Navy_CLEAN_PFAS_FOIA_request_covers.indd

NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, Sample Location Report, SDG 2001417

MCAS
Tustin, CA
April 2021

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

July 20, 2020

Vista Work Order No. 2001417

Ms. Kimberly Shiroodi
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Shiroodi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 07, 2020 under your Project Name 'MCAS El Toro and Tustin, PFAS'.

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
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. 2001417
Case Narrative

Sample Condition on Receipt:

One blank water sample and four groundwater 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.

Analytical Notes:

PFAS Isotope Dilution/LC-MSMS Method Compliant with Table B-15 of QSM 5.3 (Aqueous)

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

Laboratory ID	Sample Name
2001417-02	TW06D-20200706
2001417-03	TW25D-20200706
2001417-04	TW26D-20200706
2001417-05	TW08D-20200706

The samples were extracted and analyzed for a selected list of PFAS using Isotope Dilution and LC-MS/MS compliant with Table B-15 of QSM 5.3. 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 Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria. The RPD for PFTeDA was greater than 30%.

The labeled standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

TABLE OF CONTENTS

Case Narrative..... 1

Table of Contents..... 3

Sample Inventory..... 4

Analytical Results..... 5

Qualifiers..... 14

Certifications..... 15

Sample Receipt..... 18

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001417-01	EB04-20200706	06-Jul-20 14:00	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-02	TW06D-20200706	06-Jul-20 08:50	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-03	TW25D-20200706	06-Jul-20 11:20	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-04	TW26D-20200706	06-Jul-20 12:40	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-05	TW08D-20200706	06-Jul-20 14:35	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B0G0039-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	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHxA	307-24-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
HFPO-DA	13252-13-6	ND	0.00241	0.00300	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHpA	375-85-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
ADONA	919005-14-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHxS	355-46-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFOA	335-67-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFNA	375-95-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFOS	1763-23-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
9Cl-PF3ONS	756426-58-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFDA	335-76-2	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
MeFOSAA	2355-31-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
EtFOSAA	2991-50-6	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFUnA	2058-94-8	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
11Cl-PF3OUdS	763051-92-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFDoA	307-55-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFTrDA	72629-94-8	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFTeDA	376-06-7	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	81.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C3-HFPO-DA	IS	80.4	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFHxA	IS	77.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C4-PFHpA	IS	82.2	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C3-PFHxS	IS	76.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C5-PFNA	IS	90.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFOA	IS	78.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C8-PFOS	IS	84.0	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFDA	IS	80.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
d3-MeFOSAA	IS	62.7	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFUnA	IS	69.1	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
d5-EtFOSAA	IS	59.6	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFDoA	IS	66.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFTeDA	IS	53.0	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	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 Table B-15**

Name:	KMEA	Lab Sample:	B0G0039-BS1/B0G0039-BSD1
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0039
Matrix:	Aqueous	Samp Size:	0.250/0.250 L
		Date Extracted:	09-Jul-20
		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	0.0362	0.0400	90.5		0.0396	0.0400	99.0	8.95		72-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHxA	307-24-4	0.0409	0.0400	102		0.0394	0.0400	98.6	3.75		72-129	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
HFPO-DA	13252-13-6	0.0389	0.0400	97.4		0.0360	0.0400	90.0	7.86		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHpA	375-85-9	0.0427	0.0400	107		0.0405	0.0400	101	5.43		72-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
ADONA	919005-14-4	0.0396	0.0400	98.9		0.0409	0.0400	102	3.32		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHxS	355-46-4	0.0393	0.0400	98.3		0.0360	0.0400	90.0	8.79		68-131	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFOA	335-67-1	0.0431	0.0400	108		0.0411	0.0400	103	4.76		71-133	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFNA	375-95-1	0.0358	0.0400	89.6		0.0393	0.0400	98.3	9.25		69-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFOS	1763-23-1	0.0397	0.0400	99.1		0.0398	0.0400	99.4	0.260		65-140	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
9Cl-PF3ONS	756426-58-1	0.0425	0.0400	106		0.0403	0.0400	101	5.45		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFDA	335-76-2	0.0421	0.0400	105		0.0442	0.0400	110	4.77		71-129	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
MeFOSAA	2355-31-9	0.0399	0.0400	99.7		0.0424	0.0400	106	6.22		65-136	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
EtFOSAA	2991-50-6	0.0410	0.0400	103		0.0374	0.0400	93.4	9.31		61-135	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFUnA	2058-94-8	0.0412	0.0400	103		0.0404	0.0400	101	1.98		69-133	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
11Cl-PF3OUdS	763051-92-9	0.0396	0.0400	99.1		0.0422	0.0400	105	6.22		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFDoA	307-55-1	0.0411	0.0400	103		0.0415	0.0400	104	0.842		72-134	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFTrDA	72629-94-8	0.0365	0.0400	91.4		0.0370	0.0400	92.5	1.22		65-144	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFTeDA	376-06-7	0.0510	0.0400	128		0.0356	0.0400	88.9	35.7	H	71-132	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	81.8		84.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C3-HFPO-DA	IS	80.6		83.9		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFHxA	IS	76.1		81.9		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C4-PFHpA	IS	79.7		79.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C3-PFHxS	IS	78.3		88.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C5-PFNA	IS	89.8		96.8		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFOA	IS	77.7		81.4		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C8-PFOS	IS	69.9		71.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFDA	IS	79.0		83.8		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
d3-MeFOSAA	IS	67.6		65.2		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFUnA	IS	64.9		69.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
d5-EtFOSAA	IS	59.8		65.6		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFDoA	IS	69.2		61.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0039-BS1/B0G0039-BSD1	Date Extracted:	09-Jul-20
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0039	Column:	BEH C18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L		

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C2-PFTeDA	IS	44.1	H	40.8	H	50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Sample ID: EB04-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 06-Jul-20 14:00

Laboratory Data

Lab Sample: 2001417-01
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHxA	307-24-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
HFPO-DA	13252-13-6	ND	0.00245	0.00305	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHpA	375-85-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
ADONA	919005-14-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHxS	355-46-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFOA	335-67-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFNA	375-95-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFOS	1763-23-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
9Cl-PF3ONS	756426-58-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFDA	335-76-2	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
MeFOSAA	2355-31-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
EtFOSAA	2991-50-6	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFUnA	2058-94-8	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
11Cl-PF3OUdS	763051-92-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFDoA	307-55-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFTrDA	72629-94-8	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFTeDA	376-06-7	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	77.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C3-HFPO-DA	IS	82.8	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFHxA	IS	81.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C4-PFHpA	IS	84.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C3-PFHxS	IS	77.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C5-PFNA	IS	79.7	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFOA	IS	79.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C8-PFOS	IS	77.6	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFDA	IS	79.0	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
d3-MeFOSAA	IS	75.2	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFUnA	IS	61.1	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
d5-EtFOSAA	IS	60.8	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFDoA	IS	53.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFTeDA	IS	19.9	50 - 150	H	B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	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: TW06D-20200706 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 08:50

Laboratory Data

Lab Sample: 2001417-02
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHxA	307-24-4	0.0170	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
HFPO-DA	13252-13-6	ND	0.00230	0.00286	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHpA	375-85-9	0.00659	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
ADONA	919005-14-4	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHxS	355-46-4	0.00198	0.00131	0.00191	0.00382	J	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFOA	335-67-1	0.0390	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFNA	375-95-1	0.00424	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFOS	1763-23-1	0.00643	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
9Cl-PF3ONS	756426-58-1	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFDA	335-76-2	0.0263	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
MeFOSAA	2355-31-9	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
EtFOSAA	2991-50-6	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFUnA	2058-94-8	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
11Cl-PF3OUdS	763051-92-9	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFDoA	307-55-1	0.00286	0.00131	0.00191	0.00382	J	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFTrDA	72629-94-8	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFTeDA	376-06-7	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	83.2	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C3-HFPO-DA	IS	86.0	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFHxA	IS	80.1	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C4-PFHpA	IS	82.6	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C3-PFHxS	IS	88.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C5-PFNA	IS	86.7	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFOA	IS	83.1	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C8-PFOS	IS	85.0	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFDA	IS	86.4	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
d3-MeFOSAA	IS	74.8	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFUnA	IS	63.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
d5-EtFOSAA	IS	69.3	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFDoA	IS	56.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFTeDA	IS	27.0	50 - 150	H	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	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: TW25D-20200706 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 11:20

Laboratory Data

Lab Sample: 2001417-03
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0259	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHxA	307-24-4	0.147	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
HFPO-DA	13252-13-6	ND	0.00233	0.00290	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHpA	375-85-9	0.0327	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
ADONA	919005-14-4	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHxS	355-46-4	0.123	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFOA	335-67-1	0.437	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFNA	375-95-1	0.00323	0.00132	0.00193	0.00387	J	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFOS	1763-23-1	0.0111	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
9Cl-PF3ONS	756426-58-1	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFDA	335-76-2	0.0149	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
MeFOSAA	2355-31-9	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
EtFOSAA	2991-50-6	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFUnA	2058-94-8	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
11Cl-PF3OUdS	763051-92-9	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFDoA	307-55-1	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFTrDA	72629-94-8	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFTeDA	376-06-7	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	79.7	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C3-HFPO-DA	IS	83.3	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFHxA	IS	73.1	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C4-PFHpA	IS	75.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C3-PFHxS	IS	80.7	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C5-PFNA	IS	80.6	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFOA	IS	78.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C8-PFOS	IS	66.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFDA	IS	79.5	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
d3-MeFOSAA	IS	64.4	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFUnA	IS	55.4	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
d5-EtFOSAA	IS	46.4	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFDoA	IS	42.7	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFTeDA	IS	17.3	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	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: TW26D-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 12:40

Laboratory Data

Lab Sample: 2001417-04
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHxA	307-24-4	0.00183	0.00122	0.00179	0.00358	J	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
HFPO-DA	13252-13-6	ND	0.00215	0.00268	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHpA	375-85-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
ADONA	919005-14-4	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHxS	355-46-4	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFOA	335-67-1	0.00448	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFNA	375-95-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFOS	1763-23-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
9Cl-PF3ONS	756426-58-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFDA	335-76-2	0.00123	0.00122	0.00179	0.00358	J	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
MeFOSAA	2355-31-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
EtFOSAA	2991-50-6	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFUnA	2058-94-8	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
11Cl-PF3OUdS	763051-92-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFDoA	307-55-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFTrDA	72629-94-8	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFTeDA	376-06-7	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	82.4	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C3-HFPO-DA	IS	90.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFHxA	IS	77.7	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C4-PFHpA	IS	82.1	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C3-PFHxS	IS	82.3	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C5-PFNA	IS	88.5	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFOA	IS	81.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C8-PFOS	IS	79.3	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFDA	IS	83.5	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
d3-MeFOSAA	IS	72.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFUnA	IS	61.1	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
d5-EtFOSAA	IS	56.4	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFDoA	IS	54.2	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFTeDA	IS	24.3	50 - 150	H	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1

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

Results reported to the DL.

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

Sample ID: TW08D-20200706 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 14:35

Laboratory Data

Lab Sample: 2001417-05
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00874	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHxA	307-24-4	0.0201	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
HFPO-DA	13252-13-6	ND	0.00234	0.00291	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHpA	375-85-9	0.00616	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
ADONA	919005-14-4	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHxS	355-46-4	0.0646	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFOA	335-67-1	0.0952	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFNA	375-95-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFOS	1763-23-1	0.0210	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
9Cl-PF3ONS	756426-58-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFDA	335-76-2	0.00176	0.00133	0.00194	0.00388	J	B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
MeFOSAA	2355-31-9	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
EtFOSAA	2991-50-6	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFUnA	2058-94-8	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
11Cl-PF3OUdS	763051-92-9	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFDoA	307-55-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFTrDA	72629-94-8	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFTeDA	376-06-7	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	91.3	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C3-HFPO-DA	IS	85.8	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFHxA	IS	83.2	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C4-PFHpA	IS	91.4	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C3-PFHxS	IS	92.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C5-PFNA	IS	101	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFOA	IS	89.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C8-PFOS	IS	88.8	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFDA	IS	93.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
d3-MeFOSAA	IS	84.1	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFUnA	IS	72.3	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
d5-EtFOSAA	IS	76.5	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFDoA	IS	70.5	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFTeDA	IS	63.9	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	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.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
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
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
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

1104 Windfield Way
El Dorado Hills, CA 95762
TEL: 916-673-1520

2001417 0.2°C

Vista PM: Jade White-Dobbs

CHAIN OF CUSTODY RECORD

DATE: 7/6/2020

PAGE: 1 OF 1

LABORATORY CLIENT: KMEA		CLIENT PROJECT NAME / NUMBER: MCAS El Toro and Tustin, PFAS	P.O. NO.: TO 008 Mod 4
ADDRESS: 9210 Sky Park Court, Suite 220		PROJECT CONTACT: Kimberly Shiroodi / Brian Johnson	CONTRACT NO.: N62473-16-D-2405
CITY: San Diego, CA 92123		SAMPLER(S): (SIGNATURE) LM Rulte	LAB USE ONLY
TEL: (619) 399-5900	E-Mail: kimberly.shiroodi@woodplc.com	E-MAIL: brian.johnson@woodplc.com	

TURNAROUND TIME

☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 10 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS

* Filter as needed

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	QC Level	PFAS by LC/MS-MS
	EB04 - 20200706	7/6/20	14:00	BW	2		X
	TW06D - 20200706		8:50	GW	3*	IV	X
	TW25D - 20200706		11:20		4*	IV	X
	TW26D - 20200706		12:40		4*	IV	X
	TW08D - 20200706	V	14:35	V	4*	IV	X

LR 7-6-20

Relinquished by: (Signature) LM Rulte	Received by: (Signature) / Carrier Tracking Number FedEx	Date: 7/6/20	Time: 16:00
Relinquished by: (Signature) FEDEX 07/07/20	Received by: (Signature)	Date: 07/07/20	Time: 09:33
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2001417 TAT Std

Samples Arrival:	**Date/Time** 07/07/20 09:33		**Initials:**		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Dry Ice		None
Temp °C: 0.2 (uncorrected) **Temp °C:** 0.2 (corrected)			**Probe used:** (Y) / N		**Thermometer ID:** DT-3		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?		✓	X
Airbill ✓ Trk # 3945 6058 9157	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 07/07/20 1337	**Initials:** WWS	**Location:** R-13, WR-2 **Shelf/Rack:** J-2, E-3	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2001417

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Sample Comments
2001417-01	A EB04-20200706	☑		06-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-01	B EB04-20200706	☑		06-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	A TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	B TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	C TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	A TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	B TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	C TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	D TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	A TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	B TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	C TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	D TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	A TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	B TW08D-20200706	☐ (A)		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	C TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	D TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	

(B) — ☑ 2001417-02 A TW06D-20200706 through ☑ 2001417-03 D TW25D-20200706

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		
Preservation Documented: Na2S2O3 Trizma (None) Other		✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments: (A) Less than 250mL
(B) Particulate in the sample

Verifed by/Date: KA 07/07/20

Printed: 7/7/2020 1:57:43PM

2001417

Page 1 of 1

July 20, 2020

Vista Work Order No. 2001417

Ms. Kimberly Shiroodi
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Shiroodi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 07, 2020 under your Project Name 'MCAS El Toro and Tustin, PFAS'.

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
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. 2001417
Case Narrative

Sample Condition on Receipt:

One blank water sample and four groundwater 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.

Analytical Notes:

PFAS Isotope Dilution/LC-MSMS Method Compliant with Table B-15 of QSM 5.3 (Aqueous)

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

Laboratory ID	Sample Name
2001417-02	TW06D-20200706
2001417-03	TW25D-20200706
2001417-04	TW26D-20200706
2001417-05	TW08D-20200706

The samples were extracted and analyzed for a selected list of PFAS using Isotope Dilution and LC-MS/MS compliant with Table B-15 of QSM 5.3. 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 Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria. The RPD for PFTeDA was greater than 30%.

The labeled standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

TABLE OF CONTENTS

Case Narrative..... 1

Table of Contents..... 3

Sample Inventory..... 4

Analytical Results..... 5

Qualifiers..... 14

Certifications..... 15

Sample Receipt..... 18

Extraction Information..... 21

Sample Data - PFAS Isotope Dilution Table B-15..... 26

IBs and CCVs..... 83

ICAL with ICV and IB..... 185

Tune Checks..... 601

Standards..... 614

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001417-01	EB04-20200706	06-Jul-20 14:00	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-02	TW06D-20200706	06-Jul-20 08:50	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-03	TW25D-20200706	06-Jul-20 11:20	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-04	TW26D-20200706	06-Jul-20 12:40	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001417-05	TW08D-20200706	06-Jul-20 14:35	07-Jul-20 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B0G0039-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	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHxA	307-24-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
HFPO-DA	13252-13-6	ND	0.00241	0.00300	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHpA	375-85-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
ADONA	919005-14-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFHxS	355-46-4	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFOA	335-67-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFNA	375-95-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFOS	1763-23-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
9Cl-PF3ONS	756426-58-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFDA	335-76-2	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
MeFOSAA	2355-31-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
EtFOSAA	2991-50-6	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFUnA	2058-94-8	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
11Cl-PF3OUdS	763051-92-9	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFDoA	307-55-1	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFTrDA	72629-94-8	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
PFTeDA	376-06-7	ND	0.00137	0.00200	0.00400		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	81.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C3-HFPO-DA	IS	80.4	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFHxA	IS	77.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C4-PFHpA	IS	82.2	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C3-PFHxS	IS	76.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C5-PFNA	IS	90.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFOA	IS	78.5	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C8-PFOS	IS	84.0	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFDA	IS	80.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
d3-MeFOSAA	IS	62.7	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFUnA	IS	69.1	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
d5-EtFOSAA	IS	59.6	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFDoA	IS	66.3	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	1
13C2-PFTeDA	IS	53.0	50 - 150		B0G0039	09-Jul-20	0.250 L	11-Jul-20 03:57	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 Table B-15**

Name:	KMEA	Lab Sample:	B0G0039-BS1/B0G0039-BSD1
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0039
Matrix:	Aqueous	Samp Size:	0.250/0.250 L
		Date Extracted:	09-Jul-20
		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	0.0362	0.0400	90.5		0.0396	0.0400	99.0	8.95		72-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHxA	307-24-4	0.0409	0.0400	102		0.0394	0.0400	98.6	3.75		72-129	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
HFPO-DA	13252-13-6	0.0389	0.0400	97.4		0.0360	0.0400	90.0	7.86		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHpA	375-85-9	0.0427	0.0400	107		0.0405	0.0400	101	5.43		72-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
ADONA	919005-14-4	0.0396	0.0400	98.9		0.0409	0.0400	102	3.32		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFHxS	355-46-4	0.0393	0.0400	98.3		0.0360	0.0400	90.0	8.79		68-131	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFOA	335-67-1	0.0431	0.0400	108		0.0411	0.0400	103	4.76		71-133	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFNA	375-95-1	0.0358	0.0400	89.6		0.0393	0.0400	98.3	9.25		69-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFOS	1763-23-1	0.0397	0.0400	99.1		0.0398	0.0400	99.4	0.260		65-140	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
9Cl-PF3ONS	756426-58-1	0.0425	0.0400	106		0.0403	0.0400	101	5.45		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFDA	335-76-2	0.0421	0.0400	105		0.0442	0.0400	110	4.77		71-129	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
MeFOSAA	2355-31-9	0.0399	0.0400	99.7		0.0424	0.0400	106	6.22		65-136	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
EtFOSAA	2991-50-6	0.0410	0.0400	103		0.0374	0.0400	93.4	9.31		61-135	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFUnA	2058-94-8	0.0412	0.0400	103		0.0404	0.0400	101	1.98		69-133	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
11Cl-PF3OUdS	763051-92-9	0.0396	0.0400	99.1		0.0422	0.0400	105	6.22		70-130	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFDoA	307-55-1	0.0411	0.0400	103		0.0415	0.0400	104	0.842		72-134	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFTrDA	72629-94-8	0.0365	0.0400	91.4		0.0370	0.0400	92.5	1.22		65-144	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1
PFTeDA	376-06-7	0.0510	0.0400	128		0.0356	0.0400	88.9	35.7	H	71-132	30	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	81.8		84.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C3-HFPO-DA	IS	80.6		83.9		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFHxA	IS	76.1		81.9		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C4-PFHpA	IS	79.7		79.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C3-PFHxS	IS	78.3		88.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C5-PFNA	IS	89.8		96.8		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFOA	IS	77.7		81.4		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C8-PFOS	IS	69.9		71.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFDA	IS	79.0		83.8		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
d3-MeFOSAA	IS	67.6		65.2		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFUnA	IS	64.9		69.7		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
d5-EtFOSAA	IS	59.8		65.6		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1
13C2-PFDoA	IS	69.2		61.5		50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0039-BS1/B0G0039-BSD1	Date Extracted:	09-Jul-20
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0039	Column:	BEH C18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L		

