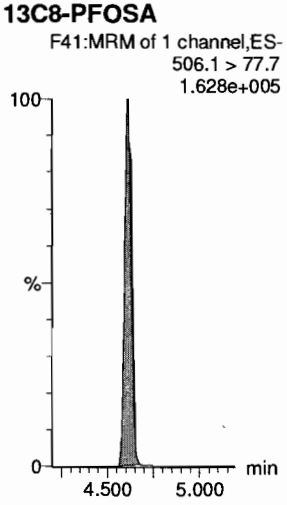




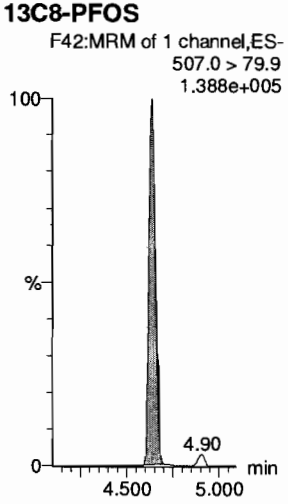
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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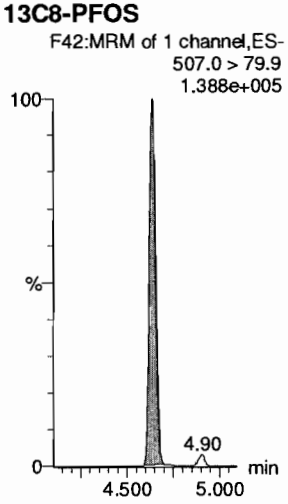
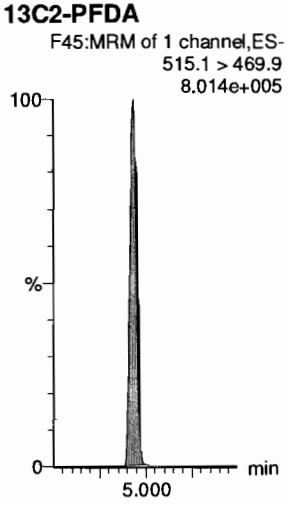
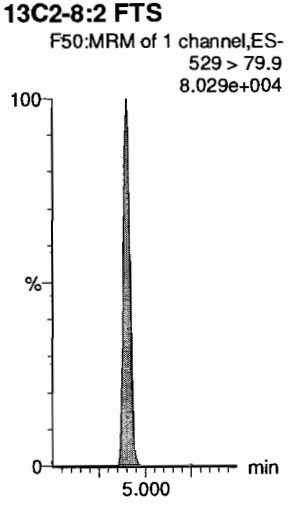


13C2-PFDA



13C2-8:2 FTS

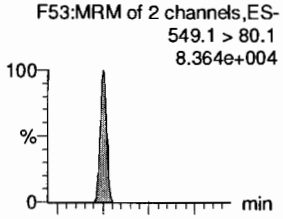


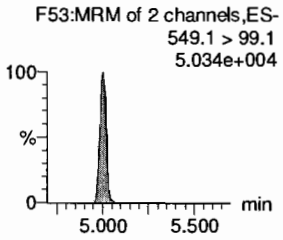
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

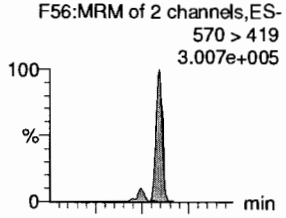
Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

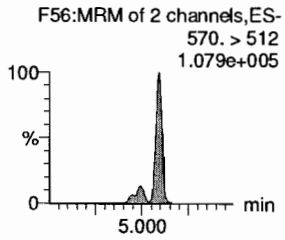
PFNS





L-MeFOSAA





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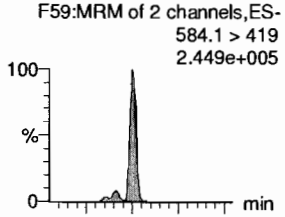
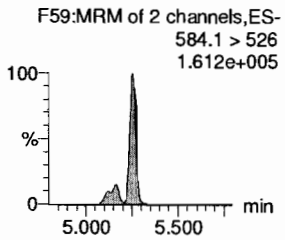
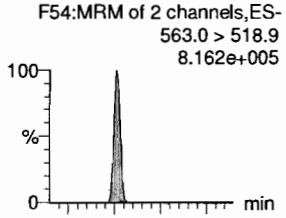
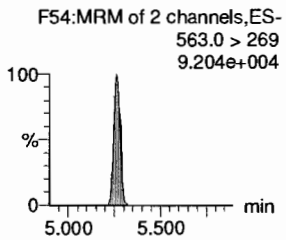


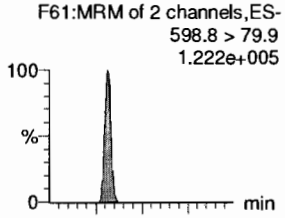


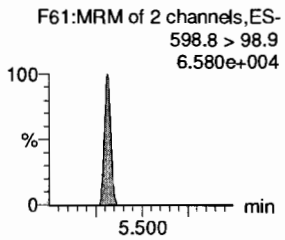
PFUdA



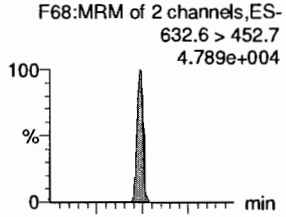


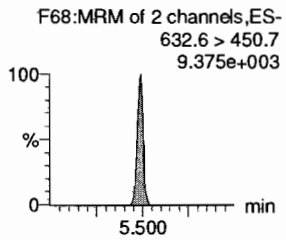
PFDS



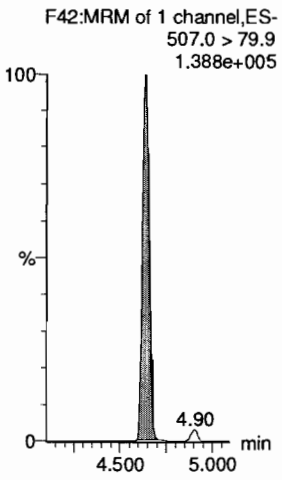


11Cl-PF30UdS

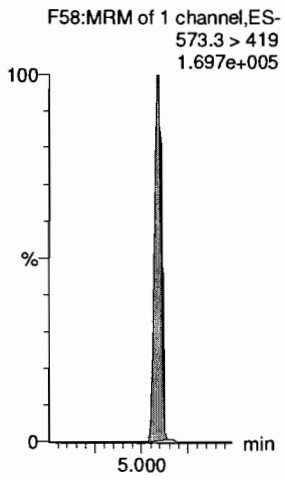




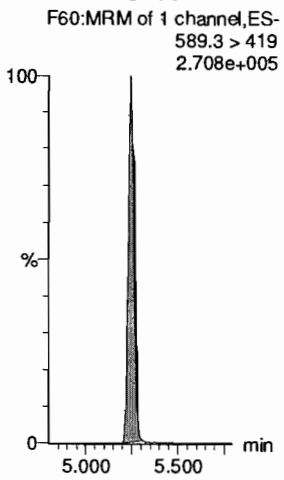
13C8-PFOS



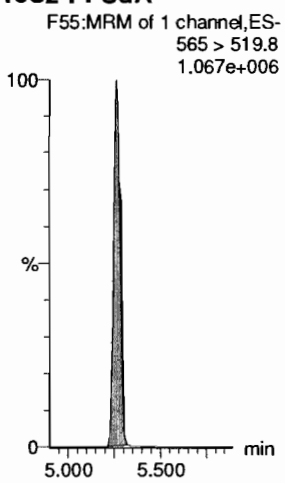
d3-N-MeFOSAA



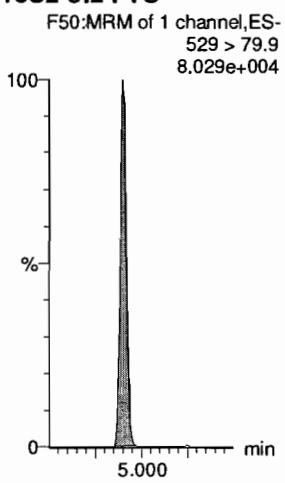
d5-N-EtFOSAA



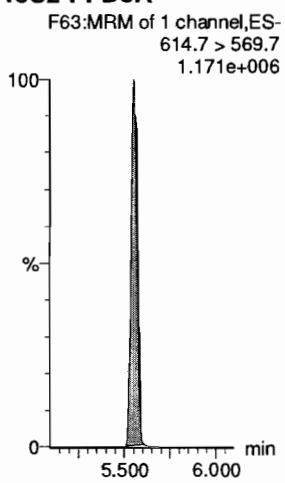
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

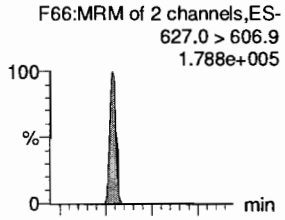


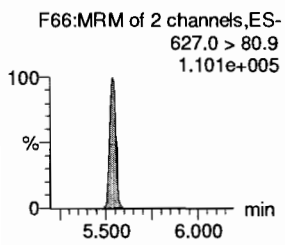
Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

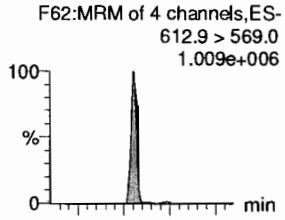
Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

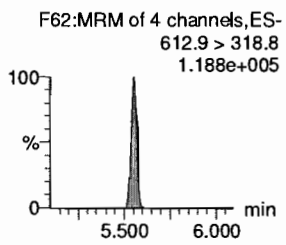
10:2 FTS



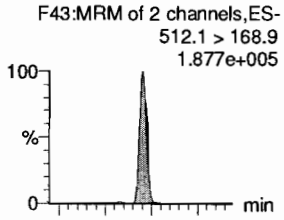


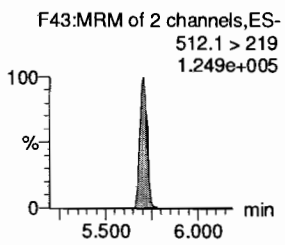
PFDoA



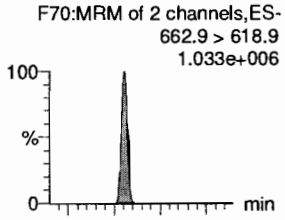


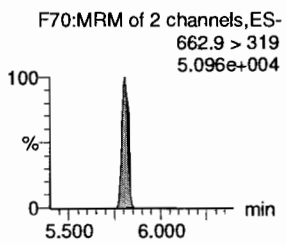
N-MeFOSA



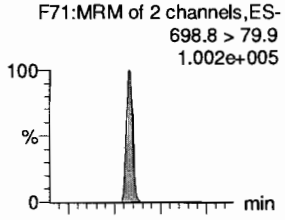


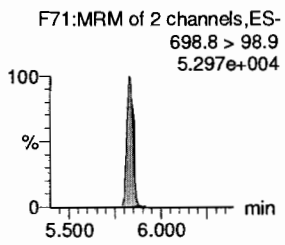
PFTrDA



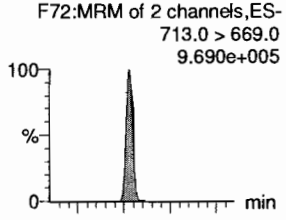


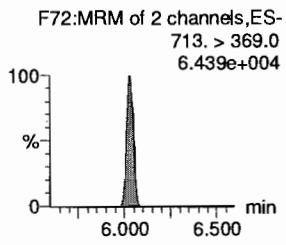
PFDoS



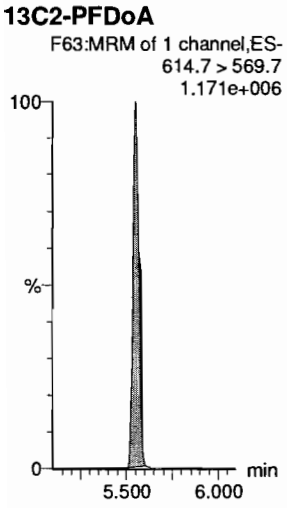


PFTeDA

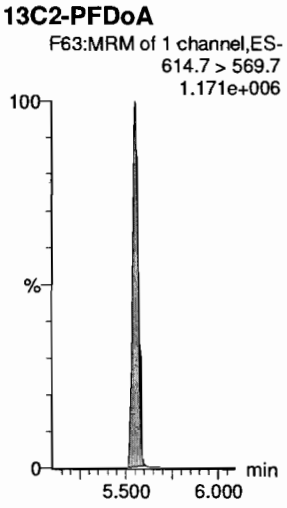




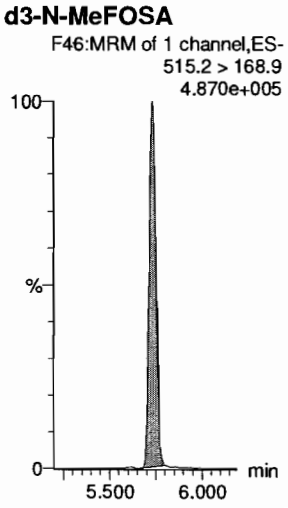
13C2-PFDoA



13C2-PFDoA



d3-N-MeFOSA



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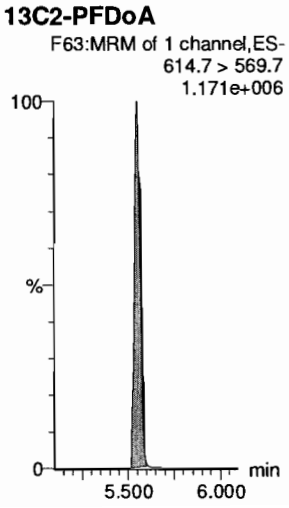
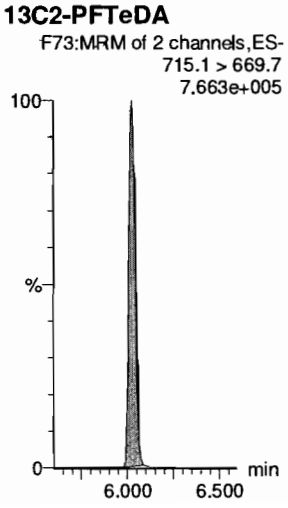


13C2-PFTeDA



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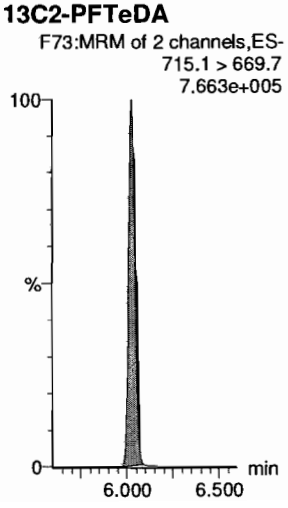

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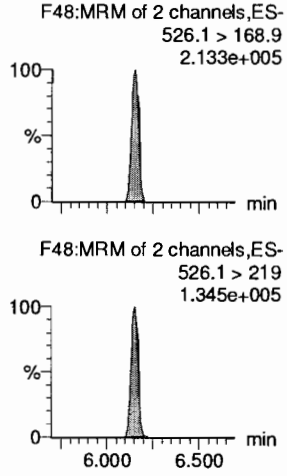
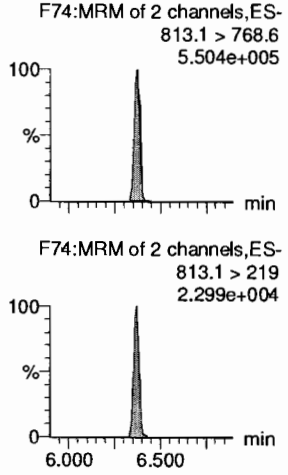
Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

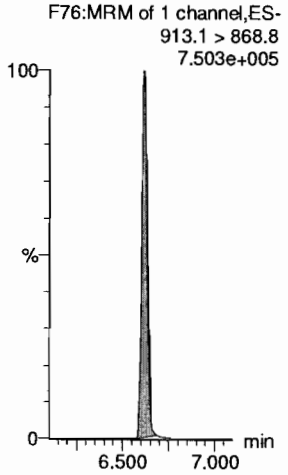
N-EtFOSA



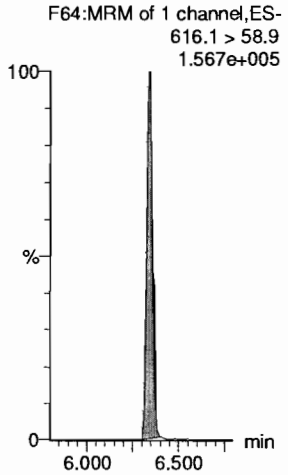
PFHxDA



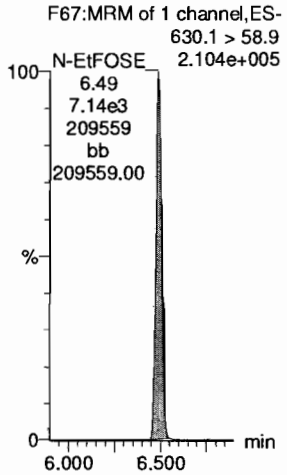
PFODA



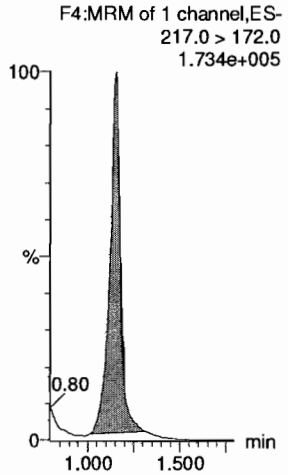
N-MeFOSE



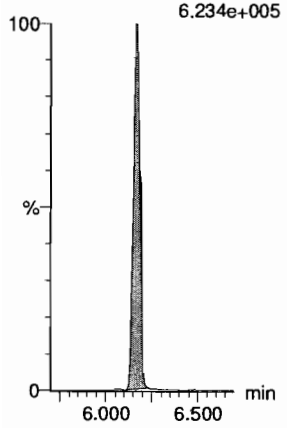
N-EtFOSE



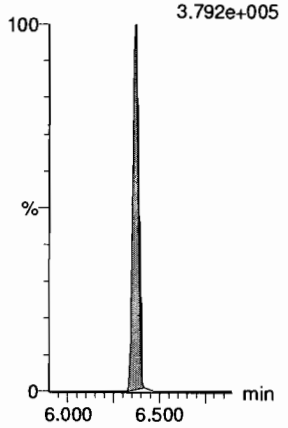
13C4-PFBA



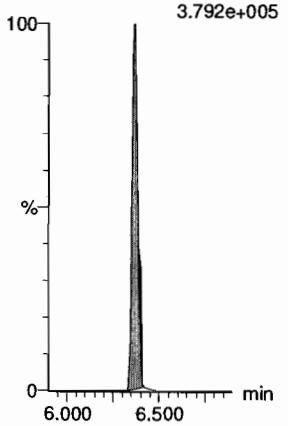
d5-N-ETFOSA



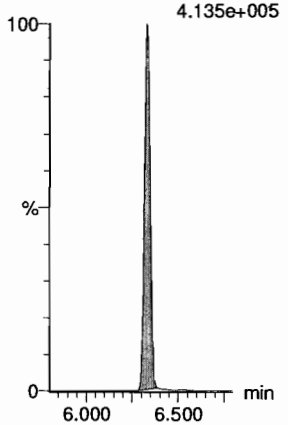
13C2-PFHxDA



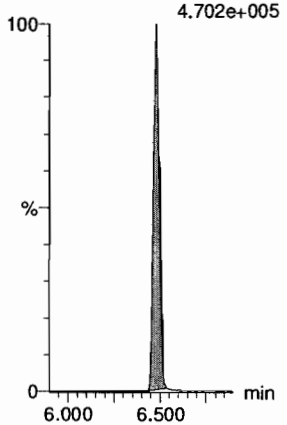
13C2-PFHxDA



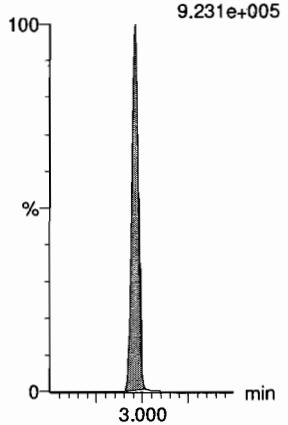
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

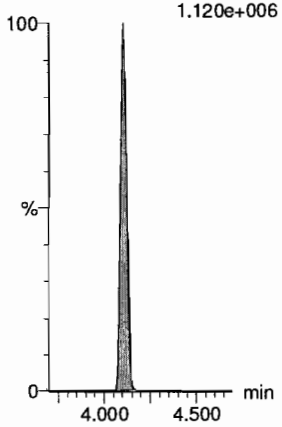


Dataset: F:\Projects\PFAS.PRO\Results\190724M1\190724M1-17.qld

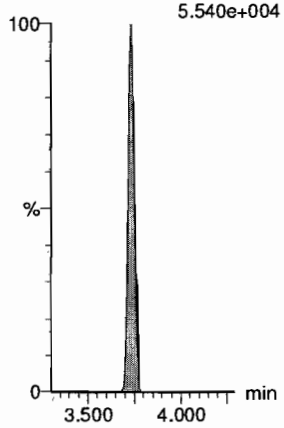
Last Altered: Wednesday, July 24, 2019 14:44:23 Pacific Daylight Time
Printed: Wednesday, July 24, 2019 14:45:39 Pacific Daylight Time

Name: 190724M1_17, Date: 24-Jul-2019, Time: 11:13:27, ID: ST190724M1-3 PFC CS3 19G1106, Description: PFC CS3 19G1106

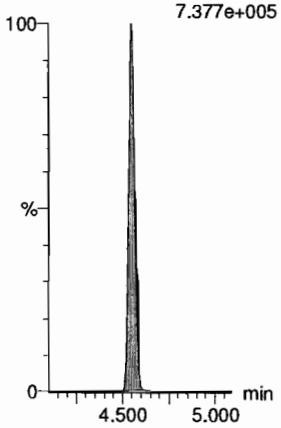
13C8-PFOA



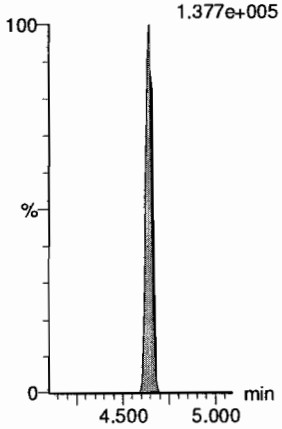
18O2-PFHxS



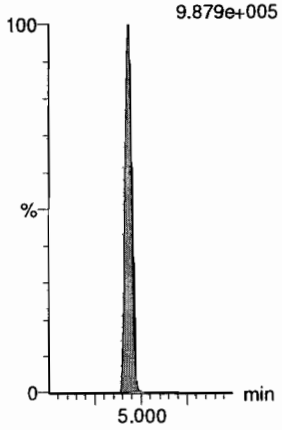
13C9-PFNA



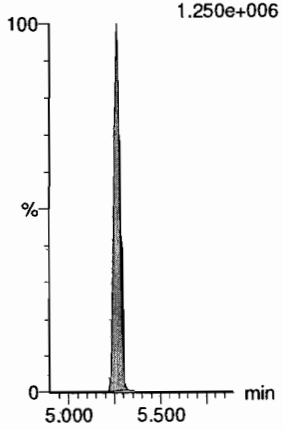
13C4-PFOS



13C6-PFDA



13C7-PFUdA



INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:26:17 Pacific Daylight Time

High PE
HFPO-DA = 250
7:3 FTCA ↓
3:3 FTCA = 100
5:3 FTCA ↓
PFDS

Low PE
HFPO-DA = 1

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

JM 7/22/19

Compound name: PFBA
Correlation coefficient: r = 0.999866, r^2 = 0.999732
Calibration curve: 1.24607 * x + 0.00199996
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	190722M1_4	Standard	0.250	1.15	205.691	7535.072	0.341	0.3	8.9	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	1.15	374.673	7667.957	0.611	0.5	-2.3	NO	1.000	NO	MM
3	3	190722M1_6	Standard	1.000	1.16	697.877	7940.078	1.099	0.9	-12.0	NO	1.000	NO	MM
4	4	190722M1_7	Standard	2.000	1.16	1497.573	7913.104	2.366	1.9	-5.2	NO	1.000	NO	MM
5	5	190722M1_8	Standard	5.000	1.16	4112.893	8268.948	6.217	5.0	-0.2	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	1.15	8275.571	7860.292	13.160	10.6	5.6	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	1.16	40213.590	7803.057	64.420	51.7	3.4	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	1.16	81006.617	7935.086	127.608	102.4	2.4	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	1.16	194562.391	7764.940	313.207	251.4	0.5	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	1.16	381731.438	7748.437	615.820	494.2	-1.2	NO	1.000	NO	bb

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999175
Calibration curve: 0.000485085 * x^2 + 0.946971 * x + -0.183868
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	190722M1_4	Standard	0.250	1.52	20.361	2236.356	0.114	0.3	25.7	NO	0.999	NO	MM
2	2	190722M1_5	Standard	0.500	1.51	50.173	2328.057	0.269	0.5	-4.3	NO	0.999	NO	MM
3	3	190722M1_6	Standard	1.000	1.53	130.598	2135.009	0.765	1.0	0.1	NO	0.999	NO	MM
4	4	190722M1_7	Standard	2.000	1.52	302.588	2286.379	1.654	1.9	-3.0	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	1.52	795.707	2378.276	4.182	4.6	-8.0	NO	0.999	NO	MM
6	6	190722M1_9	Standard	10.000	1.52	1540.571	2169.553	8.876	9.5	-4.8	NO	0.999	NO	MM
7	7	190722M1_10	Standard	50.000	1.52	7635.215	2223.375	42.926	44.5	-11.0	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	1.52	16993.711	2050.346	103.603	104.1	4.1	NO	0.999	NO	MM
9	9	190722M1_12	Standard	250.000	1.52	39975.602	1839.875	271.592	254.0	1.6	NO	0.999	NO	MM
10	10	190722M1_13	Standard	500.000	1.52	79009.047	1668.475	591.926	498.2	-0.4	NO	0.999	NO	MM

CdH 7/22/19

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:26:17 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999283
Calibration curve: 2.19065e-005 * x^2 + 0.034454 * x + -0.00306612
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	190722M1_4	Standard	0.250	1.97	8.341	15615.620	0.007	0.3	13.1	NO	0.999	NO	MM
2	2	190722M1_5	Standard	0.500	1.99	17.697	15644.763	0.014	0.5	-0.2	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	1.99	38.693	15402.321	0.031	1.0	-0.0	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	1.99	82.801	16573.887	0.062	1.9	-5.0	NO	0.999	NO	MM
5	5	190722M1_8	Standard	5.000	2.00	210.851	16136.088	0.163	4.8	-3.7	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	1.99	398.344	15546.884	0.320	9.3	-6.7	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	2.00	2297.046	15661.723	1.833	51.6	3.2	NO	0.999	NO	db
8	8	190722M1_11	Standard	100.000	2.00	4508.315	15504.576	3.635	99.3	-0.7	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	2.00	11063.976	14045.382	9.847	247.1	-1.2	NO	0.999	NO	bbX
10	10	190722M1_13	Standard	500.000	1.99	4674.946	13207.372	4.425	119.4	-76.1	YES	0.999	NO	bbX

Compound name: PFPeA
Correlation coefficient: r = 0.999912, r^2 = 0.999823
Calibration curve: 0.926196 * x + -0.0150139
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	190722M1_4	Standard	0.250	2.15	296.510	15615.620	0.237	0.3	9.0	NO	1.000	NO	MM
2	2	190722M1_5	Standard	0.500	2.15	522.050	15644.763	0.417	0.5	-6.7	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	2.15	1074.948	15402.321	0.872	1.0	-4.2	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	2.15	2381.022	16573.887	1.796	2.0	-2.2	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	2.15	6167.493	16136.088	4.778	5.2	3.5	NO	1.000	NO	MM
6	6	190722M1_9	Standard	10.000	2.15	11428.299	15546.884	9.189	9.9	-0.6	NO	1.000	NO	MM
7	7	190722M1_10	Standard	50.000	2.15	59268.148	15661.723	47.303	51.1	2.2	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	2.15	115296.305	15504.576	92.953	100.4	0.4	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	2.15	255015.141	14045.382	226.956	245.1	-2.0	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	2.15	492677.250	13207.372	466.290	503.5	0.7	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:26:17 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999795, r^2 = 0.999590
Calibration curve: 2.27622 * x + -0.0754669
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	190722M1_4	Standard	0.250	2.45	92.299	2236.356	0.516	0.3	3.9	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	2.44	193.730	2328.057	1.040	0.5	-2.0	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	2.45	342.157	2135.009	2.003	0.9	-8.7	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	2.45	815.520	2286.379	4.459	2.0	-0.4	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	2.45	2109.984	2378.276	11.090	4.9	-1.9	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	2.45	4125.201	2169.553	23.768	10.5	4.7	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	2.45	20523.697	2223.375	115.386	50.7	1.5	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	2.45	39162.527	2050.346	238.756	104.9	4.9	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	2.45	82227.227	1839.875	558.647	245.5	-1.8	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	2.45	151478.656	1668.475	1134.859	498.6	-0.3	NO	1.000	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999884
Calibration curve: -0.000681037 * x^2 + 2.53383 * x + -0.100616
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	190722M1_4	Standard	0.250	2.88	156.029	3670.744	0.531	0.2	-0.2	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	2.87	421.413	3757.099	1.402	0.6	18.6	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	2.88	622.423	3580.179	2.173	0.9	-10.2	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	2.88	1453.074	3900.635	4.657	1.9	-6.1	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	2.88	3772.077	3671.611	12.842	5.1	2.3	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	2.88	6978.543	3615.187	24.129	9.6	-4.1	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	2.88	32919.199	3349.761	122.842	49.2	-1.7	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	2.88	61643.371	3083.802	249.868	101.4	1.4	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	2.88	118444.344	2504.447	591.170	250.2	0.1	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	2.88	203093.719	2316.492	1095.912	499.7	-0.1	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:26:17 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999007, r^2 = 0.998015
Calibration curve: 0.876467 * x + 0.0616289
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	190722M1_4	Standard	0.250	2.96	635.012	12177.271	0.261	0.2	-9.1	NO	0.998	NO	bb
2	2	190722M1_5	Standard	0.500	2.96	1326.920	12908.381	0.514	0.5	3.2	NO	0.998	NO	bb
3	3	190722M1_6	Standard	1.000	2.97	2297.481	11943.897	0.962	1.0	2.7	NO	0.998	NO	bb
4	4	190722M1_7	Standard	2.000	2.96	4823.463	13020.162	1.852	2.0	2.2	NO	0.998	NO	bb
5	5	190722M1_8	Standard	5.000	2.96	12505.828	13060.069	4.788	5.4	7.8	NO	0.998	NO	bb
6	6	190722M1_9	Standard	10.000	2.96	22780.172	12196.678	9.339	10.6	5.8	NO	0.998	NO	bb
7	7	190722M1_10	Standard	50.000	2.96	118417.344	12268.250	48.262	55.0	10.0	NO	0.998	NO	bb
8	8	190722M1_11	Standard	100.000	2.97	227961.234	11871.380	96.013	109.5	9.5	NO	0.998	NO	bb
9	9	190722M1_12	Standard	250.000	2.97	476333.875	11058.899	215.362	245.6	-1.7	NO	0.998	NO	bb
10	10	190722M1_13	Standard	500.000	2.97	860983.375	10046.051	428.518	488.8	-2.2	NO	0.998	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999023
Calibration curve: -0.000714377 * x^2 + 1.61311 * x + -0.0331084
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	190722M1_4	Standard	0.250	3.17	65.437	2236.356	0.366	0.2	-1.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	3.17	137.134	2328.057	0.736	0.5	-4.6	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	3.17	239.597	2135.009	1.403	0.9	-11.0	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	3.17	564.167	2286.379	3.084	1.9	-3.3	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	3.17	1674.088	2378.276	8.799	5.5	9.8	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	3.17	3014.743	2169.553	17.370	10.8	8.4	NO	0.999	NO	bd
7	7	190722M1_10	Standard	50.000	3.17	14162.873	2223.375	79.625	50.5	1.0	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	3.17	26272.701	2050.346	160.172	104.1	4.1	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	3.17	50629.770	1839.875	343.976	238.4	-4.6	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	3.17	84613.969	1668.475	633.917	506.7	1.3	NO	0.999	NO	bb

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Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.991970
Calibration curve: -0.00118486 * x^2 + 0.675421 * x + -0.203895
Response type: Internal Std (Ref 50), 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	190722M1_4	Standard	0.250	3.18	34.880	1911.858	0.091	0.4	74.9	YES	0.992	NO	bbX
2	2	190722M1_5	Standard	0.500	3.17	133.862	1900.246	0.352	0.8	64.9	YES	0.992	NO	bbX
3	3	190722M1_6	Standard	1.000	3.18	122.225	1798.144	0.340	0.8	-19.4	NO	0.992	NO	bb
4	4	190722M1_7	Standard	2.000	3.17	425.952	1502.926	1.417	2.4	20.5	NO	0.992	NO	bb
5	5	190722M1_8	Standard	5.000	3.17	980.957	1823.471	2.690	4.3	-13.7	NO	0.992	NO	bb
6	6	190722M1_9	Standard	10.000	3.18	1479.204	1583.915	4.669	7.3	-26.9	NO	0.992	NO	bb
7	7	190722M1_10	Standard	50.000	3.17	10338.313	1516.116	34.095	56.4	12.7	NO	0.992	NO	bb
8	8	190722M1_11	Standard	100.000	3.18	17605.830	1625.359	54.160	97.0	-3.0	NO	0.992	NO	bb
9	9	190722M1_12	Standard	250.000	3.17	32582.572	1723.773	94.509	249.0	-0.4	NO	0.992	NO	bb
10	10	190722M1_13	Standard	500.000	3.18	59665.297	1164.100	256.272			NO	0.992	NO	bbXI

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999954
Calibration curve: 0.000276123 * x^2 + 0.182638 * x + -0.0100687
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	190722M1_4	Standard	0.250	3.52	46.653	15466.499	0.038	0.3	4.6	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	3.52	103.871	16469.510	0.079	0.5	-2.7	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	3.52	204.981	15694.526	0.163	0.9	-5.2	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	3.52	468.877	16354.851	0.358	2.0	0.6	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	3.52	1240.769	16565.537	0.936	5.1	2.8	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	3.52	2221.937	15015.037	1.850	10.0	0.3	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	3.52	12012.357	15372.816	9.768	49.8	-0.4	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	3.52	24231.244	14399.047	21.035	100.1	0.1	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	3.52	60118.285	12478.941	60.220	241.6	-3.4	NO	1.000	NO	bbX
10	10	190722M1_13	Standard	500.000	3.52	24303.627	10512.502	28.898	132.0	-73.6	YES	1.000	NO	bbX

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Compound name: PFHpA
Correlation coefficient: r = 0.999631, r^2 = 0.999262
Calibration curve: 1.29462 * x + -0.00115138
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	190722M1_4	Standard	0.250	3.59	400.932	15466.499	0.324	0.3	0.5	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	3.58	873.613	16469.510	0.663	0.5	2.6	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	3.59	1554.342	15694.526	1.238	1.0	-4.3	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	3.58	3381.580	16354.851	2.585	2.0	-0.1	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	3.59	8588.707	16565.537	6.481	5.0	0.1	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	3.59	15734.628	15015.037	13.099	10.1	1.2	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	3.59	79713.648	15372.816	64.817	50.1	0.1	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	3.59	152997.594	14399.047	132.819	102.6	2.6	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	3.59	309129.594	12478.941	309.651	239.2	-4.3	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	3.59	553162.063	10512.502	657.743	508.1	1.6	NO	0.999	NO	bb

Compound name: ADONA
Correlation coefficient: r = 0.998584, r^2 = 0.997170
Calibration curve: 3.57793 * x + -0.298634
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	190722M1_4	Standard	0.250	3.70	1011.495	15466.499	0.817	0.3	24.8	NO	0.997	NO	bb
2	2	190722M1_5	Standard	0.500	3.70	2058.825	16469.510	1.563	0.5	4.0	NO	0.997	NO	bb
3	3	190722M1_6	Standard	1.000	3.70	4235.072	15694.526	3.373	1.0	2.6	NO	0.997	NO	bb
4	4	190722M1_7	Standard	2.000	3.70	8444.851	16354.851	6.454	1.9	-5.6	NO	0.997	NO	bb
5	5	190722M1_8	Standard	5.000	3.70	21530.680	16565.537	16.247	4.6	-7.5	NO	0.997	NO	bb
6	6	190722M1_9	Standard	10.000	3.70	39734.527	15015.037	33.079	9.3	-6.7	NO	0.997	NO	bb
7	7	190722M1_10	Standard	50.000	3.70	205867.641	15372.816	167.396	46.9	-6.3	NO	0.997	NO	bb
8	8	190722M1_11	Standard	100.000	3.70	396448.875	14399.047	344.162	96.3	-3.7	NO	0.997	NO	bb
9	9	190722M1_12	Standard	250.000	3.70	835964.125	12478.941	837.375	234.1	-6.4	NO	0.997	NO	bb
10	10	190722M1_13	Standard	500.000	3.70	1575840.875	10512.502	1873.770	523.8	4.8	NO	0.997	NO	bb

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Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.997745
Calibration curve: 0.000357574 * x^2 + 0.908432 * x + -0.00114983
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	190722M1_4	Standard	0.250	3.74	82.299	4237.713	0.243	0.3	7.4	NO	0.998	NO	MM
2	2	190722M1_5	Standard	0.500	3.74	141.278	4295.812	0.411	0.5	-9.3	NO	0.998	NO	MM
3	3	190722M1_6	Standard	1.000	3.74	277.821	4291.999	0.809	0.9	-10.8	NO	0.998	NO	MM
4	4	190722M1_7	Standard	2.000	3.75	690.540	4626.274	1.866	2.1	2.7	NO	0.998	NO	MM
5	5	190722M1_8	Standard	5.000	3.75	1641.185	4549.954	4.509	5.0	-0.9	NO	0.998	NO	MM
6	6	190722M1_9	Standard	10.000	3.75	3159.205	4222.706	9.352	10.3	2.5	NO	0.998	NO	MM
7	7	190722M1_10	Standard	50.000	3.75	16693.316	4304.553	48.476	52.3	4.6	NO	0.998	NO	MM
8	8	190722M1_11	Standard	100.000	3.75	32262.391	3916.082	102.980	108.7	8.7	NO	0.998	NO	MM
9	9	190722M1_12	Standard	250.000	3.74	66965.891	3613.687	231.640	233.5	-6.6	NO	0.998	NO	MM
10	10	190722M1_13	Standard	500.000	3.75	125607.516	2851.692	550.583	505.5	1.1	NO	0.998	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998968
Calibration curve: -0.00125899 * x^2 + 3.39476 * x + -0.177829
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	190722M1_4	Standard	0.250	4.05	183.284	2786.472	0.822	0.3	17.8	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	4.06	269.130	2769.114	1.215	0.4	-17.9	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	4.06	611.911	2622.355	2.917	0.9	-8.8	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	4.06	1492.028	2784.607	6.698	2.0	1.3	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	4.06	3586.114	2891.434	15.503	4.6	-7.5	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	4.06	7000.691	2648.652	33.039	9.8	-1.8	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	4.06	32527.863	2695.782	150.828	45.2	-9.5	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	4.06	60900.770	2231.852	341.089	104.6	4.6	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	4.06	121717.750	1952.420	779.275	253.4	1.4	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	4.06	211075.703	1916.864	1376.439	497.2	-0.6	NO	0.999	NO	bb

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Compound name: L-PFOA
Correlation coefficient: r = 0.999592, r^2 = 0.999184
Calibration curve: 1.50207 * x + 0.037722
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	190722M1_4	Standard	0.250	4.12	861.843	27227.115	0.396	0.2	-4.7	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	4.11	1844.344	27747.313	0.831	0.5	5.6	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	4.12	3152.319	27237.805	1.447	0.9	-6.2	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	4.11	6736.039	28255.654	2.980	2.0	-2.1	NO	0.999	NO	bd
5	5	190722M1_8	Standard	5.000	4.12	17974.145	28378.357	7.917	5.2	4.9	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	4.12	31805.338	26171.531	15.191	10.1	0.9	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	4.12	163728.203	26058.307	78.539	52.3	4.5	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	4.12	298594.438	24945.002	149.626	99.6	-0.4	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	4.12	597642.625	20788.729	359.355	239.2	-4.3	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	4.12	1048031.875	17144.352	764.123	508.7	1.7	NO	0.999	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999810
Calibration curve: 9.03021e-005 * x^2 + 0.229813 * x + -0.00373897
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	190722M1_4	Standard	0.250	4.14	123.901	27227.115	0.057	0.3	5.5	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	4.13	236.827	27747.313	0.107	0.5	-3.9	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	4.13	495.991	27237.805	0.228	1.0	0.6	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	4.14	981.958	28255.654	0.434	1.9	-4.7	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	4.14	2528.496	28378.357	1.114	4.9	-2.9	NO	1.000	NO	db
6	6	190722M1_9	Standard	10.000	4.14	5000.771	26171.531	2.388	10.4	3.7	NO	1.000	NO	bd
7	7	190722M1_10	Standard	50.000	4.14	24590.592	26058.307	11.796	50.3	0.7	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	4.14	48923.926	24945.002	24.516	102.6	2.6	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	4.14	102896.813	20788.729	61.871	245.5	-1.8	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	4.14	189209.188	17144.352	137.953	501.5	0.3	NO	1.000	NO	dd

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Compound name: PFHpS
Coefficient of Determination: R^2 = 0.998959
Calibration curve: -7.37908e-005 * x^2 + 0.882414 * x + -0.00582201
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	190722M1_4	Standard	0.250	4.23	84.198	4610.178	0.228	0.3	6.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	4.23	121.930	5023.074	0.303	0.4	-29.9	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	4.24	368.541	4689.497	0.982	1.1	12.0	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	4.24	657.160	5125.605	1.603	1.8	-8.8	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	4.24	1957.946	5130.050	4.771	5.4	8.3	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	4.24	3634.027	4812.441	9.439	10.7	7.1	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	4.24	17634.732	4677.291	47.129	53.7	7.3	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	4.24	34034.559	4807.745	88.489	101.1	1.1	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	4.23	70228.125	4240.362	207.023	239.4	-4.2	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	4.24	126428.977	3703.672	426.701	504.9	1.0	NO	0.999	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999889
Calibration curve: 7.49055e-005 * x^2 + 0.120249 * x + -0.0213933
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	190722M1_4	Standard	0.250	4.55	12.665	26994.145	0.006	0.2	-9.3	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	4.54	107.918	28537.123	0.047	0.6	14.2	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	4.55	219.952	27063.857	0.102	1.0	2.2	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	4.55	444.789	28643.977	0.194	1.8	-10.5	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	4.55	1461.054	29767.006	0.614	5.3	5.3	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	4.55	2445.753	26302.541	1.162	9.8	-2.2	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	4.55	13245.152	26637.002	6.216	50.3	0.6	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	4.55	26571.656	26110.186	12.721	99.8	-0.2	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	4.54	63821.262	22971.619	34.728	250.0	0.0	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	4.55	24601.760	19516.545	15.757	122.0	-75.6	YES	1.000	NO	bbX

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Compound name: PFNA
Correlation coefficient: r = 0.999807, r^2 = 0.999613
Calibration curve: 1.14988 * x + 0.0288971
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	190722M1_4	Standard	0.250	4.56	655.582	26994.145	0.304	0.2	-4.4	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	4.56	1454.727	28537.123	0.637	0.5	5.8	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	4.56	2287.259	27063.857	1.056	0.9	-10.6	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	4.56	5189.672	28643.977	2.265	1.9	-2.8	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	4.57	14142.527	29767.006	5.939	5.1	2.8	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	4.57	25065.055	26302.541	11.912	10.3	3.3	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	4.56	128361.867	26637.002	60.237	52.4	4.7	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	4.57	248376.781	26110.186	118.908	103.4	3.4	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	4.57	518254.094	22971.619	282.008	245.2	-1.9	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	4.56	895385.313	19516.545	573.478	498.7	-0.3	NO	1.000	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999693, r^2 = 0.999385
Calibration curve: 1.02057 * x + -0.0126471
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	190722M1_4	Standard	0.250	4.62	136.594	6999.135	0.244	0.3	0.6	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	4.62	269.574	7118.328	0.473	0.5	-4.8	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	4.62	568.882	6954.864	1.022	1.0	1.4	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	4.62	1132.273	7591.014	1.864	1.8	-8.0	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	4.63	2989.764	7228.312	5.170	5.1	1.6	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	4.62	5779.850	6895.285	10.478	10.3	2.8	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	4.62	28954.313	6874.020	52.652	51.6	3.2	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	4.63	55011.758	6363.656	108.058	105.9	5.9	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	4.62	118284.742	5928.815	249.385	244.4	-2.3	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	4.62	209728.141	5158.861	508.175	497.9	-0.4	NO	0.999	NO	bb

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Compound name: L-PFOS
Correlation coefficient: r = 0.999829, r^2 = 0.999659
Calibration curve: 1.069 * x + -0.0197497
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	190722M1_4	Standard	0.250	4.65	87.493	4610.178	0.237	0.2	-3.8	NO	1.000	NO	MM
2	2	190722M1_5	Standard	0.500	4.65	256.232	5023.074	0.638	0.6	23.0	NO	1.000	NO	MM
3	3	190722M1_6	Standard	1.000	4.65	328.538	4689.497	0.876	0.8	-16.2	NO	1.000	NO	MM
4	4	190722M1_7	Standard	2.000	4.65	806.201	5125.605	1.966	1.9	-7.1	NO	1.000	NO	MM
5	5	190722M1_8	Standard	5.000	4.66	2077.277	5130.050	5.062	4.8	-4.9	NO	1.000	NO	MM
6	6	190722M1_9	Standard	10.000	4.65	4085.001	4812.441	10.611	9.9	-0.6	NO	1.000	NO	MM
7	7	190722M1_10	Standard	50.000	4.65	20823.443	4677.291	55.650	52.1	4.2	NO	1.000	NO	MM
8	8	190722M1_11	Standard	100.000	4.66	40854.531	4807.745	106.221	99.4	-0.6	NO	1.000	NO	MM
9	9	190722M1_12	Standard	250.000	4.65	88769.234	4240.362	261.679	244.8	-2.1	NO	1.000	NO	MM
10	10	190722M1_13	Standard	500.000	4.65	159705.578	3703.672	539.011	504.2	0.8	NO	1.000	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999728
Calibration curve: -0.000193459 * x^2 + 2.20675 * x + -0.126796
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	190722M1_4	Standard	0.250	4.87	208.557	4610.178	0.565	0.3	25.5	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	4.88	369.193	5023.074	0.919	0.5	-5.2	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	4.88	795.714	4689.497	2.121	1.0	1.9	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	4.88	1574.958	5125.605	3.841	1.8	-10.1	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	4.88	4053.867	5130.050	9.878	4.5	-9.3	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	4.88	7873.354	4812.441	20.451	9.3	-6.7	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	4.88	42565.520	4677.291	113.756	51.8	3.7	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	4.88	85014.930	4807.745	221.036	101.1	1.1	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	4.88	181110.500	4240.362	533.889	247.4	-1.1	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	4.88	313130.656	3703.672	1056.825	501.0	0.2	NO	1.000	NO	bb

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Compound name: PFDA
Correlation coefficient: r = 0.998937, r^2 = 0.997875
Calibration curve: 1.28827 * x + 0.00394215
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 190722M1_4	Standard	0.250	4.94	706.530	28932.621	0.305	0.2	-6.4	NO	0.998	NO	bb
2	2 190722M1_5	Standard	0.500	4.95	1490.683	29286.775	0.636	0.5	-1.8	NO	0.998	NO	bb
3	3 190722M1_6	Standard	1.000	4.95	2814.813	28506.883	1.234	1.0	-4.5	NO	0.998	NO	bb
4	4 190722M1_7	Standard	2.000	4.95	5909.950	29915.926	2.469	1.9	-4.3	NO	0.998	NO	bb
5	5 190722M1_8	Standard	5.000	4.95	16046.202	30566.777	6.562	5.1	1.8	NO	0.998	NO	bb
6	6 190722M1_9	Standard	10.000	4.95	29158.875	27265.137	13.368	10.4	3.7	NO	0.998	NO	bb
7	7 190722M1_10	Standard	50.000	4.95	153864.938	27453.689	70.057	54.4	8.8	NO	0.998	NO	bb
8	8 190722M1_11	Standard	100.000	4.94	288292.406	27625.471	130.447	101.3	1.3	NO	0.998	NO	bb
9	9 190722M1_12	Standard	250.000	4.94	581797.875	21413.232	339.625	263.6	5.4	NO	0.998	NO	bb
10	10 190722M1_13	Standard	500.000	4.95	1051522.625	21236.443	618.938	480.4	-3.9	NO	0.998	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998024
Calibration curve: -0.000533984 * x^2 + 2.04701 * x + -0.0915481
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 190722M1_4	Standard	0.250	4.90	110.757	2766.790	0.500	0.3	15.7	NO	0.998	NO	bb
2	2 190722M1_5	Standard	0.500	4.91	173.893	2888.167	0.753	0.4	-17.5	NO	0.998	NO	bb
3	3 190722M1_6	Standard	1.000	4.91	385.577	2645.313	1.822	0.9	-6.5	NO	0.998	NO	bb
4	4 190722M1_7	Standard	2.000	4.91	928.443	3030.817	3.829	1.9	-4.2	NO	0.998	NO	bb
5	5 190722M1_8	Standard	5.000	4.91	2416.494	3163.601	9.548	4.7	-5.7	NO	0.998	NO	bb
6	6 190722M1_9	Standard	10.000	4.91	4479.246	2857.208	19.596	9.6	-3.6	NO	0.998	NO	bb
7	7 190722M1_10	Standard	50.000	4.91	22408.156	2815.214	99.496	49.3	-1.4	NO	0.998	NO	bb
8	8 190722M1_11	Standard	100.000	4.91	40346.457	2314.112	217.937	109.6	9.6	NO	0.998	NO	bb
9	9 190722M1_12	Standard	250.000	4.91	76411.969	2102.109	454.377	236.6	-5.4	NO	0.998	NO	bb
10	10 190722M1_13	Standard	500.000	4.91	125294.570	1743.485	898.305	505.6	1.1	NO	0.998	NO	bb

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Compound name: PFNS
Correlation coefficient: r = 0.999413, r^2 = 0.998826
Calibration curve: 0.710501 * x + 0.0578804
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	190722M1_4	Standard	0.250	5.01	76.965	4610.178	0.209	0.2	-15.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.01	154.358	5023.074	0.384	0.5	-8.2	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.02	293.746	4689.497	0.783	1.0	2.1	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.01	569.291	5125.605	1.388	1.9	-6.4	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.02	1622.471	5130.050	3.953	5.5	9.7	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.02	2895.744	4812.441	7.522	10.5	5.0	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.01	14917.650	4677.291	39.867	56.0	12.1	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.02	28168.828	4807.745	73.238	103.0	3.0	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.01	60019.738	4240.362	176.930	248.9	-0.4	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	5.01	103429.375	3703.672	349.077	491.2	-1.8	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999838
Calibration curve: -0.00045633 * x^2 + 2.17563 * x + -0.152941
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	190722M1_4	Standard	0.250	5.10	302.604	7508.583	0.504	0.3	20.7	NO	1.000	NO	MM
2	2	190722M1_5	Standard	0.500	5.10	524.329	7723.352	0.849	0.5	-7.9	NO	1.000	NO	MM
3	3	190722M1_6	Standard	1.000	5.10	1147.273	7195.815	1.993	1.0	-1.3	NO	1.000	NO	MM
4	4	190722M1_7	Standard	2.000	5.10	2406.323	8090.056	3.718	1.8	-11.0	NO	1.000	NO	MM
5	5	190722M1_8	Standard	5.000	5.10	6349.284	7347.870	10.801	5.0	0.8	NO	1.000	NO	MM
6	6	190722M1_9	Standard	10.000	5.10	12182.312	7043.111	21.621	10.0	0.3	NO	1.000	NO	MM
7	7	190722M1_10	Standard	50.000	5.10	60937.957	7339.405	103.786	48.3	-3.5	NO	1.000	NO	MM
8	8	190722M1_11	Standard	100.000	5.10	118437.289	6841.495	216.395	101.7	1.7	NO	1.000	NO	MM!
9	9	190722M1_12	Standard	250.000	5.10	250235.344	6051.563	516.882	250.8	0.3	NO	1.000	NO	MM
10	10	190722M1_13	Standard	500.000	5.10	451872.156	5808.625	972.416	499.3	-0.1	NO	1.000	NO	MM

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: L-EtFOSAA
Correlation coefficient: r = 0.999854, r^2 = 0.999709
Calibration curve: 1.25319 * x + -0.0468414
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 190722M1_4	Standard	0.250	5.26	209.329	9726.823	0.269	0.3	0.8	NO	1.000	NO	MM
2	2 190722M1_5	Standard	0.500	5.26	367.940	10142.089	0.453	0.4	-20.2	NO	1.000	NO	MM
3	3 190722M1_6	Standard	1.000	5.27	853.498	9553.568	1.117	0.9	-7.2	NO	1.000	NO	MM
4	4 190722M1_7	Standard	2.000	5.26	1914.901	10224.499	2.341	1.9	-4.7	NO	1.000	NO	MM
5	5 190722M1_8	Standard	5.000	5.27	5078.784	9695.443	6.548	5.3	5.2	NO	1.000	NO	MM
6	6 190722M1_9	Standard	10.000	5.27	9915.943	9396.261	13.191	10.6	5.6	NO	1.000	NO	MM
7	7 190722M1_10	Standard	50.000	5.26	49266.070	9432.823	65.285	52.1	4.3	NO	1.000	NO	MM
8	8 190722M1_11	Standard	100.000	5.26	88595.930	8632.457	128.289	102.4	2.4	NO	1.000	NO	MM
9	9 190722M1_12	Standard	250.000	5.26	179814.375	7214.774	311.538	248.6	-0.5	NO	1.000	NO	MM
10	10 190722M1_13	Standard	500.000	5.26	307620.938	6183.431	621.865	496.3	-0.7	NO	1.000	NO	MM

Compound name: PFUdA
Correlation coefficient: r = 0.999517, r^2 = 0.999034
Calibration curve: 0.909039 * x + 0.0548594
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 190722M1_4	Standard	0.250	5.27	684.426	37046.383	0.231	0.2	-22.5	NO	0.999	NO	bb
2	2 190722M1_5	Standard	0.500	5.28	1527.451	39610.082	0.482	0.5	-6.0	NO	0.999	NO	bb
3	3 190722M1_6	Standard	1.000	5.28	2974.016	37227.707	0.999	1.0	3.8	NO	0.999	NO	bb
4	4 190722M1_7	Standard	2.000	5.28	5931.248	38478.953	1.927	2.1	3.0	NO	0.999	NO	bb
5	5 190722M1_8	Standard	5.000	5.28	15590.236	39406.758	4.945	5.4	7.6	NO	0.999	NO	bb
6	6 190722M1_9	Standard	10.000	5.28	28181.031	36519.961	9.646	10.6	5.5	NO	0.999	NO	bb
7	7 190722M1_10	Standard	50.000	5.28	142554.828	37910.305	47.004	51.6	3.3	NO	0.999	NO	bb
8	8 190722M1_11	Standard	100.000	5.28	269610.375	34466.223	97.781	107.5	7.5	NO	0.999	NO	bb
9	9 190722M1_12	Standard	250.000	5.27	540219.250	29777.729	226.772	249.4	-0.2	NO	0.999	NO	bb
10	10 190722M1_13	Standard	500.000	5.28	946828.000	26540.064	445.943	490.5	-1.9	NO	0.999	NO	bb

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Compound name: PFDS
Coefficient of Determination: R^2 = 0.998705
Calibration curve: 0.00481559 * x^2 + 1.65576 * x + -0.0379245
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	190722M1_4	Standard	0.250	5.33	77.698	2766.790	0.351	0.2	-6.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.33	152.467	2888.167	0.660	0.4	-15.8	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.33	383.908	2645.313	1.814	1.1	11.5	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.33	792.289	3030.817	3.268	2.0	-0.8	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.33	2174.896	3163.601	8.593	5.1	2.7	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.33	4347.829	2857.208	19.021	11.1	11.5	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.33	20425.785	2815.214	90.694	48.1	-3.8	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.33	39900.316	2314.112	215.527	100.7	0.7	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.33	84654.648	2102.109	503.391	194.3	-22.3	NO	0.999	NO	bbX
10	10	190722M1_13	Standard	500.000	5.33	145620.469	1743.485	1044.033	324.4	-35.1	YES	0.999	NO	bbX

Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.999161
Calibration curve: -1.71422e-005 * x^2 + 0.0590622 * x + -0.0125033
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	190722M1_4	Standard	0.250	5.49	11.491	35866.102	0.004	0.3	11.8	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.51	29.405	37689.852	0.010	0.4	-24.6	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.50	164.117	35187.121	0.058	1.2	19.9	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.50	289.377	37205.660	0.097	1.9	-7.1	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.50	910.253	39748.355	0.286	5.1	1.3	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.50	1605.836	35560.168	0.564	9.8	-2.0	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.50	8178.276	36397.934	2.809	48.4	-3.1	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.50	16827.803	34719.320	6.059	106.1	6.1	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.50	35951.047	33727.715	13.324	242.9	-2.8	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	5.50	65402.414	32244.893	25.354	502.9	0.6	NO	0.999	NO	bb

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Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998548
Calibration curve: -0.00085294 * x^2 + 2.4229 * x + -0.00234078
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	190722M1_4	Standard	0.250	5.55	122.475	2766.790	0.553	0.2	-8.3	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.55	229.287	2888.167	0.992	0.4	-17.9	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.55	596.665	2645.313	2.819	1.2	16.5	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.55	1263.802	3030.817	5.212	2.2	7.7	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.55	3019.520	3163.601	11.931	4.9	-1.3	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.55	5627.917	2857.208	24.622	10.2	2.0	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.55	26066.559	2815.214	115.740	48.6	-2.8	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.55	46486.160	2314.112	251.102	107.7	7.7	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.55	88947.906	2102.109	528.921	238.3	-4.7	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	5.55	140428.281	1743.485	1006.807	505.5	1.1	NO	0.999	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999221
Calibration curve: -0.000477513 * x^2 + 1.06929 * x + 0.0599682
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	190722M1_4	Standard	0.250	5.57	857.407	35866.102	0.299	0.2	-10.6	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.57	1682.580	37689.852	0.558	0.5	-6.8	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.57	3274.479	35187.121	1.163	1.0	3.2	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.57	6802.266	37205.660	2.285	2.1	4.2	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.57	17300.143	39748.355	5.441	5.0	0.9	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.57	32060.010	35560.168	11.270	10.5	5.3	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.57	159734.281	36397.934	54.857	52.5	5.0	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.57	289545.406	34719.320	104.245	102.1	2.1	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.57	616340.063	33727.715	228.425	239.1	-4.4	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	5.57	1081389.000	32244.893	419.209	506.6	1.3	NO	0.999	NO	bb

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Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.998673
Calibration curve: -0.000110043 * x^2 + 1.18315 * x + 0.0436442
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	190722M1_4	Standard	1.250	5.71	174.801	17841.740	1.470	1.2	-3.6	NO	0.999	NO	bb
2	2	190722M1_5	Standard	2.500	5.71	320.574	18678.113	2.574	2.1	-14.4	NO	0.999	NO	bb
3	3	190722M1_6	Standard	5.000	5.71	708.257	17820.547	5.962	5.0	0.1	NO	0.999	NO	bb
4	4	190722M1_7	Standard	10.000	5.71	1565.639	19170.096	12.251	10.3	3.3	NO	0.999	NO	bb
5	5	190722M1_8	Standard	25.000	5.72	4077.216	19158.625	31.922	27.0	8.0	NO	0.999	NO	bb
6	6	190722M1_9	Standard	50.000	5.72	7394.622	17939.484	61.830	52.5	5.0	NO	0.999	NO	bb
7	7	190722M1_10	Standard	250.000	5.71	37861.758	18666.406	304.251	263.6	5.4	NO	0.999	NO	bb
8	8	190722M1_11	Standard	500.000	5.72	70620.945	18195.252	582.193	516.9	3.4	NO	0.999	NO	bb
9	9	190722M1_12	Standard	1250.000	5.71	144867.422	17519.146	1240.364	1177.2	-5.8	NO	0.999	NO	bb
10	10	190722M1_13	Standard	2500.000	5.72	258953.250	16901.072	2298.256	2544.8	1.8	NO	0.999	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.998149
Calibration curve: -0.000612217 * x^2 + 1.14249 * x + 0.0539235
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	190722M1_4	Standard	0.250	5.82	880.319	35866.102	0.307	0.2	-11.5	NO	0.998	NO	bb
2	2	190722M1_5	Standard	0.500	5.82	1951.640	37689.852	0.647	0.5	3.9	NO	0.998	NO	bb
3	3	190722M1_6	Standard	1.000	5.82	3383.408	35187.121	1.202	1.0	0.5	NO	0.998	NO	bb
4	4	190722M1_7	Standard	2.000	5.82	6987.166	37205.660	2.347	2.0	0.5	NO	0.998	NO	bb
5	5	190722M1_8	Standard	5.000	5.82	17986.393	39748.355	5.656	4.9	-1.7	NO	0.998	NO	bb
6	6	190722M1_9	Standard	10.000	5.82	33628.137	35560.168	11.821	10.4	3.6	NO	0.998	NO	bb
7	7	190722M1_10	Standard	50.000	5.82	166447.047	36397.934	57.162	51.4	2.8	NO	0.998	NO	bb
8	8	190722M1_11	Standard	100.000	5.82	319759.031	34719.320	115.123	106.8	6.8	NO	0.998	NO	bb
9	9	190722M1_12	Standard	250.000	5.82	628585.875	33727.715	232.963	232.9	-6.8	NO	0.998	NO	bb
10	10	190722M1_13	Standard	500.000	5.82	1093546.375	32244.893	423.922	510.8	2.2	NO	0.998	NO	bb

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Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999315
Calibration curve: -2.75261e-005 * x^2 + 0.165938 * x + -0.00469544
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	190722M1_4	Standard	0.250	5.85	86.251	24533.617	0.044	0.3	17.3	NO	0.999	NO	bb
2	2	190722M1_5	Standard	0.500	5.84	150.285	25057.908	0.075	0.5	-4.0	NO	0.999	NO	bb
3	3	190722M1_6	Standard	1.000	5.84	300.318	24546.381	0.153	1.0	-5.0	NO	0.999	NO	bb
4	4	190722M1_7	Standard	2.000	5.85	627.501	25520.283	0.307	1.9	-5.9	NO	0.999	NO	bb
5	5	190722M1_8	Standard	5.000	5.85	1641.982	27030.195	0.759	4.6	-7.8	NO	0.999	NO	bb
6	6	190722M1_9	Standard	10.000	5.85	3334.150	24462.900	1.704	10.3	3.1	NO	0.999	NO	bb
7	7	190722M1_10	Standard	50.000	5.84	16404.707	25008.195	8.200	49.9	-0.3	NO	0.999	NO	bb
8	8	190722M1_11	Standard	100.000	5.85	32527.031	23699.754	17.156	105.3	5.3	NO	0.999	NO	bb
9	9	190722M1_12	Standard	250.000	5.85	67222.758	21808.348	38.530	241.9	-3.2	NO	0.999	NO	bb
10	10	190722M1_13	Standard	500.000	5.85	120324.617	19652.904	76.531	503.2	0.6	NO	0.999	NO	bb

Compound name: PFTeDA
Correlation coefficient: r = 0.999147, r^2 = 0.998295
Calibration curve: 1.50077 * x + 0.138175
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	190722M1_4	Standard	0.250	6.04	866.865	24533.617	0.442	0.2	-19.1	NO	0.998	NO	bb
2	2	190722M1_5	Standard	0.500	6.04	1744.283	25057.908	0.870	0.5	-2.5	NO	0.998	NO	bb
3	3	190722M1_6	Standard	1.000	6.04	3219.788	24546.381	1.640	1.0	0.0	NO	0.998	NO	db
4	4	190722M1_7	Standard	2.000	6.04	6134.377	25520.283	3.005	1.9	-4.5	NO	0.998	NO	bb
5	5	190722M1_8	Standard	5.000	6.04	17214.193	27030.195	7.961	5.2	4.2	NO	0.998	NO	bb
6	6	190722M1_9	Standard	10.000	6.05	32397.947	24462.900	16.555	10.9	9.4	NO	0.998	NO	bb
7	7	190722M1_10	Standard	50.000	6.04	163116.328	25008.195	81.531	54.2	8.5	NO	0.998	NO	bb
8	8	190722M1_11	Standard	100.000	6.05	308826.531	23699.754	162.885	108.4	8.4	NO	0.998	NO	bb
9	9	190722M1_12	Standard	250.000	6.04	631381.125	21808.348	361.892	241.0	-3.6	NO	0.998	NO	bb
10	10	190722M1_13	Standard	500.000	6.04	1168848.375	19652.904	743.432	495.3	-0.9	NO	0.998	NO	bb

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Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999316
Calibration curve: -4.39453e-005 * x^2 + 0.983871 * x + -0.292612
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	190722M1_4	Standard	1.250	6.15	101.507	21304.605	0.715	1.0	-18.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	2.500	6.16	355.757	23668.131	2.255	2.6	3.6	NO	0.999	NO	bb
3	3	190722M1_6	Standard	5.000	6.15	704.680	21497.307	4.917	5.3	5.9	NO	0.999	NO	bb
4	4	190722M1_7	Standard	10.000	6.15	1535.194	23583.982	9.764	10.2	2.3	NO	0.999	NO	bb
5	5	190722M1_8	Standard	25.000	6.15	3849.927	23549.482	24.522	25.3	1.0	NO	0.999	NO	bb
6	6	190722M1_9	Standard	50.000	6.15	7349.969	22318.830	49.398	50.6	1.2	NO	0.999	NO	bb
7	7	190722M1_10	Standard	250.000	6.15	37530.723	22303.699	252.407	259.9	3.9	NO	0.999	NO	bb
8	8	190722M1_11	Standard	500.000	6.15	68166.070	20623.604	495.787	516.1	3.2	NO	0.999	NO	bb
9	9	190722M1_12	Standard	1250.000	6.15	138086.688	18540.406	1117.182	1200.1	-4.0	NO	0.999	NO	bb
10	10	190722M1_13	Standard	2500.000	6.15	240326.031	16366.620	2202.587	2523.4	0.9	NO	0.999	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999962
Calibration curve: -0.00028136 * x^2 + 0.657654 * x + 0.0293459
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	190722M1_4	Standard	0.250	6.38	513.778	11797.870	0.218	0.3	14.6	NO	1.000	NO	bb
2	2	190722M1_5	Standard	0.500	6.40	893.050	13134.137	0.340	0.5	-5.5	NO	1.000	NO	bb
3	3	190722M1_6	Standard	1.000	6.38	1684.509	12505.977	0.673	1.0	-2.0	NO	1.000	NO	bb
4	4	190722M1_7	Standard	2.000	6.38	3461.457	13630.720	1.270	1.9	-5.6	NO	1.000	NO	bb
5	5	190722M1_8	Standard	5.000	6.38	9031.181	14086.746	3.206	4.8	-3.2	NO	1.000	NO	bb
6	6	190722M1_9	Standard	10.000	6.38	16027.866	11944.516	6.709	10.2	2.0	NO	1.000	NO	bb
7	7	190722M1_10	Standard	50.000	6.38	83977.273	13095.914	32.062	49.8	-0.5	NO	1.000	NO	bb
8	8	190722M1_11	Standard	100.000	6.38	155073.625	12310.342	62.985	100.0	0.0	NO	1.000	NO	bb
9	9	190722M1_12	Standard	250.000	6.38	336614.219	11431.851	147.226	250.7	0.3	NO	1.000	NO	bb
10	10	190722M1_13	Standard	500.000	6.38	585571.063	11333.142	258.345	499.5	-0.1	NO	1.000	NO	bb

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Compound name: PFODA
Correlation coefficient: r = 0.997667, r^2 = 0.995340
Calibration curve: 0.760337 * x + 0.0535536
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	190722M1_4	Standard	0.250	6.63	541.114	11797.870	0.229	0.2	-7.5	NO	0.995	NO	bb
2	2	190722M1_5	Standard	0.500	6.65	1068.658	13134.137	0.407	0.5	-7.1	NO	0.995	NO	bb
3	3	190722M1_6	Standard	1.000	6.63	2030.675	12505.977	0.812	1.0	-0.3	NO	0.995	NO	bb
4	4	190722M1_7	Standard	2.000	6.63	4374.636	13630.720	1.605	2.0	2.0	NO	0.995	NO	bb
5	5	190722M1_8	Standard	5.000	6.63	11379.397	14086.746	4.039	5.2	4.8	NO	0.995	NO	bb
6	6	190722M1_9	Standard	10.000	6.63	21262.186	11944.516	8.900	11.6	16.4	NO	0.995	NO	bb
7	7	190722M1_10	Standard	50.000	6.63	109864.828	13095.914	41.946	55.1	10.2	NO	0.995	NO	bb
8	8	190722M1_11	Standard	100.000	6.63	207847.906	12310.342	84.420	111.(	11.0	NO	0.995	NO	bb
9	9	190722M1_12	Standard	250.000	6.63	454528.688	11431.851	198.799	261.4	4.6	NO	0.995	NO	bb
10	10	190722M1_13	Standard	500.000	6.63	811311.75(	11333.142	357.938	470.7	-5.9	NO	0.995	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999814, r^2 = 0.999627
Calibration curve: 1.11748 * x + 0.0028163
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	190722M1_4	Standard	1.250	6.35	142.945	14114.705	1.519	1.4	8.6	NO	1.000	NO	bb
2	2	190722M1_5	Standard	2.500	6.36	275.433	15183.258	2.721	2.4	-2.7	NO	1.000	NO	bb
3	3	190722M1_6	Standard	5.000	6.35	489.998	14793.784	4.968	4.4	-11.1	NO	1.000	NO	bb
4	4	190722M1_7	Standard	10.000	6.35	1189.149	15722.974	11.345	10.1	1.5	NO	1.000	NO	bb
5	5	190722M1_8	Standard	25.000	6.35	2783.181	15649.076	26.677	23.9	-4.5	NO	1.000	NO	bb
6	6	190722M1_9	Standard	50.000	6.35	5900.228	14921.587	59.312	53.1	6.1	NO	1.000	NO	bd
7	7	190722M1_10	Standard	250.000	6.35	28270.703	14648.056	289.500	259.1	3.6	NO	1.000	NO	bb
8	8	190722M1_11	Standard	500.000	6.35	55998.887	14981.688	560.673	501.7	0.3	NO	1.000	NO	bb
9	9	190722M1_12	Standard	1250.000	6.35	130194.523	14359.571	1360.011	1217.0	-2.6	NO	1.000	NO	bb
10	10	190722M1_13	Standard	2500.000	6.35	267832.500	14262.917	2816.736	2520.6	0.8	NO	1.000	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999619, r^2 = 0.999239
Calibration curve: 1.29498 * x + -0.0851508
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	190722M1_4	Standard	1.250	6.50	137.647	15632.325	1.321	1.1	-13.1	NO	0.999	NO	bb
2	2	190722M1_5	Standard	2.500	6.51	380.815	15954.395	3.580	2.8	13.2	NO	0.999	NO	bb
3	3	190722M1_6	Standard	5.000	6.50	642.558	15644.520	6.161	4.8	-3.5	NO	0.999	NO	bb
4	4	190722M1_7	Standard	10.000	6.50	1396.000	16621.113	12.598	9.8	-2.1	NO	0.999	NO	bb
5	5	190722M1_8	Standard	25.000	6.50	3454.849	16588.672	31.240	24.2	-3.2	NO	0.999	NO	bb
6	6	190722M1_9	Standard	50.000	6.50	6699.854	15590.012	64.463	49.8	-0.3	NO	0.999	NO	bb
7	7	190722M1_10	Standard	250.000	6.50	35302.969	15657.459	338.206	261.2	4.5	NO	0.999	NO	bb
8	8	190722M1_11	Standard	500.000	6.50	70170.711	15222.166	691.466	534.0	6.8	NO	0.999	NO	bb
9	9	190722M1_12	Standard	1250.000	6.50	156135.172	14605.532	1603.521	1238.3	-0.9	NO	0.999	NO	bb
10	10	190722M1_13	Standard	2500.000	6.50	315517.375	14811.076	3195.420	2467.6	-1.3	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.733681
RRF SD: 0.0177614, Relative SD: 2.42086
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	190722M1_4	Standard	12.500	1.15	7535.072	10850.134	8.681	11.8	-5.3	NO		NO	bb
2	2	190722M1_5	Standard	12.500	1.15	7667.957	10409.271	9.208	12.6	0.4	NO		NO	MM
3	3	190722M1_6	Standard	12.500	1.16	7940.078	10719.811	9.259	12.6	1.0	NO		NO	bb
4	4	190722M1_7	Standard	12.500	1.16	7913.104	10464.392	9.452	12.9	3.1	NO		NO	bb
5	5	190722M1_8	Standard	12.500	1.16	8268.948	11249.724	9.188	12.5	0.2	NO		NO	MM
6	6	190722M1_9	Standard	12.500	1.15	7860.292	10605.924	9.264	12.6	1.0	NO		NO	bb
7	7	190722M1_10	Standard	12.500	1.16	7803.057	10757.842	9.067	12.4	-1.1	NO		NO	bb
8	8	190722M1_11	Standard	12.500	1.16	7935.086	10641.384	9.321	12.7	1.6	NO		NO	MM
9	9	190722M1_12	Standard	12.500	1.16	7764.940	10847.547	8.948	12.2	-2.4	NO		NO	bb
10	10	190722M1_13	Standard	12.500	1.16	7748.437	10389.314	9.323	12.7	1.7	NO		NO	bb

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Compound name: 13C3-PFPeA
Response Factor: 0.498108
RRF SD: 0.0236712, Relative SD: 4.75223
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 190722M1_4	Standard	12.500	2.14	15615.620	33051.543	5.906	11.9	-5.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	2.15	15644.763	33461.480	5.844	11.7	-6.1	NO		NO	bb
3	3 190722M1_6	Standard	12.500	2.15	15402.321	30822.049	6.246	12.5	0.3	NO		NO	bb
4	4 190722M1_7	Standard	12.500	2.15	16573.887	32740.182	6.328	12.7	1.6	NO		NO	bb
5	5 190722M1_8	Standard	12.500	2.15	16136.088	34149.691	5.906	11.9	-5.1	NO		NO	bb
6	6 190722M1_9	Standard	12.500	2.15	15546.884	31217.115	6.225	12.5	-0.0	NO		NO	MM
7	7 190722M1_10	Standard	12.500	2.15	15661.723	31695.689	6.177	12.4	-0.8	NO		NO	MM
8	8 190722M1_11	Standard	12.500	2.15	15504.576	30821.445	6.288	12.6	1.0	NO		NO	bd
9	9 190722M1_12	Standard	12.500	2.15	14045.382	26753.777	6.562	13.2	5.4	NO		NO	bb
10	10 190722M1_13	Standard	12.500	2.15	13207.372	24348.354	6.780	13.6	8.9	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 1.05751
RRF SD: 0.0337229, Relative SD: 3.18889
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 190722M1_4	Standard	12.500	2.45	2236.356	2116.563	13.207	12.5	-0.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	2.44	2328.057	2194.463	13.261	12.5	0.3	NO		NO	bb
3	3 190722M1_6	Standard	12.500	2.45	2135.009	2131.238	12.522	11.8	-5.3	NO		NO	bb
4	4 190722M1_7	Standard	12.500	2.45	2286.379	2123.718	13.457	12.7	1.8	NO		NO	bb
5	5 190722M1_8	Standard	12.500	2.45	2378.276	2183.460	13.615	12.9	3.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	2.45	2169.553	2036.903	13.314	12.6	0.7	NO		NO	bb
7	7 190722M1_10	Standard	12.500	2.45	2223.375	2117.294	13.126	12.4	-0.7	NO		NO	bb
8	8 190722M1_11	Standard	12.500	2.45	2050.346	2008.983	12.757	12.1	-3.5	NO		NO	bb
9	9 190722M1_12	Standard	12.500	2.45	1839.875	1777.154	12.941	12.2	-2.1	NO		NO	bb
10	10 190722M1_13	Standard	12.500	2.45	1668.475	1491.091	13.987	13.2	5.8	NO		NO	bb

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Compound name: 13C3-HFPO-DA
Response Factor: 0.133956
RRF SD: 0.014504, Relative SD: 10.8275
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 190722M1_4	Standard	5.000	3.17	1911.858	33051.543	0.723	5.4	8.0	NO		NO	bb
2	2 190722M1_5	Standard	5.000	3.18	1900.246	33461.480	0.710	5.3	6.0	NO		NO	bb
3	3 190722M1_6	Standard	5.000	3.17	1798.144	30822.049	0.729	5.4	8.9	NO		NO	bb
4	4 190722M1_7	Standard	5.000	3.17	1502.926	32740.182	0.574	4.3	-14.3	NO		NO	bb
5	5 190722M1_8	Standard	5.000	3.17	1823.471	34149.691	0.667	5.0	-0.3	NO		NO	bb
6	6 190722M1_9	Standard	5.000	3.17	1583.915	31217.115	0.634	4.7	-5.3	NO		NO	bb
7	7 190722M1_10	Standard	5.000	3.17	1516.116	31695.689	0.598	4.5	-10.7	NO		NO	bb
8	8 190722M1_11	Standard	5.000	3.17	1625.359	30821.445	0.659	4.9	-1.6	NO		NO	bb
9	9 190722M1_12	Standard	5.000	3.17	1723.773	26753.777	0.805	6.0	20.2	NO		NO	bb
10	10 190722M1_13	Standard	5.000	3.18	1164.100	24348.354	0.598	4.5	-10.8	NO		NO	bb

Compound name: 13C2-4:2 FTS
Response Factor: 1.64992
RRF SD: 0.128404, Relative SD: 7.78244
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 190722M1_4	Standard	12.500	2.88	3670.744	2116.563	21.679	13.1	5.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	2.88	3757.099	2194.463	21.401	13.0	3.8	NO		NO	bb
3	3 190722M1_6	Standard	12.500	2.88	3580.179	2131.238	20.998	12.7	1.8	NO		NO	bb
4	4 190722M1_7	Standard	12.500	2.88	3900.635	2123.718	22.959	13.9	11.3	NO		NO	bb
5	5 190722M1_8	Standard	12.500	2.88	3671.611	2183.460	21.019	12.7	1.9	NO		NO	bb
6	6 190722M1_9	Standard	12.500	2.88	3615.187	2036.903	22.186	13.4	7.6	NO		NO	bb
7	7 190722M1_10	Standard	12.500	2.88	3349.761	2117.294	19.776	12.0	-4.1	NO		NO	bb
8	8 190722M1_11	Standard	12.500	2.88	3083.802	2008.983	19.188	11.6	-7.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	2.88	2504.447	1777.154	17.616	10.7	-14.6	NO		NO	bb
10	10 190722M1_13	Standard	12.500	2.88	2316.492	1491.091	19.419	11.8	-5.8	NO		NO	bb

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Compound name: 13C2-PFHxA
Response Factor: 0.97768
RRF SD: 0.0341838, Relative SD: 3.49642
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 190722M1_4	Standard	5.000	2.96	12177.271	33051.543	4.605	4.7	-5.8	NO		NO	bb
2	2 190722M1_5	Standard	5.000	2.96	12908.381	33461.480	4.822	4.9	-1.4	NO		NO	bb
3	3 190722M1_6	Standard	5.000	2.97	11943.897	30822.049	4.844	5.0	-0.9	NO		NO	bb
4	4 190722M1_7	Standard	5.000	2.96	13020.162	32740.182	4.971	5.1	1.7	NO		NO	bb
5	5 190722M1_8	Standard	5.000	2.96	13060.069	34149.691	4.780	4.9	-2.2	NO		NO	bb
6	6 190722M1_9	Standard	5.000	2.96	12196.678	31217.115	4.884	5.0	-0.1	NO		NO	bb
7	7 190722M1_10	Standard	5.000	2.96	12268.250	31695.689	4.838	4.9	-1.0	NO		NO	bb
8	8 190722M1_11	Standard	5.000	2.97	11871.380	30821.445	4.815	4.9	-1.5	NO		NO	bb
9	9 190722M1_12	Standard	5.000	2.96	11058.899	26753.777	5.167	5.3	5.7	NO		NO	bb
10	10 190722M1_13	Standard	5.000	2.97	10046.051	24348.354	5.157	5.3	5.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.478533
RRF SD: 0.021691, Relative SD: 4.53282
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 190722M1_4	Standard	12.500	3.58	15466.499	33051.543	5.849	12.2	-2.2	NO		NO	bb
2	2 190722M1_5	Standard	12.500	3.58	16469.510	33461.480	6.152	12.9	2.9	NO		NO	bb
3	3 190722M1_6	Standard	12.500	3.58	15694.526	30822.049	6.365	13.3	6.4	NO		NO	bb
4	4 190722M1_7	Standard	12.500	3.58	16354.851	32740.182	6.244	13.0	4.4	NO		NO	bb
5	5 190722M1_8	Standard	12.500	3.59	16565.537	34149.691	6.064	12.7	1.4	NO		NO	bb
6	6 190722M1_9	Standard	12.500	3.59	15015.037	31217.115	6.012	12.6	0.5	NO		NO	bd
7	7 190722M1_10	Standard	12.500	3.58	15372.816	31695.689	6.063	12.7	1.4	NO		NO	bb
8	8 190722M1_11	Standard	12.500	3.59	14399.047	30821.445	5.840	12.2	-2.4	NO		NO	bb
9	9 190722M1_12	Standard	12.500	3.59	12478.941	26753.777	5.830	12.2	-2.5	NO		NO	bb
10	10 190722M1_13	Standard	12.500	3.59	10512.502	24348.354	5.397	11.3	-9.8	NO		NO	bb

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Compound name: 13C3-PFHxS
Response Factor: 2.02371
RRF SD: 0.0767424, Relative SD: 3.79216
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 190722M1_4	Standard	12.500	3.74	4237.713	2116.563	25.027	12.4	-1.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	3.74	4295.812	2194.463	24.470	12.1	-3.3	NO		NO	bb
3	3 190722M1_6	Standard	12.500	3.74	4291.999	2131.238	25.173	12.4	-0.5	NO		NO	bb
4	4 190722M1_7	Standard	12.500	3.74	4626.274	2123.718	27.230	13.5	7.6	NO		NO	bb
5	5 190722M1_8	Standard	12.500	3.75	4549.954	2183.460	26.048	12.9	3.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	3.75	4222.706	2036.903	25.914	12.8	2.4	NO		NO	bb
7	7 190722M1_10	Standard	12.500	3.74	4304.553	2117.294	25.413	12.6	0.5	NO		NO	bb
8	8 190722M1_11	Standard	12.500	3.75	3916.082	2008.983	24.366	12.0	-3.7	NO		NO	bb
9	9 190722M1_12	Standard	12.500	3.74	3613.687	1777.154	25.418	12.6	0.5	NO		NO	bb
10	10 190722M1_13	Standard	12.500	3.75	2851.692	1491.091	23.906	11.8	-5.5	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.536222
RRF SD: 0.0352734, Relative SD: 6.57812
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 190722M1_4	Standard	12.500	4.05	2786.472	4991.087	6.979	13.0	4.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.06	2769.114	5000.113	6.923	12.9	3.3	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.06	2622.355	4901.221	6.688	12.5	-0.2	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.06	2784.607	5073.991	6.860	12.8	2.3	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.06	2891.434	5015.092	7.207	13.4	7.5	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.06	2648.652	4731.726	6.997	13.0	4.4	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.06	2695.782	4823.493	6.986	13.0	4.2	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.06	2231.852	4686.748	5.953	11.1	-11.2	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.06	1952.420	4103.574	5.947	11.1	-11.3	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.06	1916.864	3692.703	6.489	12.1	-3.2	NO		NO	bb

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Compound name: 13C5-PFNA
Response Factor: 1.00185
RRF SD: 0.0211068, Relative SD: 2.10677
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 190722M1_4	Standard	12.500	4.56	26994.145	28154.537	11.985	12.0	-4.3	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.56	28537.123	28146.664	12.673	12.6	1.2	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.56	27063.857	27420.799	12.337	12.3	-1.5	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.56	28643.977	28130.104	12.728	12.7	1.6	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.57	29767.006	29337.896	12.683	12.7	1.3	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.56	26302.541	26887.838	12.228	12.2	-2.4	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.56	26637.002	26248.543	12.685	12.7	1.3	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.57	26110.186	25464.787	12.817	12.8	2.3	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.57	22971.619	22748.998	12.622	12.6	0.8	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.56	19516.545	19558.701	12.473	12.4	-0.4	NO		NO	bb

Compound name: 13C8-PFOSA
Response Factor: 0.167568
RRF SD: 0.00800781, Relative SD: 4.77885
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 190722M1_4	Standard	12.500	4.62	6999.135	43120.508	2.029	12.1	-3.1	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.62	7118.328	43671.777	2.037	12.2	-2.7	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.62	6954.864	42805.195	2.031	12.1	-3.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.62	7591.014	42829.859	2.215	13.2	5.8	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.62	7228.312	44973.254	2.009	12.0	-4.1	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.62	6895.285	41544.137	2.075	12.4	-1.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.62	6874.020	42856.988	2.005	12.0	-4.3	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.62	6363.656	38711.184	2.055	12.3	-1.9	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.62	5928.815	33419.641	2.218	13.2	5.9	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.62	5158.861	28382.182	2.272	13.6	8.5	NO		NO	bb

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Compound name: 13C2-PFOA
Response Factor: 0.681271
RRF SD: 0.0136294, Relative SD: 2.00058
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 190722M1_4	Standard	12.500	4.11	27227.115	40893.055	8.323	12.2	-2.3	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.11	27747.313	40528.070	8.558	12.6	0.5	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.12	27237.805	38705.680	8.796	12.9	3.3	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.12	28255.654	40013.352	8.827	13.0	3.7	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.12	28378.357	41990.711	8.448	12.4	-0.8	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.12	26171.531	39024.754	8.383	12.3	-1.6	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.12	26058.307	38312.750	8.502	12.5	-0.2	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.12	24945.002	37224.391	8.377	12.3	-1.6	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.12	20788.729	30588.471	8.495	12.5	-0.2	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.12	17144.352	25360.734	8.450	12.4	-0.8	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.996704
RRF SD: 0.0353208, Relative SD: 3.54376
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 190722M1_4	Standard	12.500	4.65	4610.178	4991.087	11.546	11.6	-7.3	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.65	5023.074	5000.113	12.557	12.6	0.8	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.65	4689.497	4901.221	11.960	12.0	-4.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.65	5125.605	5073.991	12.627	12.7	1.4	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.66	5130.050	5015.092	12.787	12.8	2.6	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.65	4812.441	4731.726	12.713	12.8	2.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.65	4677.291	4823.493	12.121	12.2	-2.7	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.65	4807.745	4686.748	12.823	12.9	2.9	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.65	4240.362	4103.574	12.917	13.0	3.7	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.65	3703.672	3692.703	12.537	12.6	0.6	NO		NO	bb

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Compound name: 13C2-PFDA
Response Factor: 0.819019
RRF SD: 0.0323728, Relative SD: 3.95263
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 190722M1_4	Standard	12.500	4.94	28932.621	36615.000	9.877	12.1	-3.5	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.95	29286.775	35343.969	10.358	12.6	1.2	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.95	28506.883	33592.953	10.607	13.0	3.6	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.95	29915.926	35678.215	10.481	12.8	2.4	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.95	30566.777	37235.199	10.261	12.5	0.2	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.95	27265.137	34106.059	9.993	12.2	-2.4	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.94	27453.689	34011.199	10.090	12.3	-1.4	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.95	27625.471	33321.129	10.363	12.7	1.2	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.94	21413.232	28304.783	9.457	11.5	-7.6	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.95	21236.443	24376.801	10.890	13.3	6.4	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.556548
RRF SD: 0.0515422, Relative SD: 9.26104
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 190722M1_4	Standard	12.500	4.91	2766.790	4991.087	6.929	12.5	-0.4	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.91	2888.167	5000.113	7.220	13.0	3.8	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.91	2645.313	4901.221	6.747	12.1	-3.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.91	3030.817	5073.991	7.467	13.4	7.3	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.91	3163.601	5015.092	7.885	14.2	13.3	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.91	2857.208	4731.726	7.548	13.6	8.5	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.91	2815.214	4823.493	7.296	13.1	4.9	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.91	2314.112	4686.748	6.172	11.1	-11.3	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.91	2102.109	4103.574	6.403	11.5	-8.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.91	1743.485	3692.703	5.902	10.6	-15.2	NO		NO	bb

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Compound name: d3-N-MeFOSAA
Response Factor: 0.177461
RRF SD: 0.0119369, Relative SD: 6.72646
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	190722M1_4	Standard	12.500	5.09	7508.583	43120.508	2.177	12.3	-1.9	NO		NO	bb
2	2	190722M1_5	Standard	12.500	5.10	7723.352	43671.777	2.211	12.5	-0.3	NO		NO	bb
3	3	190722M1_6	Standard	12.500	5.10	7195.815	42805.195	2.101	11.8	-5.3	NO		NO	bb
4	4	190722M1_7	Standard	12.500	5.10	8090.056	42829.859	2.361	13.3	6.4	NO		NO	bb
5	5	190722M1_8	Standard	12.500	5.10	7347.870	44973.254	2.042	11.5	-7.9	NO		NO	bb
6	6	190722M1_9	Standard	12.500	5.10	7043.111	41544.137	2.119	11.9	-4.5	NO		NO	bb
7	7	190722M1_10	Standard	12.500	5.10	7339.405	42856.988	2.141	12.1	-3.5	NO		NO	bb
8	8	190722M1_11	Standard	12.500	5.10	6841.495	38711.184	2.209	12.4	-0.4	NO		NO	bb
9	9	190722M1_12	Standard	12.500	5.10	6051.563	33419.641	2.263	12.8	2.0	NO		NO	bb
10	10	190722M1_13	Standard	12.500	5.10	5808.625	28382.182	2.558	14.4	15.3	NO		NO	bb

Compound name: 13C2-PFUdA
Response Factor: 0.889058
RRF SD: 0.0213149, Relative SD: 2.39747
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	190722M1_4	Standard	12.500	5.28	37046.383	43120.508	10.739	12.1	-3.4	NO		NO	bb
2	2	190722M1_5	Standard	12.500	5.28	39610.082	43671.777	11.337	12.8	2.0	NO		NO	bb
3	3	190722M1_6	Standard	12.500	5.28	37227.707	42805.195	10.871	12.2	-2.2	NO		NO	bb
4	4	190722M1_7	Standard	12.500	5.28	38478.953	42829.859	11.230	12.6	1.1	NO		NO	bb
5	5	190722M1_8	Standard	12.500	5.28	39406.758	44973.254	10.953	12.3	-1.4	NO		NO	bb
6	6	190722M1_9	Standard	12.500	5.28	36519.961	41544.137	10.988	12.4	-1.1	NO		NO	bb
7	7	190722M1_10	Standard	12.500	5.28	37910.305	42856.988	11.057	12.4	-0.5	NO		NO	bb
8	8	190722M1_11	Standard	12.500	5.28	34466.223	38711.184	11.129	12.5	0.1	NO		NO	bb
9	9	190722M1_12	Standard	12.500	5.27	29777.729	33419.641	11.138	12.5	0.2	NO		NO	bb
10	10	190722M1_13	Standard	12.500	5.28	26540.064	28382.182	11.689	13.1	5.2	NO		NO	bb

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Compound name: d5-N-EtFOSAA
Response Factor: 0.223832
RRF SD: 0.00732405, Relative SD: 3.27212
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 190722M1_4	Standard	12.500	5.26	9726.823	43120.508	2.820	12.6	0.8	NO		NO	bb
2	2 190722M1_5	Standard	12.500	5.26	10142.089	43671.777	2.903	13.0	3.8	NO		NO	bb
3	3 190722M1_6	Standard	12.500	5.26	9553.568	42805.195	2.790	12.5	-0.3	NO		NO	bb
4	4 190722M1_7	Standard	12.500	5.26	10224.499	42829.859	2.984	13.3	6.7	NO		NO	bb
5	5 190722M1_8	Standard	12.500	5.26	9695.443	44973.254	2.695	12.0	-3.7	NO		NO	bb
6	6 190722M1_9	Standard	12.500	5.26	9396.261	41544.137	2.827	12.6	1.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	5.26	9432.823	42856.988	2.751	12.3	-1.7	NO		NO	bb
8	8 190722M1_11	Standard	12.500	5.26	8632.457	38711.184	2.787	12.5	-0.4	NO		NO	bb
9	9 190722M1_12	Standard	12.500	5.26	7214.774	33419.641	2.699	12.1	-3.6	NO		NO	bb
10	10 190722M1_13	Standard	12.500	5.26	6183.431	28382.182	2.723	12.2	-2.7	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 1.08728
RRF SD: 0.0981349, Relative SD: 9.02572
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 190722M1_4	Standard	12.500	5.57	35866.102	36615.000	12.244	11.3	-9.9	NO		NO	bb
2	2 190722M1_5	Standard	12.500	5.57	37689.852	35343.969	13.330	12.3	-1.9	NO		NO	bb
3	3 190722M1_6	Standard	12.500	5.57	35187.121	33592.953	13.093	12.0	-3.7	NO		NO	bb
4	4 190722M1_7	Standard	12.500	5.57	37205.660	35678.215	13.035	12.0	-4.1	NO		NO	bb
5	5 190722M1_8	Standard	12.500	5.57	39748.355	37235.199	13.344	12.3	-1.8	NO		NO	bb
6	6 190722M1_9	Standard	12.500	5.57	35560.168	34106.059	13.033	12.0	-4.1	NO		NO	bb
7	7 190722M1_10	Standard	12.500	5.56	36397.934	34011.199	13.377	12.3	-1.6	NO		NO	bb
8	8 190722M1_11	Standard	12.500	5.57	34719.320	33321.129	13.025	12.0	-4.2	NO		NO	bb
9	9 190722M1_12	Standard	12.500	5.57	33727.715	28304.783	14.895	13.7	9.6	NO		NO	bb
10	10 190722M1_13	Standard	12.500	5.57	32244.893	24376.801	16.535	15.2	21.7	NO		NO	bb

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Compound name: d3-N-MeFOSA
Response Factor: 0.0382371
RRF SD: 0.00483988, Relative SD: 12.6575
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	190722M1_4	Standard	150.000	5.74	17841.740	43120.508	5.172	135.3	-9.8	NO		NO	bb
2	2	190722M1_5	Standard	150.000	5.74	18678.113	43671.777	5.346	139.8	-6.8	NO		NO	bb
3	3	190722M1_6	Standard	150.000	5.74	17820.547	42805.195	5.204	136.1	-9.3	NO		NO	bb
4	4	190722M1_7	Standard	150.000	5.74	19170.096	42829.859	5.595	146.3	-2.5	NO		NO	bb
5	5	190722M1_8	Standard	150.000	5.75	19158.625	44973.254	5.325	139.3	-7.2	NO		NO	bb
6	6	190722M1_9	Standard	150.000	5.75	17939.484	41544.137	5.398	141.2	-5.9	NO		NO	bb
7	7	190722M1_10	Standard	150.000	5.74	18666.406	42856.988	5.444	142.4	-5.1	NO		NO	bb
8	8	190722M1_11	Standard	150.000	5.75	18195.252	38711.184	5.875	153.7	2.4	NO		NO	bb
9	9	190722M1_12	Standard	150.000	5.75	17519.146	33419.641	6.553	171.4	14.2	NO		NO	bd
10	10	190722M1_13	Standard	150.000	5.75	16901.072	28382.182	7.444	194.7	29.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.604264
RRF SD: 0.0395048, Relative SD: 6.53767
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	190722M1_4	Standard	12.500	6.04	24533.617	43120.508	7.112	11.8	-5.8	NO		NO	bb
2	2	190722M1_5	Standard	12.500	6.04	25057.908	43671.777	7.172	11.9	-5.0	NO		NO	bb
3	3	190722M1_6	Standard	12.500	6.04	24546.381	42805.195	7.168	11.9	-5.1	NO		NO	bb
4	4	190722M1_7	Standard	12.500	6.04	25520.283	42829.859	7.448	12.3	-1.4	NO		NO	bb
5	5	190722M1_8	Standard	12.500	6.04	27030.195	44973.254	7.513	12.4	-0.5	NO		NO	bb
6	6	190722M1_9	Standard	12.500	6.05	24462.900	41544.137	7.361	12.2	-2.6	NO		NO	bb
7	7	190722M1_10	Standard	12.500	6.04	25008.195	42856.988	7.294	12.1	-3.4	NO		NO	bb
8	8	190722M1_11	Standard	12.500	6.05	23699.754	38711.184	7.653	12.7	1.3	NO		NO	bb
9	9	190722M1_12	Standard	12.500	6.04	21808.348	33419.641	8.157	13.5	8.0	NO		NO	bb
10	10	190722M1_13	Standard	12.500	6.04	19652.904	28382.182	8.655	14.3	14.6	NO		NO	bb

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Compound name: d5-N-ETFOSA
Response Factor: 0.0444529
RRF SD: 0.00205939, Relative SD: 4.63274
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 190722M1_4	Standard	150.000	6.16	21304.605	43120.508	6.176	138.9	-7.4	NO		NO	bb
2	2 190722M1_5	Standard	150.000	6.18	23668.131	43671.777	6.774	152.4	1.6	NO		NO	bb
3	3 190722M1_6	Standard	150.000	6.17	21497.307	42805.195	6.278	141.2	-5.9	NO		NO	bb
4	4 190722M1_7	Standard	150.000	6.16	23583.982	42829.859	6.883	154.8	3.2	NO		NO	bb
5	5 190722M1_8	Standard	150.000	6.17	23549.482	44973.254	6.545	147.2	-1.8	NO		NO	bb
6	6 190722M1_9	Standard	150.000	6.17	22318.830	41544.137	6.715	151.1	0.7	NO		NO	bb
7	7 190722M1_10	Standard	150.000	6.16	22303.699	42856.988	6.505	146.3	-2.4	NO		NO	bb
8	8 190722M1_11	Standard	150.000	6.17	20623.604	38711.184	6.659	149.8	-0.1	NO		NO	bb
9	9 190722M1_12	Standard	150.000	6.16	18540.406	33419.641	6.935	156.0	4.0	NO		NO	bb
10	10 190722M1_13	Standard	150.000	6.17	16366.620	28382.182	7.208	162.2	8.1	NO		NO	bb

Compound name: 13C2-PFHxDA
Response Factor: 0.787613
RRF SD: 0.0879779, Relative SD: 11.1702
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 190722M1_4	Standard	5.000	6.38	11797.870	43120.508	3.420	4.3	-13.2	NO		NO	bb
2	2 190722M1_5	Standard	5.000	6.40	13134.137	43671.777	3.759	4.8	-4.5	NO		NO	bb
3	3 190722M1_6	Standard	5.000	6.38	12505.977	42805.195	3.652	4.6	-7.3	NO		NO	bb
4	4 190722M1_7	Standard	5.000	6.38	13630.720	42829.859	3.978	5.1	1.0	NO		NO	bb
5	5 190722M1_8	Standard	5.000	6.38	14086.746	44973.254	3.915	5.0	-0.6	NO		NO	bb
6	6 190722M1_9	Standard	5.000	6.38	11944.516	41544.137	3.594	4.6	-8.7	NO		NO	bb
7	7 190722M1_10	Standard	5.000	6.38	13095.914	42856.988	3.820	4.8	-3.0	NO		NO	bb
8	8 190722M1_11	Standard	5.000	6.38	12310.342	38711.184	3.975	5.0	0.9	NO		NO	bb
9	9 190722M1_12	Standard	5.000	6.38	11431.851	33419.641	4.276	5.4	8.6	NO		NO	bb
10	10 190722M1_13	Standard	5.000	6.38	11333.142	28382.182	4.991	6.3	26.7	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

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Compound name: d7-N-MeFOSE
Response Factor: 0.0312988
RRF SD: 0.00442916, Relative SD: 14.1512
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 190722M1_4	Standard	150.000	6.34	14114.705	43120.508	4.092	130.7	-12.8	NO		NO	bb
2	2 190722M1_5	Standard	150.000	6.36	15183.258	43671.777	4.346	138.9	-7.4	NO		NO	bb
3	3 190722M1_6	Standard	150.000	6.34	14793.784	42805.195	4.320	138.0	-8.0	NO		NO	bb
4	4 190722M1_7	Standard	150.000	6.34	15722.974	42829.859	4.589	146.6	-2.3	NO		NO	bb
5	5 190722M1_8	Standard	150.000	6.34	15649.076	44973.254	4.350	139.0	-7.4	NO		NO	bb
6	6 190722M1_9	Standard	150.000	6.34	14921.587	41544.137	4.490	143.4	-4.4	NO		NO	bb
7	7 190722M1_10	Standard	150.000	6.33	14648.056	42856.988	4.272	136.5	-9.0	NO		NO	bb
8	8 190722M1_11	Standard	150.000	6.34	14981.688	38711.184	4.838	154.6	3.0	NO		NO	bb
9	9 190722M1_12	Standard	150.000	6.34	14359.571	33419.641	5.371	171.6	14.4	NO		NO	bb
10	10 190722M1_13	Standard	150.000	6.34	14262.917	28382.182	6.282	200.7	33.8	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.0328581
RRF SD: 0.0041816, Relative SD: 12.7262
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 190722M1_4	Standard	150.000	6.49	15632.325	43120.508	4.532	137.9	-8.1	NO		NO	bb
2	2 190722M1_5	Standard	150.000	6.50	15954.395	43671.777	4.567	139.0	-7.3	NO		NO	bb
3	3 190722M1_6	Standard	150.000	6.49	15644.520	42805.195	4.569	139.0	-7.3	NO		NO	bb
4	4 190722M1_7	Standard	150.000	6.49	16621.113	42829.859	4.851	147.6	-1.6	NO		NO	bb
5	5 190722M1_8	Standard	150.000	6.49	16588.672	44973.254	4.611	140.3	-6.5	NO		NO	bb
6	6 190722M1_9	Standard	150.000	6.49	15590.012	41544.137	4.691	142.8	-4.8	NO		NO	bb
7	7 190722M1_10	Standard	150.000	6.49	15657.459	42856.988	4.567	139.0	-7.3	NO		NO	bb
8	8 190722M1_11	Standard	150.000	6.49	15222.166	38711.184	4.915	149.6	-0.3	NO		NO	bb
9	9 190722M1_12	Standard	150.000	6.49	14605.532	33419.641	5.463	166.3	10.8	NO		NO	bb
10	10 190722M1_13	Standard	150.000	6.49	14811.076	28382.182	6.523	198.5	32.3	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

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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 190722M1_4	Standard	12.500	1.15	10850.134	10850.134	12.500	12.5	0.0	NO		NO	MM
2	2 190722M1_5	Standard	12.500	1.15	10409.271	10409.271	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	1.16	10719.811	10719.811	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	1.16	10464.392	10464.392	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	1.16	11249.724	11249.724	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	1.16	10605.924	10605.924	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	1.16	10757.842	10757.842	12.500	12.5	0.0	NO		NO	MM
8	8 190722M1_11	Standard	12.500	1.16	10641.384	10641.384	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	1.16	10847.547	10847.547	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	1.16	10389.314	10389.314	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 190722M1_4	Standard	12.500	2.96	33051.543	33051.543	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	2.96	33461.480	33461.480	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	2.96	30822.049	30822.049	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	2.96	32740.182	32740.182	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	2.96	34149.691	34149.691	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	2.96	31217.115	31217.115	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	2.96	31695.689	31695.689	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	2.96	30821.445	30821.445	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	2.97	26753.777	26753.777	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	2.96	24348.354	24348.354	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 190722M1_4	Standard	12.500	3.74	2116.563	2116.563	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	3.74	2194.463	2194.463	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	3.74	2131.238	2131.238	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	3.74	2123.718	2123.718	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	3.75	2183.460	2183.460	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	3.75	2036.903	2036.903	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	3.74	2117.294	2117.294	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	3.75	2008.983	2008.983	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	3.74	1777.154	1777.154	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	3.75	1491.091	1491.091	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 190722M1_4	Standard	12.500	4.11	40893.055	40893.055	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.11	40528.070	40528.070	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.12	38705.680	38705.680	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.11	40013.352	40013.352	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.12	41990.711	41990.711	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.12	39024.754	39024.754	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.12	38312.750	38312.750	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.12	37224.391	37224.391	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.12	30588.471	30588.471	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.12	25360.734	25360.734	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 190722M1_4	Standard	12.500	4.56	28154.537	28154.537	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.56	28146.664	28146.664	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.56	27420.799	27420.799	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.56	28130.104	28130.104	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.57	29337.896	29337.896	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.56	26887.838	26887.838	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.56	26248.543	26248.543	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.56	25464.787	25464.787	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.56	22748.998	22748.998	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.56	19558.701	19558.701	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 190722M1_4	Standard	12.500	4.65	4991.087	4991.087	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.65	5000.113	5000.113	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.65	4901.221	4901.221	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.65	5073.991	5073.991	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.66	5015.092	5015.092	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.65	4731.726	4731.726	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.65	4823.493	4823.493	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.65	4686.748	4686.748	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.65	4103.574	4103.574	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.65	3692.703	3692.703	12.500	12.5	0.0	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-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 190722M1_4	Standard	12.500	4.94	36615.000	36615.000	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	4.95	35343.969	35343.969	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	4.95	33592.953	33592.953	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	4.95	35678.215	35678.215	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	4.95	37235.199	37235.199	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	4.95	34106.059	34106.059	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	4.94	34011.199	34011.199	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	4.95	33321.129	33321.129	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	4.94	28304.783	28304.783	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	4.95	24376.801	24376.801	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 190722M1_4	Standard	12.500	5.27	43120.508	43120.508	12.500	12.5	0.0	NO		NO	bb
2	2 190722M1_5	Standard	12.500	5.28	43671.777	43671.777	12.500	12.5	0.0	NO		NO	bb
3	3 190722M1_6	Standard	12.500	5.28	42805.195	42805.195	12.500	12.5	0.0	NO		NO	bb
4	4 190722M1_7	Standard	12.500	5.28	42829.859	42829.859	12.500	12.5	0.0	NO		NO	bb
5	5 190722M1_8	Standard	12.500	5.28	44973.254	44973.254	12.500	12.5	0.0	NO		NO	bb
6	6 190722M1_9	Standard	12.500	5.28	41544.137	41544.137	12.500	12.5	0.0	NO		NO	bb
7	7 190722M1_10	Standard	12.500	5.28	42856.988	42856.988	12.500	12.5	0.0	NO		NO	bb
8	8 190722M1_11	Standard	12.500	5.28	38711.184	38711.184	12.500	12.5	0.0	NO		NO	bb
9	9 190722M1_12	Standard	12.500	5.27	33419.641	33419.641	12.500	12.5	0.0	NO		NO	bb
10	10 190722M1_13	Standard	12.500	5.28	28382.182	28382.182	12.500	12.5	0.0	NO		NO	bb

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 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	0.9992	NO	
3	3	3:3 FTCA	48	0.9993	NO	
4	4	PFPeA	48	0.9998	NO	
5	5	PFBS	49	0.9996	NO	
6	6	4:2 FTS	51	0.9999	NO	
7	7	PFHxA	52	0.9980	NO	
8	8	PFPeS	49	0.9990	NO	
9	9	HFPO-DA	50	0.9920	NO	
10	10	5:3 FTCA	53	1.0000	NO	
11	11	PFHpA	53	0.9993	NO	
12	12	ADONA	53	0.9972	NO	
13	13	L-PFHxS	54	0.9977	NO	
14	15	6:2 FTS	55	0.9990	NO	
15	16	L-PFOA	58	0.9992	NO	
16	18	PFecHS	58	0.9998	NO	
17	19	PFHpS	59	0.9990	NO	
18	20	7:3 FTCA	56	0.9999	NO	
19	21	PFNA	56	0.9996	NO	
20	22	PFOSA	57	0.9994	NO	
21	23	L-PFOS	59	0.9997	NO	
22	25	9Cl-PF30NS	59	0.9997	NO	
23	26	PFDA	60	0.9979	NO	
24	27	8:2 FTS	61	0.9980	NO	
25	28	PFNS	59	0.9988	NO	
26	29	L-MeFOSAA	62	0.9998	NO	

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

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Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	64	0.9997	NO	
2	33	PFUdA	63	0.9990	NO	
3	34	PFDS	61	0.9987	NO	
4	35	11Cl-PF30UdS	65	0.9992	NO	
5	36	10:2 FTS	61	0.9985	NO	
6	37	PFDoA	65	0.9992	NO	
7	38	N-MeFOSA	66	0.9987	NO	
8	39	PFTrDA	65	0.9981	NO	
9	40	PFDoS	67	0.9993	NO	
10	41	PFTeDA	67	0.9983	NO	
11	42	N-EtFOSA	68	0.9993	NO	
12	43	PFHxDA	69	1.0000	NO	
13	44	PFODA	69	0.9953	NO	
14	45	N-MeFOSE	70	0.9996	NO	
15	46	N-EtFOSE	71	0.9992	NO	
16	47	13C3-PFBA	72		NO	2.421
17	48	13C3-PFPeA	73		NO	4.752
18	49	13C3-PFBS	74		NO	3.189
19	50	13C3-HFPO-DA	73		NO	10.828
20	51	13C2-4:2 FTS	74		NO	7.782
21	52	13C2-PFHxA	73		NO	3.496
22	53	13C4-PFHpA	73		NO	4.533
23	54	13C3-PFHxS	74		NO	3.792
24	55	13C2-6:2 FTS	77		NO	6.578
25	56	13C5-PFNA	76		NO	2.107
26	57	13C8-PFOSA	79		NO	4.779
27	58	13C2-PFOA	75		NO	2.001
28	59	13C8-PFOS	77		NO	3.544
29	60	13C2-PFDA	78		NO	3.953
30	61	13C2-8:2 FTS	77		NO	9.261
31	62	d3-N-MeFOSAA	79		NO	6.726
32	63	13C2-PFUdA	79		NO	2.397

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:31:31 Pacific Daylight Time

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

	#	Name	IS#	CoD	CoD Flag	%RSD
33	64	d5-N-EtFOSAA	79		NO	3.272
34	65	13C2-PFDoA	78		NO	9.026
35	66	d3-N-MeFOSA	79		NO	12.658
36	67	13C2-PFTeDA	79		NO	6.538
37	68	d5-N-ETFOSA	79		NO	4.633
38	69	13C2-PFHxDA	79		NO	11.170
39	70	d7-N-MeFOSE	79		NO	14.151
40	71	d9-N-EtFOSE	79		NO	12.726
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\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:33:08 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 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	1.52	1.52	2.586	2.586	NO
3	3:3 FTCA	2.01	1.99	2.003	2.003	NO
4	PFPeA	2.15	2.15			
5	PFBS	2.45	2.45	3.211	3.211	NO
6	4:2 FTS	2.88	2.88	1.727	1.727	NO
7	PFHxA	2.96	2.96	15.186	15.186	NO
8	PFPeS	3.17	3.17	1.506	1.506	NO
9	HFPO-DA	3.17	3.18	1.803	1.803	NO
10	5:3 FTCA	3.51	3.52	1.508	1.508	NO
11	PFHpA	3.59	3.59	9.441	9.441	NO
12	ADONA	3.70	3.70	3.494	3.494	NO
13	L-PFHxS	3.75	3.75	2.079	2.079	NO
14	6:2 FTS	4.06	4.06	2.153	2.153	NO
15	L-PFOA	4.12	4.12	3.932	3.932	NO
16	PFecHS	4.14	4.14	0.991	0.991	NO
17	PFHpS	4.24	4.24	1.767	1.767	NO
18	7:3 FTCA	4.55	4.55	1.941	1.941	NO
19	PFNA	4.56	4.57	4.083	4.083	NO
20	PFOSA	4.62	4.62	28.891	28.891	NO
21	L-PFOS	4.65	4.65	2.063	2.063	NO
22	9Cl-PF30NS	4.88	4.88	15.835	15.835	NO
23	PFDA	4.95	4.95	5.518	5.518	NO
24	8:2 FTS	4.91	4.91	1.148	1.148	NO
25	PFNS	5.02	5.02	1.631	1.631	NO
26	L-MeFOSAA	5.10	5.10	2.463	2.463	NO

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:33:39 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio out?
1	L-EtFOSAA	5.26	5.27	1.423	1.423	NO
2	PFUdA	5.28	5.28	9.202	9.202	NO
3	PFDS	5.33	5.33	1.987	1.987	NO
4	11Cl-PF30UdS	5.50	5.50	4.568	4.568	NO
5	10:2 FTS	5.55	5.55	1.560	1.560	NO
6	PFDoA	5.57	5.57	8.441	8.441	NO
7	N-MeFOSA	5.72	5.72	1.572	1.572	NO
8	PFTrDA	5.82	5.82	18.945	18.945	NO
9	PFDoS	5.85	5.85	1.847	1.847	NO
10	PFTeDA	6.05	6.05	14.484	14.484	NO
11	N-EtFOSA	6.15	6.15	1.577	1.577	NO
12	PFHxDA	6.38	6.38	19.231	19.231	NO
13	PFODA	6.63	6.63			
14	N-MeFOSE	6.35	6.35			
15	N-EtFOSE	6.50	6.50			

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 22, 2019 13:37:06 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:37:12 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	190722M1_1	IPA	22-Jul-19	09:54:51
2	2	190722M1_2	IPA	22-Jul-19	10:05:26
3	3	190722M1_3	IPA	22-Jul-19	10:16:04
4	4	190722M1_4	ST190722M1-1 PFC CS-2 19G1101	22-Jul-19	10:26:37
5	5	190722M1_5	ST190722M1-2 PFC CS-1 19G1102	22-Jul-19	10:37:15
6	6	190722M1_6	ST190722M1-3 PFC CS0 19G1103	22-Jul-19	10:47:48
7	7	190722M1_7	ST190722M1-4 PFC CS1 19G1104	22-Jul-19	10:58:26
8	8	190722M1_8	ST190722M1-5 PFC CS2 19G1105	22-Jul-19	11:09:04
9	9	190722M1_9	ST190722M1-6 PFC CS3 19G1106	22-Jul-19	11:19:37
10	10	190722M1_10	ST190722M1-7 PFC CS4 19G1107	22-Jul-19	11:30:15
11	11	190722M1_11	ST190722M1-8 PFC CS5 19G1108	22-Jul-19	11:40:48
12	12	190722M1_12	ST190722M1-9 PFC CS6 19G1109	22-Jul-19	11:51:27
13	13	190722M1_13	ST190722M1-10 PFC CS7 19G1110	22-Jul-19	12:02:00
14	14	190722M1_14	IB	22-Jul-19	12:12:38
15	15	190722M1_15	ICV190722M1-1 PFC ICV 19F2422	22-Jul-19	12:23:11
16	16	190722M1_16	IPA	22-Jul-19	12:33:49

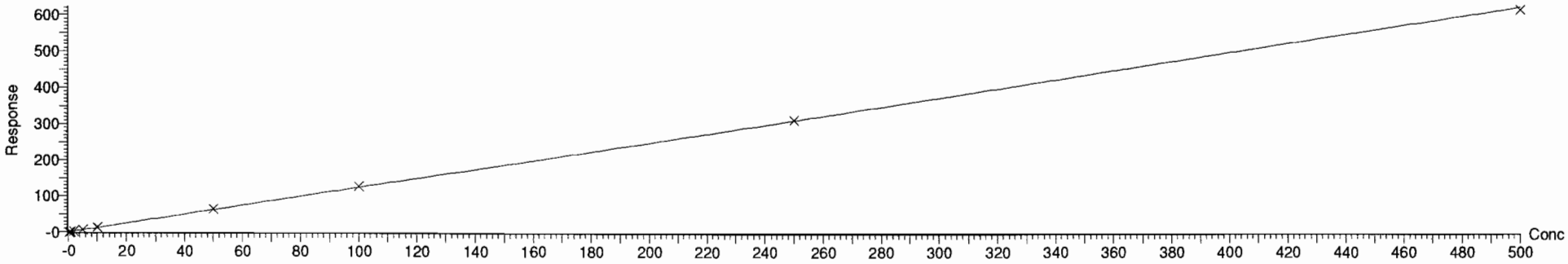
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

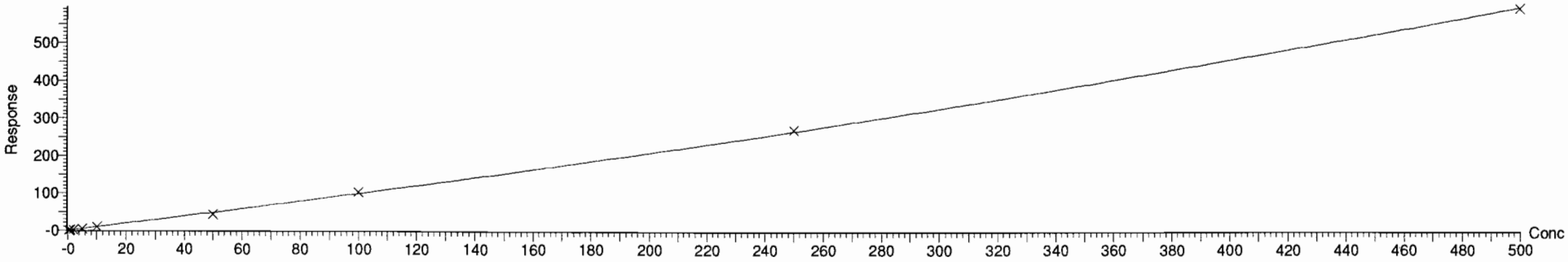
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: PFBA
Correlation coefficient: r = 0.999866, r^2 = 0.999732
Calibration curve: 1.24607 * x + 0.00199996
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



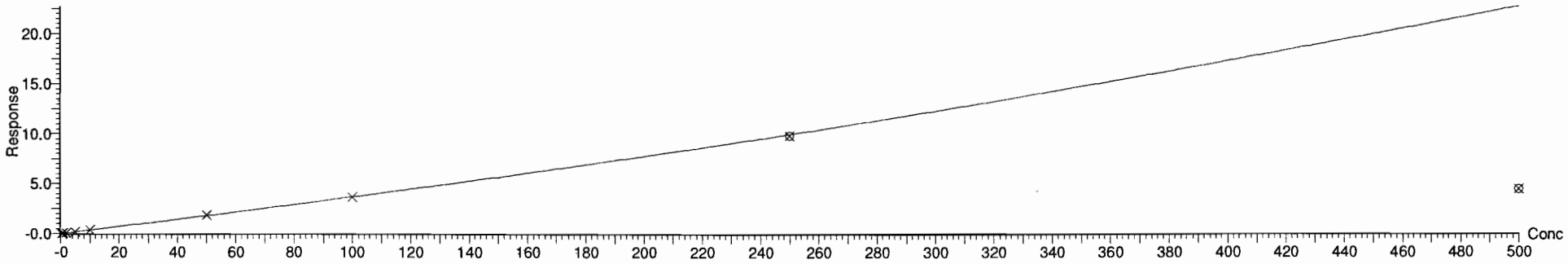
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999175
Calibration curve: 0.000485085 * x^2 + 0.946971 * x + -0.183868
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



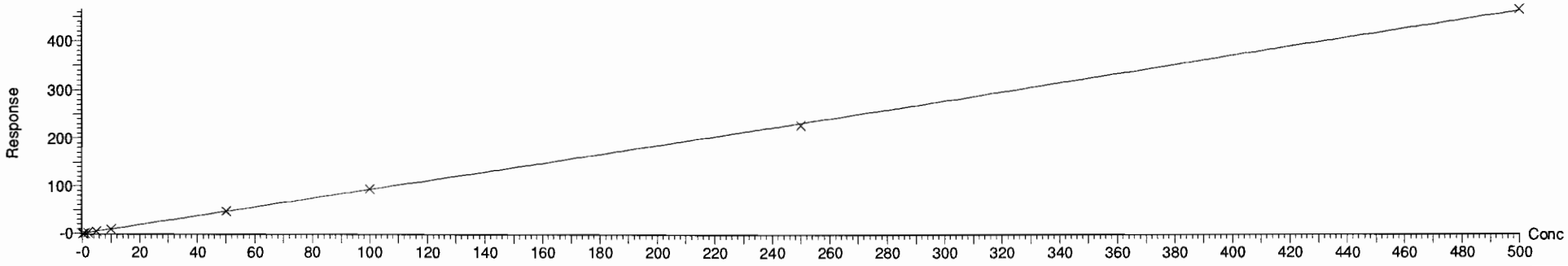
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999283
Calibration curve: 2.19065e-005 * x^2 + 0.034454 * x + -0.00306612
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



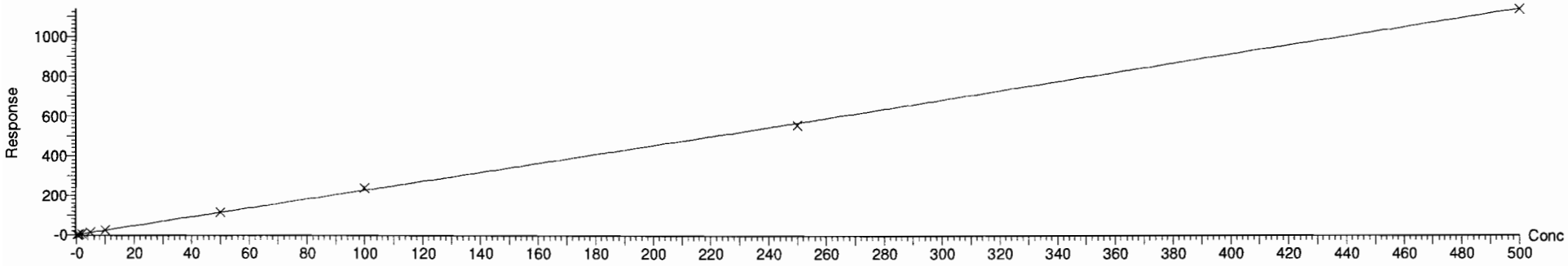
Compound name: PFPeA
Correlation coefficient: r = 0.999912, r^2 = 0.999823
Calibration curve: 0.926196 * x + -0.0150139
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



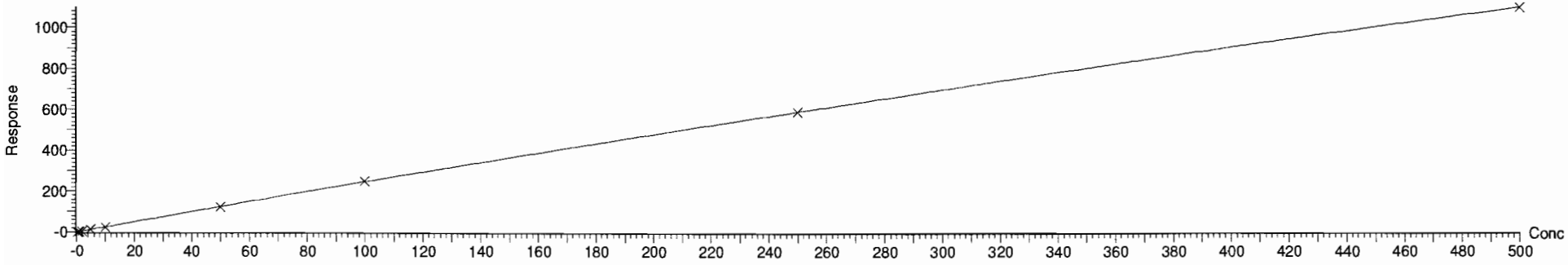
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999795, r^2 = 0.999590
Calibration curve: 2.27622 * x + -0.0754669
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



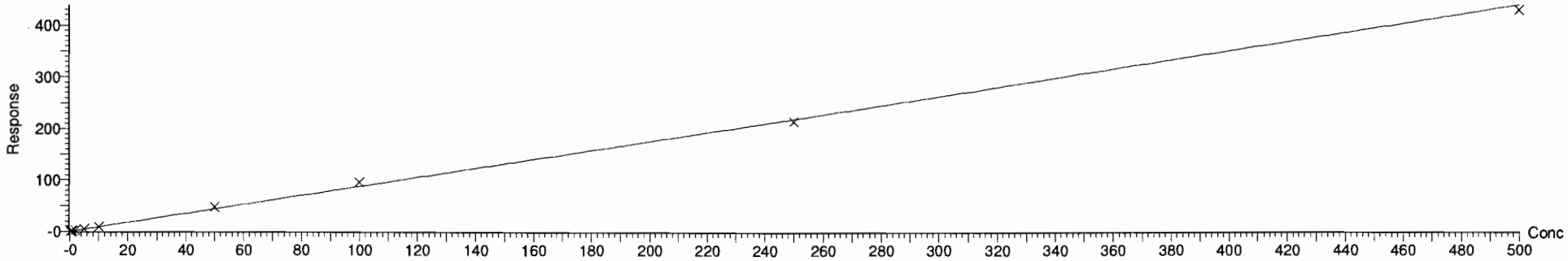
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999884
Calibration curve: -0.000681037 * x^2 + 2.53383 * x + -0.100616
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



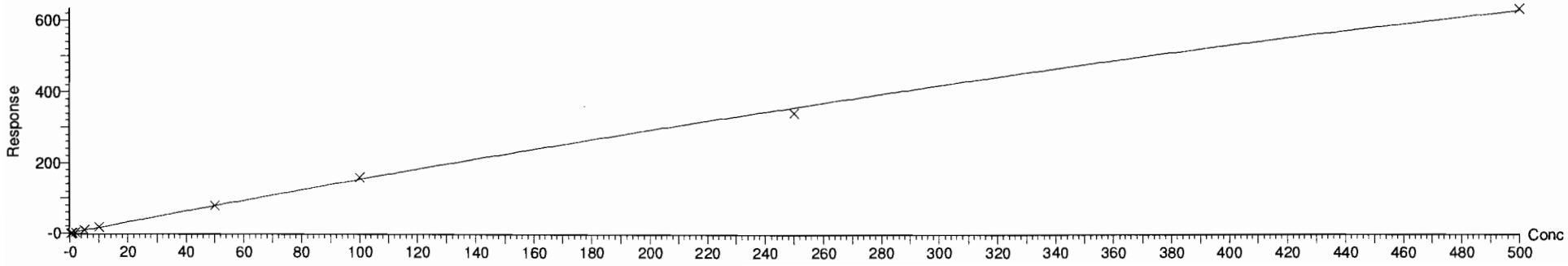
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999007, r^2 = 0.998015
Calibration curve: 0.876467 * x + 0.0616289
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



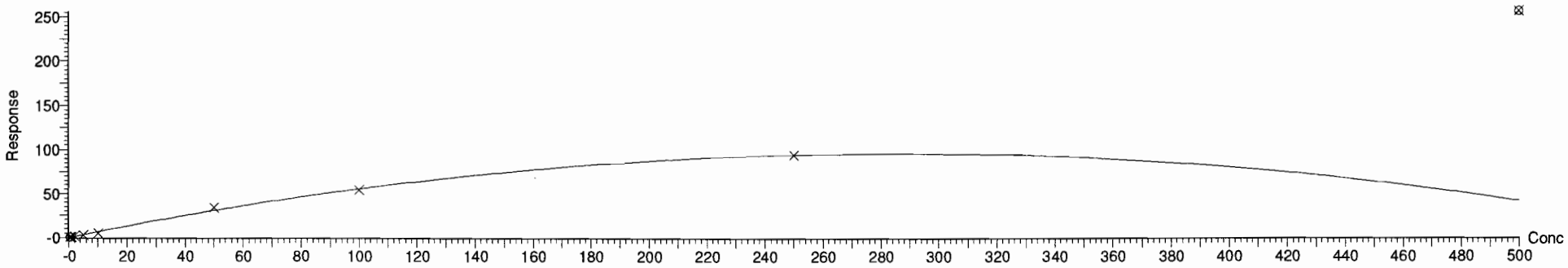
Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999023
Calibration curve: -0.000714377 * x^2 + 1.61311 * x + -0.0331084
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



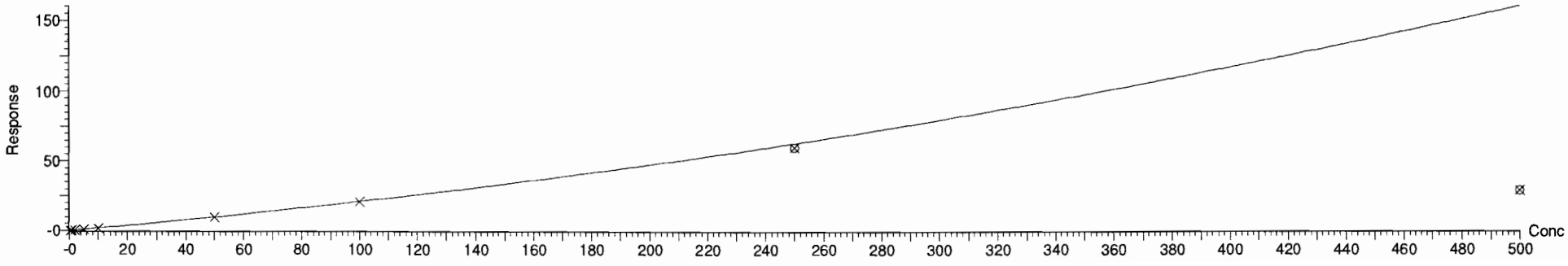
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.991970
Calibration curve: -0.00118486 * x^2 + 0.675421 * x + -0.203895
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



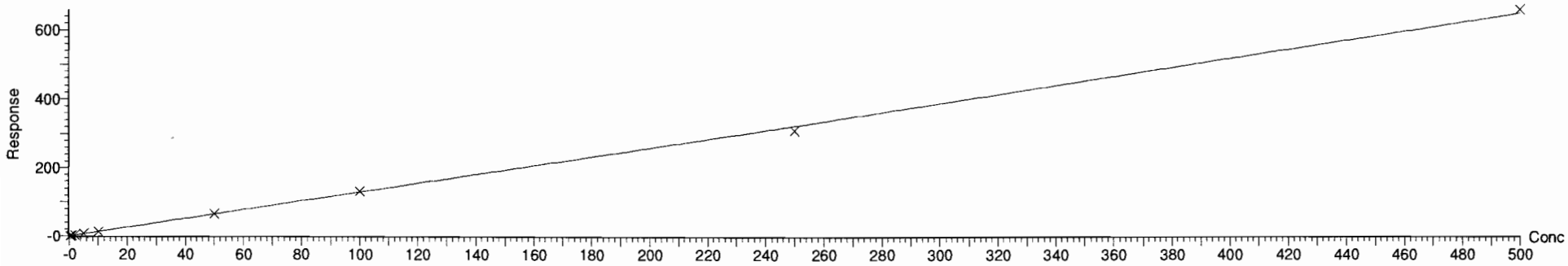
Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999954
Calibration curve: 0.000276123 * x^2 + 0.182638 * x + -0.0100687
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



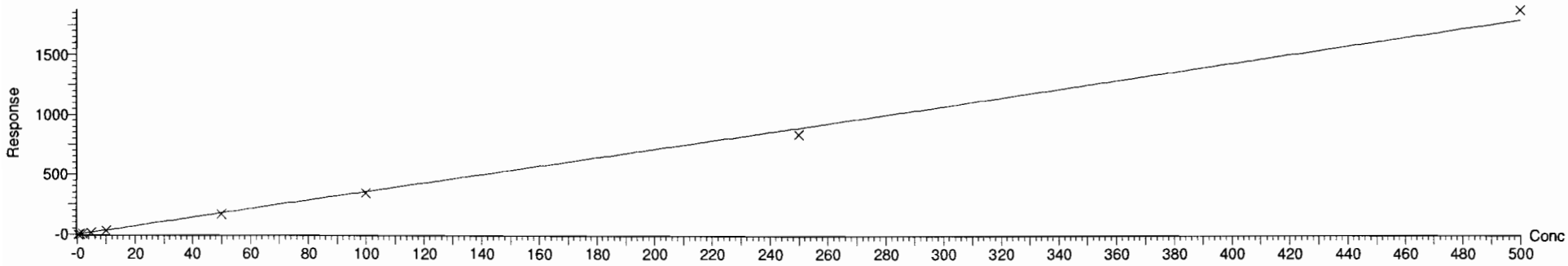
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999631, r^2 = 0.999262
Calibration curve: 1.29462 * x + -0.00115138
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



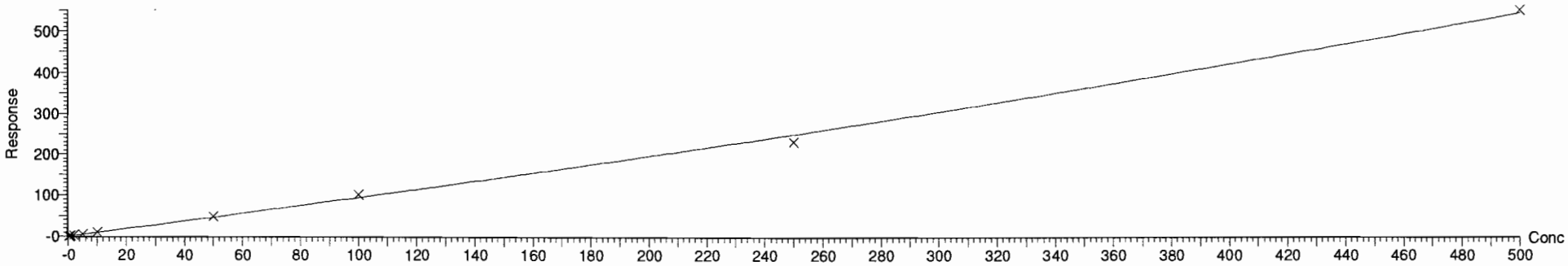
Compound name: ADONA
Correlation coefficient: r = 0.998584, r^2 = 0.997170
Calibration curve: 3.57793 * x + -0.298634
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



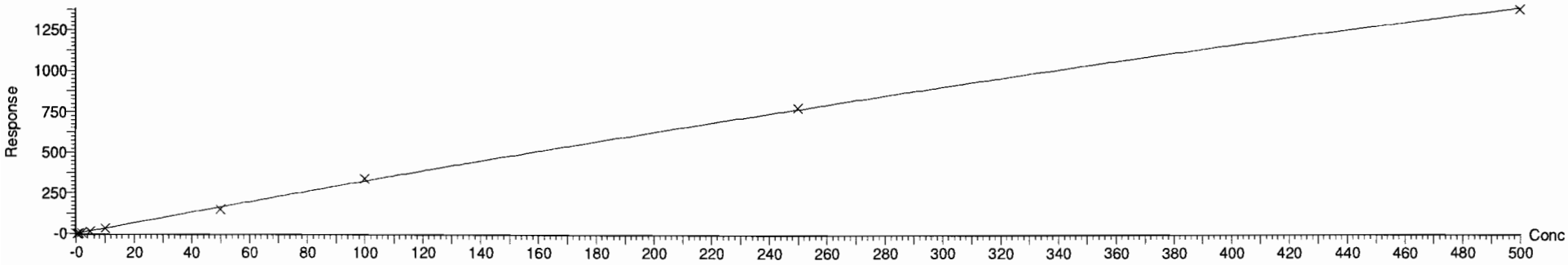
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.997745
Calibration curve: 0.000357574 * x^2 + 0.908432 * x + -0.00114983
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



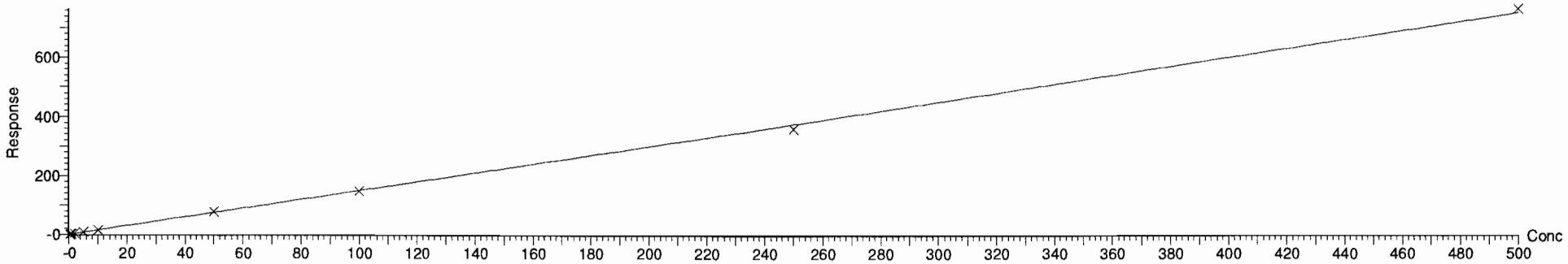
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998968
Calibration curve: -0.00125899 * x^2 + 3.39476 * x + -0.177829
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



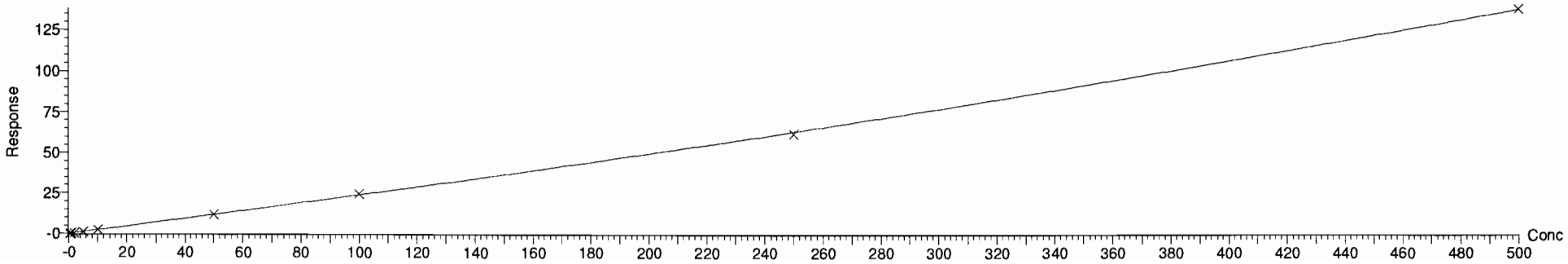
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: L-PFOA
Correlation coefficient: r = 0.999592, r^2 = 0.999184
Calibration curve: 1.50207 * x + 0.037722
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



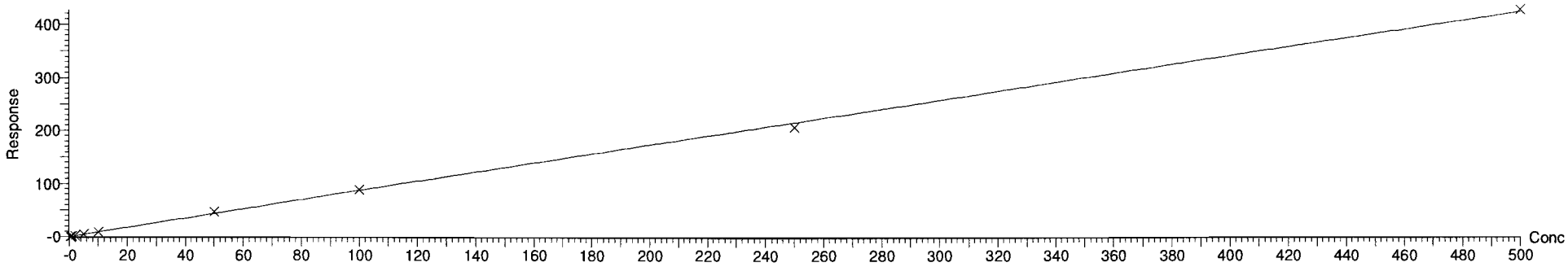
Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999810
Calibration curve: 9.03021e-005 * x^2 + 0.229813 * x + -0.00373897
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



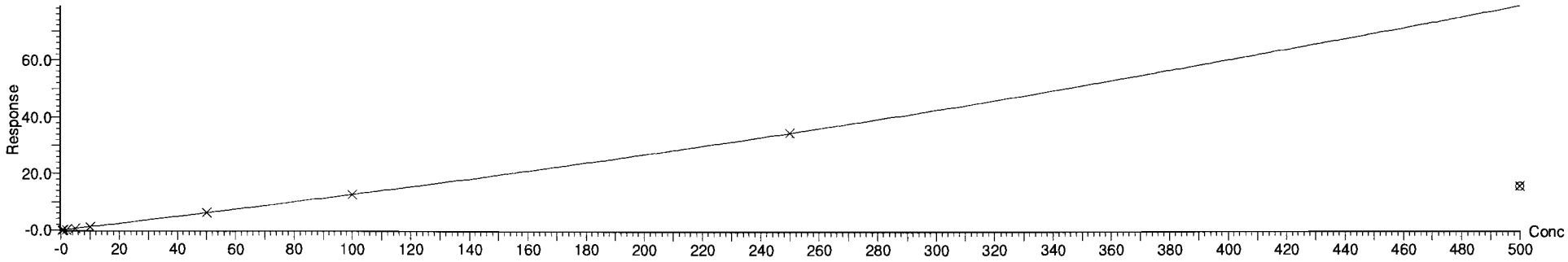
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.998959
Calibration curve: -7.37908e-005 * x^2 + 0.882414 * x + -0.00582201
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



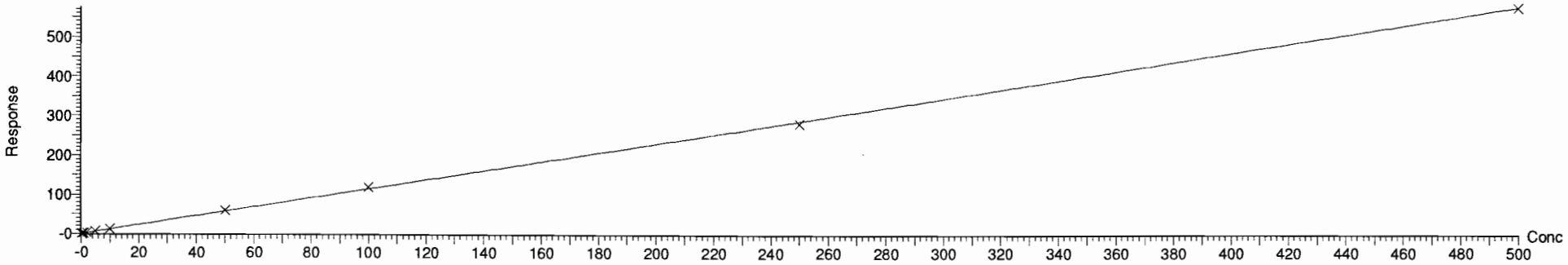
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999889
Calibration curve: 7.49055e-005 * x^2 + 0.120249 * x + -0.0213933
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



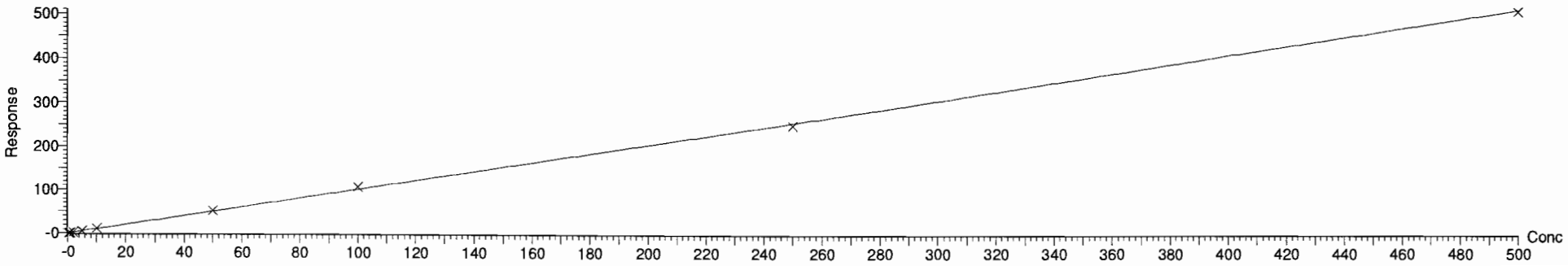
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFNA
Correlation coefficient: r = 0.999807, r^2 = 0.999613
Calibration curve: 1.14988 * x + 0.0288971
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



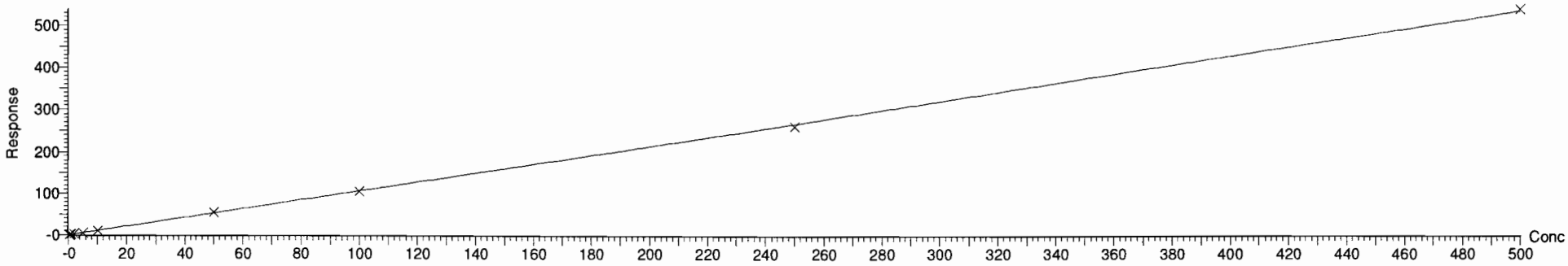
Compound name: PFOSA
Correlation coefficient: r = 0.999693, r^2 = 0.999385
Calibration curve: 1.02057 * x + -0.0126471
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



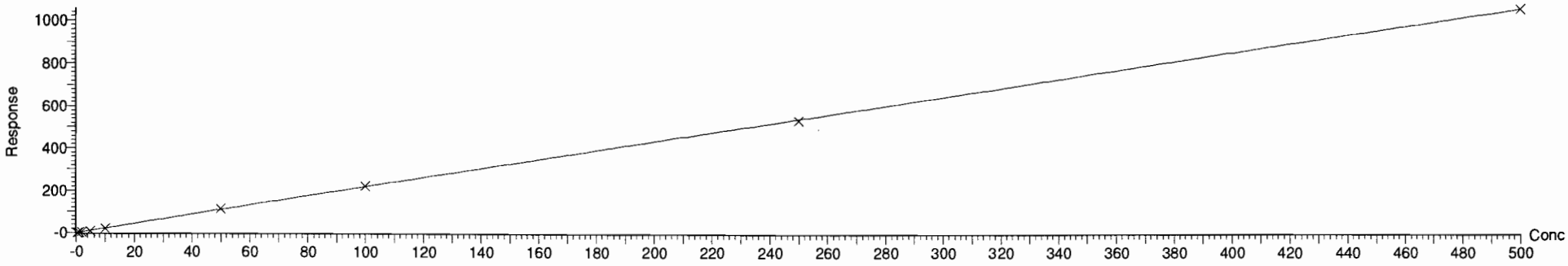
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: L-PFOS
Correlation coefficient: r = 0.999829, r^2 = 0.999659
Calibration curve: 1.069 * x + -0.0197497
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



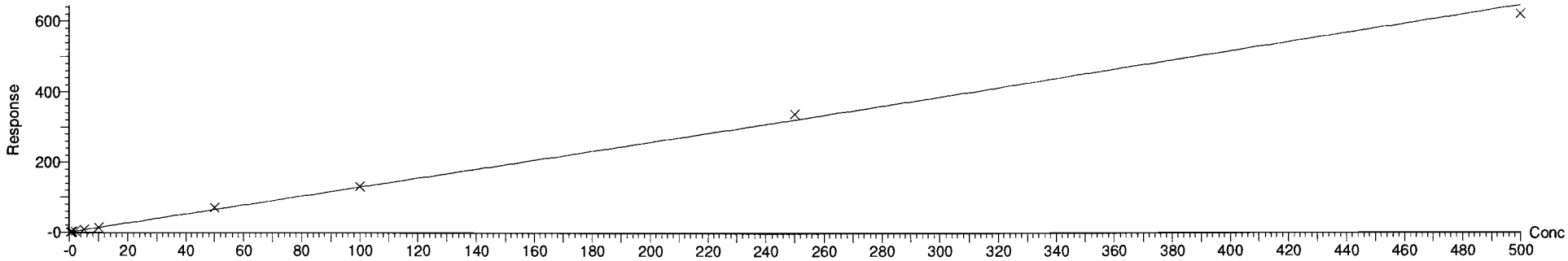
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999728
Calibration curve: -0.000193459 * x^2 + 2.20675 * x + -0.126796
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



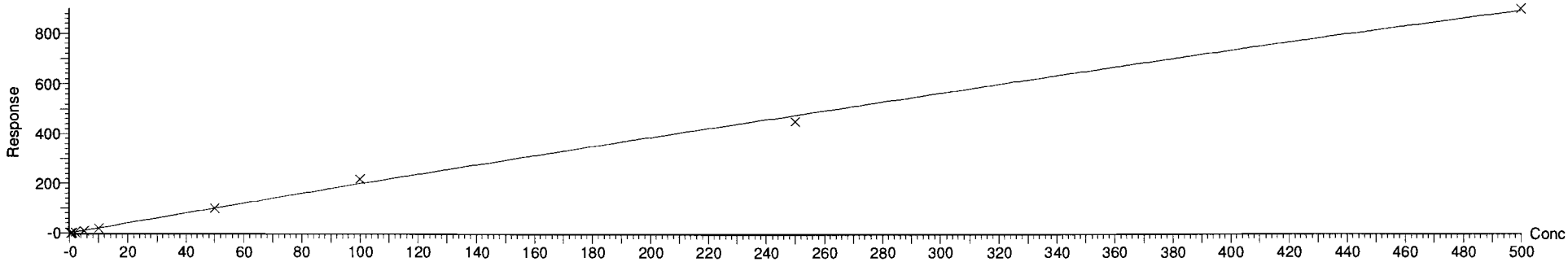
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.998937, r^2 = 0.997875
Calibration curve: 1.28827 * x + 0.00394215
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 = 0.998024
Calibration curve: -0.000533984 * x^2 + 2.04701 * x + -0.0915481
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

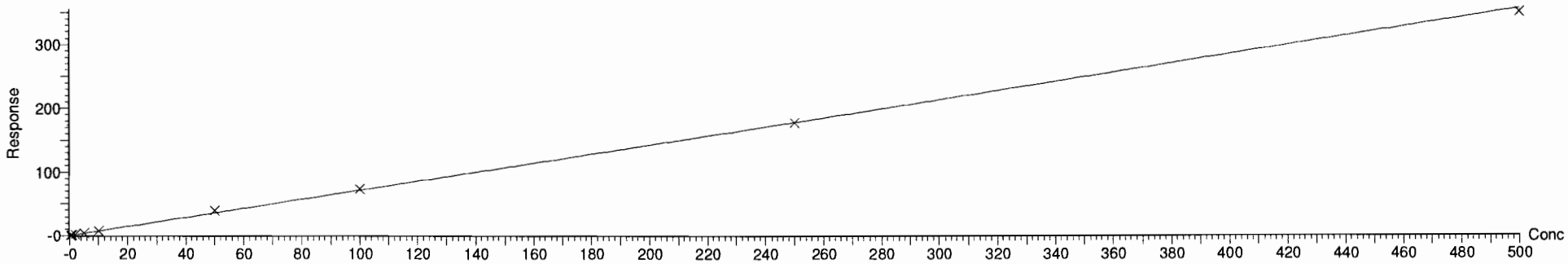


Vista Analytical Laboratory Q1

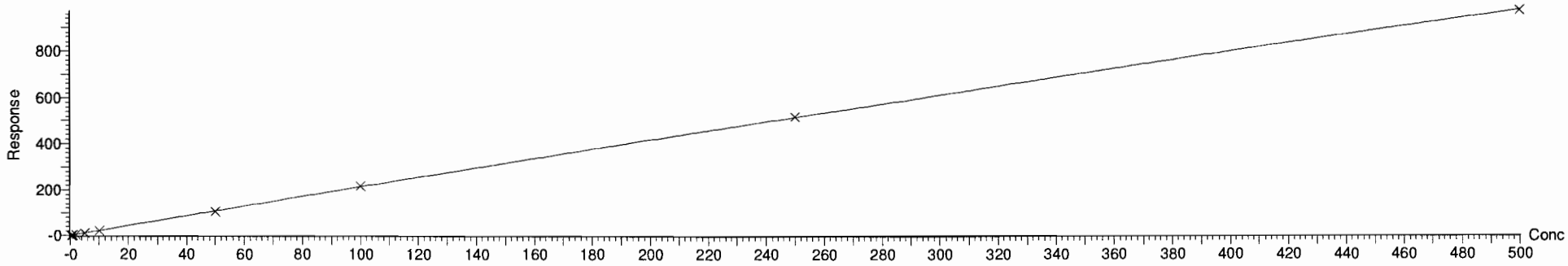
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:16 Pacific Daylight Time

Compound name: PFNS
Correlation coefficient: r = 0.999413, r^2 = 0.998826
Calibration curve: 0.710501 * x + 0.0578804
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 = 0.999838
Calibration curve: -0.00045633 * x^2 + 2.17563 * x + -0.152941
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



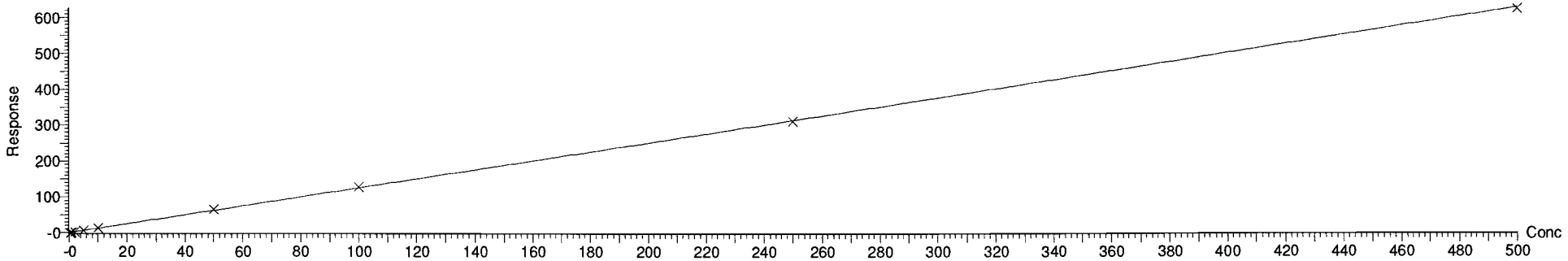
Vista Analytical Laboratory Q1

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

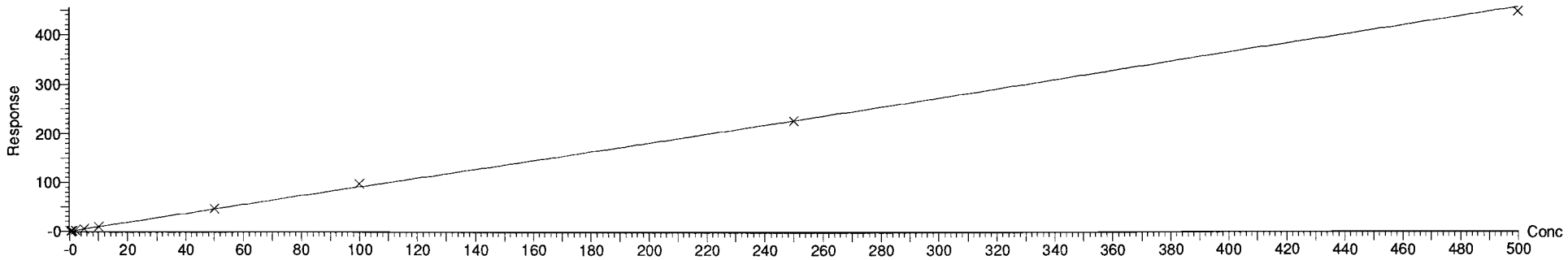
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Compound name: L-EtFOSAA
Correlation coefficient: r = 0.999854, r^2 = 0.999709
Calibration curve: 1.25319 * x + -0.0468414
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



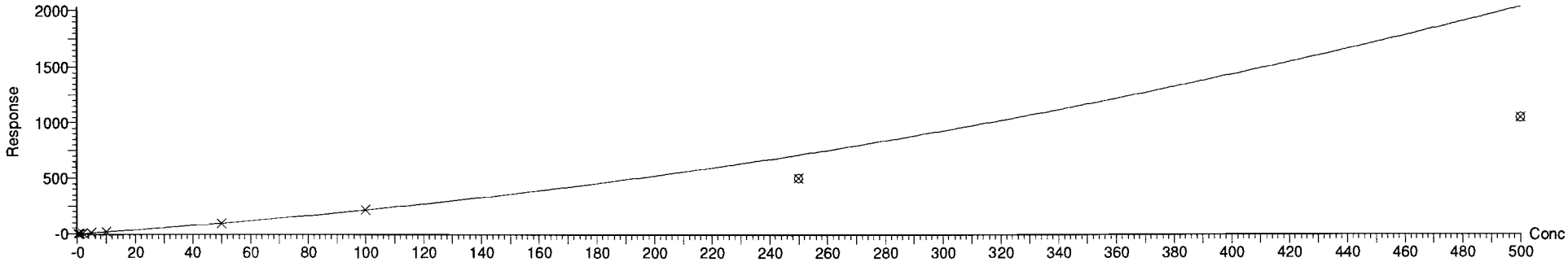
Compound name: PFUdA
Correlation coefficient: r = 0.999517, r^2 = 0.999034
Calibration curve: 0.909039 * x + 0.0548594
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



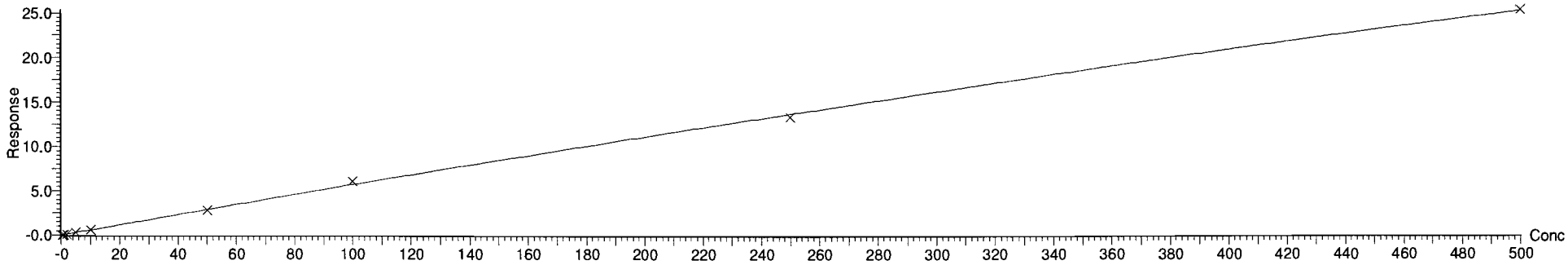
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998705
Calibration curve: 0.00481559 * x^2 + 1.65576 * x + -0.0379245
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



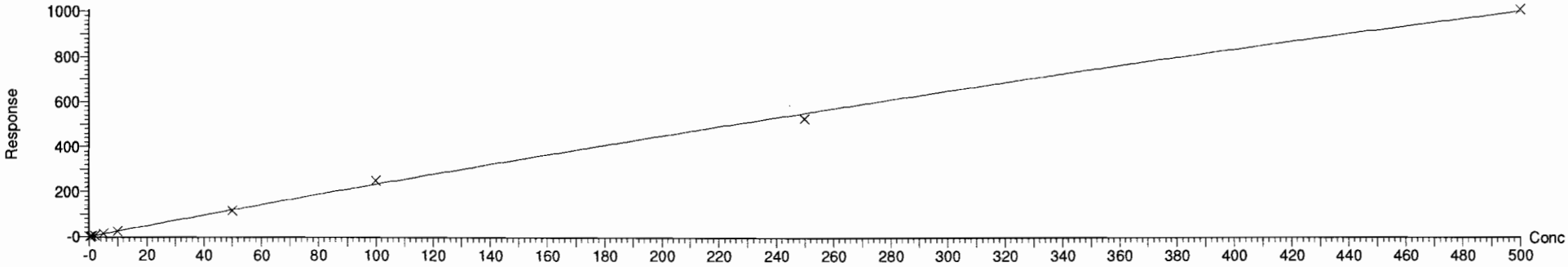
Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.999161
Calibration curve: -1.71422e-005 * x^2 + 0.0590622 * x + -0.0125033
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



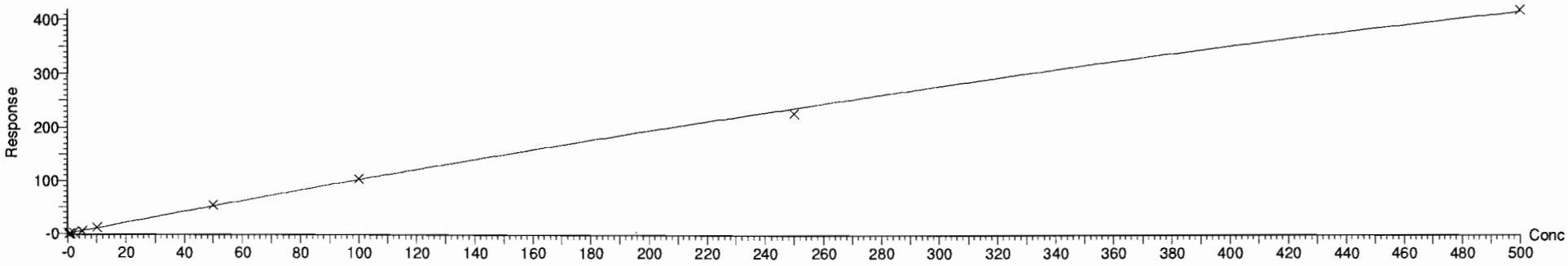
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998548
Calibration curve: -0.00085294 * x^2 + 2.4229 * x + -0.00234078
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



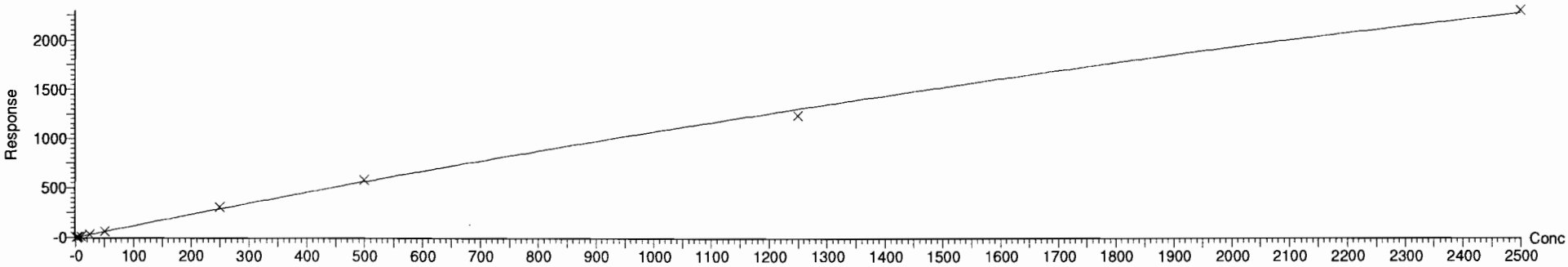
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999221
Calibration curve: -0.000477513 * x^2 + 1.06929 * x + 0.0599682
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



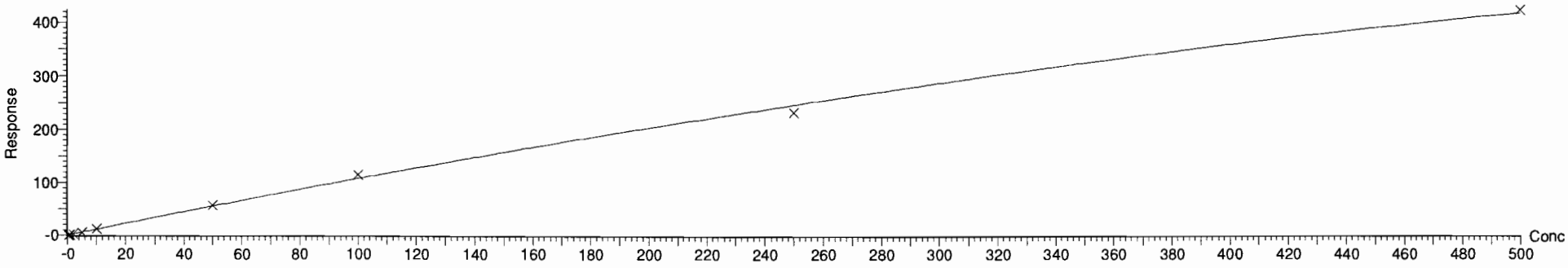
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.998673
Calibration curve: -0.000110043 * x^2 + 1.18315 * x + 0.0436442
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



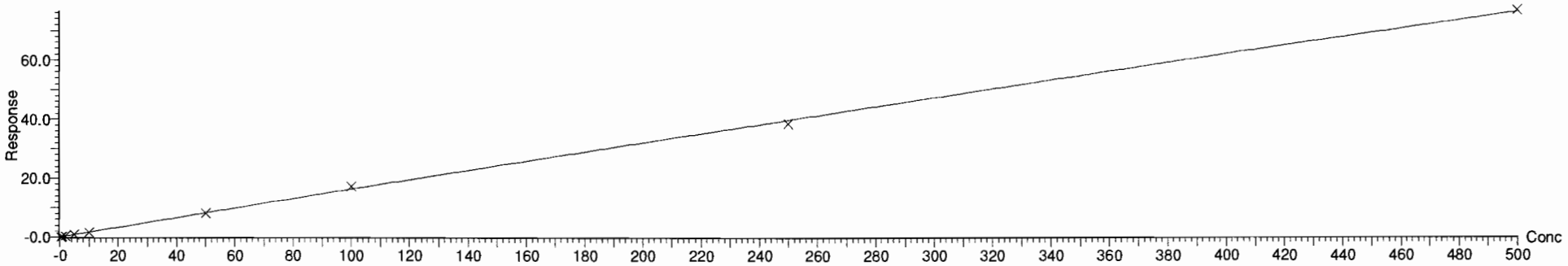
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.998149
Calibration curve: -0.000612217 * x^2 + 1.14249 * x + 0.0539235
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



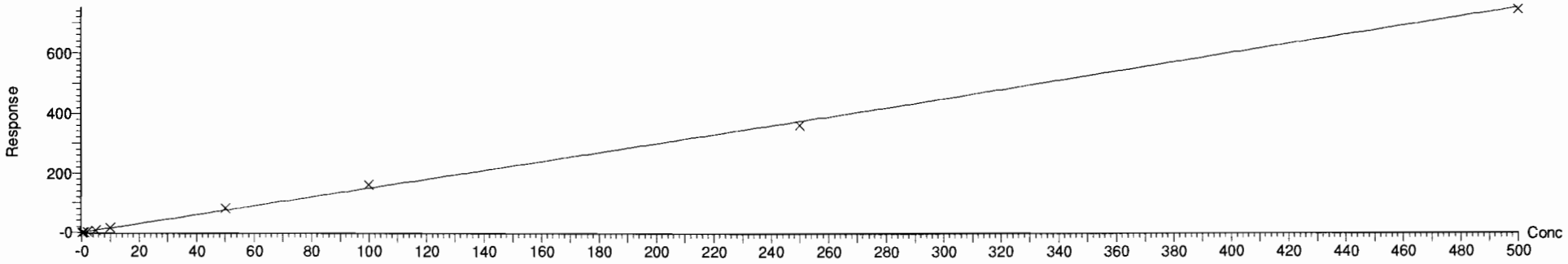
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999315
Calibration curve: -2.75261e-005 * x^2 + 0.165938 * x + -0.00469544
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



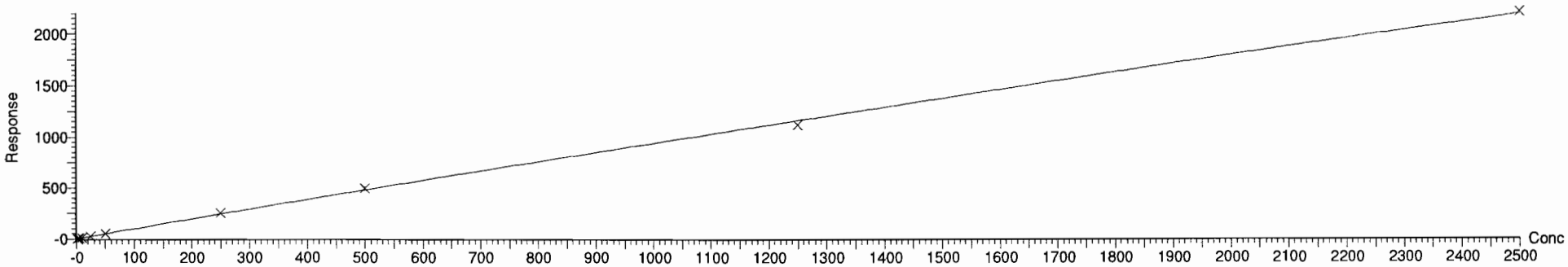
Compound name: PFTeDA
Correlation coefficient: r = 0.999147, r^2 = 0.998295
Calibration curve: 1.50077 * x + 0.138175
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



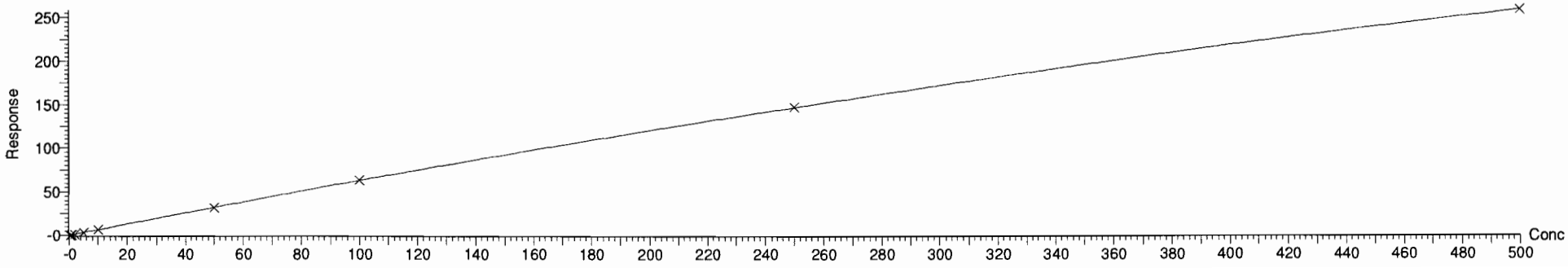
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999316
Calibration curve: -4.39453e-005 * x^2 + 0.983871 * x + -0.292612
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



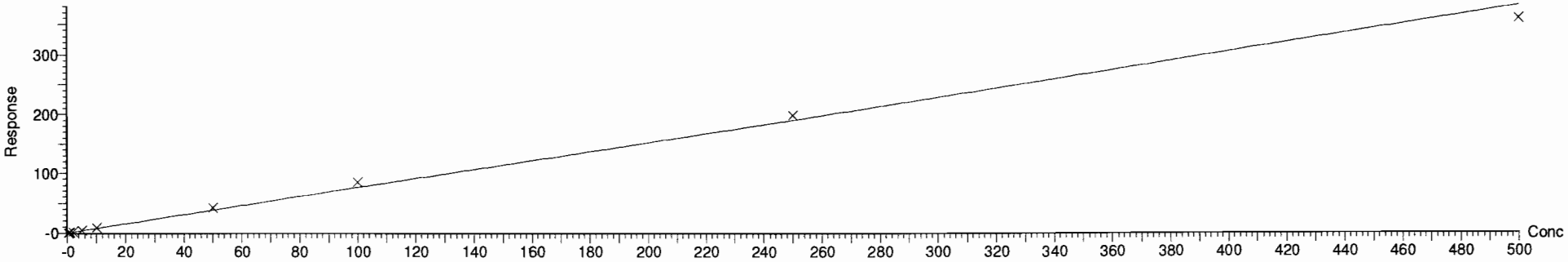
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999962
Calibration curve: -0.00028136 * x^2 + 0.657654 * x + 0.0293459
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



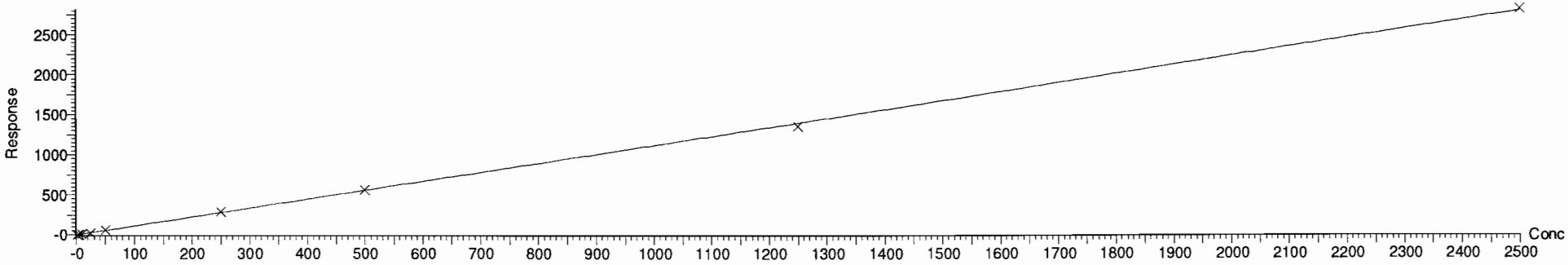
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: PFODA
Correlation coefficient: r = 0.997667, r^2 = 0.995340
Calibration curve: 0.760337 * x + 0.0535536
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



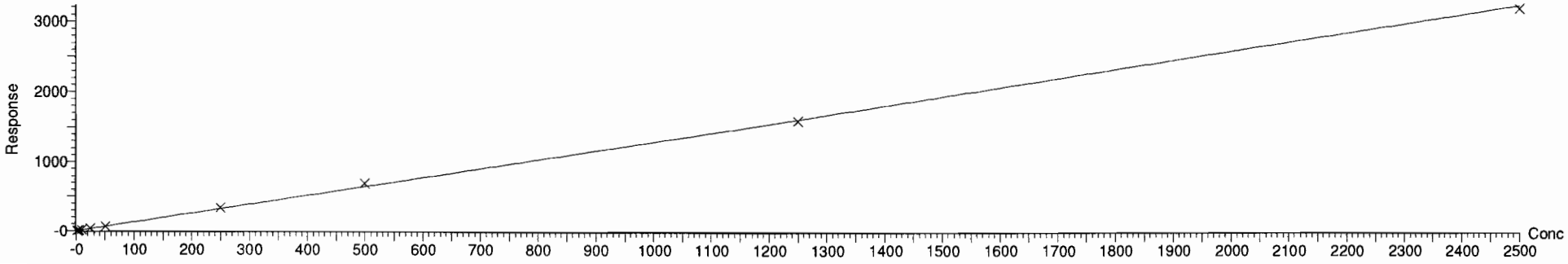
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999814, r^2 = 0.999627
Calibration curve: 1.11748 * x + 0.0028163
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:35:30 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999619, r^2 = 0.999239
Calibration curve: 1.29498 * x + -0.0851508
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



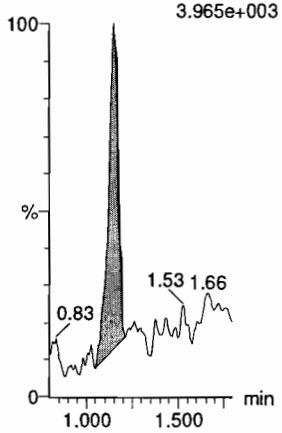
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

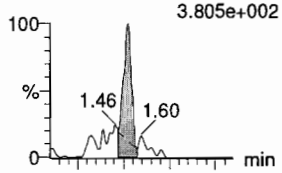
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

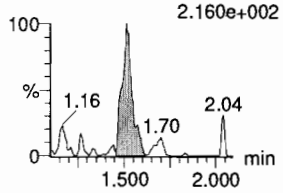
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
3.965e+003



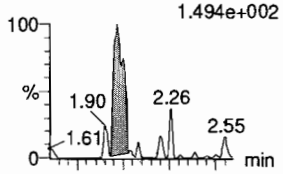
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
3.805e+002



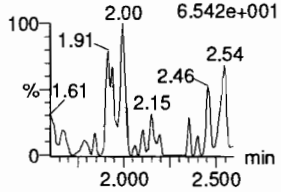
F6:MRM of 2 channels,ES-
248.9 > 98.9
2.160e+002



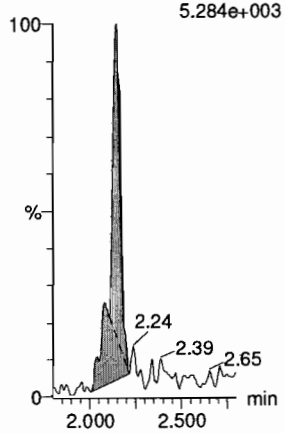
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
1.494e+002



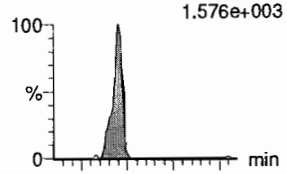
F5:MRM of 2 channels,ES-
240.9 > 116.9
6.542e+001



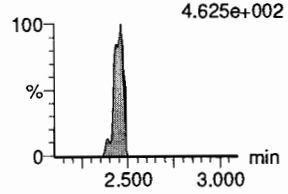
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
5.284e+003



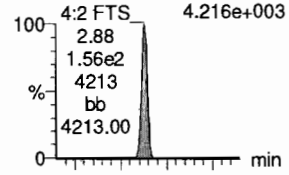
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
1.576e+003



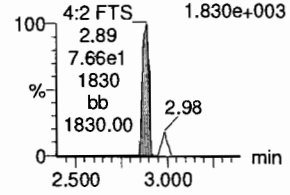
F11:MRM of 2 channels,ES-
299.0 > 99.0
4.625e+002



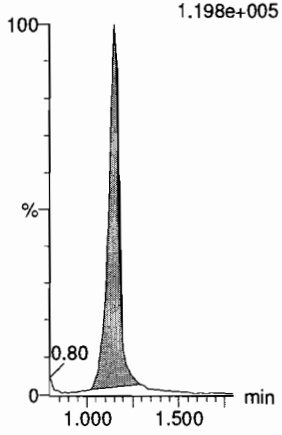
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
4.216e+003



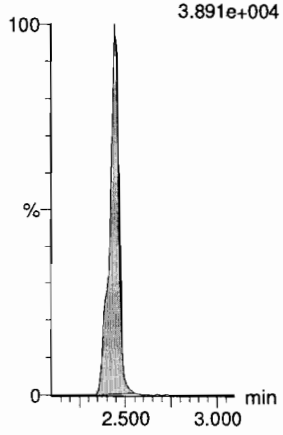
F16:MRM of 2 channels,ES-
327.0 > 80.9
1.830e+003



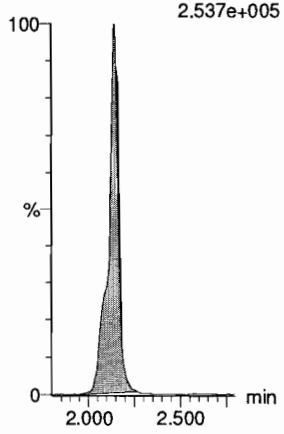
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.198e+005



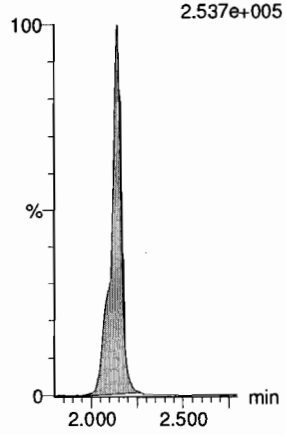
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.891e+004



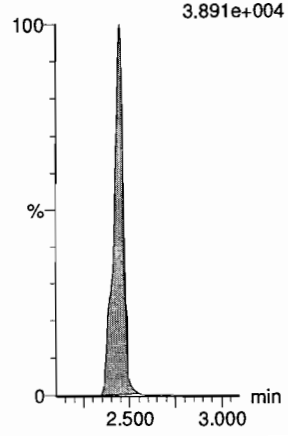
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.537e+005



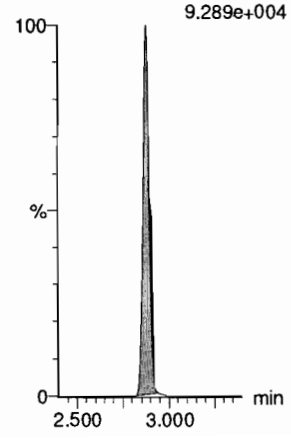
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.537e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.891e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
9.289e+004



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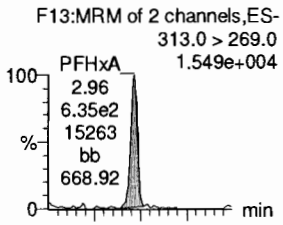
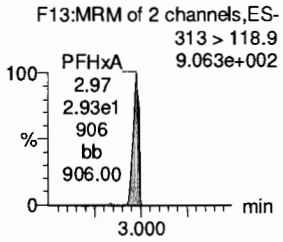
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

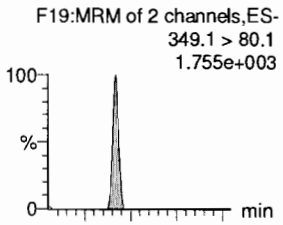
Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

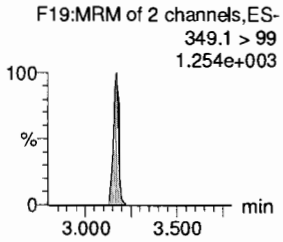
PFHxA



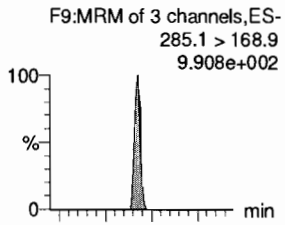


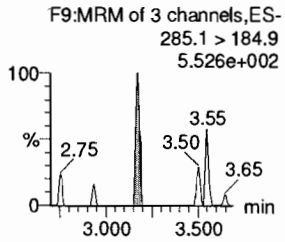
PFPeS



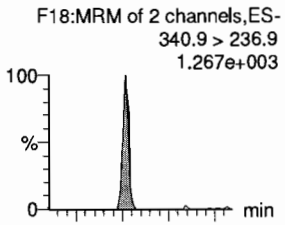


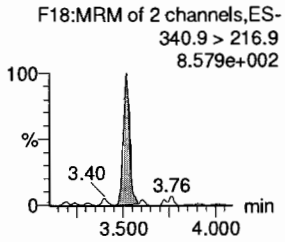
HFPO-DA



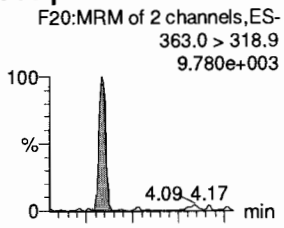


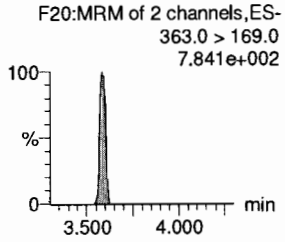
5:3 FTCA





PFHpA





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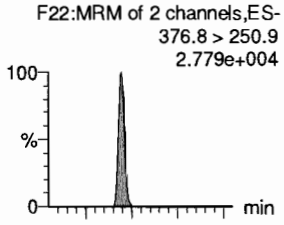
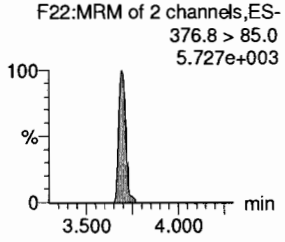
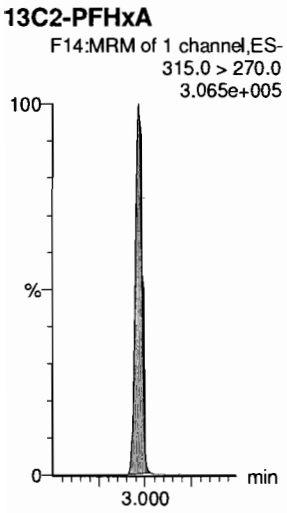
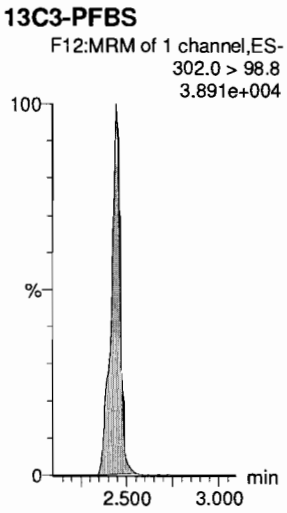




13C2-PFHxA



13C3-PFBS



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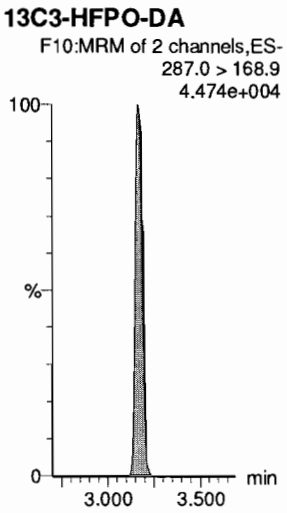
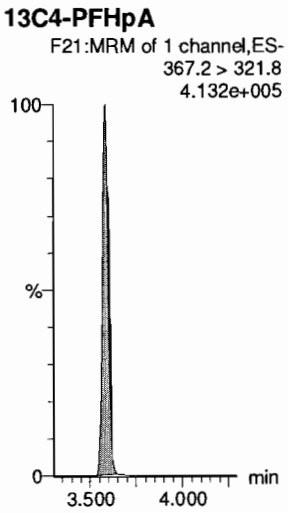


13C4-PFHpA



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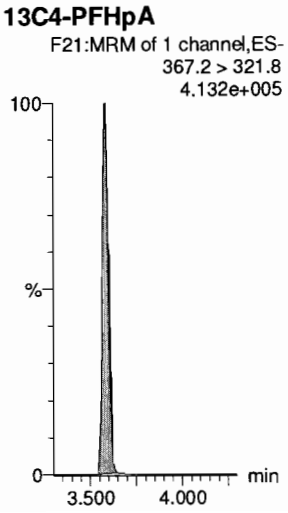

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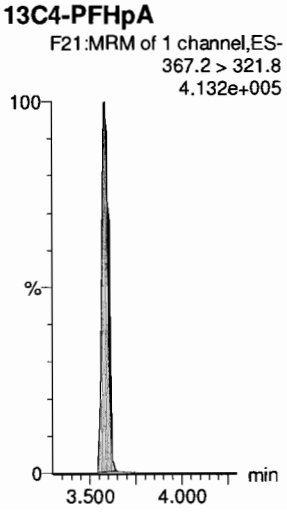

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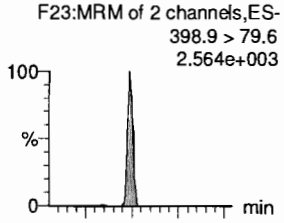
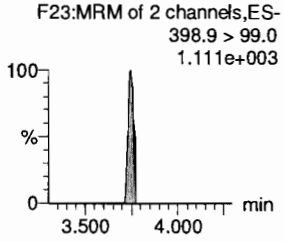
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

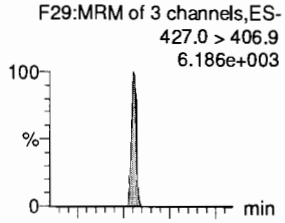
Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

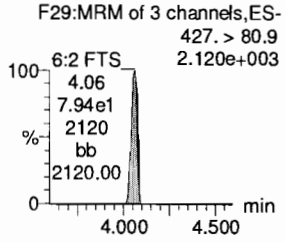
L-PFHxS



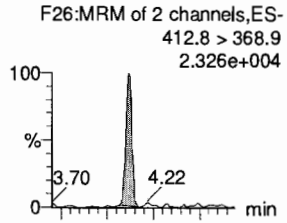


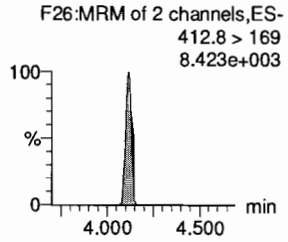
6:2 FTS



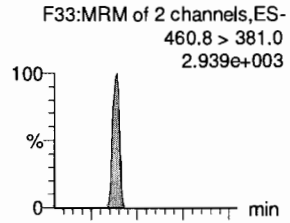


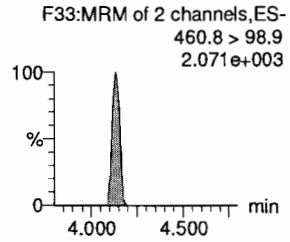
L-PFOA





PFEChS





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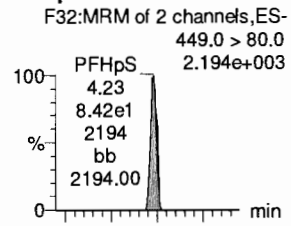
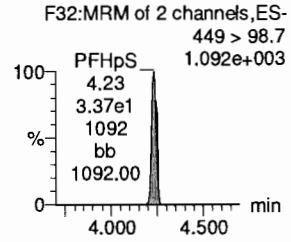
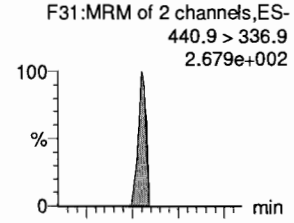
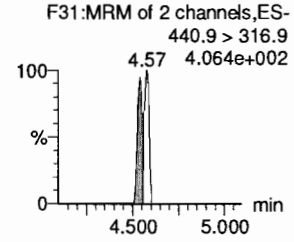


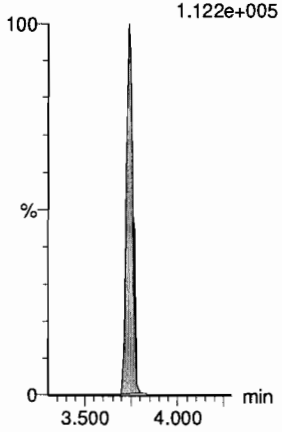


7:3 FTCA

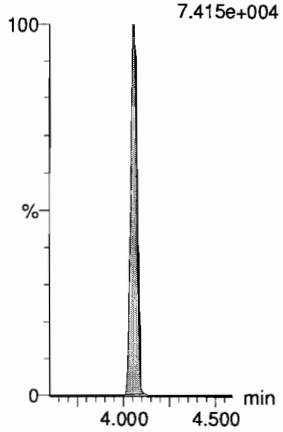




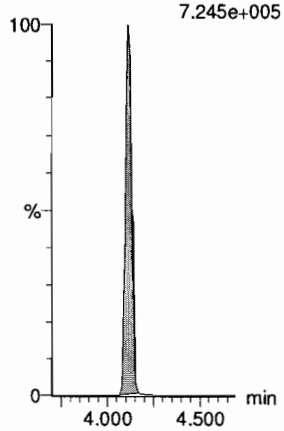
13C3-PFHxS



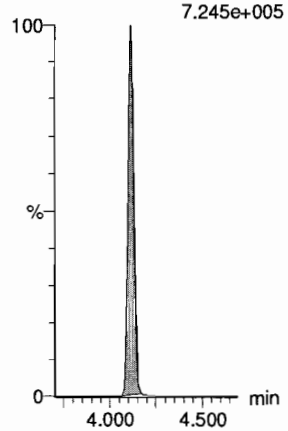
13C2-6:2 FTS



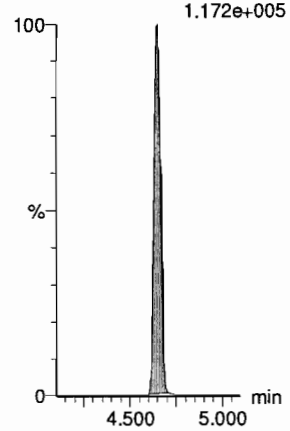
13C2-PFOA



13C2-PFOA



13C8-PFOS



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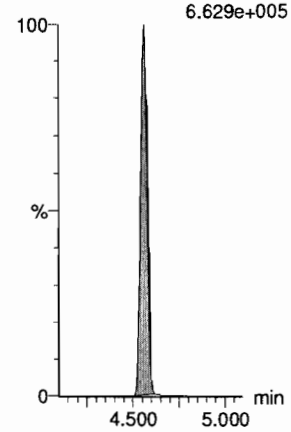
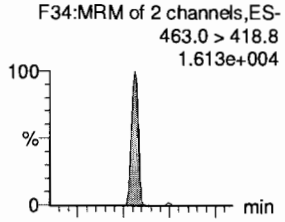


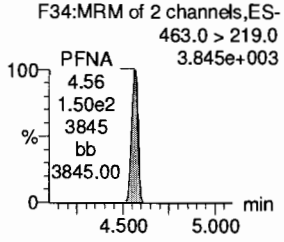
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

PFNA





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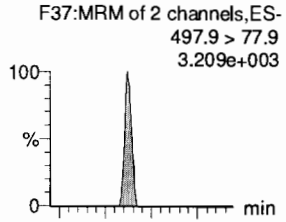
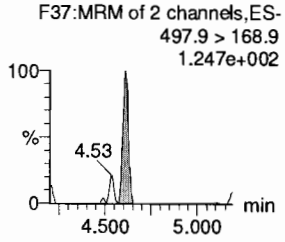
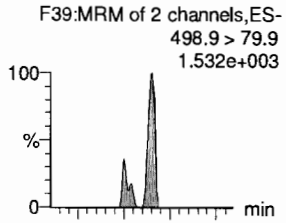
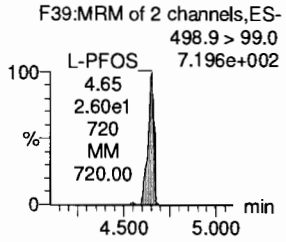


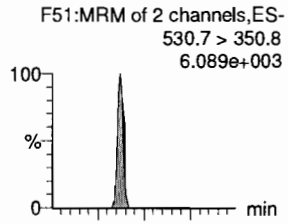


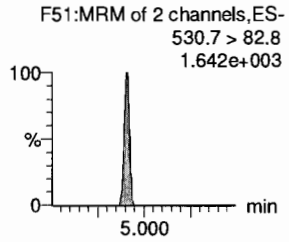
L-PFOS



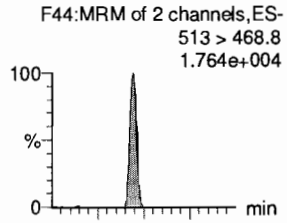


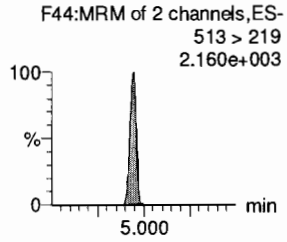
9Cl-PF30NS



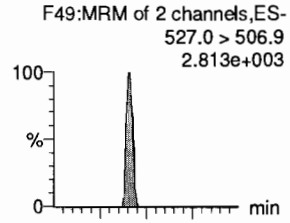


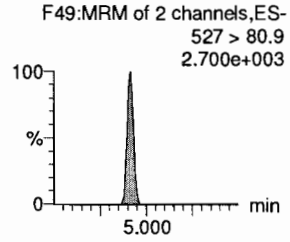
PFDA



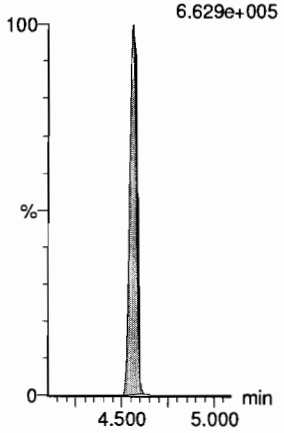


8:2 FTS

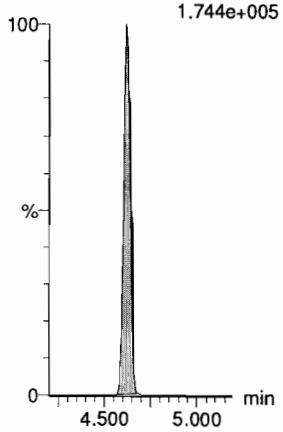




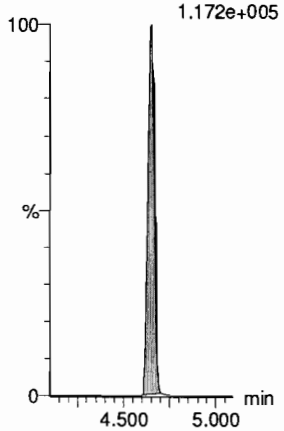
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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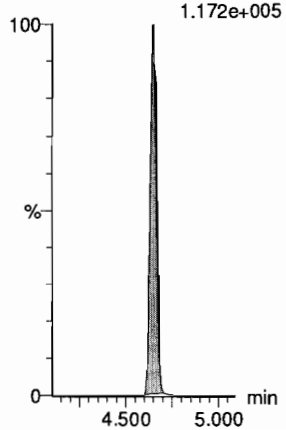
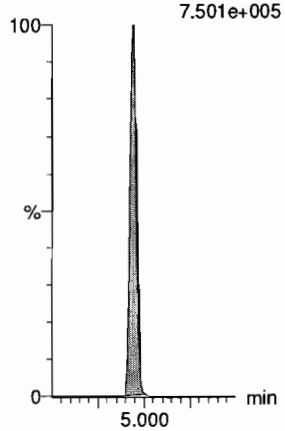
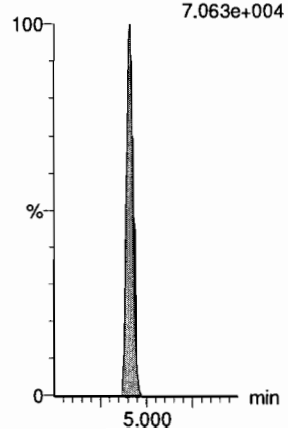


13C2-PFDA



13C2-8:2 FTS

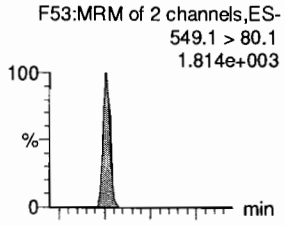


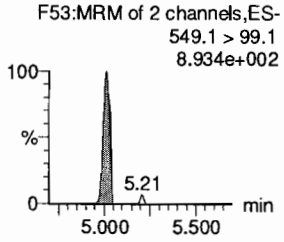
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

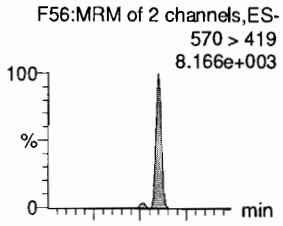
Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

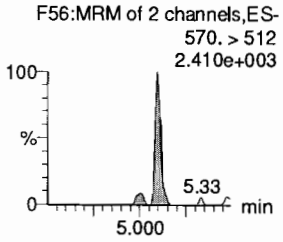
PFNS





L-MeFOSAA





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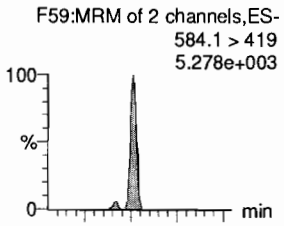
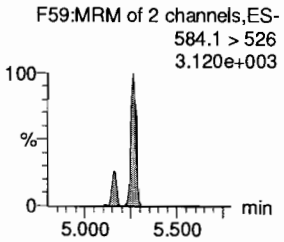
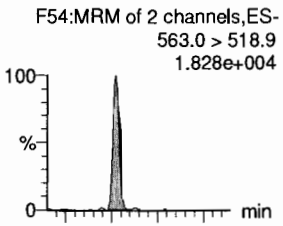
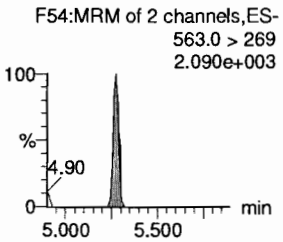