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C2-PFTeDA	IS	44.1	H	40.8	H	50-150	11-Jul-20 04:07	1	11-Jul-20 04:18	1

Sample ID: EB04-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 06-Jul-20 14:00

Laboratory Data

Lab Sample: 2001417-01
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHxA	307-24-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
HFPO-DA	13252-13-6	ND	0.00245	0.00305	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHpA	375-85-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
ADONA	919005-14-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFHxS	355-46-4	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFOA	335-67-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFNA	375-95-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFOS	1763-23-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
9Cl-PF3ONS	756426-58-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFDA	335-76-2	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
MeFOSAA	2355-31-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
EtFOSAA	2991-50-6	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFUnA	2058-94-8	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
11Cl-PF3OUdS	763051-92-9	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFDoA	307-55-1	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFTrDA	72629-94-8	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
PFTeDA	376-06-7	ND	0.00139	0.00203	0.00406		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	77.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C3-HFPO-DA	IS	82.8	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFHxA	IS	81.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C4-PFHpA	IS	84.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C3-PFHxS	IS	77.4	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C5-PFNA	IS	79.7	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFOA	IS	79.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C8-PFOS	IS	77.6	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFDA	IS	79.0	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
d3-MeFOSAA	IS	75.2	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFUnA	IS	61.1	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
d5-EtFOSAA	IS	60.8	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFDoA	IS	53.5	50 - 150		B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	1
13C2-PFTeDA	IS	19.9	50 - 150	H	B0G0039	09-Jul-20	0.246 L	13-Jul-20 19:30	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: TW06D-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 08:50

Laboratory Data

Lab Sample: 2001417-02
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHxA	307-24-4	0.0170	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
HFPO-DA	13252-13-6	ND	0.00230	0.00286	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHpA	375-85-9	0.00659	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
ADONA	919005-14-4	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFHxS	355-46-4	0.00198	0.00131	0.00191	0.00382	J	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFOA	335-67-1	0.0390	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFNA	375-95-1	0.00424	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFOS	1763-23-1	0.00643	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
9Cl-PF3ONS	756426-58-1	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFDA	335-76-2	0.0263	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
MeFOSAA	2355-31-9	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
EtFOSAA	2991-50-6	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFUnA	2058-94-8	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
11Cl-PF3OUdS	763051-92-9	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFDoA	307-55-1	0.00286	0.00131	0.00191	0.00382	J	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFTrDA	72629-94-8	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
PFTeDA	376-06-7	ND	0.00131	0.00191	0.00382		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	83.2	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C3-HFPO-DA	IS	86.0	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFHxA	IS	80.1	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C4-PFHpA	IS	82.6	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C3-PFHxS	IS	88.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C5-PFNA	IS	86.7	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFOA	IS	83.1	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C8-PFOS	IS	85.0	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFDA	IS	86.4	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
d3-MeFOSAA	IS	74.8	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFUnA	IS	63.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
d5-EtFOSAA	IS	69.3	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFDoA	IS	56.9	50 - 150		B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	1
13C2-PFTeDA	IS	27.0	50 - 150	H	B0G0039	09-Jul-20	0.262 L	11-Jul-20 04:59	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: TW25D-20200706 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 11:20

Laboratory Data

Lab Sample: 2001417-03
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0259	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHxA	307-24-4	0.147	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
HFPO-DA	13252-13-6	ND	0.00233	0.00290	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHpA	375-85-9	0.0327	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
ADONA	919005-14-4	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFHxS	355-46-4	0.123	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFOA	335-67-1	0.437	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFNA	375-95-1	0.00323	0.00132	0.00193	0.00387	J	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFOS	1763-23-1	0.0111	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
9Cl-PF3ONS	756426-58-1	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFDA	335-76-2	0.0149	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
MeFOSAA	2355-31-9	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
EtFOSAA	2991-50-6	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFUnA	2058-94-8	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
11Cl-PF3OUdS	763051-92-9	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFDoA	307-55-1	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFTrDA	72629-94-8	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
PFTeDA	376-06-7	ND	0.00132	0.00193	0.00387		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	79.7	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C3-HFPO-DA	IS	83.3	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFHxA	IS	73.1	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C4-PFHpA	IS	75.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C3-PFHxS	IS	80.7	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C5-PFNA	IS	80.6	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFOA	IS	78.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C8-PFOS	IS	66.9	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFDA	IS	79.5	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
d3-MeFOSAA	IS	64.4	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFUnA	IS	55.4	50 - 150		B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
d5-EtFOSAA	IS	46.4	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFDoA	IS	42.7	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	1
13C2-PFTeDA	IS	17.3	50 - 150	H	B0G0039	09-Jul-20	0.259 L	11-Jul-20 05:09	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: TW26D-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 12:40

Laboratory Data

Lab Sample: 2001417-04
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHxA	307-24-4	0.00183	0.00122	0.00179	0.00358	J	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
HFPO-DA	13252-13-6	ND	0.00215	0.00268	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHpA	375-85-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
ADONA	919005-14-4	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFHxS	355-46-4	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFOA	335-67-1	0.00448	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFNA	375-95-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFOS	1763-23-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
9Cl-PF3ONS	756426-58-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFDA	335-76-2	0.00123	0.00122	0.00179	0.00358	J	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
MeFOSAA	2355-31-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
EtFOSAA	2991-50-6	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFUnA	2058-94-8	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
11Cl-PF3OUdS	763051-92-9	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFDoA	307-55-1	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFTrDA	72629-94-8	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
PFTeDA	376-06-7	ND	0.00122	0.00179	0.00358		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	82.4	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C3-HFPO-DA	IS	90.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFHxA	IS	77.7	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C4-PFHpA	IS	82.1	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C3-PFHxS	IS	82.3	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C5-PFNA	IS	88.5	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFOA	IS	81.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C8-PFOS	IS	79.3	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFDA	IS	83.5	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
d3-MeFOSAA	IS	72.6	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFUnA	IS	61.1	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
d5-EtFOSAA	IS	56.4	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFDoA	IS	54.2	50 - 150		B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1
13C2-PFTeDA	IS	24.3	50 - 150	H	B0G0039	09-Jul-20	0.280 L	11-Jul-20 05:20	1

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

Results reported to the DL.

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

Sample ID: TW08D-20200706

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 06-Jul-20 14:35

Laboratory Data

Lab Sample: 2001417-05
Date Received: 07-Jul-20 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00874	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHxA	307-24-4	0.0201	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
HFPO-DA	13252-13-6	ND	0.00234	0.00291	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHpA	375-85-9	0.00616	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
ADONA	919005-14-4	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFHxS	355-46-4	0.0646	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFOA	335-67-1	0.0952	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFNA	375-95-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFOS	1763-23-1	0.0210	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
9Cl-PF3ONS	756426-58-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFDA	335-76-2	0.00176	0.00133	0.00194	0.00388	J	B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
MeFOSAA	2355-31-9	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
EtFOSAA	2991-50-6	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFUnA	2058-94-8	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
11Cl-PF3OUdS	763051-92-9	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFDoA	307-55-1	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFTrDA	72629-94-8	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
PFTeDA	376-06-7	ND	0.00133	0.00194	0.00388		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	91.3	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C3-HFPO-DA	IS	85.8	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFHxA	IS	83.2	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C4-PFHpA	IS	91.4	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C3-PFHxS	IS	92.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C5-PFNA	IS	101	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFOA	IS	89.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C8-PFOS	IS	88.8	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFDA	IS	93.6	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
d3-MeFOSAA	IS	84.1	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFUnA	IS	72.3	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
d5-EtFOSAA	IS	76.5	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFDoA	IS	70.5	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	1
13C2-PFTeDA	IS	63.9	50 - 150		B0G0039	09-Jul-20	0.258 L	11-Jul-20 05:30	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.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
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
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
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

1104 Windfield Way
El Dorado Hills, CA 95762
TEL: 916-673-1520

2001417 0.2°C

Vista PM: Jade White-Dobbs

CHAIN OF CUSTODY RECORD

DATE: 7/6/2020

PAGE: 1 OF 1

LABORATORY CLIENT: KMEA		CLIENT PROJECT NAME / NUMBER: MCAS El Toro and Tustin, PFAS	P.O. NO.: TO 008 Mod 4
ADDRESS: 9210 Sky Park Court, Suite 220		PROJECT CONTACT: Kimberly Shiroodi / Brian Johnson	CONTRACT NO.: N62473-16-D-2405
CITY: San Diego, CA 92123		SAMPLER(S): (SIGNATURE) LM Rulte	LAB USE ONLY
TEL: (619) 399-5900	E-Mail: kimberly.shiroodi@woodplc.com	E-MAIL: brian.johnson@woodplc.com	

TURNAROUND TIME

☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 10 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ___/___/___

SPECIAL INSTRUCTIONS

* Filter as needed

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	QC Level	PFAS by LC/MS-MS
	EB04 - 20200706	7/6/20	14:00	BW	2		X
	TW06D - 20200706		8:50	GW	3*	IV	X
	TW25D - 20200706		11:20		4*	IV	X
	TW26D - 20200706		12:40		4*	IV	X
	TW08D - 20200706	V	14:35	V	4*	IV	X

LR 7-6-20

Relinquished by: (Signature) LM Rulte	Received by: (Signature) / Carrier Tracking Number FedEx	Date: 7/6/20	Time: 16:00
Relinquished by: (Signature) FEDEX 07/07/20	Received by: (Signature)	Date: 07/07/20	Time: 09:33
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2001417 TAT Std

Samples Arrival:	**Date/Time** 07/07/20 09:33		**Initials:**		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Dry Ice		None
Temp °C: 0.2 (uncorrected) **Temp °C:** 0.2 (corrected)			**Probe used:** (Y) / N		**Thermometer ID:** DT-3		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?		✓	X
Airbill ✓ Trk # 3945 6058 9157	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 07/07/20 1337	**Initials:** WMS	**Location:** R-13, WR-2 **Shelf/Rack:** J-2, E-3	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2001417

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Sample Comments
2001417-01	A EB04-20200706	☑		06-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-01	B EB04-20200706	☑		06-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	A TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	B TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-02	C TW06D-20200706	☑		06-Jul-20 08:50	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	A TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	B TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	C TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-03	D TW25D-20200706	☑		06-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	A TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	B TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	C TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-04	D TW26D-20200706	☑		06-Jul-20 12:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	A TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	B TW08D-20200706	☐ (A)		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	C TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	
2001417-05	D TW08D-20200706	☑		06-Jul-20 14:35	☑	HDPE Bottle, 250 mL	Aqueous	

(B)

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		
Preservation Documented: Na2S2O3 Trizma (None) Other		✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments: (A) Less than 250mL
(B) Particulate in the sample

Verifed by/Date: KA 07/07/20

Printed: 7/7/2020 1:57:43PM

2001417

Page 1 of 1

EXTRACTION INFORMATION

Process Sheet

Workorder: 2001417

Prep Expiration: 2020-07-20
Client: KMEA

Workorder Due: 28-Jul-20 00:00

TAT: 21

Method: **537M PFAS DOD QSM 5.3 (LOQ as mRL)**
Matrix: **Aqueous**

Prep Batch: BOG0089

Prep Data Entered: 2L 07/10/20
Date and Initials

Version: 537.1 List of 18-EIS
DoD: DoD QSM 5.3

Initial Sequence: SOG0089

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
2001417-01	A	☑	☑	EB04-20200706		R-13 A-2	HDPE Bottle, 250 mL
2001417-02		☑	☑	TW06D-20200706		R-13 A-2	HDPE Bottle, 250 mL
2001417-03		☑	☑	TW25D-20200706		R-13 A-2	HDPE Bottle, 250 mL
2001417-04		☑	☑	TW26D-20200706		R-13 A-2	HDPE Bottle, 250 mL
2001417-05		☑	☑	TW08D-20200706		R-13 A-2	HDPE Bottle, 250 mL

WO Comments: **May have elevated PFAS levels - isolate samples.**
Instrument - begin w/ dils.
Report to DL
Use SOP HT

Pre-Prep Check Out: CHT 07/07/20
Pre-Prep Check In: CHT 07/07/20

Prep Check Out: 2L 07/09/20
Prep Check In: NA

Prep Reconciled Initals/Date: CHT 07/07/20
Spike Reconciled Initals/Date: 2L 07/09/20
VialBoxID: OH GOH

Matrix: Aqueous

Method: 537M PFAS DOD QSM 5.3 (LOQ as mRL)

Vista Internal Chain-of-Custody

B0G0039

Vista Analytical Laboratory

	Location		L2	R13	L1	R17	L2	R17			
	Reason		Prep	R9	R4	R9	R6	R9			
	Initials		CHH	CHH	[illegible]	ME	[illegible]	ME			
	Date/Time		07/07/25 1525	07/07/20 1537	07/09/20 0429	07/09/2020 15:48	07/10/20 05:56	07/10/2020 16:38			
Initial Storage	LabNumber	Cont									
R-13 A-2	2001416-01	A	O	O	O	E	E	E			
R-13 A-2	2001416-02										
R-13 A-2	2001417-01										
R-13 A-2	2001417-02										
R-13 A-2	2001417-03										
R-13 A-2	2001417-04										
R-13 A-2	2001417-05										

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

Matrix: Aqueous

Method: 537M PFAS DOD QSM 5.3 (LOQ as mRL)

PREPARATION BENCH SHEET

B0G0039

Chemist: N

Prep Date: 07/09/20

Prep Time: 06:59

Hood#:

Prepared using: ☐ Sonication Shaker ☐ SPE Extraction ☐ Centrifuge ID: CS

Rec Date/Initals: HP 07/10/20

Date/Initals: CHT 07/07/20

BalanceID: HRMS-9

Cen	VISTA Sample ID	Rec Vial1	Rec Vial2	pH	Chlorine (Cl)	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE and Reconciliation	ENVI-Carb and Reconciliation
☑	B0G0039-BLK1	☒	☒	5	0	NA	NA	(0.250)	N ME 07/09/20	N 07/09/20	N 07/09/20
☑	B0G0039-BS1	☒	☒	5	0			(0.250)			
☑	B0G0039-BSD1	☒	☒	5	0			(0.250)			
☐	2001416-01	☒	☒	6	0	272.23	25.70	0.24653			
☐	2001416-02	☒	☒	6	0	270.03	25.68	0.24435			
☐	2001417-01	☒	☒	5	0	272.08	2586	0.24622			
☑	2001417-02 (6)	☒	☒	6	0	287.70	25.74	0.26196			
☑	2001417-03 (A)	☒	☒	6	0	284.55	25.89	0.25866			
☑	2001417-04	☒	☒	6	0	306.23	26.61	0.27962			
☑	2001417-05 (6)	☒	☒	6	0	283.50	25.61	0.25789			

IS: 20E1201 (V13) 10mL

IS SUP: NA

NS: 20E1202 (V8) 10mL

NS SUP: NA

SPE Chem: Strata X-Aw 33µm 200mg/6mL

SPE Lot#: S19-006238

ENVI-Carb Lot#: B01976

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s) 1 mL

Notes:
(A) low volume after centrifuging N 07/09/20
(6) N 07/09/20

Comments: Assume 1 g = 1 mL
Cen = Centrifuged
Rec = Reconcile final vial transfer

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: B0G0039

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
2001416-01	0.24653	NA	NA	1000	09-Jul-20 06:59	JJC			Wastewater	537M PFAS DOD QSM 5.3
2001416-02	0.24435			1000	09-Jul-20 06:59	JJC			Wastewater	537M PFAS DOD QSM 5.3
2001417-01	0.24622			1000	09-Jul-20 06:59	JJC			Blank Water	537M PFAS DOD QSM 5.3
2001417-02	0.26196			1000	09-Jul-20 06:59	JJC			Groundwater	537M PFAS DOD QSM 5.3
2001417-03	0.25866			1000	09-Jul-20 06:59	JJC			Groundwater	537M PFAS DOD QSM 5.3
2001417-04	0.27962			1000	09-Jul-20 06:59	JJC			Groundwater	537M PFAS DOD QSM 5.3
2001417-05	0.25789			1000	09-Jul-20 06:59	JJC			Groundwater	537M PFAS DOD QSM 5.3
B0G0039-BLK1	0.25			1000	09-Jul-20 06:59	JJC				QC
B0G0039-BS1	0.25			1000	09-Jul-20 06:59	JJC	20E1202	10		QC
B0G0039-BSD1	0.25			1000	09-Jul-20 06:59	JJC	20E1202	10		QC

All bolded data on report verified against written benchsheet by (initial/date) JC 07/10/20

Printed: 7/10/2020 7:56:23AM
Page 1 of 1

Sample Data – PFAS Isotope Dilution Table B-15

Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, 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		1.315e3	0.250		2.59						YES
2	7	PFHxA	313.0 > 269.0		9.798e3	0.250		3.12						YES
3	9	HFPO-DA	285.1 > 168.9		7.779e2	0.250		3.34						YES
4	11	PFHpA	363.0 > 318.9		5.817e3	0.250		3.73						YES
5	12	ADONA	376.8 > 250.9		5.817e3	0.250		3.83						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.315e3		0.250	129.326	2.57	2.59	1310	40.659	81.3		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.798e3		0.250	1011.534	3.10	3.12	9800	38.744	77.5		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	7.779e2		0.250	77.431	3.32	3.34	778	40.184	80.4		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.817e3		0.250	565.792	3.72	3.73	5820	41.125	82.2		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.817e3		0.250	565.792	3.72	3.73	5820	41.125	82.2		
11	-1													
12	13	L-PFHxS	399 > 80.0		2.756e3	0.250		3.87						YES
13	1...	Total PFHxS	399 > 80	0.000e0	2.756e3	0.250		3.83		0.000				
14	16	L-PFOA	412.8 > 368.9		1.216e4	0.250		4.24						YES
15	1...	Total PFOA	412.8 > 368.9	0.000e0	1.216e4	0.250		4.20		0.000				
16	21	PFNA	463.0 > 418.8		1.108e4	0.250		4.67						YES
17	61	13C3-PFHxS-EIS	401.8 > 79.9	2.756e3		0.250	288.156	3.86	3.87	2760	38.261	76.5		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	2.756e3		0.250	288.156	3.86	3.87	2760	38.261	76.5		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.216e4		0.250	1239.770	4.23	4.24	12200	39.244	78.5		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.216e4		0.250	1239.770	4.23	4.24	12200	39.244	78.5		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.108e4		0.250	979.239	4.66	4.67	11100	45.253	90.5		
22	-1													
23	23	L-PFOS	499 > 80		3.365e3	0.250		4.75						YES
24	1...	Total PFOS	499 > 80	0.000e0	3.365e3	0.250		4.73		0.000				
25	25	9Cl-PF30NS	531 > 351.0		3.365e3	0.250		4.96						YES
26	26	PFDA	513 > 468.8		1.076e4	0.250		5.05						YES
27	33	PFUdA	563.0 > 518.9		1.538e4	0.250		5.37						YES
28	73	13C8-PFOS-EIS	507.0 > 80	3.365e3		0.250	320.319	4.75	4.75	3360	42.018	84.0		
29	73	13C8-PFOS-EIS	507.0 > 80	3.365e3		0.250	320.319	4.75	4.75	3360	42.018	84.0		
30	73	13C8-PFOS-EIS	507.0 > 80	3.365e3		0.250	320.319	4.75	4.75	3360	42.018	84.0		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.076e4		0.250	1072.606	5.03	5.05	10800	40.135	80.3		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.538e4		0.250	1779.457	5.36	5.37	15400	34.571	69.1		
33	-1													
34	29	L-MeFOSAA	570 > 419		7.236e3	0.250		5.19						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	7.236e3	0.250		5.17		0.000				
36	31	L-EtFOSAA	583.9 > 419		6.458e3	0.250		5.35						YES

Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	6.458e3	0.250		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.595e4	0.250		5.59						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	7.236e3		0.250	923.888	5.18	5.19	7240	31.329	62.7		
40	79	d3-N-MeFOSAA-EIS	573. > 419	7.236e3		0.250	923.888	5.18	5.19	7240	31.329	62.7		
41	83	d5-N-EtFOSAA-EIS	589. > 419	6.458e3		0.250	867.283	5.34	5.35	6460	29.787	59.6		
42	83	d5-N-EtFOSAA-EIS	589. > 419	6.458e3		0.250	867.283	5.34	5.35	6460	29.787	59.6		
43	85	13C2-PFDoA-EIS	615 > 570	1.595e4		0.250	1924.259	5.64	5.65	15900	33.149	66.3		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.595e4	0.250		5.65						YES
46	39	PFTrDA	662.9 > 618.9		1.595e4	0.250		5.91						YES
47	41	PFTeDA	713.0 > 669.0		8.713e3	0.250		6.11						YES
48	1...	TDCA	498.3>106.9			0.250		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	3.365e3		0.250	320.319	4.75	4.75	3360	42.018	84.0		
50	85	13C2-PFDoA-EIS	615 > 570	1.595e4		0.250	1924.259	5.64	5.65	15900	33.149	66.3		
51	85	13C2-PFDoA-EIS	615 > 570	1.595e4		0.250	1924.259	5.64	5.65	15900	33.149	66.3		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	8.713e3		0.250	1314.260	6.11	6.11	8710	26.518	53.0		

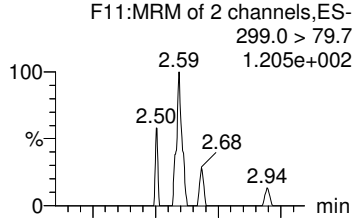
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

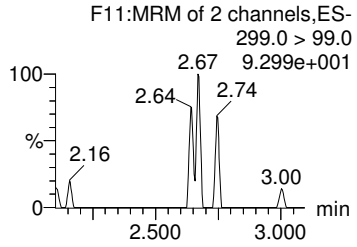
Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Method: M:\Projects\PFAS.pro\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: M:\Projects\PFAS.pro\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

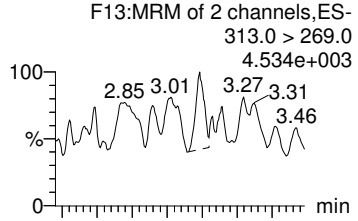
Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

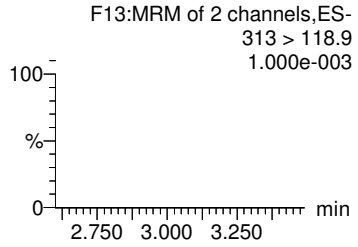
PFBS



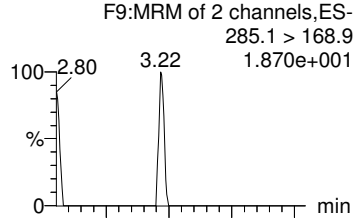


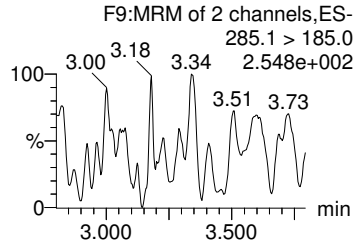
PFHxA



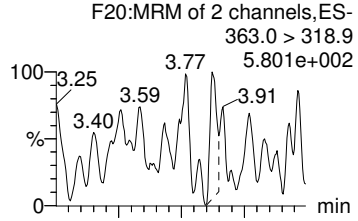


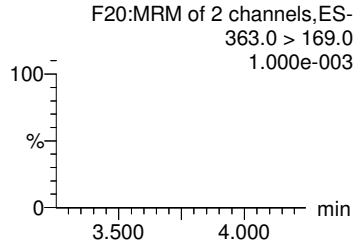
HFPO-DA



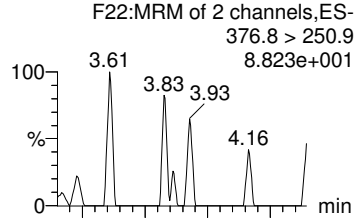


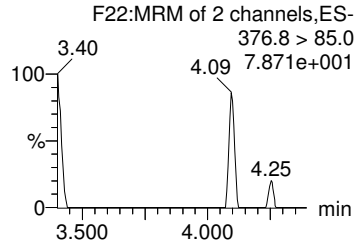
PFHpA



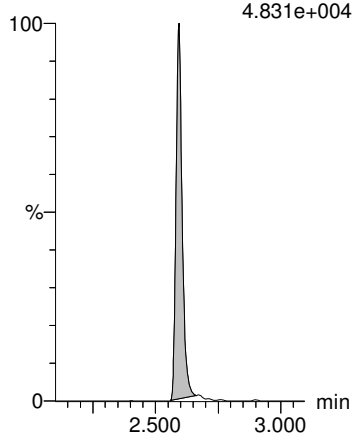


ADONA

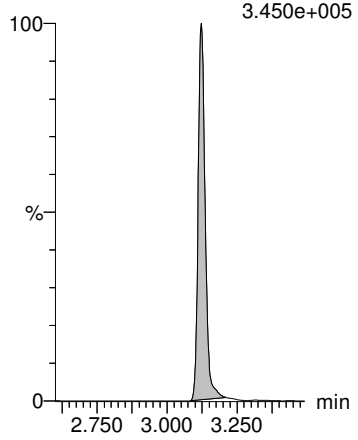




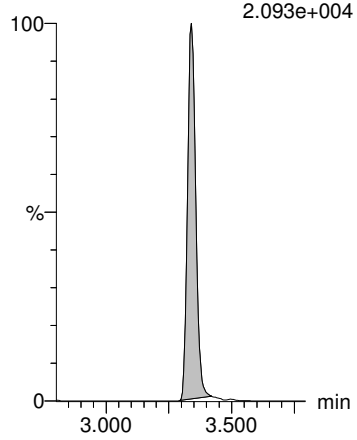
13C3-PFBS-EIS



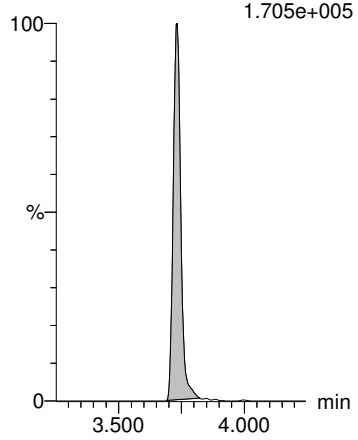
13C2-PFHxA-EIS



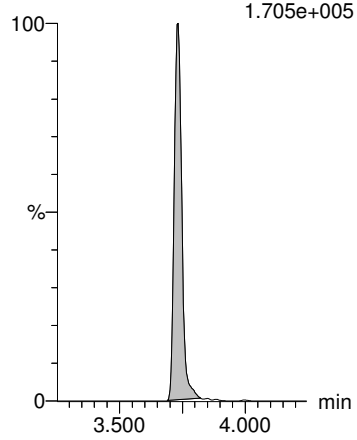
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

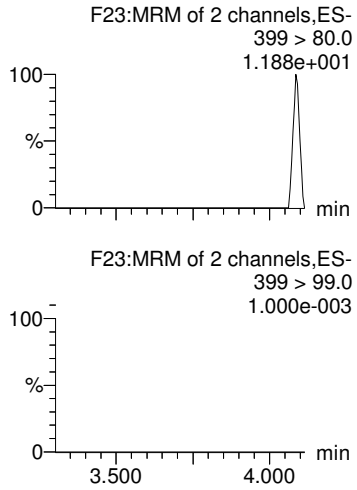


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

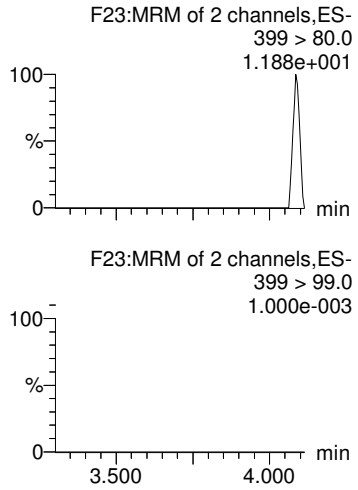
Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

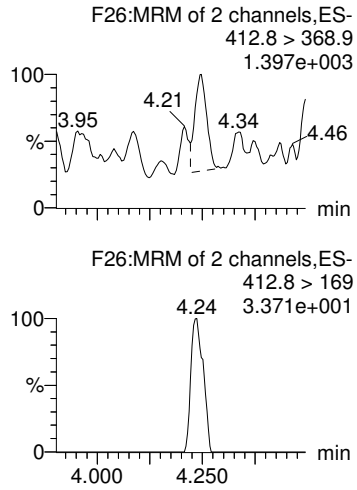
L-PFHxS



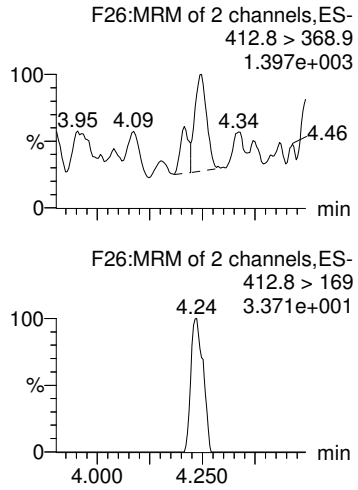
Total PFHxS



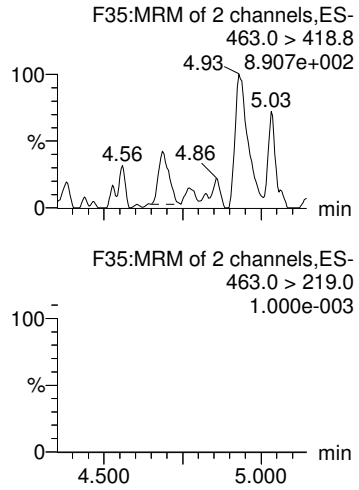
L-PFOA



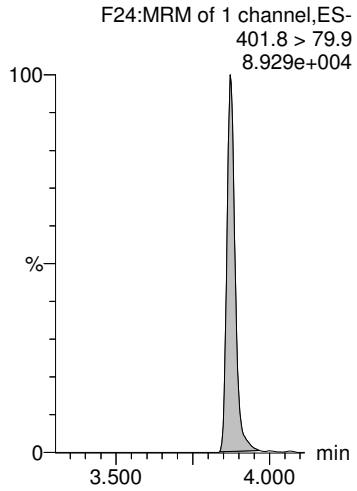
Total PFOA



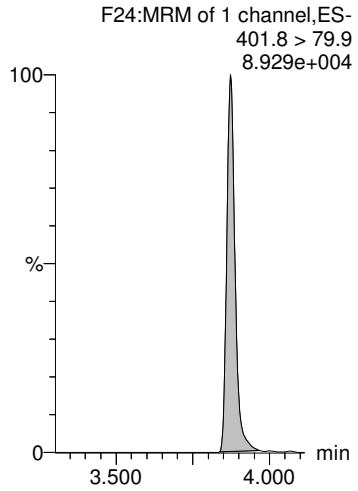
PFNA



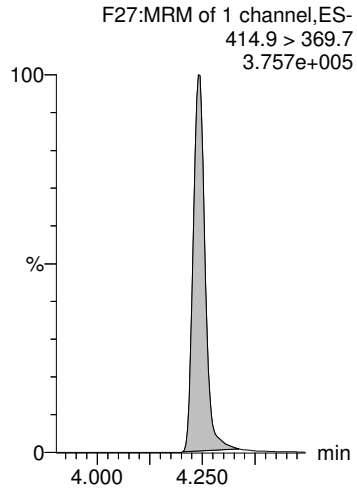
13C3-PFHxS-EIS



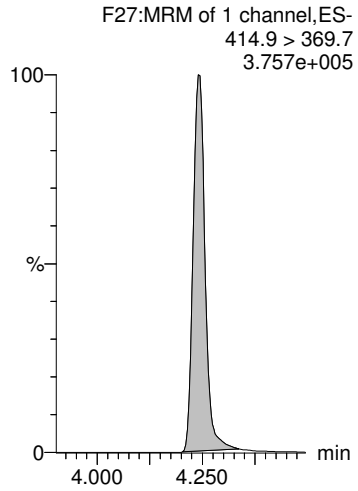
13C3-PFHxS-EIS



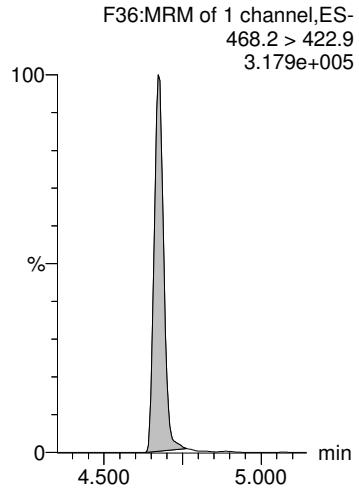
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS

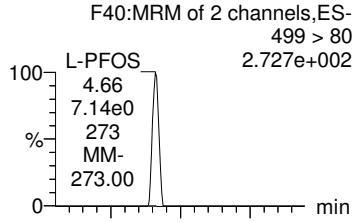


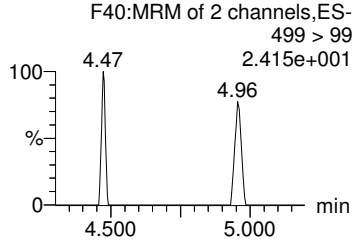
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

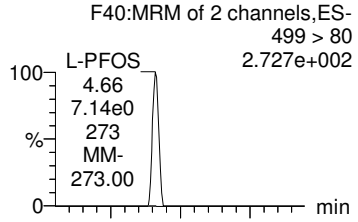
Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

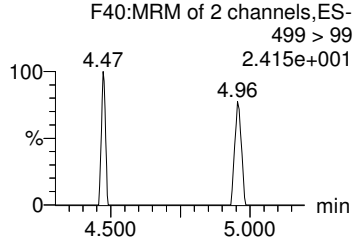
L-PFOS



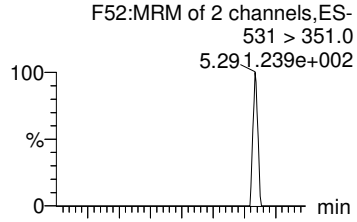


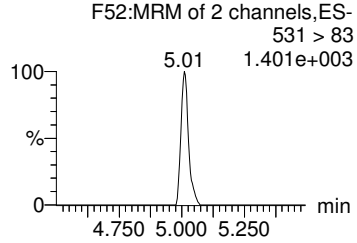
Total PFOS



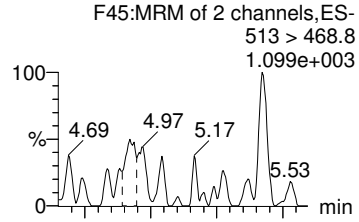


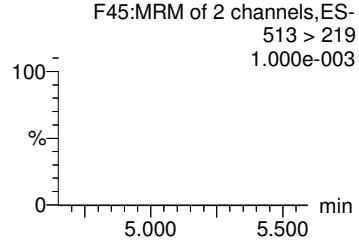
9Cl-PF30NS



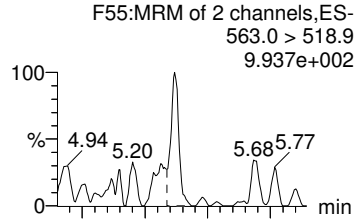


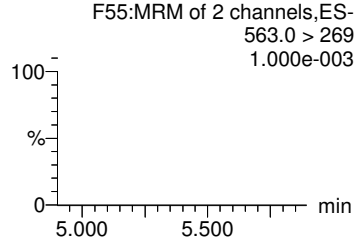
PFDA



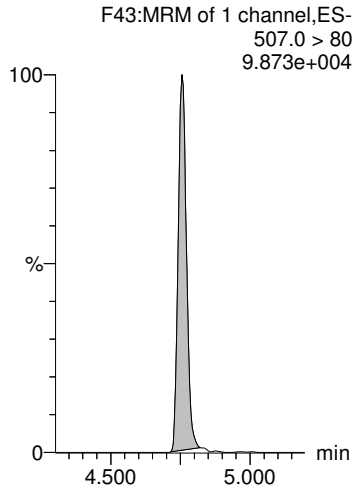


PFUdA

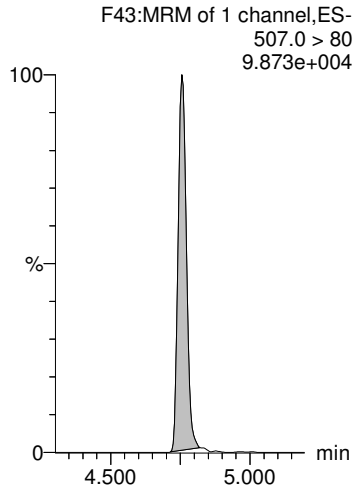




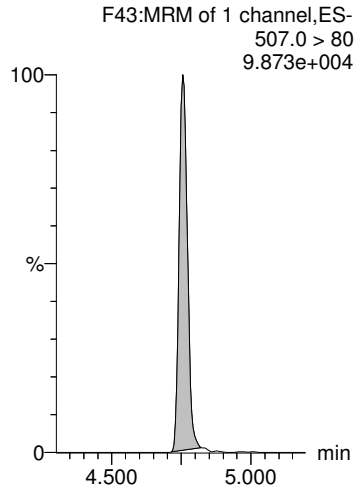
13C8-PFOS-EIS



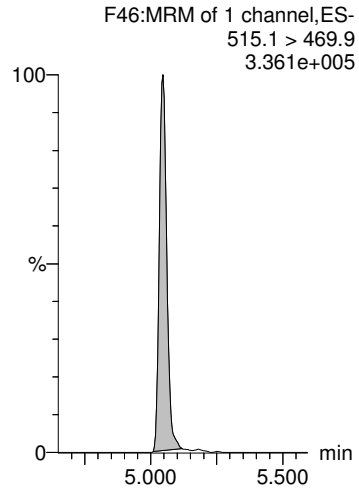
13C8-PFOS-EIS



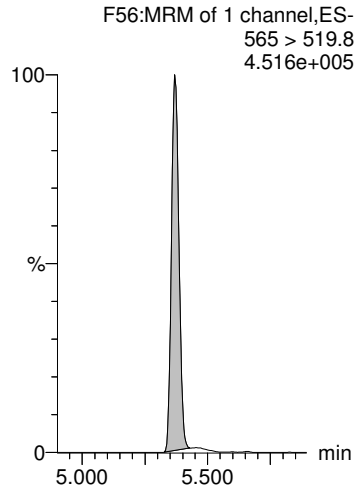
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS

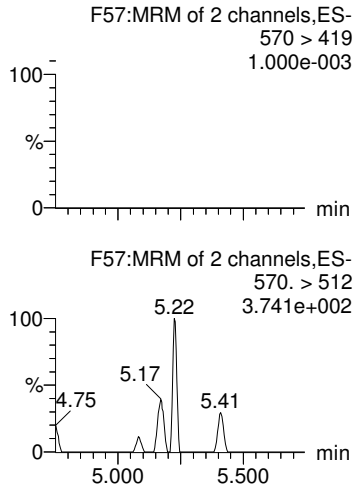


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

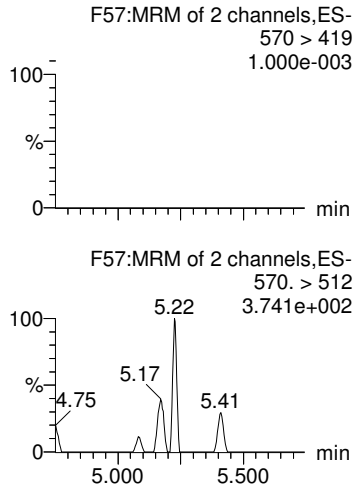
Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