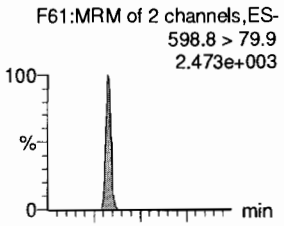


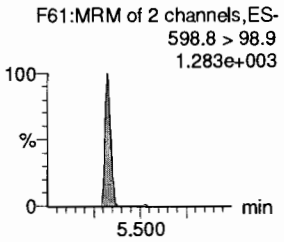
PFUdA





PFDS





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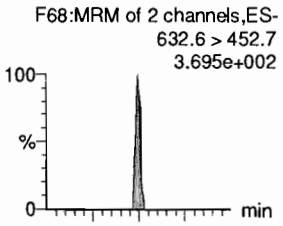
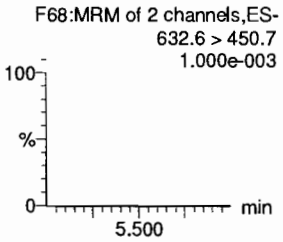
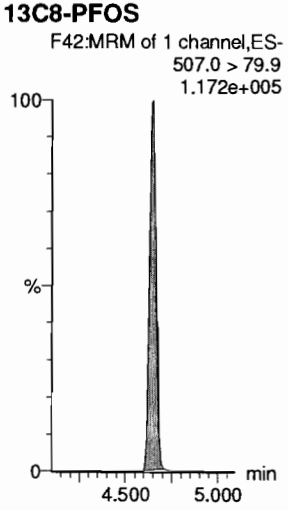
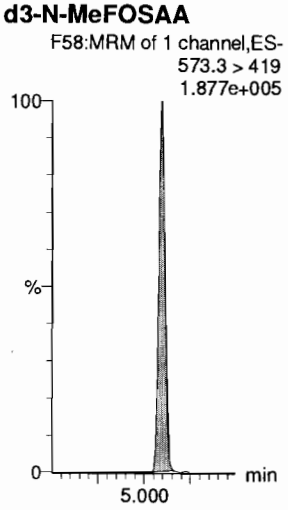




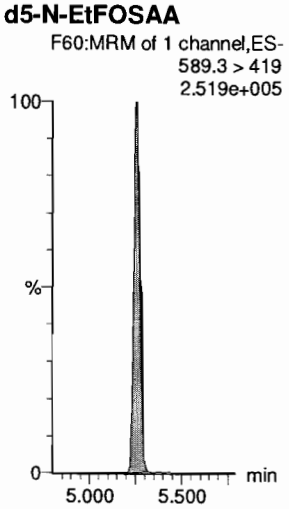
13C8-PFOS



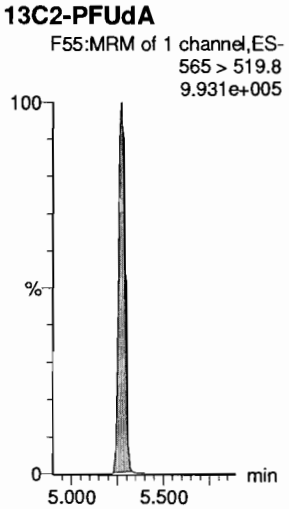
d3-N-MeFOSAA



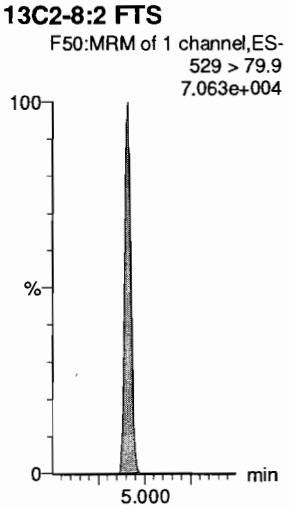
d5-N-EtFOSAA



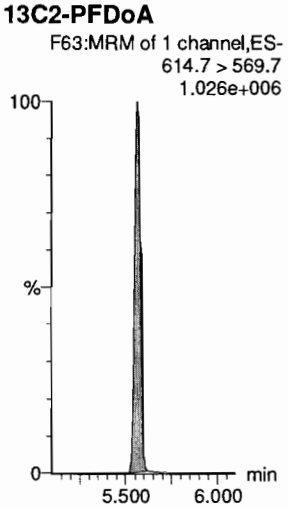
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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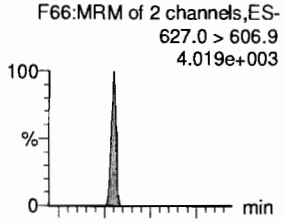
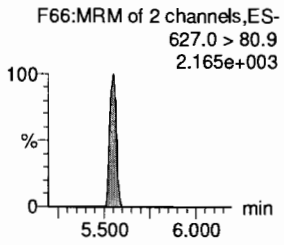
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

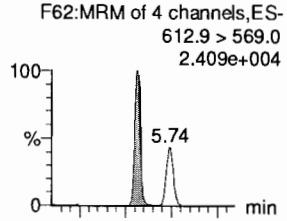
Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

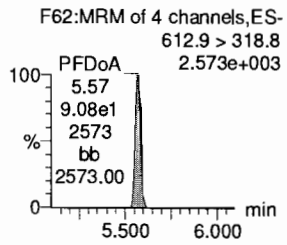
10:2 FTS



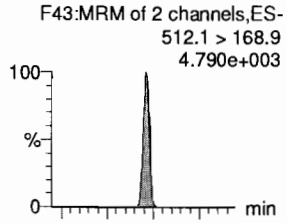


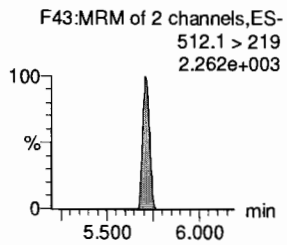
PFDoA



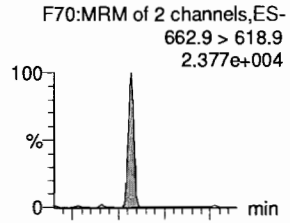


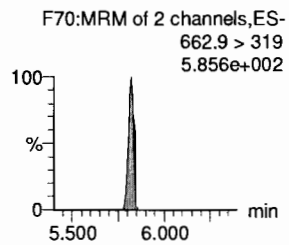
N-MeFOSA



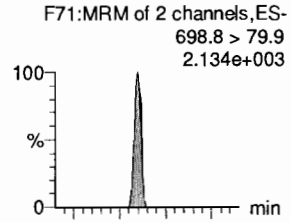


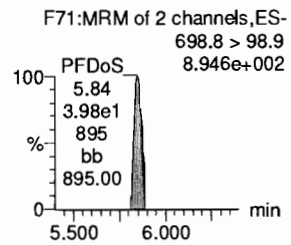
PFTrDA



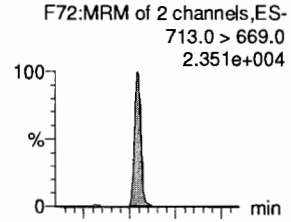


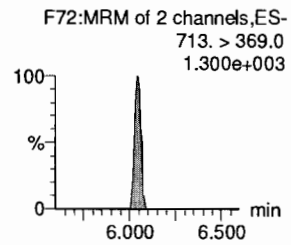
PFDoS



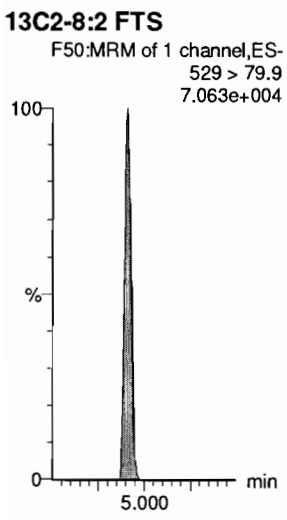


PFTeDA

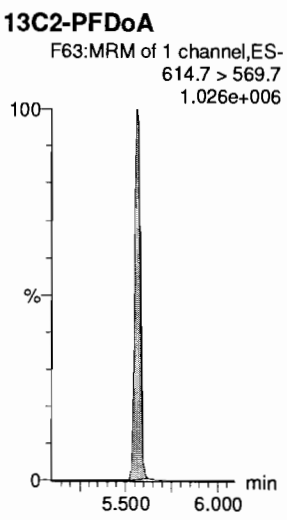




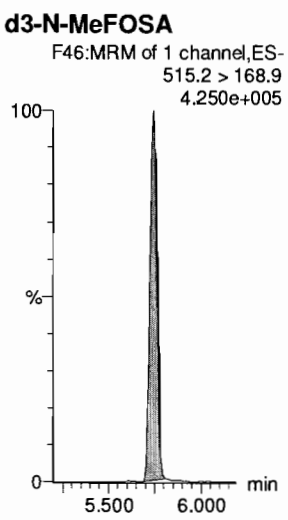
13C2-8:2 FTS



13C2-PFDoA



d3-N-MeFOSA



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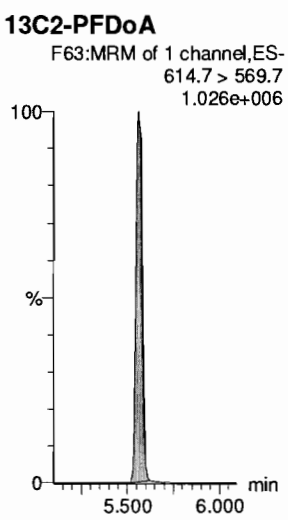

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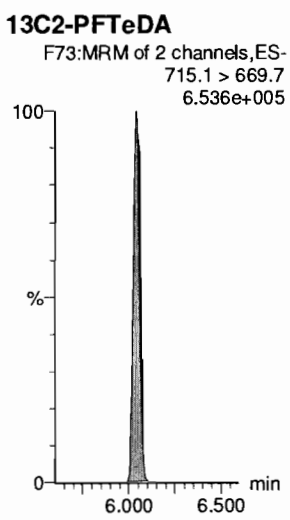

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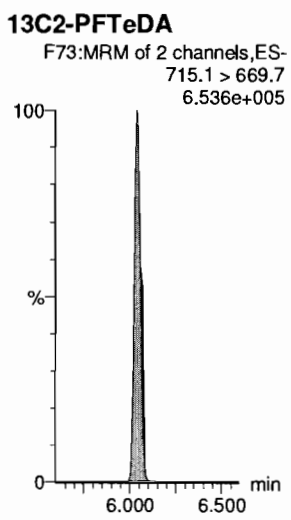

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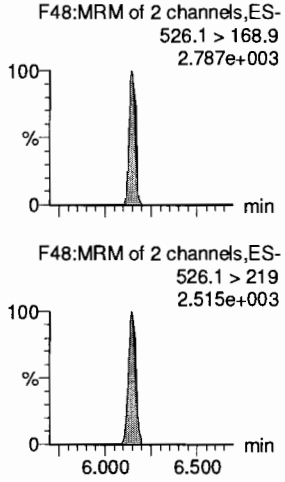
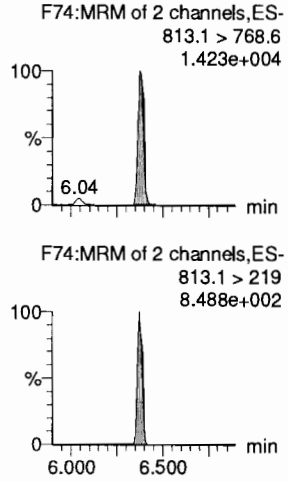
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

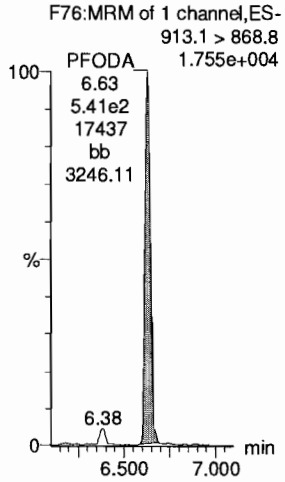
N-EtFOSA



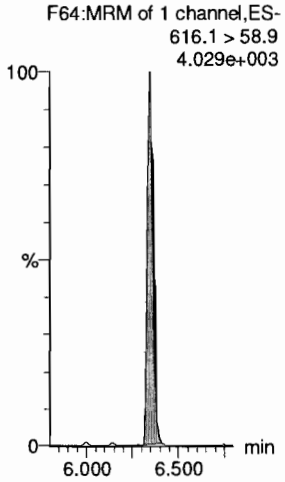
PFHxDA



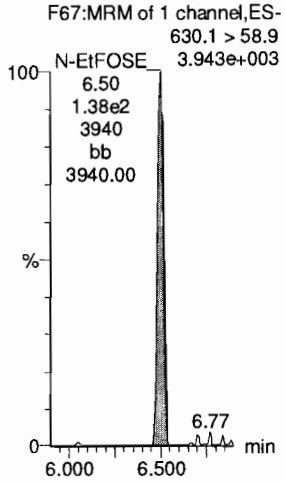
PFODA



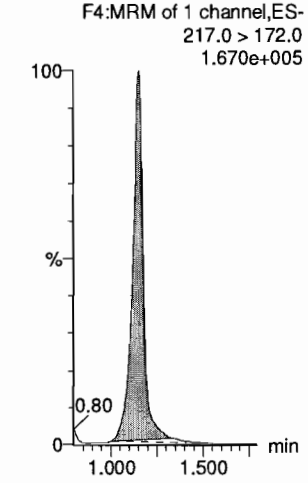
N-MeFOSE



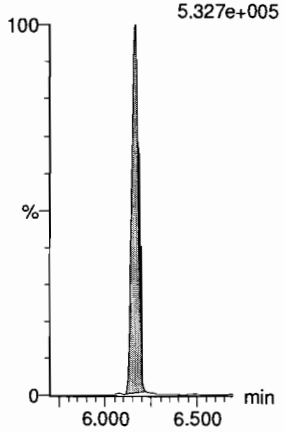
N-EtFOSE



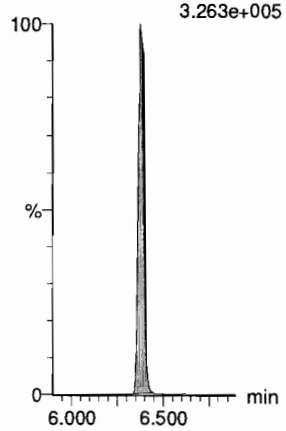
13C4-PFBA



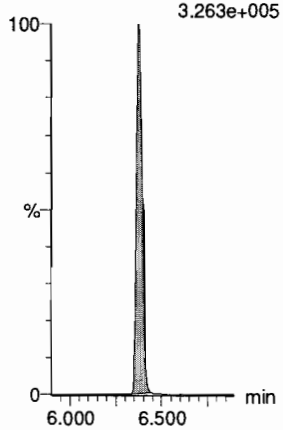
d5-N-ETFOSA



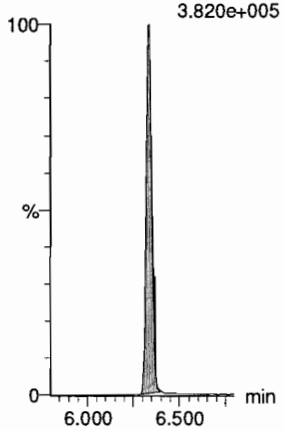
13C2-PFHxDA



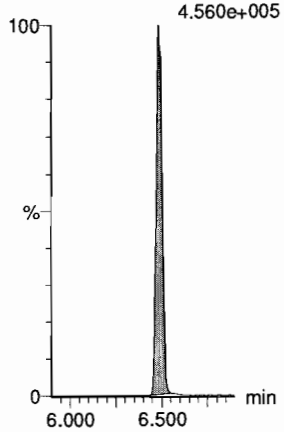
13C2-PFHxDA



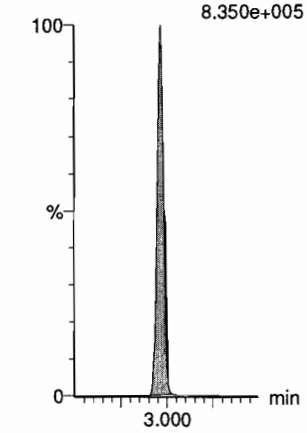
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

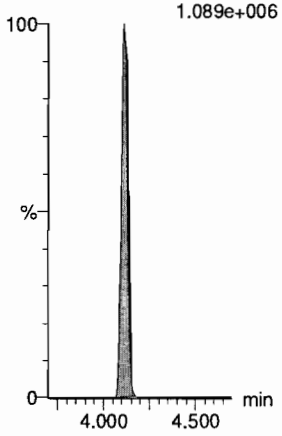


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

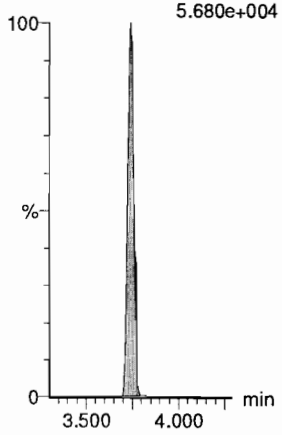
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_4, Date: 22-Jul-2019, Time: 10:26:37, ID: ST190722M1-1 PFC CS-2 19G1101, Description: PFC CS-2 19G1101

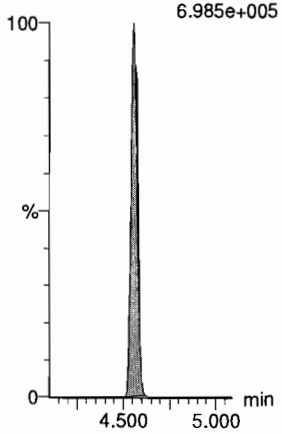
13C8-PFOA



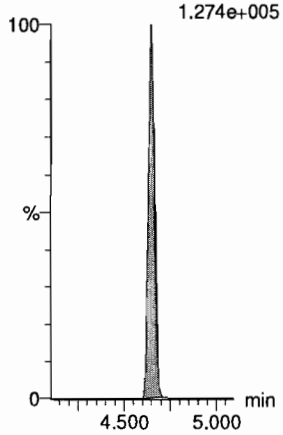
18O2-PFHxS



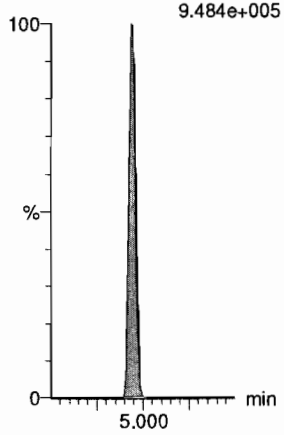
13C9-PFNA



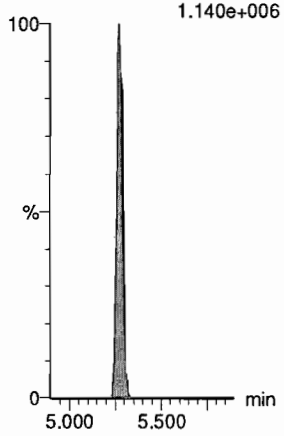
13C4-PFOS



13C6-PFDA



13C7-PFUdA

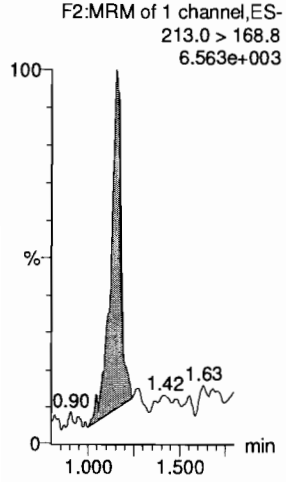


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

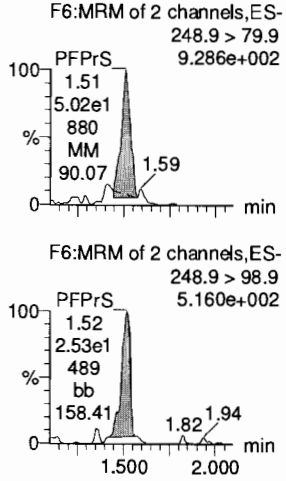
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

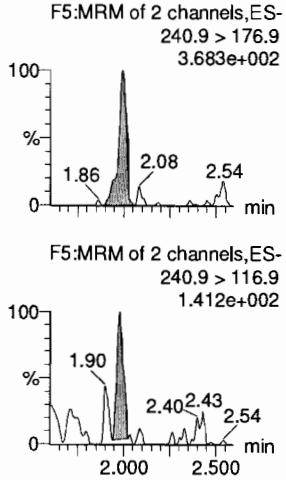
PFBA



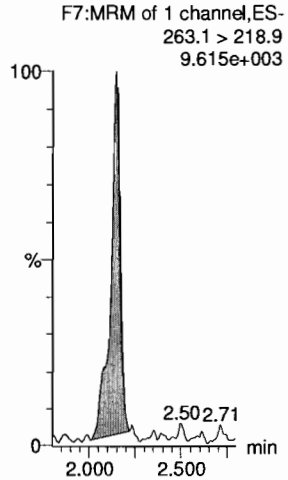
PFPrS



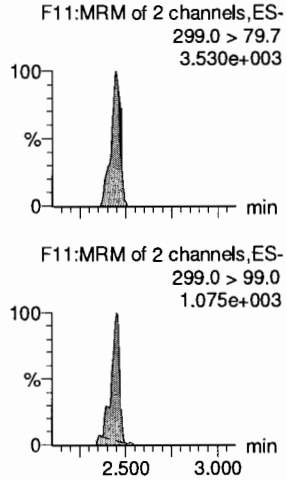
3:3 FTCA



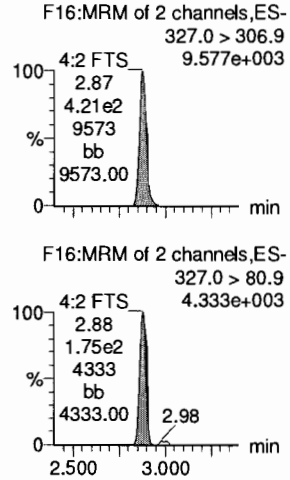
PFPeA



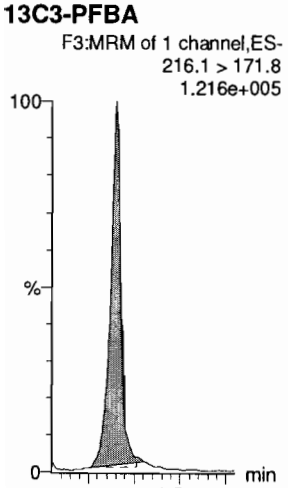
PFBS



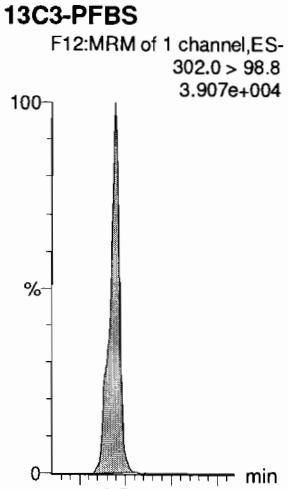
4:2 FTS



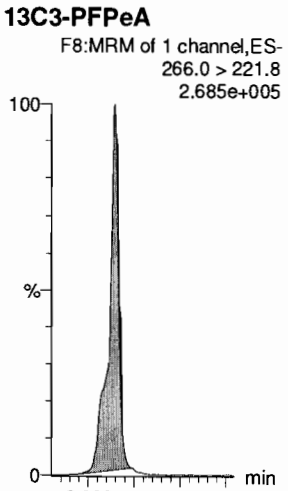
13C3-PFBA



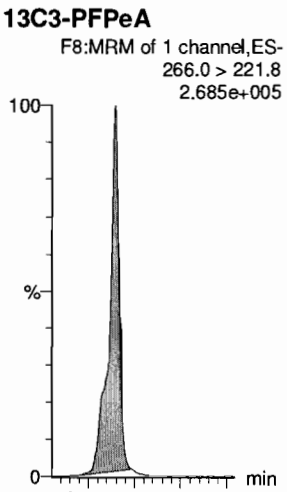
13C3-PFBS



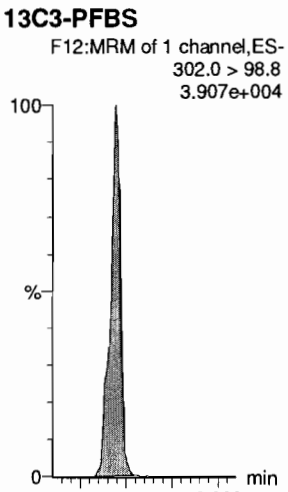
13C3-PFPeA



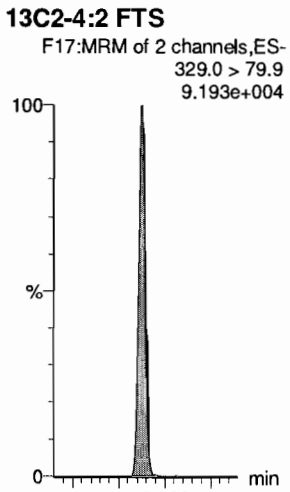
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

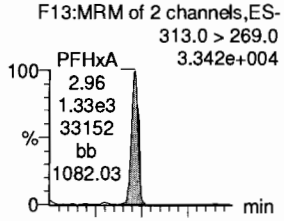


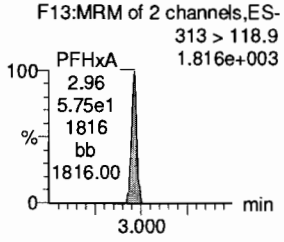
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

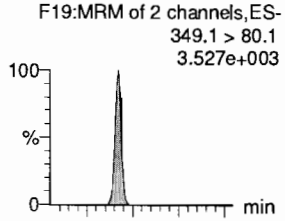
Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

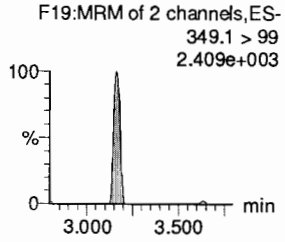
PFHxA



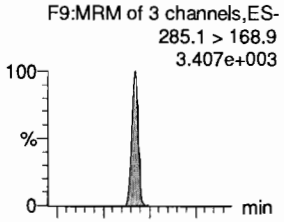


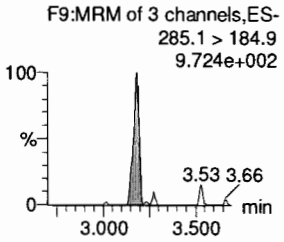
PFPeS



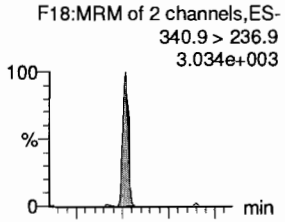


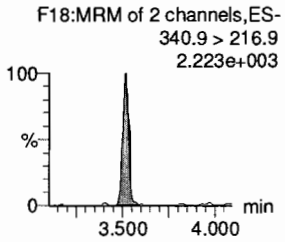
HFPO-DA



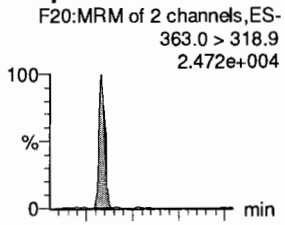


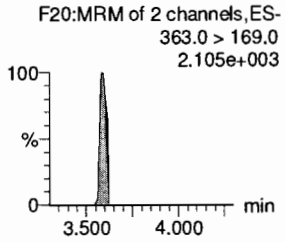
5:3 FTCA



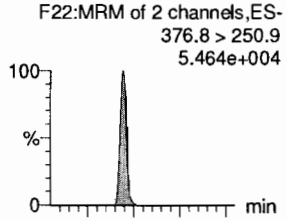


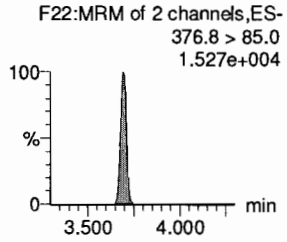
PFHpA



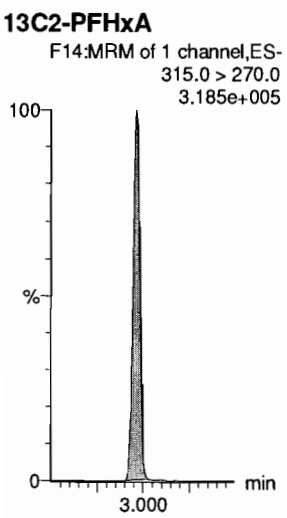


ADONA

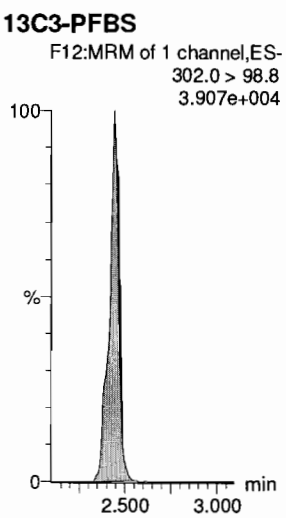




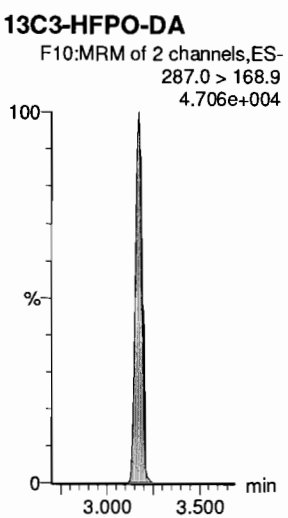
13C2-PFHxA



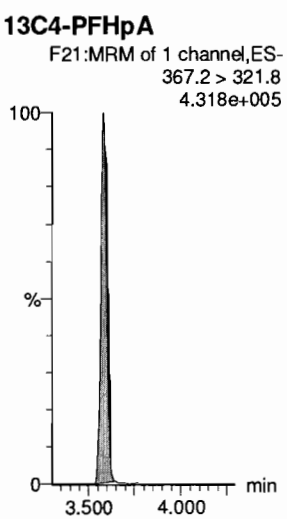
13C3-PFBS



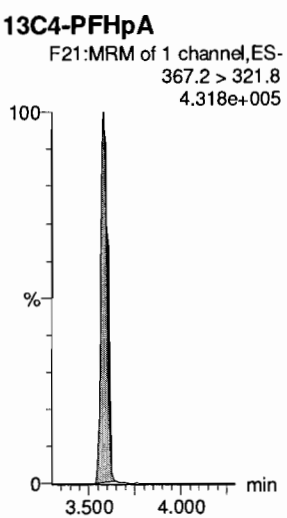
13C3-HFPO-DA



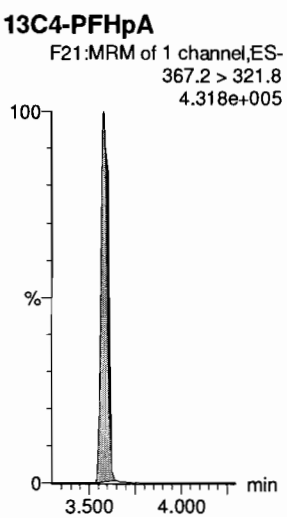
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA

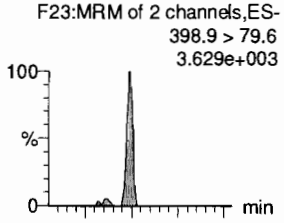


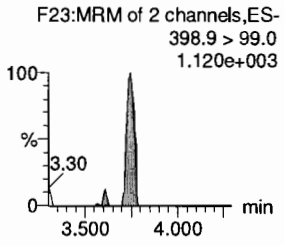
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

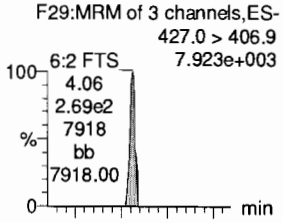
Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

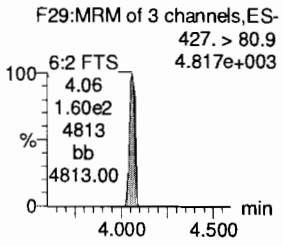
L-PFHxS



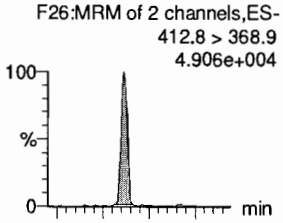


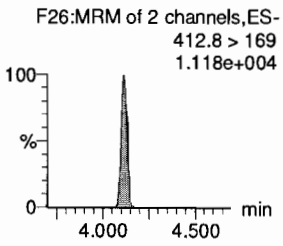
6:2 FTS



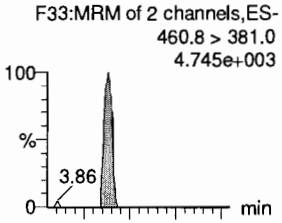


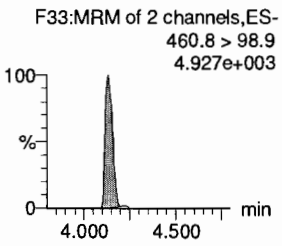
L-PFOA



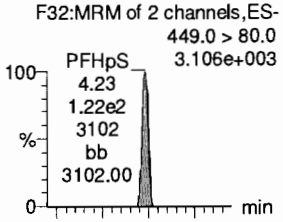


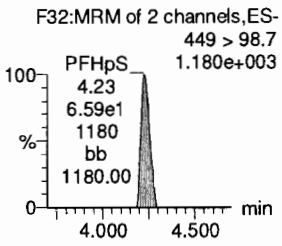
PFEChS



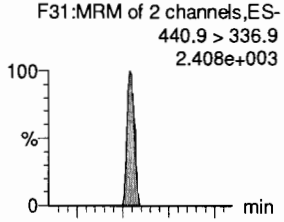


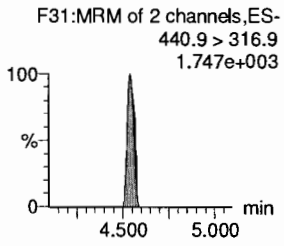
PFHpS



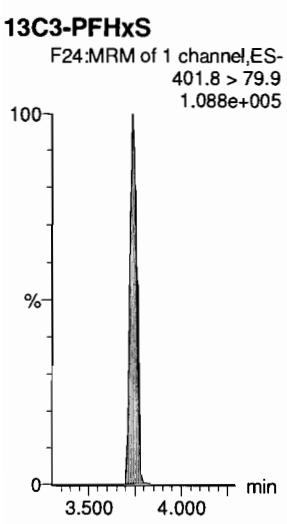


7:3 FTCA

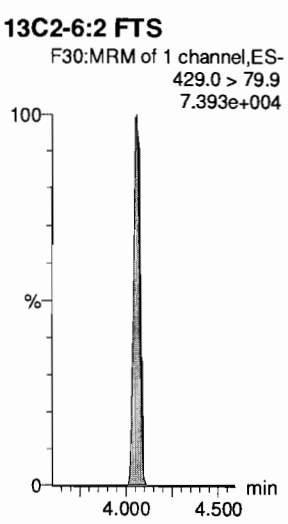




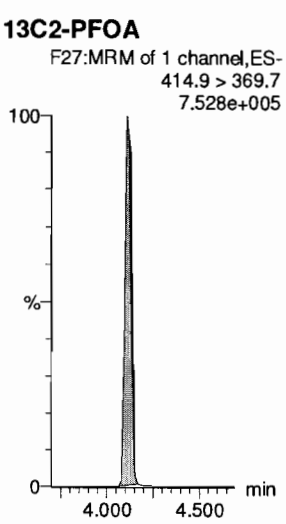
13C3-PFHxS



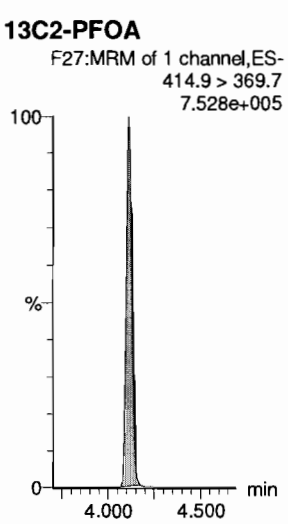
13C2-6:2 FTS



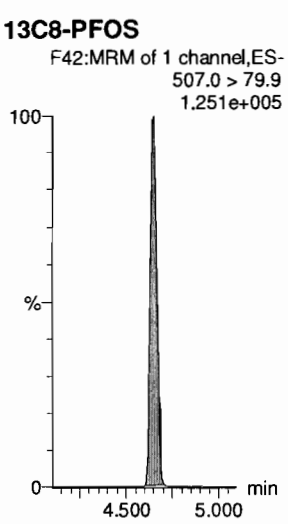
13C2-PFOA



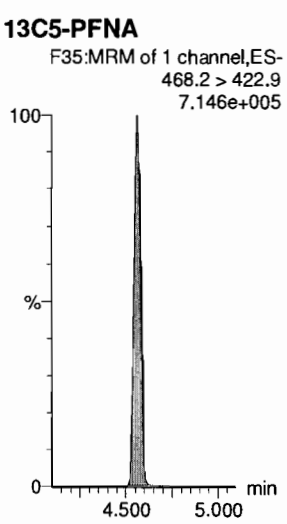
13C2-PFOA



13C8-PFOS



13C5-PFNA

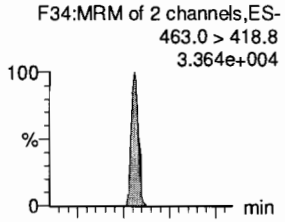


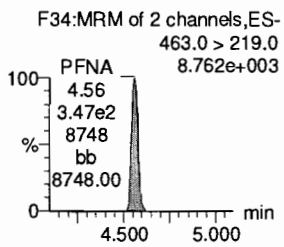
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

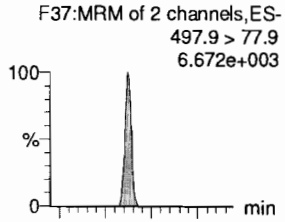
Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

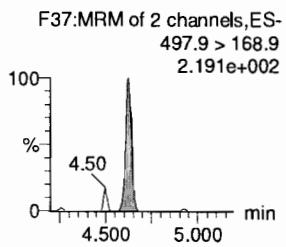
PFNA



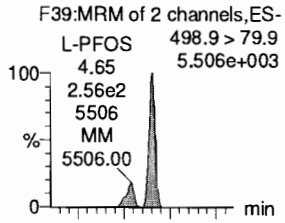


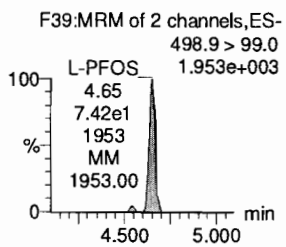
PFOSA



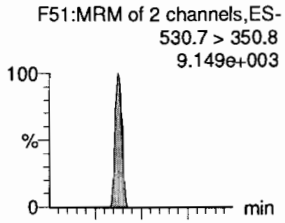


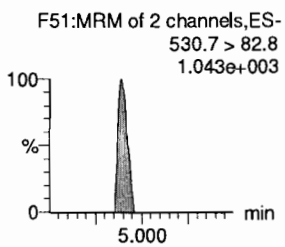
L-PFOS



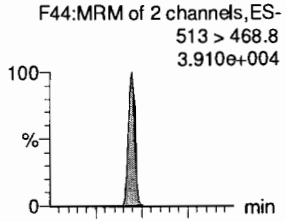


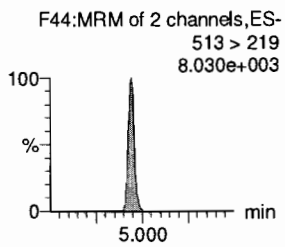
9Cl-PF30NS



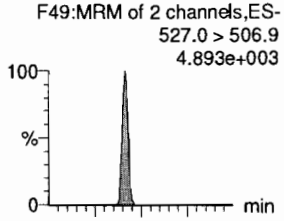


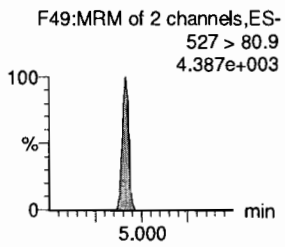
PFDA



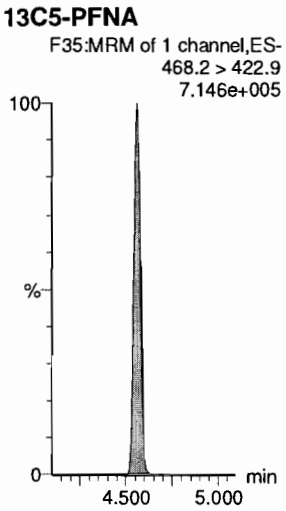


8:2 FTS

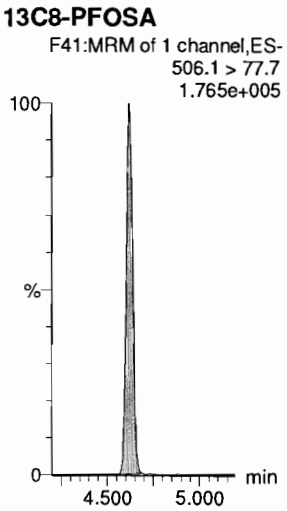




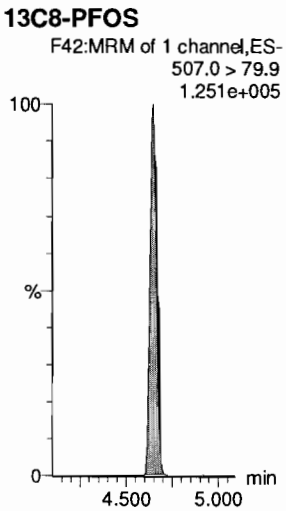
13C5-PFNA



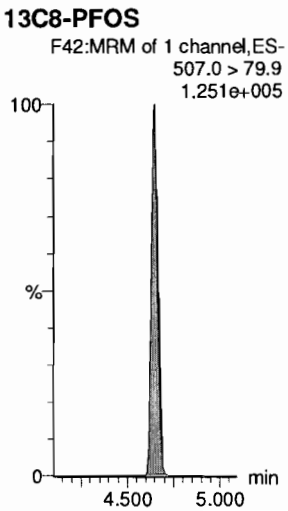
13C8-PFOSA



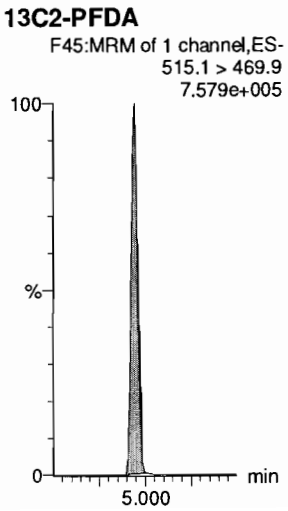
13C8-PFOS



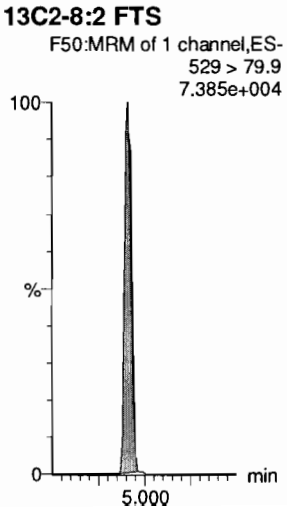
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

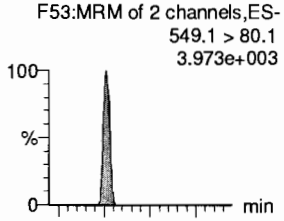


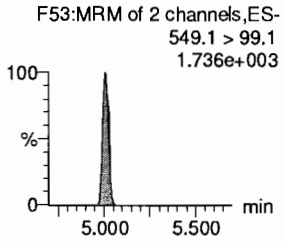
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

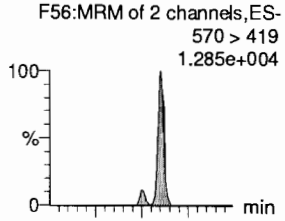
Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

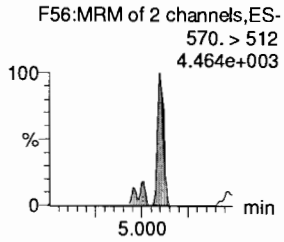
PFNS



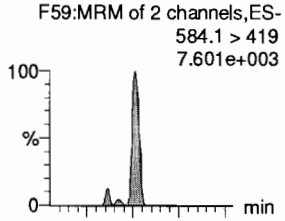


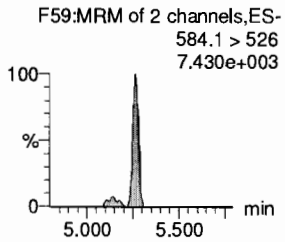
L-MeFOSAA



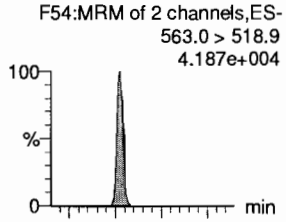


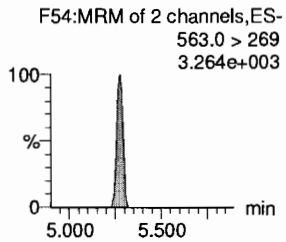
L-EtFOSAA



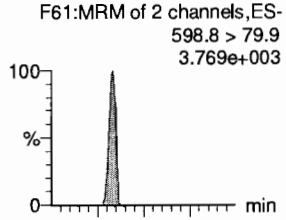


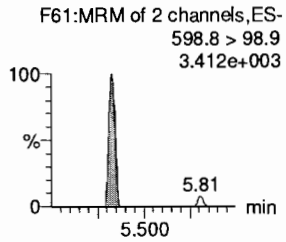
PFUdA



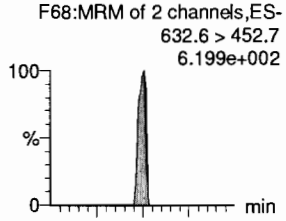


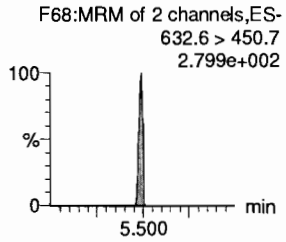
PFDS



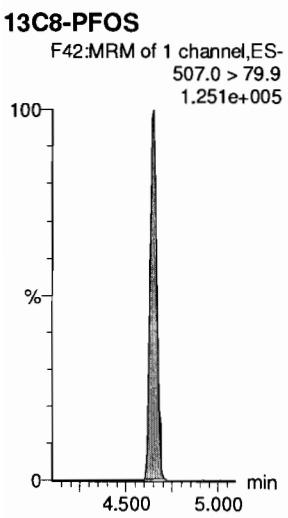


11Cl-PF30UdS

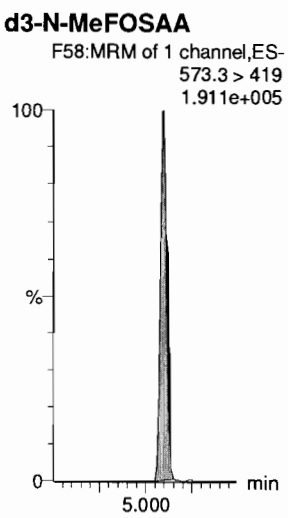




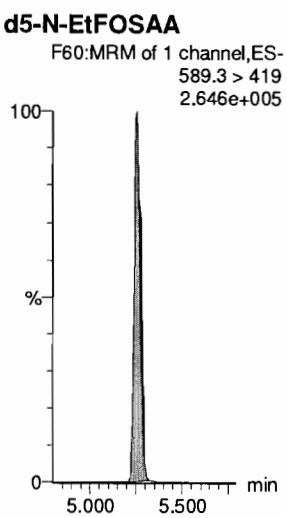
13C8-PFOS



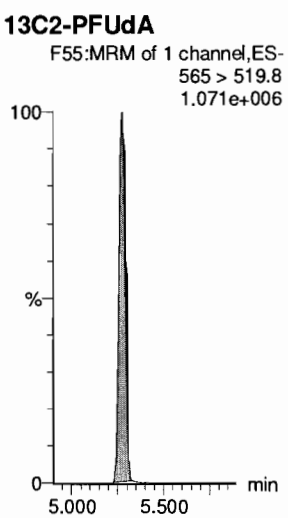
d3-N-MeFOSAA



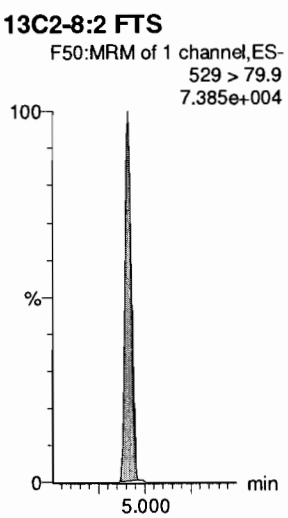
d5-N-EtFOSAA



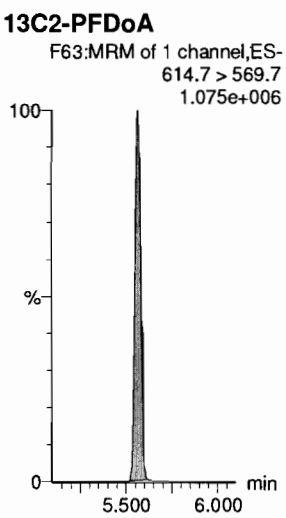
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

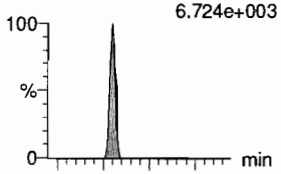


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

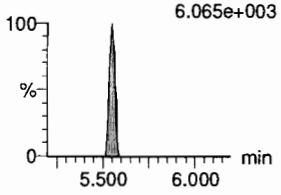
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

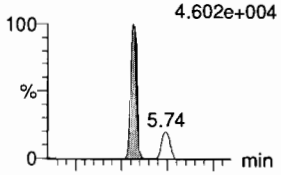
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
6.724e+003



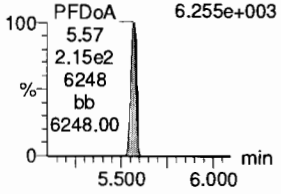
F66:MRM of 2 channels,ES-
627.0 > 80.9
6.065e+003



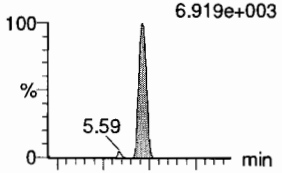
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
4.602e+004



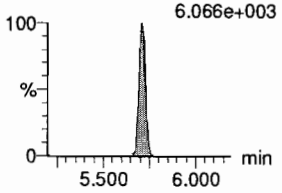
F62:MRM of 4 channels,ES-
612.9 > 318.8
6.255e+003



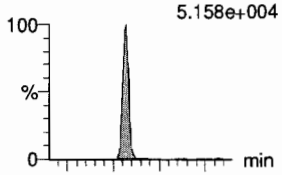
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
6.919e+003



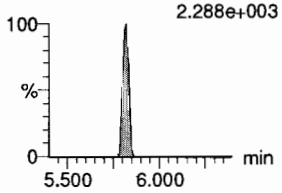
F43:MRM of 2 channels,ES-
512.1 > 219
6.066e+003



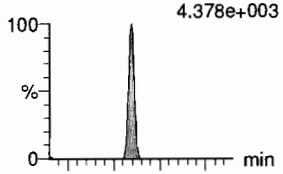
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
5.158e+004



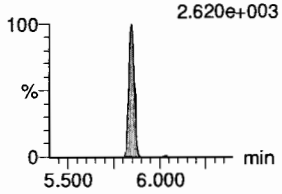
F70:MRM of 2 channels,ES-
662.9 > 319
2.288e+003



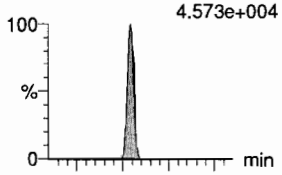
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
4.378e+003



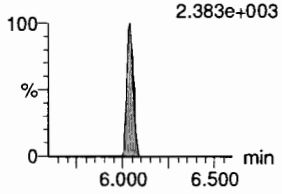
F71:MRM of 2 channels,ES-
698.8 > 98.9
2.620e+003



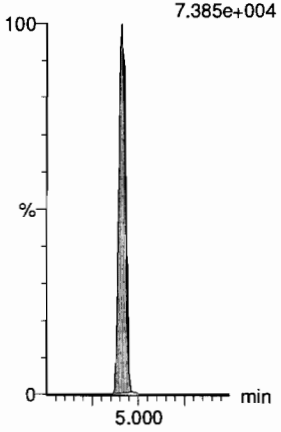
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
4.573e+004



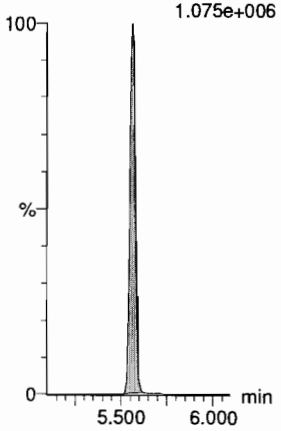
F72:MRM of 2 channels,ES-
713. > 369.0
2.383e+003



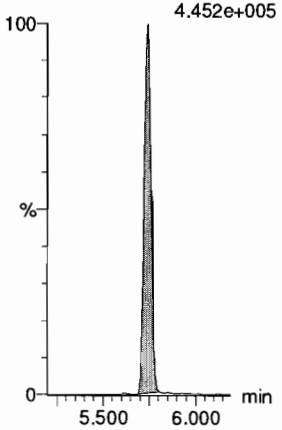
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.385e+004



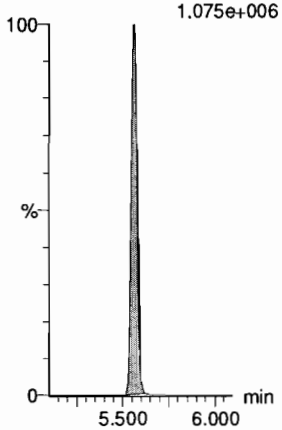
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.075e+006



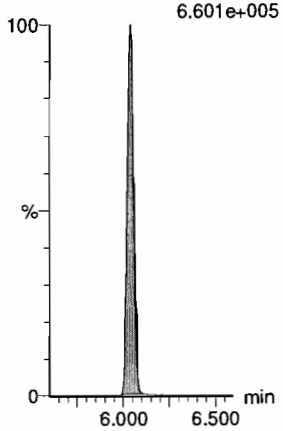
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.452e+005



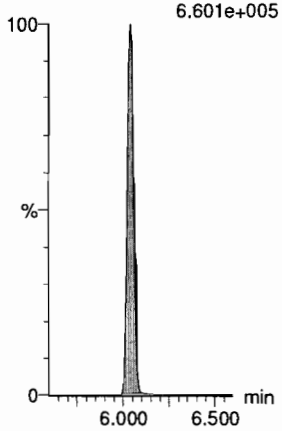
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.075e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.601e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.601e+005

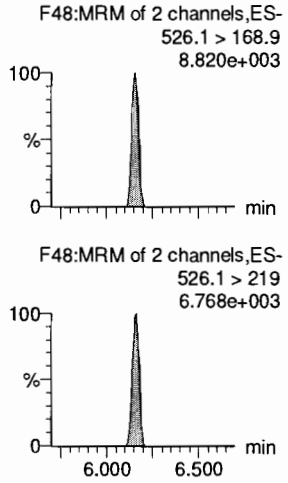


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

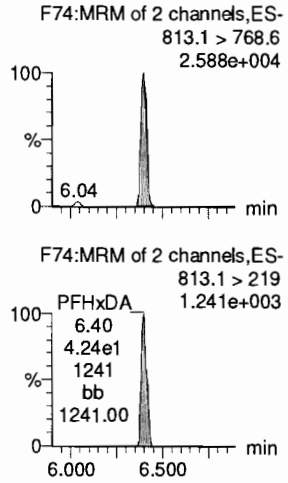
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

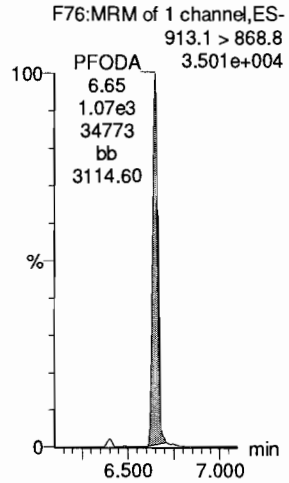
N-EtFOSA



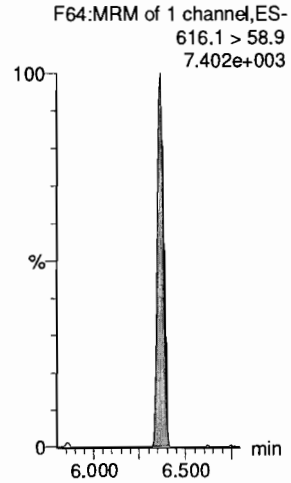
PFHxDA



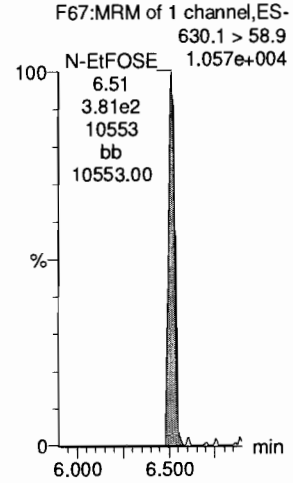
PFODA



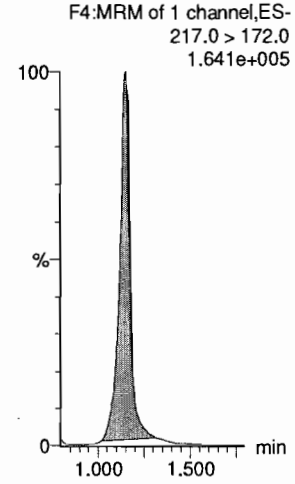
N-MeFOSE



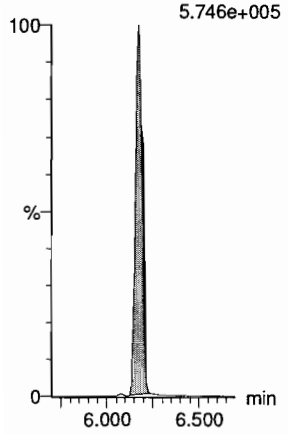
N-EtFOSE



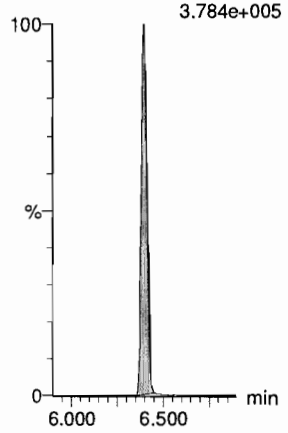
13C4-PFBA



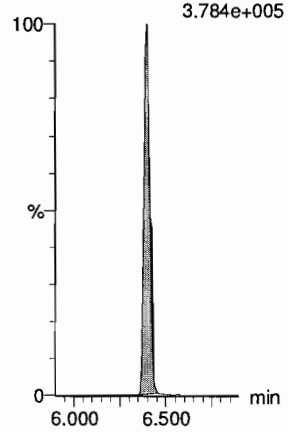
d5-N-ETFOSA



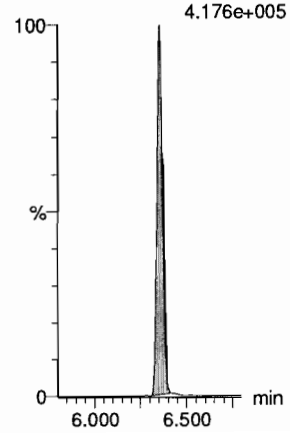
13C2-PFHxDA



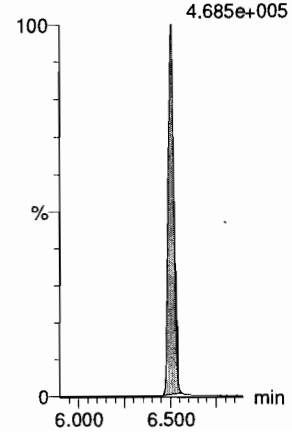
13C2-PFHxDA



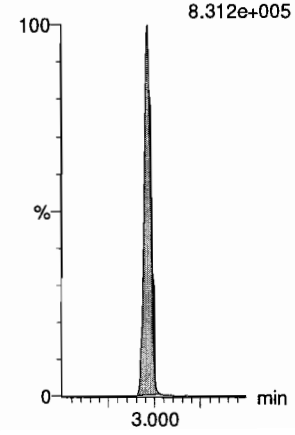
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

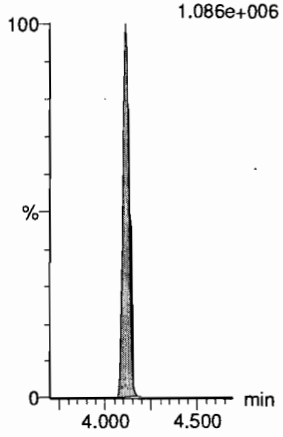


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

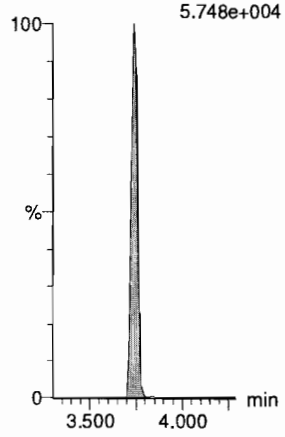
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_5, Date: 22-Jul-2019, Time: 10:37:15, ID: ST190722M1-2 PFC CS-1 19G1102, Description: PFC CS-1 19G1102

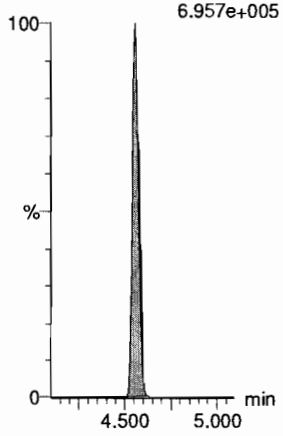
13C8-PFOA



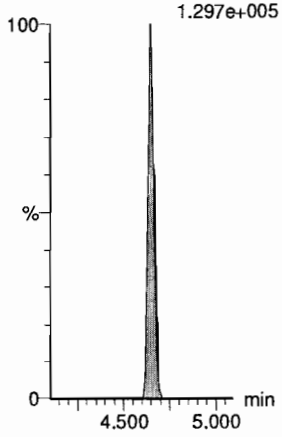
18O2-PFHxS



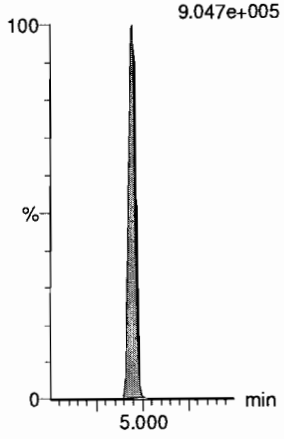
13C9-PFNA



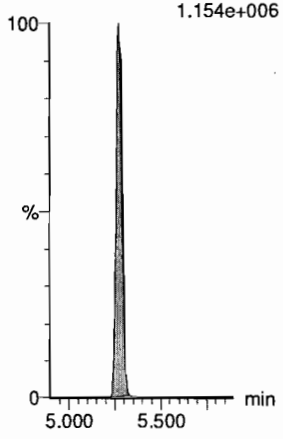
13C4-PFOS



13C6-PFDA



13C7-PFUdA

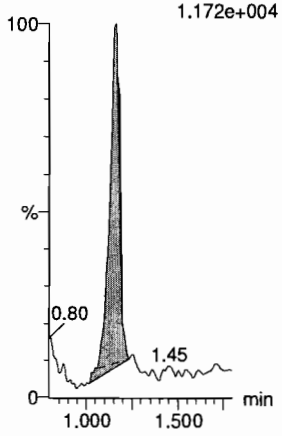


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

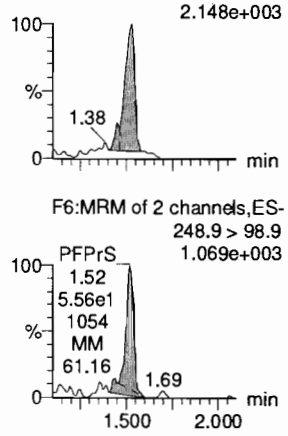
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

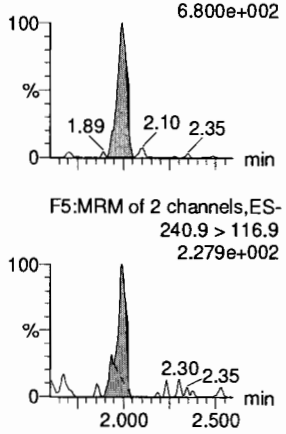
PFBA



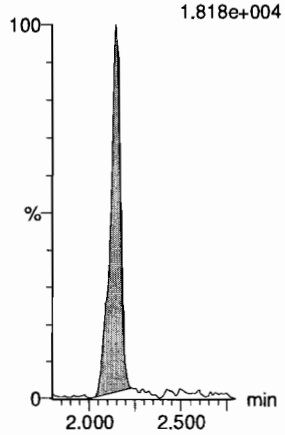
PFPrS



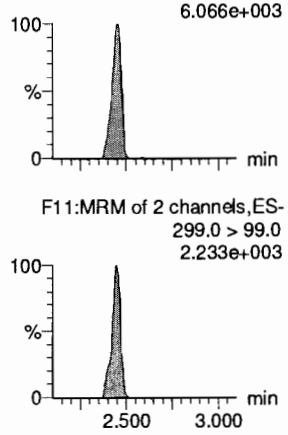
3:3 FTCA



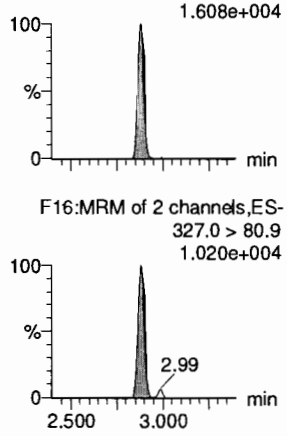
PFPeA



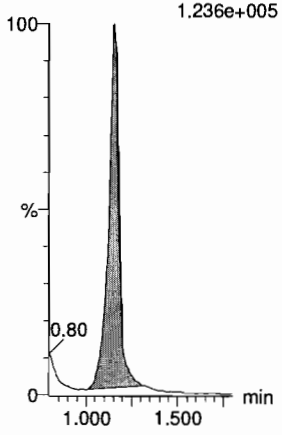
PFBS



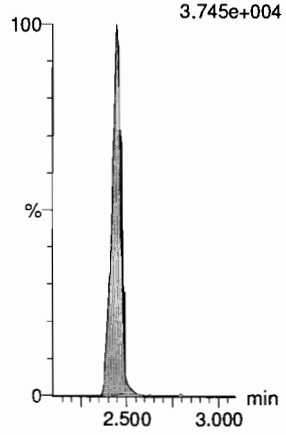
4:2 FTS



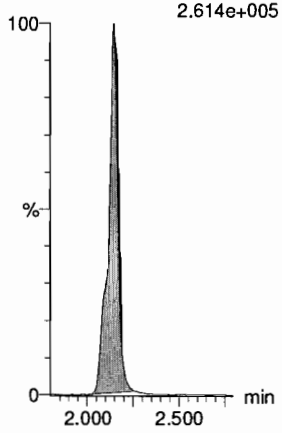
13C3-PFBA



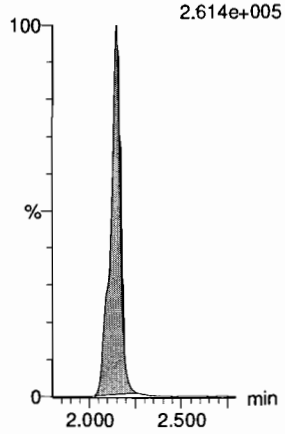
13C3-PFBS



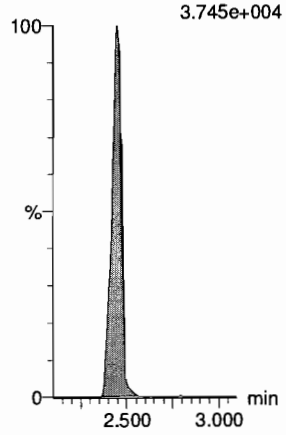
13C3-PFPeA



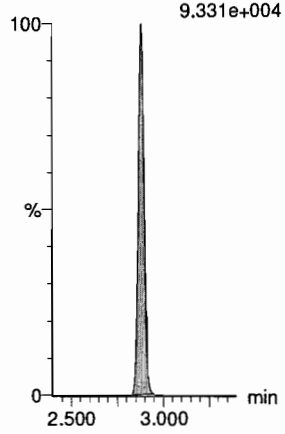
13C3-PFPeA



13C3-PFBS



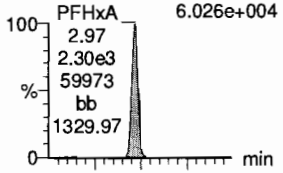
13C2-4:2 FTS

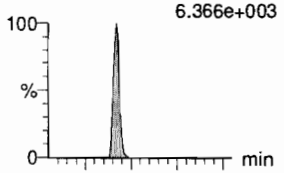


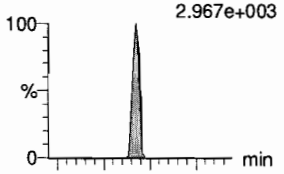
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

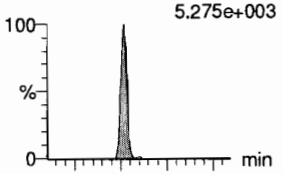
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

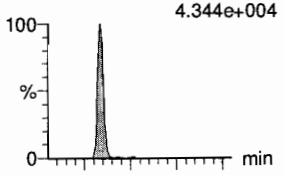
Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

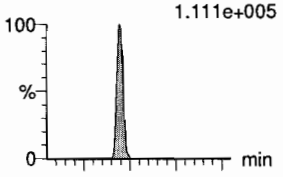
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
6.026e+004


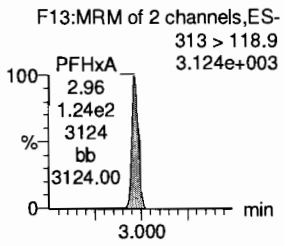
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
6.366e+003


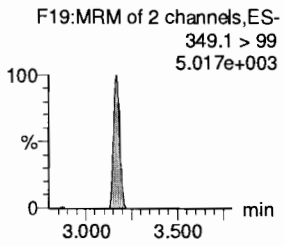
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
2.967e+003


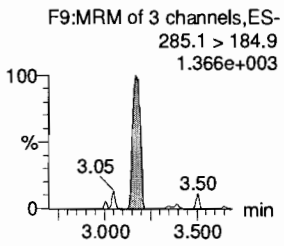
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
5.275e+003


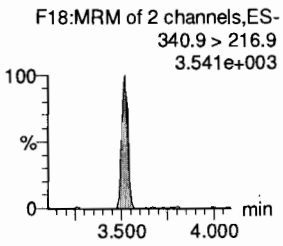
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
4.344e+004


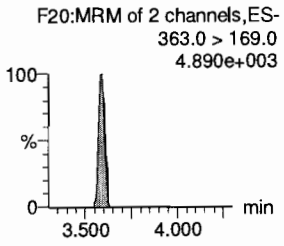
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
1.111e+005


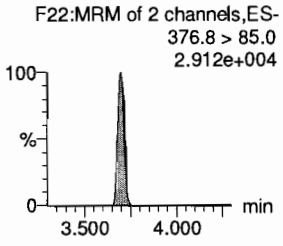
F13:MRM of 2 channels,ES-
313 > 118.9
3.124e+003


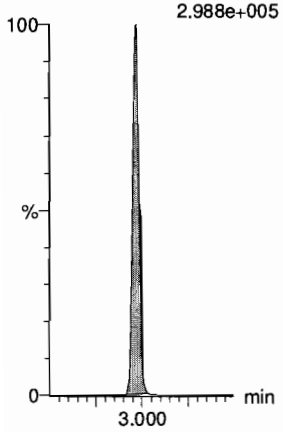
F19:MRM of 2 channels,ES-
349.1 > 99
5.017e+003


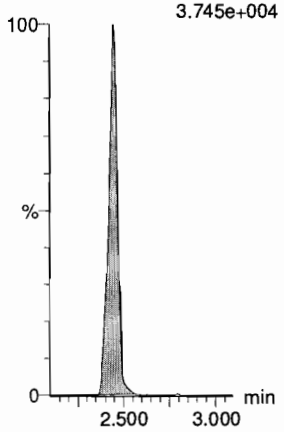
F9:MRM of 3 channels,ES-
285.1 > 184.9
1.366e+003


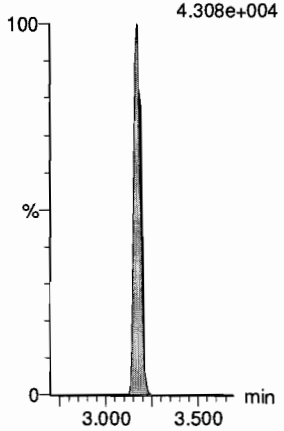
F18:MRM of 2 channels,ES-
340.9 > 216.9
3.541e+003


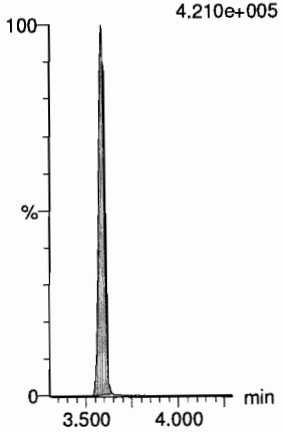
F20:MRM of 2 channels,ES-
363.0 > 169.0
4.890e+003


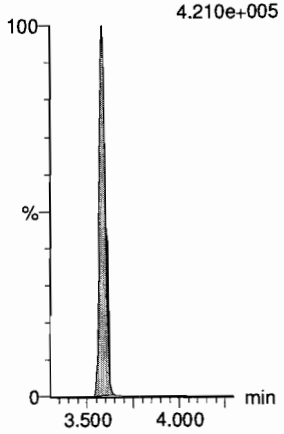
F22:MRM of 2 channels,ES-
376.8 > 85.0
2.912e+004


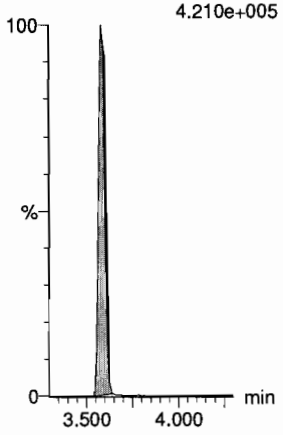
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
2.988e+005


13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.745e+004


13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.308e+004


13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.210e+005


13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.210e+005


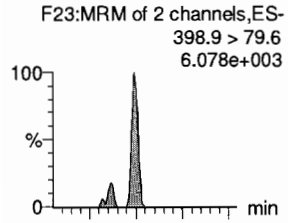
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.210e+005


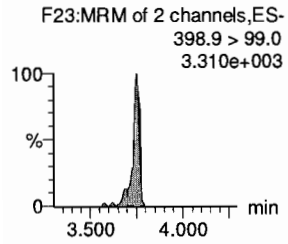
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

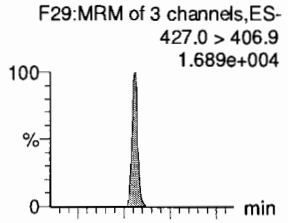
Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

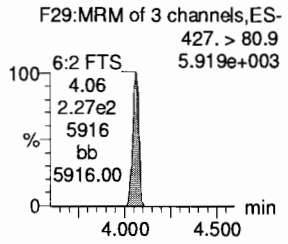
L-PFHxS



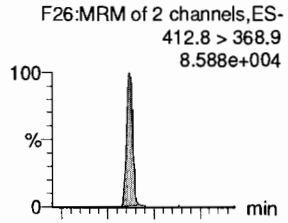


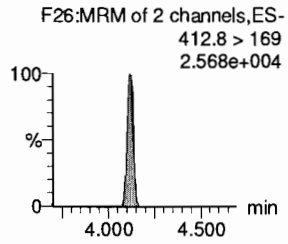
6:2 FTS



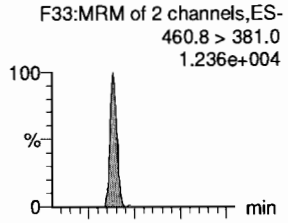


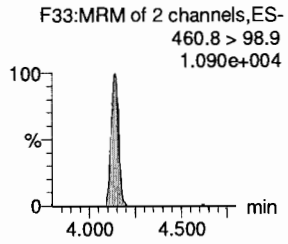
L-PFOA



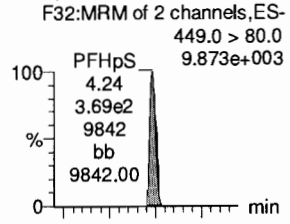


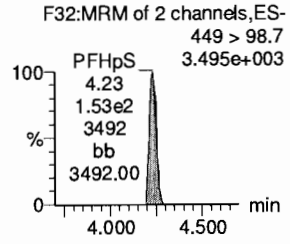
PFEChS



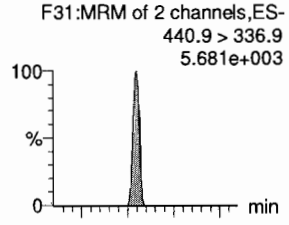


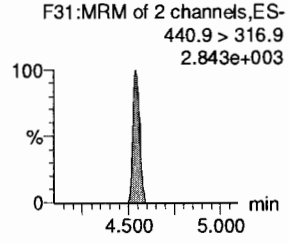
PFHpS



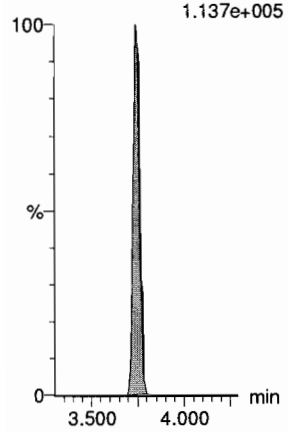


7:3 FTCA

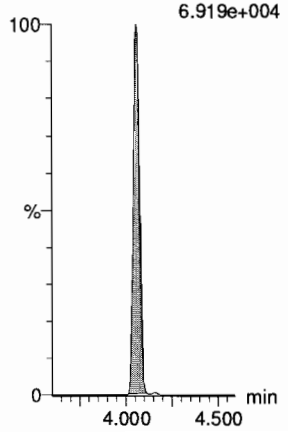




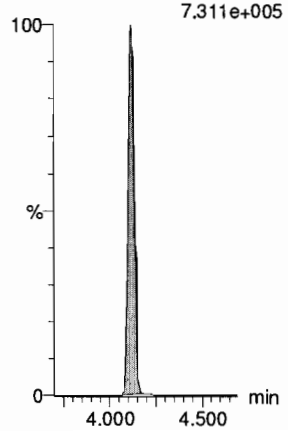
13C3-PFHxS



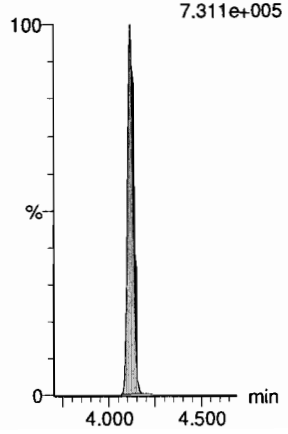
13C2-6:2 FTS



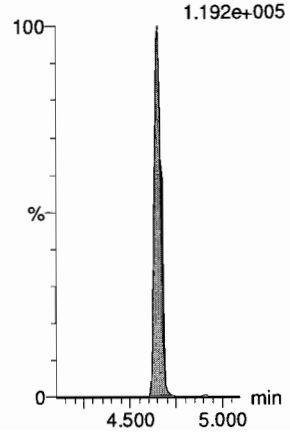
13C2-PFOA



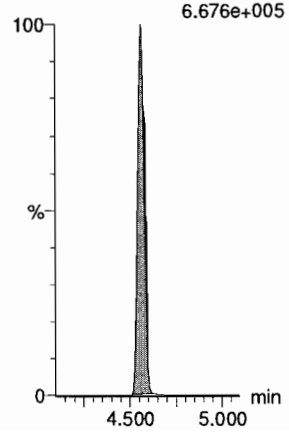
13C2-PFOA



13C8-PFOS



13C5-PFNA

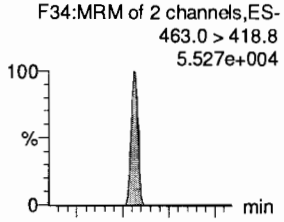


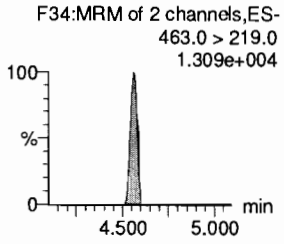
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

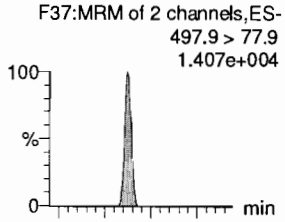
Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

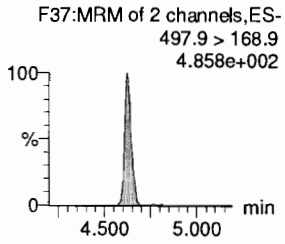
PFNA



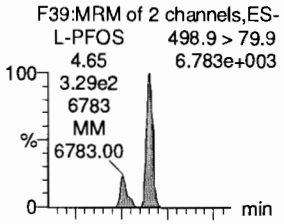


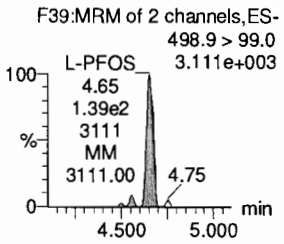
PFOSA



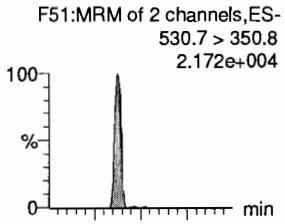


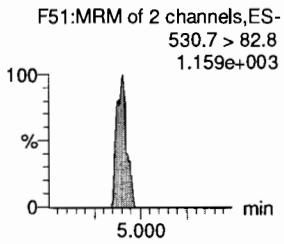
L-PFOS



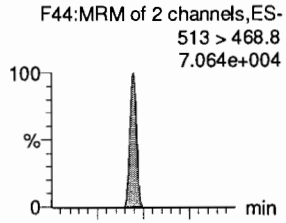


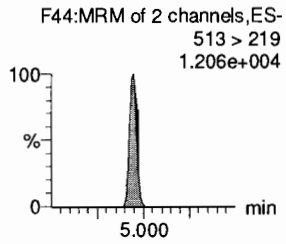
9Cl-PF30NS



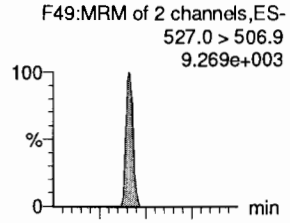


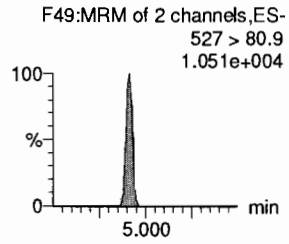
PFDA



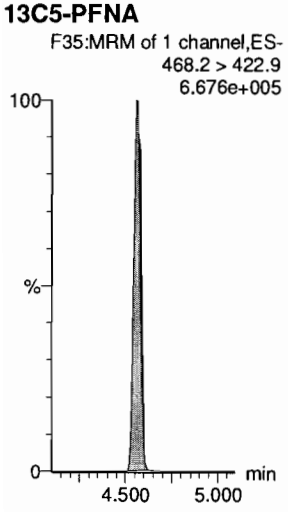


8:2 FTS

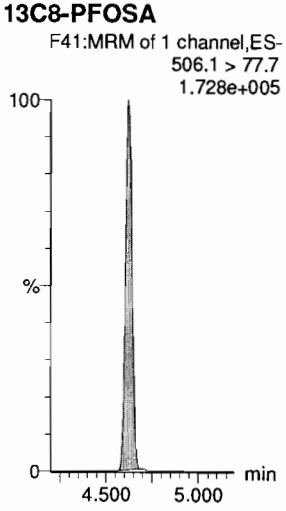




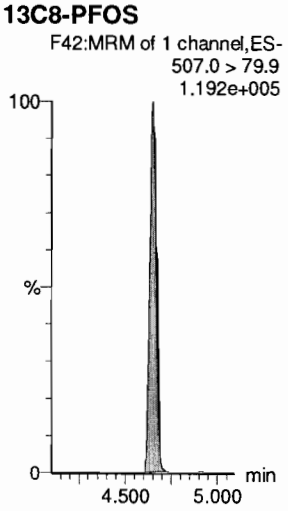
13C5-PFNA



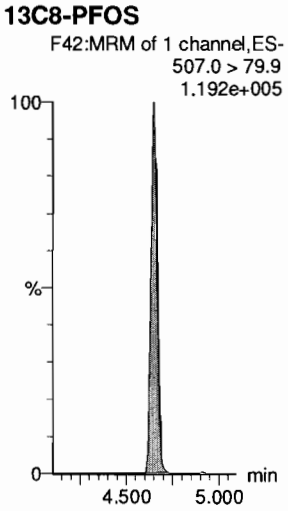
13C8-PFOSA



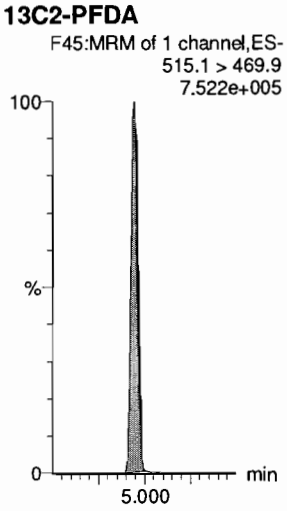
13C8-PFOS



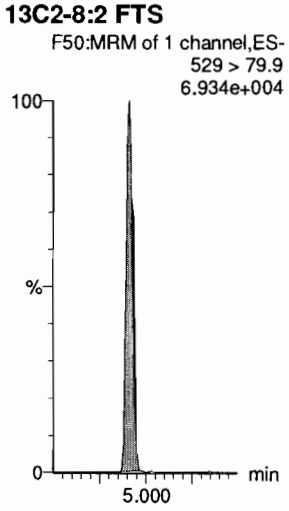
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

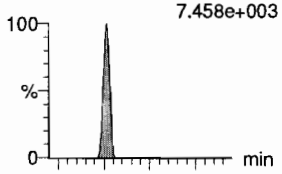


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

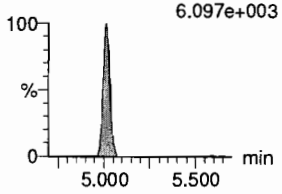
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

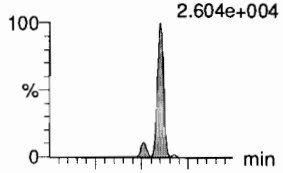
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
7.458e+003



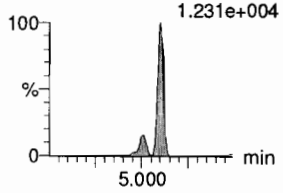
F53:MRM of 2 channels,ES-
549.1 > 99.1
6.097e+003



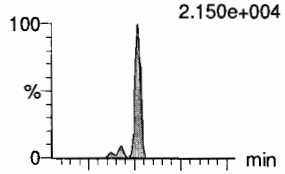
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
2.604e+004



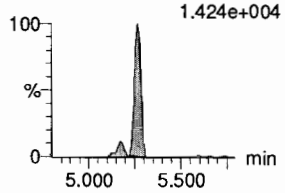
F56:MRM of 2 channels,ES-
570. > 512
1.231e+004



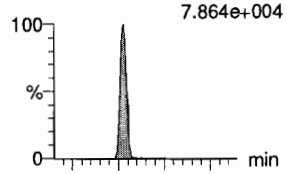
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
2.150e+004



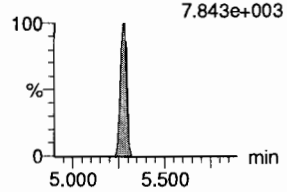
F59:MRM of 2 channels,ES-
584.1 > 526
1.424e+004



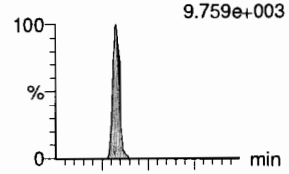
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
7.864e+004



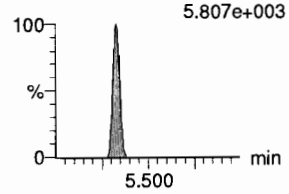
F54:MRM of 2 channels,ES-
563.0 > 269
7.843e+003



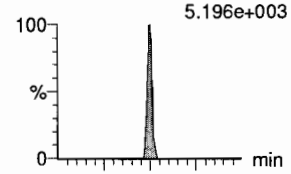
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
9.759e+003



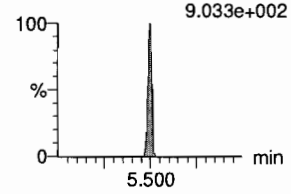
F61:MRM of 2 channels,ES-
598.8 > 98.9
5.807e+003



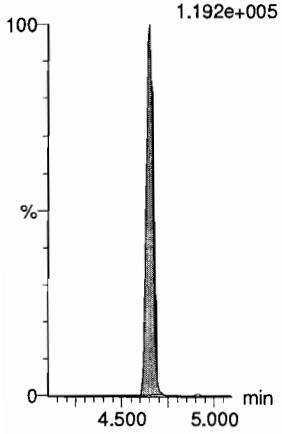
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
5.196e+003



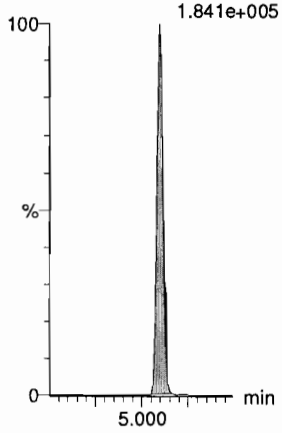
F68:MRM of 2 channels,ES-
632.6 > 450.7
9.033e+002



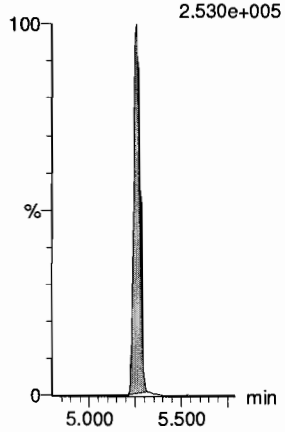
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.192e+005



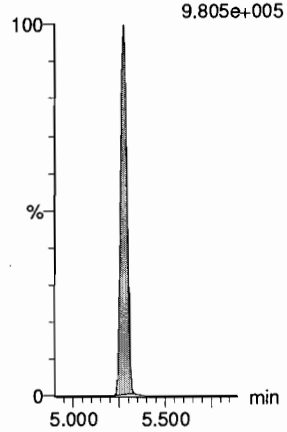
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
1.841e+005



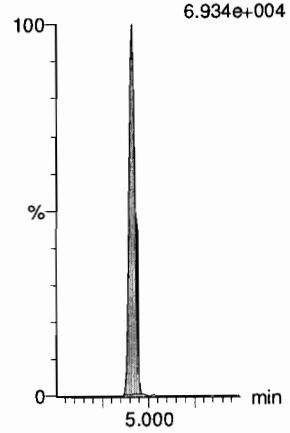
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
2.530e+005



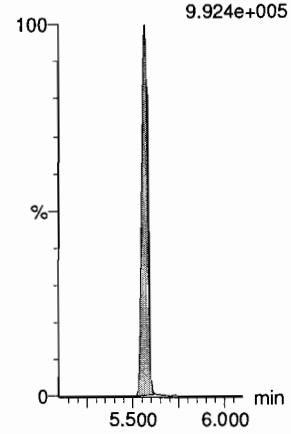
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
9.805e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
6.934e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.924e+005

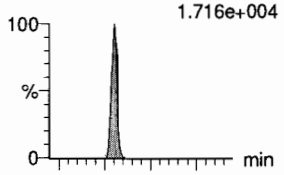


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

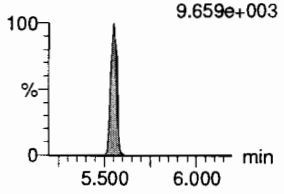
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

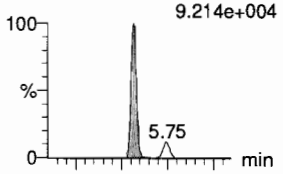
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.716e+004



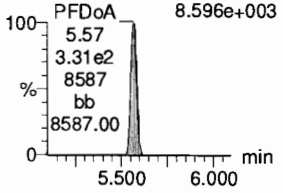
F66:MRM of 2 channels,ES-
627.0 > 80.9
9.659e+003



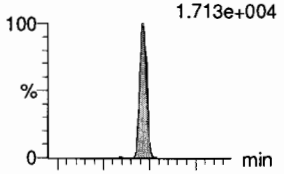
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
9.214e+004



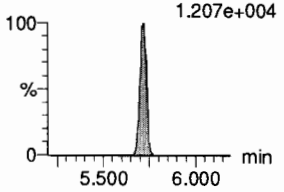
F62:MRM of 4 channels,ES-
612.9 > 318.8
8.596e+003



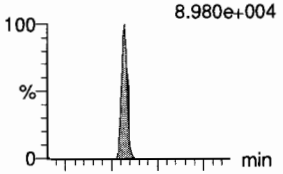
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.713e+004



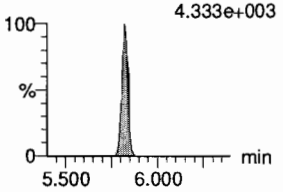
F43:MRM of 2 channels,ES-
512.1 > 219
1.207e+004



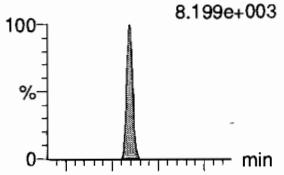
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
8.980e+004



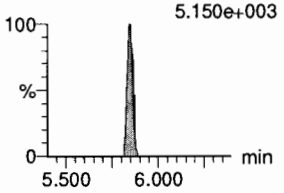
F70:MRM of 2 channels,ES-
662.9 > 319
4.333e+003



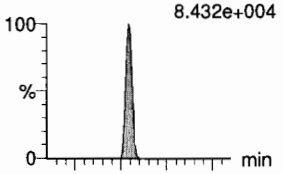
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
8.199e+003



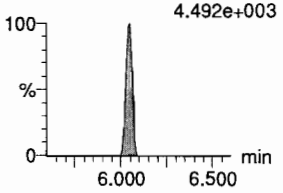
F71:MRM of 2 channels,ES-
698.8 > 98.9
5.150e+003



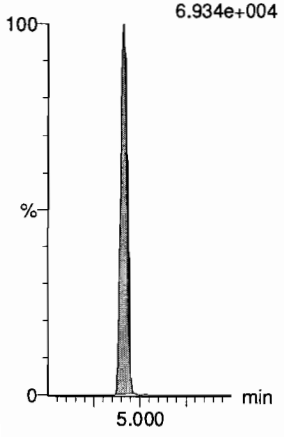
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
8.432e+004



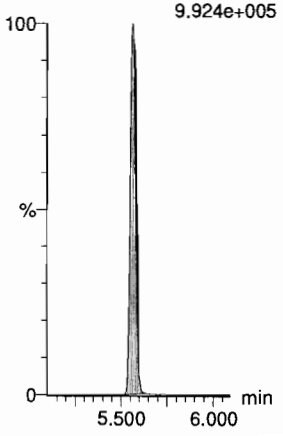
F72:MRM of 2 channels,ES-
713. > 369.0
4.492e+003



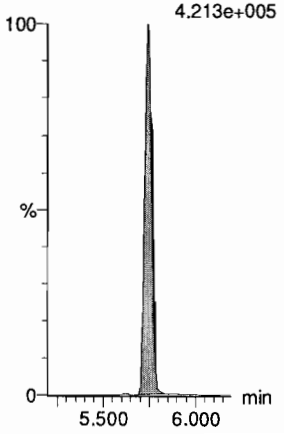
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
6.934e+004



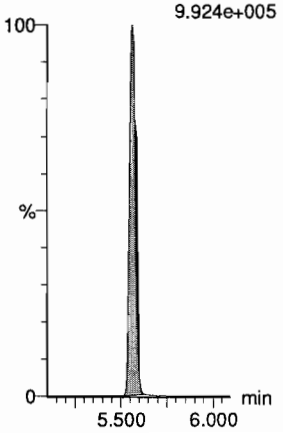
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.924e+005



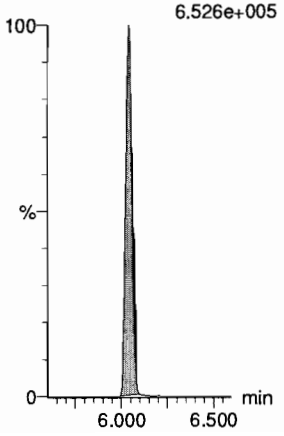
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.213e+005



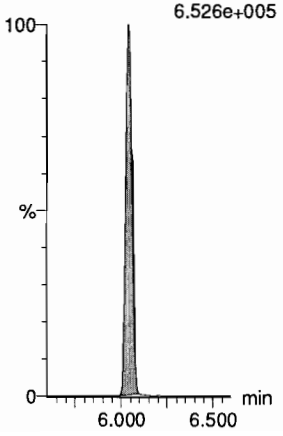
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.924e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.526e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.526e+005

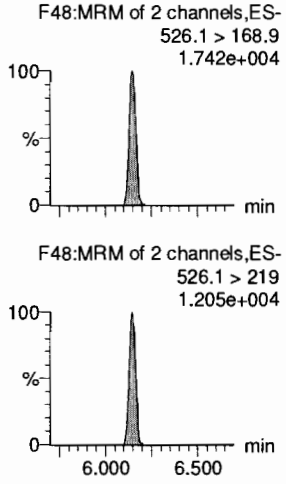


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

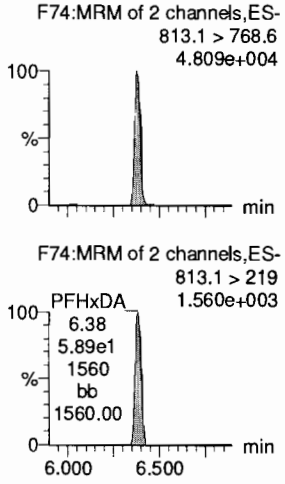
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

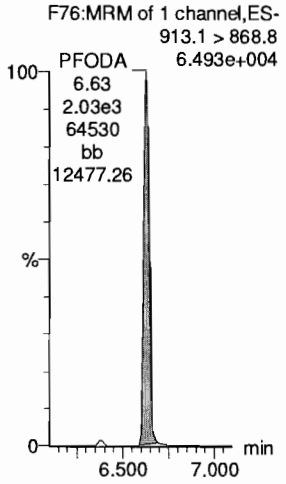
N-EtFOSA



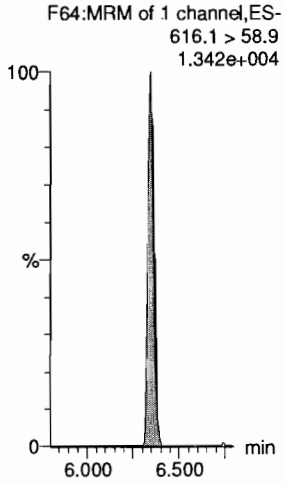
PFHxDA



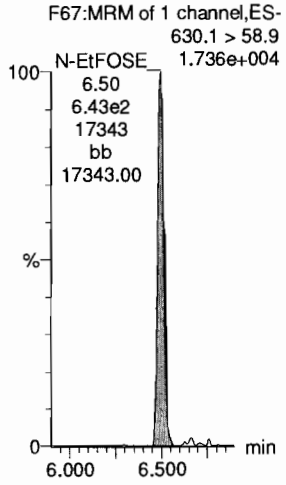
PFODA



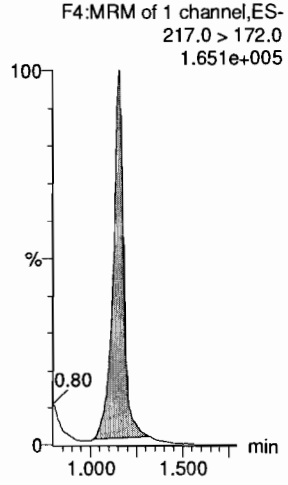
N-MeFOSE



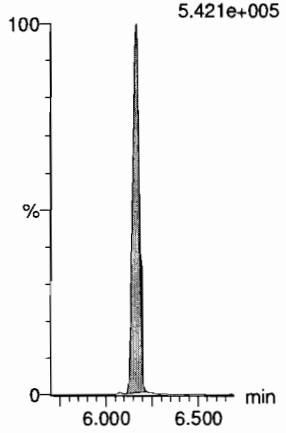
N-EtFOSE



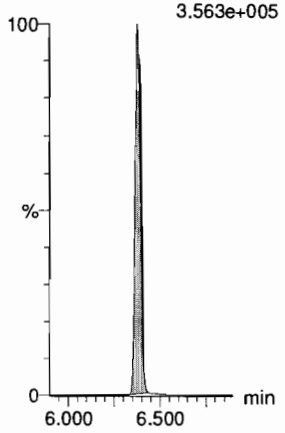
13C4-PFBA



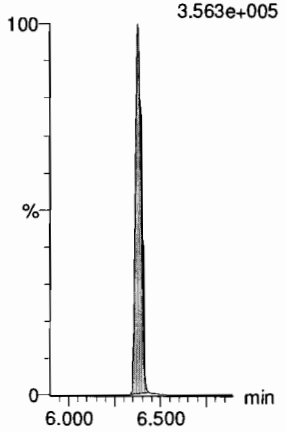
d5-N-ETFOSA



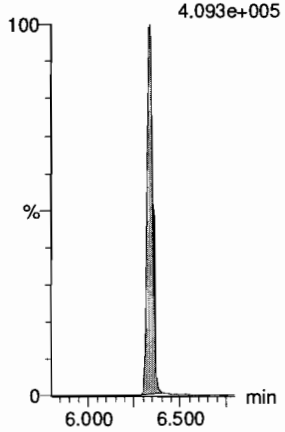
13C2-PFHxDA



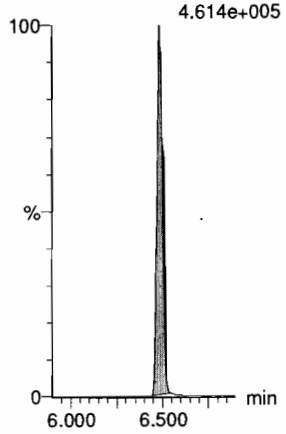
13C2-PFHxDA



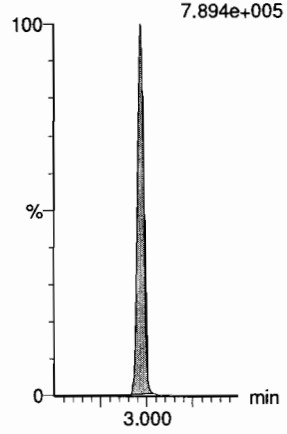
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

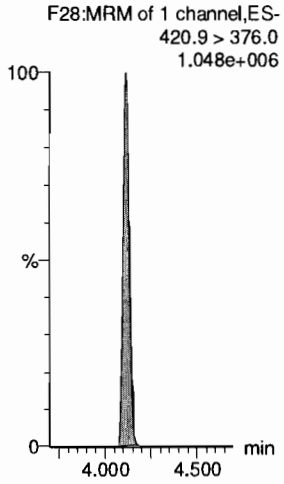


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

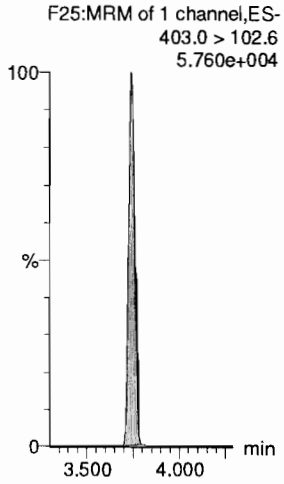
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_6, Date: 22-Jul-2019, Time: 10:47:48, ID: ST190722M1-3 PFC CS0 19G1103, Description: PFC CS0 19G1103

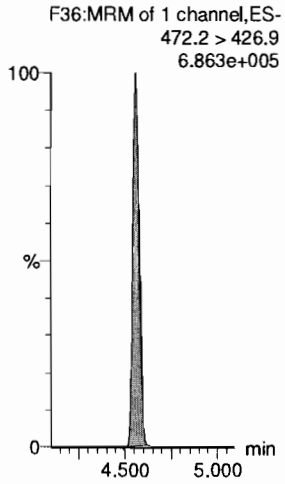
13C8-PFOA



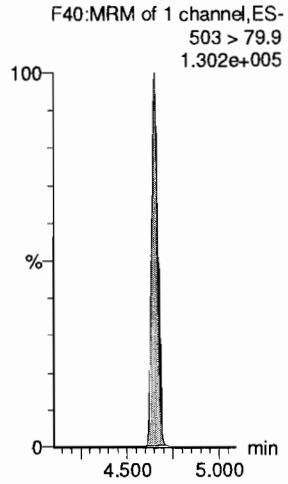
18O2-PFHxS



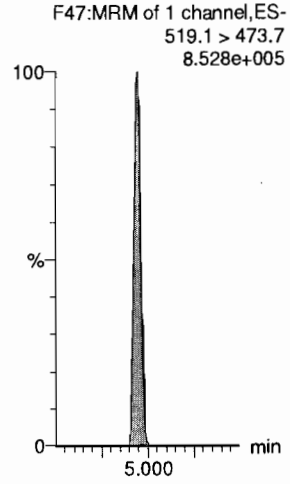
13C9-PFNA



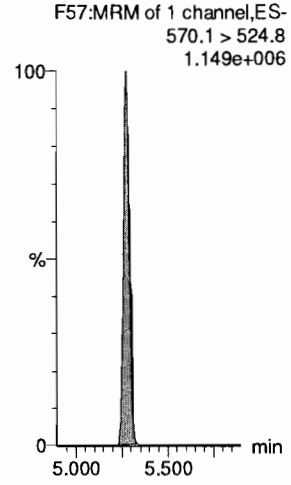
13C4-PFOS



13C6-PFDA



13C7-PFUdA

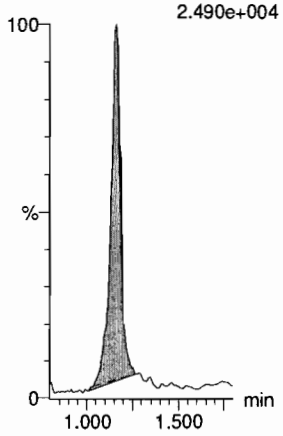


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

PFBA



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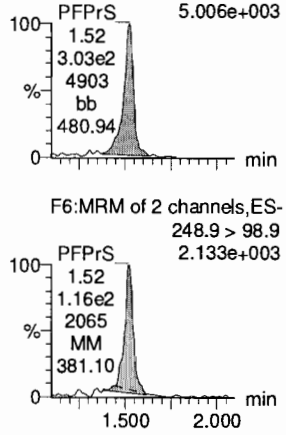
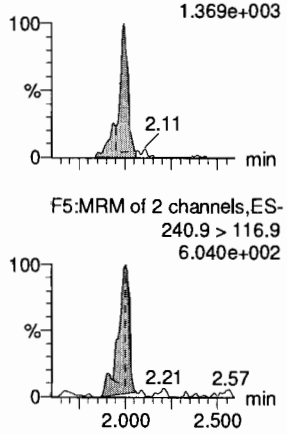
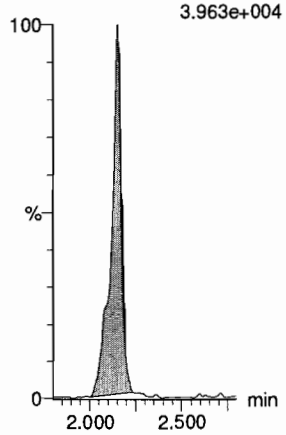


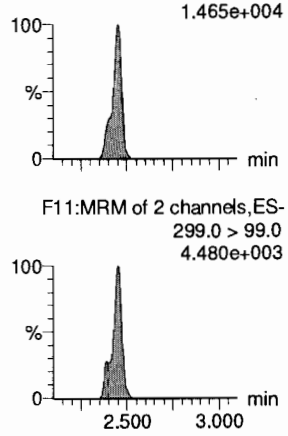
3:3 FTCA



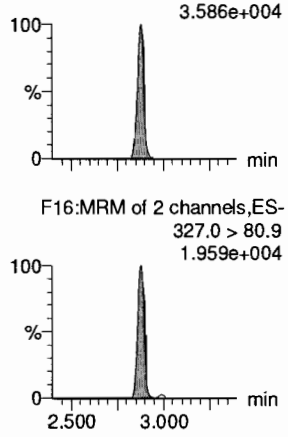
PFPeA



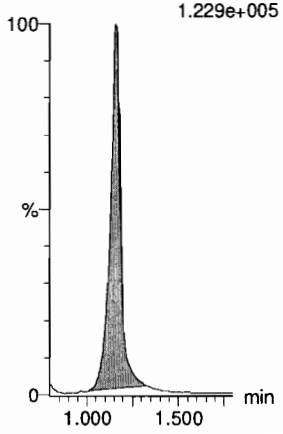
PFBS



4:2 FTS



13C3-PFBA



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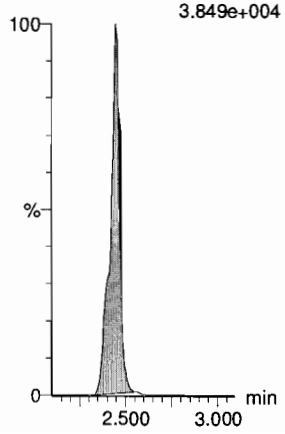

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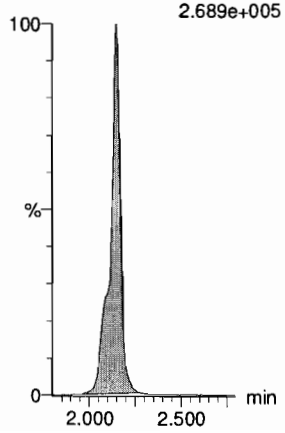

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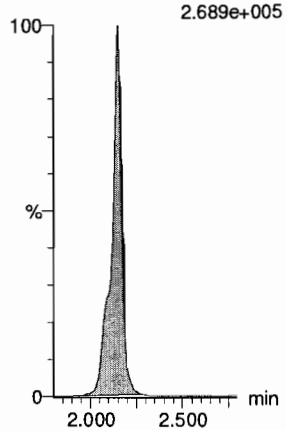

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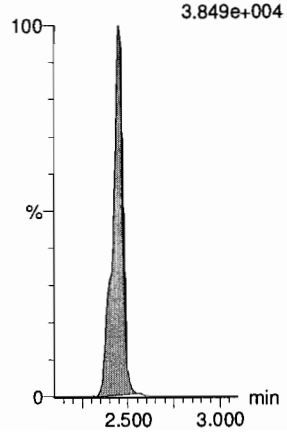
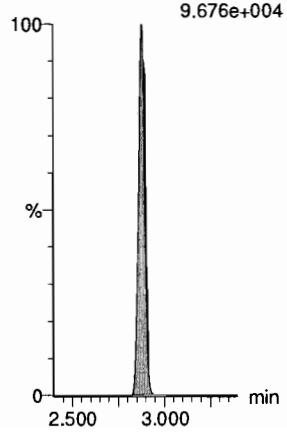


13C2-4:2 FTS



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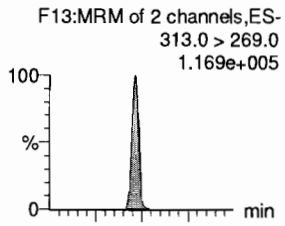
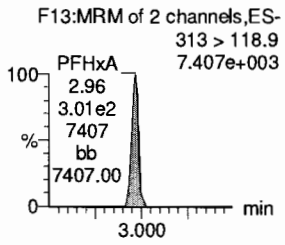
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

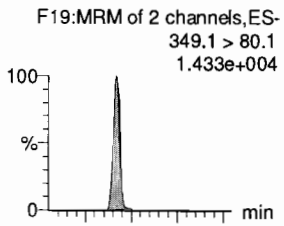
Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

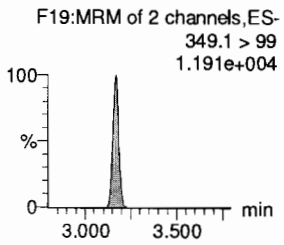
PFHxA



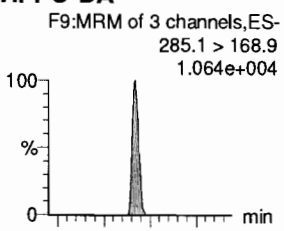


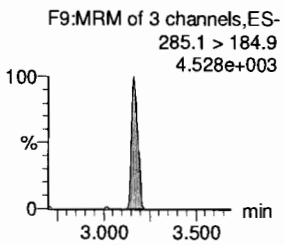
PFPeS



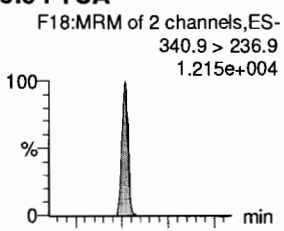


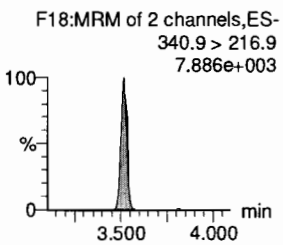
HFPO-DA





5:3 FTCA





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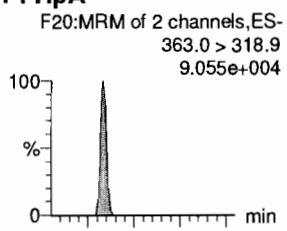
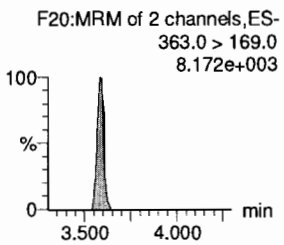
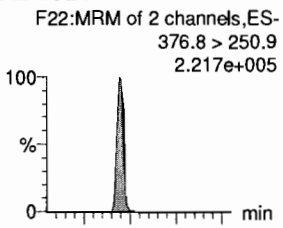
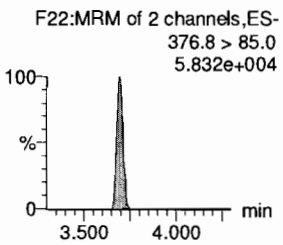




ADONA





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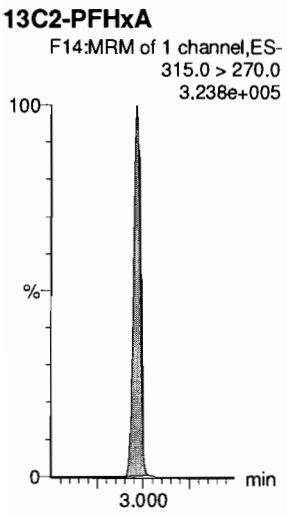
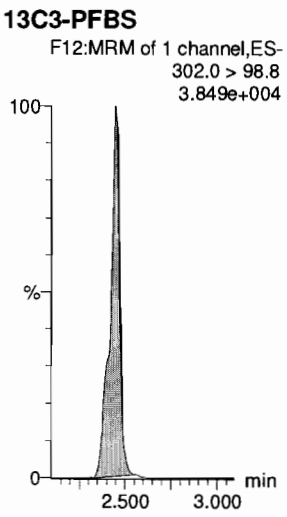
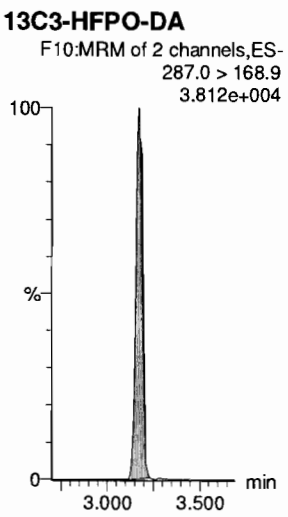


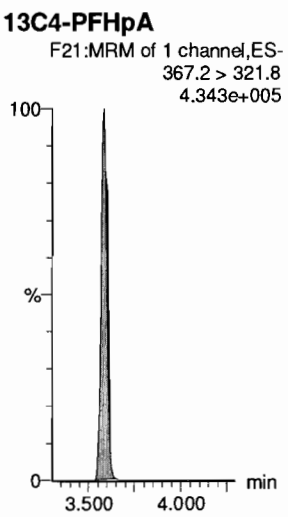
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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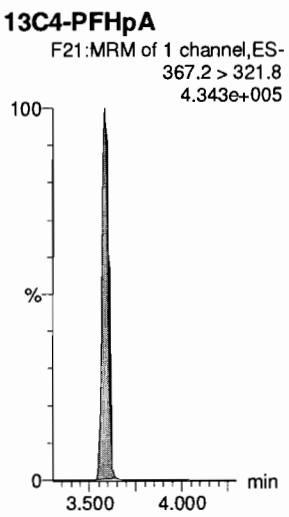

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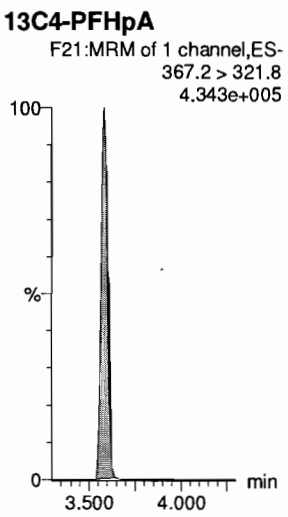

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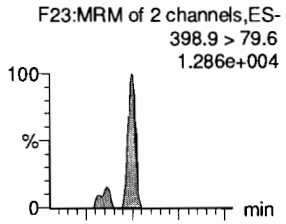
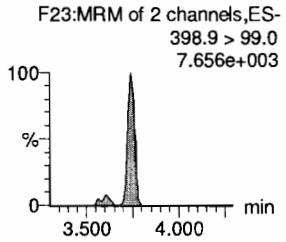
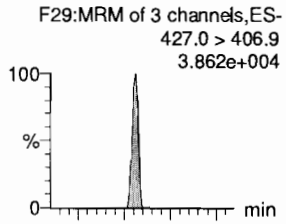
Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

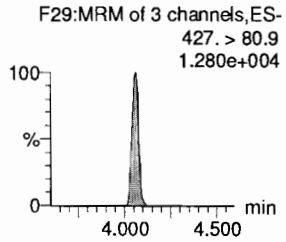
L-PFHxS



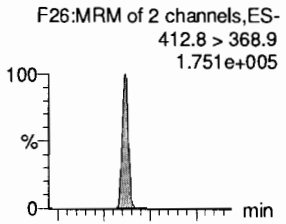


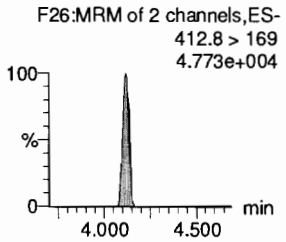
6:2 FTS





L-PFOA





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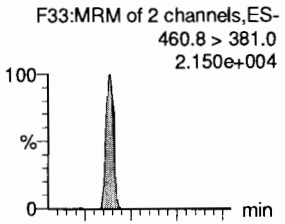
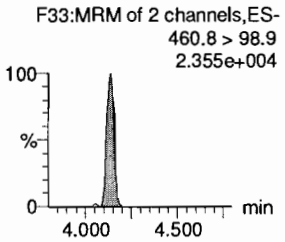
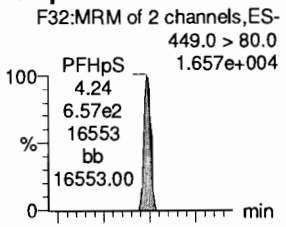
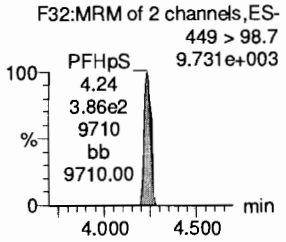


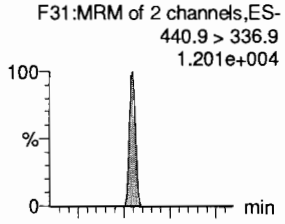


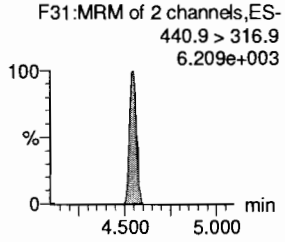
PFHpS



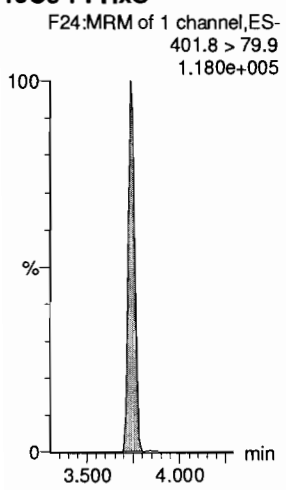


7:3 FTCA

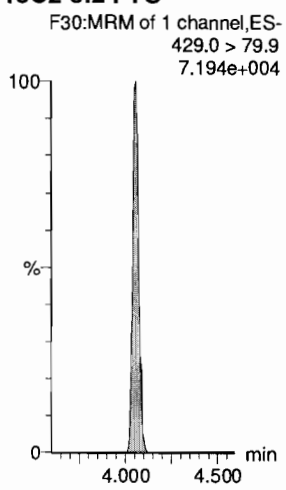




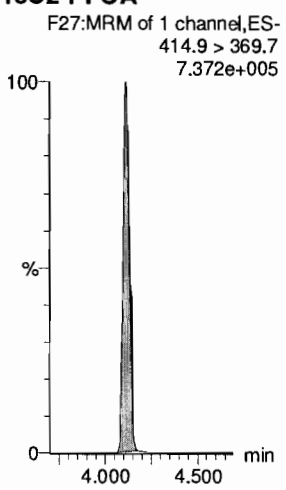
13C3-PFHxS



13C2-6:2 FTS



13C2-PFOA



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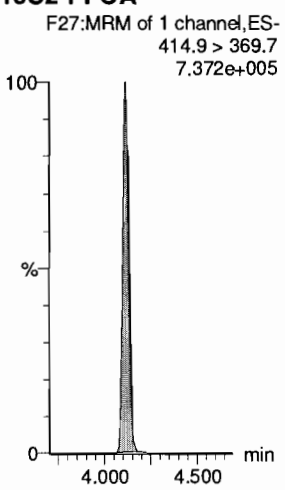
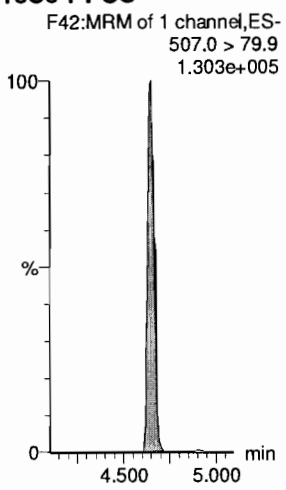


13C8-PFOS



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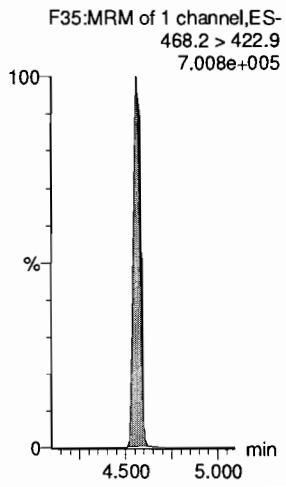

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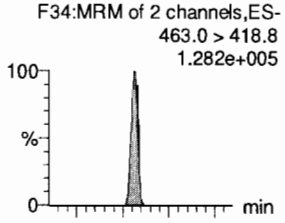
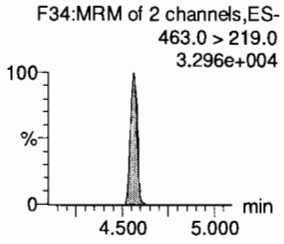
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

PFNA





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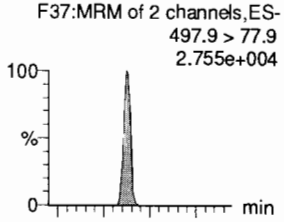
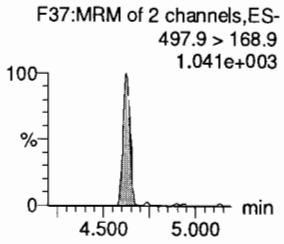
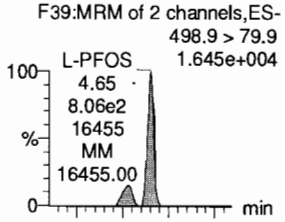
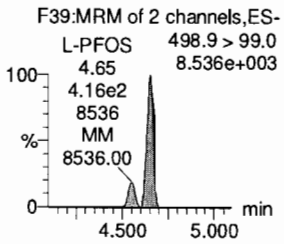


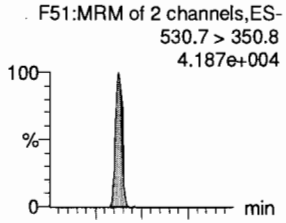


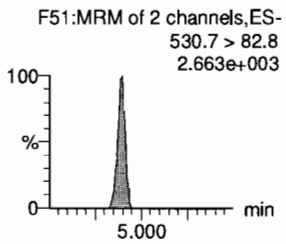
L-PFOS



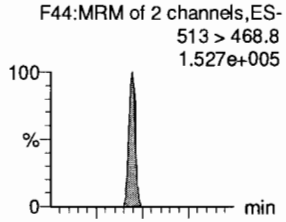


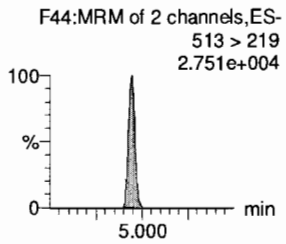
9Cl-PF30NS



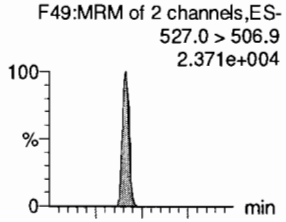


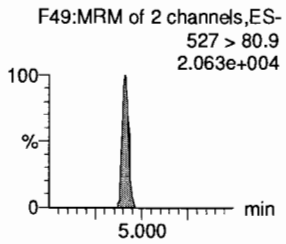
PFDA



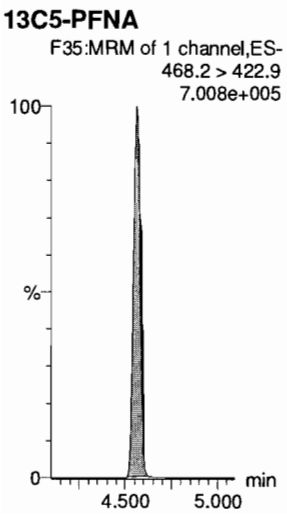


8:2 FTS

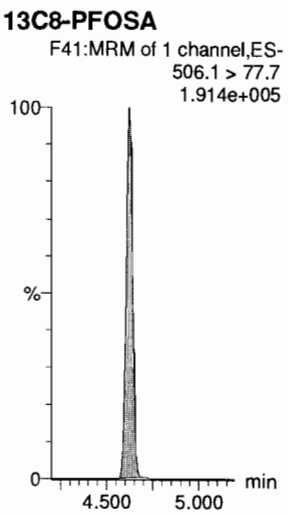




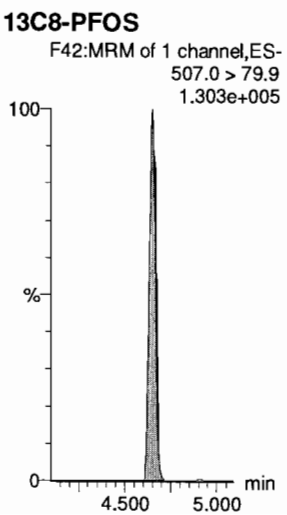
13C5-PFNA



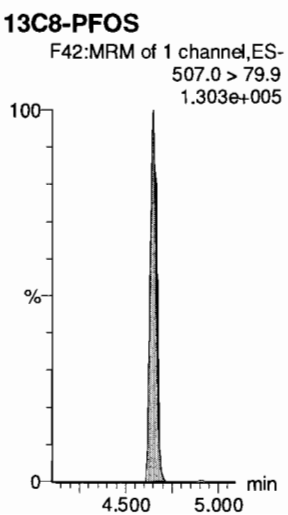
13C8-PFOSA



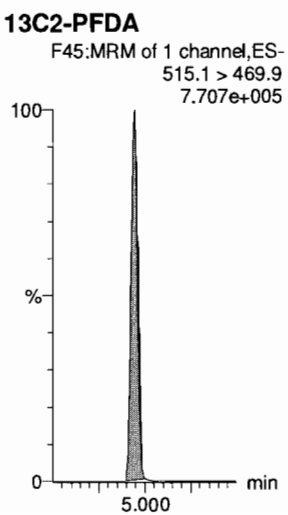
13C8-PFOS



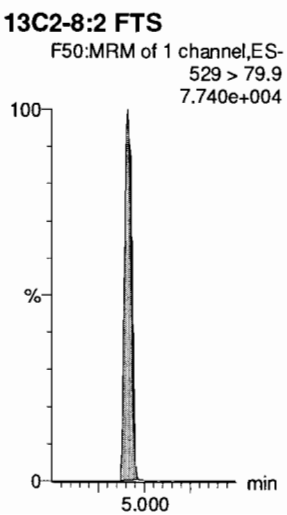
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

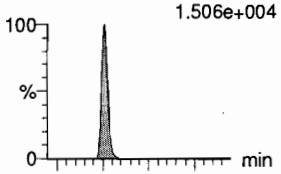


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

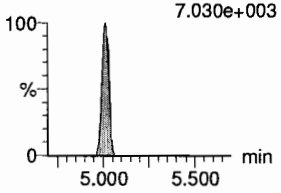
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

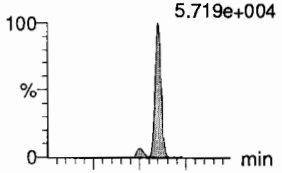
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
1.506e+004



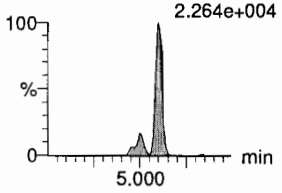
F53:MRM of 2 channels,ES-
549.1 > 99.1
7.030e+003



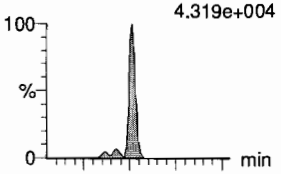
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
5.719e+004



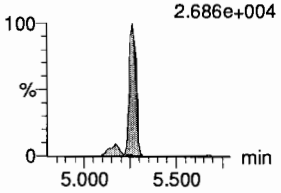
F56:MRM of 2 channels,ES-
570. > 512
2.264e+004



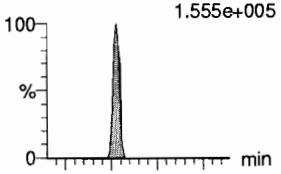
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
4.319e+004



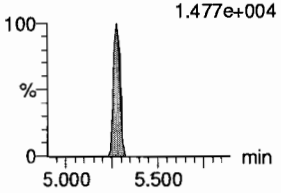
F59:MRM of 2 channels,ES-
584.1 > 526
2.686e+004



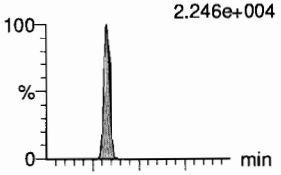
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.555e+005



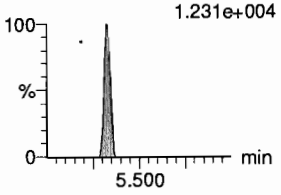
F54:MRM of 2 channels,ES-
563.0 > 269
1.477e+004



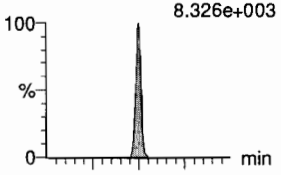
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
2.246e+004



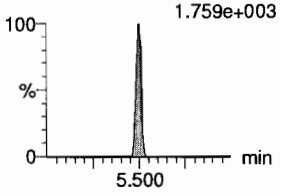
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.231e+004



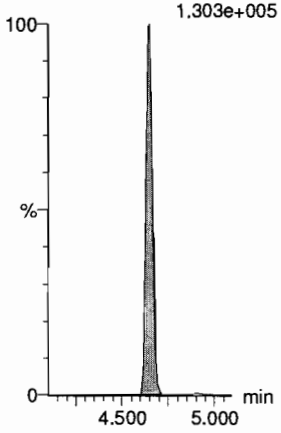
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
8.326e+003



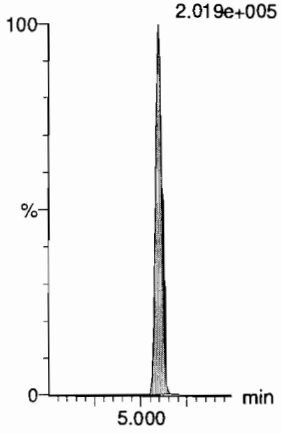
F68:MRM of 2 channels,ES-
632.6 > 450.7
1.759e+003



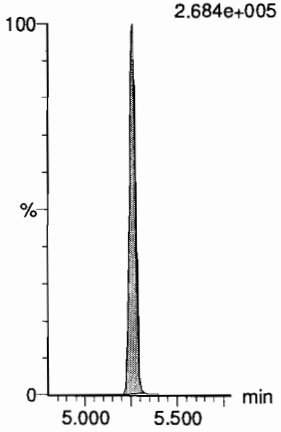
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.303e+005



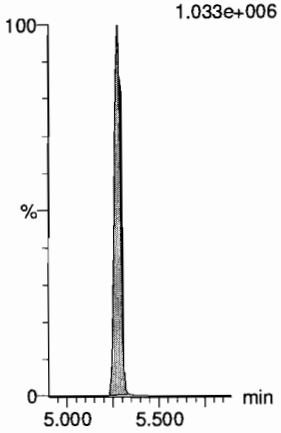
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
2.019e+005



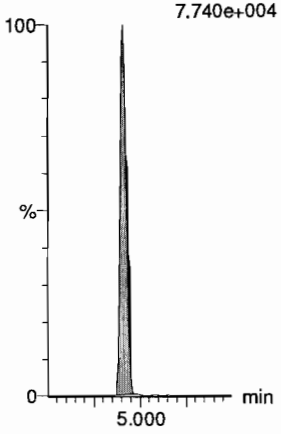
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
2.684e+005



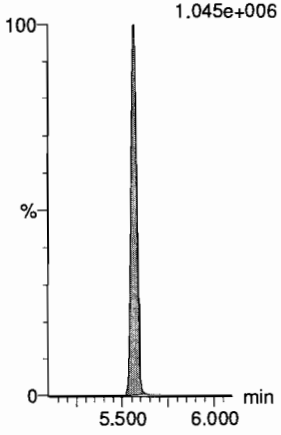
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
1.033e+006



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.740e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.045e+006

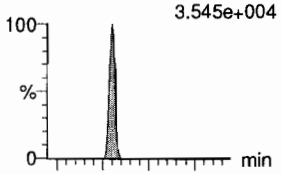


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

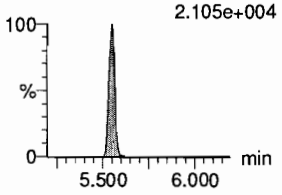
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

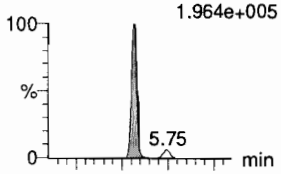
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
3.545e+004



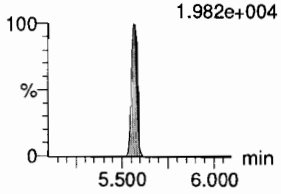
F66:MRM of 2 channels,ES-
627.0 > 80.9
2.105e+004



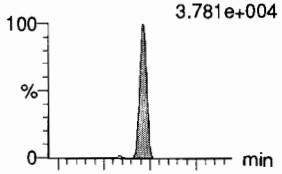
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
1.964e+005



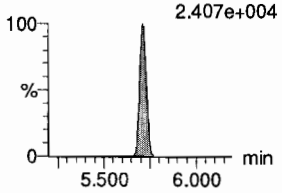
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.982e+004



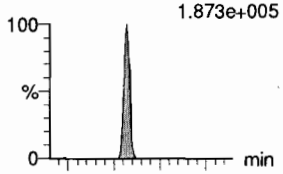
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
3.781e+004



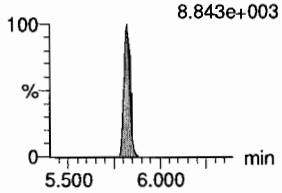
F43:MRM of 2 channels,ES-
512.1 > 219
2.407e+004



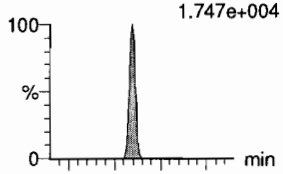
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.873e+005



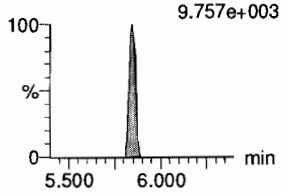
F70:MRM of 2 channels,ES-
662.9 > 319
8.843e+003



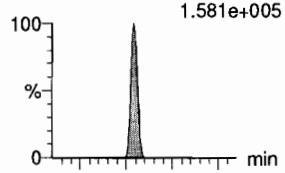
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
1.747e+004



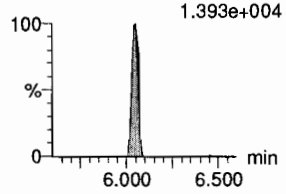
F71:MRM of 2 channels,ES-
698.8 > 98.9
9.757e+003



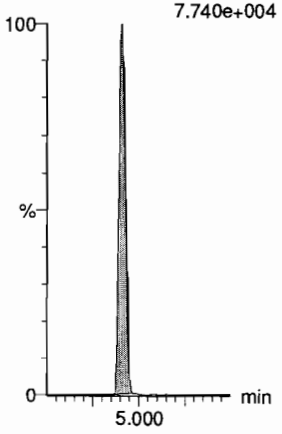
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
1.581e+005



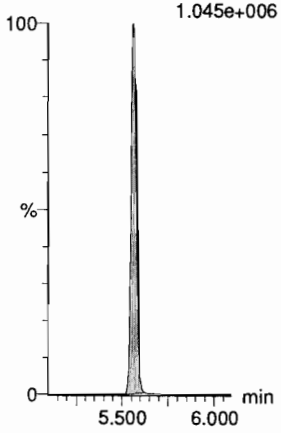
F72:MRM of 2 channels,ES-
713. > 369.0
1.393e+004



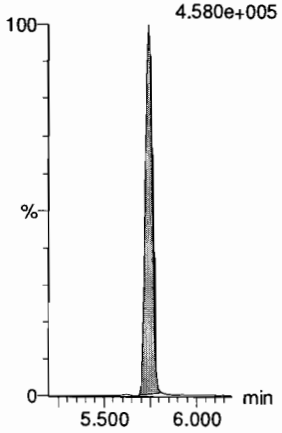
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.740e+004



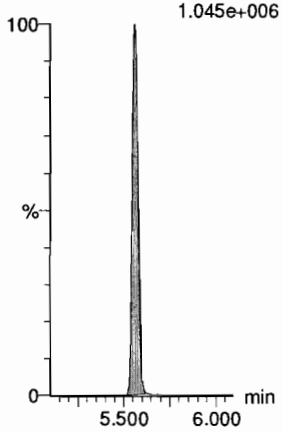
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.045e+006



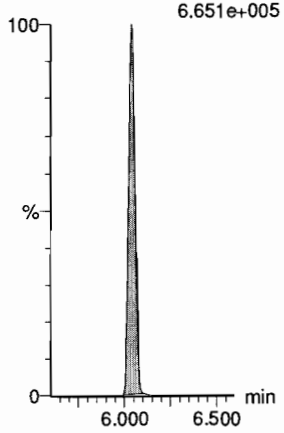
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.580e+005



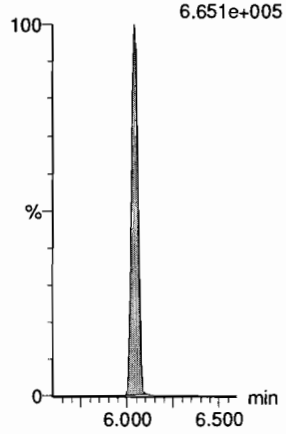
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.045e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.651e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.651e+005

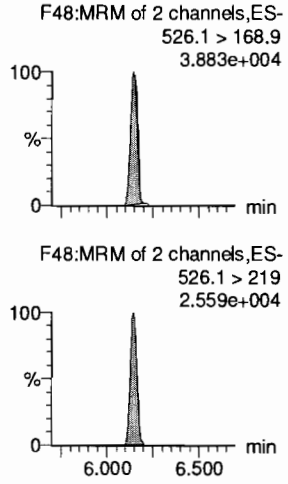


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

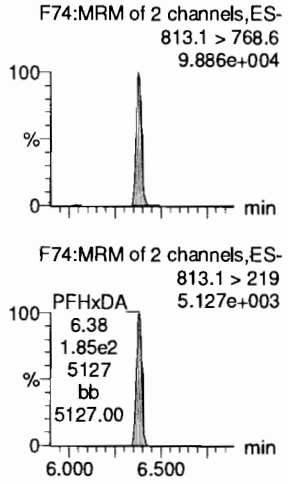
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

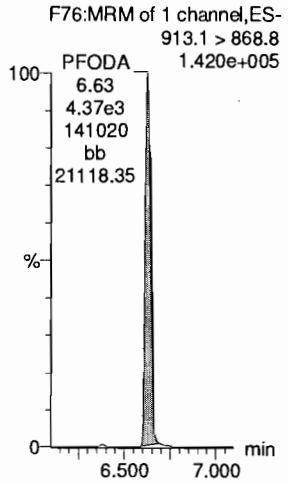
N-EtFOSA



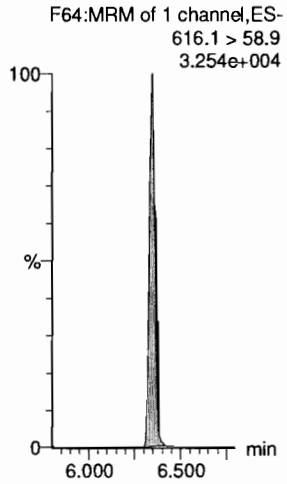
PFHxDA



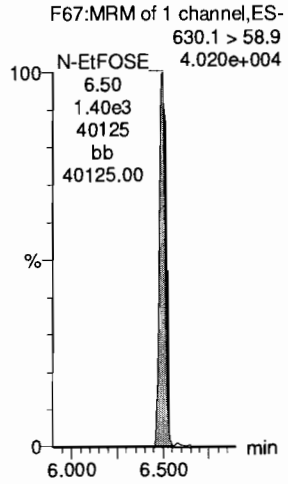
PFODA



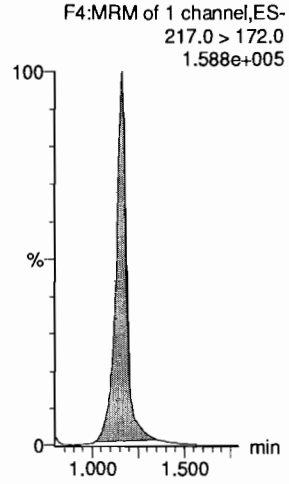
N-MeFOSE



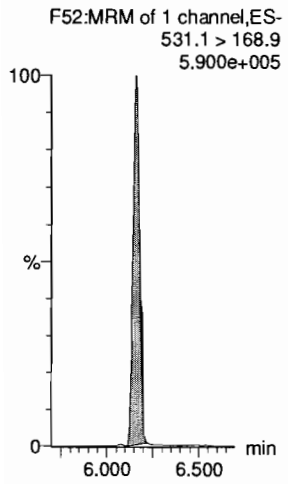
N-EtFOSE



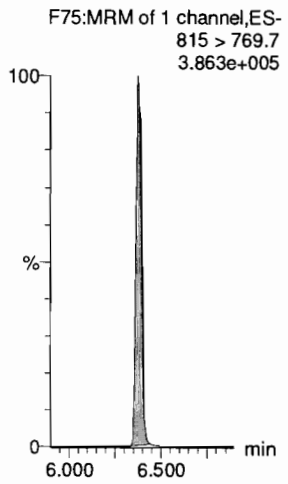
13C4-PFBA



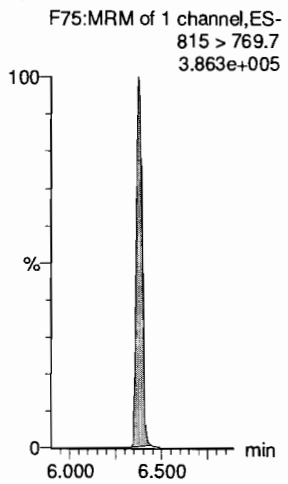
d5-N-ETFOSA



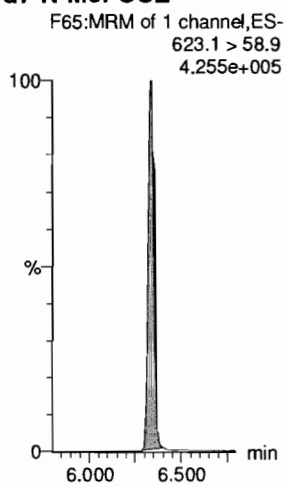
13C2-PFHxDA



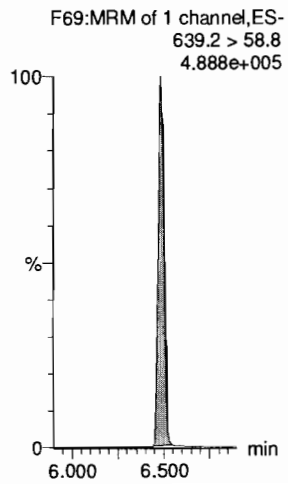
13C2-PFHxDA



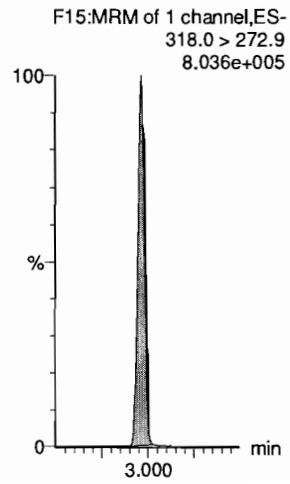
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

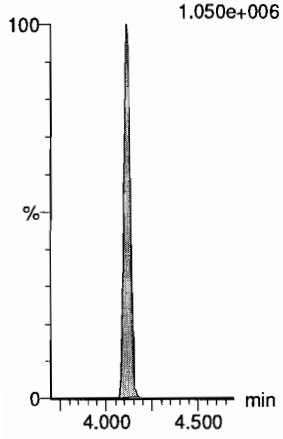


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

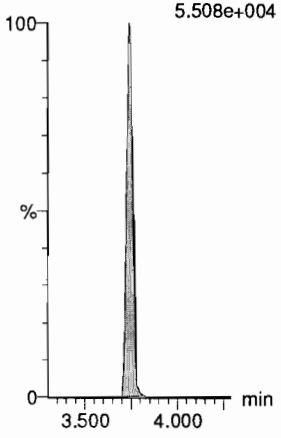
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_7, Date: 22-Jul-2019, Time: 10:58:26, ID: ST190722M1-4 PFC CS1 19G1104, Description: PFC CS1 19G1104

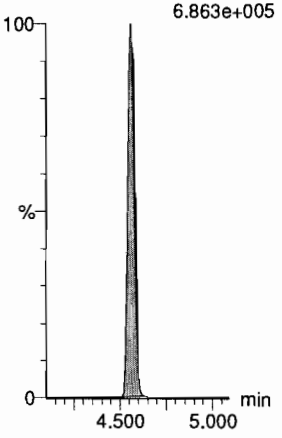
13C8-PFOA
F28:MRM of 1 channel,ES-
420.9 > 376.0
1.050e+006



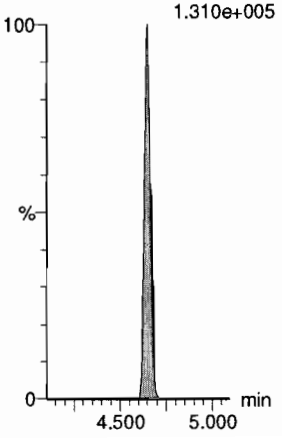
18O2-PFHxS
F25:MRM of 1 channel,ES-
403.0 > 102.6
5.508e+004



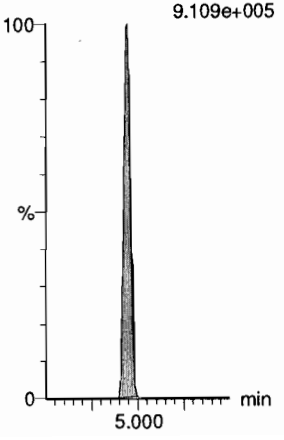
13C9-PFNA
F36:MRM of 1 channel,ES-
472.2 > 426.9
6.863e+005



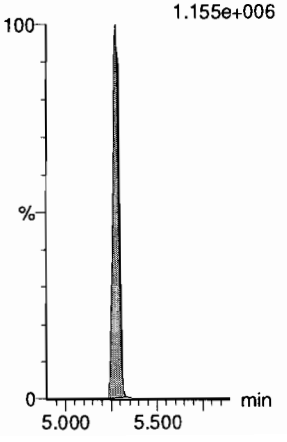
13C4-PFOS
F40:MRM of 1 channel,ES-
503 > 79.9
1.310e+005



13C6-PFDA
F47:MRM of 1 channel,ES-
519.1 > 473.7
9.109e+005



13C7-PFUdA
F57:MRM of 1 channel,ES-
570.1 > 524.8
1.155e+006

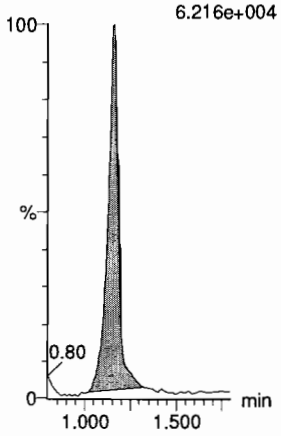


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

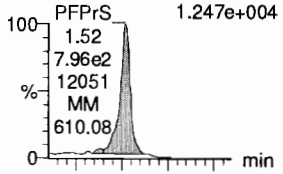
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

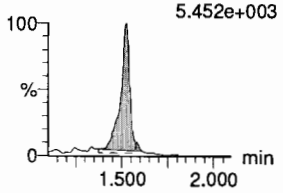
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
6.216e+004



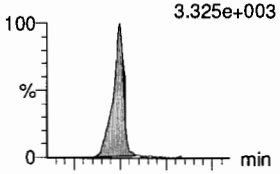
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
1.247e+004



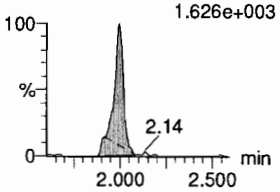
F6:MRM of 2 channels,ES-
248.9 > 98.9
5.452e+003



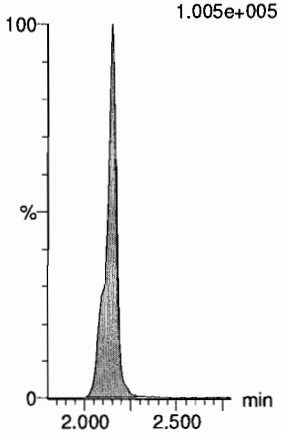
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
3.325e+003



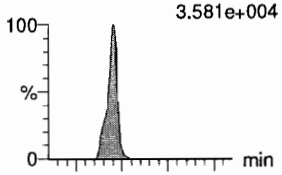
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.626e+003



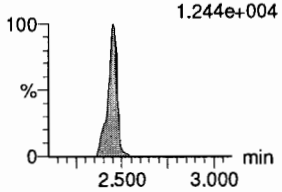
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.005e+005



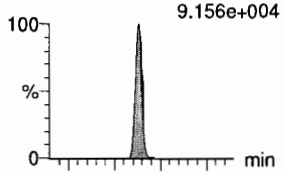
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
3.581e+004



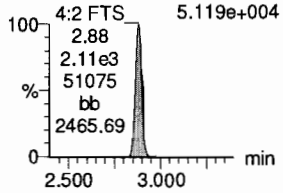
F11:MRM of 2 channels,ES-
299.0 > 99.0
1.244e+004



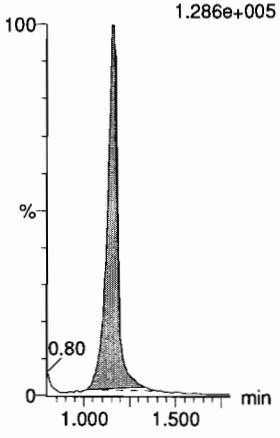
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
9.156e+004



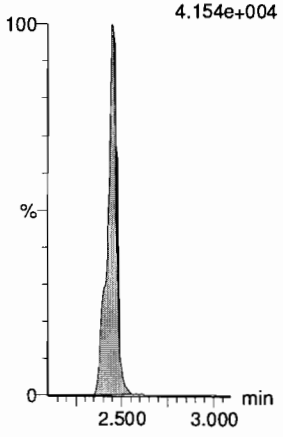
F16:MRM of 2 channels,ES-
327.0 > 80.9
5.119e+004



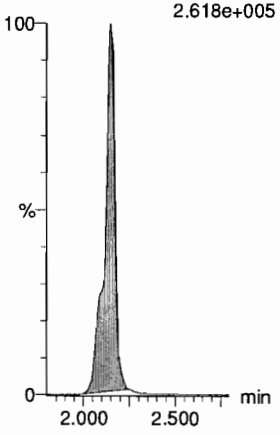
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.286e+005



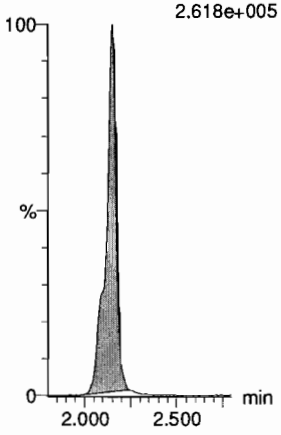
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.154e+004



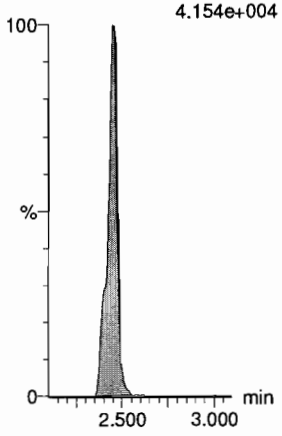
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.618e+005



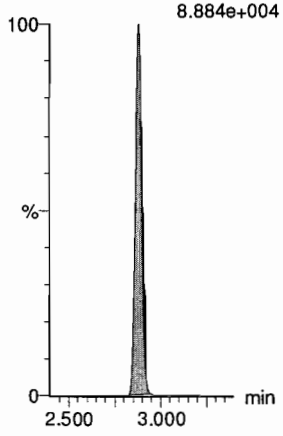
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.618e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.154e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
8.884e+004

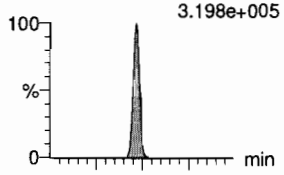


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

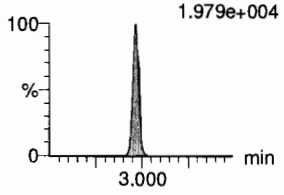
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

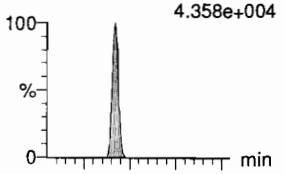
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
3.198e+005



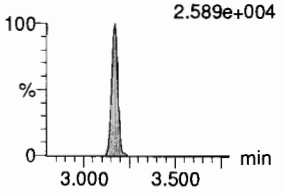
F13:MRM of 2 channels,ES-
313 > 118.9
1.979e+004



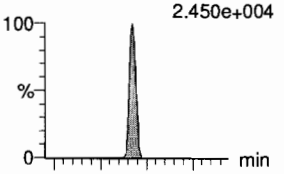
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
4.358e+004



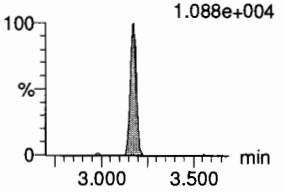
F19:MRM of 2 channels,ES-
349.1 > 99
2.589e+004



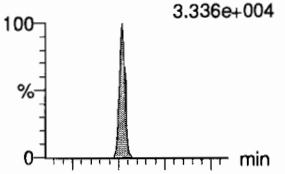
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
2.450e+004



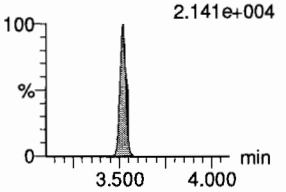
F9:MRM of 3 channels,ES-
285.1 > 184.9
1.088e+004



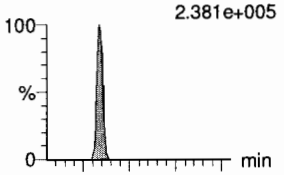
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
3.336e+004



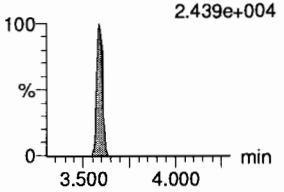
F18:MRM of 2 channels,ES-
340.9 > 216.9
2.141e+004



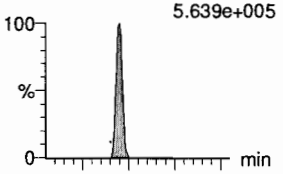
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
2.381e+005



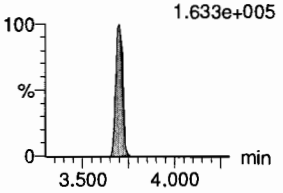
F20:MRM of 2 channels,ES-
363.0 > 169.0
2.439e+004



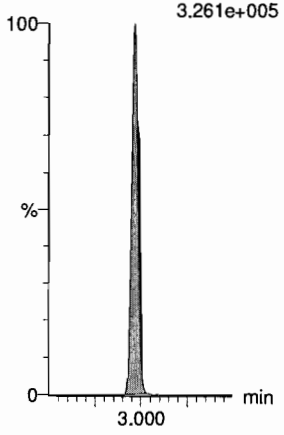
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
5.639e+005



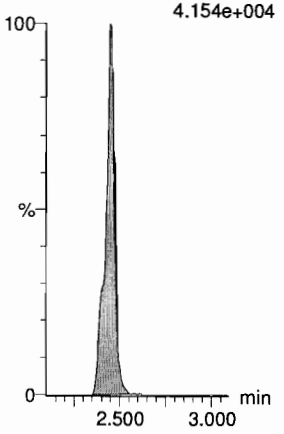
F22:MRM of 2 channels,ES-
376.8 > 85.0
1.633e+005



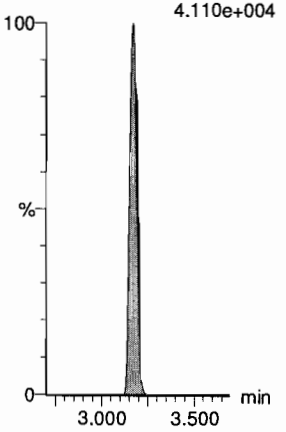
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.261e+005



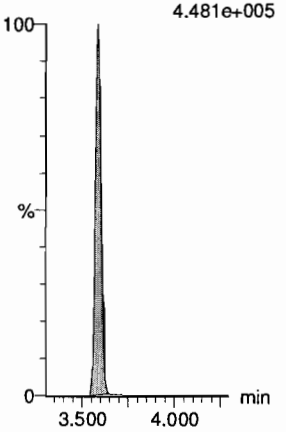
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
4.154e+004



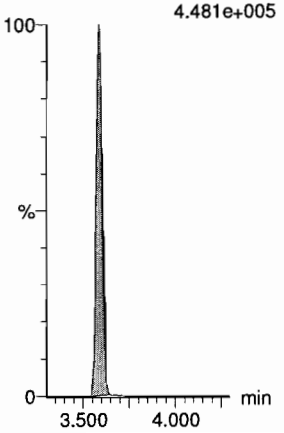
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.110e+004



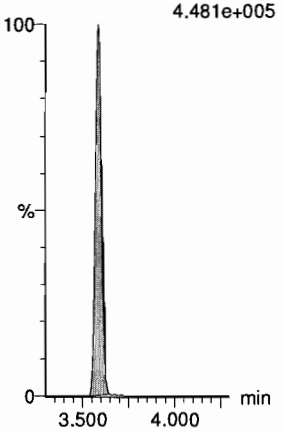
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.481e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.481e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.481e+005

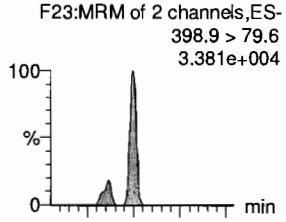


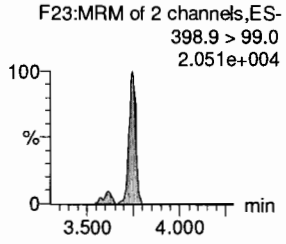
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

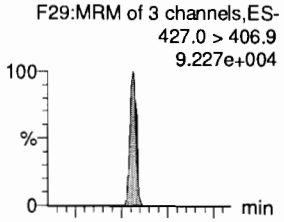
Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

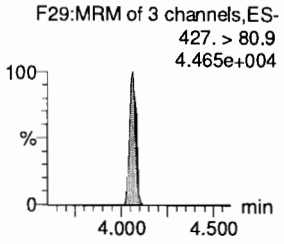
L-PFHxS



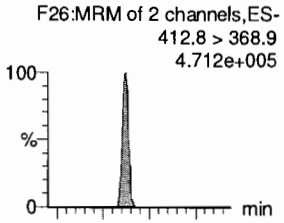


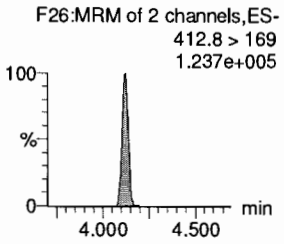
6:2 FTS



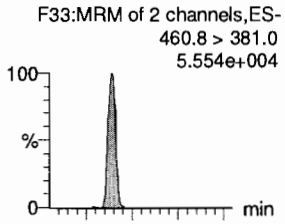


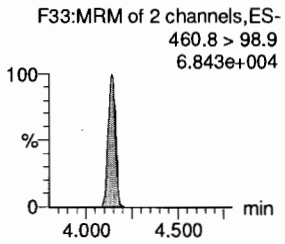
L-PFOA



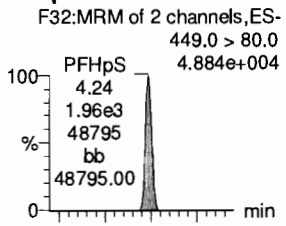


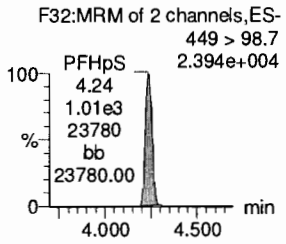
PFEChS



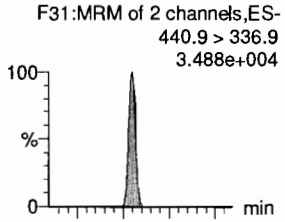


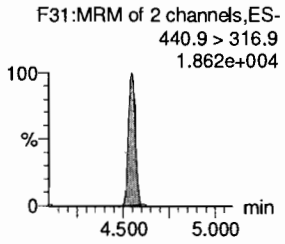
PFHpS



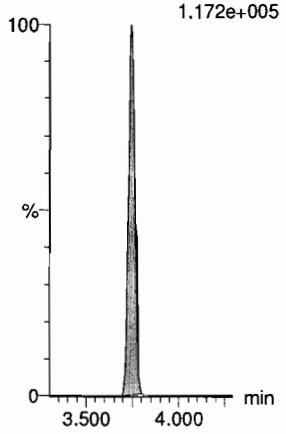


7:3 FTCA

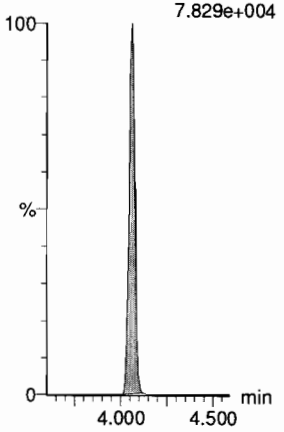




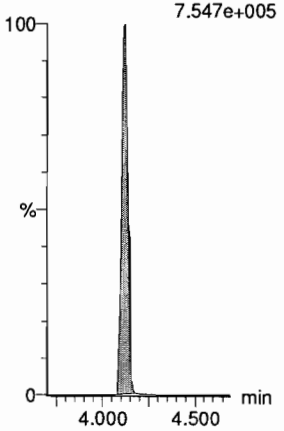
13C3-PFHxS



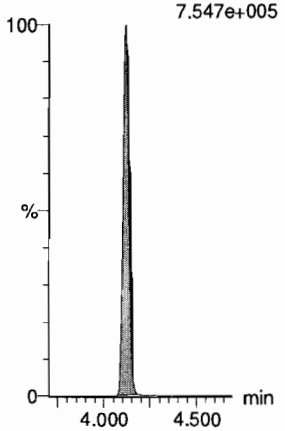
13C2-6:2 FTS



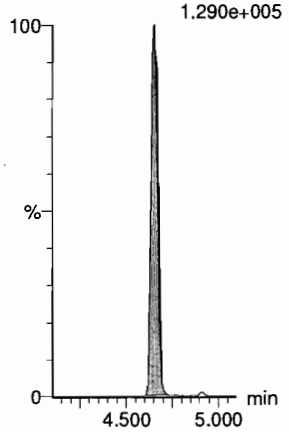
13C2-PFOA



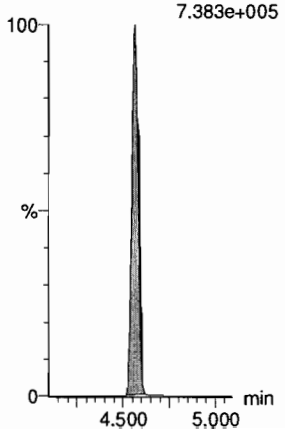
13C2-PFOA



13C8-PFOS



13C5-PFNA

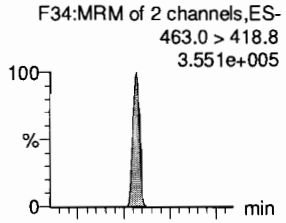


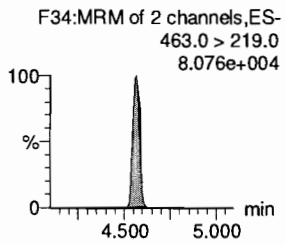
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

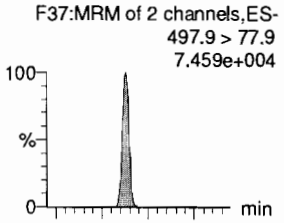
Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

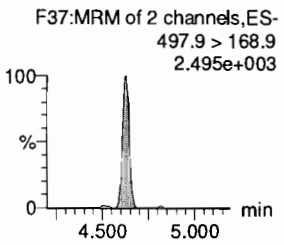
PFNA



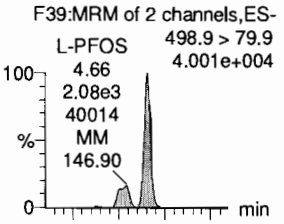


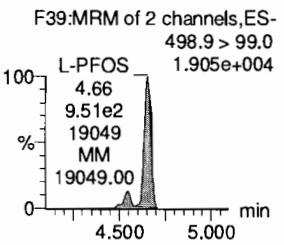
PFOSA



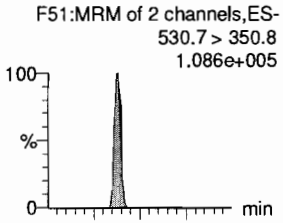


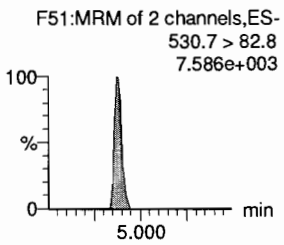
L-PFOS



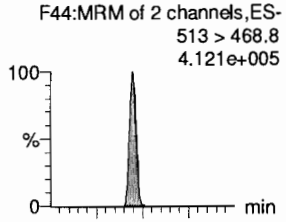


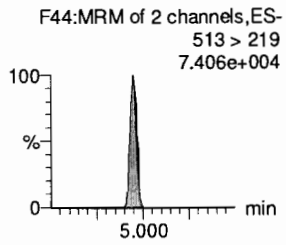
9Cl-PF30NS



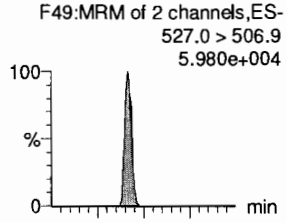


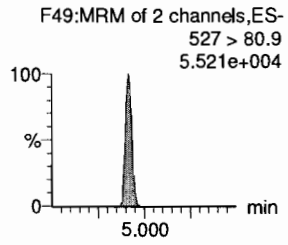
PFDA



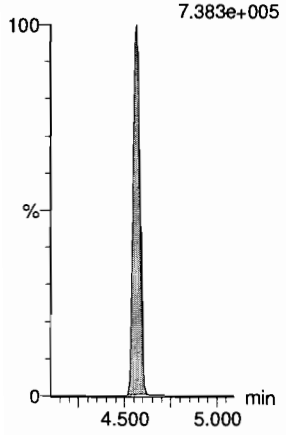


8:2 FTS

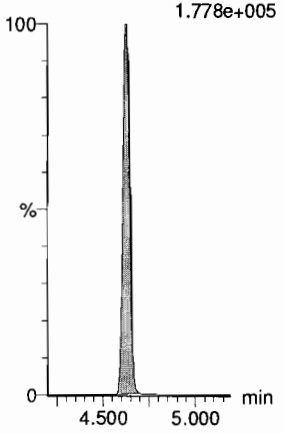




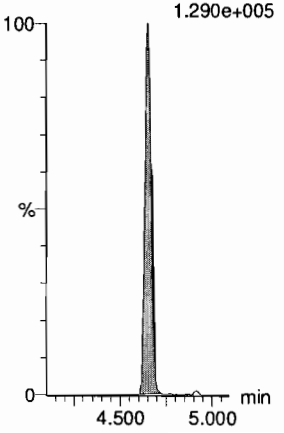
13C5-PFNA



13C8-PFOSA



13C8-PFOS



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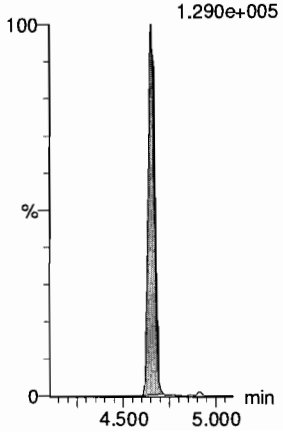
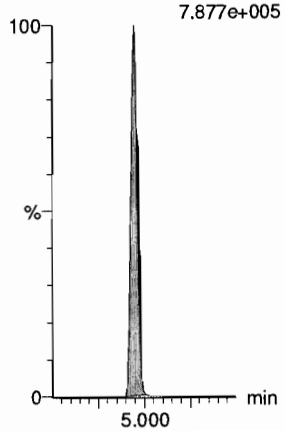
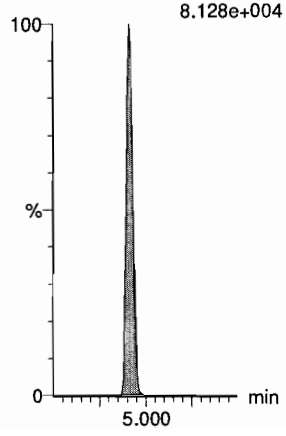


13C2-PFDA



13C2-8:2 FTS

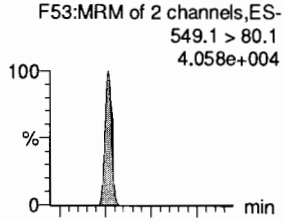


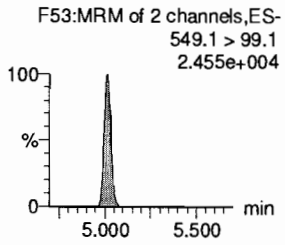
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

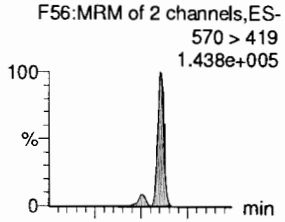
Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

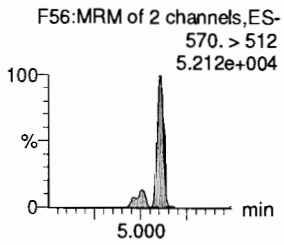
PFNS



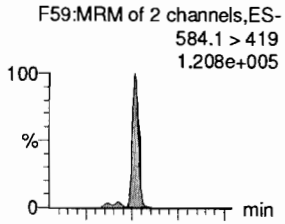


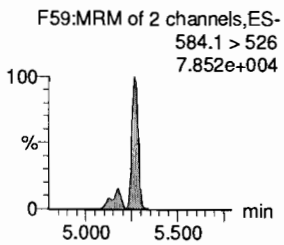
L-MeFOSAA



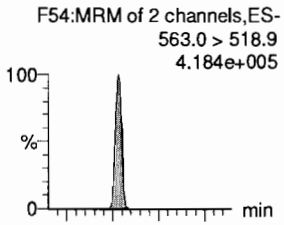


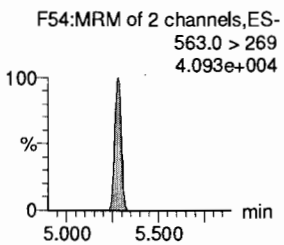
L-EtFOSAA



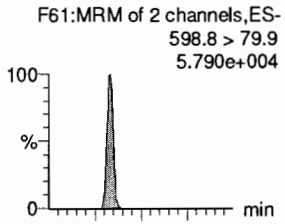


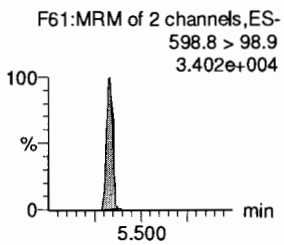
PFUdA



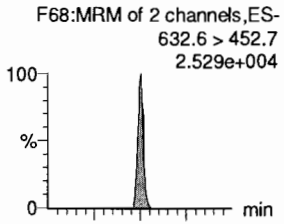


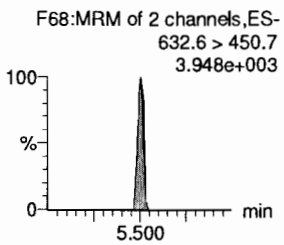
PFDS



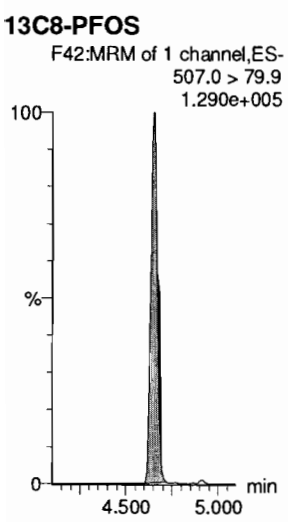


11Cl-PF30UdS

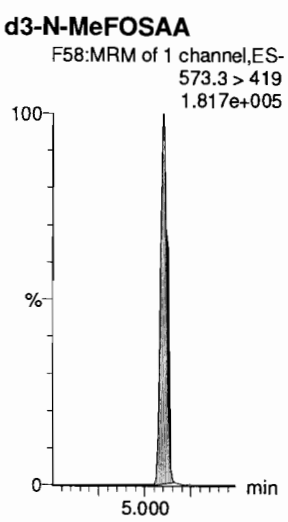




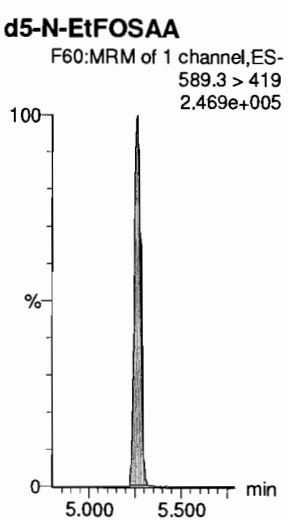
13C8-PFOS



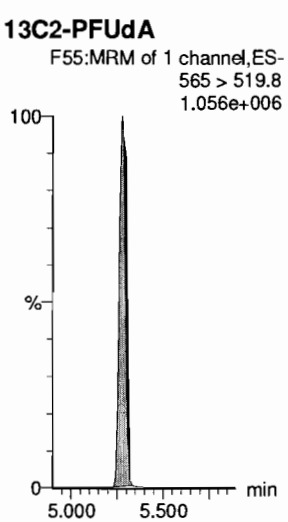
d3-N-MeFOSAA



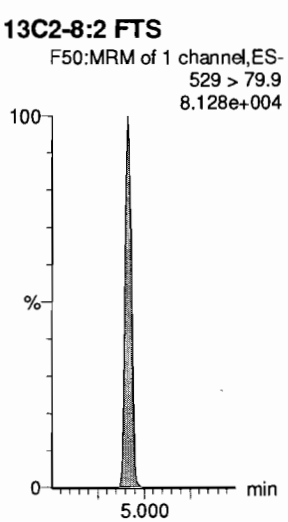
d5-N-EtFOSAA



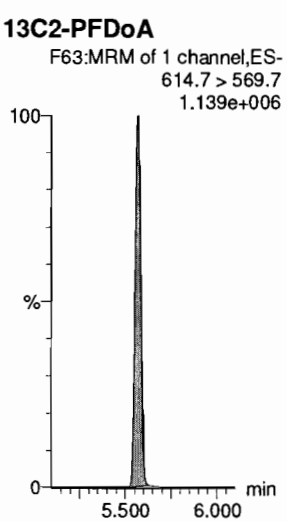
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

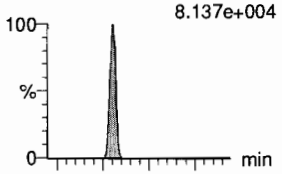


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

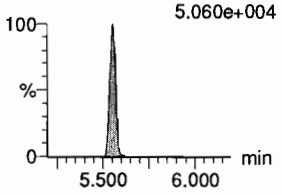
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

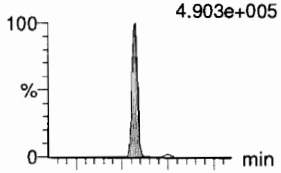
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
8.137e+004



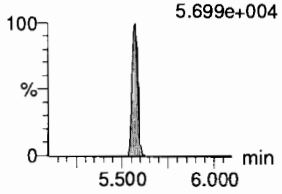
F66:MRM of 2 channels,ES-
627.0 > 80.9
5.060e+004



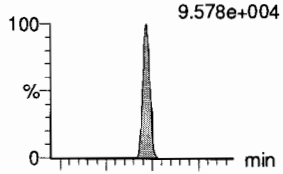
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
4.903e+005



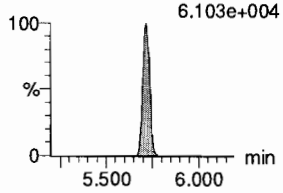
F62:MRM of 4 channels,ES-
612.9 > 318.8
5.699e+004



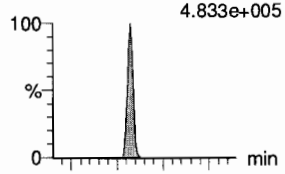
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
9.578e+004



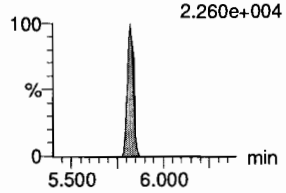
F43:MRM of 2 channels,ES-
512.1 > 219
6.103e+004



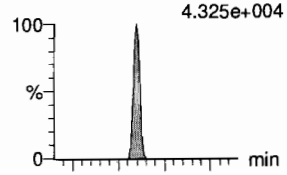
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
4.833e+005



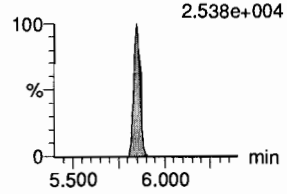
F70:MRM of 2 channels,ES-
662.9 > 319
2.260e+004



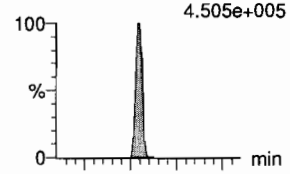
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
4.325e+004



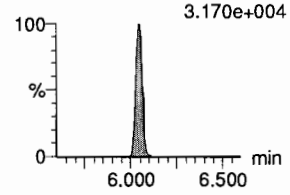
F71:MRM of 2 channels,ES-
698.8 > 98.9
2.538e+004



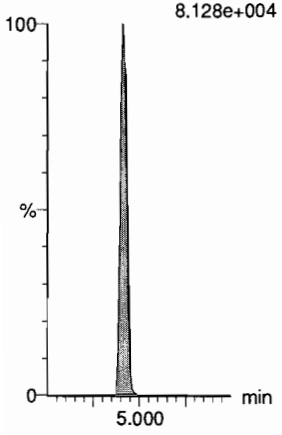
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
4.505e+005



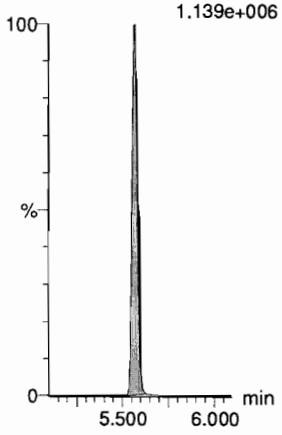
F72:MRM of 2 channels,ES-
713. > 369.0
3.170e+004



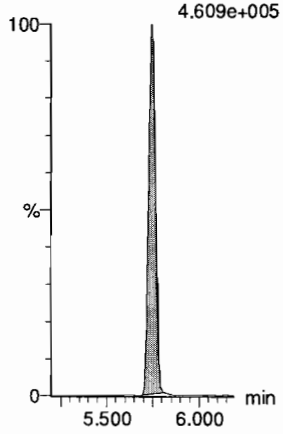
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
8.128e+004



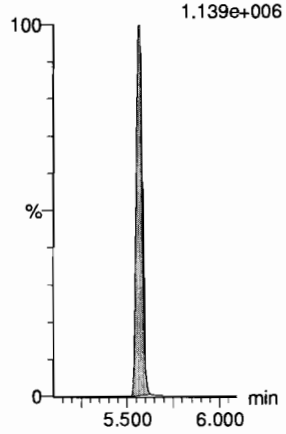
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.139e+006



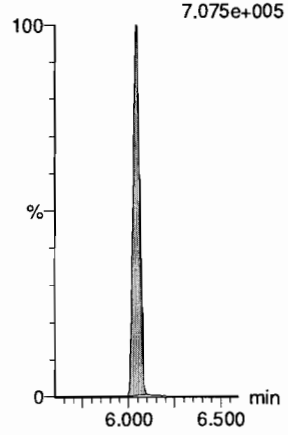
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.609e+005



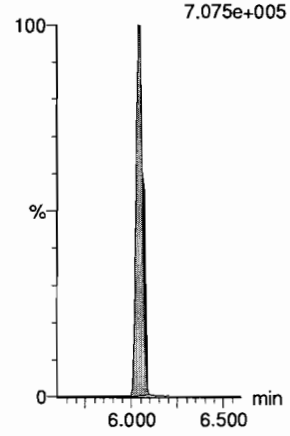
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.139e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.075e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
7.075e+005

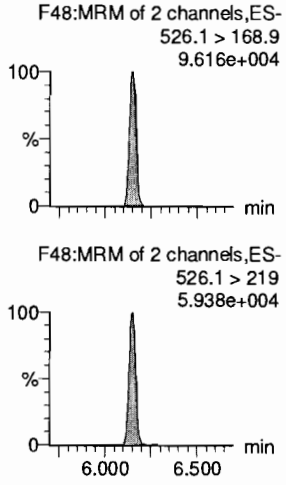


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

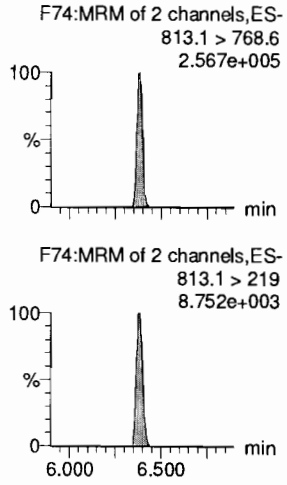
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

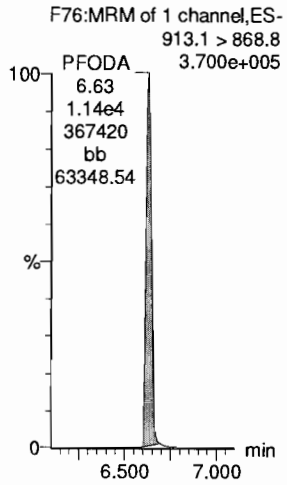
N-EtFOSA



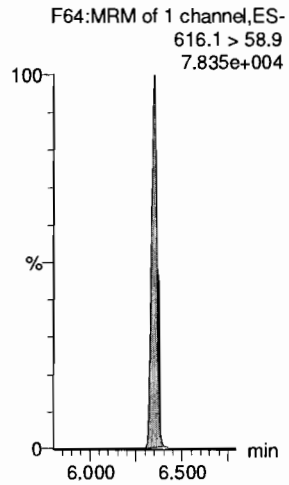
PFHxDA



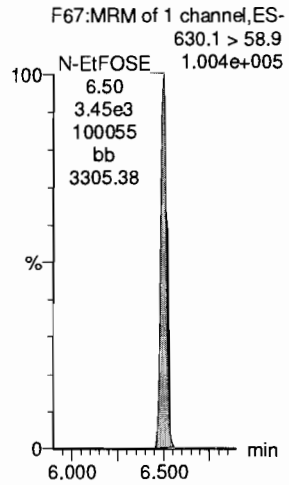
PFODA



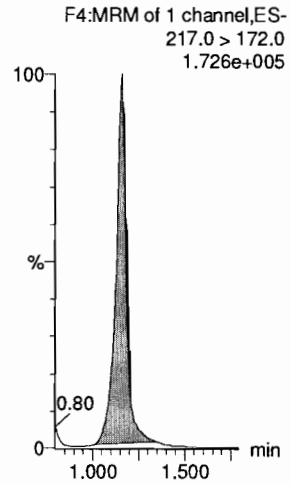
N-MeFOSE



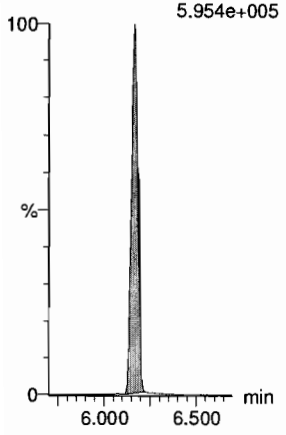
N-EtFOSE



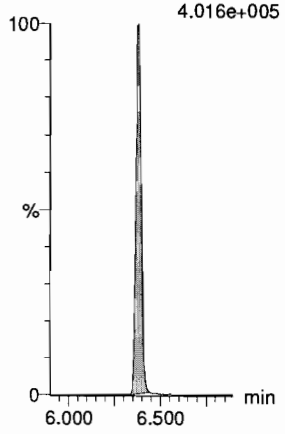
13C4-PFBA



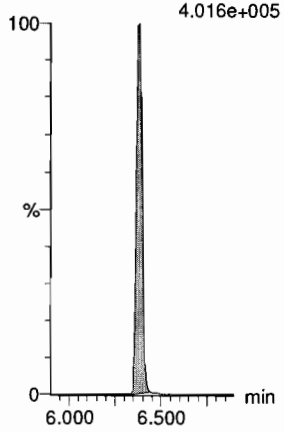
d5-N-ETFOSA



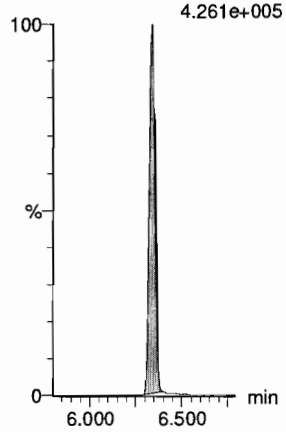
13C2-PFHxDA



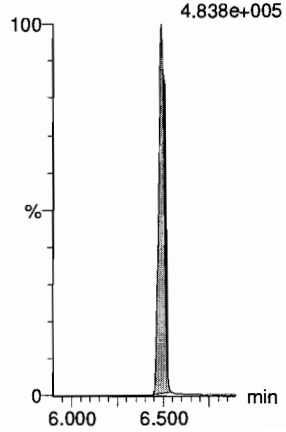
13C2-PFHxDA



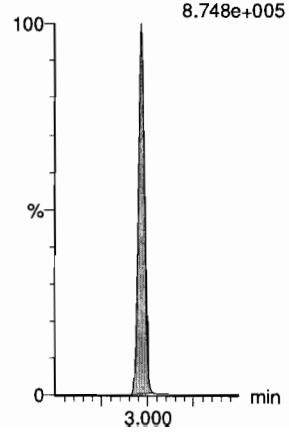
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

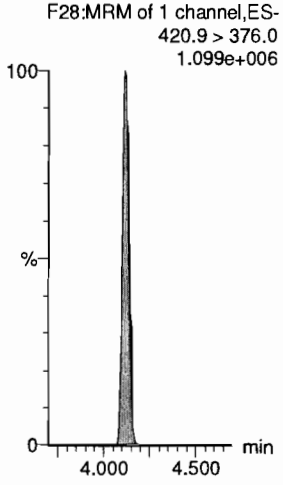


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

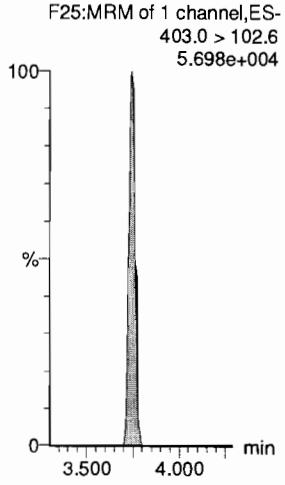
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_8, Date: 22-Jul-2019, Time: 11:09:04, ID: ST190722M1-5 PFC CS2 19G1105, Description: PFC CS2 19G1105

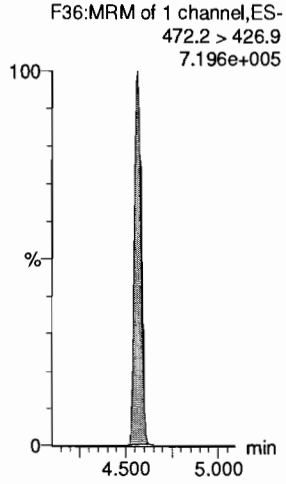
13C8-PFOA



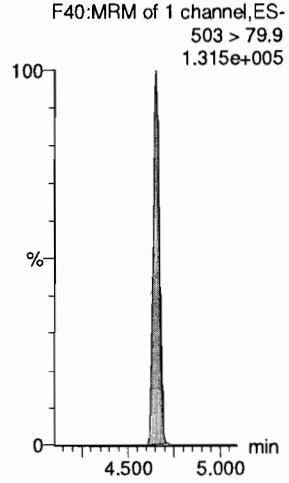
18O2-PFHxS



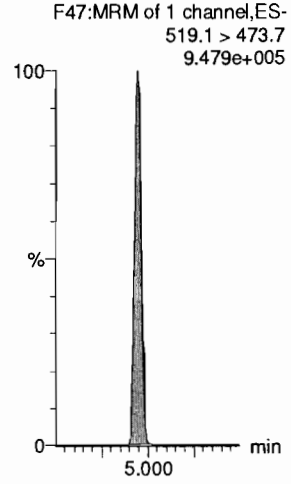
13C9-PFNA



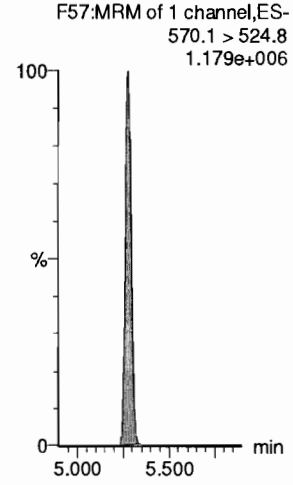
13C4-PFOS



13C6-PFDA



13C7-PFUdA

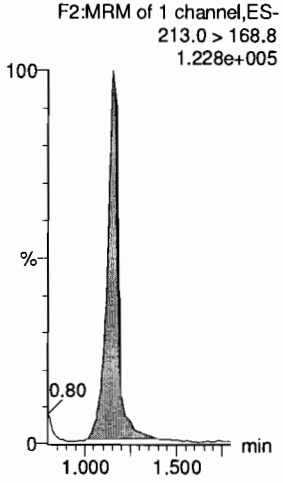


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

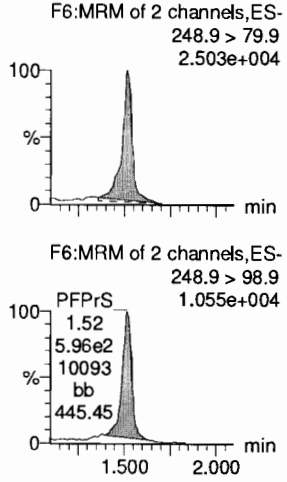
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

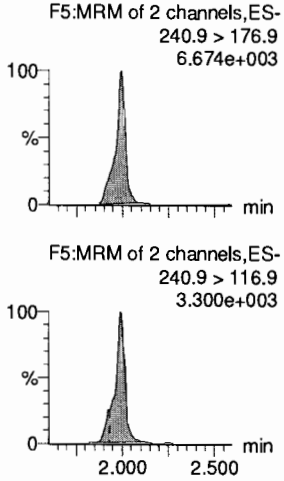
PFBA



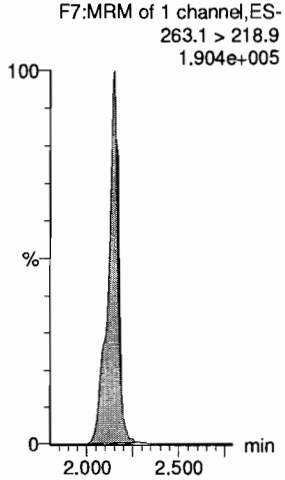
PFPrS



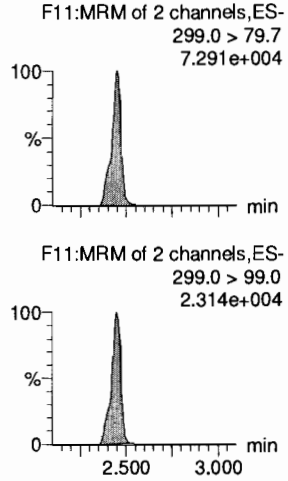
3:3 FTCA



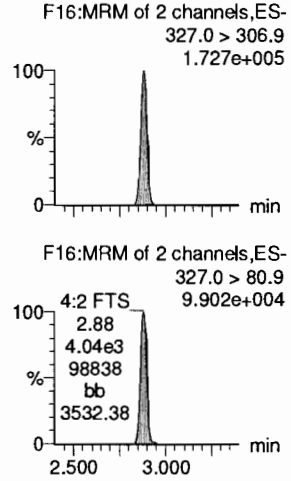
PFPeA



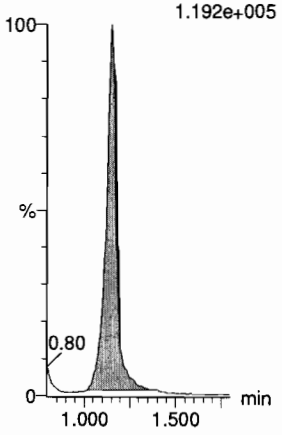
PFBS



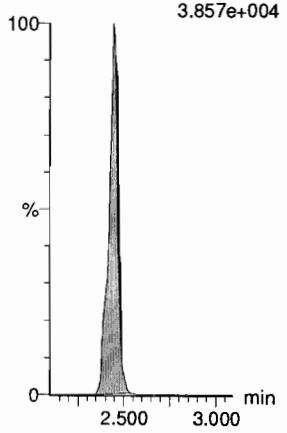
4:2 FTS



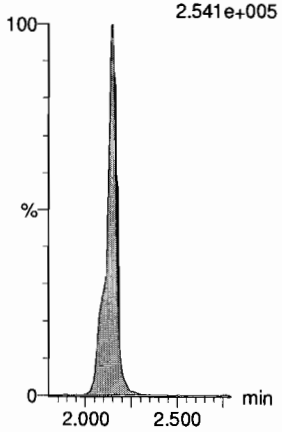
13C3-PFBA



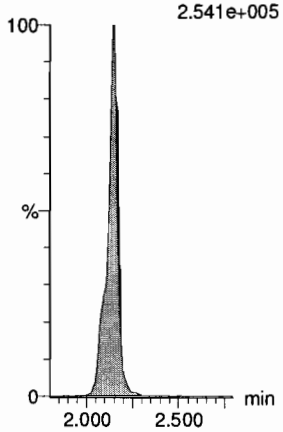
13C3-PFBS



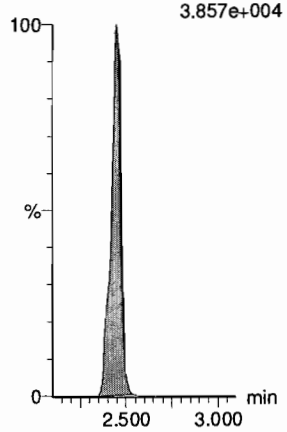
13C3-PFPeA



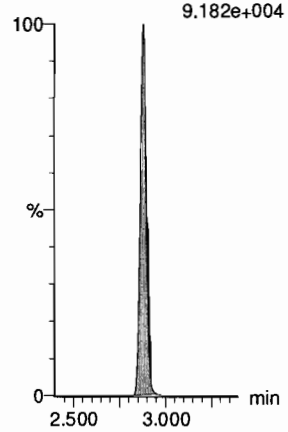
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

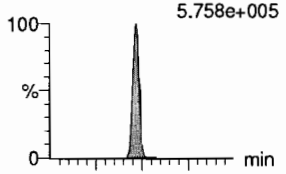


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

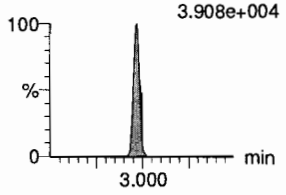
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

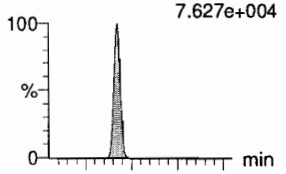
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
5.758e+005



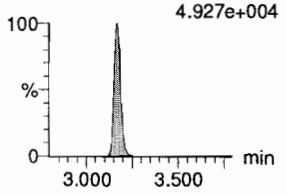
F13:MRM of 2 channels,ES-
313 > 118.9
3.908e+004



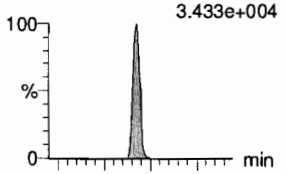
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
7.627e+004



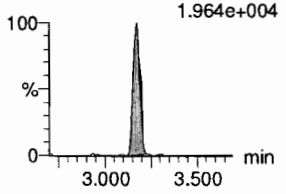
F19:MRM of 2 channels,ES-
349.1 > 99
4.927e+004



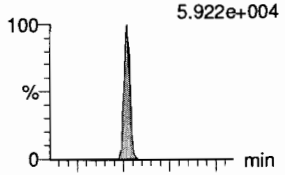
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
3.433e+004



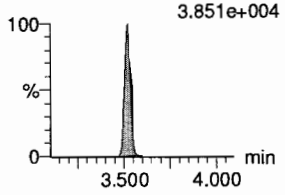
F9:MRM of 3 channels,ES-
285.1 > 184.9
1.964e+004



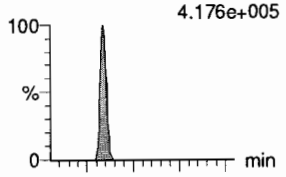
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
5.922e+004



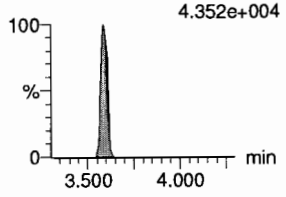
F18:MRM of 2 channels,ES-
340.9 > 216.9
3.851e+004



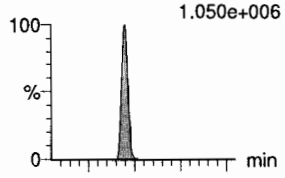
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
4.176e+005



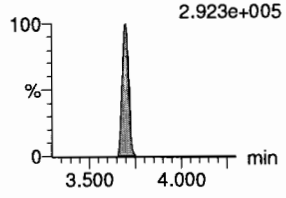
F20:MRM of 2 channels,ES-
363.0 > 169.0
4.352e+004



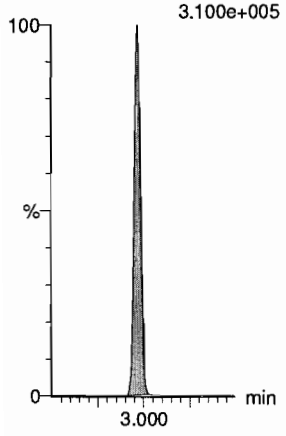
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
1.050e+006



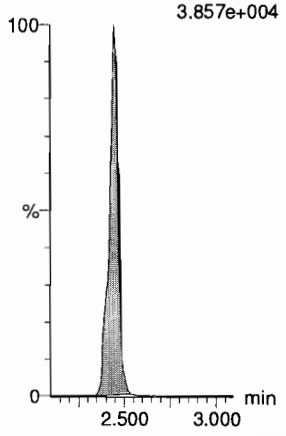
F22:MRM of 2 channels,ES-
376.8 > 85.0
2.923e+005



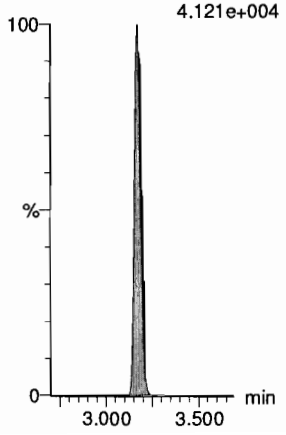
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.100e+005



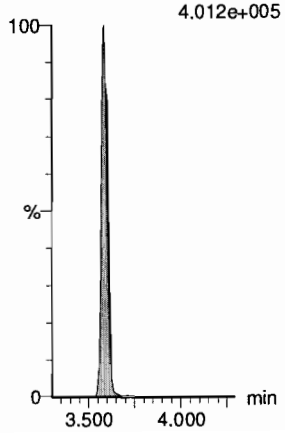
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.857e+004



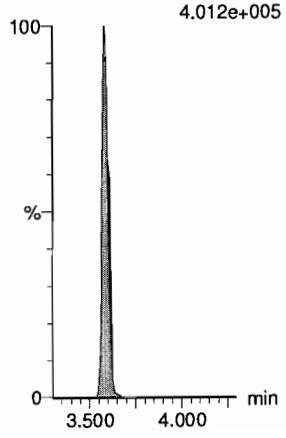
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.121e+004



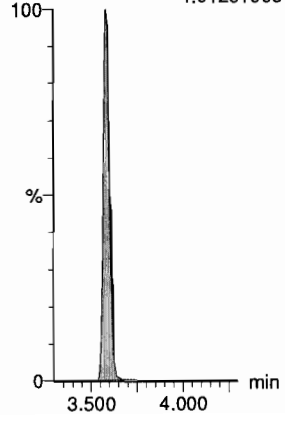
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.012e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.012e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.012e+005

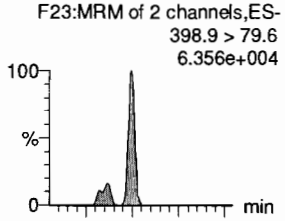


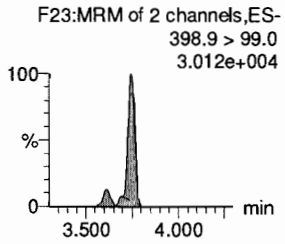
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

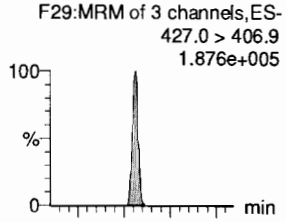
Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

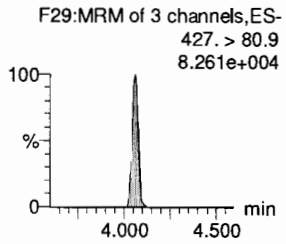
L-PFHxS



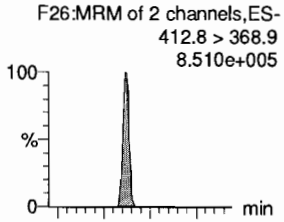


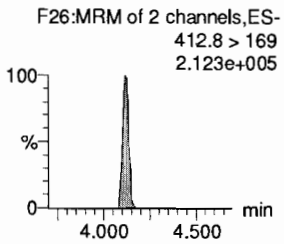
6:2 FTS



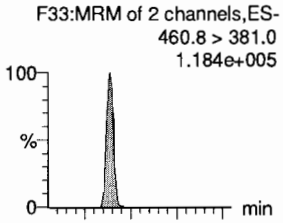


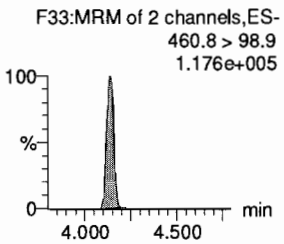
L-PFOA



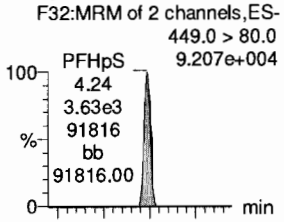


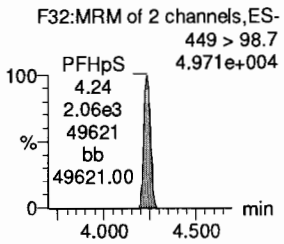
PFEChS



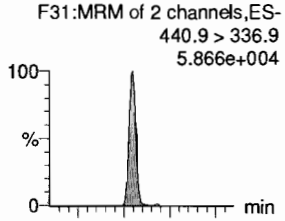


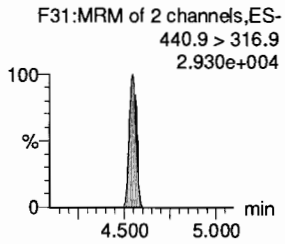
PFHpS



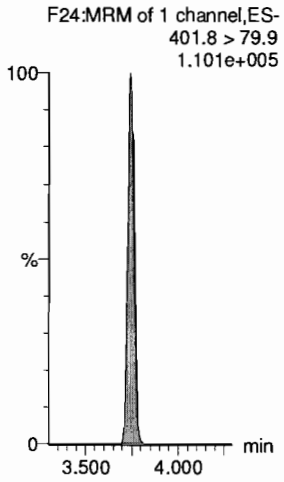


7:3 FTCA

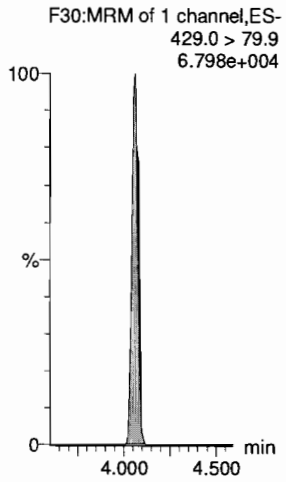




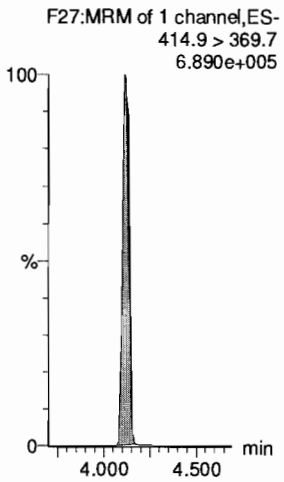
13C3-PFHxS



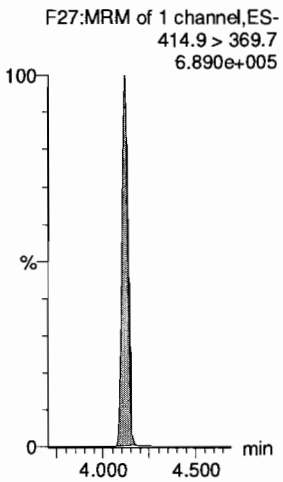
13C2-6:2 FTS



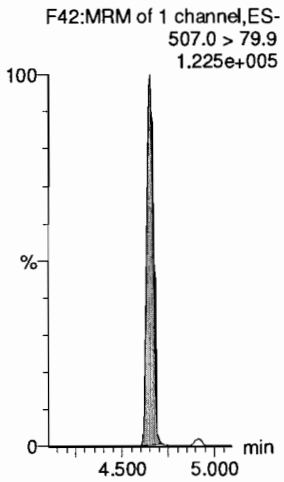
13C2-PFOA



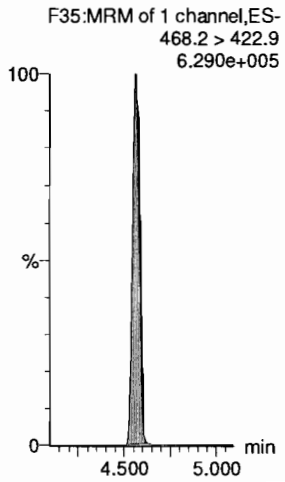
13C2-PFOA



13C8-PFOS



13C5-PFNA

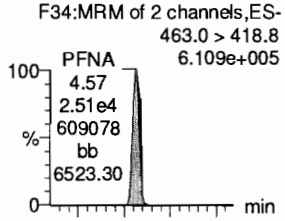


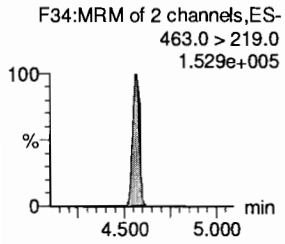
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

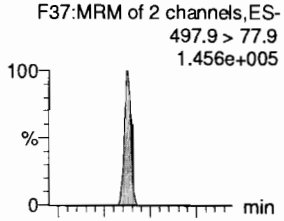
Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

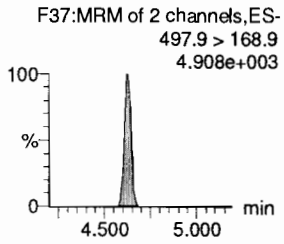
PFNA



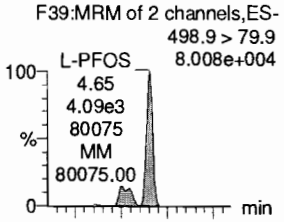


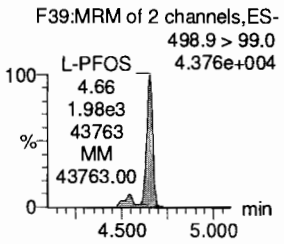
PFOSA



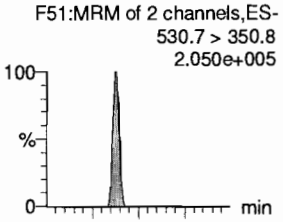


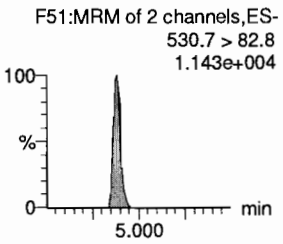
L-PFOS



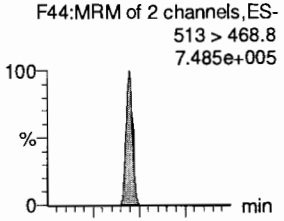


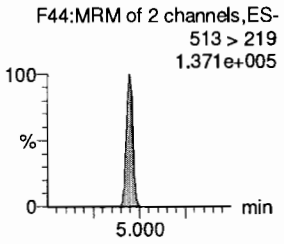
9Cl-PF30NS



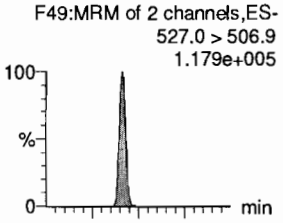


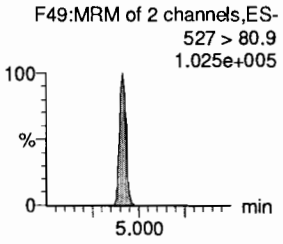
PFDA



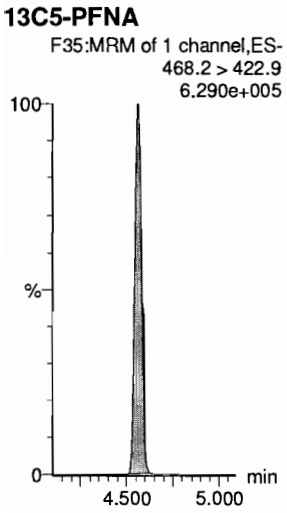


8:2 FTS

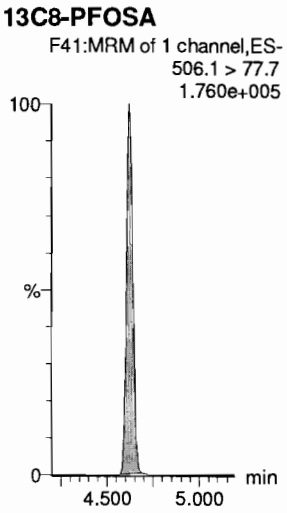




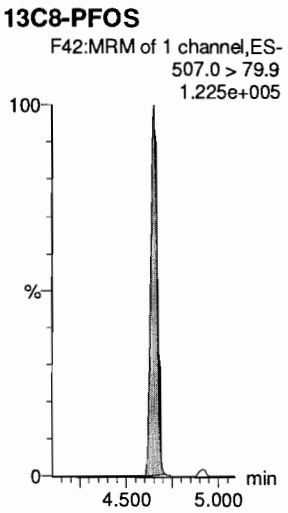
13C5-PFNA



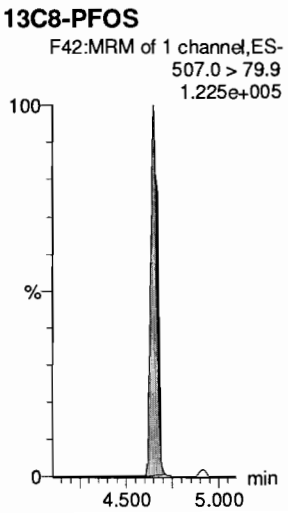
13C8-PFOSA



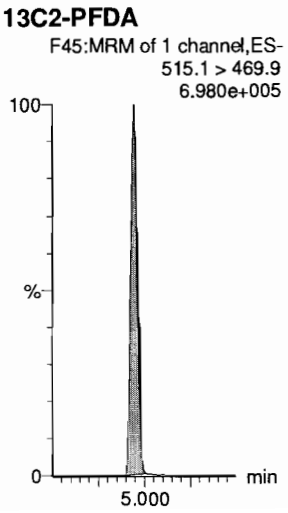
13C8-PFOS



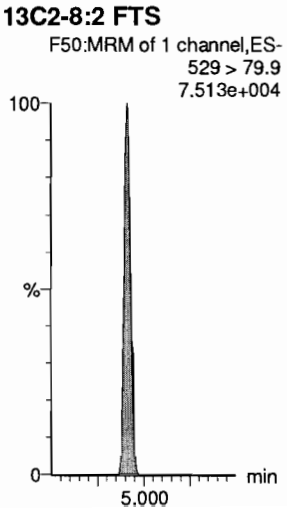
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

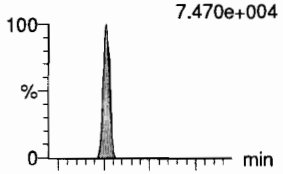


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

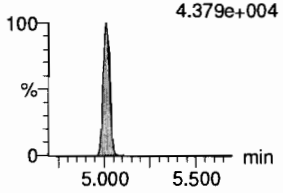
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

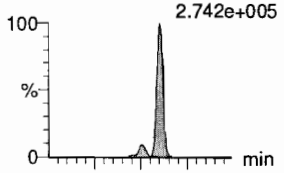
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
7.470e+004



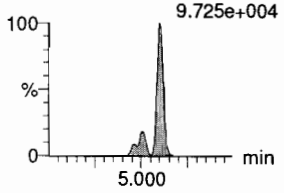
F53:MRM of 2 channels,ES-
549.1 > 99.1
4.379e+004



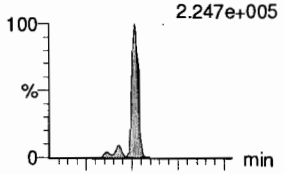
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
2.742e+005



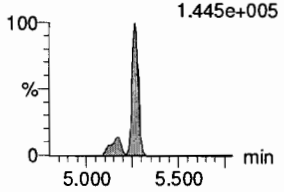
F56:MRM of 2 channels,ES-
570. > 512
9.725e+004



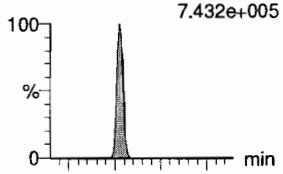
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
2.247e+005



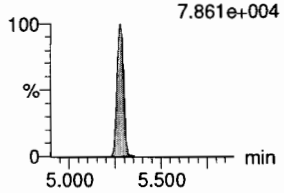
F59:MRM of 2 channels,ES-
584.1 > 526
1.445e+005



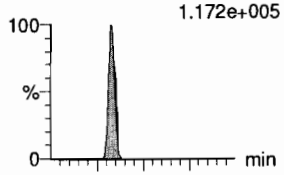
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
7.432e+005



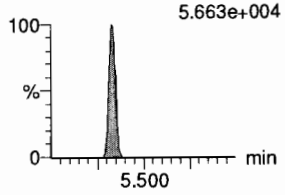
F54:MRM of 2 channels,ES-
563.0 > 269
7.861e+004



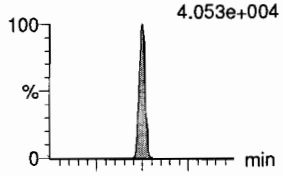
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
1.172e+005



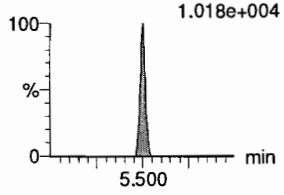
F61:MRM of 2 channels,ES-
598.8 > 98.9
5.663e+004



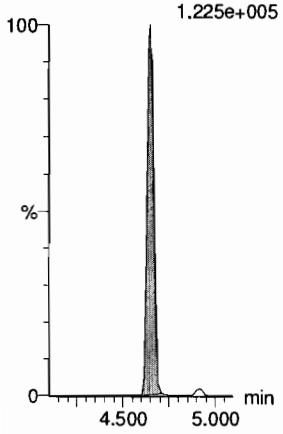
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
4.053e+004



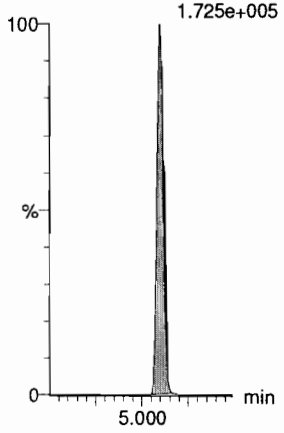
F68:MRM of 2 channels,ES-
632.6 > 450.7
1.018e+004



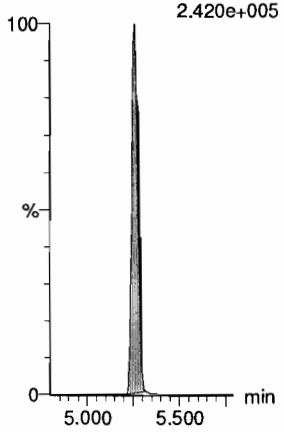
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.225e+005



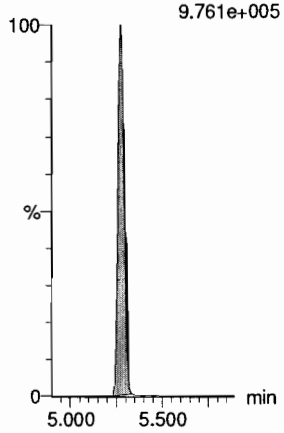
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
1.725e+005



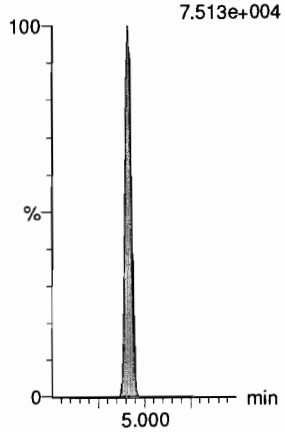
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
2.420e+005



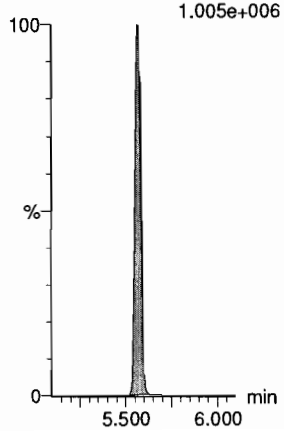
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
9.761e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.513e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.005e+006

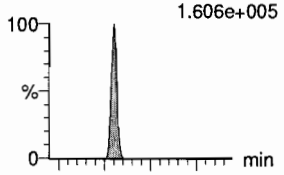


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

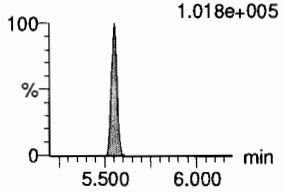
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

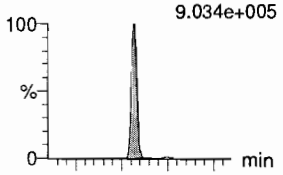
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.606e+005



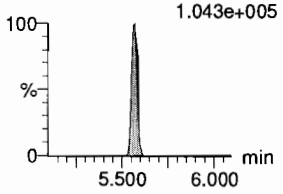
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.018e+005



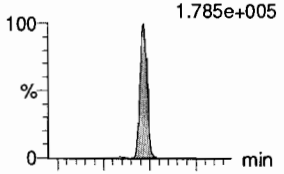
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
9.034e+005



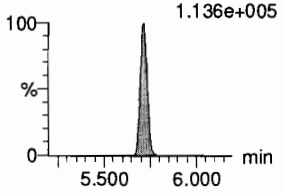
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.043e+005



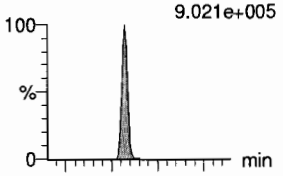
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.785e+005



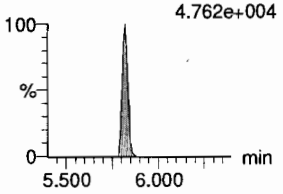
F43:MRM of 2 channels,ES-
512.1 > 219
1.136e+005



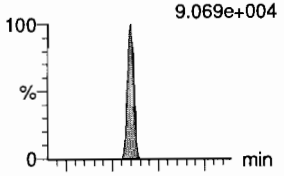
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
9.021e+005



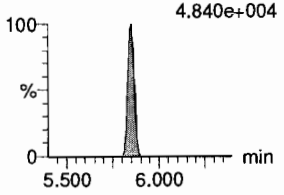
F70:MRM of 2 channels,ES-
662.9 > 319
4.762e+004



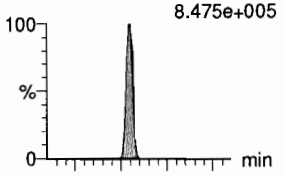
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
9.069e+004



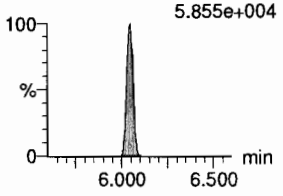
F71:MRM of 2 channels,ES-
698.8 > 98.9
4.840e+004



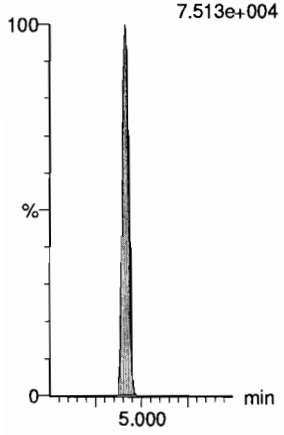
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
8.475e+005



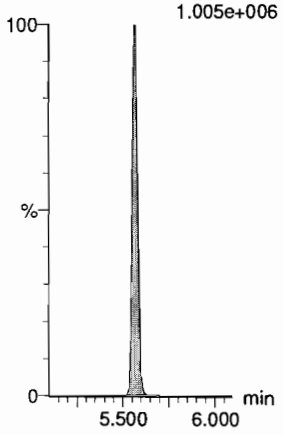
F72:MRM of 2 channels,ES-
713. > 369.0
5.855e+004



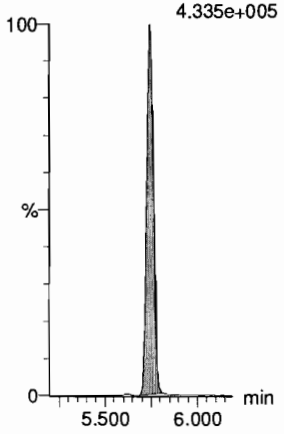
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.513e+004



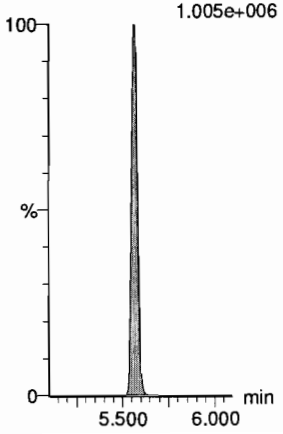
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.005e+006



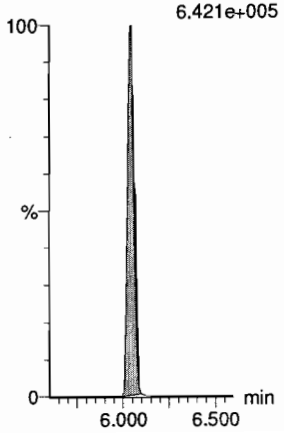
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.335e+005



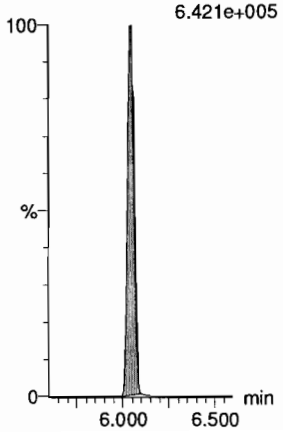
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.005e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.421e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.421e+005

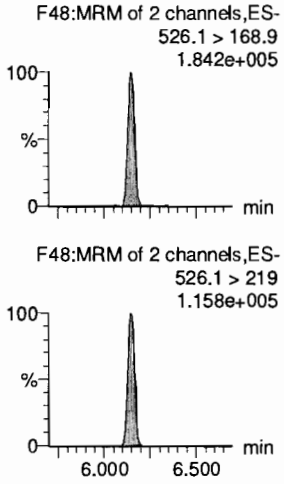


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

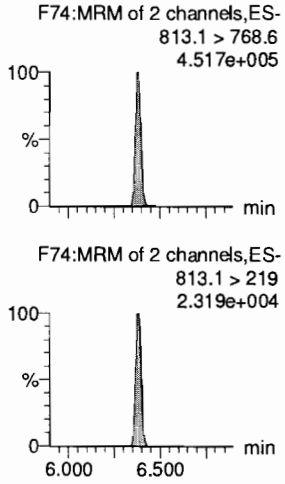
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

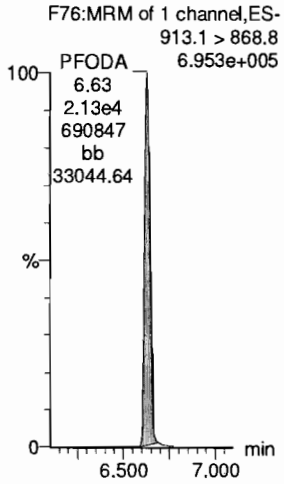
N-EtFOSA



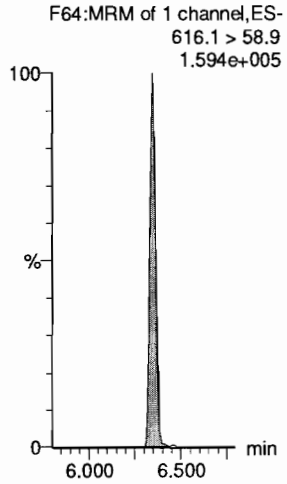
PFHxDA



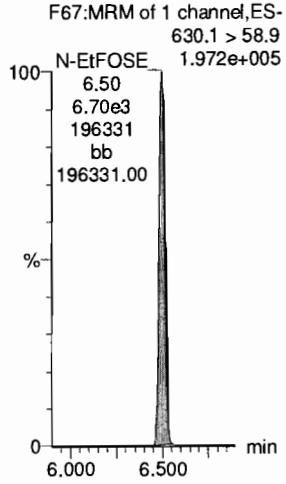
PFODA



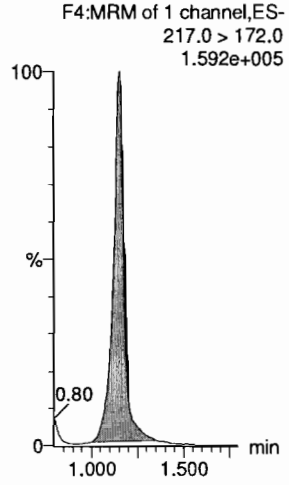
N-MeFOSE



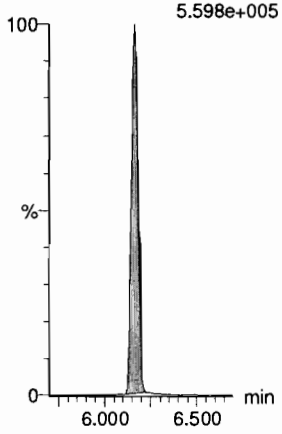
N-EtFOSE



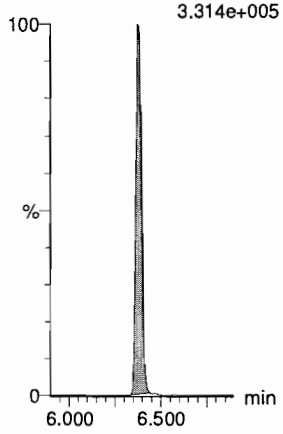
13C4-PFBA



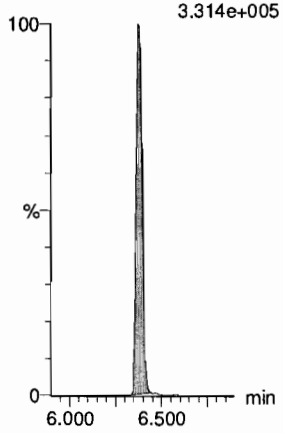
d5-N-ETFOSA



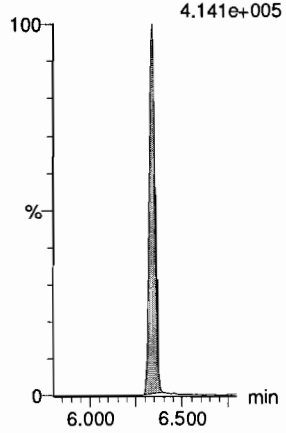
13C2-PFHxDA



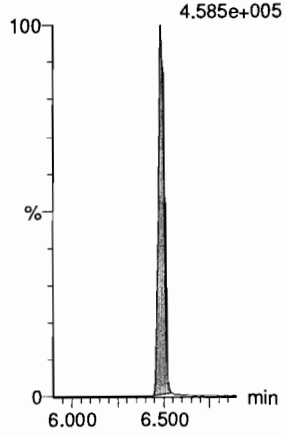
13C2-PFHxDA



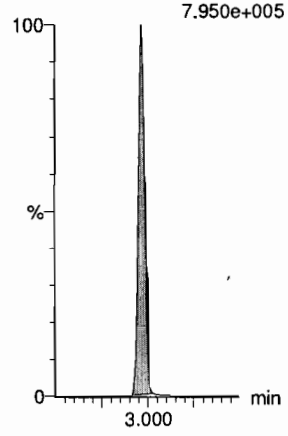
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

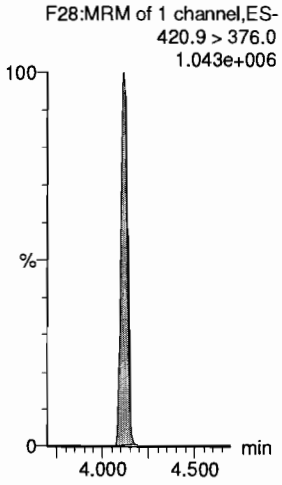


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

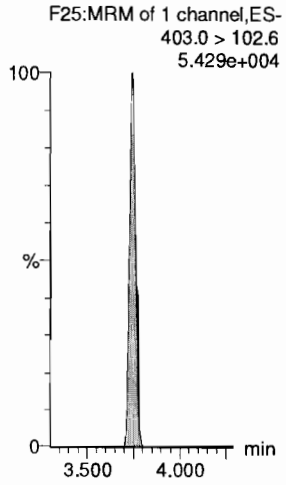
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_9, Date: 22-Jul-2019, Time: 11:19:37, ID: ST190722M1-6 PFC CS3 19G1106, Description: PFC CS3 19G1106

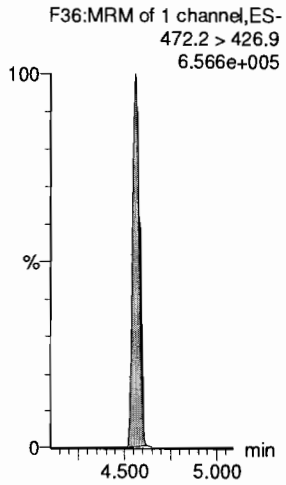
13C8-PFOA



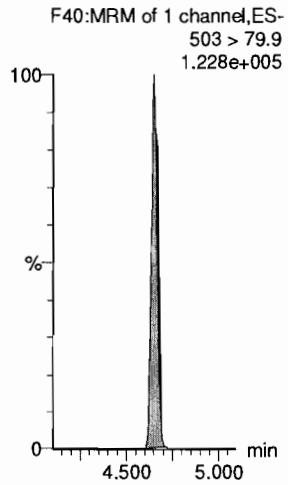
18O2-PFHxS



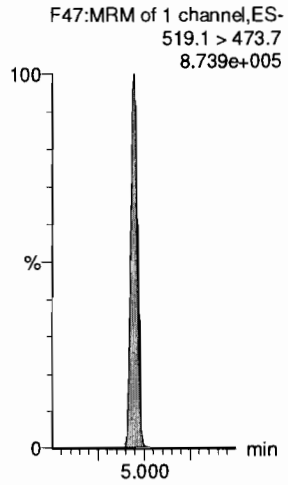
13C9-PFNA



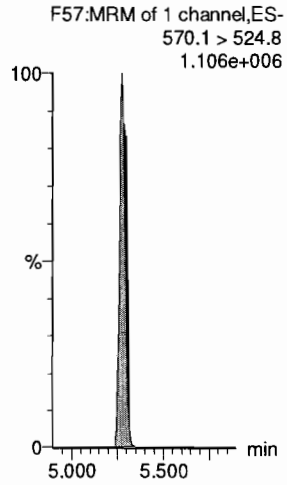
13C4-PFOS



13C6-PFDA



13C7-PFUdA

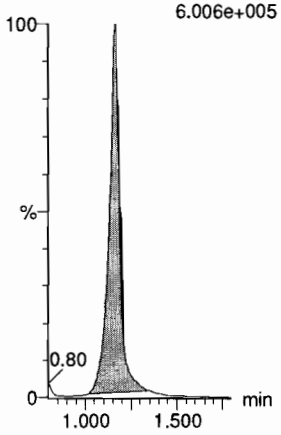


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

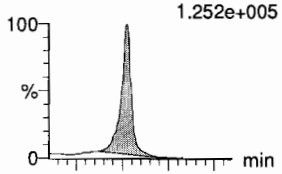
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

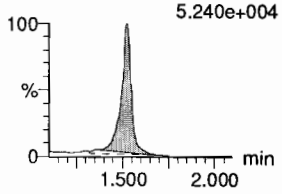
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
6.006e+005



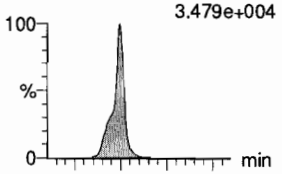
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
1.252e+005



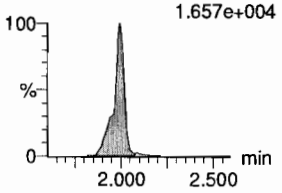
F6:MRM of 2 channels,ES-
248.9 > 98.9
5.240e+004



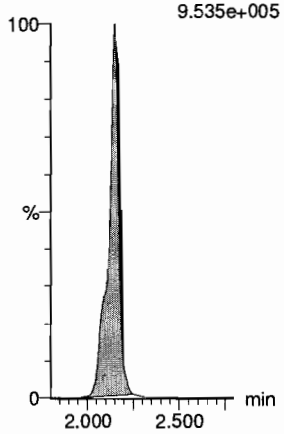
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
3.479e+004



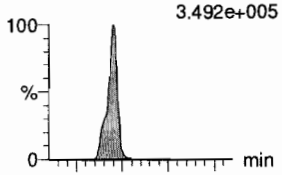
F5:MRM of 2 channels,ES-
240.9 > 116.9
1.657e+004



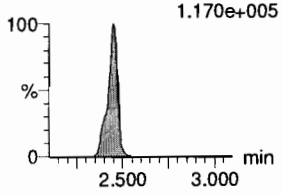
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
9.535e+005



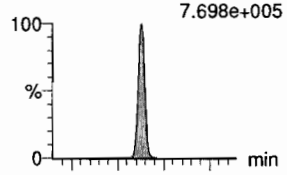
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
3.492e+005



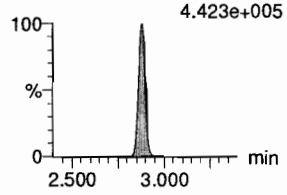
F11:MRM of 2 channels,ES-
299.0 > 99.0
1.170e+005



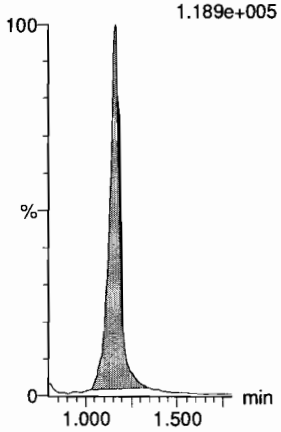
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
7.698e+005



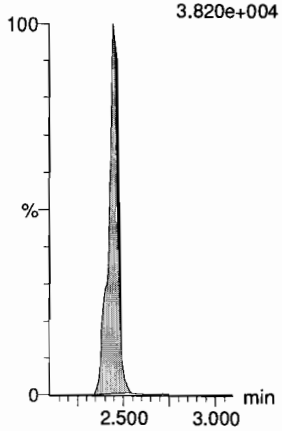
F16:MRM of 2 channels,ES-
327.0 > 80.9
4.423e+005



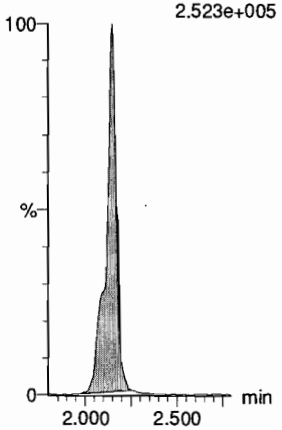
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.189e+005



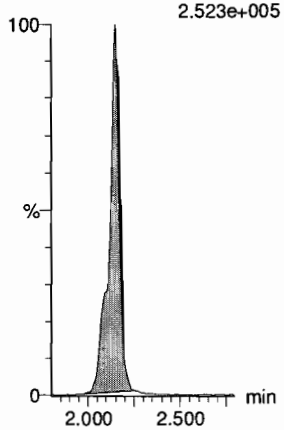
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.820e+004



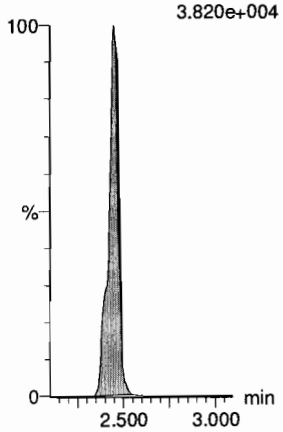
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.523e+005



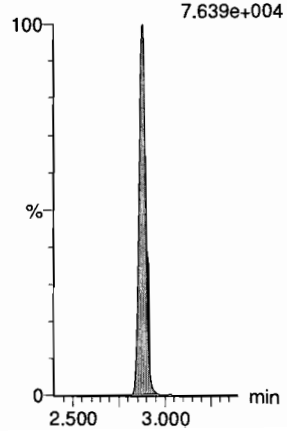
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.523e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.820e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.639e+004

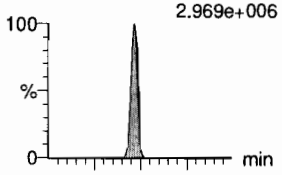


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

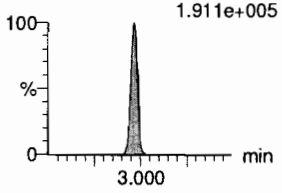
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

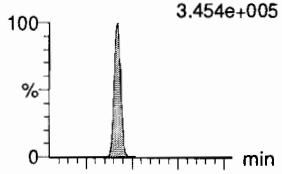
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
2.969e+006



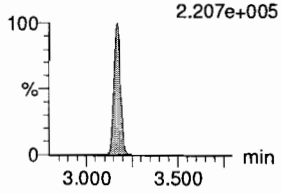
F13:MRM of 2 channels,ES-
313 > 118.9
1.911e+005



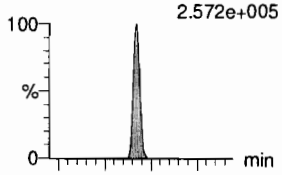
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
3.454e+005



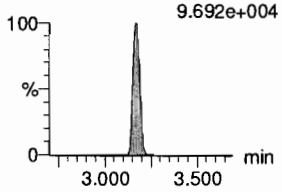
F19:MRM of 2 channels,ES-
349.1 > 99
2.207e+005



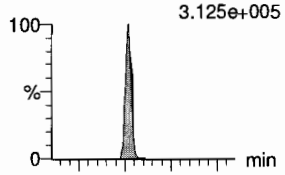
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
2.572e+005



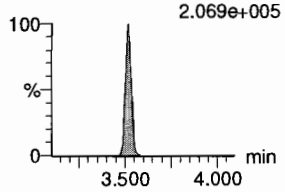
F9:MRM of 3 channels,ES-
285.1 > 184.9
9.692e+004



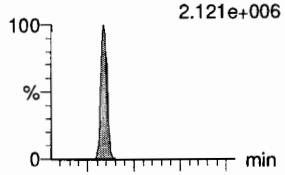
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
3.125e+005



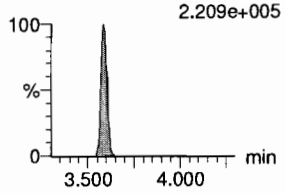
F18:MRM of 2 channels,ES-
340.9 > 216.9
2.069e+005



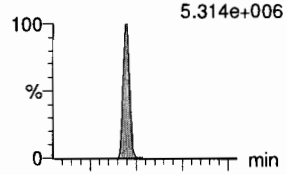
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
2.121e+006



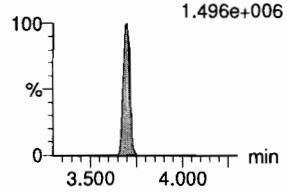
F20:MRM of 2 channels,ES-
363.0 > 169.0
2.209e+005



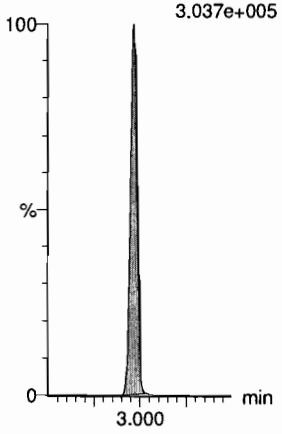
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
5.314e+006



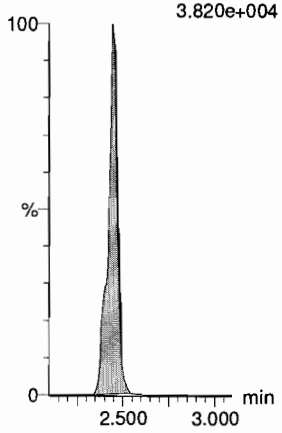
F22:MRM of 2 channels,ES-
376.8 > 85.0
1.496e+006



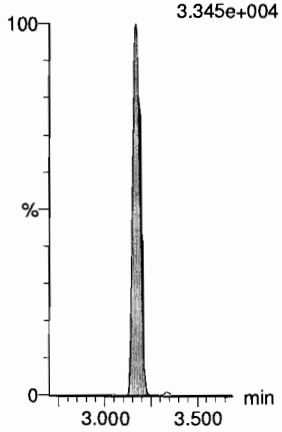
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.037e+005



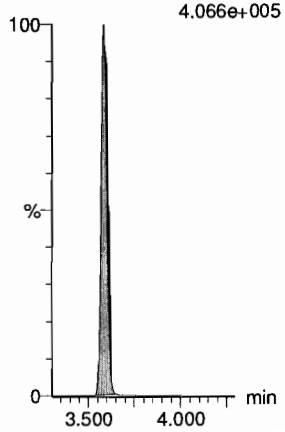
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.820e+004



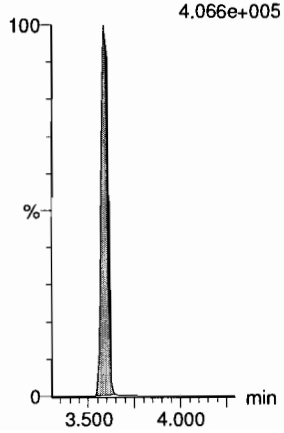
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
3.345e+004



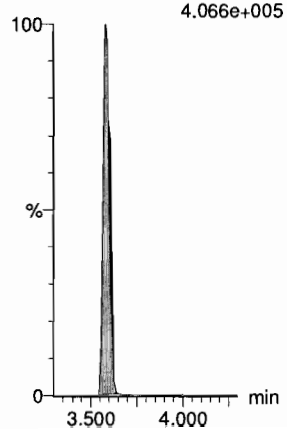
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.066e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.066e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.066e+005

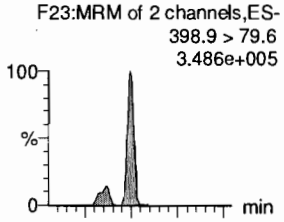


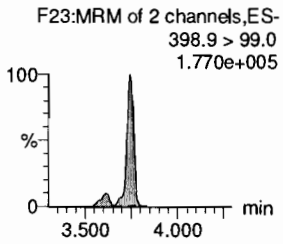
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

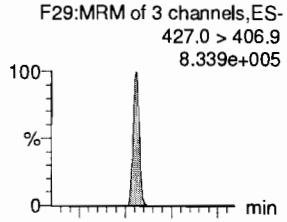
Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

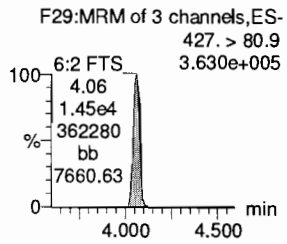
L-PFHxS



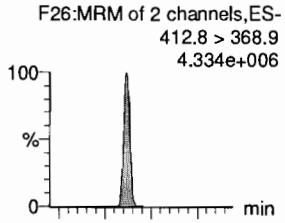


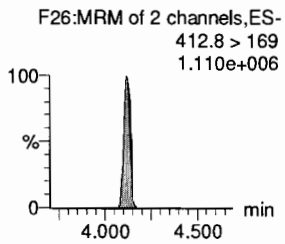
6:2 FTS



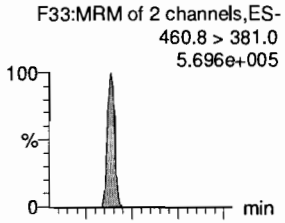


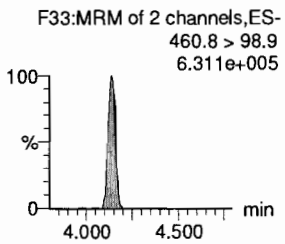
L-PFOA



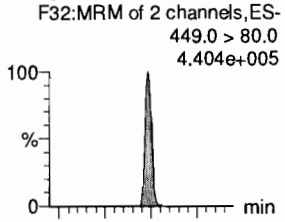


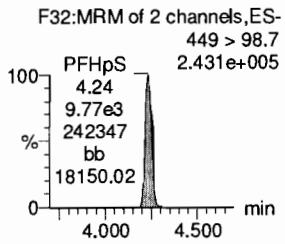
PFEChS



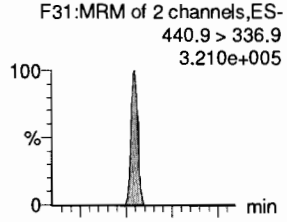


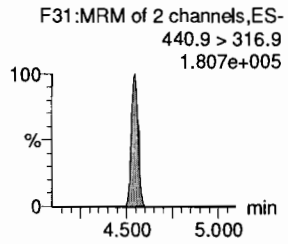
PFHpS



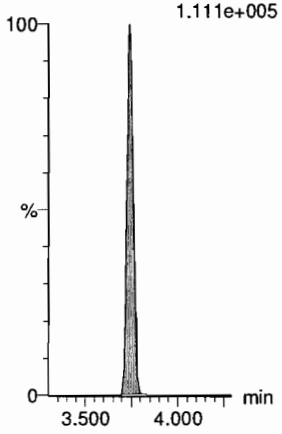


7:3 FTCA

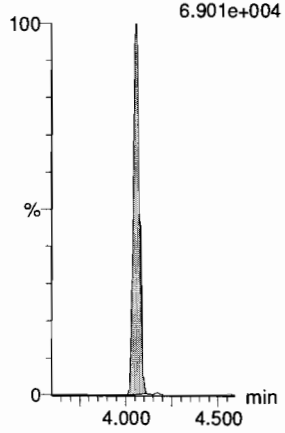




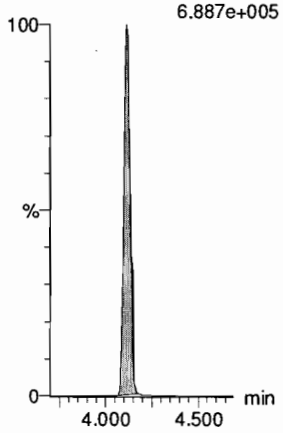
13C3-PFHxS



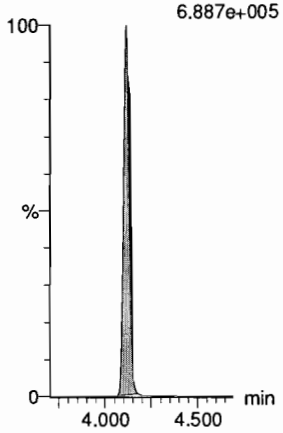
13C2-6:2 FTS



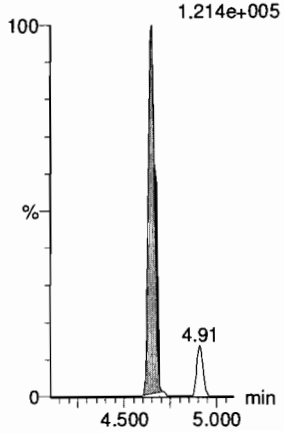
13C2-PFOA



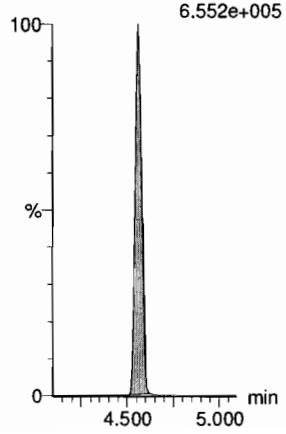
13C2-PFOA



13C8-PFOS



13C5-PFNA

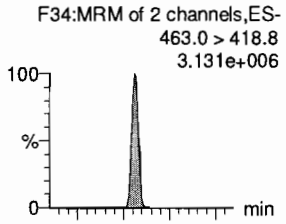


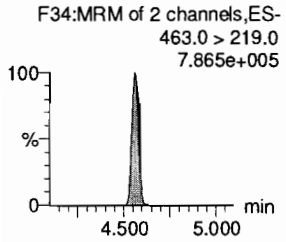
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

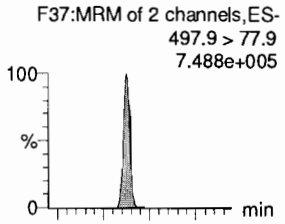
Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

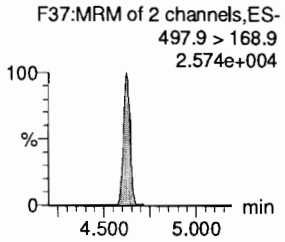
PFNA



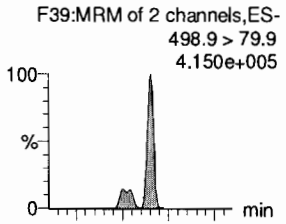


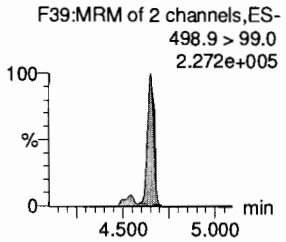
PFOSA



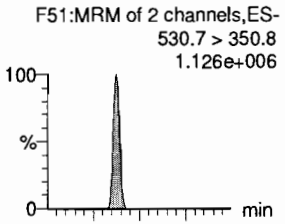


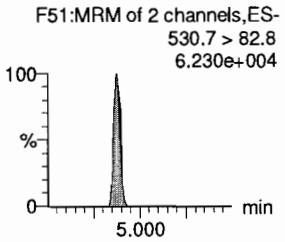
L-PFOS



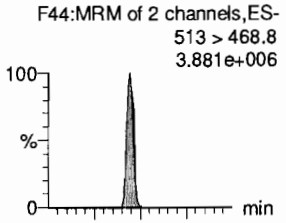


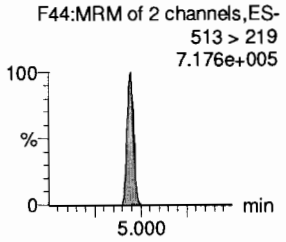
9Cl-PF30NS



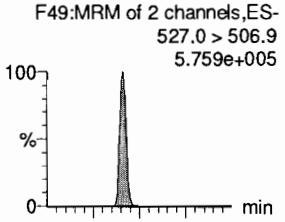


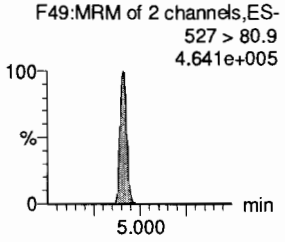
PFDA



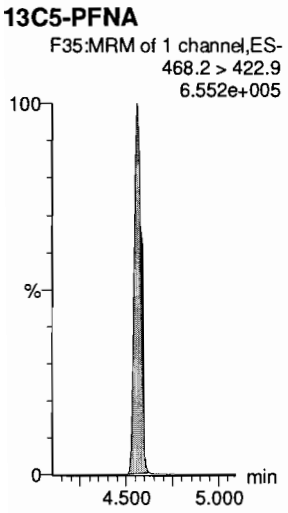


8:2 FTS

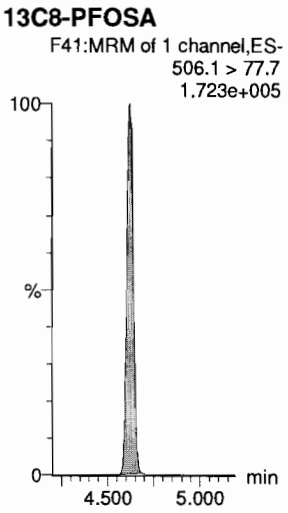




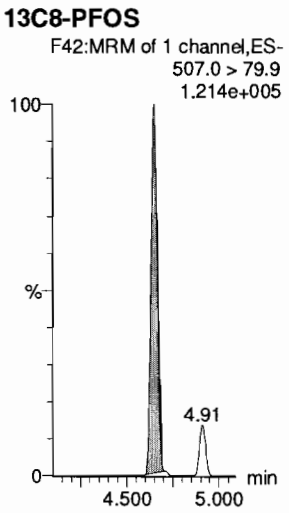
13C5-PFNA



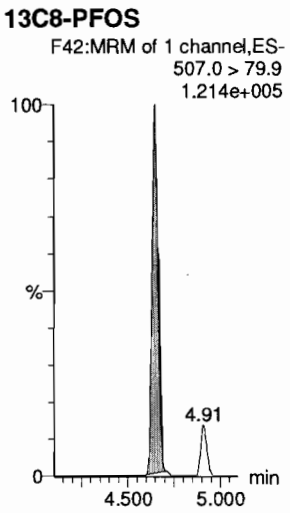
13C8-PFOSA



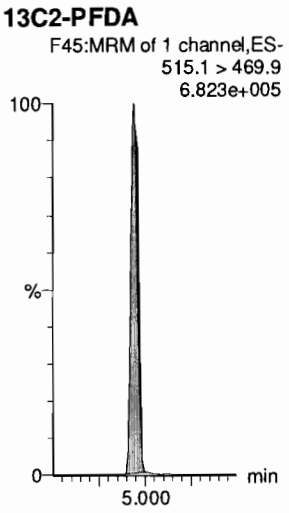
13C8-PFOS



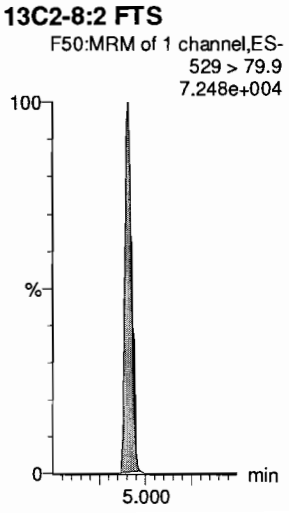
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

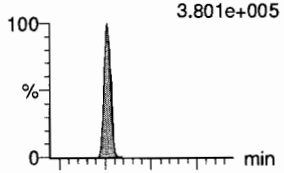


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

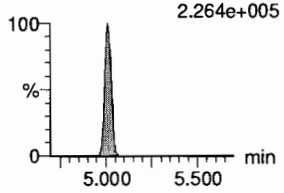
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

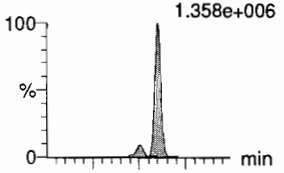
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
3.801e+005



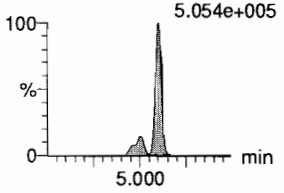
F53:MRM of 2 channels,ES-
549.1 > 99.1
2.264e+005



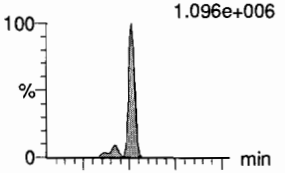
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
1.358e+006



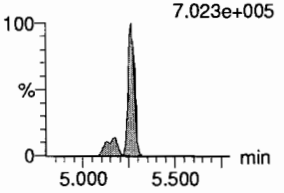
F56:MRM of 2 channels,ES-
570. > 512
5.054e+005



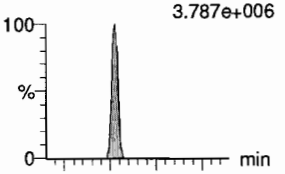
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
1.096e+006



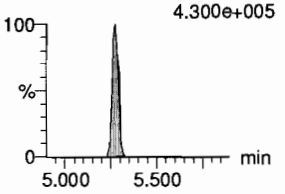
F59:MRM of 2 channels,ES-
584.1 > 526
7.023e+005



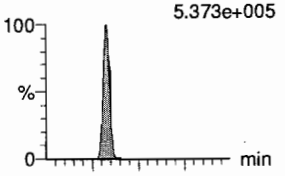
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
3.787e+006



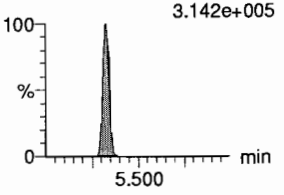
F54:MRM of 2 channels,ES-
563.0 > 269
4.300e+005



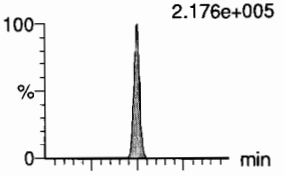
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
5.373e+005



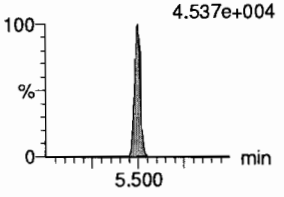
F61:MRM of 2 channels,ES-
598.8 > 98.9
3.142e+005



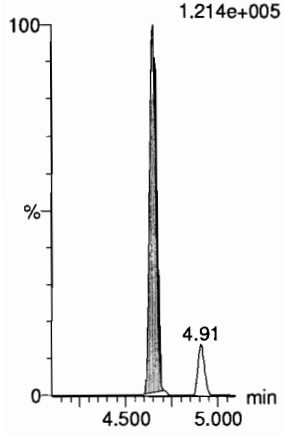
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
2.176e+005



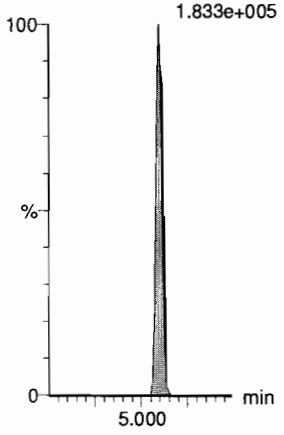
F68:MRM of 2 channels,ES-
632.6 > 450.7
4.537e+004



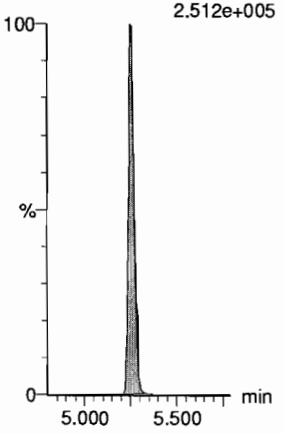
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.214e+005



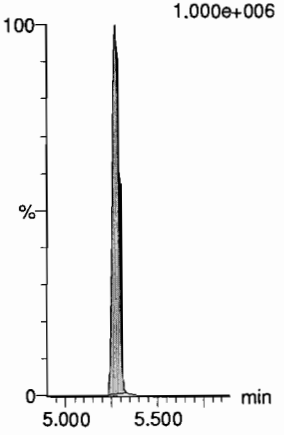
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
1.833e+005



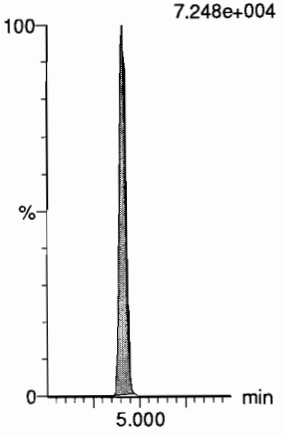
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
2.512e+005



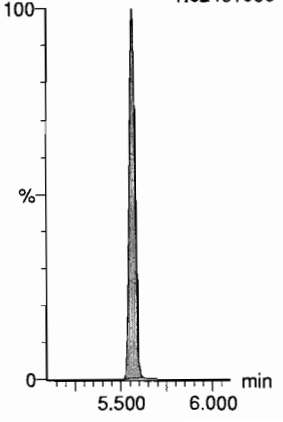
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
1.000e+006



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.248e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.024e+006

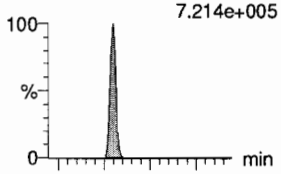


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

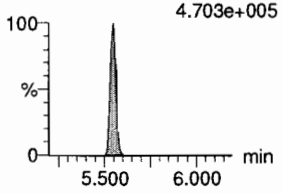
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

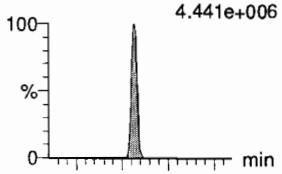
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
7.214e+005



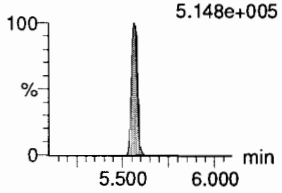
F66:MRM of 2 channels,ES-
627.0 > 80.9
4.703e+005



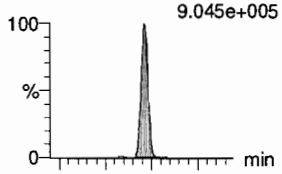
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
4.441e+006



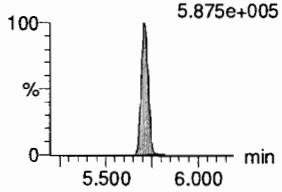
F62:MRM of 4 channels,ES-
612.9 > 318.8
5.148e+005



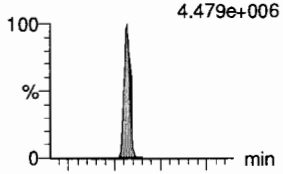
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
9.045e+005



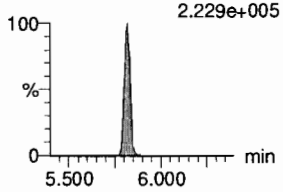
F43:MRM of 2 channels,ES-
512.1 > 219
5.875e+005



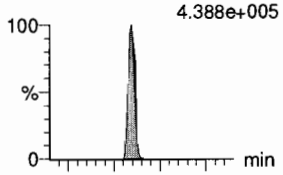
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
4.479e+006



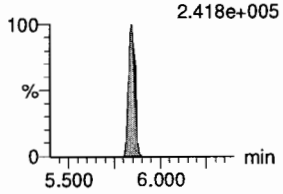
F70:MRM of 2 channels,ES-
662.9 > 319
2.229e+005



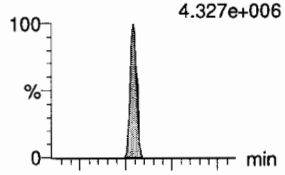
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
4.388e+005



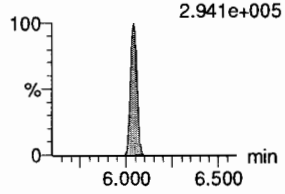
F71:MRM of 2 channels,ES-
698.8 > 98.9
2.418e+005



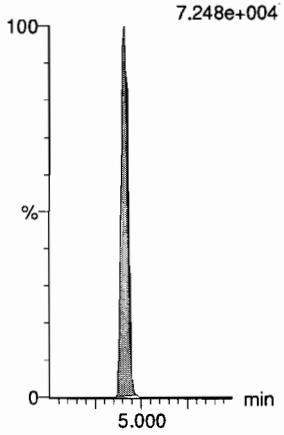
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
4.327e+006



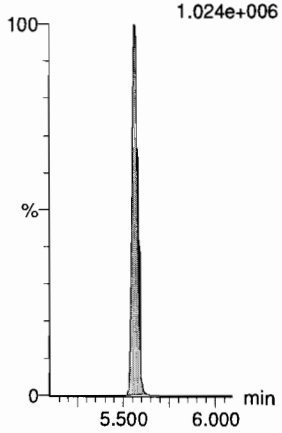
F72:MRM of 2 channels,ES-
713. > 369.0
2.941e+005



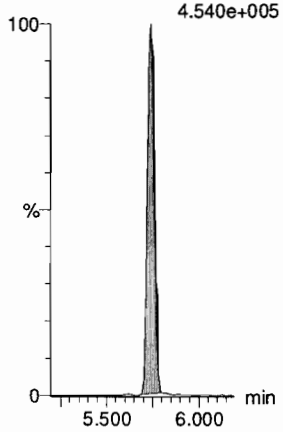
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
7.248e+004



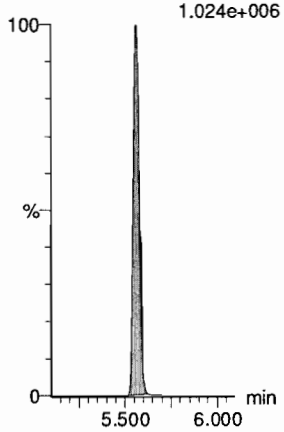
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.024e+006



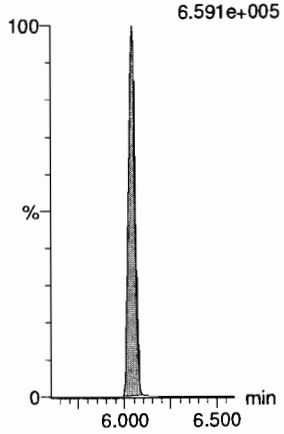
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.540e+005



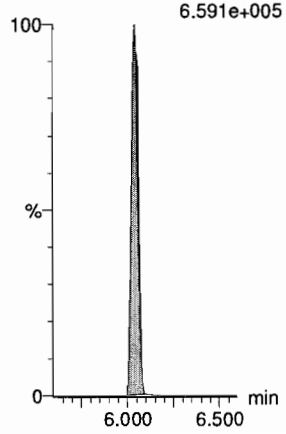
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
1.024e+006



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.591e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
6.591e+005

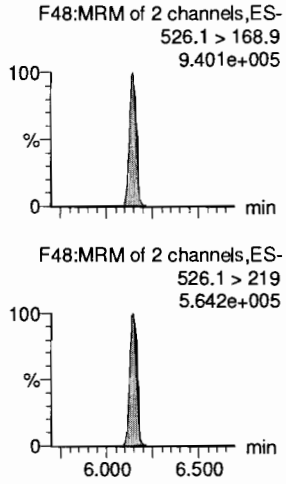


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

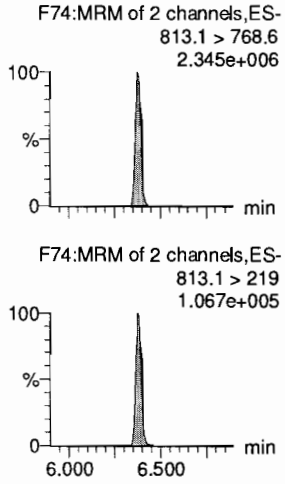
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

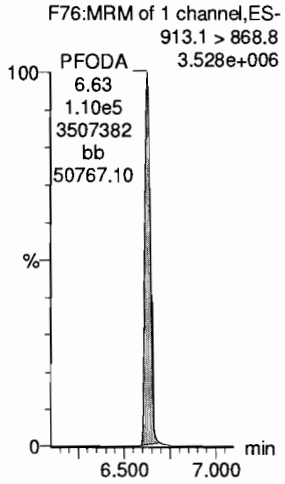
N-EtFOSA



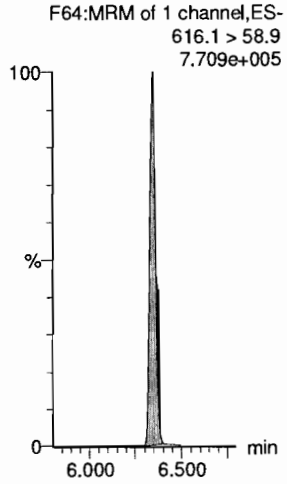
PFHxDA



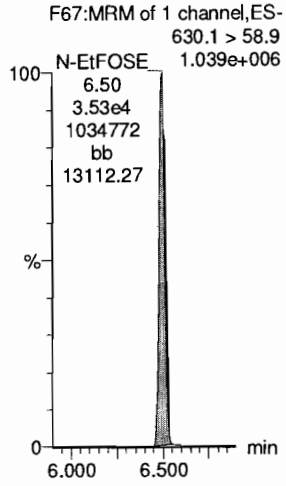
PFODA



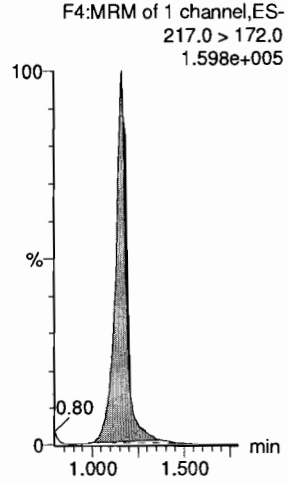
N-MeFOSE



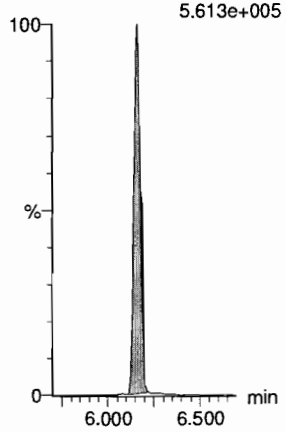
N-EtFOSE



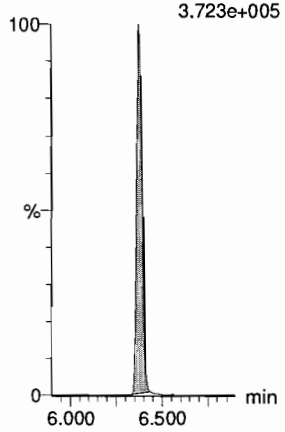
13C4-PFBA



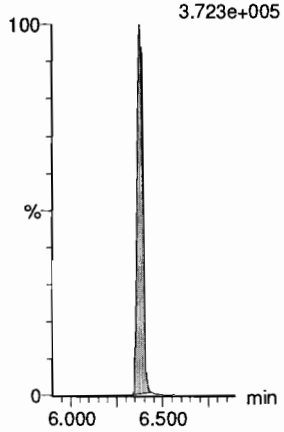
d5-N-ETFOSA



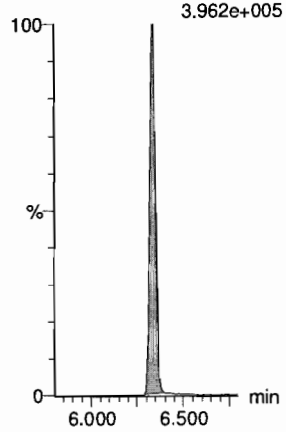
13C2-PFHxDA



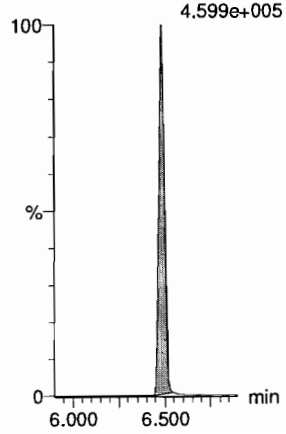
13C2-PFHxDA



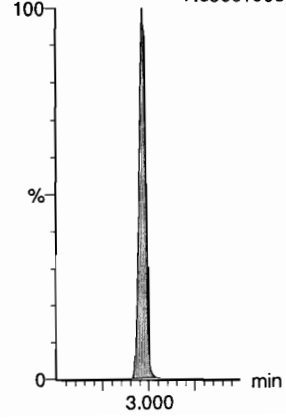
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

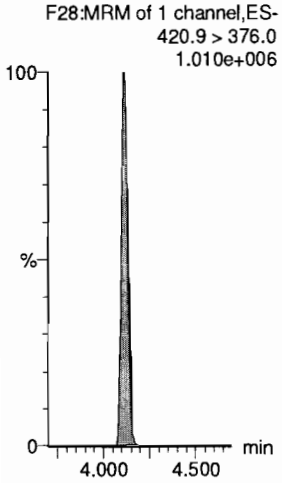


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

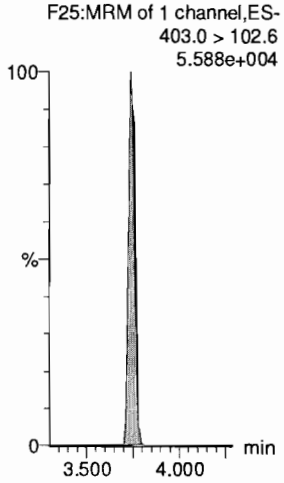
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_10, Date: 22-Jul-2019, Time: 11:30:15, ID: ST190722M1-7 PFC CS4 19G1107, Description: PFC CS4 19G1107

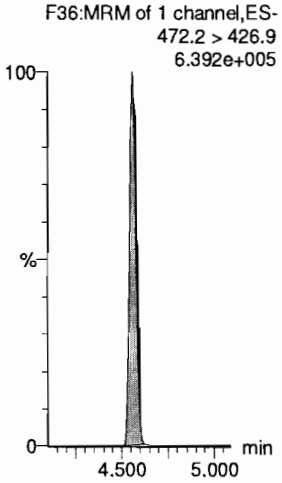
13C8-PFOA



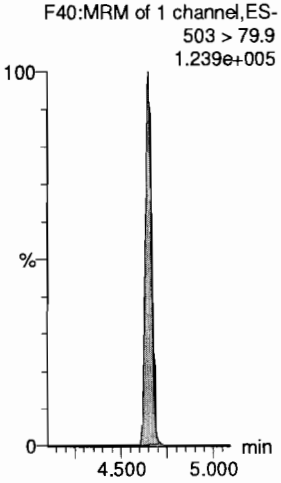
18O2-PFHxS



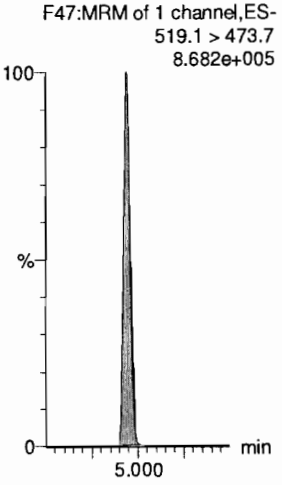
13C9-PFNA



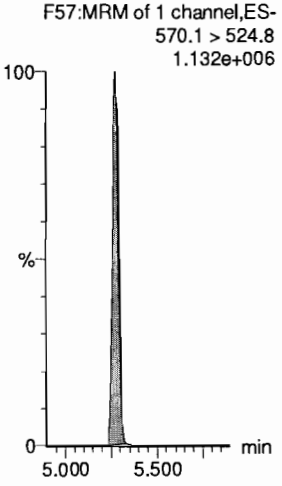
13C4-PFOS



13C6-PFDA



13C7-PFUdA

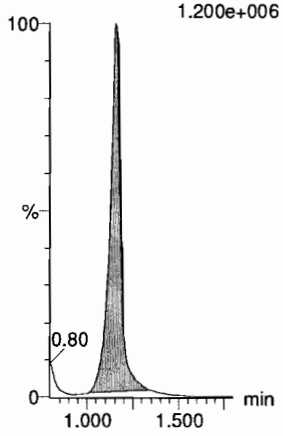


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

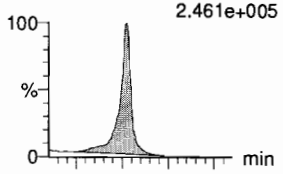
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

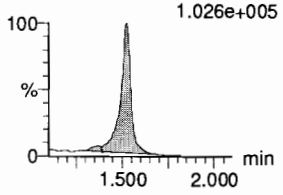
PFBA
F2:MRM of 1 channel,ES-
213.0 > 168.8
1.200e+006



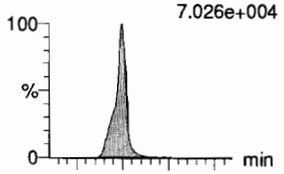
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.461e+005



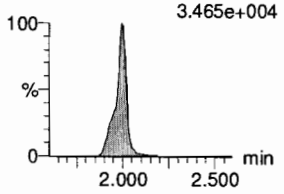
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.026e+005



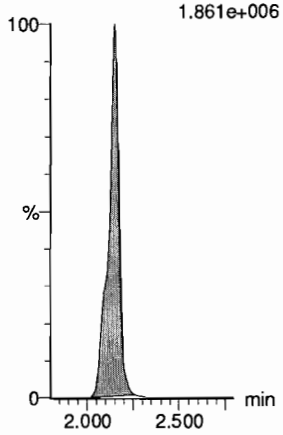
3:3 FTCA
F5:MRM of 2 channels,ES-
240.9 > 176.9
7.026e+004



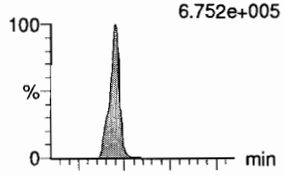
F5:MRM of 2 channels,ES-
240.9 > 116.9
3.465e+004



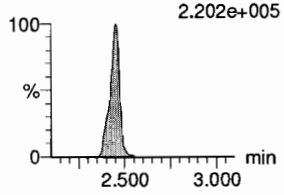
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.861e+006



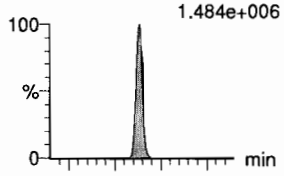
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
6.752e+005



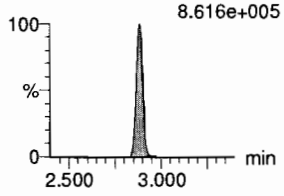
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.202e+005



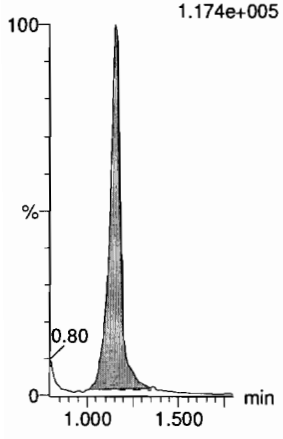
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.484e+006



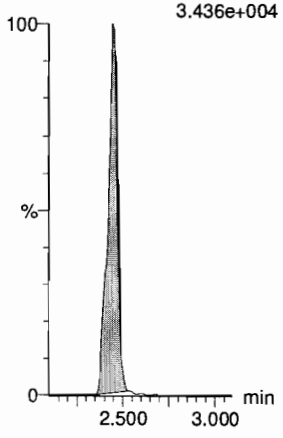
F16:MRM of 2 channels,ES-
327.0 > 80.9
8.616e+005



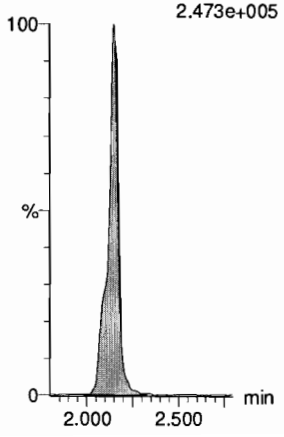
13C3-PFBA
F3:MRM of 1 channel,ES-
216.1 > 171.8
1.174e+005



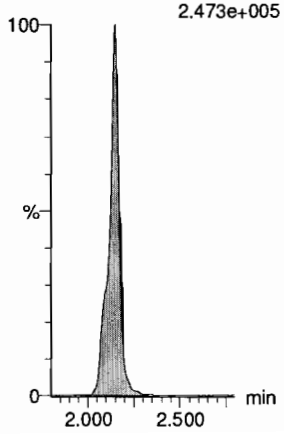
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.436e+004



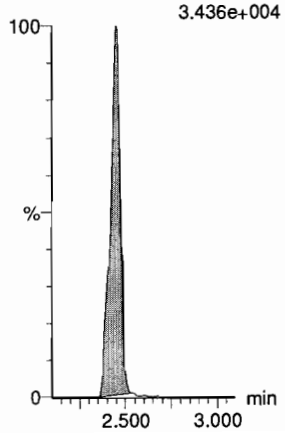
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.473e+005



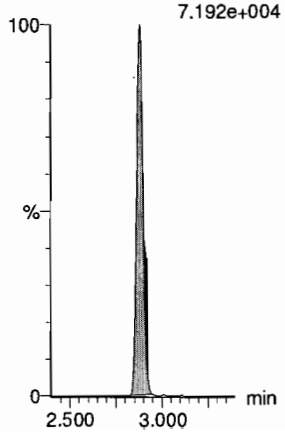
13C3-PFPeA
F8:MRM of 1 channel,ES-
266.0 > 221.8
2.473e+005



13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.436e+004



13C2-4:2 FTS
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.192e+004

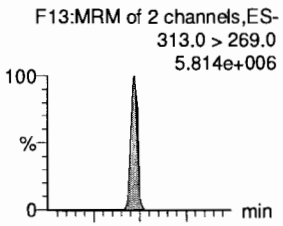


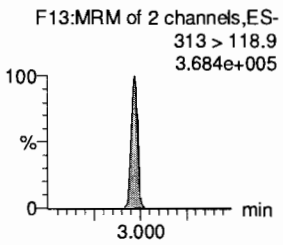
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

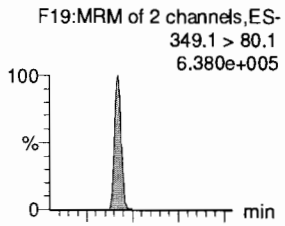
Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

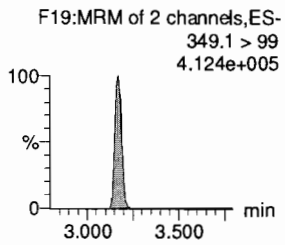
PFHxA



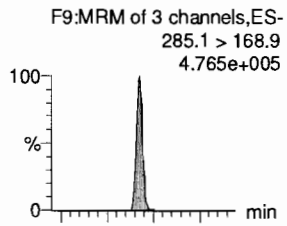


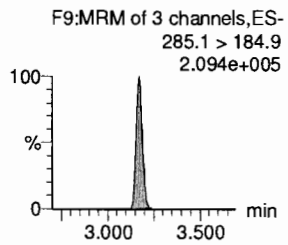
PFPeS



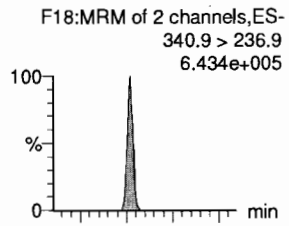


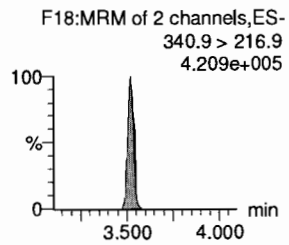
HFPO-DA



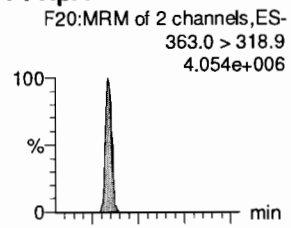


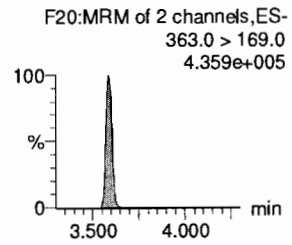
5:3 FTCA



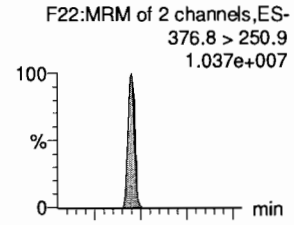


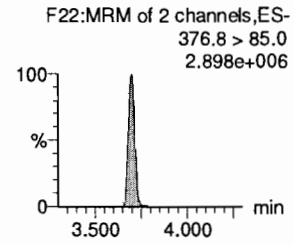
PFHpA



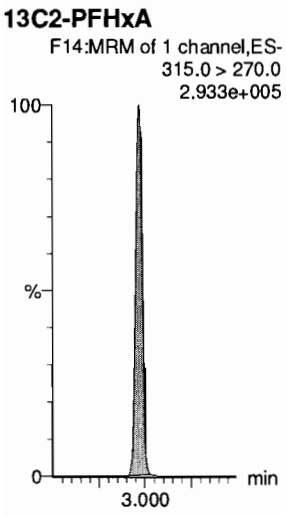


ADONA

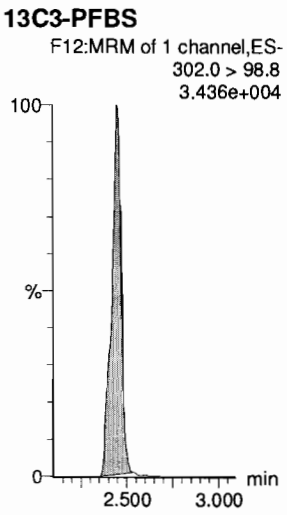




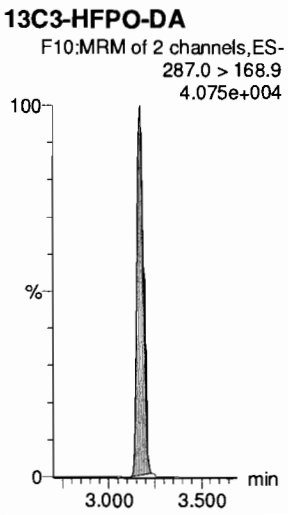
13C2-PFHxA



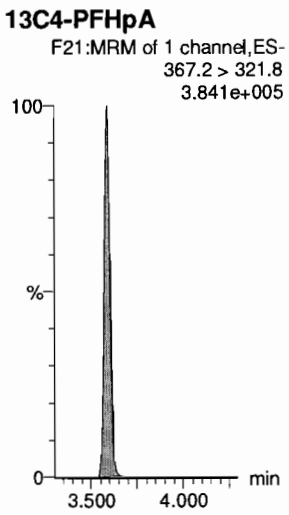
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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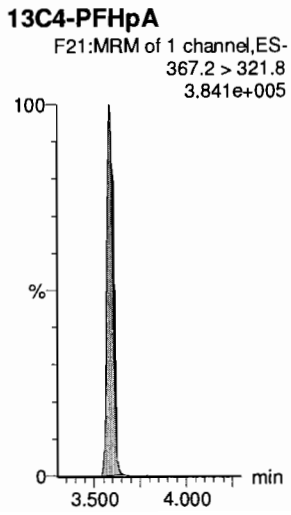
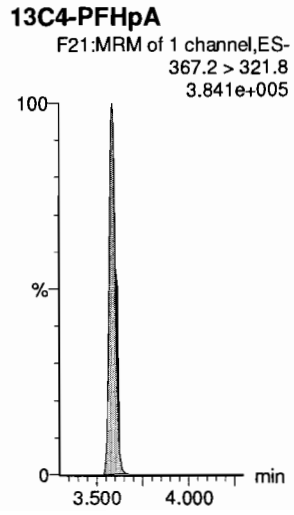


13C4-PFHpA



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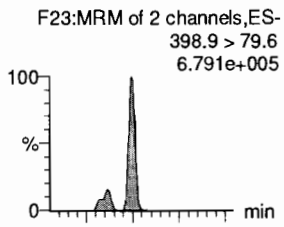
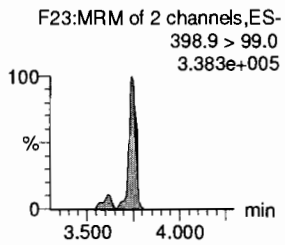
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

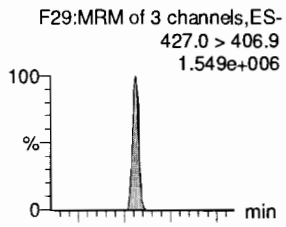
Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

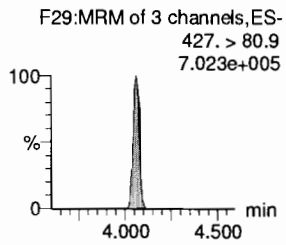
L-PFHxS



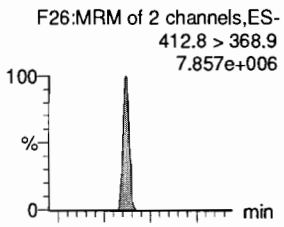


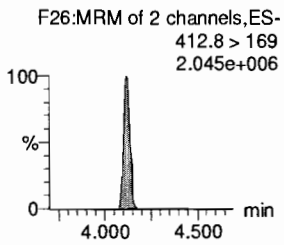
6:2 FTS



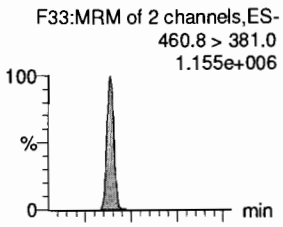


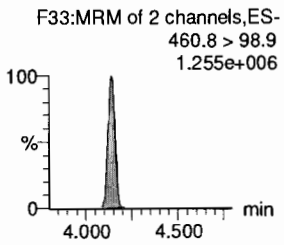
L-PFOA



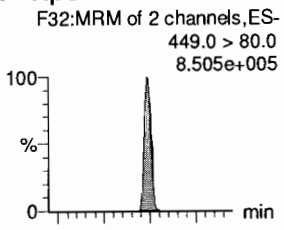


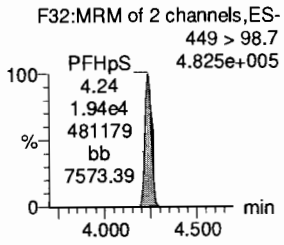
PFEChS



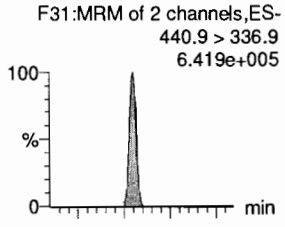


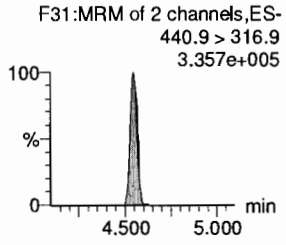
PFHpS



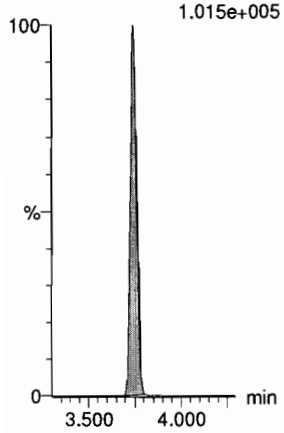


7:3 FTCA

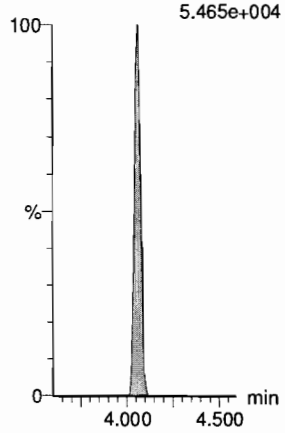




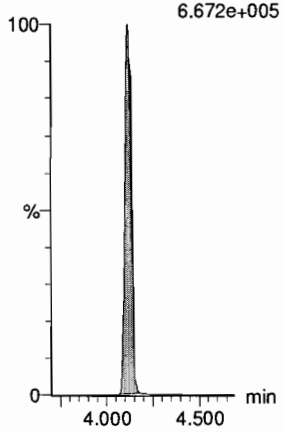
13C3-PFHxS



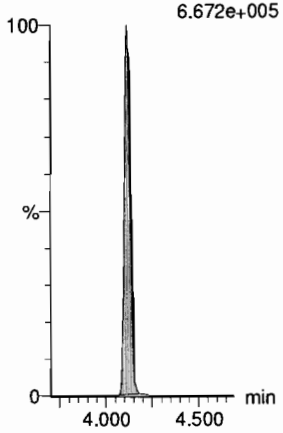
13C2-6:2 FTS



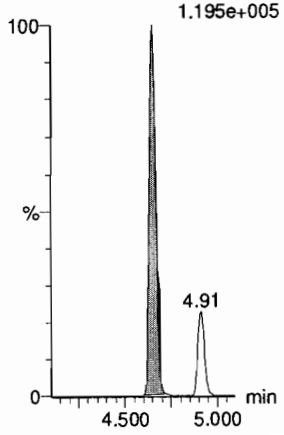
13C2-PFOA



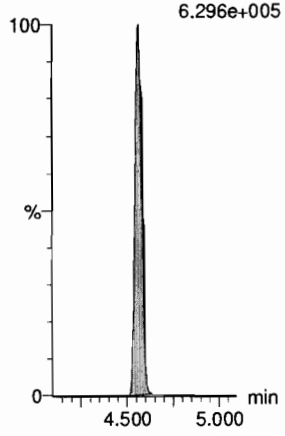
13C2-PFOA



13C8-PFOS



13C5-PFNA

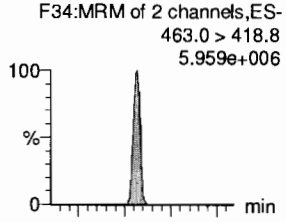


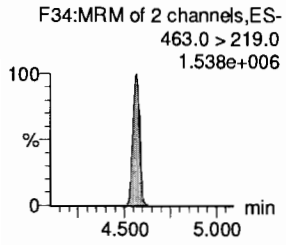
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

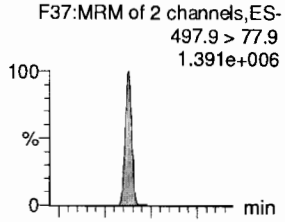
Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

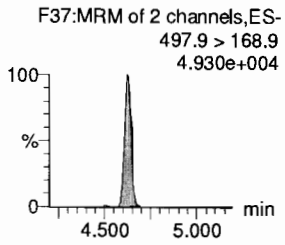
PFNA



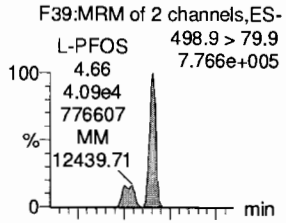


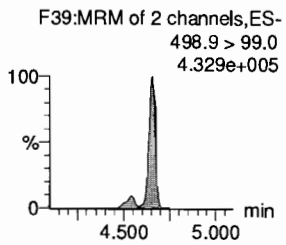
PFOSA



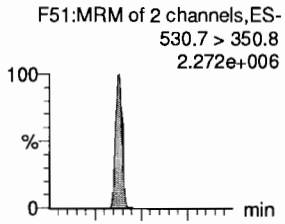


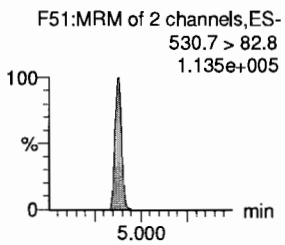
L-PFOS



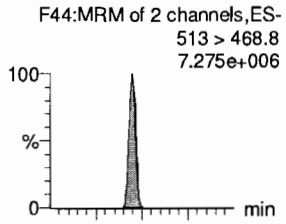


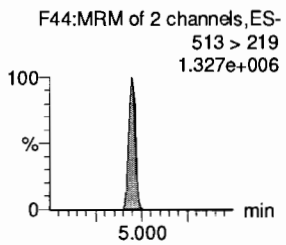
9Cl-PF30NS



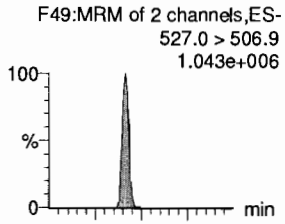


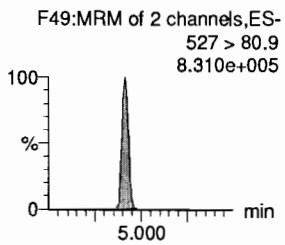
PFDA



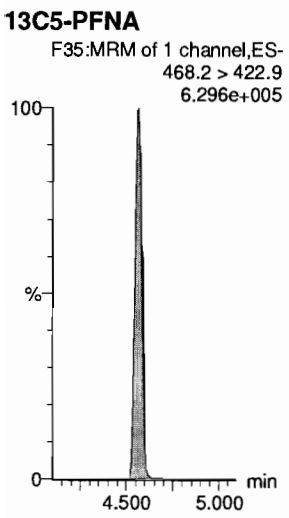


8:2 FTS

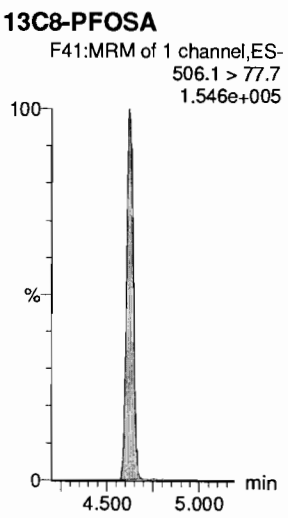




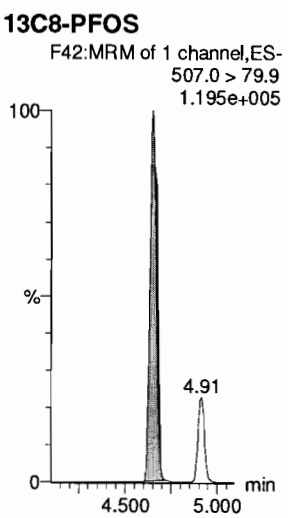
13C5-PFNA



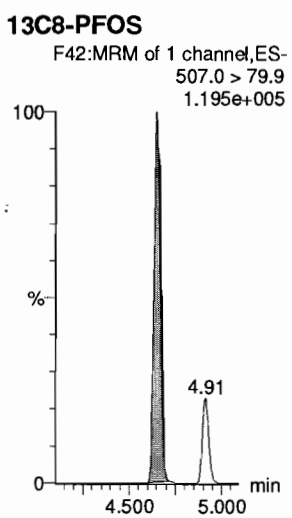
13C8-PFOSA



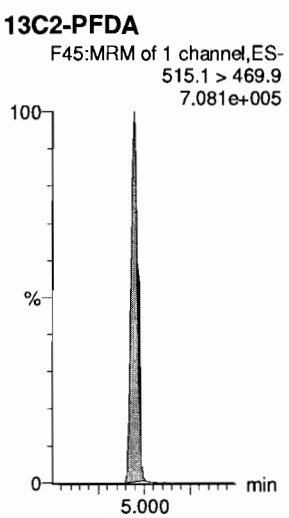
13C8-PFOS



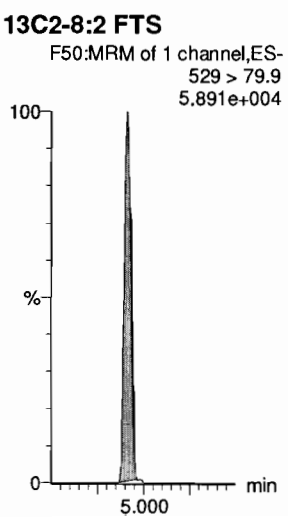
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS

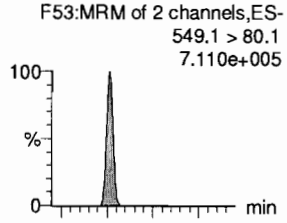


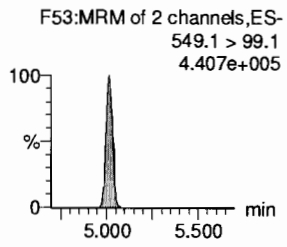
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

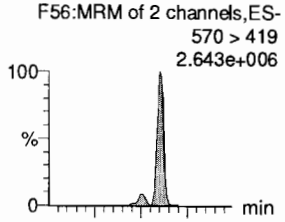
Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

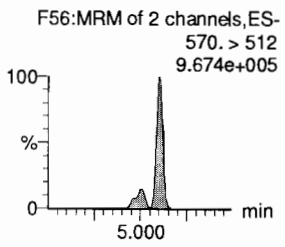
PFNS



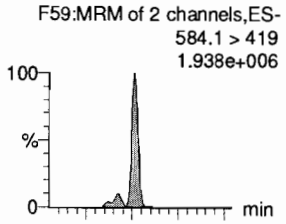


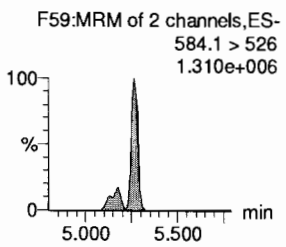
L-MeFOSAA



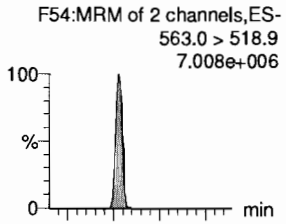


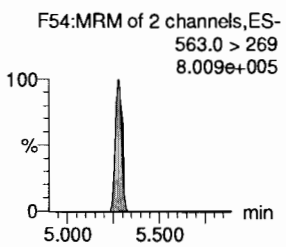
L-EtFOSAA



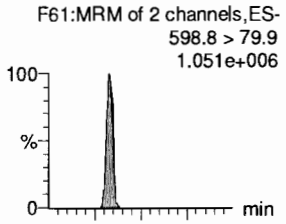


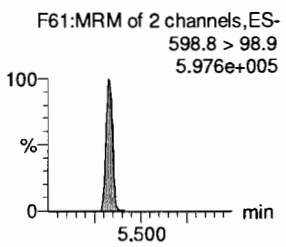
PFUdA



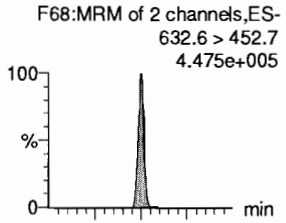


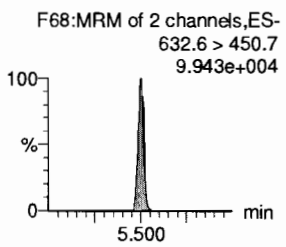
PFDS



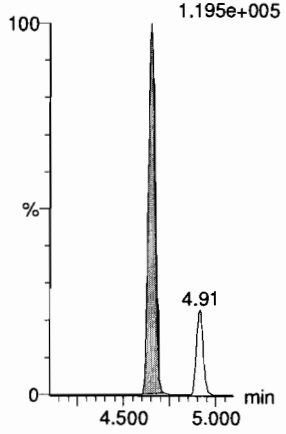


11Cl-PF30UdS

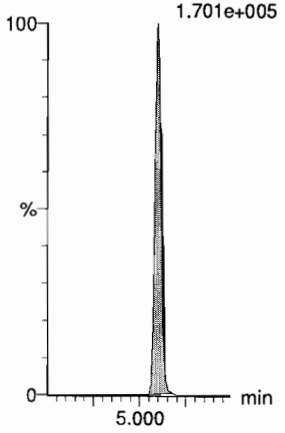




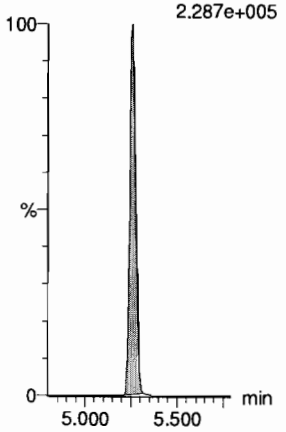
13C8-PFOS



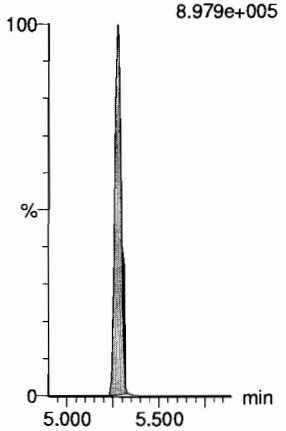
d3-N-MeFOSAA



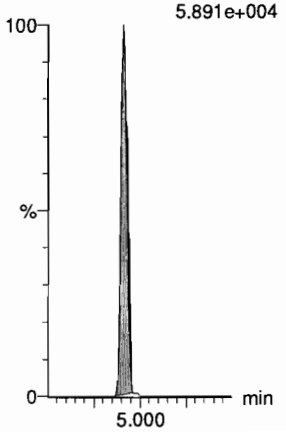
d5-N-EtFOSAA



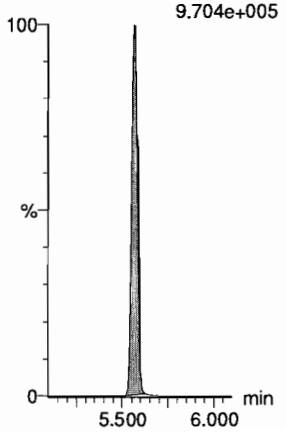
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA

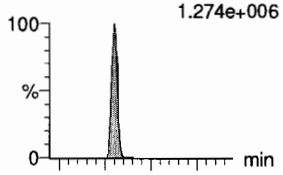


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

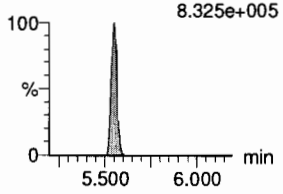
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

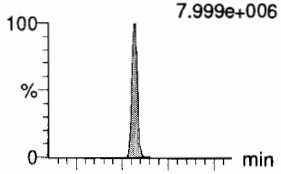
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
1.274e+006



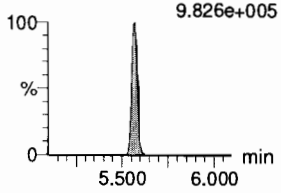
F66:MRM of 2 channels,ES-
627.0 > 80.9
8.325e+005



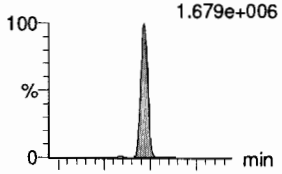
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
7.999e+006



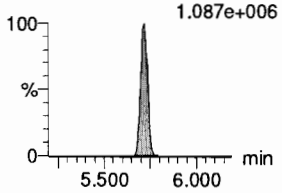
F62:MRM of 4 channels,ES-
612.9 > 318.8
9.826e+005



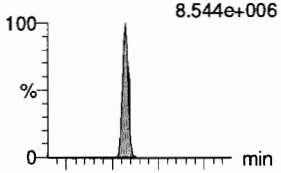
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
1.679e+006



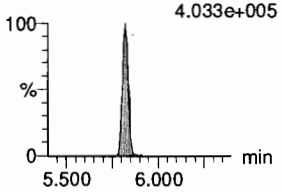
F43:MRM of 2 channels,ES-
512.1 > 219
1.087e+006



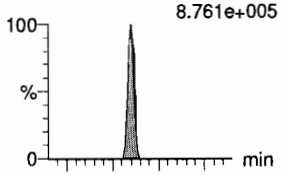
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
8.544e+006



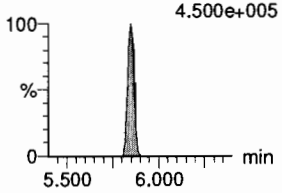
F70:MRM of 2 channels,ES-
662.9 > 319
4.033e+005



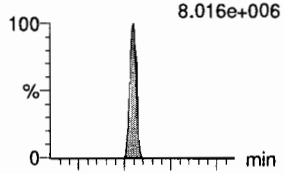
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
8.761e+005



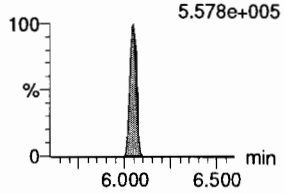
F71:MRM of 2 channels,ES-
698.8 > 98.9
4.500e+005



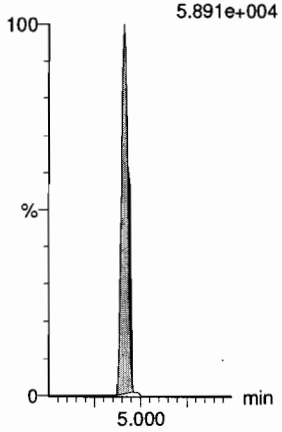
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
8.016e+006



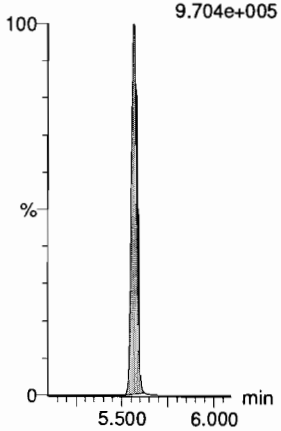
F72:MRM of 2 channels,ES-
713. > 369.0
5.578e+005



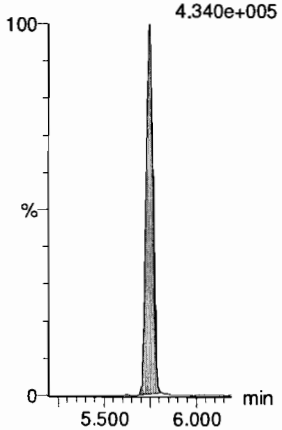
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.891e+004



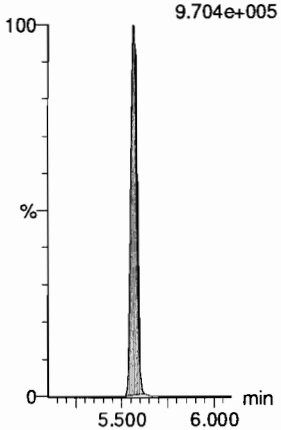
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.704e+005



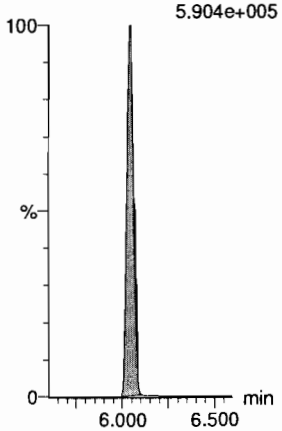
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.340e+005



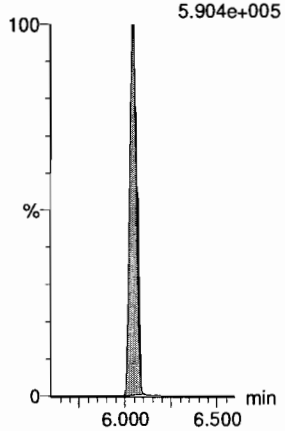
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.704e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
5.904e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
5.904e+005

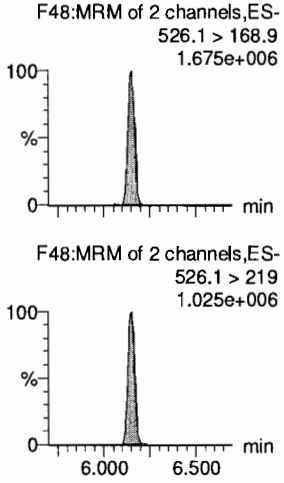


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

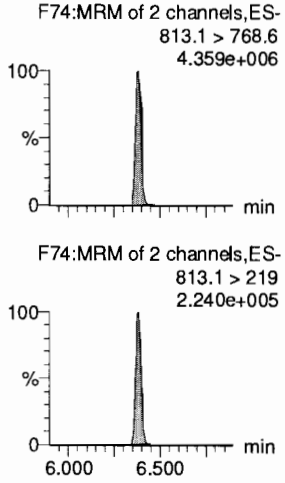
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

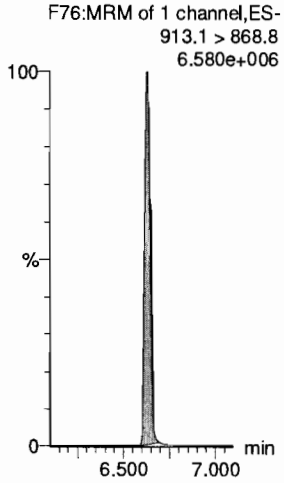
N-EtFOSA



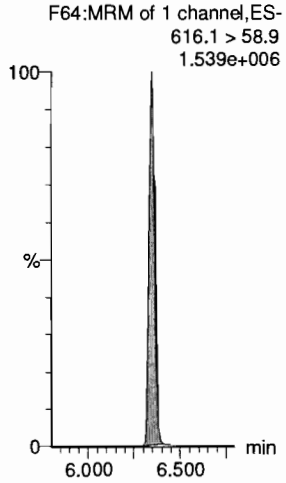
PFHxDA



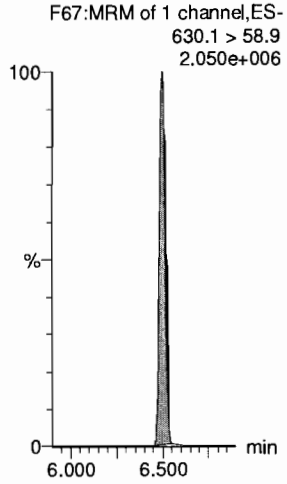
PFODA



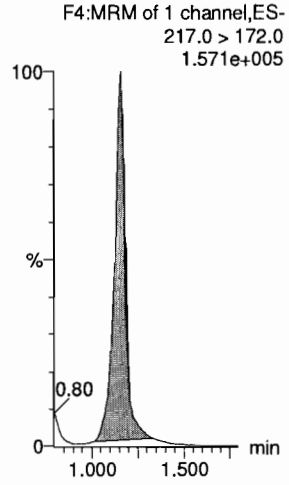
N-MeFOSE



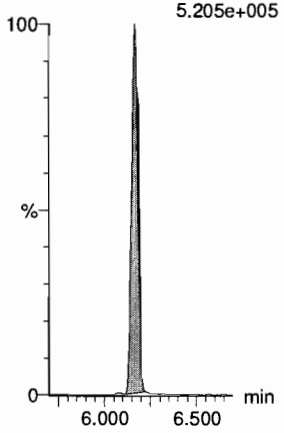
N-EtFOSE



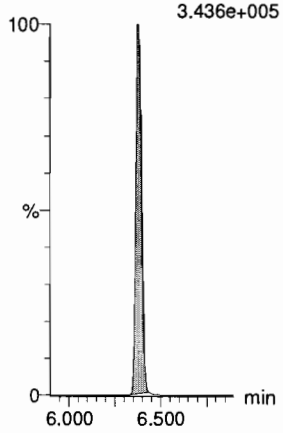
13C4-PFBA



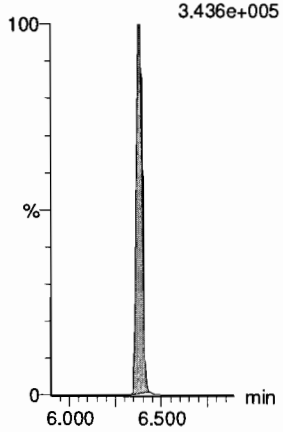
d5-N-ETFOSA



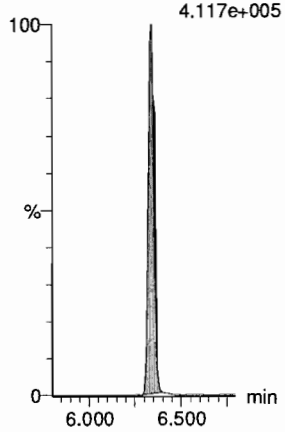
13C2-PFHxDA



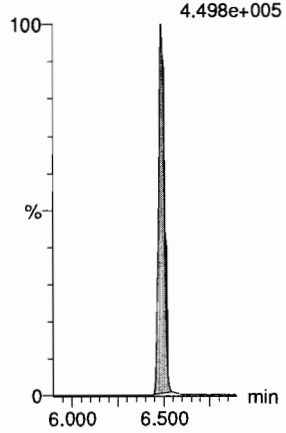
13C2-PFHxDA



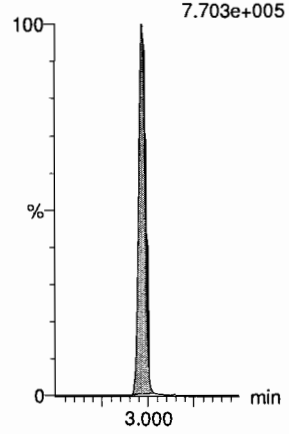
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

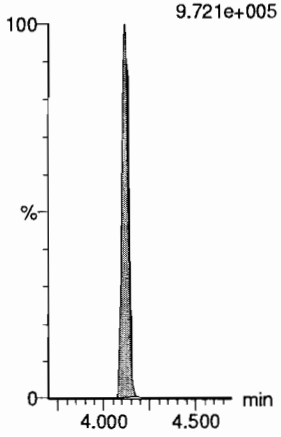


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

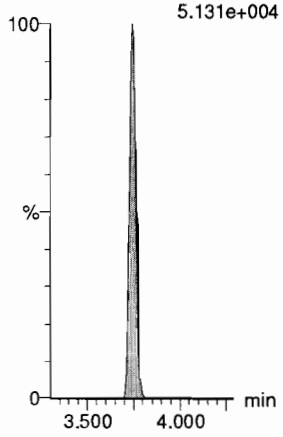
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_11, Date: 22-Jul-2019, Time: 11:40:48, ID: ST190722M1-8 PFC CS5 19G1108, Description: PFC CS5 19G1108

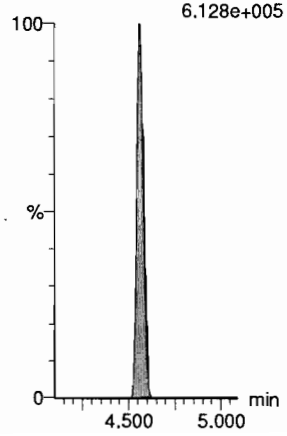
13C8-PFOA



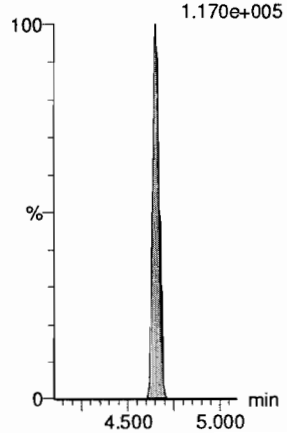
18O2-PFHxS



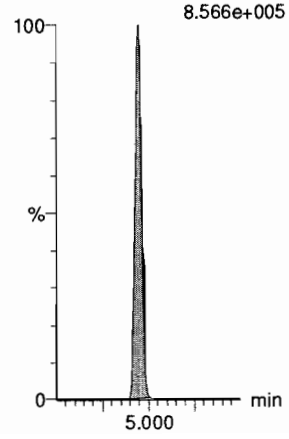
13C9-PFNA



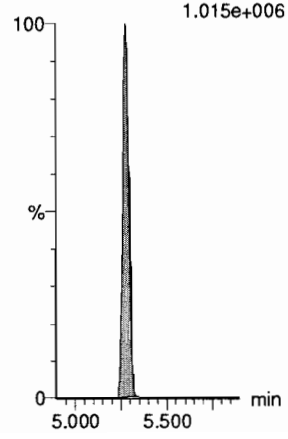
13C4-PFOS



13C6-PFDA



13C7-PFUdA

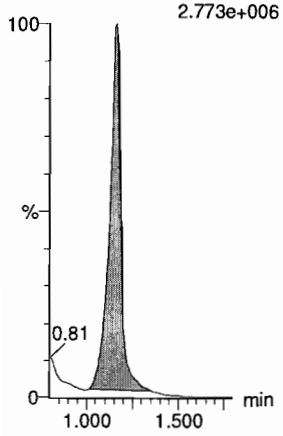


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

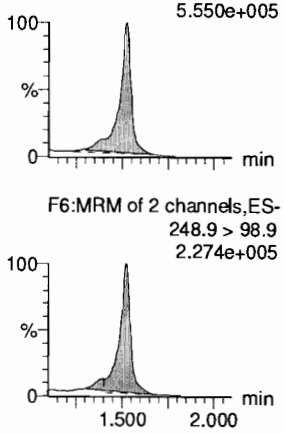
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

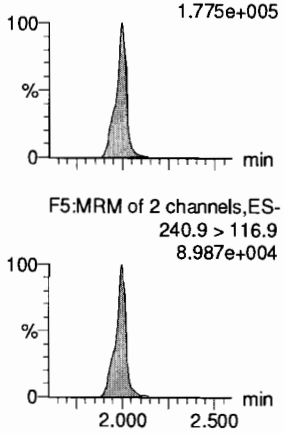
PFBA



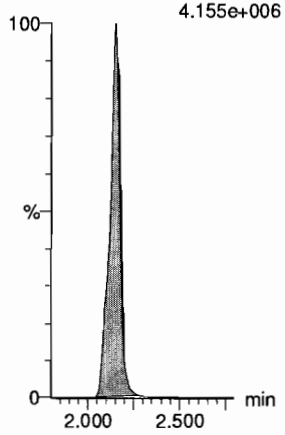
PFPrS



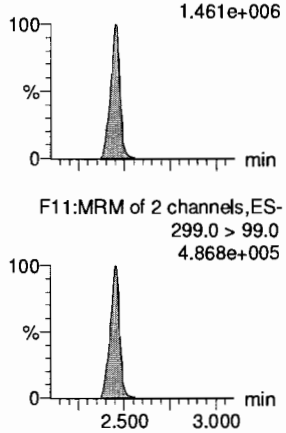
3:3 FTCA



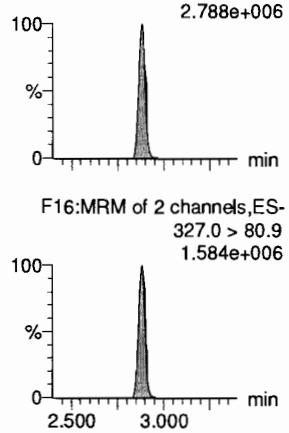
PFPeA



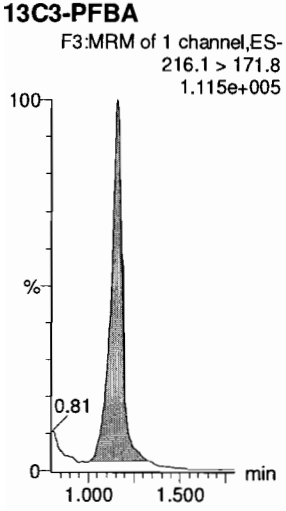
PFBS



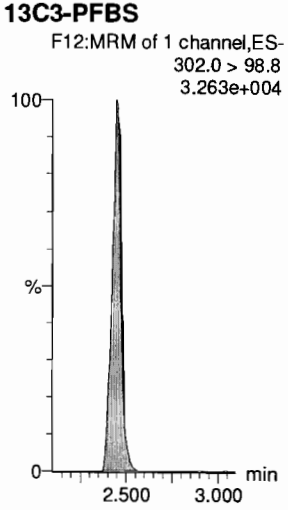
4:2 FTS



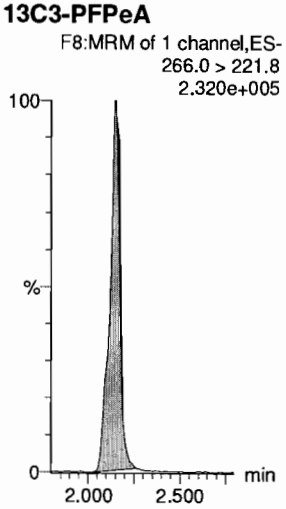
13C3-PFBA



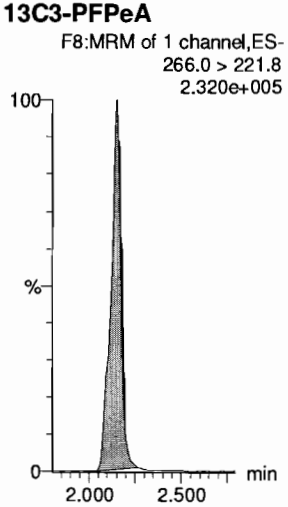
13C3-PFBS



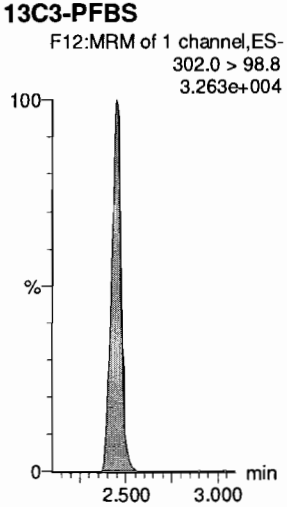
13C3-PFPeA



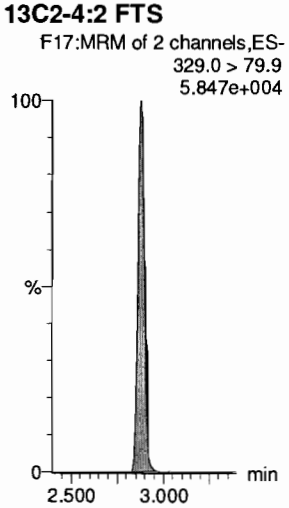
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

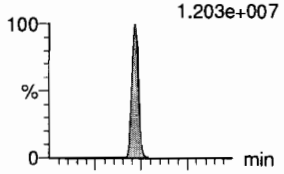


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

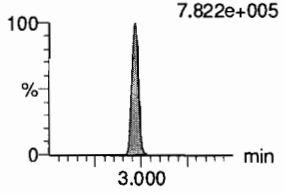
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

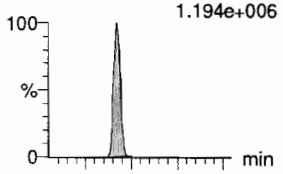
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
1.203e+007



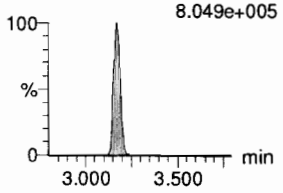
F13:MRM of 2 channels,ES-
313 > 118.9
7.822e+005



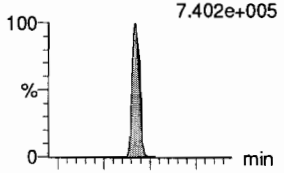
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
1.194e+006



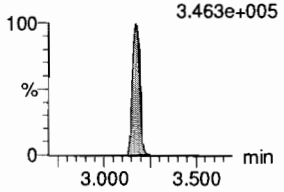
F19:MRM of 2 channels,ES-
349.1 > 99
8.049e+005



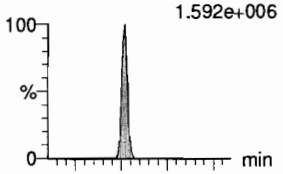
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
7.402e+005



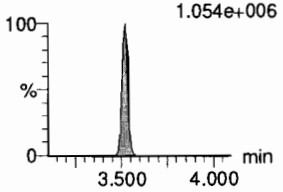
F9:MRM of 3 channels,ES-
285.1 > 184.9
3.463e+005



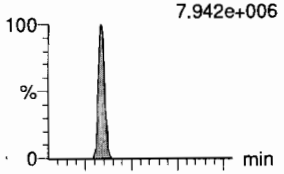
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
1.592e+006



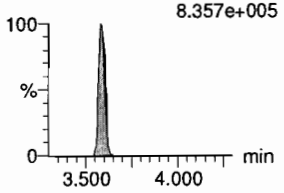
F18:MRM of 2 channels,ES-
340.9 > 216.9
1.054e+006



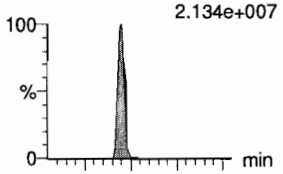
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
7.942e+006



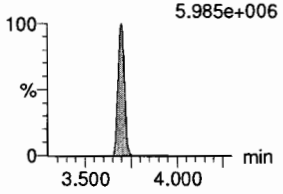
F20:MRM of 2 channels,ES-
363.0 > 169.0
8.357e+005



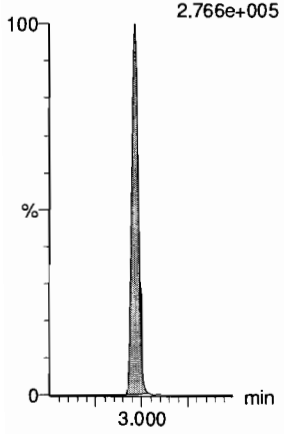
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
2.134e+007



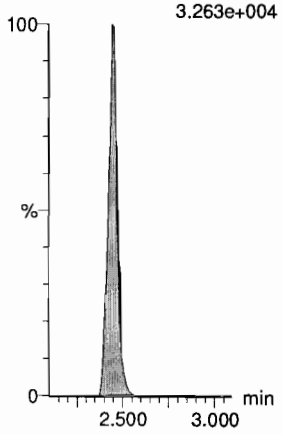
F22:MRM of 2 channels,ES-
376.8 > 85.0
5.985e+006



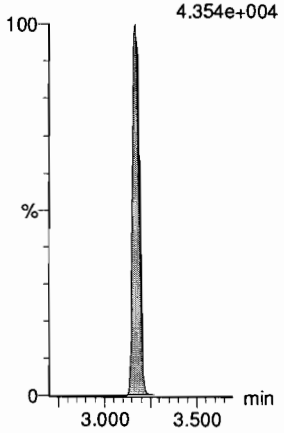
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
2.766e+005



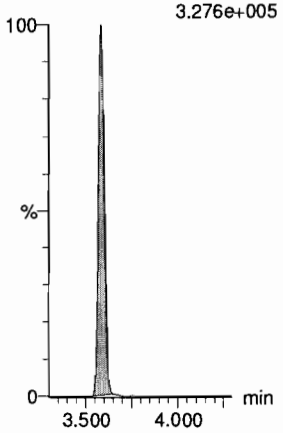
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
3.263e+004



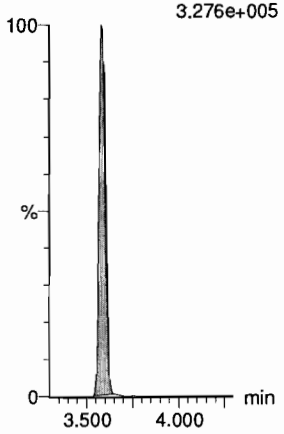
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
4.354e+004



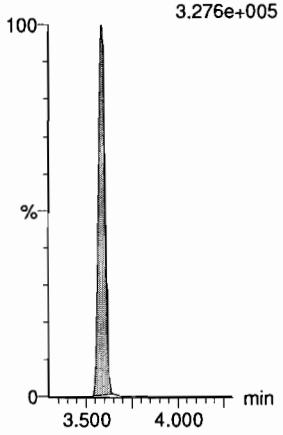
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.276e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.276e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.276e+005

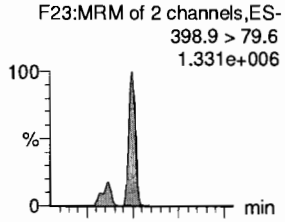


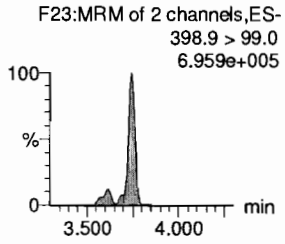
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

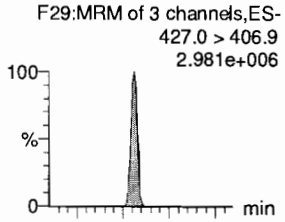
Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

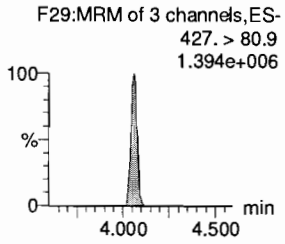
L-PFHxS



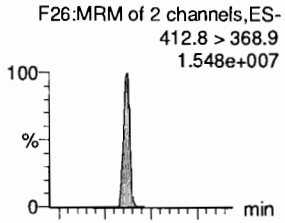


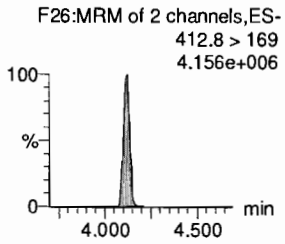
6:2 FTS



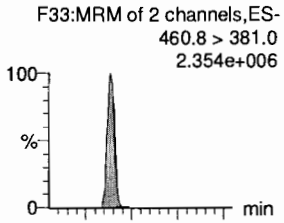


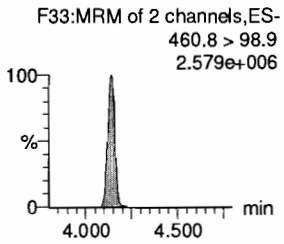
L-PFOA



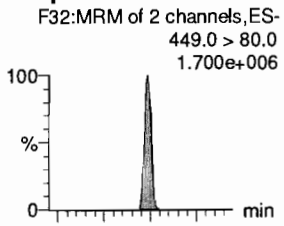


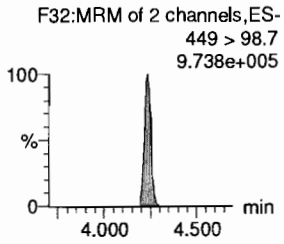
PFEChS



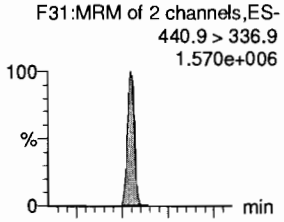


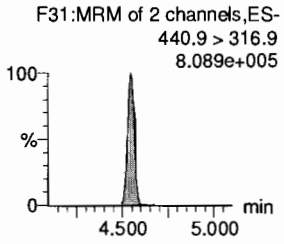
PFHpS



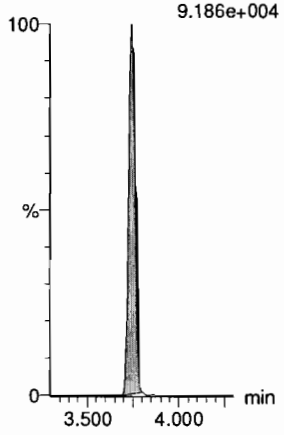


7:3 FTCA

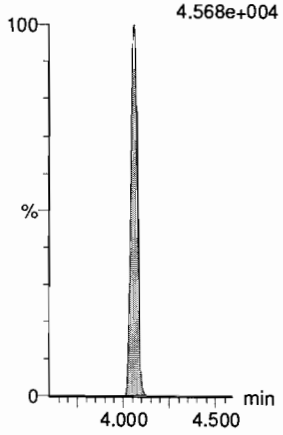




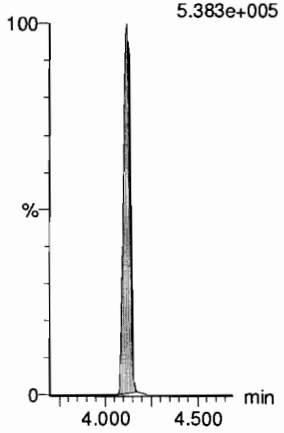
13C3-PFHxS



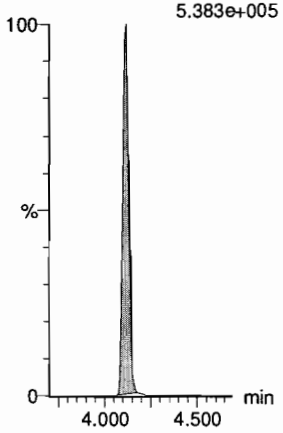
13C2-6:2 FTS



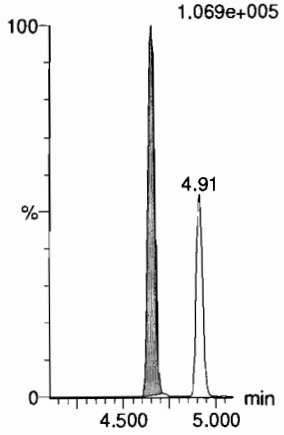
13C2-PFOA



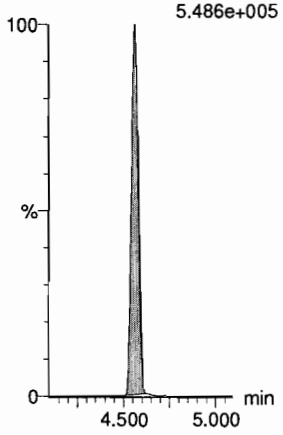
13C2-PFOA



13C8-PFOS



13C5-PFNA

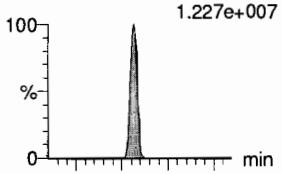


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

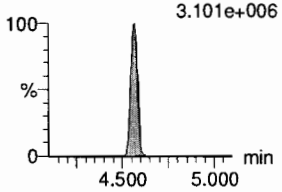
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

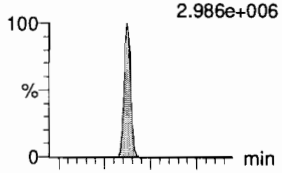
PFNA
F34:MRM of 2 channels,ES-
463.0 > 418.8
1.227e+007



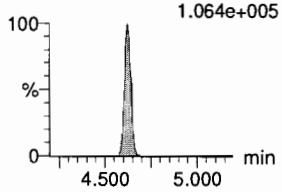
F34:MRM of 2 channels,ES-
463.0 > 219.0
3.101e+006



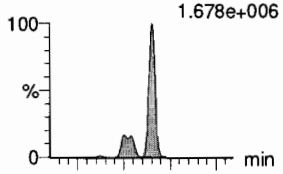
PFOSA
F37:MRM of 2 channels,ES-
497.9 > 77.9
2.986e+006



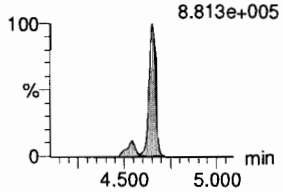
F37:MRM of 2 channels,ES-
497.9 > 168.9
1.064e+005



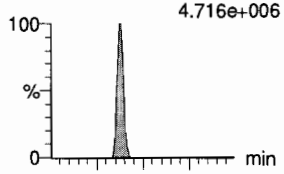
L-PFOS
F39:MRM of 2 channels,ES-
498.9 > 79.9
1.678e+006



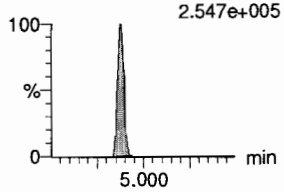
F39:MRM of 2 channels,ES-
498.9 > 99.0
8.813e+005



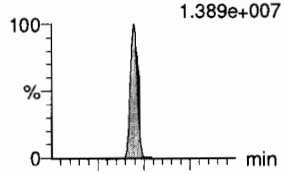
9Cl-PF30NS
F51:MRM of 2 channels,ES-
530.7 > 350.8
4.716e+006



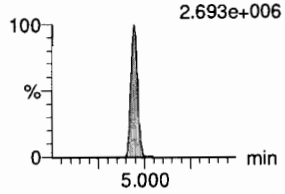
F51:MRM of 2 channels,ES-
530.7 > 82.8
2.547e+005



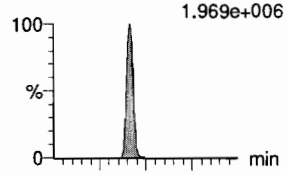
PFDA
F44:MRM of 2 channels,ES-
513 > 468.8
1.389e+007



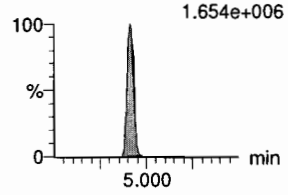
F44:MRM of 2 channels,ES-
513 > 219
2.693e+006



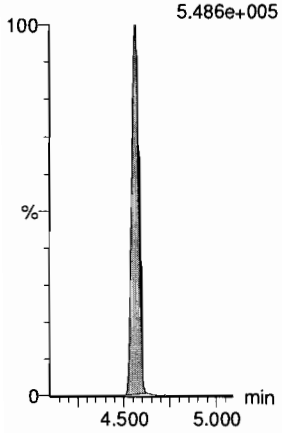
8:2 FTS
F49:MRM of 2 channels,ES-
527.0 > 506.9
1.969e+006



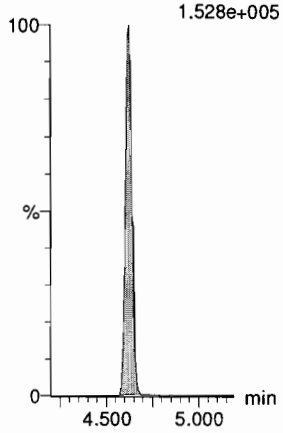
F49:MRM of 2 channels,ES-
527 > 80.9
1.654e+006



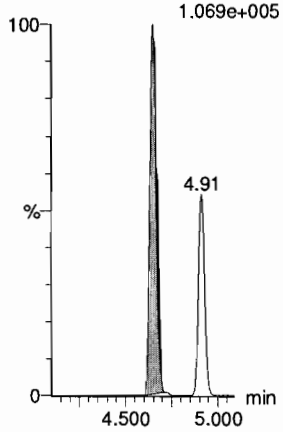
13C5-PFNA
F35:MRM of 1 channel,ES-
468.2 > 422.9
5.486e+005



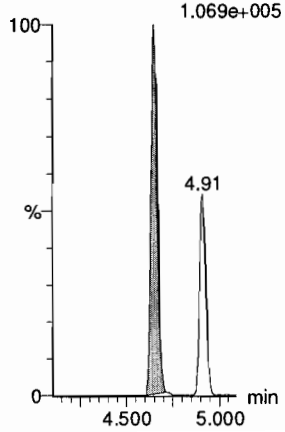
13C8-PFOSA
F41:MRM of 1 channel,ES-
506.1 > 77.7
1.528e+005



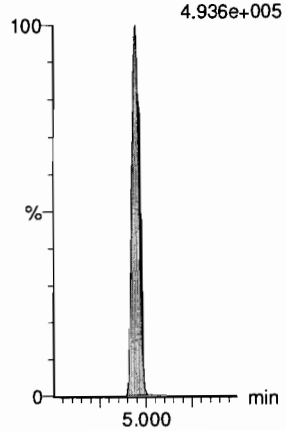
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.069e+005



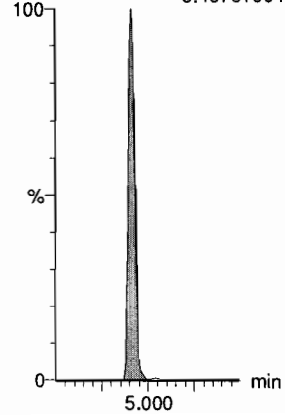
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.069e+005



13C2-PFDA
F45:MRM of 1 channel,ES-
515.1 > 469.9
4.936e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.467e+004

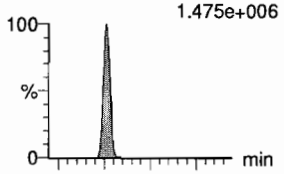


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

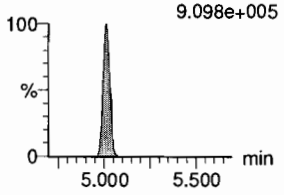
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

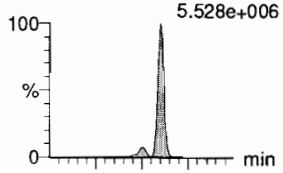
PFNS
F53:MRM of 2 channels,ES-
549.1 > 80.1
1.475e+006



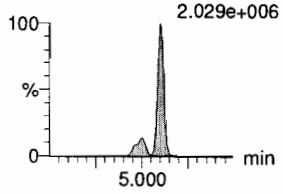
F53:MRM of 2 channels,ES-
549.1 > 99.1
9.098e+005



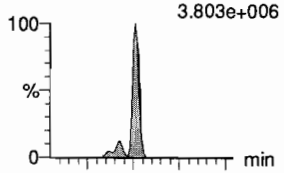
L-MeFOSAA
F56:MRM of 2 channels,ES-
570 > 419
5.528e+006



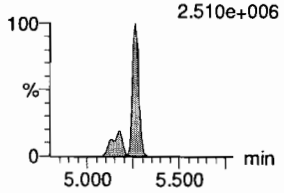
F56:MRM of 2 channels,ES-
570. > 512
2.029e+006



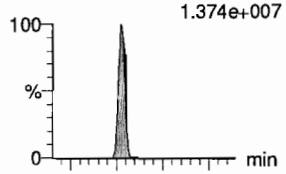
L-EtFOSAA
F59:MRM of 2 channels,ES-
584.1 > 419
3.803e+006



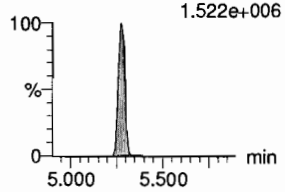
F59:MRM of 2 channels,ES-
584.1 > 526
2.510e+006



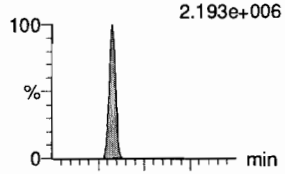
PFUdA
F54:MRM of 2 channels,ES-
563.0 > 518.9
1.374e+007



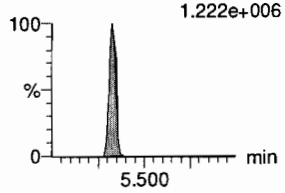
F54:MRM of 2 channels,ES-
563.0 > 269
1.522e+006



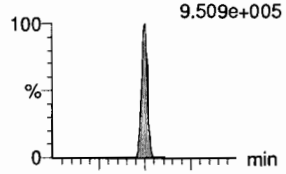
PFDS
F61:MRM of 2 channels,ES-
598.8 > 79.9
2.193e+006



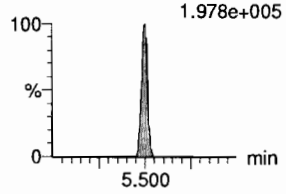
F61:MRM of 2 channels,ES-
598.8 > 98.9
1.222e+006



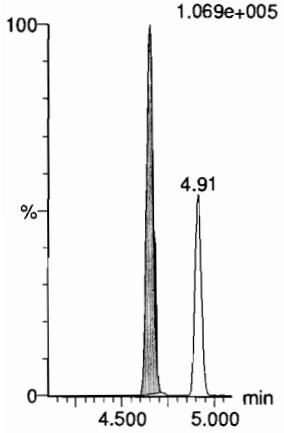
11Cl-PF30UdS
F68:MRM of 2 channels,ES-
632.6 > 452.7
9.509e+005



F68:MRM of 2 channels,ES-
632.6 > 450.7
1.978e+005



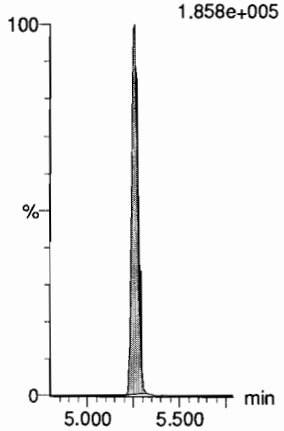
13C8-PFOS
F42:MRM of 1 channel,ES-
507.0 > 79.9
1.069e+005



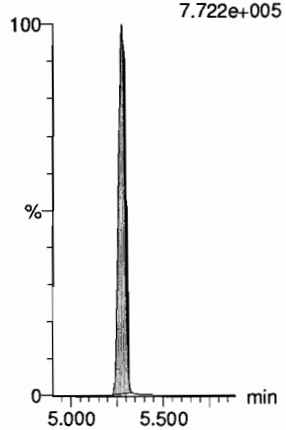
d3-N-MeFOSAA
F58:MRM of 1 channel,ES-
573.3 > 419
1.517e+005



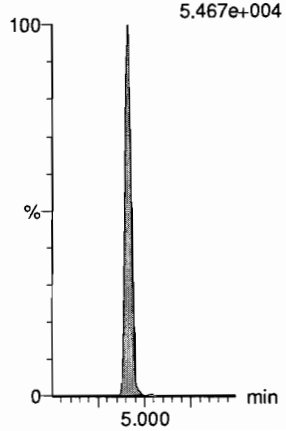
d5-N-EtFOSAA
F60:MRM of 1 channel,ES-
589.3 > 419
1.858e+005



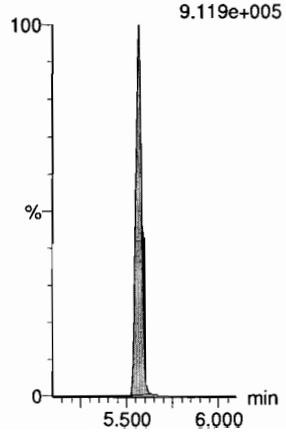
13C2-PFUdA
F55:MRM of 1 channel,ES-
565 > 519.8
7.722e+005



13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.467e+004



13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.119e+005

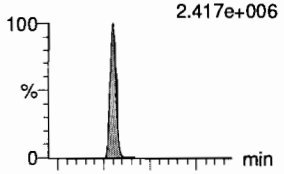


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

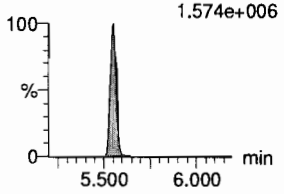
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

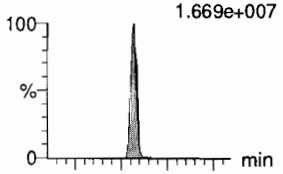
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
2.417e+006



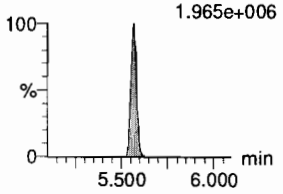
F66:MRM of 2 channels,ES-
627.0 > 80.9
1.574e+006



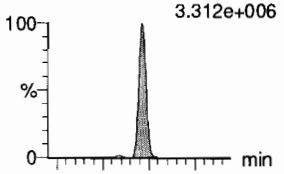
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
1.669e+007



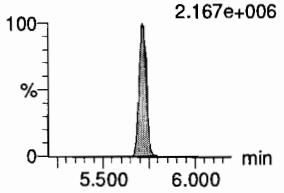
F62:MRM of 4 channels,ES-
612.9 > 318.8
1.965e+006



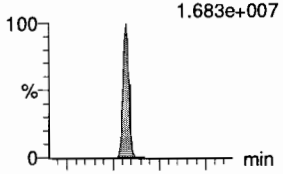
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
3.312e+006



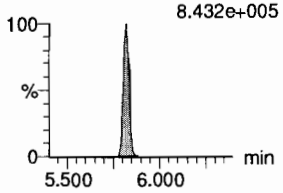
F43:MRM of 2 channels,ES-
512.1 > 219
2.167e+006



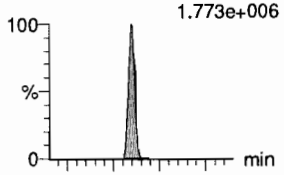
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
1.683e+007



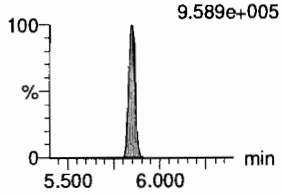
F70:MRM of 2 channels,ES-
662.9 > 319
8.432e+005



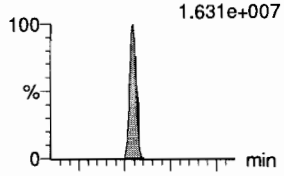
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
1.773e+006



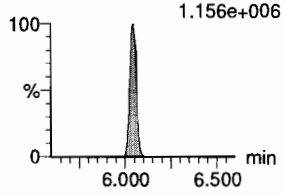
F71:MRM of 2 channels,ES-
698.8 > 98.9
9.589e+005



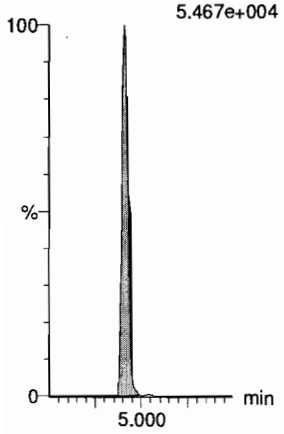
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
1.631e+007



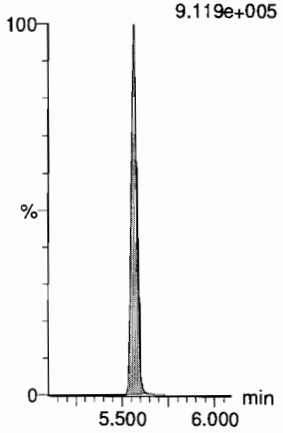
F72:MRM of 2 channels,ES-
713. > 369.0
1.156e+006



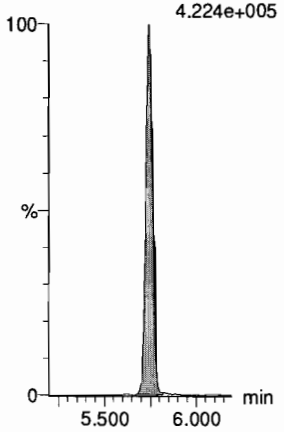
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
5.467e+004



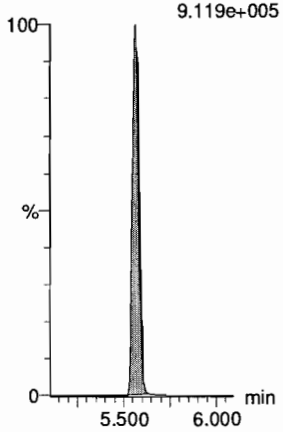
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.119e+005



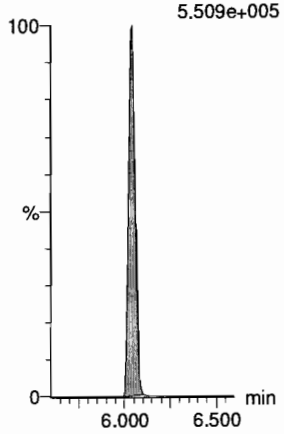
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.224e+005



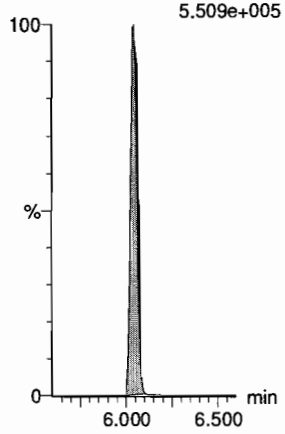
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
9.119e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
5.509e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
5.509e+005

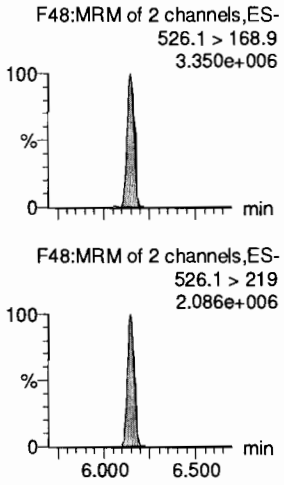


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

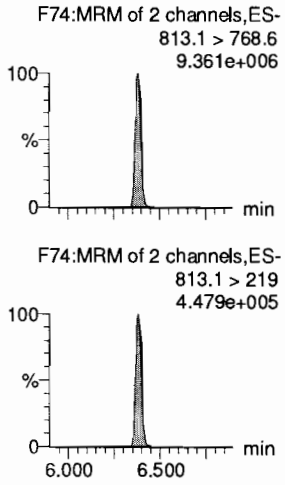
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

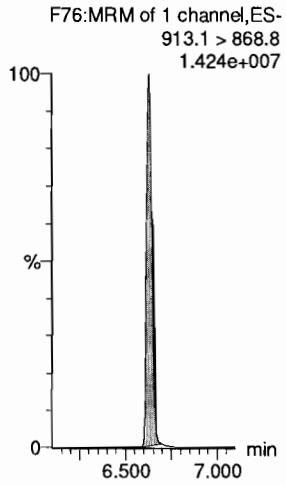
N-EtFOSA



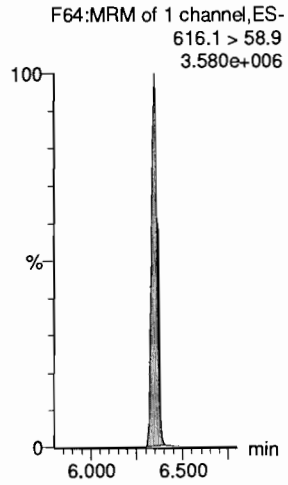
PFHxDA



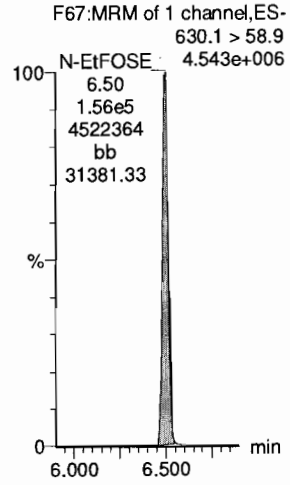
PFODA



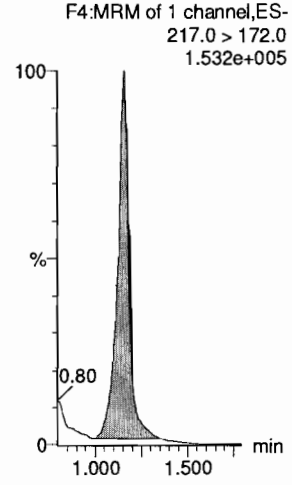
N-MeFOSE



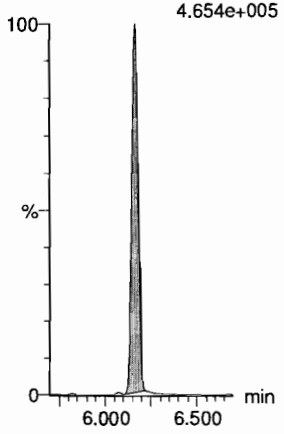
N-EtFOSE



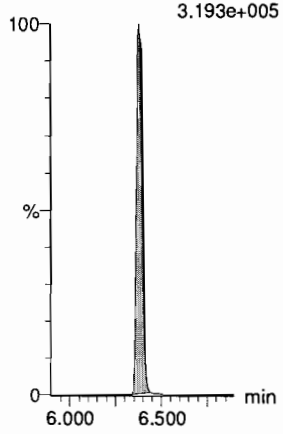
13C4-PFBA



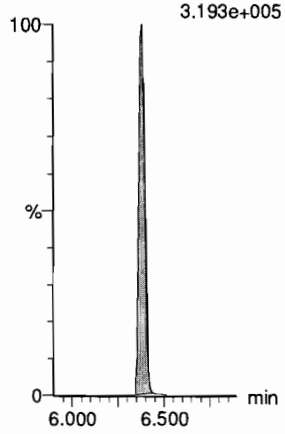
d5-N-ETFOSA



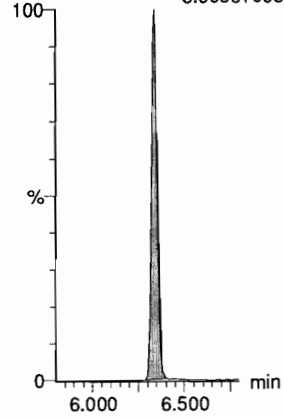
13C2-PFHxDA



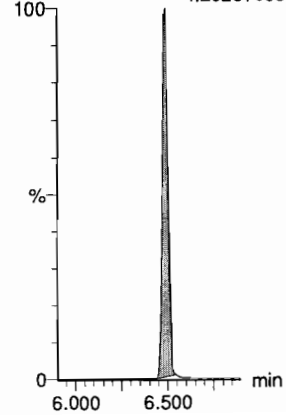
13C2-PFHxDA



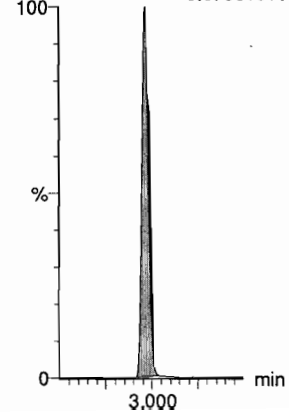
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

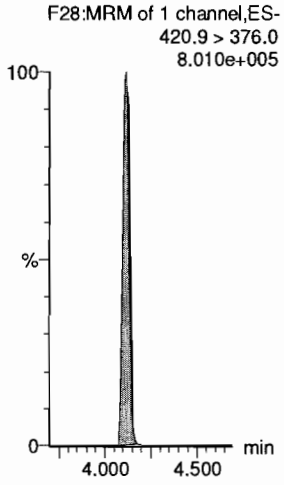


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

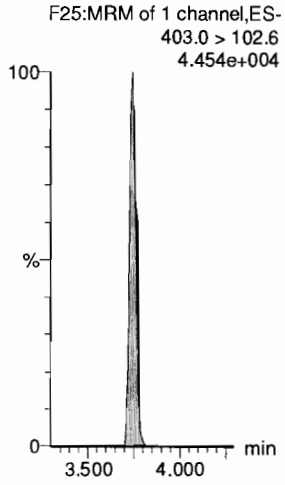
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_12, Date: 22-Jul-2019, Time: 11:51:27, ID: ST190722M1-9 PFC CS6 19G1109, Description: PFC CS6 19G1109

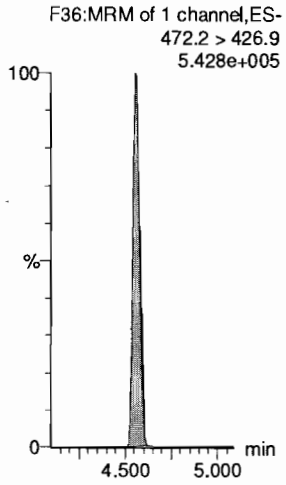
13C8-PFOA



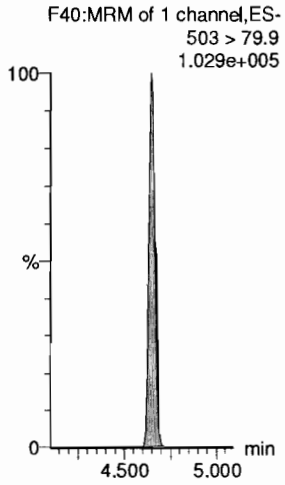
18O2-PFHxS



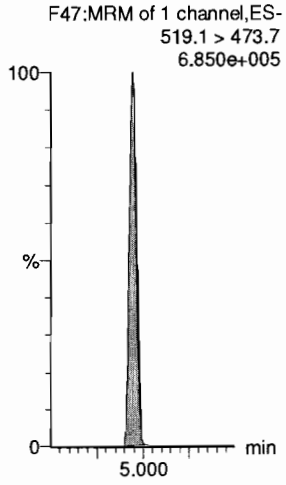
13C9-PFNA



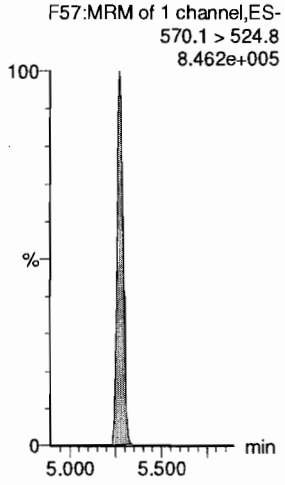
13C4-PFOS



13C6-PFDA



13C7-PFUdA

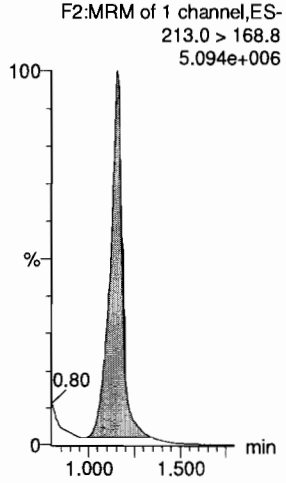


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

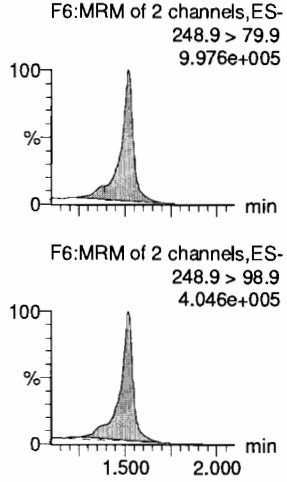
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

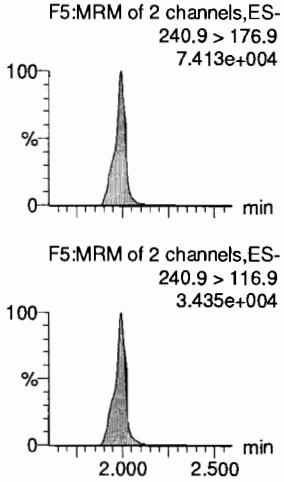
PFBA



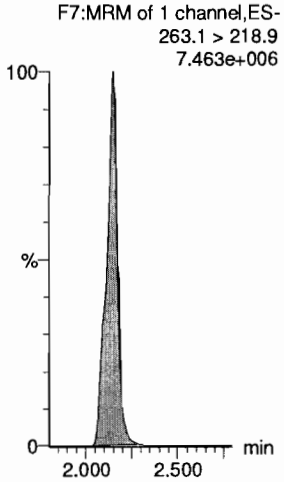
PFPrS



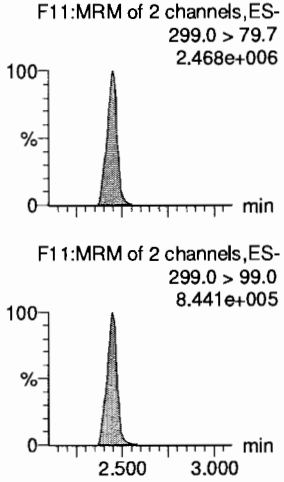
3:3 FTCA



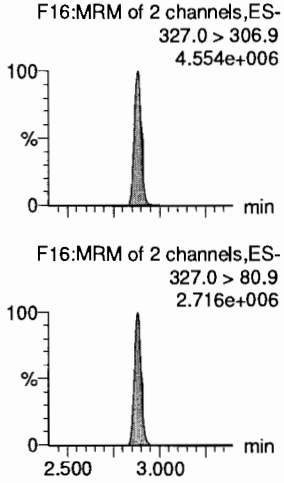
PFPeA



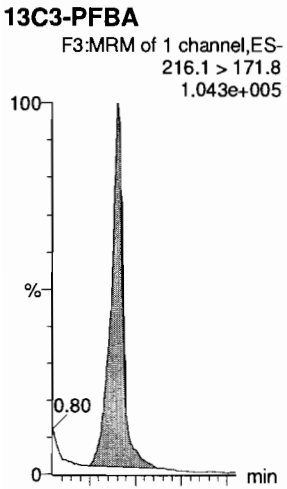
PFBS



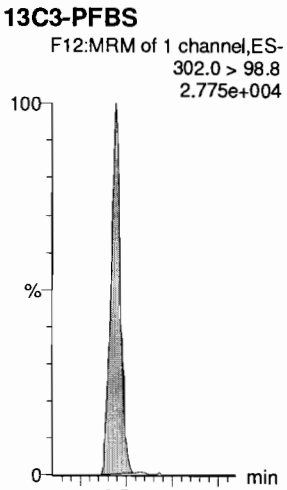
4:2 FTS



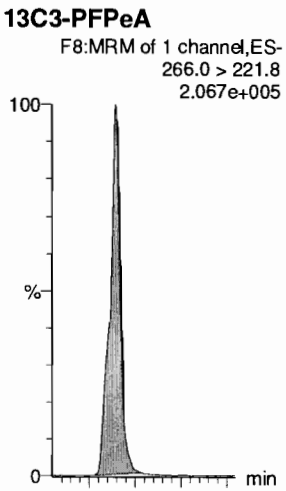
13C3-PFBA



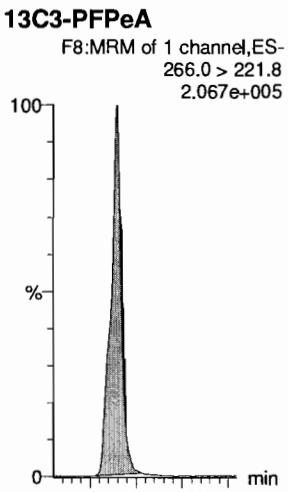
13C3-PFBS



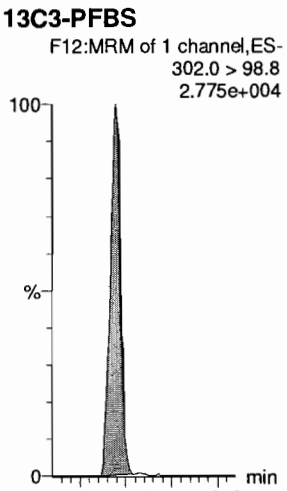
13C3-PFPeA



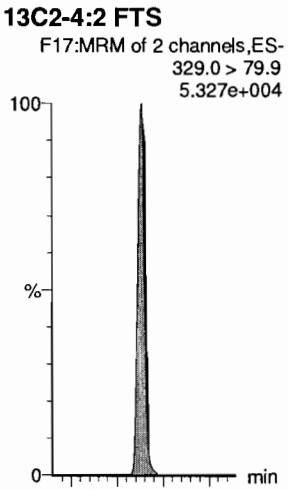
13C3-PFPeA



13C3-PFBS



13C2-4:2 FTS

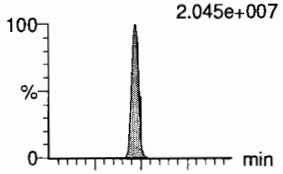


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

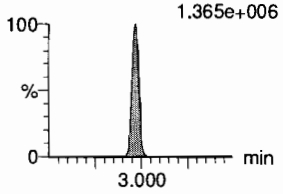
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

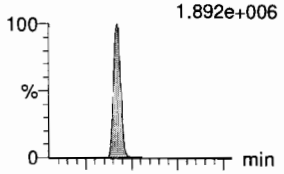
PFHxA
F13:MRM of 2 channels,ES-
313.0 > 269.0
2.045e+007



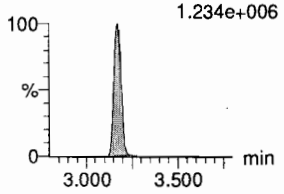
F13:MRM of 2 channels,ES-
313 > 118.9
1.365e+006



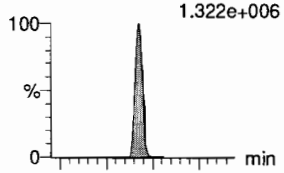
PFPeS
F19:MRM of 2 channels,ES-
349.1 > 80.1
1.892e+006



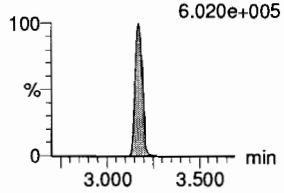
F19:MRM of 2 channels,ES-
349.1 > 99
1.234e+006



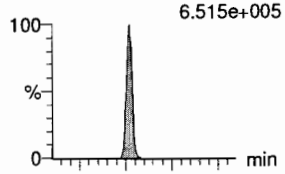
HFPO-DA
F9:MRM of 3 channels,ES-
285.1 > 168.9
1.322e+006



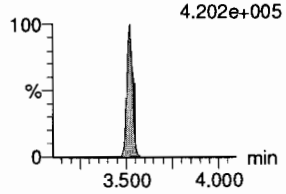
F9:MRM of 3 channels,ES-
285.1 > 184.9
6.020e+005



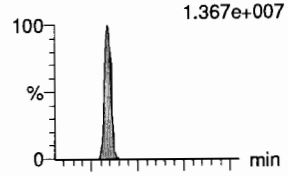
5:3 FTCA
F18:MRM of 2 channels,ES-
340.9 > 236.9
6.515e+005



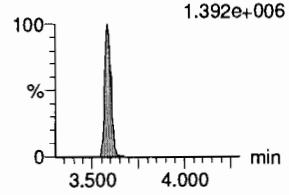
F18:MRM of 2 channels,ES-
340.9 > 216.9
4.202e+005



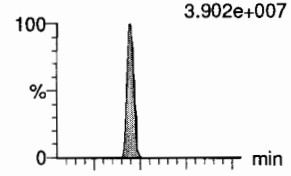
PFHpA
F20:MRM of 2 channels,ES-
363.0 > 318.9
1.367e+007



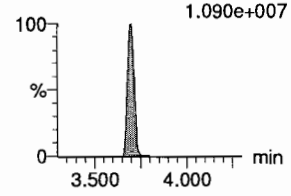
F20:MRM of 2 channels,ES-
363.0 > 169.0
1.392e+006



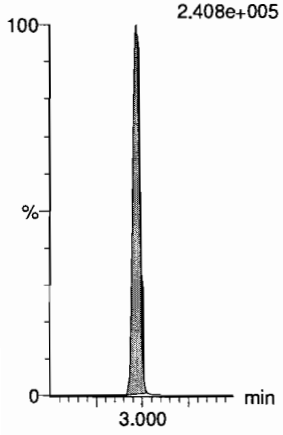
ADONA
F22:MRM of 2 channels,ES-
376.8 > 250.9
3.902e+007



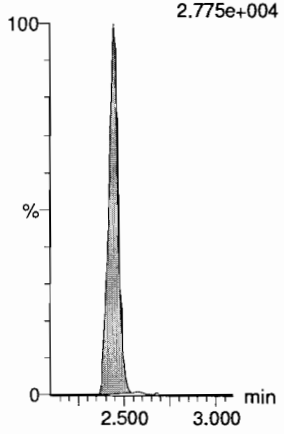
F22:MRM of 2 channels,ES-
376.8 > 85.0
1.090e+007



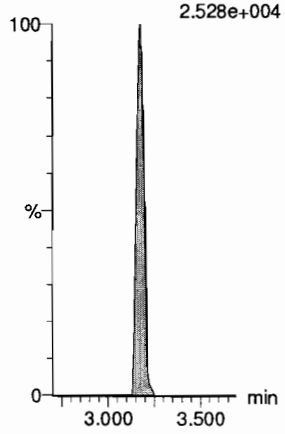
13C2-PFHxA
F14:MRM of 1 channel,ES-
315.0 > 270.0
2.408e+005



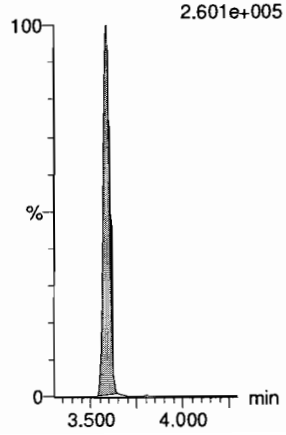
13C3-PFBS
F12:MRM of 1 channel,ES-
302.0 > 98.8
2.775e+004



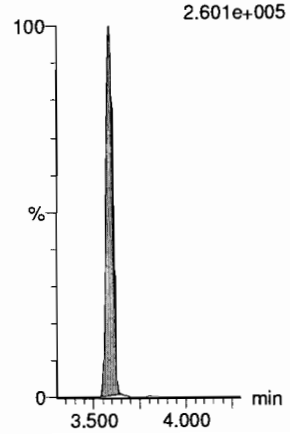
13C3-HFPO-DA
F10:MRM of 2 channels,ES-
287.0 > 168.9
2.528e+004



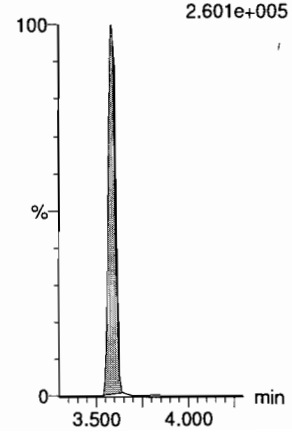
13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.601e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.601e+005



13C4-PFHpA
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.601e+005

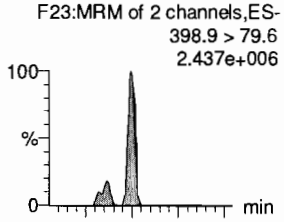


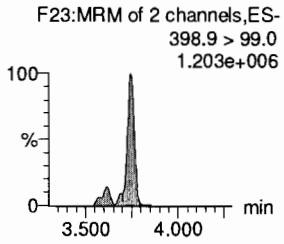
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

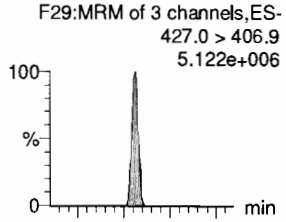
Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

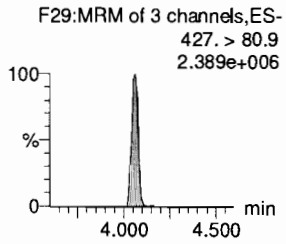
L-PFHxS



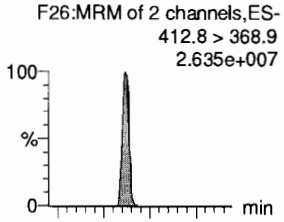


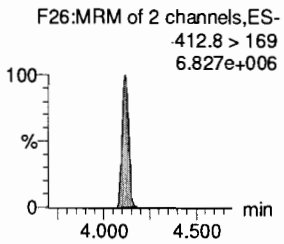
6:2 FTS



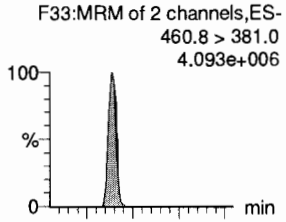


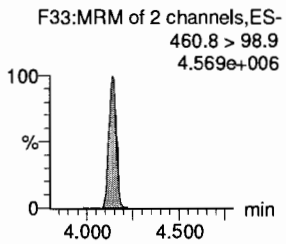
L-PFOA



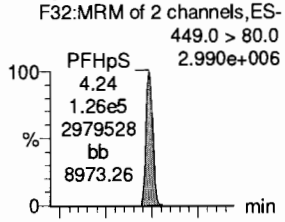


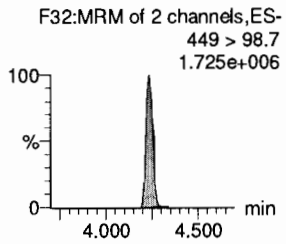
PFEChS



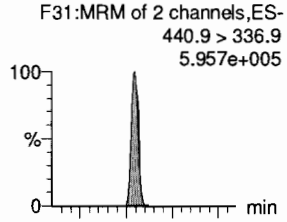


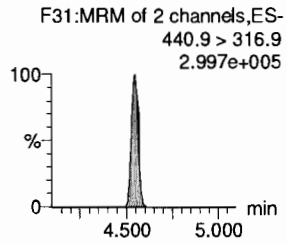
PFHpS



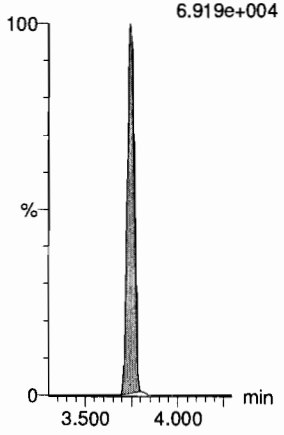


7:3 FTCA

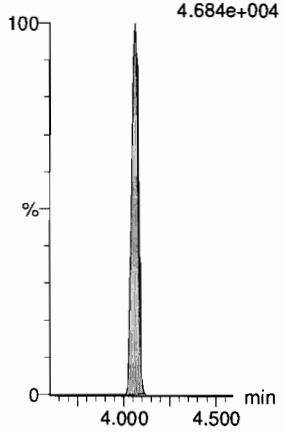




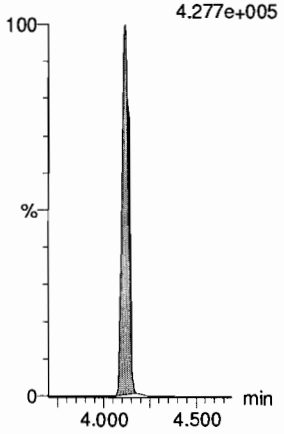
13C3-PFHxS



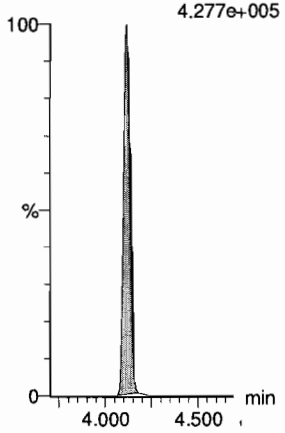
13C2-6:2 FTS



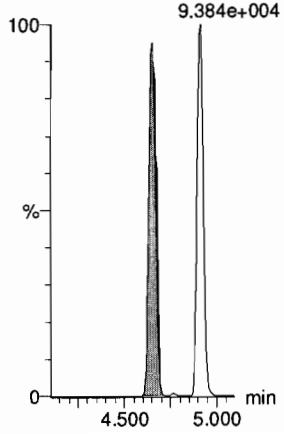
13C2-PFOA



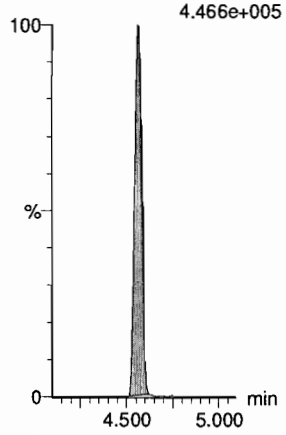
13C2-PFOA



13C8-PFOS



13C5-PFNA

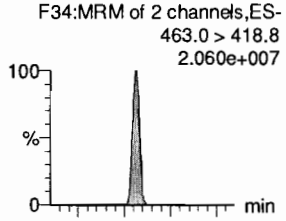


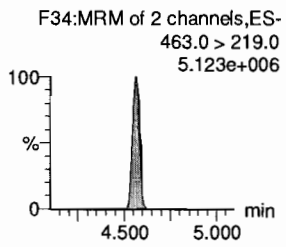
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

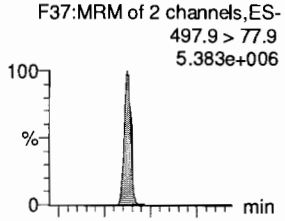
Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

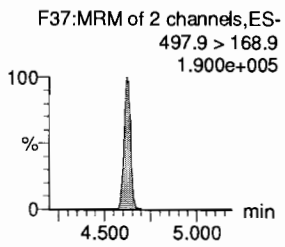
PFNA



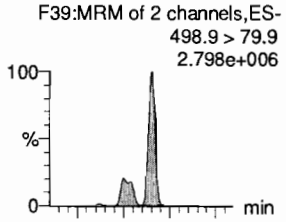


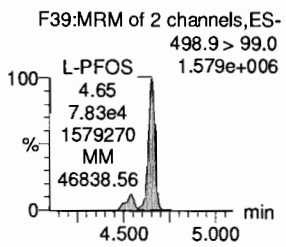
PFOSA



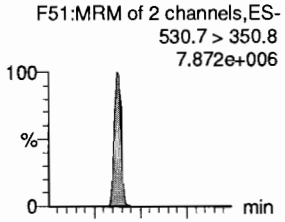


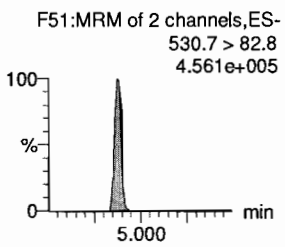
L-PFOS



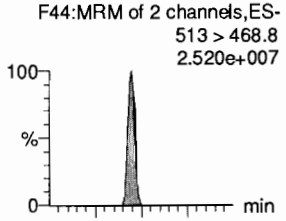


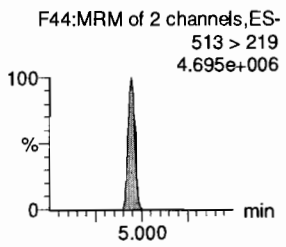
9Cl-PF30NS



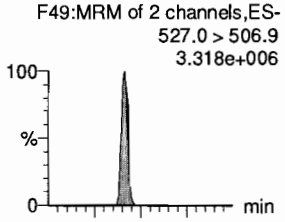


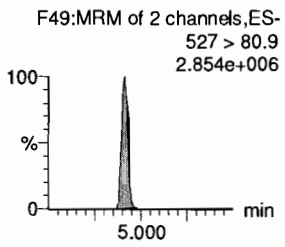
PFDA



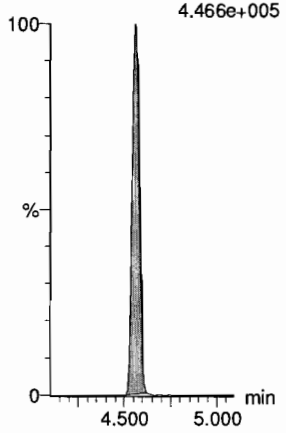


8:2 FTS

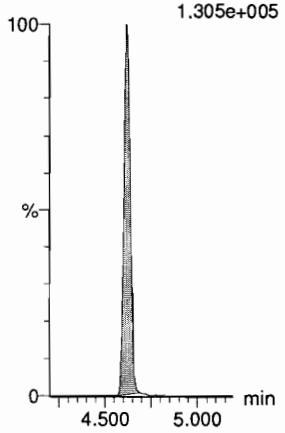




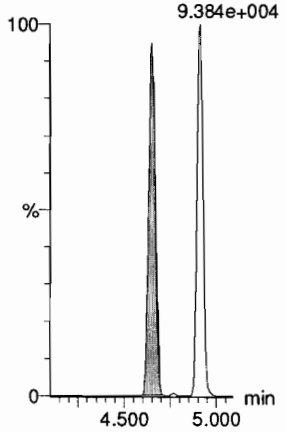
13C5-PFNA



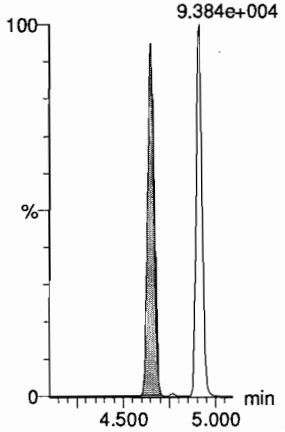
13C8-PFOSA



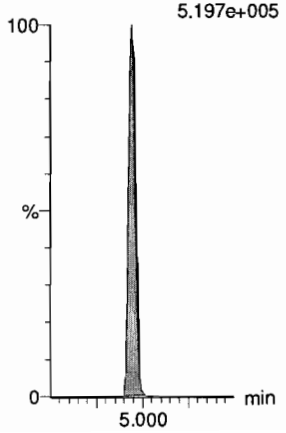
13C8-PFOS



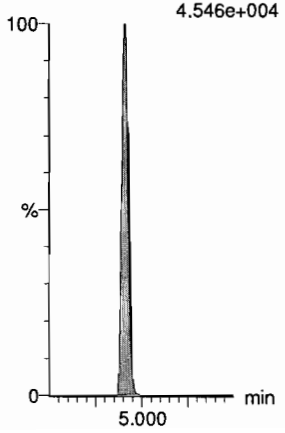
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
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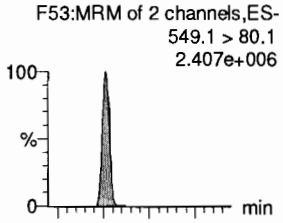
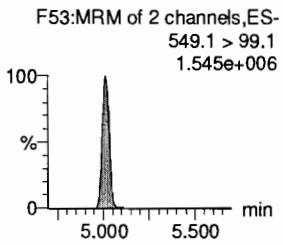
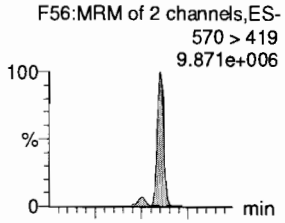
Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

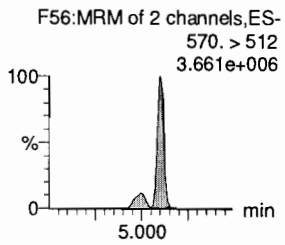
PFNS



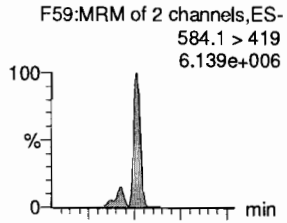


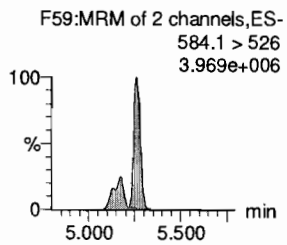
L-MeFOSAA



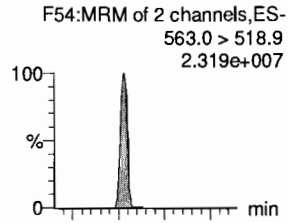


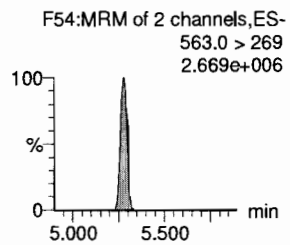
L-EtFOSAA



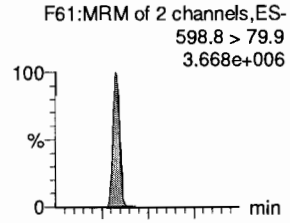


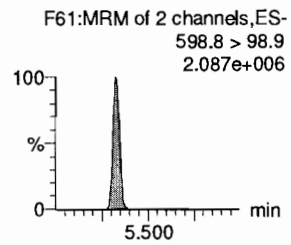
PFUdA



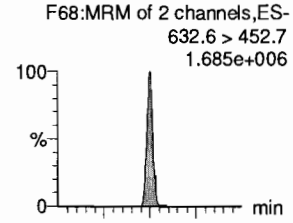


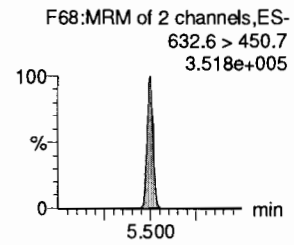
PFDS



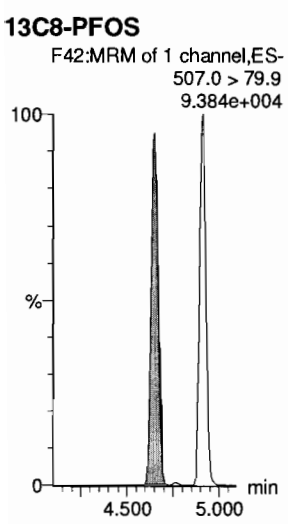


11Cl-PF30UdS

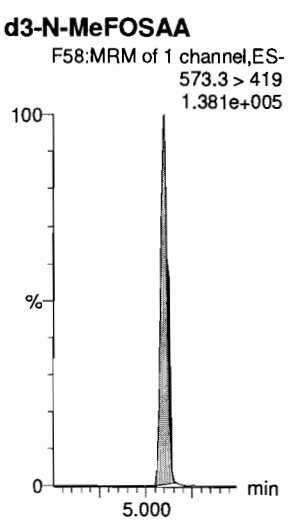




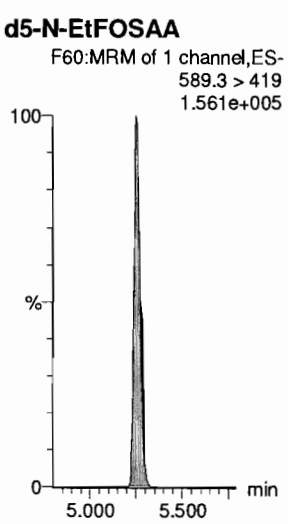
13C8-PFOS



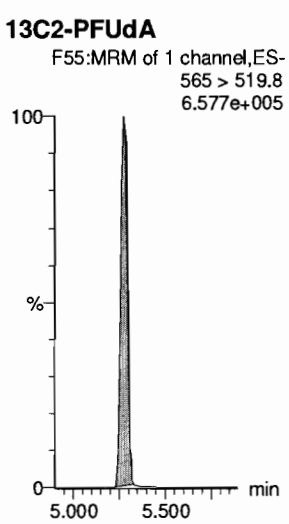
d3-N-MeFOSAA



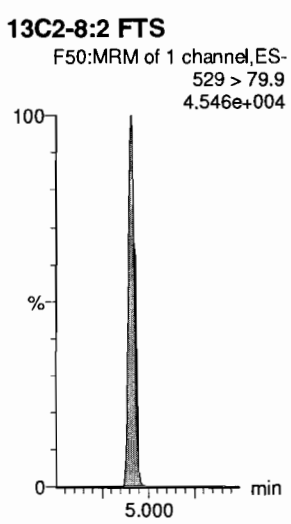
d5-N-EtFOSAA



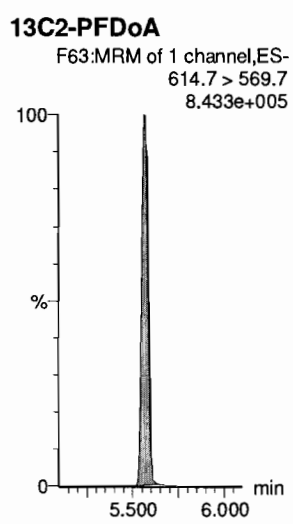
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
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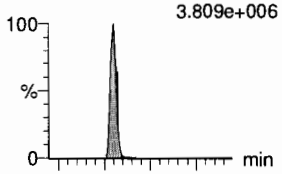
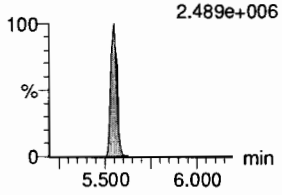
Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

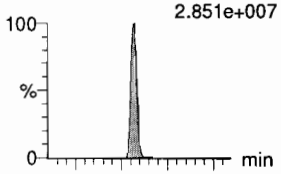
10:2 FTS
F66:MRM of 2 channels,ES-
627.0 > 606.9
3.809e+006



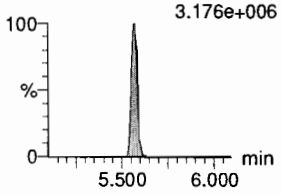
F66:MRM of 2 channels,ES-
627.0 > 80.9
2.489e+006



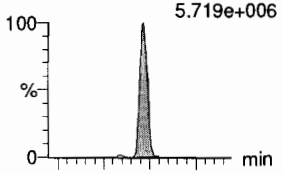
PFDoA
F62:MRM of 4 channels,ES-
612.9 > 569.0
2.851e+007



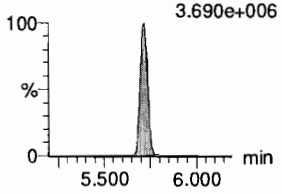
F62:MRM of 4 channels,ES-
612.9 > 318.8
3.176e+006



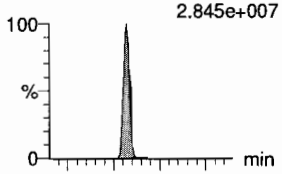
N-MeFOSA
F43:MRM of 2 channels,ES-
512.1 > 168.9
5.719e+006



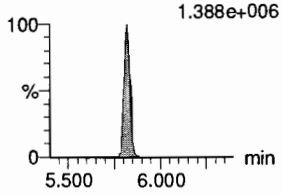
F43:MRM of 2 channels,ES-
512.1 > 219
3.690e+006



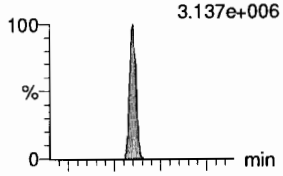
PFTrDA
F70:MRM of 2 channels,ES-
662.9 > 618.9
2.845e+007



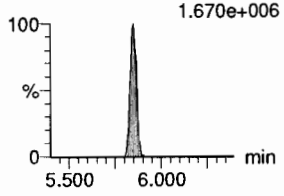
F70:MRM of 2 channels,ES-
662.9 > 319
1.388e+006



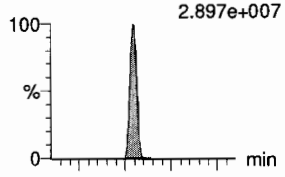
PFDoS
F71:MRM of 2 channels,ES-
698.8 > 79.9
3.137e+006



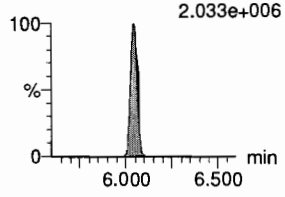
F71:MRM of 2 channels,ES-
698.8 > 98.9
1.670e+006