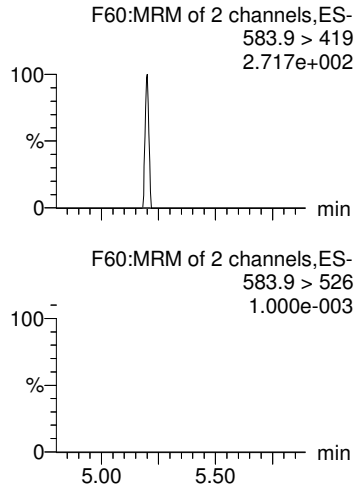
L-MeFOSAA



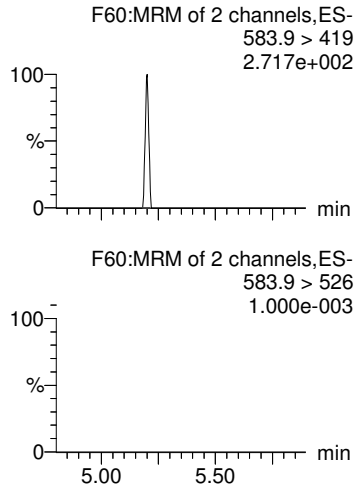
Total N-MeFOSAA



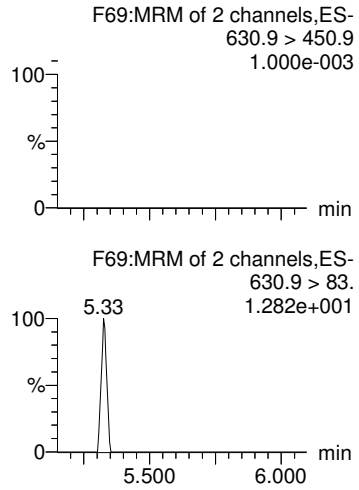
L-EtFOSAA



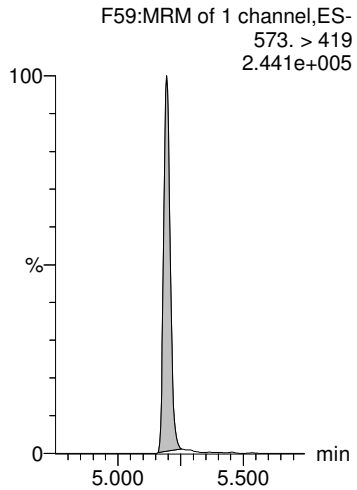
Total N-EtFOSAA



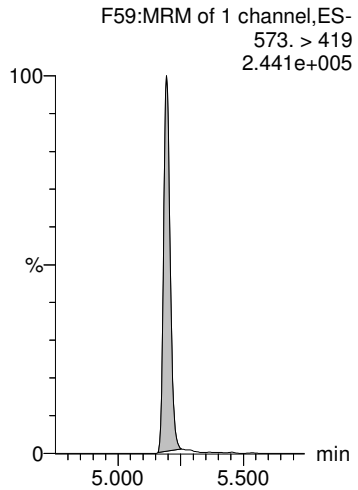
11Cl-PF30UdS



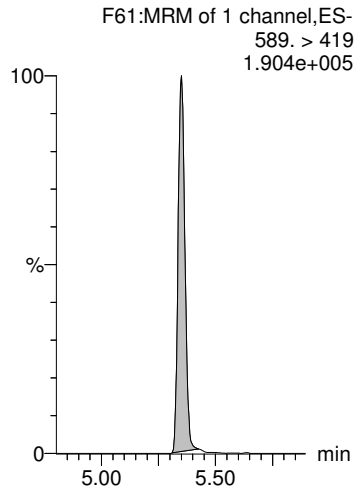
d3-N-MeFOSAA-EIS



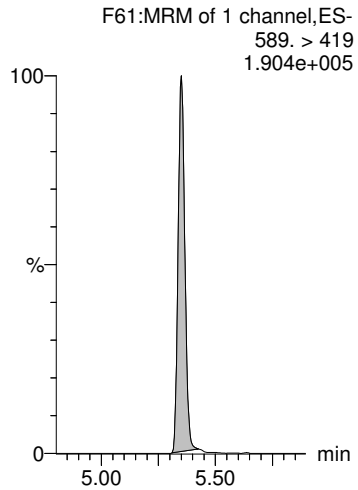
d3-N-MeFOSAA-EIS



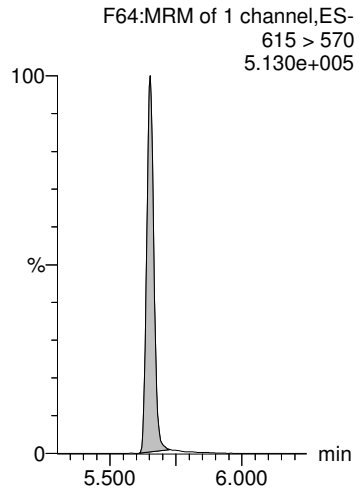
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS

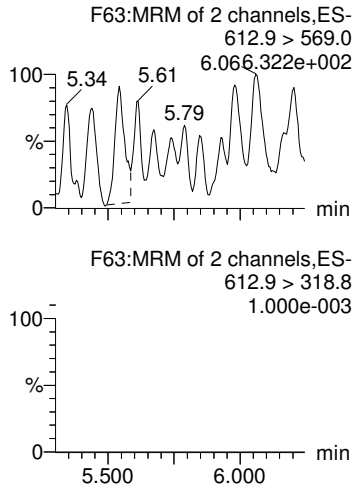


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

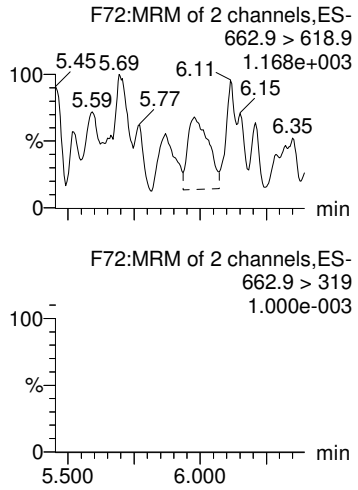
Last Altered: Tuesday, July 14, 2020 09:36:55 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:37:27 Pacific Daylight Time

Name: 200710M1_114, Date: 11-Jul-2020, Time: 03:57:16, ID: B0G0039-BLK1 Method Blank 0.25, Description: Method Blank

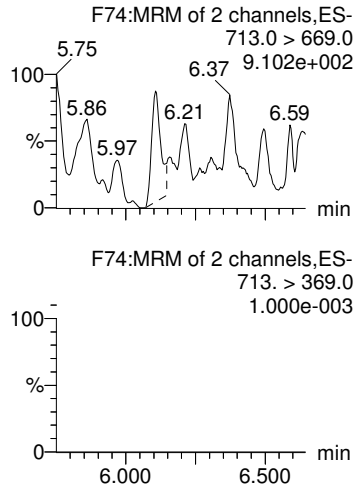
PFDoA



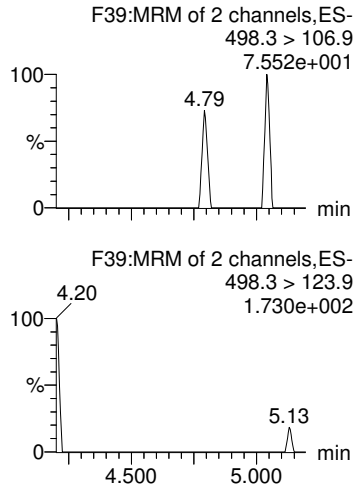
PFTrDA



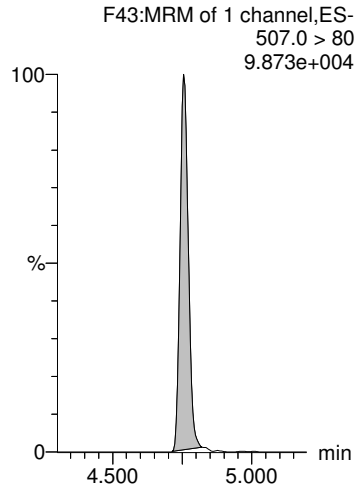
PFTeDA



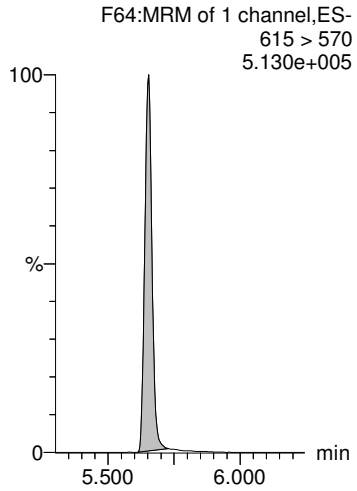
TDCA



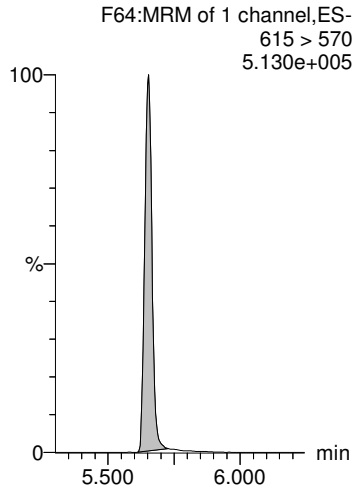
13C8-PFOS-EIS



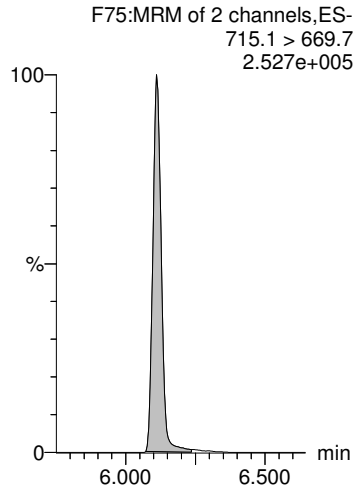
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 79.7	1.942e3	1.323e3	0.250		2.59	2.59	18.3	36.213	90.5	2.392	NO
2	7	PFHxA	313.0 > 269.0	9.029e3	9.626e3	0.250		3.12	3.12	11.7	40.941	102.4	17.908	NO
3	9	HFPO-DA	285.1 > 168.9	5.703e2	7.797e2	0.250		3.34	3.34	9.14	38.945	97.4	1.943	NO
4	11	PFHpA	363.0 > 318.9	6.077e3	5.636e3	0.250		3.73	3.73	13.5	42.724	106.8	12.152	NO
5	12	ADONA	376.8 > 250.9	2.216e4	5.636e3	0.250		3.83	3.84	49.1	39.554	98.9	3.592	NO
6	51	13C3-PFBS-EIS	302.0 > 99	1.323e3		0.250	129.326	2.57	2.59	1320	40.920	81.8		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.626e3		0.250	1011.534	3.10	3.12	9630	38.064	76.1		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	7.797e2		0.250	77.431	3.32	3.34	780	40.280	80.6		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.636e3		0.250	565.792	3.72	3.73	5640	39.846	79.7		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.636e3		0.250	565.792	3.72	3.73	5640	39.846	79.7		
11	-1													
12	13	L-PFHxS	399 > 80.0	2.459e3	2.822e3	0.250		3.88	3.88	10.9	39.314	98.3	1.714	NO
13	1...	Total PFHxS	399 > 80	2.459e3	2.822e3	0.250		3.83		10.9	39.314			
14	16	L-PFOA	412.8 > 368.9	1.484e4	1.205e4	0.250		4.24	4.24	15.4	43.149	107.9	3.992	NO
15	1...	Total PFOA	412.8 > 368.9	1.484e4	1.205e4	0.250		4.20		15.4	43.149			
16	21	PFNA	463.0 > 418.8	1.029e4	1.099e4	0.250		4.68	4.67	11.7	35.839	89.6	3.818	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	2.822e3		0.250	288.156	3.86	3.88	2820	39.170	78.3		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	2.822e3		0.250	288.156	3.86	3.88	2820	39.170	78.3		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.205e4		0.250	1239.770	4.23	4.24	12000	38.875	77.7		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.205e4		0.250	1239.770	4.23	4.24	12000	38.875	77.7		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.099e4		0.250	979.239	4.66	4.68	11000	44.902	89.8		
22	-1													
23	23	L-PFOS	499 > 80	2.472e3	2.798e3	0.250		4.75	4.75	11.0	39.657	99.1	1.785	NO
24	1...	Total PFOS	499 > 80	2.472e3	2.798e3	0.250		4.73		11.0	39.657			
25	25	9Cl-PF30NS	531 > 351.0	9.524e3	2.798e3	0.250		4.96	4.97	42.6	42.548	106.4	20.014	NO
26	26	PFDA	513 > 468.8	1.250e4	1.059e4	0.250		5.05	5.05	14.7	42.136	105.3	5.194	NO
27	33	PFUdA	563.0 > 518.9	1.100e4	1.443e4	0.250		5.37	5.37	9.53	41.201	103.0	9.214	NO
28	73	13C8-PFOS-EIS	507.0 > 80	2.798e3		0.250	320.319	4.75	4.75	2800	34.938	69.9		
29	73	13C8-PFOS-EIS	507.0 > 80	2.798e3		0.250	320.319	4.75	4.75	2800	34.938	69.9		
30	73	13C8-PFOS-EIS	507.0 > 80	2.798e3		0.250	320.319	4.75	4.75	2800	34.938	69.9		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.059e4		0.250	1072.606	5.03	5.05	10600	39.504	79.0		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.443e4		0.250	1779.457	5.36	5.37	14400	32.432	64.9		
33	-1													
34	29	L-MeFOSAA	570 > 419	5.788e3	7.807e3	0.250		5.19	5.20	9.27	39.886	99.7	2.431	NO
35	1...	Total N-MeFOSAA	570. > 419	5.788e3	7.807e3	0.250		5.17		9.27	39.886			
36	31	L-EtFOSAA	583.9 > 419	5.076e3	6.481e3	0.250		5.35	5.36	9.79	41.003	102.5	1.441	NO

Vista Analytical Laboratory L18

OC 7/14/2020

Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	5.076e3	6.481e3	0.250		5.33		9.79	41.003			
38	35	11Cl-PF30UdS	630.9 > 450.9	7.562e3	1.664e4	0.250		5.59	5.58	5.68	39.634	99.1	23.489	NO
39	79	d3-N-MeFOSAA-EIS	573. > 419	7.807e3		0.250	923.888	5.18	5.19	7810	33.800	67.6		
40	79	d3-N-MeFOSAA-EIS	573. > 419	7.807e3		0.250	923.888	5.18	5.19	7810	33.800	67.6		
41	83	d5-N-EtFOSAA-EIS	589. > 419	6.481e3		0.250	867.283	5.34	5.35	6480	29.893	59.8		
42	83	d5-N-EtFOSAA-EIS	589. > 419	6.481e3		0.250	867.283	5.34	5.35	6480	29.893	59.8		
43	85	13C2-PFDoA-EIS	615 > 570	1.664e4		0.250	1924.259	5.64	5.65	16600	34.580	69.2		
44	-1													
45	37	PFDoA	612.9 > 569.0	1.273e4	1.664e4	0.250		5.65	5.65	9.56	41.132	102.8	7.607	NO
46	39	PFTrDA	662.9 > 618.9	1.070e4	1.664e4	0.250		5.91	5.90	8.04	36.548	91.4	7.977	NO
47	41	PFTeDA	713.0 > 669.0	1.176e4	7.249e3	0.250		6.11	6.11	20.3	51.043	127.6	15.170	NO
48	1...	TDCA	498.3>106.9			0.250		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	2.798e3		0.250	320.319	4.75	4.75	2800	34.938	69.9		
50	85	13C2-PFDoA-EIS	615 > 570	1.664e4		0.250	1924.259	5.64	5.65	16600	34.580	69.2		
51	85	13C2-PFDoA-EIS	615 > 570	1.664e4		0.250	1924.259	5.64	5.65	16600	34.580	69.2		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	7.249e3		0.250	1314.260	6.11	6.11	7250	22.063	44.1		

VY 7/14/2020

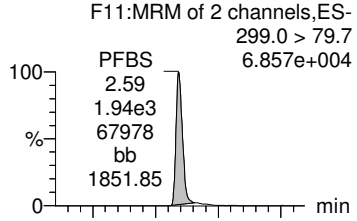
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

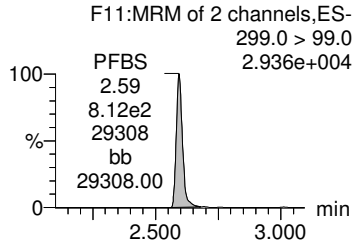
Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

Method: M:\Projects\PFAS.pro\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: M:\Projects\PFAS.pro\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

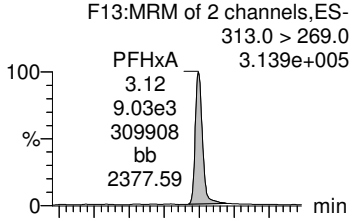
Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

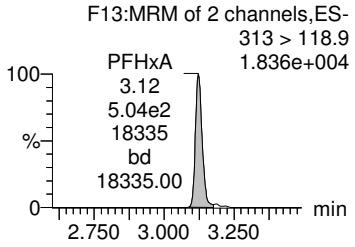
PFBS



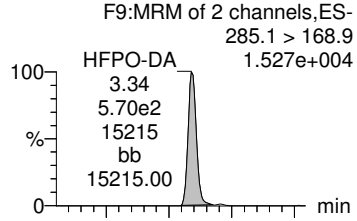


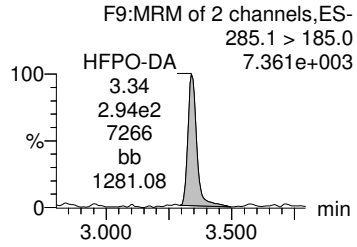
PFHxA



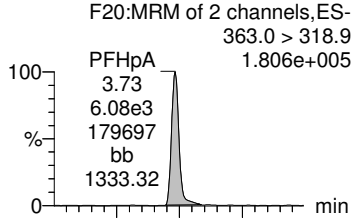


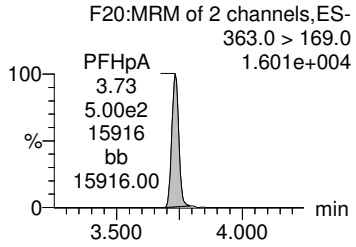
HFPO-DA



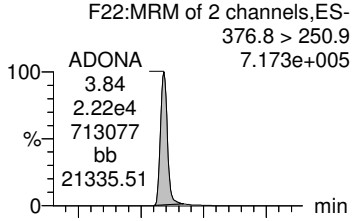


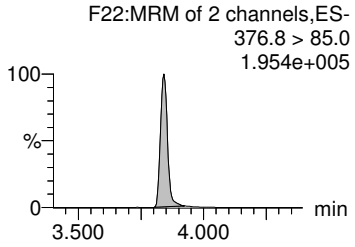
PFHpA



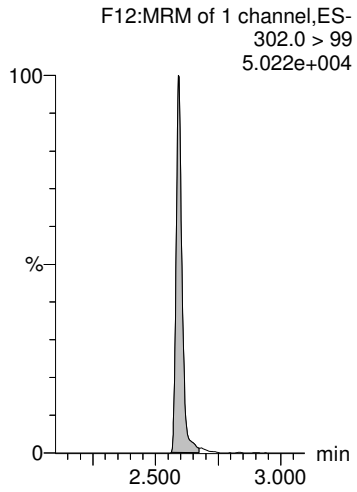


ADONA

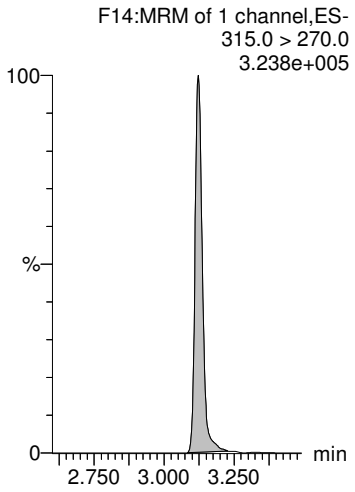




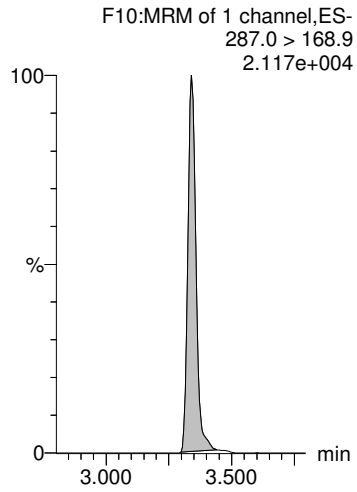
13C3-PFBS-EIS



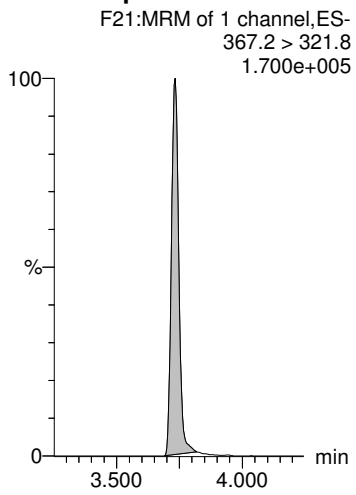
13C2-PFHxA-EIS



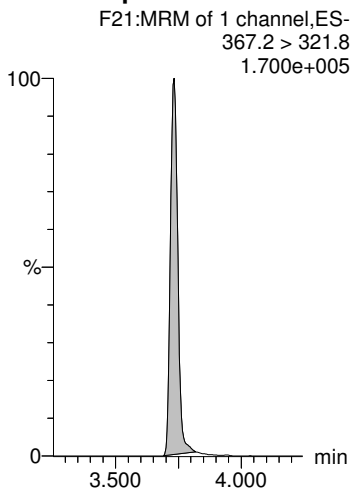
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