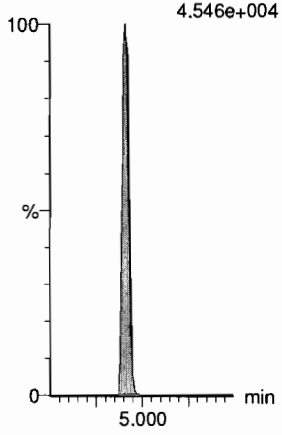
PFTeDA
F72:MRM of 2 channels,ES-
713.0 > 669.0
2.897e+007



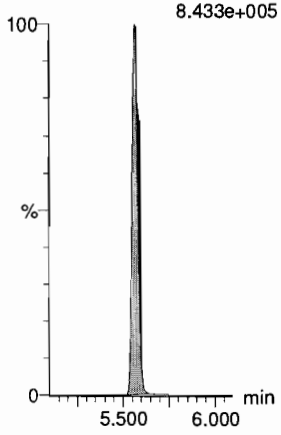
F72:MRM of 2 channels,ES-
713. > 369.0
2.033e+006



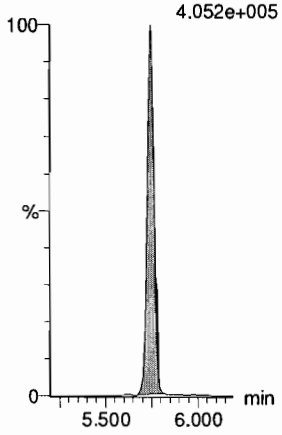
13C2-8:2 FTS
F50:MRM of 1 channel,ES-
529 > 79.9
4.546e+004



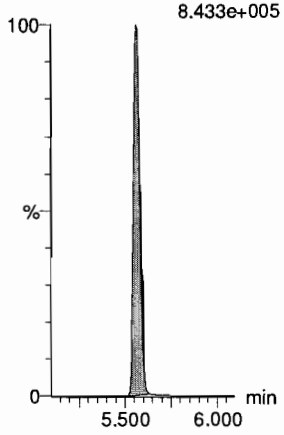
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
8.433e+005



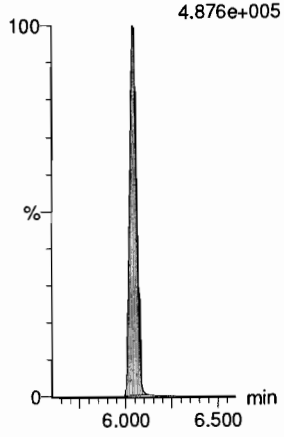
d3-N-MeFOSA
F46:MRM of 1 channel,ES-
515.2 > 168.9
4.052e+005



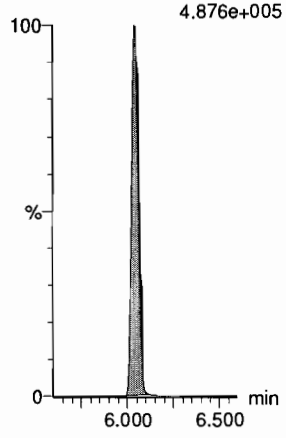
13C2-PFDoA
F63:MRM of 1 channel,ES-
614.7 > 569.7
8.433e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.876e+005



13C2-PFTeDA
F73:MRM of 2 channels,ES-
715.1 > 669.7
4.876e+005

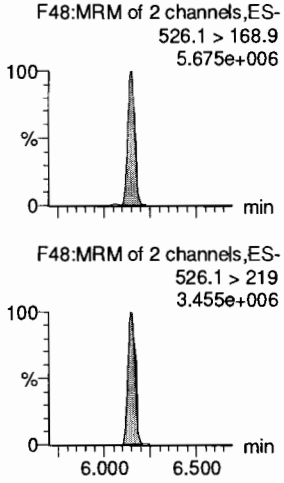


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

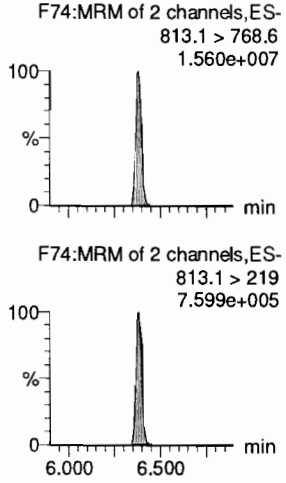
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

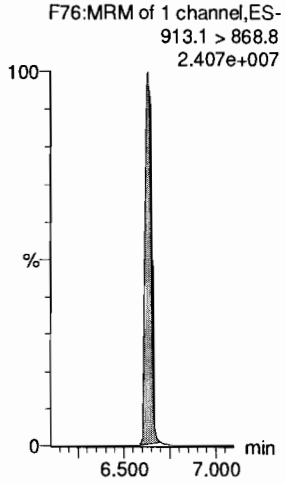
N-EtFOSA



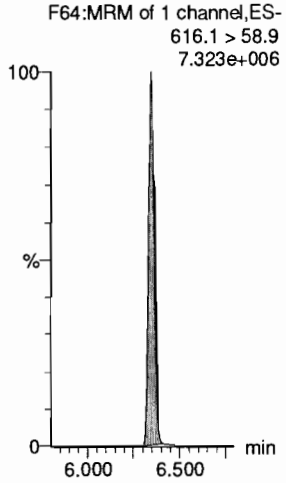
PFHxDA



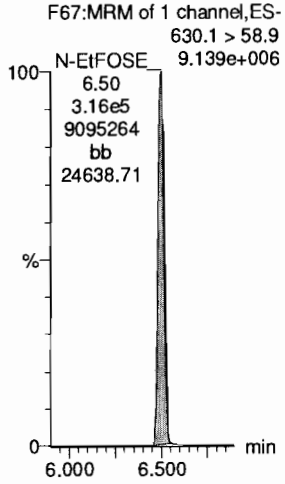
PFODA



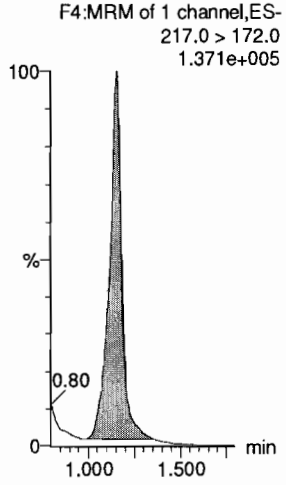
N-MeFOSE



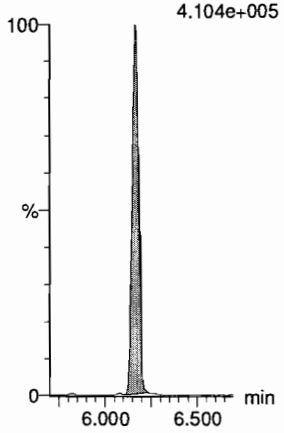
N-EtFOSE



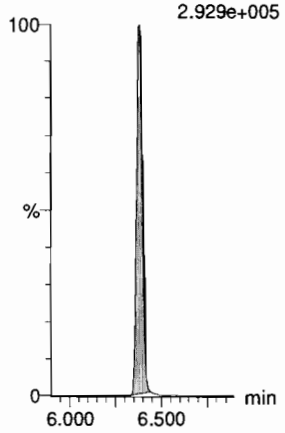
13C4-PFBA



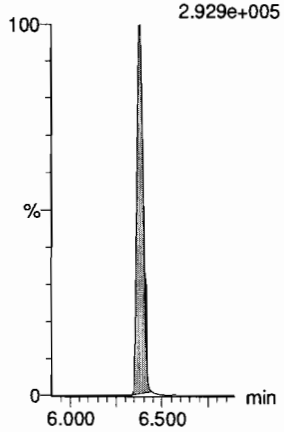
d5-N-ETFOSA



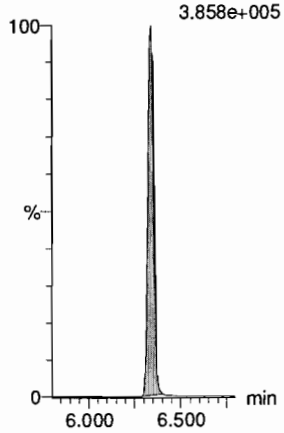
13C2-PFHxDA



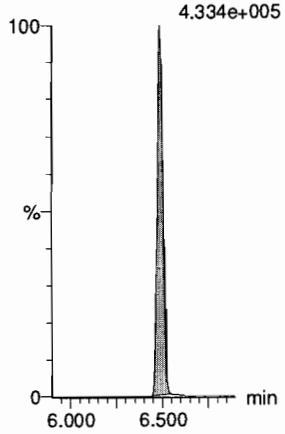
13C2-PFHxDA



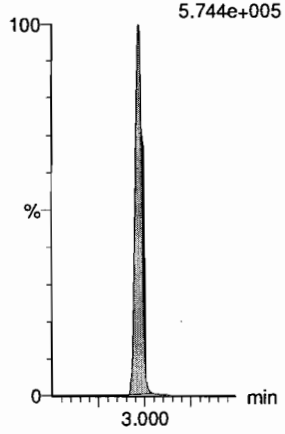
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

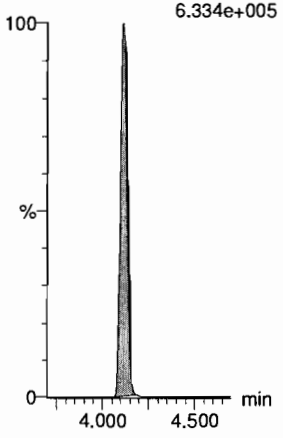


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-CRV.qld

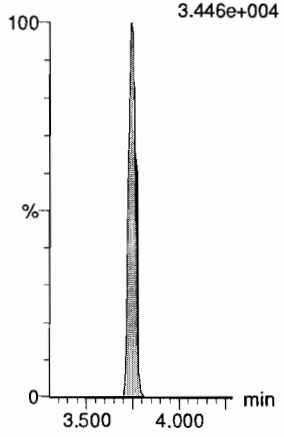
Last Altered: Monday, July 22, 2019 13:13:35 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:14:27 Pacific Daylight Time

Name: 190722M1_13, Date: 22-Jul-2019, Time: 12:02:00, ID: ST190722M1-10 PFC CS7 19G1110, Description: PFC CS7 19G1110

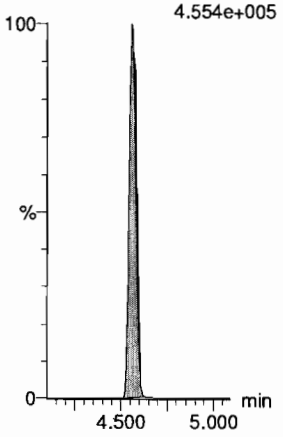
13C8-PFOA



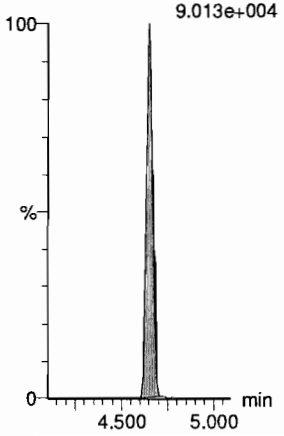
18O2-PFHxS



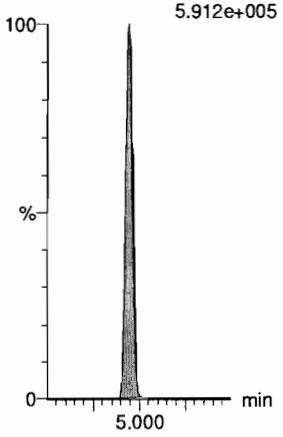
13C9-PFNA



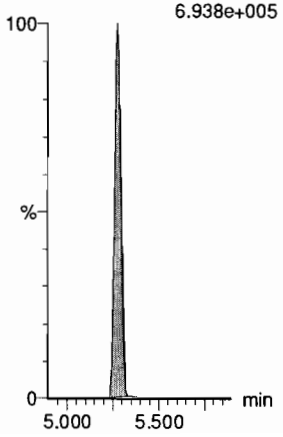
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:40:39 Pacific Daylight Time

Ⓐ Not in ICV. am 7/22/19

√ am 7/22/19

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	5885.253	7293.780	1.00	1.16	10.086	8.1	80.9	NO		
2	2	PFPrS	248.9 > 79.9		2119.419	1.00				Ⓐ	NO		
3	3	3:3 FTCA	240.9 > 176.9		15295.130	1.00				↓	NO		
4	4	PFPeA	263.1 > 218.9	8974.616	15295.130	1.00	2.15	7.335	7.9	79.4	NO		
5	5	PFBS	299.0 > 79.7	2634.274	2119.419	1.00	2.45	15.537	6.9	77.6	NO	3.018	NO
6	6	4:2 FTS	327.0 > 306.9	4613.261	3495.006	1.00	2.88	16.499	6.6	70.1	NO	1.768	NO
7	47	13C3-PFBA	216.1 > 171.8	7293.780	10457.095	1.00	1.15	8.719	11.9	95.1	NO		
8	49	13C3-PFBS	302.0 > 98.8	2119.419	2062.495	1.00	2.45	12.845	12.1	97.2	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15295.130	31027.588	1.00	2.15	6.162	12.4	99.0	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15295.130	31027.588	1.00	2.15	6.162	12.4	99.0	NO		
11	49	13C3-PFBS	302.0 > 98.8	2119.419	2062.495	1.00	2.45	12.845	12.1	97.2	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3495.006	2062.495	1.00	2.88	21.182	12.8	102.7	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0	18502.215	12247.888	1.00	2.97	7.553	8.5	85.5	NO	15.871	NO
15	8	PFPeS	349.1>80.1	2062.867	2119.419	1.00	3.17	12.166	7.6	75.9	NO	1.549	NO
16	9	HFPO-DA	285.1 > 168.9		1668.646	1.00				Ⓐ	NO		
17	10	5:3 FTCA	340.9 > 236.9		14865.786	1.00				↓	NO		
18	11	PFHpA	363.0 > 318.9	11995.425	14865.786	1.00	3.59	10.086	7.8	77.9	NO	9.958	NO
19	12	ADONA	376.8 > 250.9		14865.786	1.00				Ⓐ	NO		
20	52	13C2-PFHxA	315.0 > 270.0	12247.888	31027.588	1.00	2.97	4.934	5.0	100.9	NO		
21	49	13C3-PFBS	302.0 > 98.8	2119.419	2062.495	1.00	2.45	12.845	12.1	97.2	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1668.646	31027.588	1.00	3.18	0.672	5.0	100.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	14865.786	31027.588	1.00	3.58	5.989	12.5	100.1	NO		
24	53	13C4-PFHpA	367.2 > 321.8	14865.786	31027.588	1.00	3.58	5.989	12.5	100.1	NO		
25	53	13C4-PFHpA	367.2 > 321.8	14865.786	31027.588	1.00	3.58	5.989	12.5	100.1	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6	2166.916	4112.836	1.00	3.75	6.586	7.2	79.3	NO	1.987	NO
28	15	6:2 FTS	427.0 > 406.9	5098.015	2671.291	1.00	4.06	23.856	7.1	74.6	NO	2.236	NO
29	16	L-PFOA	412.8 > 368.9	23680.609	26262.436	1.00	4.12	11.271	7.5	74.8	NO	3.786	NO
30	18	PFecHS	460.8 > 381.0		26262.436	1.00				Ⓐ	NO		
31	19	PFHpS	449.0 > 80.0	2342.036	4801.937	1.00	4.24	6.097	6.9	72.7	NO	1.790	NO
32	20	7:3 FTCA	440.9 > 336.9		27080.490	1.00				Ⓐ	NO		
33	54	13C3-PFHxS	401.8 > 79.9	4112.836	2062.495	1.00	3.75	24.926	12.3	98.5	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2671.291	4721.010	1.00	4.06	7.073	13.2	105.5	NO		
35	58	13C2-PFOA	414.9 > 369.7	26262.436	37707.742	1.00	4.12	8.706	12.8	102.2	NO		
36	58	13C2-PFOA	414.9 > 369.7	26262.436	37707.742	1.00	4.12	8.706	12.8	102.2	NO		

CG H 7/22/19

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

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Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	59	13C8-PFOS	507.0 > 79.9	4801.937	4721.010	1.00	4.65	12.714	12.8	102.1	NO		
38	56	13C5-PFNA	468.2 > 422.9	27080.490	26355.076	1.00	4.56	12.844	12.8	102.6	NO		
39	-1												
40	21	PFNA	463.0 > 418.8	20120.248	27080.490	1.00	4.57	9.287	8.1	80.5	NO	3.967	NO
41	22	PFOSA	497.9 > 77.9	4313.999	6760.520	1.00	4.62	7.976	7.8	78.3	NO	29.945	NO
42	23	L-PFOS	498.9 > 79.9	3069.618	4801.937	1.00	4.65	7.991	7.5	81.1	NO	2.323	NO
43	25	9Cl-PF30NS	530.7 > 350.8		4801.937	1.00				(A)	NO		
44	26	PFDA	513 > 468.8	22746.180	26558.148	1.00	4.95	10.706	8.3	83.1	NO	5.476	NO
45	27	8:2 FTS	527.0 > 506.9	3092.541	2730.731	1.00	4.91	14.156	7.0	72.6	NO	1.189	NO
46	56	13C5-PFNA	468.2 > 422.9	27080.490	26355.076	1.00	4.56	12.844	12.8	102.6	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6760.520	41415.102	1.00	4.62	2.040	12.2	97.4	NO		
48	59	13C8-PFOS	507.0 > 79.9	4801.937	4721.010	1.00	4.65	12.714	12.8	102.1	NO		
49	59	13C8-PFOS	507.0 > 79.9	4801.937	4721.010	1.00	4.65	12.714	12.8	102.1	NO		
50	60	13C2-PFDA	515.1 > 469.9	26558.148	33583.023	1.00	4.95	9.885	12.1	96.6	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2730.731	4721.010	1.00	4.91	7.230	13.0	103.9	NO		
52	-1												
53	28	PFNS	549.1 > 80.1	1992.607	4801.937	1.00	5.01	5.187	7.2	75.2	NO	1.703	NO
54	29	L-MeFOSAA	570 > 419	10354.914	7529.787	1.00	5.10	17.190	8.0	79.8	NO	2.632	NO
55	31	L-EtFOSAA	584.1 > 419	8840.546	9362.071	1.00	5.27	11.804	9.5	94.6	NO	1.526	NO
56	33	PFUdA	563.0 > 518.9	22042.572	35757.984	1.00	5.28	7.705	8.4	84.2	NO	8.688	NO
57	34	PFDS	598.8 > 79.9	2769.991	2730.731	1.00	5.33	12.680	7.5	78.0	NO	1.639	NO
58	35	11Cl-PF30UdS	632.6 > 452.7		35147.676	1.00				(A)	NO		
59	59	13C8-PFOS	507.0 > 79.9	4801.937	4721.010	1.00	4.65	12.714	12.8	102.1	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7529.787	41415.102	1.00	5.10	2.273	12.8	102.5	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9362.071	41415.102	1.00	5.26	2.826	12.6	101.0	NO		
62	63	13C2-PFUdA	565 > 519.8	35757.984	41415.102	1.00	5.28	10.793	12.1	97.1	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2730.731	4721.010	1.00	4.91	7.230	13.0	103.9	NO		
64	65	13C2-PFDoA	614.7 > 569.7	35147.676	33583.023	1.00	5.57	13.082	12.0	96.3	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		2730.731	1.00				(A)	NO		
67	37	PFDoA	612.9 > 569.0	24860.330	35147.676	1.00	5.57	8.841	8.2	82.4	NO	8.995	NO
68	38	N-MeFOSA	512.1 > 168.9		17756.953	1.00				(A)	NO		
69	39	PFTrDA	662.9 > 618.9	25488.238	35147.676	1.00	5.82	9.065	7.9	79.2	NO	20.547	NO
70	40	PFDoS	698.8 > 79.9		24285.611	1.00				(A)	NO		
71	41	PFTeDA	713.0 > 669.0	23946.617	24285.611	1.00	6.04	12.326	8.1	81.2	NO	14.136	NO
72	65	13C2-PFDoA	614.7 > 569.7	35147.676	33583.023	1.00	5.57	13.082	12.0	96.3	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

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Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	65	13C2-PFDoA	614.7 > 569.7	35147.676	33583.023	1.00	5.57	13.082	12.0	96.3	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	17756.953	41415.102	1.00	5.75	5.359	140.2	93.4	NO		
75	65	13C2-PFDoA	614.7 > 569.7	35147.676	33583.023	1.00	5.57	13.082	12.0	96.3	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	24285.611	41415.102	1.00	6.04	7.330	12.1	97.0	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	24285.611	41415.102	1.00	6.04	7.330	12.1	97.0	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		21070.906	1.00					NO		
80	43	PFHxDA	813.1 > 768.6		12230.875	1.00					NO		
81	44	PFODA	913.1 > 868.8		12230.875	1.00					NO		
82	45	N-MeFOSE	616.1 > 58.9		14150.497	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		15211.849	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	10457.095	10457.095	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	21070.906	41415.102	1.00	6.17	6.360	143.1	95.4	NO		
86	69	13C2-PFHxDA	815 > 769.7	12230.875	41415.102	1.00	6.38	3.692	4.7	93.7	NO		
87	69	13C2-PFHxDA	815 > 769.7	12230.875	41415.102	1.00	6.38	3.692	4.7	93.7	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	14150.497	41415.102	1.00	6.34	4.271	136.5	91.0	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	15211.849	41415.102	1.00	6.49	4.591	139.7	93.2	NO		
90	73	13C5-PFHxA	318.0 > 272.9	31027.588	31027.588	1.00	2.97	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	37707.742	37707.742	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2062.495	2062.495	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	26355.076	26355.076	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	4721.010	4721.010	1.00	4.65	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	33583.023	33583.023	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	41415.102	41415.102	1.00	5.28	12.500	12.5	100.0	NO		

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
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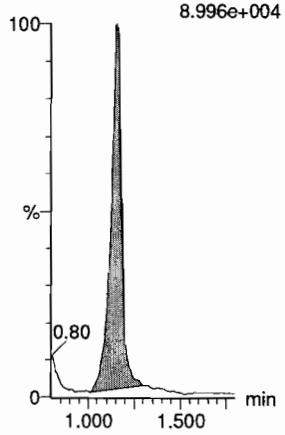
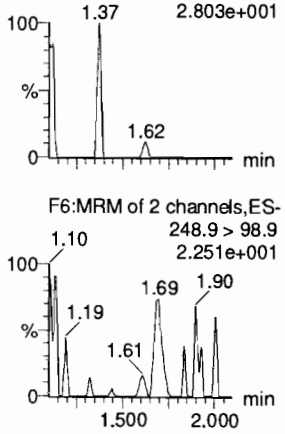
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219_ICV.mdb 22 Jul 2019 13:39:56
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

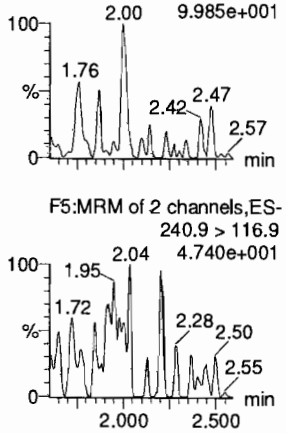
PFBA



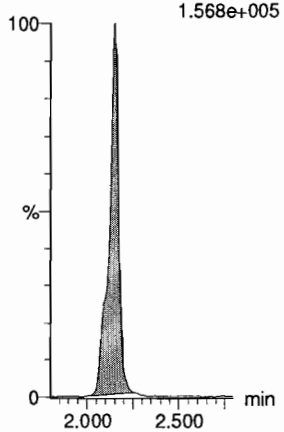
PFPrS



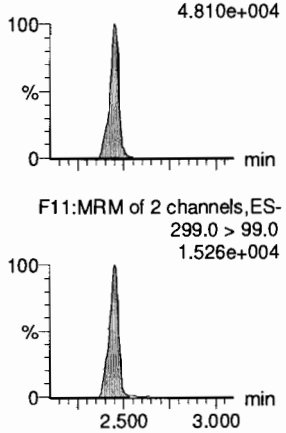
3:3 FTCA



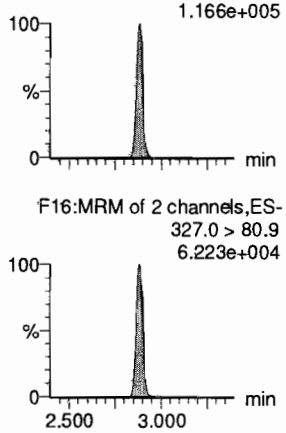
PFPeA



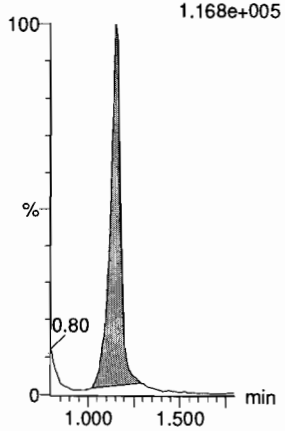
PFBS



4:2 FTS



13C3-PFBA



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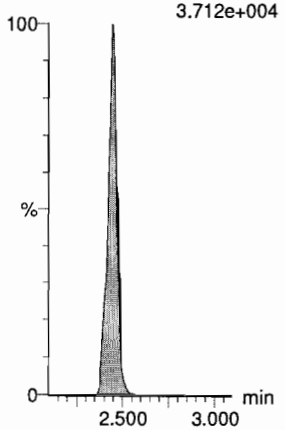
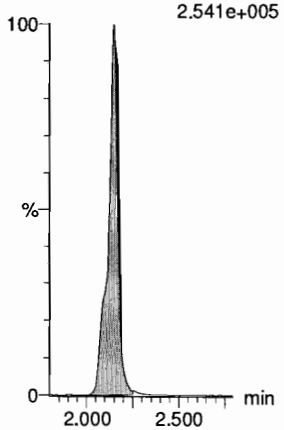


13C3-PFPeA



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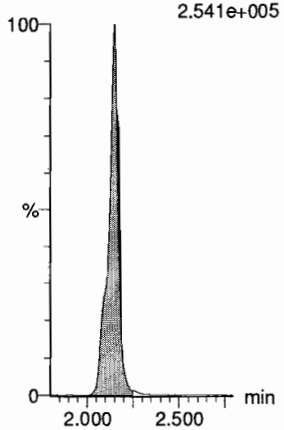
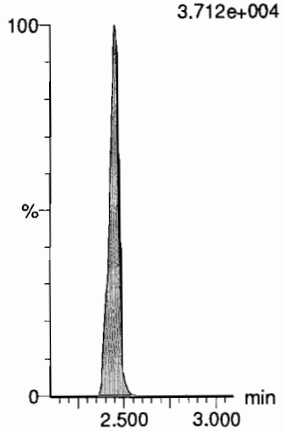
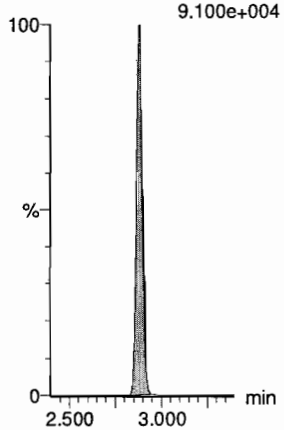


13C3-PFBS



13C2-4:2 FTS



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
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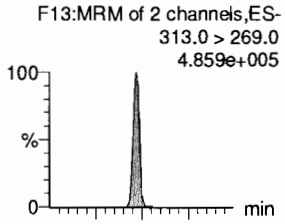
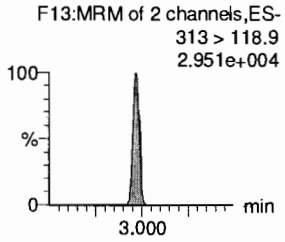
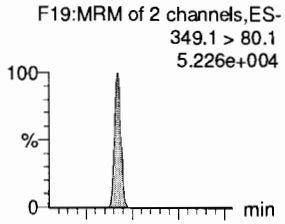
Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

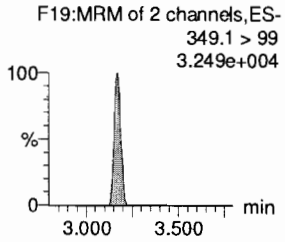
PFHxA



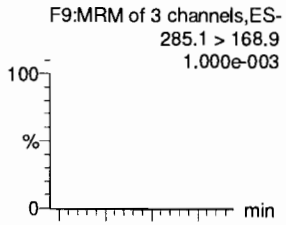


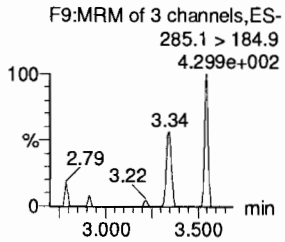
PFPeS



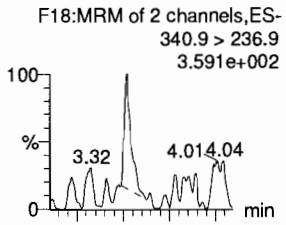


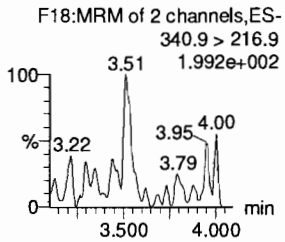
HFPO-DA





5:3 FTCA





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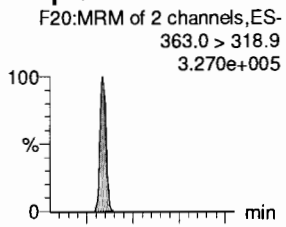
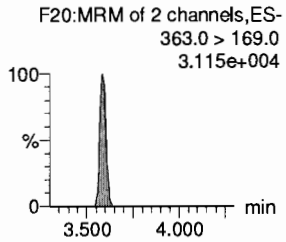
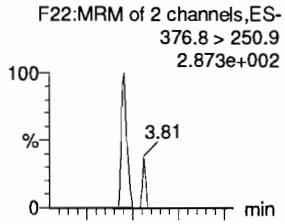
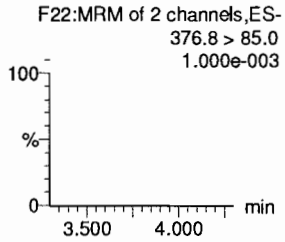


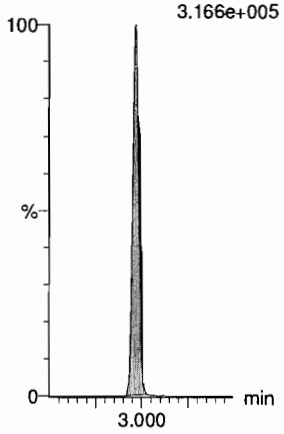


ADONA

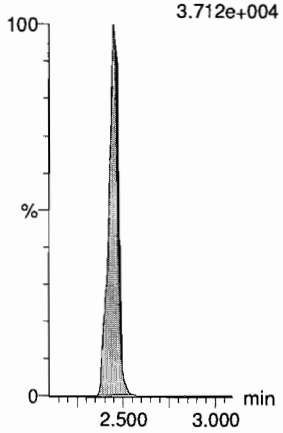




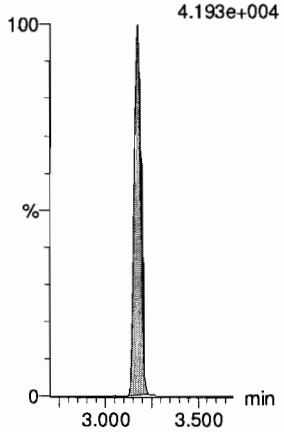
13C2-PFHxA



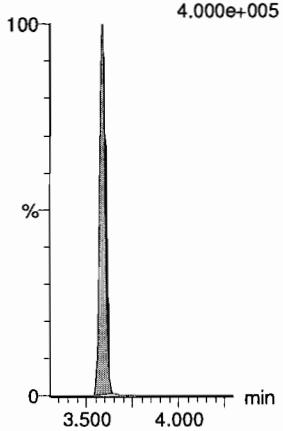
13C3-PFBS



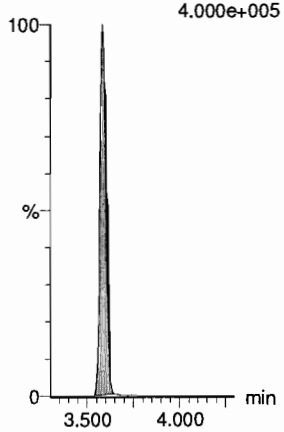
13C3-HFPO-DA



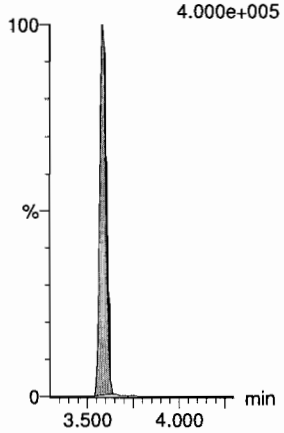
13C4-PFHpA



13C4-PFHpA



13C4-PFHpA



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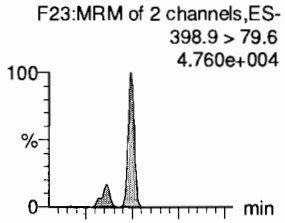
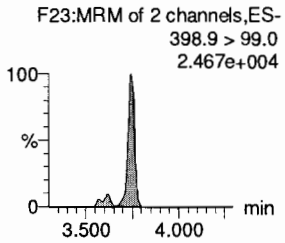
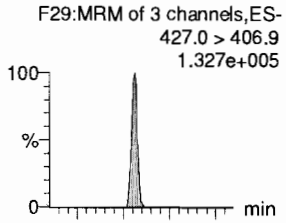
Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

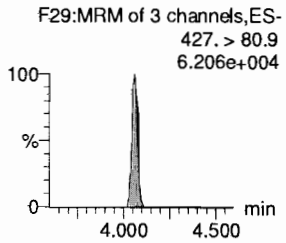
L-PFHxS



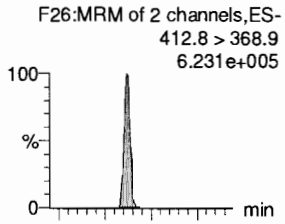


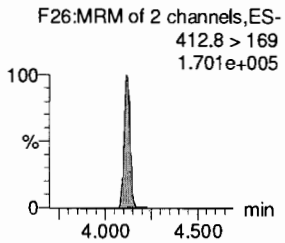
6:2 FTS



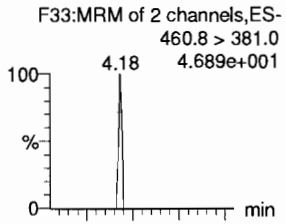


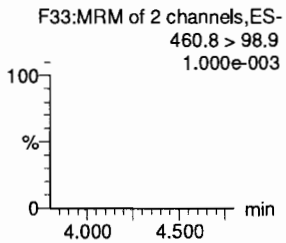
L-PFOA



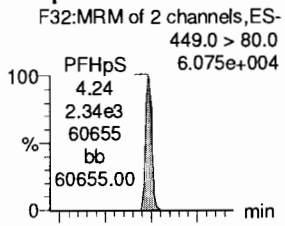


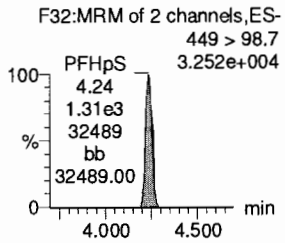
PFEChS



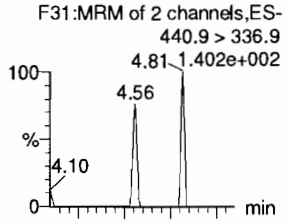


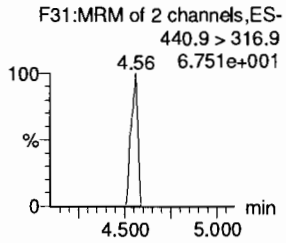
PFHpS



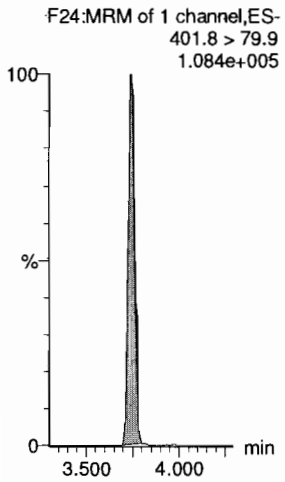


7:3 FTCA

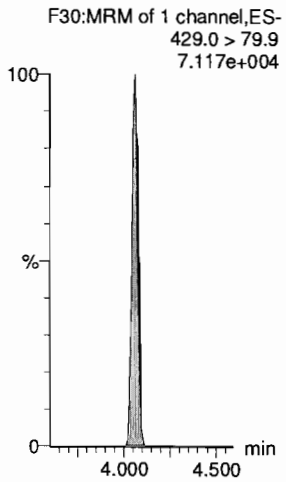




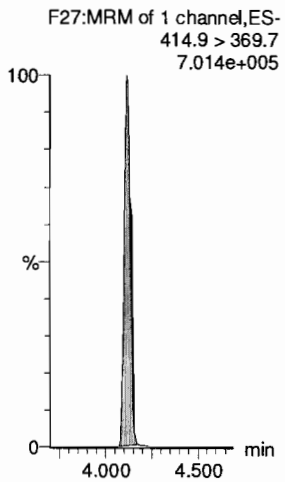
13C3-PFHxS



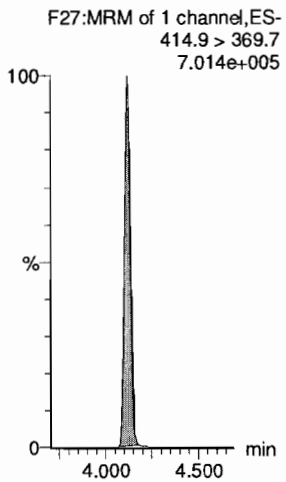
13C2-6:2 FTS



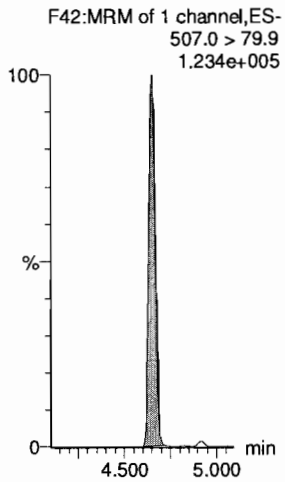
13C2-PFOA



13C2-PFOA



13C8-PFOS



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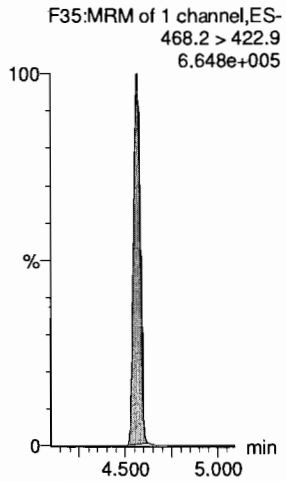
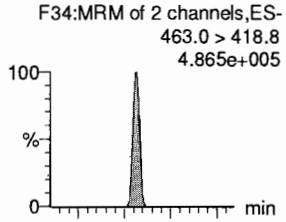


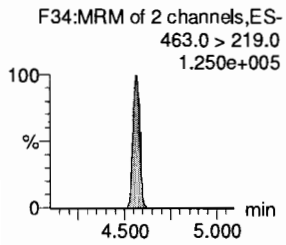
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:40:39 Pacific Daylight Time

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

PFNA





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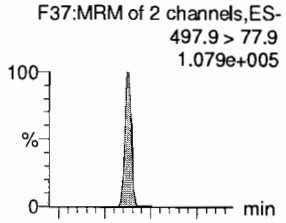
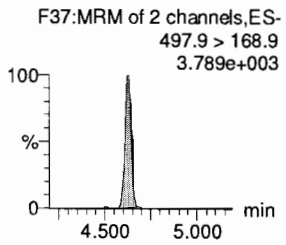
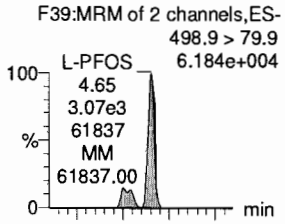
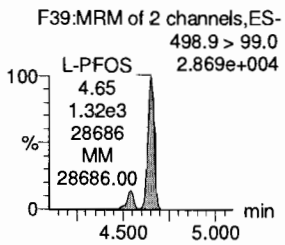


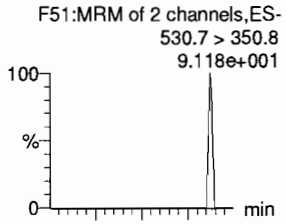


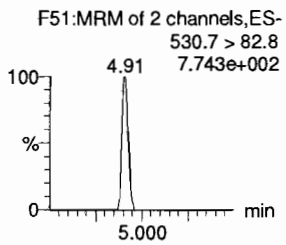
L-PFOS





9Cl-PF30NS





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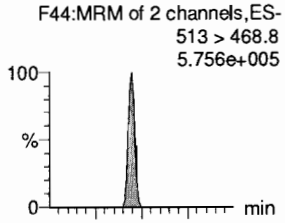
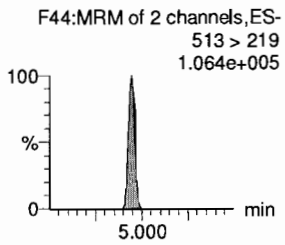
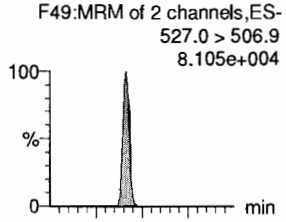
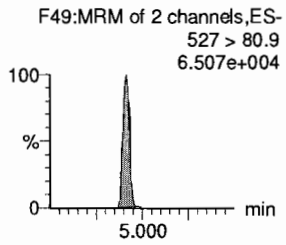




8:2 FTS





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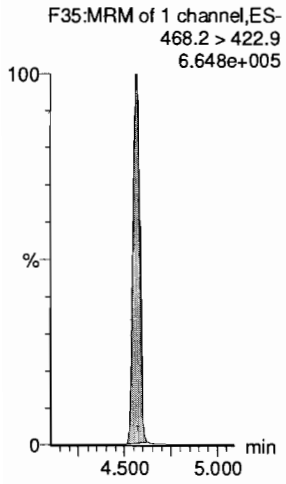
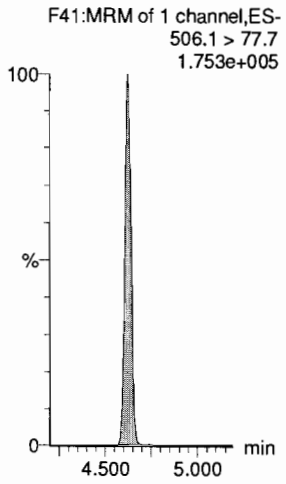


13C8-PFOSA



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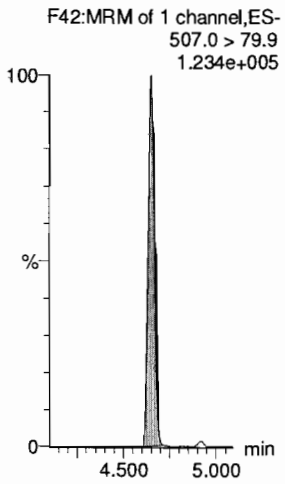

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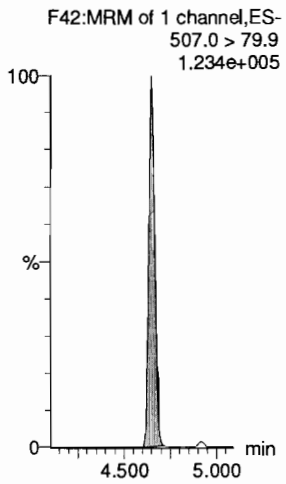

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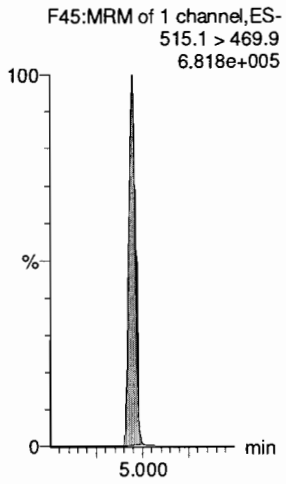

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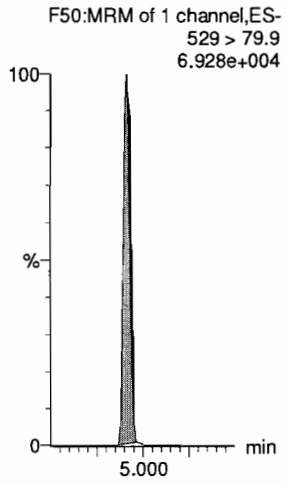

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Printed: Monday, July 22, 2019 13:40:39 Pacific Daylight Time

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

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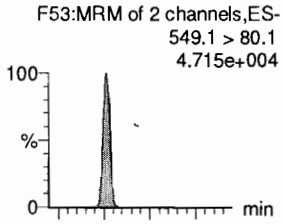

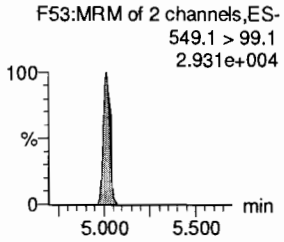

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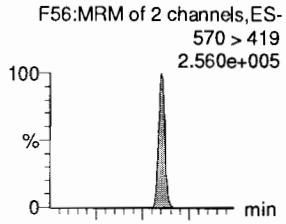

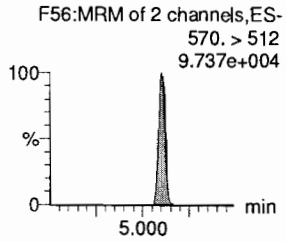

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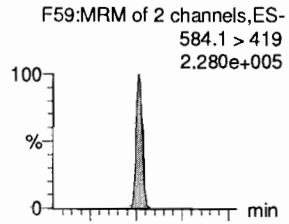

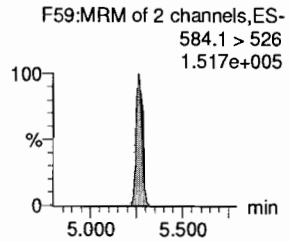

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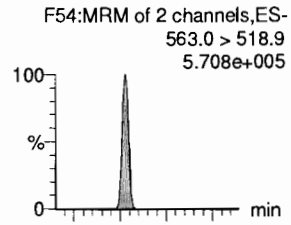

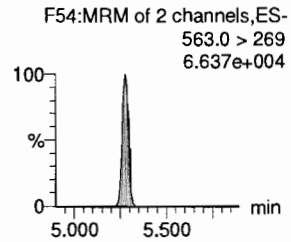

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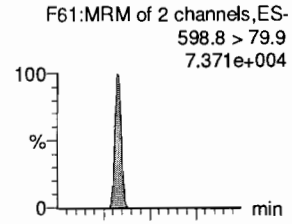

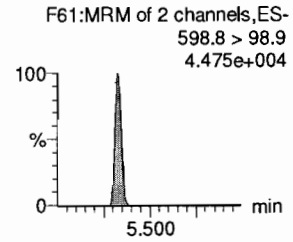

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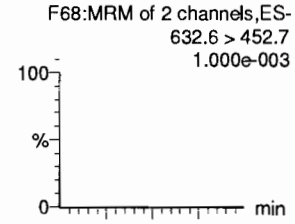

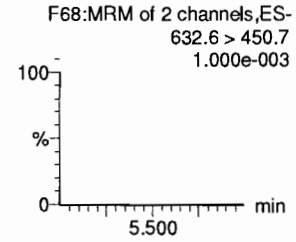

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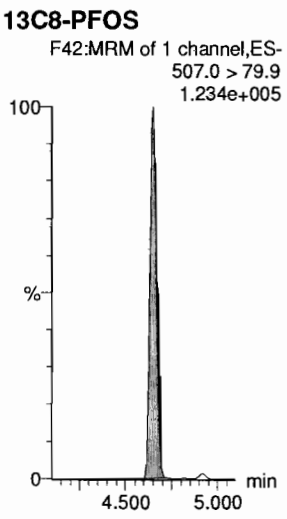

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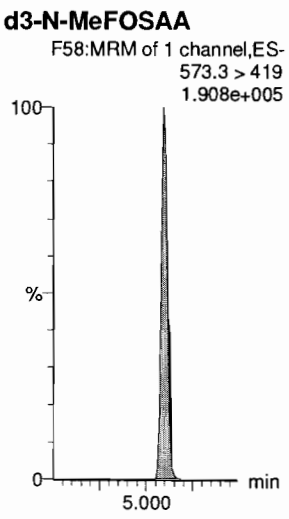

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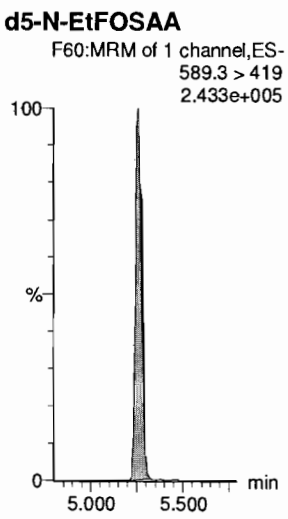

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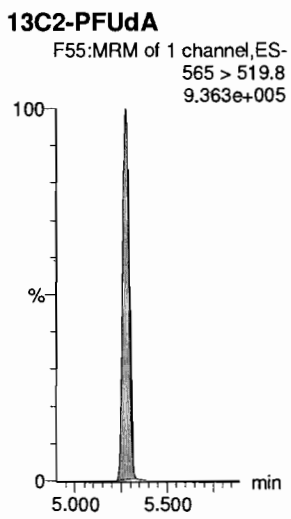

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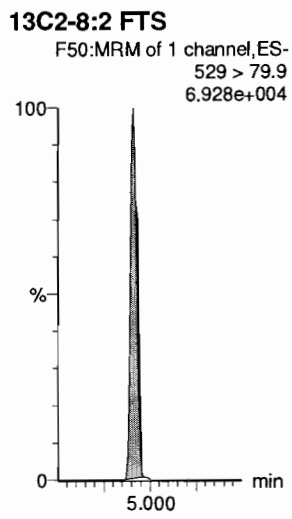

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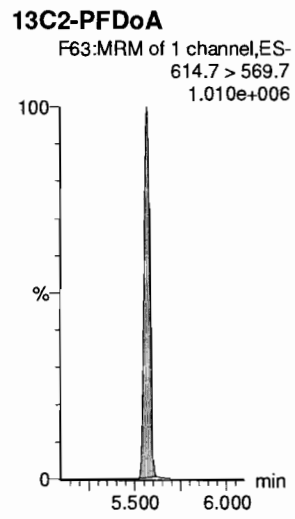

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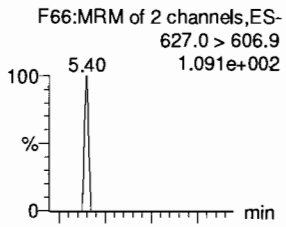
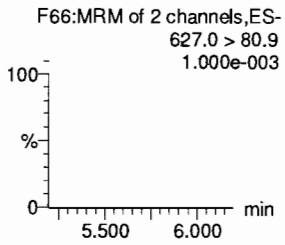
10:2 FTS





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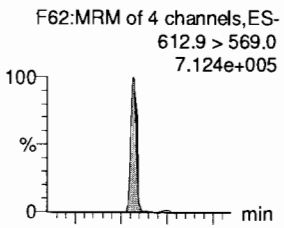
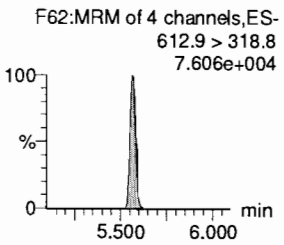
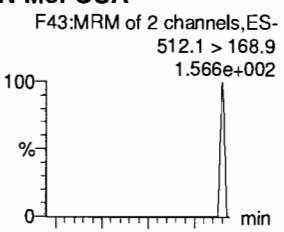
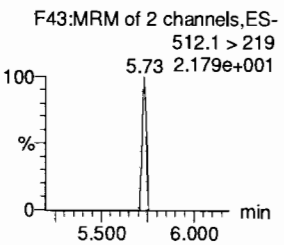




N-MeFOSA





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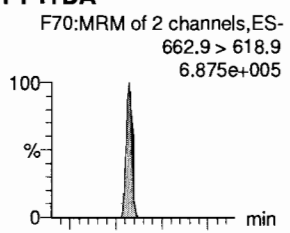
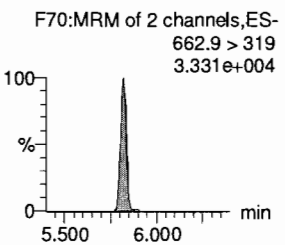
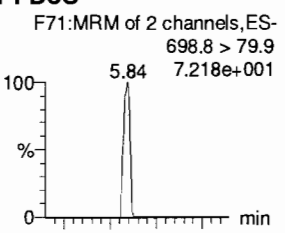
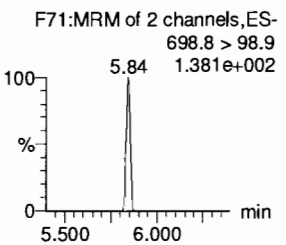




PFDoS





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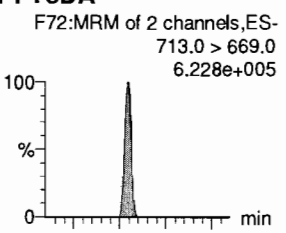

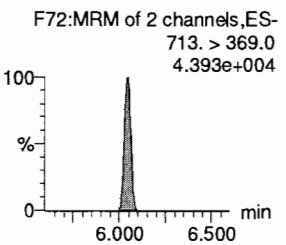

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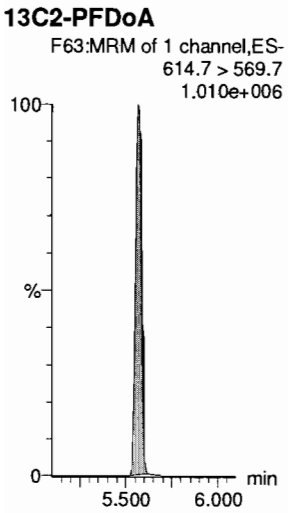

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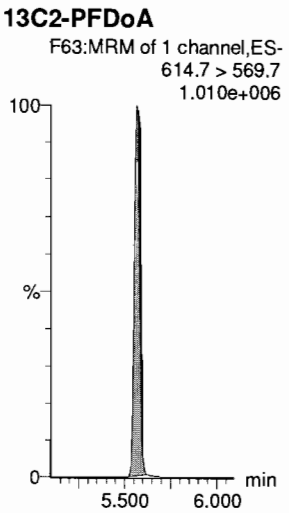
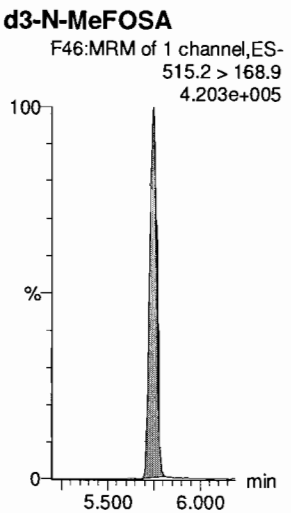


d3-N-MeFOSA



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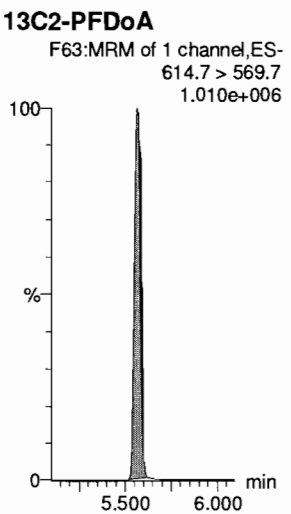

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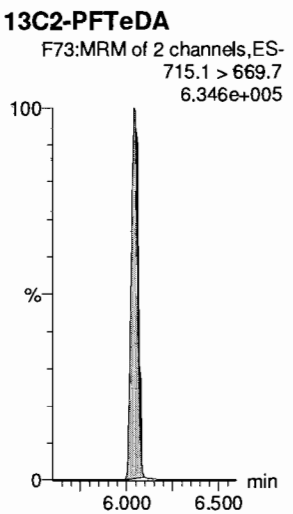

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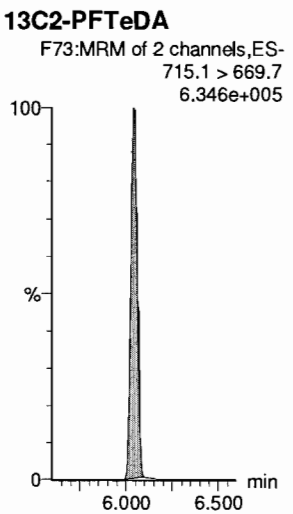

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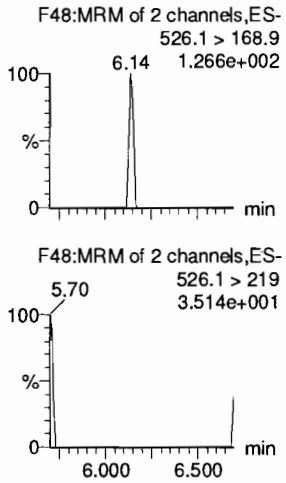
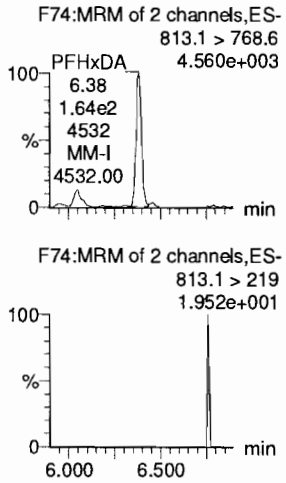
Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:40:39 Pacific Daylight Time

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

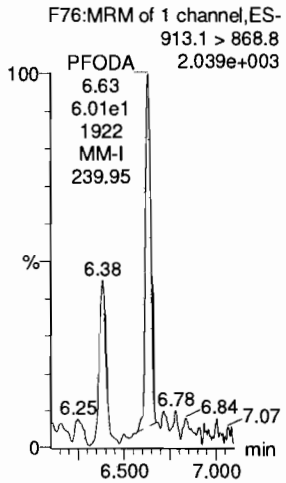
N-EtFOSA



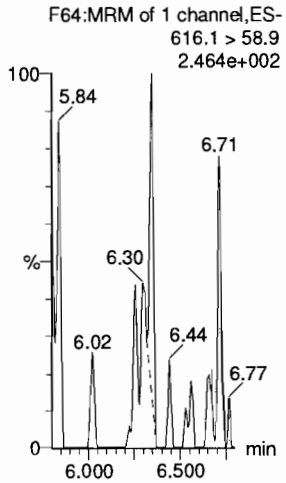
PFHxDA



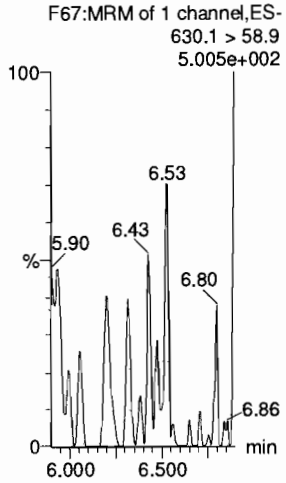
PFODA



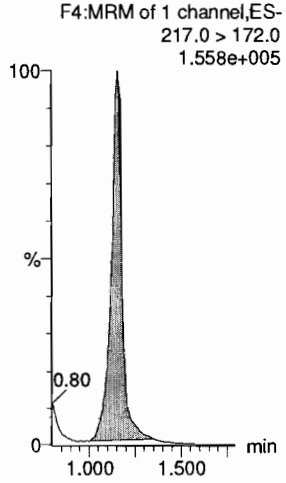
N-MeFOSE



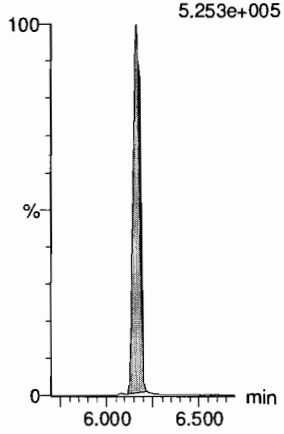
N-EtFOSE



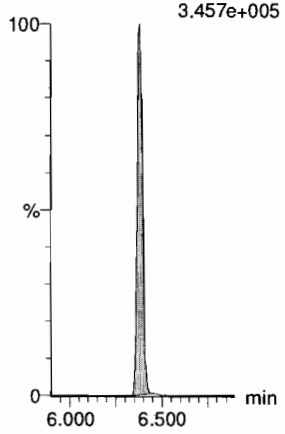
13C4-PFBA



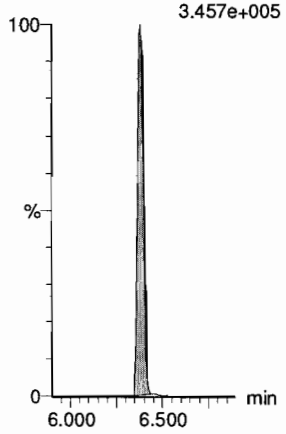
d5-N-ETFOSA



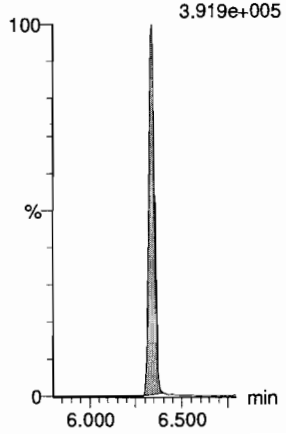
13C2-PFHxDA



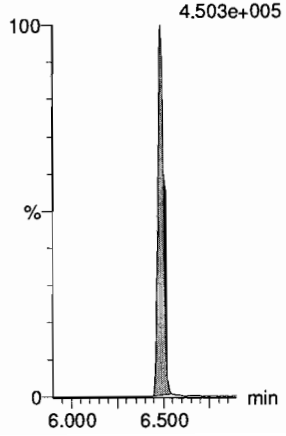
13C2-PFHxDA



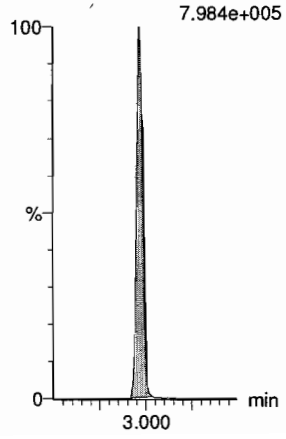
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

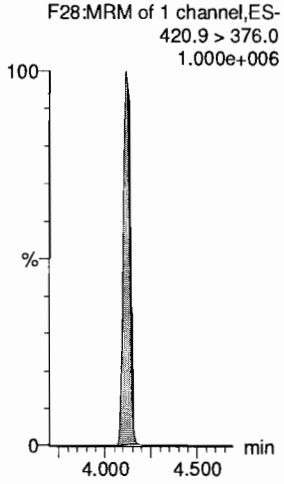


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-ICV.qld

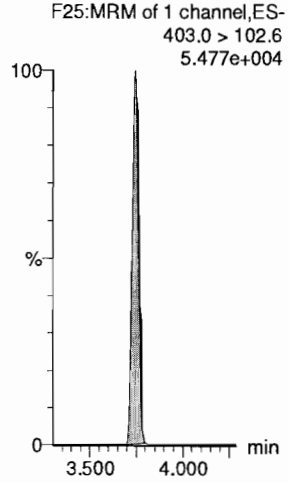
Last Altered: Monday, July 22, 2019 13:39:58 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:40:39 Pacific Daylight Time

Name: 190722M1_15, Date: 22-Jul-2019, Time: 12:23:11, ID: ICV190722M1-1 PFC ICV 19F2422, Description: PFC ICV 19F2422

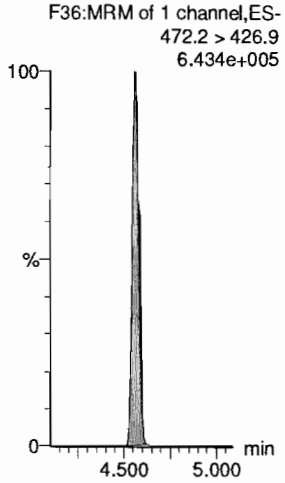
13C8-PFOA



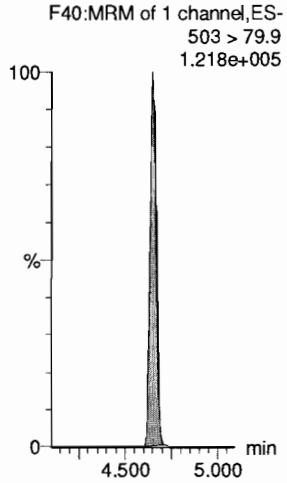
18O2-PFHxS



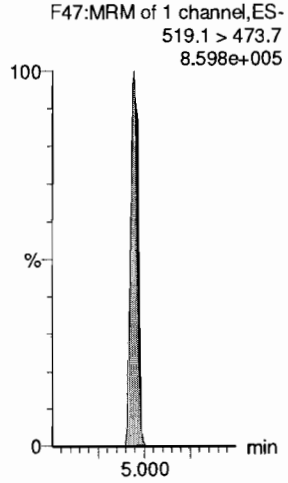
13C9-PFNA



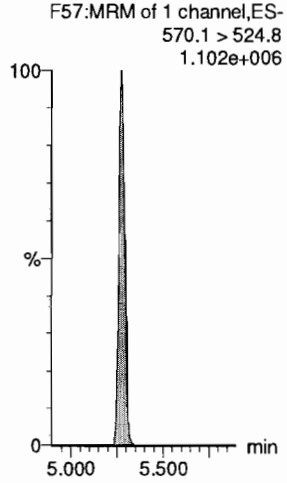
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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		7501.880	1.00					NO		
2	2	PFPrS	248.9 > 79.9		2239.359	1.00					NO		
3	3	3:3 FTCA	240.9 > 176.9		15758.199	1.00					NO		
4	4	PFPeA	263.1 > 218.9		15758.199	1.00					NO		
5	5	PFBS	299.0 > 79.7		2239.359	1.00					NO		
6	6	4:2 FTS	327.0 > 306.9		3672.193	1.00					NO		
7	47	13C3-PFBA	216.1 > 171.8	7501.880	10359.297	1.00	1.16	9.052	12.3	98.7	NO		
8	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
9	48	13C3-PFPeA	266.0 > 221.8	15758.199	32014.930	1.00	2.15	6.153	12.4	98.8	NO		
10	48	13C3-PFPeA	266.0 > 221.8	15758.199	32014.930	1.00	2.15	6.153	12.4	98.8	NO		
11	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
12	51	13C2-4:2 FTS	329.0 >79.9	3672.193	2017.515	1.00	2.88	22.752	13.8	110.3	NO		
13	-1												
14	7	PFHxA	313.0 > 269.0		12146.366	1.00					NO		
15	8	PFPeS	349.1>80.1		2239.359	1.00					NO		
16	9	HFPO-DA	285.1 > 168.9		1687.480	1.00					NO		
17	10	5:3 FTCA	340.9 > 236.9		15326.061	1.00					NO		
18	11	PFHpA	363.0 > 318.9		15326.061	1.00					NO		
19	12	ADONA	376.8 > 250.9		15326.061	1.00					NO		
20	52	13C2-PFHxA	315.0 > 270.0	12146.366	32014.930	1.00	2.97	4.742	4.9	97.0	NO		
21	49	13C3-PFBS	302.0 > 98.8	2239.359	2017.515	1.00	2.45	13.874	13.1	105.0	NO		
22	50	13C3-HFPO-DA	287.0 > 168.9	1687.480	32014.930	1.00	3.18	0.659	4.9	98.4	NO		
23	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
24	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
25	53	13C4-PFHpA	367.2 > 321.8	15326.061	32014.930	1.00	3.59	5.984	12.5	100.0	NO		
26	-1												
27	13	L-PFHxS	398.9 > 79.6		4156.333	1.00					NO		
28	15	6:2 FTS	427.0 > 406.9		2859.432	1.00					NO		
29	16	L-PFOA	412.8 > 368.9	166.629	26409.393	1.00	4.11	0.079	0.0		NO	9.522	YES
30	18	PFecHS	460.8 > 381.0		26409.393	1.00					NO		
31	19	PFHpS	449.0 > 80.0		4842.980	1.00					NO		
32	20	7:3 FTCA	440.9 > 336.9		26906.500	1.00					NO		
33	54	13C3-PFHxS	401.8 > 79.9	4156.333	2017.515	1.00	3.75	25.752	12.7	101.8	NO		
34	55	13C2-6:2 FTS	429.0 >79.9	2859.432	4717.761	1.00	4.06	7.576	14.1	113.0	NO		
35	58	13C2-PFOA	414.9 > 369.7	26409.393	39508.000	1.00	4.12	8.356	12.3	98.1	NO		
36	58	13C2-PFOA	414.9 > 369.7	26409.393	39508.000	1.00	4.12	8.356	12.3	98.1	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
38	56	13C5-PFNA	468.2 > 422.9	26906.500	27847.467	1.00	4.56	12.078	12.1	96.4	NO		
39	-1												
40	21	PFNA	463.0 > 418.8		26906.500	1.00					NO		
41	22	PFOSA	497.9 > 77.9	8.148	6887.840	1.00	4.61	0.015	0.0		NO	5.678	YES
42	23	L-PFOS	498.9 > 79.9		4842.980	1.00					NO		
43	25	9Cl-PF30NS	530.7 > 350.8		4842.980	1.00					NO		
44	26	PFDA	513 > 468.8		28506.688	1.00					NO		
45	27	8:2 FTS	527.0 > 506.9		2708.716	1.00					NO		
46	56	13C5-PFNA	468.2 > 422.9	26906.500	27847.467	1.00	4.56	12.078	12.1	96.4	NO		
47	57	13C8-PFOSA	506.1 > 77.7	6887.840	40970.465	1.00	4.62	2.101	12.5	100.3	NO		
48	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
49	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
50	60	13C2-PFDA	515.1 > 469.9	28506.688	34616.977	1.00	4.95	10.294	12.6	100.5	NO		
51	61	13C2-8:2 FTS	529 > 79.9	2708.716	4717.761	1.00	4.91	7.177	12.9	103.2	NO		
52	-1												
53	28	PFNS	549.1 > 80.1		4842.980	1.00					NO		
54	29	L-MeFOSAA	570 > 419	26.518	7441.581	1.00	5.11	0.045	0.1		NO	4.592	YES
55	31	L-EtFOSAA	584.1 > 419	12.900	9624.488	1.00	5.27	0.017	0.1		NO	8.710	YES
56	33	PFUdA	563.0 > 518.9		36902.512	1.00					NO		
57	34	PFDS	598.8 > 79.9		2708.716	1.00					NO		
58	35	11Cl-PF30UdS	632.6 > 452.7		35732.961	1.00					NO		
59	59	13C8-PFOS	507.0 > 79.9	4842.980	4717.761	1.00	4.65	12.832	12.9	103.0	NO		
60	62	d3-N-MeFOSAA	573.3 > 419	7441.581	40970.465	1.00	5.10	2.270	12.8	102.4	NO		
61	64	d5-N-EtFOSAA	589.3 > 419	9624.488	40970.465	1.00	5.26	2.936	13.1	105.0	NO		
62	63	13C2-PFUdA	565 > 519.8	36902.512	40970.465	1.00	5.28	11.259	12.7	101.3	NO		
63	61	13C2-8:2 FTS	529 > 79.9	2708.716	4717.761	1.00	4.91	7.177	12.9	103.2	NO		
64	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
65	-1												
66	36	10:2 FTS	627.0 > 606.9		2708.716	1.00					NO		
67	37	PFDoA	612.9 > 569.0	88.353	35732.961	1.00	5.55	0.031			NO	72.243	YES
68	38	N-MeFOSA	512.1 > 168.9		18006.295	1.00					NO		
69	39	PFTrDA	662.9 > 618.9		35732.961	1.00					NO		
70	40	PFDoS	698.8 > 79.9		25005.998	1.00					NO		
71	41	PFTeDA	713.0 > 669.0		25005.998	1.00					NO		
72	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		

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Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, 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	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
74	66	d3-N-MeFOSA	515.2 > 168.9	18006.295	40970.465	1.00	5.75	5.494	143.7	95.8	NO		
75	65	13C2-PFDoA	614.7 > 569.7	35732.961	34616.977	1.00	5.57	12.903	11.9	94.9	NO		
76	67	13C2-PFTeDA	715.1 > 669.7	25005.998	40970.465	1.00	6.04	7.629	12.6	101.0	NO		
77	67	13C2-PFTeDA	715.1 > 669.7	25005.998	40970.465	1.00	6.04	7.629	12.6	101.0	NO		
78	-1												
79	42	N-EtFOSA	526.1 > 168.9		21538.303	1.00					NO		
80	43	PFHxDA	813.1 > 768.6	194.032	12818.789	1.00	6.38	0.076	0.1		NO	39.720	YES
81	44	PFODA	913.1 > 868.8	169.569	12818.789	1.00	6.63	0.066	0.0		NO		
82	45	N-MeFOSE	616.1 > 58.9		14477.269	1.00					NO		
83	46	N-EtFOSE	630.1 > 58.9		15601.422	1.00					NO		
84	72	13C4-PFBA	217.0 > 172.0	10359.297	10359.297	1.00	1.16	12.500	12.5	100.0	NO		
85	68	d5-N-ETFOSA	531.1 > 168.9	21538.303	40970.465	1.00	6.16	6.571	147.8	98.6	NO		
86	69	13C2-PFHxDA	815 > 769.7	12818.789	40970.465	1.00	6.38	3.911	5.0	99.3	NO		
87	69	13C2-PFHxDA	815 > 769.7	12818.789	40970.465	1.00	6.38	3.911	5.0	99.3	NO		
88	70	d7-N-MeFOSE	623.1 > 58.9	14477.269	40970.465	1.00	6.34	4.417	141.1	94.1	NO		
89	71	d9-N-EtFOSE	639.2 > 58.8	15601.422	40970.465	1.00	6.49	4.760	144.9	96.6	NO		
90	73	13C5-PFHxA	318.0 > 272.9	32014.930	32014.930	1.00	2.96	12.500	12.5	100.0	NO		
91	-1												
92	75	13C8-PFOA	420.9 > 376.0	39508.000	39508.000	1.00	4.12	12.500	12.5	100.0	NO		
93	74	18O2-PFHxS	403.0 > 102.6	2017.515	2017.515	1.00	3.75	12.500	12.5	100.0	NO		
94	76	13C9-PFNA	472.2 > 426.9	27847.467	27847.467	1.00	4.56	12.500	12.5	100.0	NO		
95	77	13C4-PFOS	503 > 79.9	4717.761	4717.761	1.00	4.65	12.500	12.5	100.0	NO		
96	78	13C6-PFDA	519.1 > 473.7	34616.977	34616.977	1.00	4.95	12.500	12.5	100.0	NO		
97	79	13C7-PFUdA	570.1 > 524.8	40970.465	40970.465	1.00	5.28	12.500	12.5	100.0	NO		

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Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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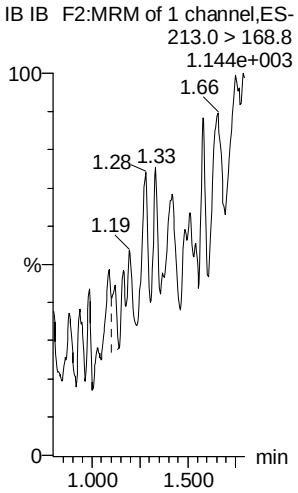
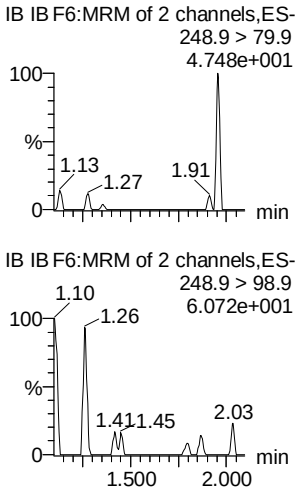
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_072219.mdb 22 Jul 2019 13:12:22
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-22-19.cdb 22 Jul 2019 13:13:35

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

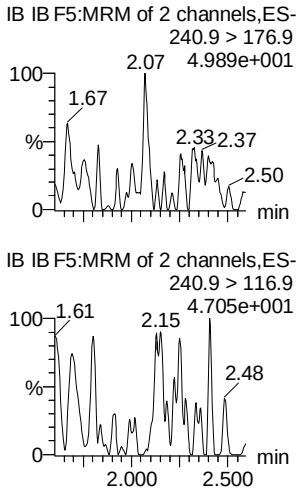
PFBA



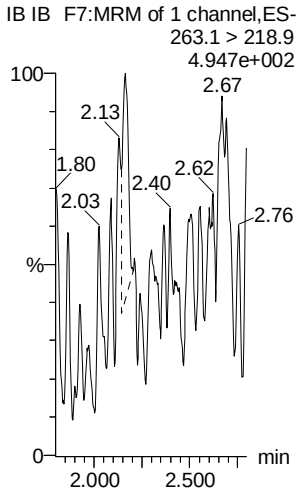
PFPrS



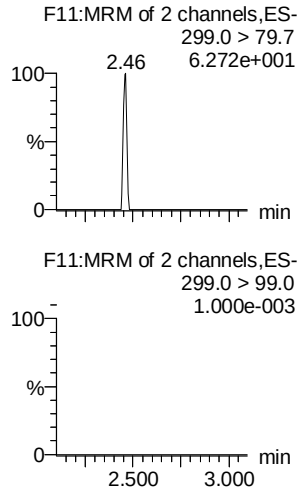
3:3 FTCA



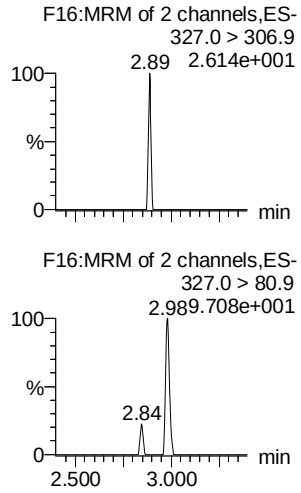
PFPeA



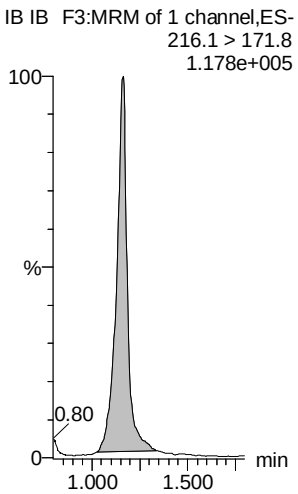
PFBS



4:2 FTS



13C3-PFBA



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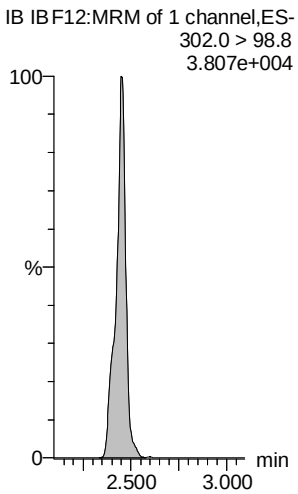

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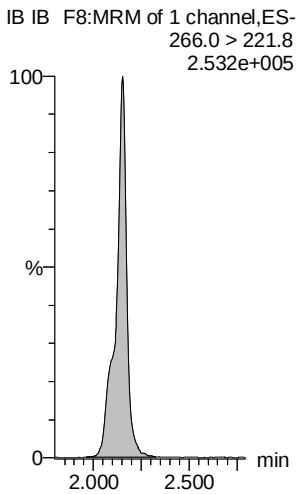

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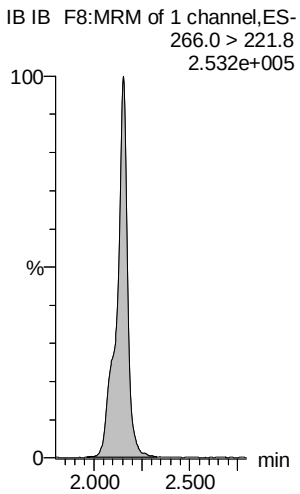

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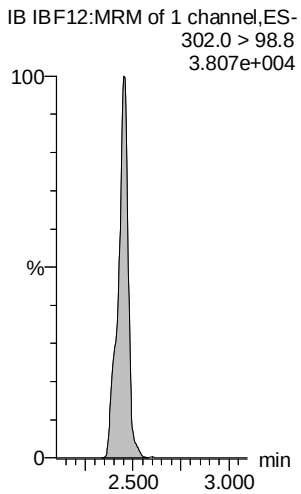
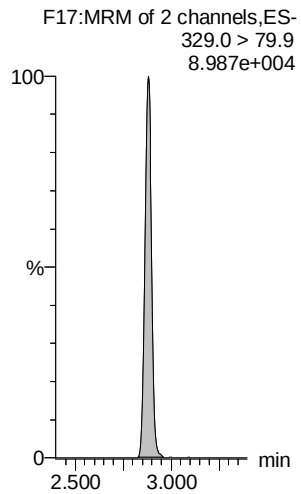


13C2-4:2 FTS



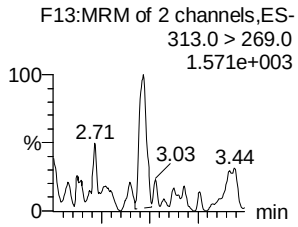
CGH 7/22/2019

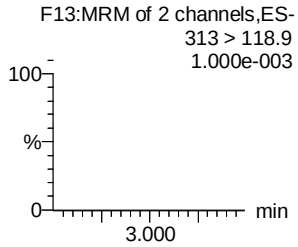
Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

PFHxA





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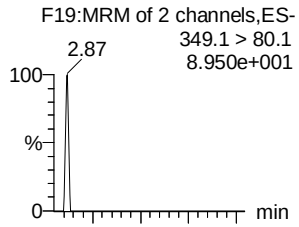
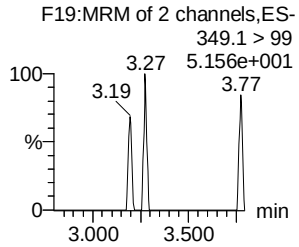
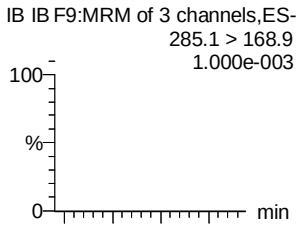
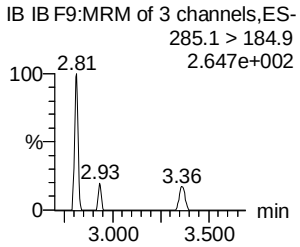


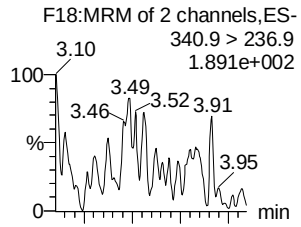


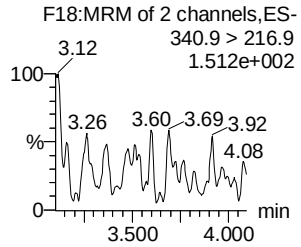
HFPO-DA





5:3 FTCA





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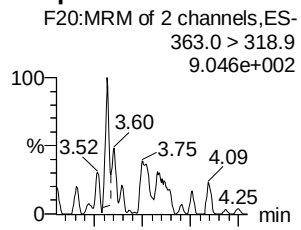

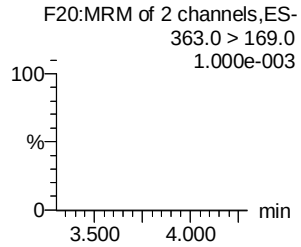

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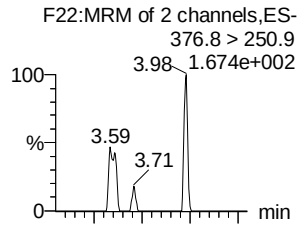

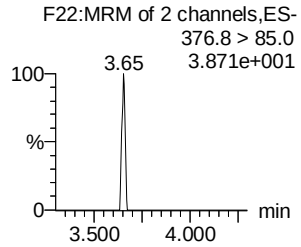

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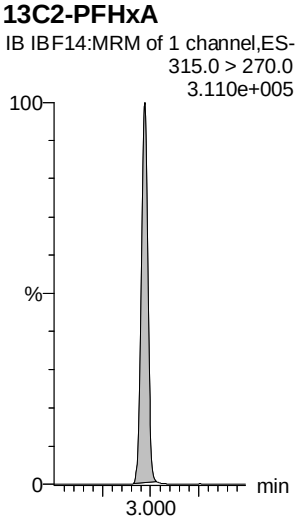
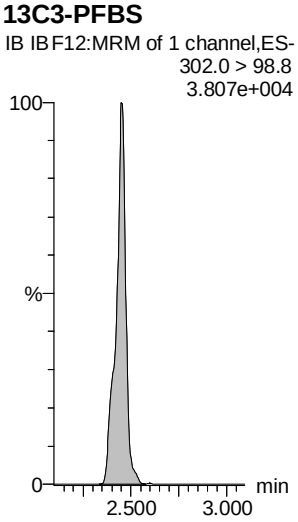
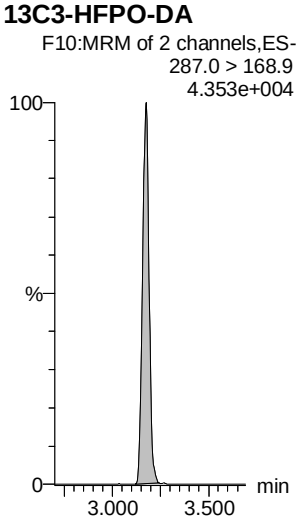


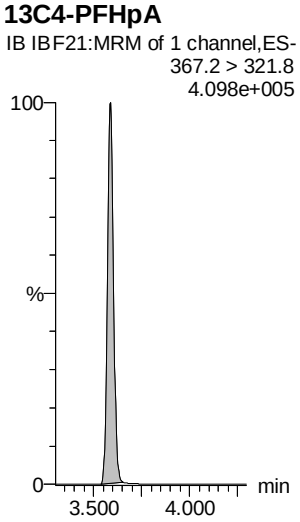
13C3-PFBS



13C3-HFPO-DA



13C4-PFHpA



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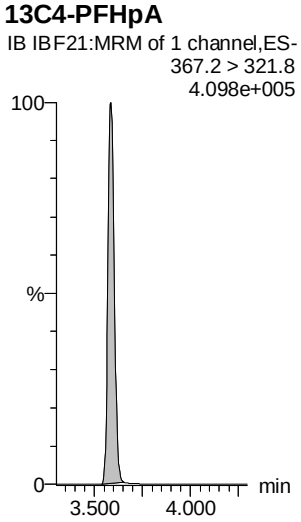

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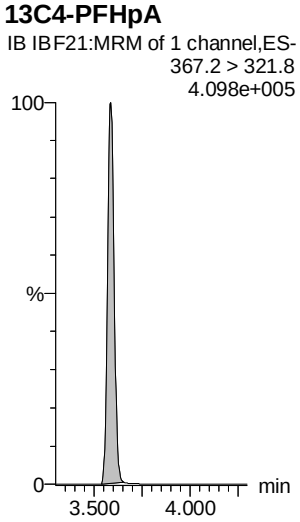

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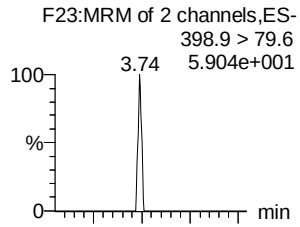
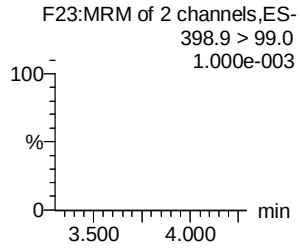
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

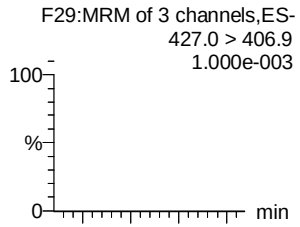
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

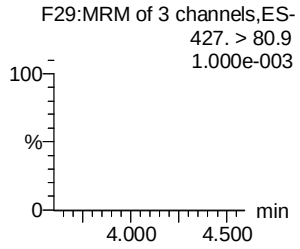
L-PFHxS



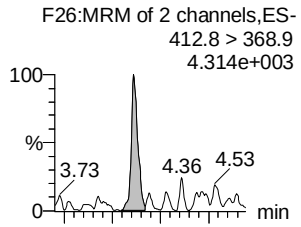


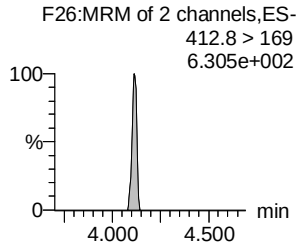
6:2 FTS





L-PFOA





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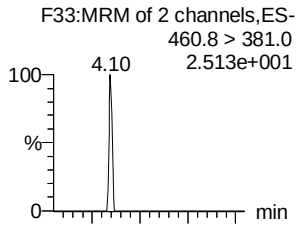

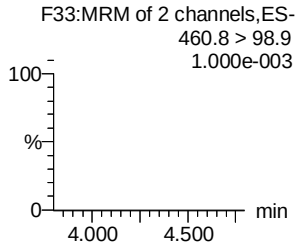

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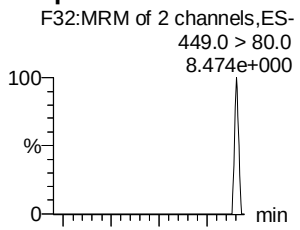
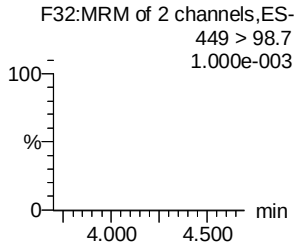
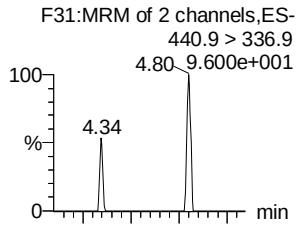
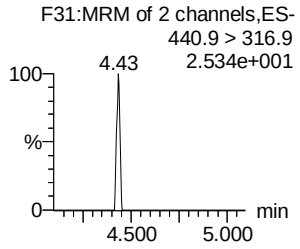


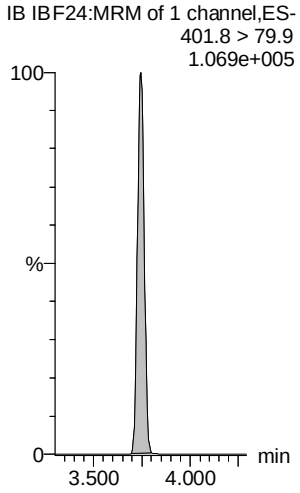


7:3 FTCA

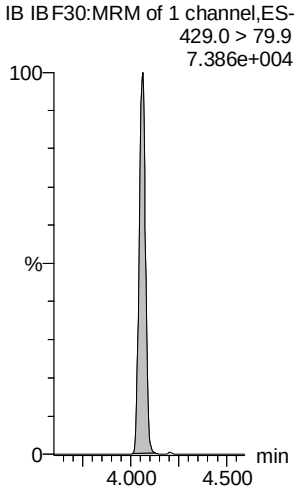




13C3-PFHxS



13C2-6:2 FTS



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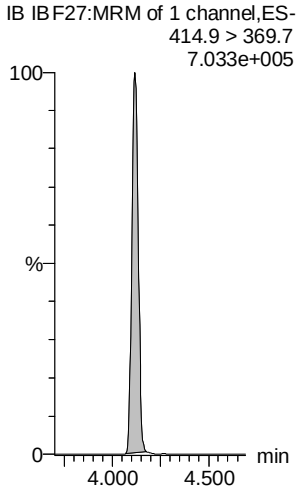

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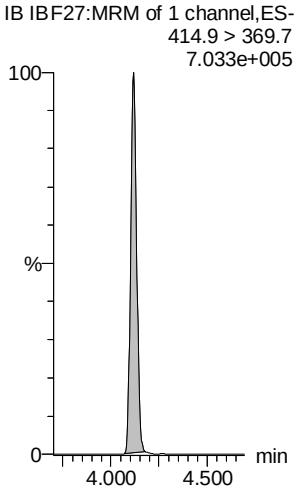
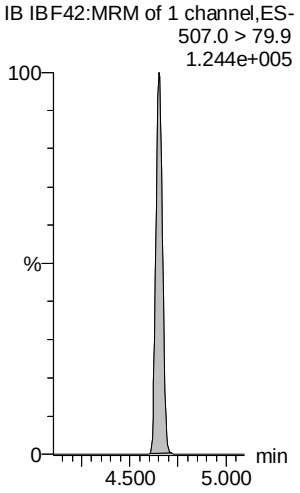
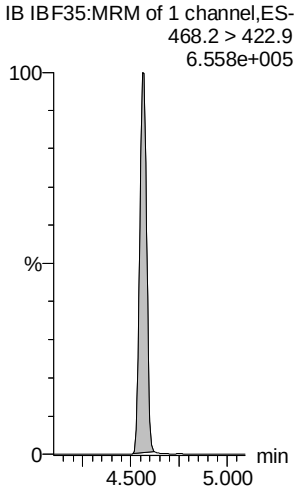


13C8-PFOS



13C5-PFNA



Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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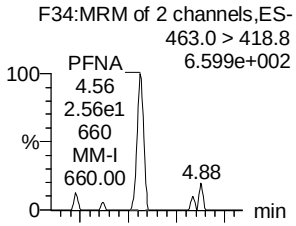
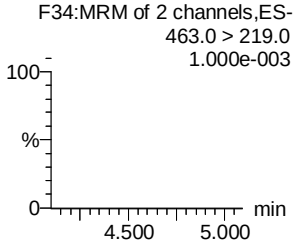
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

PFNA





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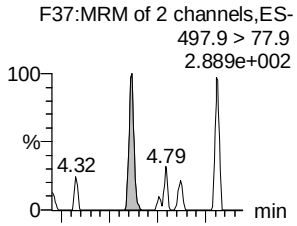
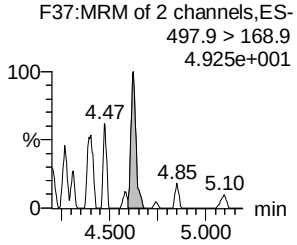
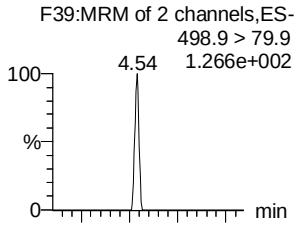
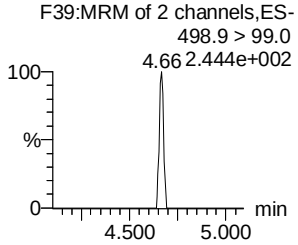




L-PFOS





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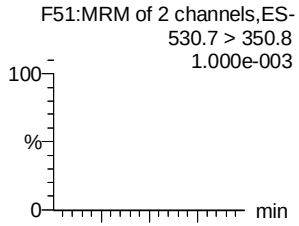
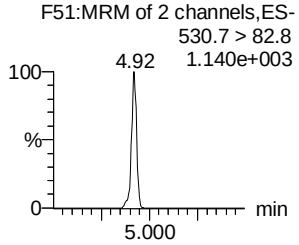
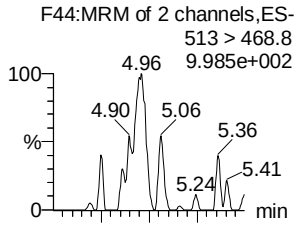
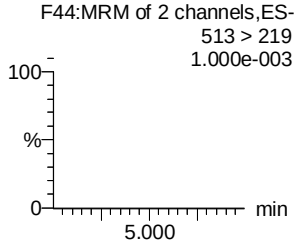


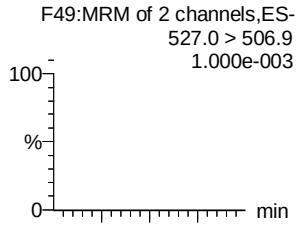


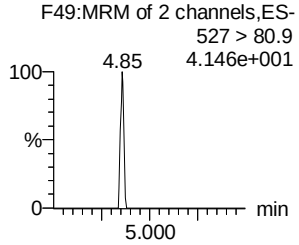
PFDA



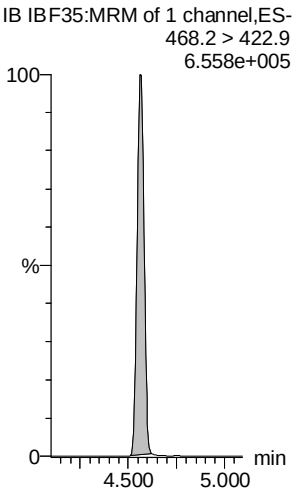


8:2 FTS

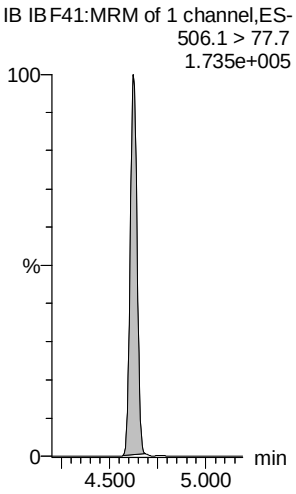




13C5-PFNA



13C8-PFOSA



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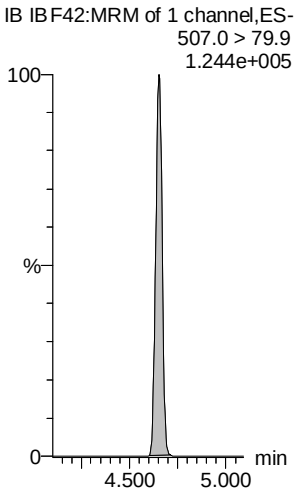
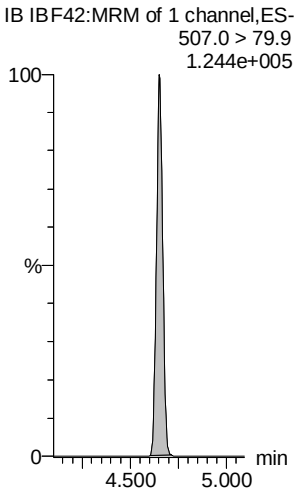
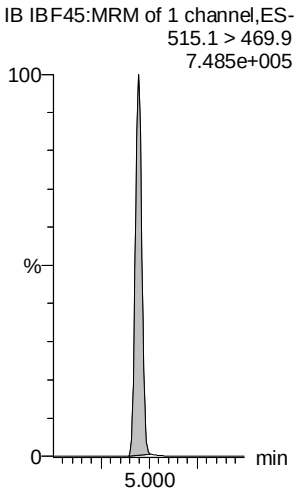


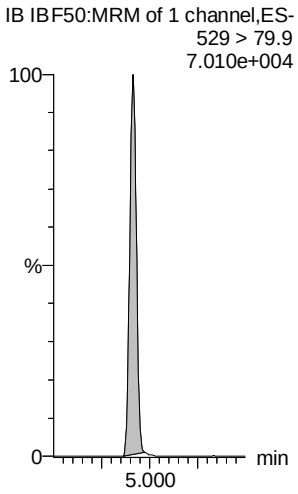
13C8-PFOS



13C2-PFDA



13C2-8:2 FTS



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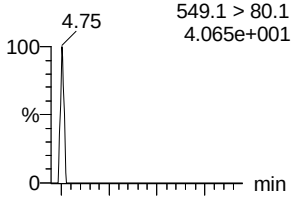
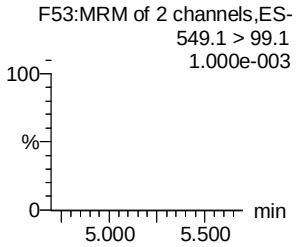
Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

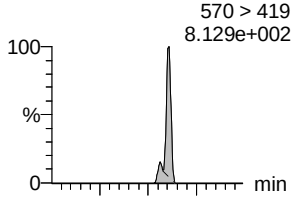
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

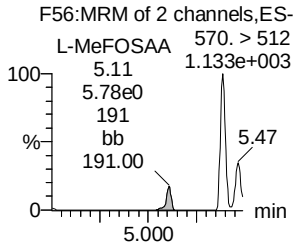
PFNS





L-MeFOSAA





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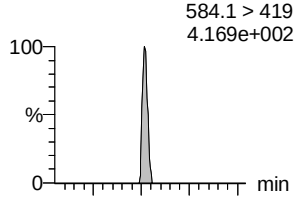

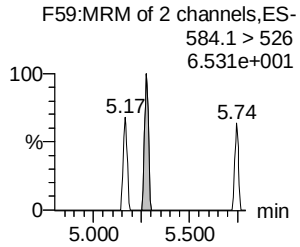

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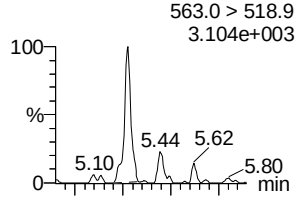

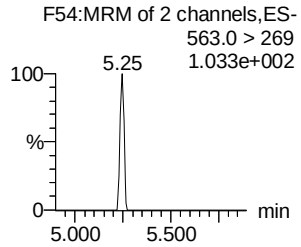

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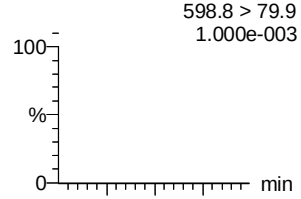

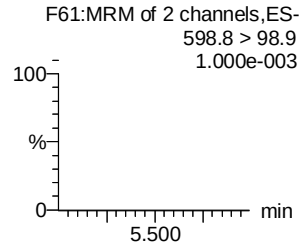

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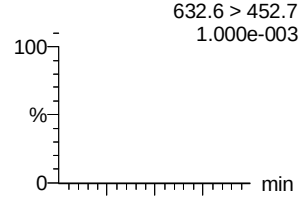
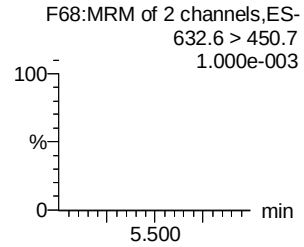
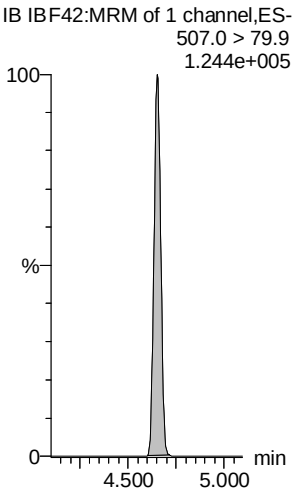
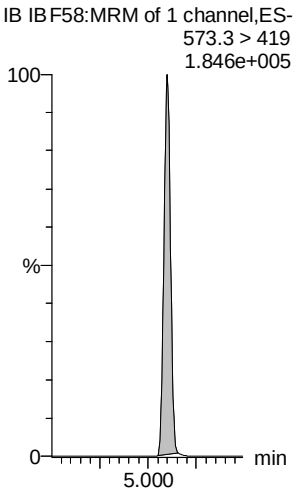




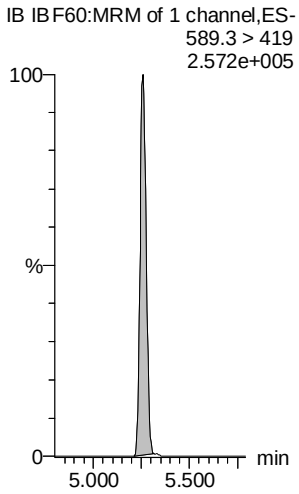
13C8-PFOS



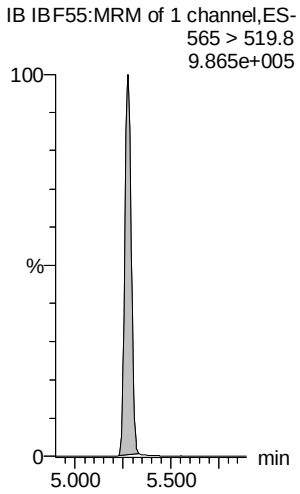
d3-N-MeFOSAA



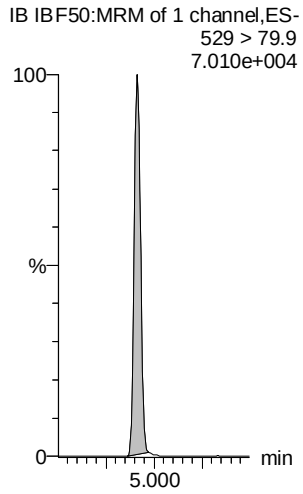
d5-N-EtFOSAA



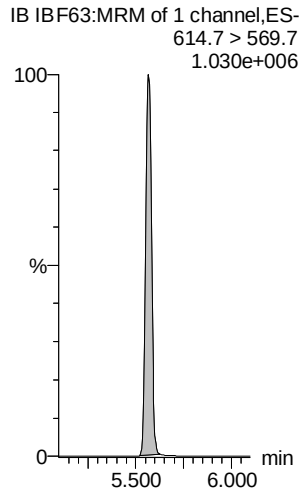
13C2-PFUdA



13C2-8:2 FTS



13C2-PFDoA



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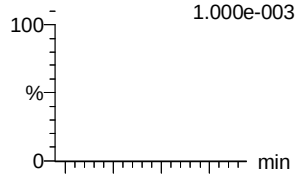
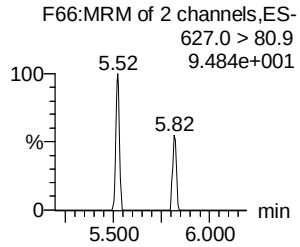
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

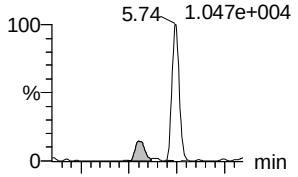
Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

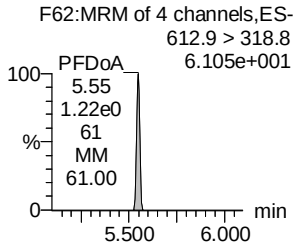
10:2 FTS



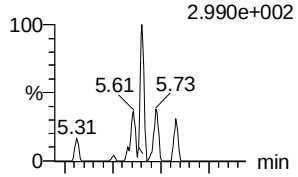


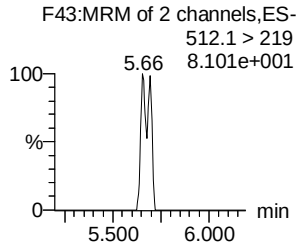
PFDoA





N-MeFOSA





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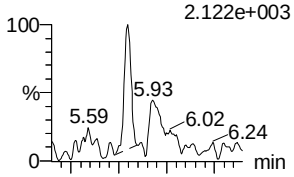
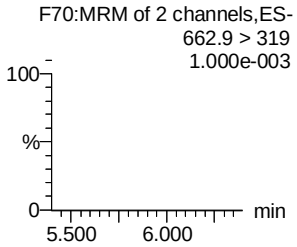
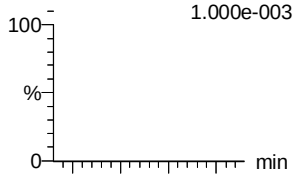
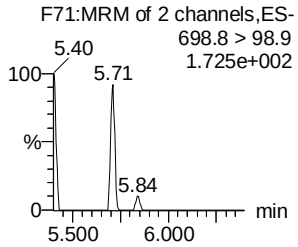


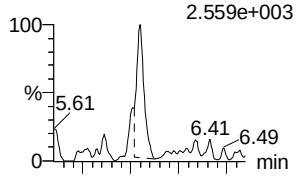


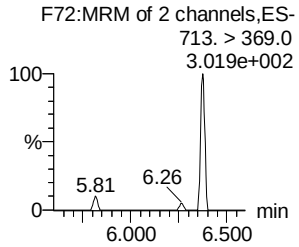
PFDoS



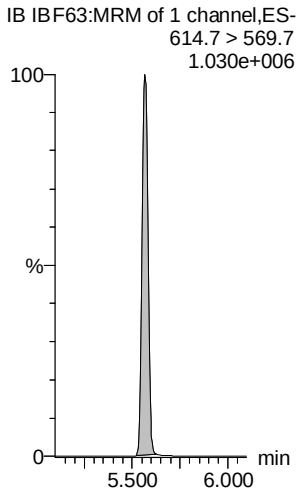


PFTeDA





13C2-PFDoA



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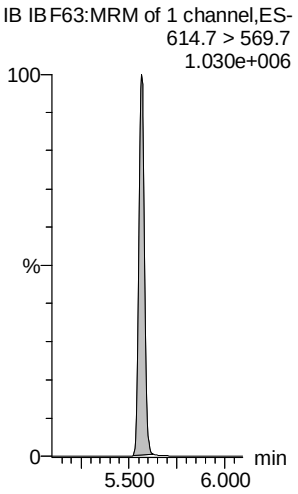
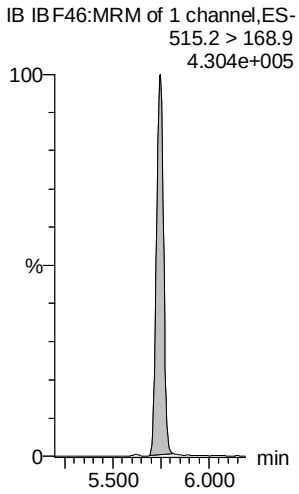


d3-N-MeFOSA



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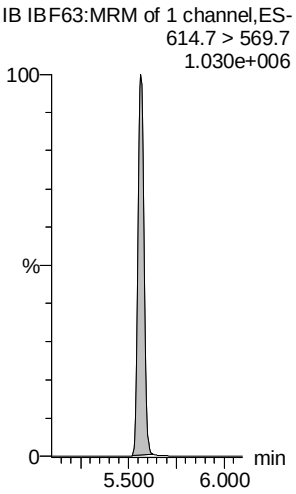

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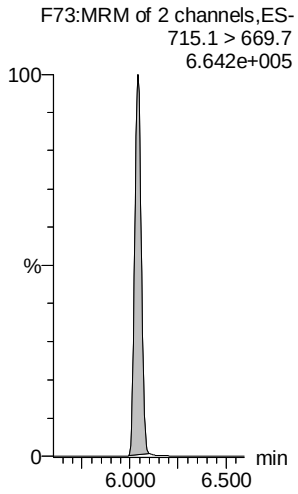

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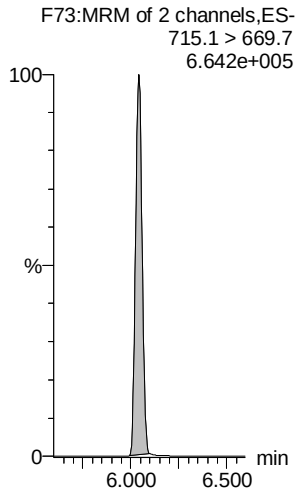

Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

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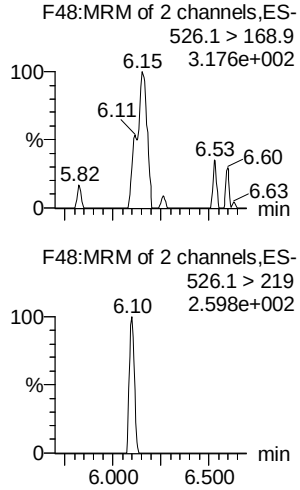
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

N-EtFOSA



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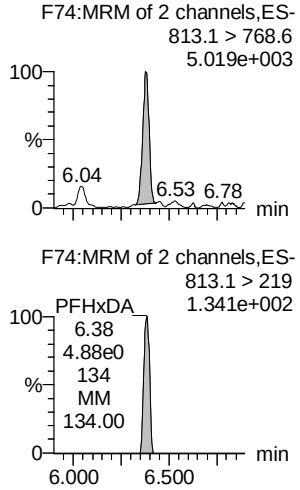

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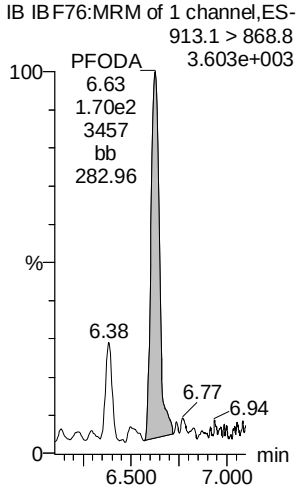
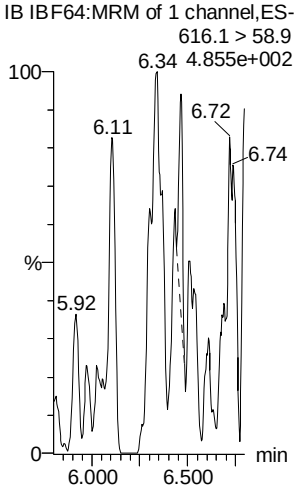
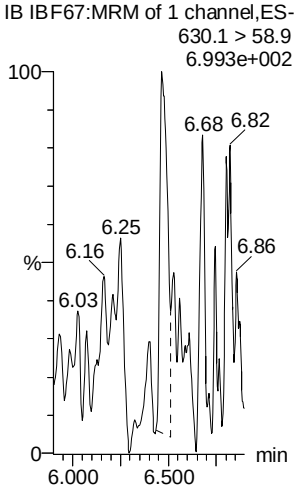


N-MeFOSE



N-EtFOSE



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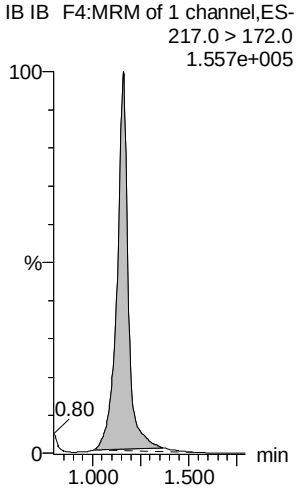
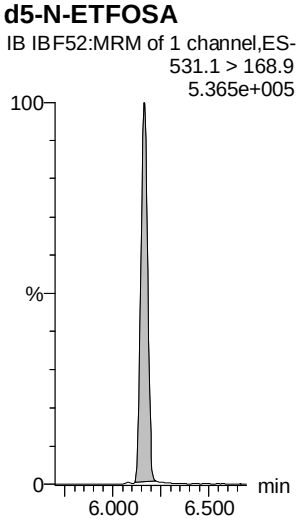
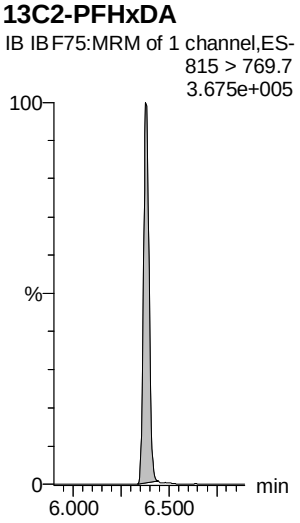


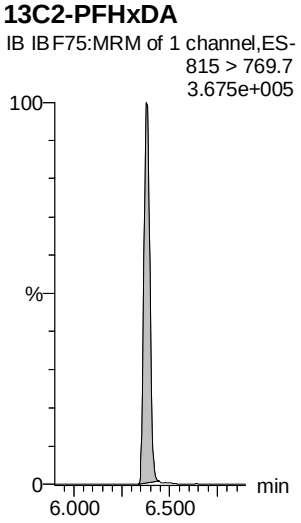
d5-N-ETFOSA



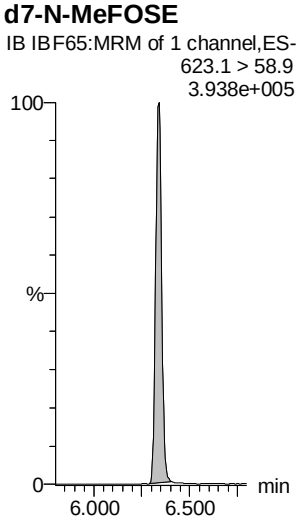
13C2-PFHxDA



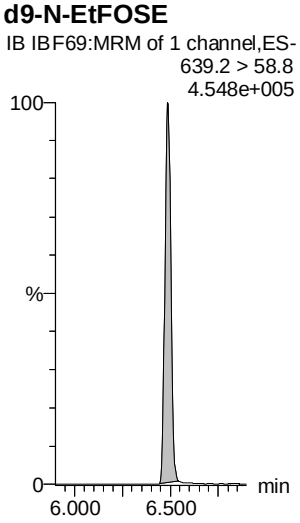
13C2-PFHxDA



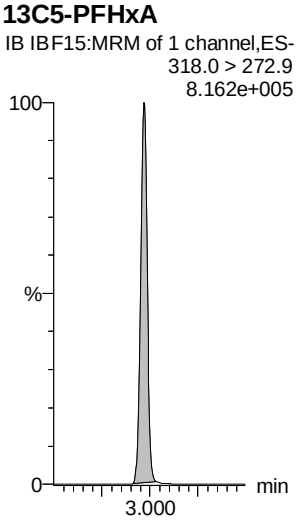
d7-N-MeFOSE



d9-N-EtFOSE



13C5-PFHxA

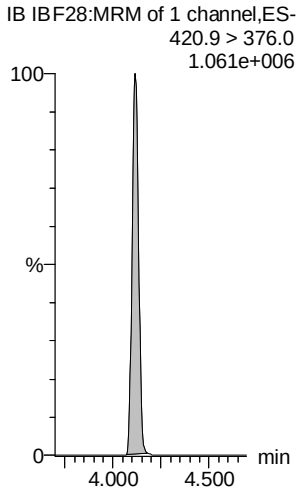


Dataset: F:\Projects\PFAS.PRO\Results\190722M1\190722M1-IB.qld

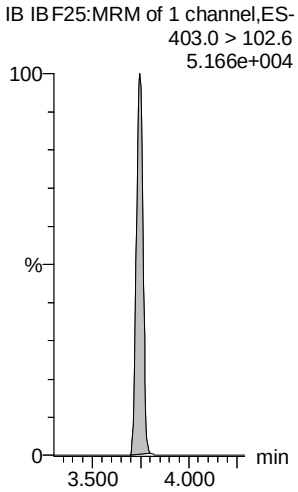
Last Altered: Monday, July 22, 2019 13:50:22 Pacific Daylight Time
Printed: Monday, July 22, 2019 13:50:37 Pacific Daylight Time

Name: 190722M1_14, Date: 22-Jul-2019, Time: 12:12:38, ID: IB, Description: IB

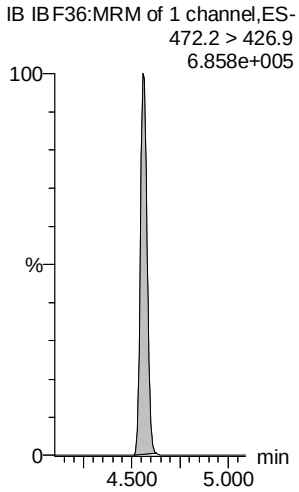
13C8-PFOA



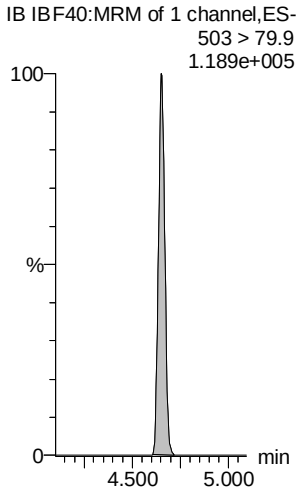
18O2-PFHxS



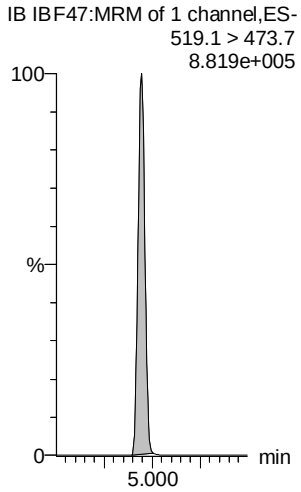
13C9-PFNA



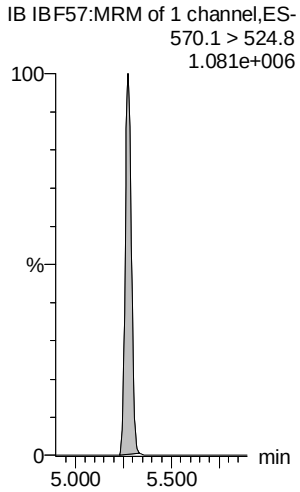
13C4-PFOS



13C6-PFDA



13C7-PFUdA



TUNE CHECKS

Q4(M) 07-22-19

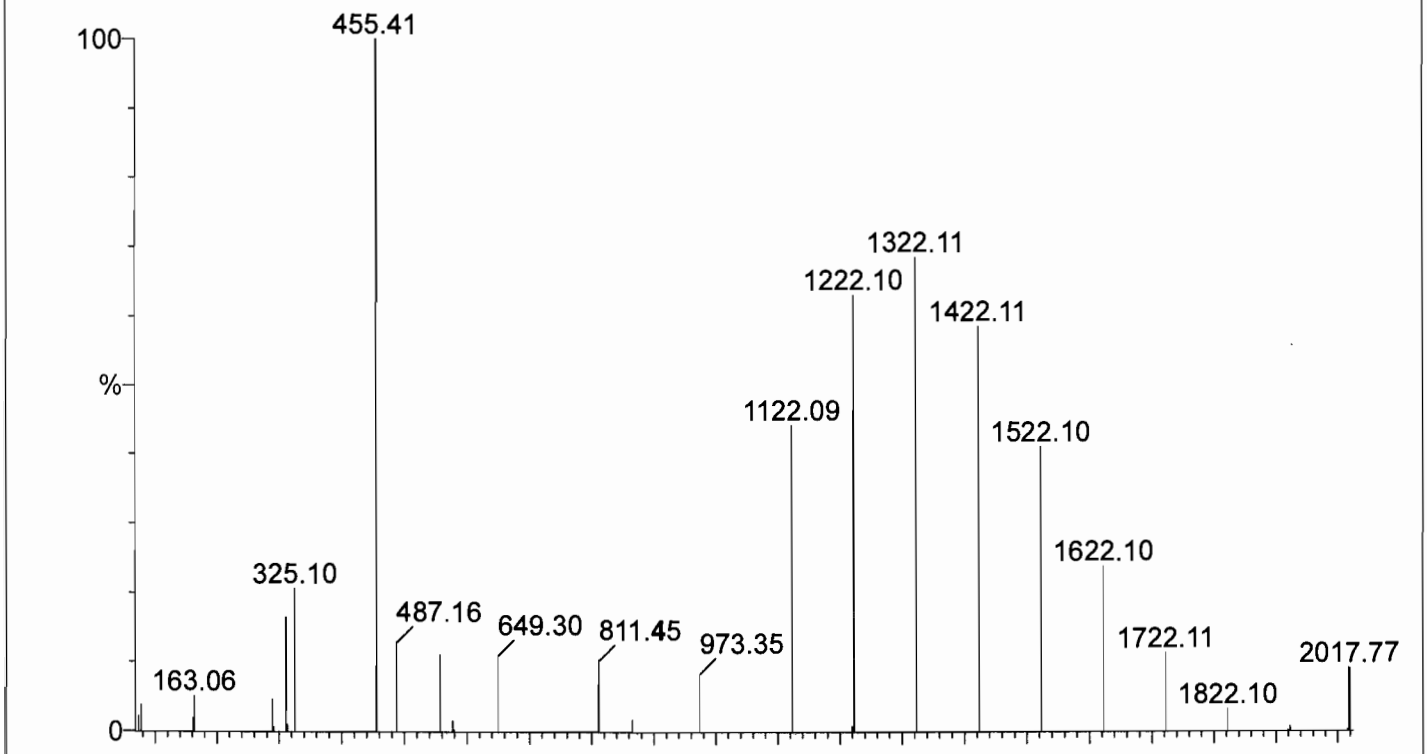
07/15/19 CCH 7/22/19

Calibration Verification Report - MS1 Static

Printed: **Mon Jul 22 09:46:06 2019**

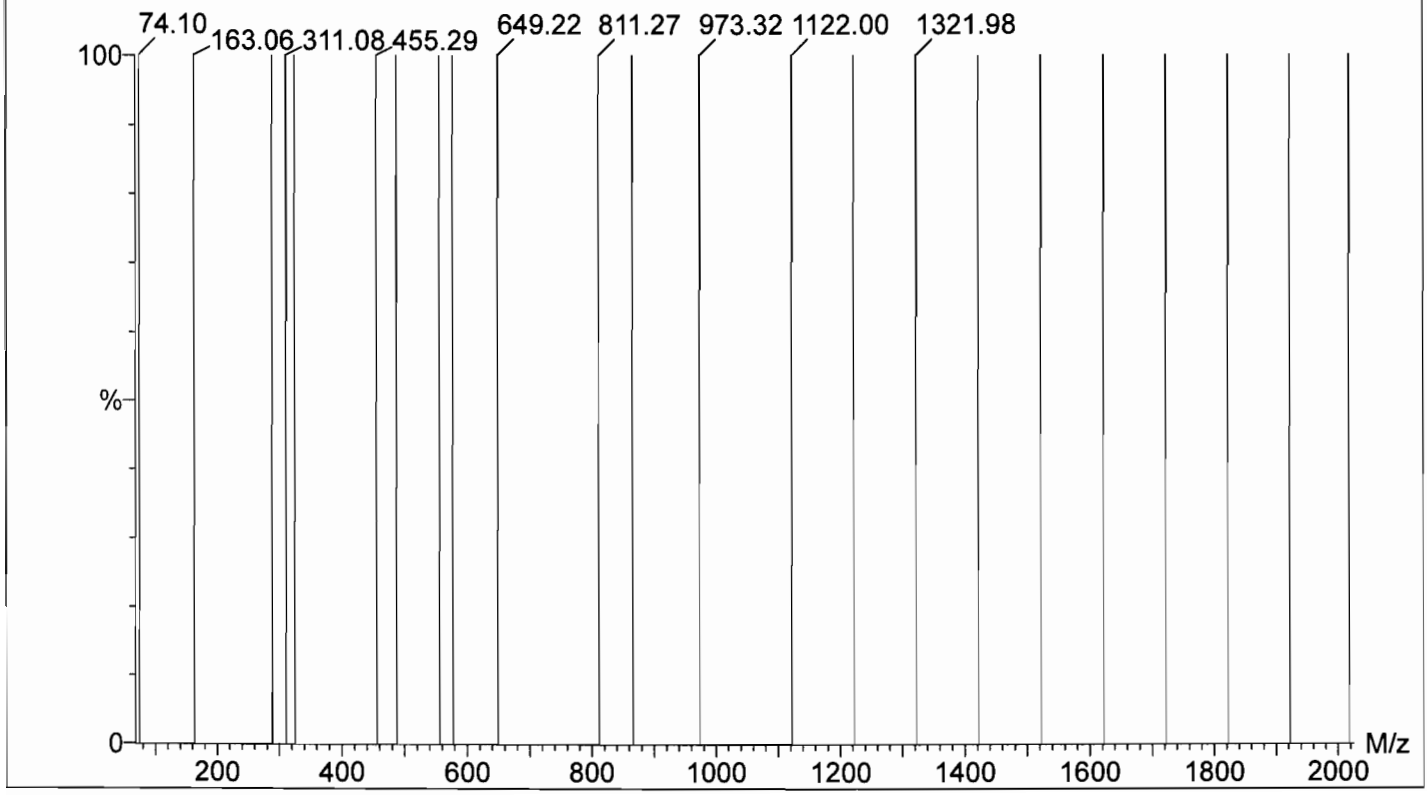
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

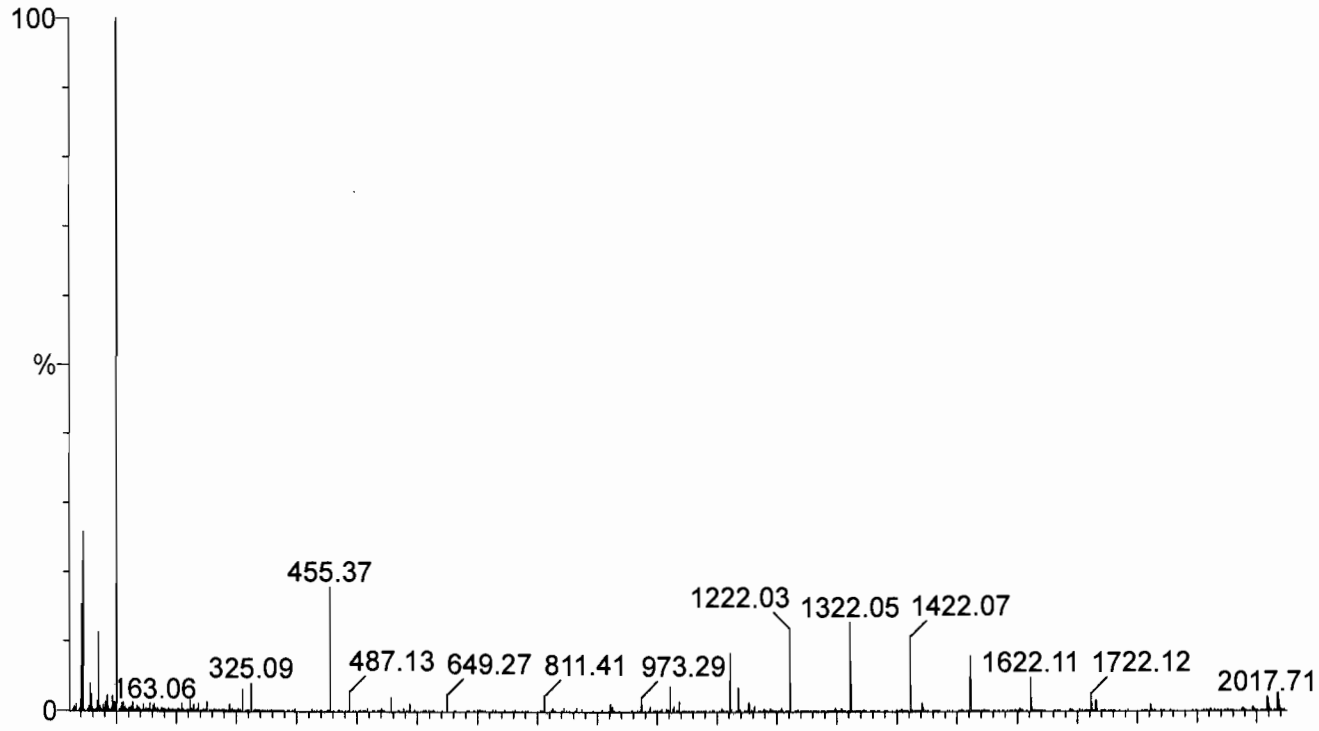


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

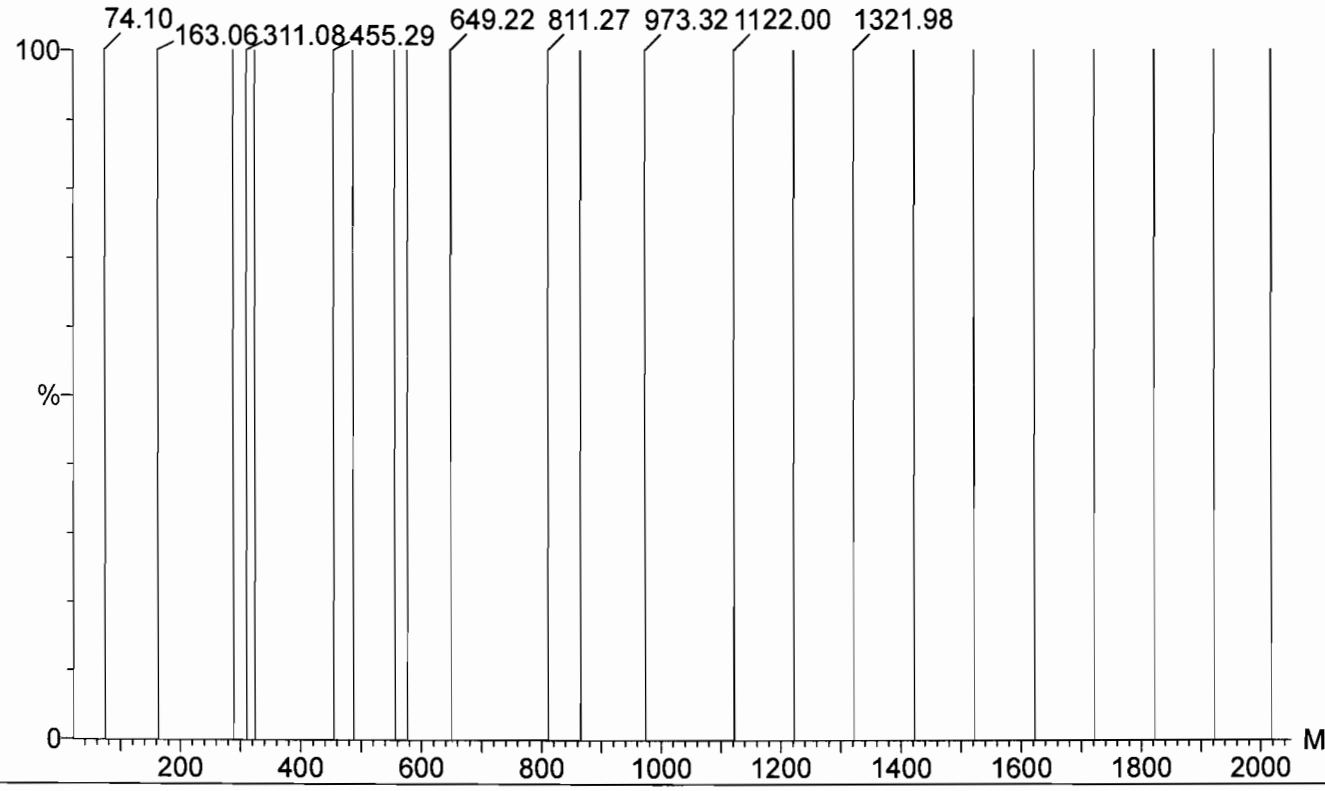
Mean residual = 0.0882 amu



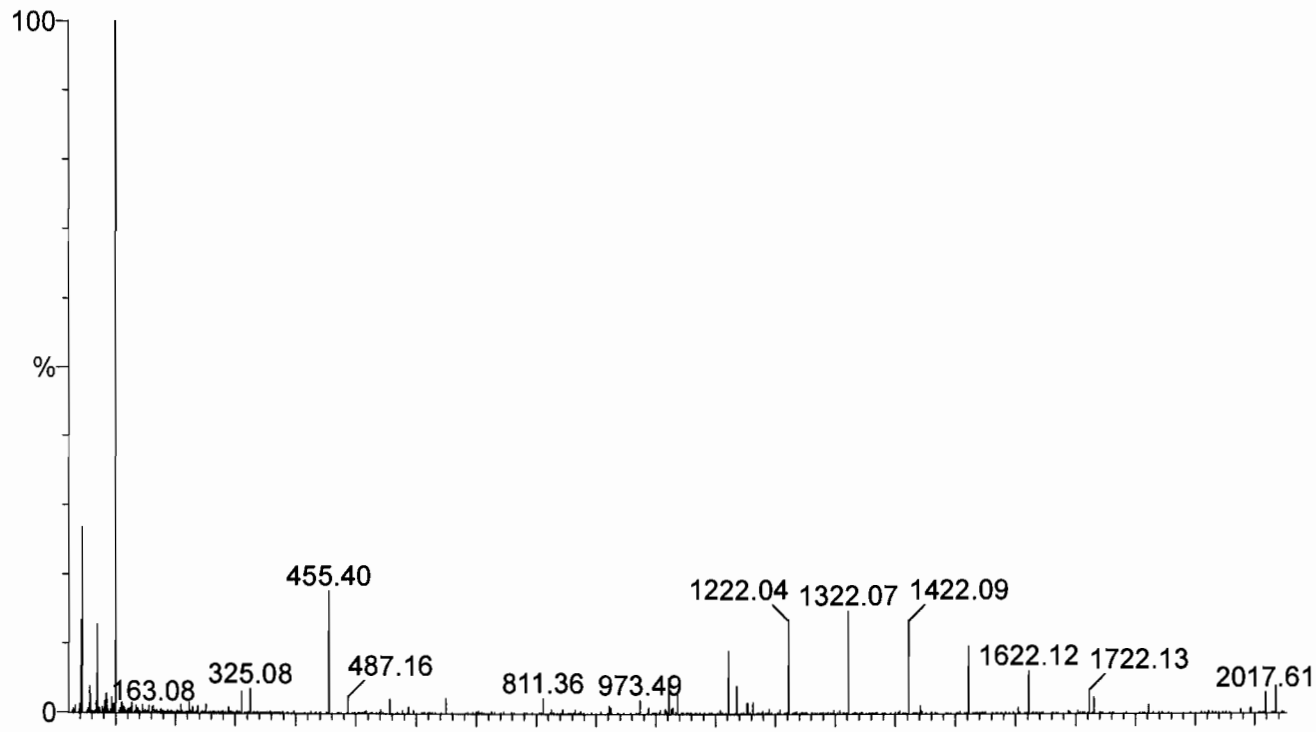
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



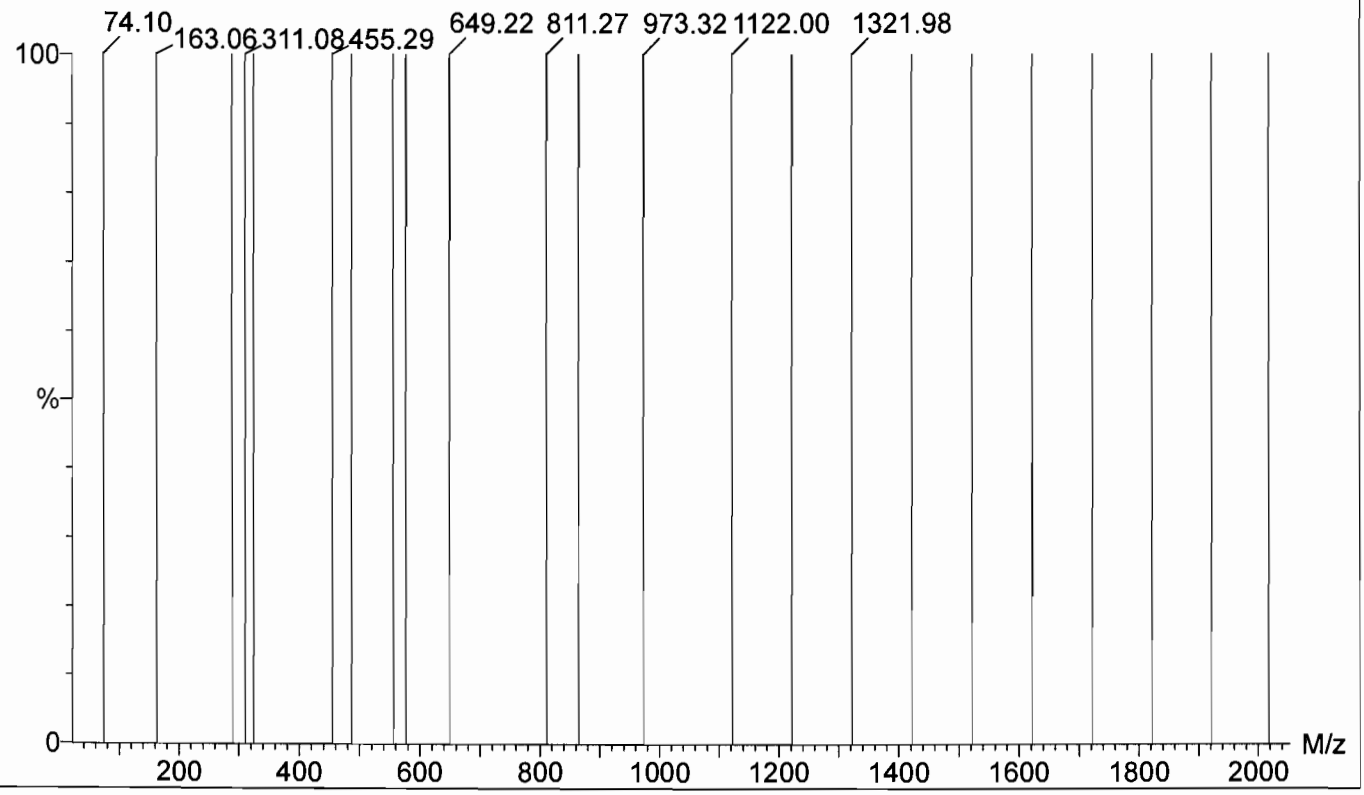
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0782 amu



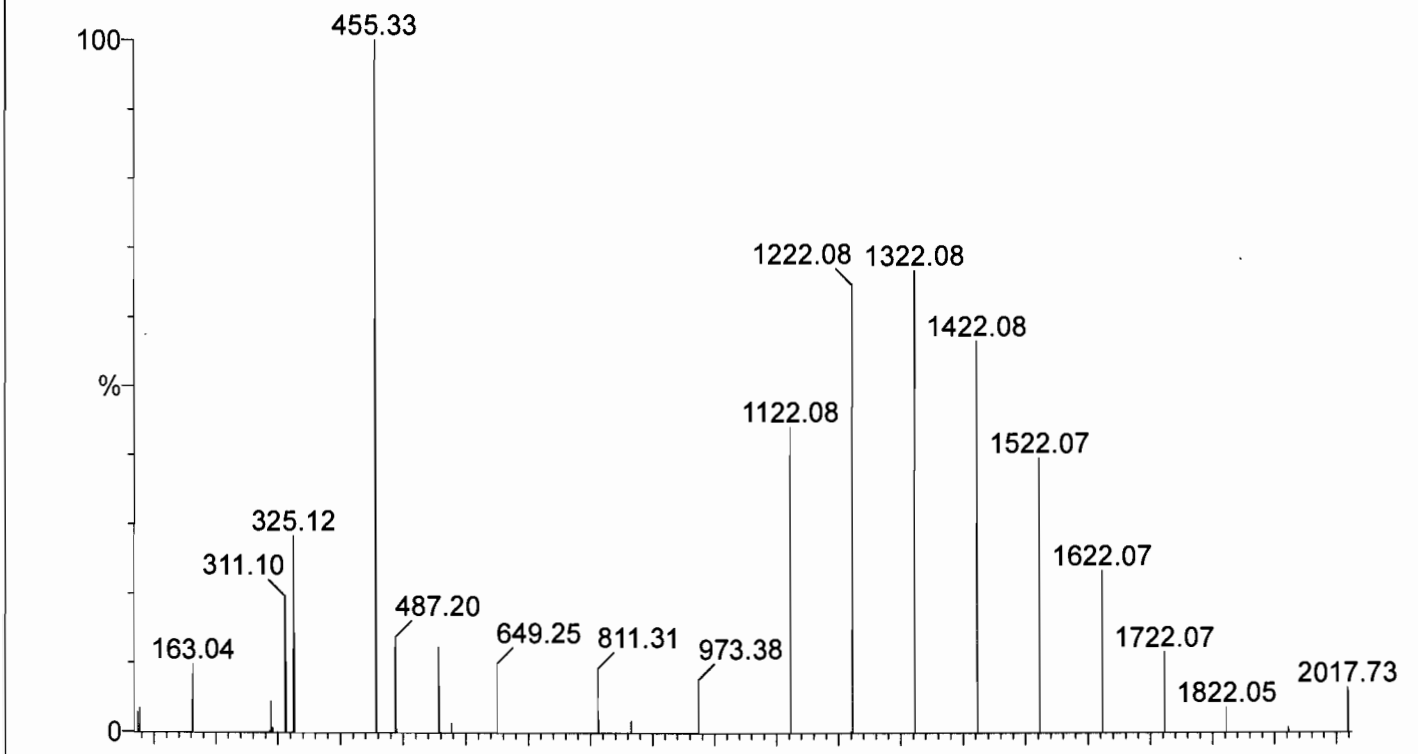
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



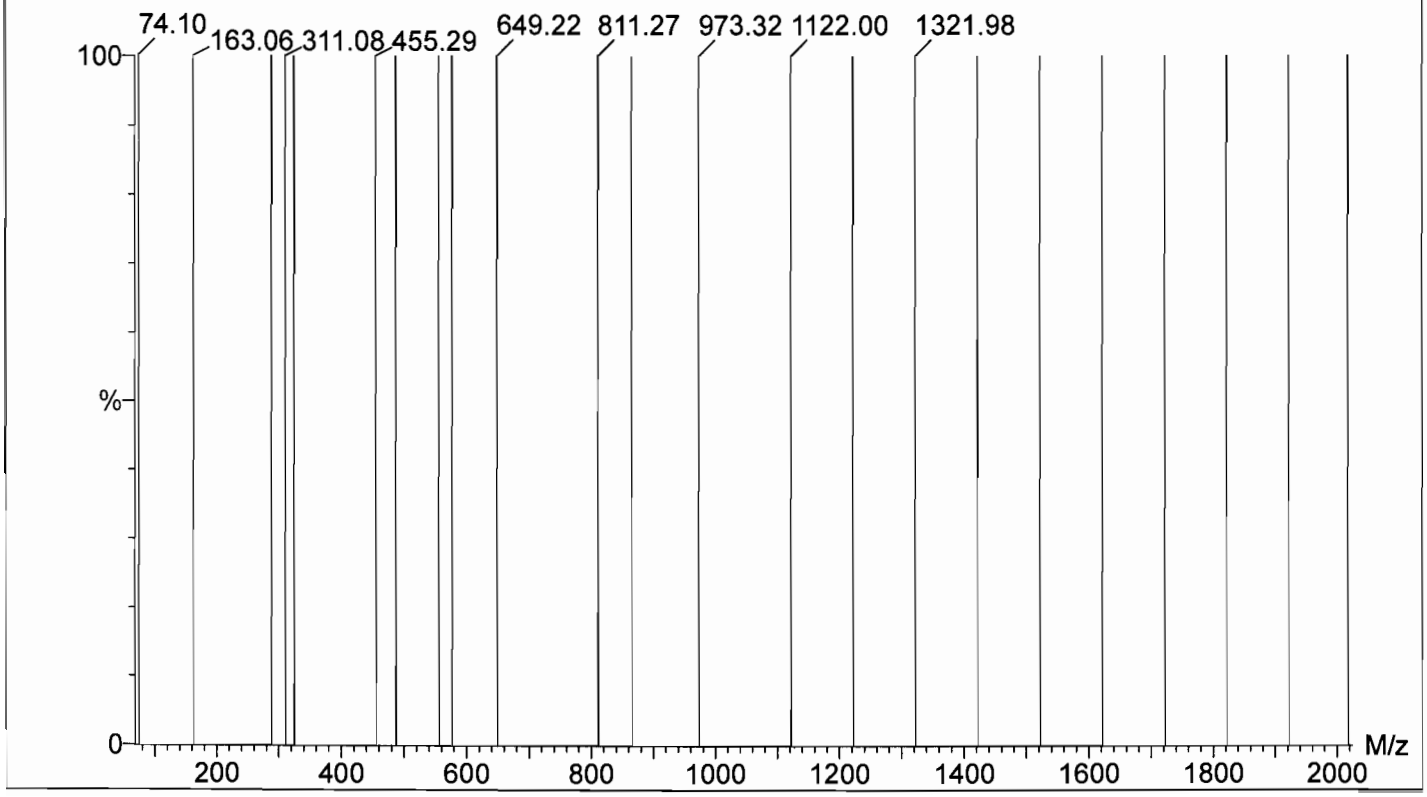
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.081 amu



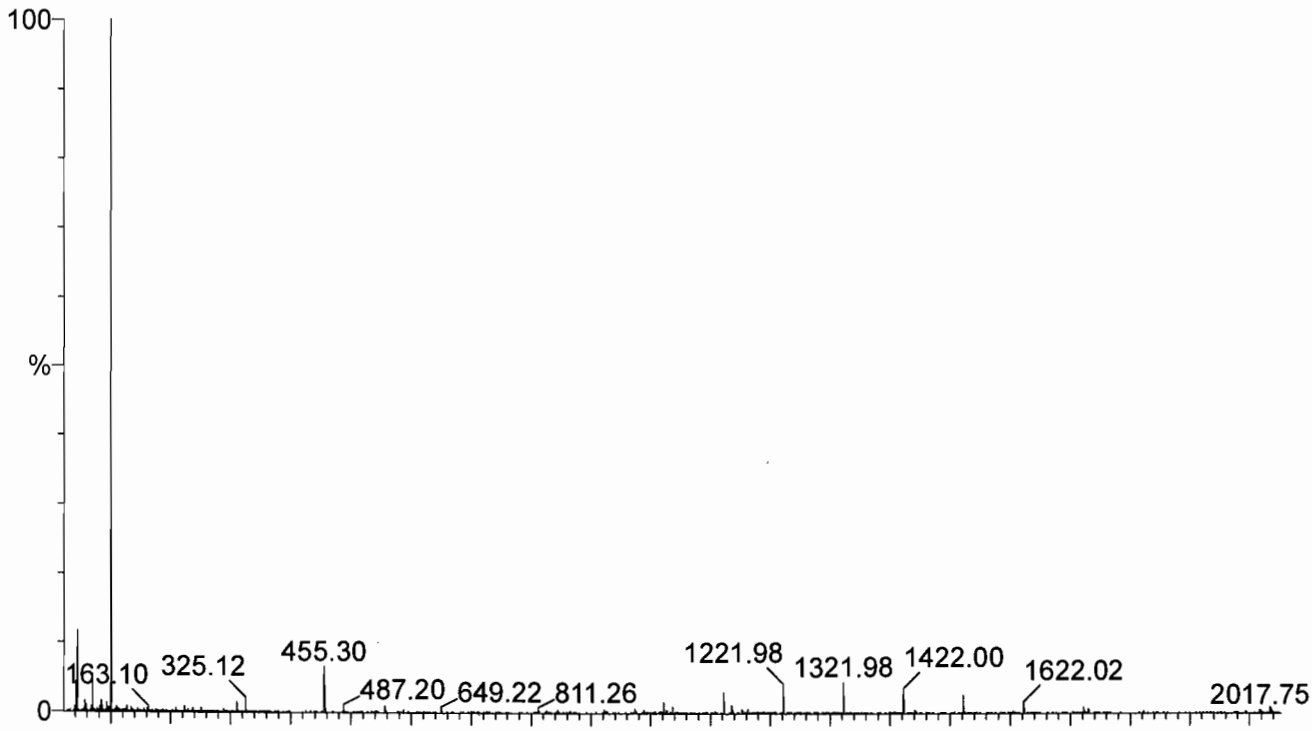
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



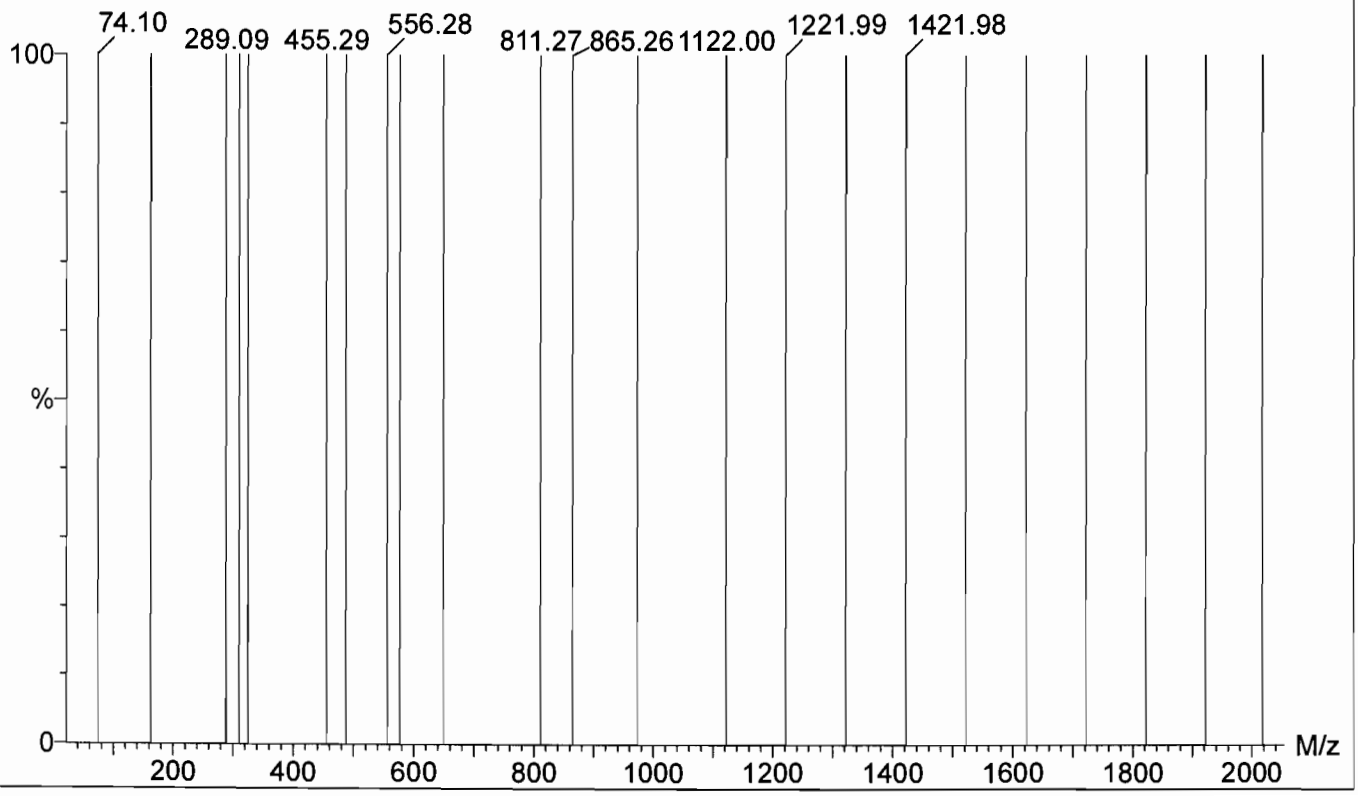
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.063 amu



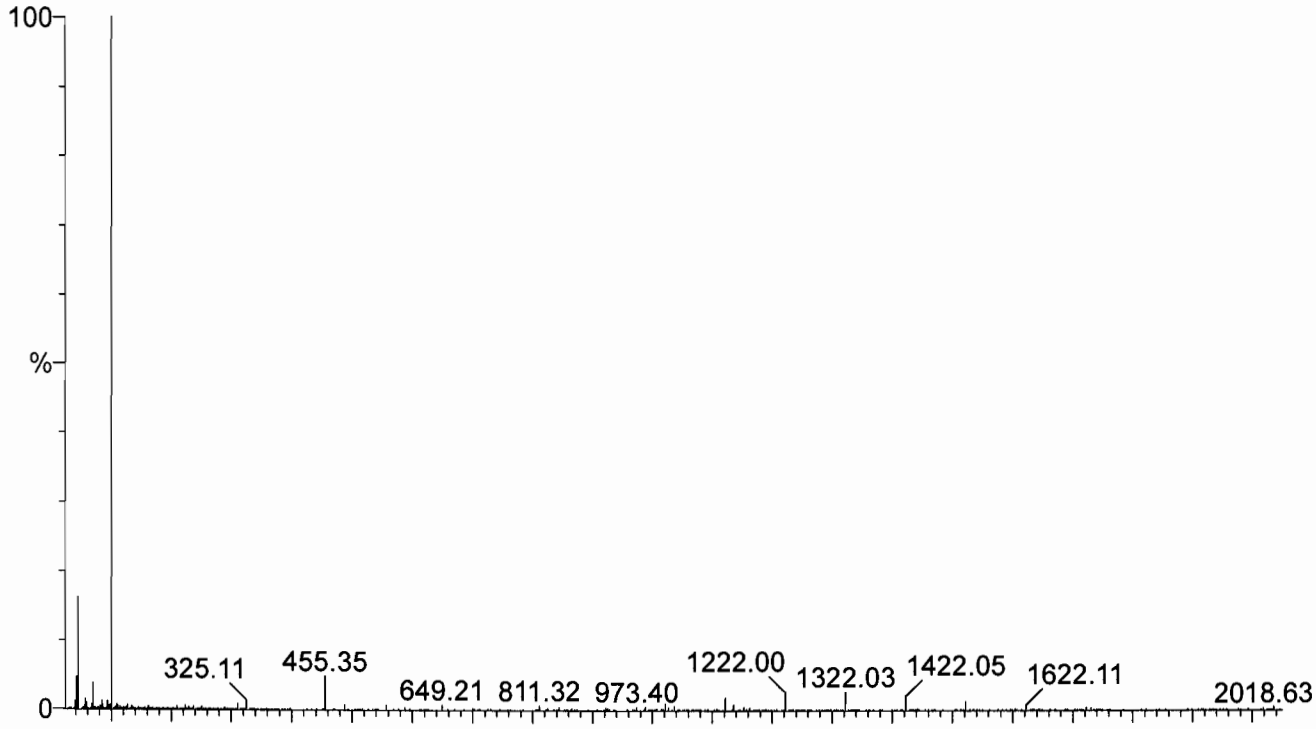
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



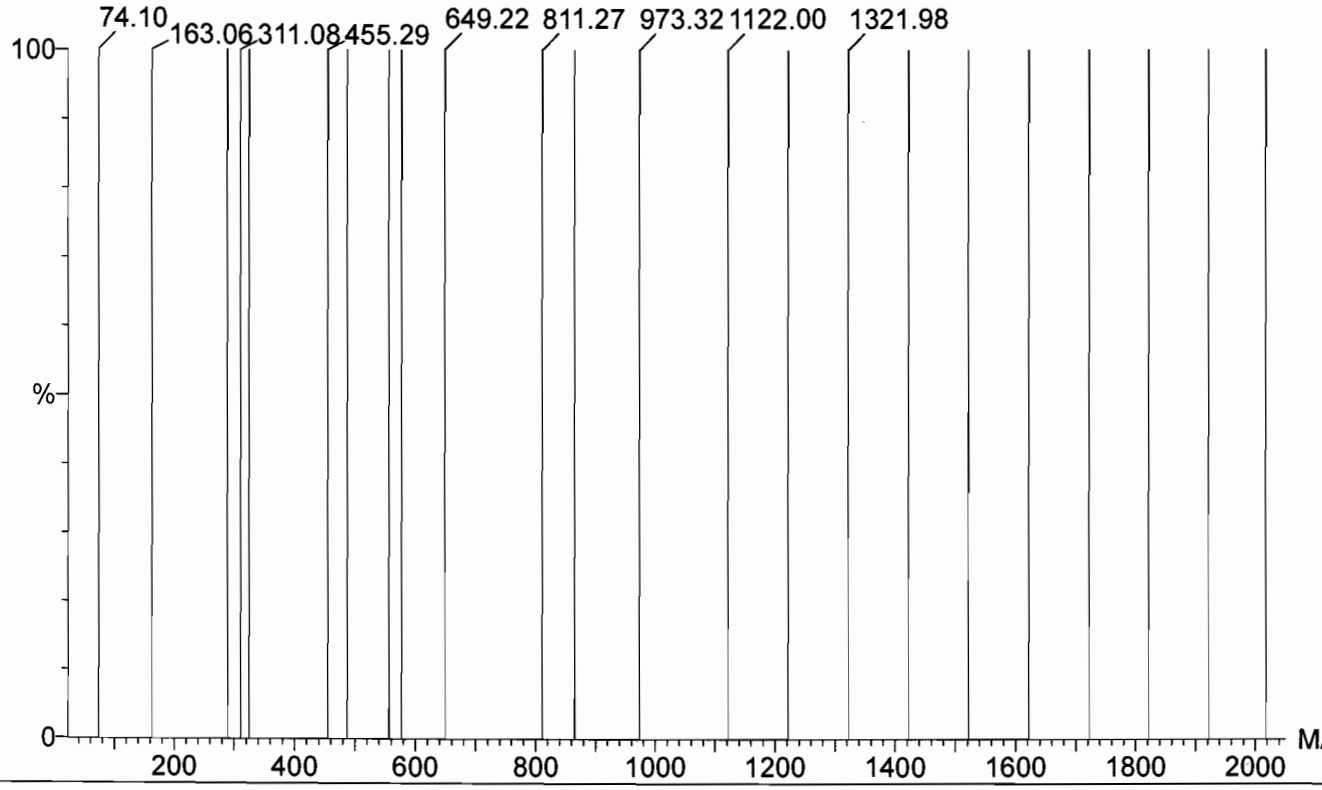
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0334 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0885 amu



Q4(M) 07-23-19

07/15/19

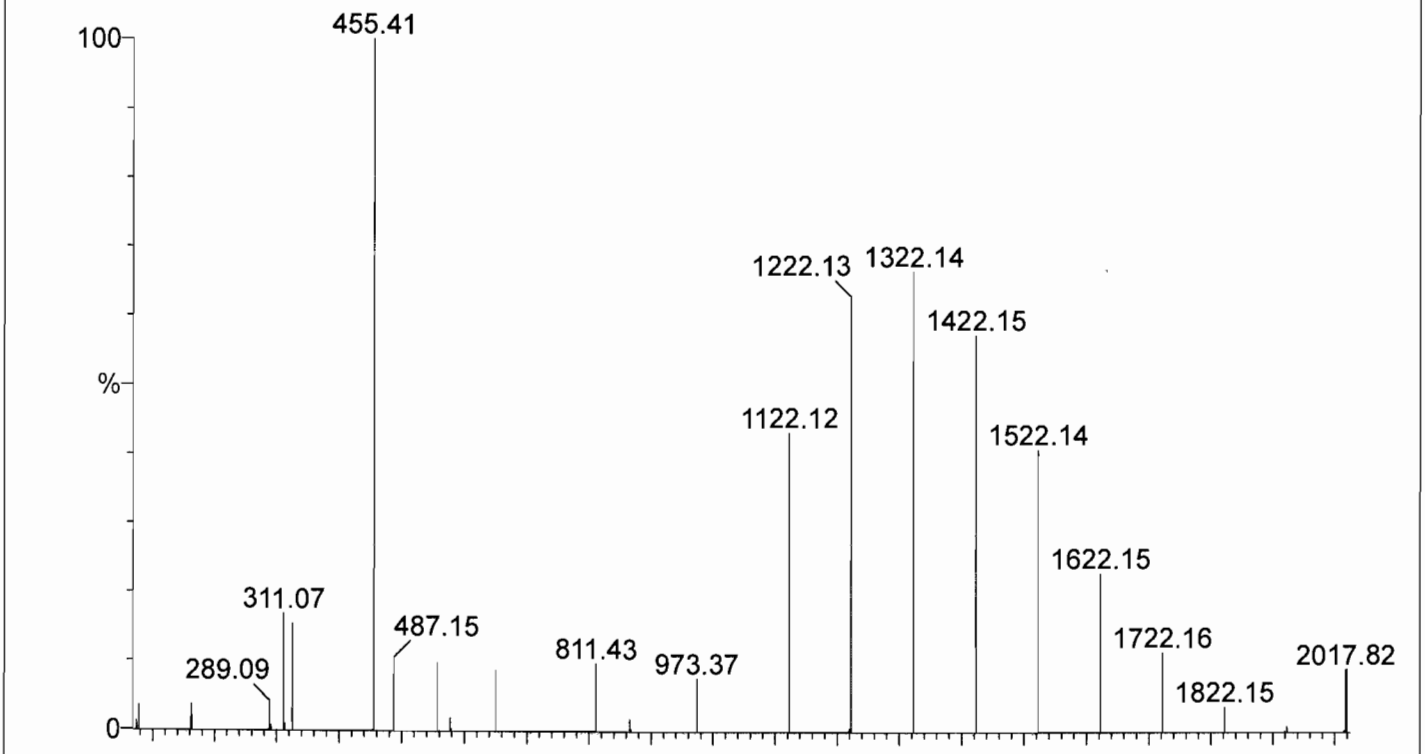
CAH 7/23/19

Calibration Verification Report - MS1 Static

Printed: **Tue Jul 23 07:19:36 2019**

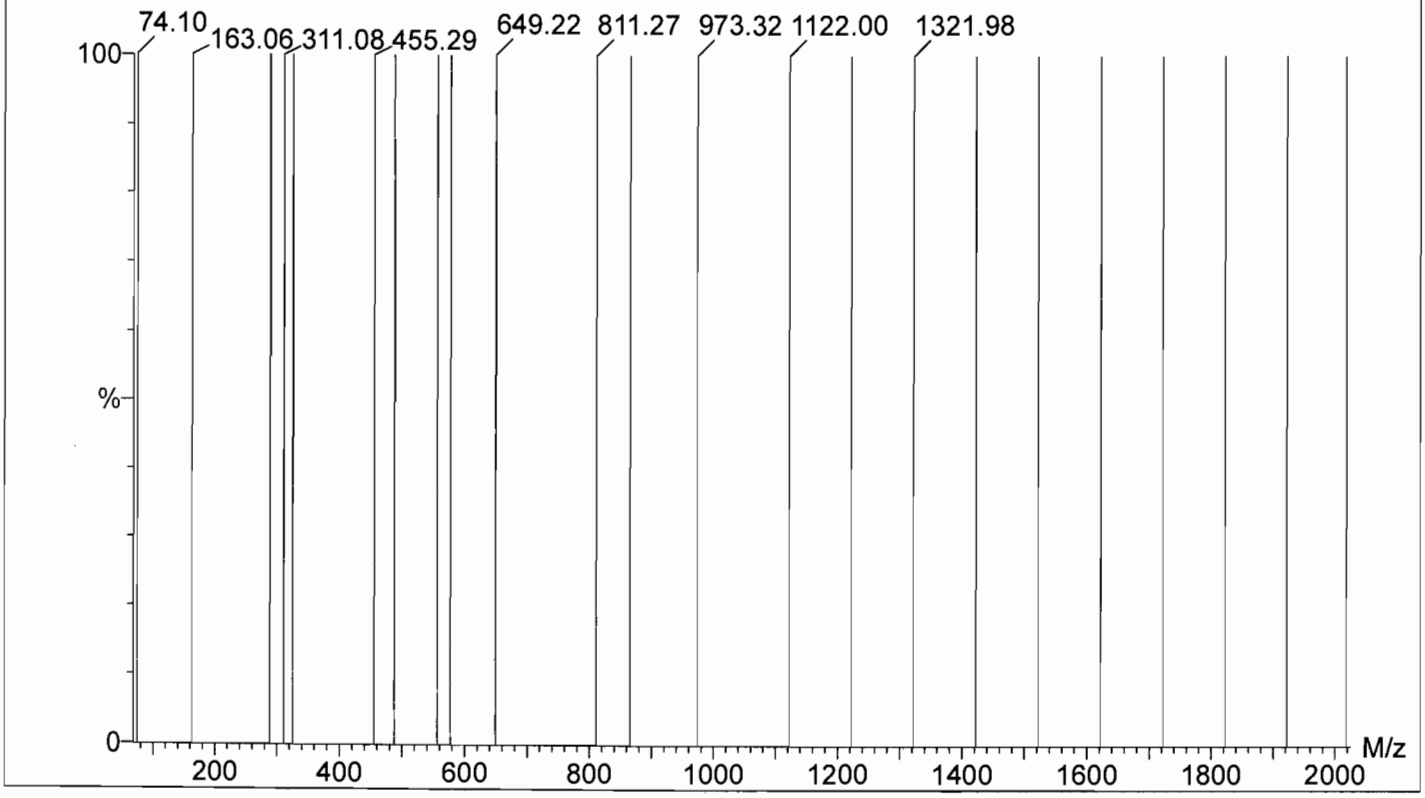
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

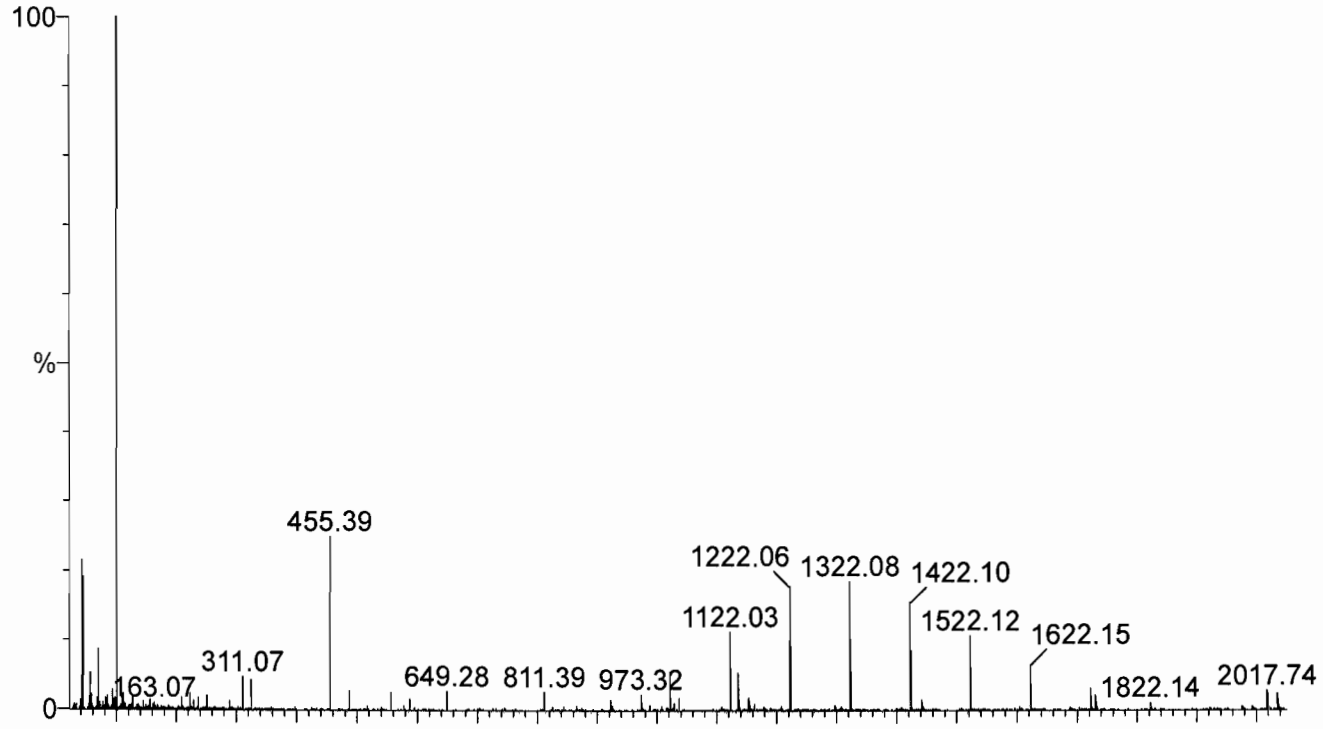


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

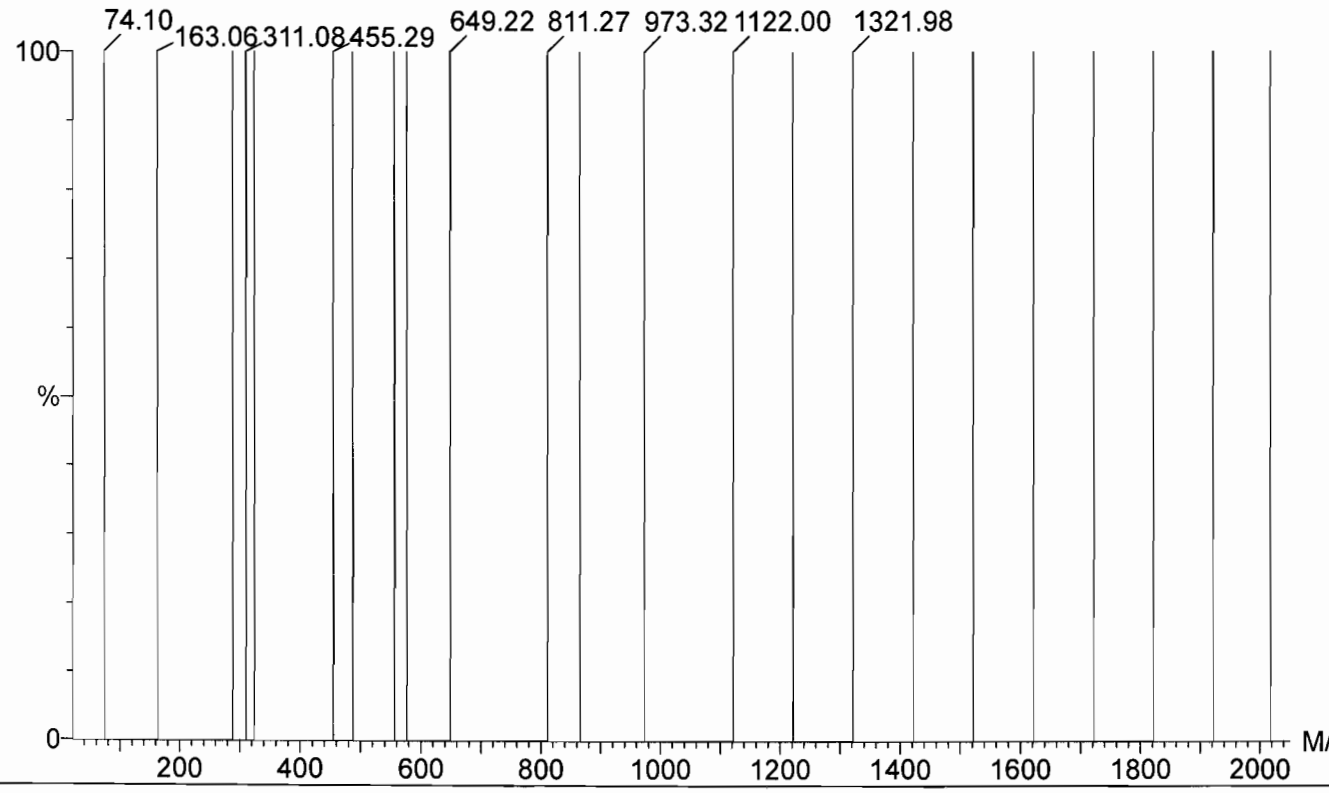
Mean residual = 0.106 amu



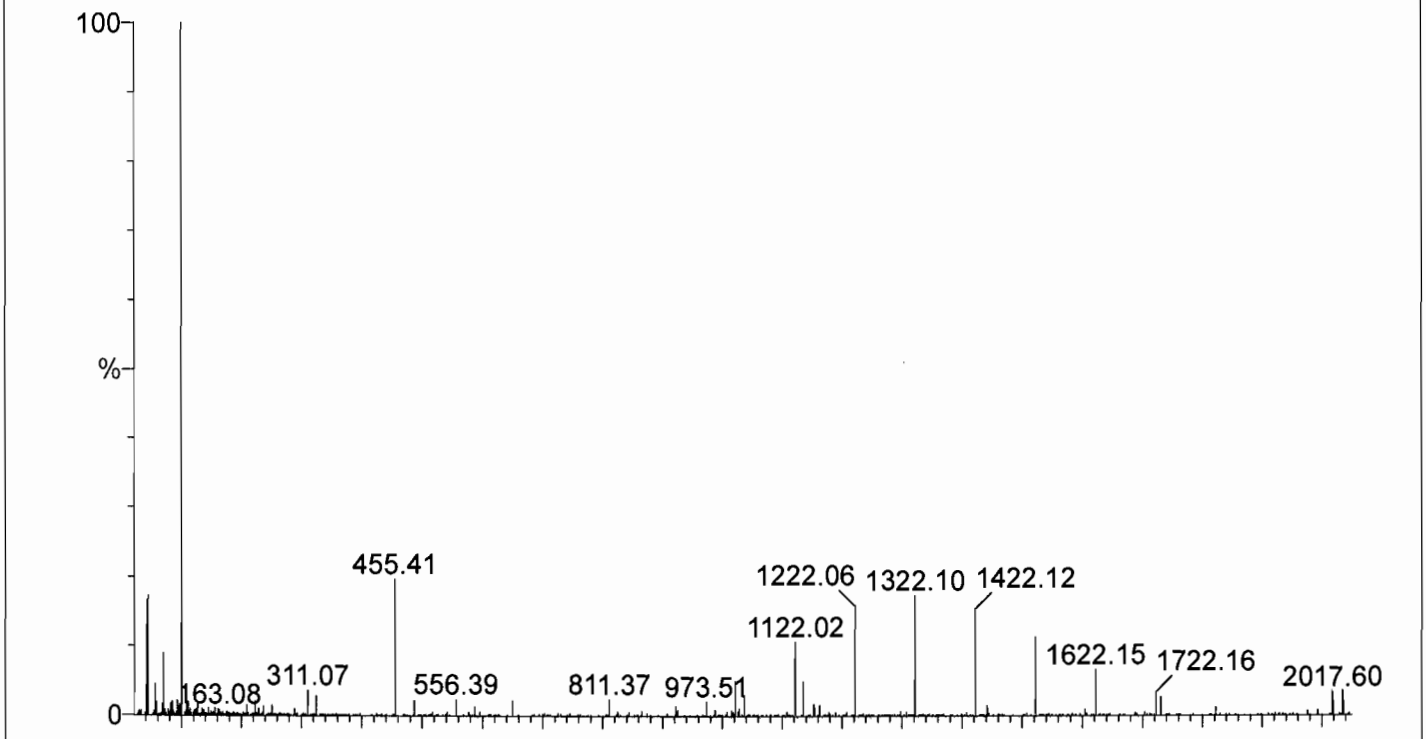
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



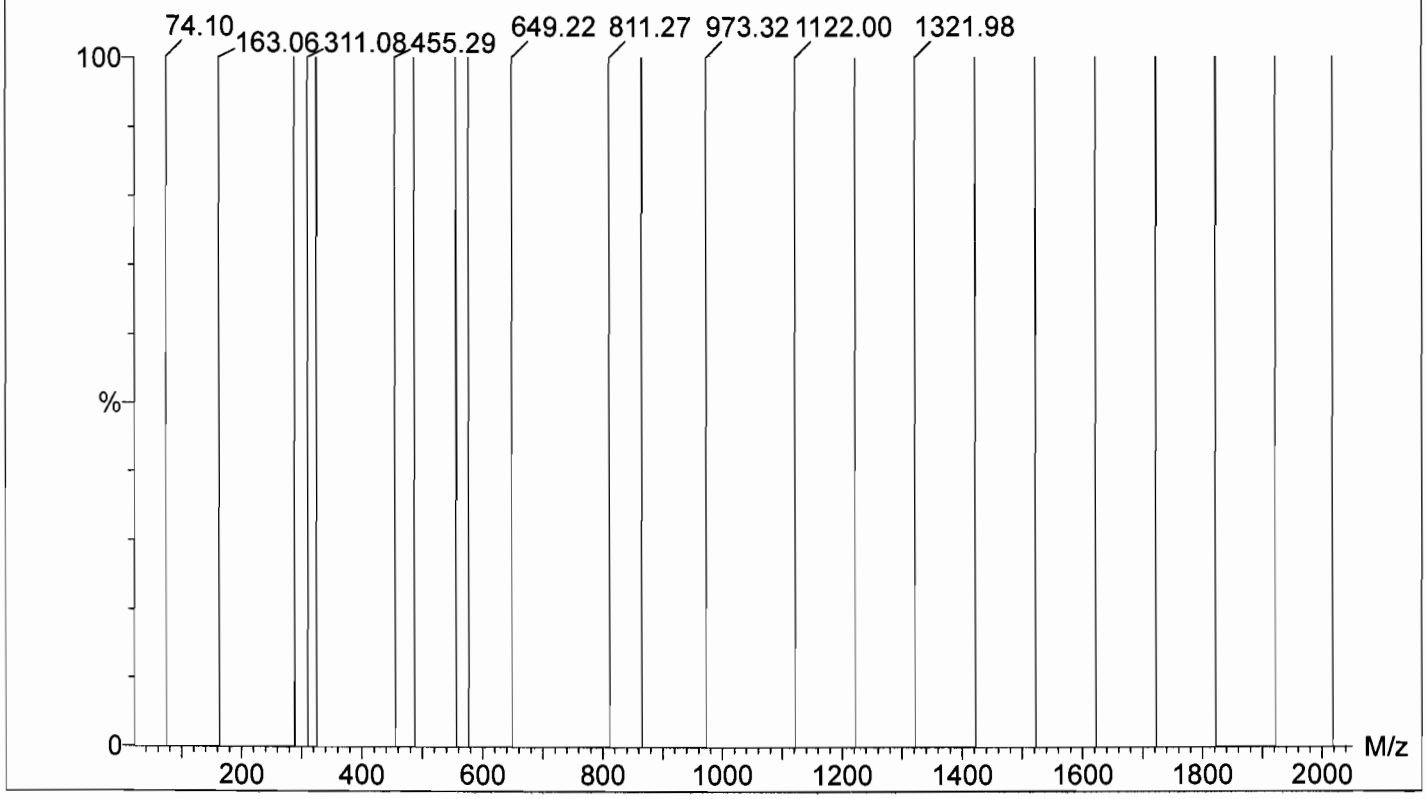
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0828 amu



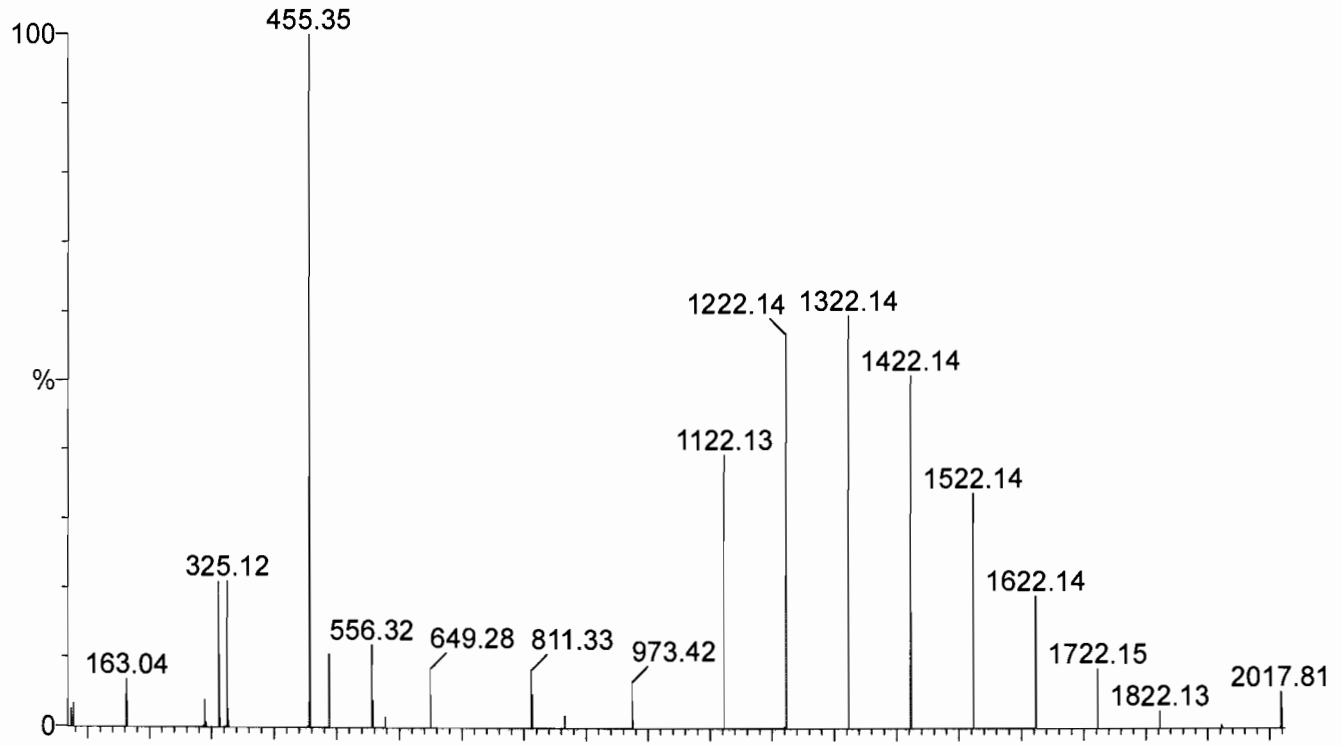
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



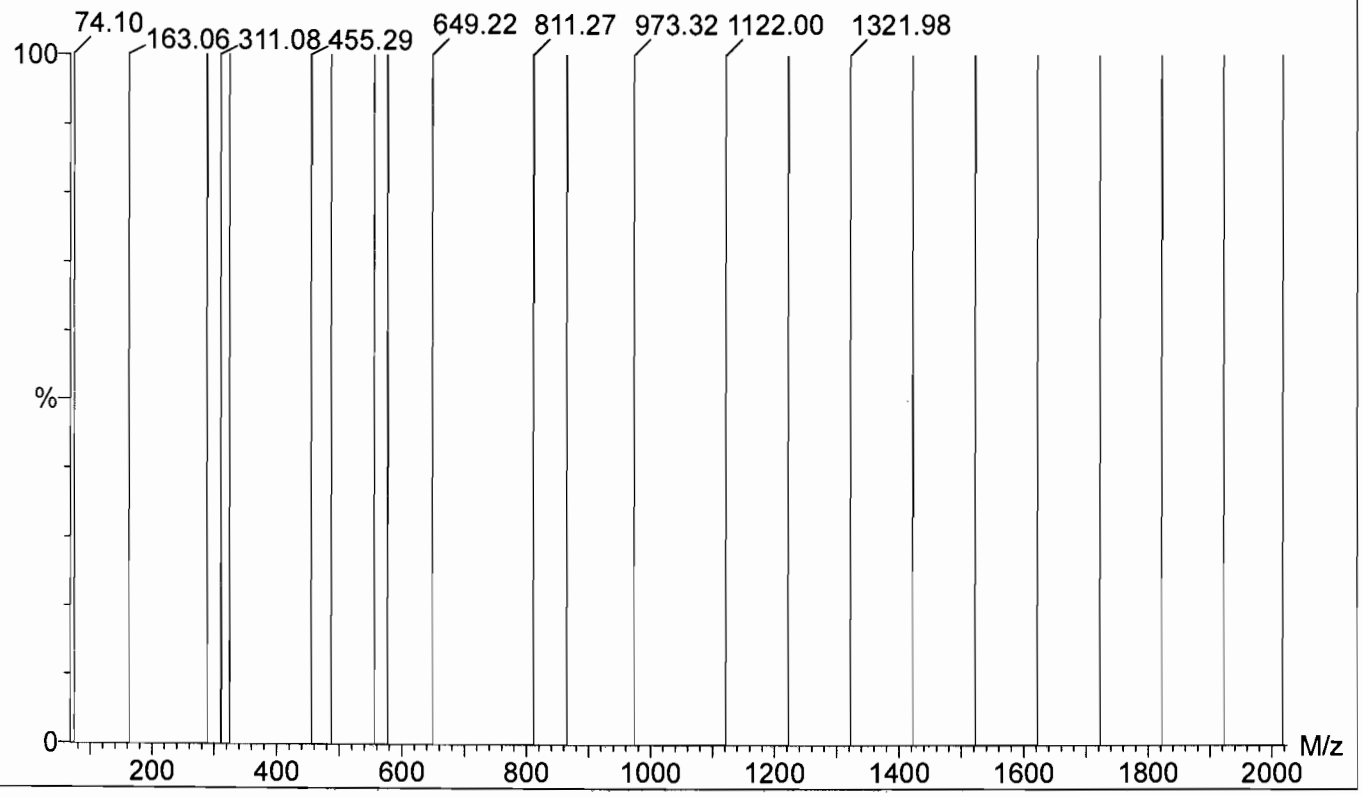
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0902 amu



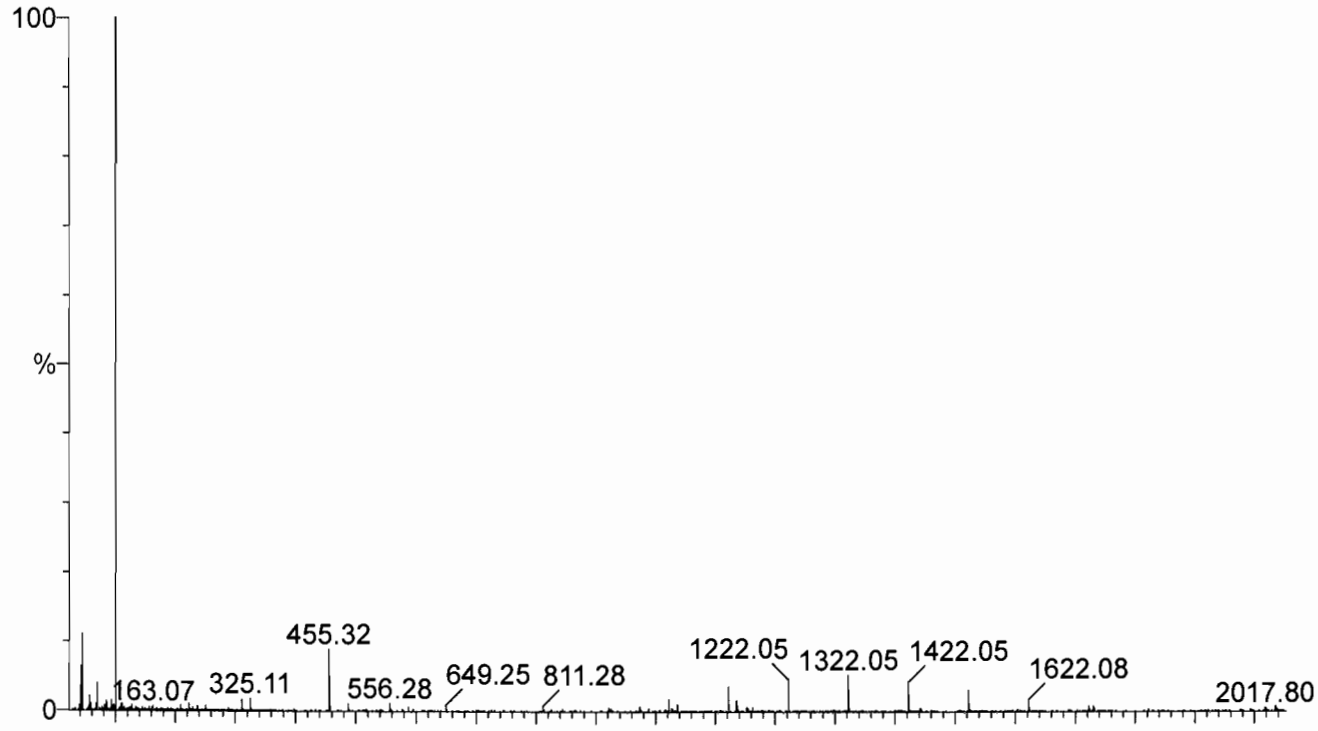
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



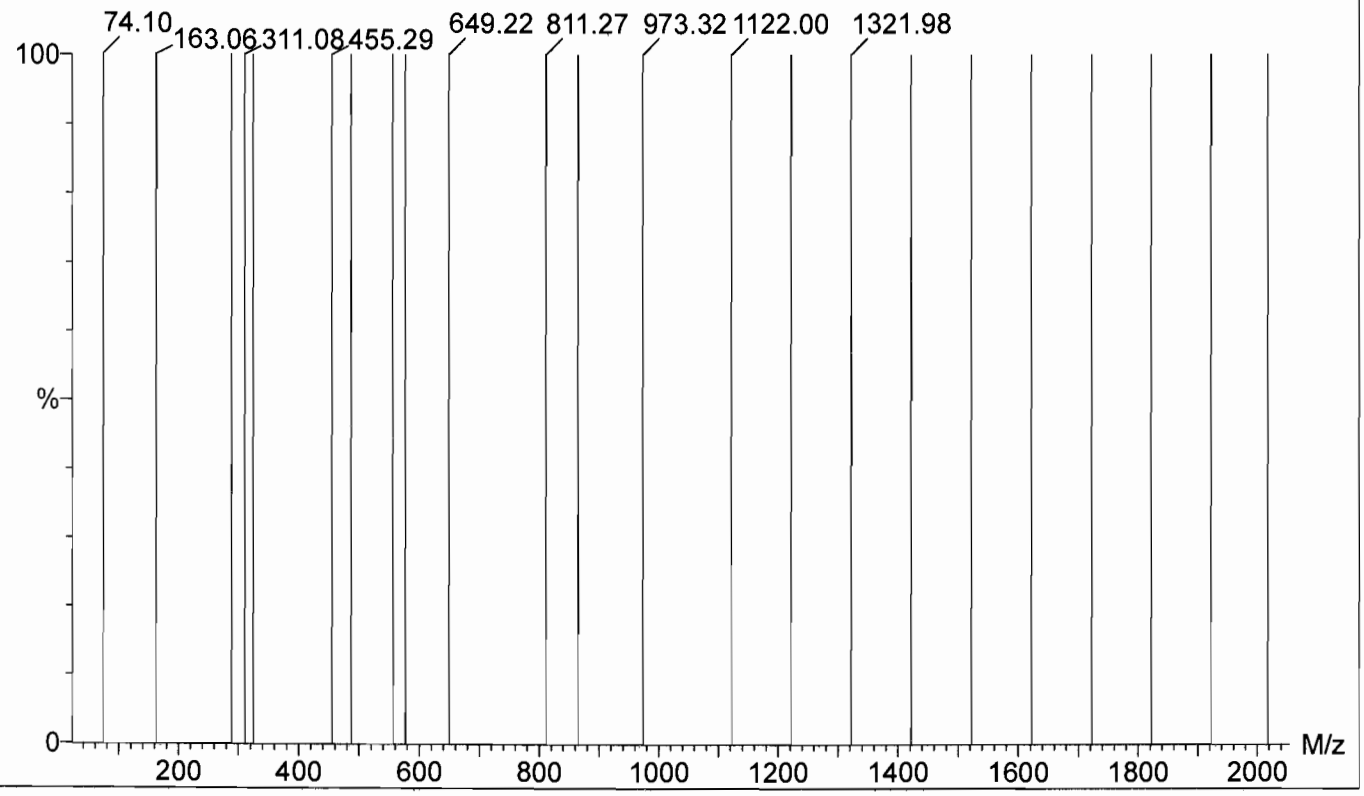
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.102 amu



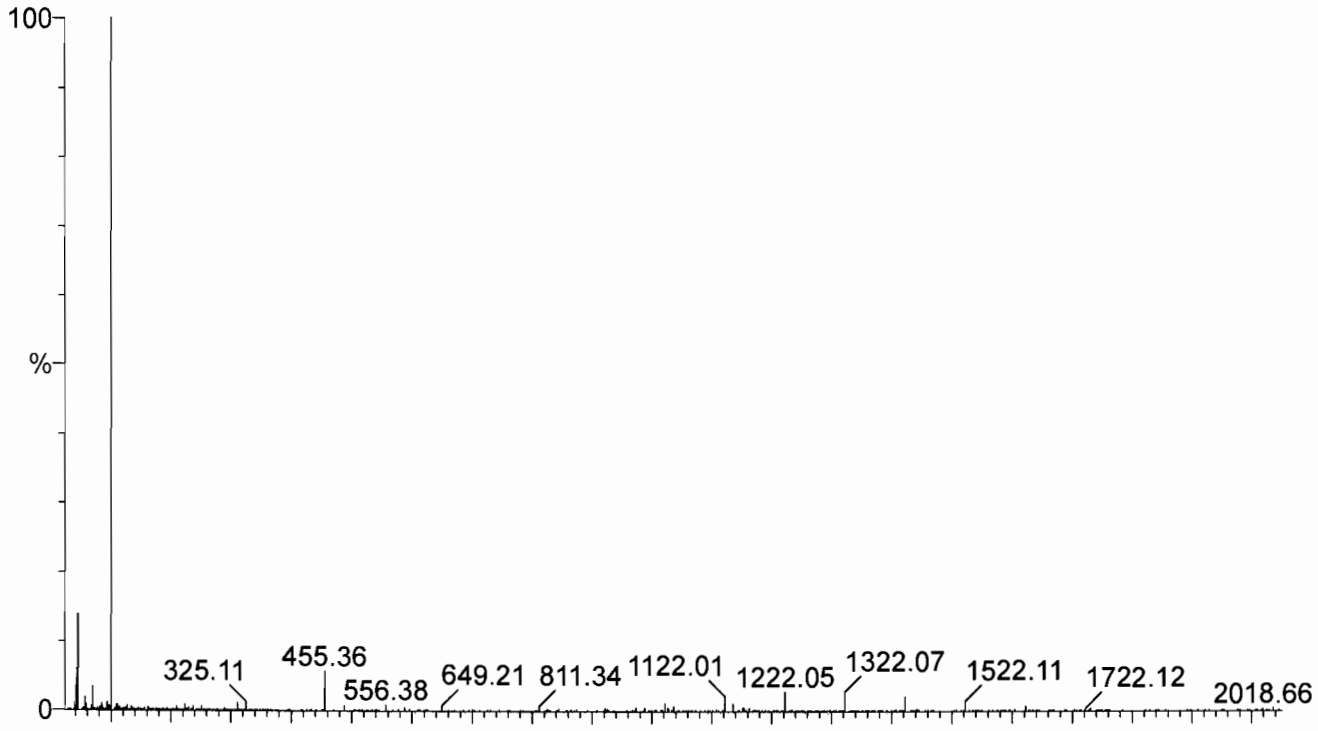
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



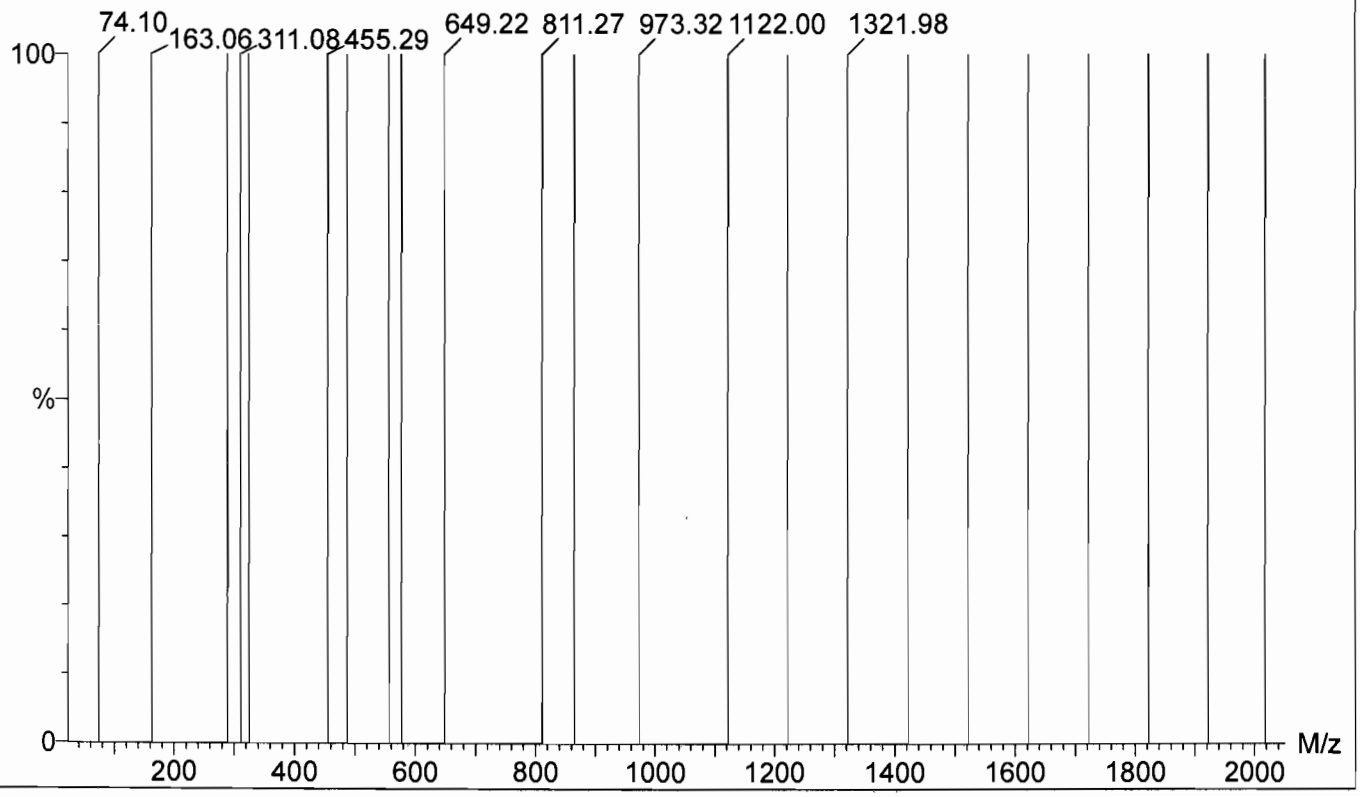
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0564 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.113 amu