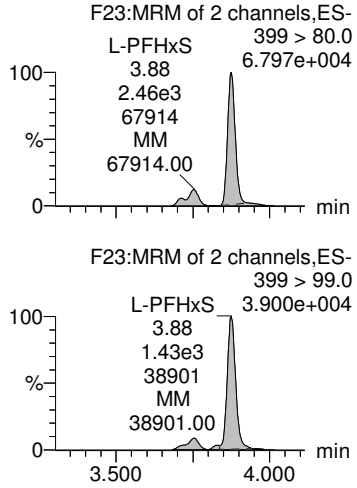


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

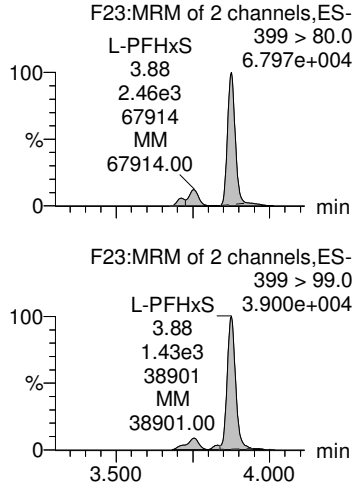
Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

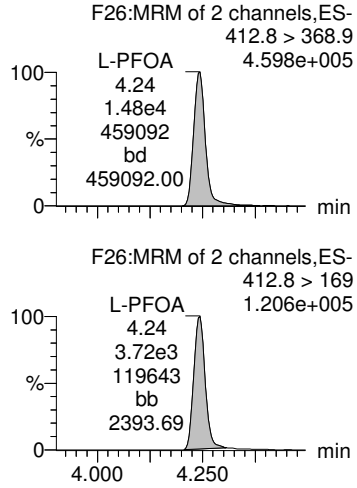
L-PFHxS



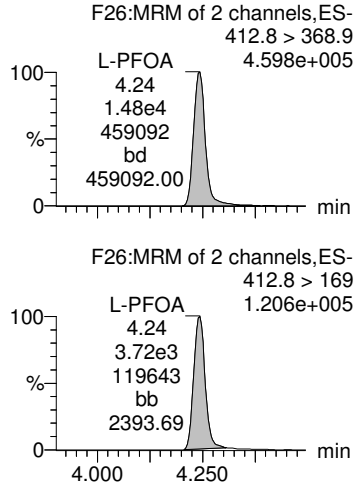
Total PFHxS



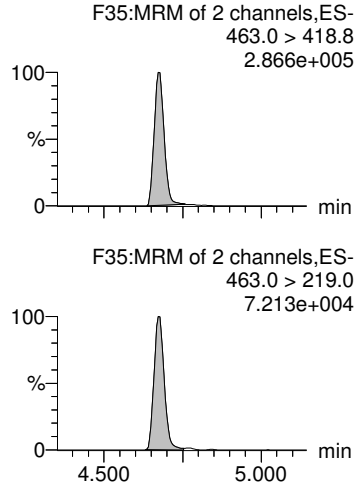
L-PFOA



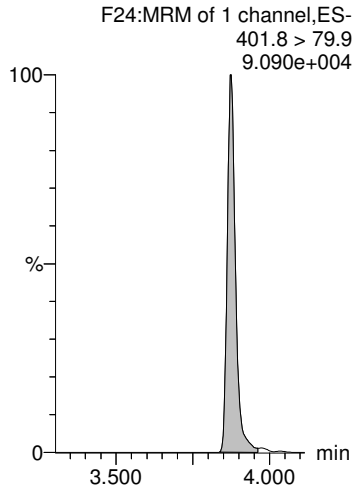
Total PFOA



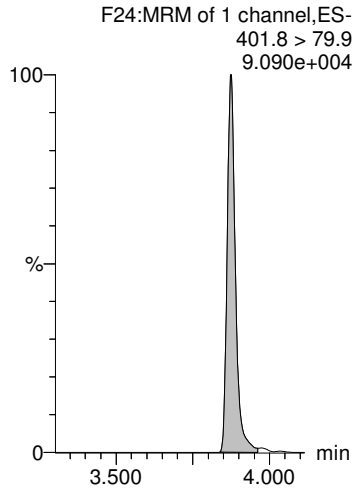
PFNA



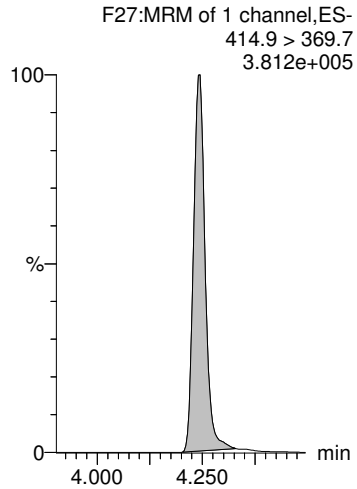
13C3-PFHxS-EIS



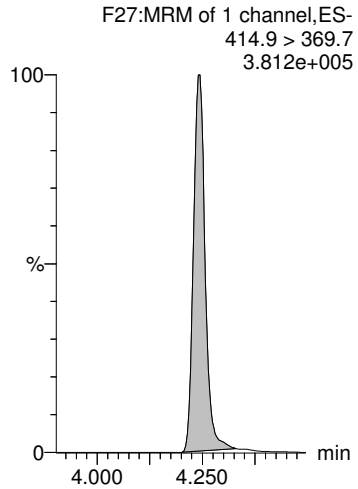
13C3-PFHxS-EIS



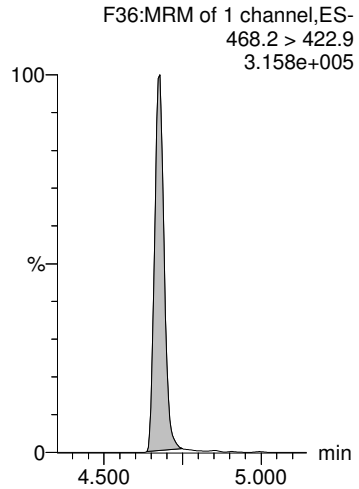
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS

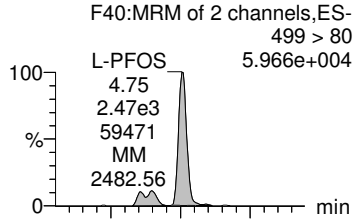


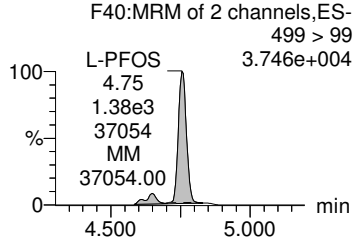
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

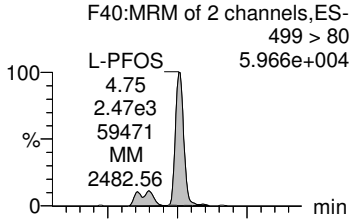
Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

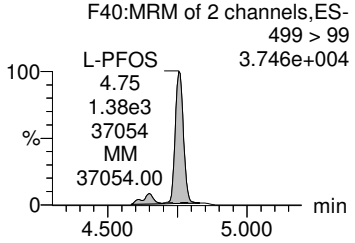
L-PFOS



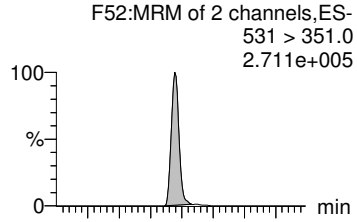


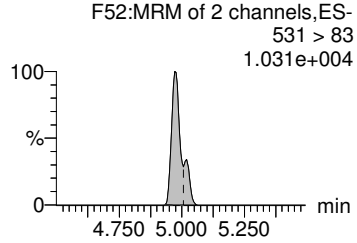
Total PFOS



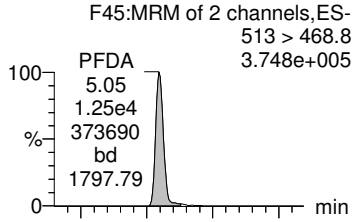


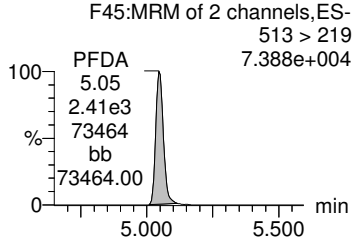
9Cl-PF30NS



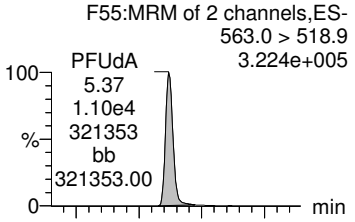


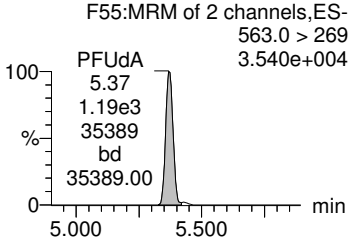
PFDA



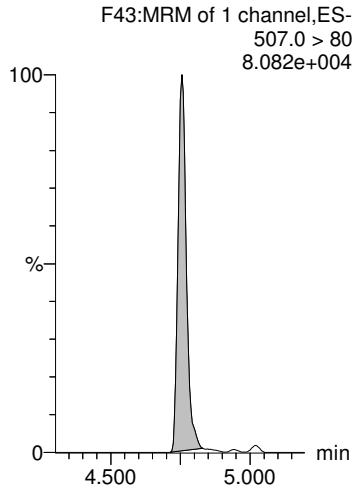


PFUdA

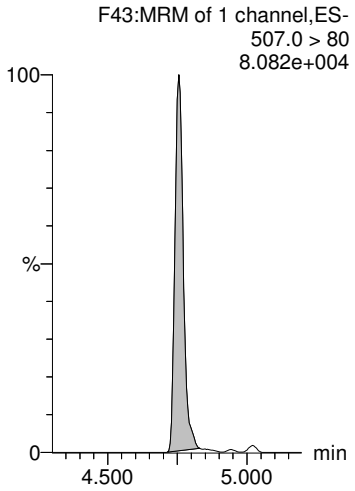




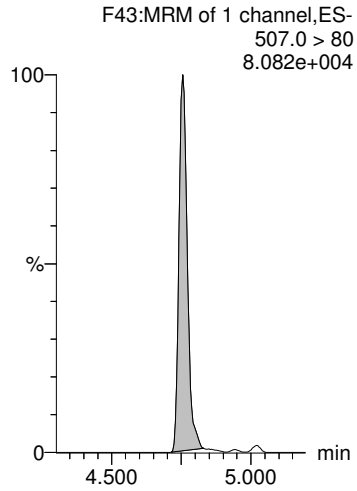
13C8-PFOS-EIS



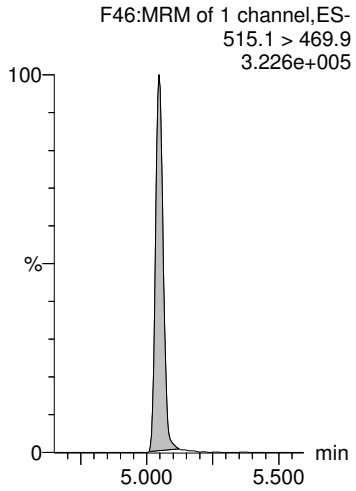
13C8-PFOS-EIS



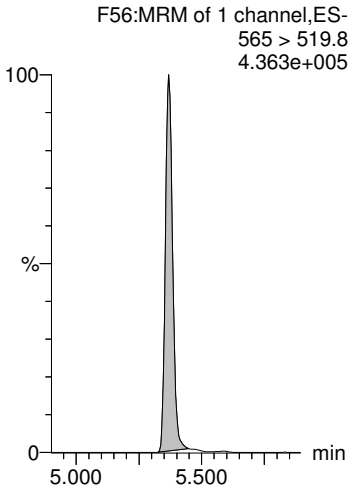
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS

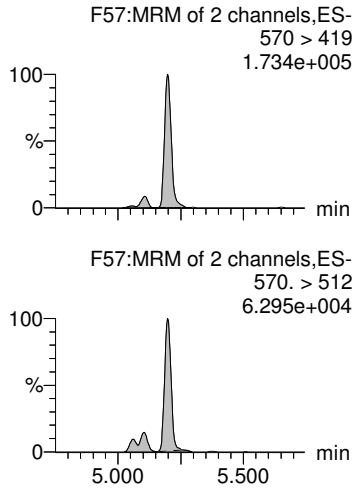


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

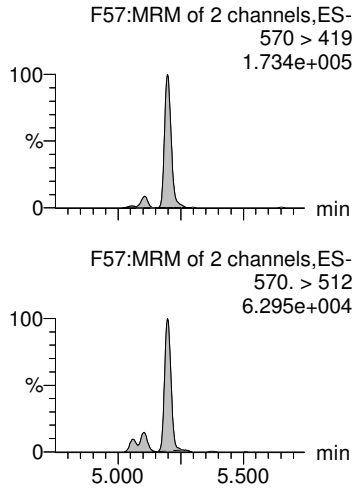
Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

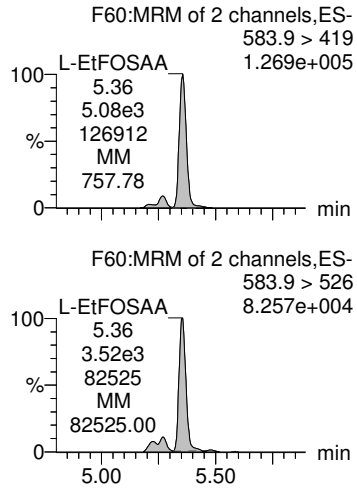
L-MeFOSAA



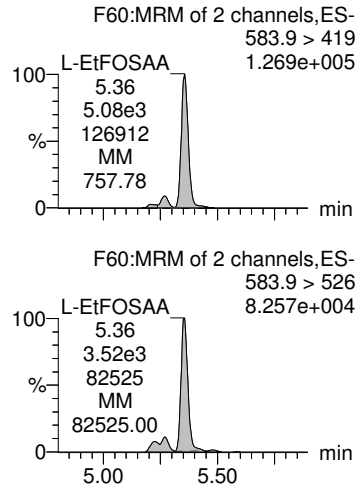
Total N-MeFOSAA



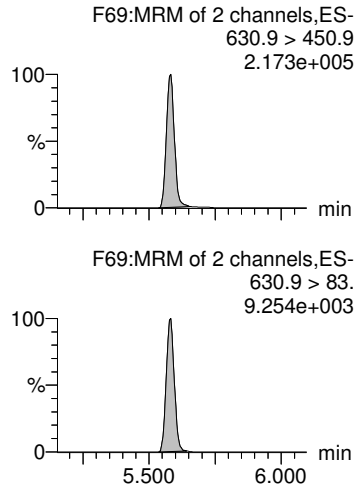
L-EtFOSAA



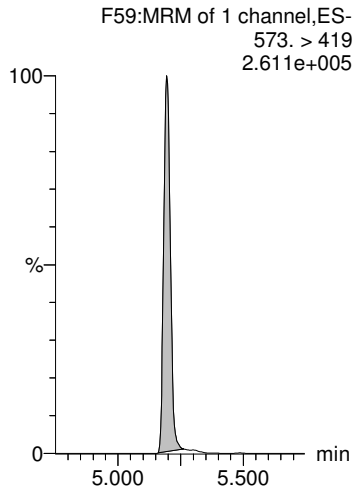
Total N-EtFOSAA



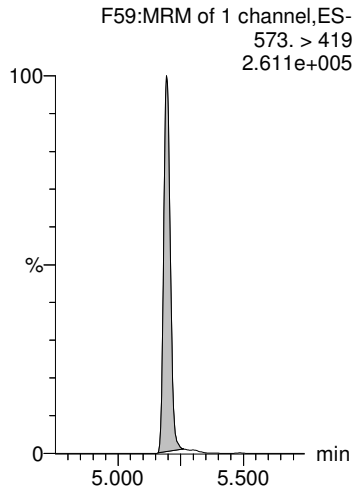
11Cl-PF30UdS



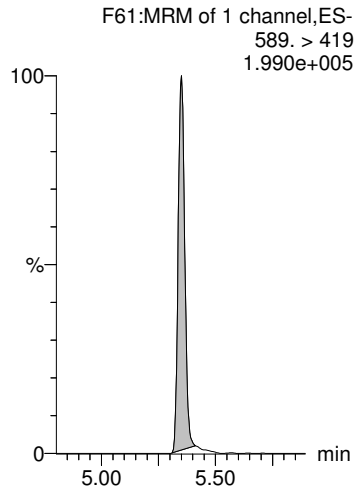
d3-N-MeFOSAA-EIS



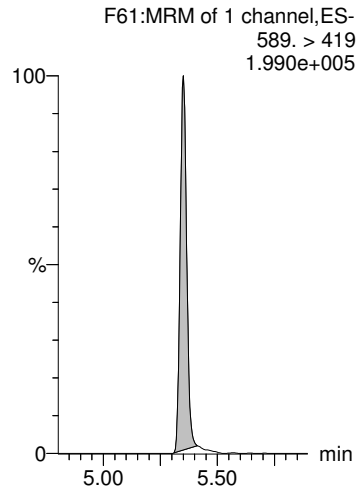
d3-N-MeFOSAA-EIS



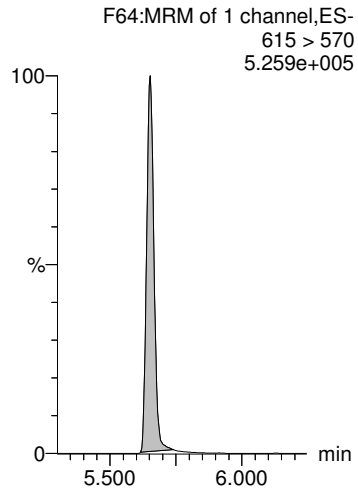
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS

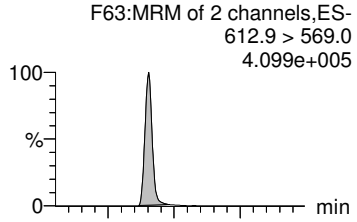


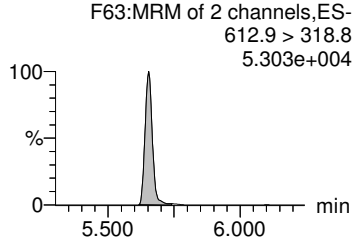
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:10:38 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:11:22 Pacific Daylight Time

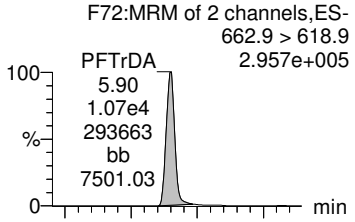
Name: 200710M1_115, Date: 11-Jul-2020, Time: 04:07:38, ID: B0G0039-BS1 OPR 0.25, Description: OPR