Q4(M) 07-24-19

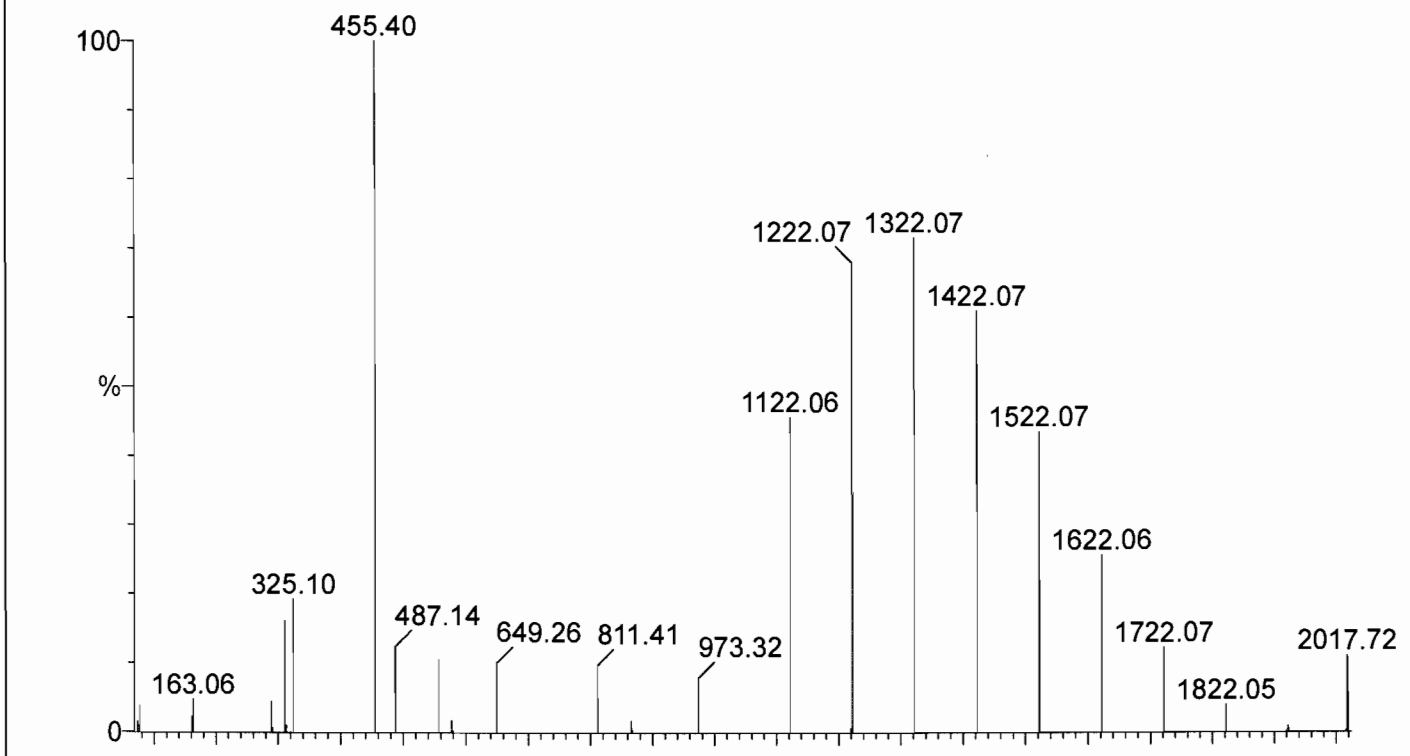
07/15/19 CGH 7/24/19

Calibration Verification Report - MS1 Static

Printed: **Wed Jul 24 07:40:49 2019**

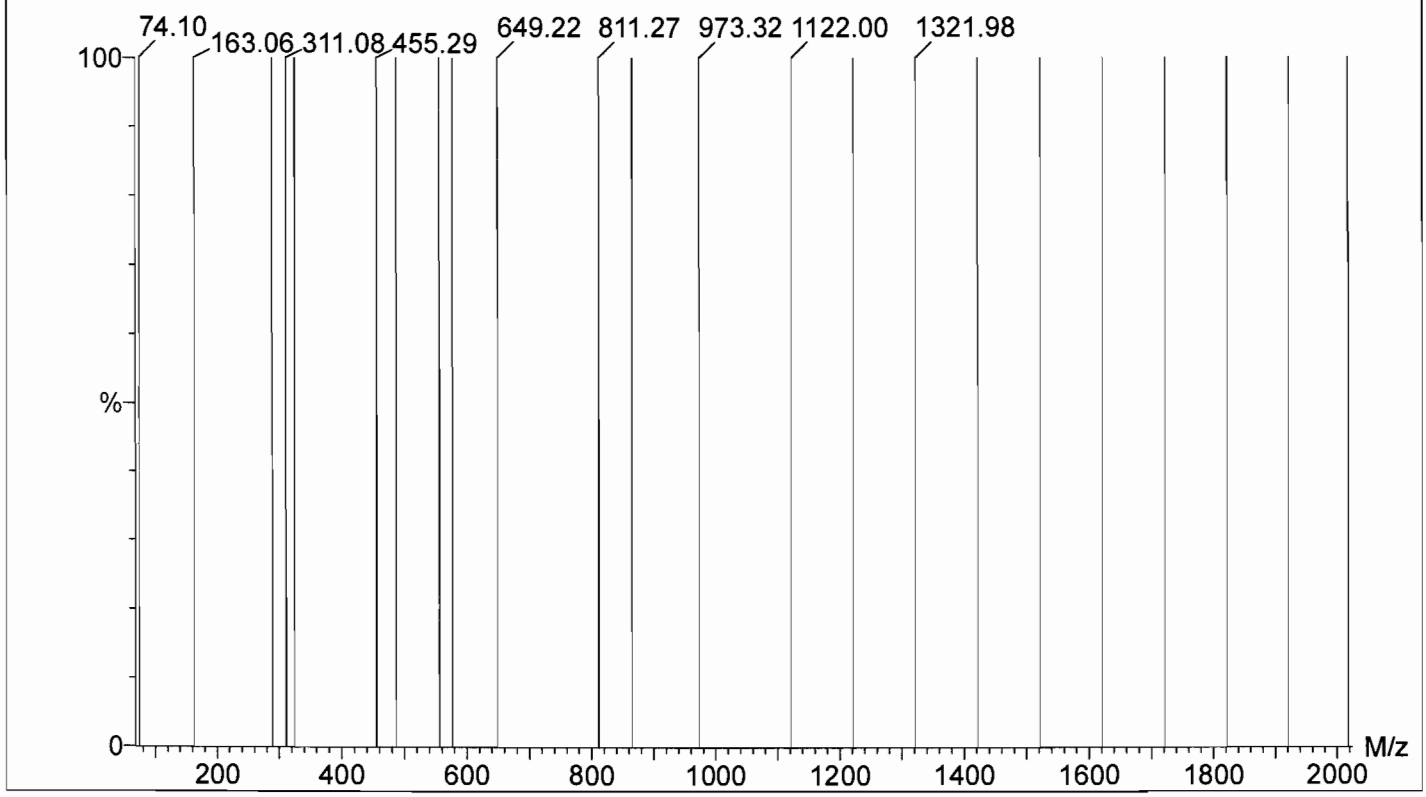
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

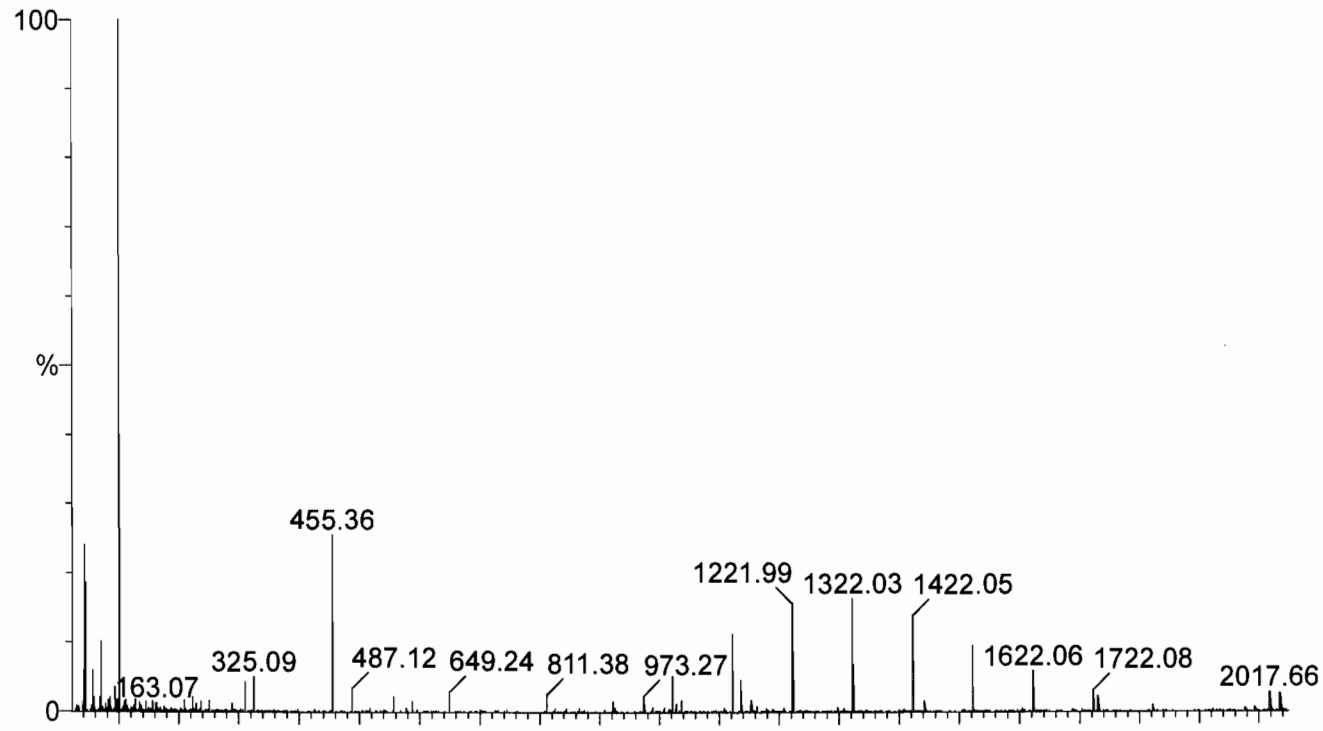


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

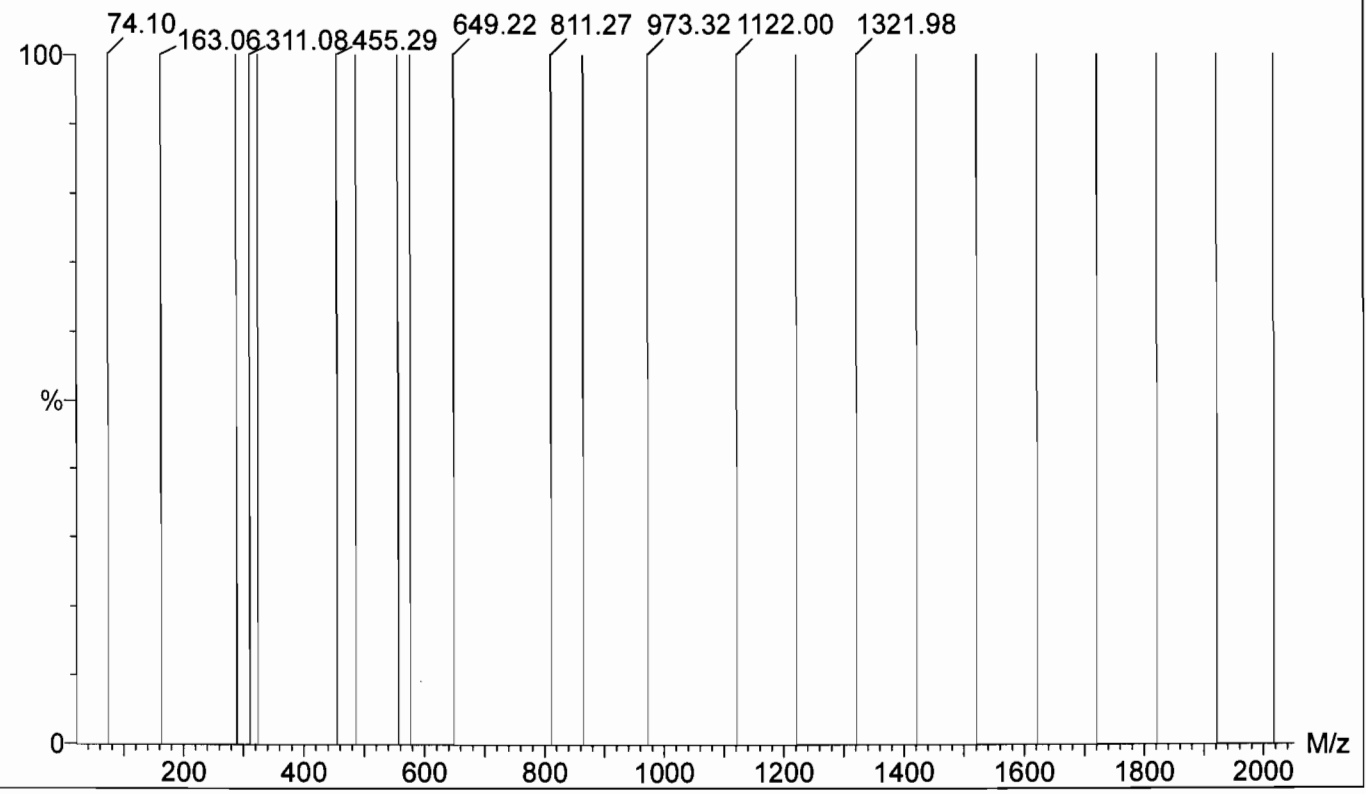
Mean residual = 0.065 amu



Data file: SCNMS1V - Calibrated 23 matches of 23 tested references

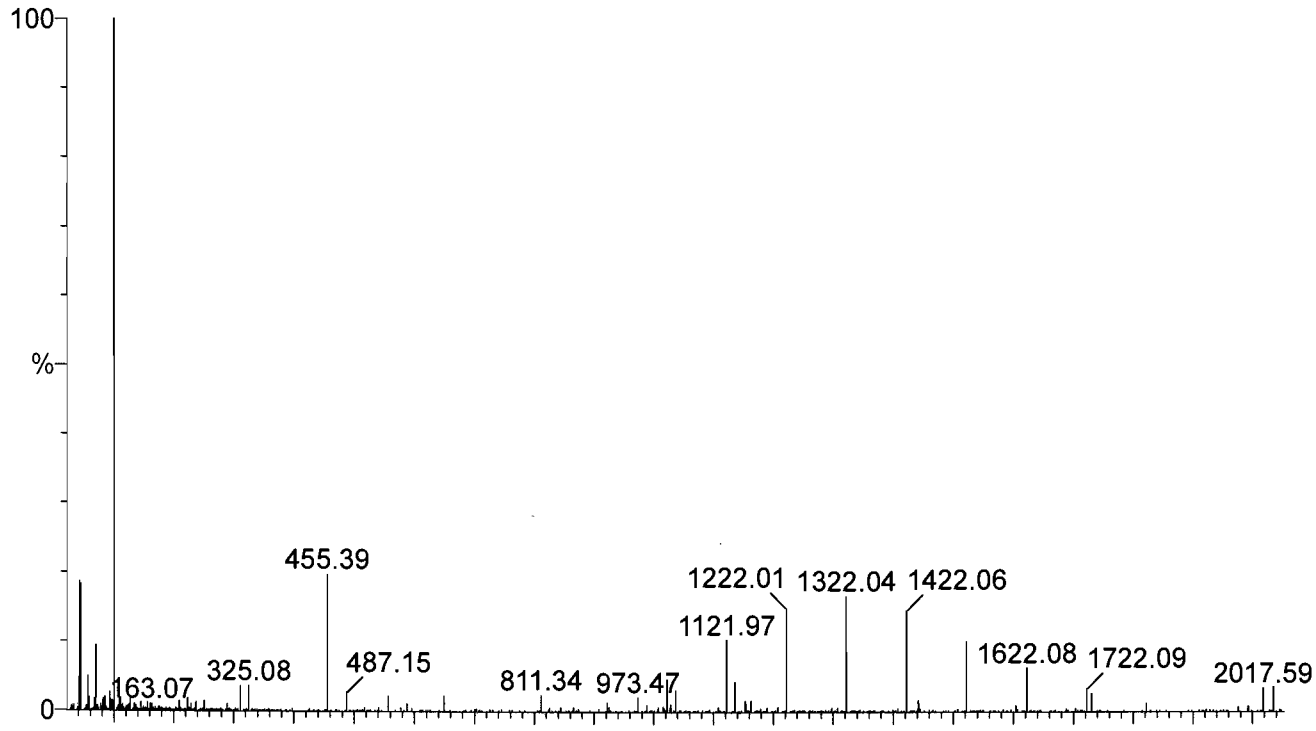


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0587 amu



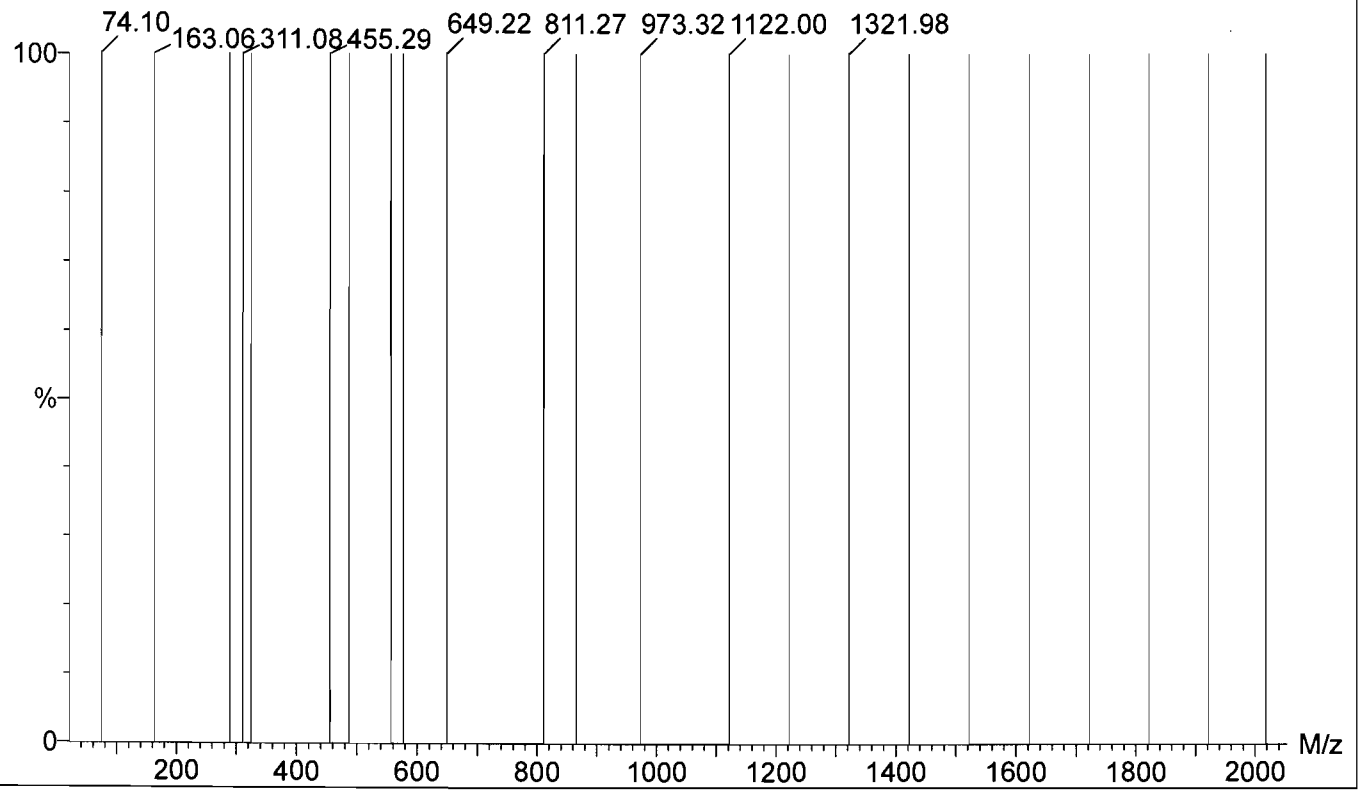
Data file: FASTMS1V - Calibrated

23 matches of 23 tested references

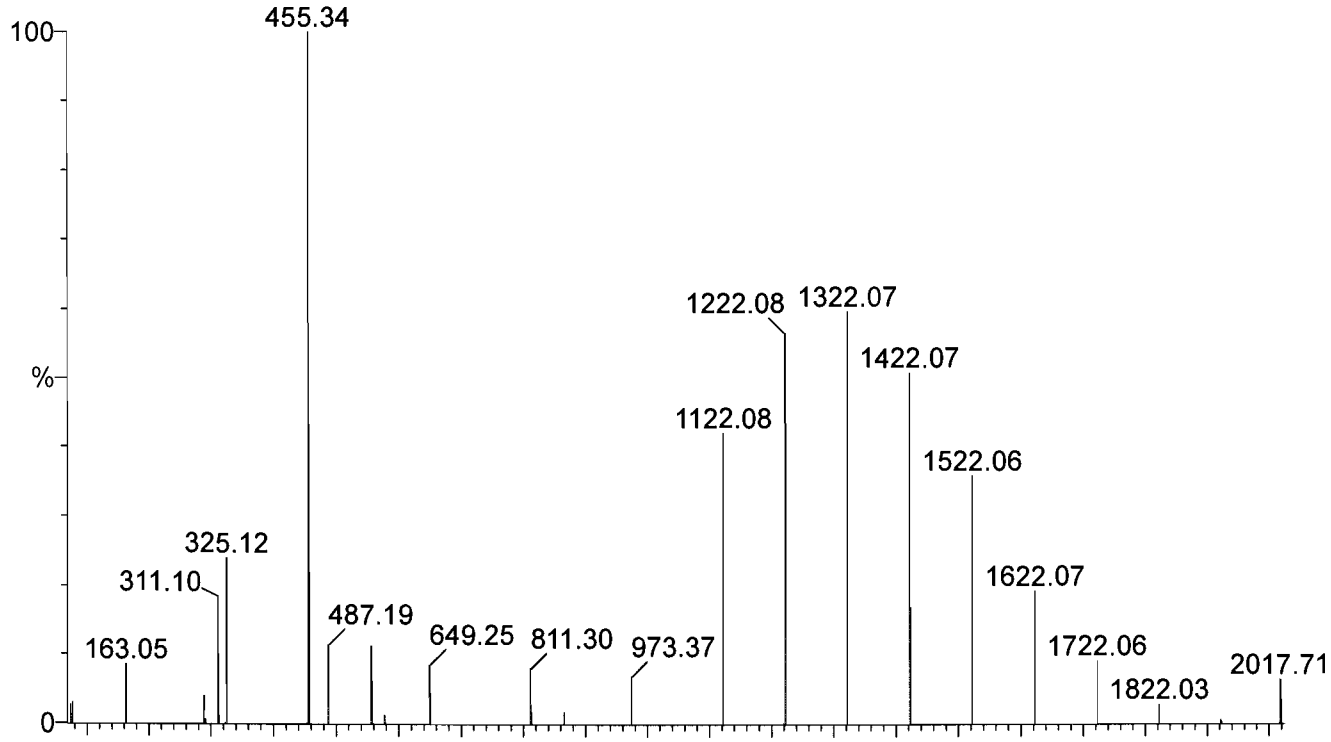


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

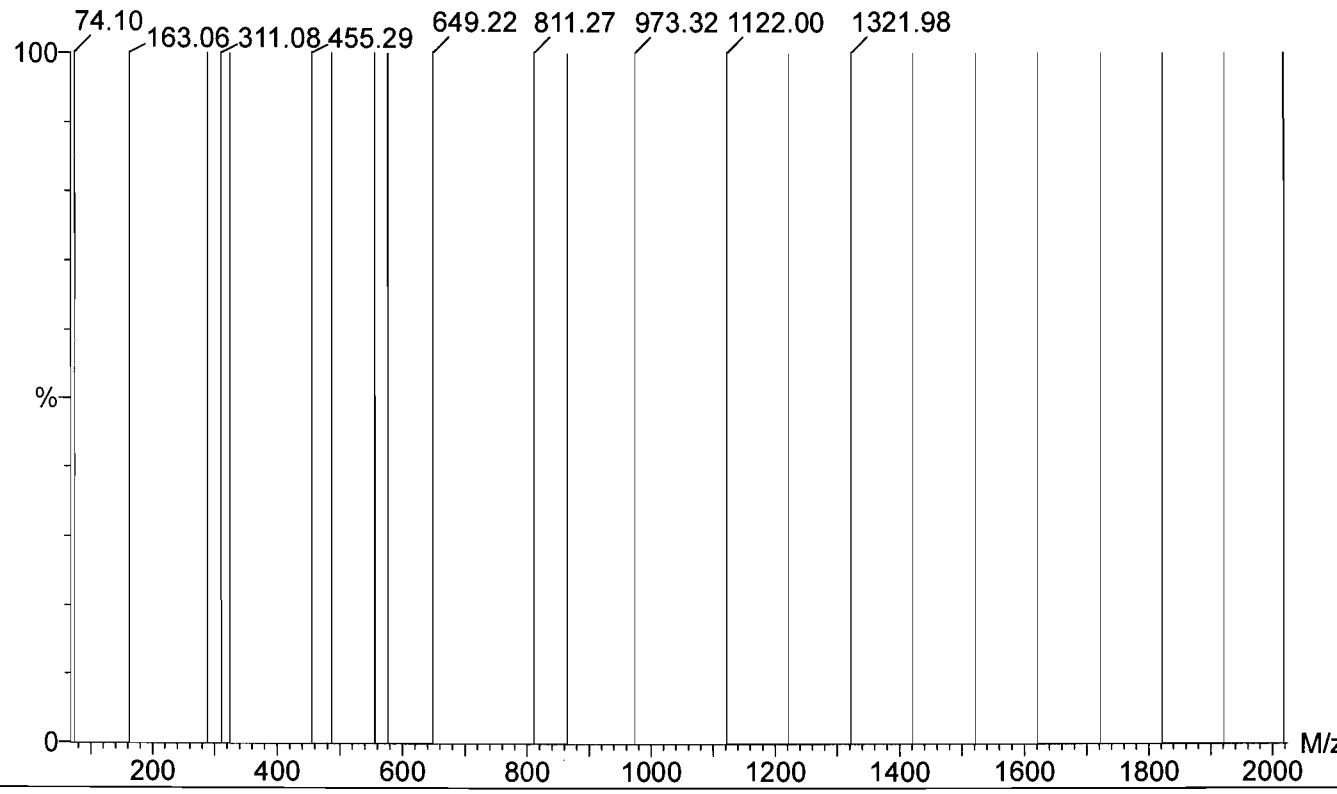
Mean residual = 0.062 amu



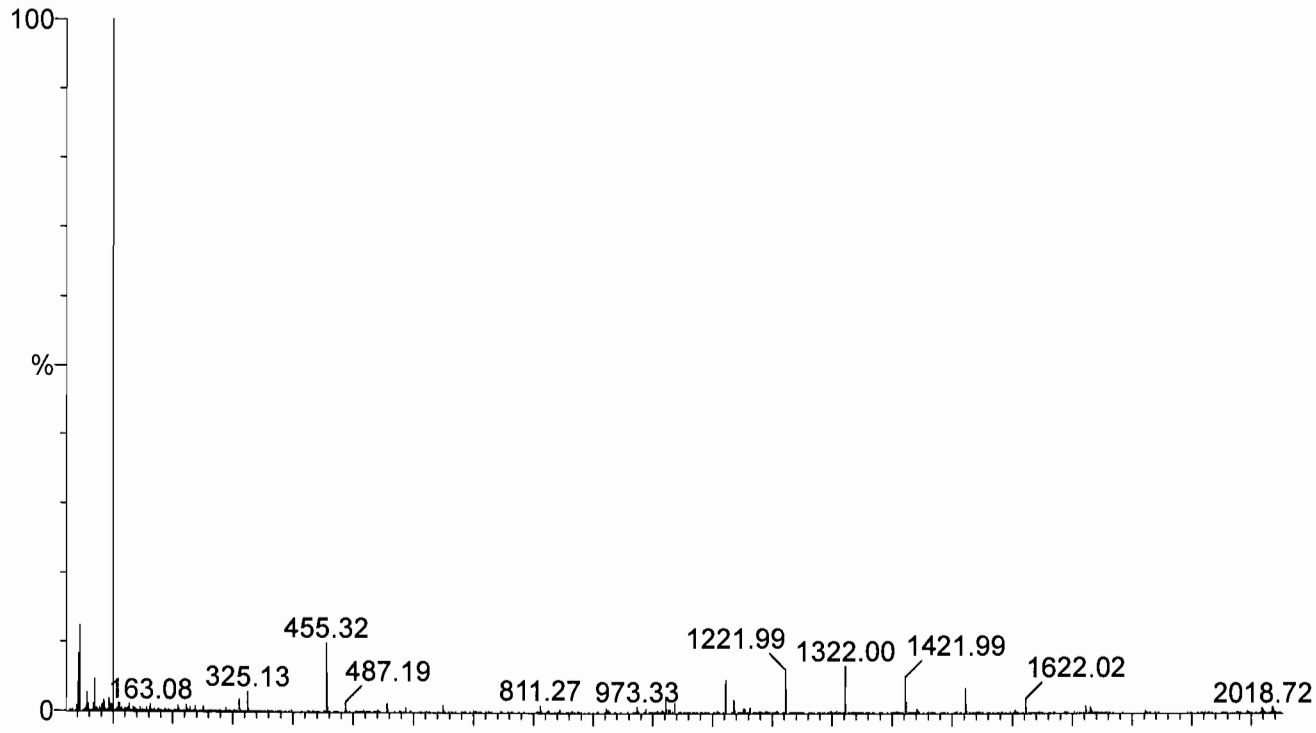
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



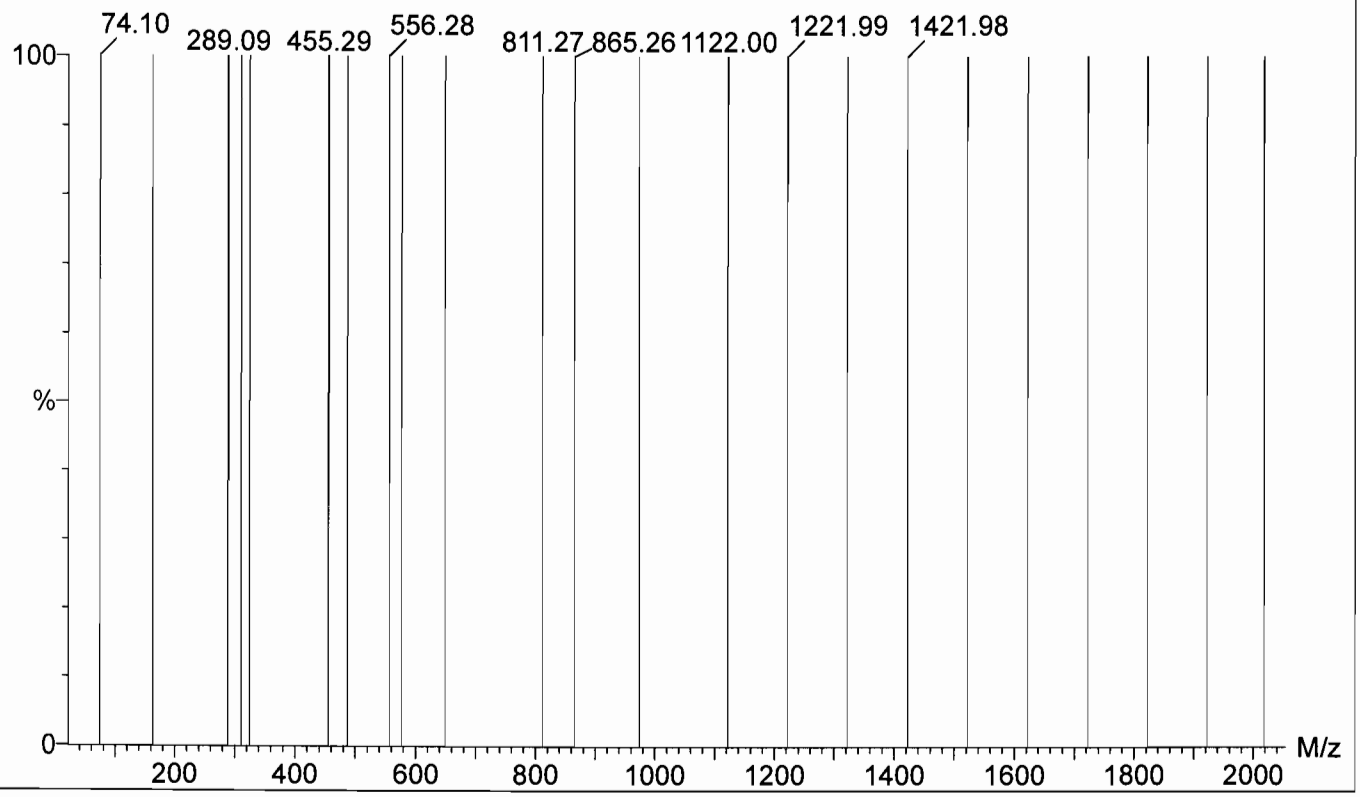
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0572 amu



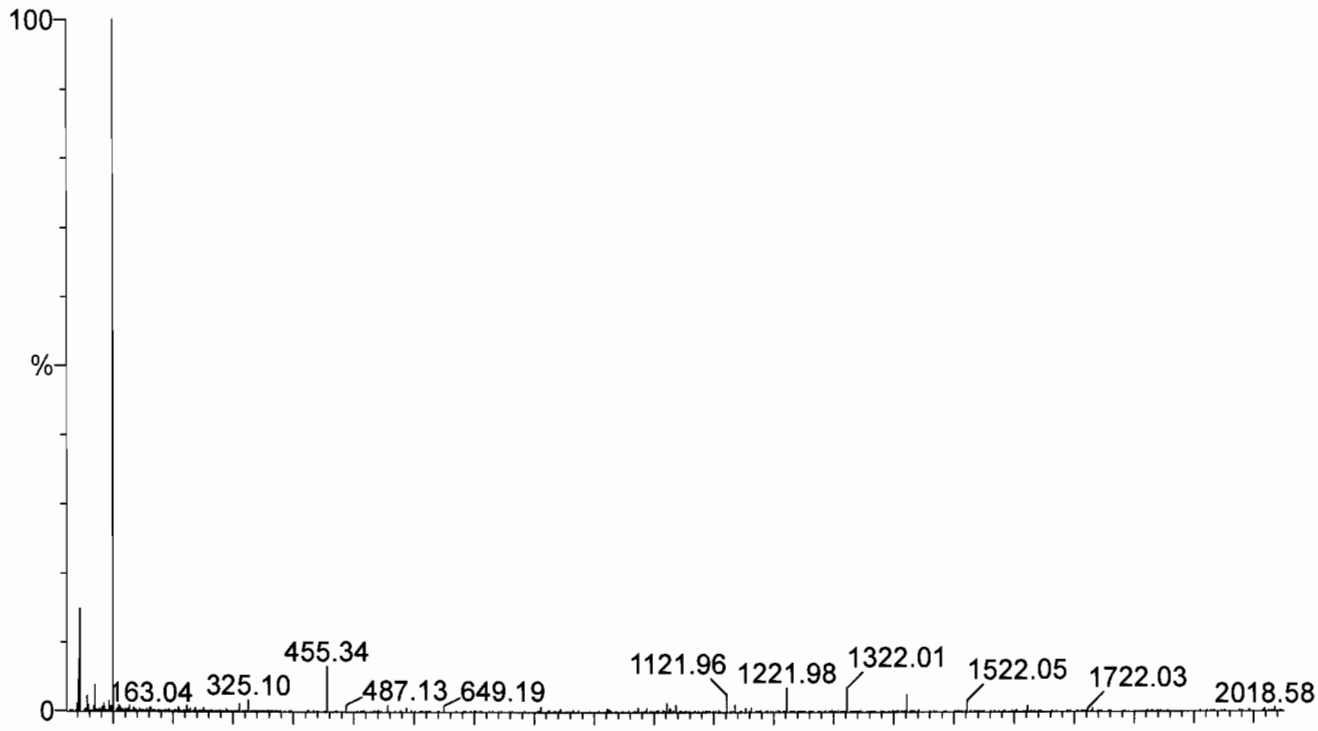
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0892 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



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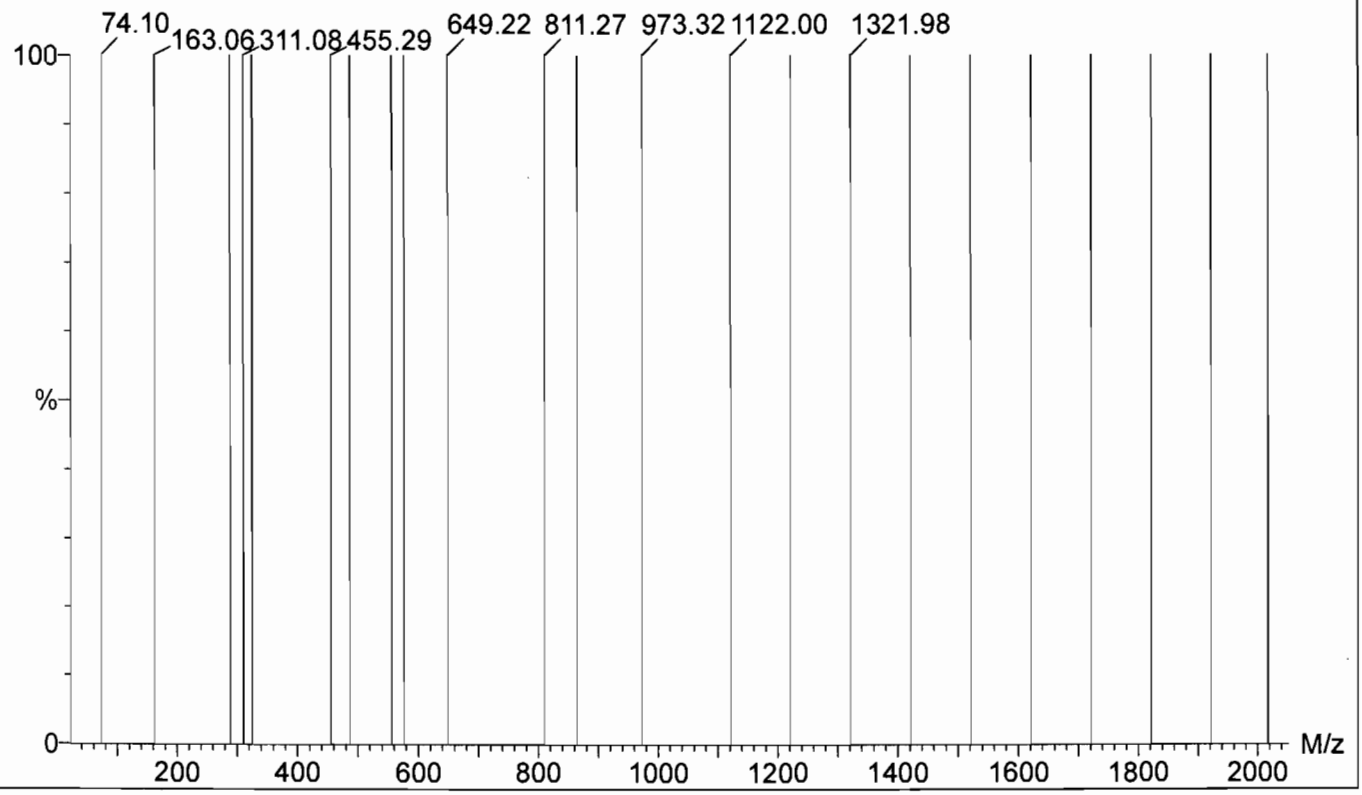


STANDARDS

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

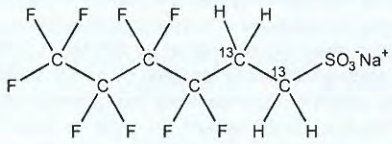
WELLINGTON LABORATORIES

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).

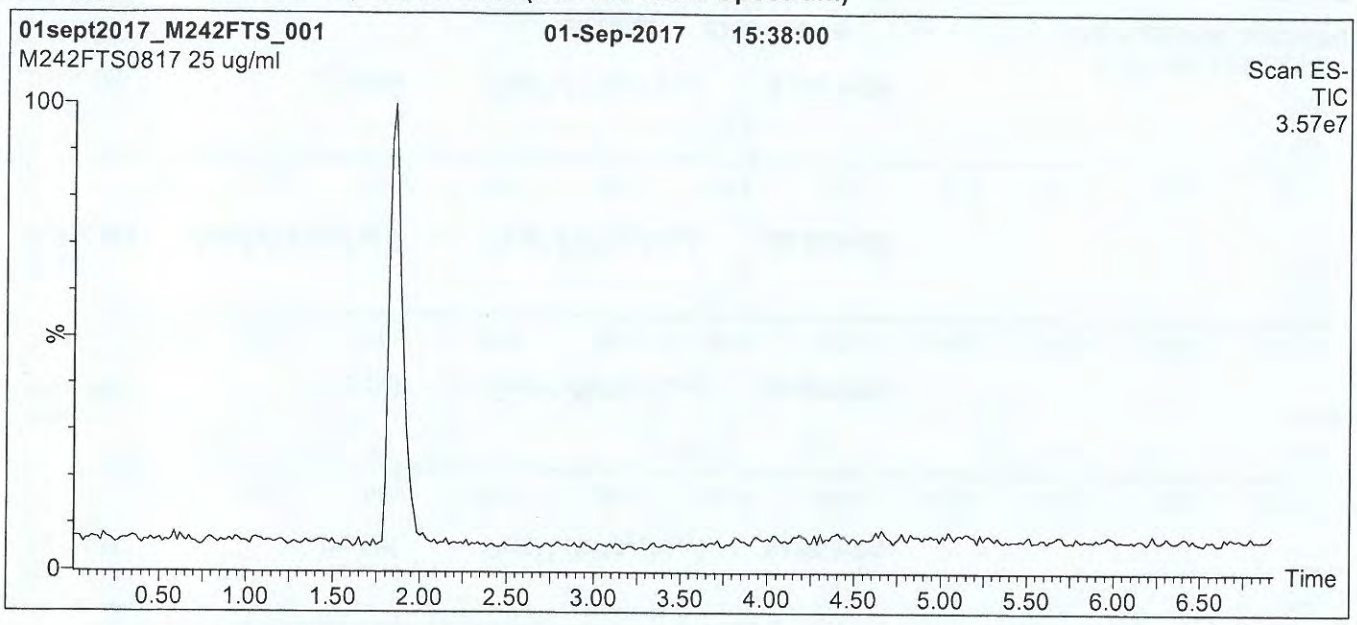
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

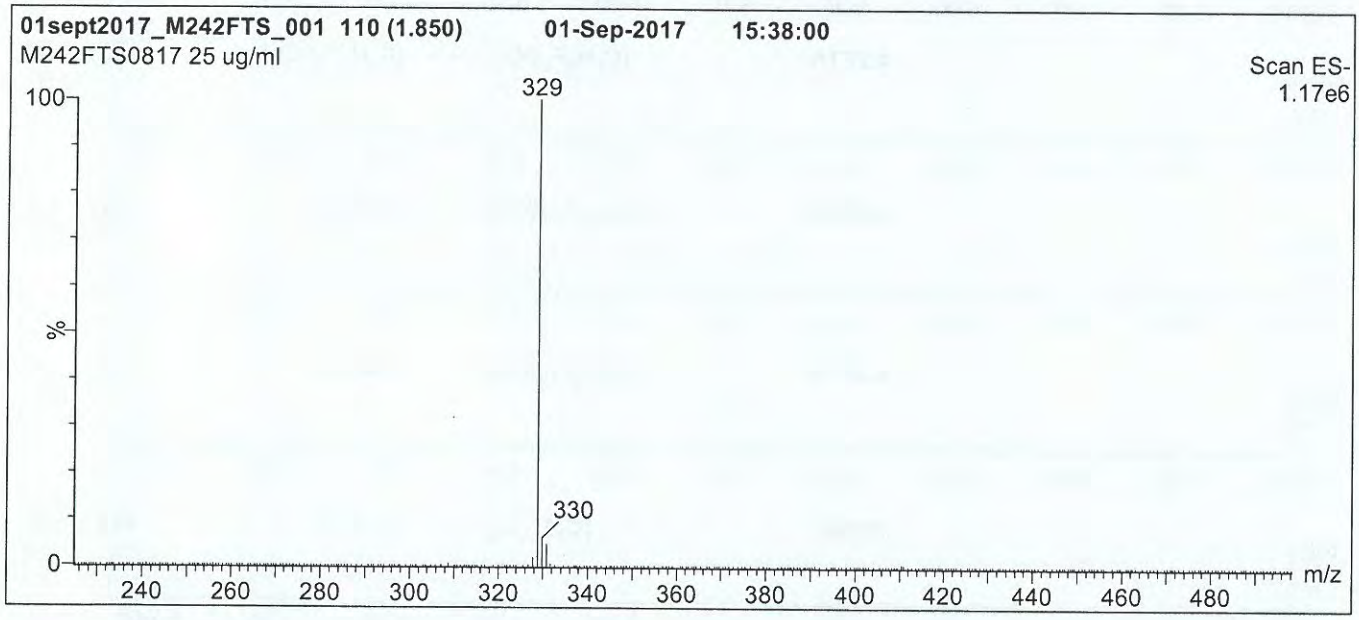
Certified By: _____ **Date:** 09/29/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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).

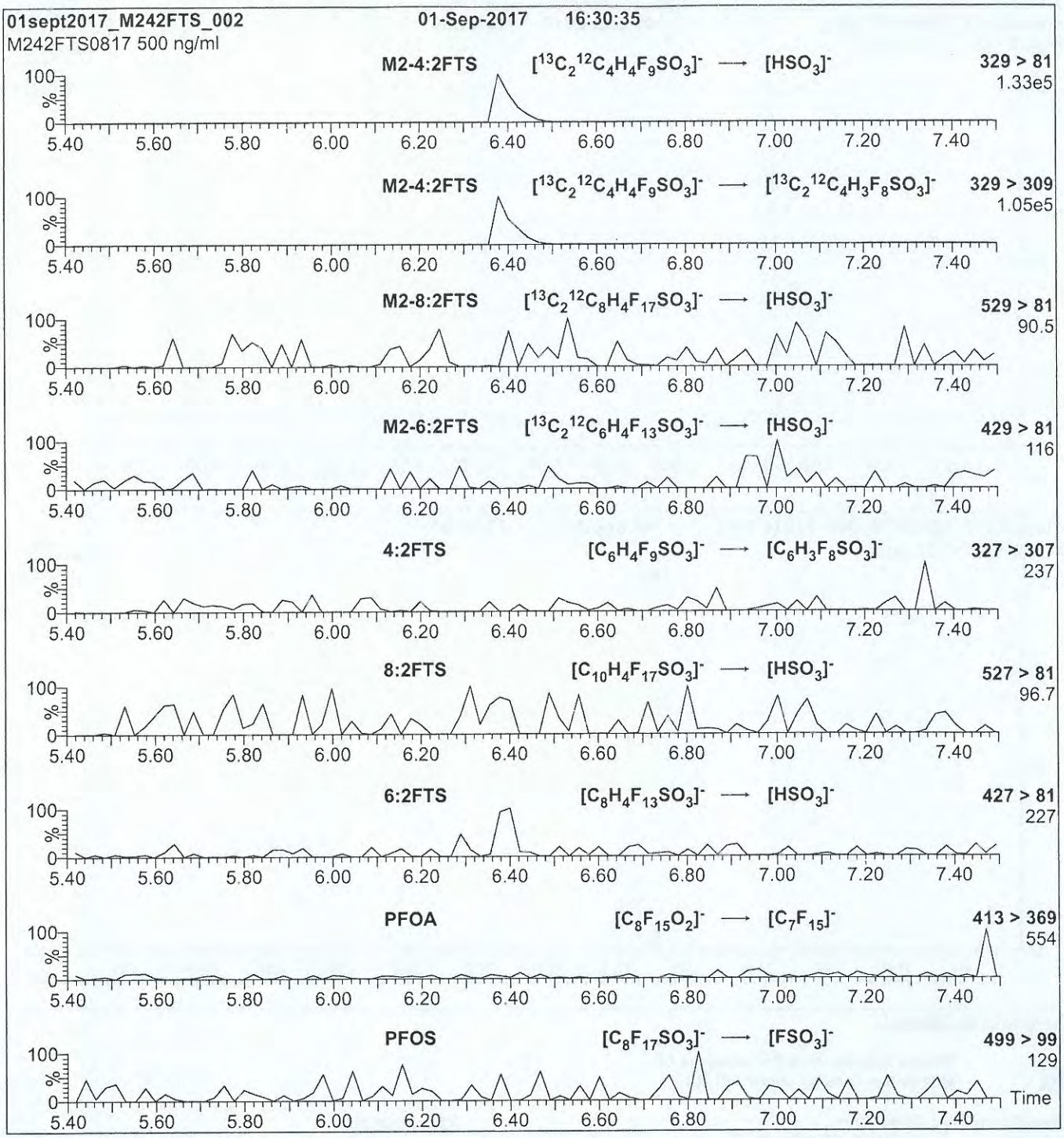
CALA Testing Accreditation No. A 1226

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

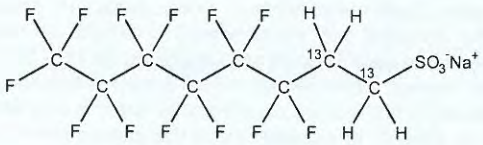
WELLINGTON LABORATORIES

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).

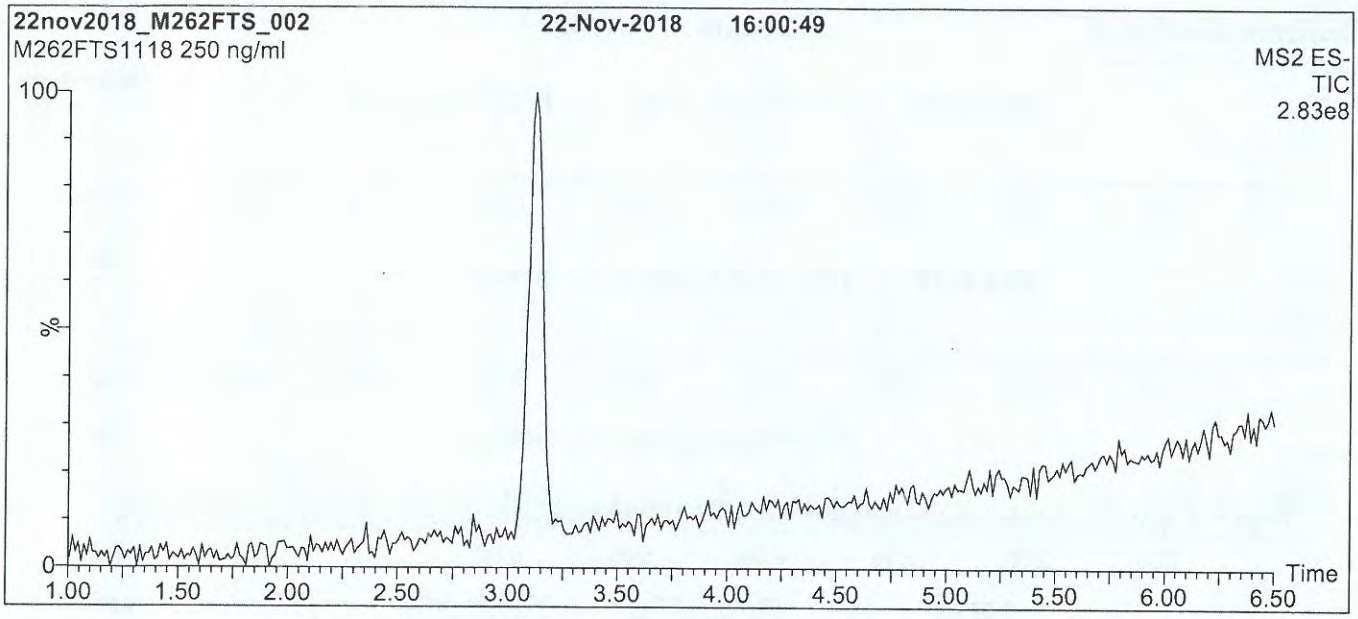
CALA Testing Accreditation No. A1226

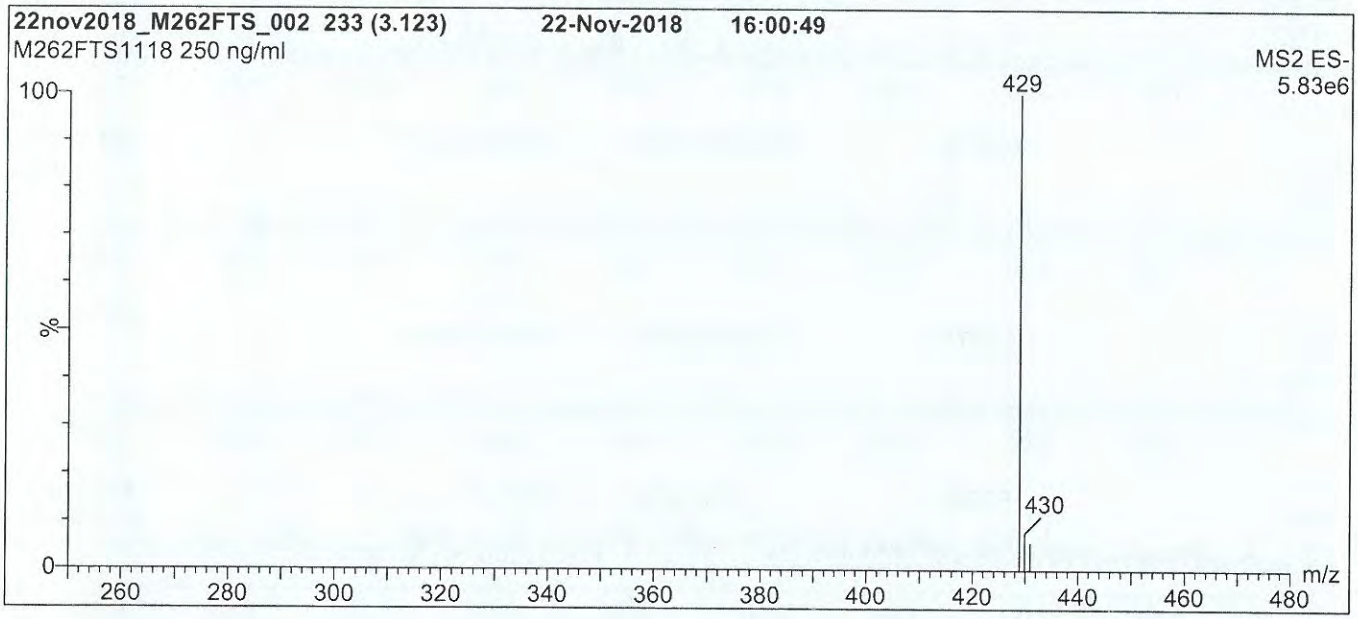
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

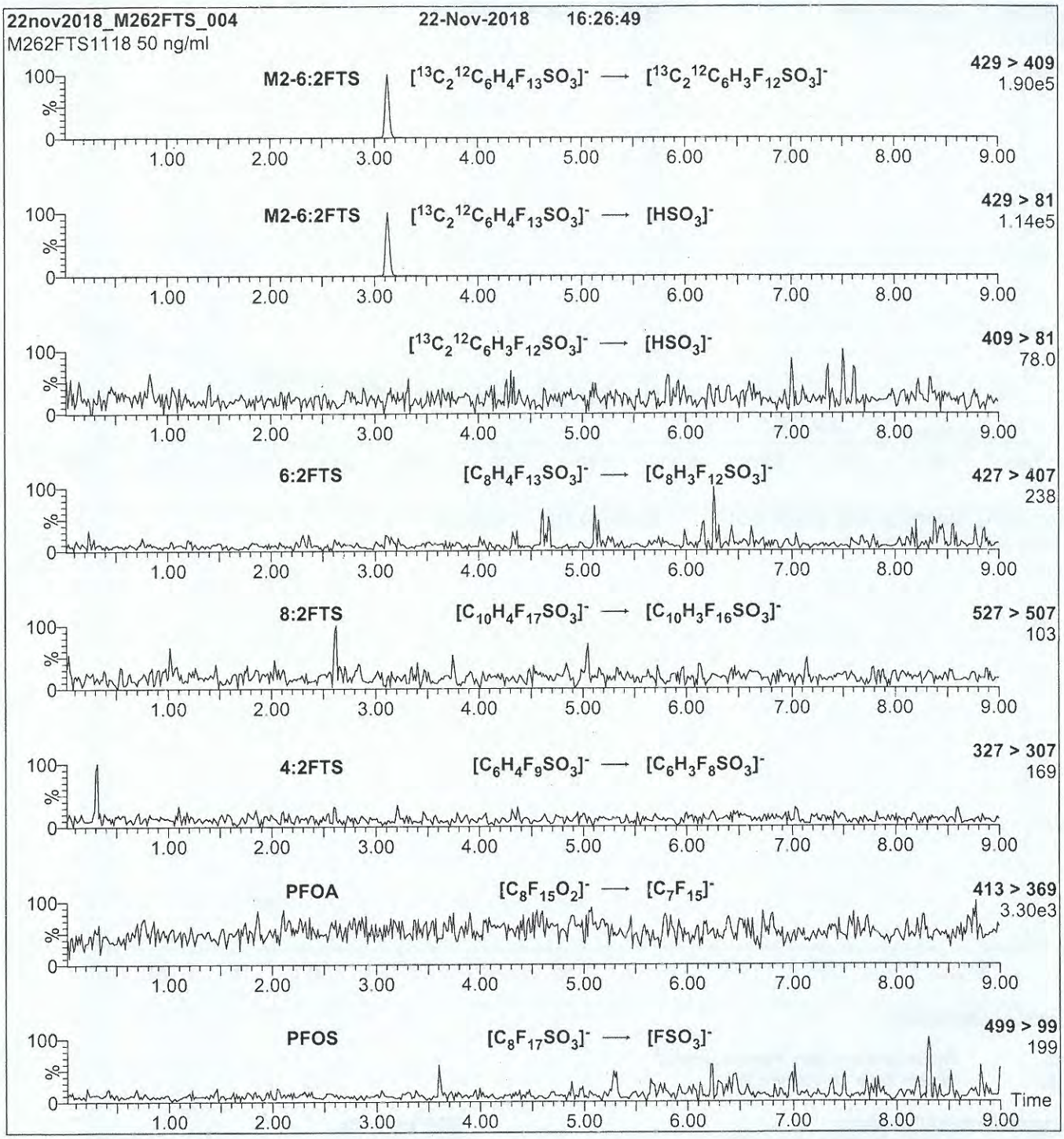
MS Parameters

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

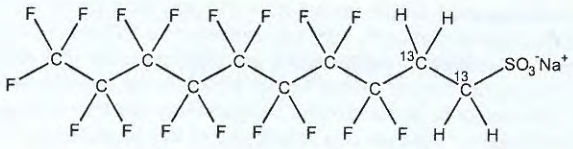
WELLINGTON LABORATORIES

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:

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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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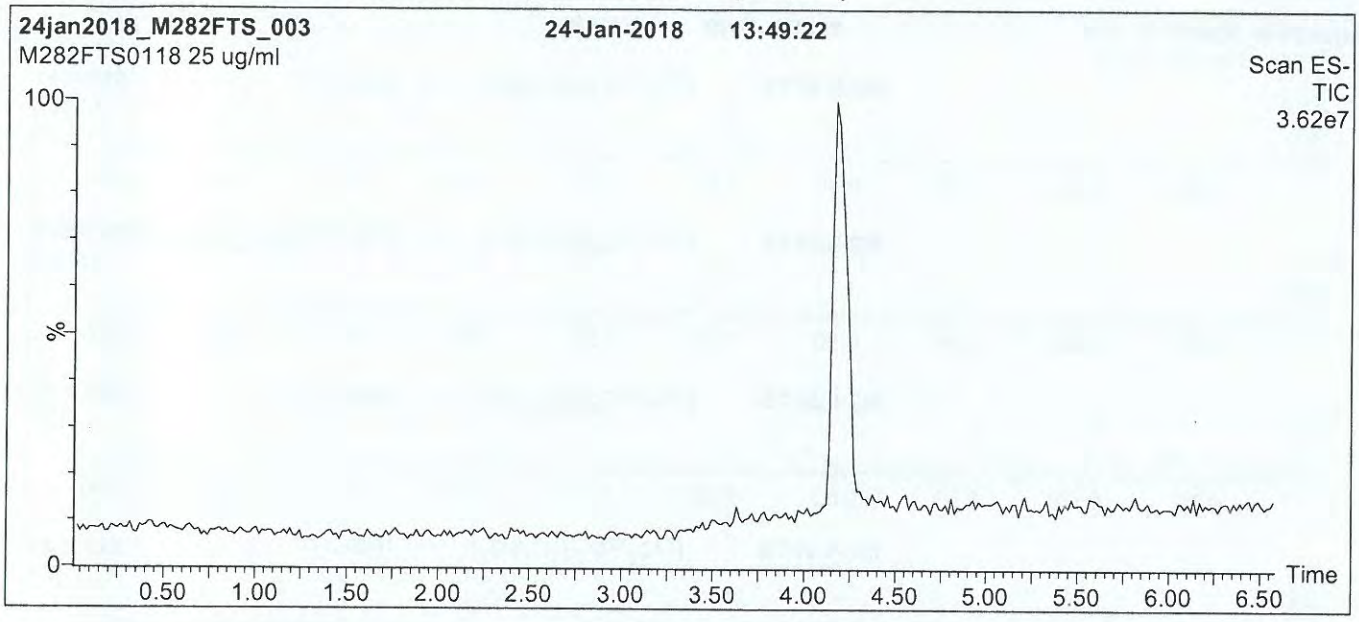
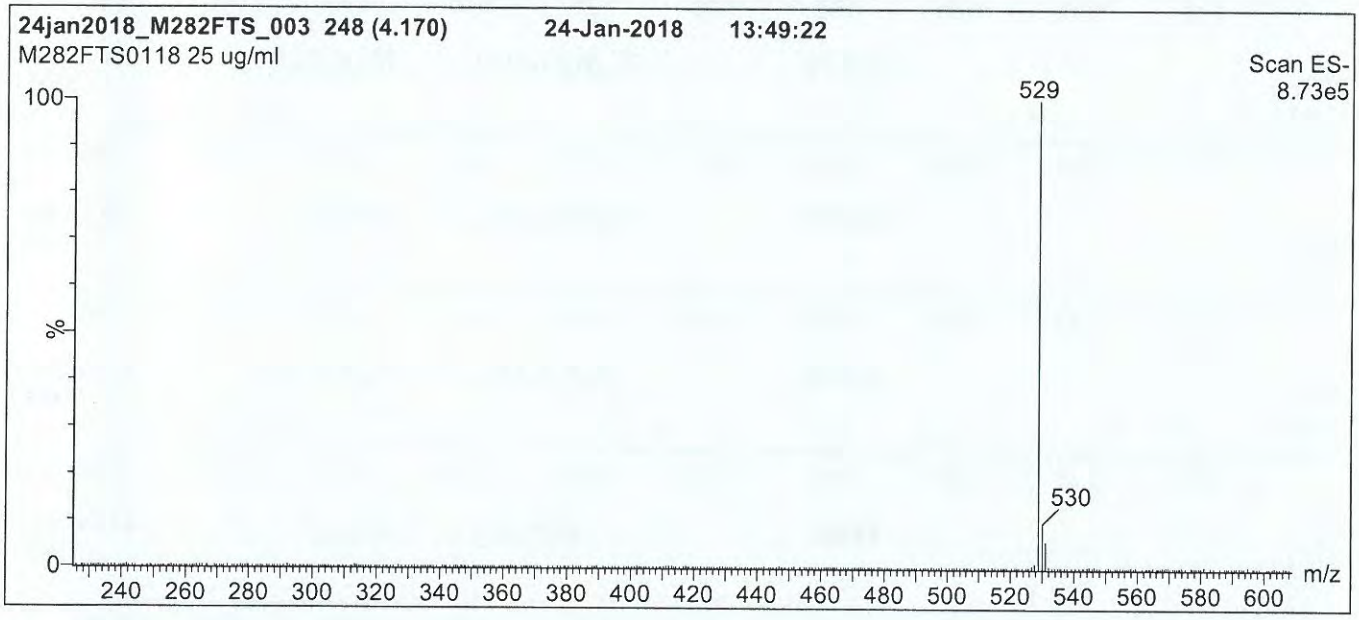
1812003

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

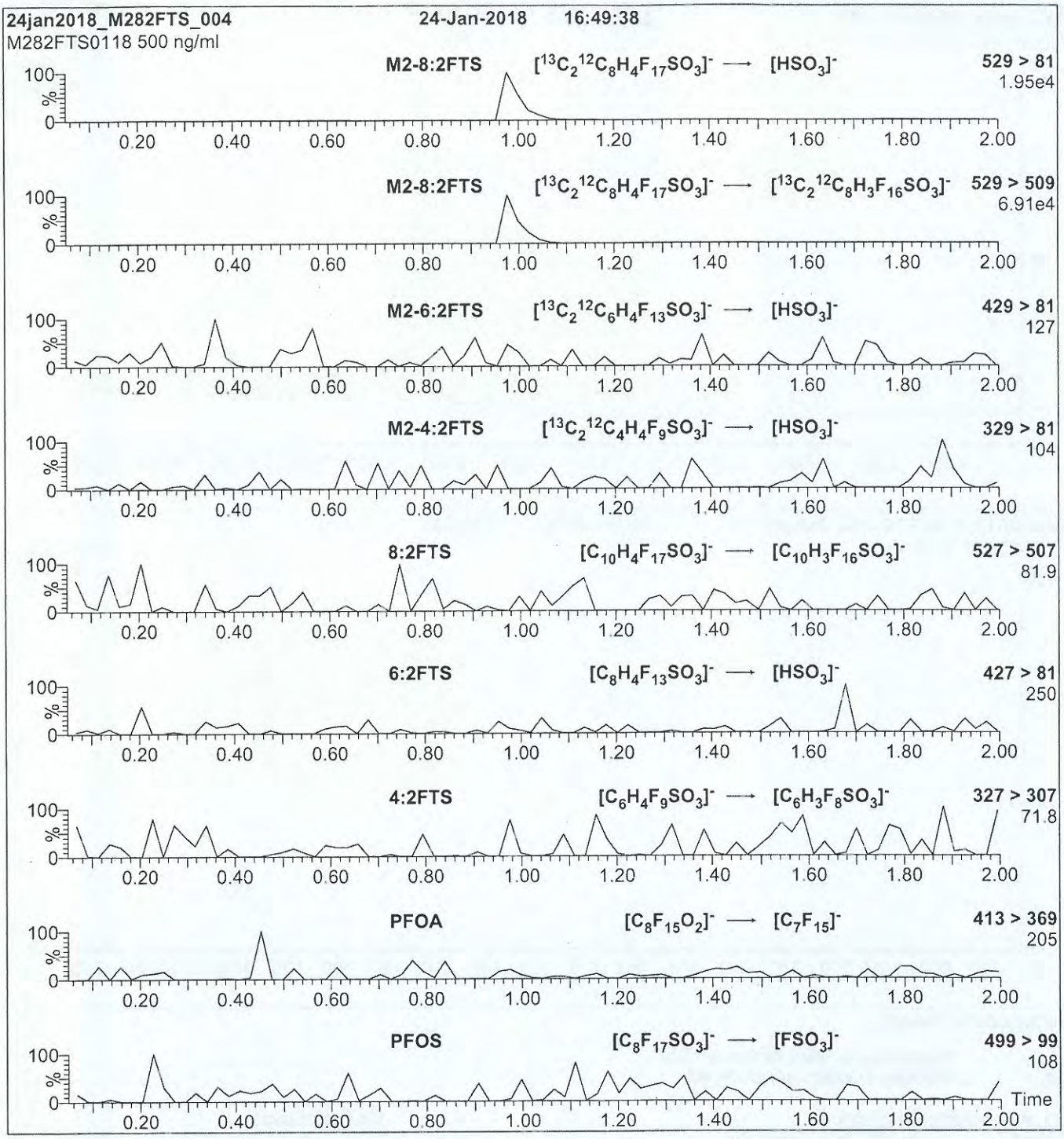
MS Parameters

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

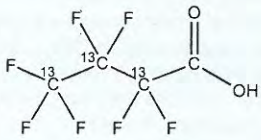
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 25

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 Accreditation No. AR-1523 REFERENCE MATERIAL PRODUCER

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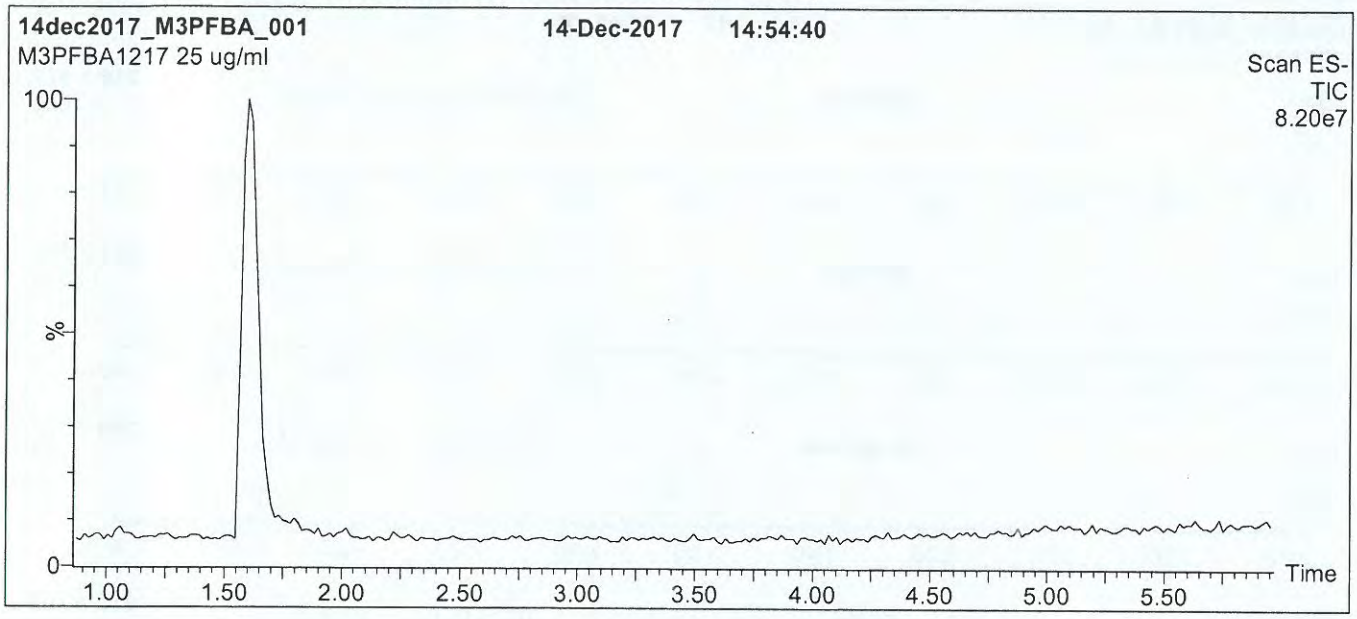
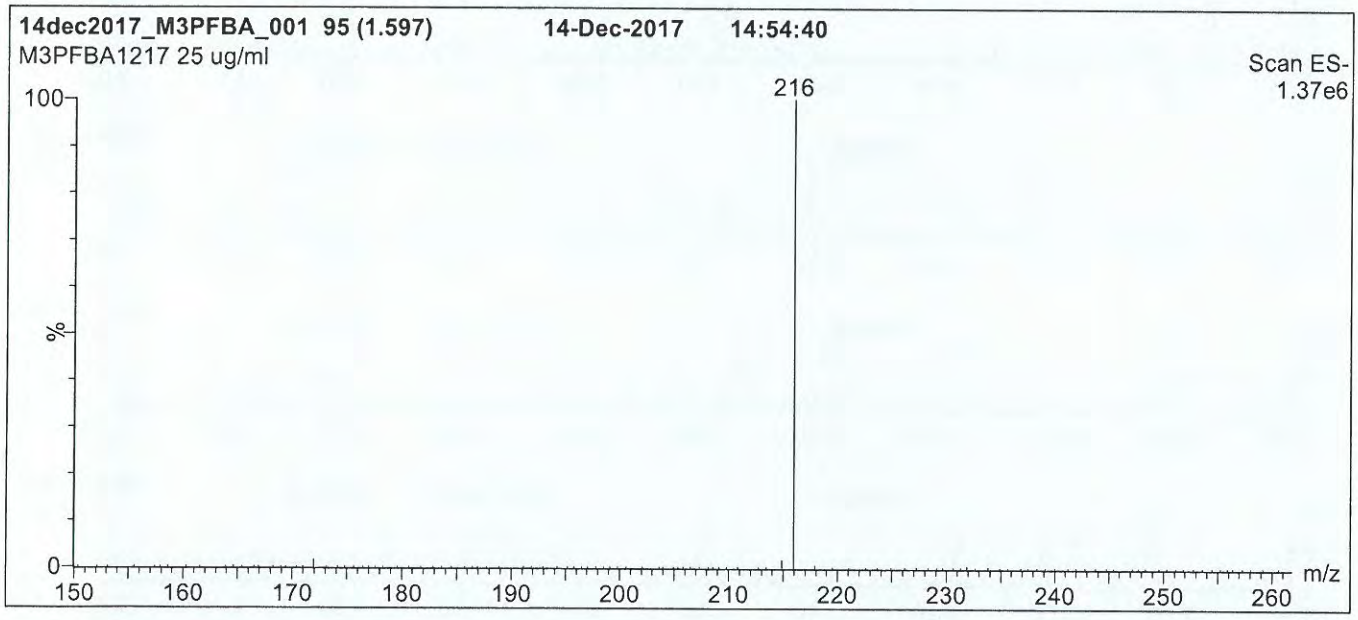
1812004

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

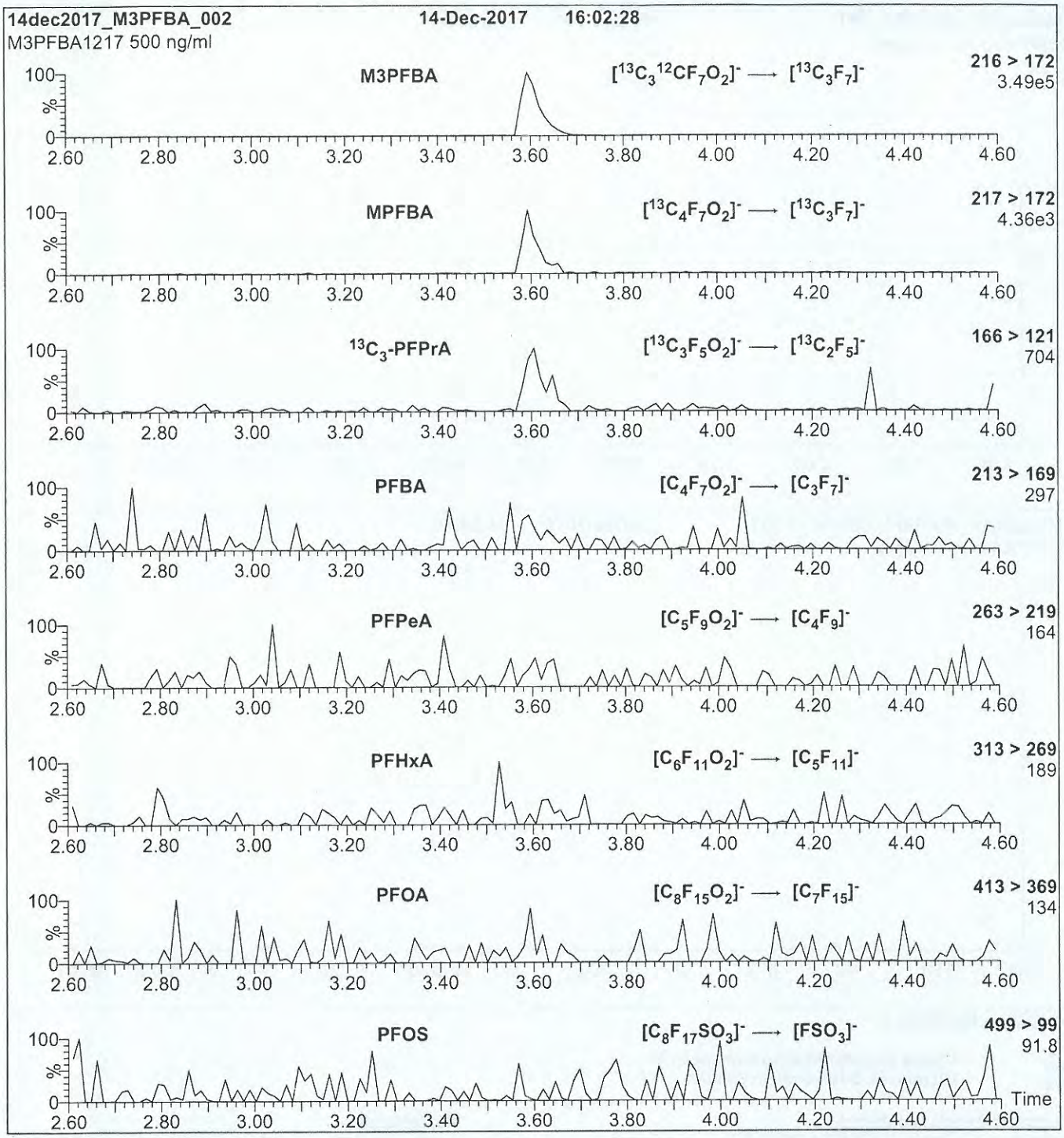
MS Parameters

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

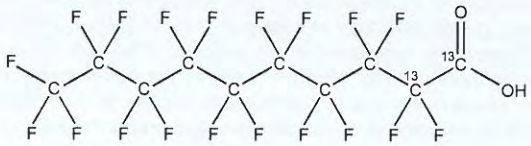
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

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

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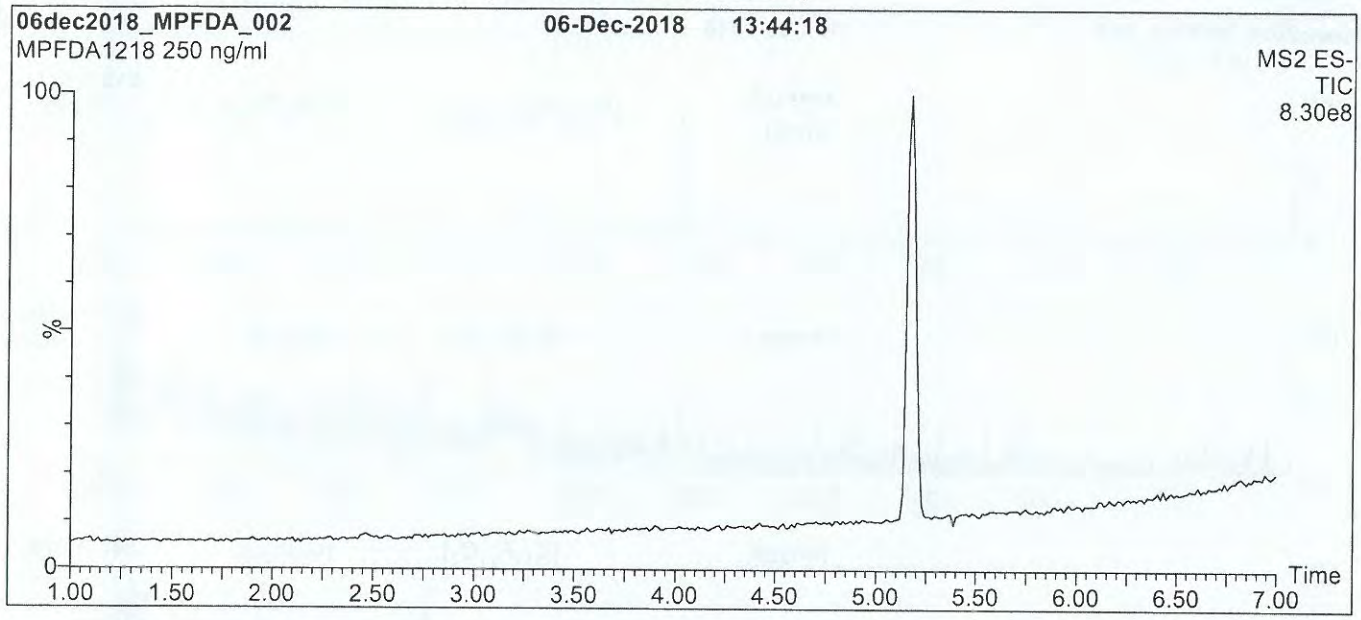
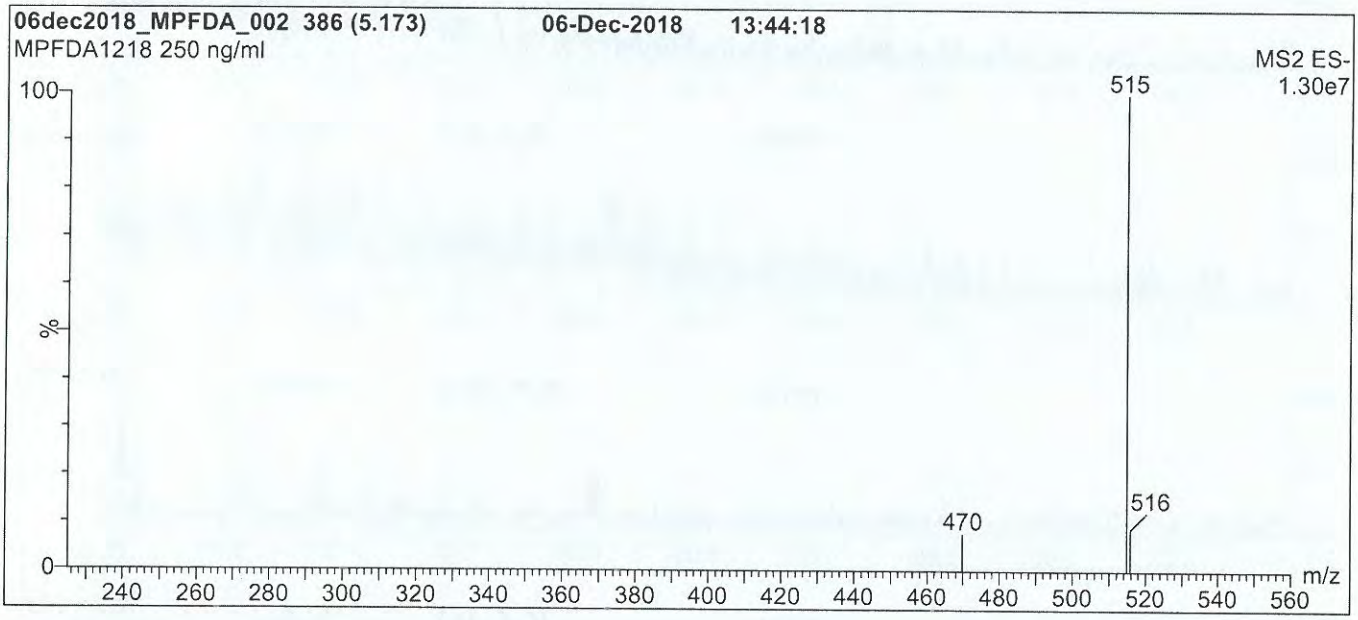
1812005

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

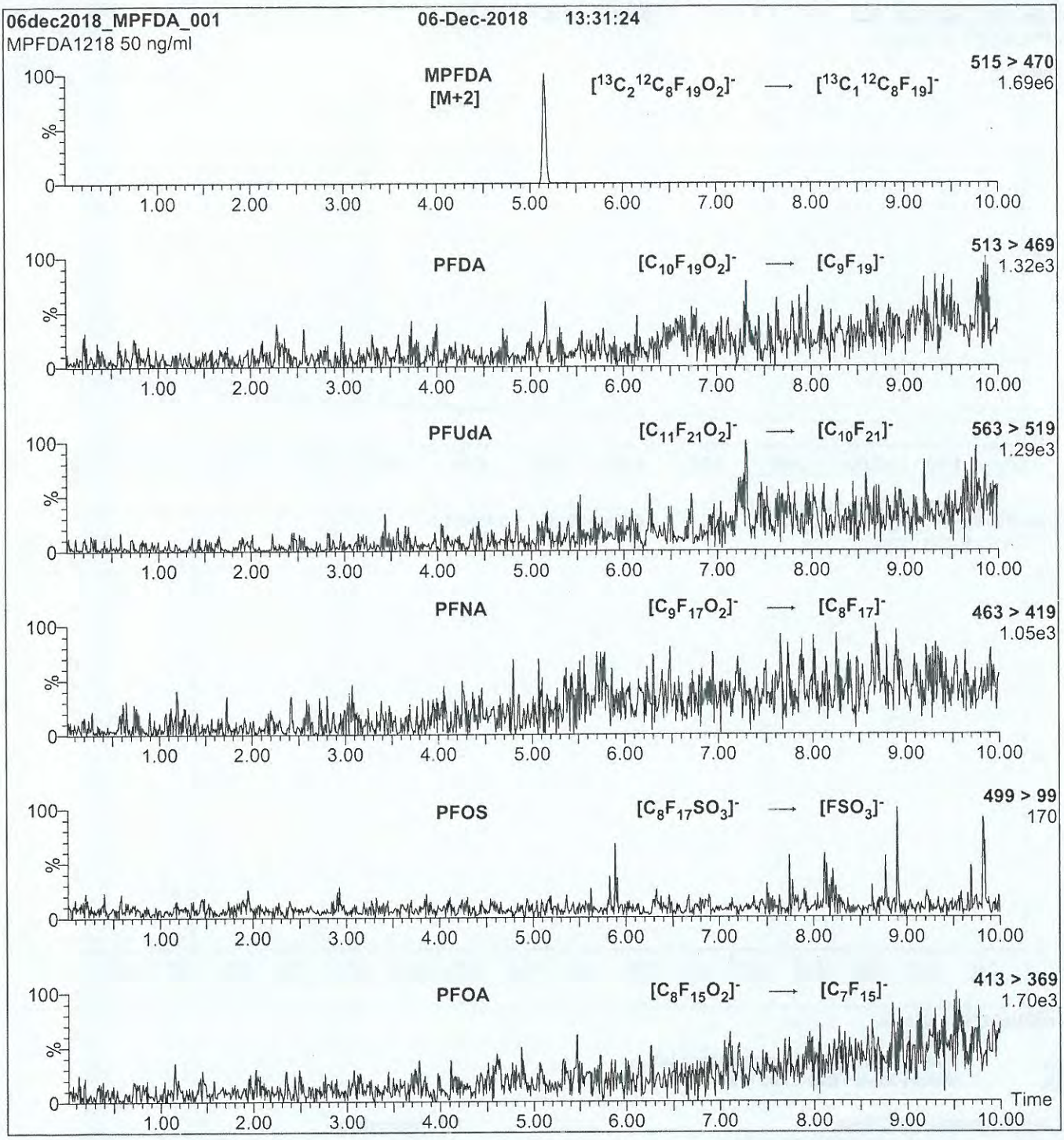
MS Parameters

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

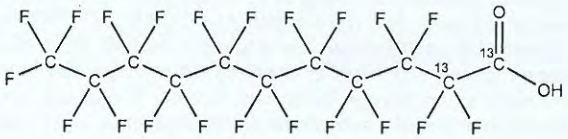
Collision Gas (mbar) = 3.27e-3
Collision Energy (eV) = 10

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:

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HANDLING:

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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

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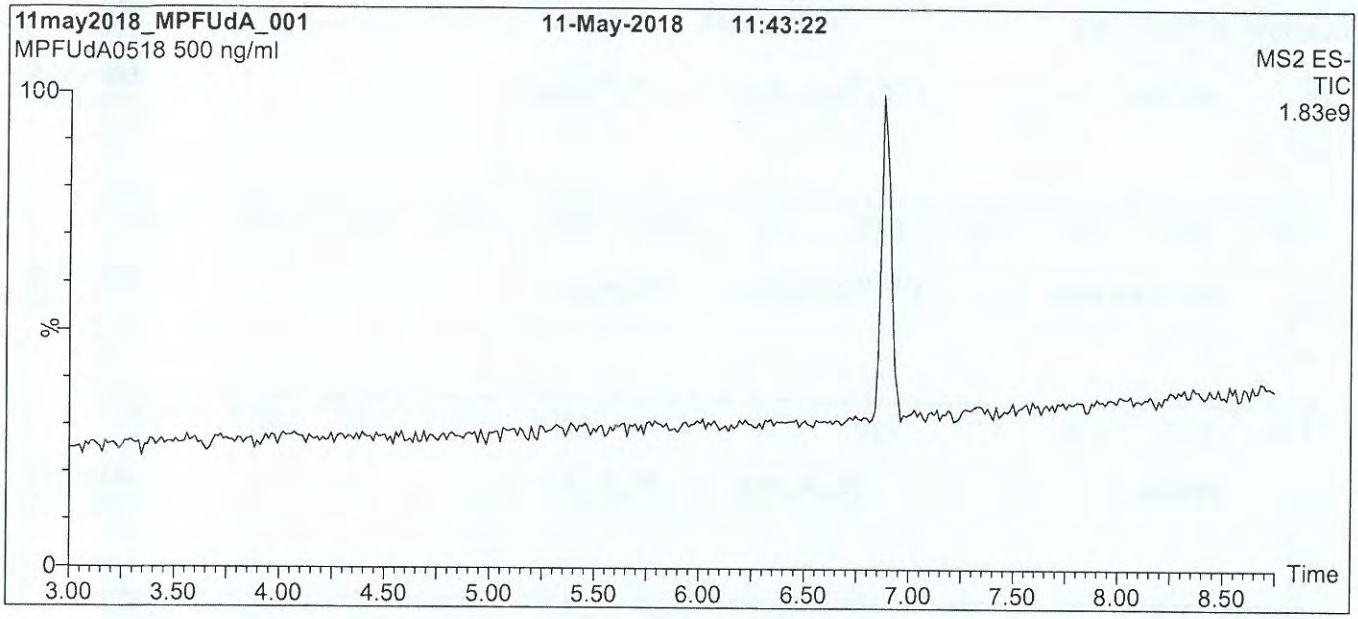
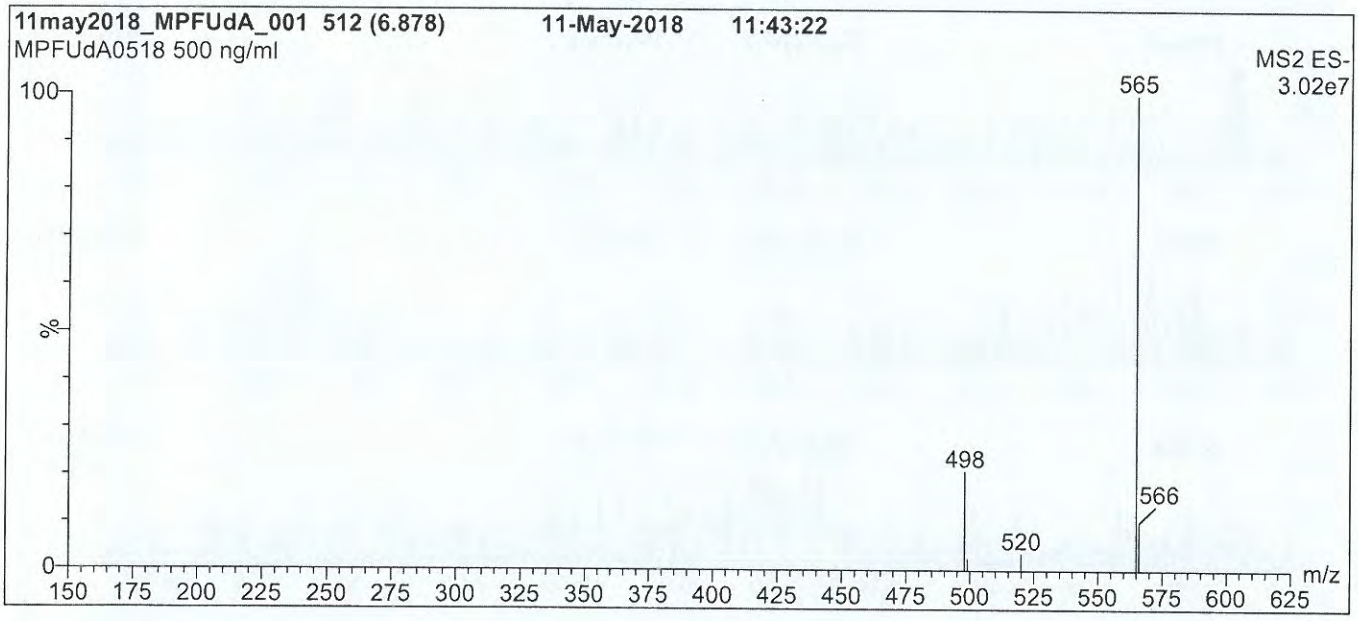
18L2006

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

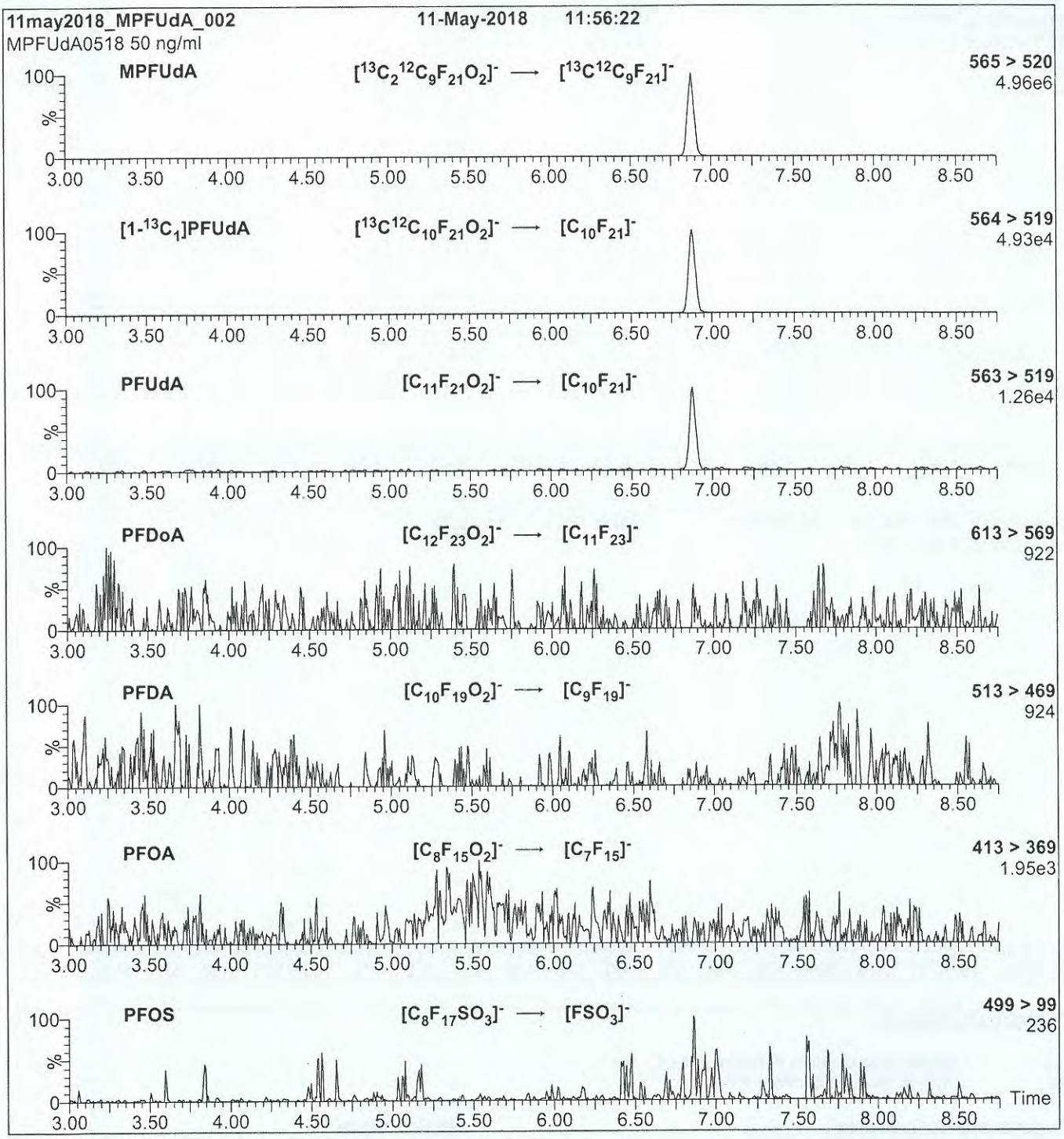
MS Parameters

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

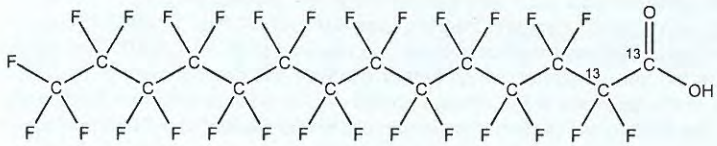
Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 12

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,...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).

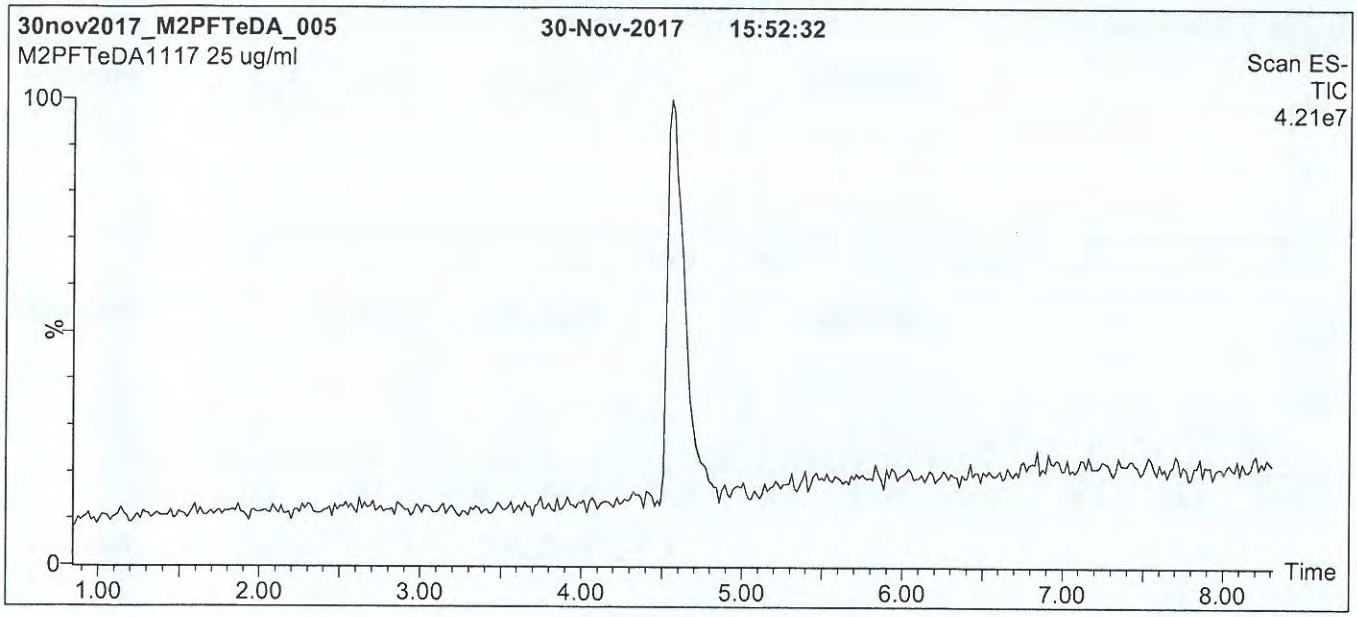
CALA Testing Accreditation No. A1226

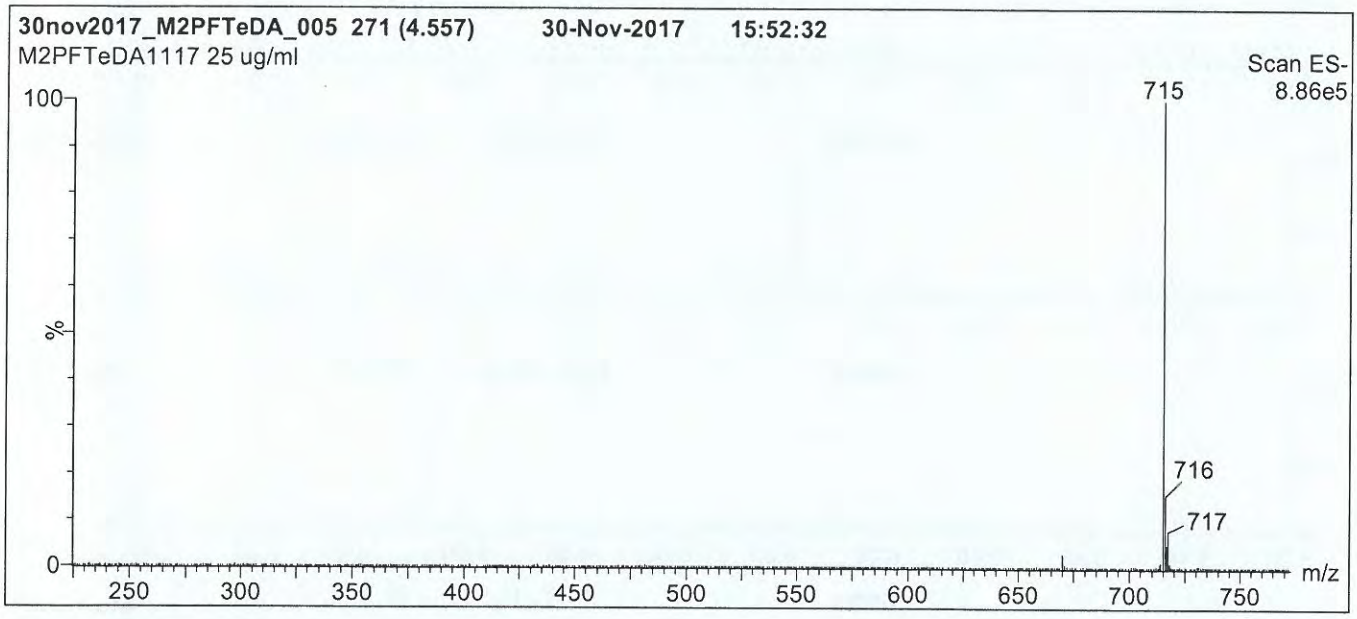
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

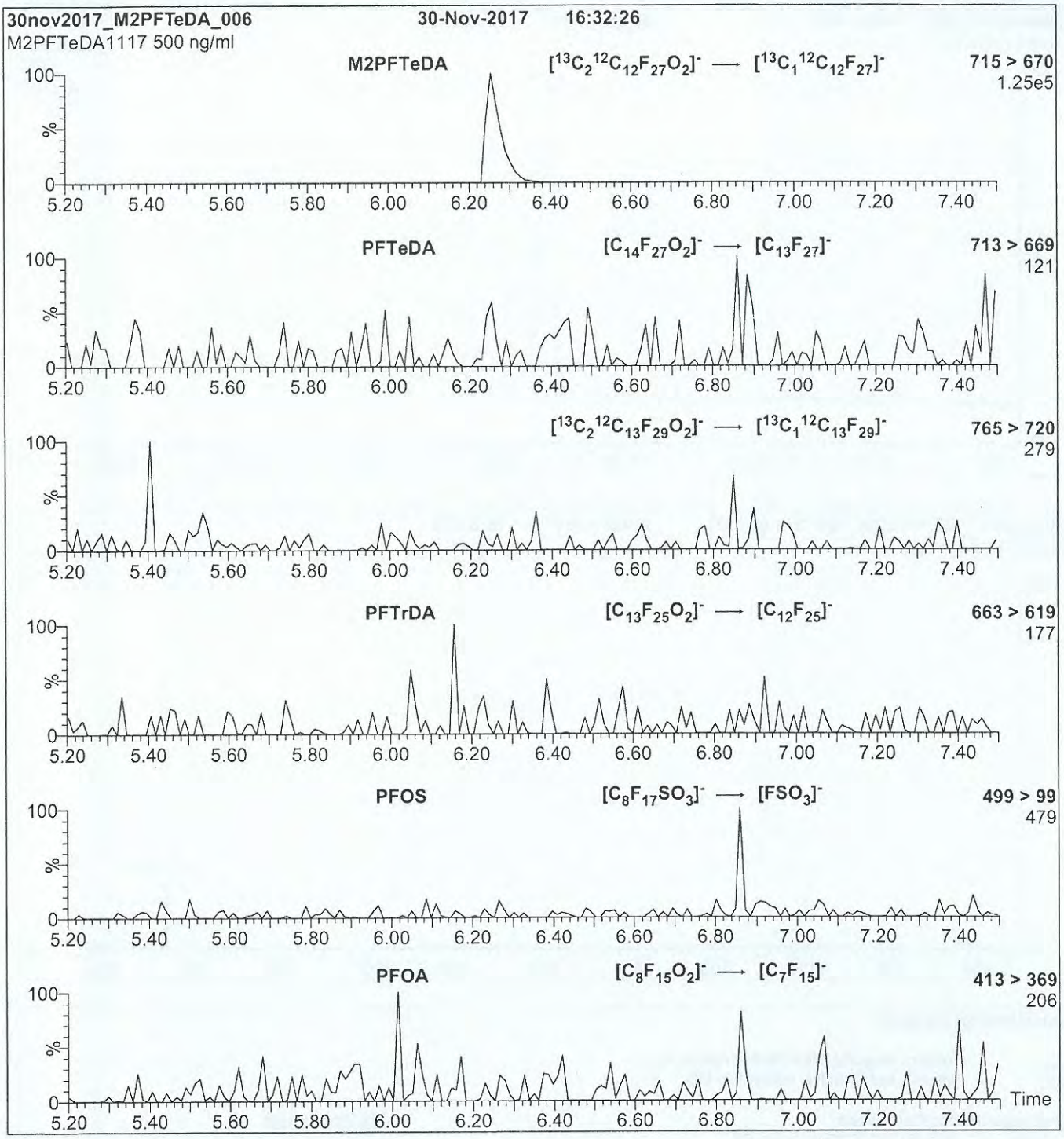
MS Parameters

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

1812007

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

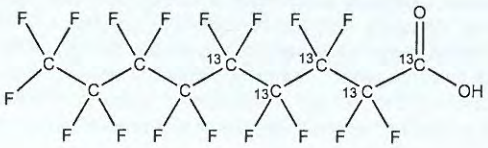
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

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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 GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

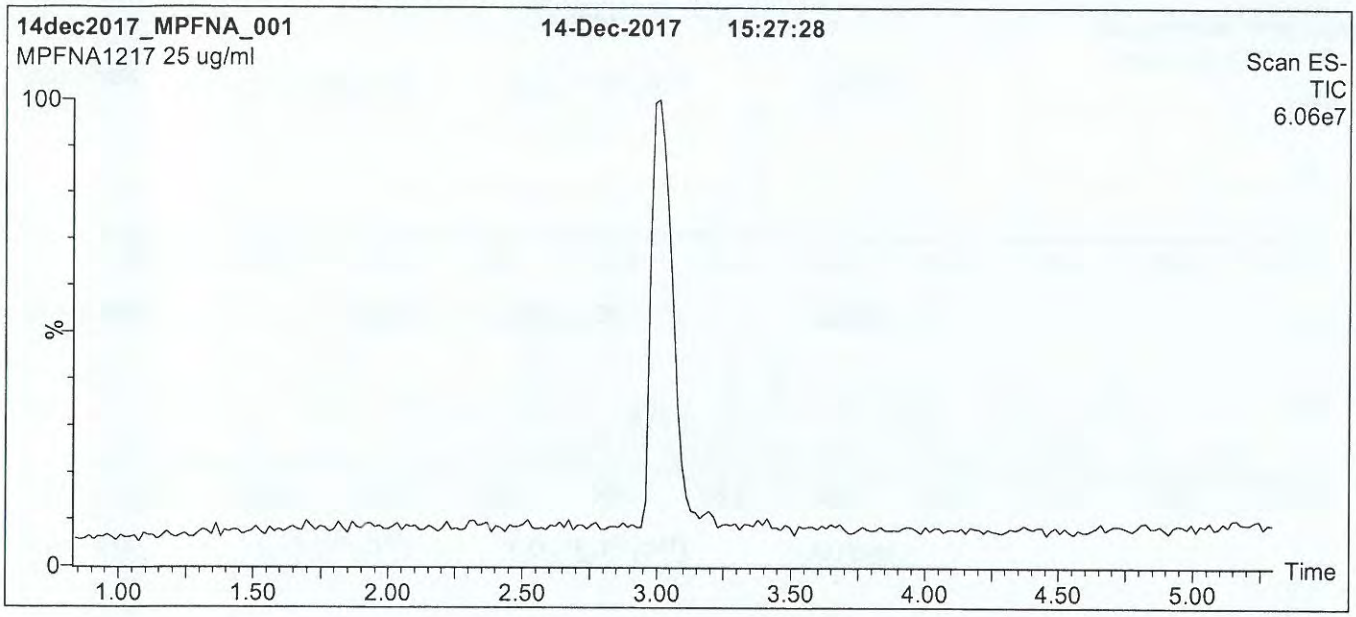
CALA Testing Accreditation No. A 1226

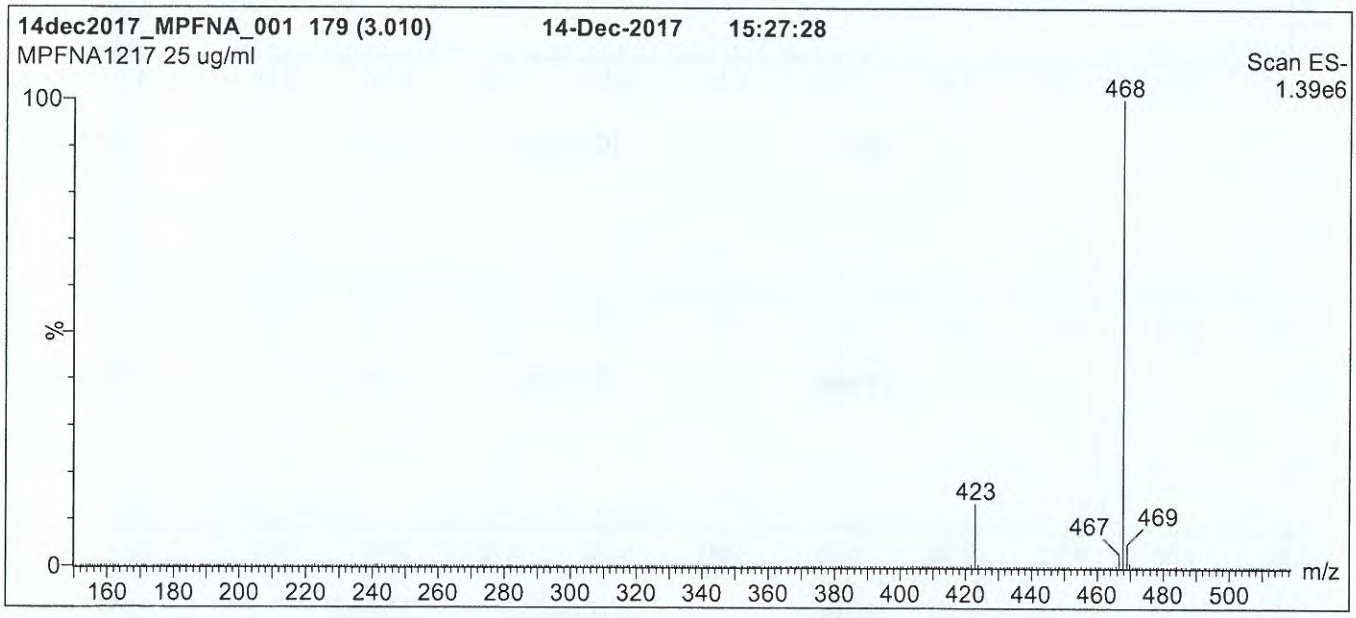
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

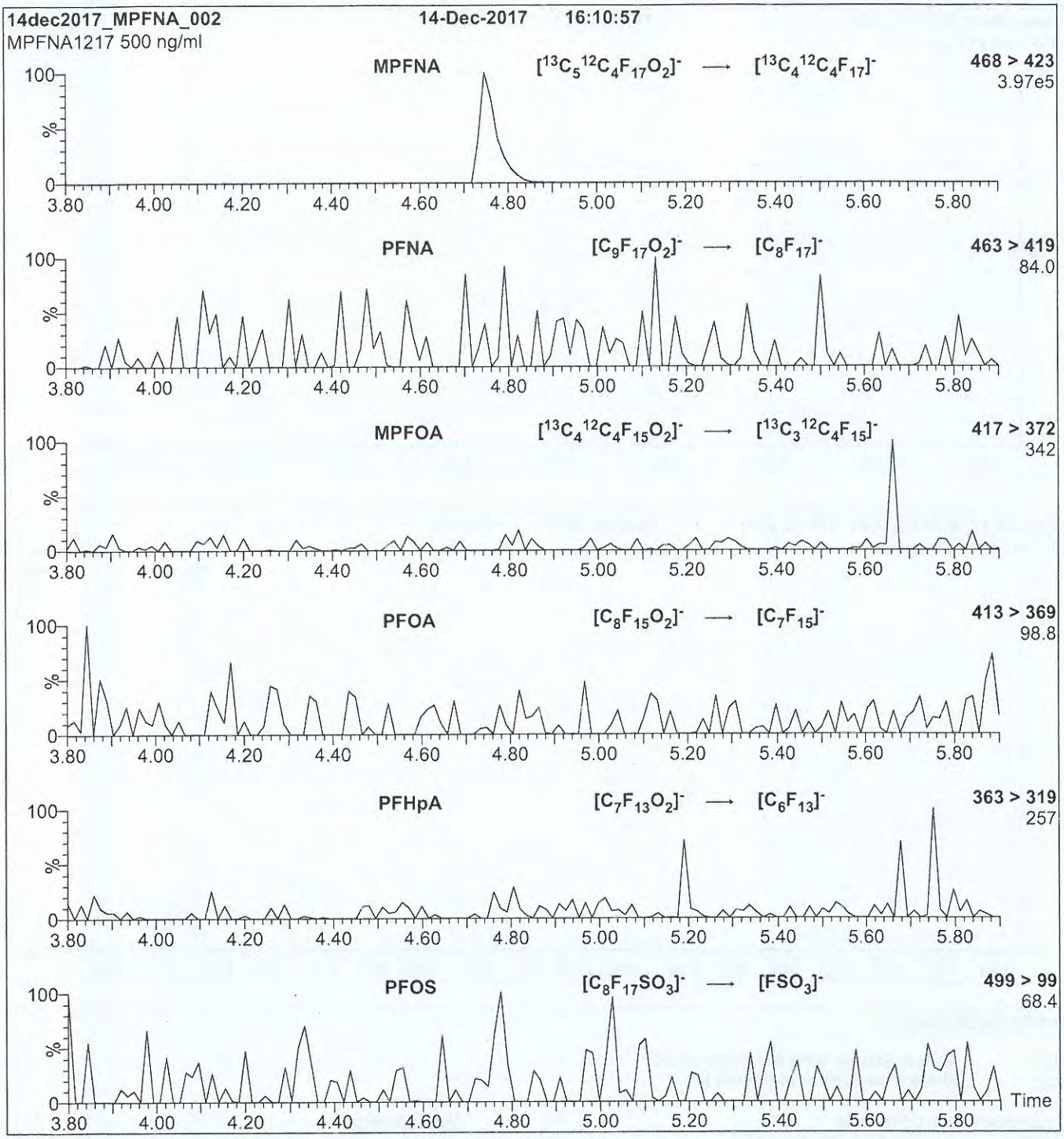
MS Parameters

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

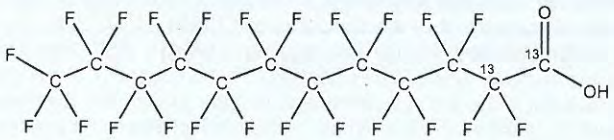
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 11

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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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:

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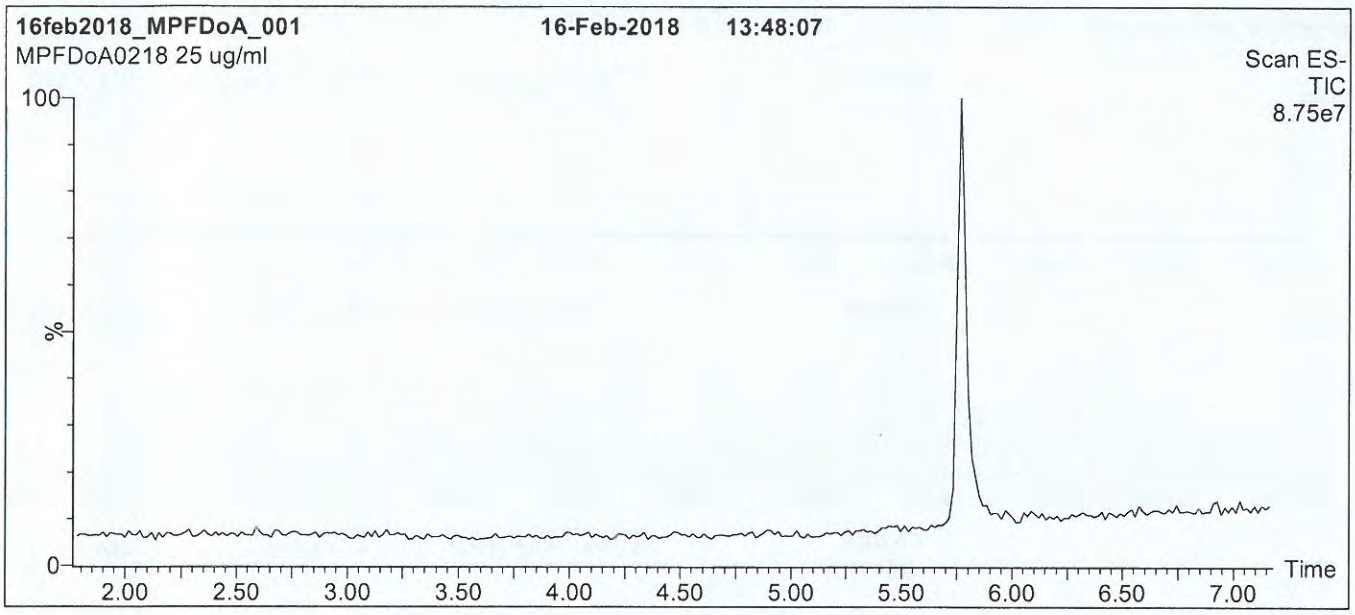
CALA Testing Accreditation No. A 1226

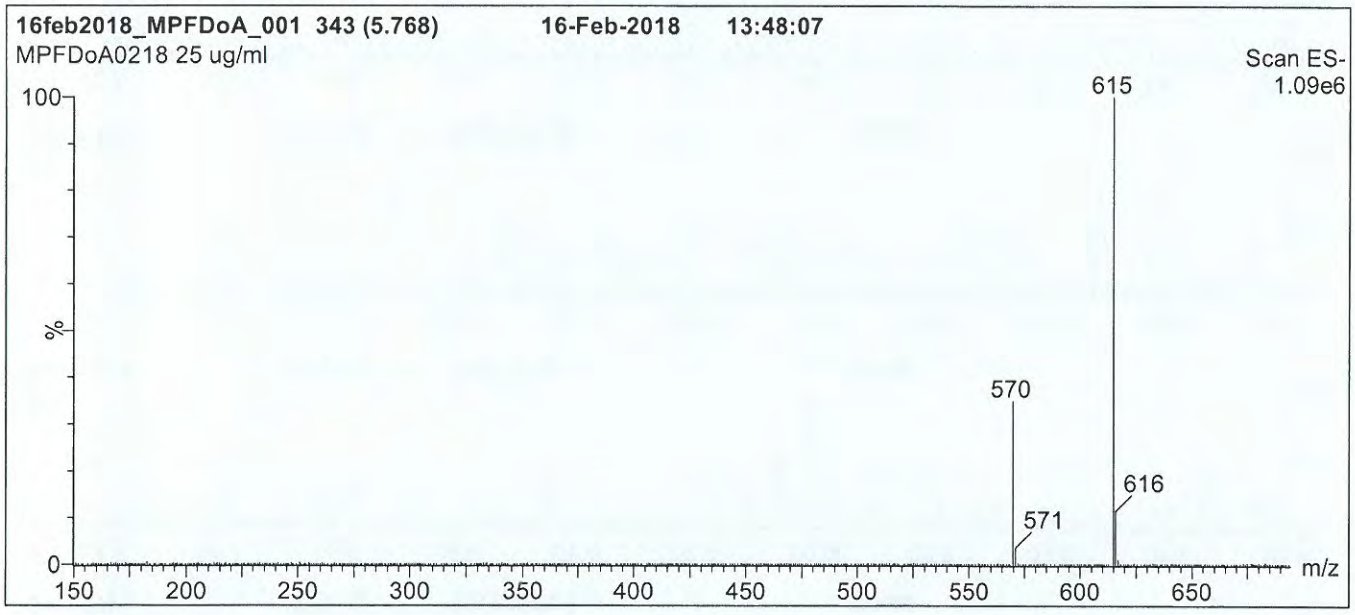
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

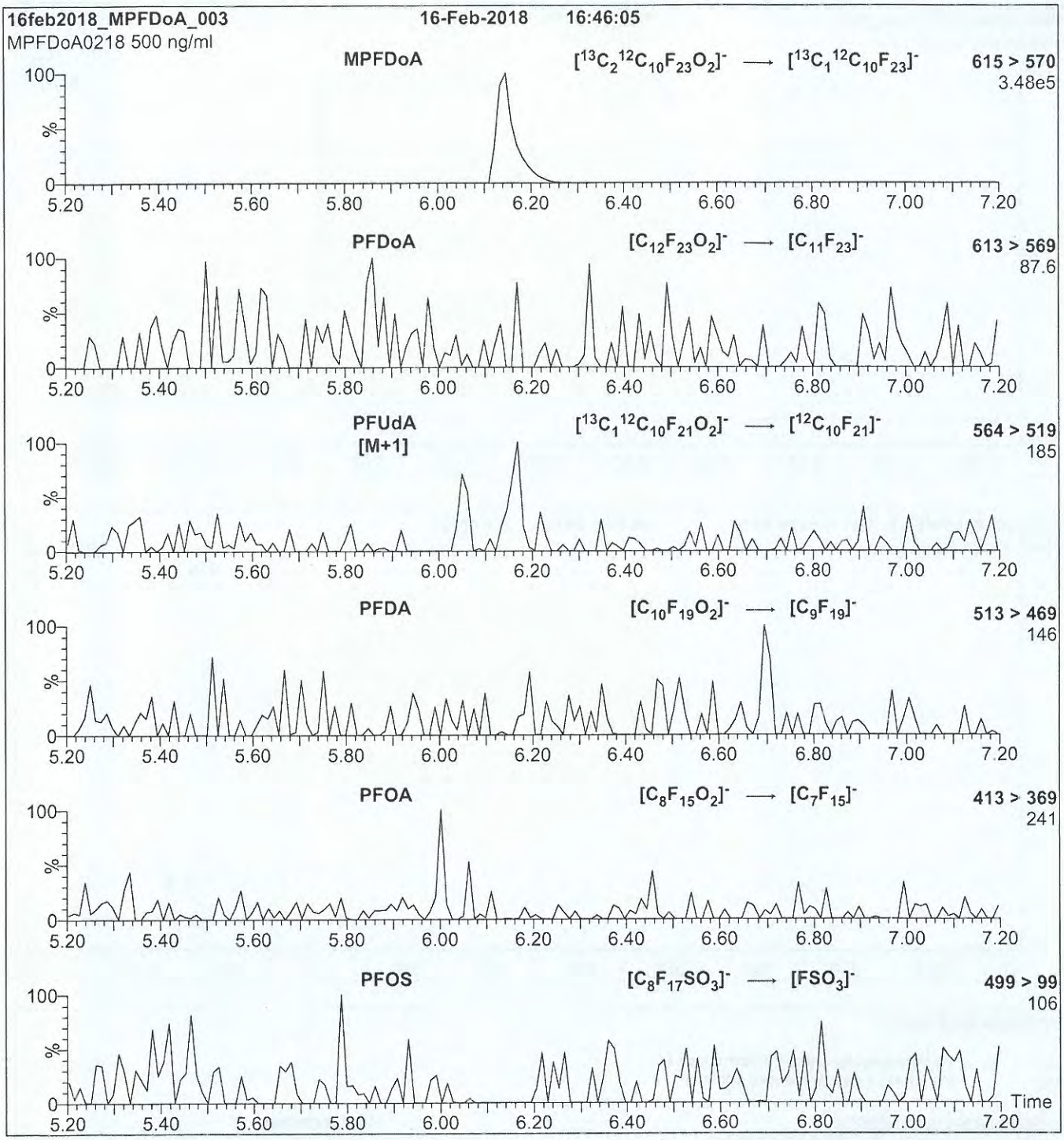
MS Parameters

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

1812009

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

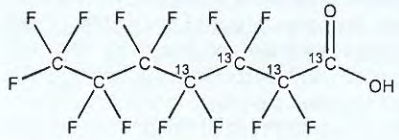
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 13

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-$^{13}C_4$)
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).

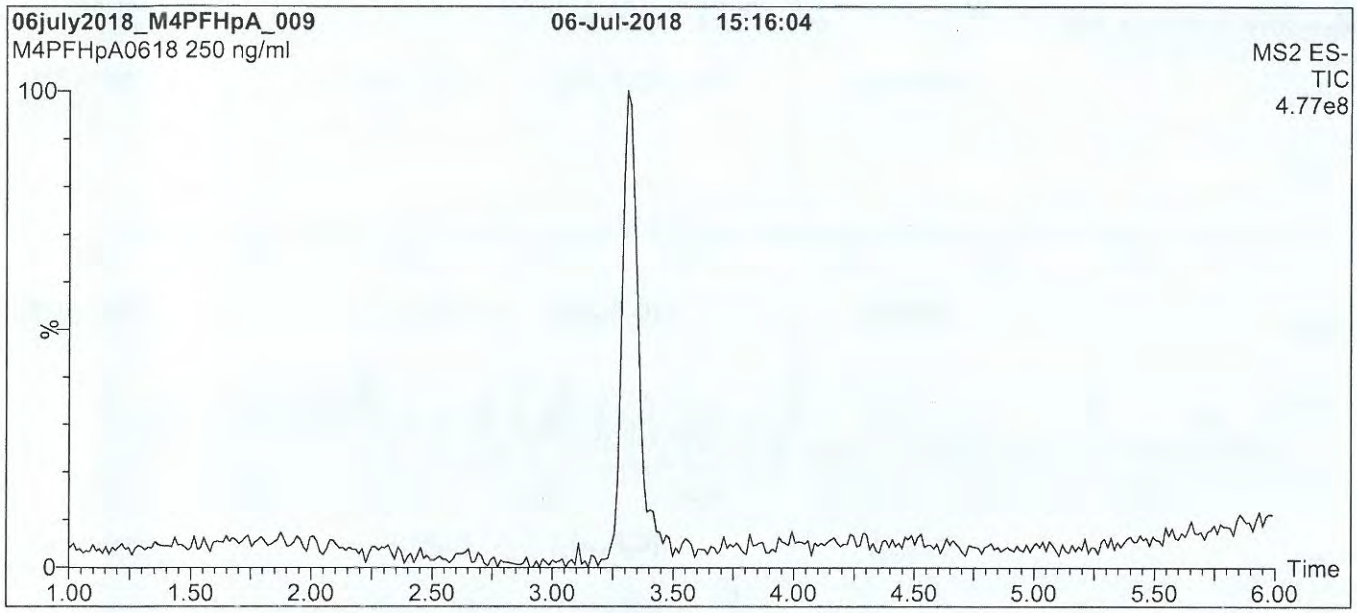
CALA Testing Accreditation No. A 1226

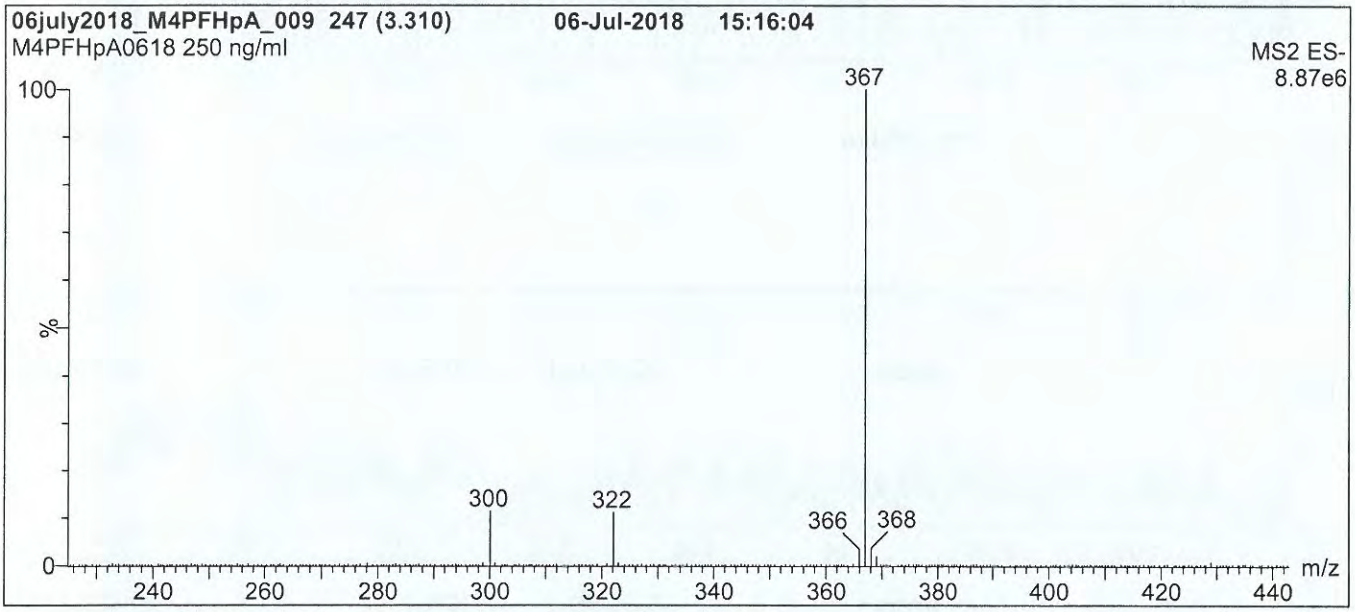
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

1812010

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

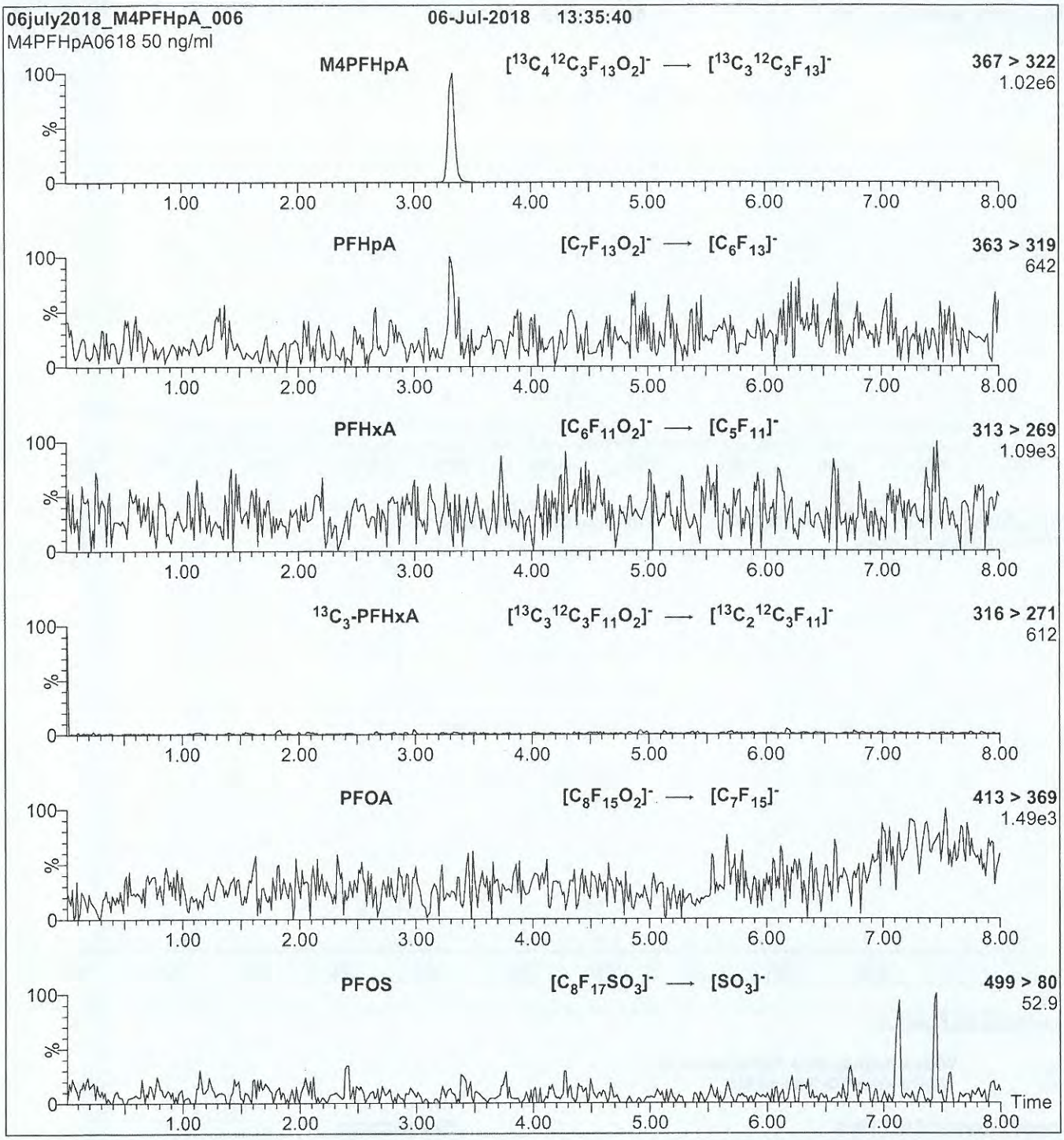
MS Parameters

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

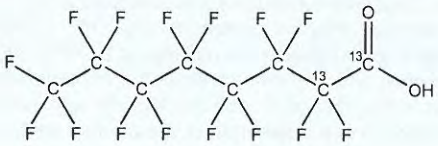
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2PFOA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid

LOT NUMBER: M2PFOA1018

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-$^{13}C_2$)
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:

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).

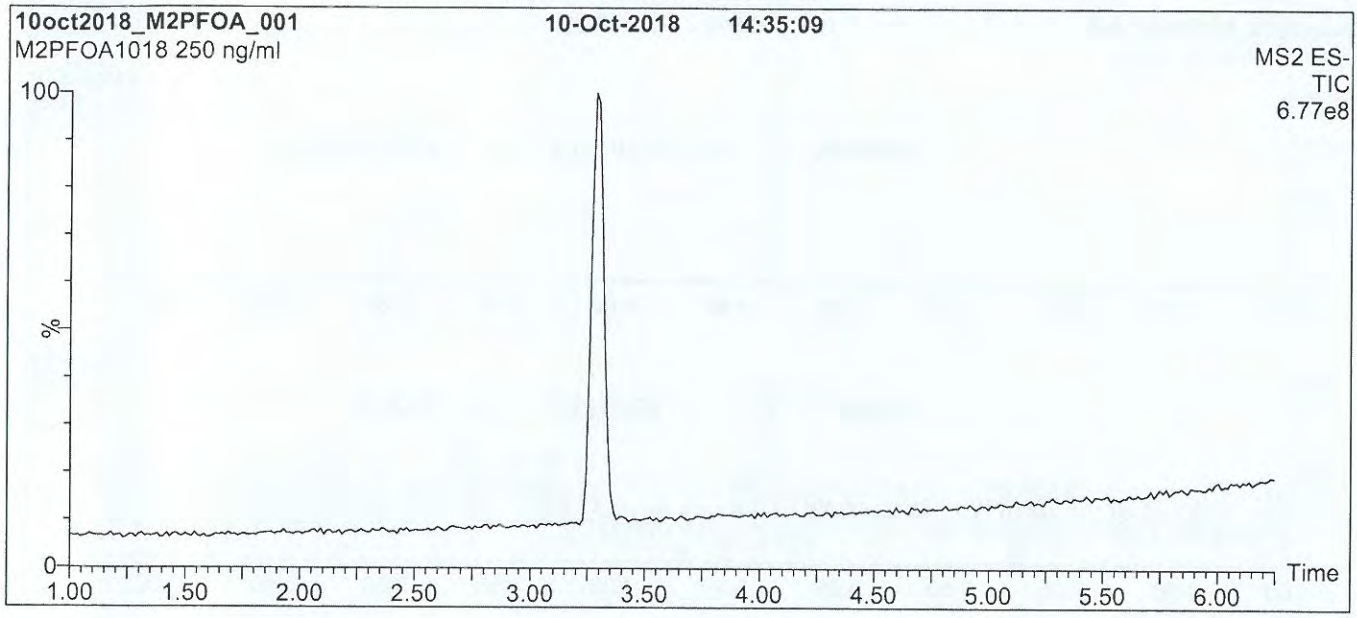
CALA Testing Accreditation No. A1226

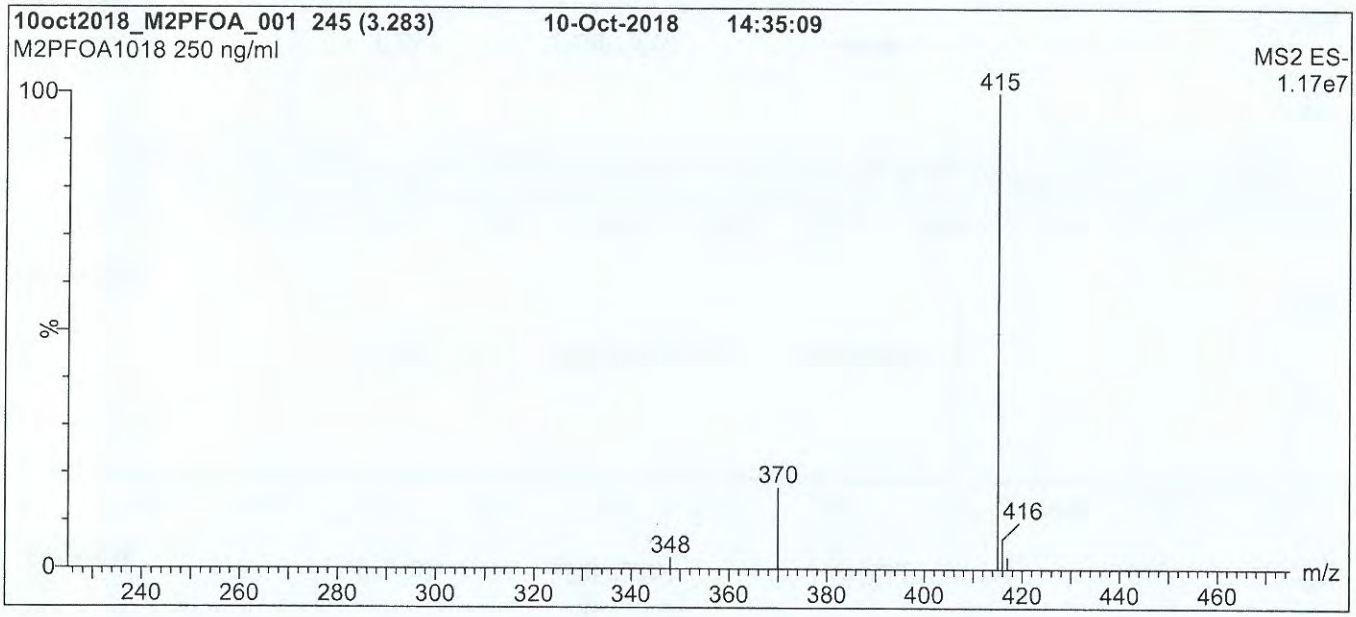
ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER

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

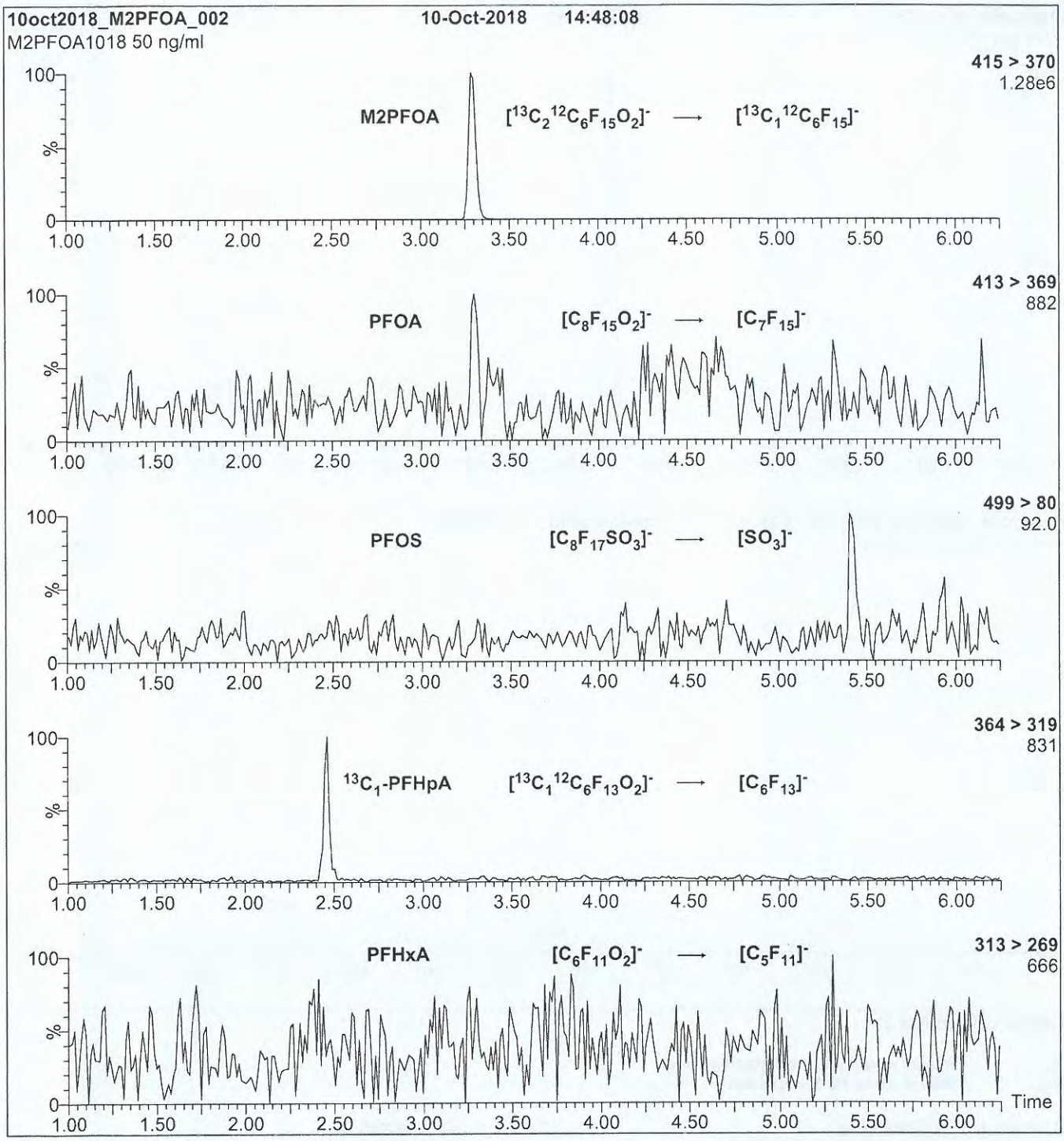
MS Parameters

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

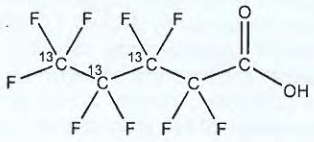
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 8

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:

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).

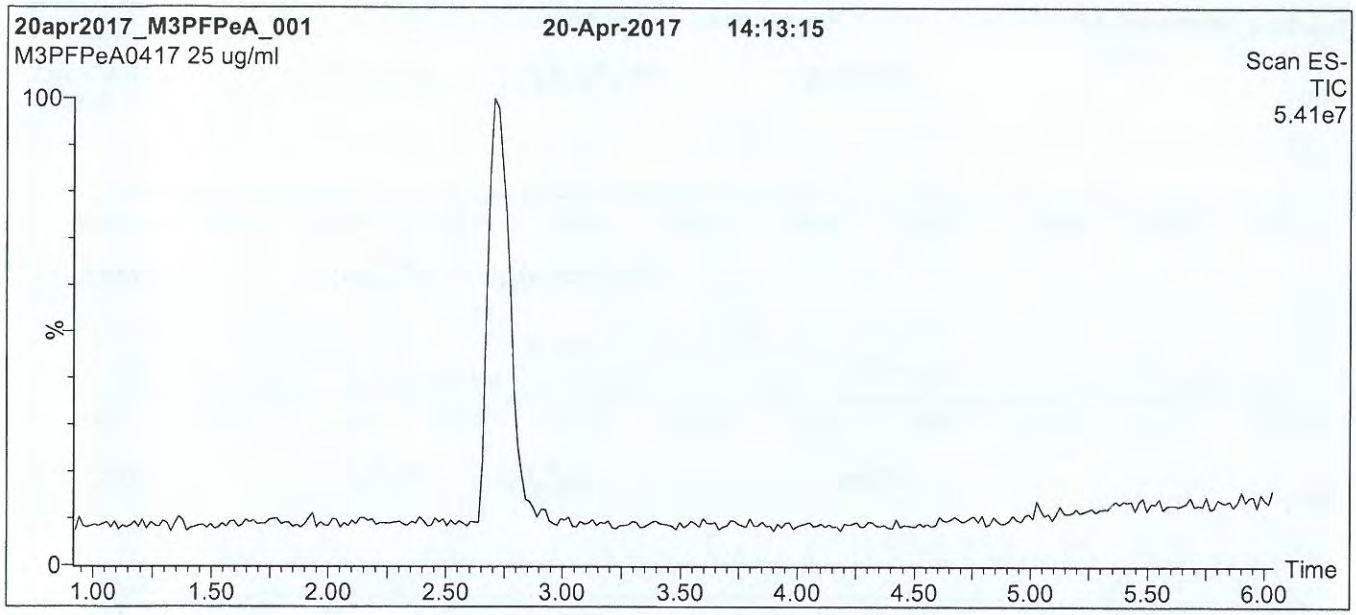
CALA Testing Accreditation No. A 1226

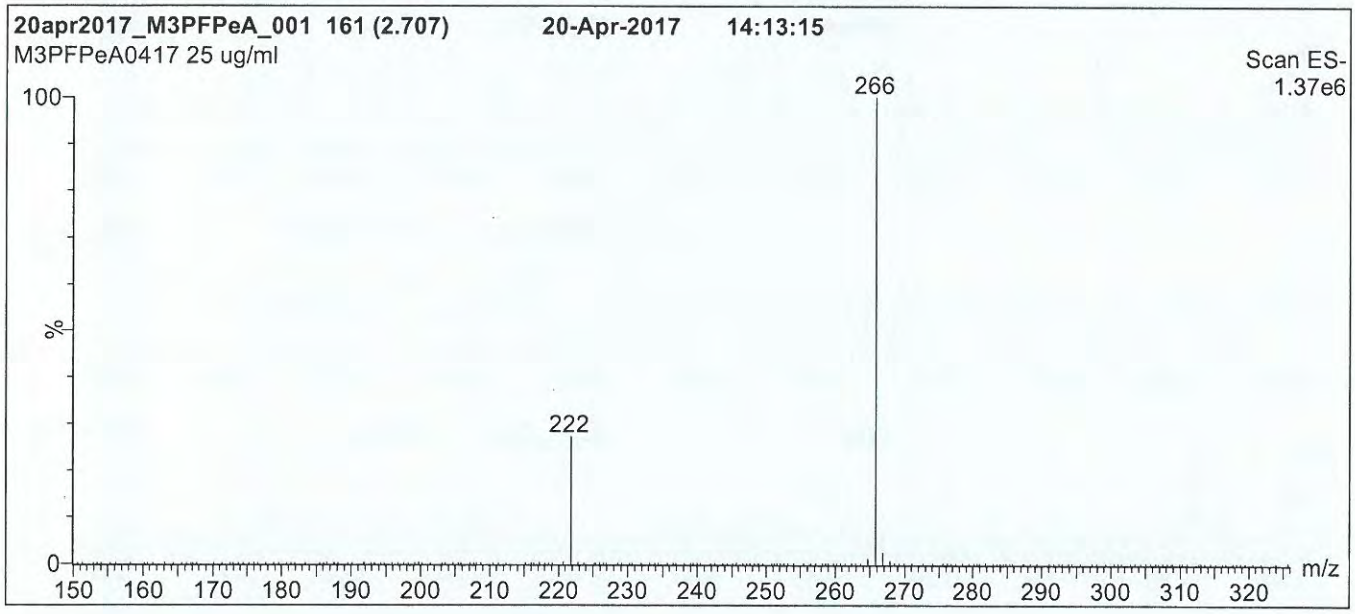
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

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

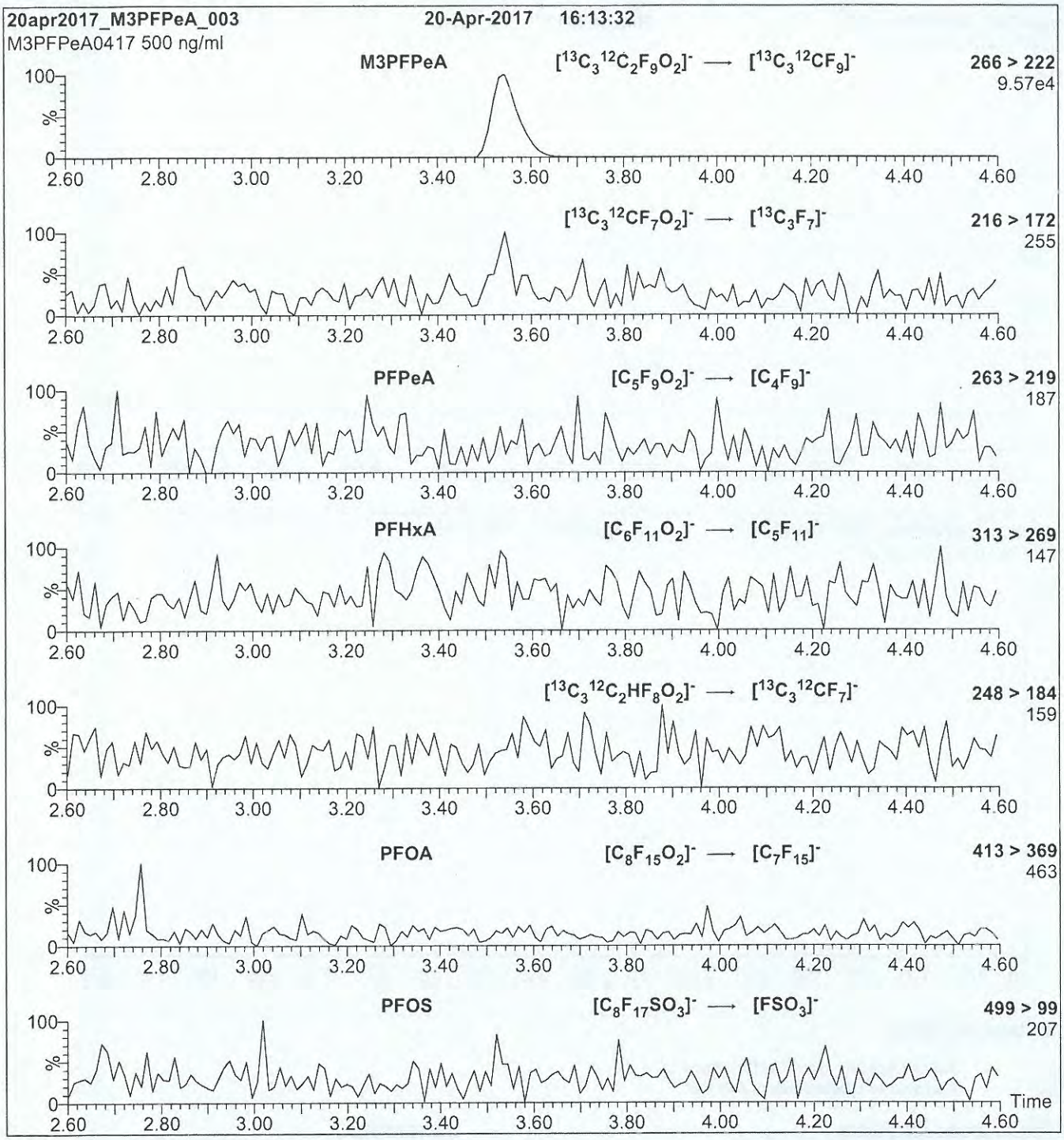
MS Parameters

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

18L2012

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

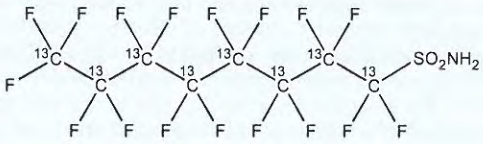
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 9

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

18L2013

INTENDED USE:

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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.

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).

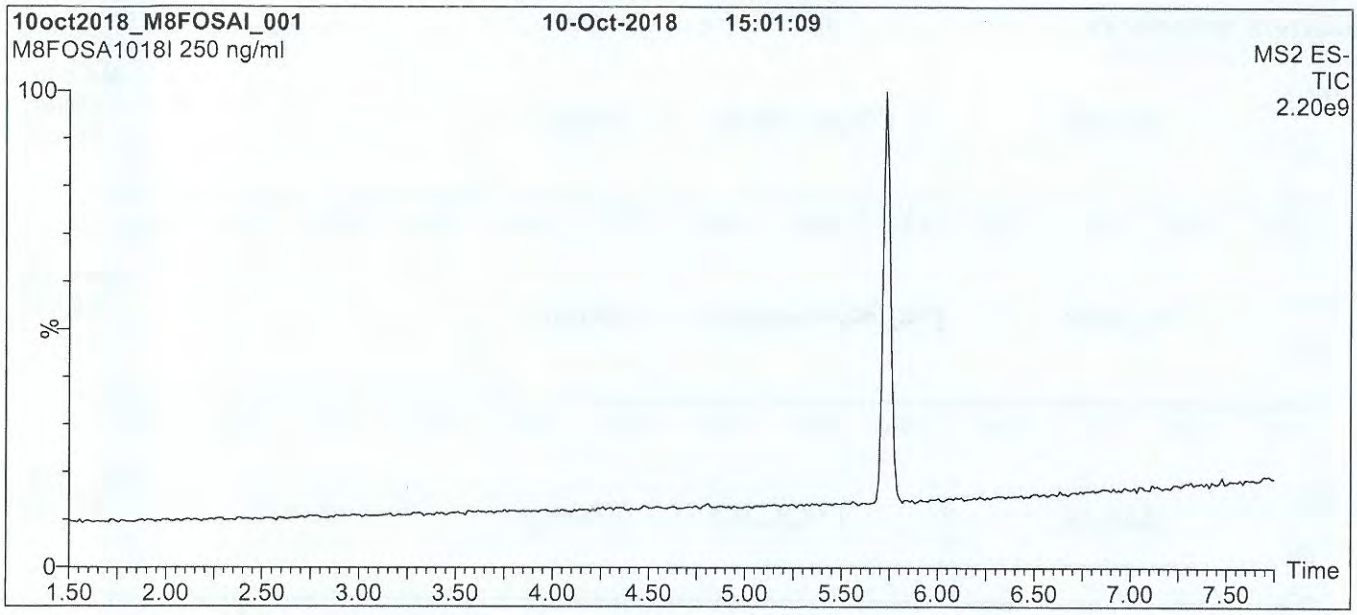
CALA Testing Accreditation No. A1226

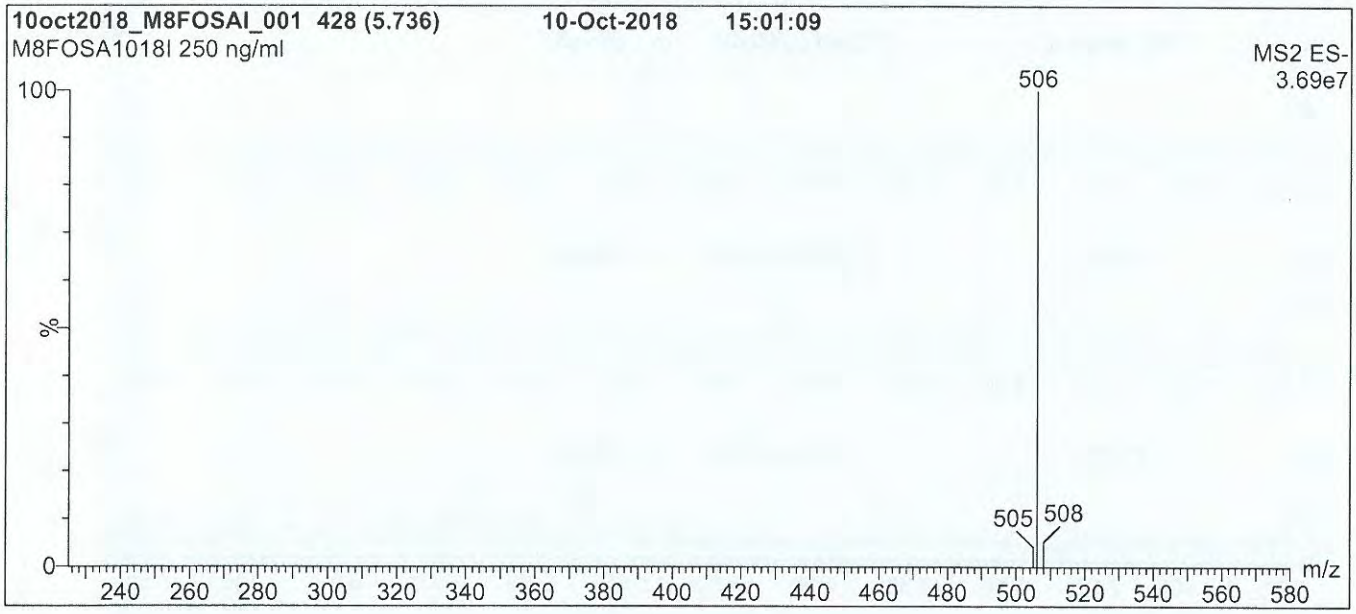
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

1812013

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

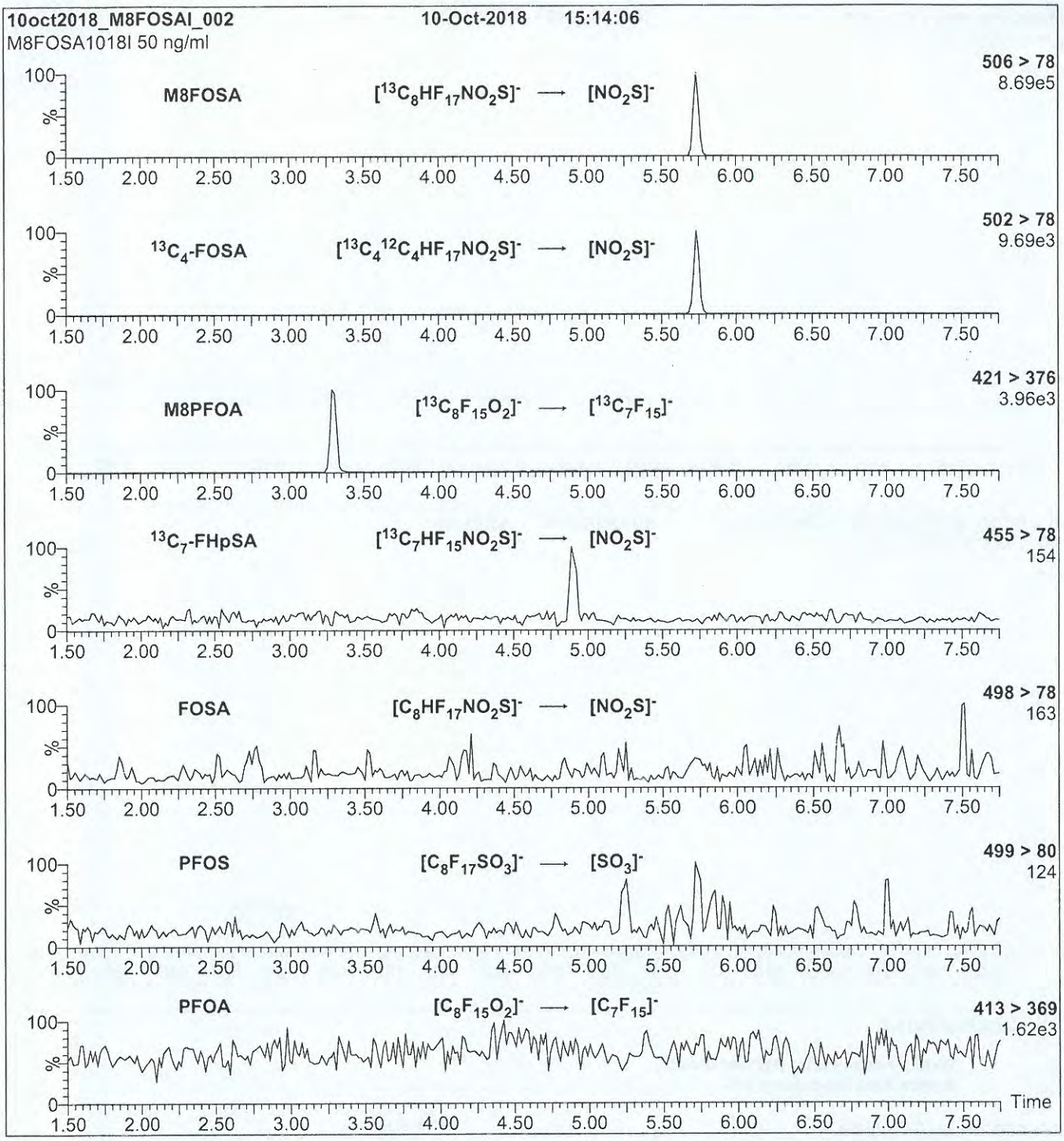
MS Parameters

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

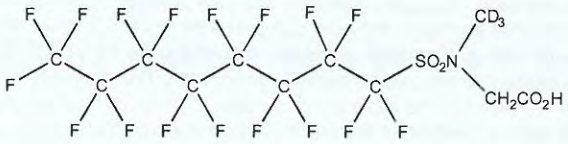
WELLINGTON LABORATORIES

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:

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HANDLING:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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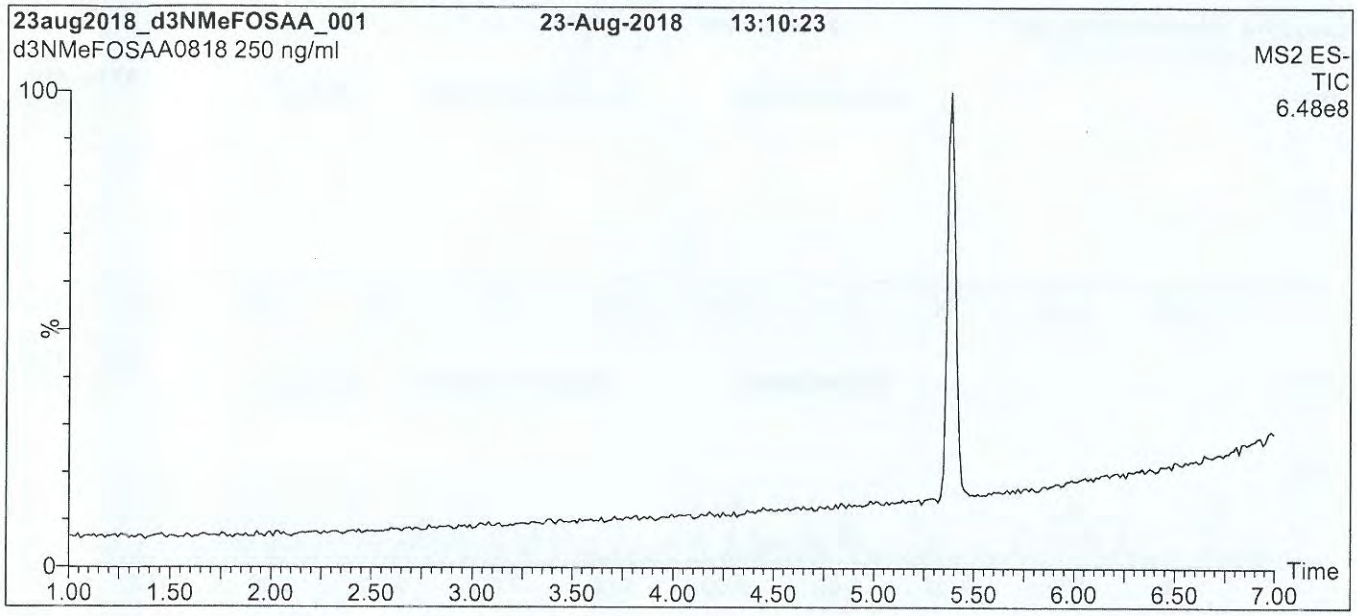
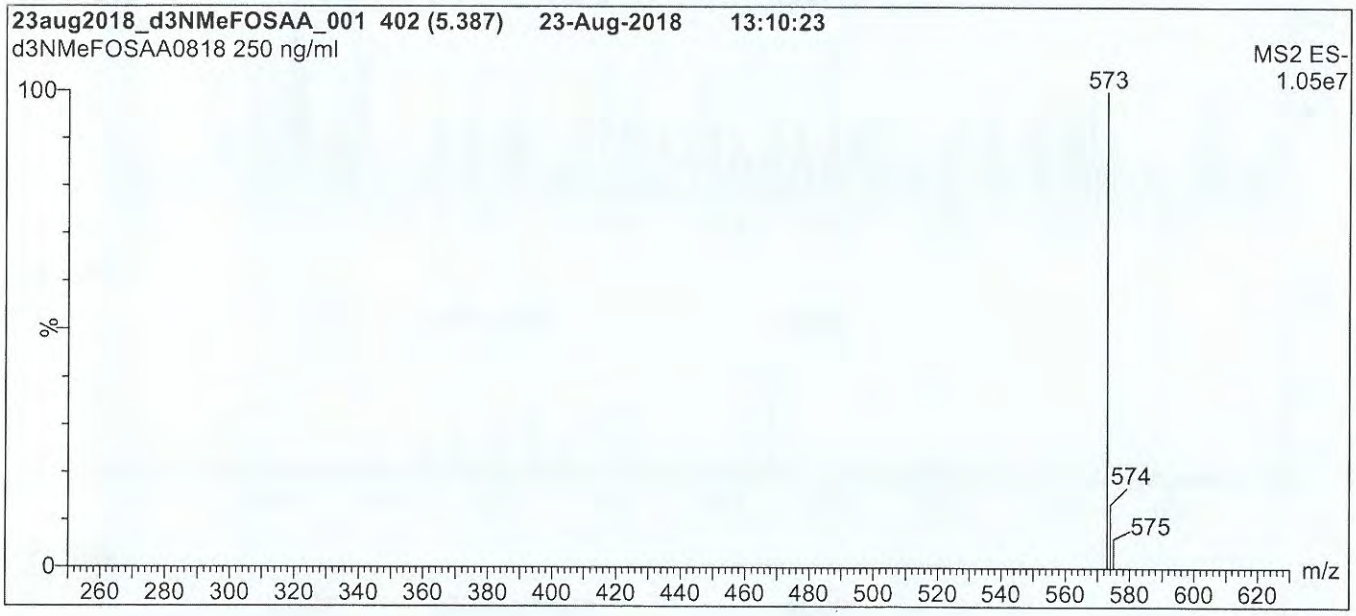
18L2014

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

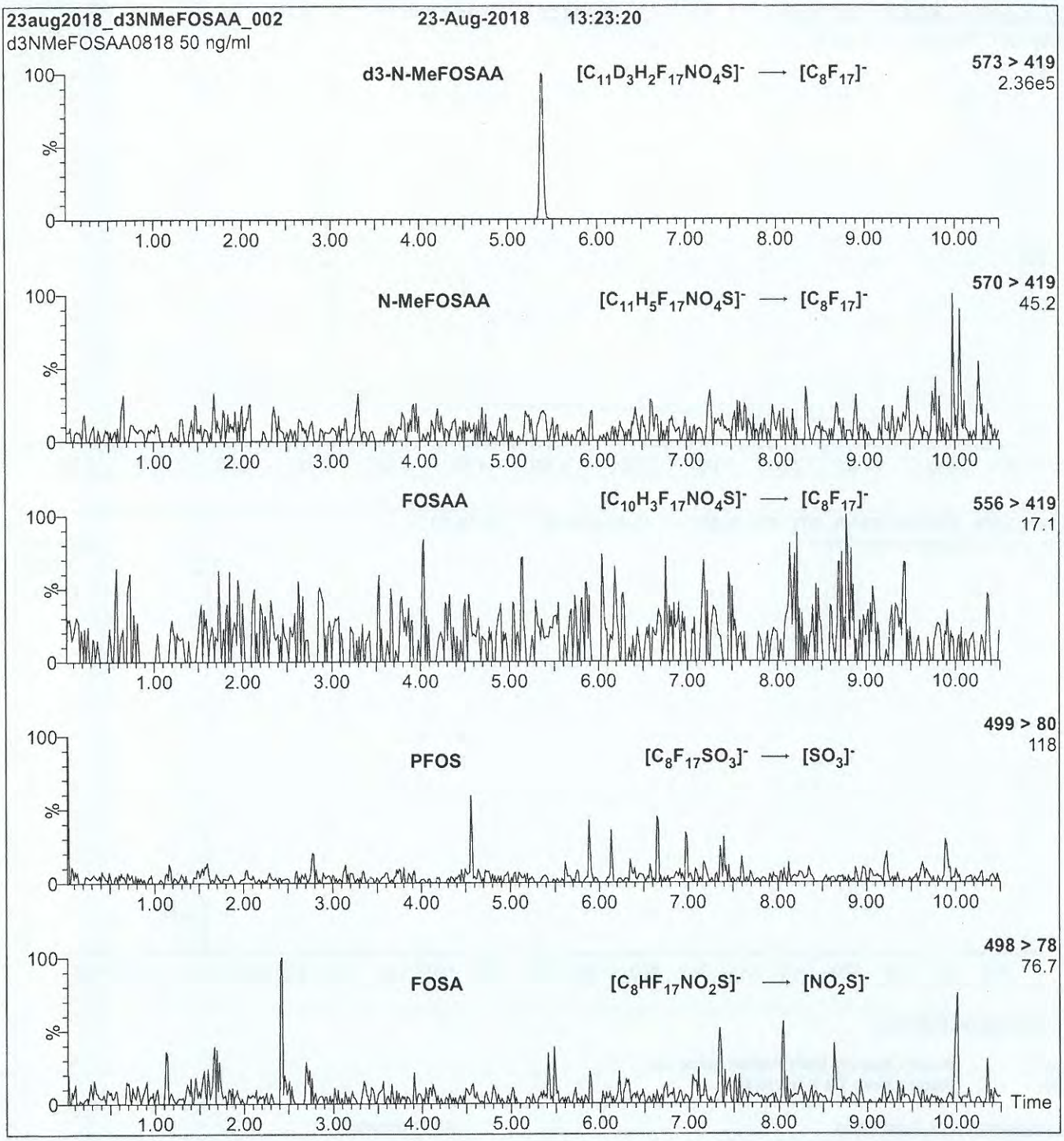
MS Parameters

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

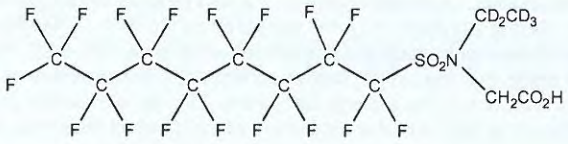
WELLINGTON LABORATORIES

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

INTENDED USE:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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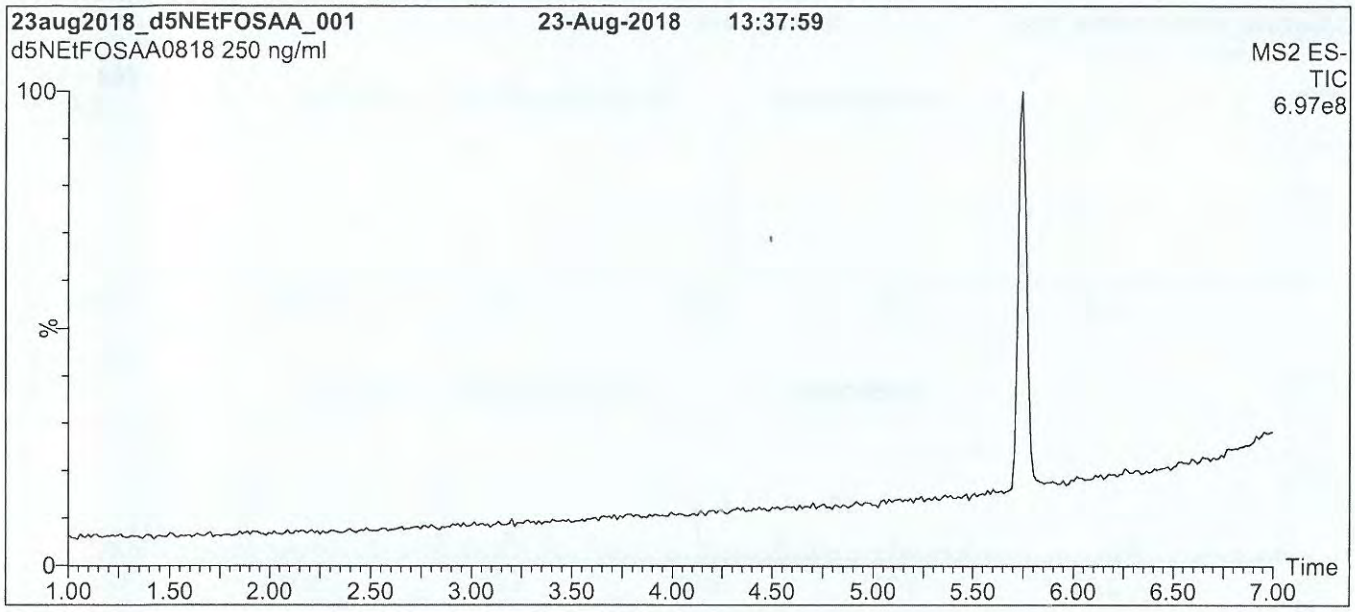
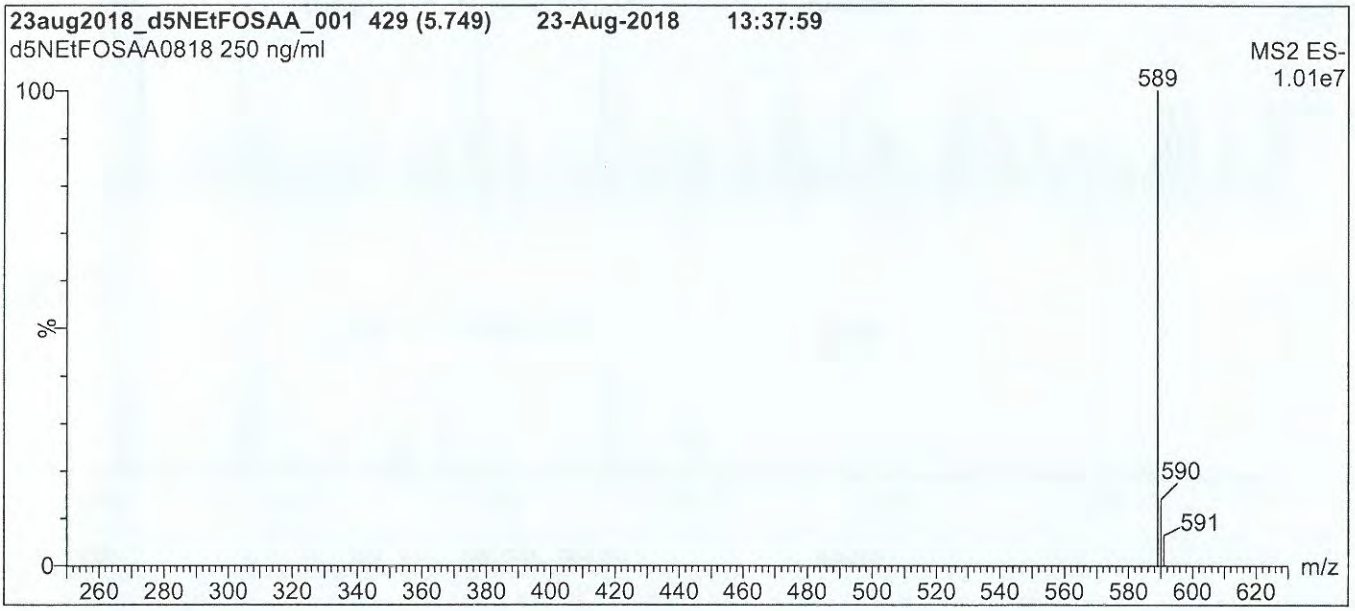
1822015

Figure 1: **d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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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: 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

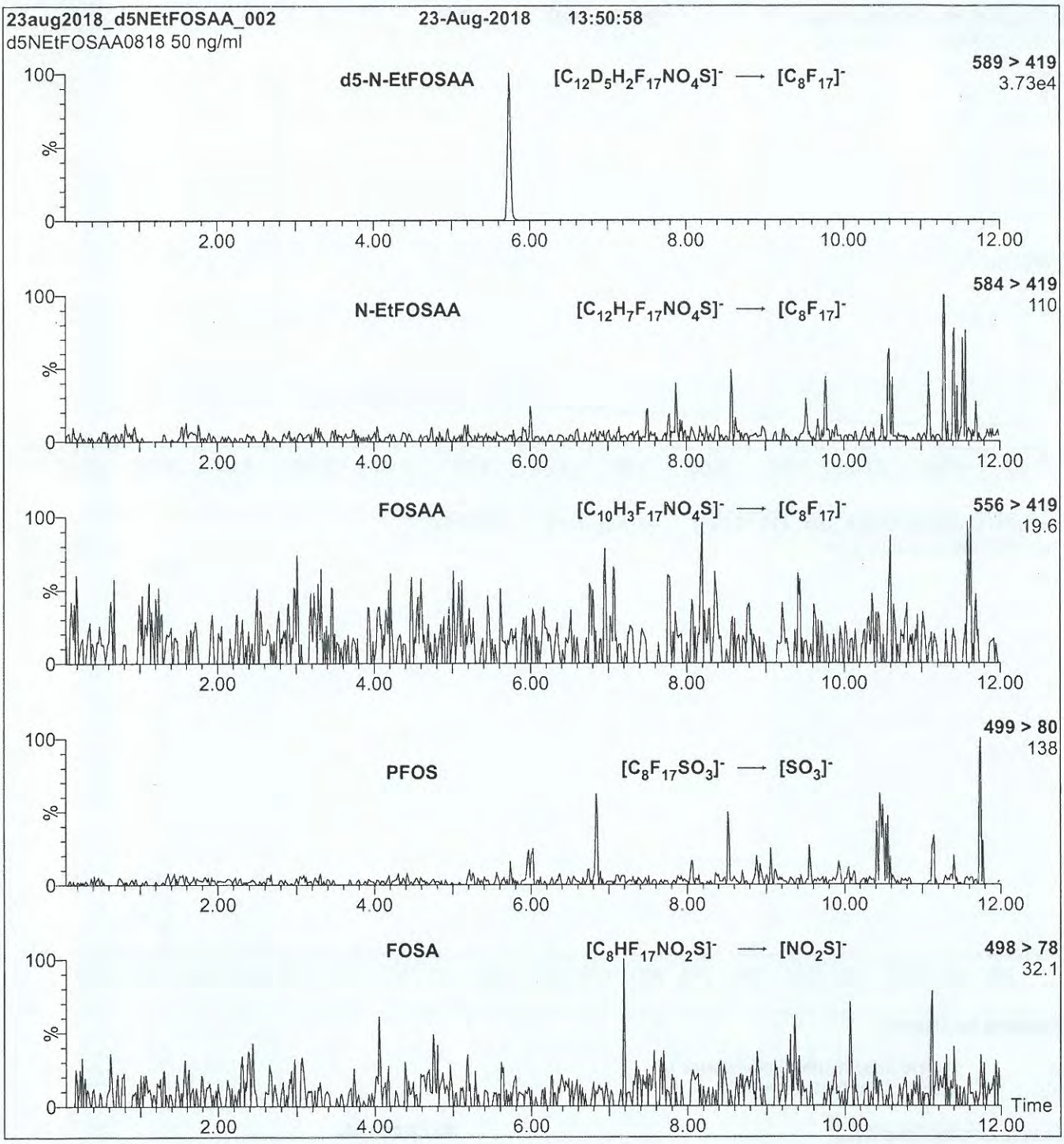
MS Parameters

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

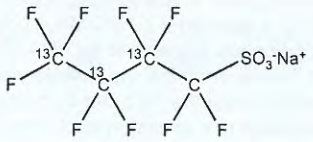
WELLINGTON LABORATORIES

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:

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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
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2016

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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).

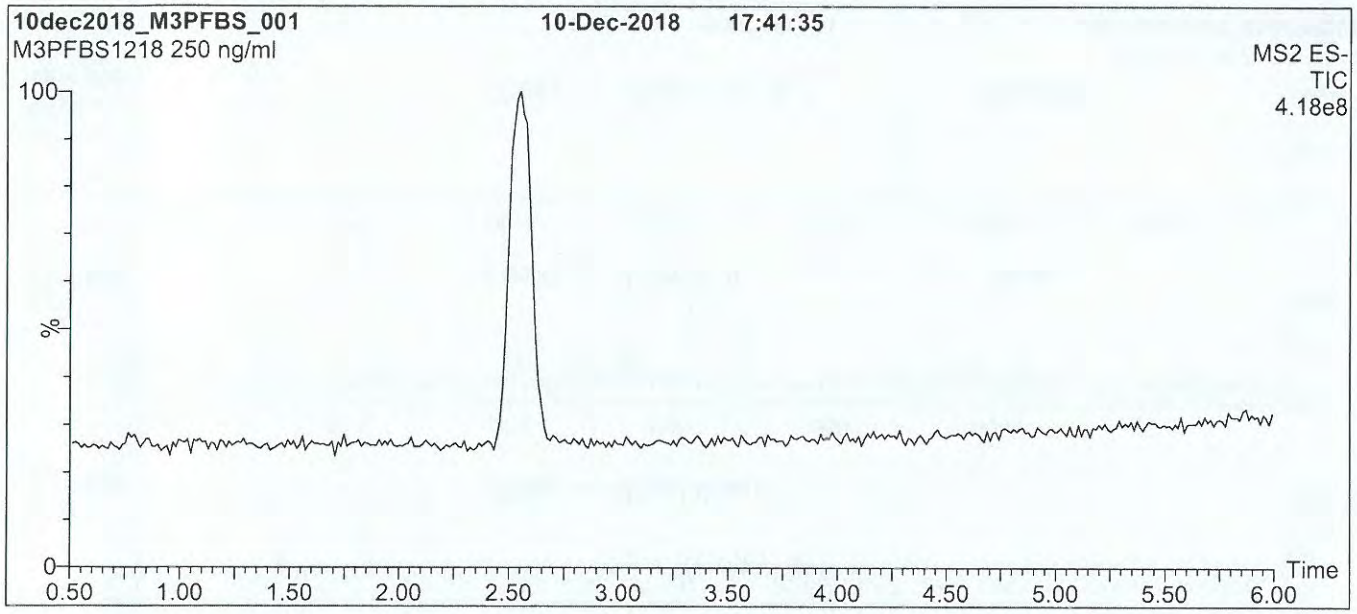
CALA Testing Accreditation No. A 1226

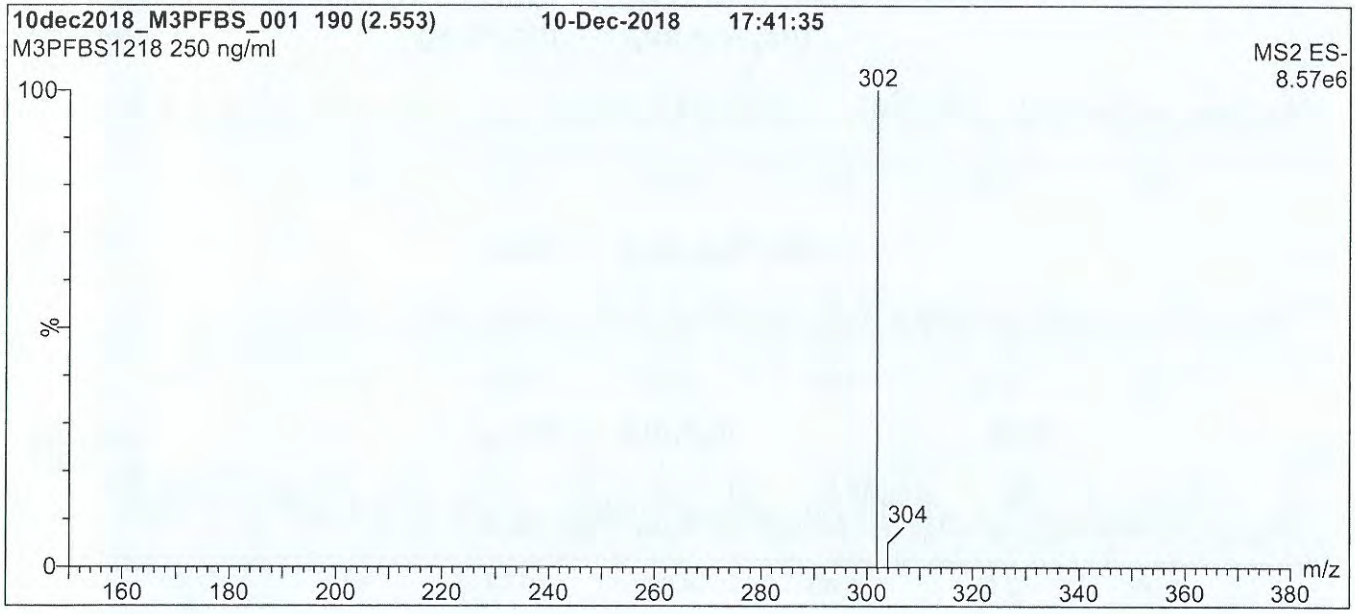
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

18L2016

Figure 1: **M3PFBS; 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

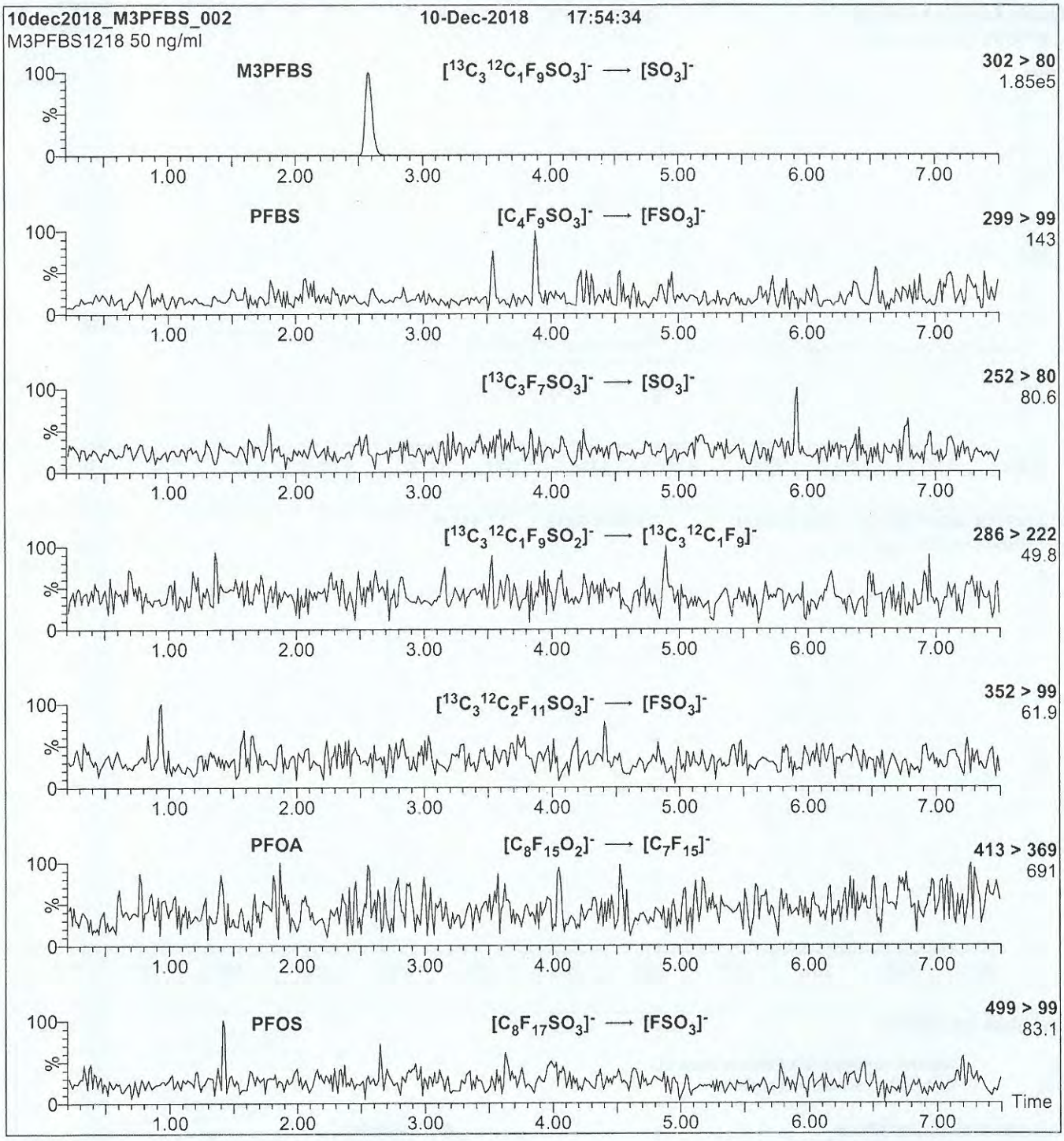
MS Parameters

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

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

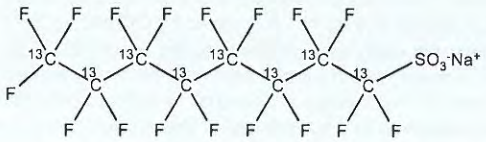
Collision Gas (mbar) = 2.90e-3
Collision Energy (eV) = 30

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:

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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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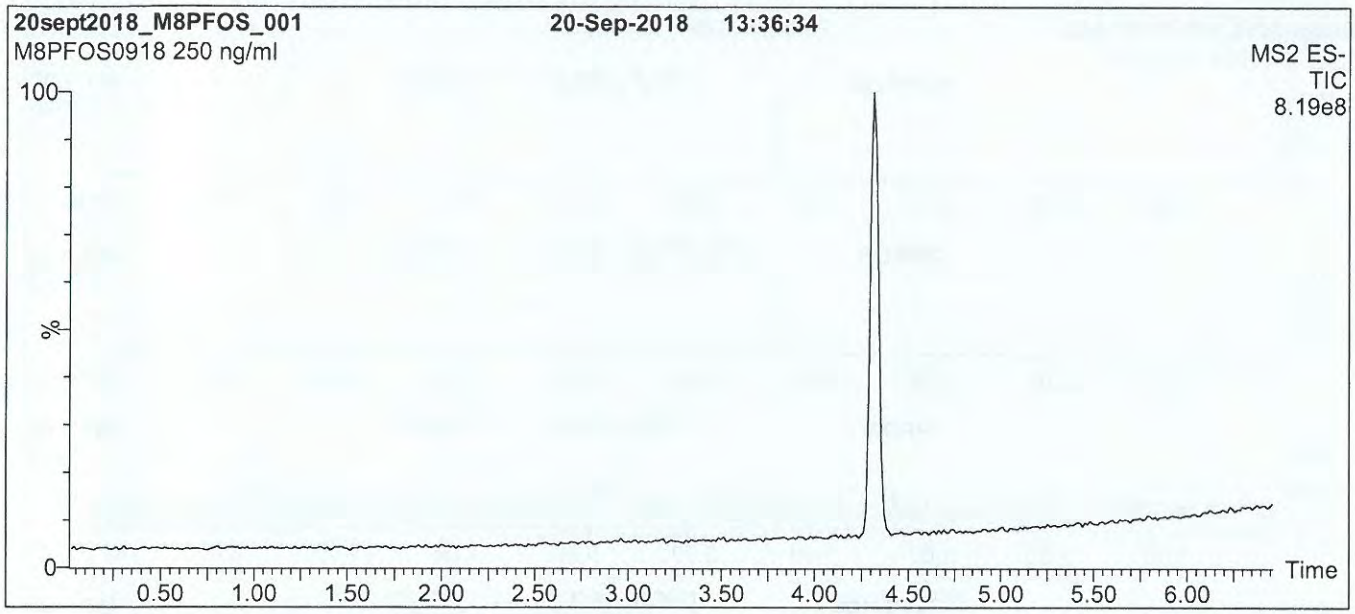
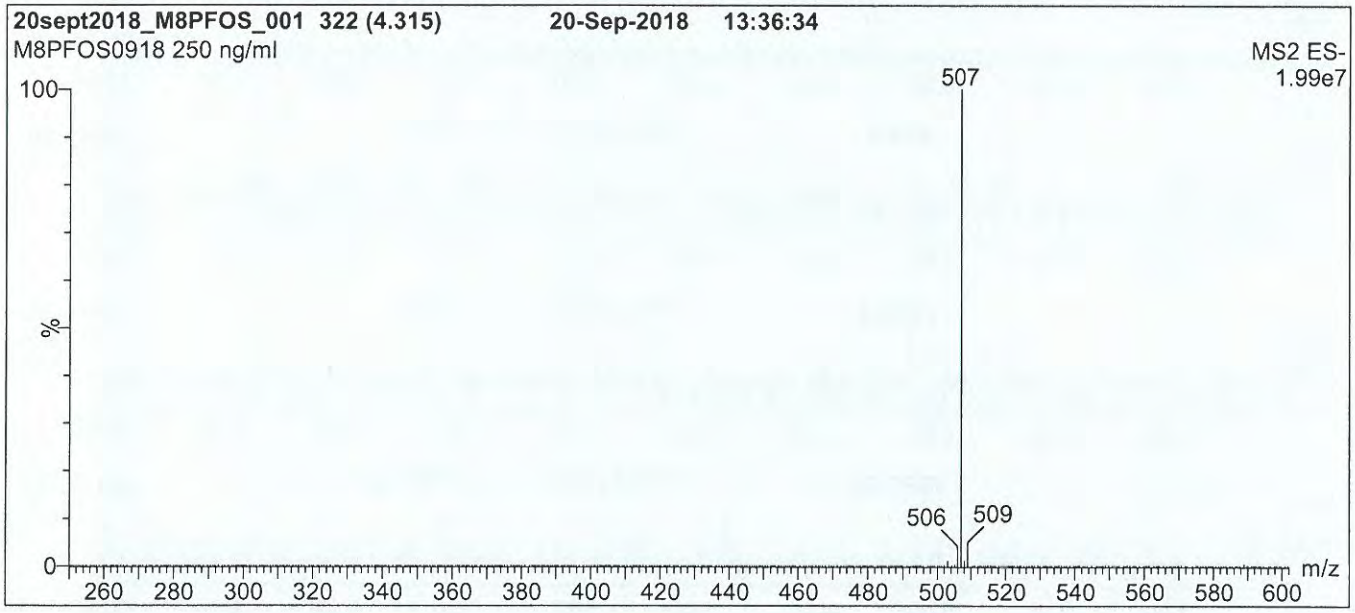
1812017

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

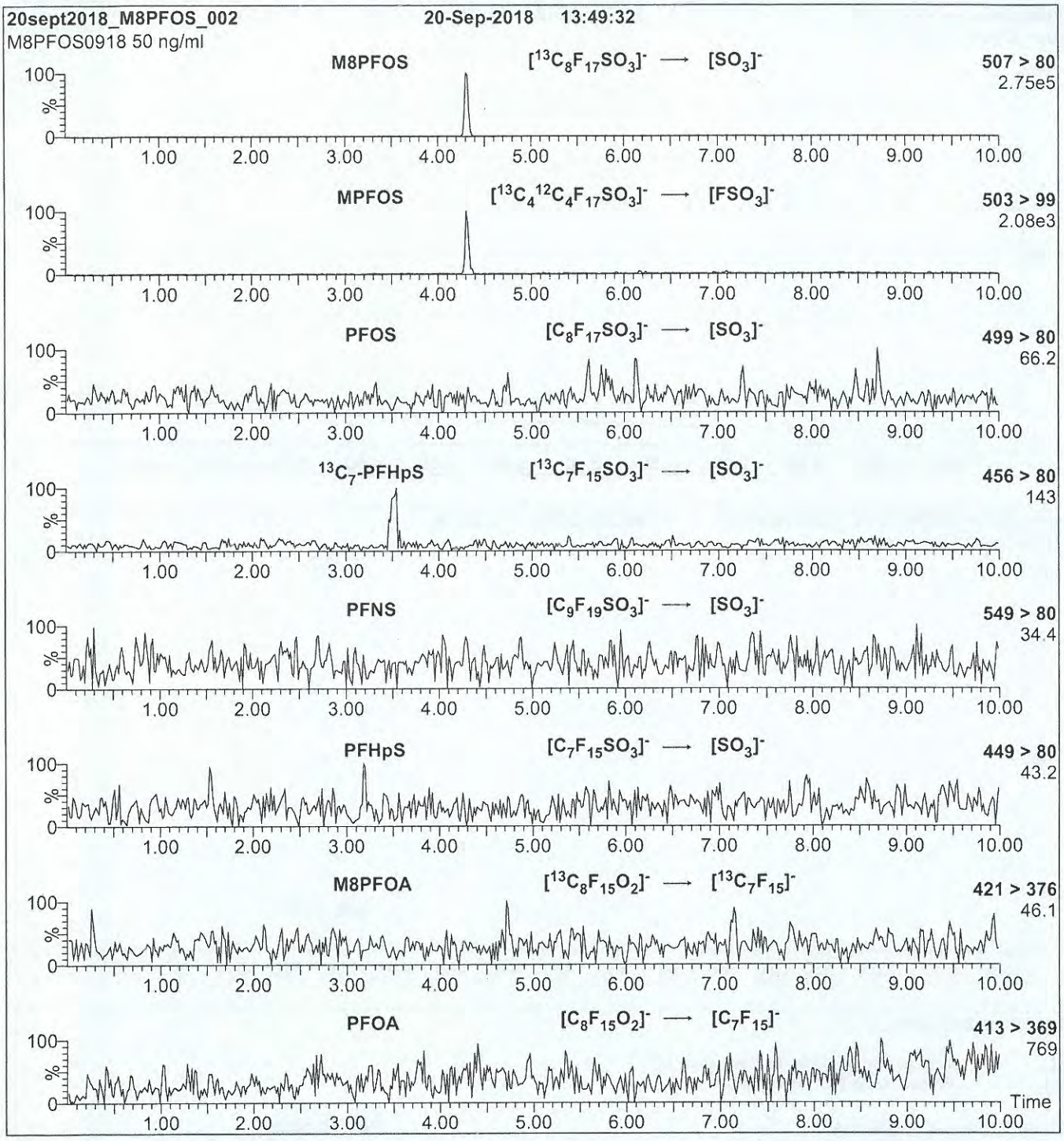
MS Parameters

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

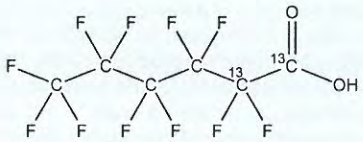
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid

LOT NUMBER: MPFHxA0518

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:

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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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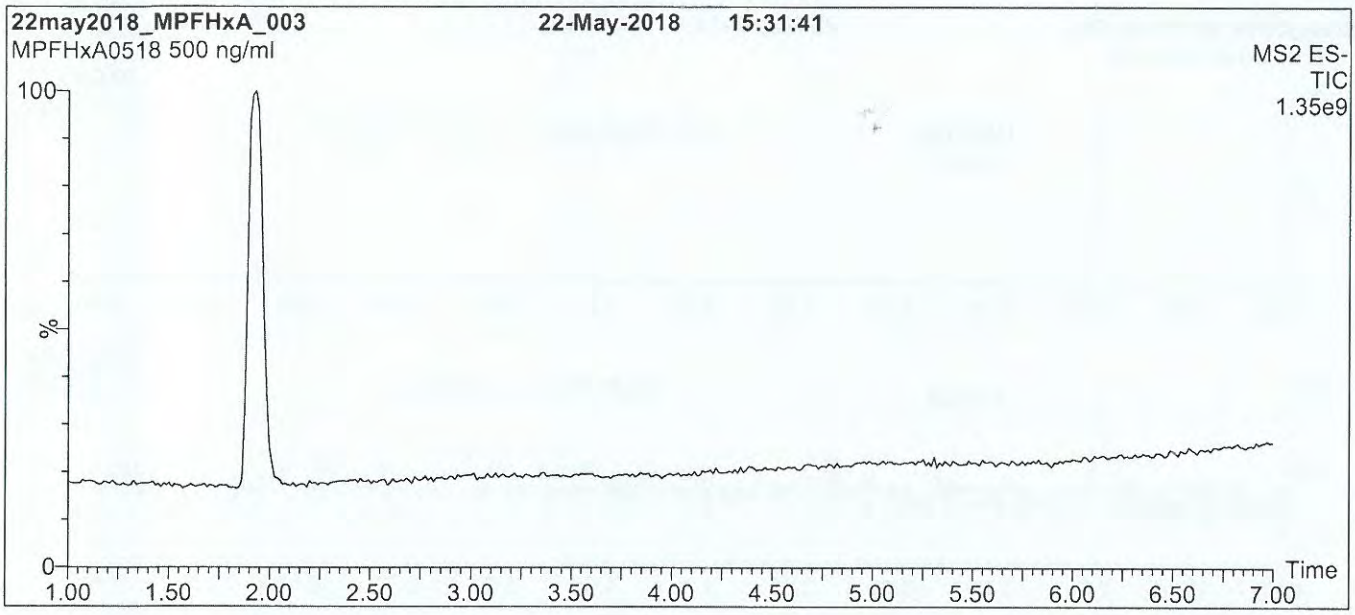
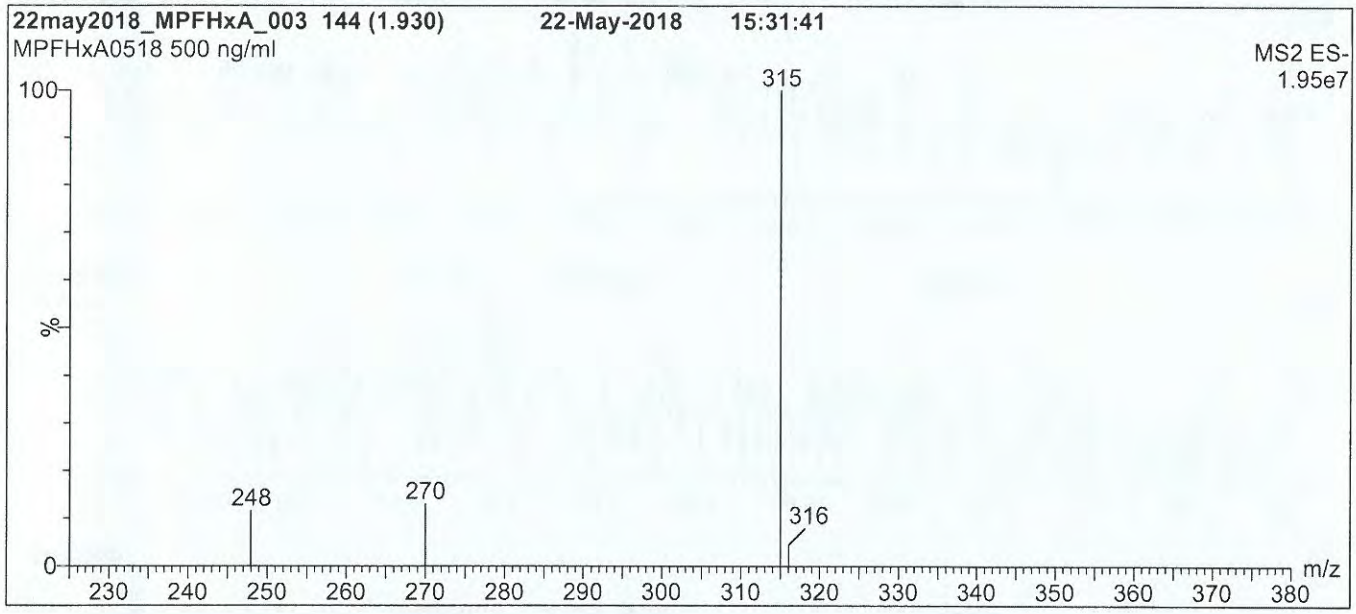
18L2019

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

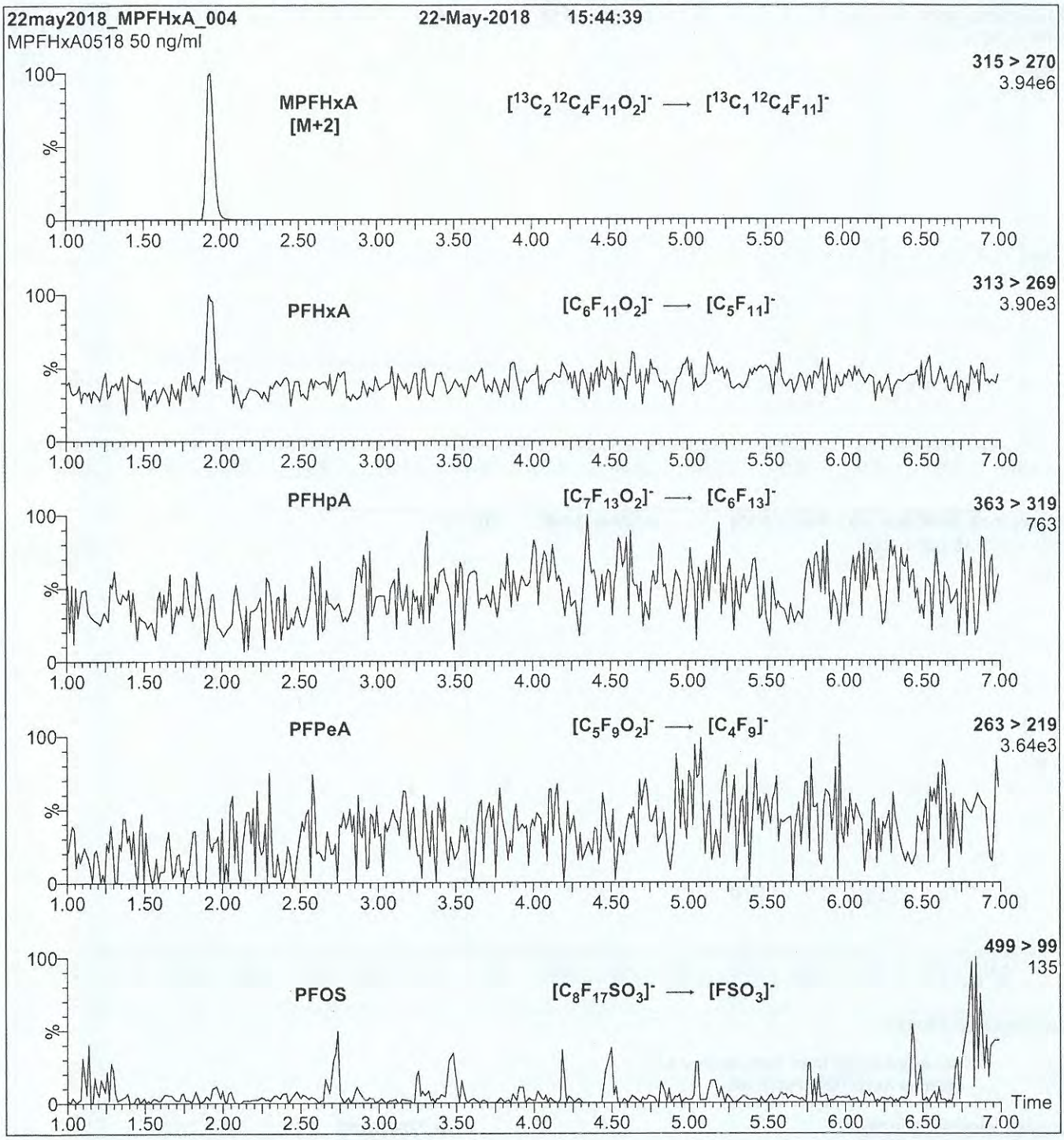
MS Parameters

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

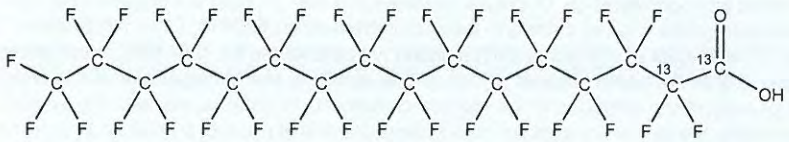
Collision Gas (mbar) = 3.55e-3
Collision Energy (eV) = 8

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:

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HANDLING:

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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. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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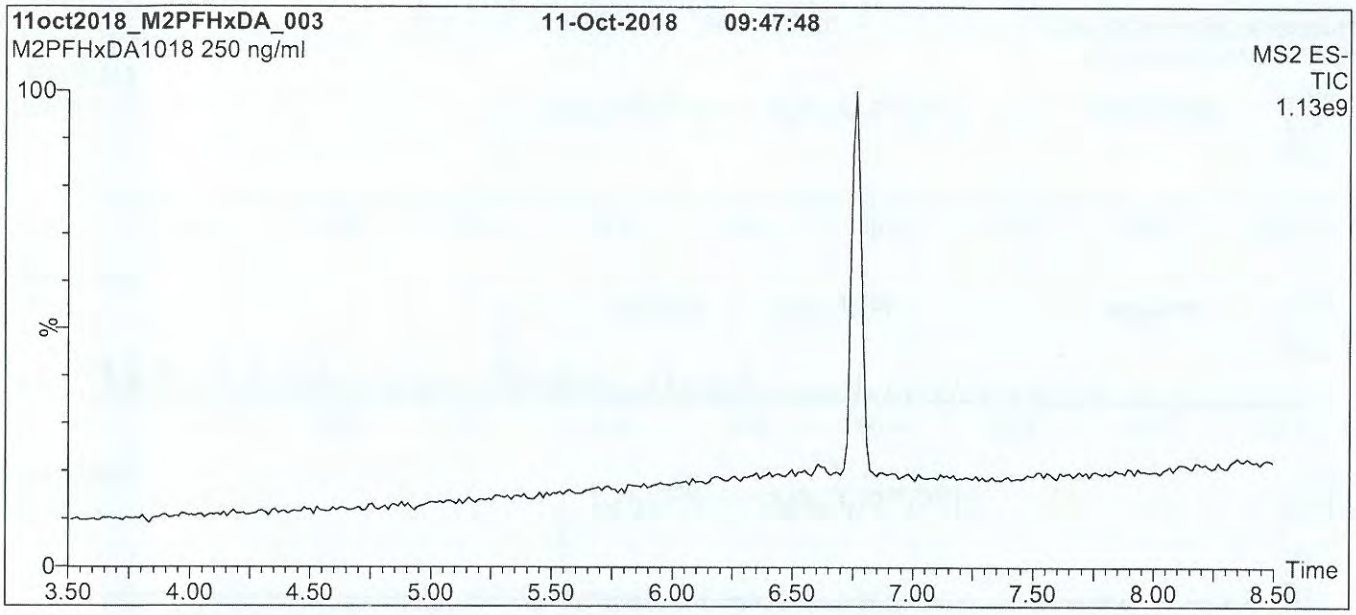
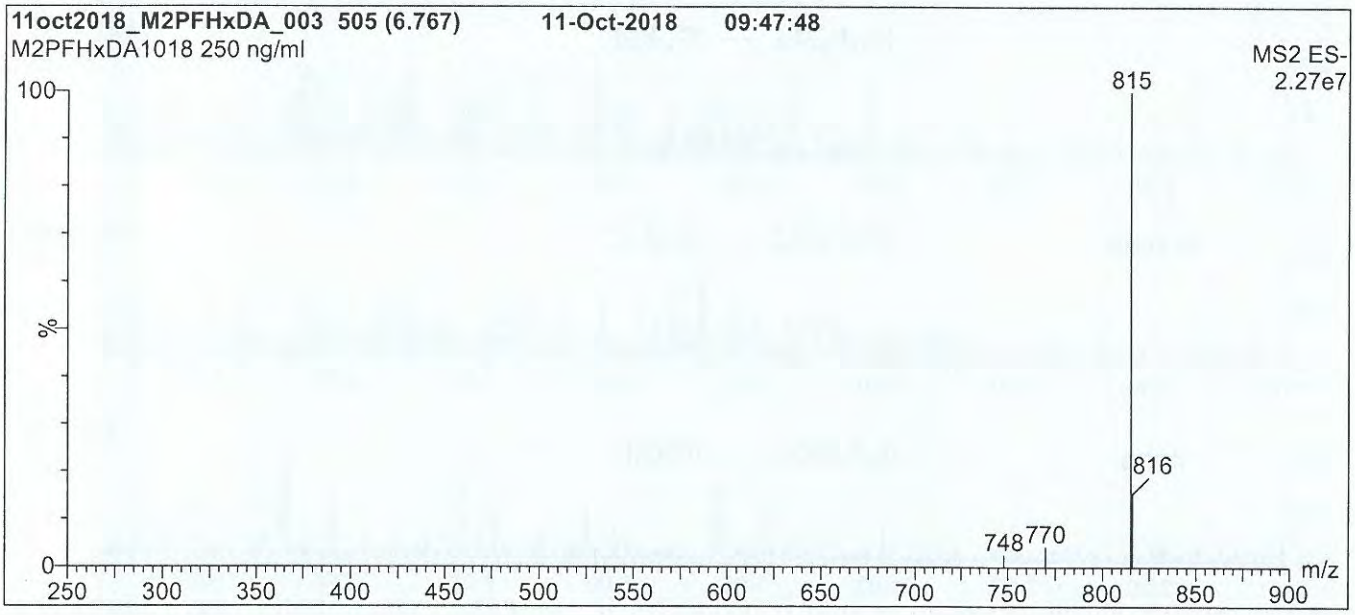
18L2020

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

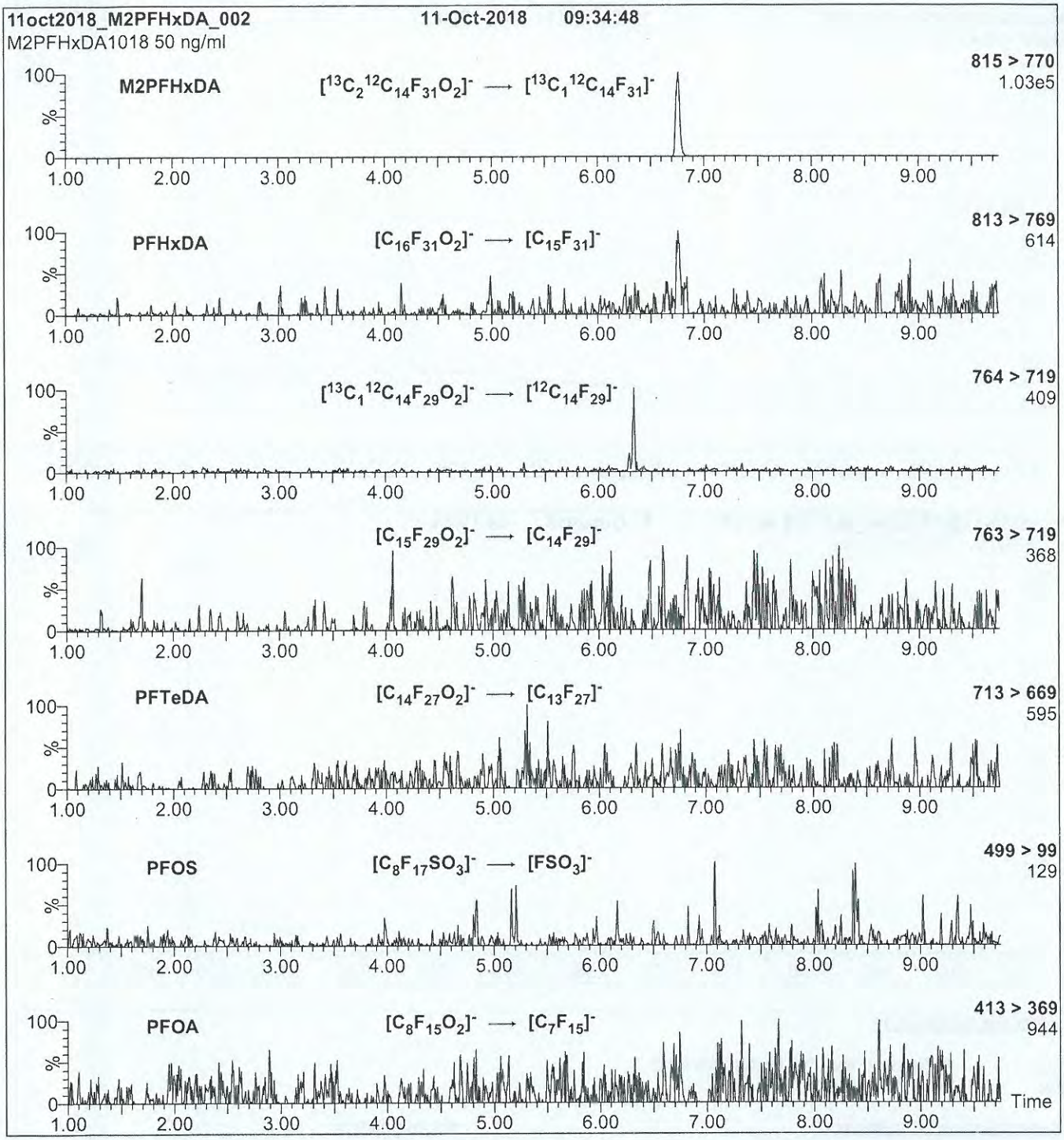
MS Parameters

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

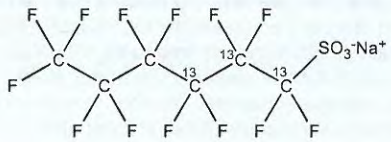
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 15

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).

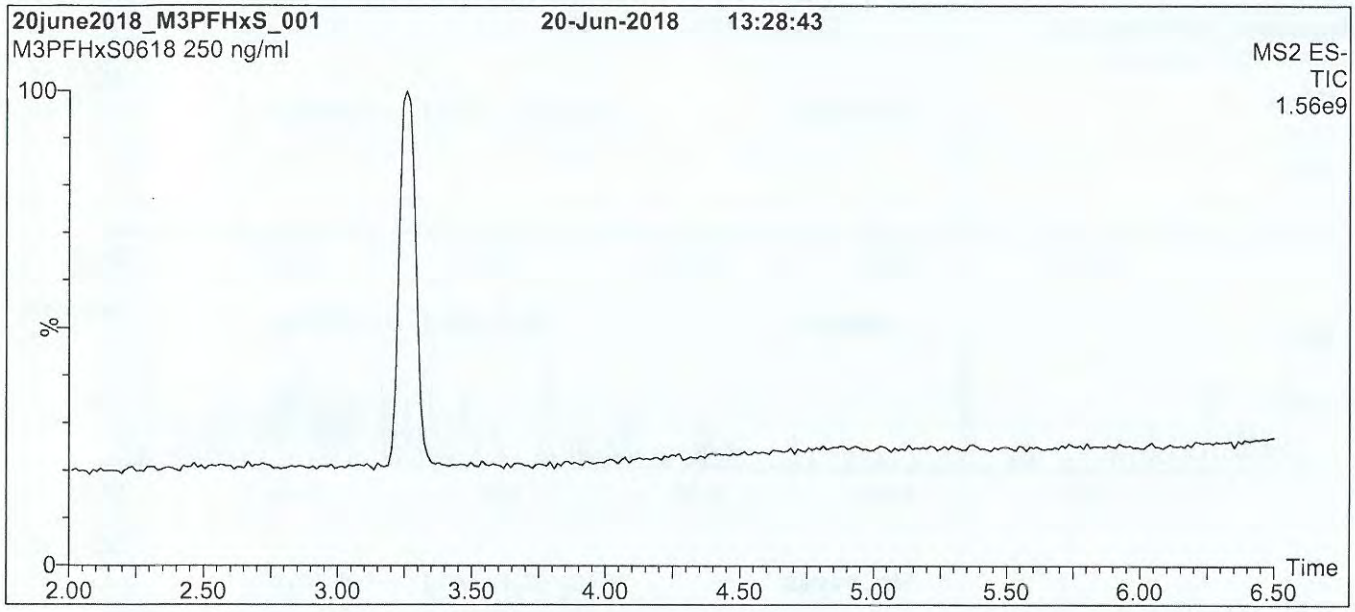
CALA Testing Accreditation No. A 1226

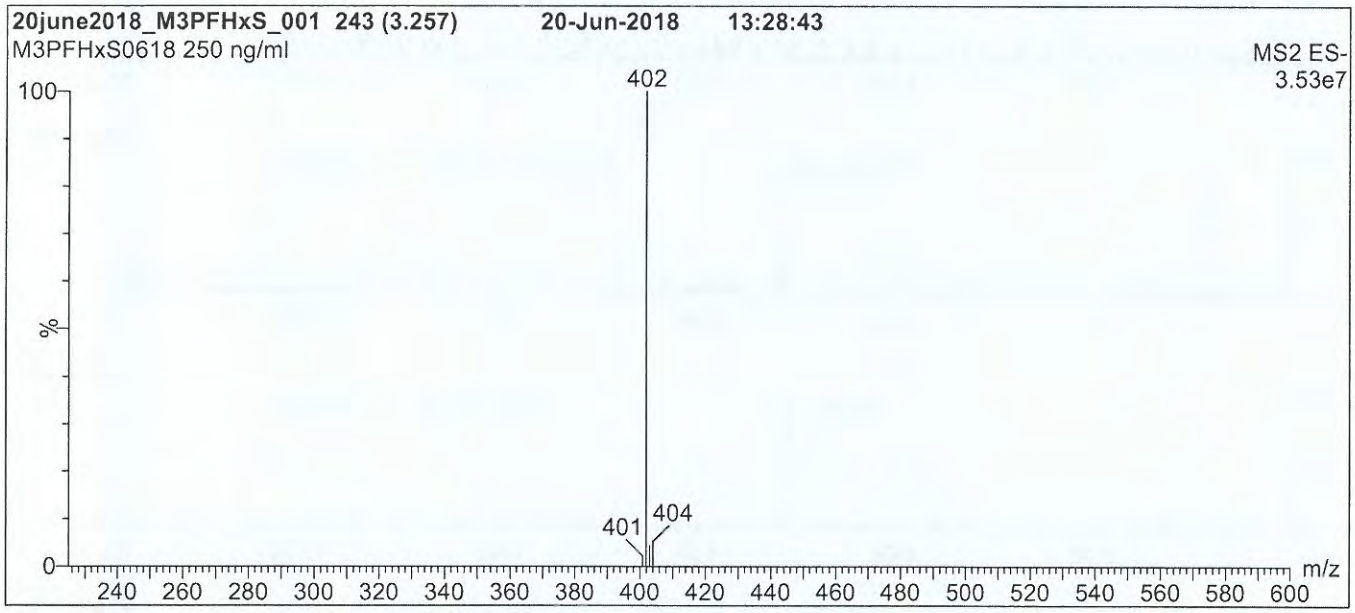
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

1902027

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

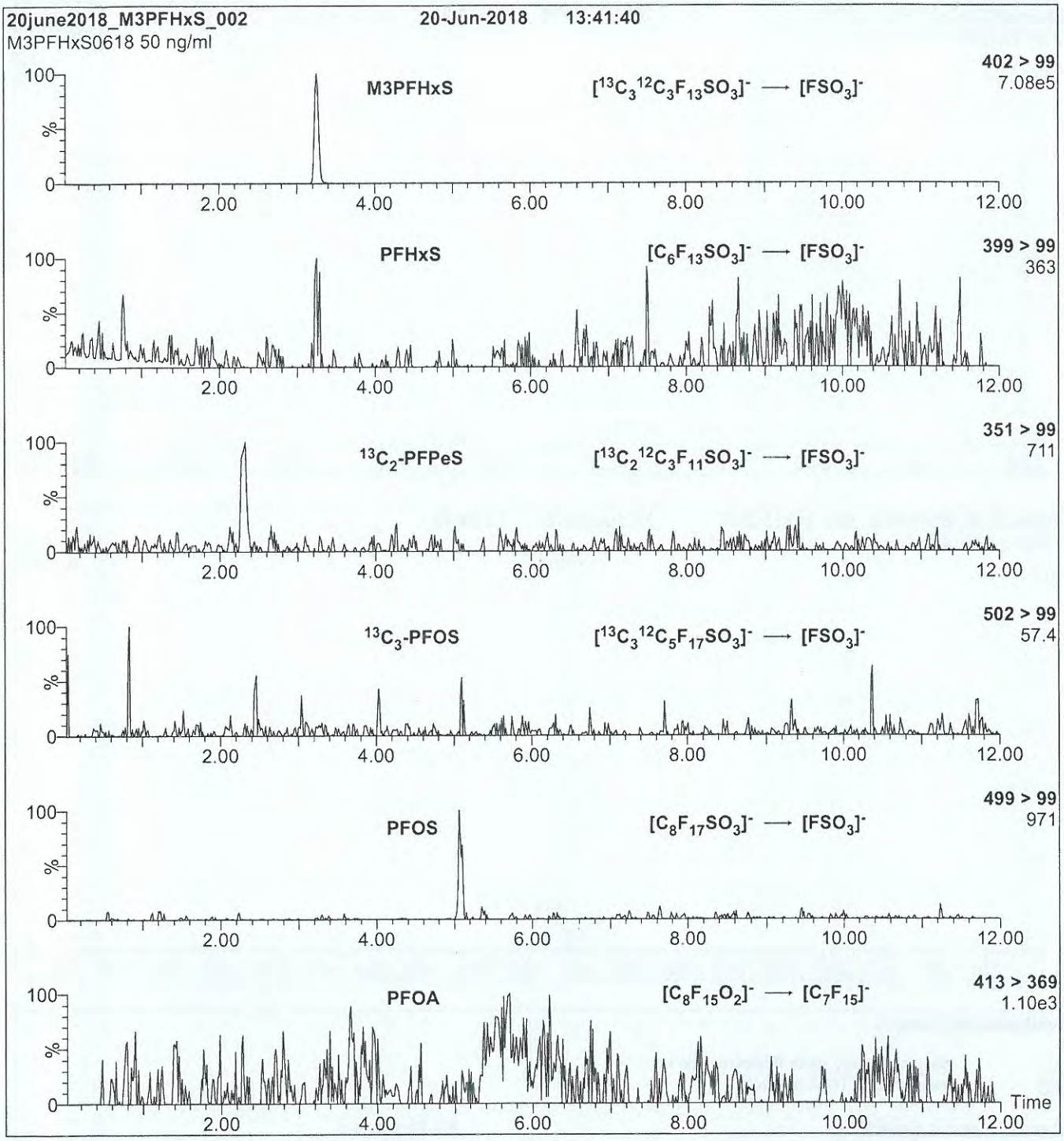
MS Parameters

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

1812027

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

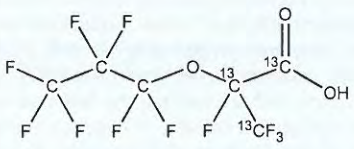
WELLINGTON LABORATORIES

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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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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18L2077

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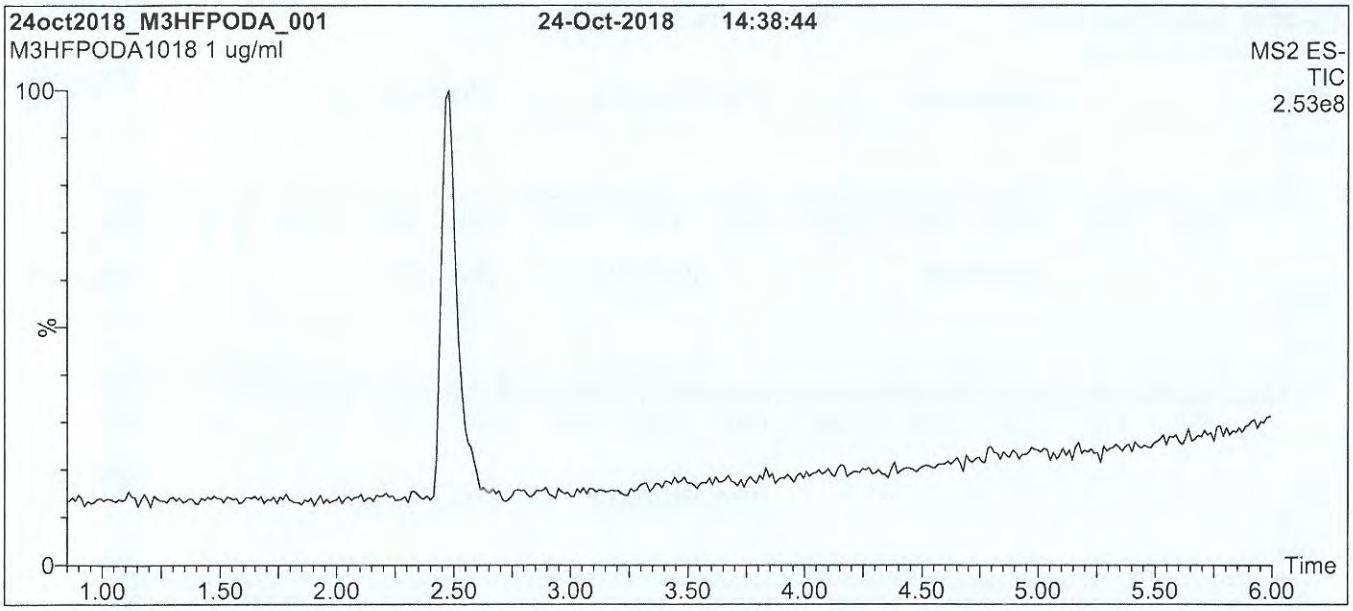
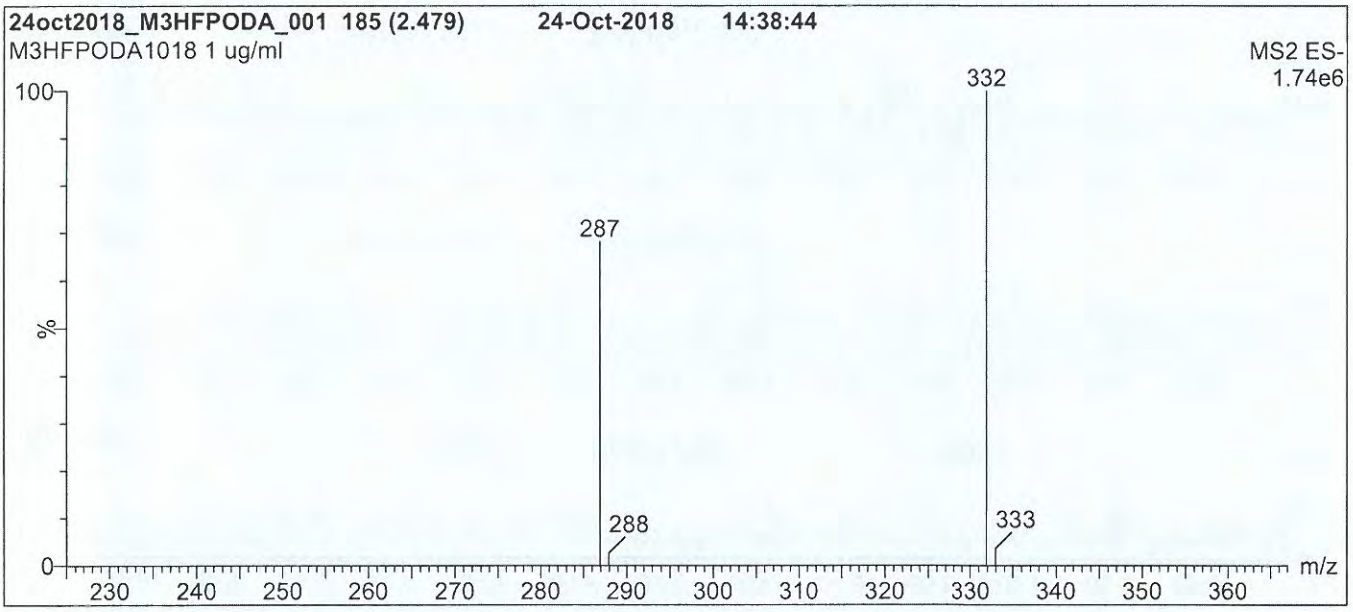




Conditions for Figure 1:

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: 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

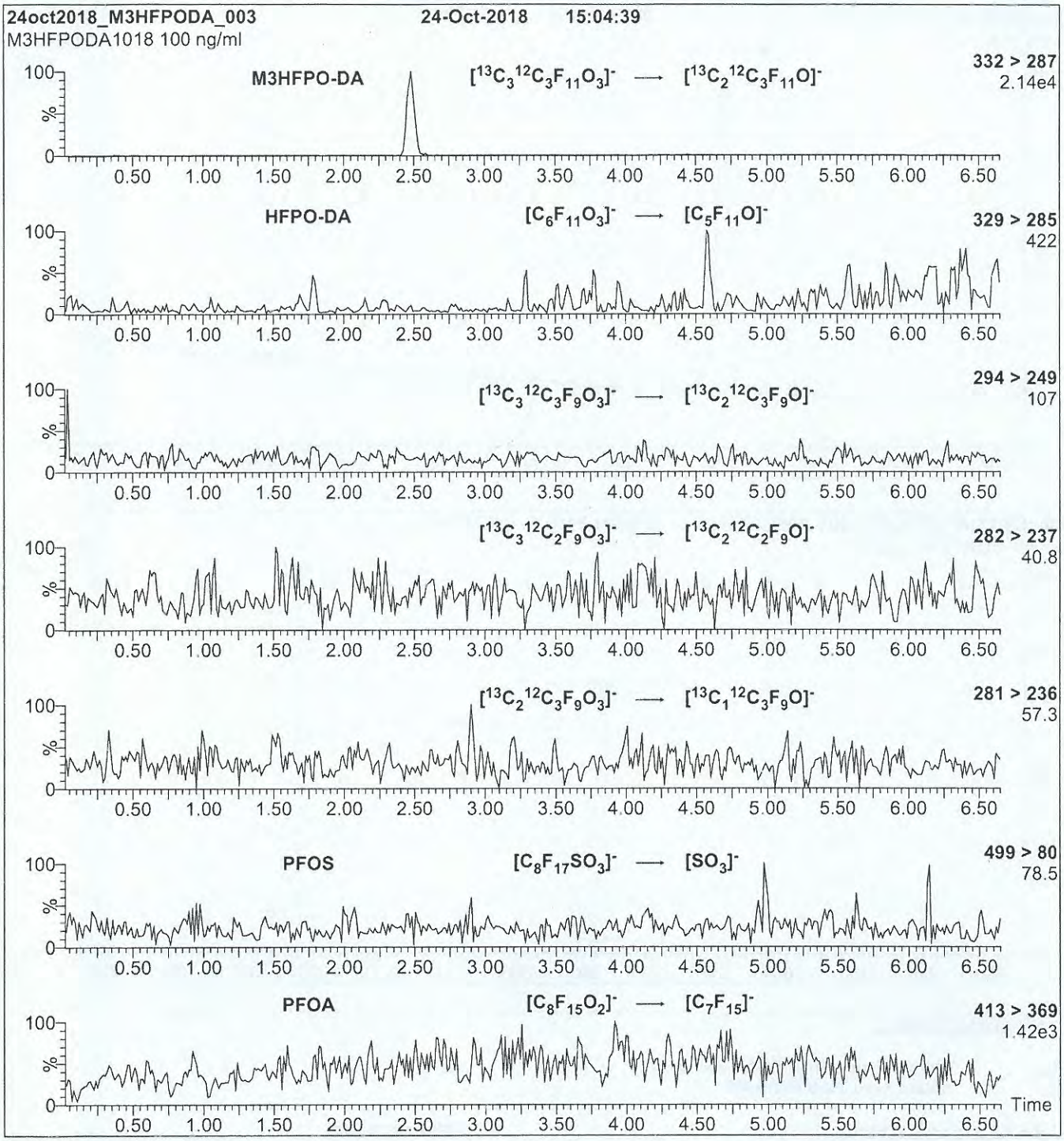
MS Parameters

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

1902077

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

Analytical Standard Record

Vista Analytical Laboratory

19E2204

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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-PFUnA		1	ug/mL
MeFOSA	31506-32-8	5	ug/mL
MeFOSAA	2355-31-9	1	ug/mL
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

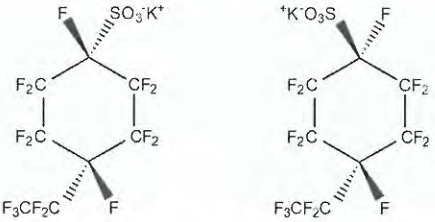
WELLINGTON LABORATORIES

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).

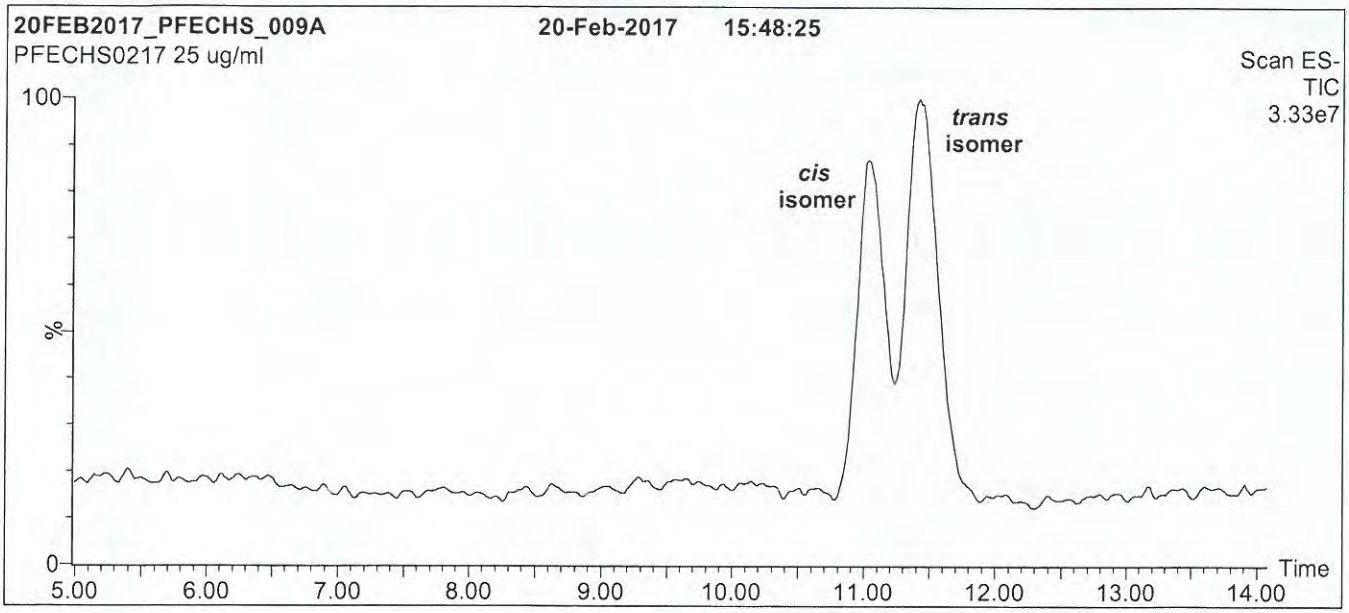
CALA

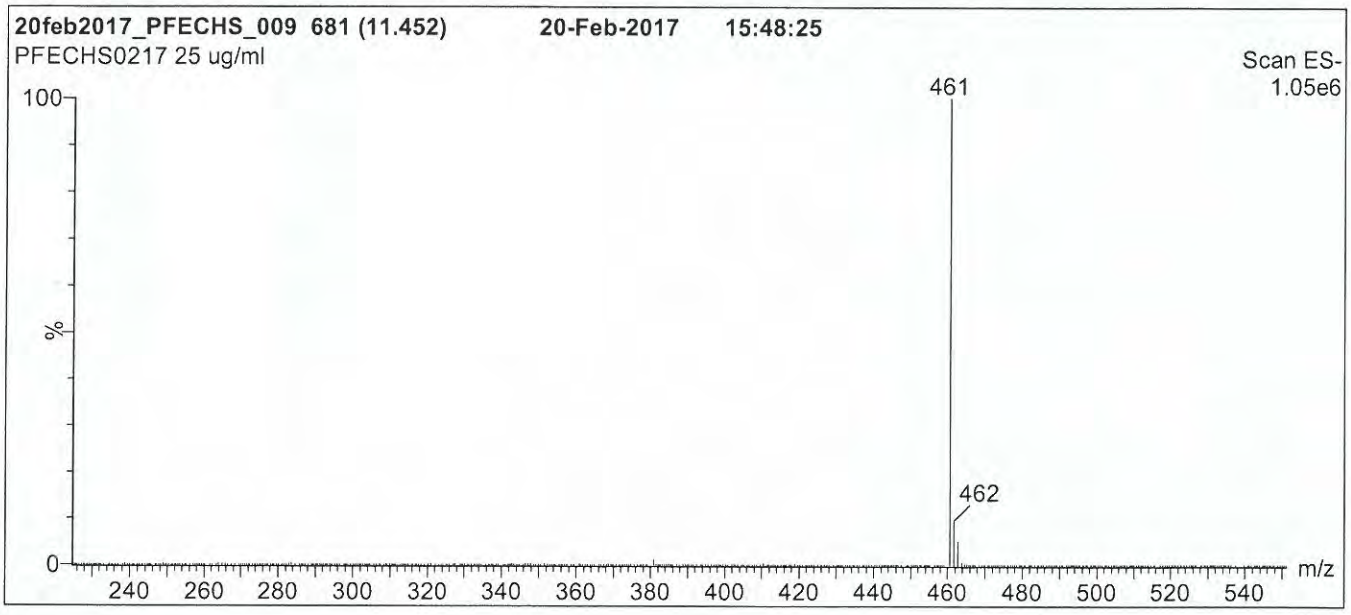
ANAB ACCREDITED

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

1802911

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

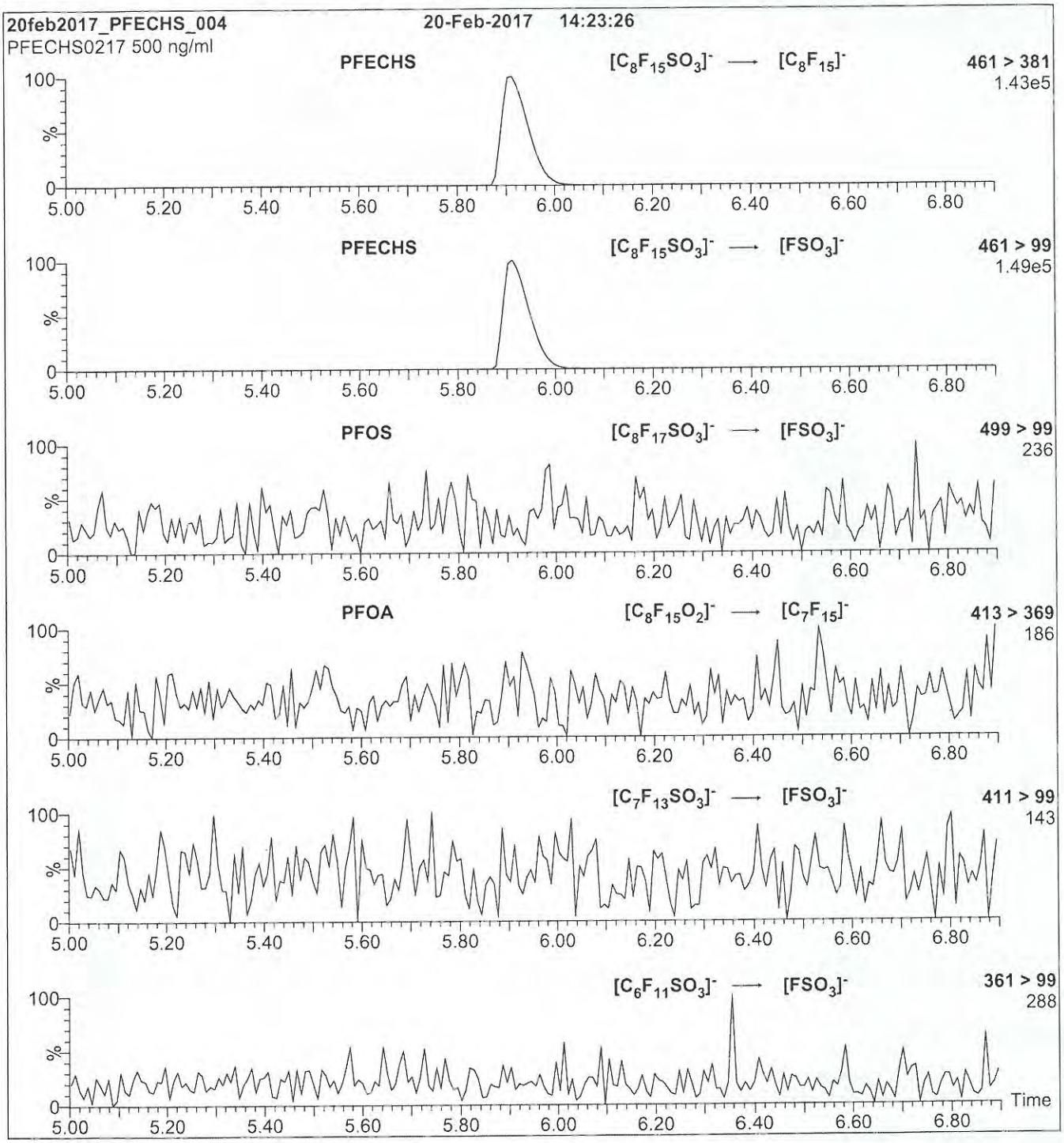
MS Parameters

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

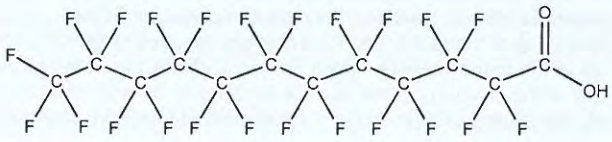
Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 25

18L2034

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFDoA	**LOT NUMBER:**	PFDoA0418
COMPOUND:	Perfluoro-n-dodecanoic acid		
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:

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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:

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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:

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. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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18L2034

Figure 1: **PFDoA; LC/MS Data (SIR)**

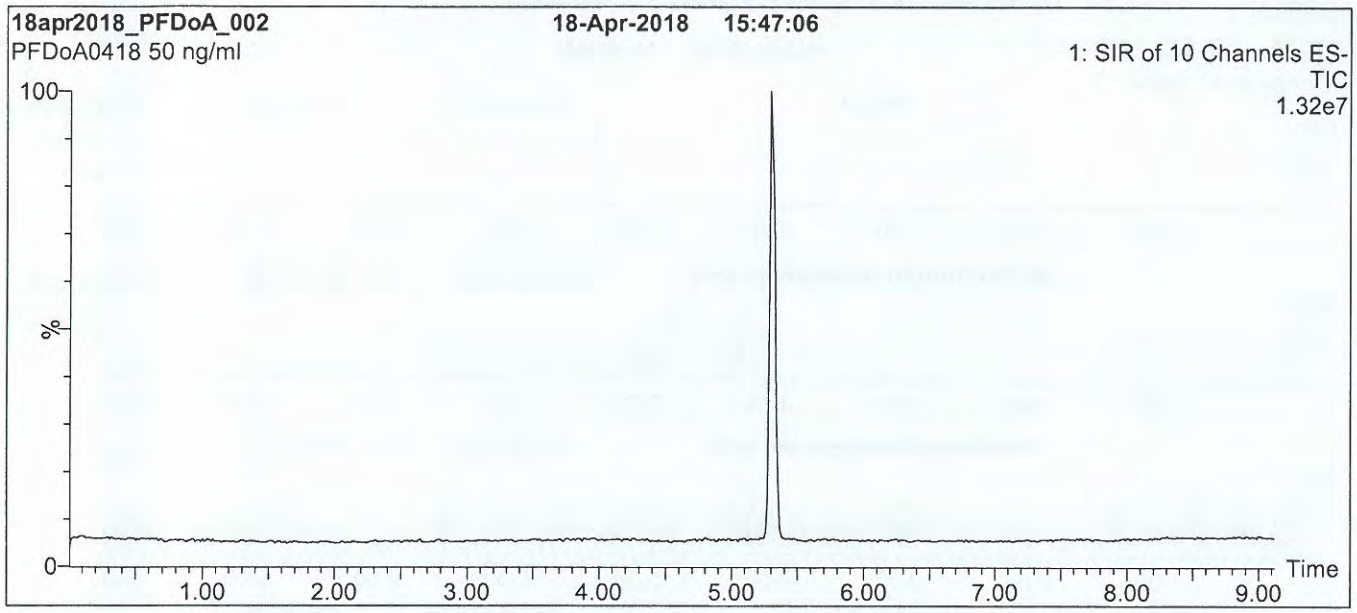
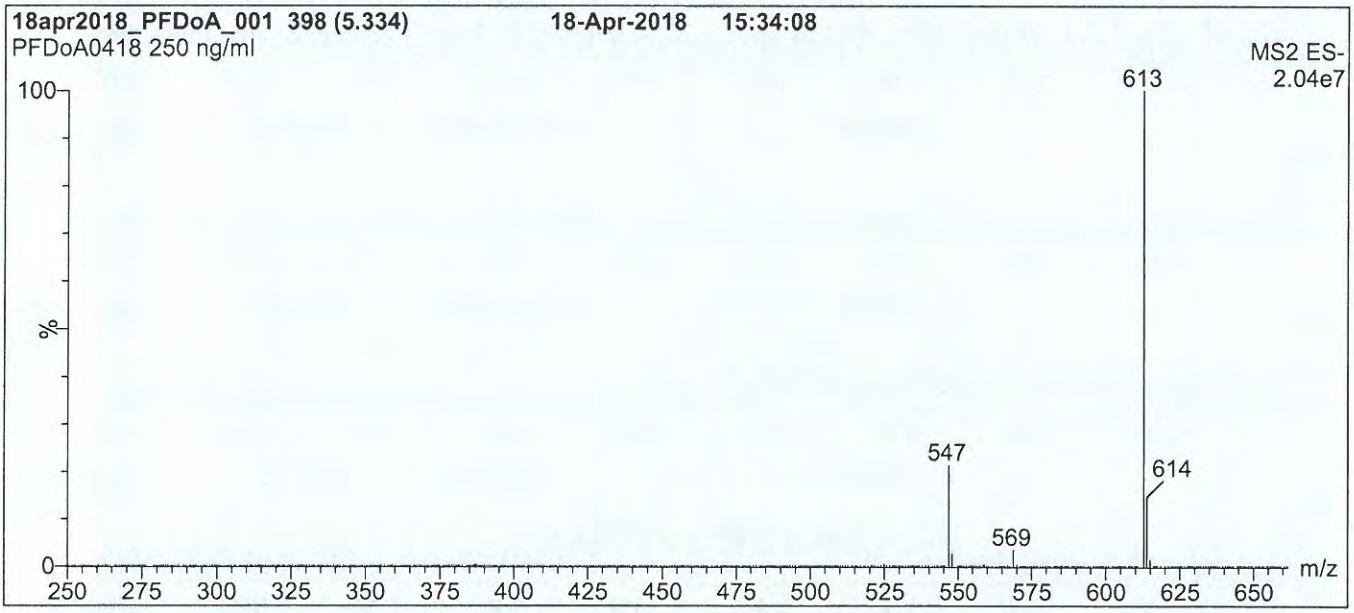


Figure 2: **PFDoA; LC/MS Data (Mass Spectrum)**



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

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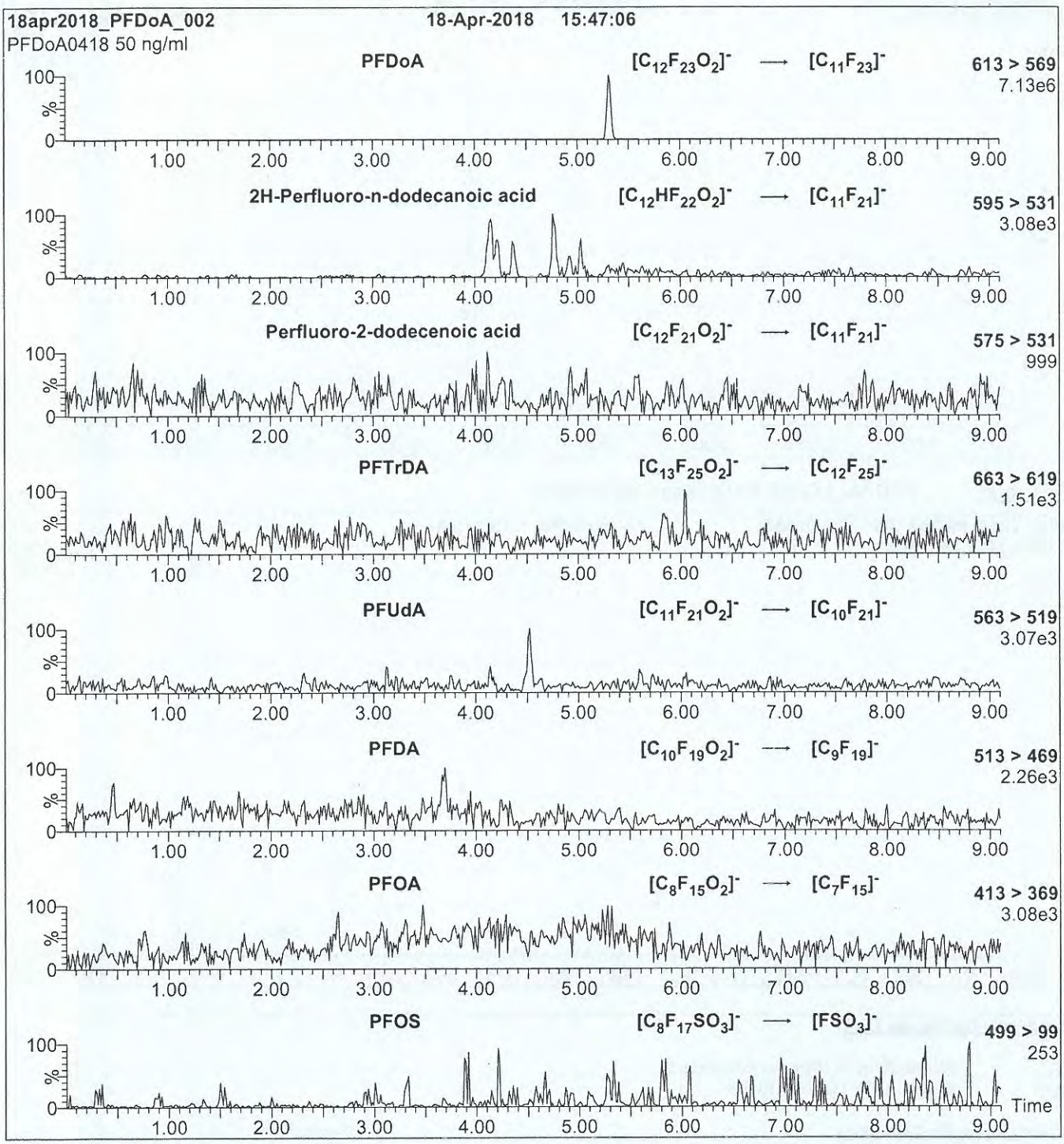
Figure 3: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



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

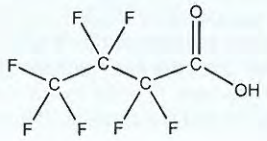
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFBA
COMPOUND: Perfluoro-n-butanoic acid

LOT NUMBER: PFBA1118

STRUCTURE:

CAS #: 375-22-4



MOLECULAR FORMULA: $C_4HF_7O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 214.04
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

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TRACEABILITY:

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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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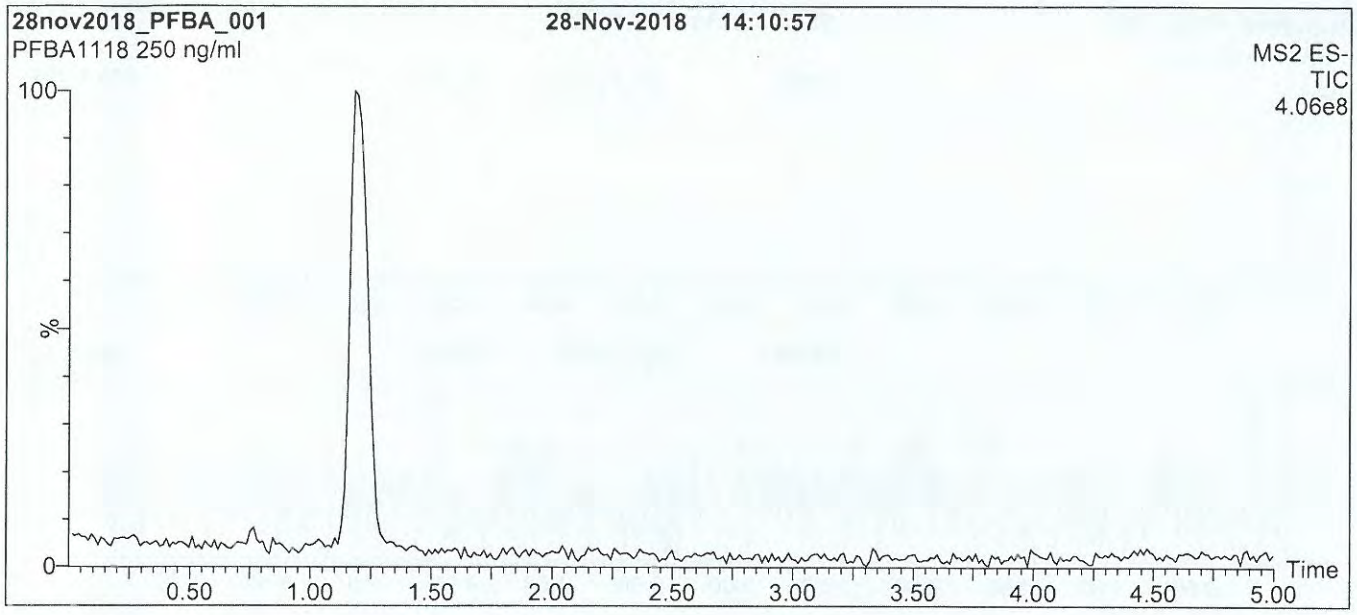
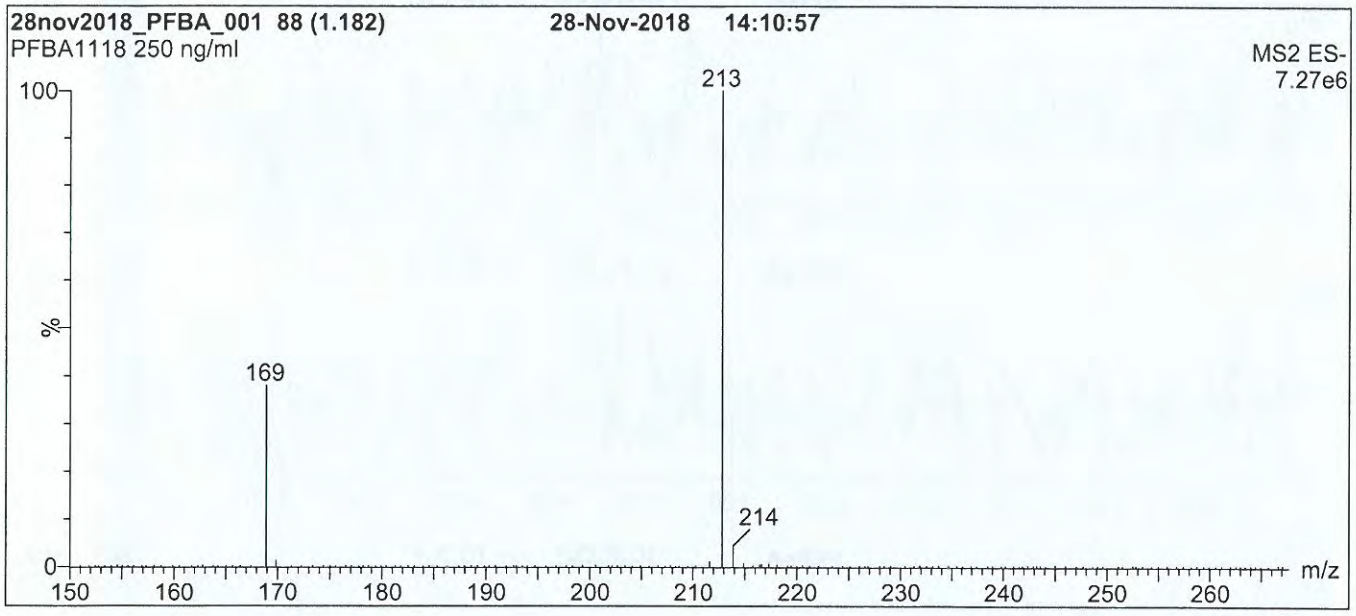
Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





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

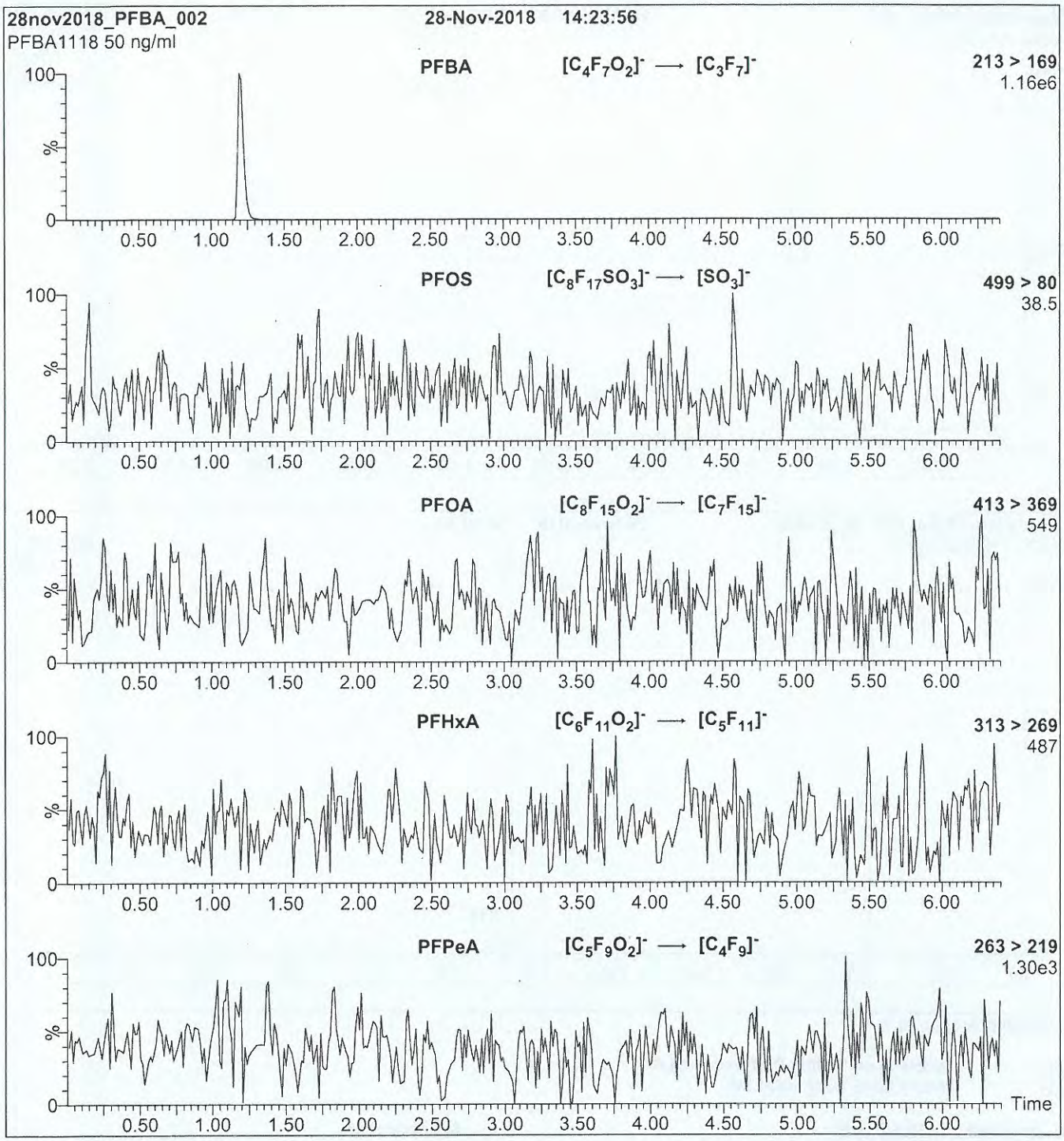
MS Parameters

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

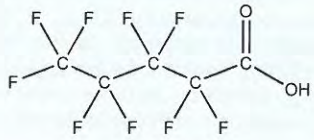
Collision Gas (mbar) = 2.79e-3
Collision Energy (eV) = 8

1812036

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFPeA	**LOT NUMBER:**	PFPeA0218
COMPOUND:	Perfluoro-n-pentanoic acid		
STRUCTURE:		**CAS #:**	2706-90-3



MOLECULAR FORMULA:	$C_5HF_9O_2$	**MOLECULAR WEIGHT:**	264.05
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 ~ 0.3% 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).

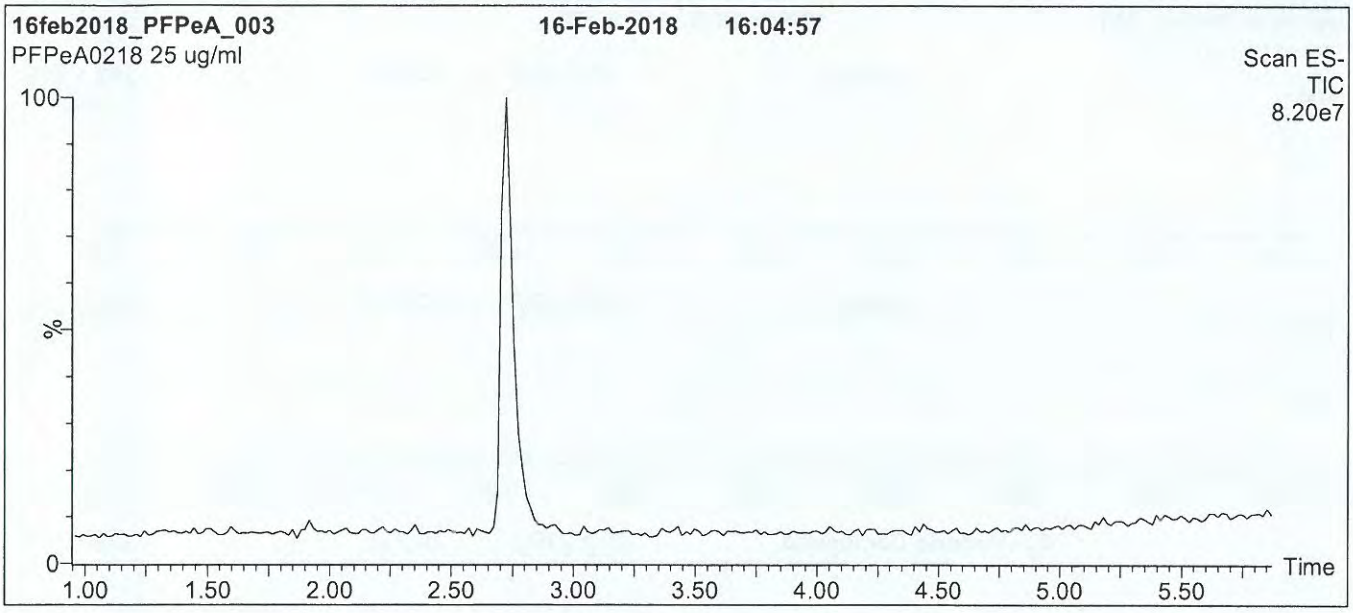
CALA Testing Accreditation No. A 1226

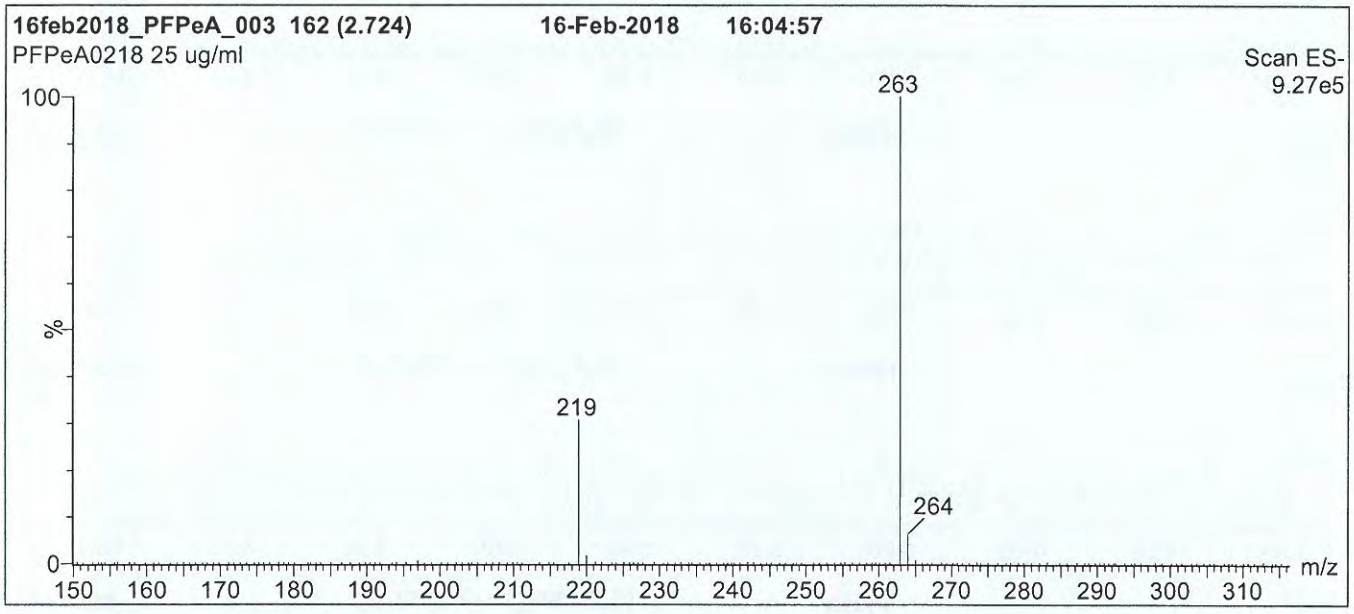
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

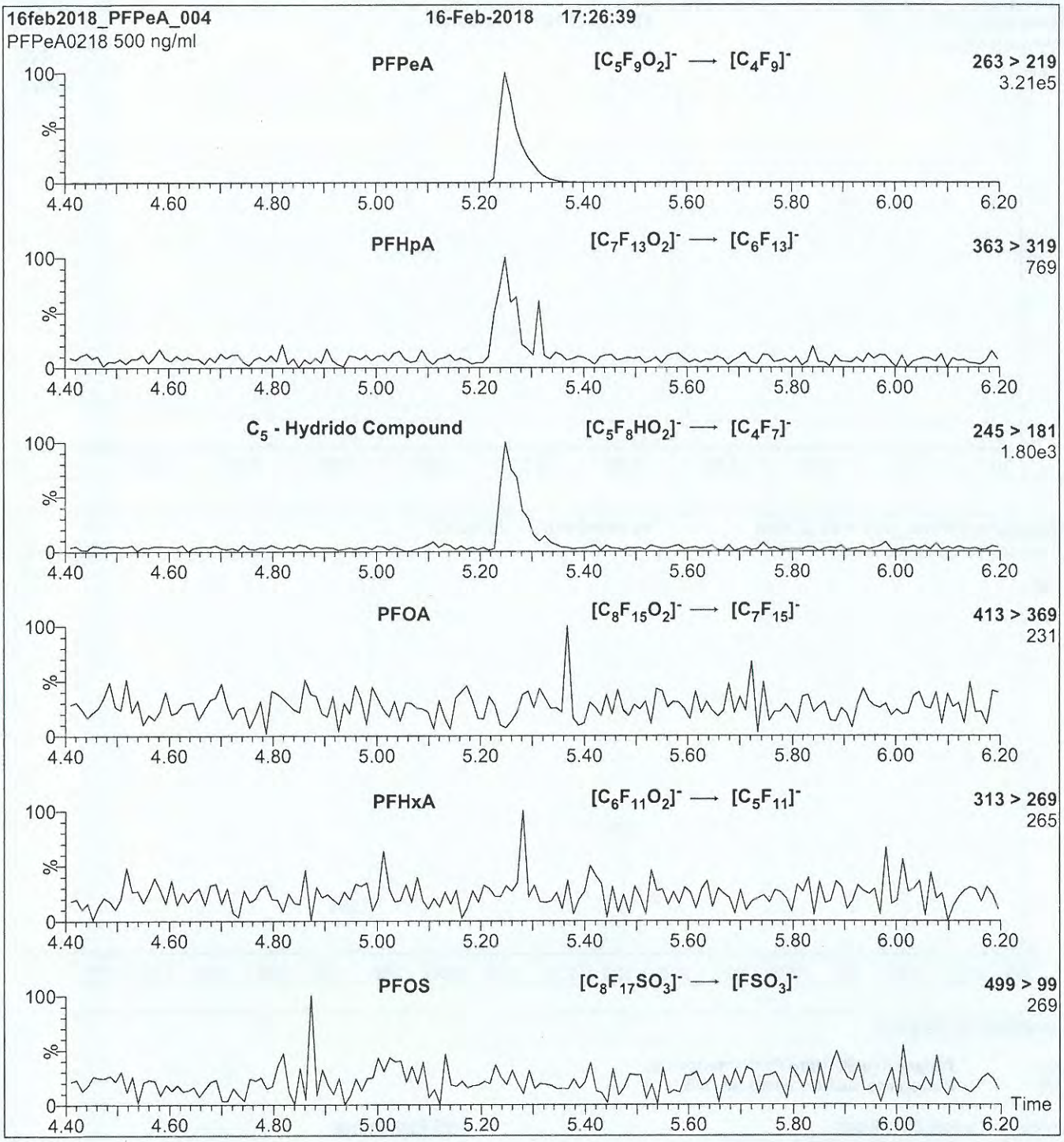
MS Parameters

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

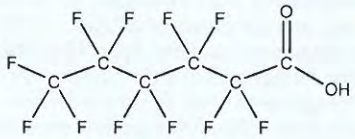
Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 9

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

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SYNTHESIS / CHARACTERIZATION:

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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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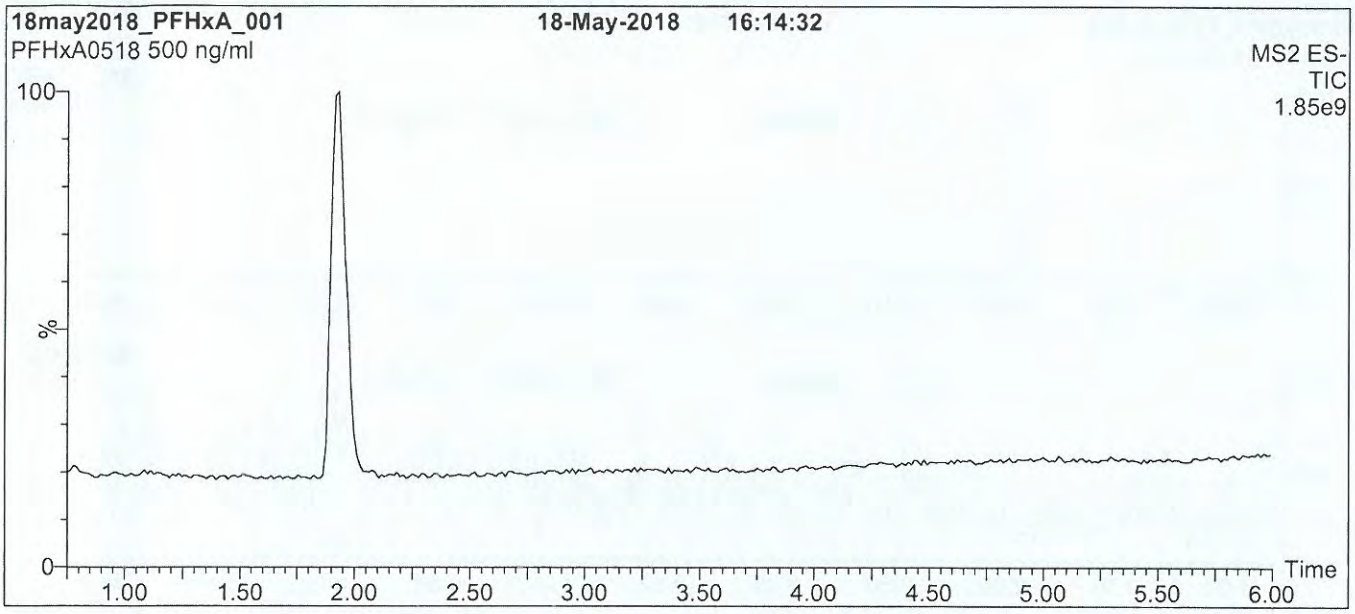
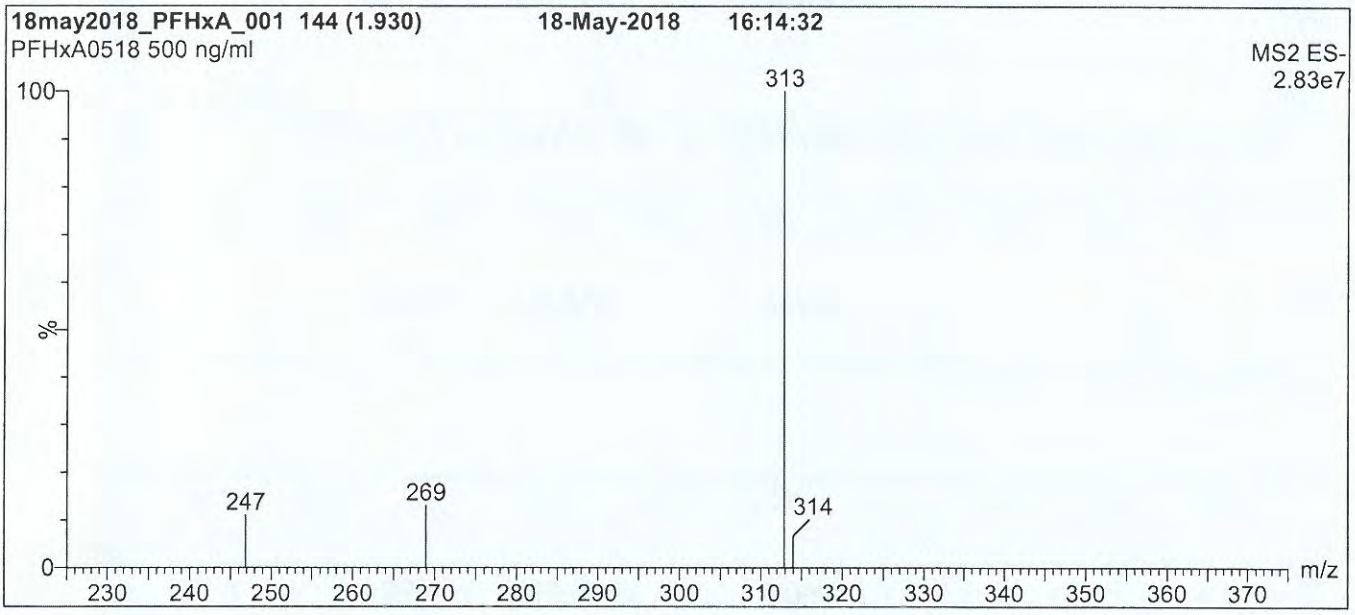
1812037

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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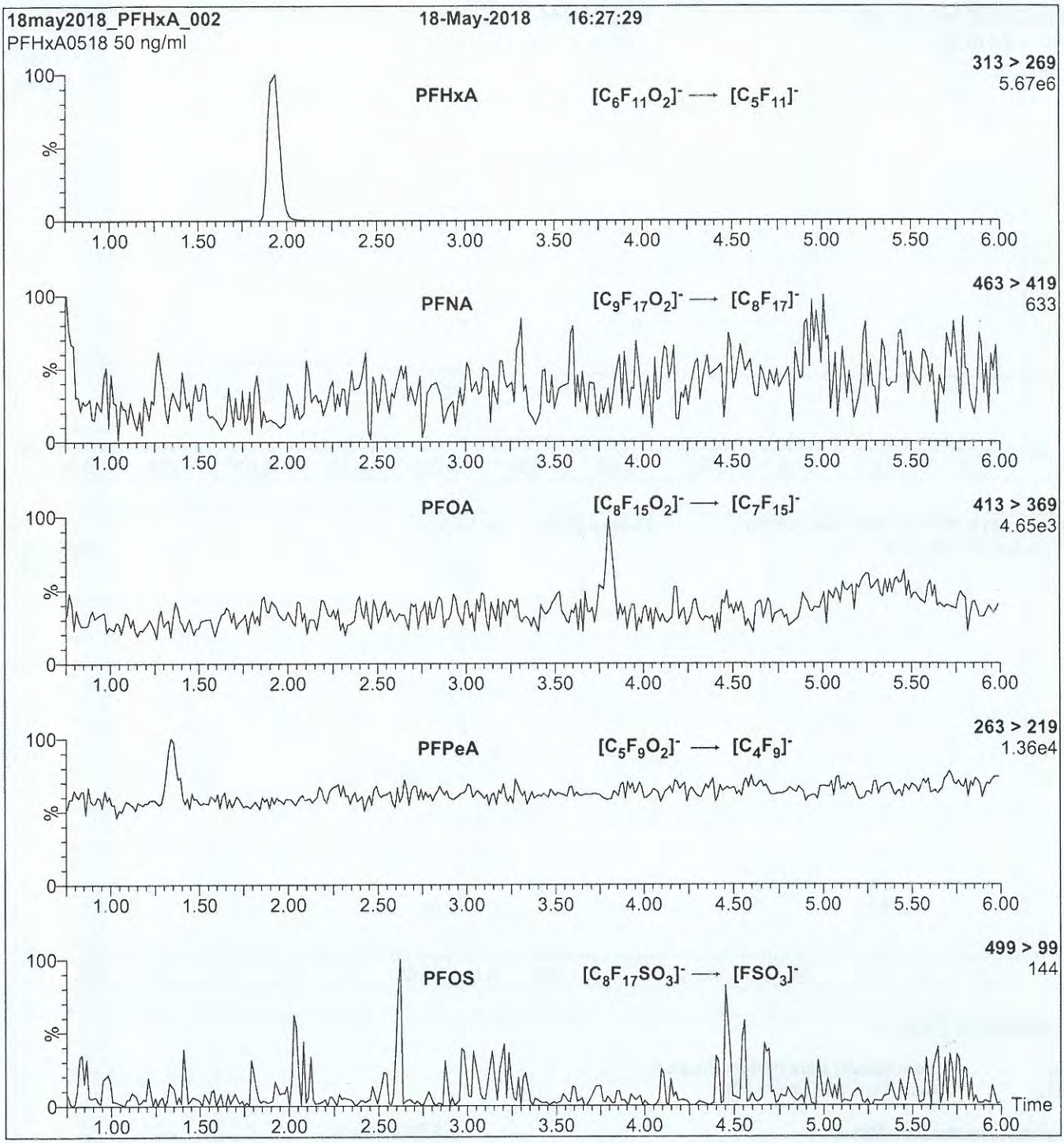
Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

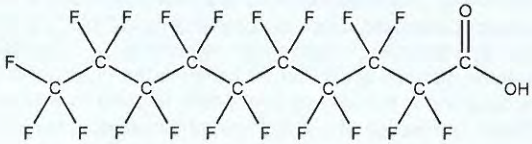
Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 8

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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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:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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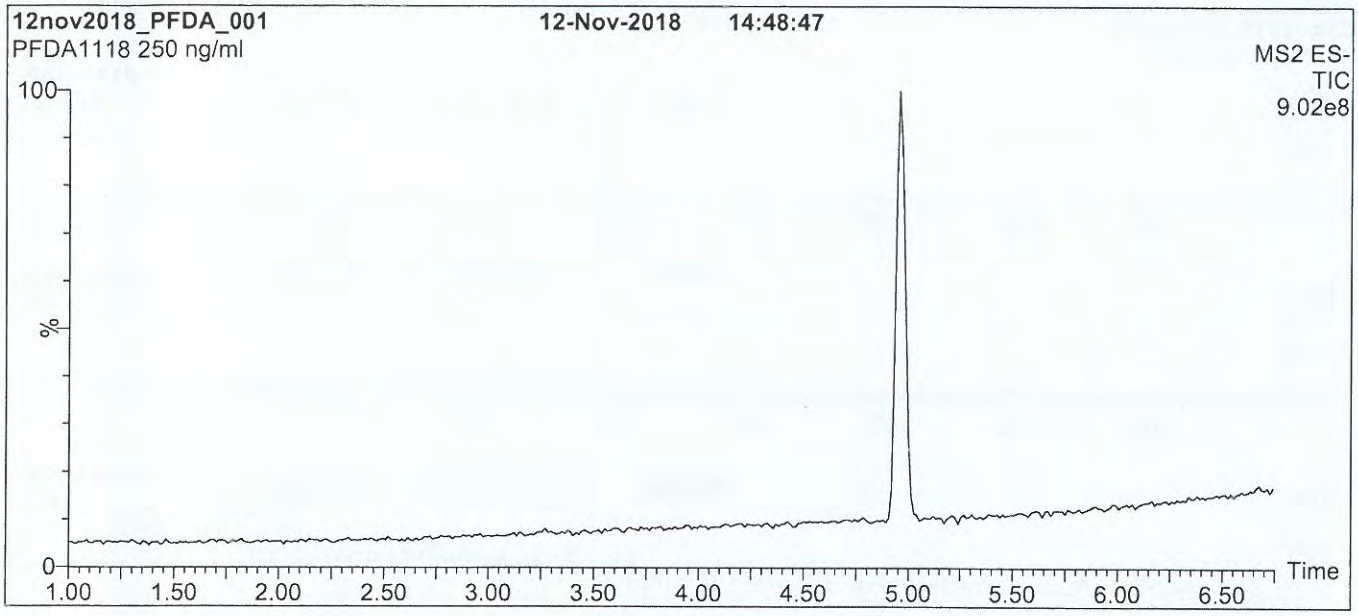
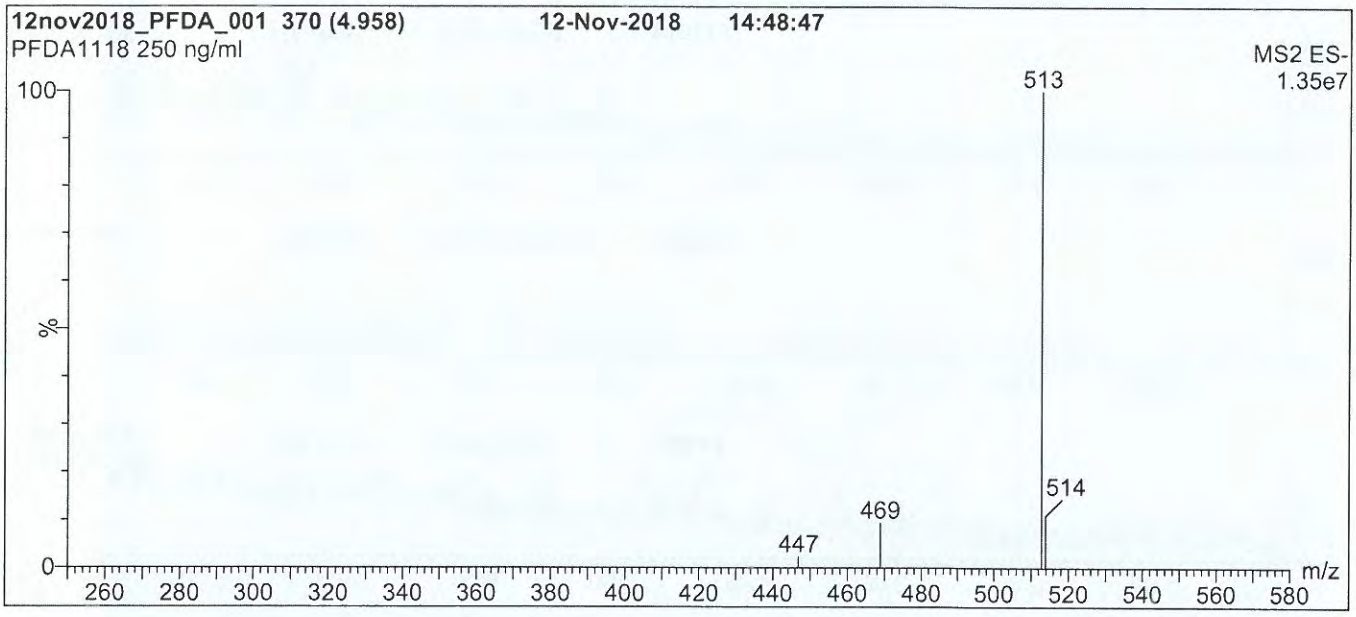
1812038

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

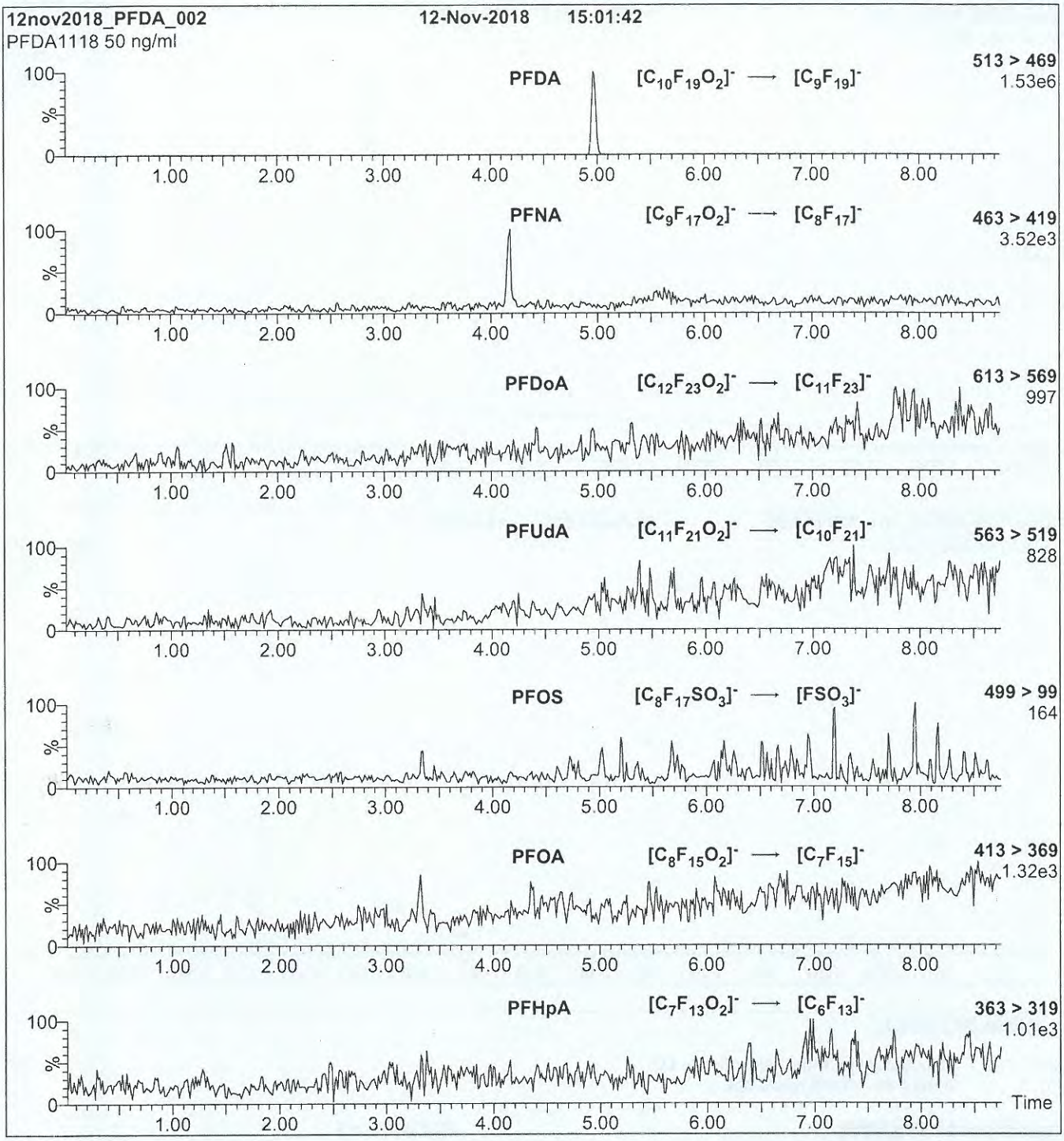
MS Parameters

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

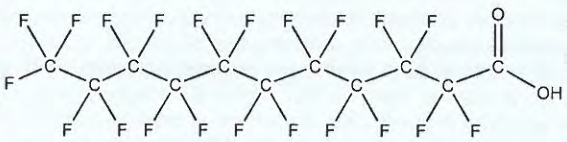
WELLINGTON LABORATORIES

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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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).

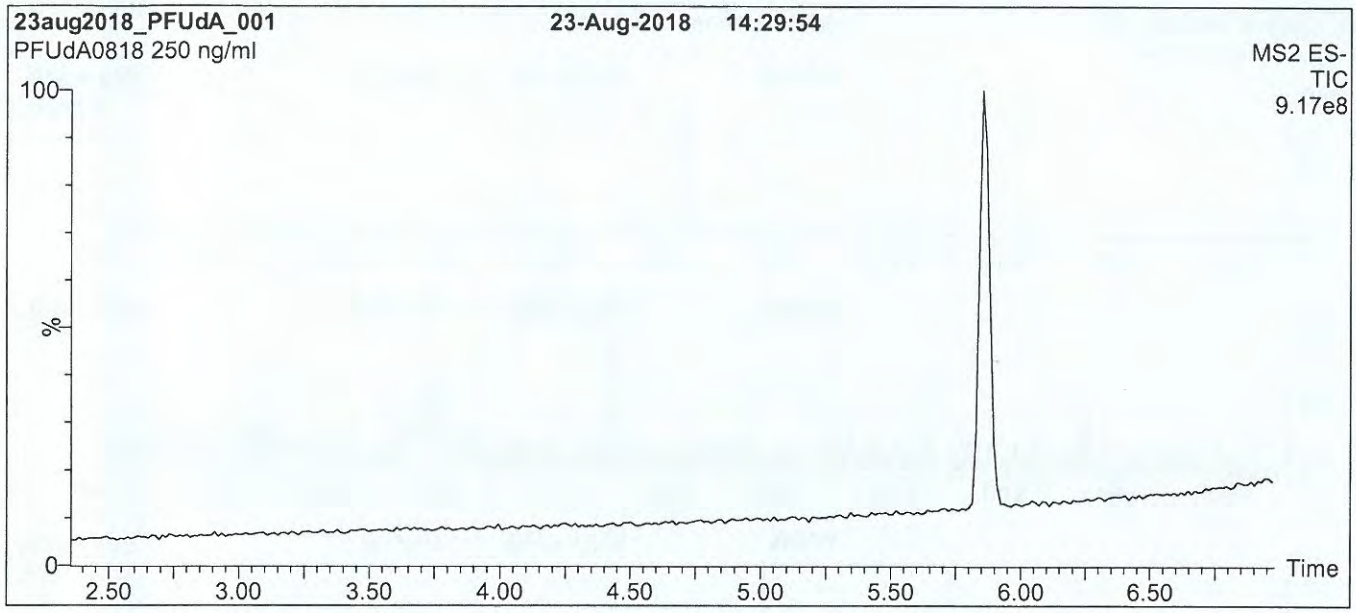
CALA Testing Accreditation No. A 1226

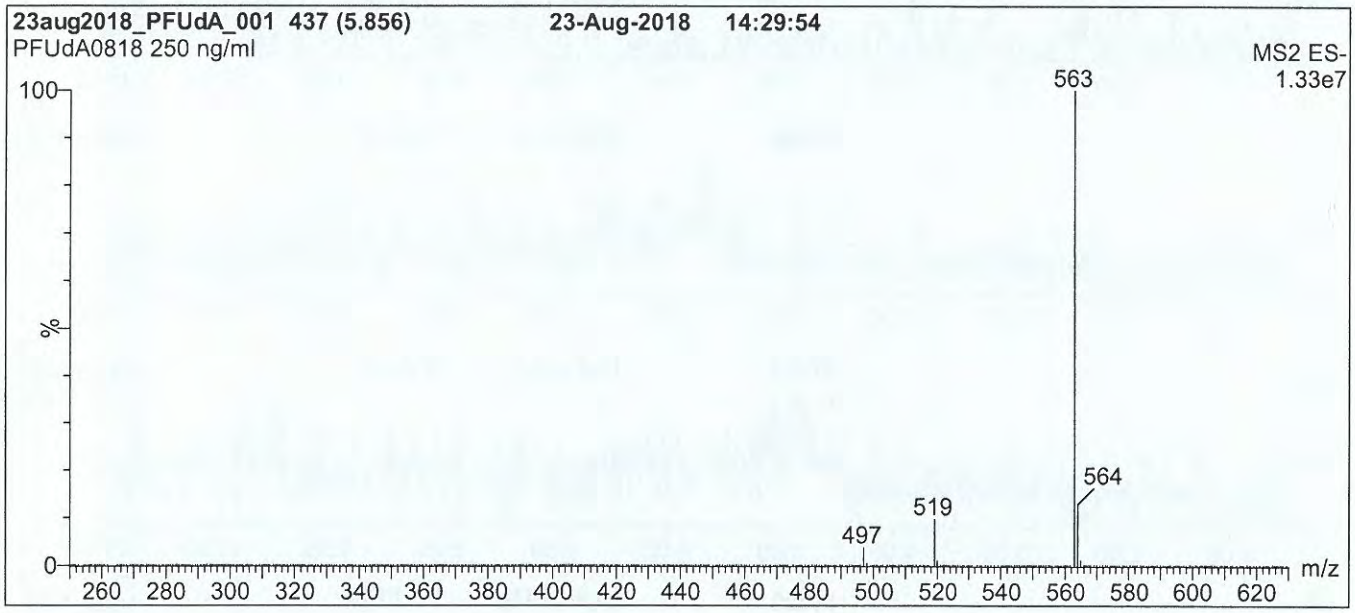
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

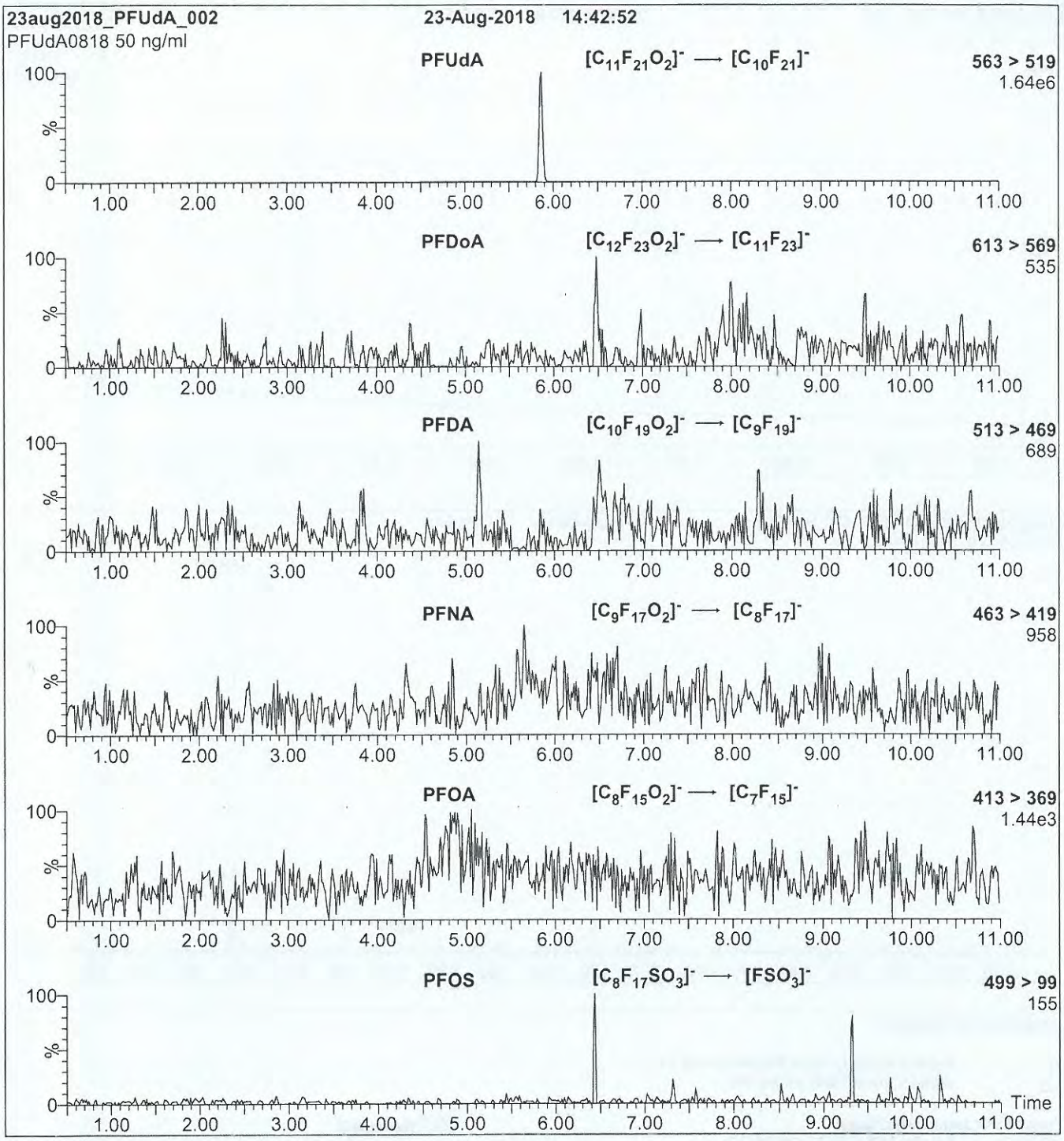
MS Parameters

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

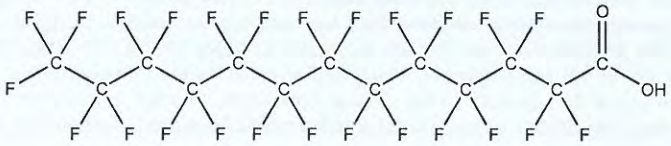
18L2040

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFTrDA
COMPOUND: Perfluoro-n-tridecanoic acid
LOT NUMBER: PFTrDA0218

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 $x_1, x_2, \ldots x_n$ 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:

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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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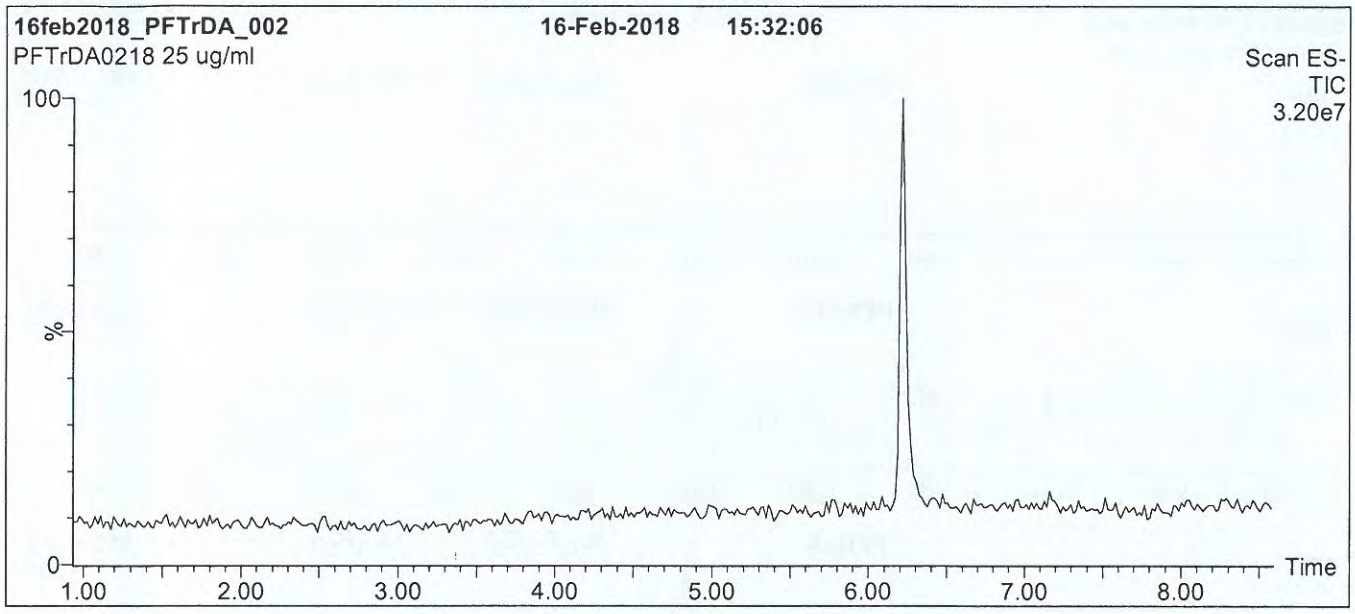
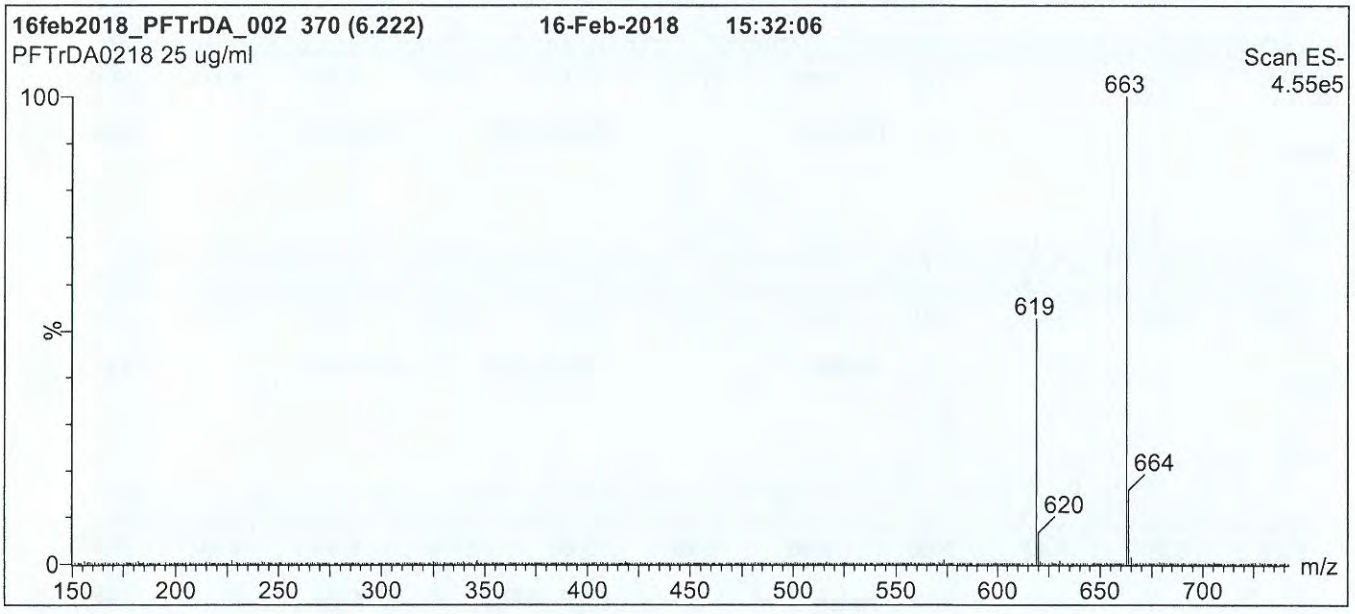
18L2040

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

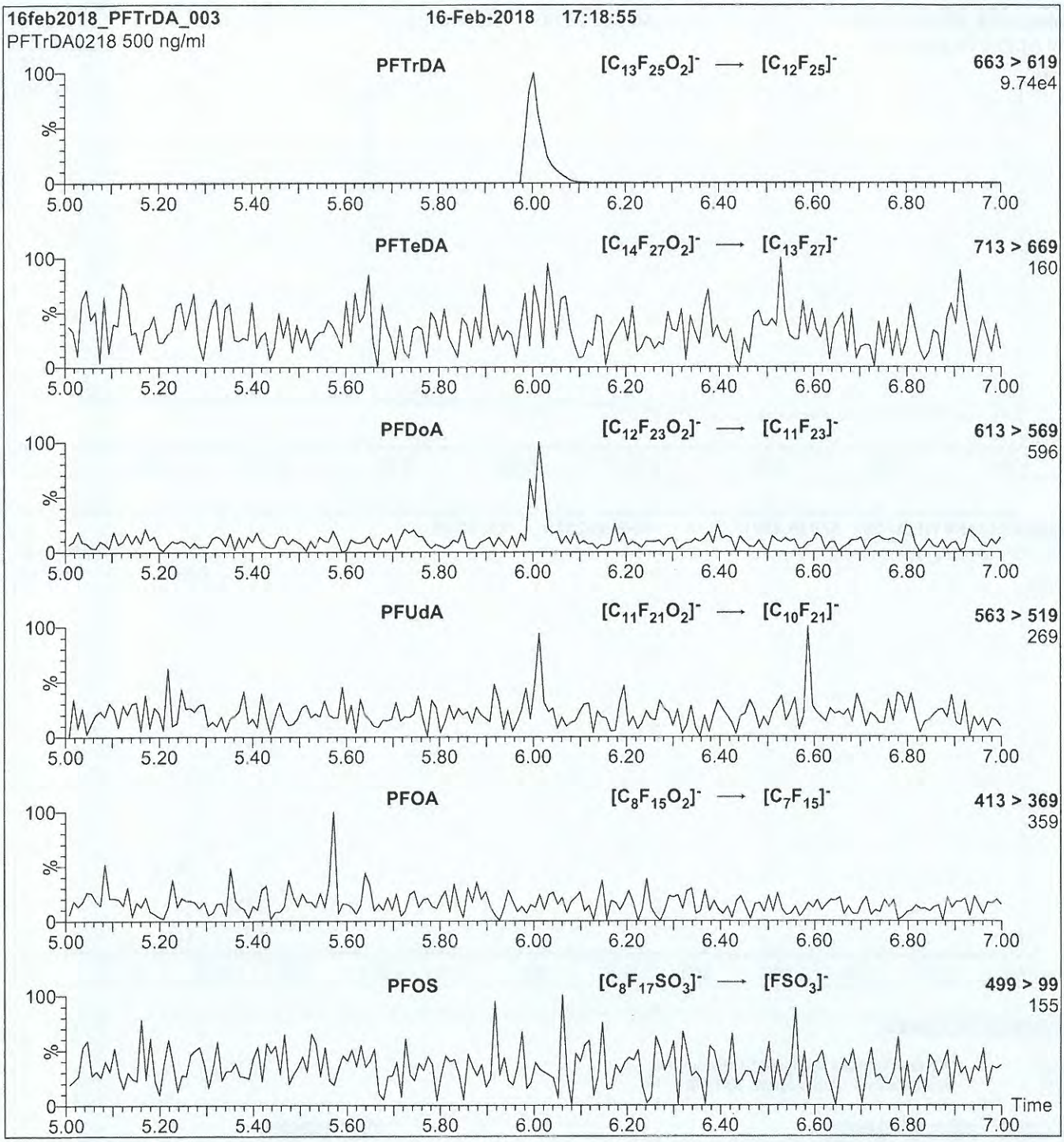
MS Parameters

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

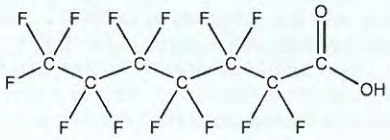
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA0718

STRUCTURE:

CAS #: 375-85-9



MOLECULAR FORMULA: $C_7HF_{13}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 364.06
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:

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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:

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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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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:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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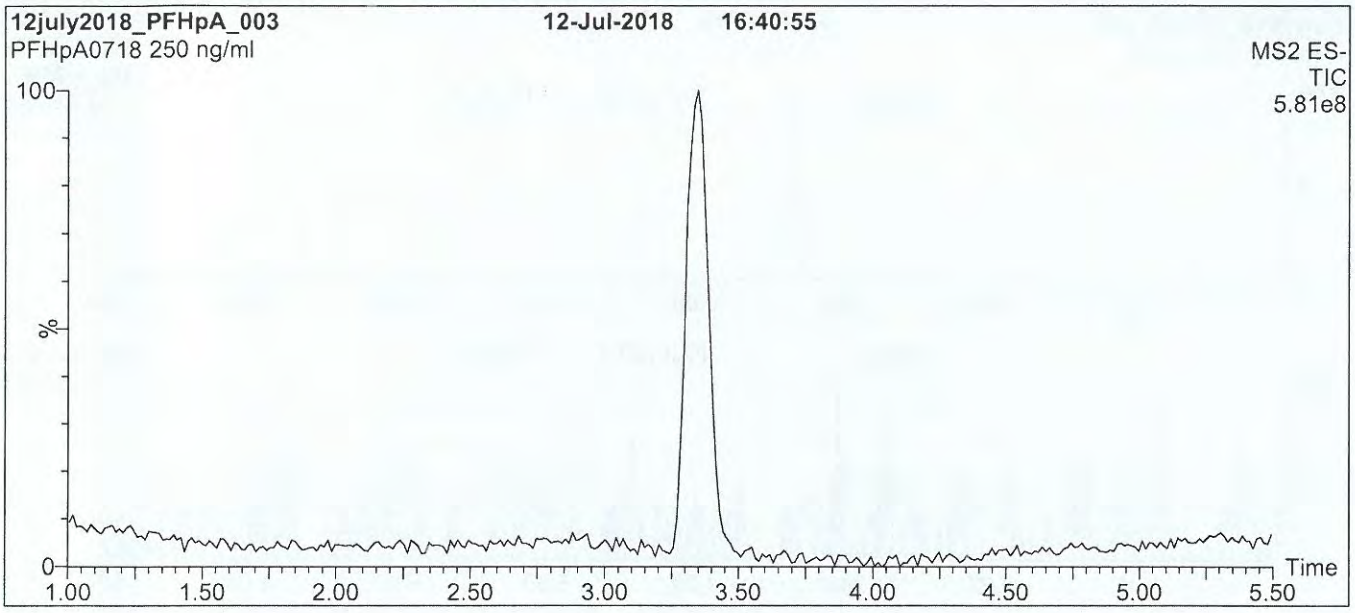
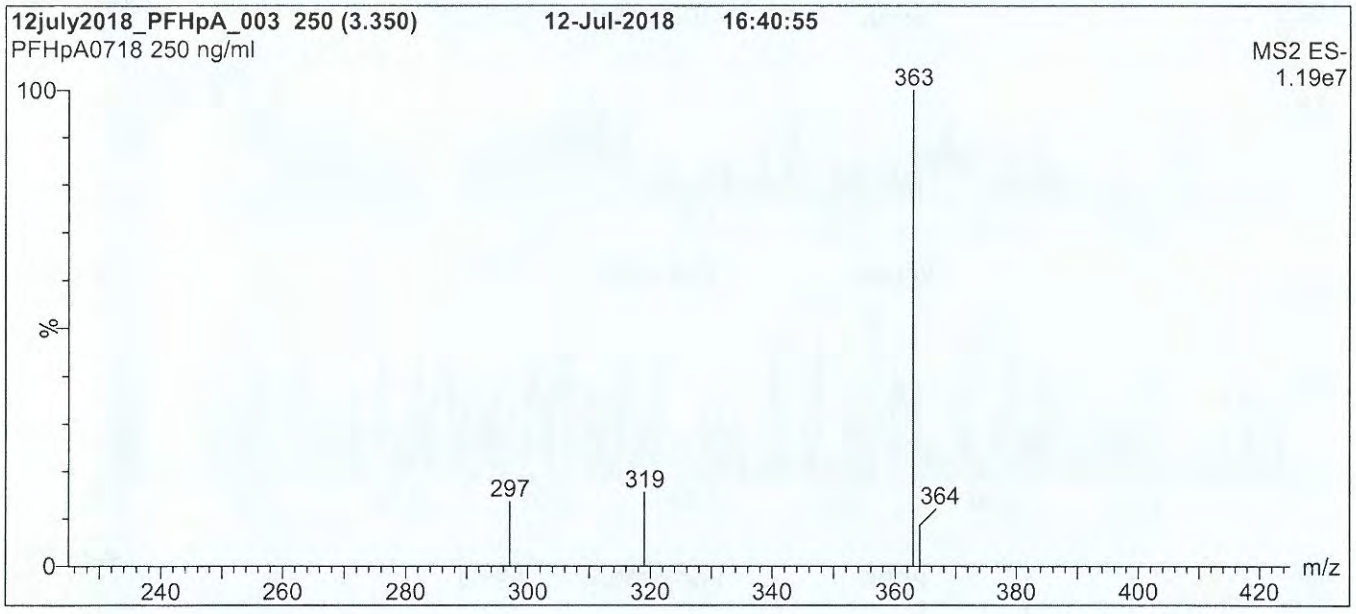
18L2041

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

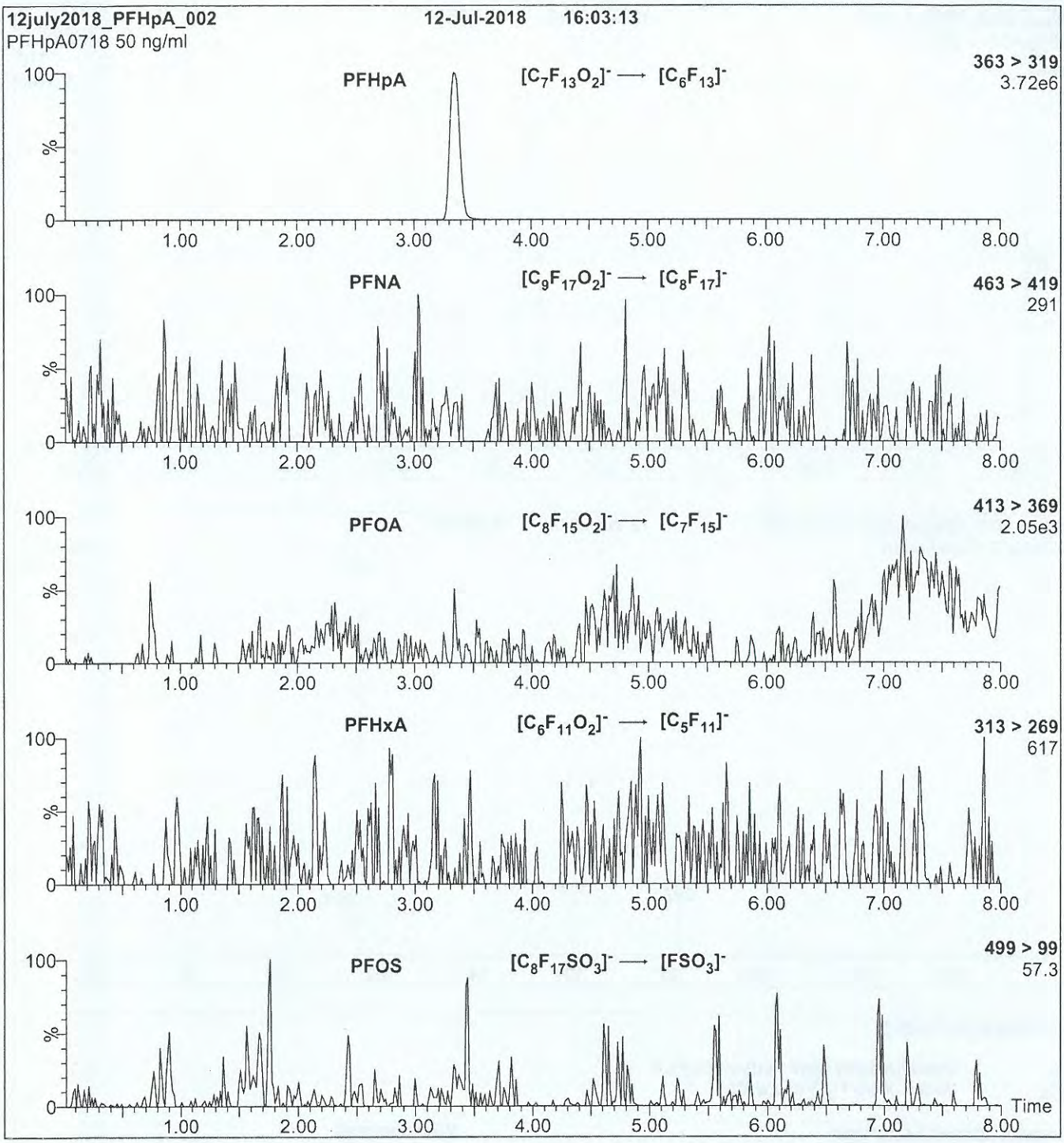
MS Parameters

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

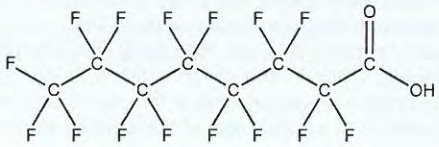
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFOA
COMPOUND: Perfluoro-n-octanoic acid

LOT NUMBER: PFOA0818

STRUCTURE:

CAS #: 335-67-1



MOLECULAR FORMULA: $C_8HF_{15}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 414.07
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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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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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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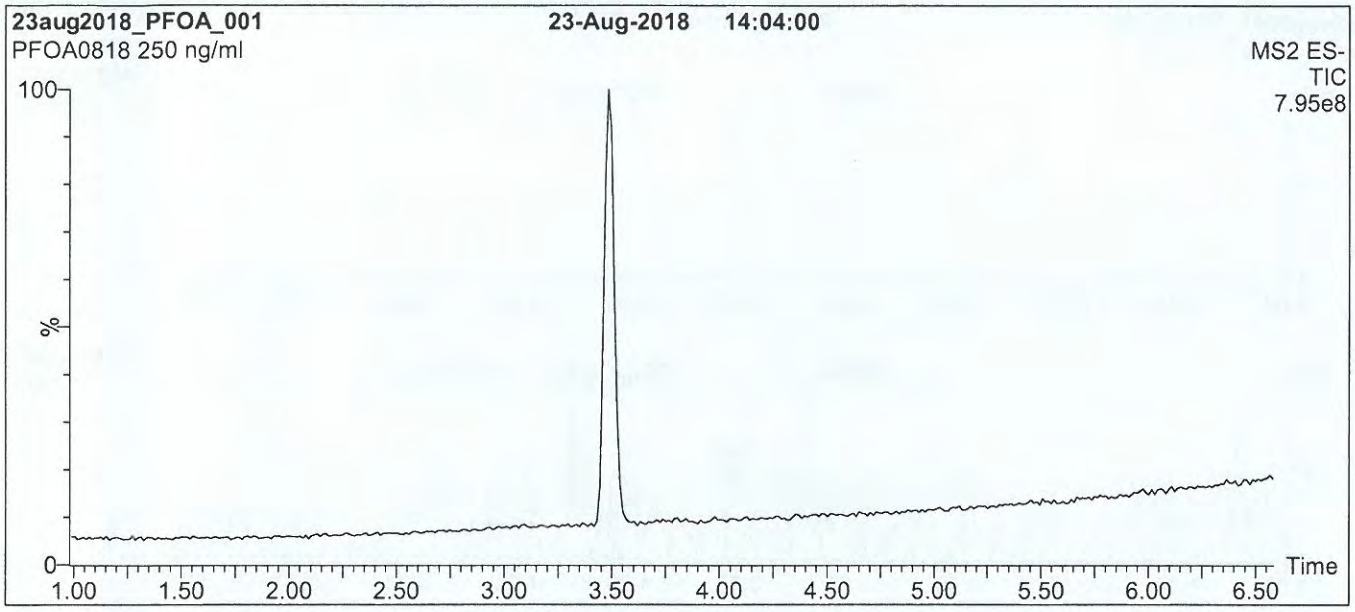
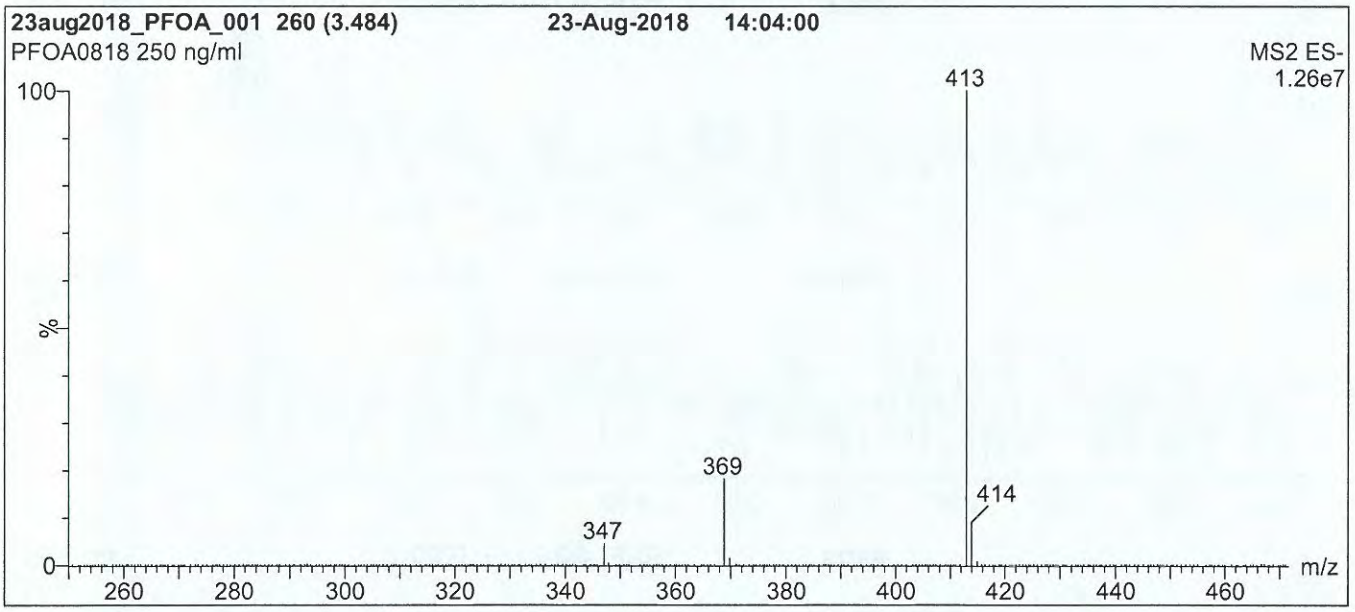
18L2042

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

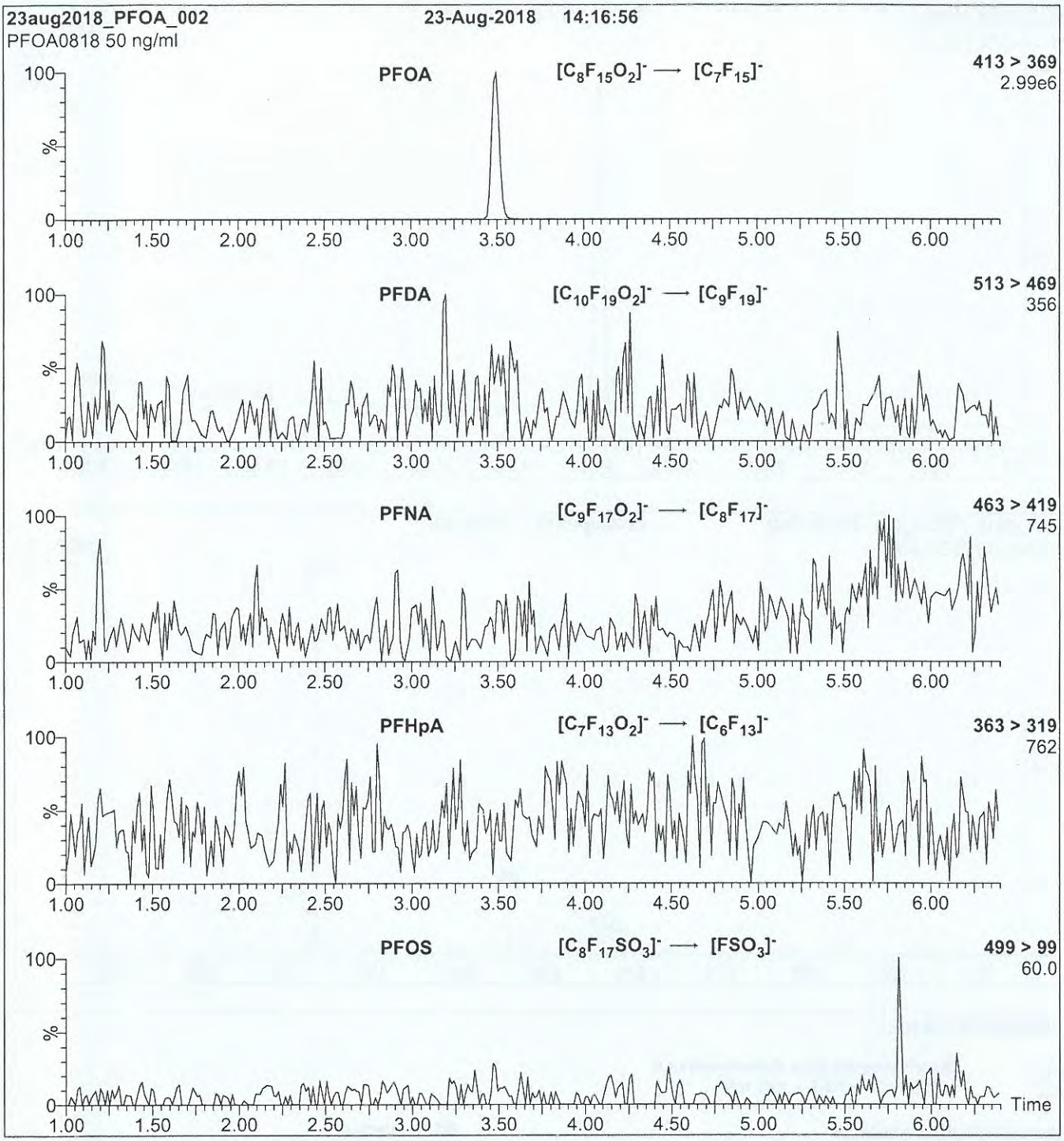
MS Parameters

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

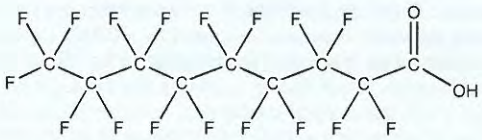
CERTIFICATE OF ANALYSIS DOCUMENTATION

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,...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).

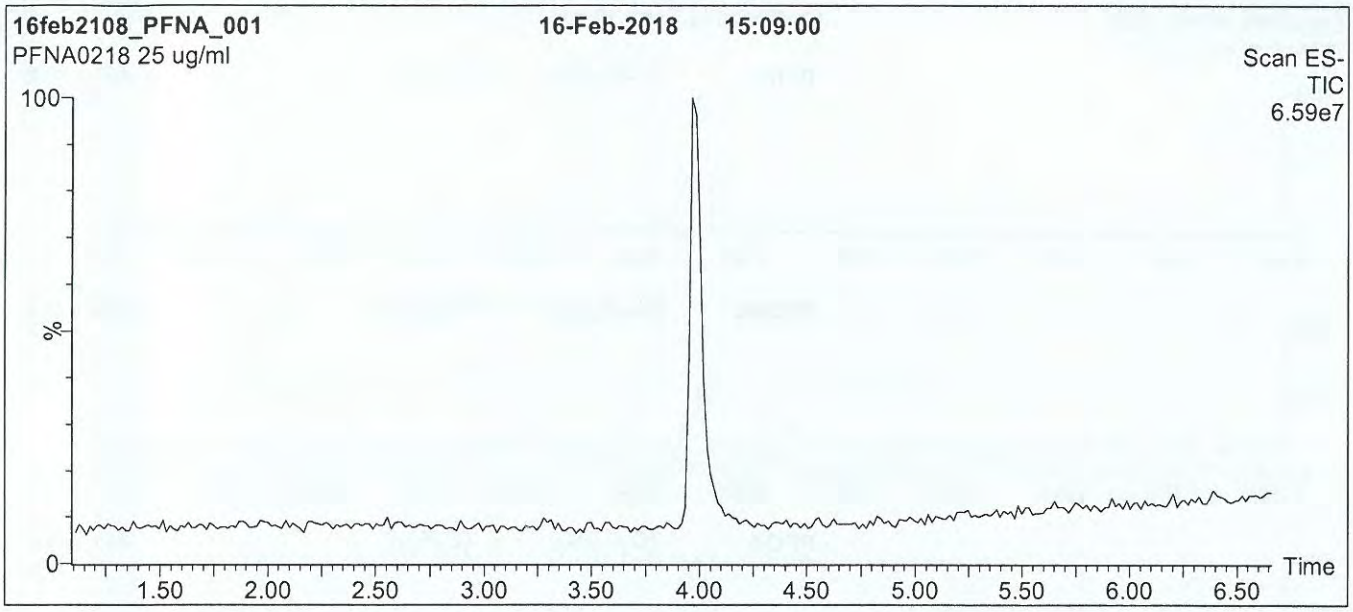
CALA Testing Accreditation No. A 1226

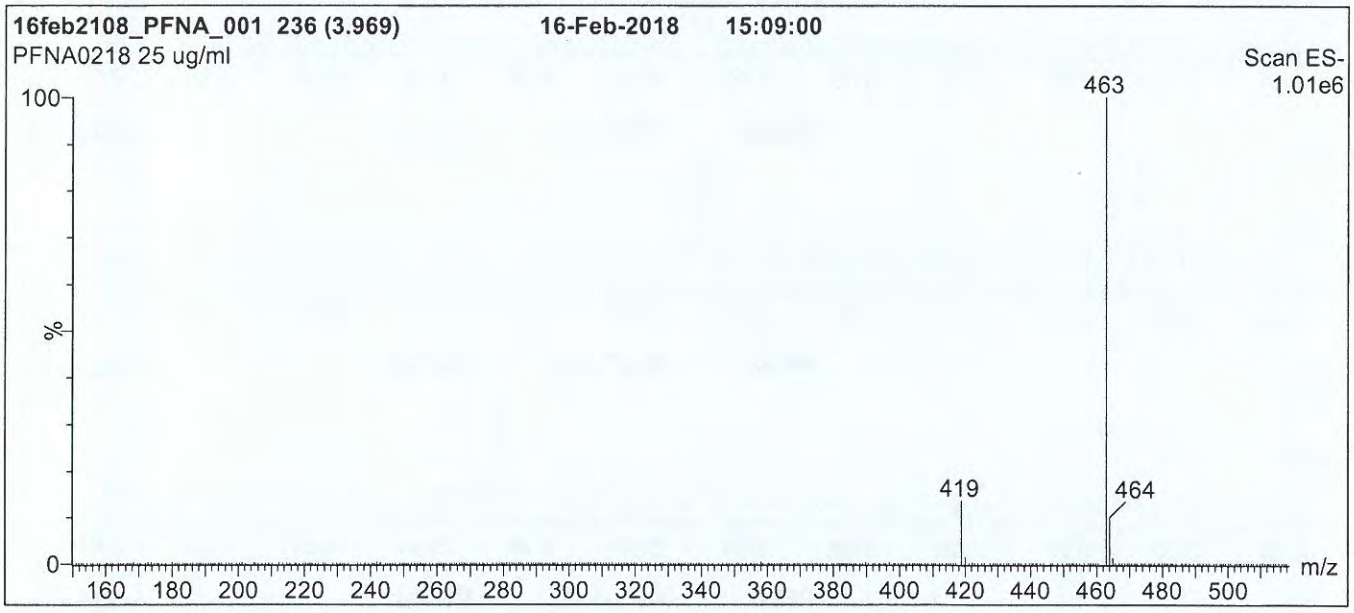
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

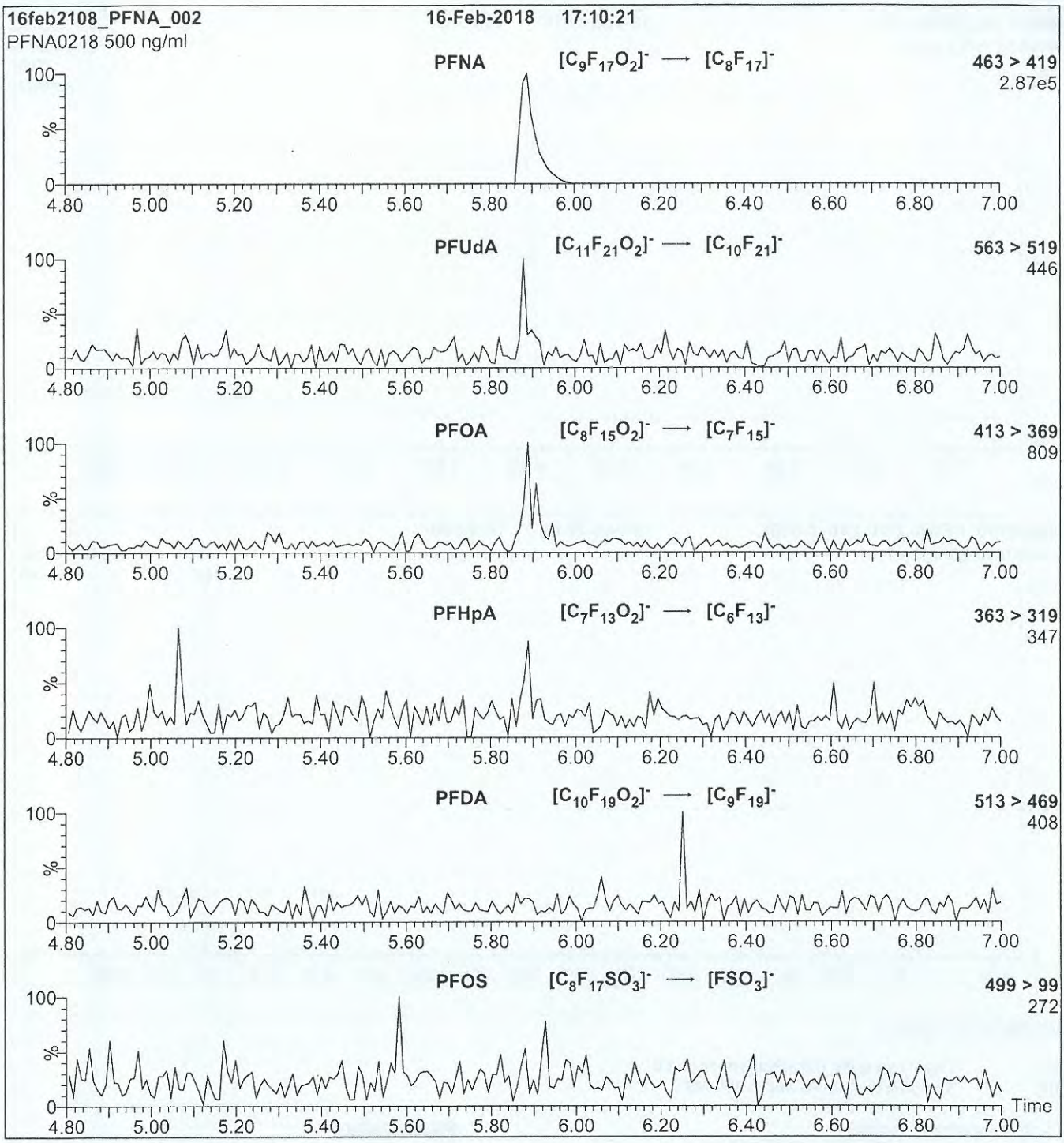
MS Parameters

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

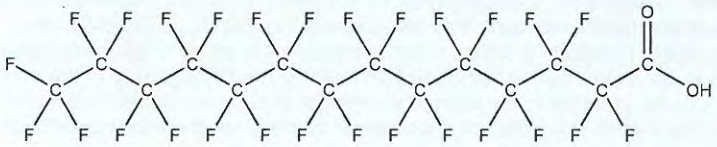
18L2044

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFTeDA
COMPOUND: Perfluoro-n-tetradecanoic acid
LOT NUMBER: PFTeDA0818

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).

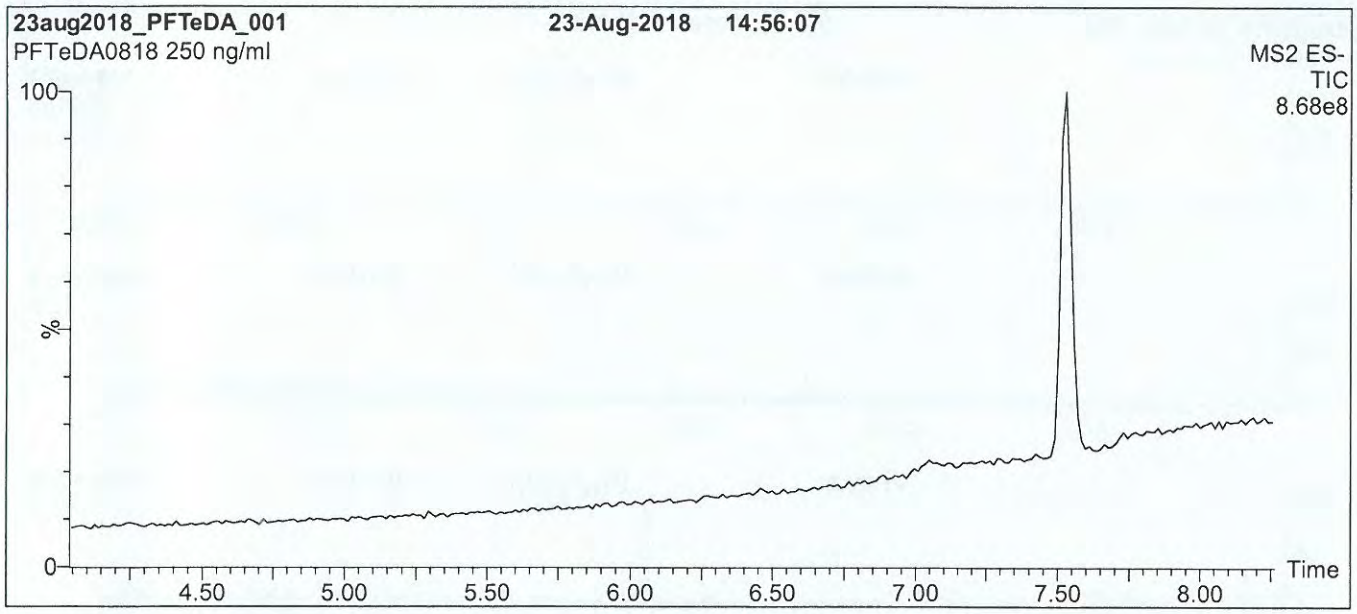
CALA Testing Accreditation No. A 1226

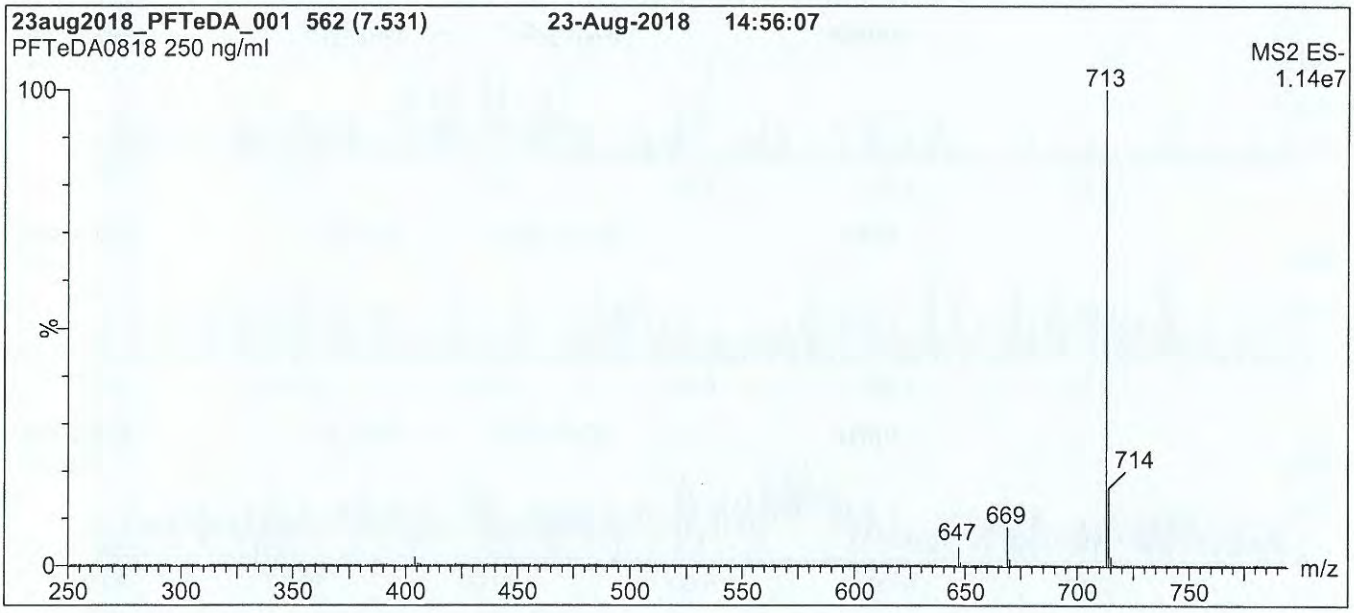
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

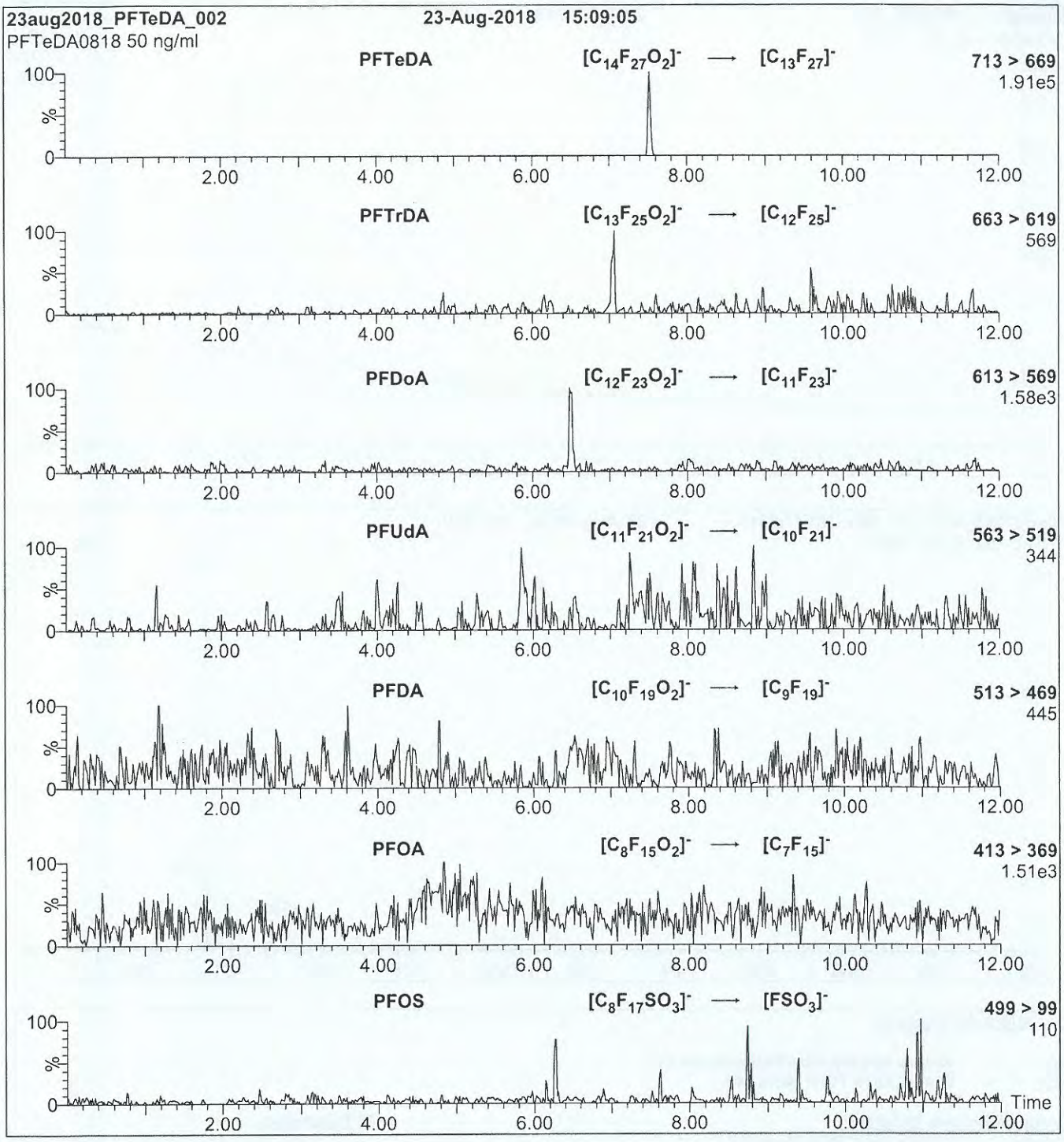
MS Parameters

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

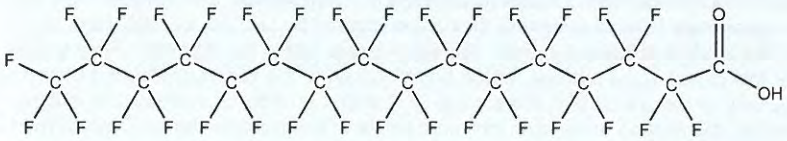
1812045

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxDA
COMPOUND: Perfluoro-n-hexadecanoic acid
LOT NUMBER: PFHxDA0717

STRUCTURE:
CAS #: 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
MOLECULAR WEIGHT: 814.13
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:** 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,...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).

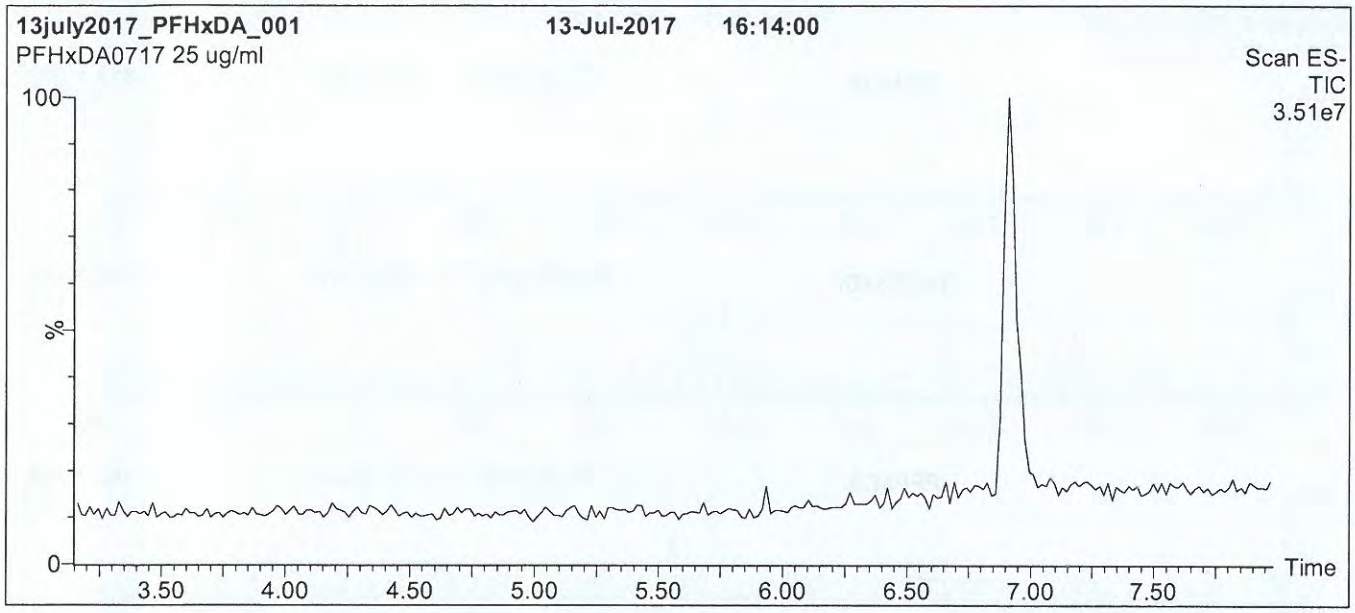
CALA Testing Accreditation No. A 1226

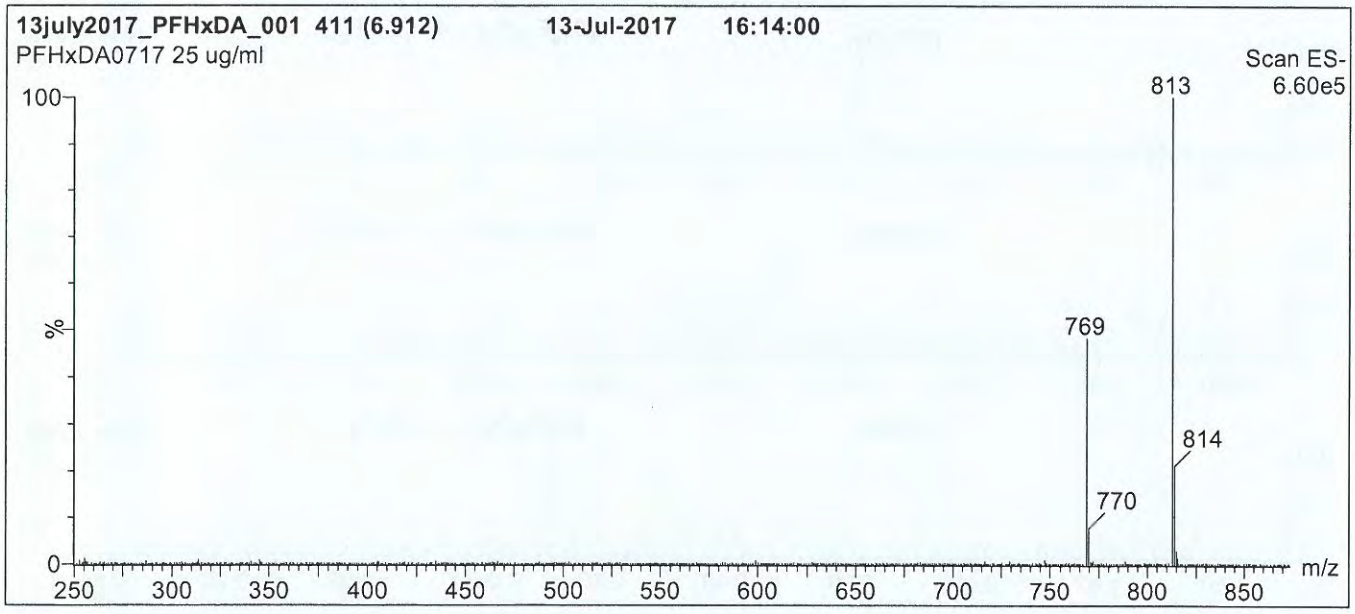
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

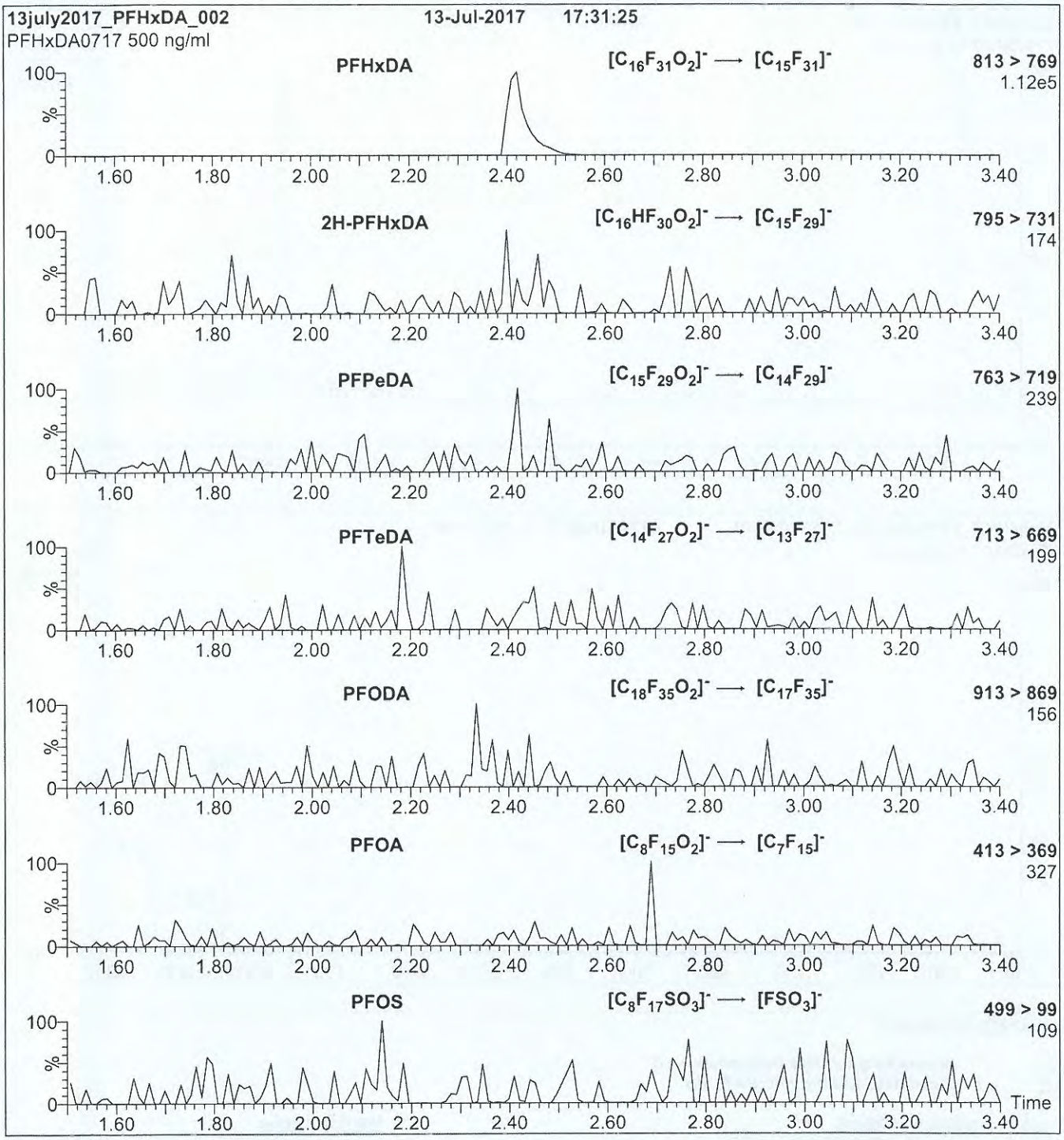
MS Parameters

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

1802045

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

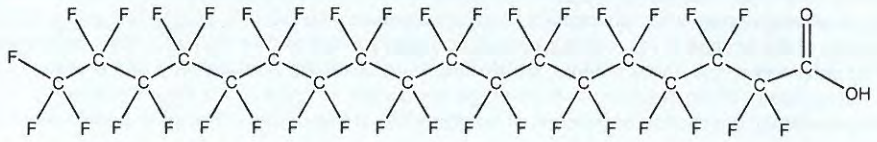
18L2046

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

1812046

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).

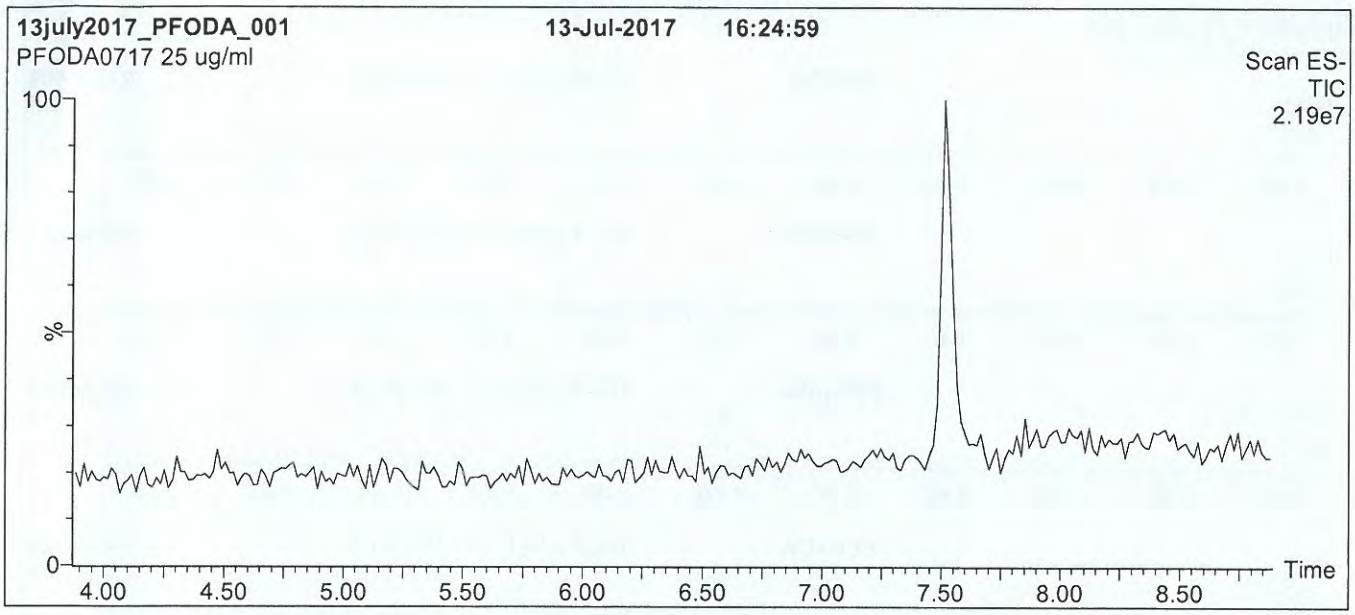
CALA Testing Accreditation No. A 1226

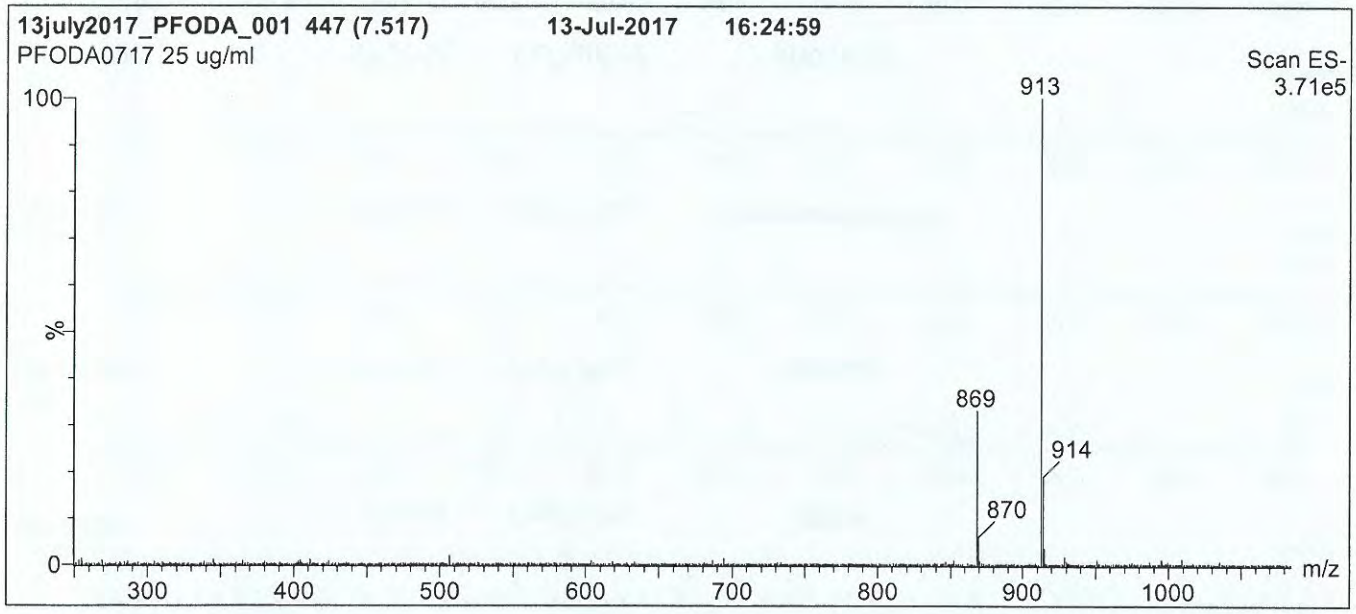
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

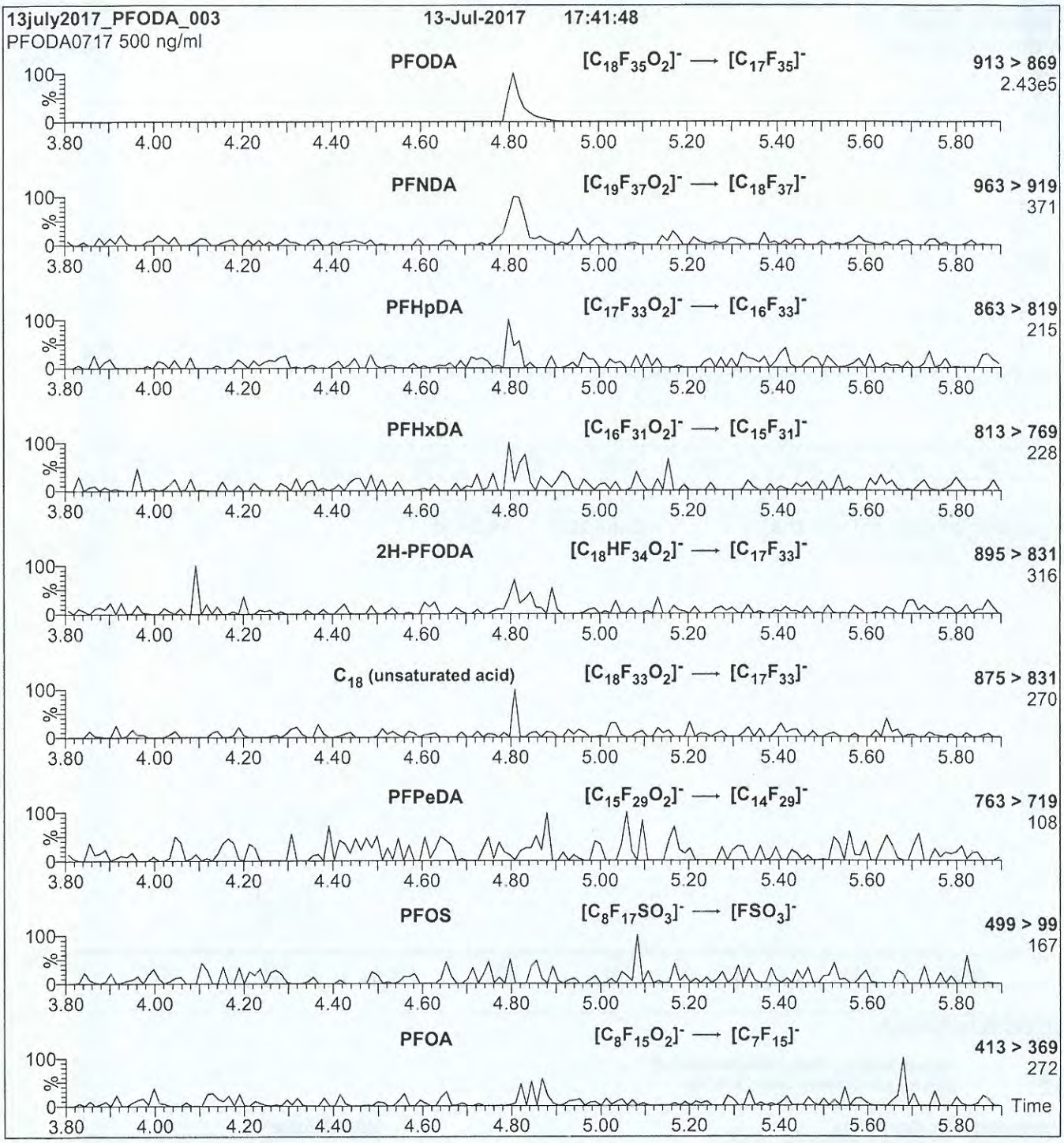
MS Parameters

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

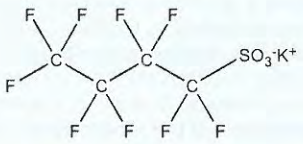
WELLINGTON LABORATORIES

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

1802047

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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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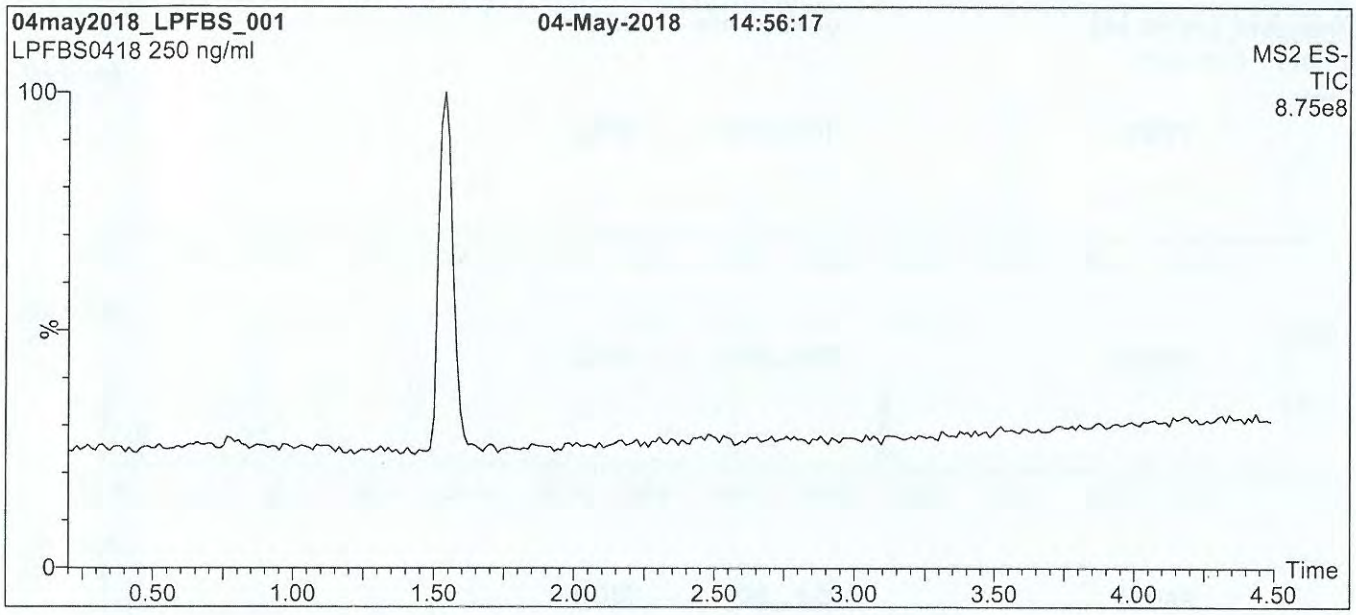
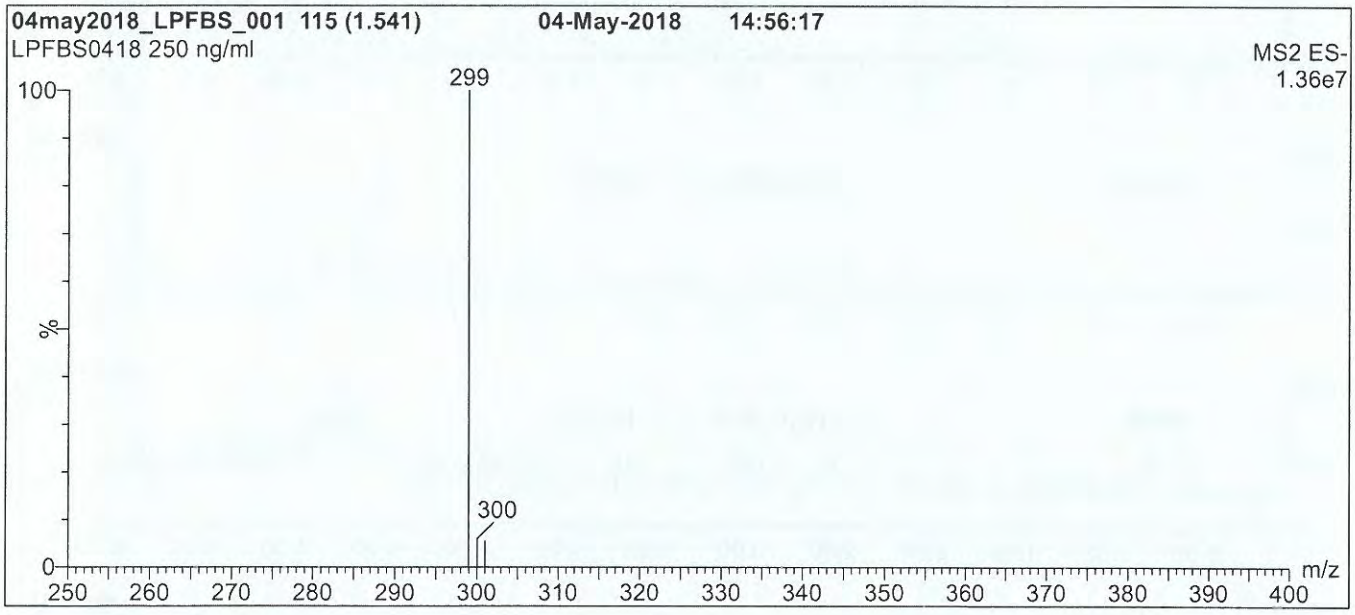
18L2047

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

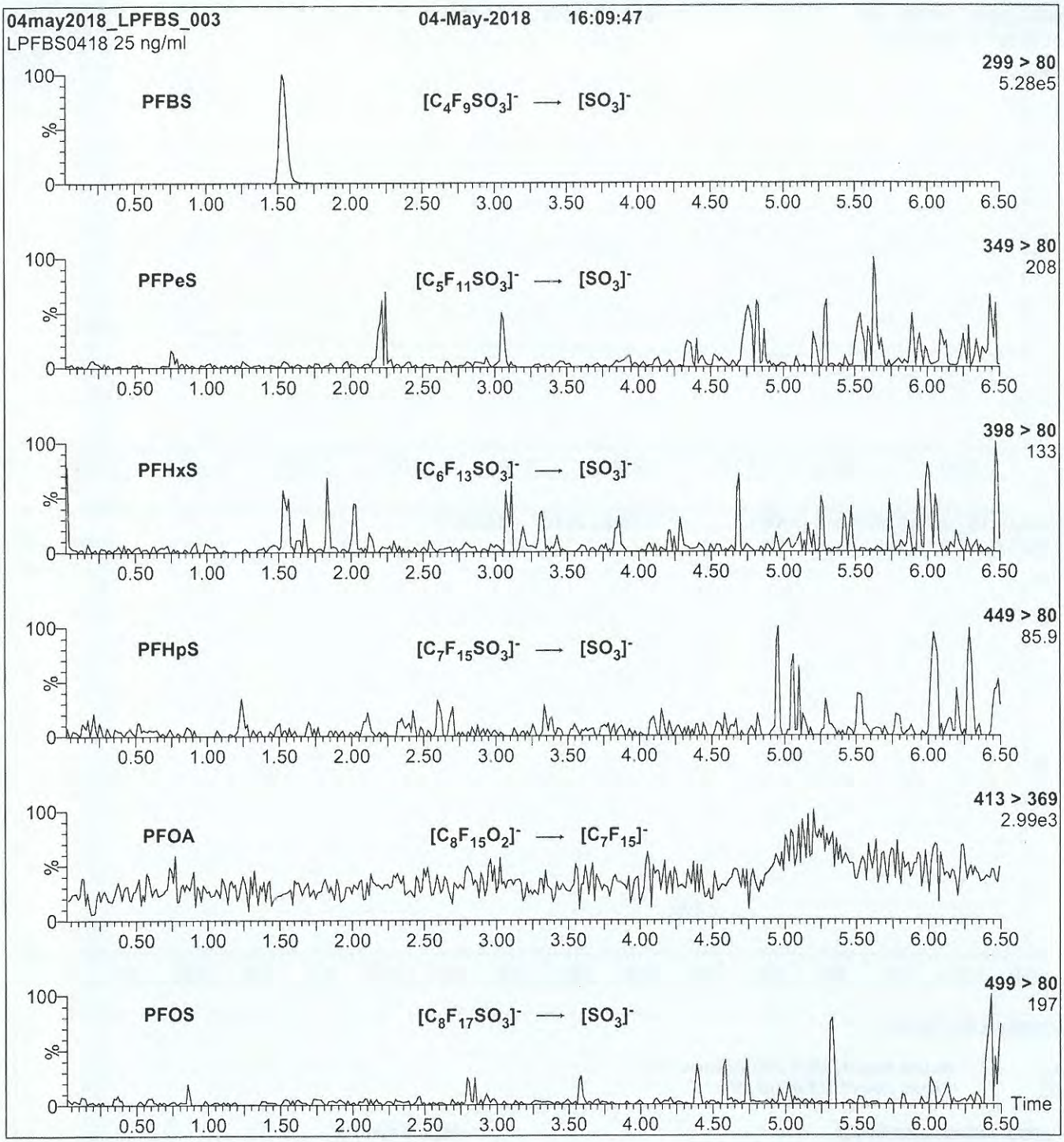
MS Parameters

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

1902097

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

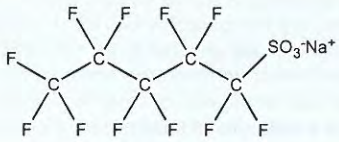
Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 30

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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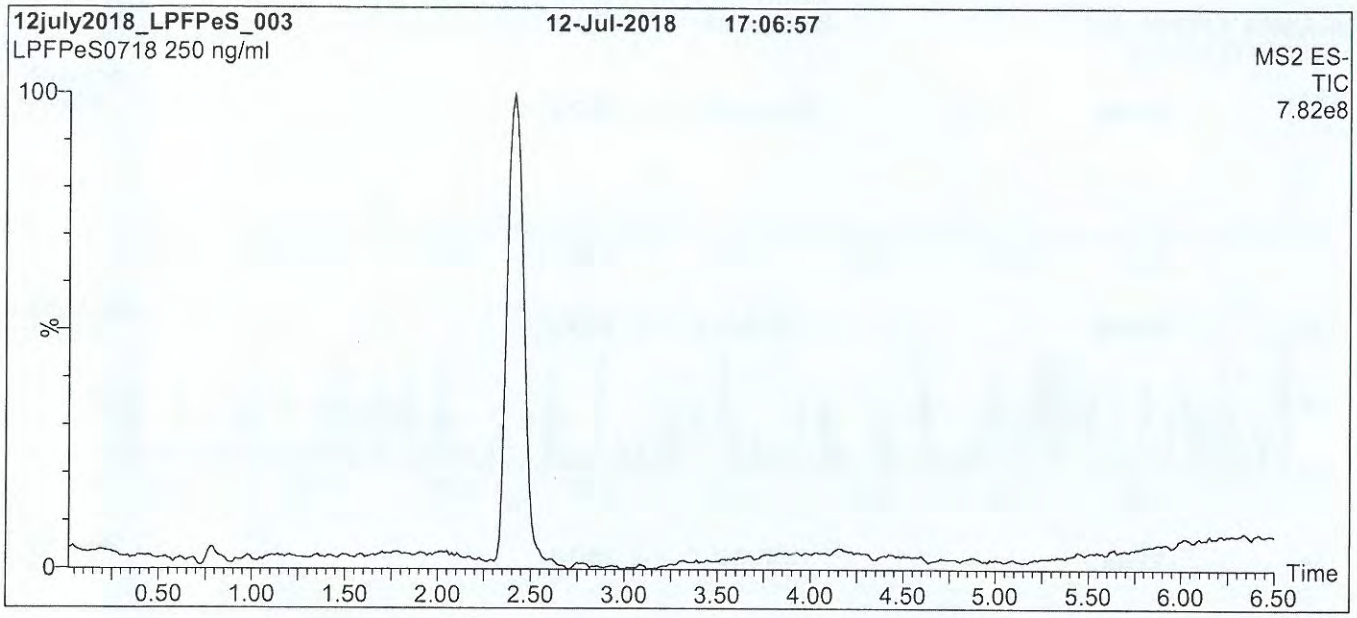
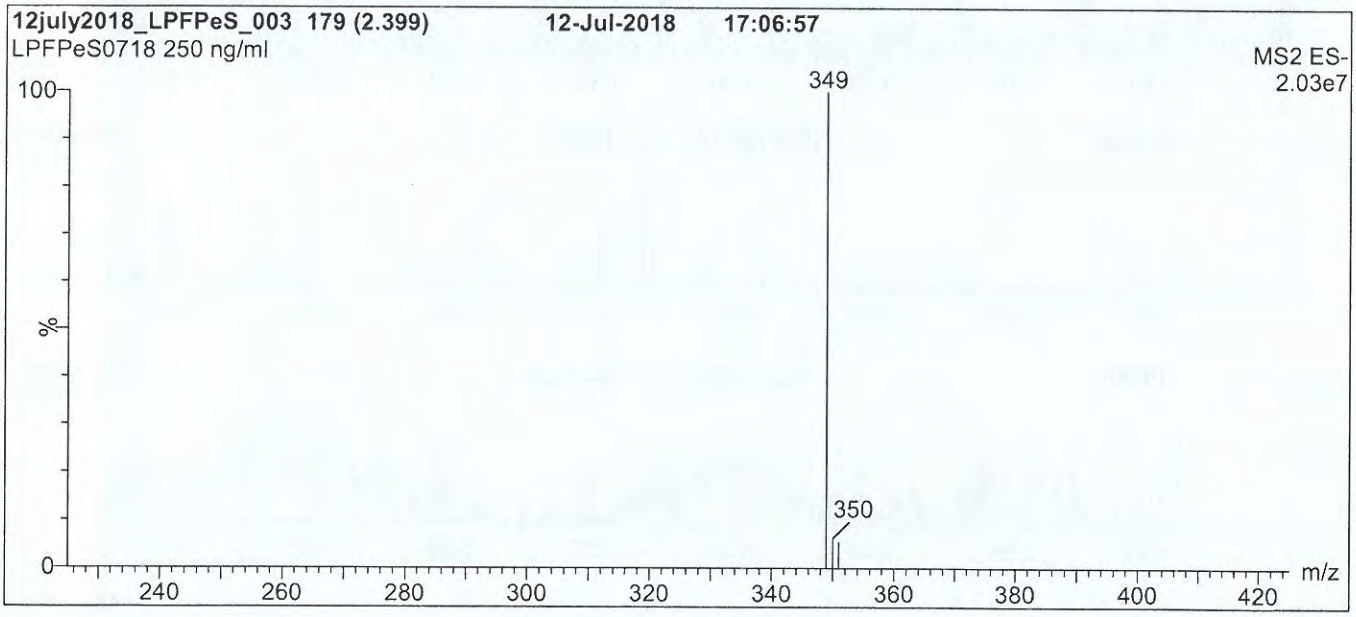
18L2048

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

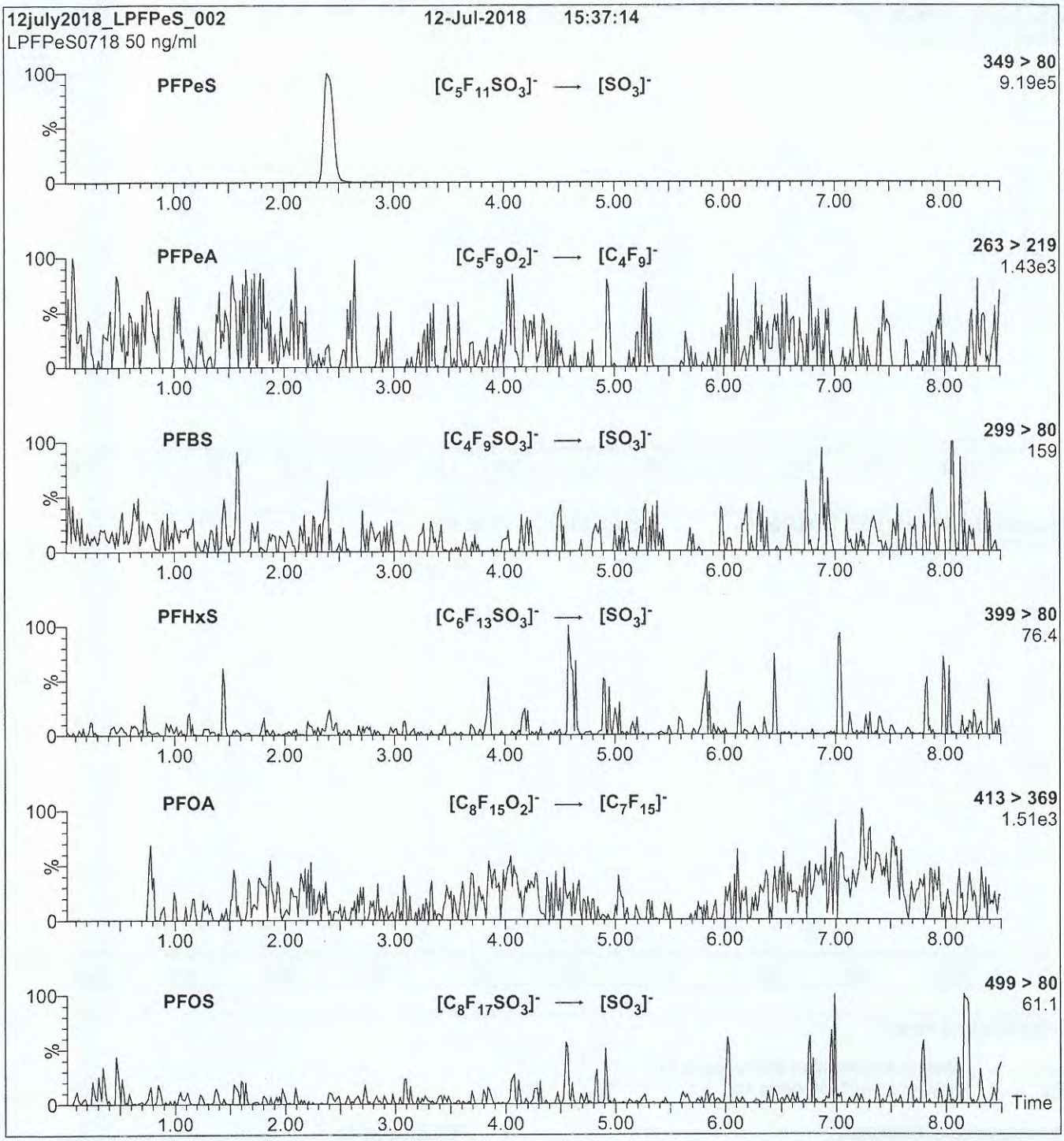
MS Parameters

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

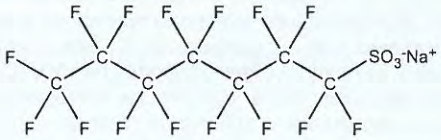
1812049

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFHpS
COMPOUND: Sodium perfluoro-1-heptanesulfonate
LOT NUMBER: LPFHpS0418

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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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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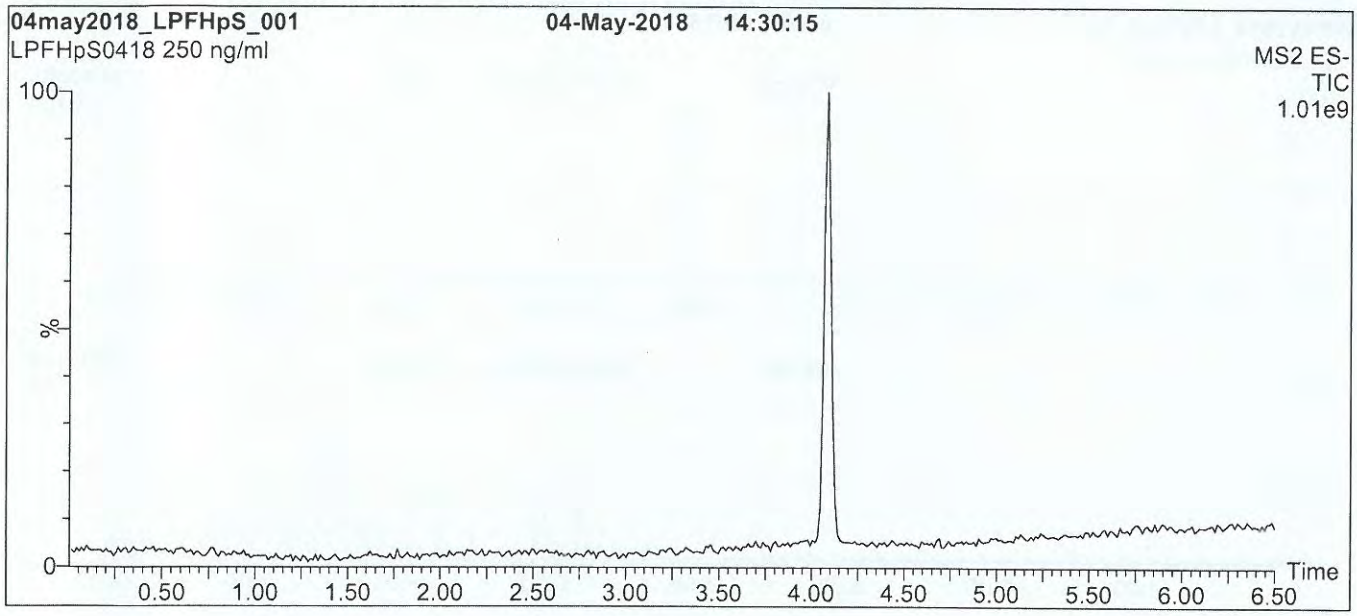
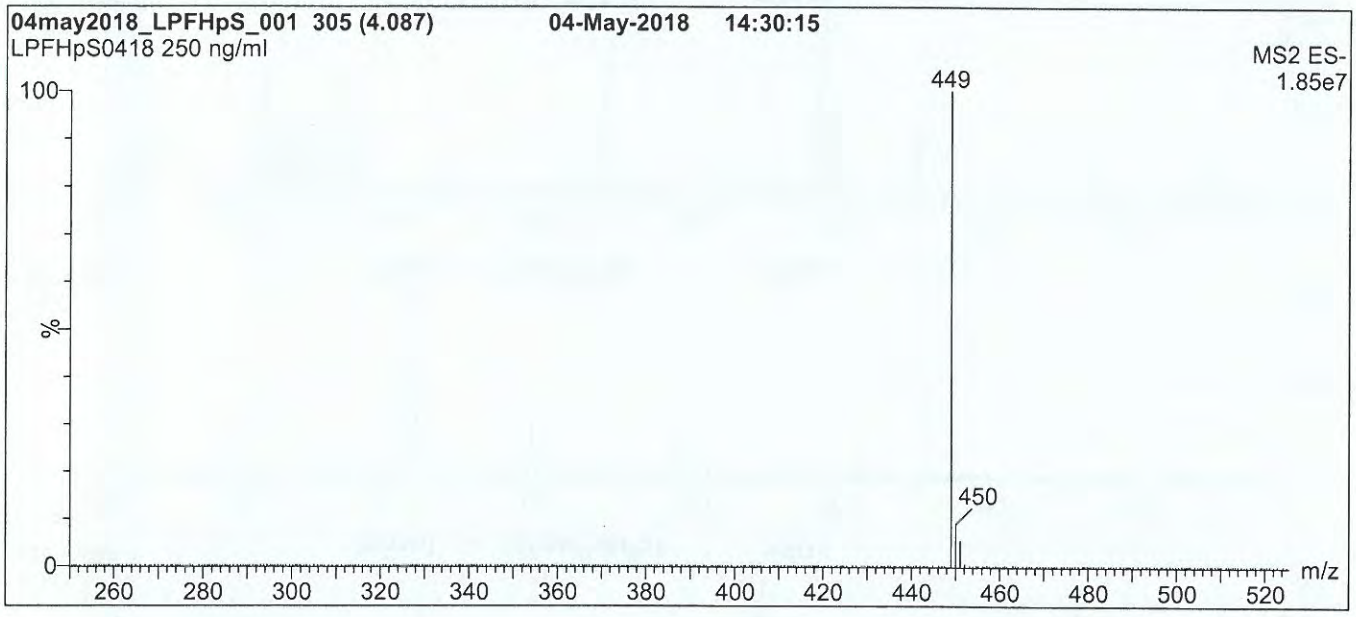
18L2049

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

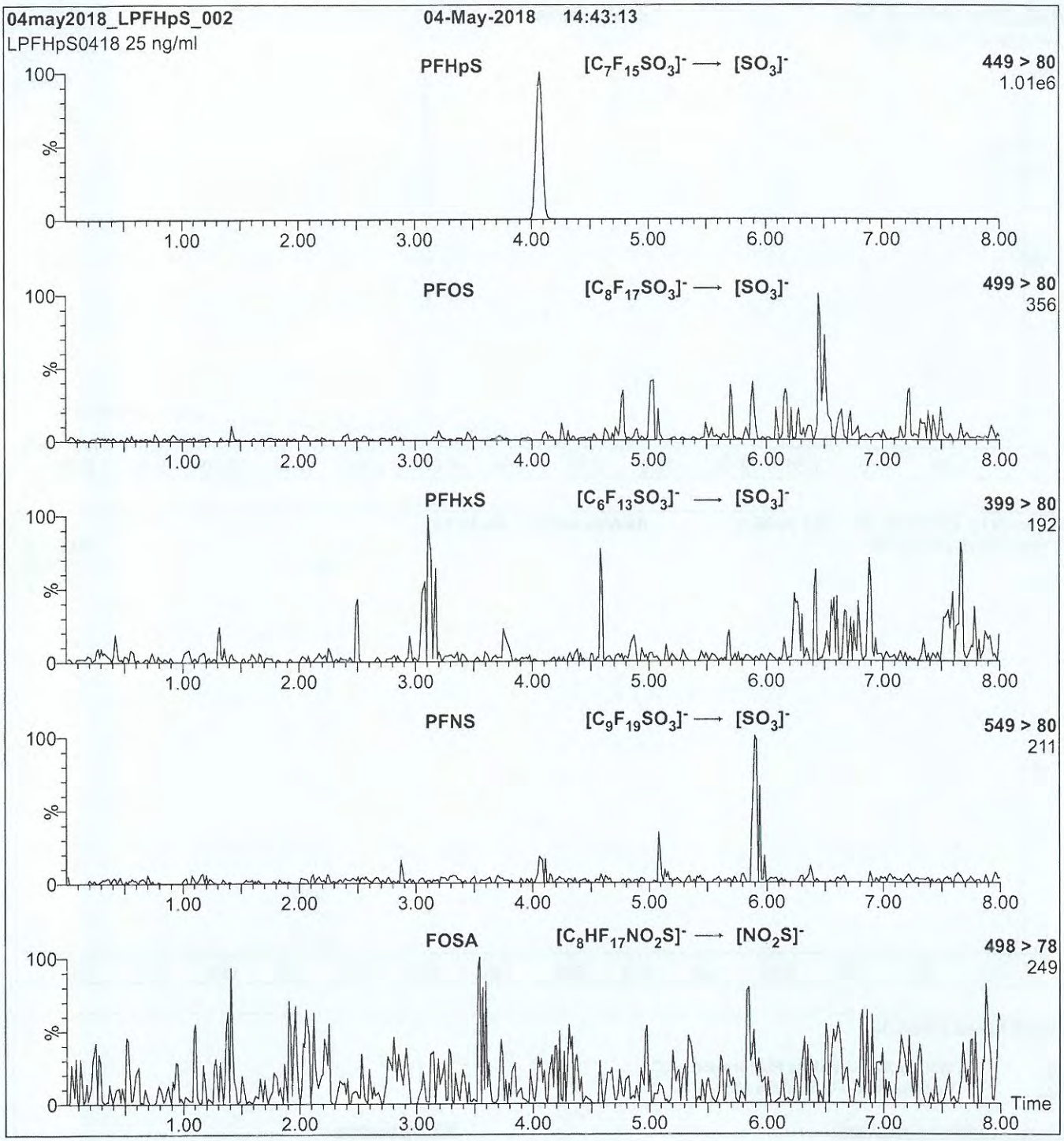
MS Parameters

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

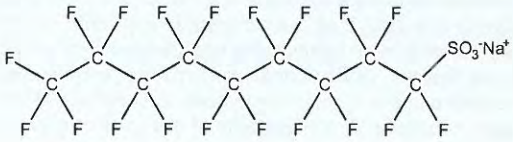
Collision Energy (eV) = 42

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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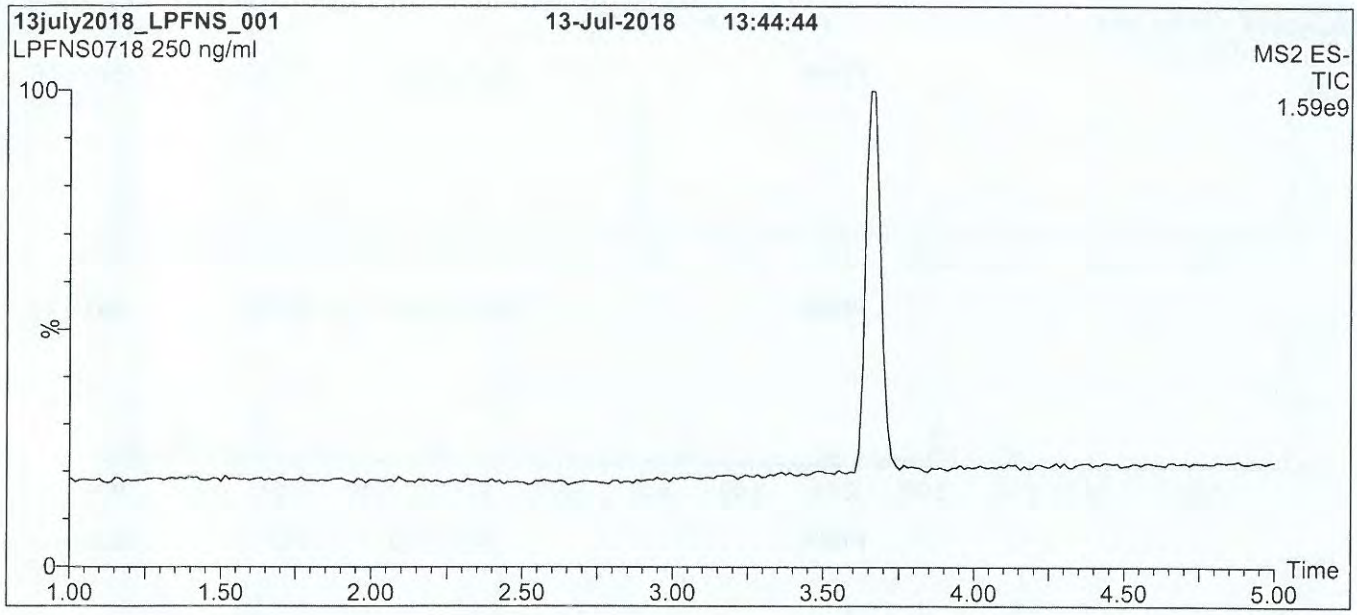
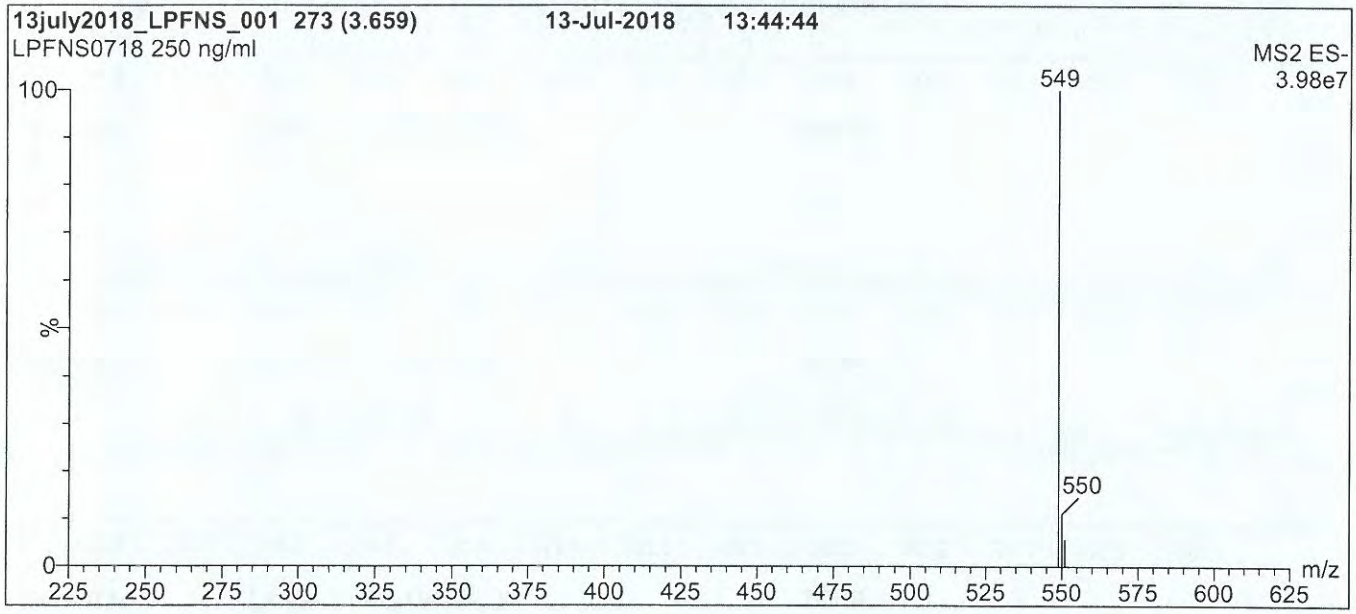
1812050

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

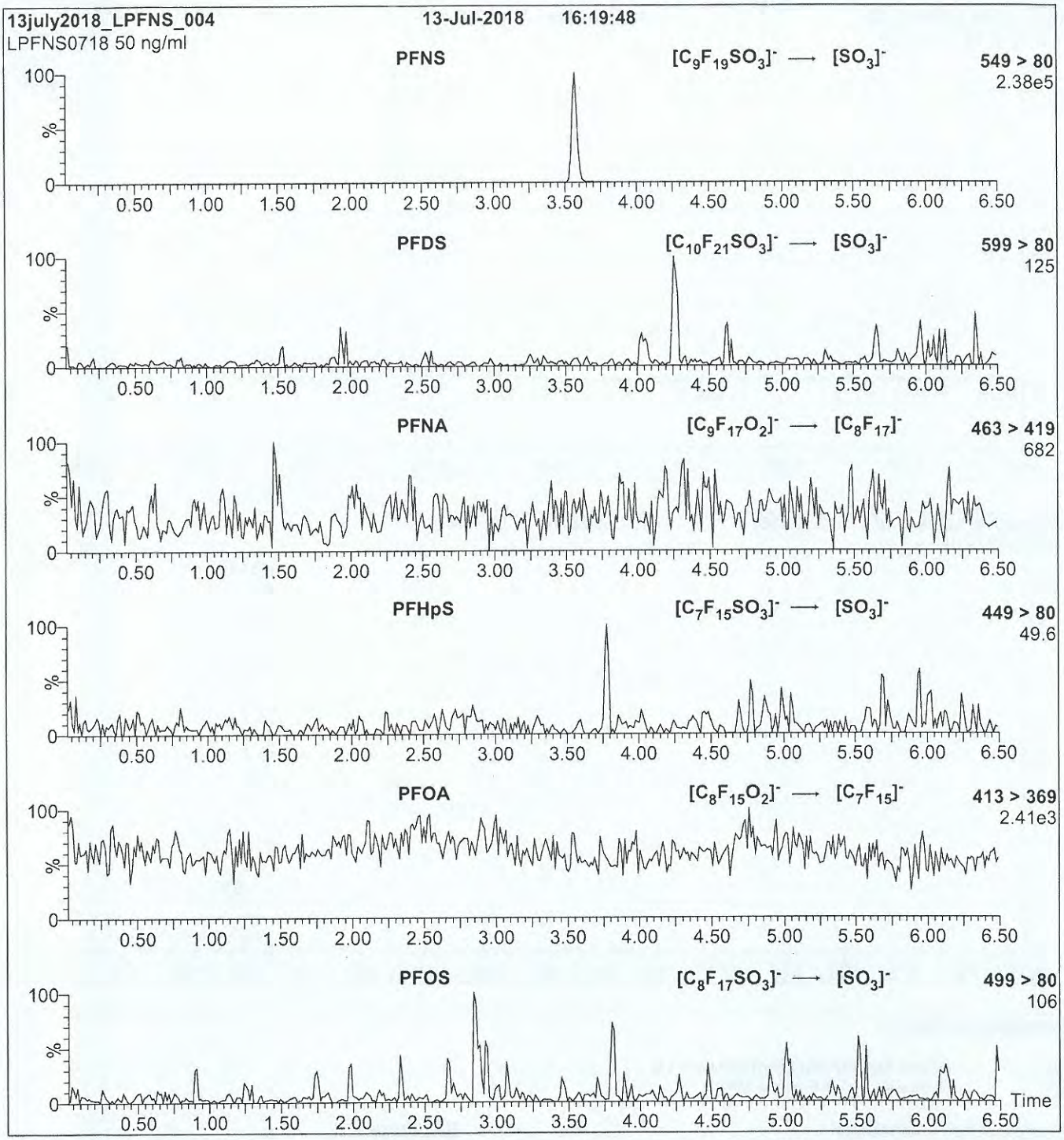
MS Parameters

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

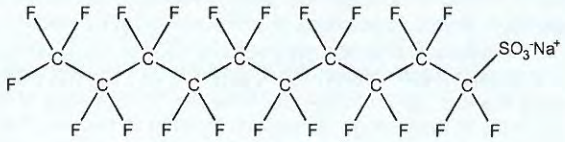
Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 64

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)	**SOLVENT(S):**	Methanol
	48.2 ± 2.4 µg/ml (PFDS anion)		
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

1862057

INTENDED USE:

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HANDLING:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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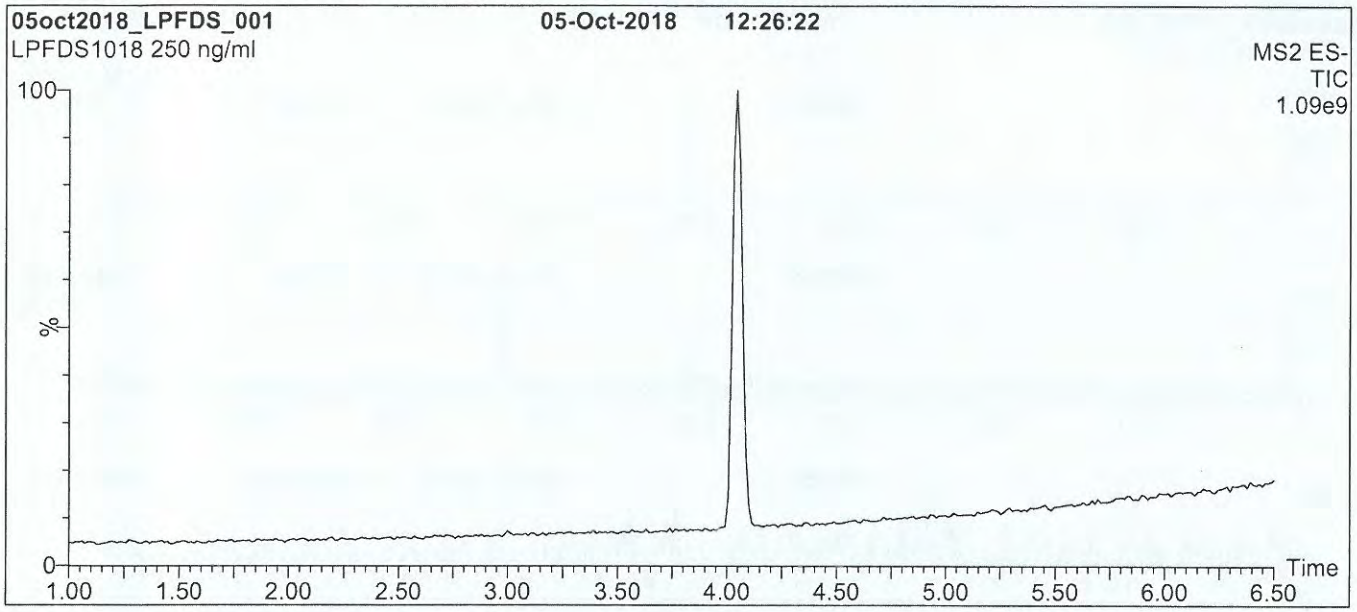
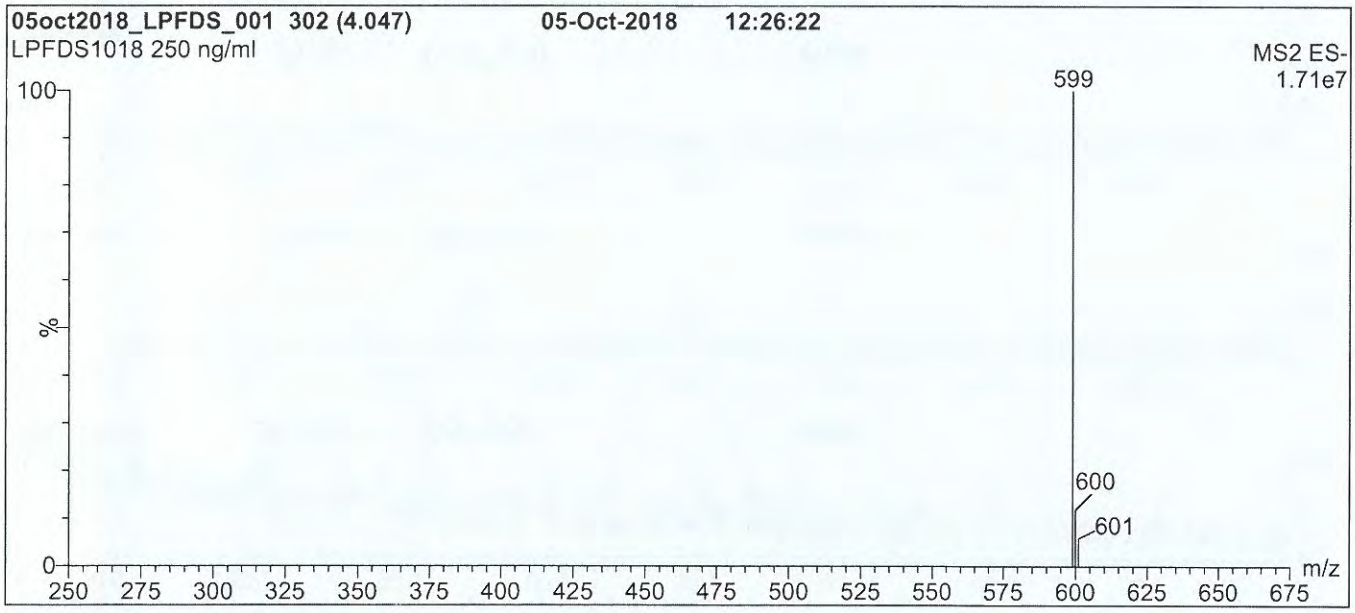
1812051

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

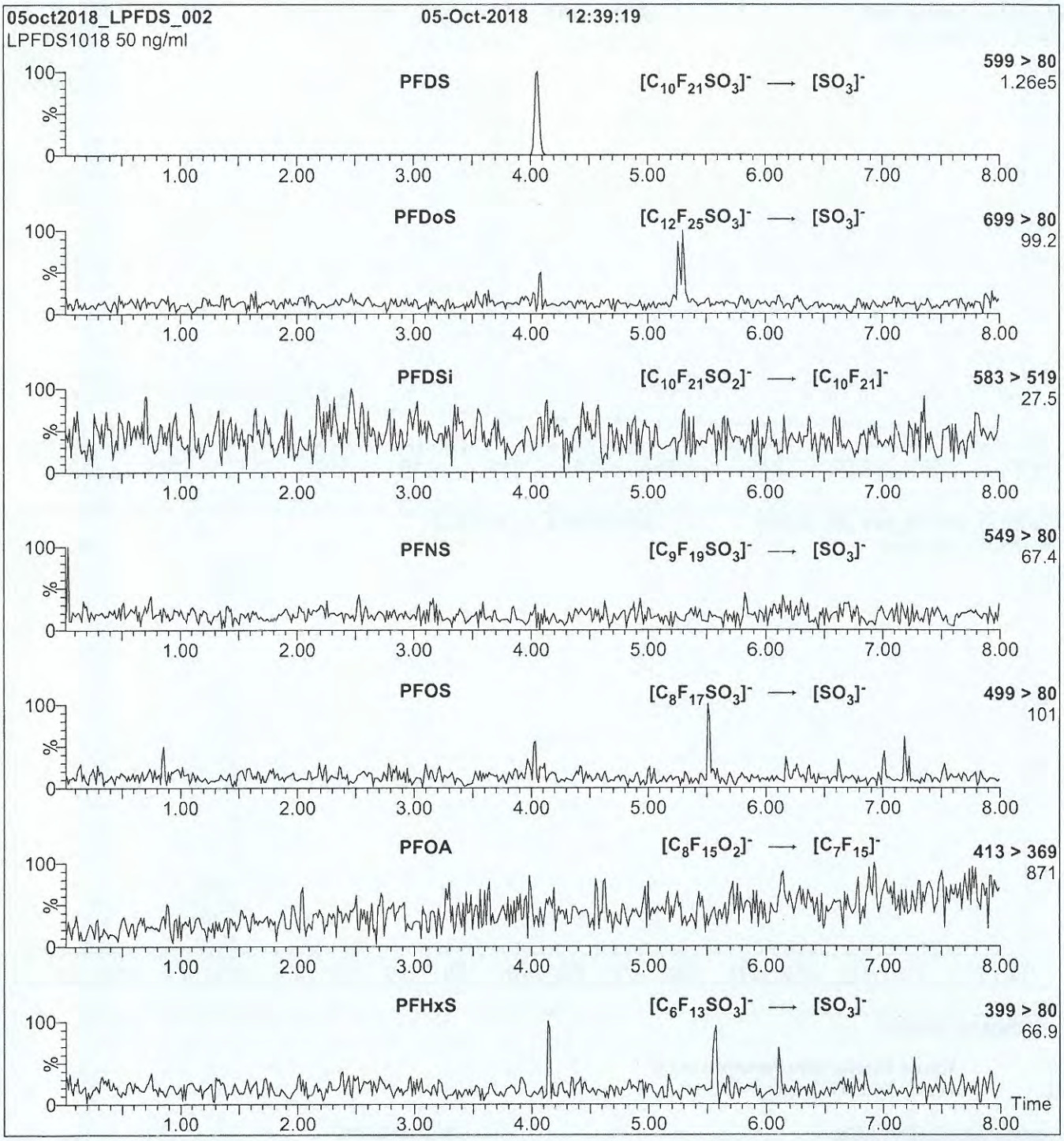
MS Parameters

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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1802052

Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

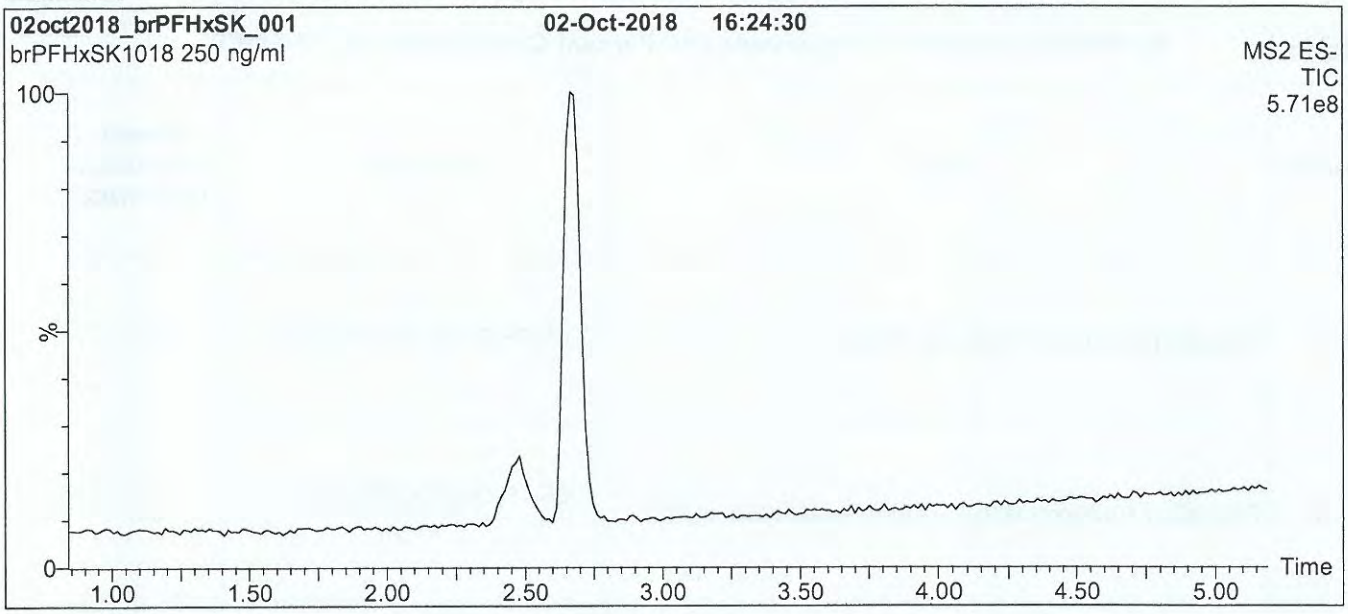
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	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	$CF_3C(CF_3)_2CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

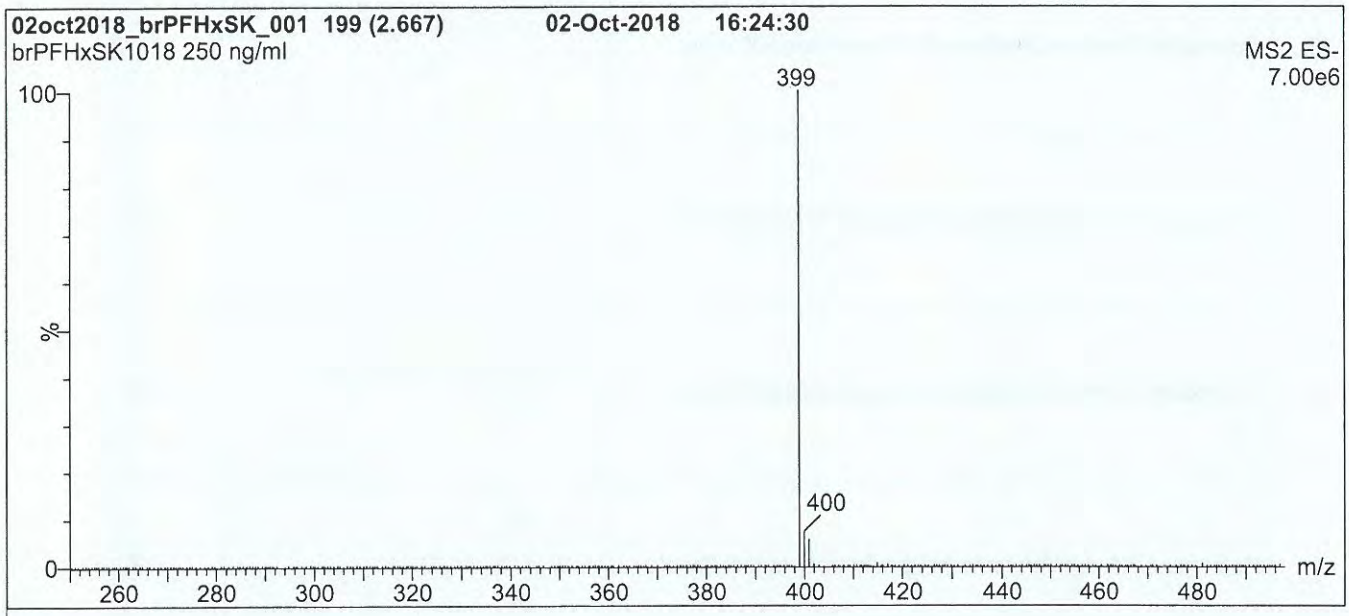
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

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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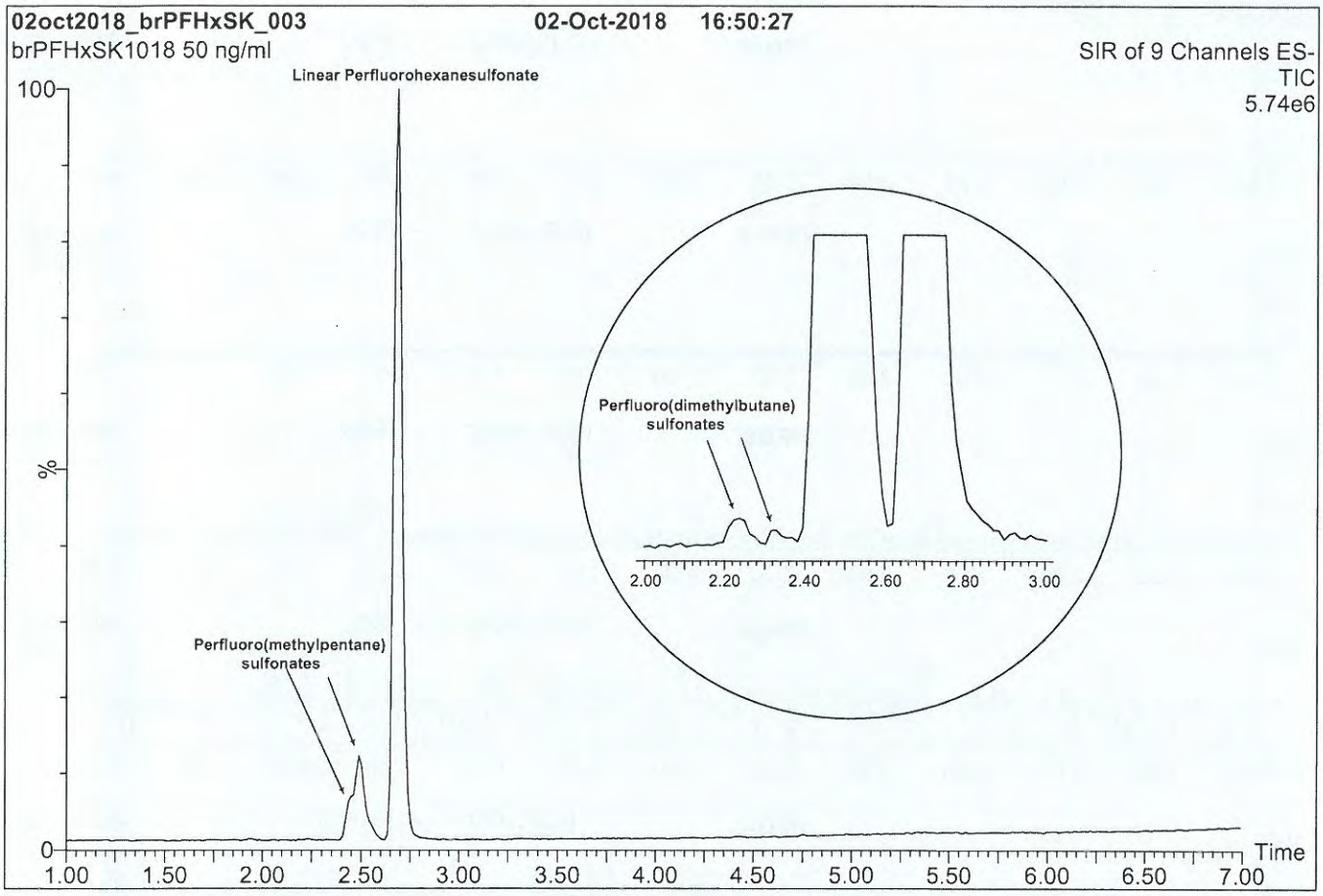
Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



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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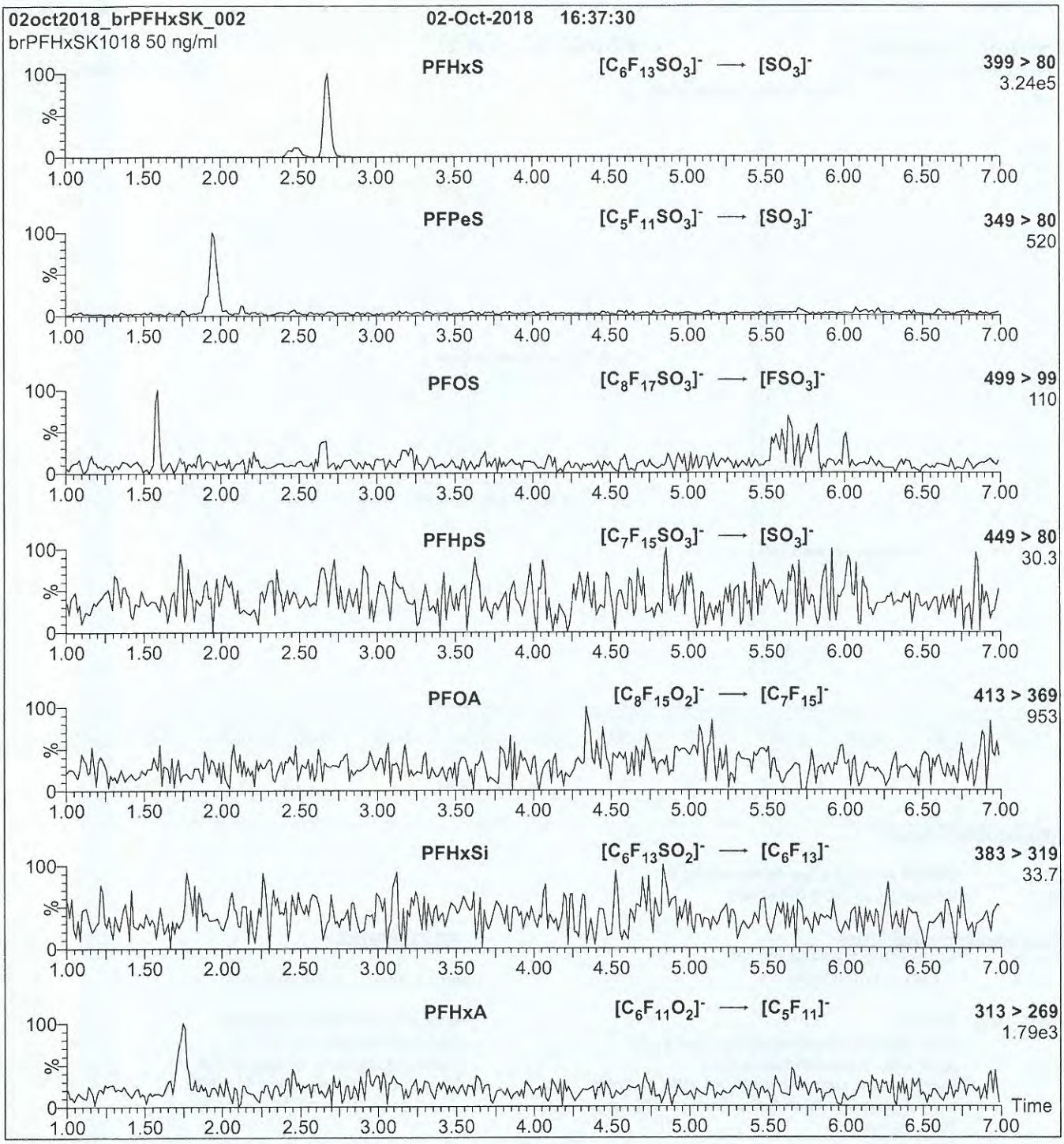
Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



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

1812053

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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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 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,...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	$CF_3C(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)CF_2CF_2CF_2SO_3^-K^+$	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

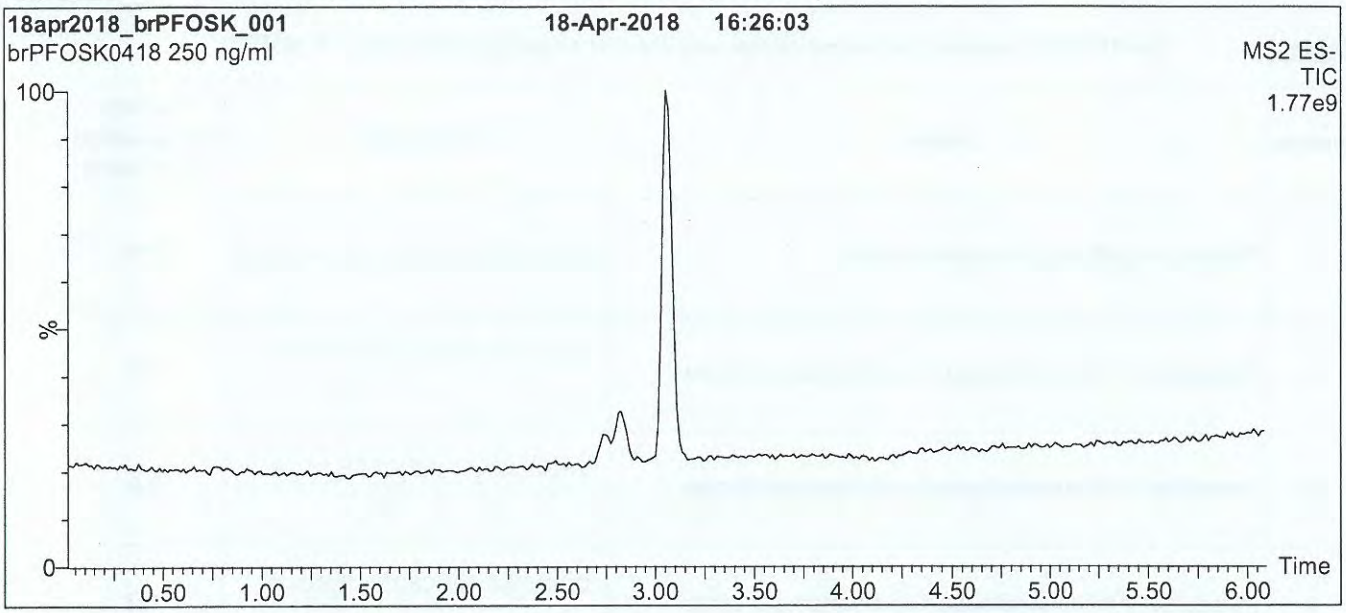
* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

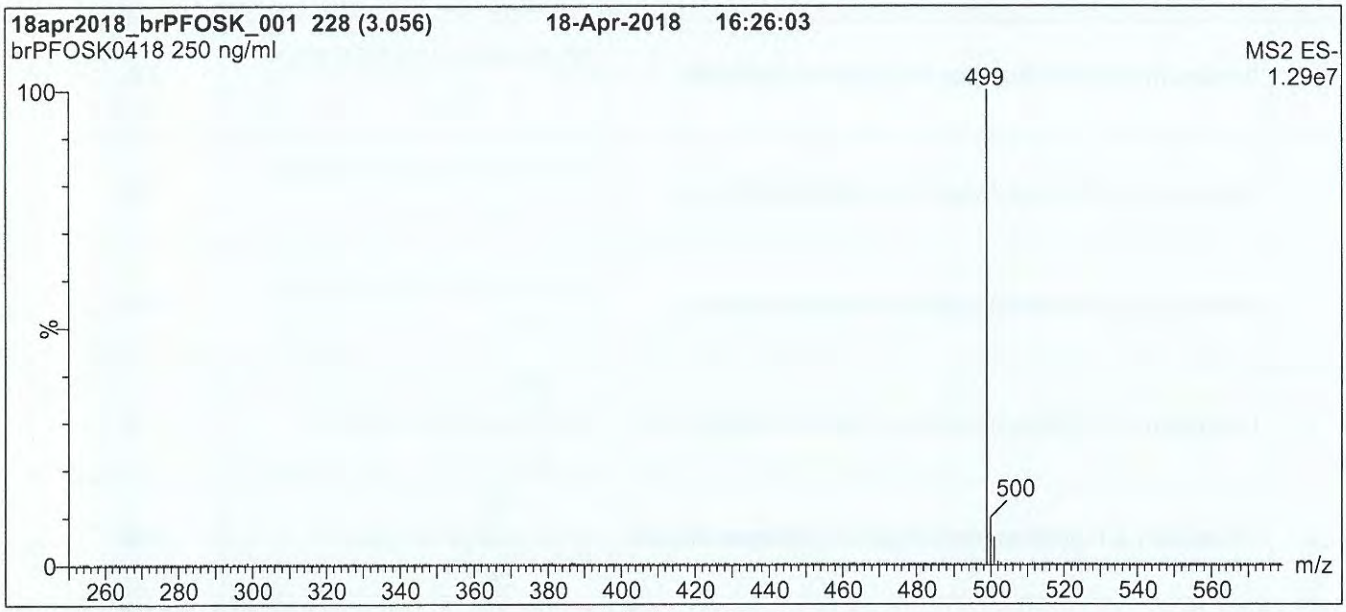
Certified By: _____ **Date:** 04/23/2018 (mm/dd/yyyy)

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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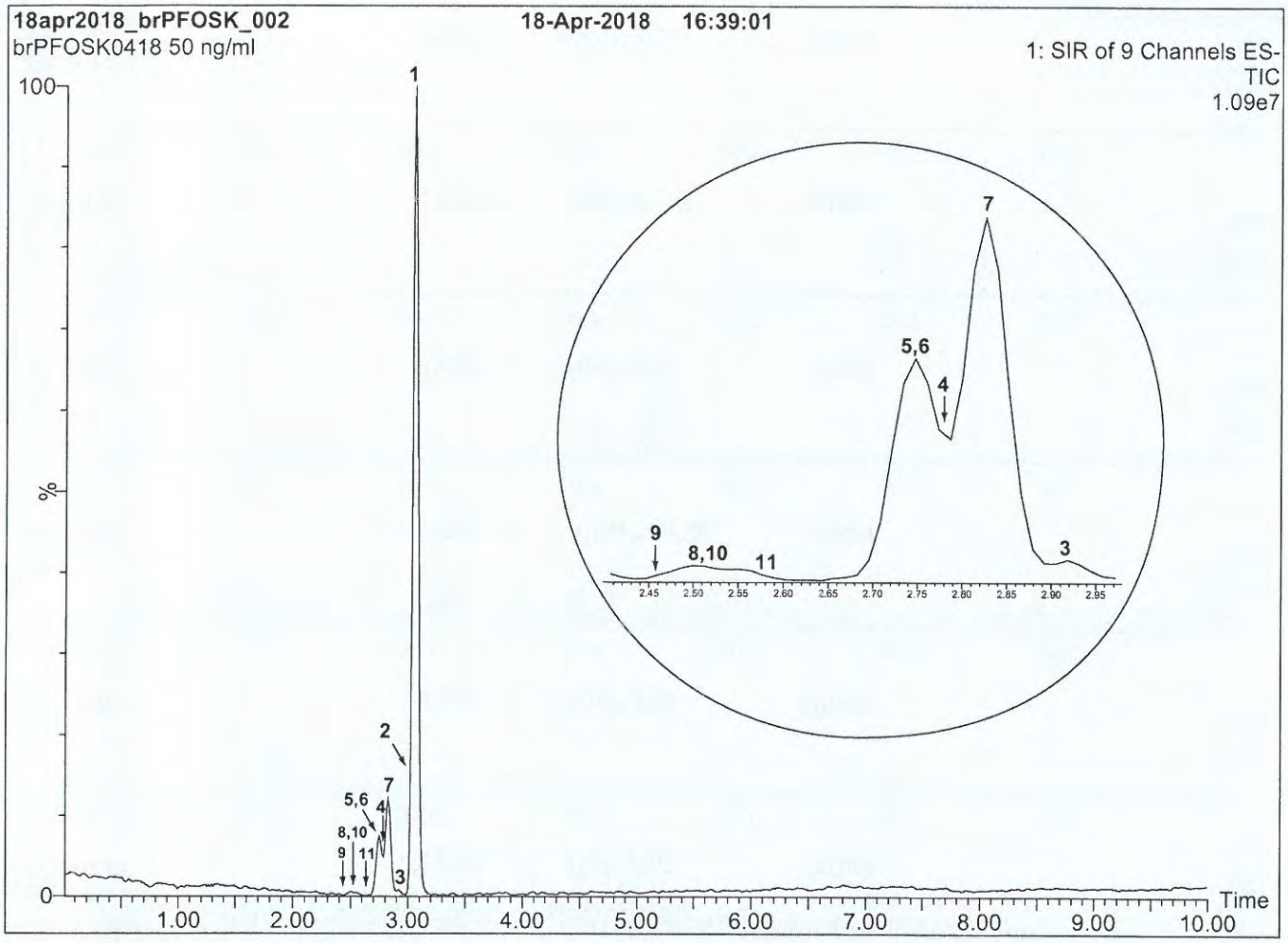
Figure 2: **br-PFOSK; LC/MS Data (SIR)**



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)

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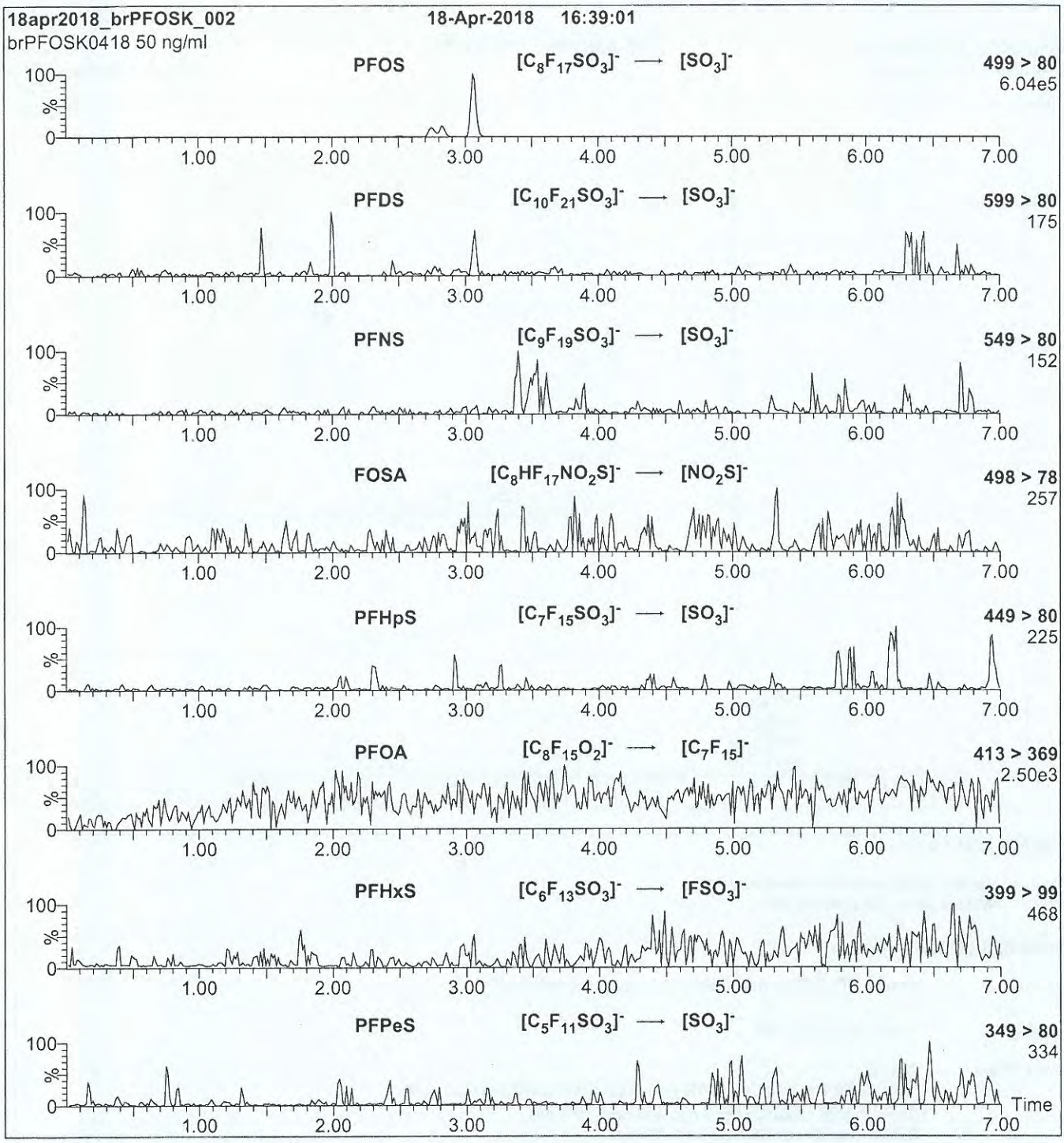
Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



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

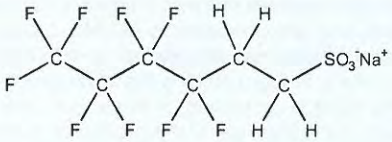
WELLINGTON LABORATORIES

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
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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.

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

1812054

Figure 1: 4:2FTS; LC/MS Data (SIR)

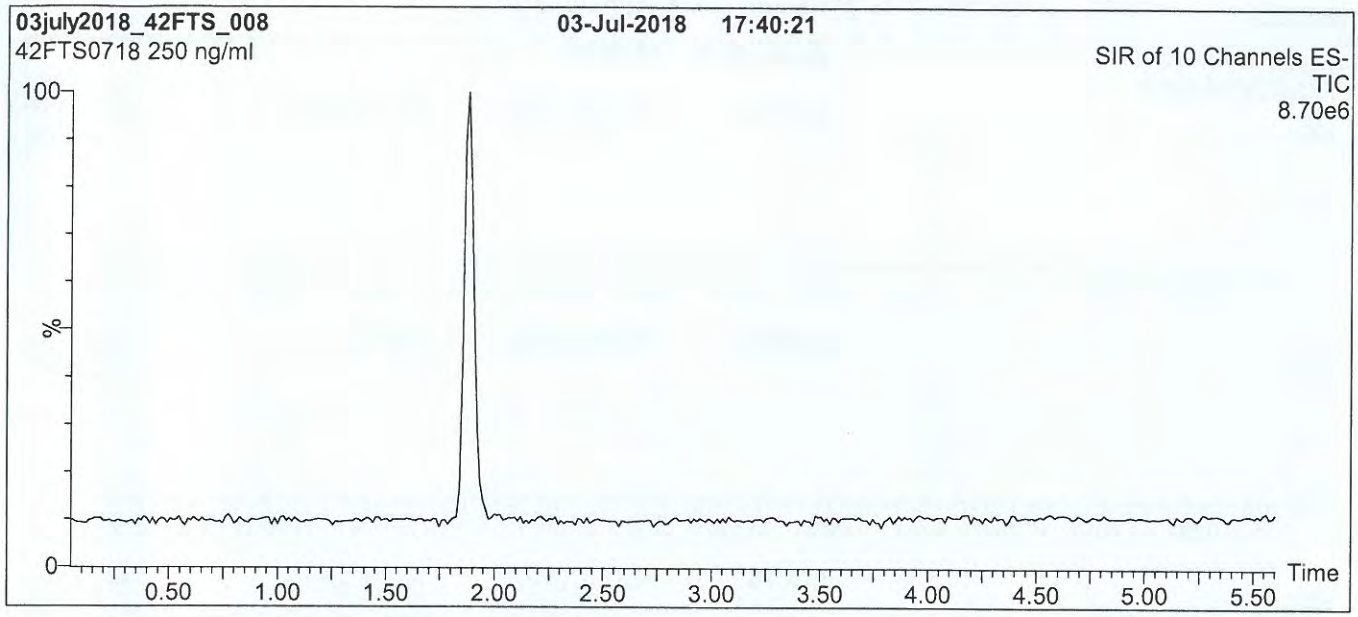
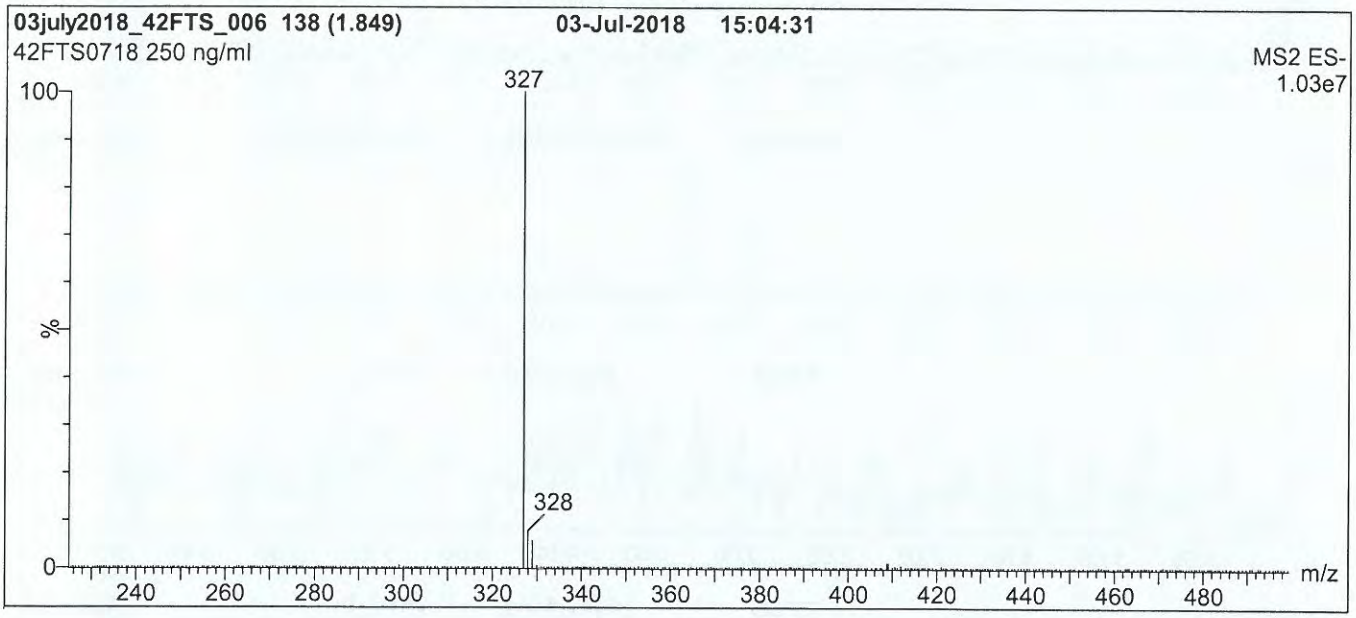


Figure 2: 4:2FTS; LC/MS Data (Mass Spectrum)



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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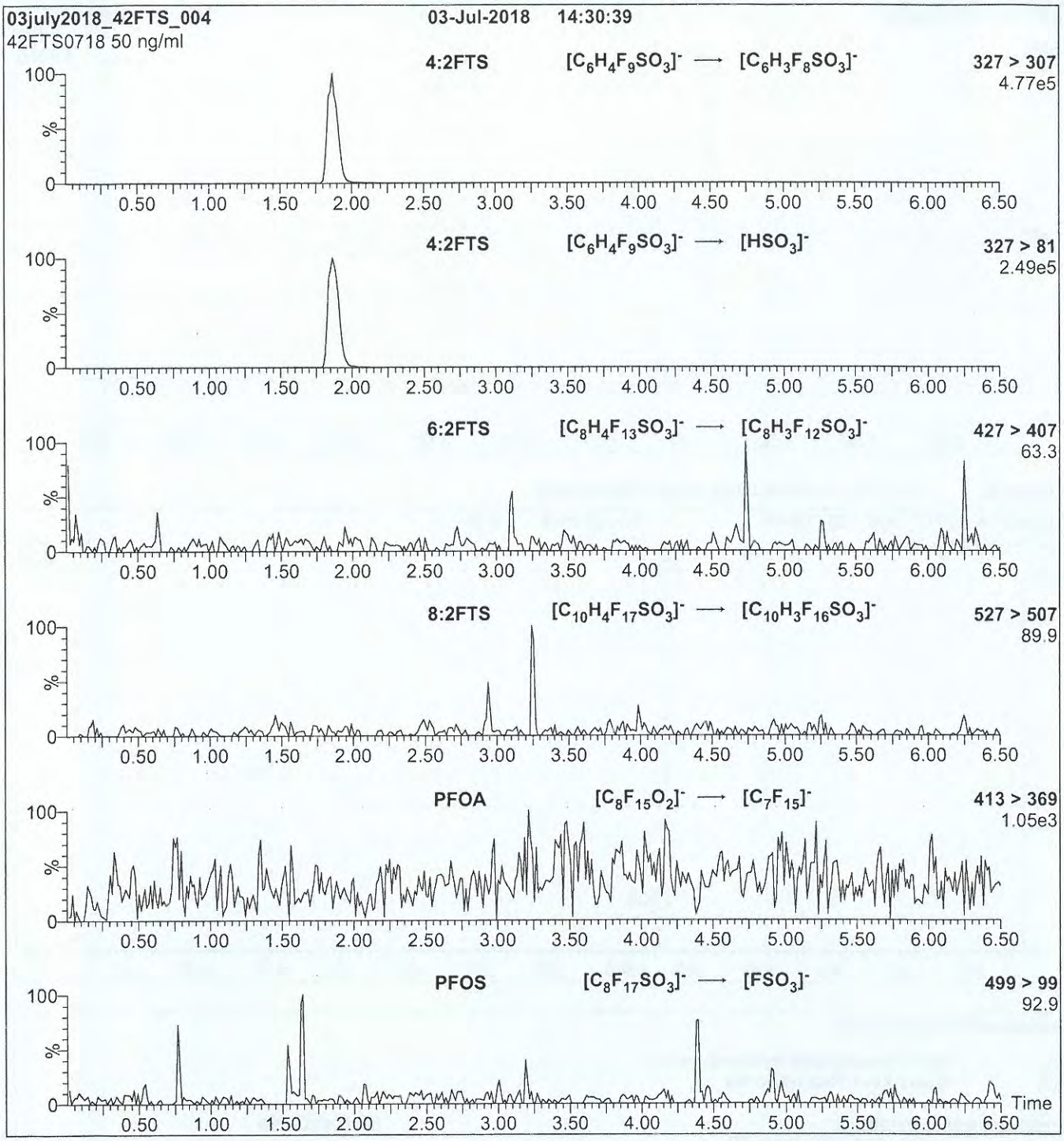
Figure 3: **4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



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

1812655

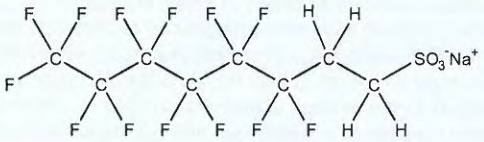
WELLINGTON LABORATORIES

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

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HANDLING:

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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.

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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

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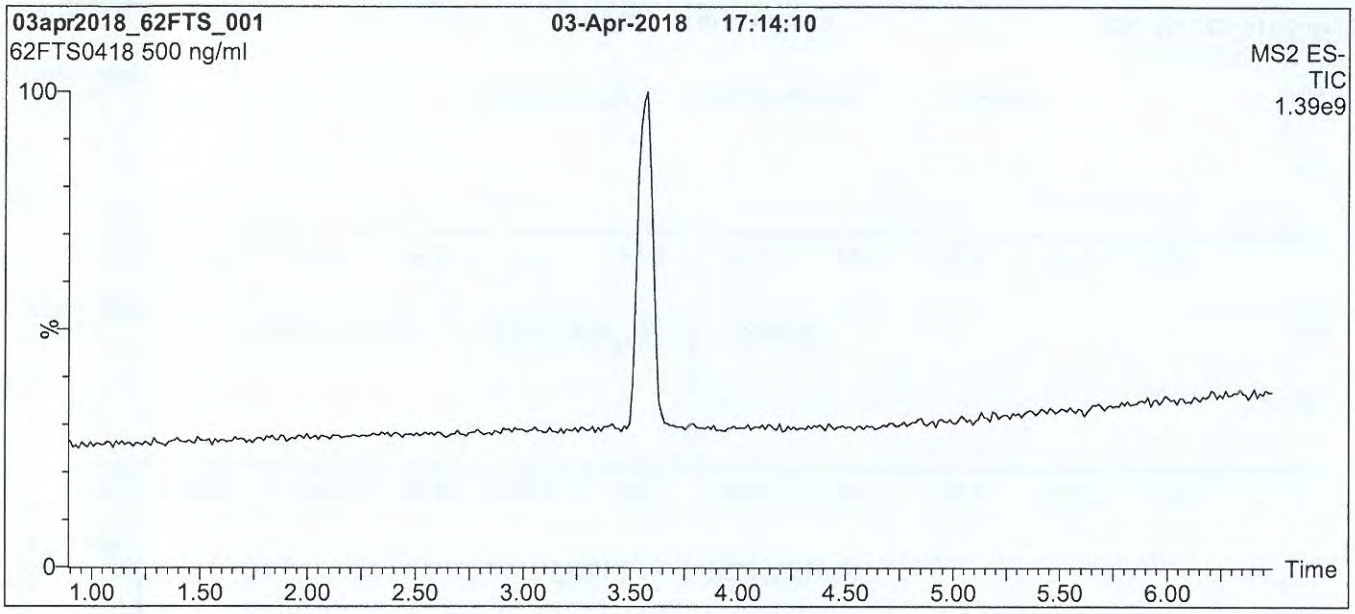
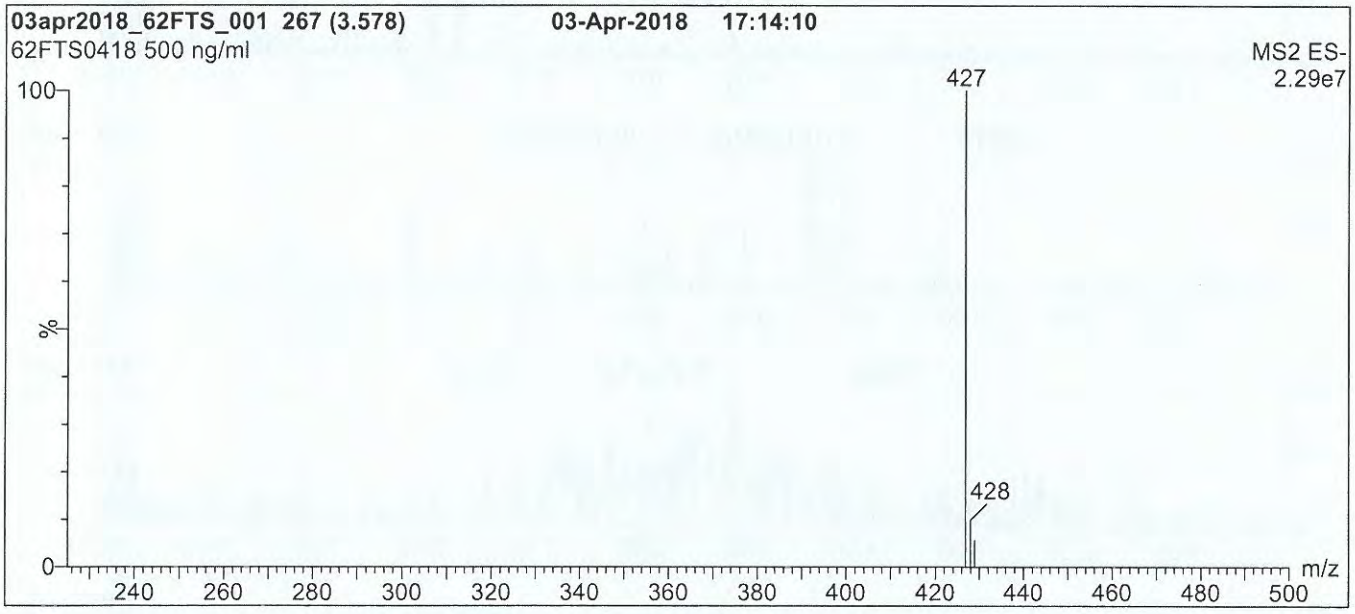
1902055

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

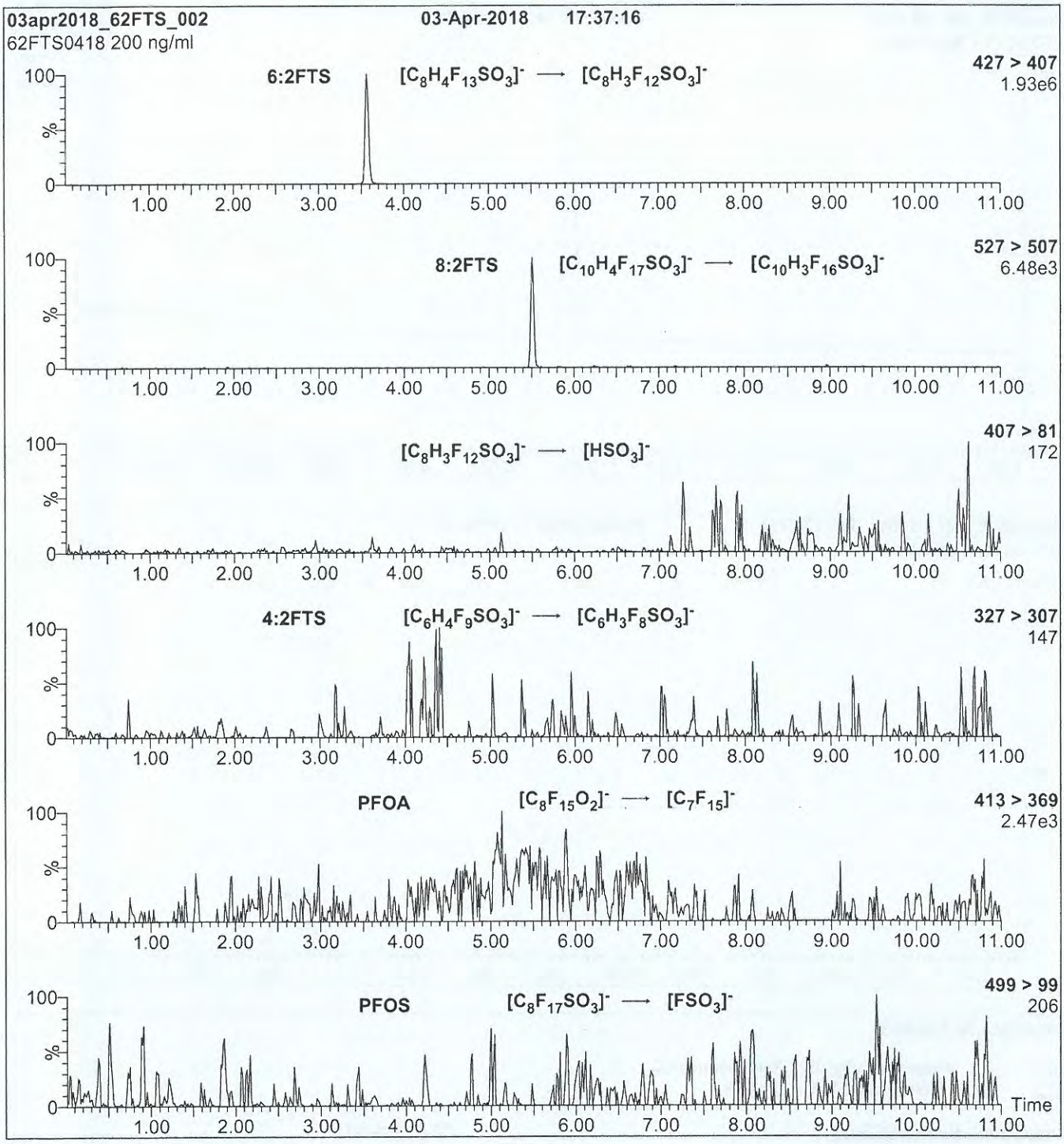
MS Parameters

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

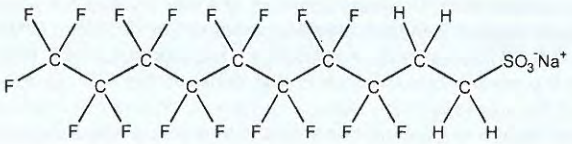
1812056

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

INTENDED USE:

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HANDLING:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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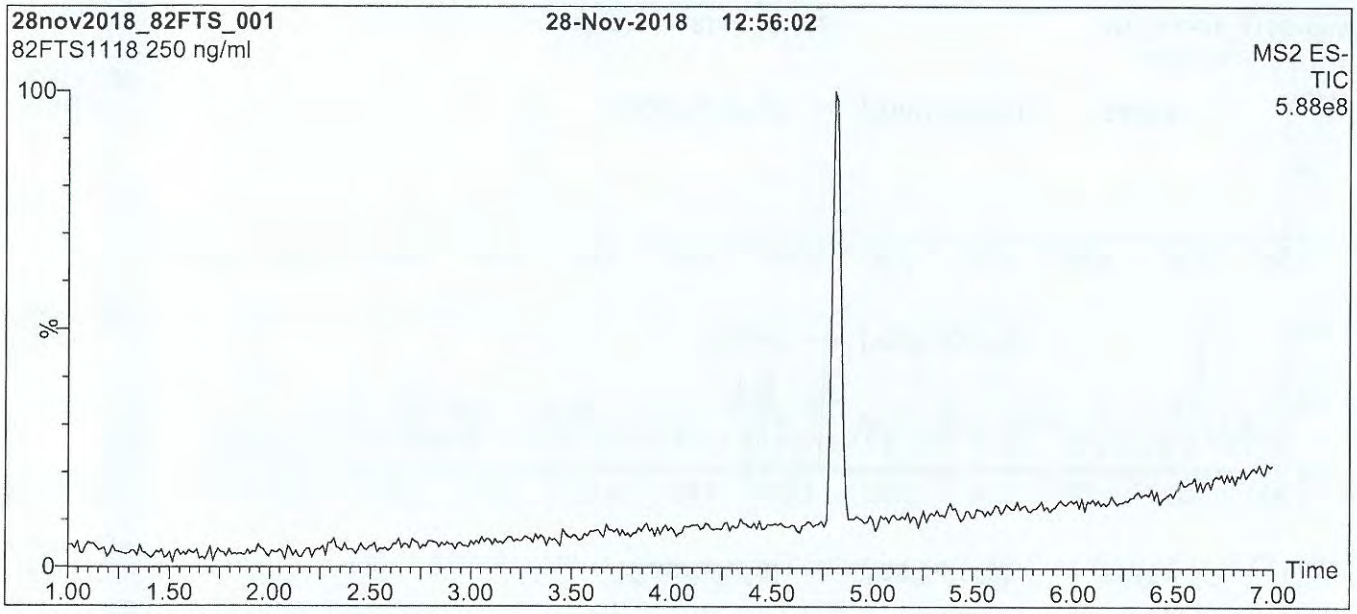
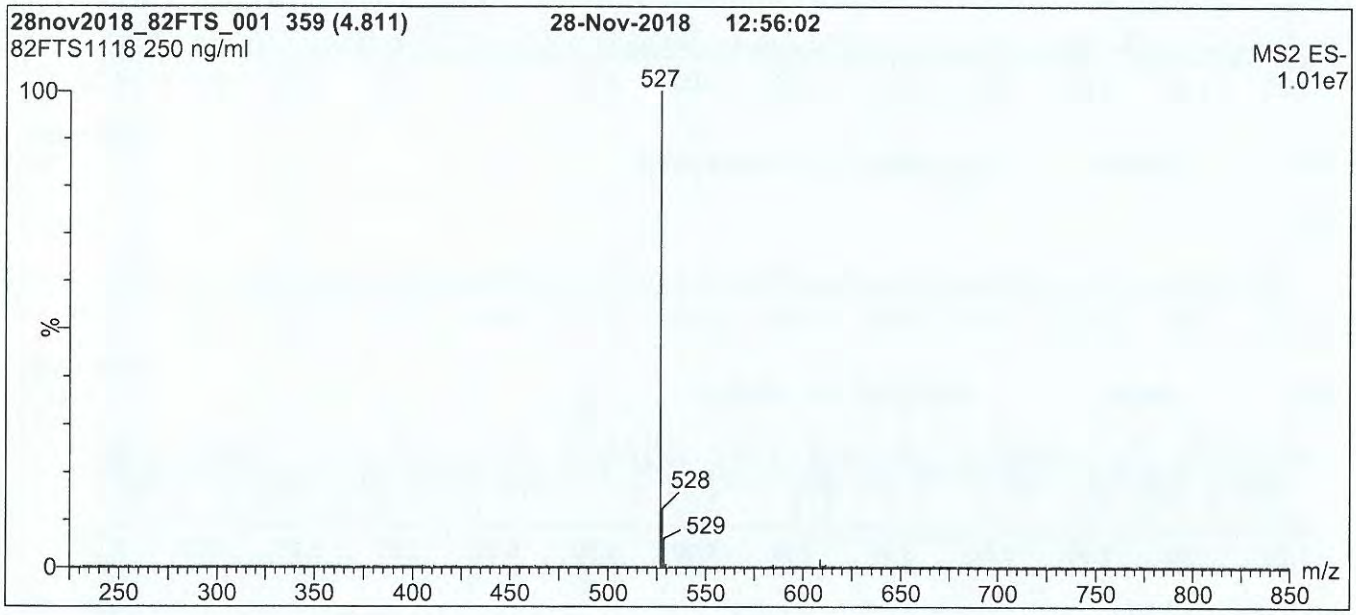
1812056

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

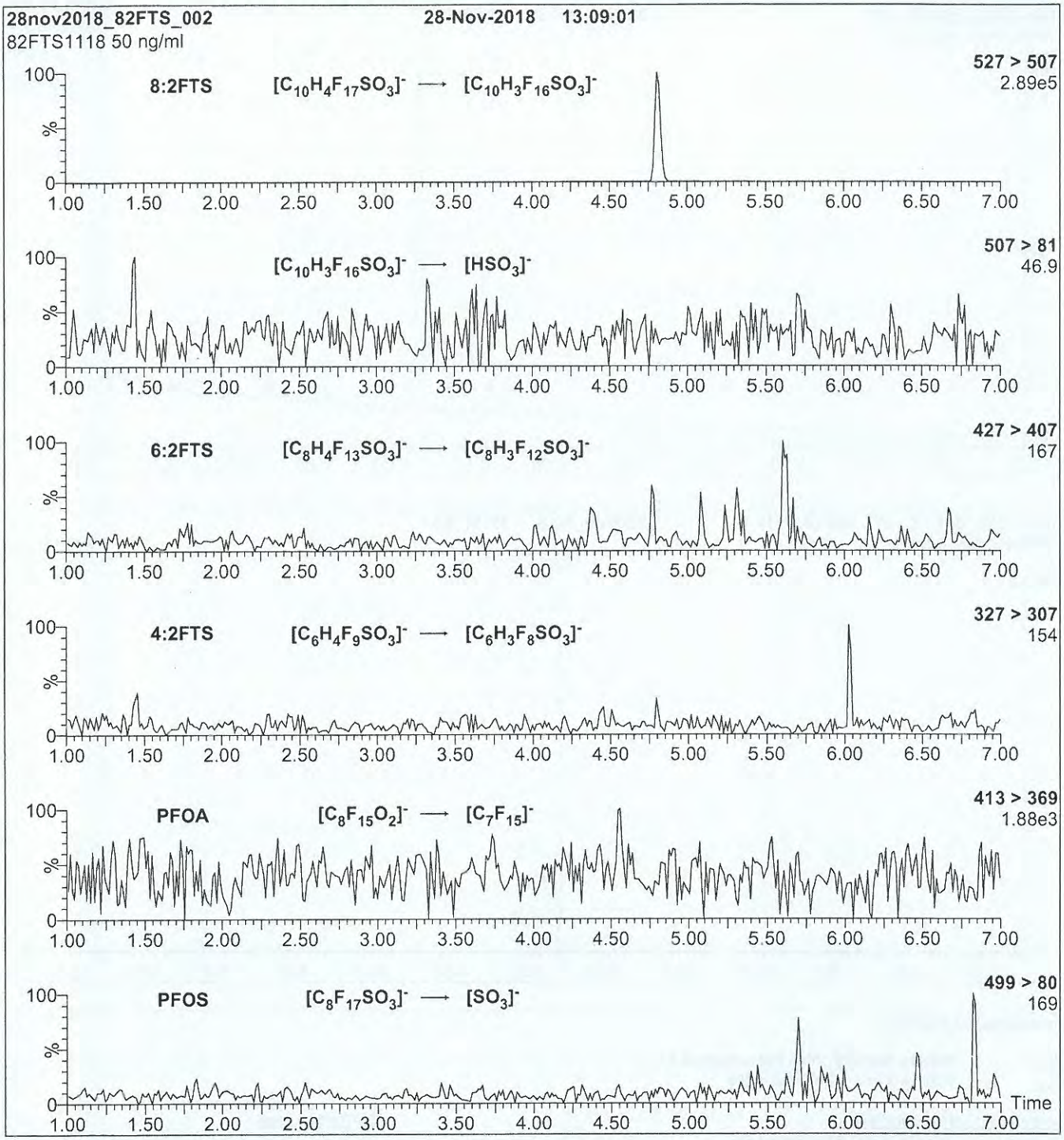
MS Parameters

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

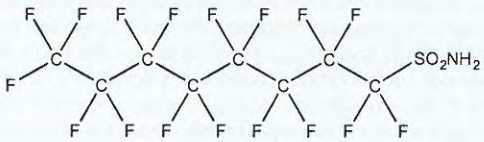
Collision Gas (mbar) = 2.74e-3
Collision Energy (eV) = 26

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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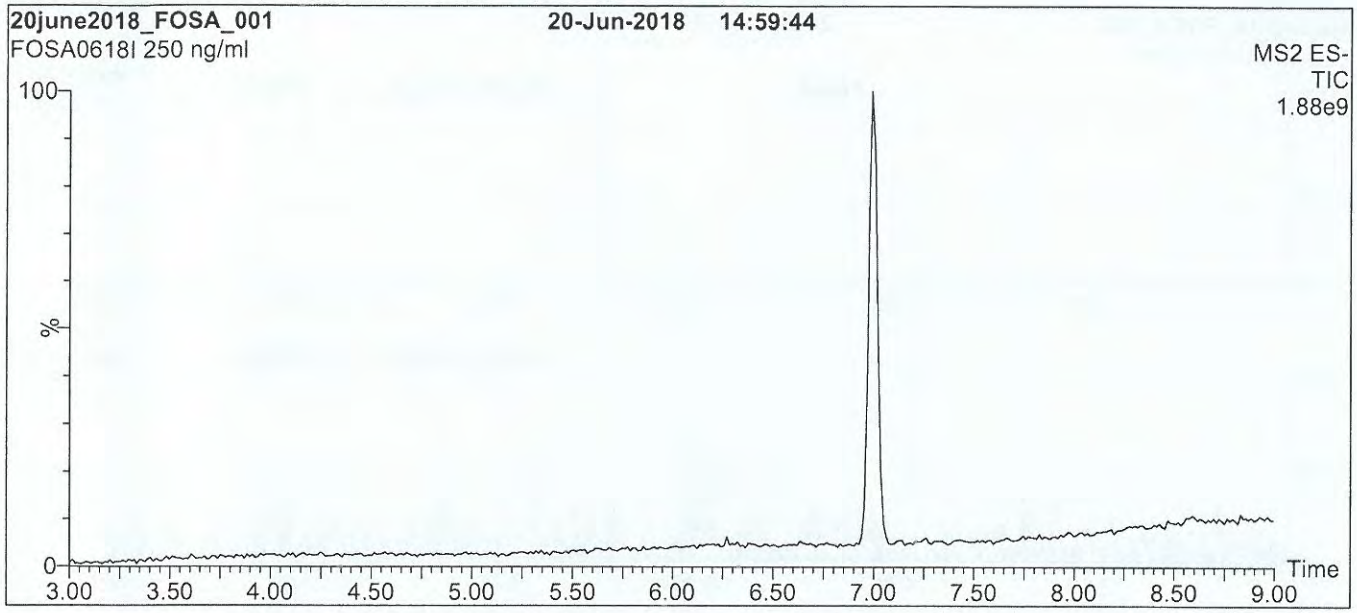
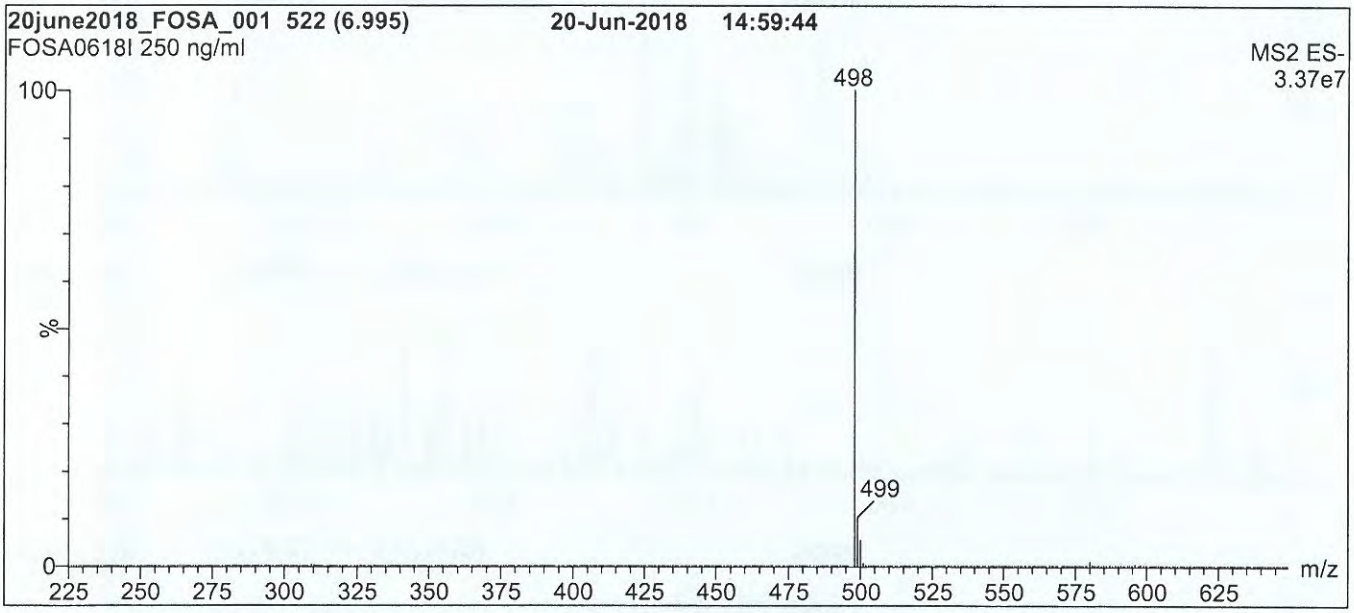
1812057

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

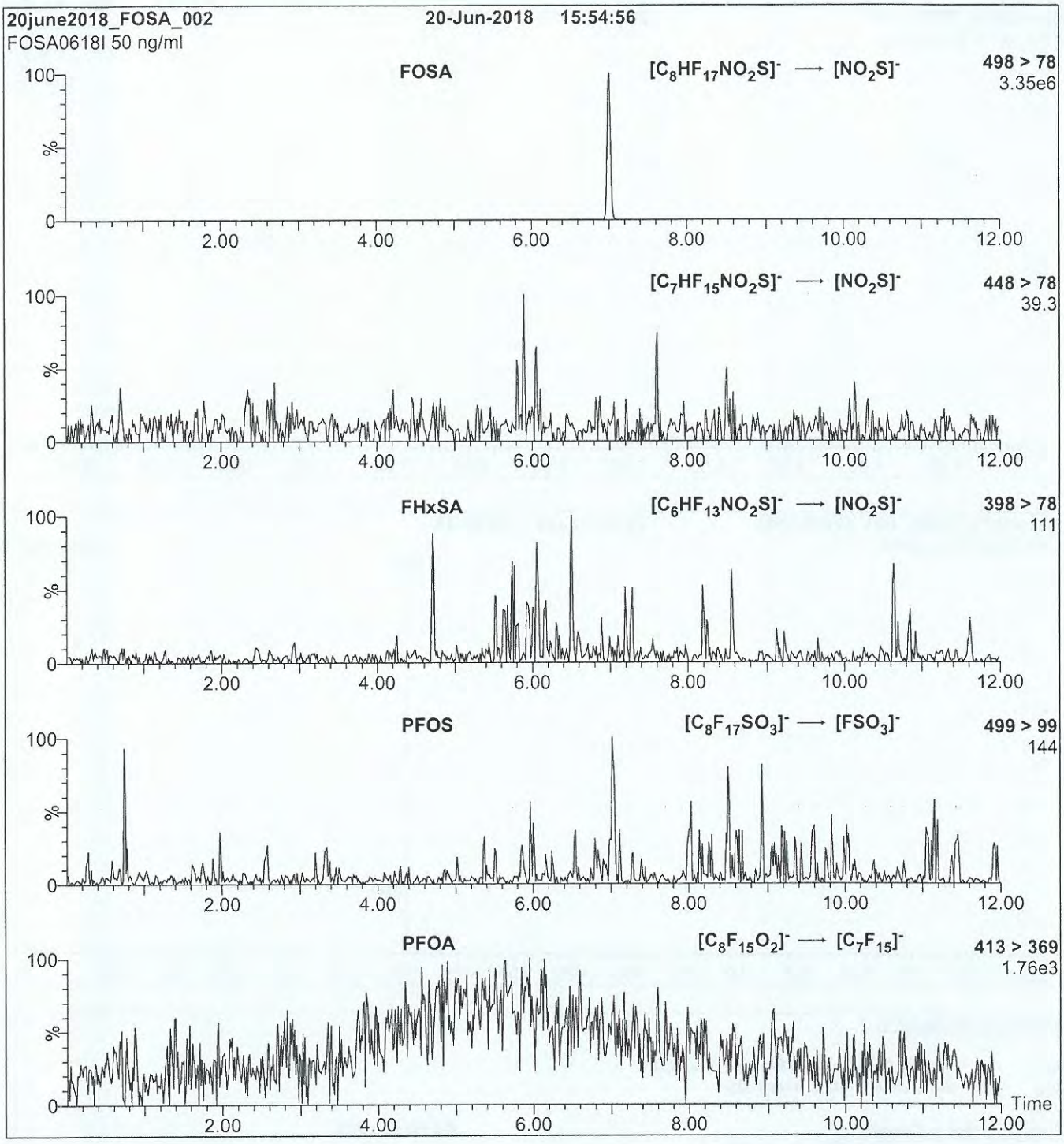
MS Parameters

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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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

18L2058

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CALA Testing Accreditation No. A 1226

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1862058

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

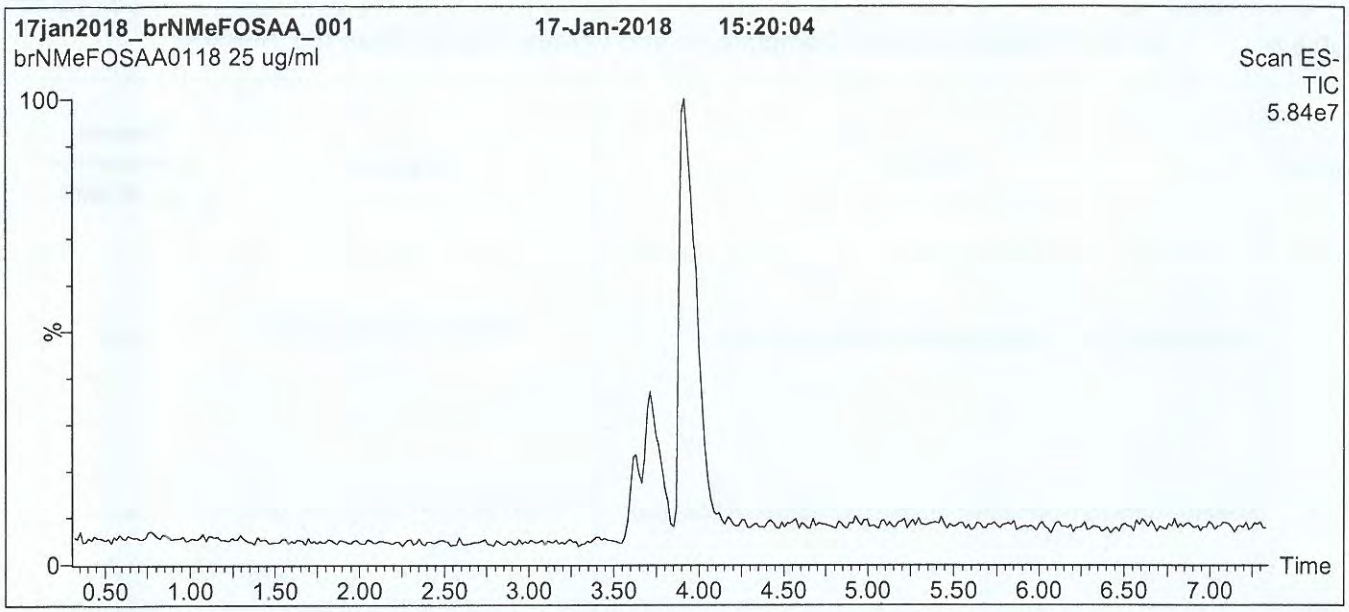
* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

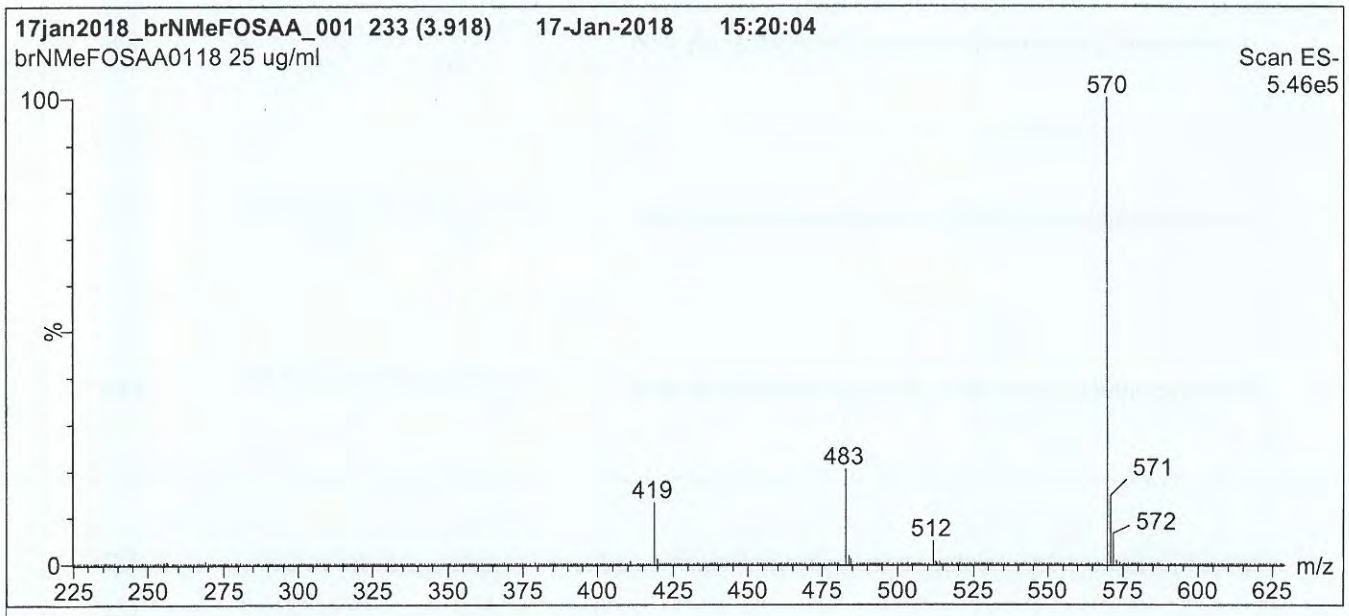
Certified By: _____ **Date:** 03/22/2018 (mm/dd/yyyy)

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

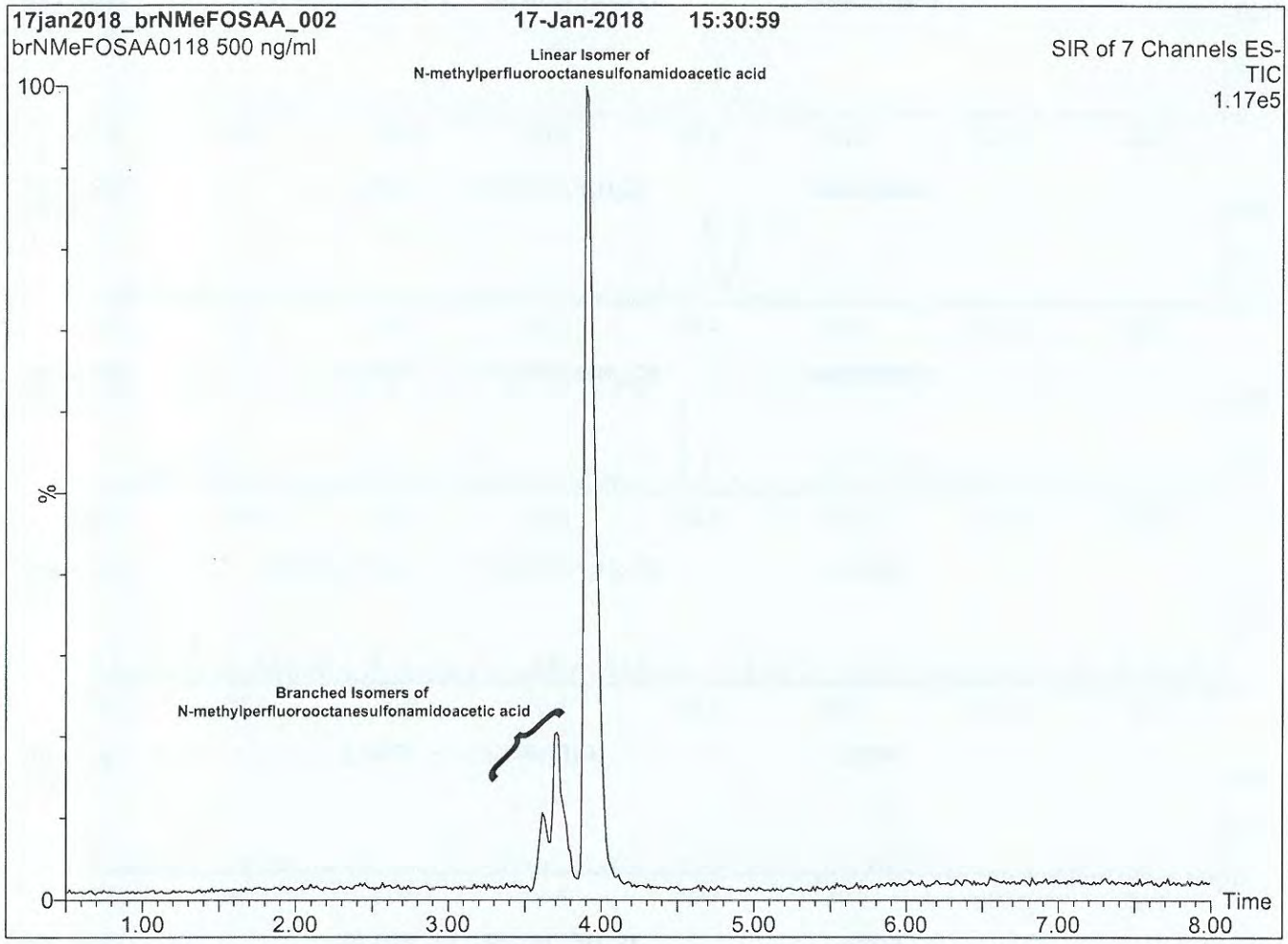
MS Parameters

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

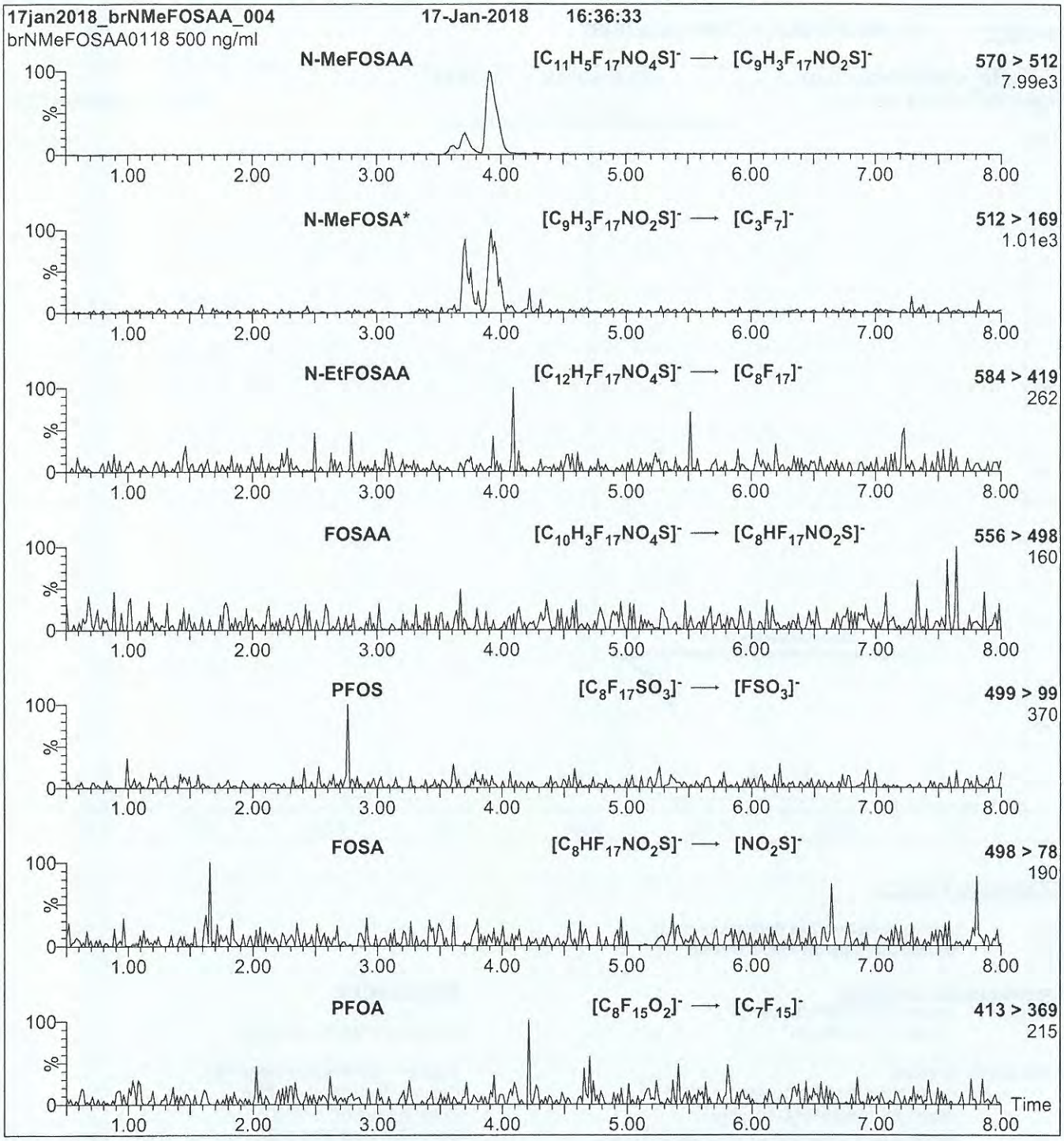
MS Parameters

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

1862059

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

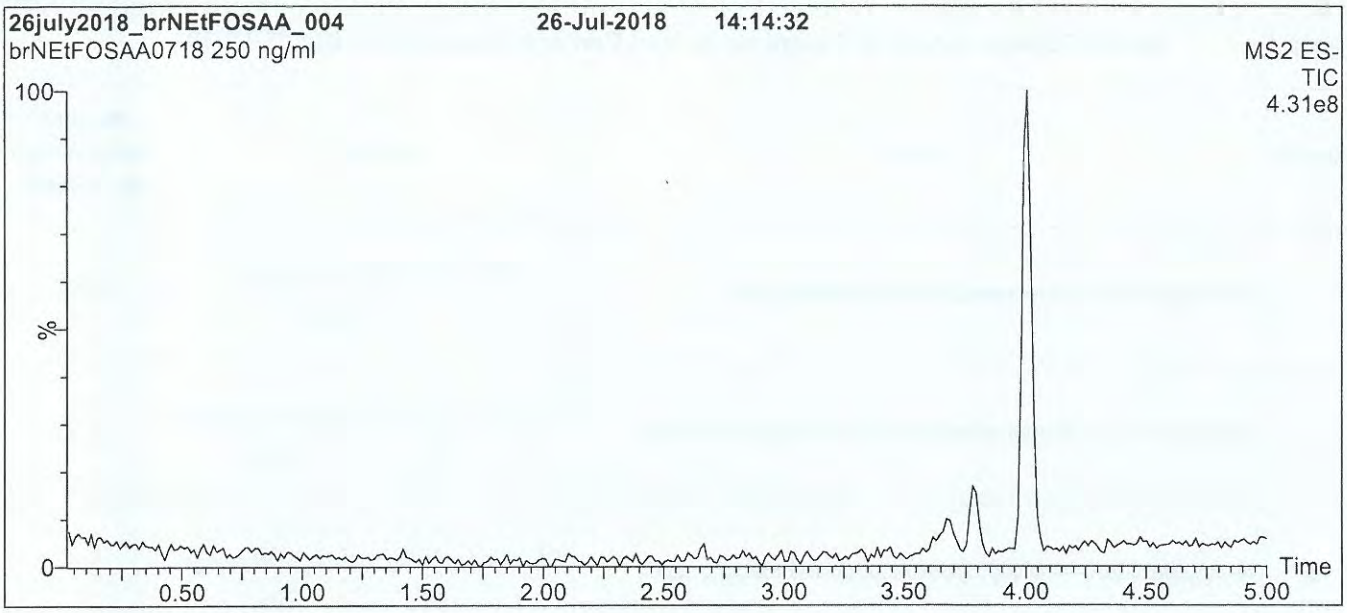
* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

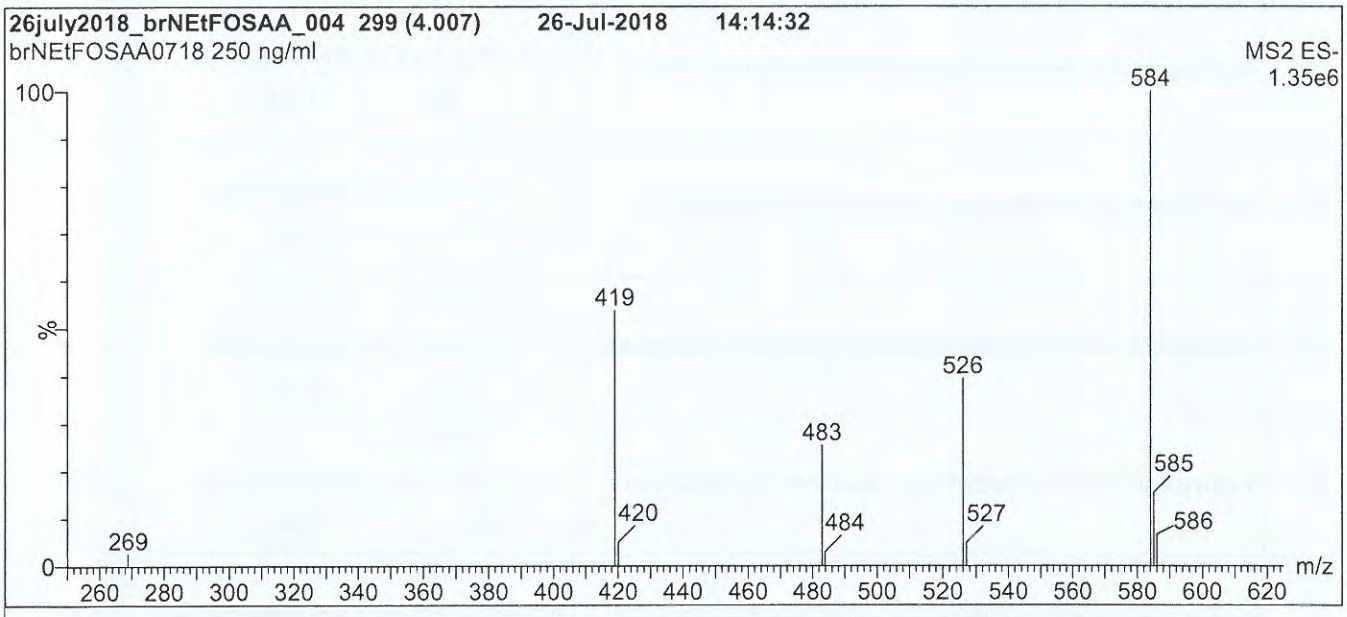
Certified By: _____ **Date:** 07/27/2018 (mm/dd/yyyy)

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

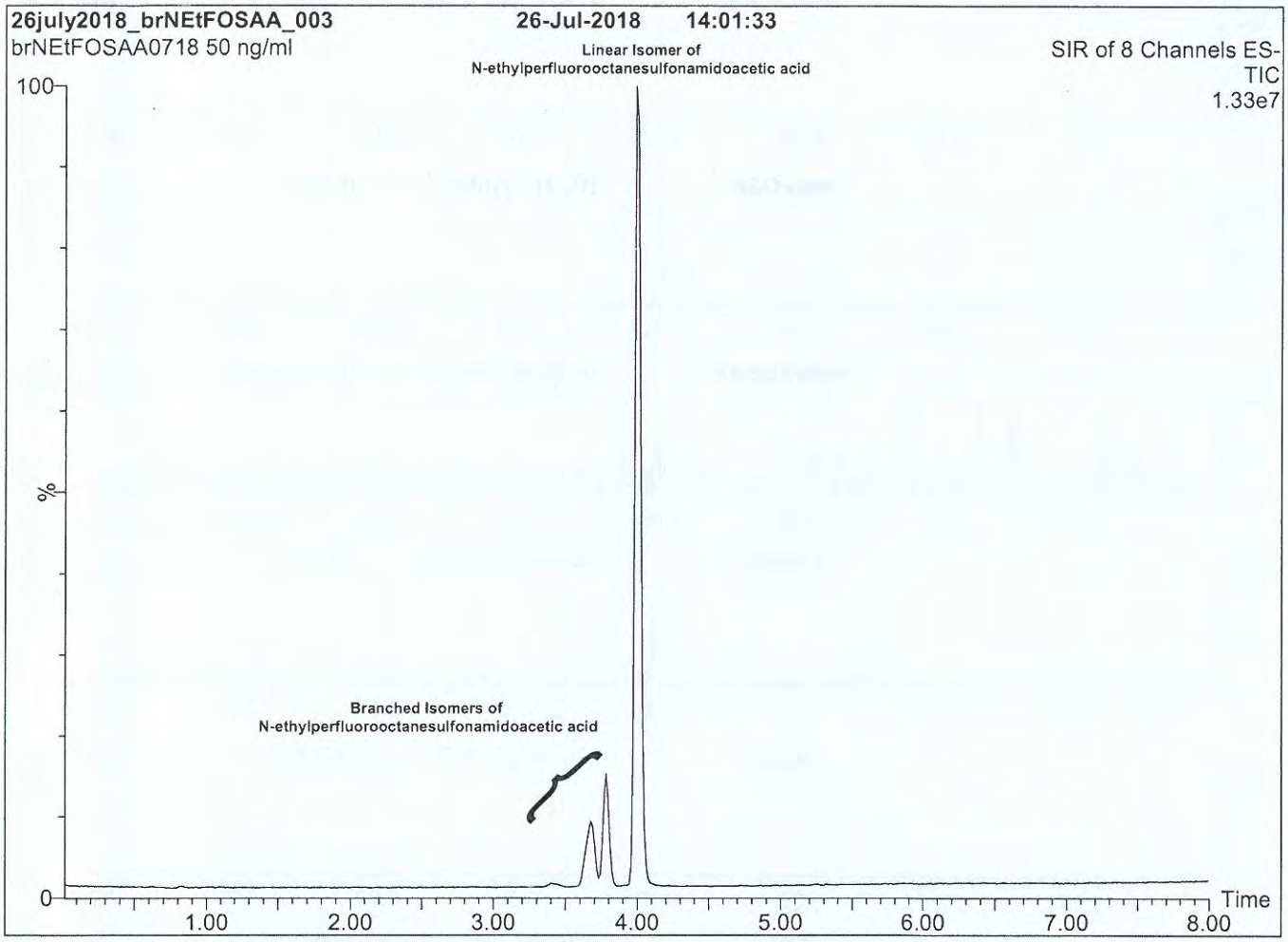
MS Parameters

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

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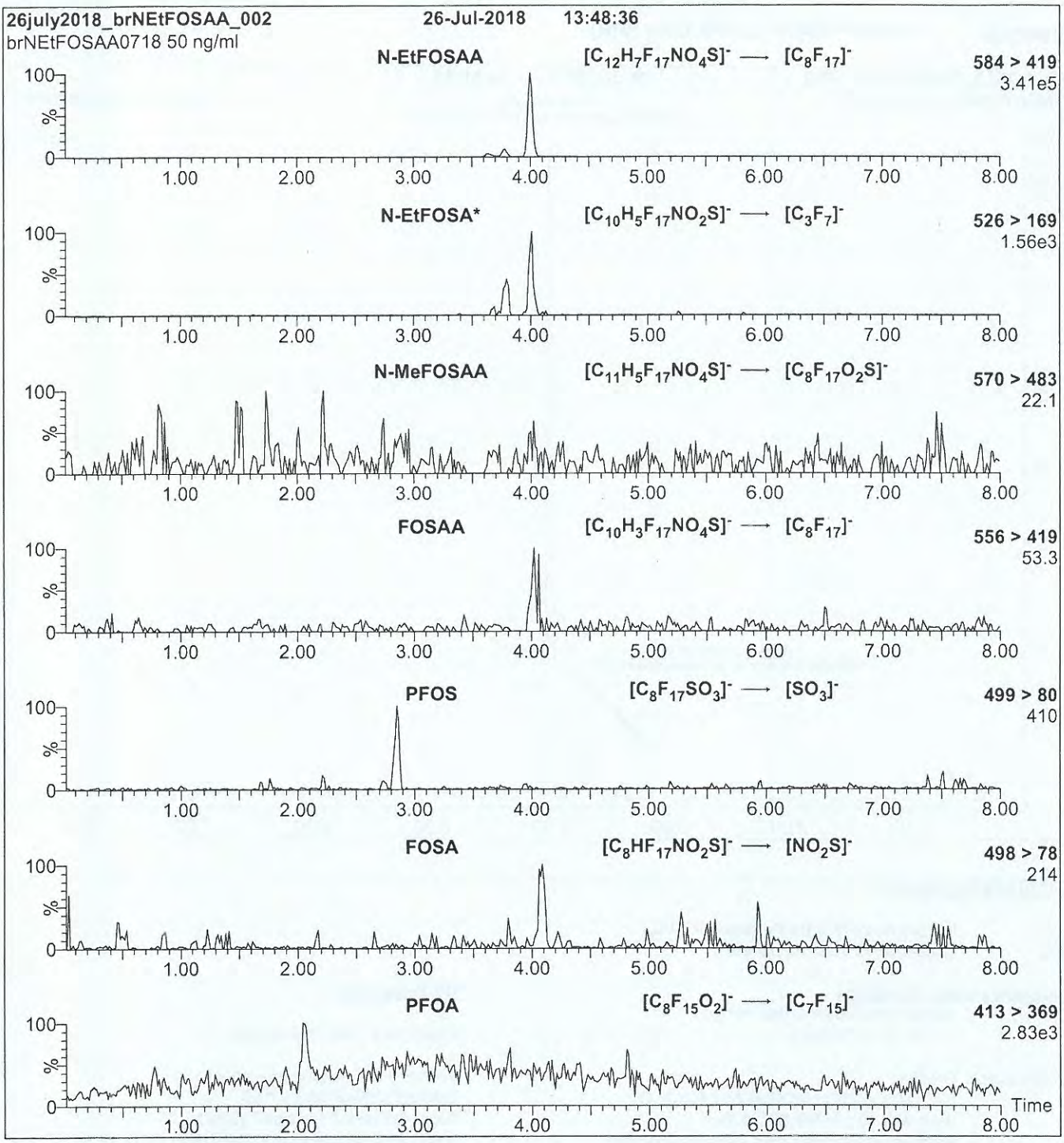
Figure 3: **br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*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

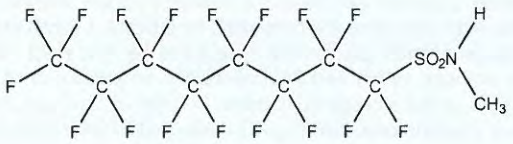
Collision Gas (mbar) = 3.76e-3
Collision Energy (eV) = 18

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).

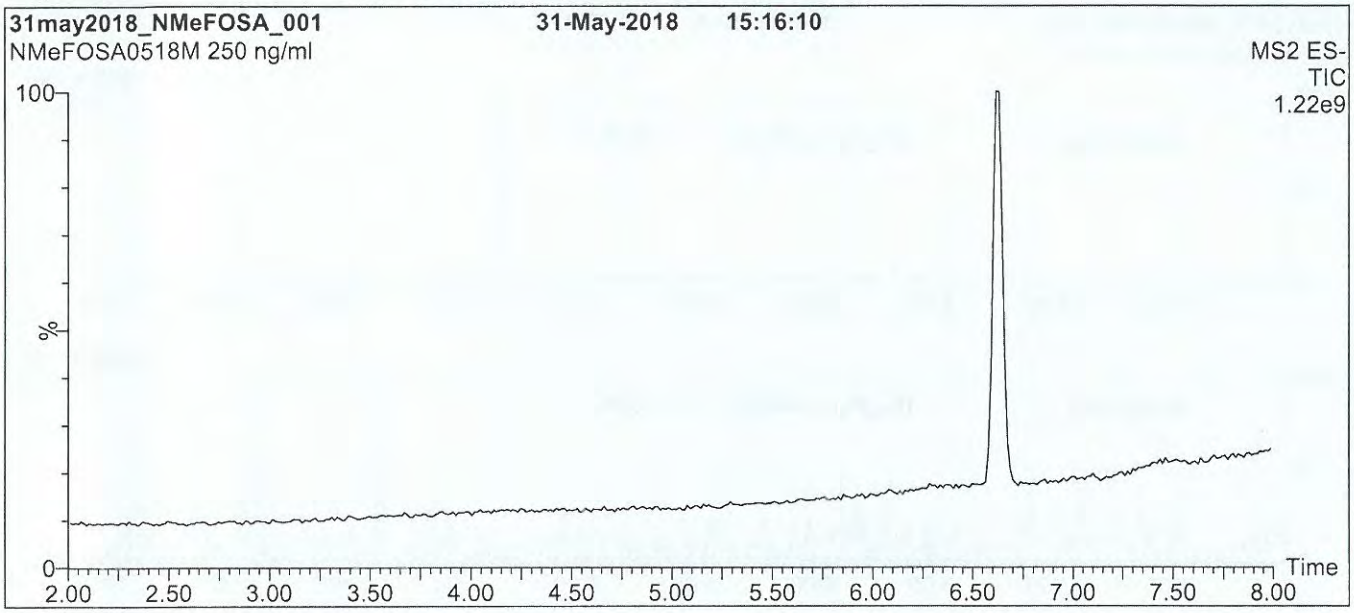
CALA Testing Accreditation No. A 1226

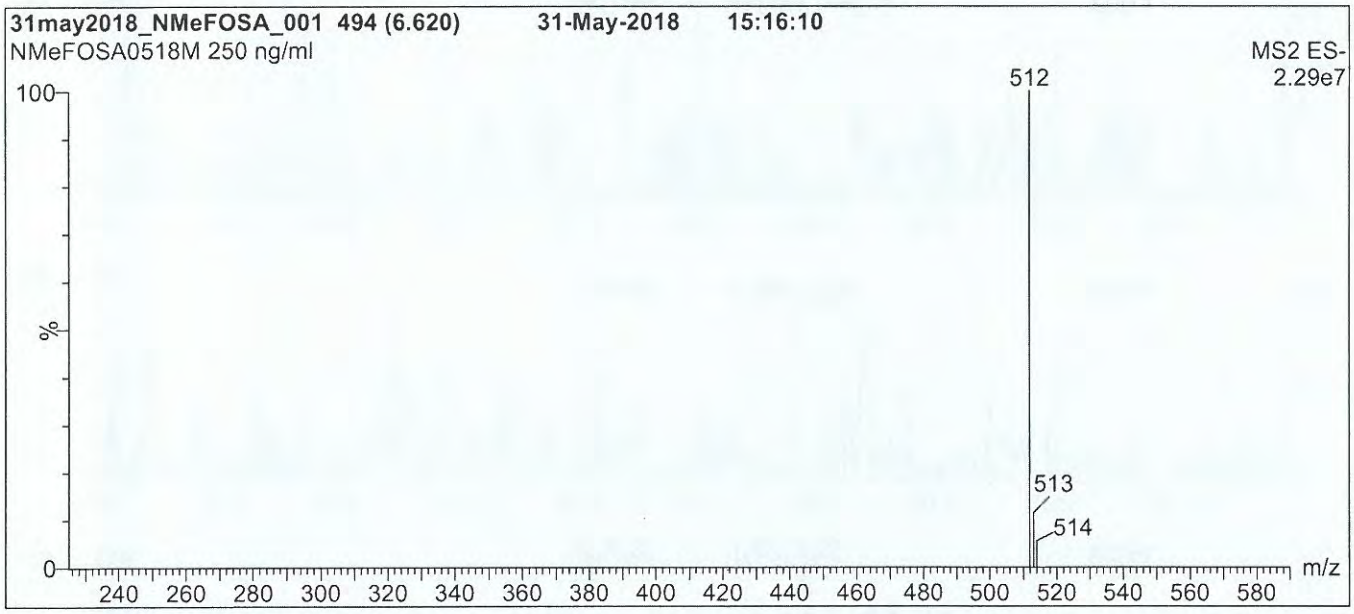
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

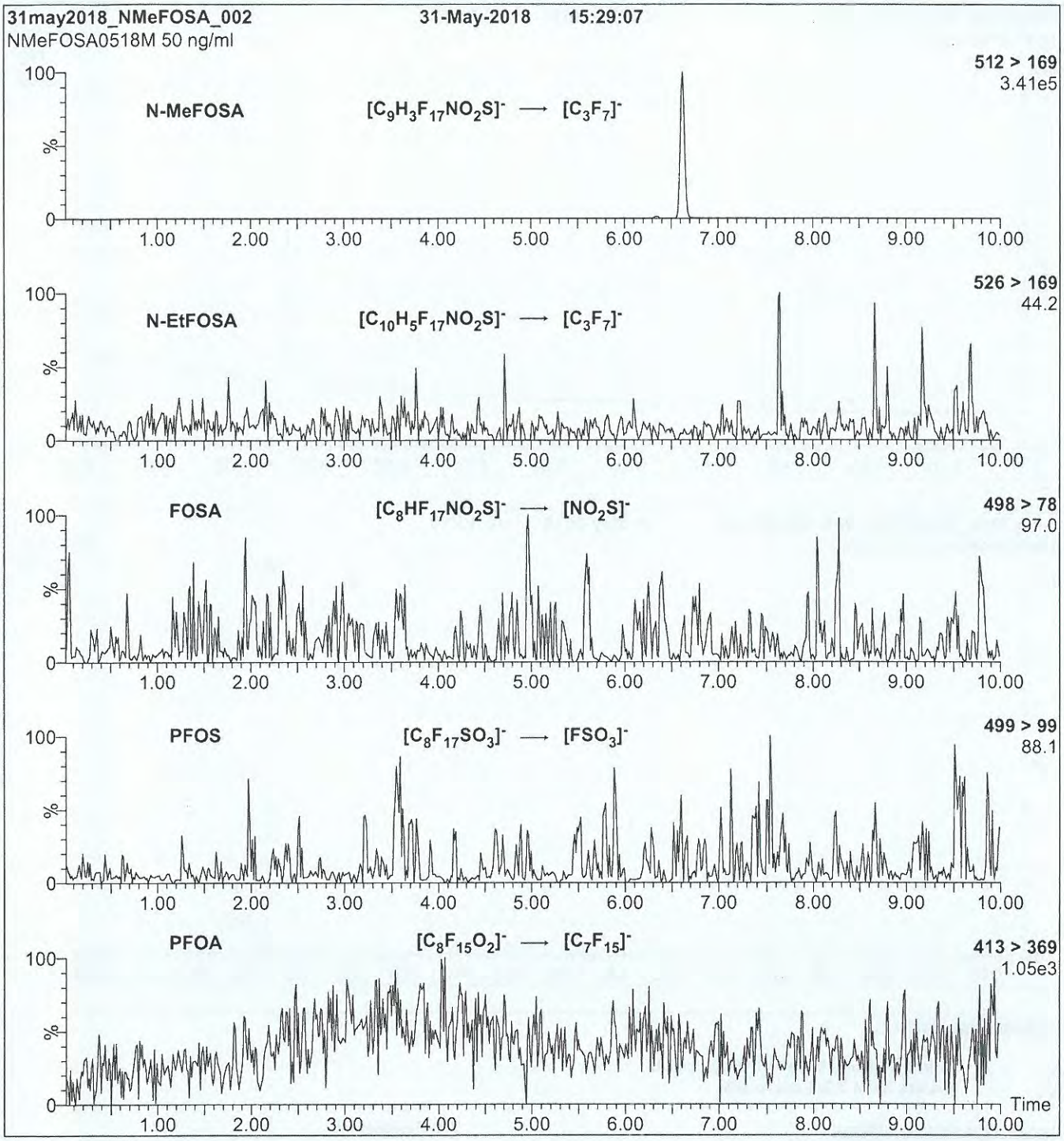
MS Parameters

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

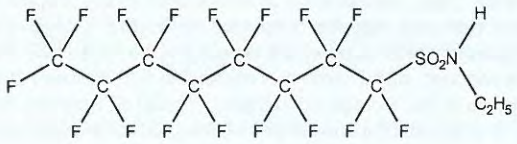
Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 24

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:

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.

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).

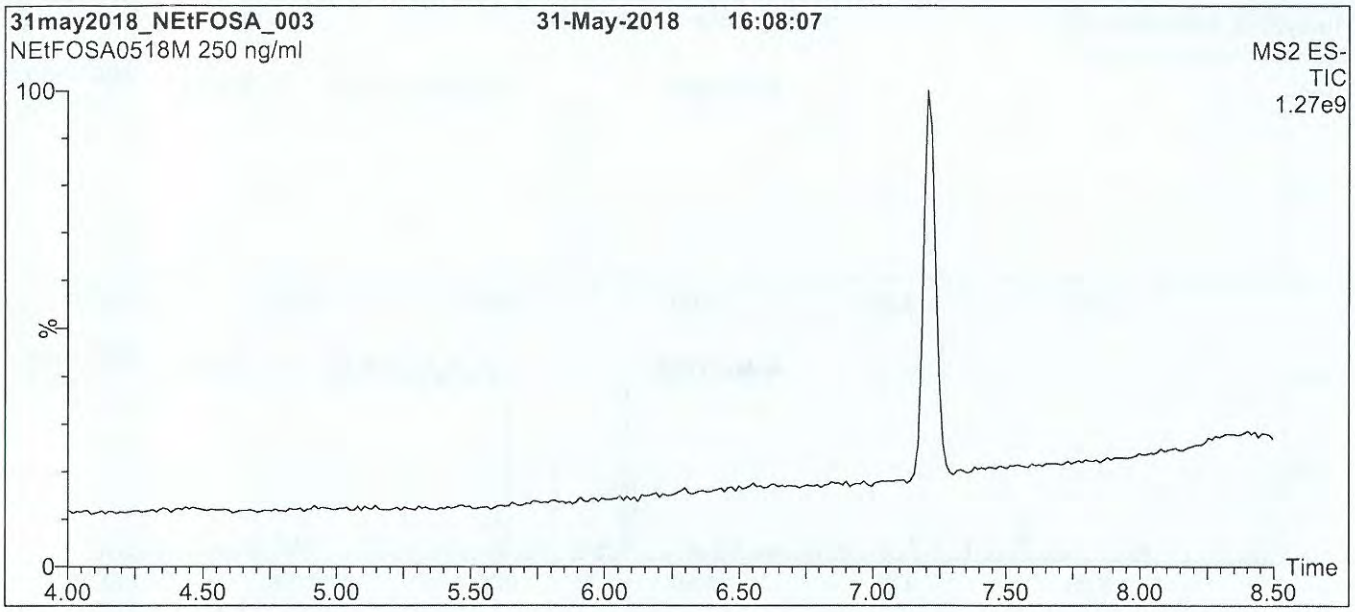
CALA Testing Accreditation No. A 1226

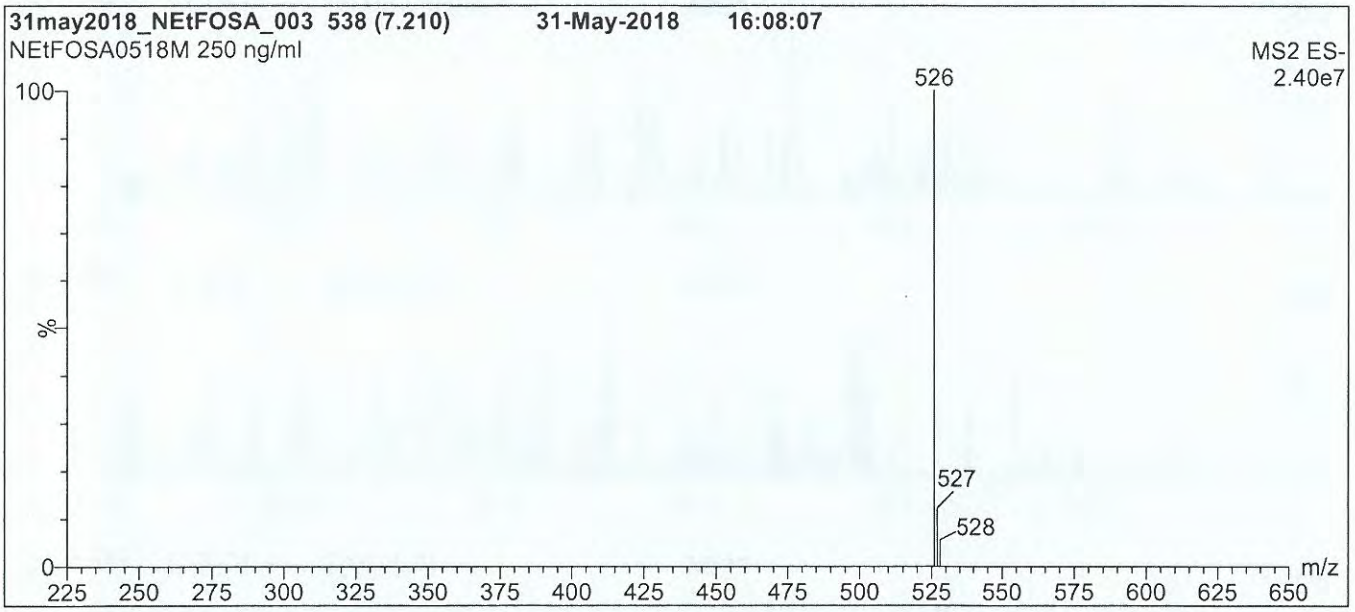
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

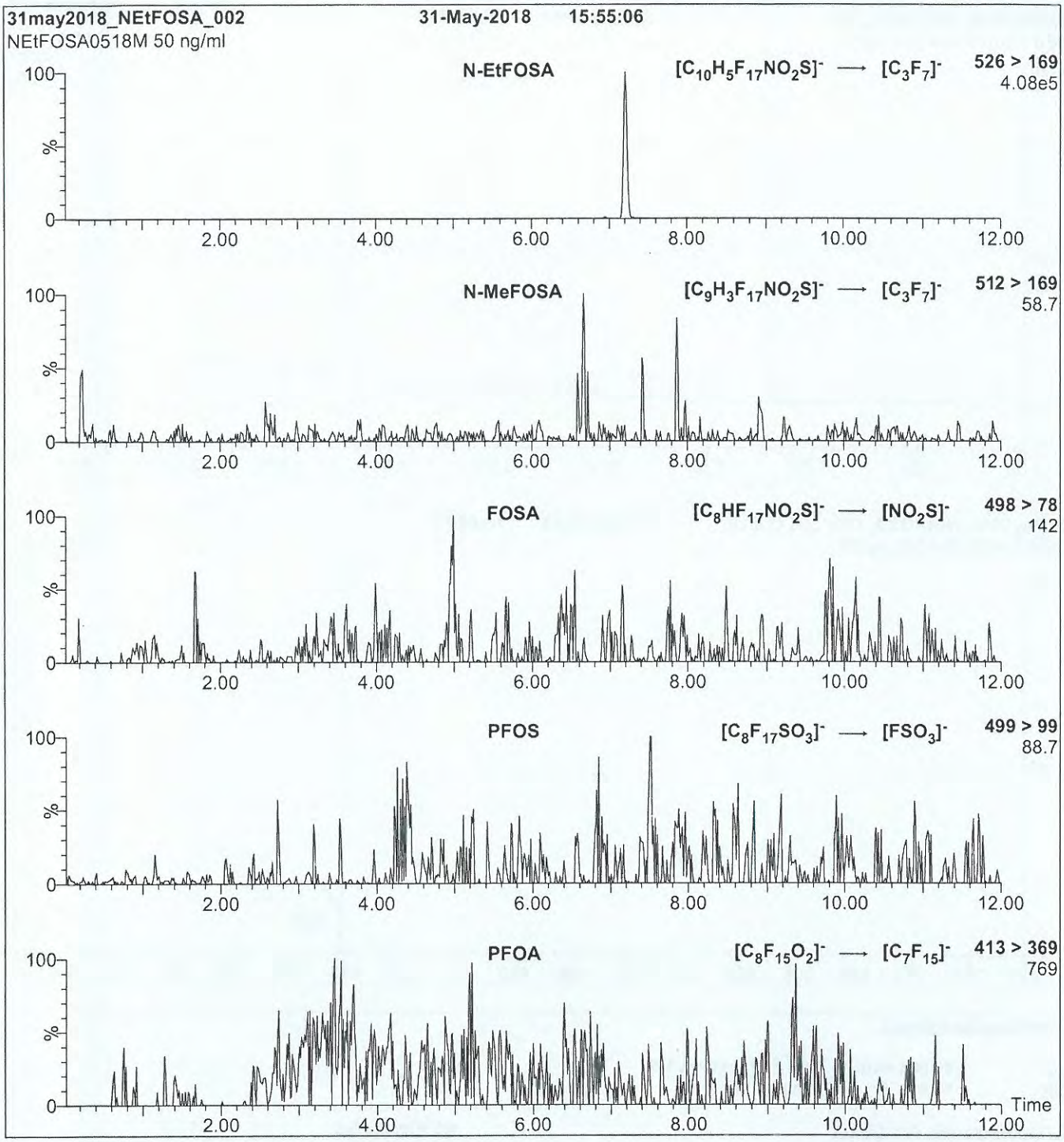
MS Parameters

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

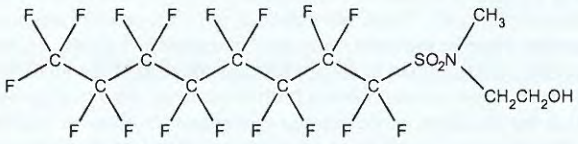
1812062

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:

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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QUALITY MANAGEMENT:

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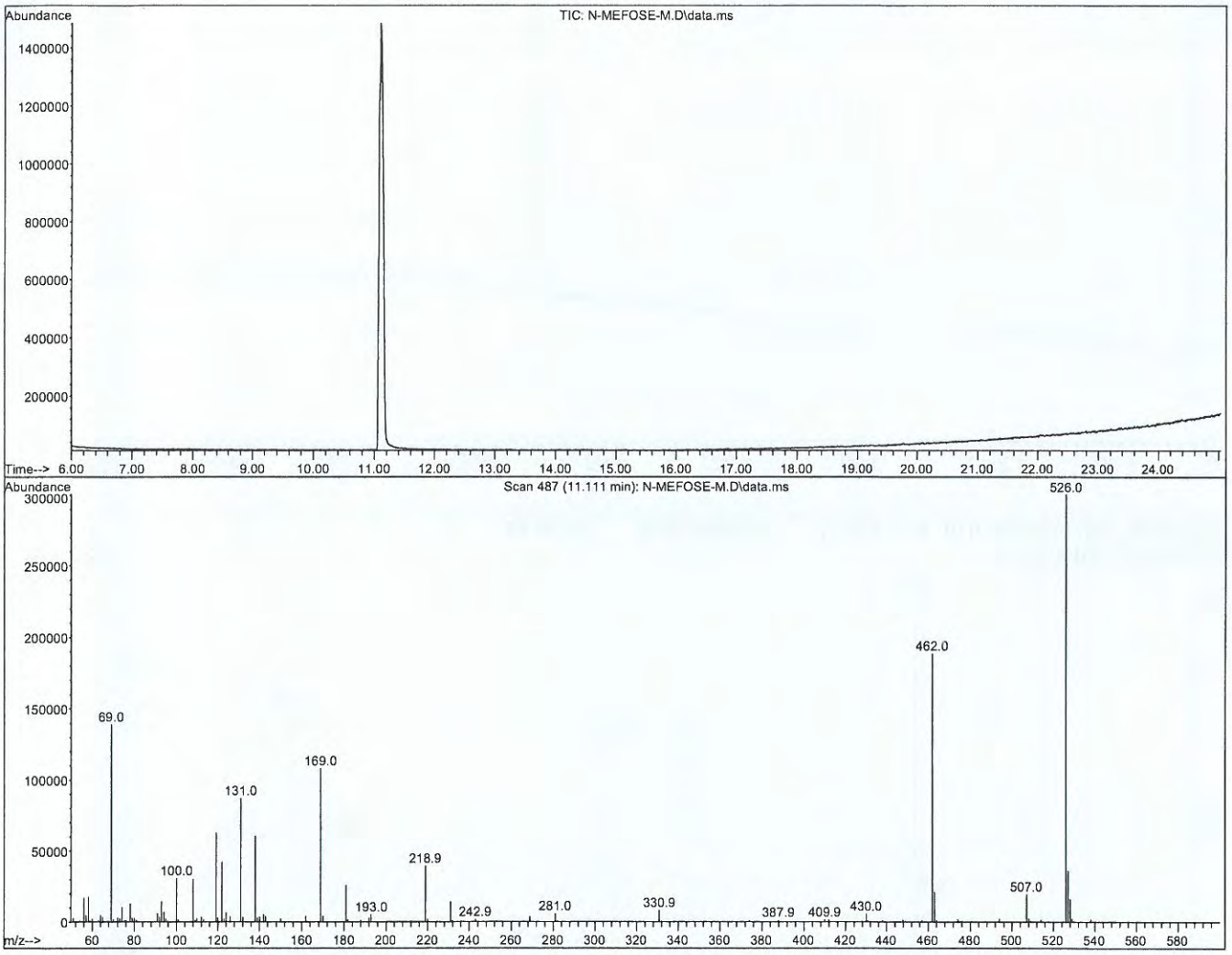
CALA Testing Accreditation No. A 1226

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

18L2062

Figure 1: **N-MeFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

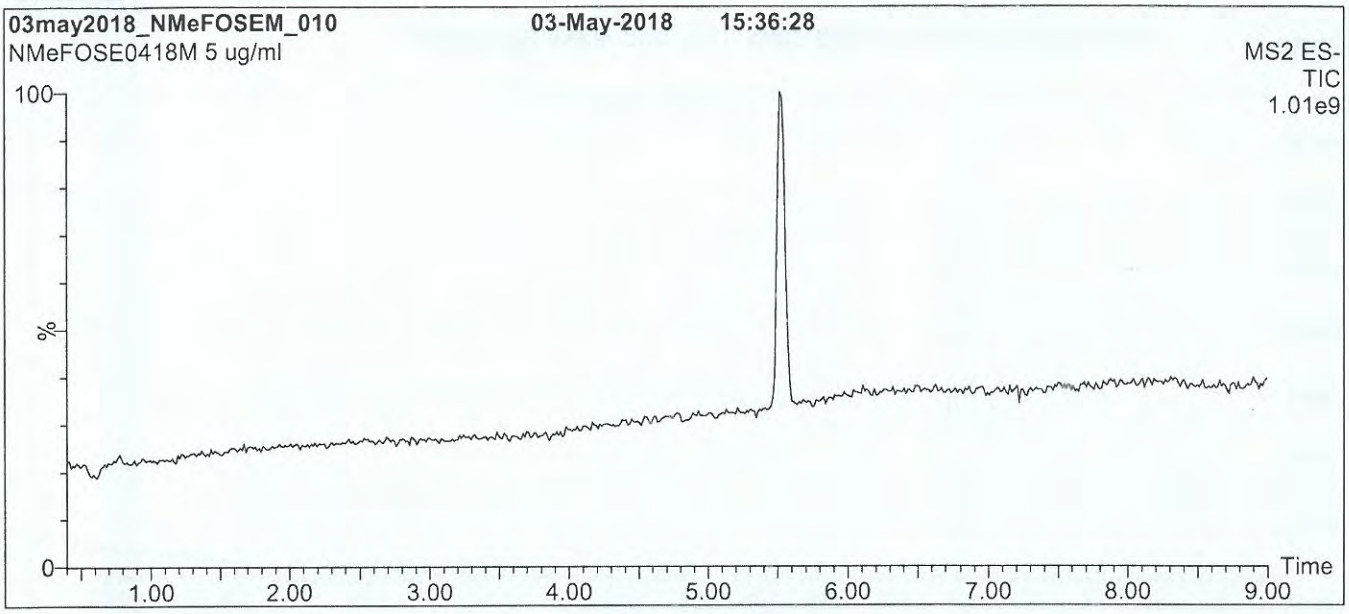
Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

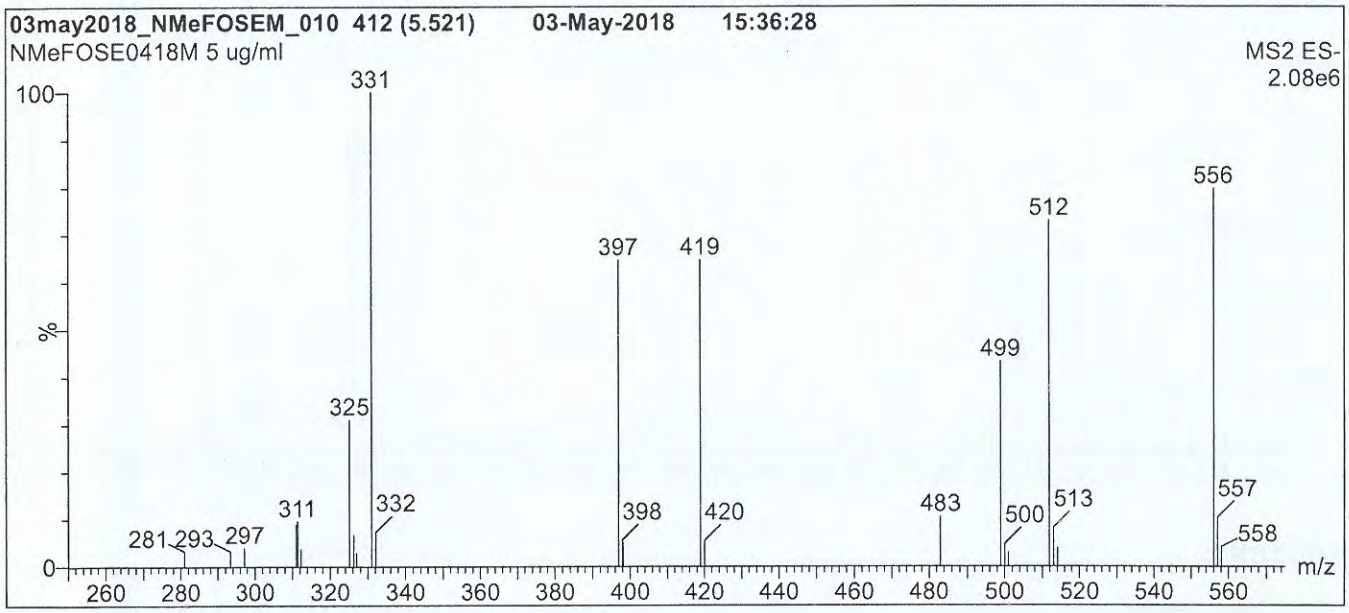
Chromatographic Conditions:

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

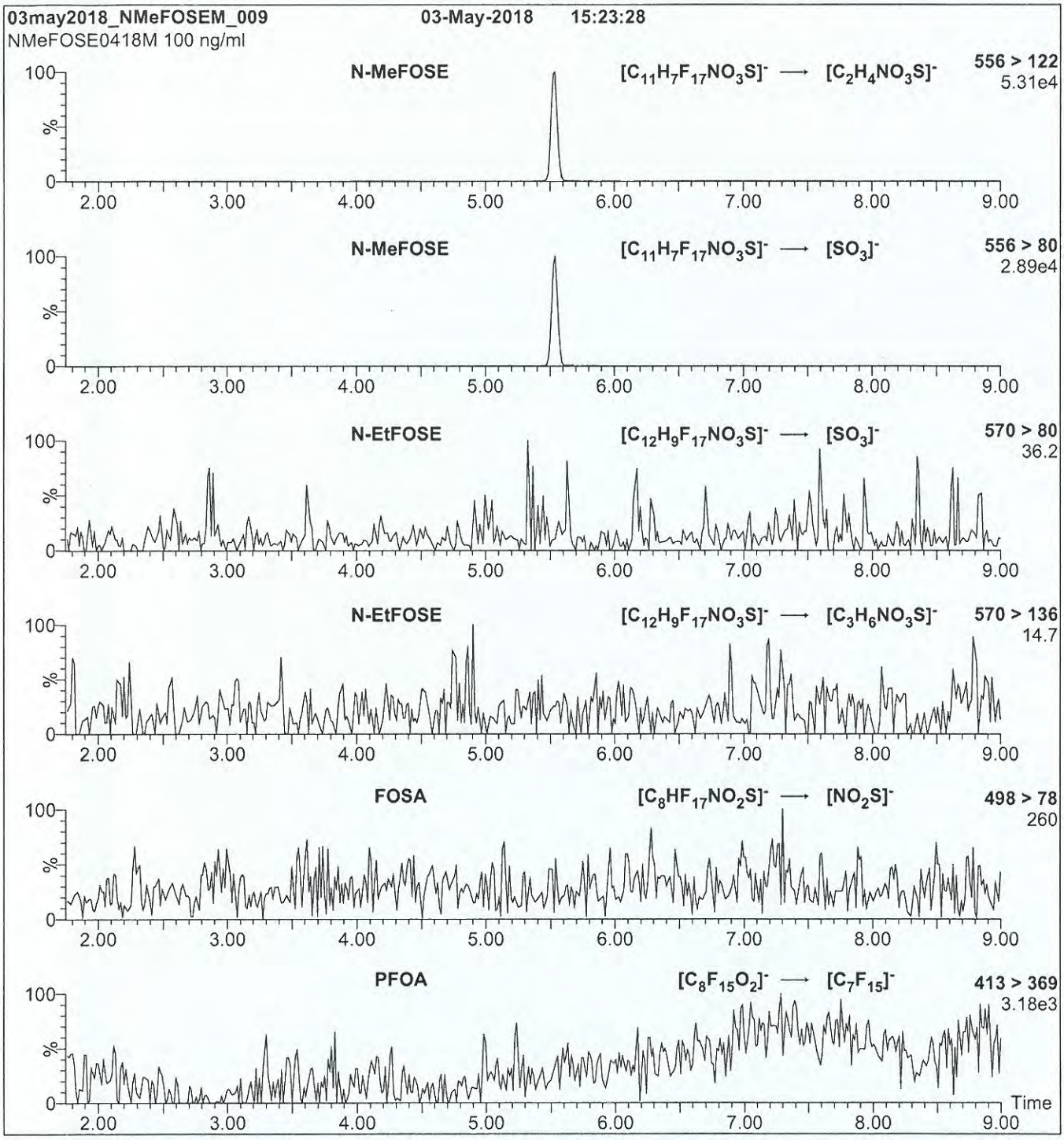
MS Parameters

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

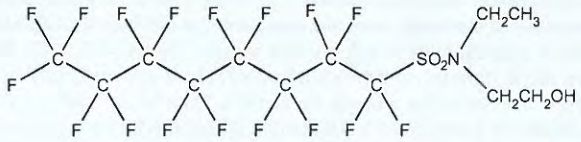
WELLINGTON LABORATORIES

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

1812063

INTENDED USE:

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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

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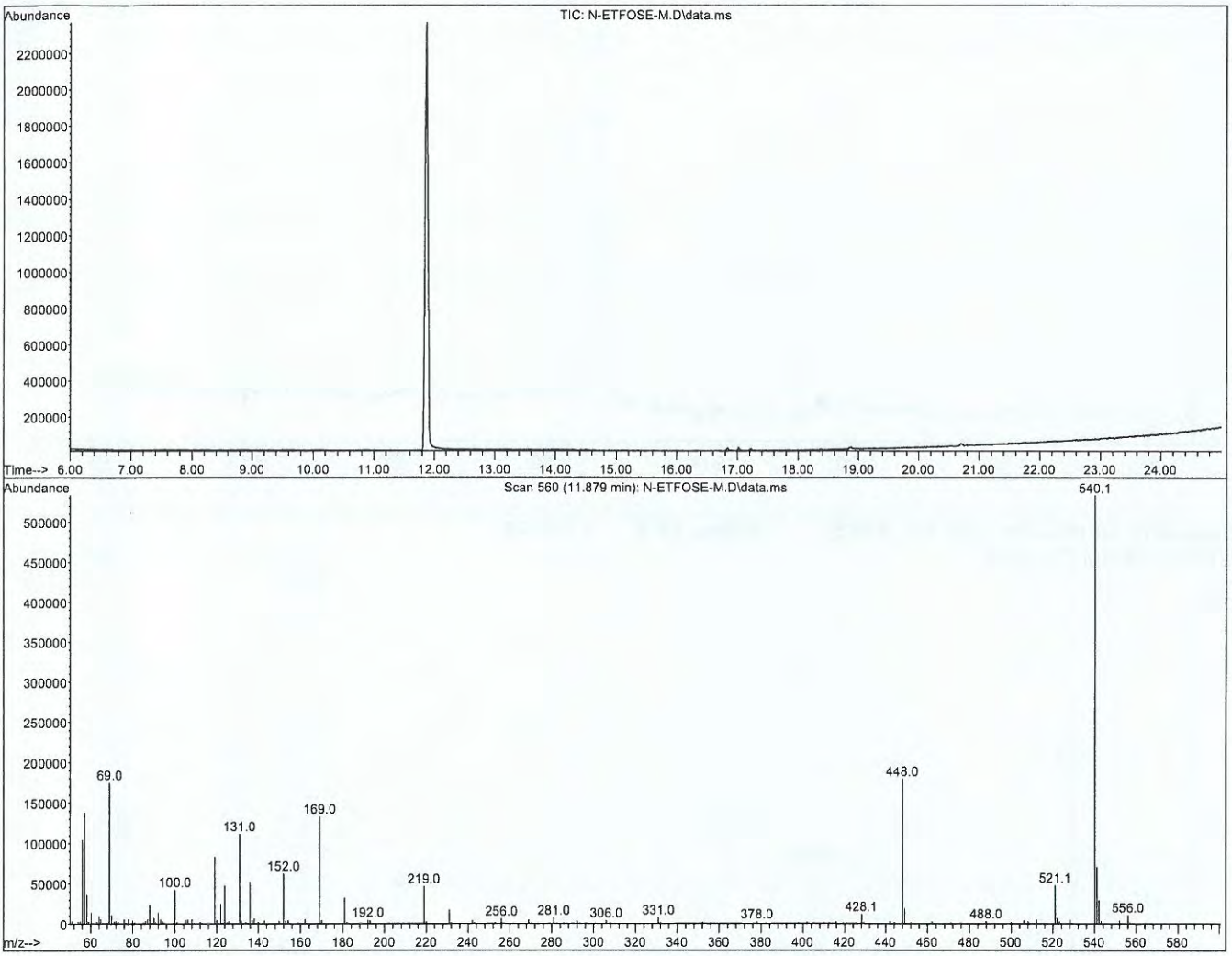
1902063

Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

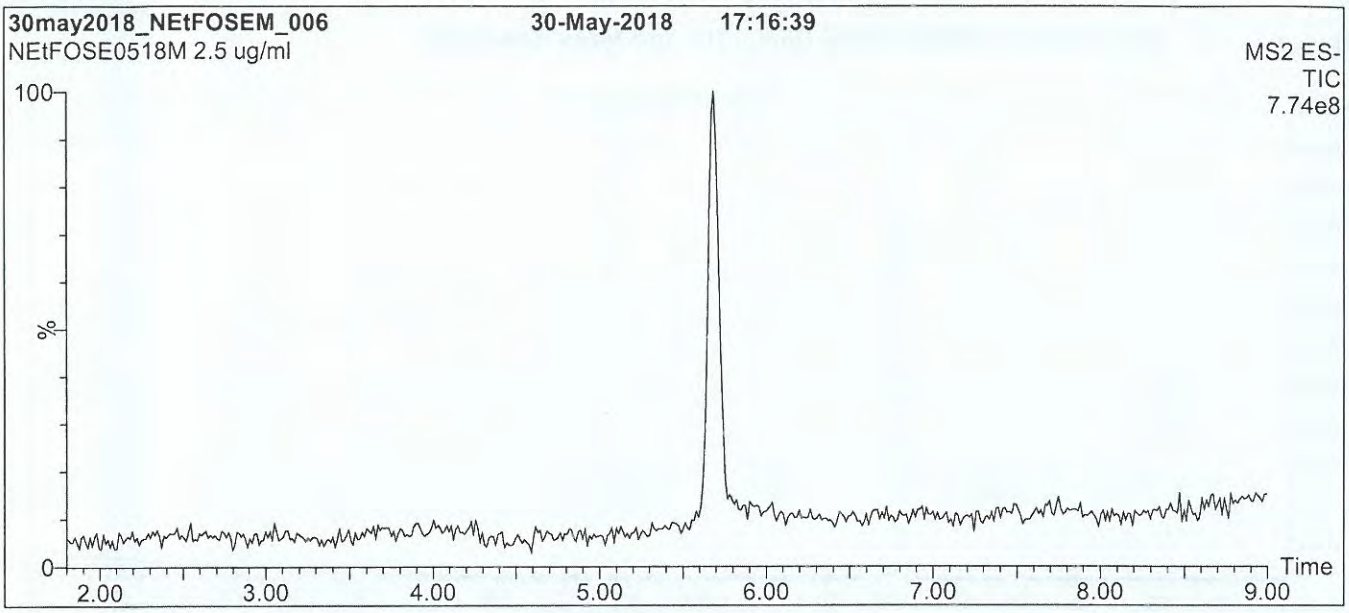
Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

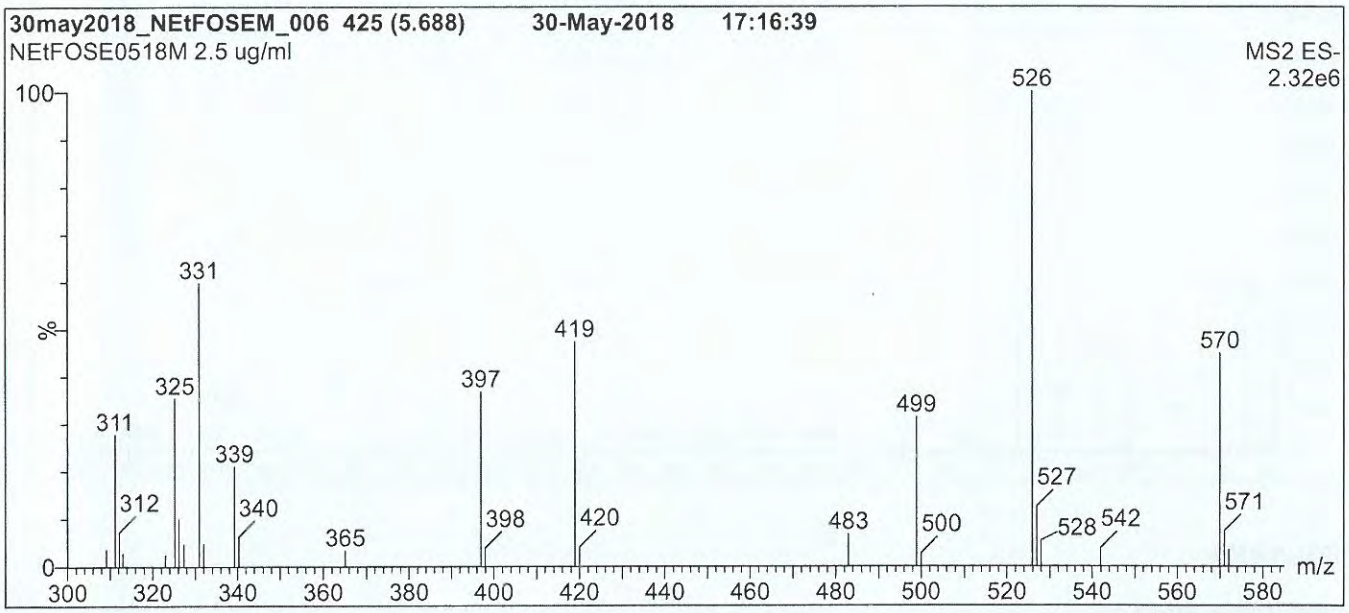
Chromatographic Conditions:

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

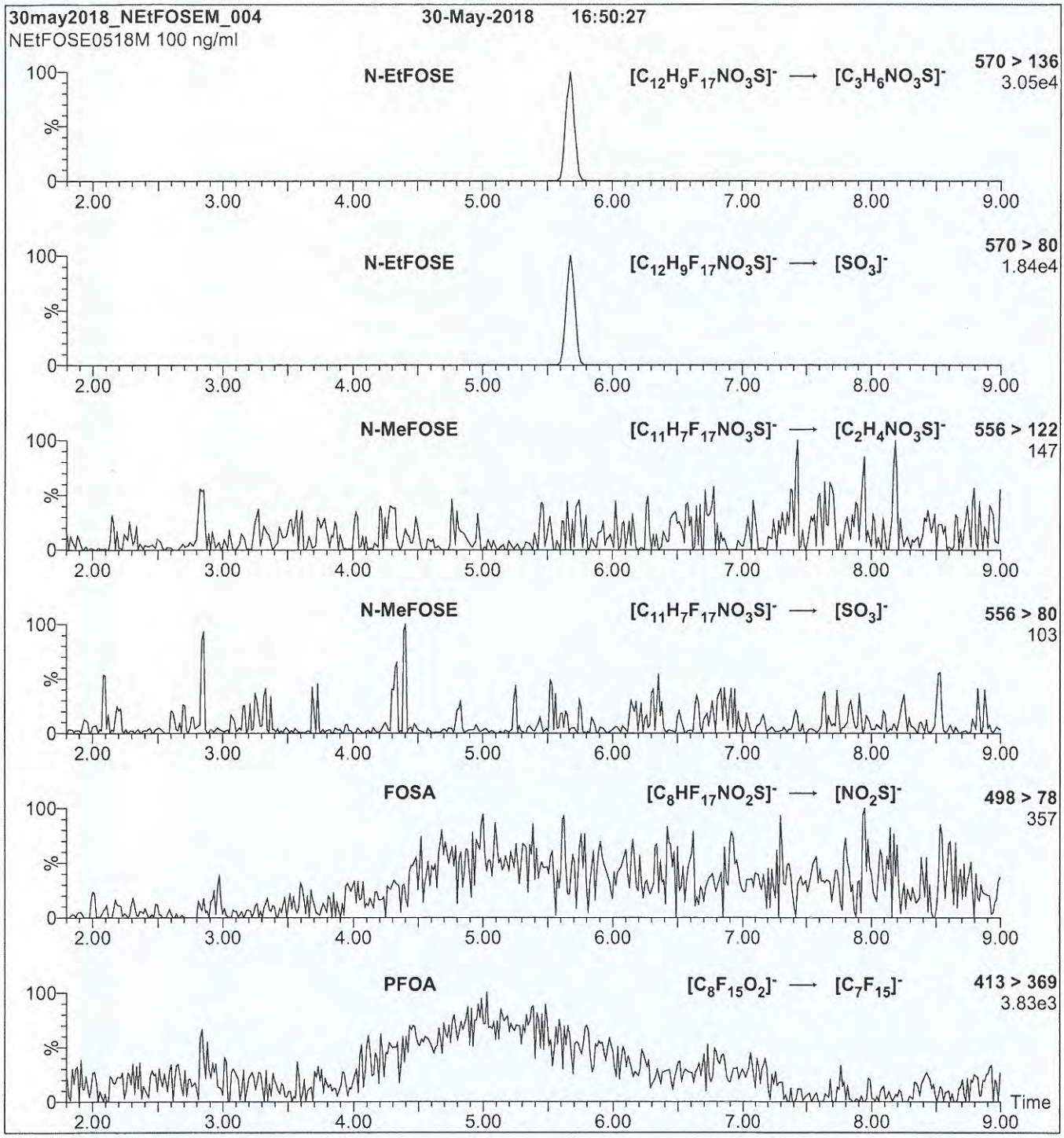
MS Parameters

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

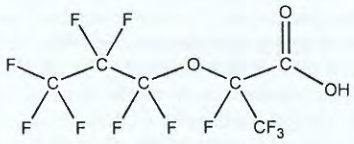
WELLINGTON LABORATORIES

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

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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,...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).

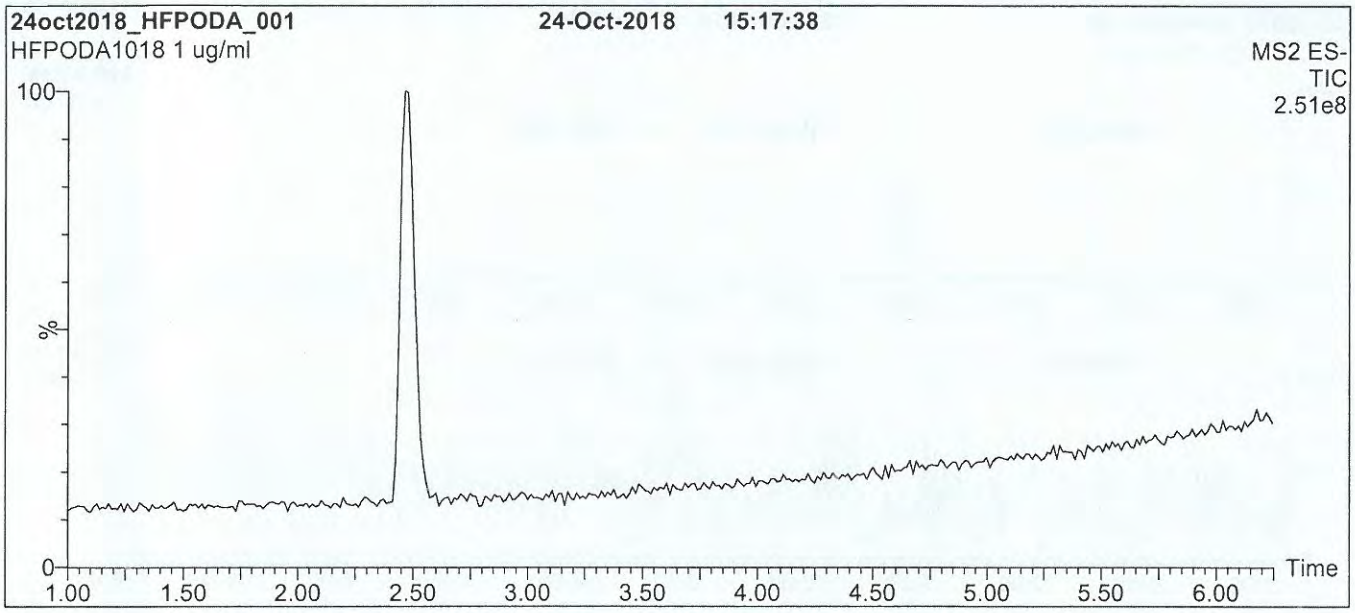
CALA Testing Accreditation No. A 1226

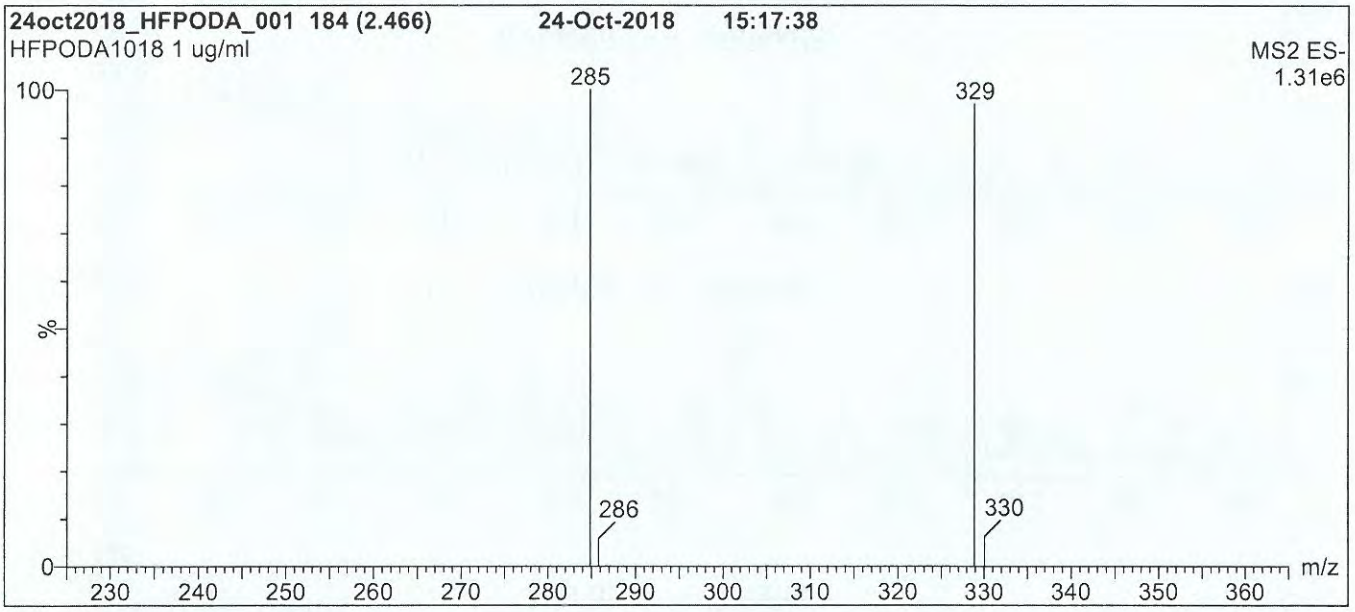
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

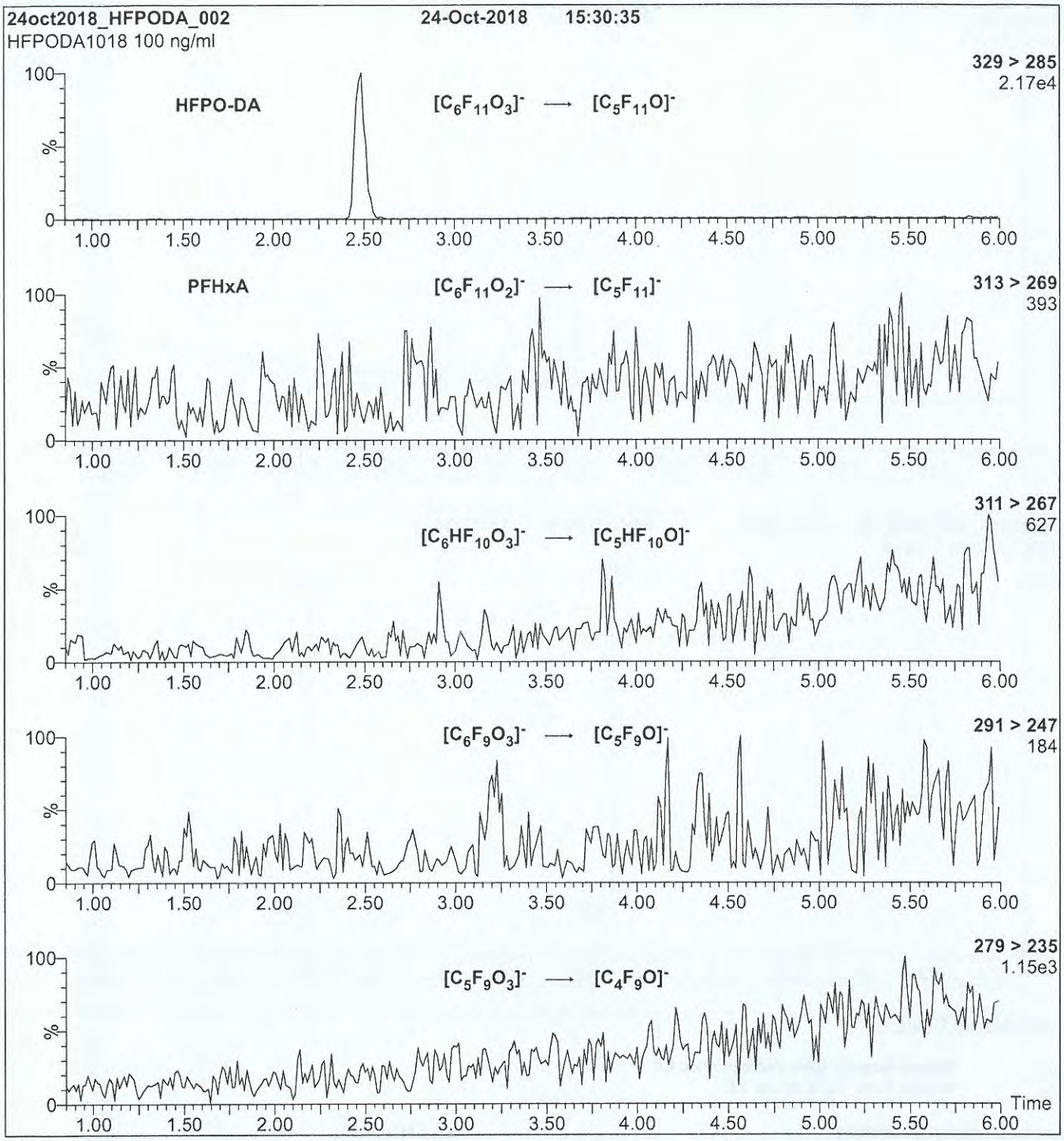
MS Parameters

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

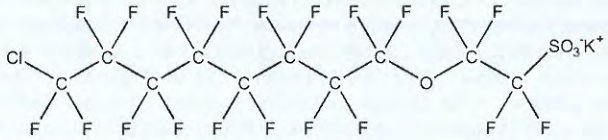
WELLINGTON LABORATORIES

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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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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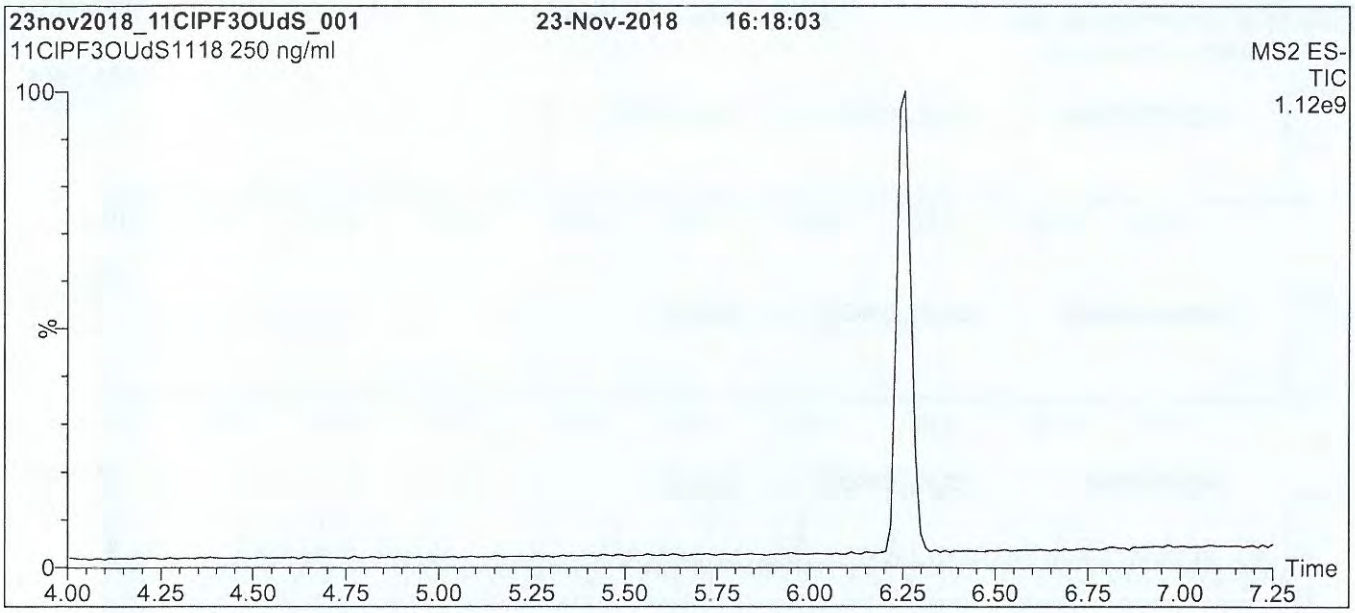
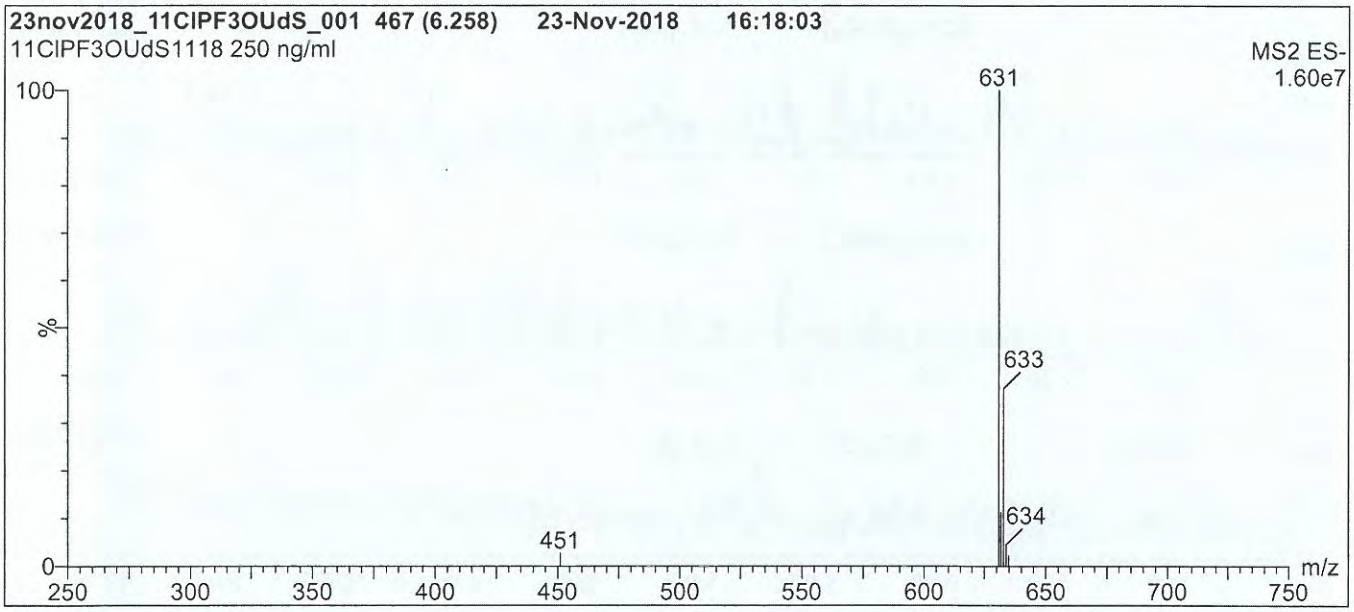
1812072

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

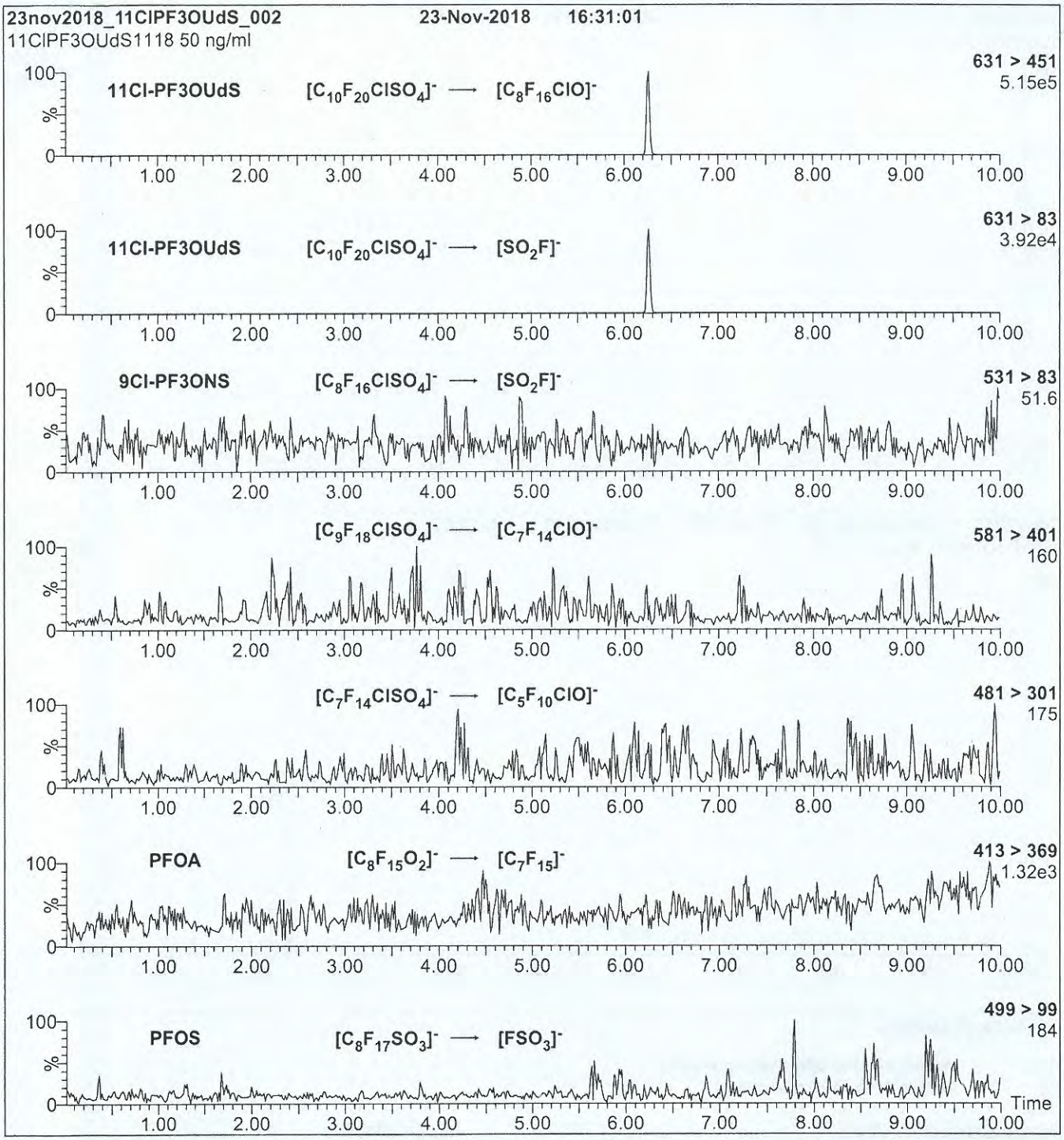
MS Parameters

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

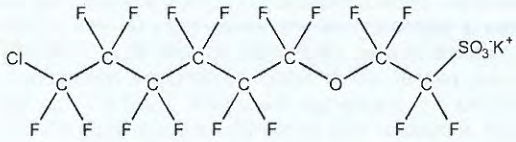
Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 24

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:

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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.

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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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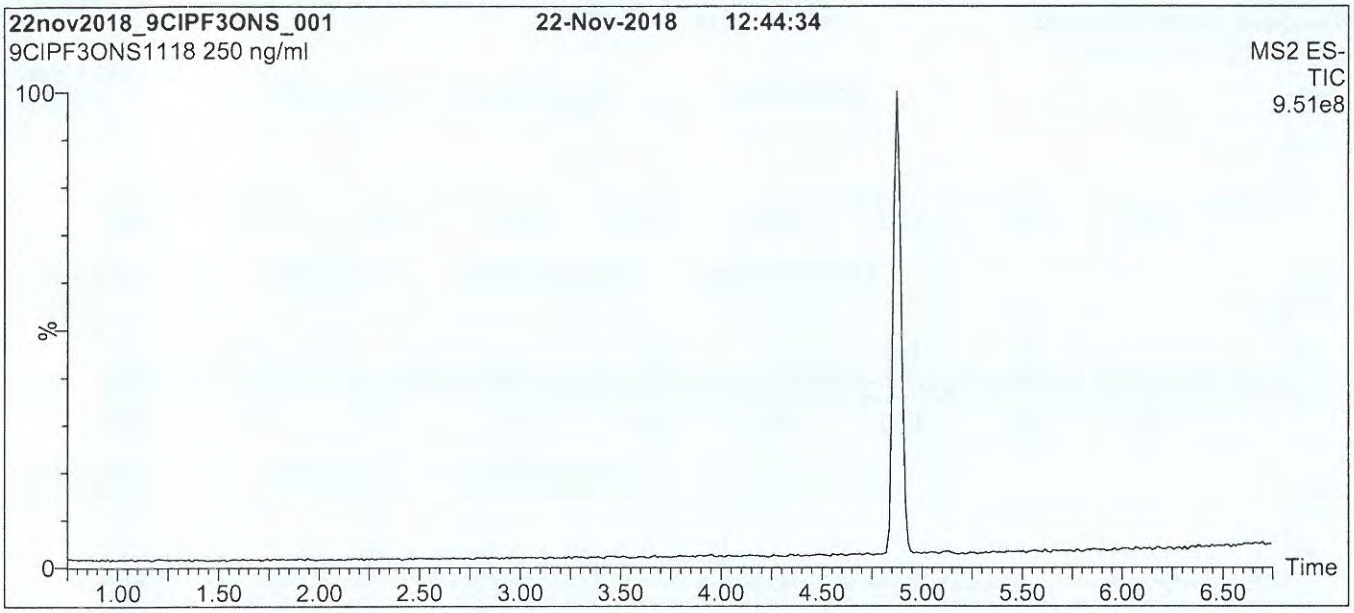
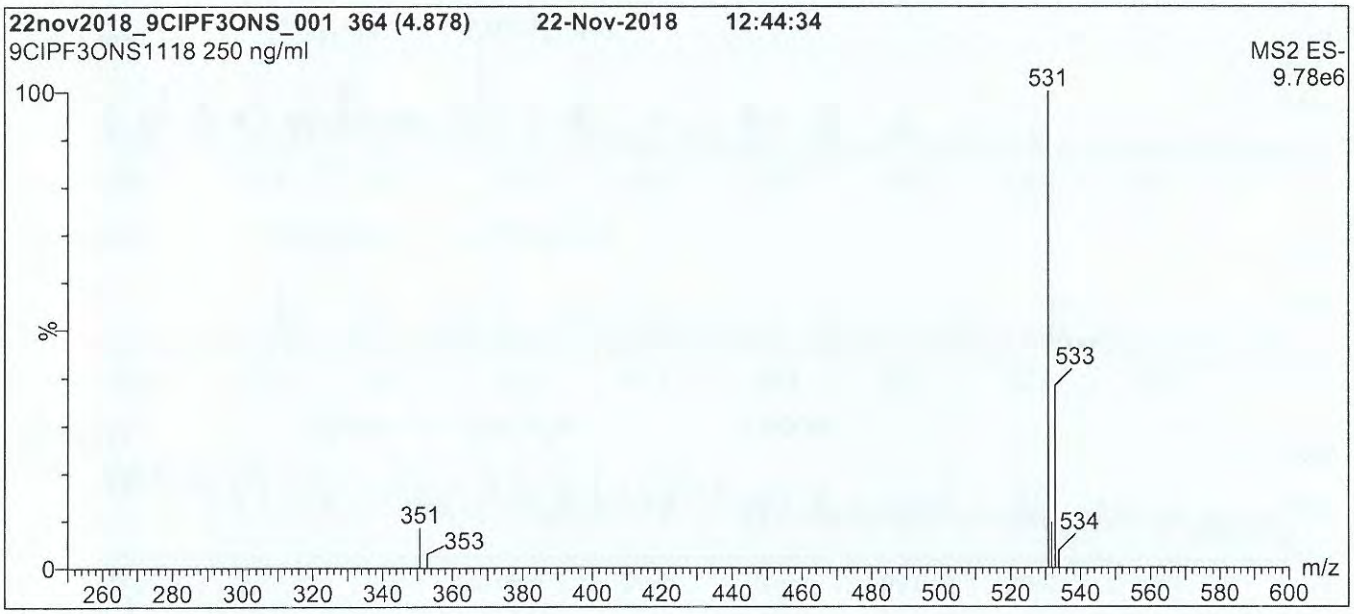
1812073

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

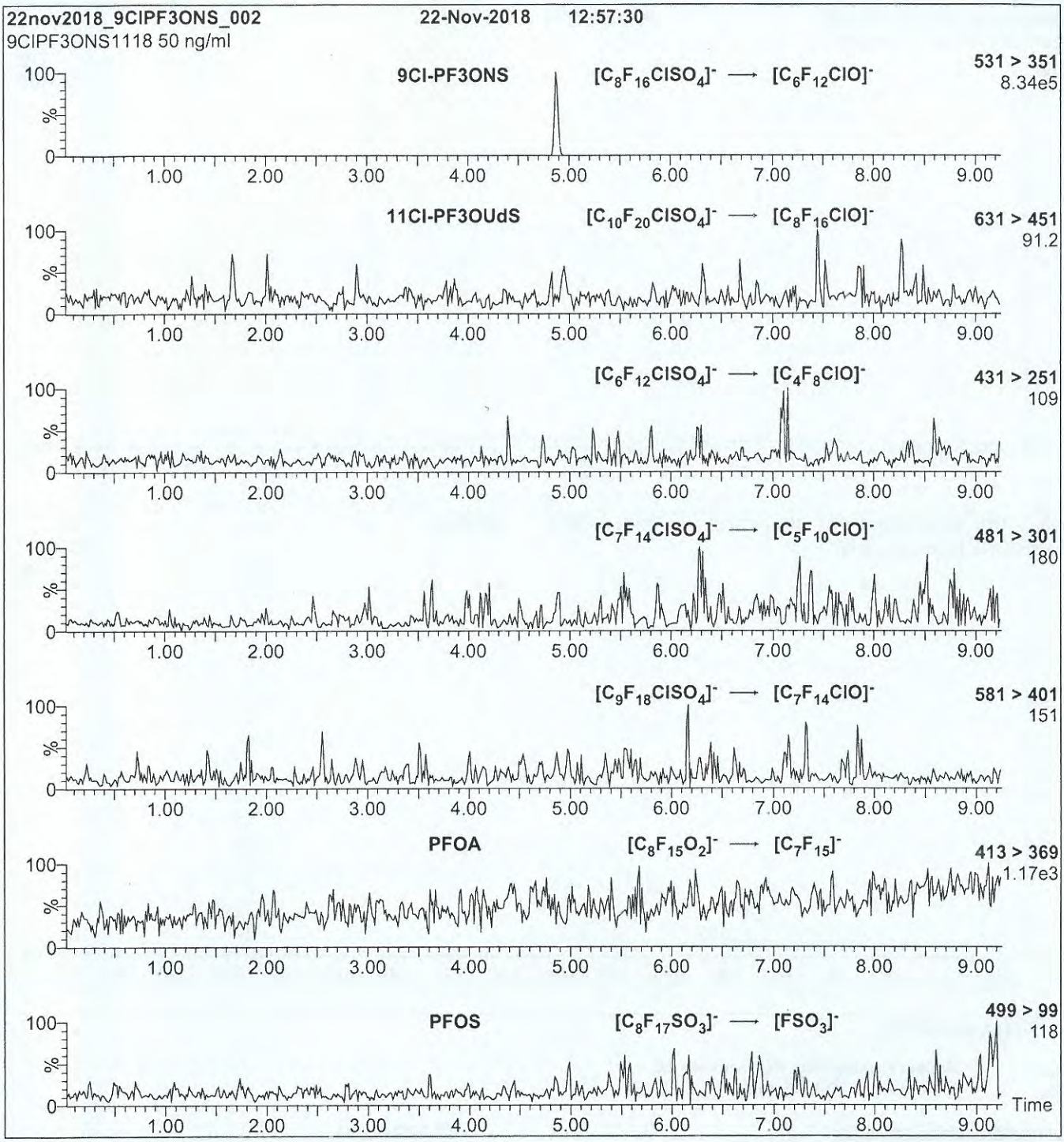
MS Parameters

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

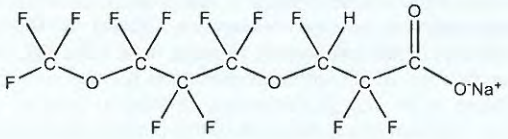
18L2074

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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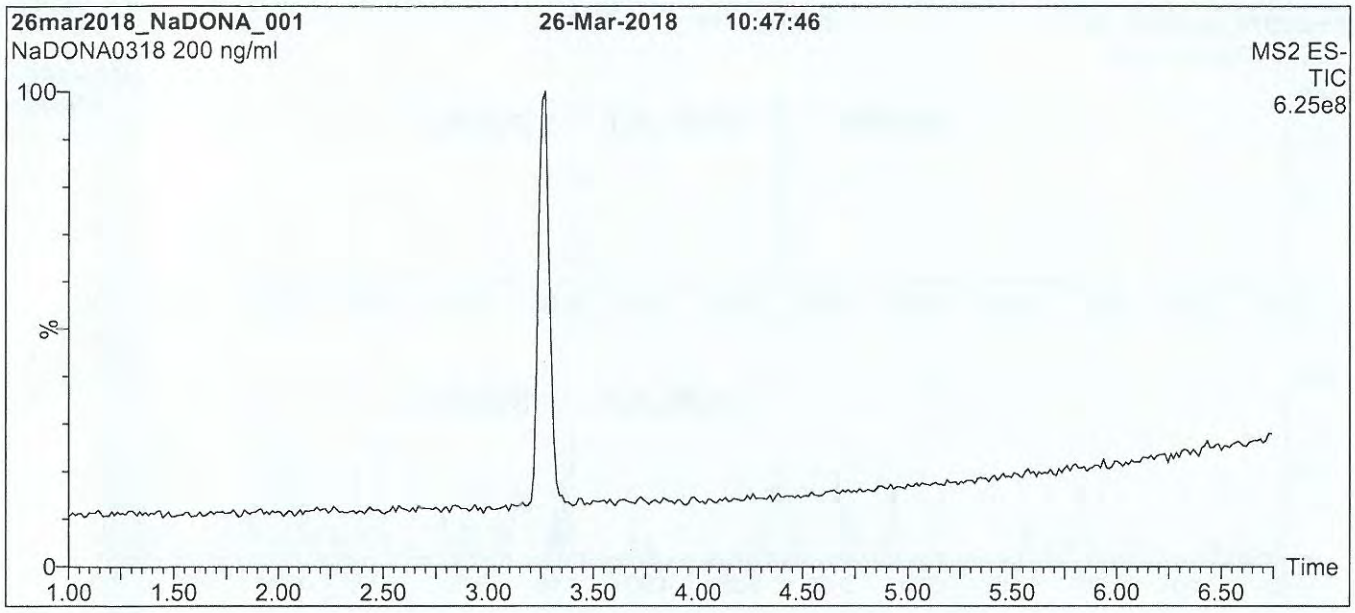
CALA Testing Accreditation No. A 1226

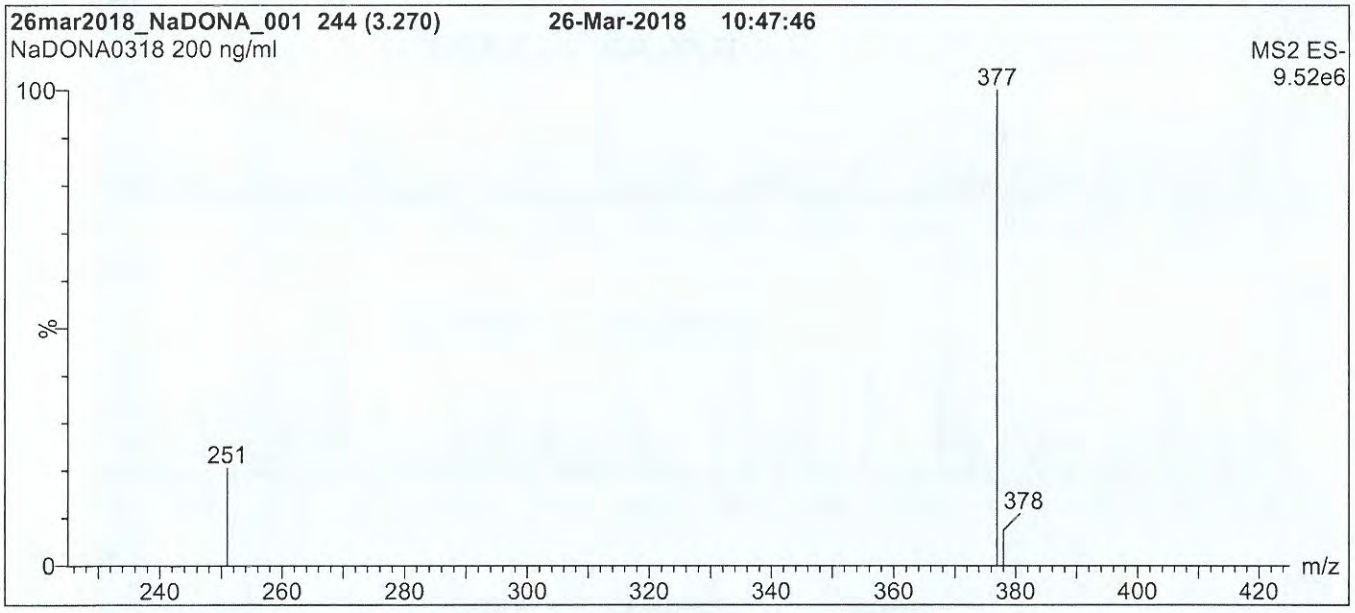
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

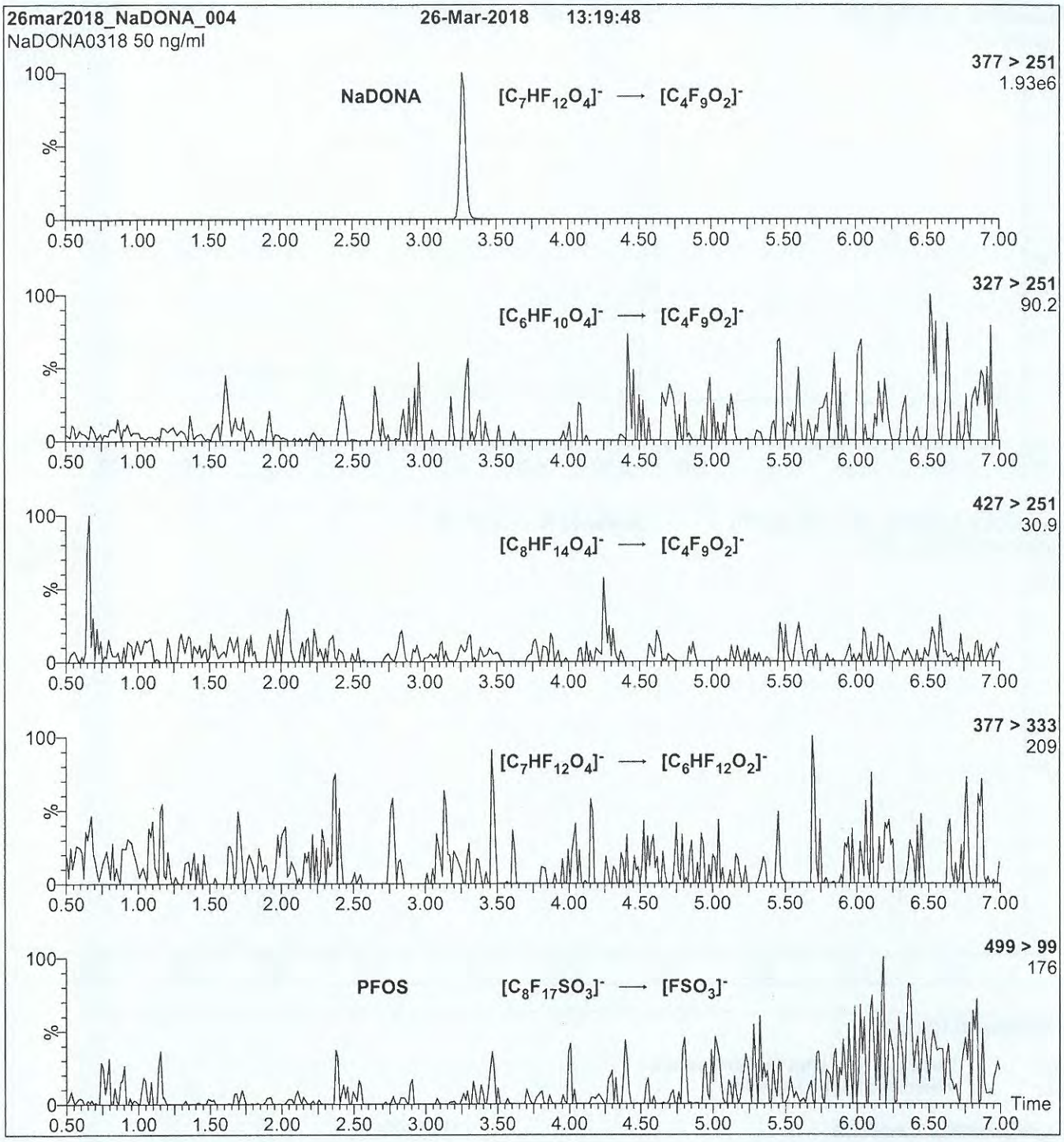
MS Parameters

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

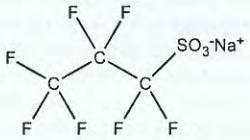
Collision Gas (mbar) = 3.65e-3
Collision Energy (eV) = 10

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).

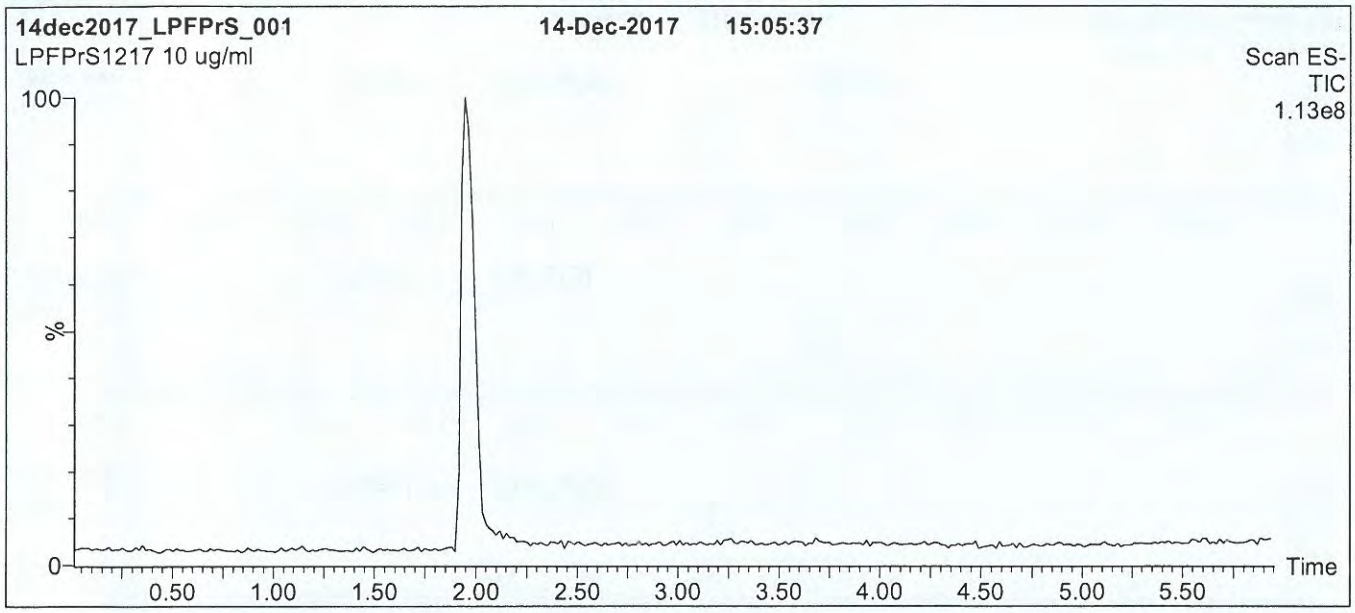
CALA Testing Accreditation No. A 1226

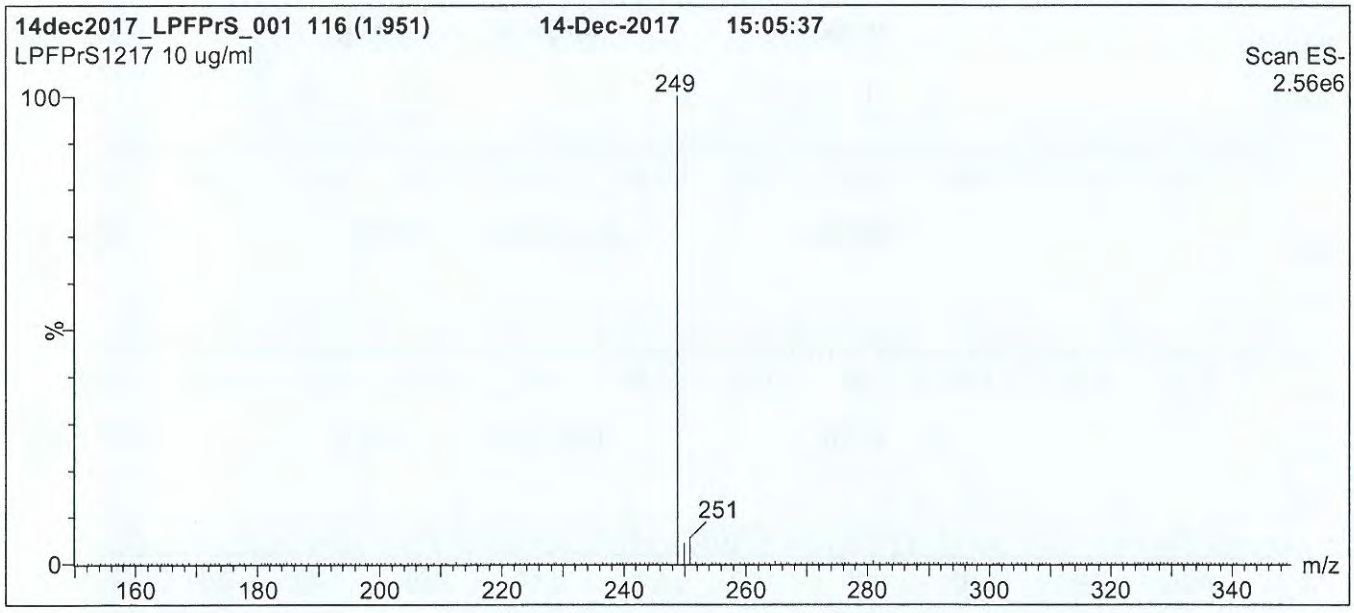
ANAB ACCREDITED Reference Material Producer

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

1902076

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

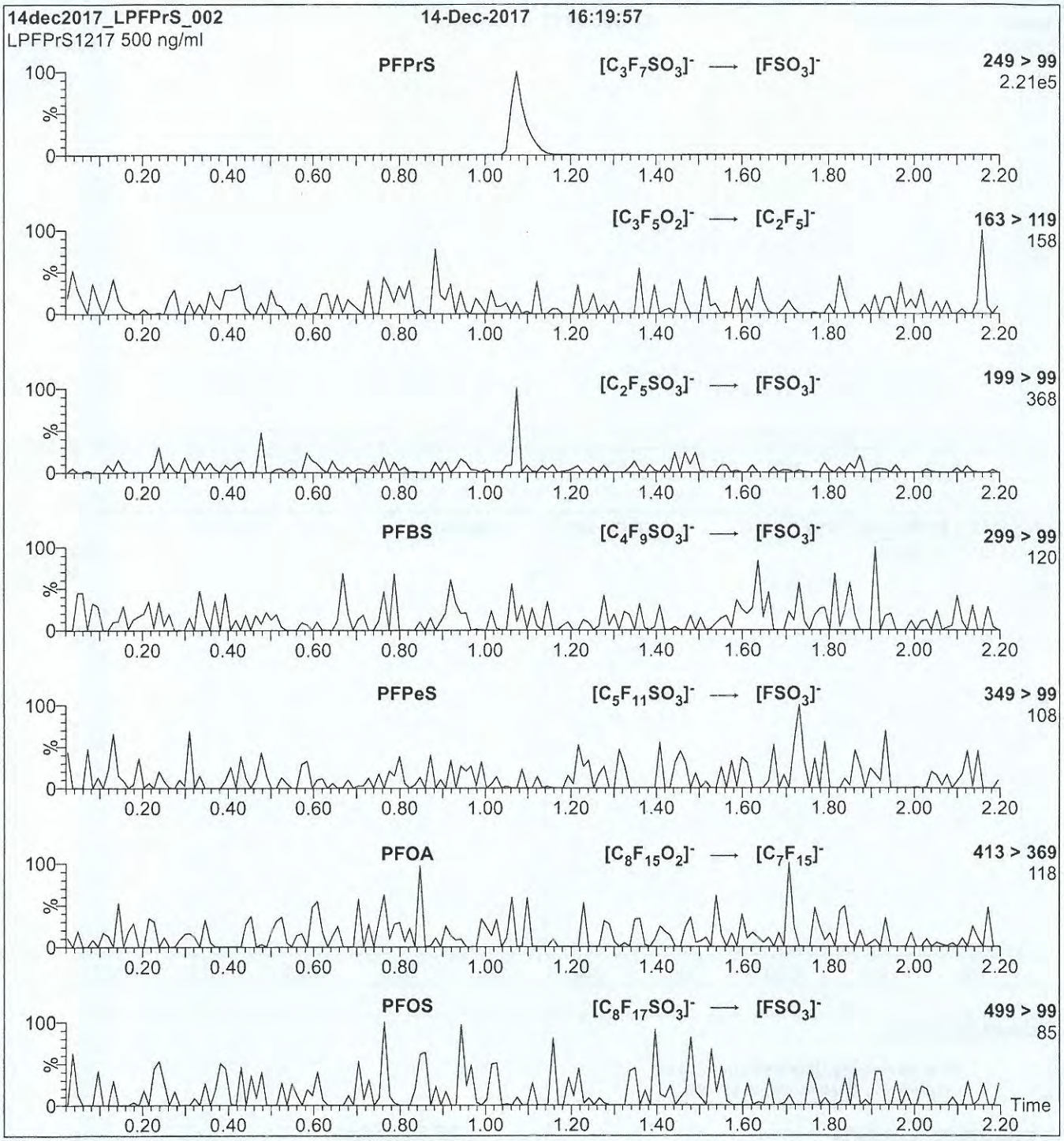
MS Parameters

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

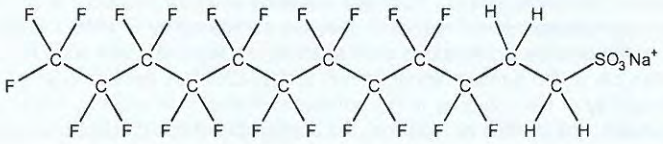
18L2078

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:

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:

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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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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:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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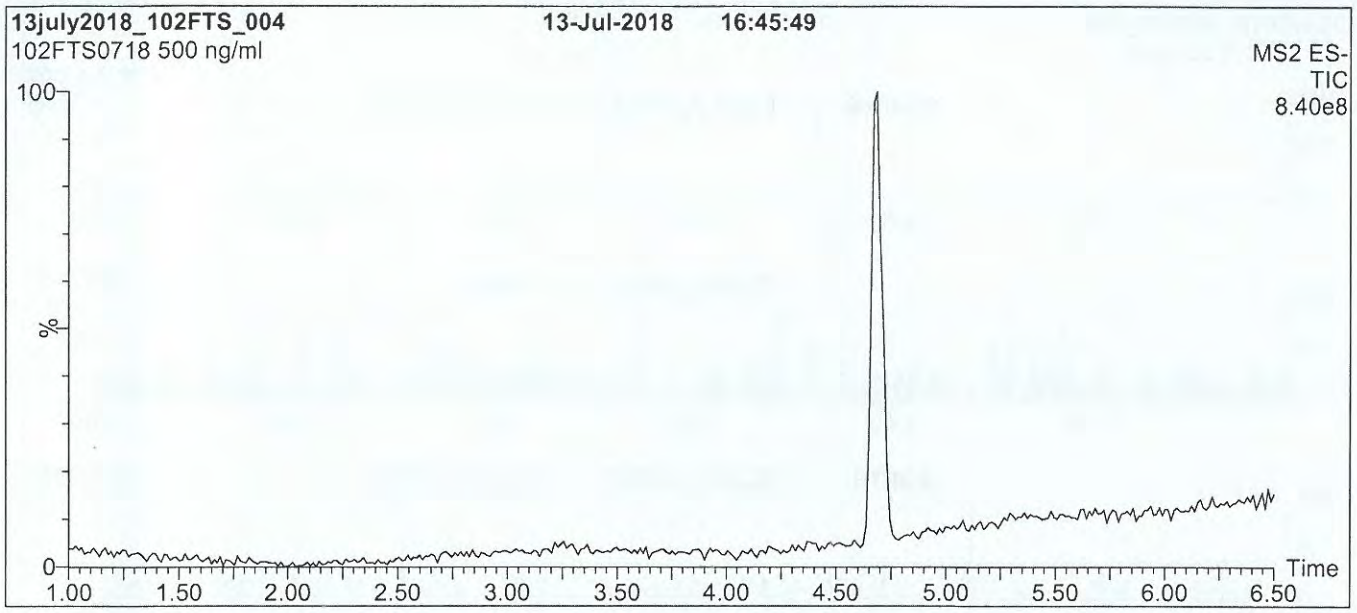
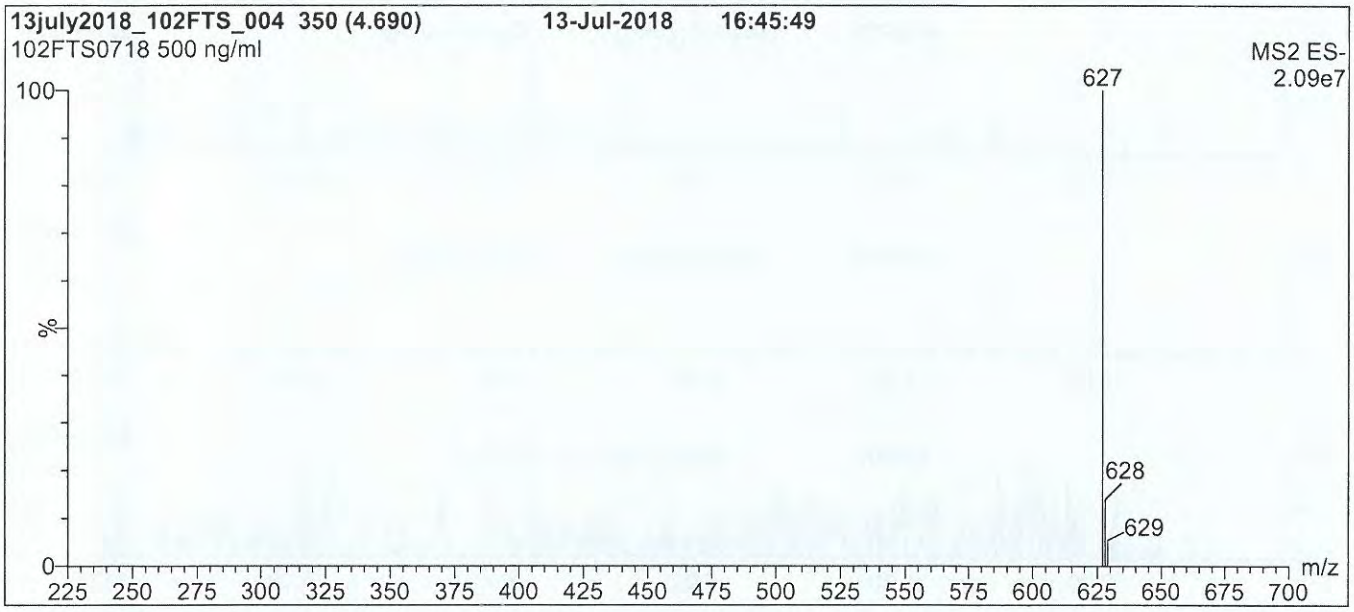
18L2078

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

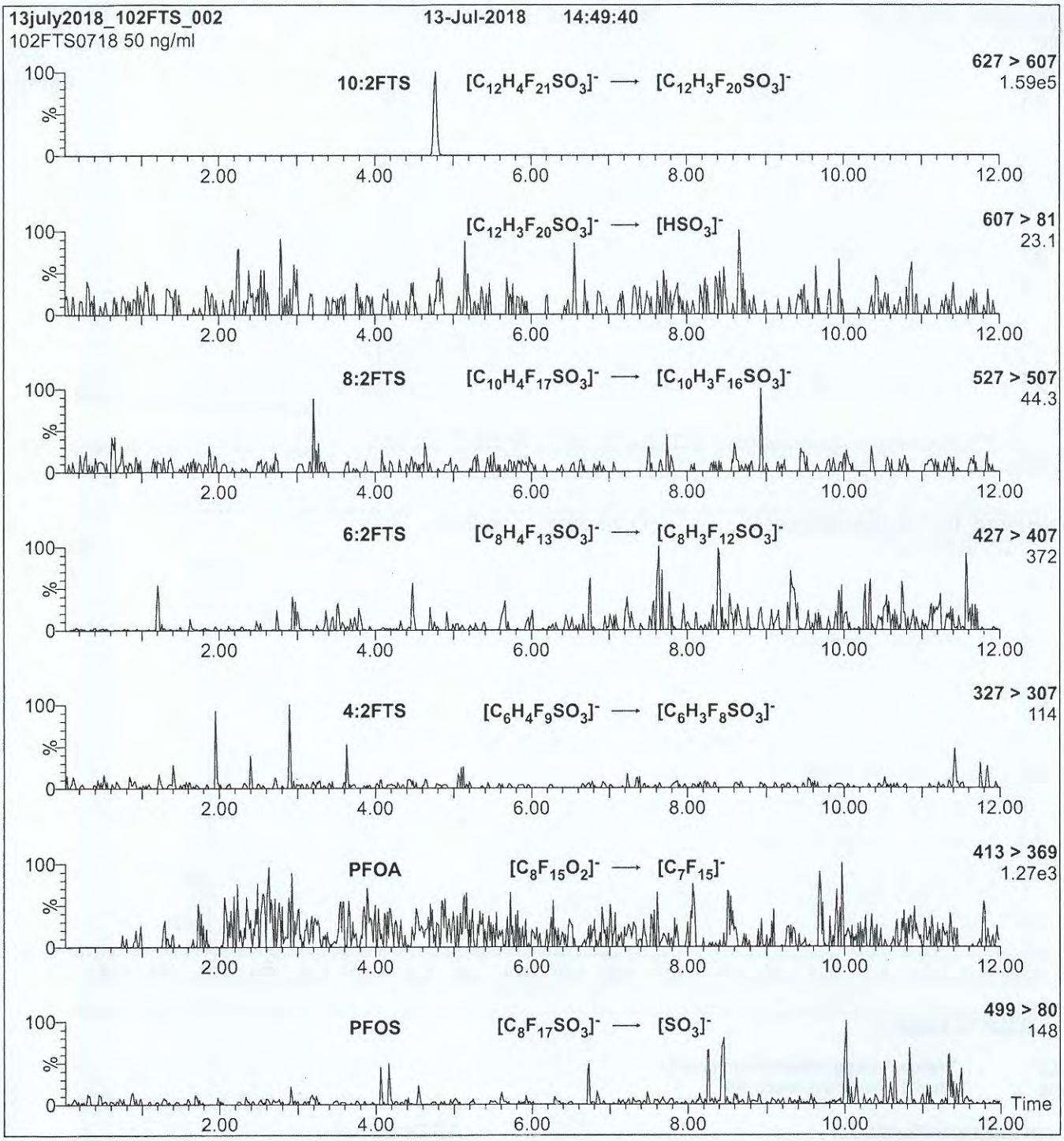
MS Parameters

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

1802078

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

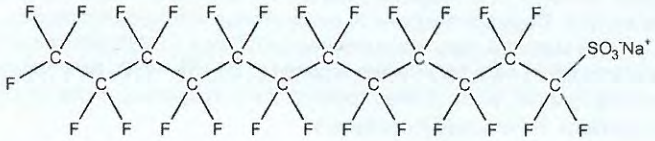
19B0712

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 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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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 NIST and/or NRC traceable external weights. All volumetric glassware used is 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:

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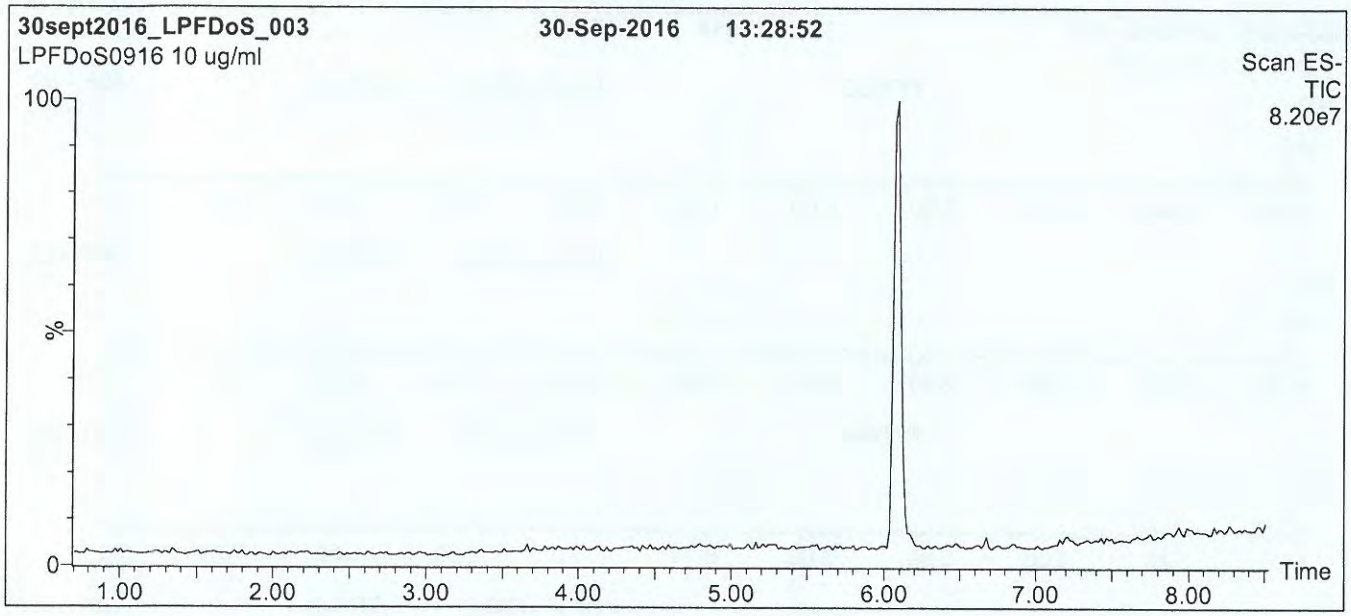
CALA Testing Accreditation No. A 1226

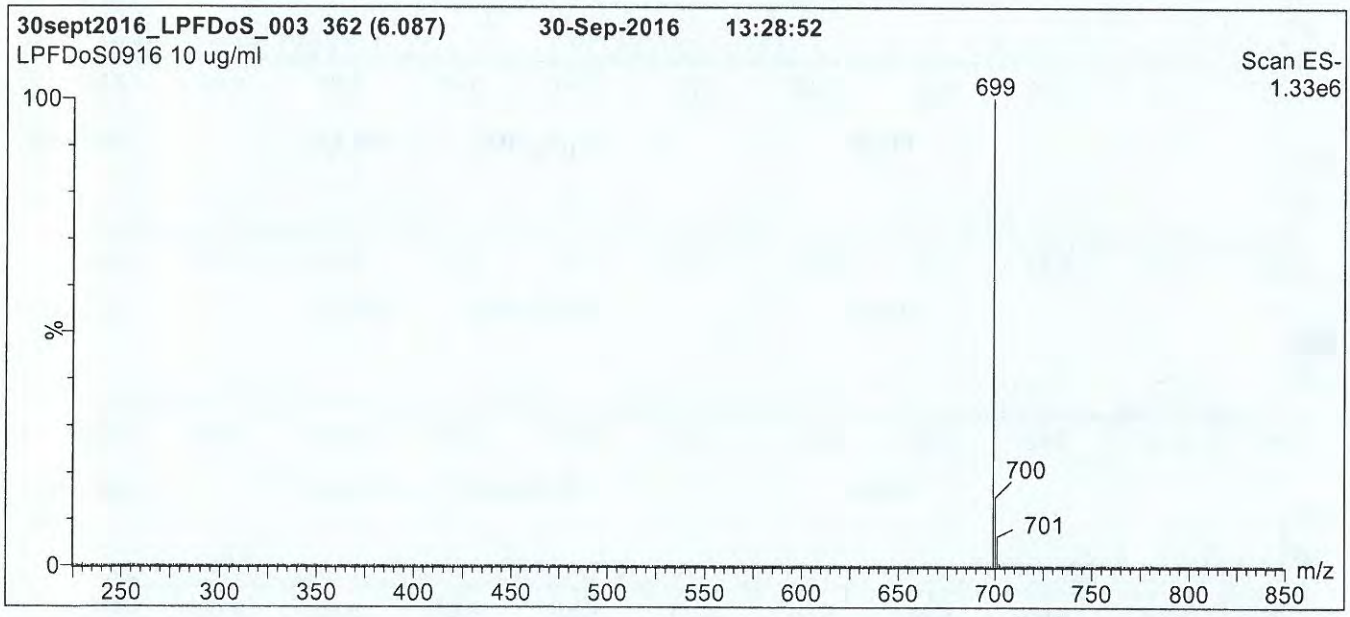
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

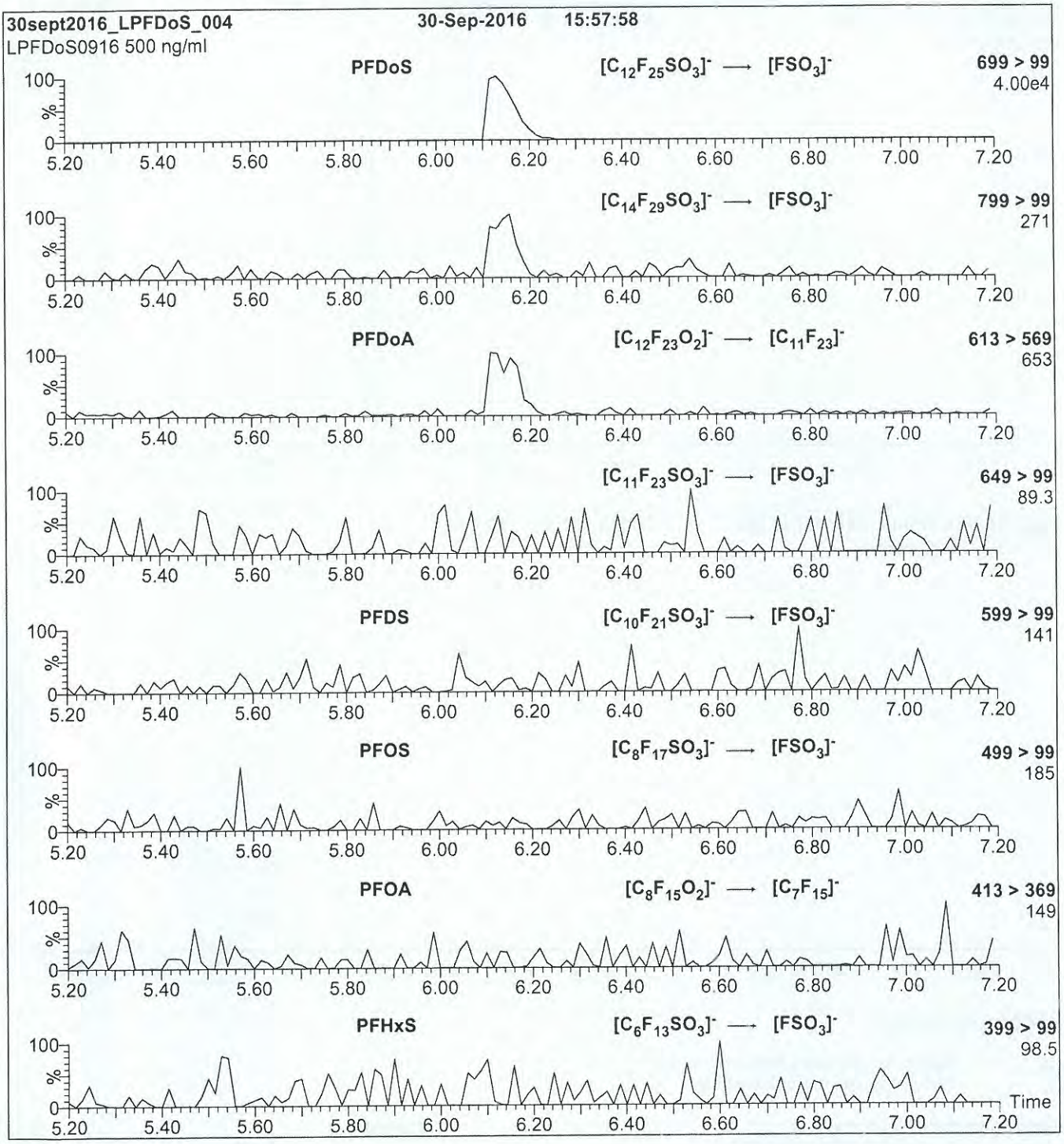
MS Parameters

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

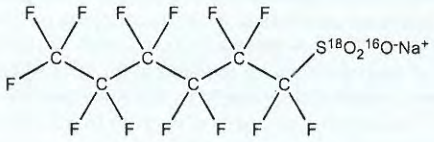
Analyte	CAS Number	Concentration	Units
18O2-PFHxS		1.25	ug/mL
13C9-PFNA		1.25	ug/mL
13C8-PFOA		1.25	ug/mL
13C7-PFUnA		1.25	ug/mL
13C6-PFDA		1.25	ug/mL
13C5-PFHxA		1.25	ug/mL
13C4-PFOS		1.25	ug/mL
13C4-PFBA		1.25	ug/mL
13C2-FOUEA		1.25	ug/mL

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).

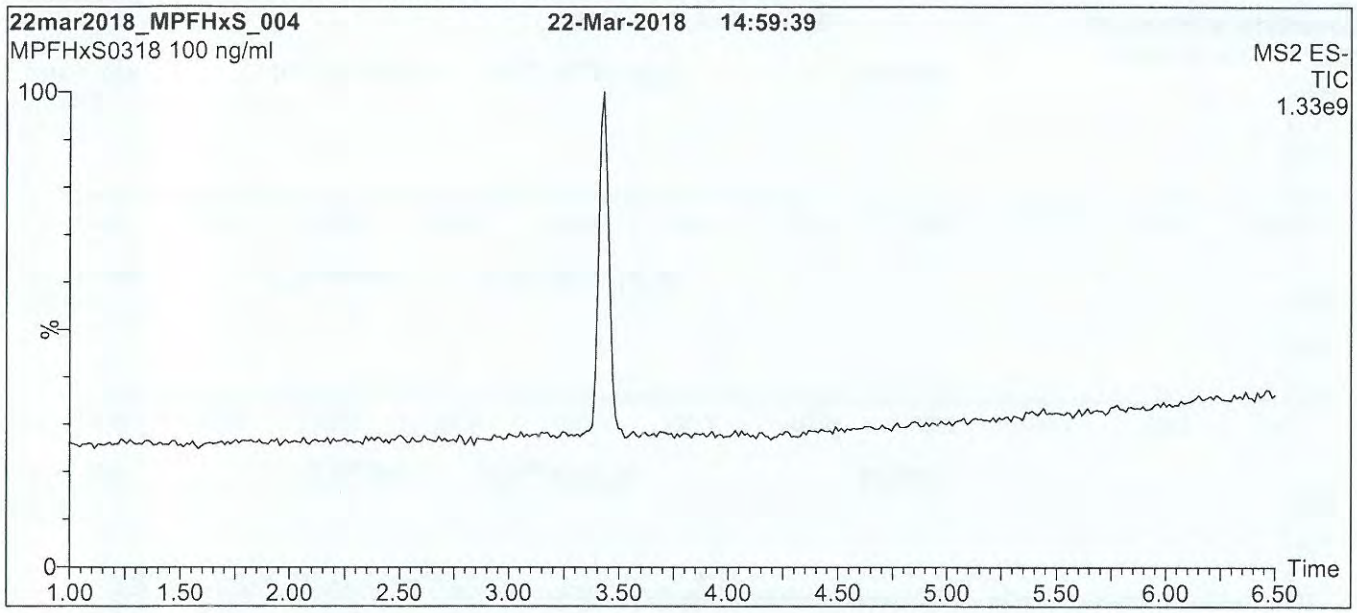
CALA Testing Accreditation No. A-1226

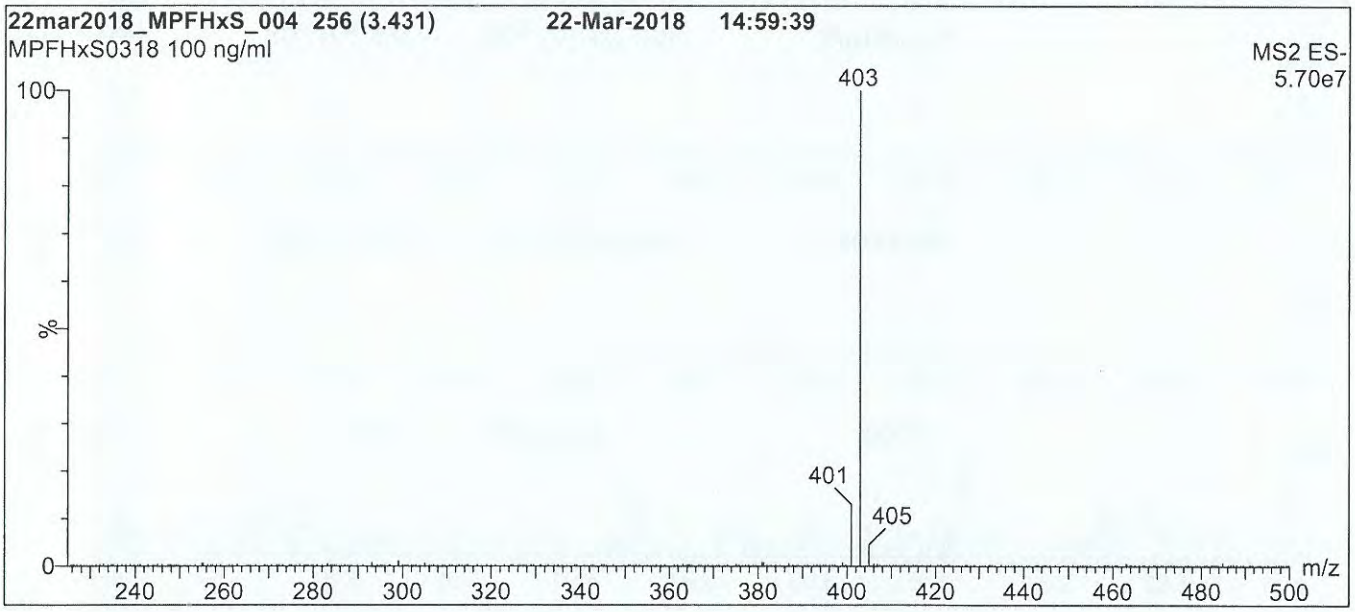
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

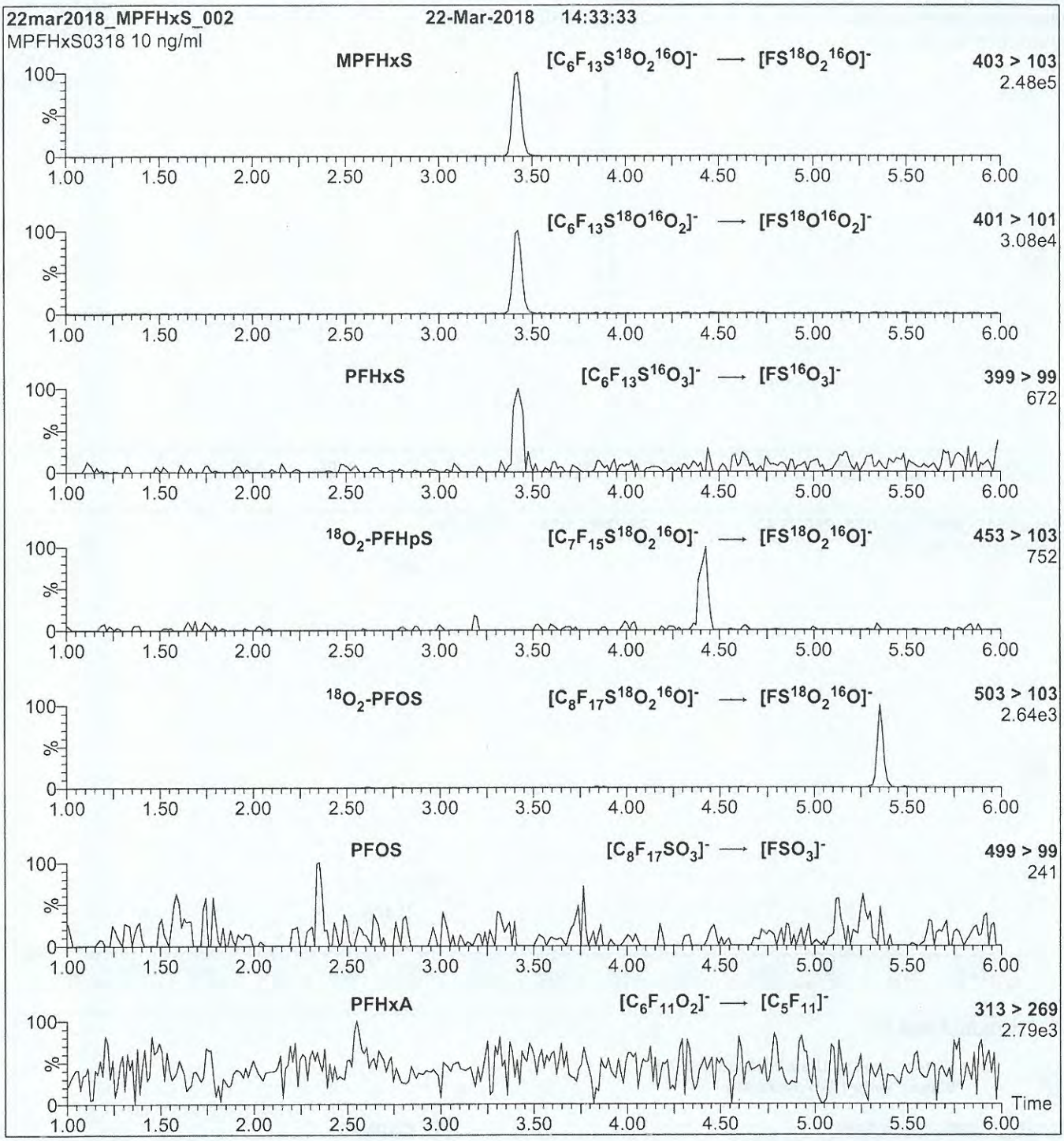
MS Parameters

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

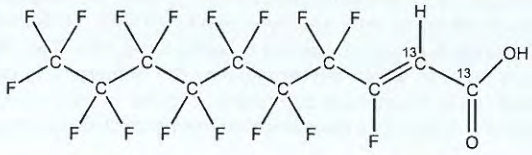
WELLINGTON LABORATORIES

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

18L2021

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).

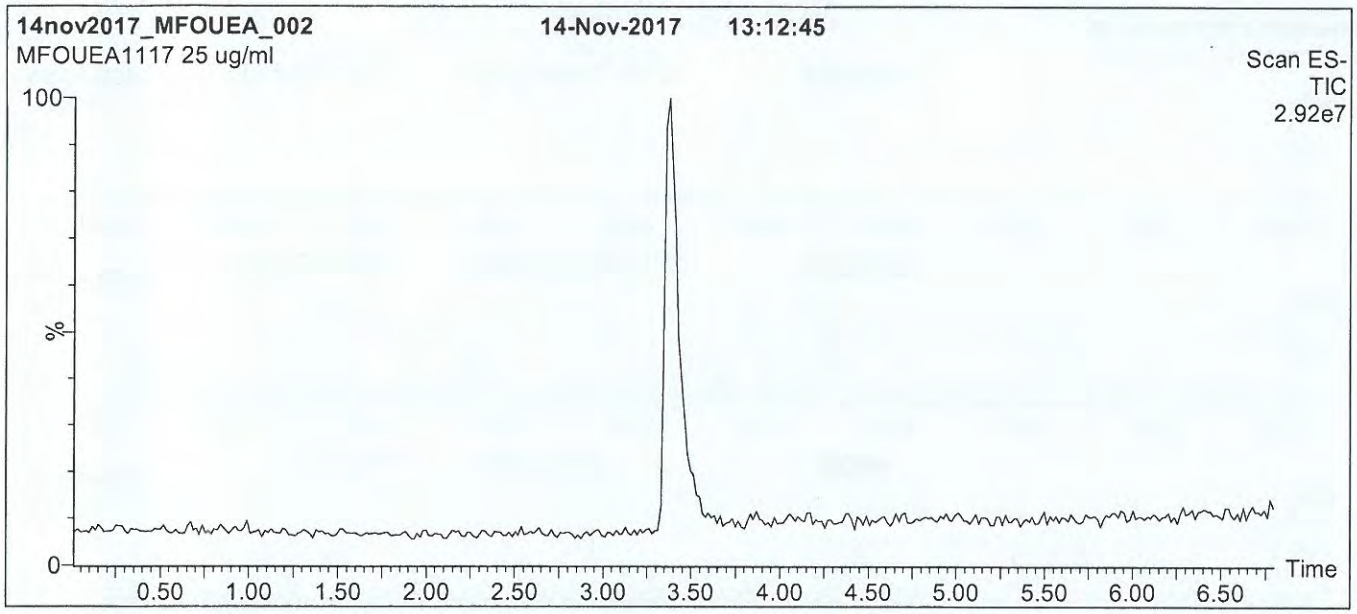
CALA Testing Accreditation No. A 1226

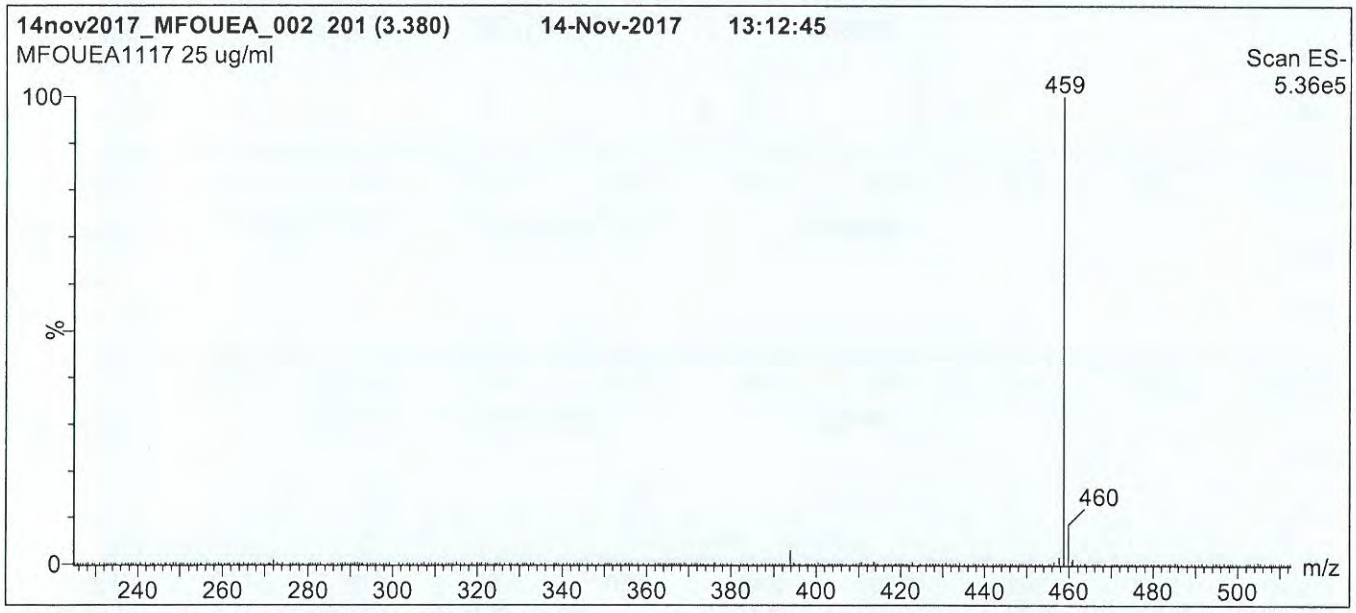
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

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

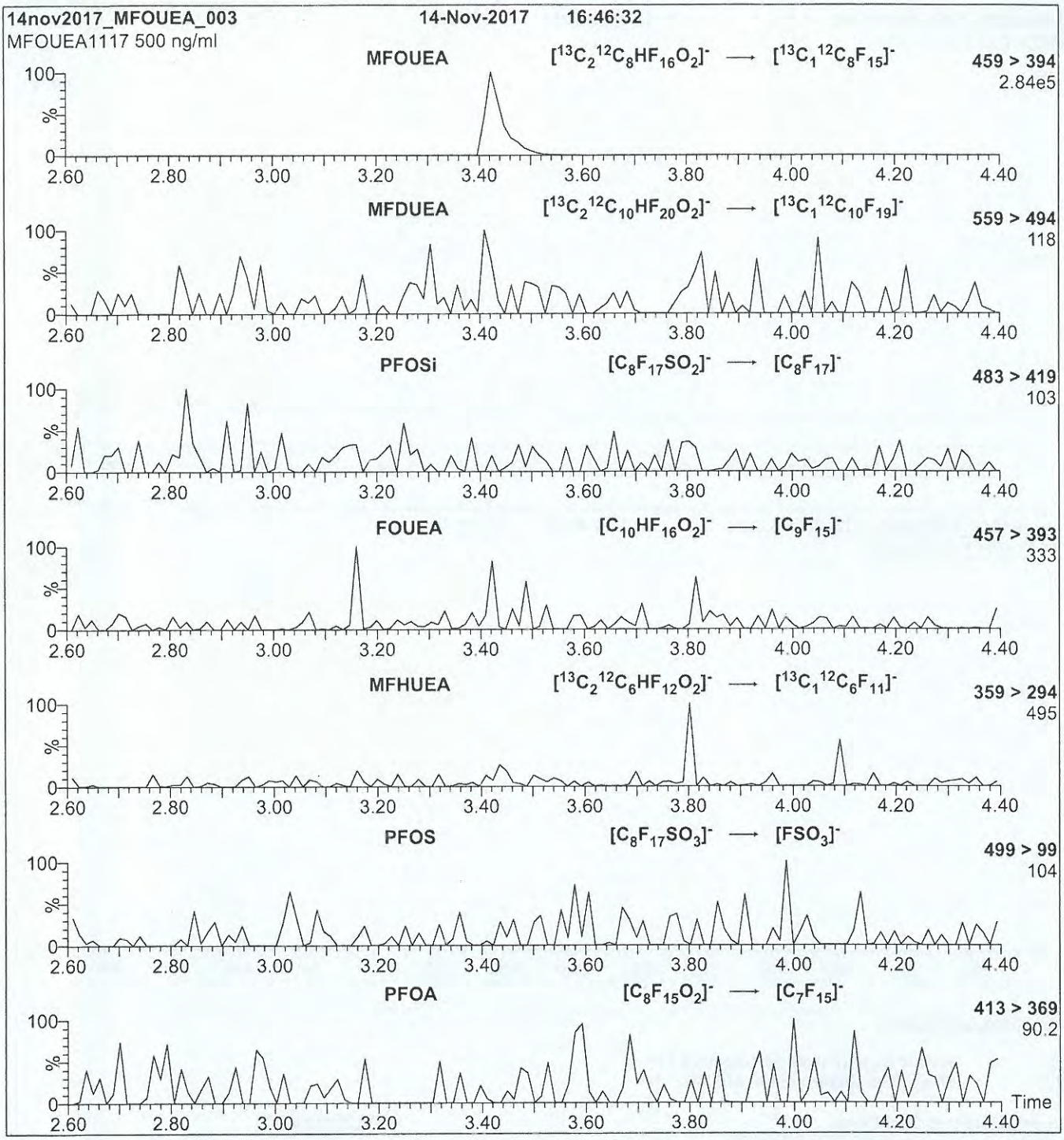
MS Parameters

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

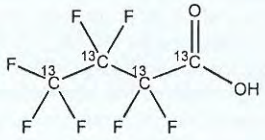
Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 21

1812022

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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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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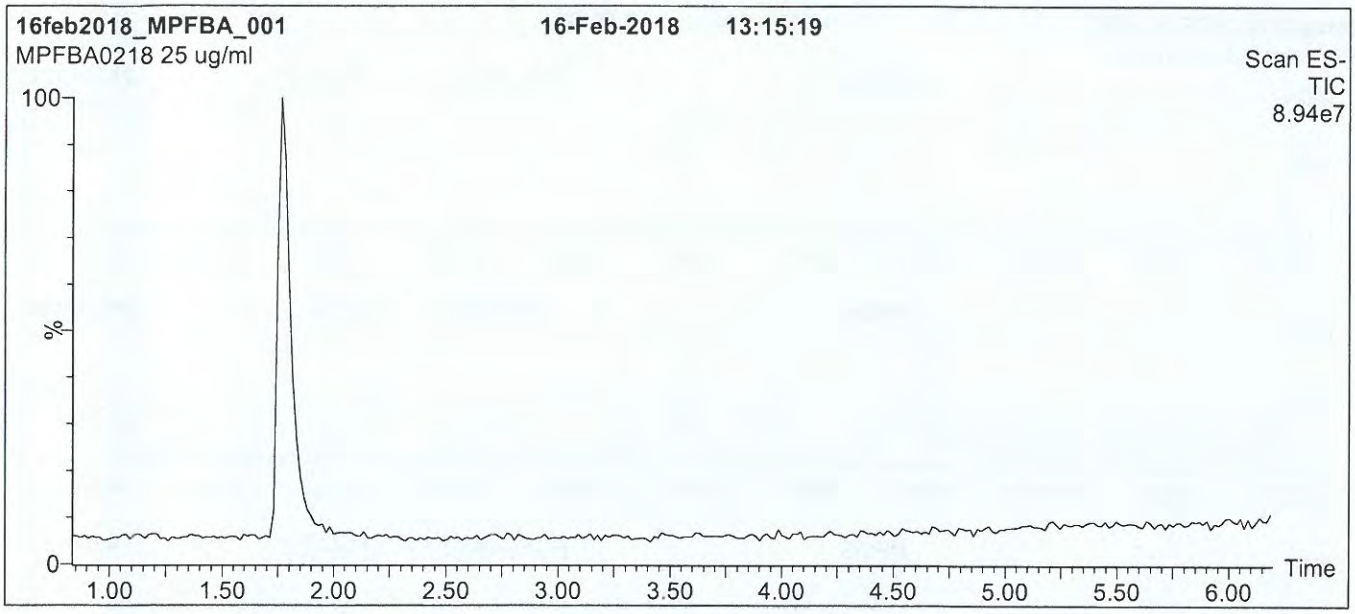
CALA Testing Accreditation No. A 1226

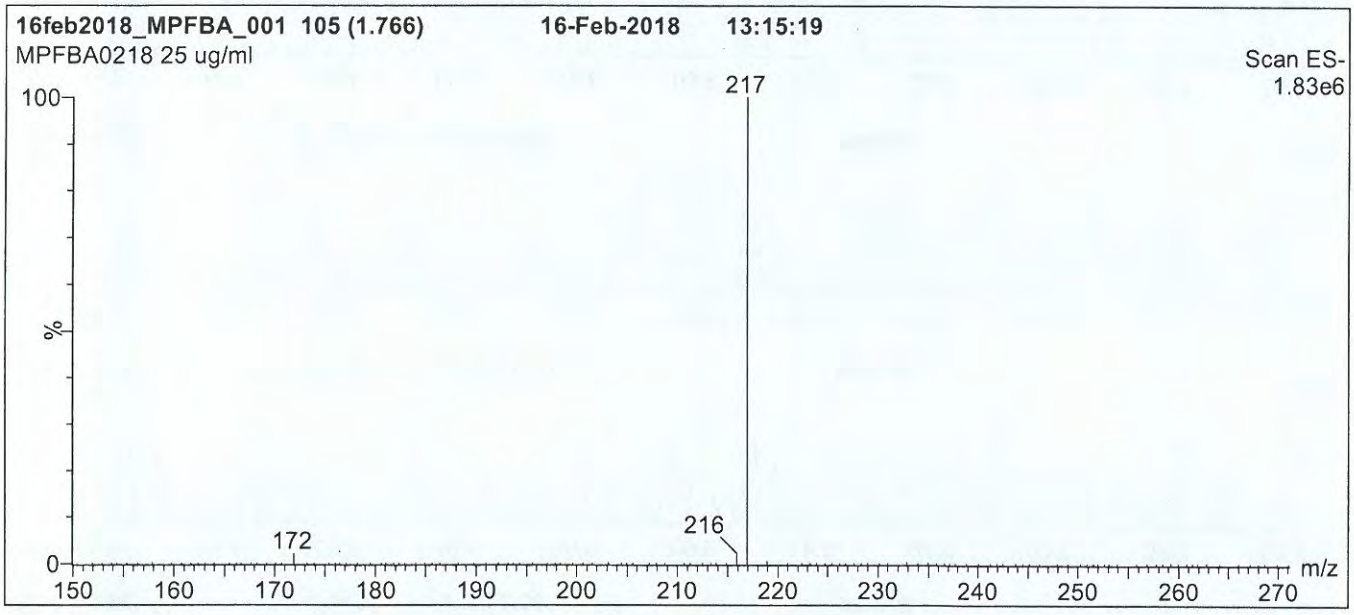
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

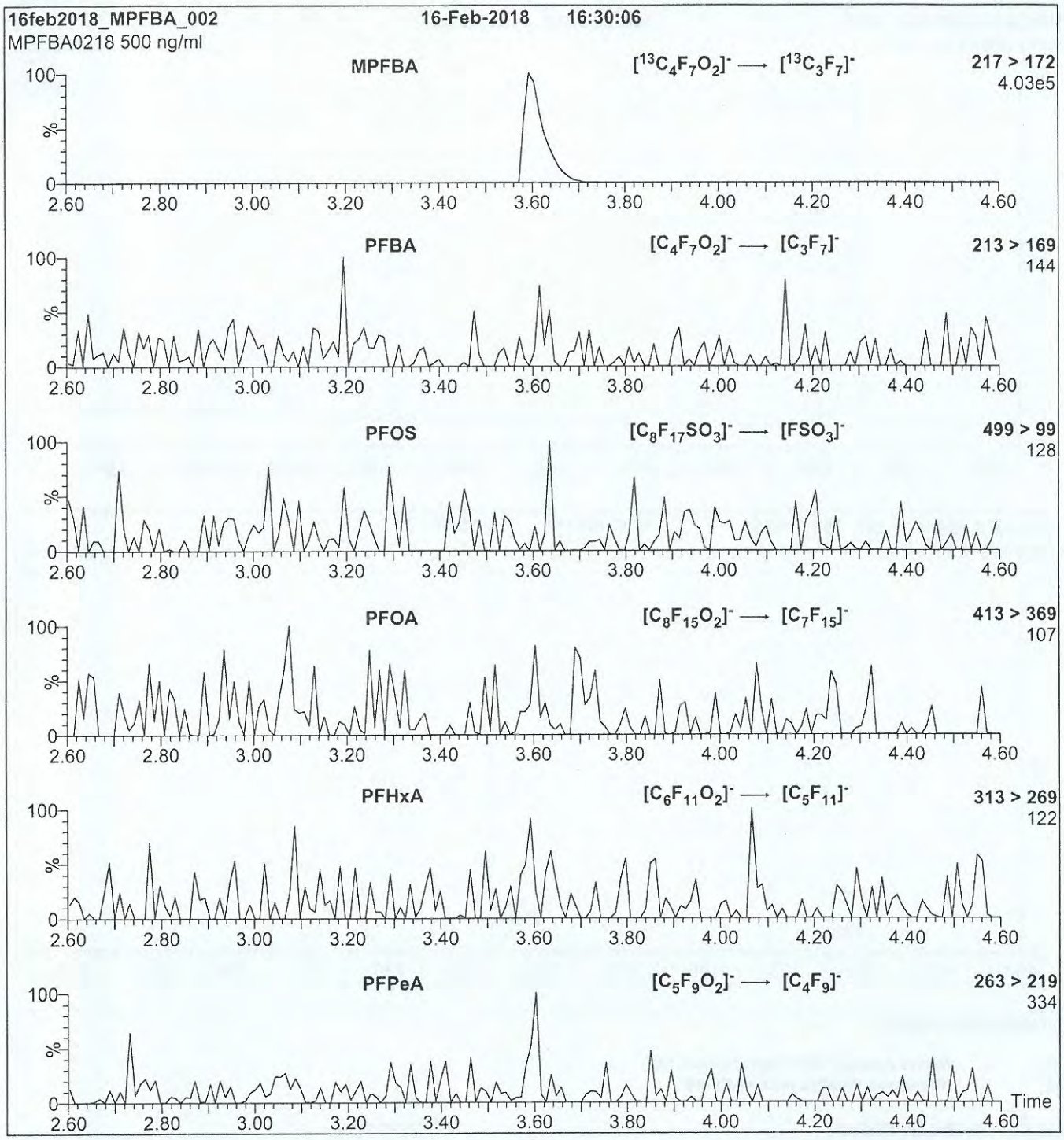
MS Parameters

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

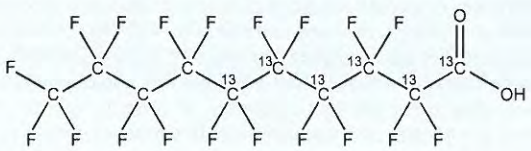
Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 10

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 $x_1, x_2, \ldots x_n$ 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).

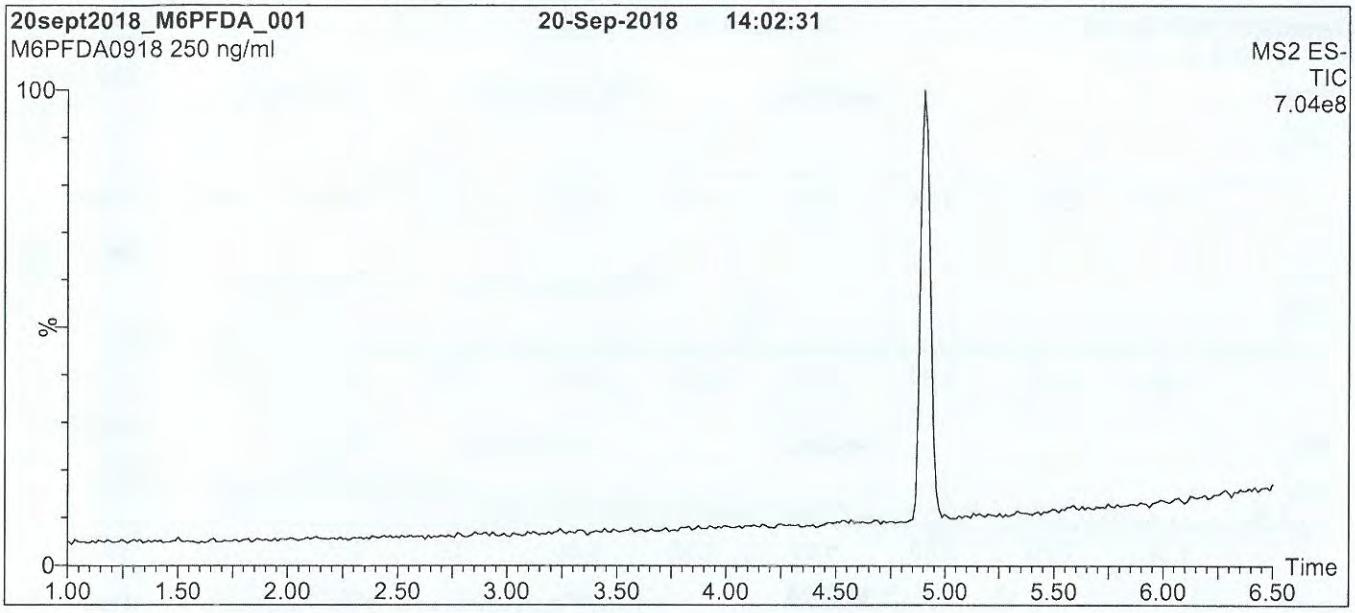
CALA Testing Accreditation No. A1226

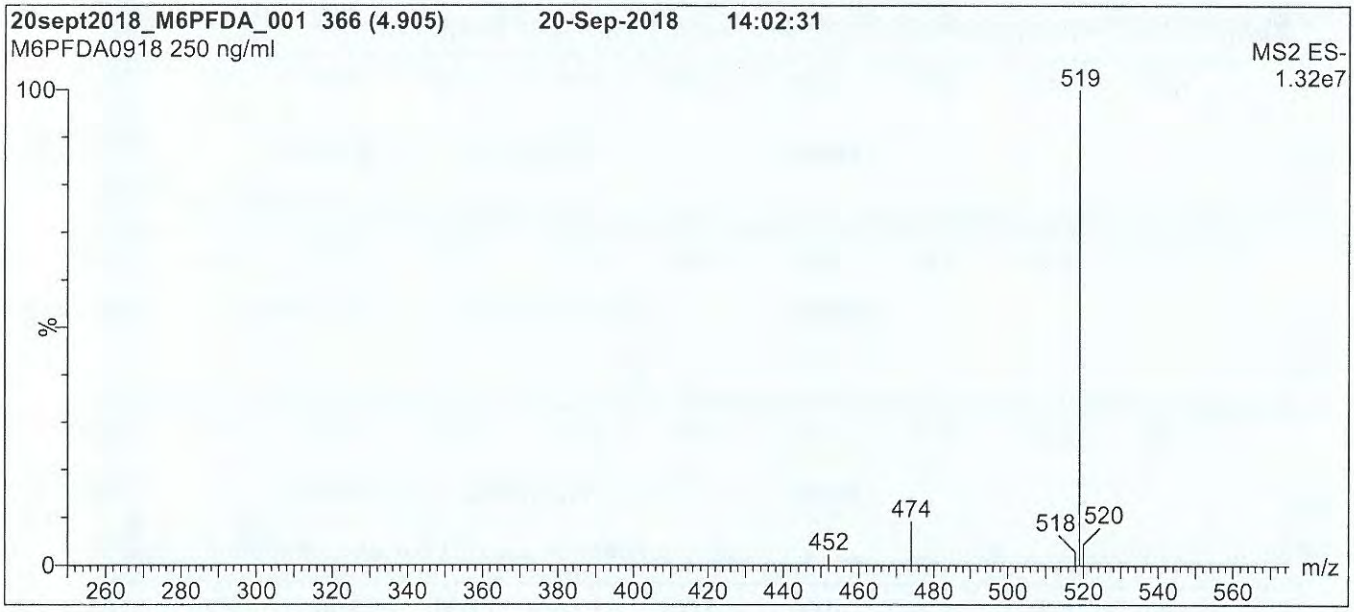
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

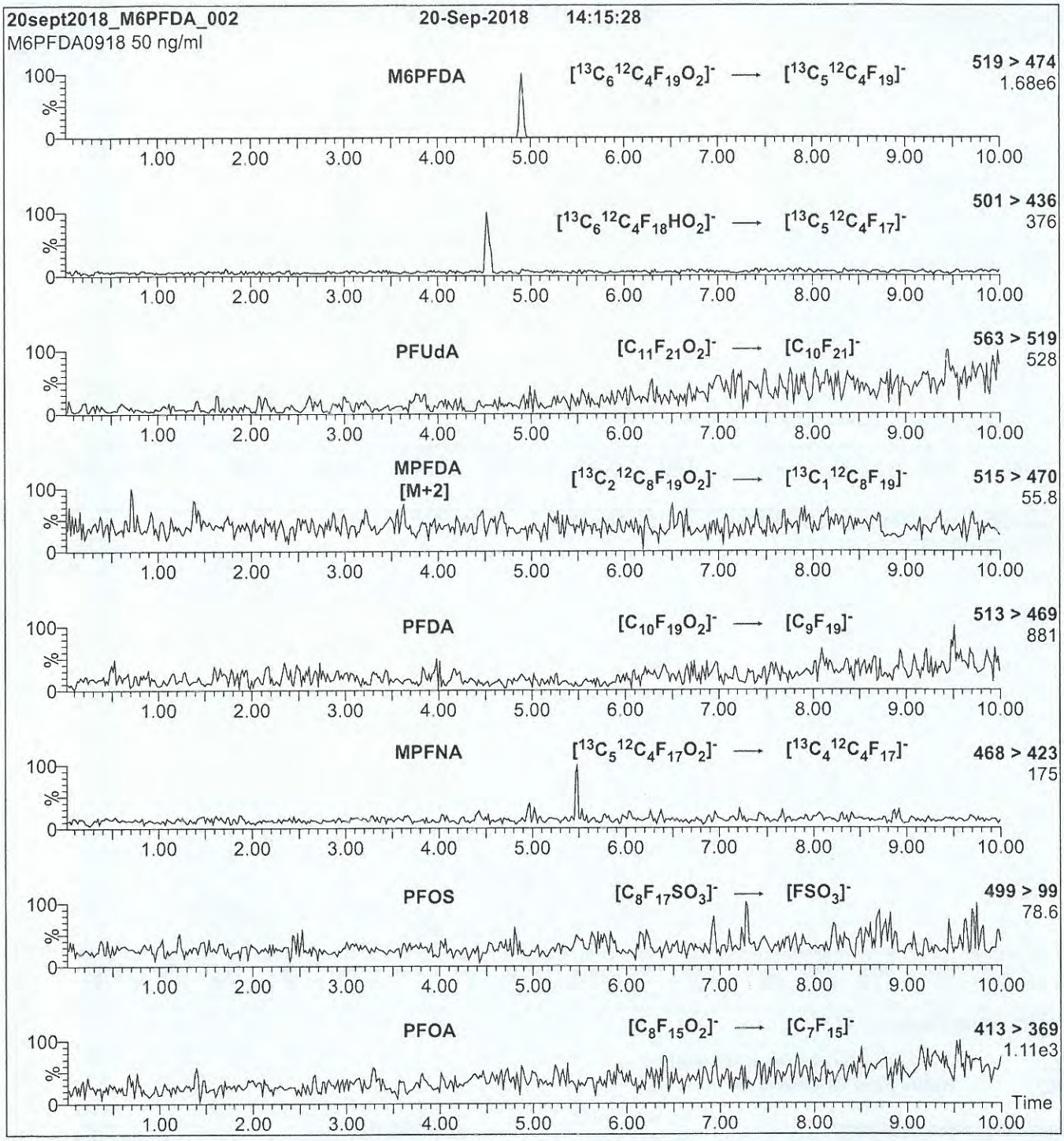
MS Parameters

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

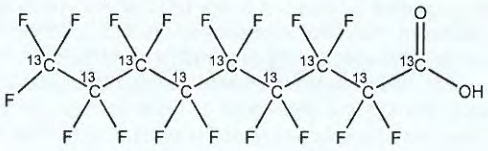
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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

1812024

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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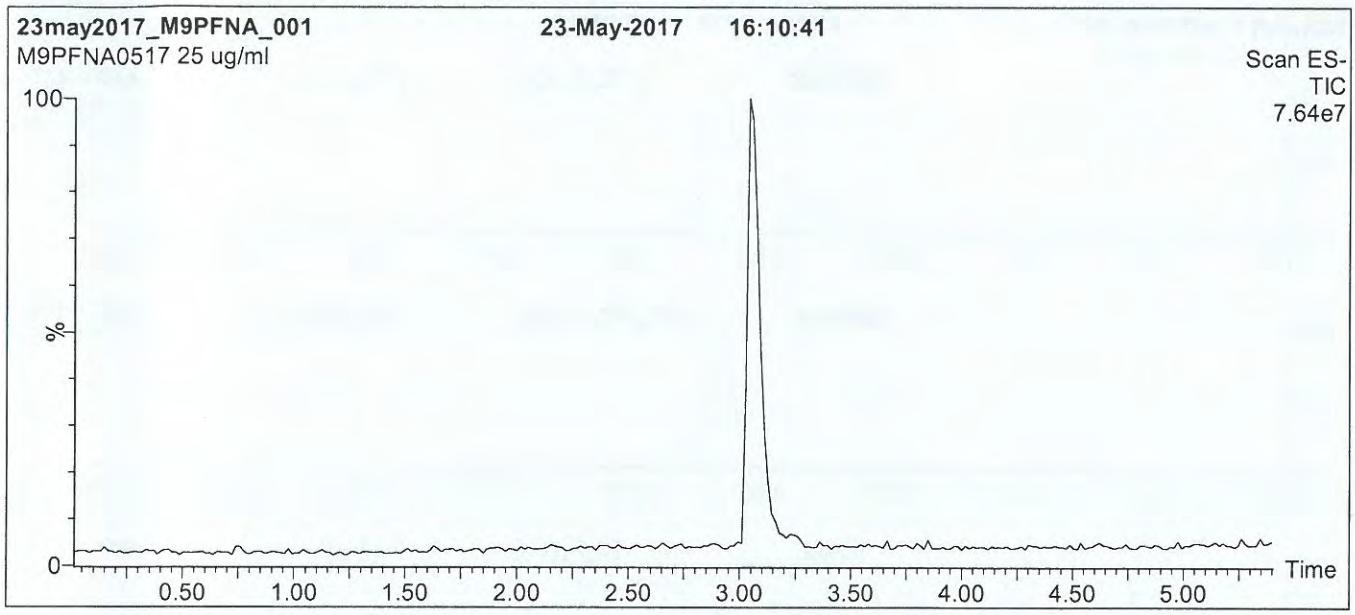
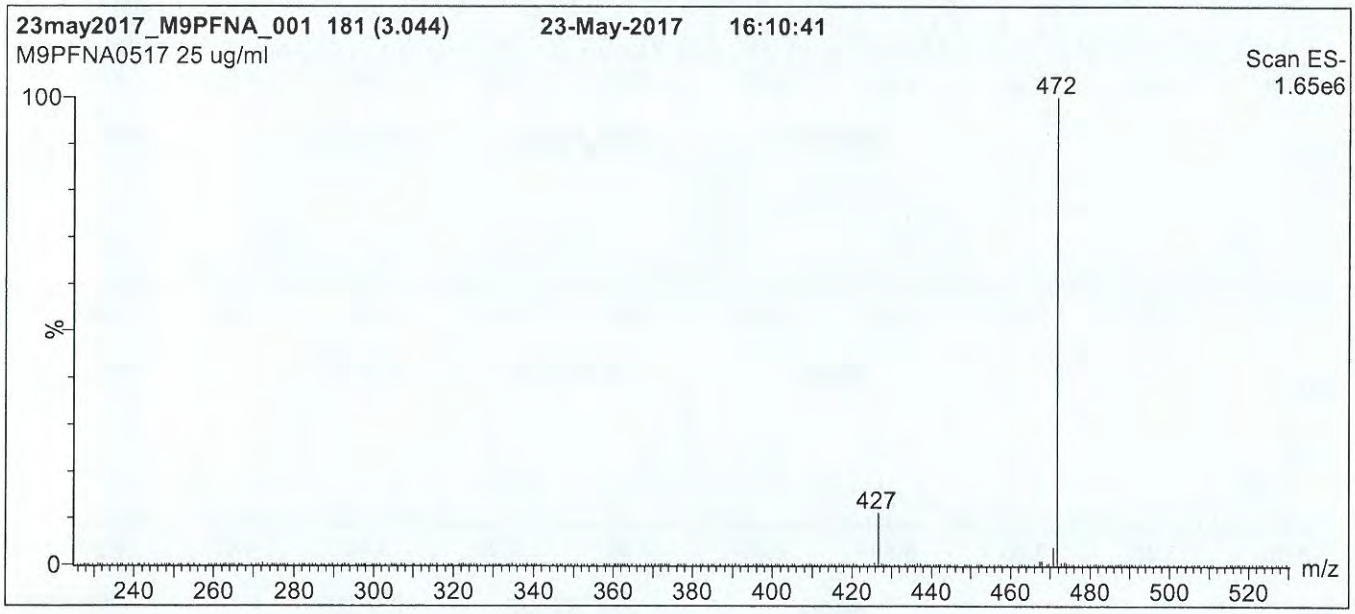
18L2024

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

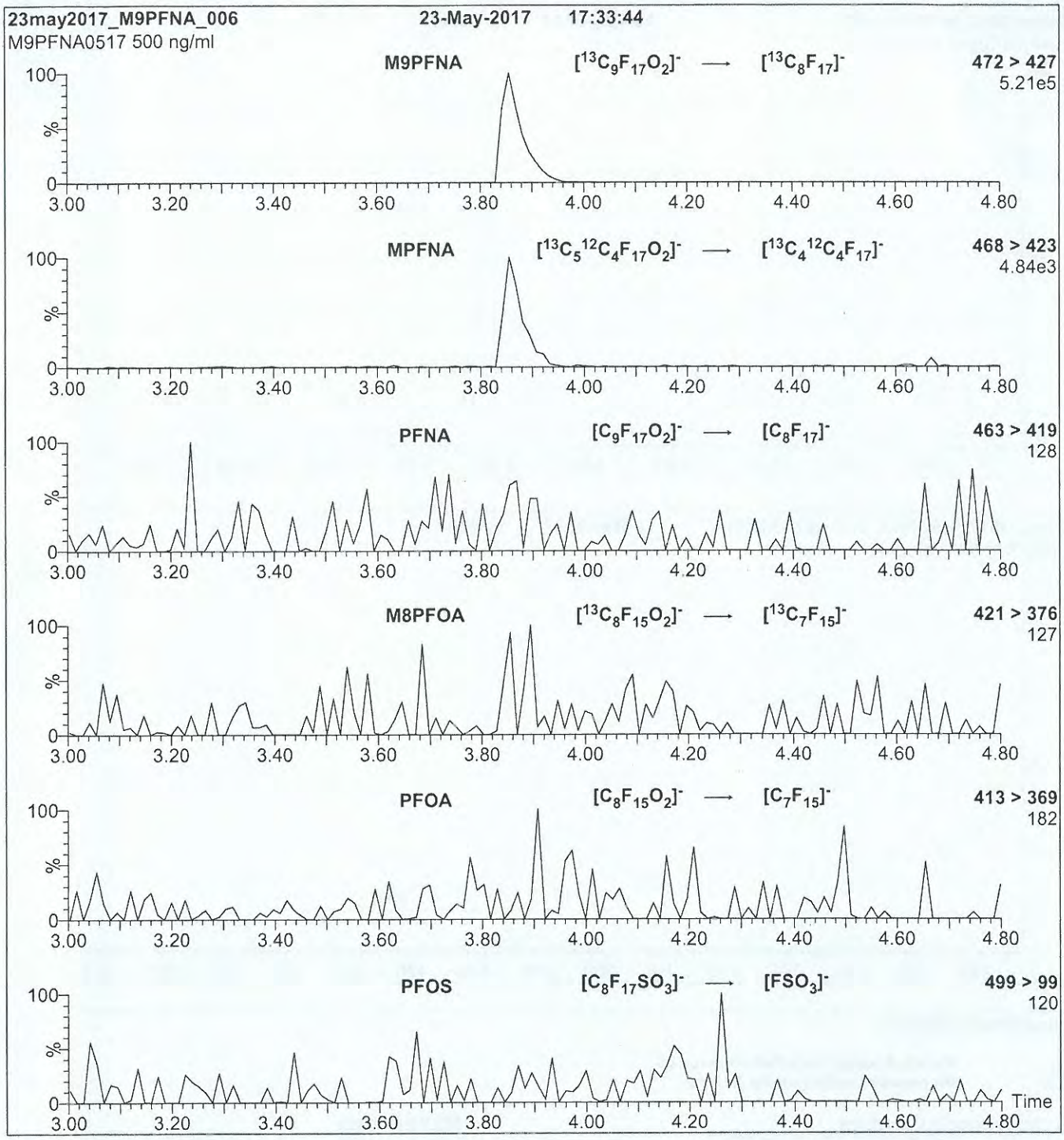
MS Parameters

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

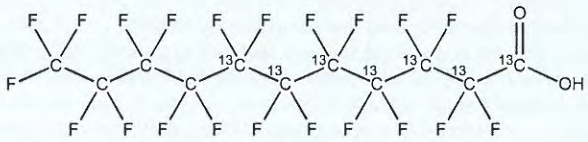
Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 11

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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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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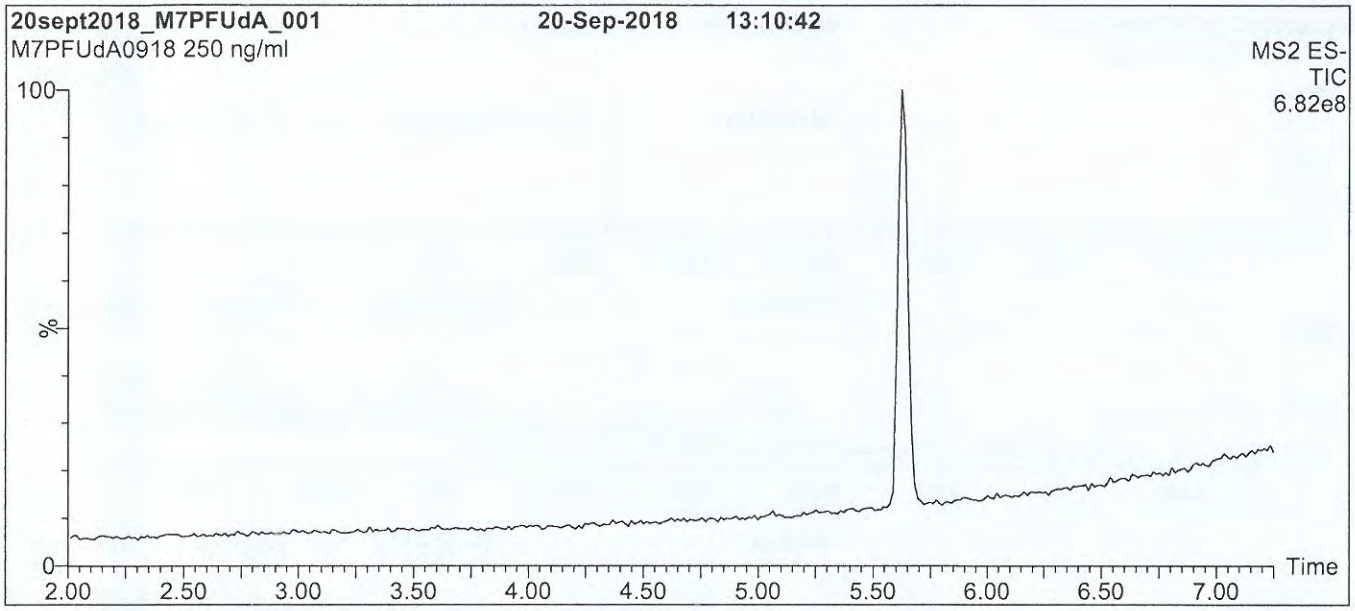
CALA Testing Accreditation No. A 1226

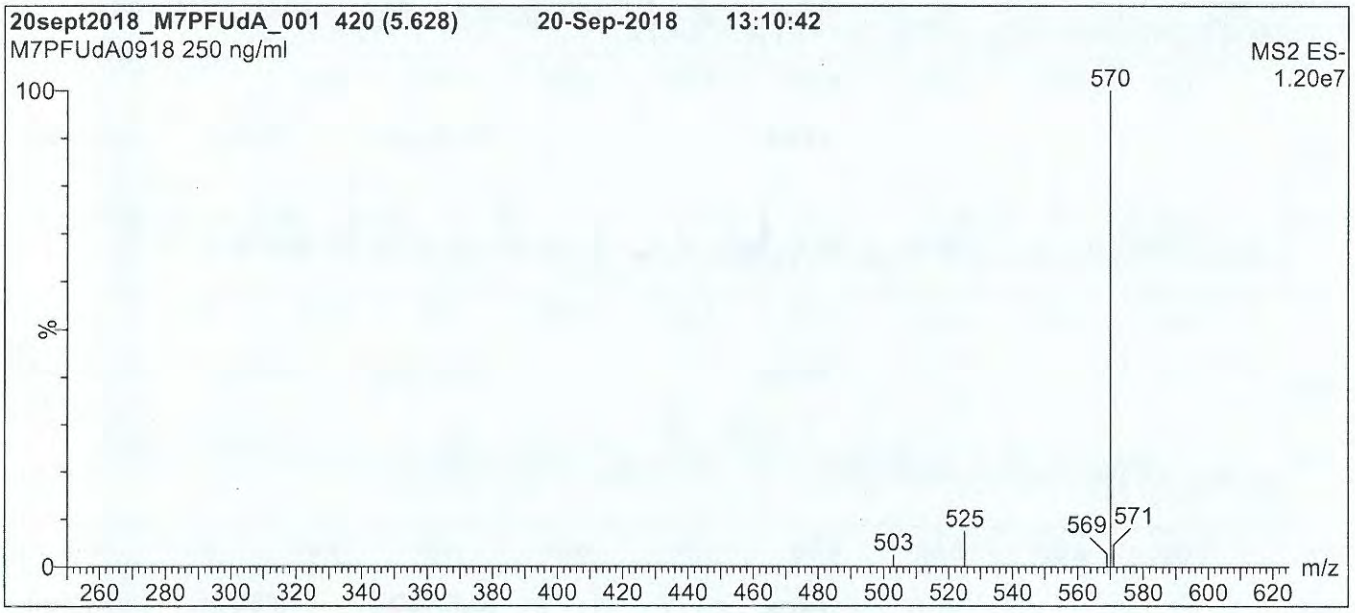
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

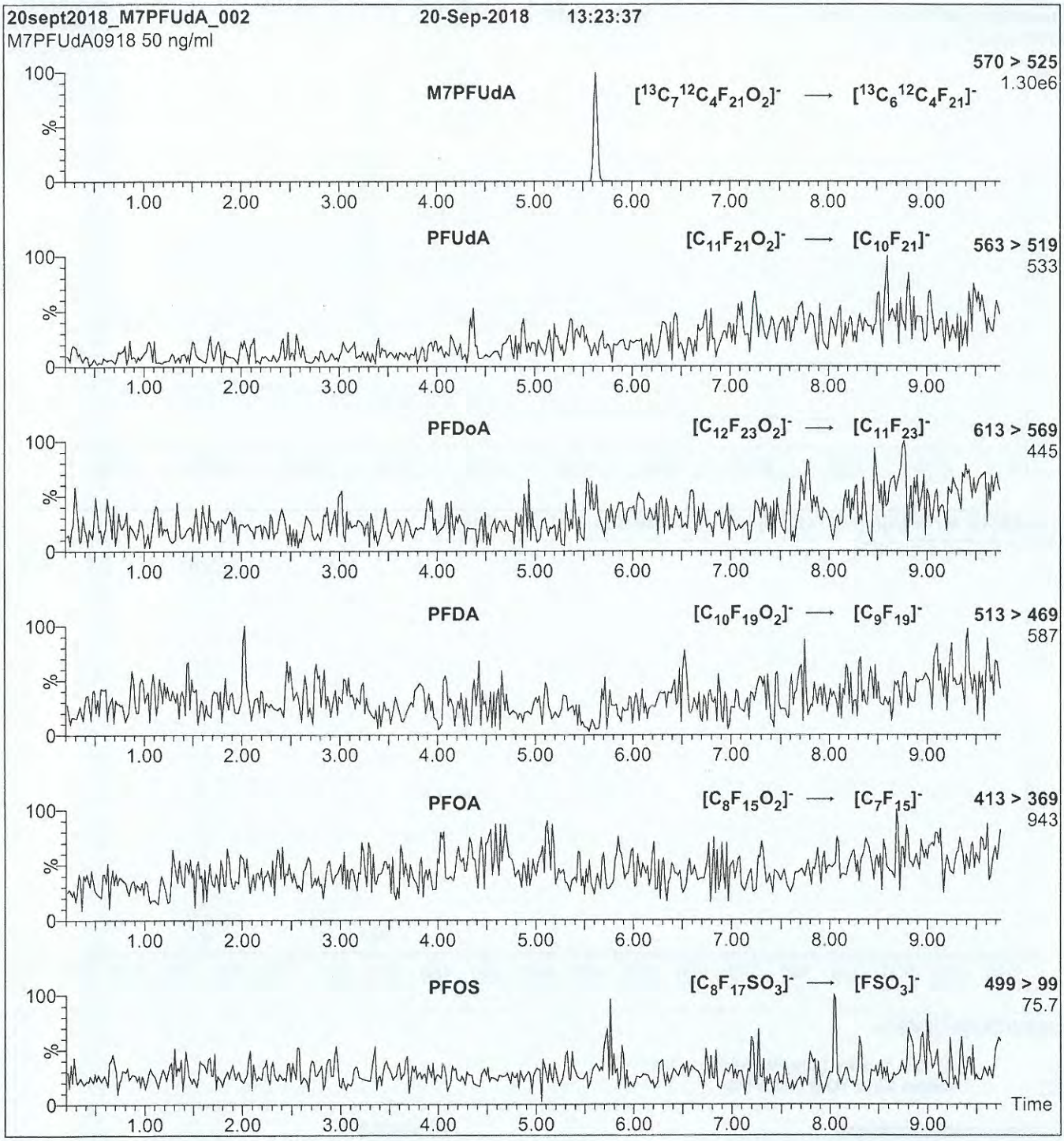
MS Parameters

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

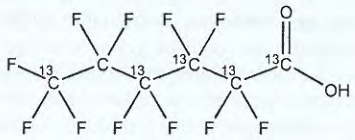
Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 12

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).

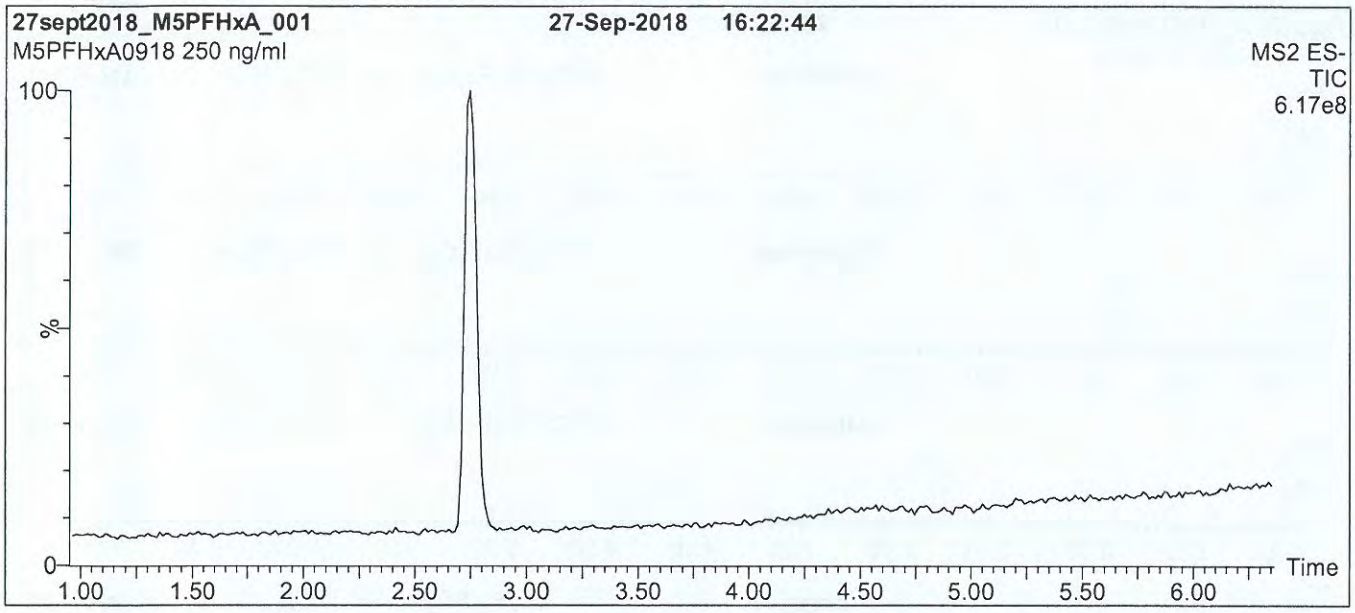
CALA Testing Accreditation No. A 1226

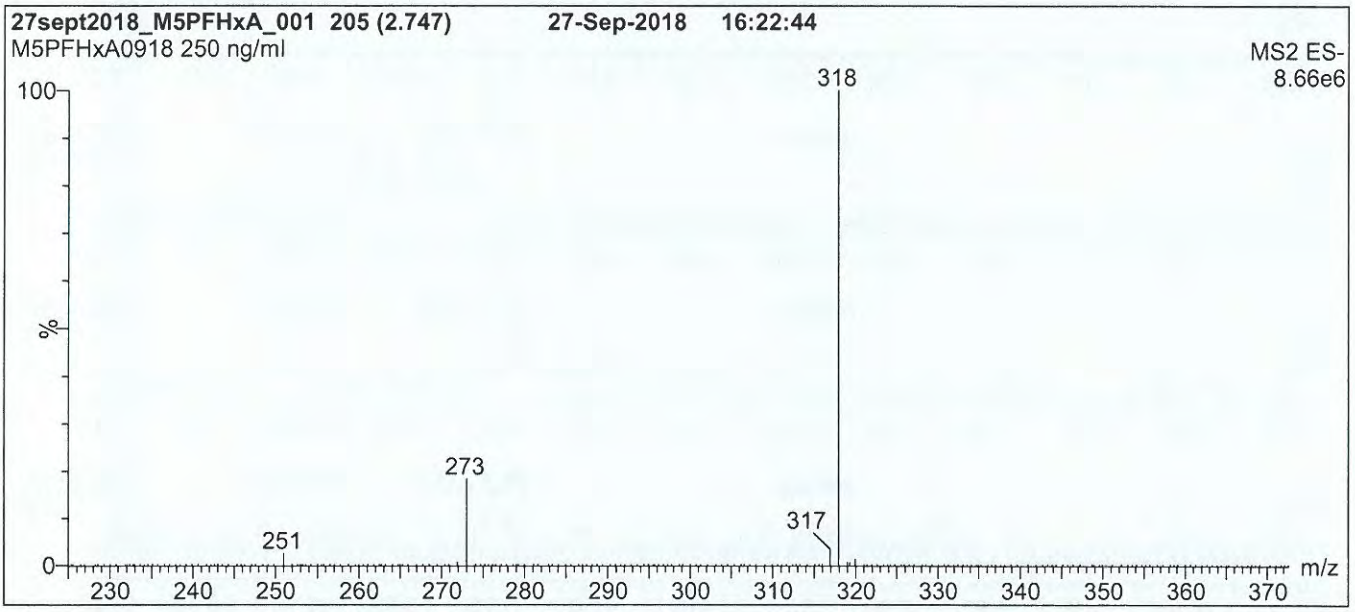
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

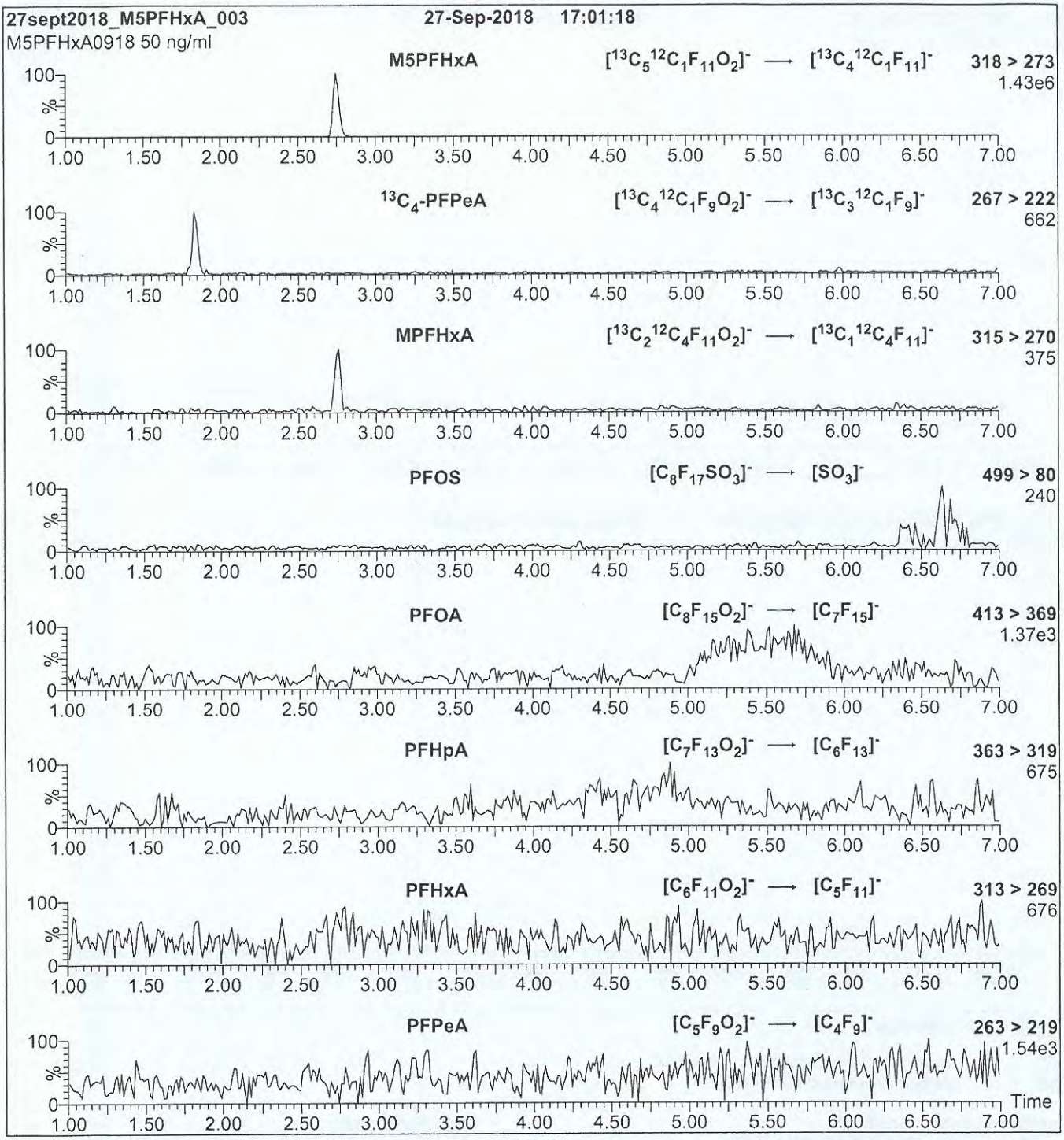
MS Parameters

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

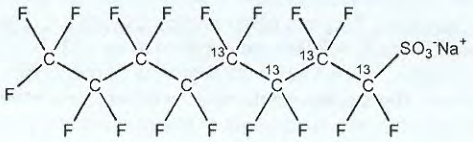
WELLINGTON LABORATORIES

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 ($1,2,3,4$-$^{13}C_4$)
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:

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).

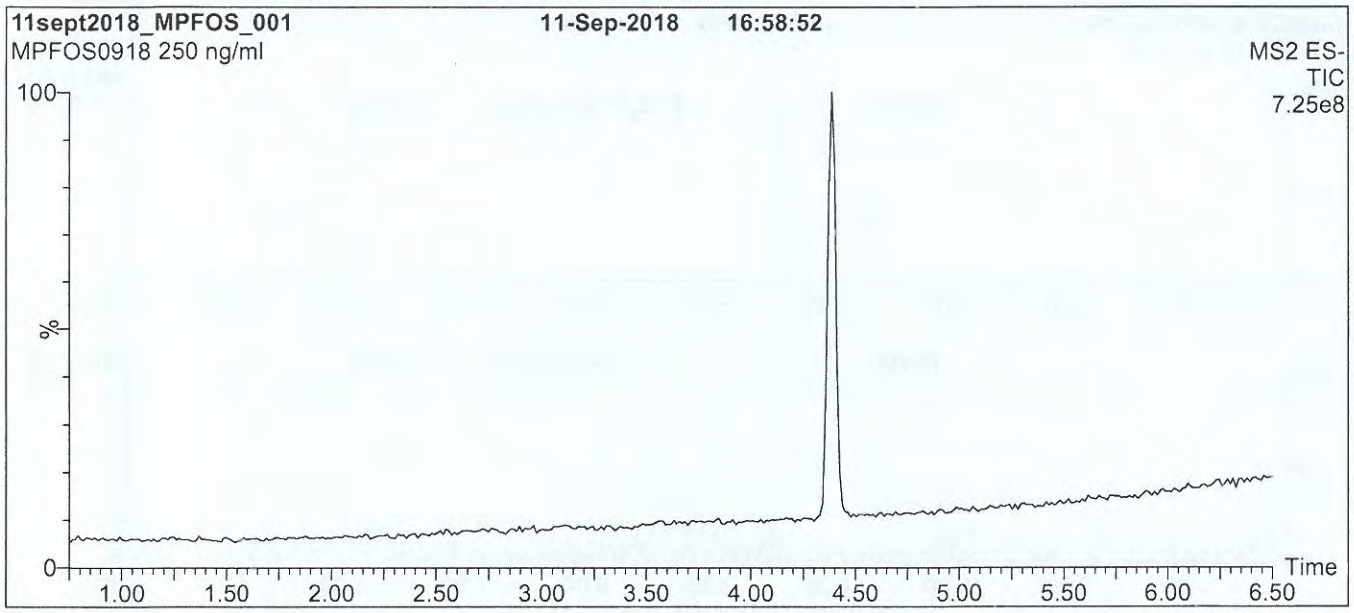
CALA Testing Accreditation No. A 1226

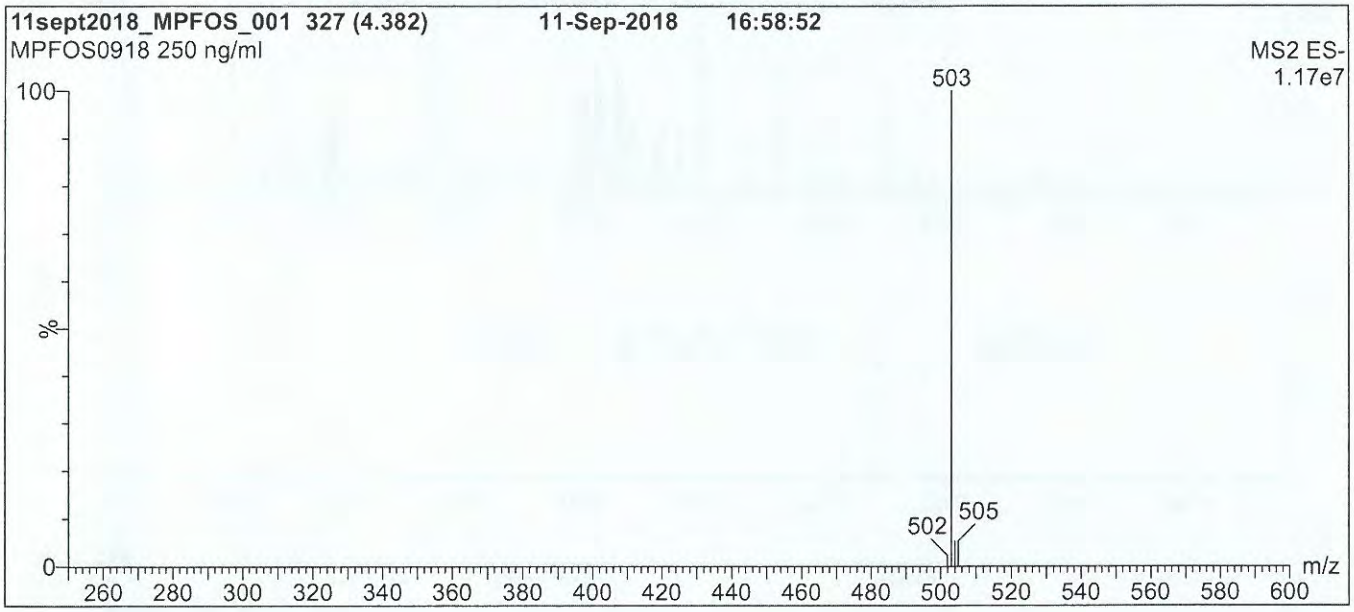
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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

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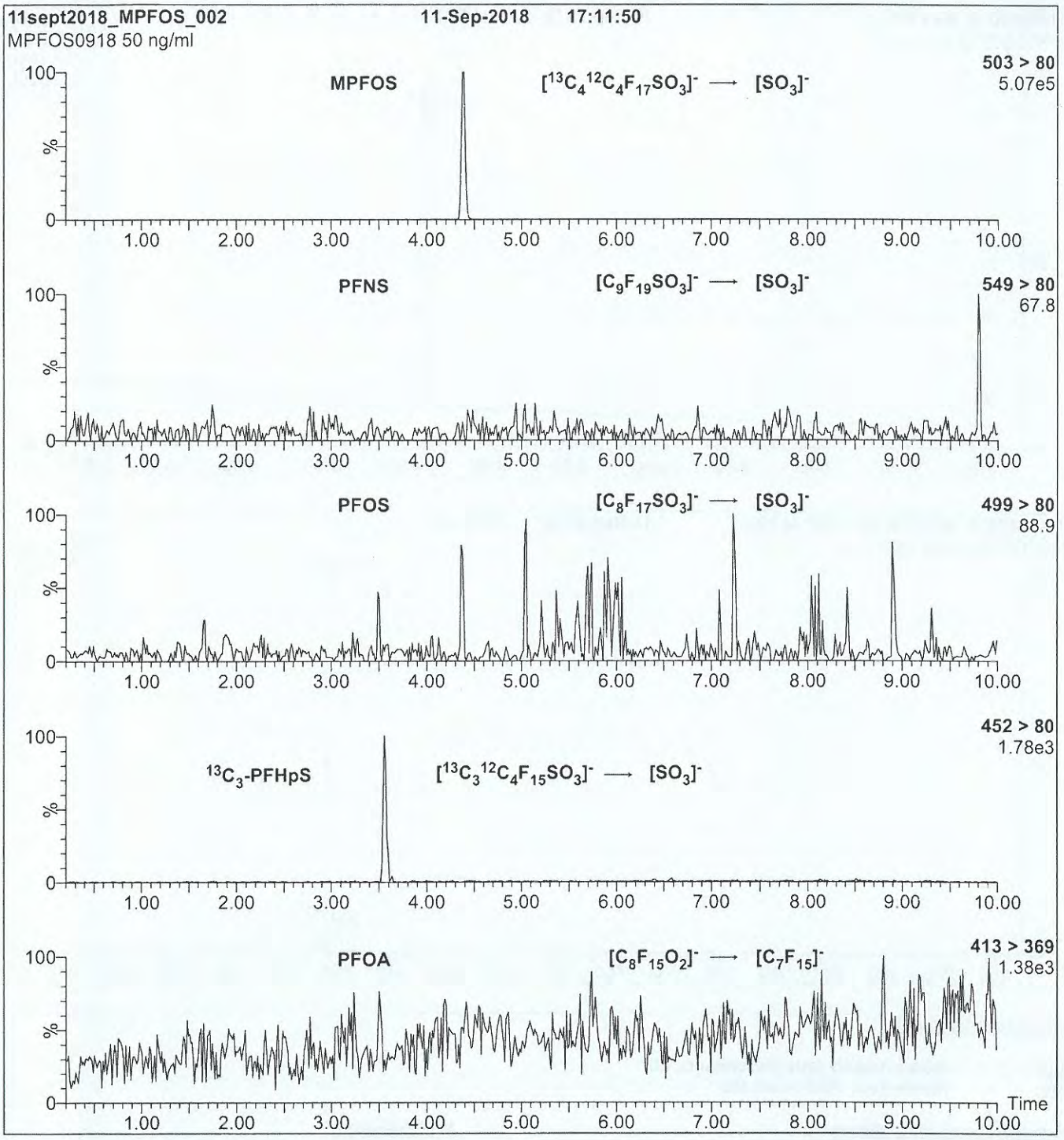
Figure 2: **MPFOS; LC/MS/MS Data (Selected MRM Transitions)**



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

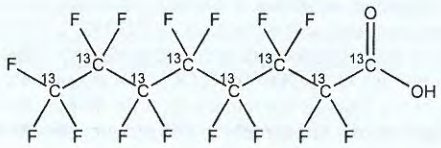
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOA
COMPOUND: Perfluoro-n-[$^{13}C_8$]octanoic acid

LOT NUMBER: M8PFOA0618

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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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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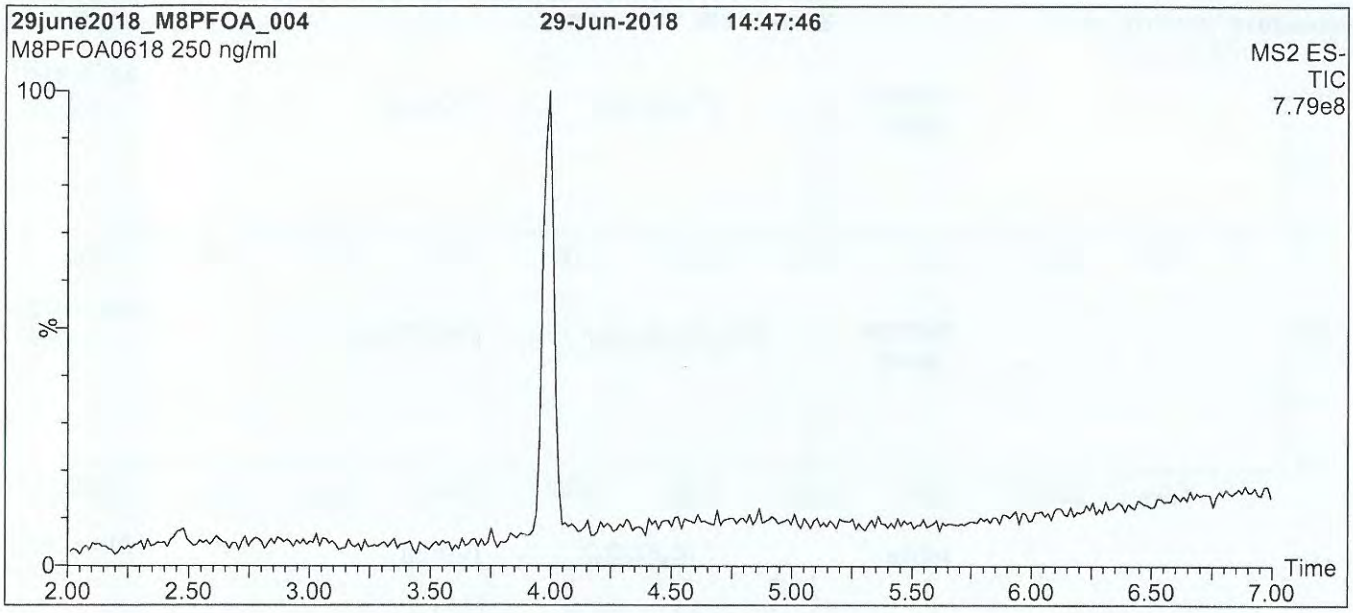
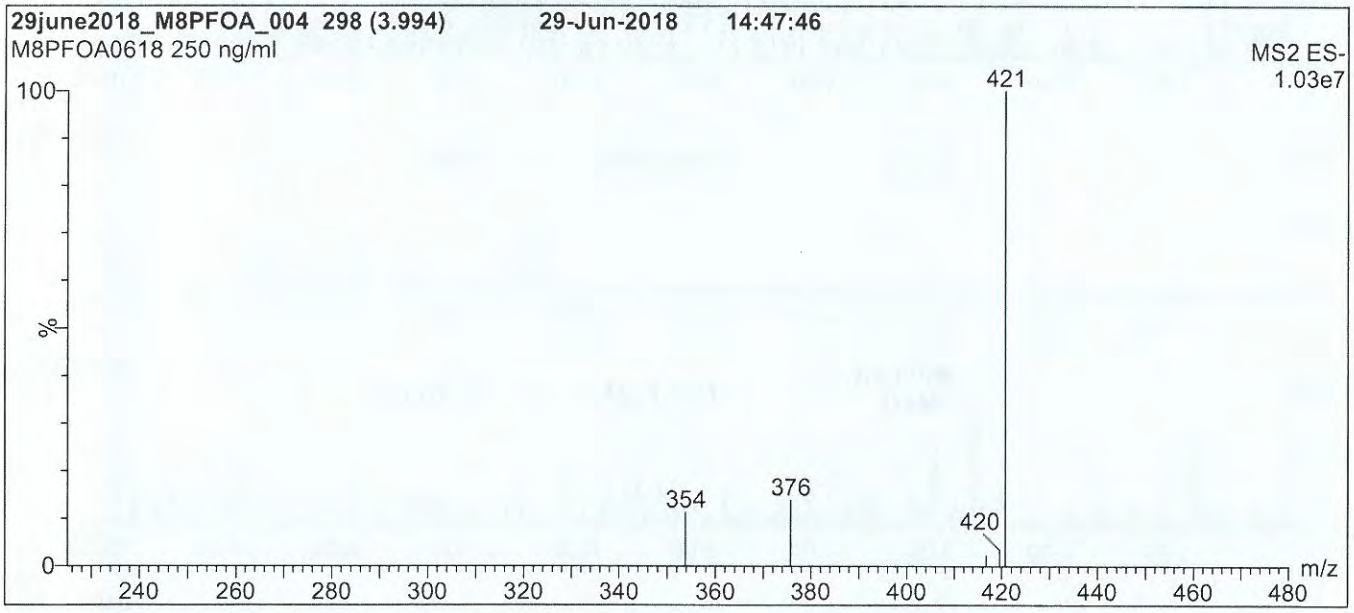
1812029

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

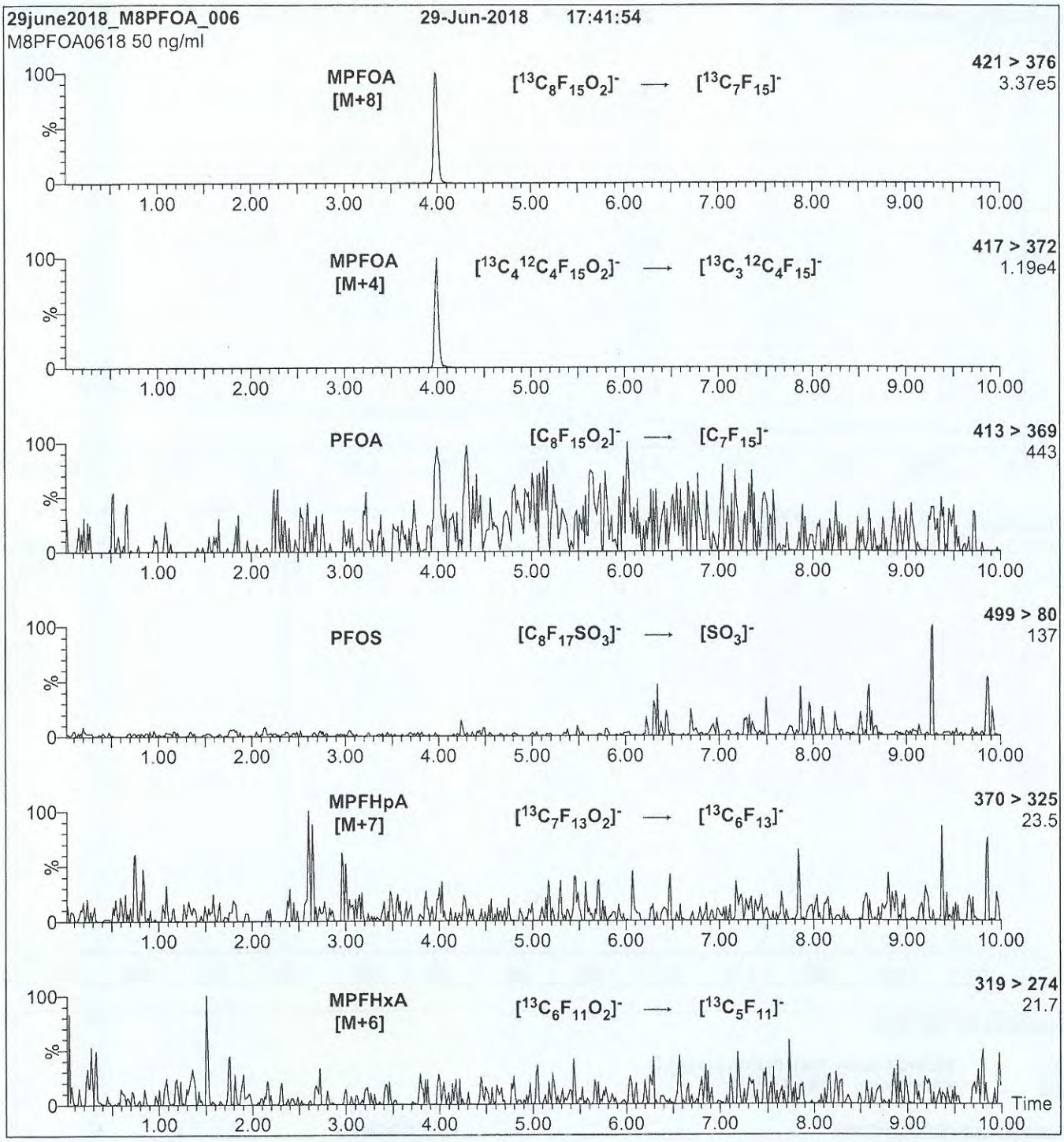
MS Parameters

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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5","PFBS","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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4","PFHxA","20.8","ug/kg","","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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9","PFHpA","2.31","ug/kg","","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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4","PFHxS","1.70","ug/kg","J","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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1","PFOA","2.65","ug/kg","","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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1","PFNA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
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1","PFOS","6.19","ug/kg","","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","335-76-
2","PFDA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","2355-31-
9","NMeFOSAA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","2991-50-
6","NEtFOSAA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","2058-94-
8","PFUnA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","307-55-
1","PFDoA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","72629-94-
8","PFTrDA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","376-06-
7","PFTeDA","0.990","ug/kg","U","0.990","CRDL","","TRG","","","1.98","CRDL","YES","0.836"
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C3-PFBS","13C3-
PFBS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFHxA","13C2-
PFHxA","99.9","%R","","","CRDL","","IS","99.9","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C4-PFHpA","13C4-
PFHpA","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C3-PFHxS","13C3-
PFHxS","96.2","%R","","","CRDL","","IS","96.2","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFOA","13C2-
PFOA","85.4","%R","","","CRDL","","IS","85.4","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C5-PFNA","13C5-
PFNA","76.0","%R","","","CRDL","","IS","76.0","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C8-PFOS","13C8-
PFOS","87.4","%R","","","CRDL","","IS","87.4","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFDA","13C2-
PFDA","68.0","%R","","","CRDL","","IS","68.0","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.5","%R","","","CRDL","","IS","71.5","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","d5-EtFOSAA","d5-
EtFOSAA","77.6","%R","","","CRDL","","IS","77.6","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFUnA","13C2-
PFUnA","75.5","%R","","","CRDL","","IS","75.5","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFDoA","13C2-
PFDoA","81.7","%R","","","CRDL","","IS","81.7","","","CRDL","",""
"SAOA-B10-SO-1-1.5","537 MOD","RES","1902097-01","Vista","13C2-PFTeDA","13C2-

PFTeDA","88.3","%R","","","CRDL","","IS","88.3","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","307-24-
4","PFHxA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","355-46-
4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","1763-23-
1","PFOS","1.06","ug/kg","J","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C3-PFBS","13C3-
PFBS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFHxA","13C2-
PFHxA","97.3","%R","","","CRDL","","IS","97.3","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C4-PFHpA","13C4-
PFHpA","92.8","%R","","","CRDL","","IS","92.8","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C3-PFHxS","13C3-
PFHxS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFOA","13C2-
PFOA","89.4","%R","","","CRDL","","IS","89.4","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C5-PFNA","13C5-
PFNA","79.9","%R","","","CRDL","","IS","79.9","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C8-PFOS","13C8-
PFOS","89.5","%R","","","CRDL","","IS","89.5","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFDA","13C2-
PFDA","64.0","%R","","","CRDL","","IS","64.0","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","d3-MeFOSAA","d3-
MeFOSAA","62.1","%R","","","CRDL","","IS","62.1","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","d5-EtFOSAA","d5-
EtFOSAA","65.9","%R","","","CRDL","","IS","65.9","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFUnA","13C2-
PFUnA","63.4","%R","","","CRDL","","IS","63.4","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFDoA","13C2-
PFDoA","62.7","%R","","","CRDL","","IS","62.7","","","CRDL","",""
"SAOA-B10-SO-20-20.5","537 MOD","RES","1902097-02","Vista","13C2-PFTeDA","13C2-

PFTeDA","79.8","%R","","","CRDL","","IS","79.8","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","307-24-
4","PFHxA","0.0401","ug/L","","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","375-85-
9","PFHpA","0.00352","ug/L","J","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","355-46-
4","PFHxS","0.0422","ug/L","","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","335-67-
1","PFOA","0.00776","ug/L","J","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","1763-23-
1","PFOS","0.180","ug/L","","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C3-PFBS","13C3-
PFBS","99.1","%R","","","CRDL","","IS","99.1","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFHxA","13C2-
PFHxA","95.4","%R","","","CRDL","","IS","95.4","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C4-PFHpA","13C4-
PFHpA","94.4","%R","","","CRDL","","IS","94.4","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C3-PFHxS","13C3-
PFHxS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFOA","13C2-
PFOA","93.9","%R","","","CRDL","","IS","93.9","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C5-PFNA","13C5-
PFNA","91.8","%R","","","CRDL","","IS","91.8","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C8-PFOS","13C8-
PFOS","97.4","%R","","","CRDL","","IS","97.4","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFDA","13C2-
PFDA","85.1","%R","","","CRDL","","IS","85.1","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","d3-MeFOSAA","d3-
MeFOSAA","81.5","%R","","","CRDL","","IS","81.5","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","d5-EtFOSAA","d5-
EtFOSAA","76.8","%R","","","CRDL","","IS","76.8","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFUnA","13C2-
PFUnA","76.3","%R","","","CRDL","","IS","76.3","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFDoA","13C2-
PFDoA","57.5","%R","","","CRDL","","IS","57.5","","","CRDL","",""
"SAOA-B10-GW","537 MOD","RES","1902097-03","Vista","13C2-PFTeDA","13C2-

PFTeDA","20.1","%R","H","","CRDL","","IS","20.1","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","375-73-
5","PFBS","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","307-24-
4","PFHxA","0.0275","ug/L","","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","375-85-
9","PFHpA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","355-46-
4","PFHxS","0.0365","ug/L","","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","335-67-
1","PFOA","0.00604","ug/L","J","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","375-95-
1","PFNA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","1763-23-
1","PFOS","0.144","ug/L","","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","335-76-
2","PFDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","2355-31-
9","NMeFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","2991-50-
6","NEtFOSAA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","2058-94-
8","PFUnA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","307-55-
1","PFDoA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","72629-94-
8","PFTrDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","376-06-
7","PFTeDA","0.00410","ug/L","U","0.00410","CRDL","","TRG","","","0.00817","CRDL","YES","0.00280"
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C3-PFBS","13C3-
PFBS","99.6","%R","","","CRDL","","IS","99.6","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFHxA","13C2-
PFHxA","94.0","%R","","","CRDL","","IS","94.0","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C4-PFHpA","13C4-
PFHpA","92.9","%R","","","CRDL","","IS","92.9","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C3-PFHxS","13C3-
PFHxS","94.7","%R","","","CRDL","","IS","94.7","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFOA","13C2-
PFOA","92.2","%R","","","CRDL","","IS","92.2","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C5-PFNA","13C5-
PFNA","88.0","%R","","","CRDL","","IS","88.0","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C8-PFOS","13C8-
PFOS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFDA","13C2-
PFDA","78.9","%R","","","CRDL","","IS","78.9","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","d3-MeFOSAA","d3-
MeFOSAA","76.8","%R","","","CRDL","","IS","76.8","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","d5-EtFOSAA","d5-
EtFOSAA","76.6","%R","","","CRDL","","IS","76.6","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFUnA","13C2-
PFUnA","73.4","%R","","","CRDL","","IS","73.4","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFDoA","13C2-
PFDoA","62.4","%R","","","CRDL","","IS","62.4","","","CRDL","",""
"SAOA-B10-GW-D","537 MOD","RES","1902097-04","Vista","13C2-PFTeDA","13C2-

PFTeDA","28.0","%R","H","","CRDL","","IS","28.0","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","307-24-
4","PFHxA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","375-85-
9","PFHpA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","355-46-
4","PFHxS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","335-67-
1","PFOA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","1763-23-
1","PFOS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00859","CRDL","YES","0.00294"
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C3-PFBS","13C3-
PFBS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFHxA","13C2-
PFHxA","94.5","%R","","","CRDL","","IS","94.5","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C4-PFHpA","13C4-
PFHpA","97.7","%R","","","CRDL","","IS","97.7","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C3-PFHxS","13C3-
PFHxS","107","%R","","","CRDL","","IS","107","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFOA","13C2-
PFOA","89.7","%R","","","CRDL","","IS","89.7","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C5-PFNA","13C5-
PFNA","87.7","%R","","","CRDL","","IS","87.7","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C8-PFOS","13C8-
PFOS","89.9","%R","","","CRDL","","IS","89.9","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFDA","13C2-
PFDA","78.2","%R","","","CRDL","","IS","78.2","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","d3-MeFOSAA","d3-
MeFOSAA","75.1","%R","","","CRDL","","IS","75.1","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","d5-EtFOSAA","d5-
EtFOSAA","76.1","%R","","","CRDL","","IS","76.1","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFUnA","13C2-
PFUnA","71.8","%R","","","CRDL","","IS","71.8","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFDoA","13C2-
PFDoA","70.2","%R","","","CRDL","","IS","70.2","","","CRDL","",""
"EB-07092019","537 MOD","RES","1902097-05","Vista","13C2-PFTeDA","13C2-

PFTeDA","76.2","%R","","","CRDL","","IS","76.2","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","307-24-
4","PFHxA","2.20","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","355-46-
4","PFHxS","2.12","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","335-67-
1","PFOA","3.02","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","1763-23-
1","PFOS","2.57","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C3-PFBS","13C3-
PFBS","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFHxA","13C2-
PFHxA","96.3","%R","","","CRDL","","IS","96.3","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C4-PFHpA","13C4-
PFHpA","96.8","%R","","","CRDL","","IS","96.8","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C3-PFHxS","13C3-
PFHxS","94.4","%R","","","CRDL","","IS","94.4","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFOA","13C2-
PFOA","84.9","%R","","","CRDL","","IS","84.9","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C5-PFNA","13C5-
PFNA","80.0","%R","","","CRDL","","IS","80.0","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C8-PFOS","13C8-
PFOS","91.7","%R","","","CRDL","","IS","91.7","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFDA","13C2-
PFDA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","d3-MeFOSAA","d3-
MeFOSAA","59.9","%R","","","CRDL","","IS","59.9","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","d5-EtFOSAA","d5-
EtFOSAA","67.7","%R","","","CRDL","","IS","67.7","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFUnA","13C2-
PFUnA","65.1","%R","","","CRDL","","IS","65.1","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFDoA","13C2-
PFDoA","70.4","%R","","","CRDL","","IS","70.4","","","CRDL","",""
"NON-B02-SO-1-1.5","537 MOD","RES","1902097-06","Vista","13C2-PFTeDA","13C2-

PFTeDA","85.2","%R","","","CRDL","","IS","85.2","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","375-73-
5","PFBS","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","307-24-
4","PFHxA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","375-85-
9","PFHpA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","355-46-
4","PFHxS","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","335-67-
1","PFOA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","375-95-
1","PFNA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","1763-23-
1","PFOS","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","335-76-
2","PFDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","2355-31-
9","NMeFOSAA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","2991-50-
6","NEtFOSAA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","2058-94-
8","PFUnA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","307-55-
1","PFDoA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","72629-94-
8","PFTrDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","376-06-
7","PFTeDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00867","CRDL","YES","0.00297"
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C3-PFBS","13C3-
PFBS","105","%R","","","CRDL","","IS","105","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFHxA","13C2-
PFHxA","95.7","%R","","","CRDL","","IS","95.7","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C4-PFHpA","13C4-
PFHpA","96.6","%R","","","CRDL","","IS","96.6","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C3-PFHxS","13C3-
PFHxS","104","%R","","","CRDL","","IS","104","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFOA","13C2-
PFOA","89.0","%R","","","CRDL","","IS","89.0","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C5-PFNA","13C5-
PFNA","83.3","%R","","","CRDL","","IS","83.3","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C8-PFOS","13C8-
PFOS","91.1","%R","","","CRDL","","IS","91.1","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFDA","13C2-
PFDA","74.7","%R","","","CRDL","","IS","74.7","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","d3-MeFOSAA","d3-
MeFOSAA","73.0","%R","","","CRDL","","IS","73.0","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","d5-EtFOSAA","d5-
EtFOSAA","74.0","%R","","","CRDL","","IS","74.0","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFUnA","13C2-
PFUnA","66.7","%R","","","CRDL","","IS","66.7","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFDoA","13C2-
PFDoA","67.9","%R","","","CRDL","","IS","67.9","","","CRDL","",""
"FRB-07092019","537 MOD","RES","1902097-07","Vista","13C2-PFTeDA","13C2-

PFTeDA","75.2","%R","","","CRDL","","IS","75.2","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","307-24-
4","PFHxA","2.82","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","355-46-4","PFHxS","1.31","ug/kg","J,
Q","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","335-67-
1","PFOA","1.35","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","1763-23-
1","PFOS","1.52","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C3-PFBS","13C3-
PFBS","96.1","%R","","","CRDL","","IS","96.1","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFHxA","13C2-
PFHxA","90.4","%R","","","CRDL","","IS","90.4","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C4-PFHpA","13C4-
PFHpA","92.1","%R","","","CRDL","","IS","92.1","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C3-PFHxS","13C3-
PFHxS","95.0","%R","","","CRDL","","IS","95.0","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFOA","13C2-
PFOA","89.3","%R","","","CRDL","","IS","89.3","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C5-PFNA","13C5-
PFNA","78.3","%R","","","CRDL","","IS","78.3","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C8-PFOS","13C8-
PFOS","83.7","%R","","","CRDL","","IS","83.7","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFDA","13C2-
PFDA","61.9","%R","","","CRDL","","IS","61.9","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","d3-MeFOSAA","d3-
MeFOSAA","52.0","%R","","","CRDL","","IS","52.0","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","d5-EtFOSAA","d5-
EtFOSAA","56.2","%R","","","CRDL","","IS","56.2","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFUnA","13C2-
PFUnA","52.8","%R","","","CRDL","","IS","52.8","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFDoA","13C2-
PFDoA","51.7","%R","","","CRDL","","IS","51.7","","","CRDL","",""
"NON-B02-SO-15-15.5","537 MOD","RES","1902097-08","Vista","13C2-PFTeDA","13C2-

PFTeDA","70.0","%R","","","CRDL","","IS","70.0","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","375-73-
5","PFBS","1.34","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","307-24-
4","PFHxA","15.6","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","375-85-
9","PFHpA","3.81","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","355-46-
4","PFHxS","13.1","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","335-67-
1","PFOA","6.94","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","1763-23-
1","PFOS","33.8","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C3-PFBS","13C3-
PFBS","96.4","%R","","","CRDL","","IS","96.4","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFHxA","13C2-
PFHxA","90.2","%R","","","CRDL","","IS","90.2","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C4-PFHpA","13C4-
PFHpA","87.3","%R","","","CRDL","","IS","87.3","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C3-PFHxS","13C3-
PFHxS","94.6","%R","","","CRDL","","IS","94.6","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFOA","13C2-
PFOA","85.5","%R","","","CRDL","","IS","85.5","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C5-PFNA","13C5-
PFNA","83.5","%R","","","CRDL","","IS","83.5","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C8-PFOS","13C8-
PFOS","91.3","%R","","","CRDL","","IS","91.3","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFDA","13C2-
PFDA","71.4","%R","","","CRDL","","IS","71.4","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","d3-MeFOSAA","d3-
MeFOSAA","55.0","%R","","","CRDL","","IS","55.0","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","d5-EtFOSAA","d5-
EtFOSAA","57.6","%R","","","CRDL","","IS","57.6","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFUnA","13C2-
PFUnA","64.6","%R","","","CRDL","","IS","64.6","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFDoA","13C2-
PFDoA","61.8","%R","","","CRDL","","IS","61.8","","","CRDL","",""
"SAOA-B01-SO-5-5.5","537 MOD","RES","1902097-09","Vista","13C2-PFTeDA","13C2-

PFTeDA","74.6","%R","","","CRDL","","IS","74.6","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","307-24-
4","PFHxA","2.21","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","355-46-
4","PFHxS","1.66","ug/kg","J","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","1763-23-
1","PFOS","12.5","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.847"
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C3-PFBS","13C3-
PFBS","95.4","%R","","","CRDL","","IS","95.4","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFHxA","13C2-
PFHxA","89.9","%R","","","CRDL","","IS","89.9","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C4-PFHpA","13C4-
PFHpA","90.2","%R","","","CRDL","","IS","90.2","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C3-PFHxS","13C3-
PFHxS","93.9","%R","","","CRDL","","IS","93.9","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFOA","13C2-
PFOA","87.9","%R","","","CRDL","","IS","87.9","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C5-PFNA","13C5-
PFNA","75.7","%R","","","CRDL","","IS","75.7","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C8-PFOS","13C8-
PFOS","88.2","%R","","","CRDL","","IS","88.2","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFDA","13C2-
PFDA","65.5","%R","","","CRDL","","IS","65.5","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","d3-MeFOSAA","d3-
MeFOSAA","50.5","%R","","","CRDL","","IS","50.5","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","d5-EtFOSAA","d5-
EtFOSAA","50.9","%R","","","CRDL","","IS","50.9","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFUnA","13C2-
PFUnA","59.1","%R","","","CRDL","","IS","59.1","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFDoA","13C2-
PFDoA","58.6","%R","","","CRDL","","IS","58.6","","","CRDL","",""
"SAOA-B01-SO-20-20.5","537 MOD","RES","1902097-10","Vista","13C2-PFTeDA","13C2-

PFTeDA","69.4","%R","","","CRDL","","IS","69.4","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","307-24-
4","PFHxA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","355-46-
4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","1763-23-
1","PFOS","17.1","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C3-PFBS","13C3-
PFBS","99.1","%R","","","CRDL","","IS","99.1","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFHxA","13C2-
PFHxA","88.1","%R","","","CRDL","","IS","88.1","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C4-PFHpA","13C4-
PFHpA","84.6","%R","","","CRDL","","IS","84.6","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C3-PFHxS","13C3-
PFHxS","97.0","%R","","","CRDL","","IS","97.0","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFOA","13C2-
PFOA","82.9","%R","","","CRDL","","IS","82.9","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C5-PFNA","13C5-
PFNA","80.8","%R","","","CRDL","","IS","80.8","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C8-PFOS","13C8-
PFOS","87.2","%R","","","CRDL","","IS","87.2","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFDA","13C2-
PFDA","69.1","%R","","","CRDL","","IS","69.1","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","d3-MeFOSAA","d3-
MeFOSAA","50.1","%R","","","CRDL","","IS","50.1","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","d5-EtFOSAA","d5-
EtFOSAA","52.2","%R","","","CRDL","","IS","52.2","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFUnA","13C2-
PFUnA","63.5","%R","","","CRDL","","IS","63.5","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFDoA","13C2-
PFDoA","57.9","%R","","","CRDL","","IS","57.9","","","CRDL","",""
"SAOA-B01-SO-36-36.5","537 MOD","RES","1902097-11","Vista","13C2-PFTeDA","13C2-

PFTeDA","62.9","%R","","","CRDL","","IS","62.9","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","375-73-
5","PFBS","3.76","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","307-24-
4","PFHxA","76.6","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","375-85-
9","PFHpA","35.8","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","355-46-
4","PFHxS","133","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","335-67-
1","PFOA","25.4","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","375-95-
1","PFNA","2.18","ug/kg","","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","DL","1902097-12","Vista","1763-23-
1","PFOS","916","ug/kg","D","4.96","CRDL","","TRG","","","9.92","CRDL","YES","4.19"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","335-76-
2","PFDA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","2355-31-
9","NMeFOSAA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","2991-50-
6","NEtFOSAA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","2058-94-
8","PFUnA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","307-55-
1","PFDoA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","72629-94-
8","PFTrDA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","376-06-
7","PFTeDA","0.992","ug/kg","U","0.992","CRDL","","TRG","","","1.98","CRDL","YES","0.838"
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C3-PFBS","13C3-
PFBS","95.6","%R","","","CRDL","","IS","95.6","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFHxA","13C2-
PFHxA","88.7","%R","","","CRDL","","IS","88.7","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C4-PFHpA","13C4-
PFHpA","92.2","%R","","","CRDL","","IS","92.2","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C3-PFHxS","13C3-
PFHxS","95.9","%R","","","CRDL","","IS","95.9","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFOA","13C2-
PFOA","88.0","%R","","","CRDL","","IS","88.0","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C5-PFNA","13C5-
PFNA","78.6","%R","","","CRDL","","IS","78.6","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","DL","1902097-12","Vista","13C8-PFOS","13C8-
PFOS","78.6","%R","D","","CRDL","","IS","78.6","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFDA","13C2-
PFDA","71.3","%R","","","CRDL","","IS","71.3","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","d3-MeFOSAA","d3-
MeFOSAA","57.5","%R","","","CRDL","","IS","57.5","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.2","%R","","","CRDL","","IS","63.2","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFUnA","13C2-
PFUnA","66.4","%R","","","CRDL","","IS","66.4","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFDoA","13C2-
PFDoA","64.2","%R","","","CRDL","","IS","64.2","","","CRDL","",""
"NON-B01-SO-1-1.5","537 MOD","RES","1902097-12","Vista","13C2-PFTeDA","13C2-

PFTeDA","73.1","%R","","","CRDL","","IS","73.1","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","375-73-
5","PFBS","5.37","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","307-24-
4","PFHxA","44.4","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","375-85-
9","PFHpA","24.5","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","355-46-
4","PFHxS","164","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","335-67-
1","PFOA","26.0","ug/kg","","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","375-95-
1","PFNA","1.41","ug/kg","J","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","DL","1902097-13","Vista","1763-23-
1","PFOS","795","ug/kg","D","5.02","CRDL","","TRG","","","10.0","CRDL","YES","4.24"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.01","CRDL","YES","0.848"
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C3-PFBS","13C3-
PFBS","103","%R","","","CRDL","","IS","103","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFHxA","13C2-
PFHxA","93.7","%R","","","CRDL","","IS","93.7","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C4-PFHpA","13C4-
PFHpA","90.3","%R","","","CRDL","","IS","90.3","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C3-PFHxS","13C3-
PFHxS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFOA","13C2-
PFOA","81.5","%R","","","CRDL","","IS","81.5","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C5-PFNA","13C5-
PFNA","82.9","%R","","","CRDL","","IS","82.9","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","DL","1902097-13","Vista","13C8-PFOS","13C8-
PFOS","88.3","%R","D","","CRDL","","IS","88.3","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFDA","13C2-
PFDA","64.9","%R","","","CRDL","","IS","64.9","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","d3-MeFOSAA","d3-
MeFOSAA","44.0","%R","H","","CRDL","","IS","44.0","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","d5-EtFOSAA","d5-
EtFOSAA","51.3","%R","","","CRDL","","IS","51.3","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFUnA","13C2-
PFUnA","53.7","%R","","","CRDL","","IS","53.7","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFDoA","13C2-
PFDoA","46.2","%R","H","","CRDL","","IS","46.2","","","CRDL","",""
"NON-B01-SO-15-15.5","537 MOD","RES","1902097-13","Vista","13C2-PFTeDA","13C2-

PFTeDA","61.7","%R","","","CRDL","","IS","61.7","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","307-24-
4","PFHxA","0.0594","ug/L","","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","375-85-
9","PFHpA","0.0185","ug/L","","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","355-46-
4","PFHxS","0.0122","ug/L","","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","335-67-
1","PFOA","0.00671","ug/L","J","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","1763-23-
1","PFOS","0.0706","ug/L","","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00861","CRDL","YES","0.00295"
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C3-PFBS","13C3-
PFBS","99.1","%R","","","CRDL","","IS","99.1","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFHxA","13C2-
PFHxA","97.5","%R","","","CRDL","","IS","97.5","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C4-PFHpA","13C4-
PFHpA","97.5","%R","","","CRDL","","IS","97.5","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C3-PFHxS","13C3-
PFHxS","93.6","%R","","","CRDL","","IS","93.6","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFOA","13C2-
PFOA","96.1","%R","","","CRDL","","IS","96.1","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C5-PFNA","13C5-
PFNA","93.2","%R","","","CRDL","","IS","93.2","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C8-PFOS","13C8-
PFOS","94.5","%R","","","CRDL","","IS","94.5","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFDA","13C2-
PFDA","84.3","%R","","","CRDL","","IS","84.3","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","d3-MeFOSAA","d3-
MeFOSAA","66.8","%R","","","CRDL","","IS","66.8","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","d5-EtFOSAA","d5-
EtFOSAA","82.4","%R","","","CRDL","","IS","82.4","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFUnA","13C2-
PFUnA","77.4","%R","","","CRDL","","IS","77.4","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFDoA","13C2-
PFDoA","73.1","%R","","","CRDL","","IS","73.1","","","CRDL","",""
"EB-07102019","537 MOD","RES","1902097-14","Vista","13C2-PFTeDA","13C2-

PFTeDA","79.3","%R","","","CRDL","","IS","79.3","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","375-73-
5","PFBS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","307-24-
4","PFHxA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","375-85-
9","PFHpA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","355-46-
4","PFHxS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","335-67-
1","PFOA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","375-95-
1","PFNA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","1763-23-
1","PFOS","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","335-76-
2","PFDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","2355-31-
9","NMeFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","2991-50-
6","NEtFOSAA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","2058-94-
8","PFUnA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","307-55-
1","PFDoA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","72629-94-
8","PFTrDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","376-06-
7","PFTeDA","0.00431","ug/L","U","0.00431","CRDL","","TRG","","","0.00863","CRDL","YES","0.00295"
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C3-PFBS","13C3-
PFBS","98.7","%R","","","CRDL","","IS","98.7","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFHxA","13C2-
PFHxA","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C4-PFHpA","13C4-
PFHpA","98.2","%R","","","CRDL","","IS","98.2","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C3-PFHxS","13C3-
PFHxS","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFOA","13C2-
PFOA","95.6","%R","","","CRDL","","IS","95.6","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C5-PFNA","13C5-
PFNA","87.6","%R","","","CRDL","","IS","87.6","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C8-PFOS","13C8-
PFOS","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFDA","13C2-
PFDA","77.5","%R","","","CRDL","","IS","77.5","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","d3-MeFOSAA","d3-
MeFOSAA","67.5","%R","","","CRDL","","IS","67.5","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","d5-EtFOSAA","d5-
EtFOSAA","69.6","%R","","","CRDL","","IS","69.6","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFUnA","13C2-
PFUnA","64.8","%R","","","CRDL","","IS","64.8","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFDoA","13C2-
PFDoA","63.0","%R","","","CRDL","","IS","63.0","","","CRDL","",""
"FRB-07102019","537 MOD","RES","1902097-15","Vista","13C2-PFTeDA","13C2-

PFTeDA","77.9","%R","","","CRDL","","IS","77.9","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","375-73-
5","PFBS","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","307-24-
4","PFHxA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","375-85-
9","PFHpA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","355-46-
4","PFHxS","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","335-67-
1","PFOA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","375-95-
1","PFNA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","1763-23-1","PFOS","1.02","ug/kg","J,
Q","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","335-76-
2","PFDA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","2355-31-
9","NMeFOSAA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","2991-50-
6","NEtFOSAA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","2058-94-
8","PFUnA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","307-55-
1","PFDoA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","72629-94-
8","PFTrDA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","376-06-
7","PFTeDA","0.994","ug/kg","U","0.994","CRDL","","TRG","","","1.99","CRDL","YES","0.840"
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C3-PFBS","13C3-
PFBS","93.3","%R","","","CRDL","","IS","93.3","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFHxA","13C2-
PFHxA","92.2","%R","","","CRDL","","IS","92.2","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C4-PFHpA","13C4-
PFHpA","89.4","%R","","","CRDL","","IS","89.4","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C3-PFHxS","13C3-
PFHxS","90.6","%R","","","CRDL","","IS","90.6","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFOA","13C2-
PFOA","87.8","%R","","","CRDL","","IS","87.8","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C5-PFNA","13C5-
PFNA","87.5","%R","","","CRDL","","IS","87.5","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C8-PFOS","13C8-
PFOS","92.5","%R","","","CRDL","","IS","92.5","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFDA","13C2-
PFDA","73.9","%R","","","CRDL","","IS","73.9","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","d3-MeFOSAA","d3-
MeFOSAA","57.2","%R","","","CRDL","","IS","57.2","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","d5-EtFOSAA","d5-
EtFOSAA","59.6","%R","","","CRDL","","IS","59.6","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFUnA","13C2-
PFUnA","67.0","%R","","","CRDL","","IS","67.0","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFDoA","13C2-
PFDoA","60.9","%R","","","CRDL","","IS","60.9","","","CRDL","",""
"NON-B01-SO-73-73.5","537 MOD","RES","1902097-16","Vista","13C2-PFTeDA","13C2-

PFTeDA","67.4","%R","","","CRDL","","IS","67.4","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","375-73-
5","PFBS","1.63","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","307-24-
4","PFHxA","9.15","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","375-85-
9","PFHpA","1.56","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","355-46-
4","PFHxS","8.94","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","335-67-
1","PFOA","1.34","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","1763-23-
1","PFOS","446","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","335-76-
2","PFDA","4.21","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.847"
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C3-PFBS","13C3-
PFBS","91.1","%R","","","CRDL","","IS","91.1","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFHxA","13C2-
PFHxA","84.5","%R","","","CRDL","","IS","84.5","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C4-PFHpA","13C4-
PFHpA","82.9","%R","","","CRDL","","IS","82.9","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C3-PFHxS","13C3-
PFHxS","88.5","%R","","","CRDL","","IS","88.5","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFOA","13C2-
PFOA","80.0","%R","","","CRDL","","IS","80.0","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C5-PFNA","13C5-
PFNA","68.0","%R","","","CRDL","","IS","68.0","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C8-PFOS","13C8-
PFOS","83.7","%R","","","CRDL","","IS","83.7","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFDA","13C2-
PFDA","65.9","%R","","","CRDL","","IS","65.9","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","d3-MeFOSAA","d3-
MeFOSAA","56.5","%R","","","CRDL","","IS","56.5","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","d5-EtFOSAA","d5-
EtFOSAA","63.9","%R","","","CRDL","","IS","63.9","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFUnA","13C2-
PFUnA","69.3","%R","","","CRDL","","IS","69.3","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFDoA","13C2-
PFDoA","71.2","%R","","","CRDL","","IS","71.2","","","CRDL","",""
"NON-B04-SO-0.5-1","537 MOD","RES","1902097-17","Vista","13C2-PFTeDA","13C2-

PFTeDA","78.1","%R","","","CRDL","","IS","78.1","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","375-73-
5","PFBS","1.29","ug/kg","J","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","307-24-
4","PFHxA","18.2","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","375-85-
9","PFHpA","4.92","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","355-46-
4","PFHxS","203","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","335-67-
1","PFOA","62.1","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","375-95-
1","PFNA","4.77","ug/kg","","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","DL","1902097-18","Vista","1763-23-
1","PFOS","2480","ug/kg","D","10.0","CRDL","","TRG","","","20.0","CRDL","YES","8.46"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.846"
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C3-PFBS","13C3-
PFBS","110","%R","","","CRDL","","IS","110","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFHxA","13C2-
PFHxA","90.1","%R","","","CRDL","","IS","90.1","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C4-PFHpA","13C4-
PFHpA","92.9","%R","","","CRDL","","IS","92.9","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C3-PFHxS","13C3-
PFHxS","93.1","%R","","","CRDL","","IS","93.1","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFOA","13C2-
PFOA","89.1","%R","","","CRDL","","IS","89.1","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C5-PFNA","13C5-
PFNA","86.7","%R","","","CRDL","","IS","86.7","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","DL","1902097-18","Vista","13C8-PFOS","13C8-
PFOS","91.3","%R","D","","CRDL","","IS","91.3","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFDA","13C2-
PFDA","71.3","%R","","","CRDL","","IS","71.3","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","d3-MeFOSAA","d3-
MeFOSAA","51.4","%R","","","CRDL","","IS","51.4","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","d5-EtFOSAA","d5-
EtFOSAA","53.6","%R","","","CRDL","","IS","53.6","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFUnA","13C2-
PFUnA","57.2","%R","","","CRDL","","IS","57.2","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFDoA","13C2-
PFDoA","56.3","%R","","","CRDL","","IS","56.3","","","CRDL","",""
"NON-B04-SO-4.5-5","537 MOD","RES","1902097-18","Vista","13C2-PFTeDA","13C2-

PFTeDA","66.2","%R","","","CRDL","","IS","66.2","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","375-73-
5","PFBS","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","307-24-
4","PFHxA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","375-85-
9","PFHpA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","355-46-
4","PFHxS","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","335-67-
1","PFOA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","375-95-
1","PFNA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","1763-23-
1","PFOS","0.0201","ug/L","","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","335-76-
2","PFDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","2355-31-
9","NMeFOSAA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","2991-50-
6","NEtFOSAA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","2058-94-
8","PFUnA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","307-55-
1","PFDoA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","72629-94-
8","PFTrDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","376-06-
7","PFTeDA","0.00435","ug/L","U","0.00435","CRDL","","TRG","","","0.00866","CRDL","YES","0.00297"
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C3-PFBS","13C3-
PFBS","98.1","%R","","","CRDL","","IS","98.1","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFHxA","13C2-
PFHxA","94.8","%R","","","CRDL","","IS","94.8","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C4-PFHpA","13C4-
PFHpA","95.3","%R","","","CRDL","","IS","95.3","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C3-PFHxS","13C3-
PFHxS","95.9","%R","","","CRDL","","IS","95.9","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFOA","13C2-
PFOA","95.6","%R","","","CRDL","","IS","95.6","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C5-PFNA","13C5-
PFNA","88.2","%R","","","CRDL","","IS","88.2","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C8-PFOS","13C8-
PFOS","94.1","%R","","","CRDL","","IS","94.1","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFDA","13C2-
PFDA","73.1","%R","","","CRDL","","IS","73.1","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","d3-MeFOSAA","d3-
MeFOSAA","68.0","%R","","","CRDL","","IS","68.0","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","d5-EtFOSAA","d5-
EtFOSAA","72.8","%R","","","CRDL","","IS","72.8","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFUnA","13C2-
PFUnA","68.9","%R","","","CRDL","","IS","68.9","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFDoA","13C2-
PFDoA","66.3","%R","","","CRDL","","IS","66.3","","","CRDL","",""
"EB-07112019","537 MOD","RES","1902097-19","Vista","13C2-PFTeDA","13C2-

PFTeDA","76.7","%R","","","CRDL","","IS","76.7","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","375-73-
5","PFBS","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","307-24-
4","PFHxA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","375-85-
9","PFHpA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","355-46-
4","PFHxS","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","335-67-
1","PFOA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","375-95-
1","PFNA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","1763-23-
1","PFOS","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","335-76-
2","PFDA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","2355-31-
9","NMeFOSAA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","2991-50-
6","NEtFOSAA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","2058-94-
8","PFUnA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","307-55-
1","PFDoA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","72629-94-
8","PFTrDA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","376-06-
7","PFTeDA","0.00427","ug/L","U","0.00427","CRDL","","TRG","","","0.00858","CRDL","YES","0.00294"
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C3-PFBS","13C3-
PFBS","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFHxA","13C2-
PFHxA","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C4-PFHpA","13C4-
PFHpA","94.1","%R","","","CRDL","","IS","94.1","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C3-PFHxS","13C3-
PFHxS","105","%R","","","CRDL","","IS","105","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFOA","13C2-
PFOA","96.0","%R","","","CRDL","","IS","96.0","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C5-PFNA","13C5-
PFNA","90.8","%R","","","CRDL","","IS","90.8","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C8-PFOS","13C8-
PFOS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFDA","13C2-
PFDA","83.4","%R","","","CRDL","","IS","83.4","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","d3-MeFOSAA","d3-
MeFOSAA","78.0","%R","","","CRDL","","IS","78.0","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","d5-EtFOSAA","d5-
EtFOSAA","79.7","%R","","","CRDL","","IS","79.7","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFUnA","13C2-
PFUnA","79.1","%R","","","CRDL","","IS","79.1","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFDoA","13C2-
PFDoA","60.1","%R","","","CRDL","","IS","60.1","","","CRDL","",""
"FRB-07112019","537 MOD","RES","1902097-20","Vista","13C2-PFTeDA","13C2-

PFTeDA","79.7","%R","","","CRDL","","IS","79.7","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","375-73-
5","PFBS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","307-24-
4","PFHxA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","375-85-
9","PFHpA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","355-46-
4","PFHxS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","335-67-
1","PFOA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","375-95-
1","PFNA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","1763-23-
1","PFOS","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","335-76-
2","PFDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","2355-31-
9","NMeFOSAA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","2991-50-
6","NEtFOSAA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","2058-94-
8","PFUnA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","307-55-
1","PFDoA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","72629-94-
8","PFTrDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","376-06-
7","PFTeDA","0.00400","ug/L","U","0.00400","CRDL","","TRG","","","0.00800","CRDL","YES","0.00274"
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C3-PFBS","13C3-
PFBS","100","%R","","","CRDL","","IS","100","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","98.1","%R","","","CRDL","","IS","98.1","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","97.6","%R","","","CRDL","","IS","97.6","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C3-PFHxS","13C3-
PFHxS","94.3","%R","","","CRDL","","IS","94.3","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFOA","13C2-
PFOA","92.9","%R","","","CRDL","","IS","92.9","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C5-PFNA","13C5-
PFNA","82.6","%R","","","CRDL","","IS","82.6","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C8-PFOS","13C8-
PFOS","89.0","%R","","","CRDL","","IS","89.0","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFDA","13C2-
PFDA","74.7","%R","","","CRDL","","IS","74.7","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","59.9","%R","","","CRDL","","IS","59.9","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","59.7","%R","","","CRDL","","IS","59.7","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","62.1","%R","","","CRDL","","IS","62.1","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","55.0","%R","","","CRDL","","IS","55.0","","","CRDL","",""
"B9G0185-BLK1","537 MOD","RES","B9G0185-BLK1","Vista","13C2-PFTeDA","13C2-

PFTeDA","41.5","%R","H","","CRDL","","IS","41.5","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","375-73-
5","PFBS","0.0781","ug/L","","0.00400","CRDL","","SPK","97.6","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","307-24-
4","PFHxA","0.0796","ug/L","","0.00400","CRDL","","SPK","99.4","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","375-85-
9","PFHpA","0.0756","ug/L","","0.00400","CRDL","","SPK","94.6","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","355-46-
4","PFHxS","0.0821","ug/L","","0.00400","CRDL","","SPK","103","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","335-67-
1","PFOA","0.0791","ug/L","","0.00400","CRDL","","SPK","98.9","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","375-95-
1","PFNA","0.0814","ug/L","","0.00400","CRDL","","SPK","102","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","1763-23-
1","PFOS","0.0776","ug/L","","0.00400","CRDL","","SPK","96.9","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","335-76-
2","PFDA","0.0771","ug/L","","0.00400","CRDL","","SPK","96.4","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","2355-31-
9","NMeFOSAA","0.0760","ug/L","","0.00400","CRDL","","SPK","95.0","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","2991-50-
6","NEtFOSAA","0.0783","ug/L","","0.00400","CRDL","","SPK","97.9","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","2058-94-
8","PFUnA","0.0808","ug/L","","0.00400","CRDL","","SPK","101","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","307-55-
1","PFDoA","0.0804","ug/L","","0.00400","CRDL","","SPK","101","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","72629-94-
8","PFTrDA","0.0705","ug/L","","0.00400","CRDL","","SPK","88.2","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","376-06-
7","PFTeDA","0.0772","ug/L","","0.00400","CRDL","","SPK","96.5","","0.00800","CRDL","YES","0.00274"
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C3-PFBS","13C3-
PFBS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C3-PFHxS","13C3-
PFHxS","101","%R","","","CRDL","","IS","101","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFOA","13C2-
PFOA","92.1","%R","","","CRDL","","IS","92.1","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C5-PFNA","13C5-
PFNA","85.4","%R","","","CRDL","","IS","85.4","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C8-PFOS","13C8-
PFOS","93.5","%R","","","CRDL","","IS","93.5","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFDA","13C2-
PFDA","75.7","%R","","","CRDL","","IS","75.7","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","76.8","%R","","","CRDL","","IS","76.8","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","78.0","%R","","","CRDL","","IS","78.0","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","75.6","%R","","","CRDL","","IS","75.6","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","71.8","%R","","","CRDL","","IS","71.8","","","CRDL","",""
"B9G0185-BS1","537 MOD","RES","B9G0185-BS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","62.2","%R","","","CRDL","","IS","62.2","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","375-73-
5","PFBS","0.0828","ug/L","","0.00400","CRDL","","SPK","104","5.93","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","307-24-
4","PFHxA","0.0862","ug/L","","0.00400","CRDL","","SPK","108","8.07","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","375-85-
9","PFHpA","0.0875","ug/L","","0.00400","CRDL","","SPK","109","14.6","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","355-46-
4","PFHxS","0.0873","ug/L","","0.00400","CRDL","","SPK","109","6.17","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","335-67-
1","PFOA","0.0855","ug/L","","0.00400","CRDL","","SPK","107","7.67","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","375-95-
1","PFNA","0.0885","ug/L","","0.00400","CRDL","","SPK","111","8.37","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","1763-23-
1","PFOS","0.0899","ug/L","","0.00400","CRDL","","SPK","112","14.7","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","335-76-
2","PFDA","0.0856","ug/L","","0.00400","CRDL","","SPK","107","10.4","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","2355-31-
9","NMeFOSAA","0.0774","ug/L","","0.00400","CRDL","","SPK","96.7","1.86","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","2991-50-
6","NEtFOSAA","0.0823","ug/L","","0.00400","CRDL","","SPK","103","4.92","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","2058-94-
8","PFUnA","0.0896","ug/L","","0.00400","CRDL","","SPK","112","10.3","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","307-55-
1","PFDoA","0.0849","ug/L","","0.00400","CRDL","","SPK","106","5.43","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","72629-94-
8","PFTrDA","0.0725","ug/L","","0.00400","CRDL","","SPK","90.7","2.82","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","376-06-
7","PFTeDA","0.0883","ug/L","","0.00400","CRDL","","SPK","110","13.4","0.00800","CRDL","YES","0.00274"
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C3-PFBS","13C3-
PFBS","95.7","%R","","","CRDL","","IS","95.7","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFHxA","13C2-
PFHxA","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C4-PFHpA","13C4-
PFHpA","96.2","%R","","","CRDL","","IS","96.2","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C3-PFHxS","13C3-
PFHxS","94.7","%R","","","CRDL","","IS","94.7","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFOA","13C2-
PFOA","92.8","%R","","","CRDL","","IS","92.8","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C5-PFNA","13C5-
PFNA","80.7","%R","","","CRDL","","IS","80.7","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C8-PFOS","13C8-
PFOS","90.7","%R","","","CRDL","","IS","90.7","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFDA","13C2-
PFDA","71.4","%R","","","CRDL","","IS","71.4","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","d3-MeFOSAA","d3-
MeFOSAA","74.0","%R","","","CRDL","","IS","74.0","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","d5-EtFOSAA","d5-
EtFOSAA","75.6","%R","","","CRDL","","IS","75.6","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFUnA","13C2-
PFUnA","66.4","%R","","","CRDL","","IS","66.4","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFDoA","13C2-
PFDoA","72.1","%R","","","CRDL","","IS","72.1","","","CRDL","",""
"B9G0185-BSD1","537 MOD","RES","B9G0185-BSD1","Vista","13C2-PFTeDA","13C2-

PFTeDA","57.0","%R","","","CRDL","","IS","57.0","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","375-73-
5","PFBS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","307-24-
4","PFHxA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","375-85-
9","PFHpA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","355-46-
4","PFHxS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","335-67-
1","PFOA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","375-95-
1","PFNA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","1763-23-
1","PFOS","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","335-76-
2","PFDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","2355-31-
9","NMeFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","2991-50-
6","NEtFOSAA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","2058-94-
8","PFUnA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","307-55-
1","PFDoA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","72629-94-
8","PFTrDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","376-06-
7","PFTeDA","1.00","ug/kg","U","1.00","CRDL","","TRG","","","2.00","CRDL","YES","0.845"
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C3-PFBS","13C3-
PFBS","79.4","%R","","","CRDL","","IS","79.4","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFHxA","13C2-
PFHxA","83.3","%R","","","CRDL","","IS","83.3","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C4-PFHpA","13C4-
PFHpA","82.1","%R","","","CRDL","","IS","82.1","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C3-PFHxS","13C3-
PFHxS","73.7","%R","","","CRDL","","IS","73.7","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFOA","13C2-
PFOA","72.6","%R","","","CRDL","","IS","72.6","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C5-PFNA","13C5-
PFNA","66.6","%R","","","CRDL","","IS","66.6","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C8-PFOS","13C8-
PFOS","77.4","%R","","","CRDL","","IS","77.4","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFDA","13C2-
PFDA","59.5","%R","","","CRDL","","IS","59.5","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","d3-MeFOSAA","d3-
MeFOSAA","47.8","%R","H","","CRDL","","IS","47.8","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","d5-EtFOSAA","d5-
EtFOSAA","48.4","%R","H","","CRDL","","IS","48.4","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFUnA","13C2-
PFUnA","48.3","%R","H","","CRDL","","IS","48.3","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFDoA","13C2-
PFDoA","46.4","%R","H","","CRDL","","IS","46.4","","","CRDL","",""
"B9G0190-BLK1","537 MOD","RES","B9G0190-BLK1","Vista","13C2-PFTeDA","13C2-

PFTeDA","55.1","%R","","","CRDL","","IS","55.1","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","375-73-
5","PFBS","10.5","ug/kg","","1.00","CRDL","","SPK","105","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","307-24-
4","PFHxA","10.6","ug/kg","","1.00","CRDL","","SPK","106","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","375-85-
9","PFHpA","9.84","ug/kg","","1.00","CRDL","","SPK","98.4","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","355-46-
4","PFHxS","10.2","ug/kg","","1.00","CRDL","","SPK","102","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","335-67-
1","PFOA","10.2","ug/kg","","1.00","CRDL","","SPK","102","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","375-95-
1","PFNA","10.2","ug/kg","","1.00","CRDL","","SPK","102","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","1763-23-
1","PFOS","10.1","ug/kg","","1.00","CRDL","","SPK","101","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","335-76-
2","PFDA","9.85","ug/kg","","1.00","CRDL","","SPK","98.5","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","2355-31-
9","NMeFOSAA","8.37","ug/kg","","1.00","CRDL","","SPK","83.7","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","2991-50-
6","NEtFOSAA","10.5","ug/kg","","1.00","CRDL","","SPK","105","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","2058-94-
8","PFUnA","10.5","ug/kg","","1.00","CRDL","","SPK","105","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","307-55-
1","PFDoA","9.81","ug/kg","","1.00","CRDL","","SPK","98.1","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","72629-94-
8","PFTrDA","10.9","ug/kg","","1.00","CRDL","","SPK","109","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","376-06-
7","PFTeDA","10.2","ug/kg","","1.00","CRDL","","SPK","102","","2.00","CRDL","YES","0.845"
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C3-PFBS","13C3-
PFBS","94.5","%R","","","CRDL","","IS","94.5","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFHxA","13C2-
PFHxA","95.1","%R","","","CRDL","","IS","95.1","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C4-PFHpA","13C4-
PFHpA","93.8","%R","","","CRDL","","IS","93.8","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C3-PFHxS","13C3-
PFHxS","102","%R","","","CRDL","","IS","102","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFOA","13C2-
PFOA","86.5","%R","","","CRDL","","IS","86.5","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C5-PFNA","13C5-
PFNA","82.1","%R","","","CRDL","","IS","82.1","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C8-PFOS","13C8-
PFOS","80.6","%R","","","CRDL","","IS","80.6","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFDA","13C2-
PFDA","72.2","%R","","","CRDL","","IS","72.2","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","66.2","%R","","","CRDL","","IS","66.2","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","60.1","%R","","","CRDL","","IS","60.1","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFUnA","13C2-
PFUnA","60.2","%R","","","CRDL","","IS","60.2","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFDoA","13C2-
PFDoA","63.3","%R","","","CRDL","","IS","63.3","","","CRDL","",""
"B9G0190-BS1","537 MOD","RES","B9G0190-BS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","71.5","%R","","","CRDL","","IS","71.5","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","375-73-
5","PFBS","10.3","ug/kg","","1.00","CRDL","","SPK","101","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","307-24-
4","PFHxA","13.0","ug/kg","","1.00","CRDL","","SPK","108","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","375-85-
9","PFHpA","10.3","ug/kg","","1.00","CRDL","","SPK","98.4","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","355-46-
4","PFHxS","11.9","ug/kg","","1.00","CRDL","","SPK","97.5","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","335-67-
1","PFOA","12.8","ug/kg","","1.00","CRDL","","SPK","97.8","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","375-95-
1","PFNA","9.91","ug/kg","","1.00","CRDL","","SPK","98.4","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","1763-23-
1","PFOS","12.7","ug/kg","","1.00","CRDL","","SPK","101","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","335-76-
2","PFDA","10.6","ug/kg","","1.00","CRDL","","SPK","106","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","2355-31-
9","NMeFOSAA","9.62","ug/kg","","1.00","CRDL","","SPK","96.2","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","2991-50-
6","NEtFOSAA","9.84","ug/kg","","1.00","CRDL","","SPK","98.4","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","2058-94-
8","PFUnA","10.2","ug/kg","","1.00","CRDL","","SPK","102","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","307-55-
1","PFDoA","9.93","ug/kg","","1.00","CRDL","","SPK","99.3","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","72629-94-
8","PFTrDA","10.6","ug/kg","","1.00","CRDL","","SPK","106","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","376-06-
7","PFTeDA","10.6","ug/kg","","1.00","CRDL","","SPK","106","","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C3-PFBS","13C3-
PFBS","97.1","%R","","","CRDL","","IS","97.1","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFHxA","13C2-
PFHxA","94.4","%R","","","CRDL","","IS","94.4","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C4-PFHpA","13C4-
PFHpA","94.8","%R","","","CRDL","","IS","94.8","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C3-PFHxS","13C3-
PFHxS","105","%R","","","CRDL","","IS","105","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFOA","13C2-
PFOA","89.4","%R","","","CRDL","","IS","89.4","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C5-PFNA","13C5-
PFNA","78.8","%R","","","CRDL","","IS","78.8","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C8-PFOS","13C8-
PFOS","88.7","%R","","","CRDL","","IS","88.7","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFDA","13C2-
PFDA","64.0","%R","","","CRDL","","IS","64.0","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.9","%R","","","CRDL","","IS","71.9","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","d5-EtFOSAA","d5-
EtFOSAA","75.7","%R","","","CRDL","","IS","75.7","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFUnA","13C2-
PFUnA","65.5","%R","","","CRDL","","IS","65.5","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFDoA","13C2-
PFDoA","68.2","%R","","","CRDL","","IS","68.2","","","CRDL","",""
"NON-B02-SO-1-1.5MS","537 MOD","RES","B9G0190-MS1","Vista","13C2-PFTeDA","13C2-

PFTeDA","80.7","%R","","","CRDL","","IS","80.7","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","375-73-
5","PFBS","10.8","ug/kg","","1.00","CRDL","","SPK","106","4.83","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","307-24-
4","PFHxA","13.9","ug/kg","","1.00","CRDL","","SPK","117","8.00","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","375-85-
9","PFHpA","10.3","ug/kg","","1.00","CRDL","","SPK","98.3","0.102","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","355-46-
4","PFHxS","13.7","ug/kg","","1.00","CRDL","","SPK","116","17.3","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","335-67-
1","PFOA","13.5","ug/kg","","1.00","CRDL","","SPK","105","7.10","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","375-95-
1","PFNA","11.1","ug/kg","","1.00","CRDL","","SPK","111","12.0","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","1763-23-
1","PFOS","13.9","ug/kg","","1.00","CRDL","","SPK","114","12.1","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","335-76-
2","PFDA","10.8","ug/kg","","1.00","CRDL","","SPK","108","1.87","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","2355-31-
9","NMeFOSAA","10.4","ug/kg","","1.00","CRDL","","SPK","104","7.79","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","2991-50-
6","NEtFOSAA","10.4","ug/kg","","1.00","CRDL","","SPK","104","5.53","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","2058-94-
8","PFUnA","10.9","ug/kg","","1.00","CRDL","","SPK","109","6.64","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","307-55-
1","PFDoA","10.6","ug/kg","","1.00","CRDL","","SPK","106","6.53","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","72629-94-
8","PFTrDA","11.3","ug/kg","","1.00","CRDL","","SPK","113","6.39","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","376-06-
7","PFTeDA","11.0","ug/kg","","1.00","CRDL","","SPK","110","3.70","2.00","CRDL","YES","0.847"
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C3-PFBS","13C3-
PFBS","90.9","%R","","","CRDL","","IS","90.9","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFHxA","13C2-
PFHxA","89.3","%R","","","CRDL","","IS","89.3","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C4-PFHpA","13C4-
PFHpA","94.9","%R","","","CRDL","","IS","94.9","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C3-PFHxS","13C3-
PFHxS","88.3","%R","","","CRDL","","IS","88.3","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFOA","13C2-
PFOA","85.8","%R","","","CRDL","","IS","85.8","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C5-PFNA","13C5-
PFNA","82.6","%R","","","CRDL","","IS","82.6","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C8-PFOS","13C8-
PFOS","84.2","%R","","","CRDL","","IS","84.2","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFDA","13C2-
PFDA","71.9","%R","","","CRDL","","IS","71.9","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","d3-MeFOSAA","d3-
MeFOSAA","71.9","%R","","","CRDL","","IS","71.9","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","d5-EtFOSAA","d5-
EtFOSAA","75.4","%R","","","CRDL","","IS","75.4","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFUnA","13C2-
PFUnA","65.9","%R","","","CRDL","","IS","65.9","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFDoA","13C2-
PFDoA","75.5","%R","","","CRDL","","IS","75.5","","","CRDL","",""
"NON-B02-SO-1-1.5MSD","537 MOD","RES","B9G0190-MSD1","Vista","13C2-PFTeDA","13C2-

PFTeDA","83.1","%R","","","CRDL","","IS","83.1","","","CRDL","",""
"4663.3803","CTO 17F3803 Yuma","SAOA-B10-SO-1-1.5","07/09/2019 07:35","SO","1902097-01","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
16:46","Vista","COA","DRY","","1","","","","1.89","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/
2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B10-SO-20-20.5","07/09/2019 08:30","SO","1902097-02","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
16:56","Vista","COA","DRY","","1","","","","5.08","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/
2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B10-GW","07/09/2019 09:25","AQ","1902097-03","","","","537
MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
15:08","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019
09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B10-GW-D","07/09/2019 09:30","AQ","1902097-04","","","","537
MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
15:19","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019
09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-07092019","07/09/2019 16:45","AQ","1902097-05","","","","537
MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
15:30","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019
09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B02-SO-1-1.5","07/09/2019 16:50","SO","1902097-06","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
17:39","Vista","COA","DRY","","1","","","","1.23","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/
2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","FRB-07092019","07/09/2019 17:05","AQ","1902097-07","","","","537
MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
15:40","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019
09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B02-SO-15-15.5","07/09/2019 17:35","SO","1902097-08","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
17:49","Vista","COA","DRY","","1","","","","7.37","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/
2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B01-SO-5-5.5","07/10/2019 08:15","SO","1902097-09","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
18:00","Vista","COA","DRY","","1","","","","5.74","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/
2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B01-SO-20-20.5","07/10/2019 08:35","SO","1902097-10","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
18:10","Vista","COA","DRY","","1","","","","19.60","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/1
2/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","SAOA-B01-SO-36-36.5","07/10/2019 10:25","SO","1902097-11","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
18:21","Vista","COA","DRY","","1","","","","20.90","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/1
2/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B01-SO-1-1.5","07/10/2019 13:00","SO","1902097-12","","","","537
MOD","Gen Prep","DL","07/21/2019 12:11","07/24/2019
10:20","Vista","COA","DRY","","5","","","","15.30","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/1
2/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B01-SO-1-1.5","07/10/2019 13:00","SO","1902097-12","","","","537
MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
18:32","Vista","COA","DRY","","1","","","","15.30","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/1
2/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B01-SO-15-15.5","07/10/2019 13:20","SO","1902097-13","","","","537

MOD","Gen Prep","DL","07/21/2019 12:11","07/24/2019
10:31","Vista","COA","DRY","","5","","","","14.10","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B01-SO-15-15.5","07/10/2019 13:20","SO","1902097-13","","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
18:42","Vista","COA","DRY","","1","","","","14.10","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-07102019","07/10/2019 16:50","AQ","1902097-14","","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
15:53","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","FRB-07102019","07/10/2019 17:00","AQ","1902097-15","","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
16:03","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B01-SO-73-73.5","07/11/2019 11:50","SO","1902097-16","","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/24/2019
10:09","Vista","COA","DRY","","1","","","","16.80","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B04-SO-0.5-1","07/11/2019 12:10","SO","1902097-17","","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
19:03","Vista","COA","DRY","","1","","","","1.23","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B04-SO-4.5-5","07/11/2019 12:30","SO","1902097-18","","","","537 MOD","Gen Prep","DL","07/21/2019 12:11","07/24/2019
10:41","Vista","COA","DRY","","10","","","","2.98","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B04-SO-4.5-5","07/11/2019 12:30","SO","1902097-18","","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
19:14","Vista","COA","DRY","","1","","","","2.98","B9G0190","B9G0190","S9G0060","S9G0060","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","EB-07112019","07/11/2019 12:50","AQ","1902097-19","","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
16:14","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","FRB-07112019","07/11/2019 13:00","AQ","1902097-20","","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
16:24","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","07/12/2019 09:20","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0185-BLK1","","AQ","B9G0185-BLK1","MB","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
14:58","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0185-BS1","","AQ","B9G0185-BS1","LCS","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
14:34","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0185-BSD1","","AQ","B9G0185-BSD1","LCSD","","","537 MOD","Gen Prep","RES","07/19/2019 06:00","07/22/2019
14:47","Vista","COA","","","1","","","","","B9G0185","B9G0185","S9G0056","S9G0056","1902097","","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0190-BLK1","","SO","B9G0190-BLK1","MB","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019
16:14","Vista","COA","DRY","","1","","","","100.00","B9G0190","B9G0190","S9G0060","S9G0060","1902097","","0

7/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","B9G0190-BS1","","SO","B9G0190-BS1","LCS","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019 16:03","Vista","COA","DRY","","1","","","","100.00","B9G0190","B9G0190","S9G0060","S9G0060","1902097","","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B02-SO-1-1.5MS","07/21/2019 12:11","SO","B9G0190-MS1","MS","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019 16:24","Vista","COA","DRY","","1","","","","100.00","B9G0190","B9G0190","S9G0060","S9G0060","1902097","","07/26/2019 00:00"
"4663.3803","CTO 17F3803 Yuma","NON-B02-SO-1-1.5MSD","07/21/2019 12:11","SO","B9G0190-MSD1","MSD","","","537 MOD","Gen Prep","RES","07/21/2019 12:11","07/23/2019 16:35","Vista","COA","DRY","","1","","","","100.00","B9G0190","B9G0190","S9G0060","S9G0060","1902097","","07/26/2019 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 26, 2019

SUBJECT: Revised MCAS Yuma, CTO 17F3803, Data Validation

Dear Ms. Bienkowski,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously submitted report with the enclosed revised report.

- Corrected the sample ID

LDC Project #45706RV1:

SDG #	Fraction
1902014	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

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 23, 2019

SUBJECT: MCAS Yuma, CTO 17F3803, Data Validation

Dear Ms. Bienkowski,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on August 12, 2019. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #45706:

SDG #	Fraction
1902014, 1902097 1902189	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

4,149 pages-ADV 2 WEEK TAT Attachment 1

Stage 4 **LDC #45706 (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	1902014	08/12/19	08/26/19	5	5																																
B	1902097	08/12/19	08/26/19	8	12																																
C	1902189	08/12/19	08/26/19	11	9																																
Total	T/CR			24	26	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	50

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation).

L:\TTEMI-Irvine\Yuma\45706ST-3803-1164819.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 26, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1902014

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
CAOA-B03-SO-4-4.5	1902014-01	Soil	07/03/19
CAOA-B03-SO-20-20.5	1902014-02	Soil	07/03/19
FRB-07032019	1902014-03	Water	07/03/19
EB-07032019	1902014-04	Water	07/03/19
CAOA-B01-SO-0-0.5	1902014-05	Soil	07/08/19
CAOA-B04-SO-0-0.5	1902014-06	Soil	07/08/19
CAOA-B01-SO-20-20.5	1902014-07	Soil	07/08/19
FRB-07082019	1902014-08	Water	07/08/19
CAOA-B01-GW	1902014-09	Water	07/08/19
EB-07082019	1902014-10	Water	07/08/19
CAOA-B01-SO-0-0.5MS	1902014-05MS	Soil	07/08/19
CAOA-B01-SO-0-0.5MSD	1902014-05MSD	Soil	07/08/19

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-07032019 and EB-07082019 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-07032019	07/03/19	PFHxA PFOS	0.00623 ug/L 0.0852 ug/L	CAOA-B03-SO-4-4.5
EB-07082019	07/08/19	PFHxA PFOS	0.0164 ug/L 0.0217 ug/L	CAOA-B01-SO-0-0.5 CAOA-B04-SO-0-0.5

Samples FRB-07032019 and FRB-07082019 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

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. 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.

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
CAOA-B03-SO-4-4.5	d3-MeFOSAA d5-EtFOSAA 13C2-PFDoA	42.2 (50-150) 46.3 (50-150) 49.5 (50-150)	PFDoA PFTrDA MeFOSAA EtFOSAA	J (all detects) UJ (all non-detects)	P

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
CAOA-B03-SO-20-20.5	13C2-PFDoA 13C2-PFTeDA	43.2 (50-150) 30.5 (50-150)	PFDoA PFTrDA PFTeDA	J (all detects) UJ (all non-detects)	P
CAOA-B01-SO-0-0.5	13C2-PFDoA	43.6 (50-150)	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P
CAOA-B04-SO-0-0.5	d3-MeFOSAA	48.3 (50-150)	MeFOSAA	UJ (all non-detects)	P
CAOA-B01-SO-20-20.5	13C3-PFBS d3-MeFOSAA d5-EtFOSAA 13C2-PFDoA	48.9 (50-150) 36.1 (50-150) 37.5 (50-150) 42.8 (50-150)	PFBS PFDoA PFTrDA MeFOSAA EtFOSAA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
CAOA-B01-GW	13C2-PFTeDA	32.4 (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
CAOA-B03-SO-4-4.5 CAOA-B03-SO-20-20.5 EB-07032019 CAOA-B01-SO-0-0.5 CAOA-B04-SO-0-0.5 CAOA-B01-SO-20-20.5 CAOA-B01-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 labeled compound %R and results below the LOQ, data were qualified as estimated in seven 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 1902014

Sample	Compound	Flag	A or P	Reason
CAOA-B03-SO-4-4.5	PFDoA PFTrDA MeFOSAA EtFOSAA	J (all detects) UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B03-SO-20-20.5	PFDoA PFTrDA PFTeDA	J (all detects) UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B01-SO-0-0.5	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B04-SO-0-0.5	MeFOSAA	UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B01-SO-20-20.5	PFBS PFDoA PFTrDA MeFOSAA EtFOSAA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B01-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
CAOA-B03-SO-4-4.5 CAOA-B03-SO-20-20.5 EB-07032019 CAOA-B01-SO-0-0.5 CAOA-B04-SO-0-0.5 CAOA-B01-SO-20-20.5 CAOA-B01-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 1902014

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1902014

No Sample Data Qualified in this SDG

LDC #: 45706A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/20/19
SDG #: 1902014 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: VIe
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% IAV ≤ 30%
IV.	Continuing calibration/ISC	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	FRB = 3, 8 EB = 4, 10
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	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:

	Client ID	Lab ID	Matrix	Date
1	CAOA-B03-SO-4-4.5	1902014-01	Soil	07/03/19
2	CAOA-B03-SO-20-20.5	1902014-02	Soil	07/03/19
3	FRB-07032019	1902014-03	Water	07/03/19
4	EB-07032019	1902014-04	Water	07/03/19
5	CAOA-B01-SO-0-0.5	1902014-05	Soil	07/08/19
6	CAOA-B04-SO-0-0.5	1902014-06	Soil	07/08/19
7	CAOA-B04-SO-20-20.5	1902014-07	Soil	07/08/19
8	FRB-07082019	1902014-08	Water	07/08/19
9	CAOA-B01-GW	1902014-09	Water	07/08/19
10	EB-07082019	1902014-10	Water	07/08/19
11	CAOA-B01-SO-0-0.5MS	1902014-05MS	Soil	07/08/19
12	CAOA-B01-SO-0-0.5MSD	1902014-05MSD	Soil	07/08/19
13				
14				
15	B9G0189-BLK1			
	B9G0134-			

LDC #: 45706 A96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 45706 A96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?			✓	
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

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 #: 45706 A96

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: 07/03/19

Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: 1 (75%)

	Compound	Blank ID	Sample Identification								
		4									
C	D	0.00623									
7	K	0.0852									

Blank units: ug/L **Associated sample units:** ug/kg

Sampling date: 07/08/19

Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 5, 6 (75%)

	Compound	Blank ID	Sample Identification								
		10	(5%)								
7	D	0.0164	0.082								
7	K	0.0217	0.1085								

LDC #: 45706A96

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
		1 (ND)	d3-V	42.2	50-150	J (NJ P (qual V)
		↓	d5-W	46.3		W
		(ND, Det)	13C2-O	49.5		O, Q
		2 (ND Det)	13C2-O	43.2		O, Q
		(ND)	13C2-R	30.5		R
		5 (ND)	13C2-O	43.6		O, Q
		6 (ND)	d3-V	48.3		V
		7 (ND)	13C3-C	48.9		C
		↓	d3-V	36.1		V
			d5-W	37.5		W
		↓	13C2-O	42.8		O, Q
		9 (ND)	13C2-R	32.4		R
		BG60189-BLK1	d3-V	35.4		V
			d5-W	41.5		W
			13C2-O	42.6		O, Q
		11	d3-V	38.8		NQ (QC)
			d5-W	38.8		
		12	d3-V	41.4		
			d5-W	45.9		
			13C2-O	46.3		

LDC#: 45706A96

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
7/16/2019	SCN945	PFOA	0.25	0.04382	3.125
			0.5	0.08680	6.250
	190716M2-CRV		1	0.17268	12.500
		13C2-PFOA	2	0.30178	25.000
			5	0.77418	62.500
			10	1.61096	125.000
			50	8.04664	625.000
			100	15.41406	1250.000
			250	38.92819	3125.000
			500	81.23690	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.164148	0.041757
Std Err of Y Est		
R Squared	0.999672	0.999501
Degrees of Freedom		
X Coefficient(s)	0.01290950	1.994320
Std Err of Coef.		
Correlation Coefficient	0.999836	
Coefficient of Determination (r^2)	0.999672	0.999501

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
7/16/2019	SCN945	PFOS	0.25	0.00849	3.125
			0.5	0.03458	6.250
			1	0.08285	12.500
	190716M2-CRV	13C8-PFOS	2	0.19007	25.000
			5	0.47672	62.500
			10	1.01888	125.000
			50	5.18689	625.000
			100	10.13946	1250.000
			250	24.80748	3125.000
			500	52.54048	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.122693	-0.149993
Std Err of Y Est		
R Squared	0.999493	0.999286
Degrees of Freedom		
X Coefficient(s)	0.00833418	1.287160
Std Err of Coef.		
Correlation Coefficient	0.999747	
Coefficient of Determination (r^2)	0.999493	0.999286

LDC#: 45706A96

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
7/22/2019	SCN945	PFOA	0.25	0.03165	3.125
			0.5	0.06647	6.250
	190722M1-CRV		1	0.11573	12.500
		13C2-PFOA	2	0.23840	25.000
			5	0.63338	62.500
			10	1.21526	125.000
			50	6.28315	625.000
			100	11.97011	1250.000
			250	28.74840	3125.000
			500	61.12986	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.075937	0.037722
Std Err of Y Est		
R Squared	0.999429	0.999184
Degrees of Freedom		
X Coefficient(s)	0.00968201	1.502070
Std Err of Coef.		
Correlation Coefficient	0.999714	
Coefficient of Determination (r^2)	0.999429	0.999184

LDC#: 45706A96

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
7/22/2019	SCN945	PFOS	0.25	0.01898	3.125
			0.5	0.05101	6.250
	190722M1-CRV		1	0.07006	12.500
		13C8-PFOS	2	0.15729	25.000
			5	0.40492	62.500
			10	0.84884	125.000
			50	4.45203	625.000
			100	8.49765	1250.000
			250	20.93435	3125.000
			500	43.12088	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.029639	-0.019750
Std Err of Y Est		
R Squared	0.999855	0.999659
Degrees of Freedom		
X Coefficient(s)	0.00686606	1.069000
Std Err of Coef.		
Correlation Coefficient	0.999927	
Coefficient of Determination (r^2)	0.999855	0.999659

LDC # 45706A96

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	190719M1-39	7/19/2019	PFOA	(13C2-PFOA)	1.000	1.007	1.007	100.7	100.7
	ISC		PFOS	(13C8-PFOS)	1.000	0.910	0.910	91.0	91.0
2	190719M1-57	7/19/2019	PFOA	(13C2-PFOA)	10.000	9.758	9.758	97.6	97.6
	CS3		PFOS	(13C8-PFOS)	10.000	8.996	8.996	90.0	90.0
3	090721M2-6	7/21/2019	PFOA	(13C2-PFOA)	1.000	0.771	0.771	77.1	77.1
	ISC		PFOS	(13C8-PFOS)	1.000	0.866	0.866	86.6	86.6
4	090722M1-58	7/22/2019	PFOA	(13C2-PFOA)	10.000	9.867	9.867	98.7	98.7
	CS3		PFOS	(13C8-PFOS)	10.000	10.110	10.110	101.1	101.1

LDC #: 45706 A96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
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: 11/12

Compound	Spike Added (ug/kg)		Sample Conc (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
PFOA	9.936	9.89	0	10.93	10.8	103	105	108	110	4.74	4.74
PFOS	↓	↓	1.154	11.003	10.76	98.9	99.2	97.3	97.6	1.63	1.63

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.

NOTE 1. RPD based on %R
2. Rounding off issues

LDC #: 45706 A96

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: BQG0189-BS1 (OPR)

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	10.4	NA	104	104				
PFOS	↓	↓	8.91	↓	89.1	89.1				

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 #: 45706A96

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. = $\frac{\left[\left(\frac{322}{2990} \times 12.5\right) - (-0.14993)\right]}{(1.28716)} = 1.1624$

final conc. = $\frac{(1.1624)(1\ mL)}{(1.07\ g)(0.941)}$

= 1.154 ng/kg

#	Sample ID	Compound	Reported Concentration (ng/kg)	Calculated Concentration ( )	Qualification
			1.15		

LDC Report# 45706B96

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 23, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1902097

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SAOA-B10-SO-1-1.5	1902097-01	Soil	07/09/19
SAOA-B10-SO-20-20.5	1902097-02	Soil	07/09/19
SAOA-B10-GW	1902097-03	Water	07/09/19
SAOA-B10-GW-D	1902097-04	Water	07/09/19
EB-07092019	1902097-05	Water	07/09/19
NON-B02-SO-1-1.5	1902097-06	Soil	07/09/19
FRB-07092019	1902097-07	Water	07/09/19
NON-B02-SO-15-15.5	1902097-08	Soil	07/09/19
SAOA-B01-SO-5-5.5	1902097-09	Soil	07/10/19
SAOA-B01-SO-20-20.5	1902097-10	Soil	07/10/19
SAOA-B01-SO-36-36.5	1902097-11	Soil	07/10/19
NON-B01-SO-1-1.5	1902097-12	Soil	07/10/19
NON-B01-SO-15-15.5	1902097-13	Soil	07/10/19
EB-07102019	1902097-14	Water	07/10/19
FRB-07102019	1902097-15	Water	07/10/19
NON-B01-SO-73-73.5	1902097-16	Soil	07/11/19
NON-B04-SO-0.5-1	1902097-17	Soil	07/11/19
NON-B04-SO-4.5-5	1902097-18	Soil	07/11/19
EB-07112019	1902097-19	Water	07/11/19
FRB-07112019	1902097-20	Water	07/11/19
NON-B02-SO-1-1.5MS	1902097-06MS	Soil	07/09/19
NON-B02-SO-1-1.5MSD	1902097-06MSD	Soil	07/09/19

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-07092019, EB-07102019, and EB-07112019 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-07102019	07/10/19	PFHxA PFHpA PFHxS PFOA PFOS	0.0594 ug/L 0.0185 ug/L 0.0122 ug/L 0.00671 ug/L 0.0706 ug/L	SAOA-B01-SO-5-5.5 NON-B01-SO-1-1.5
EB-07112019	07/11/19	PFOS	0.0201 ug/L	NON-B04-SO-0.5-1 NON-B04-SO-4.5-5

Samples FRB-07092019, FRB-07102019, and FRB-07112019 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

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. 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.

IX. Field Duplicates

Samples SAOA-B10-GW and SAOA-B10-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-B10-GW	SAOA-B10-GW-D			
PFHxA	0.0401	0.0275	Not calculable	-	-
PFHpA	0.00352	0.00817U	Not calculable	-	-
PFHxS	0.0422	0.0365	Not calculable	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
	SAOA-B10-GW	SAOA-B10-GW-D			
PFOA	0.00776	0.00604	Not calculable	-	-
PFOS	0.180	0.144	22 (≤30)	-	-

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-B10-GW	13C2-PFTeDA	20.1 (50-150)	PFTeDA	UJ (all non-detects)	P
SAOA-B10-GW-D	13C2-PFTeDA	28.0 (50-150)	PFTeDA	UJ (all non-detects)	P
NON-B01-SO-15-15.5	d3-MeFOSAA 13C2-PFDoA	44.0 (50-150) 46.2 (50-150)	MeFOSAA PFDoA PFTrDA	UJ (all non-detects) 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-B10-SO-1-1.5 SAOA-B10-SO-20-20.5 SAOA-B10-GW SAOA-B10-GW-D NON-B02-SO-15-15.5 SAOA-B01-SO-5-5.5 SAOA-B01-SO-20-20.5 NON-B01-SO-15-15.5 EB-07102019 NON-B01-SO-73-73.5 NON-B04-SO-0.5-1 NON-B04-SO-4.5-5	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 twelve 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 1902097

Sample	Compound	Flag	A or P	Reason
SAOA-B10-GW SAOA-B10-GW-D	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
NON-B01-SO-15-15.5	MeFOSAA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B10-SO-1-1.5 SAOA-B10-SO-20-20.5 SAOA-B10-GW SAOA-B10-GW-D NON-B02-SO-15-15.5 SAOA-B01-SO-5-5.5 SAOA-B01-SO-20-20.5 NON-B01-SO-15-15.5 EB-07102019 NON-B01-SO-73-73.5 NON-B04-SO-0.5-1 NON-B04-SO-4.5-5	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 1902097

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1902097

No Sample Data Qualified in this SDG

LDC #: 45706B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/19/19

SDG #: 1902097 Stage 4 Page: 1 of 2

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	r² Individual ≤30% ICV ≤30%
IV.	Continuing calibration/ISC	A	CCV ≤30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB = 5*, 14, 19 FRB = 7, 15, 20
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS(D), OPR
IX.	Field duplicates	SW	D = 3/4
X.	Labeled Compounds	SW	
XI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	SAOA-B10-SO-1-1.5		1902097-01	Soil	07/09/19
2	SAOA-B10-SO-20-20.5		1902097-02	Soil	07/09/19
3	SAOA-B10-GW	D	1902097-03	Water	07/09/19
4	SAOA-B10-GW-D	D	1902097-04	Water	07/09/19
5	EB-07092019		1902097-05	Water	07/09/19
6	NON-B02-SO-1-1.5		1902097-06	Soil	07/09/19
7	FRB-07092019		1902097-07	Water	07/09/19
8	NON-B02-SO-15-15.5		1902097-08	Soil	07/09/19
9	SAOA-B01-SO-5-5.5		1902097-09	Soil	07/10/19
10	SAOA-B01-SO-20-20.5		1902097-10	Soil	07/10/19
11	SAOA-B01-SO-36-36.5		1902097-11	Soil	07/10/19
12	NON-~~N1~~B01-SO-1-1.5		1902097-12	Soil	07/10/19
13	NON-B01-SO-15-15.5		1902097-13	Soil	07/10/19
14	EB-07102019		1902097-14	Water	07/10/19
15	FRB-07102019		1902097-15	Water	07/10/19

x/6X IX/6X

LDC #: 45706B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/19/19
SDG #: 1902097 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 1	NON-B01-SO-73-73.5	1902097-16	Soil	07/11/19
17 1	NON-B04-SO-0.5-1	1902097-17	Soil	07/11/19
18 1	NON-B04-SO-4.5-5	1902097-18	Soil	07/11/19
19	EB-07112019	1902097-19	Water	07/11/19
20	FRB-07112019	1902097-20	Water	07/11/19
21	NON-B02-SO-1-1.5MS	1902097-06MS	Soil	07/09/19
22	NON-B02-SO-1-1.5MSD	1902097-06MSD	Soil	07/09/19
23				
24				
25				
26				
27				

Notes:

-1	B9 G0190-BLK1						
-2	B9 G0185- 1						

LDC #: 45706 #96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	W		✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

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 #: 45706 B96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
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: 07/10/19
Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: 9, 12 (>5x)

Compound	Blank ID	Sample Identification								
	14	(5x)								
D	0.0594	0.297								
E	0.0185	0.0925								
F	0.0122	0.061 ~~0.0244~~								
G	0.00671	0.03355								
K	0.0706	0.0141								

Blank units: ug/L **Associated sample units:** ug/kg
Sampling date: 07/11/19
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 17, 18 (>5x)

Compound	Blank ID	Sample Identification								
	19	(5x)								
K	0.0201	0.1005								

LDC#: 45706B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

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)
	3	4		
D	0.0401	0.0275	NC	
E	0.00352	0.00817U	NC	
F	0.0422	0.0365	NC	
G	0.00776	0.00604	NC	
K	0.180	0.144	22	

NC (<5XLOQ)

V:\Josephine\FIELD DUPLICATES\45706B96 ttech yuma1.wpd

LDC #: 45706B96

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
		3 (MB)	13C2-R	20.1	50-150	J/UJ/R (qual R)
		4		28.0		R
		13	d3-V	44.0		V
			13C2-O	46.2		O,Q
		B9G0185_BLK1	13C2-R	41.5		R
		B9G0190-BLK1	d3-~~R~~V	47.8		V
			d5- W	48.4		W
			13C2-M	48.3		M
			13C2-O	46.4		O,Q

LDC#: 45706B96

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
7/22/2019	SCN945	PFOA	0.25	0.03165	3.125
			0.5	0.06647	6.250
	190722M1-CRV		1	0.11573	12.500
		13C2-PFOA	2	0.23840	25.000
			5	0.63338	62.500
			10	1.21526	125.000
			50	6.28315	625.000
			100	11.97011	1250.000
			250	28.74840	3125.000
			500	61.12986	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.075937	0.037722
Std Err of Y Est		
R Squared	0.999429	0.999184
Degrees of Freedom		
X Coefficient(s)	0.00968201	1.502070
Std Err of Coef.		
Correlation Coefficient	0.999714	
Coefficient of Determination (r^2)	0.999429	0.999184

LDC#: 45706B96

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
7/22/2019	SCN945	PFOS	0.25	0.01898	3.125
			0.5	0.05101	6.250
	190722M1-CRV		1	0.07006	12.500
		13C8-PFOS	2	0.15729	25.000
			5	0.40492	62.500
			10	0.84884	125.000
			50	4.45203	625.000
			100	8.49765	1250.000
			250	20.93435	3125.000
			500	43.12088	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.029639	-0.019750
Std Err of Y Est		
R Squared	0.999855	0.999659
Degrees of Freedom		
X Coefficient(s)	0.00686606	1.069000
Std Err of Coef.		
Correlation Coefficient	0.999927	
Coefficient of Determination (r^2)	0.999855	0.999659

LDC # _45706A96_

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	190722M1-15 ICV	7/22/2019	PFOA	(13C2-PFOA)	10.000	7.479	7.479	74.8	74.8
			PFOS	(13C8-PFOS)	9.240	7.500	7.559	81.1	81.8
2	190723M2-26 CS3	7/23/2019	PFOA	(13C2-PFOA)	10.000	10.038	10.038	100.4	100.4
			PFOS	(13C8-PFOS)	10.000	9.871	9.871	98.7	98.7
3	190724M1-6 ISC	7/24/2019	PFOA	(13C2-PFOA)	10.000	10.073	10.073	100.7	100.7
			PFOS	(13C8-PFOS)	10.000	9.968	9.968	99.7	99.7

LDC #: 45706B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
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 = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 21/22

Compound	Spike Added (ug/kg)		Sample Conc (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
PFOA	10.0	10.0	3.02	12.8	13.5	97.8	97.8	105	105	7.10	7.10
PFOS	↓	↓	2.57	12.7	13.9	101	101	114	113	12.1	12.1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

RPD based on %R

LDC #: 45706B96

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: B9G0155-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	0.08	0.08	0.0791	0.0855	98.9	98.9	107	107	7.67	7.87
PFOS	↓	↓	0.0776	0.0899	96.9	96.9	112	112	14.7	14.5

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 #: 45706B96

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. 12, PFOS:

Conc. = $\frac{\left[\left(\frac{45200}{5720} \times 12.5\right) - (-0.01975)\right]}{(1.069)} = 924.02$

final conc. = $\frac{(924.02)(1\,ml)}{(1.19g)(0.847)} = 916.7\ ug/kg$

#	Sample ID	Compound	Reported Concentration (ug/kg)	Calculated Concentration ( )	Qualification
			916		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS Yuma, CTO 17F3803

LDC Report Date: August 23, 2019

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1902189

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SAOA-B03-SO-5-5.5	1902189-01	Soil	07/11/19
SAOA-B03-SO-20-20.5	1902189-02	Soil	07/11/19
SAOA-B03-SO-56-56.5	1902189-03	Soil	07/11/19
SAOA-B03-GW	1902189-04	Water	07/11/19
NAOA-B03-GW	1902189-05	Water	07/15/19
EB-07152019-GW	1902189-06	Water	07/15/19
FRB-07152019	1902189-07	Water	07/15/19
NON-B03-SO-1-1.5	1902189-08	Soil	07/16/19
NON-B03-SO-15-15.5	1902189-09	Soil	07/16/19
NON-B03-GW	1902189-10	Water	07/16/19
EB-07162019-GW	1902189-11	Water	07/16/19
NAOA-B06-GW	1902189-12	Water	07/16/19
FRB-07162019	1902189-13	Water	07/16/19
EB-07162019	1902189-14	Water	07/16/19
NAOA-B04-SO-69-69.5	1902189-15	Soil	07/17/19
SAOA-B02-SO-5-5.5	1902189-16	Soil	07/17/19
SAOA-B02-SO-20-20.5	1902189-17	Soil	07/17/19
SAOA-B02-SO-56-56.5	1902189-18	Soil	07/17/19
FRB-07172019	1902189-19	Water	07/17/19
EB-07172019	1902189-20	Water	07/17/19
NON-B03-SO-1-1.5MS	1902189-08MS	Soil	07/16/19
NON-B03-SO-1-1.5MSD	1902189-08MSD	Soil	07/16/19

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-07152019-GW, EB-07162019-GW, EB-07162019, EB-07172019, and EB-07112019 (from SDG 1902097) 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-07172019	07/17/19	PFOS	0.0123 ug/L	SAOA-B02-SO-5-5.5
EB-07112019	07/11/19	PFOS	0.0201 ug/L	SAOA-B03-SO-5-5.5

Samples FRB-07152019, FRB-07162019, and FRB-07172019 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

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. 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.

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-B03-SO-20-20.5	13C2-PFDoA	47.7 (50-150)	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P
SAOA-B03-SO-56-56.5	d3-MeFOSAA 13C2-PFDoA	49.7 (50-150) 46.9 (50-150)	MeFOSAA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
NON-B03-GW	13C2-PFDoA 13C2-PFTeDA	41.6 (50-150) 27.2 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
NAOA-B06-GW	13C2-PFTeDA	31.0 (50-150)	PFTeDA	UJ (all non-detects)	P
NAOA-B04-SO-69-69.5	d3-MeFOSAA 13C2-PFDoA	47.8 (50-150) 47.4 (50-150)	MeFOSAA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
SAOA-B02-SO-5-5.5	13C2-PFDA 13C2-PFDoA	49.8 (50-150) 49.1 (50-150)	PFDA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
SAOA-B02-SO-56-56.5	13C2-PFDoA	45.8 (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-B03-SO-5-5.5 SAOA-B03-SO-20-20.5 NAOA-B03-GW NON-B03-SO-1-1.5 NON-B03-SO-15-15.5 NON-B03-GW SAOA-B02-SO-5-5.5 SAOA-B02-SO-20-20.5 SAOA-B02-SO-56-56.5	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 twelve 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 1902189

Sample	Compound	Flag	A or P	Reason
SAOA-B03-SO-20-20.5 SAOA-B02-SO-56-56.5	PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B03-SO-56-56.5 NAOA-B04-SO-69-69.5	MeFOSAA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NON-B03-GW	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
NAOA-B06-GW	PFTeDA	UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B02-SO-5-5.5	PFDA PFDoA PFTrDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R)
SAOA-B03-SO-5-5.5 SAOA-B03-SO-20-20.5 NAOA-B03-GW NON-B03-SO-1-1.5 NON-B03-SO-15-15.5 NON-B03-GW SAOA-B02-SO-5-5.5 SAOA-B02-SO-20-20.5 SAOA-B02-SO-56-56.5	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 1902189

No Sample Data Qualified in this SDG

MCAS Yuma, CTO 17F3803
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 1902189

No Sample Data Qualified in this SDG

LDC #: 45706C96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/30/19
SDG #: 1902189 Stage 4 Page: 1 of 2
Laboratory: Vista Analytical Laboratory Reviewer: JVG
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 / SW	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r Individual ≤ 30% IA ≤ 30%
IV.	Continuing calibration/ISC	A	CA ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	EB = 6, 11, 14, 20 FRB = 7, 13, 19 EB 07112019 (1902097)
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	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:

	Client ID	Lab ID	Matrix	Date
1	SAOA-B03-SO-5-5.5	1902189-01	Soil	07/11/19
2	SAOA-B03-SO-20-20.5	1902189-02	Soil	07/11/19
3	SAOA-B03-SO-56-56.5	1902189-03	Soil	07/11/19
4	SAOA-B03-GW	1902189-04	Water	07/11/19
5	NAOA-B03-GW	1902189-05	Water	07/15/19
6	EB-07152019-GW ✓	1902189-06	Water	07/15/19
7	FRB-07152019	1902189-07	Water	07/15/19
8	NON-B03-SO-1-1.5	1902189-08	Soil	07/16/19
9	NON-B03-SO-15-15.5	1902189-09	Soil	07/16/19
10	NON-B03-GW	1902189-10	Water	07/16/19
11	EB-07162019-GW	1902189-11	Water	07/16/19
12	NAOA-B06-GW	1902189-12	Water	07/16/19
13	FRB-07162019	1902189-13	Water	07/16/19
14	EB-07162019	1902189-14	Water	07/16/19
15	NAOA-B04-SO-69-69.5	1902189-15	Soil	07/17/19

1X/5X

LDC #: 45706C96 **VALIDATION COMPLETENESS WORKSHEET** Date: 08/20/19
SDG #: 1902189 Stage 4 Page: 2 of 2
Laboratory: Vista Analytical Laboratory Reviewer: SVG
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537)

	Client ID	Lab ID	Matrix	Date
+ 16	SAOA-B02-SO-5-5.5	1902189-16	Soil	07/17/19
+ 17	SAOA-B02-SO-20-20.5	1902189-17	Soil	07/17/19
+ 18	SAOA-B02-SO-56-56.5	1902189-18	Soil	07/17/19
- 19	FRB-07172019	1902189-19	Water	07/17/19
+ 20	EB-07172019	1902189-20	Water	07/17/19
21	NON-B03-SO-1-1.5MS	1902189-08MS	Soil	07/16/19
22	NON-B03-SO-1-1.5MSD	1902189-08MSD	Soil	07/16/19
23				
24				
25				
26				
27				

Notes:

-1	B9G0264- BLK1						
-2	B9G0224-						
-3	B9G0251-						

(extracted w/in 14 days)

LDC #: 45706C96

VALIDATION FINDINGS CHECKLIST

Reviewer: JVG
2nd Reviewer:

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

Validation Area	Yes	No	NA	Findings/Comments
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

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 #: 45706 CQ6

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: 07/17/19
Field blank type: (circle one) Trip Blank/Field Blank / Rinsate / Other: EB Associated Samples: ~~15-18~~ 16 (ND or >5x)

Compound	Blank ID	Sample Identification								
	20									
K	0.0123									

Blank units: ug/L **Associated sample units:** ug/kg
Sampling date: 7/11/19
Field blank type: (circle one) Field Blank / Rinsate / Other: Associated Samples: 1 (75x)

Compound	Blank ID	Sample Identification								
	EB-07112019									
K	0.0201									

LDC #: 45706 C96

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 (MD)	13C2-O	47.7	50-150	J (UJ/P (qual Q,O)
		3	d3-V	49.7		V
			13C2-O	46.9		O,Q
		10	13C2-O	41.6		O,Q
			13C2-R	27.2		R
		12	13C2-R	31.0		R
		15	d3-V	47.8		V
			13C2-O	47.4		O,Q
		16	13C2-L	49.8		L
			13C2-O	49.1		O,Q
		18	13C2-O	45.8		O,Q
		BQG0264-BLK1	13C2-O	49.6		O,Q

LDC#: 45706C96

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
7/22/2019	SCN945	PFOA	0.25	0.03165	3.125
			0.5	0.06647	6.250
	190722M1-CRV		1	0.11573	12.500
		13C2-PFOA	2	0.23840	25.000
			5	0.63338	62.500
			10	1.21526	125.000
			50	6.28315	625.000
			100	11.97011	1250.000
			250	28.74840	3125.000
			500	61.12986	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.075937	0.037722
Std Err of Y Est		
R Squared	0.999429	0.999184
Degrees of Freedom		
X Coefficient(s)	0.00968201	1.502070
Std Err of Coef.		
Correlation Coefficient	0.999714	
Coefficient of Determination (r^2)	0.999429	0.999184

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
7/22/2019	SCN945	PFOS	0.25	0.01898	3.125
			0.5	0.05101	6.250
	190722M1-CRV		1	0.07006	12.500
		13C8-PFOS	2	0.15729	25.000
			5	0.40492	62.500
			10	0.84884	125.000
			50	4.45203	625.000
			100	8.49765	1250.000
			250	20.93435	3125.000
			500	43.12088	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.029639	-0.019750
Std Err of Y Est		
R Squared	0.999855	0.999659
Degrees of Freedom		
X Coefficient(s)	0.00686606	1.069000
Std Err of Coef.		
Correlation Coefficient	0.999927	
Coefficient of Determination (r^2)	0.999855	0.999659

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
7/28/2019	SCN945	PFOA	0.25	0.03296	3.125
			0.5	0.06066	6.250
	190728M1-CRV		1	0.12264	12.500
		13C2-PFOA	2	0.24413	25.000
			5	0.59743	62.500
			10	1.26346	125.000
			50	5.75055	625.000
			100	12.09280	1250.000
			250	27.48101	3125.000
			500	57.22712	6250.000

Regression Output	Calculated	Reported WLR
Constant	0.044209	0.101179
Std Err of Y Est		
R Squared	0.999626	0.999104
Degrees of Freedom		
X Coefficient(s)	0.00909328	1.425740
Std Err of Coef.		
Correlation Coefficient	0.999813	
Coefficient of Determination (r^2)	0.999626	0.999104

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
7/28/2019	SCN945	PFOS	0.25	0.01731	3.125
			0.5	0.03195	6.250
	190728M1-CRV		1	0.08040	12.500
		13C8-PFOS	2	0.17206	25.000
			5	0.39523	62.500
			10	0.86270	125.000
			50	4.40816	625.000
			100	9.07360	1250.000
			250	21.45917	3125.000
			500	43.77193	6250.000

Regression Output	Calculated	Reported WLR
Constant	0.006692	-0.0602577
Std Err of Y Est		
R Squared	0.999891	0.999675
Degrees of Freedom		
X Coefficient(s)	0.00698389	1.092800
Std Err of Coef.		
Correlation Coefficient	0.999945	
Coefficient of Determination (r^2)	0.999891	0.999675

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
8/2/2019	SCN945	PFOA	0.25	0.04358	3.125
			0.5	0.07776	6.250
	190802M1-CRV		1	0.13222	12.500
		13C2-PFOA	2	0.29802	25.000
			5	0.75591	62.500
			10	1.51881	125.000
			50	7.32513	625.000
			100	14.71139	1250.000
			250	37.14547	3125.000
			500	74.48904	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.032022	0.031716
Std Err of Y Est		
R Squared	0.999993	0.999947
Degrees of Freedom		
X Coefficient(s)	0.01191336	1.856760
Std Err of Coef.		
Correlation Coefficient	0.999996	
Coefficient of Determination (r^2)	0.999993	0.999947

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
8/2/2019	SCN945	PFOS	0.25	0.03165	3.125
			0.5	0.02844	6.250
	190802M1-CRV		1	0.08730	12.500
		13C8-PFOS	2	0.19110	25.000
			5	0.47341	62.500
			10	0.93333	125.000
			50	4.90193	625.000
			100	9.82558	1250.000
			250	23.44797	3125.000
			500	55.35387	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.405593	-0.2277060
Std Err of Y Est		
R Squared	0.995896	0.994423
Degrees of Freedom		
X Coefficient(s)	0.00864919	1.298410
Std Err of Coef.		
Correlation Coefficient	0.997946	
Coefficient of Determination (r^2)	0.995896	0.994423

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
8/6/2019	SCN945	PFOA	0.25	0.03014	3.125
			0.5	0.05590	6.250
	190806M1-CRV		1	0.11413	12.500
		13C2-PFOA	2	0.22835	25.000
			5	0.56072	62.500
			10	1.12453	125.000
			50	5.30908	625.000
			100	11.15698	1250.000
			250	27.54228	3125.000
			500	54.94986	6250.000

Regression Output	Calculated	Reported WLR
Constant	0.004342	0.037145
Std Err of Y Est		
R Squared	0.999983	0.999901
Degrees of Freedom		
X Coefficient(s)	0.00879704	1.374720
Std Err of Coef.		
Correlation Coefficient	0.999992	
Coefficient of Determination (r^2)	0.999983	0.999901

LDC#: 45706C96

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
8/6/2019	SCN945	PFOS	0.25	0.01937	3.125
			0.5	0.04171	6.250
	190806M1-CRV		1	0.06852	12.500
		13C8-PFOS	2	0.17654	25.000
			5	0.42663	62.500
			10	0.77173	125.000
			50	3.98623	625.000
			100	8.45885	1250.000
			250	21.61890	3125.000
			500	44.36255	6250.000

Regression Output	Calculated	Reported WLR
Constant	-0.135582	-0.0536139
Std Err of Y Est		
R Squared	0.999773	0.999142
Degrees of Freedom		
X Coefficient(s)	0.00707804	1.088080
Std Err of Coef.		
Correlation Coefficient	0.999886	
Coefficient of Determination (r^2)	0.999773	0.999142

LDC # 45706C96

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	190726M1-4 ISC	7/26/2019	PFOA	(13C2-PFOA)	1.000	0.950	0.950	95.0	95.0
			PFOS	(13C8-PFOS)	1.000	0.991	0.991	99.1	99.1
2	190728M1-33 CS3	7/28/2019	PFOA	(13C2-PFOA)	10.000	10.906	10.906	109.1	109.1
			PFOS	(13C8-PFOS)	10.000	9.673	9.673	96.7	96.7
3	190805M1-22 CS3	8/5/2019	PFOA	(13C2-PFOA)	10.000	10.868	10.868	108.7	108.7
			PFOS	(13C8-PFOS)	10.000	8.845	8.845	88.5	88.5
4	090806M1-19 CS3	8/6/2019	PFOA	(13C2-PFOA)	10.000	8.000	8.000	80.0	80.0
			PFOS	(13C8-PFOS)	9.240	7.036	7.036	76.2	76.2

LDC #: 45706 C96

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 = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 21/22

Compound	Spike Added (ug/kg)		Sample Conc (ug/kg)	Spiked Sample Concentration (ug/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
PFOA	9.98	9.88	0	9.996	10.237	99.2	100	107	107	2.78	78
PFOS	↓	↓	1.27	10.2167	10.293	89.8	89.6	91.3	91.3	1.66	1.66

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.

- RPDs based on %R
- Rounding off issues

LDC #: 45706 CQ6

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: BQG0264-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	11.2	NA	112	112				
PFOS	↓	↓	9.24	↓	92.4	92.4				

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 #: 45706 C96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer:

METHOD: LC/MS PFCs (EPA Method 537Mod)

(Y) N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 1 , PFOS :

Conc. = $\frac{\left[\left(\frac{(4480)(12.5)}{(3210)}\right) - (-0.0536)\right]}{(1.08808)} = 16.0825$

final conc. = $\frac{(16.0825)(1\,000\ mL)}{(1.08\ g)(0.943)(1000)} = 15.79$

≈ 15.8 ug/kg

#	Sample ID	Compound	Reported Concentration (ug/kg)	Calculated Concentration ( )	Qualification
			15.8		

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
SAOA-B10	SITE 00019	YUMA_MCAS	BH	BOREHOLE	1902097	435741.277	599966.433	Perfluoroalkyl Compounds	SAOA-B10-GW	WG	GROUNDWATER

COLLECT_DATE
7/9/2019