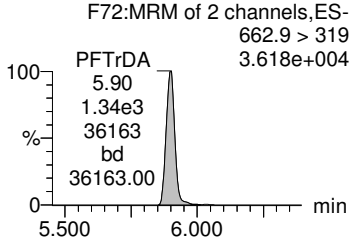
PFDoA



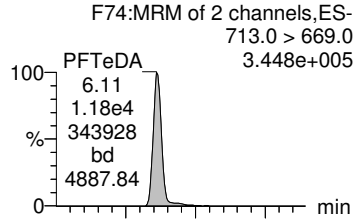


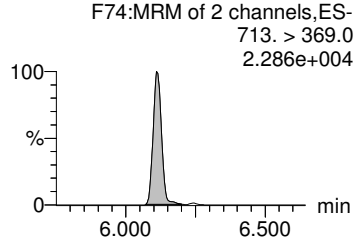
PFTrDA



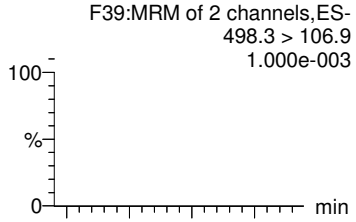


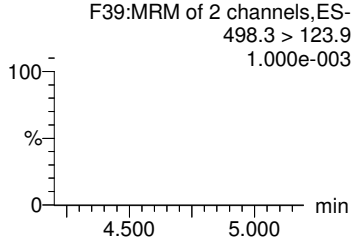
PFTeDA



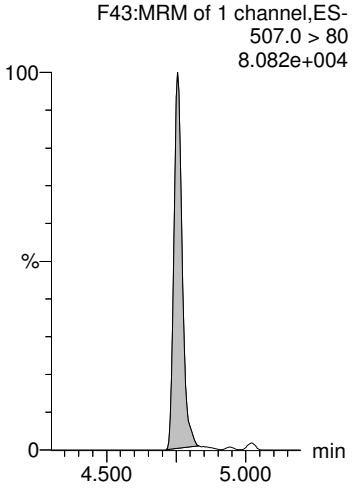


TDCA

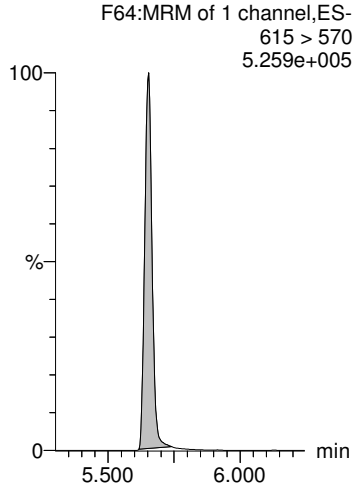




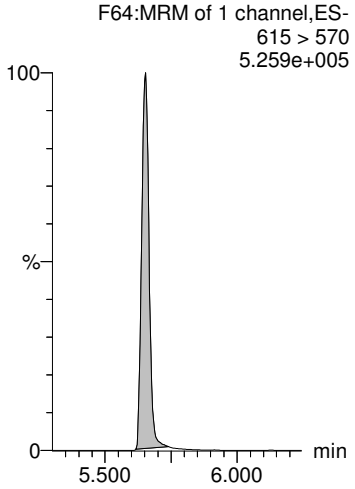
13C8-PFOS-EIS



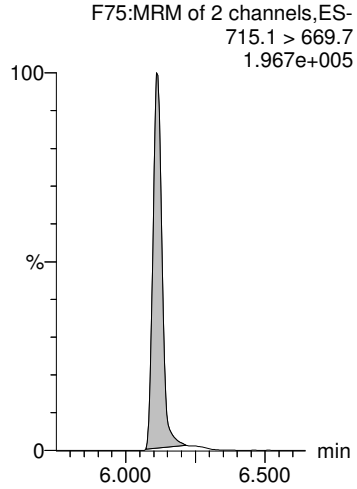
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, 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	2.198e3	1.369e3	0.250		2.59	2.59	20.1	39.605	99.0	2.476	NO
2	7	PFHxA	313.0 > 269.0	9.358e3	1.036e4	0.250		3.12	3.12	11.3	39.434	98.6	15.434	NO
3	9	HFPO-DA	285.1 > 168.9	5.490e2	8.121e2	0.250		3.34	3.34	8.45	36.000	90.0	2.180	NO
4	11	PFHpA	363.0 > 318.9	5.742e3	5.620e3	0.250		3.73	3.73	12.8	40.466	101.2	9.476	NO
5	12	ADONA	376.8 > 250.9	2.284e4	5.620e3	0.250		3.83	3.84	50.8	40.889	102.2	3.671	NO
6	51	13C3-PFBS-EIS	302.0 > 99	1.369e3		0.250	129.326	2.57	2.59	1370	42.333	84.7		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.036e4		0.250	1011.534	3.10	3.12	10400	40.956	81.9		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	8.121e2		0.250	77.431	3.32	3.34	812	41.952	83.9		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.620e3		0.250	565.792	3.72	3.73	5620	39.734	79.5		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.620e3		0.250	565.792	3.72	3.73	5620	39.734	79.5		
11	-1													
12	13	L-PFHxS	399 > 80.0	2.543e3	3.186e3	0.250		3.88	3.88	9.97	36.002	90.0	1.708	NO
13	1...	Total PFHxS	399 > 80	2.543e3	3.186e3	0.250		3.83		9.97	36.002			
14	16	L-PFOA	412.8 > 368.9	1.482e4	1.261e4	0.250		4.24	4.24	14.7	41.143	102.9	3.864	NO
15	1...	Total PFOA	412.8 > 368.9	1.482e4	1.261e4	0.250		4.20		14.7	41.143			
16	21	PFNA	463.0 > 418.8	1.216e4	1.185e4	0.250		4.67	4.68	12.8	39.316	98.3	4.028	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	3.186e3		0.250	288.156	3.86	3.88	3190	44.229	88.5		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	3.186e3		0.250	288.156	3.86	3.88	3190	44.229	88.5		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.261e4		0.250	1239.770	4.23	4.24	12600	40.688	81.4		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.261e4		0.250	1239.770	4.23	4.24	12600	40.688	81.4		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.185e4		0.250	979.239	4.66	4.67	11900	48.413	96.8		
22	-1													
23	23	L-PFOS	499 > 80	2.543e3	2.871e3	0.250		4.75	4.76	11.1	39.760	99.4	2.179	NO
24	1...	Total PFOS	499 > 80	2.543e3	2.871e3	0.250		4.73		11.1	39.760			
25	25	9Cl-PF30NS	531 > 351.0	9.255e3	2.871e3	0.250		4.96	4.97	40.3	40.291	100.7	20.842	NO
26	26	PFDA	513 > 468.8	1.389e4	1.123e4	0.250		5.05	5.05	15.5	44.195	110.5	5.511	NO
27	33	PFUdA	563.0 > 518.9	1.159e4	1.549e4	0.250		5.37	5.37	9.35	40.394	101.0	8.650	NO
28	73	13C8-PFOS-EIS	507.0 > 80	2.871e3		0.250	320.319	4.75	4.75	2870	35.855	71.7		
29	73	13C8-PFOS-EIS	507.0 > 80	2.871e3		0.250	320.319	4.75	4.75	2870	35.855	71.7		
30	73	13C8-PFOS-EIS	507.0 > 80	2.871e3		0.250	320.319	4.75	4.75	2870	35.855	71.7		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.123e4		0.250	1072.606	5.03	5.05	11200	41.884	83.8		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.549e4		0.250	1779.457	5.36	5.37	15500	34.830	69.7		
33	-1													
34	29	L-MeFOSAA	570 > 419	5.938e3	7.526e3	0.250		5.20	5.20	9.86	42.447	106.1	2.734	NO
35	1...	Total N-MeFOSAA	570. > 419	5.938e3	7.526e3	0.250		5.17		9.86	42.447			
36	31	L-EtFOSAA	583.9 > 419	5.069e3	7.109e3	0.250		5.35	5.36	8.91	37.356	93.4	1.327	NO

Vista Analytical Laboratory L18

OC 7/14/2020

Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	5.069e3	7.109e3	0.250		5.33		8.91	37.356			
38	35	11Cl-PF30UdS	630.9 > 450.9	7.151e3	1.478e4	0.250		5.58	5.58	6.05	42.178	105.4	23.393	NO
39	79	d3-N-MeFOSAA-EIS	573. > 419	7.526e3		0.250	923.888	5.18	5.20	7530	32.582	65.2		
40	79	d3-N-MeFOSAA-EIS	573. > 419	7.526e3		0.250	923.888	5.18	5.20	7530	32.582	65.2		
41	83	d5-N-EtFOSAA-EIS	589. > 419	7.109e3		0.250	867.283	5.34	5.35	7110	32.787	65.6		
42	83	d5-N-EtFOSAA-EIS	589. > 419	7.109e3		0.250	867.283	5.34	5.35	7110	32.787	65.6		
43	85	13C2-PFDoA-EIS	615 > 570	1.478e4		0.250	1924.259	5.64	5.65	14800	30.732	61.5		
44	-1													
45	37	PFDoA	612.9 > 569.0	1.141e4	1.478e4	0.250		5.65	5.65	9.64	41.479	103.7	7.925	NO
46	39	PFTrDA	662.9 > 618.9	9.622e3	1.478e4	0.250		5.91	5.90	8.14	36.997	92.5	9.289	NO
47	41	PFTeDA	713.0 > 669.0	7.575e3	6.698e3	0.250		6.11	6.11	14.1	35.569	88.9	12.123	NO
48	1...	TDCA	498.3>106.9			0.250		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	2.871e3		0.250	320.319	4.75	4.75	2870	35.855	71.7		
50	85	13C2-PFDoA-EIS	615 > 570	1.478e4		0.250	1924.259	5.64	5.65	14800	30.732	61.5		
51	85	13C2-PFDoA-EIS	615 > 570	1.478e4		0.250	1924.259	5.64	5.65	14800	30.732	61.5		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	6.698e3		0.250	1314.260	6.11	6.11	6700	20.384	40.8		

VY 7/14/2020

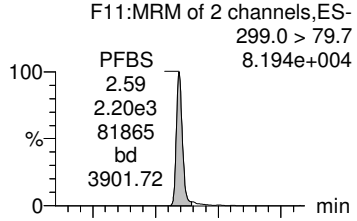
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

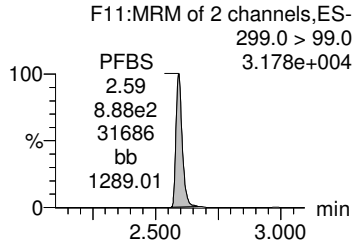
Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

Method: M:\Projects\PFAS.pro\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: M:\Projects\PFAS.pro\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

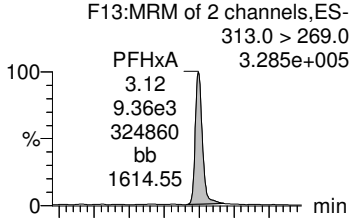
Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

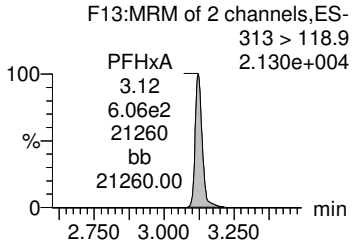
PFBS



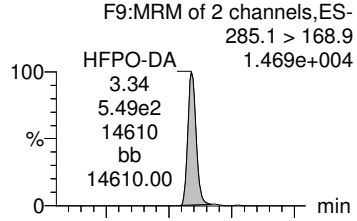


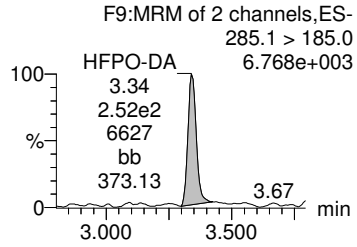
PFHxA



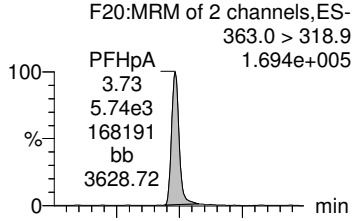


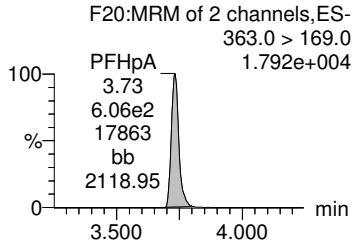
HFPO-DA



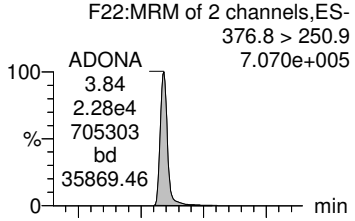


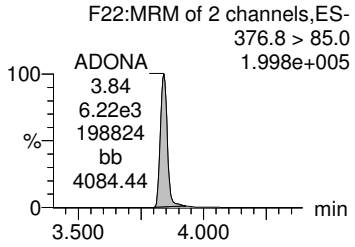
PFHpA



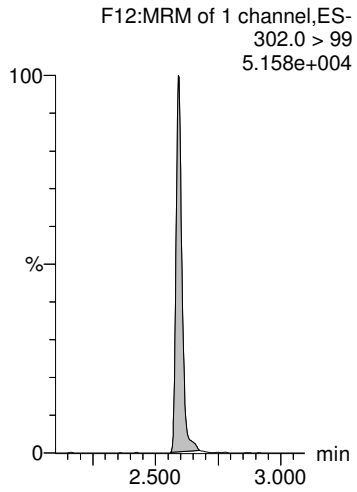


ADONA

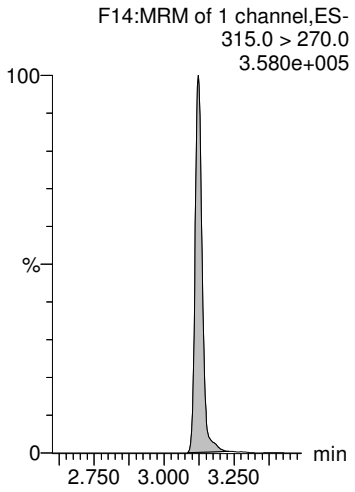




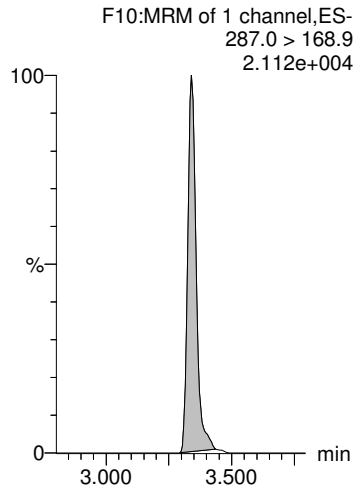
13C3-PFBS-EIS



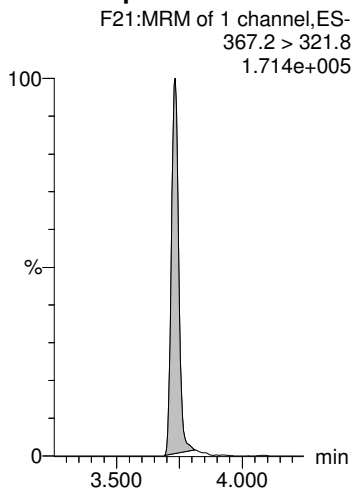
13C2-PFHxA-EIS



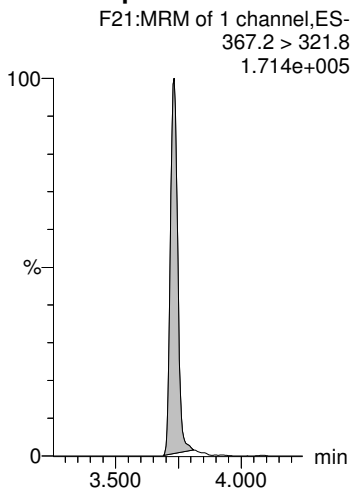
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

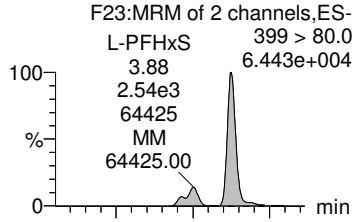


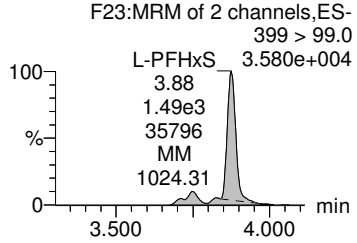
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

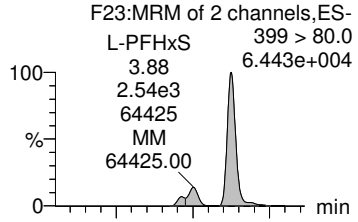
Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

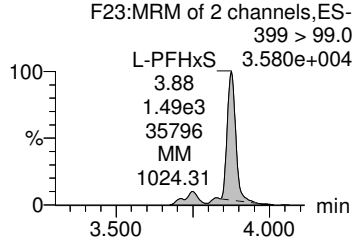
L-PFHxS



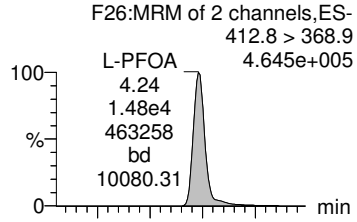


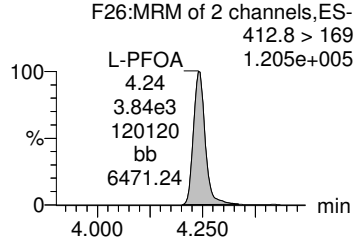
Total PFHxS



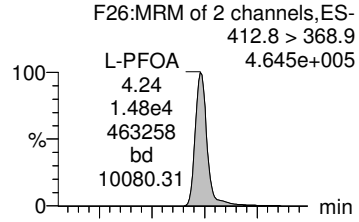


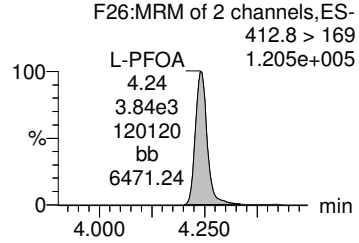
L-PFOA



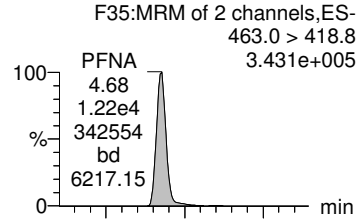


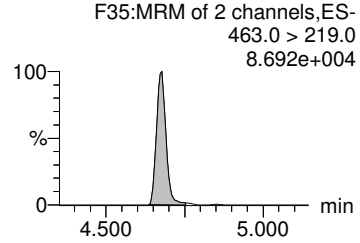
Total PFOA



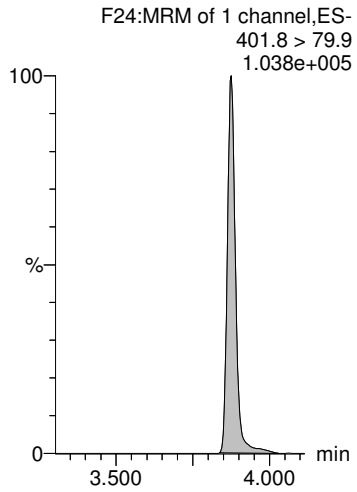


PFNA

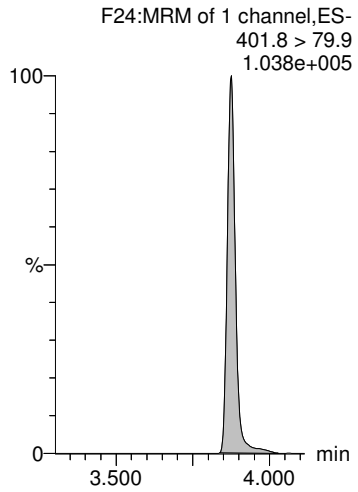




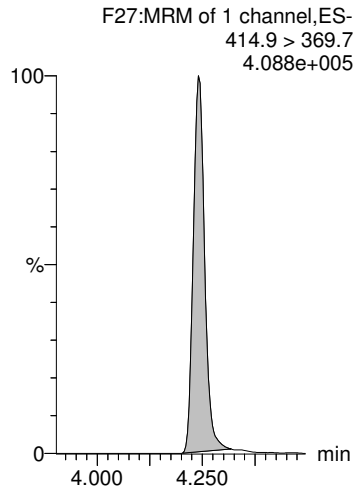
13C3-PFHxS-EIS



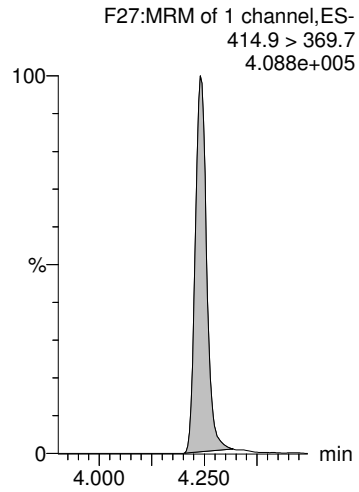
13C3-PFHxS-EIS



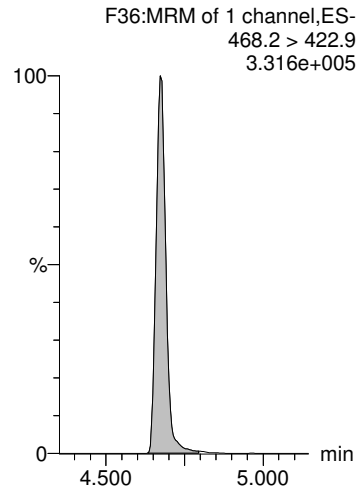
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS

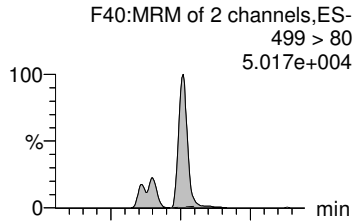


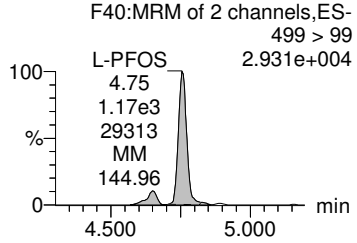
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

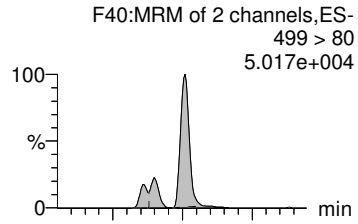
Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

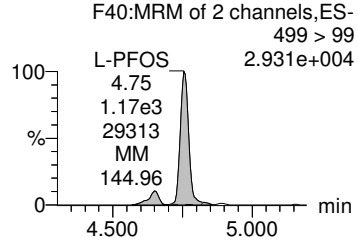
L-PFOS



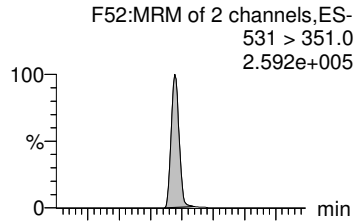


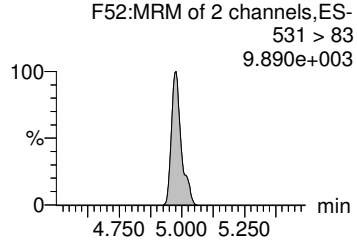
Total PFOS



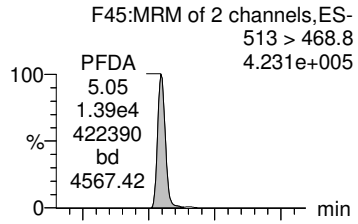


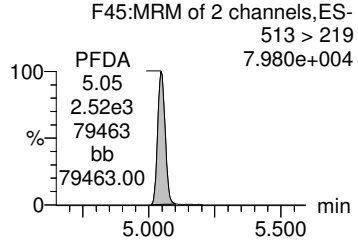
9Cl-PF30NS



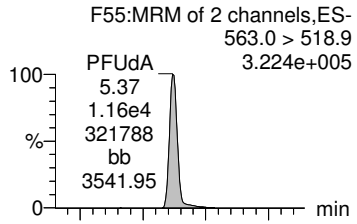


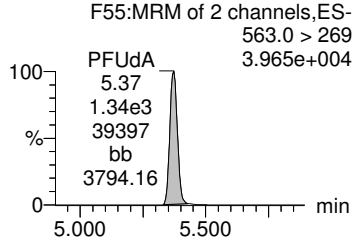
PFDA



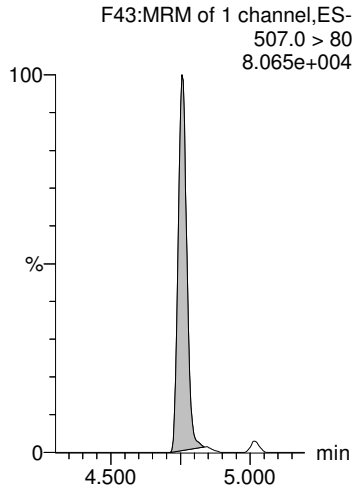


PFUdA

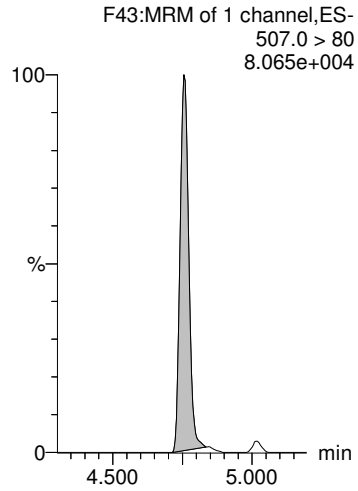




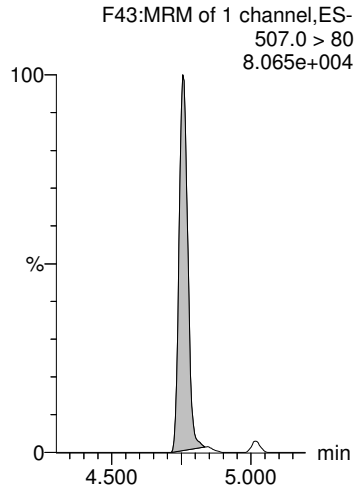
13C8-PFOS-EIS



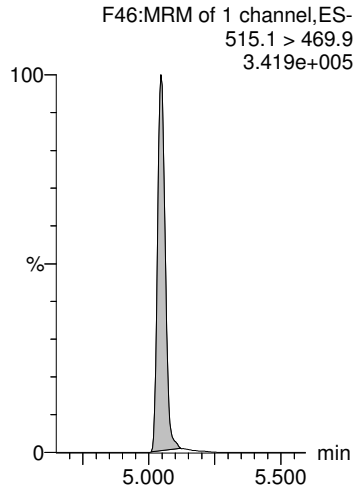
13C8-PFOS-EIS



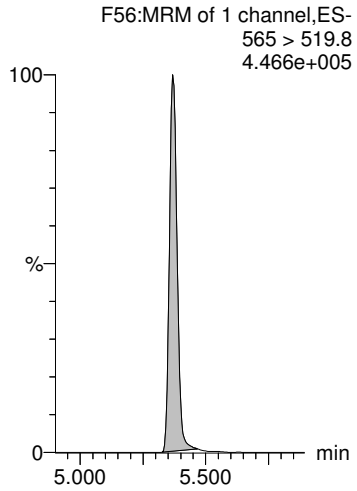
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS

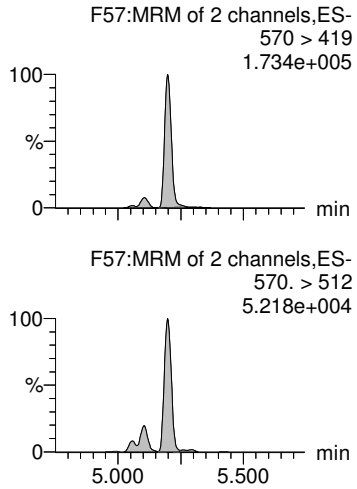


Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

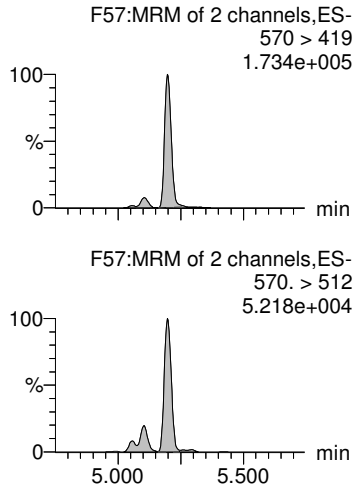
Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

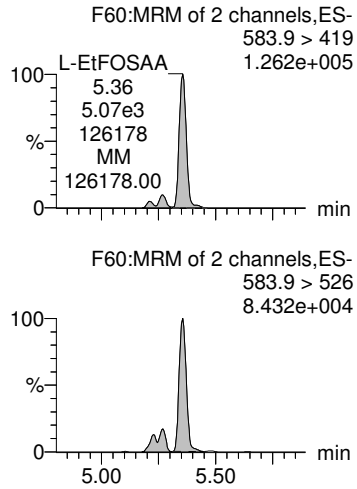
L-MeFOSAA



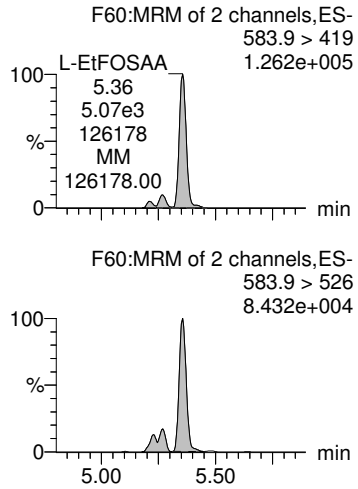
Total N-MeFOSAA



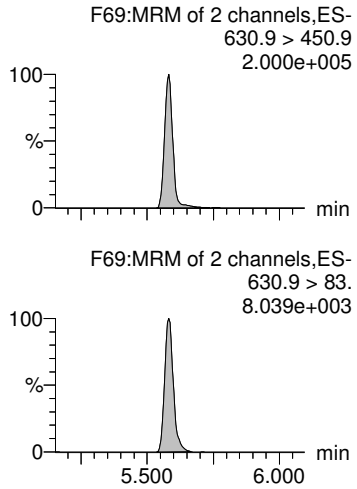
L-EtFOSAA



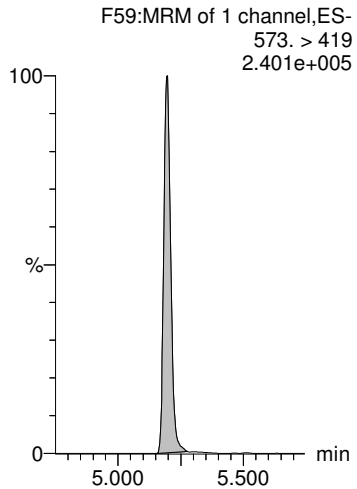
Total N-EtFOSAA



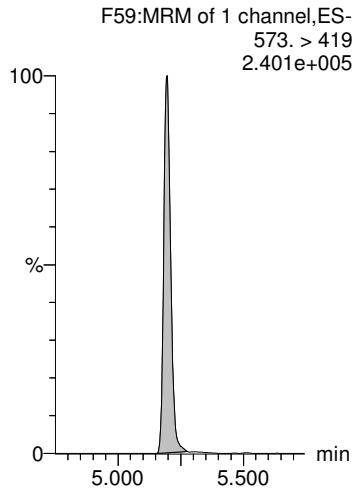
11Cl-PF30UdS



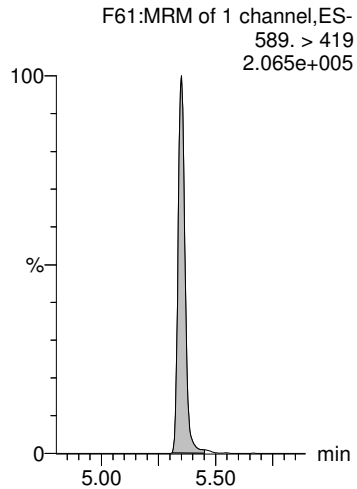
d3-N-MeFOSAA-EIS



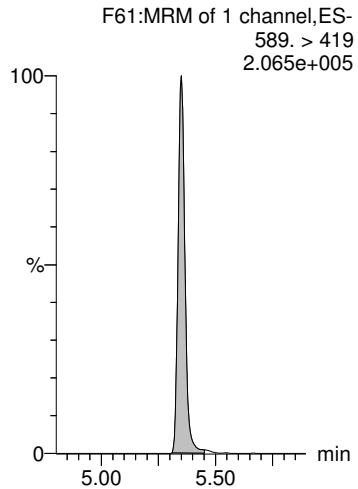
d3-N-MeFOSAA-EIS



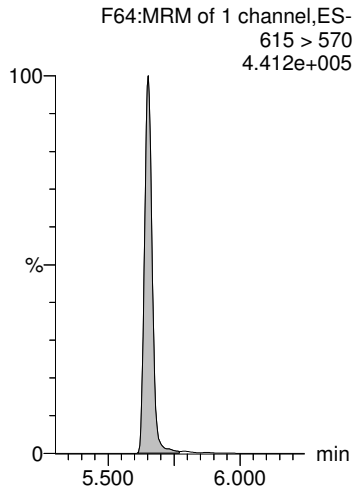
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS

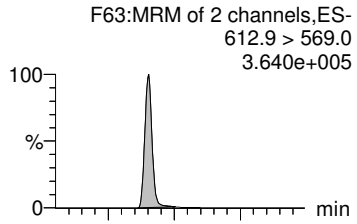


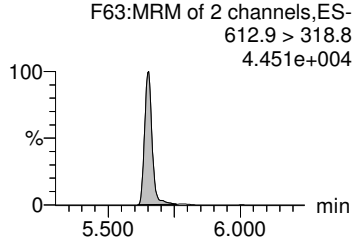
Dataset: M:\Projects\PFAS.PRO\Results\200710M1\200710M1-114-118.qld

Last Altered: Tuesday, July 14, 2020 11:00:13 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:00:50 Pacific Daylight Time

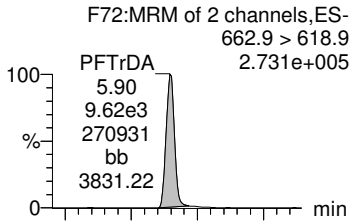
Name: 200710M1_116, Date: 11-Jul-2020, Time: 04:18:01, ID: B0G0039-BSD1 LCSD 0.25, Description: LCSD

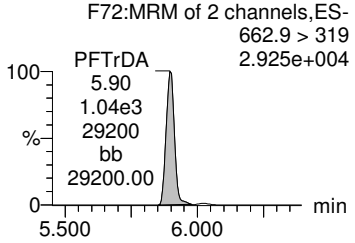
PFDoA



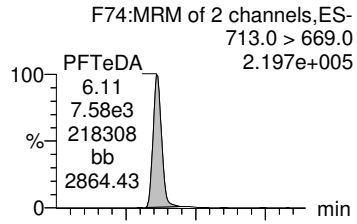


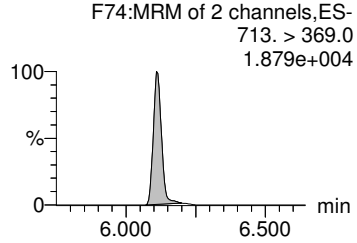
PFTrDA



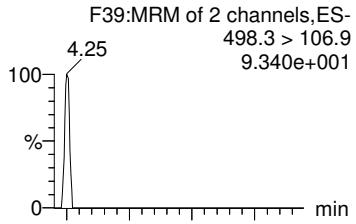


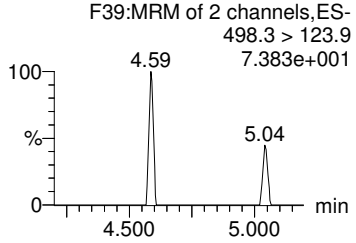
PFTeDA



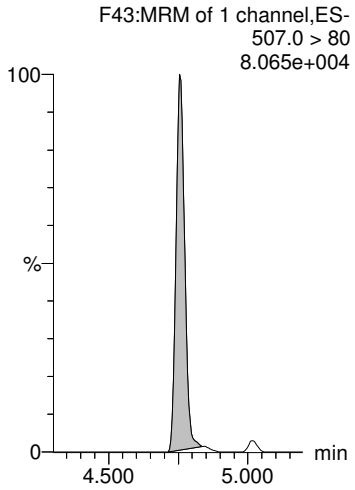


TDCA

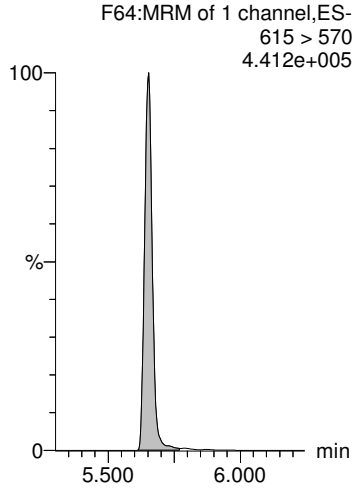




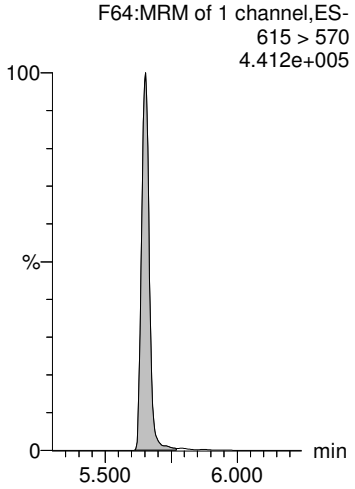
13C8-PFOS-EIS



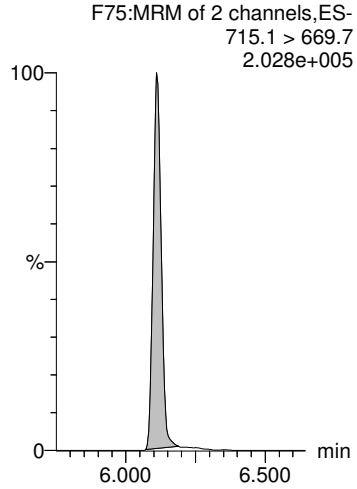
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

	#	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		1.153e3	0.246		2.50						YES
2	7	PFHxA	313.0 > 269.0		9.760e3	0.246		3.03						YES
3	9	HFPO-DA	285.1 > 168.9		7.622e2	0.246		3.26						YES
4	11	PFHpA	363.0 > 318.9		5.850e3	0.246		3.65						YES
5	12	ADONA	376.8 > 250.9		5.850e3	0.246		3.75						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.153e3		0.246	119.067	2.50	2.50	1150	39.337	77.5		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.760e3		0.246	958.919	3.04	3.03	9760	41.335	81.4		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	7.622e2		0.246	73.684	3.26	3.26	762	42.010	82.8		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.850e3		0.246	554.689	3.66	3.65	5850	42.836	84.4		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.850e3		0.246	554.689	3.66	3.65	5850	42.836	84.4		
11	-1													
12	13	L-PFHxS	399 > 80.0		2.904e3	0.246		3.80						YES
13	1...	Total PFHxS	399 > 80	0.000e0	2.904e3	0.246		3.83		0.000				
14	16	L-PFOA	412.8 > 368.9		1.177e4	0.246		4.17						YES
15	1...	Total PFOA	412.8 > 368.9	0.000e0	1.177e4	0.246		4.20		0.000				
16	21	PFNA	463.0 > 418.8		1.090e4	0.246		4.61						YES
17	61	13C3-PFHxS-EIS	401.8 > 79.9	2.904e3		0.246	300.009	3.81	3.80	2900	39.317	77.4		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	2.904e3		0.246	300.009	3.81	3.80	2900	39.317	77.4		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.177e4		0.246	1184.734	4.18	4.17	11800	40.337	79.5		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.177e4		0.246	1184.734	4.18	4.17	11800	40.337	79.5		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.090e4		0.246	1094.488	4.62	4.61	10900	40.451	79.7		
22	-1													
23	23	L-PFOS	499 > 80		2.921e3	0.246		4.69						YES
24	1...	Total PFOS	499 > 80	0.000e0	2.921e3	0.246		4.73		0.000				
25	25	9Cl-PF30NS	531 > 351.0		2.921e3	0.246		4.90						YES
26	26	PFDA	513 > 468.8		1.060e4	0.246		4.99						YES
27	33	PFUdA	563.0 > 518.9		1.283e4	0.246		5.31						YES
28	73	13C8-PFOS-EIS	507.0 > 80	2.921e3		0.246	301.219	4.70	4.69	2920	39.391	77.6		
29	73	13C8-PFOS-EIS	507.0 > 80	2.921e3		0.246	301.219	4.70	4.69	2920	39.391	77.6		
30	73	13C8-PFOS-EIS	507.0 > 80	2.921e3		0.246	301.219	4.70	4.69	2920	39.391	77.6		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.060e4		0.246	1074.336	4.99	4.99	10600	40.089	79.0		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.283e4		0.246	1679.829	5.32	5.31	12800	31.022	61.1		
33	-1													
34	29	L-MeFOSAA	570 > 419		8.068e3	0.246		5.14						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	8.068e3	0.246		5.17		0.000				
36	31	L-EtFOSAA	583.9 > 419		6.532e3	0.246		5.29						YES

AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	6.532e3	0.246		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.335e4	0.246		5.53						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	8.068e3		0.246	858.672	5.14	5.14	8070	38.162	75.2		
40	79	d3-N-MeFOSAA-EIS	573. > 419	8.068e3		0.246	858.672	5.14	5.14	8070	38.162	75.2		
41	83	d5-N-EtFOSAA-EIS	589. > 419	6.532e3		0.246	859.068	5.30	5.29	6530	30.880	60.8		
42	83	d5-N-EtFOSAA-EIS	589. > 419	6.532e3		0.246	859.068	5.30	5.29	6530	30.880	60.8		
43	85	13C2-PFDoA-EIS	615 > 570	1.335e4		0.246	1996.036	5.61	5.60	13400	27.172	53.5		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.335e4	0.246		5.60						YES
46	39	PFTrDA	662.9 > 618.9		1.335e4	0.246		5.85						YES
47	41	PFTeDA	713.0 > 669.0		2.836e3	0.246		6.07						YES
48	1...	TDCA	498.3>106.9			0.246	0.021	4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	2.921e3		0.246	301.219	4.70	4.69	2920	39.391	77.6		
50	85	13C2-PFDoA-EIS	615 > 570	1.335e4		0.246	1996.036	5.61	5.60	13400	27.172	53.5		
51	85	13C2-PFDoA-EIS	615 > 570	1.335e4		0.246	1996.036	5.61	5.60	13400	27.172	53.5		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	2.836e3		0.246	1142.279	6.08	6.07	2840	10.085	19.9		

AMR 7/18/2020

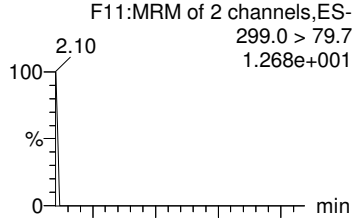
Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

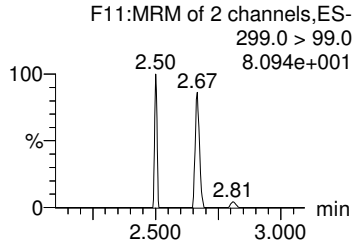
Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

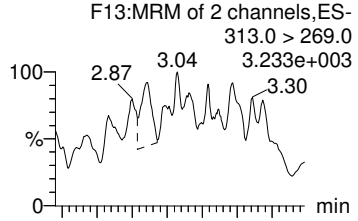
Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

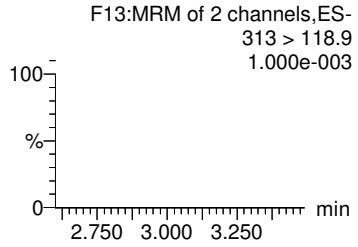
PFBS



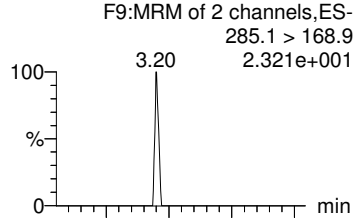


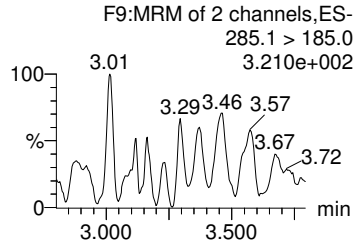
PFHxA



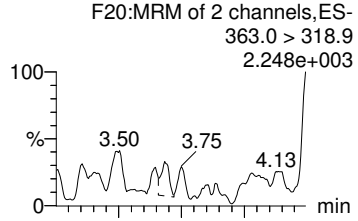


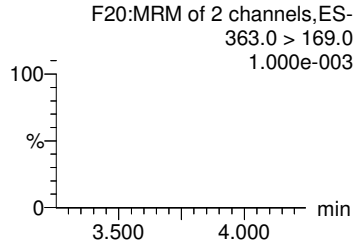
HFPO-DA



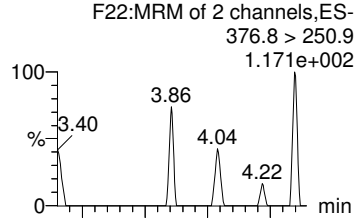


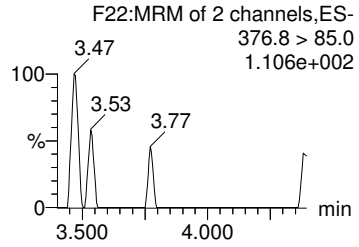
PFHpA



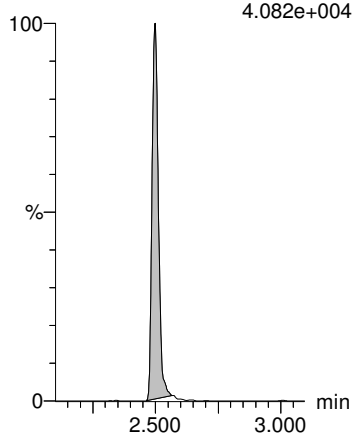


ADONA

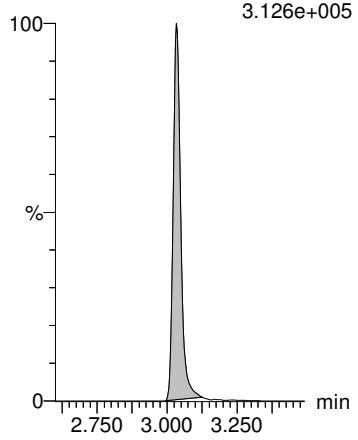




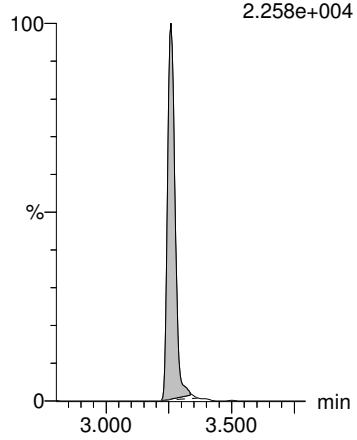
13C3-PFBS-EIS



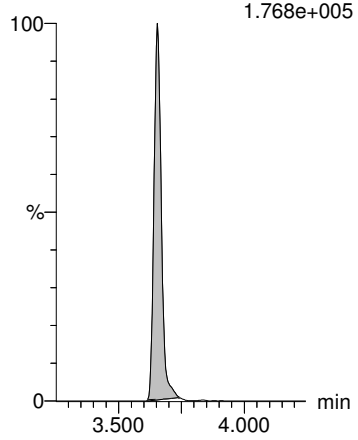
13C2-PFHxA-EIS



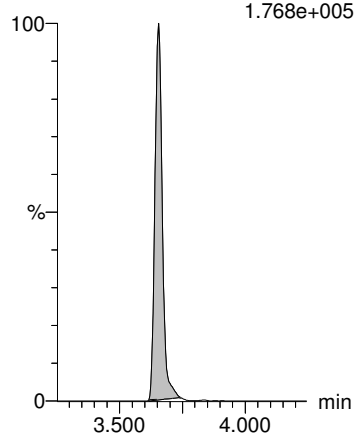
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



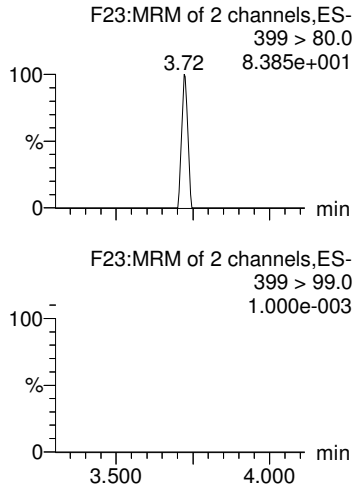
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

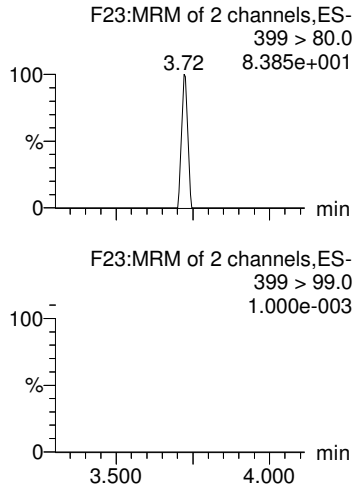
Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

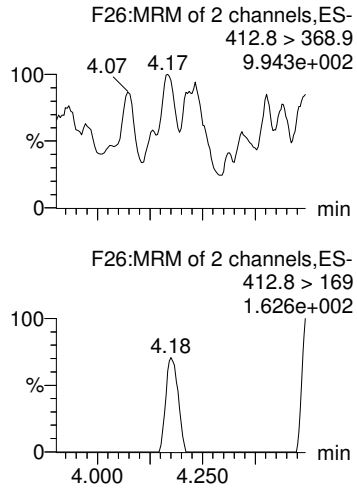
L-PFHxS



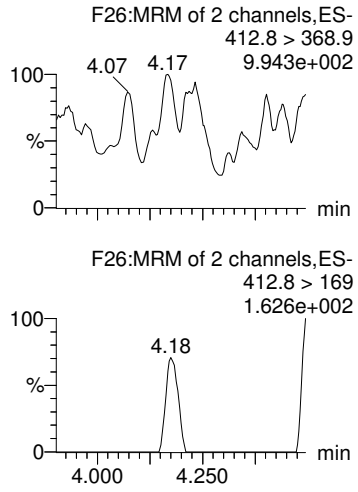
Total PFHxS



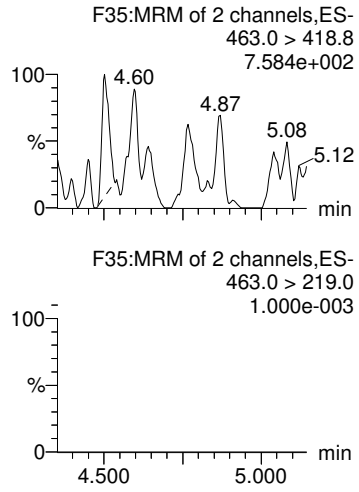
L-PFOA



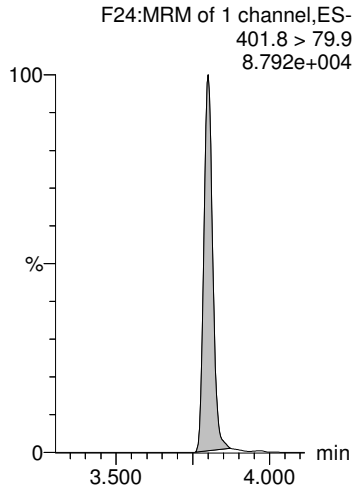
Total PFOA



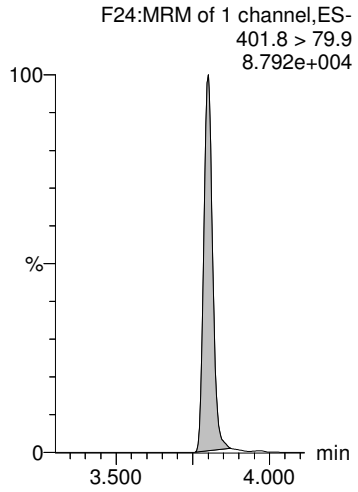
PFNA



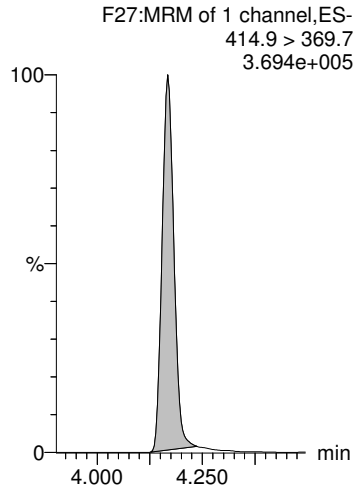
13C3-PFHxS-EIS



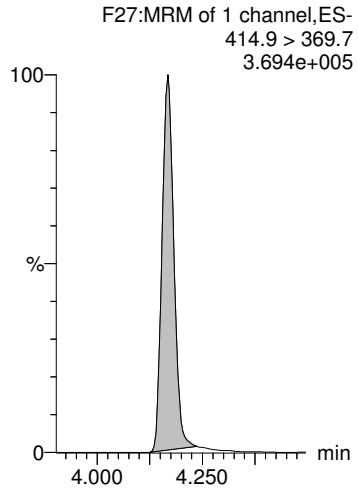
13C3-PFHxS-EIS



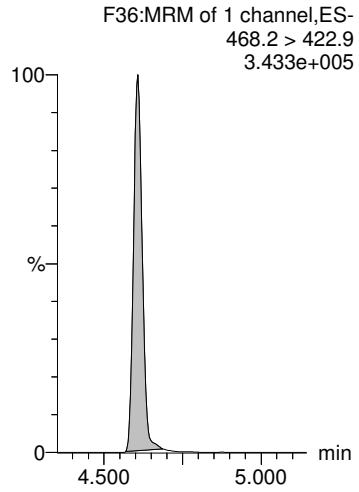
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



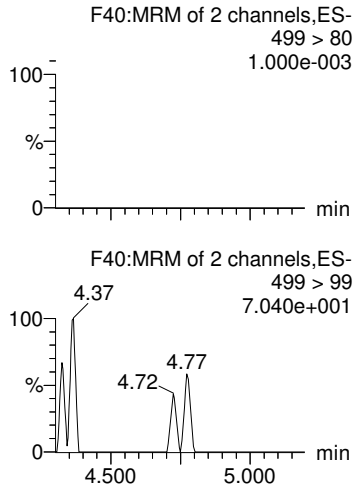
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

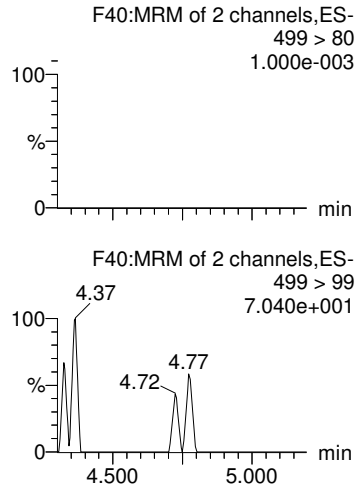
Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

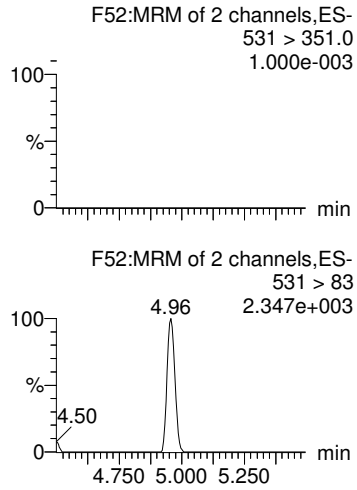
L-PFOS



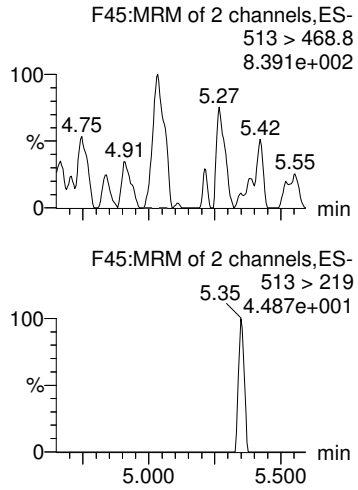
Total PFOS



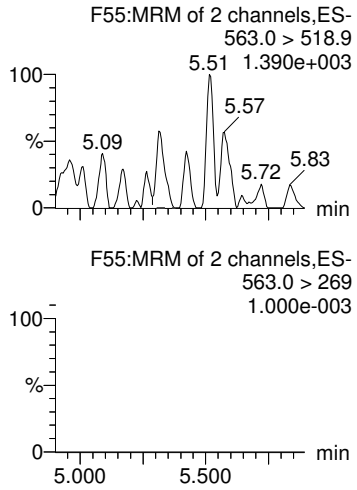
9Cl-PF30NS



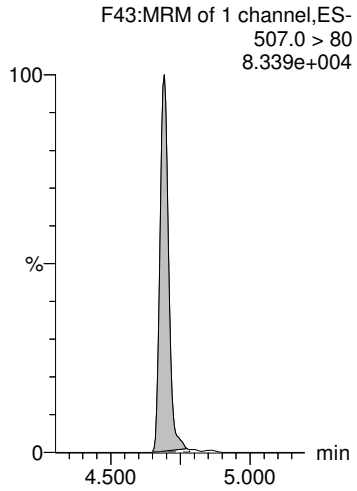
PFDA



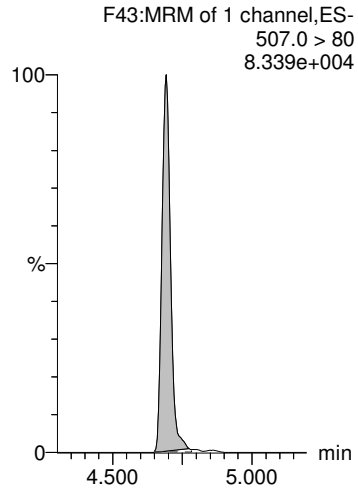
PFUdA



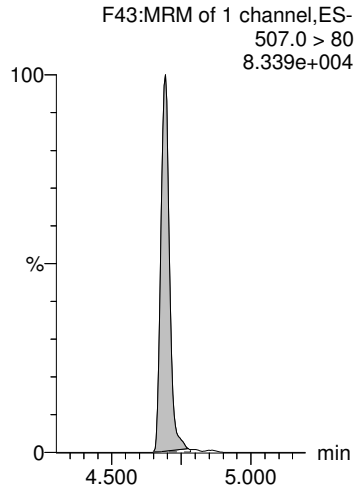
13C8-PFOS-EIS



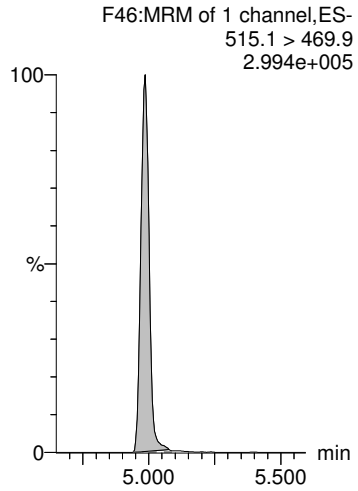
13C8-PFOS-EIS



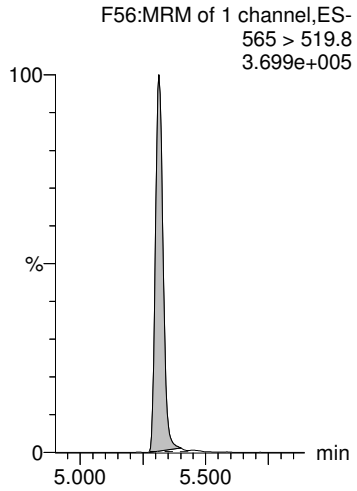
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



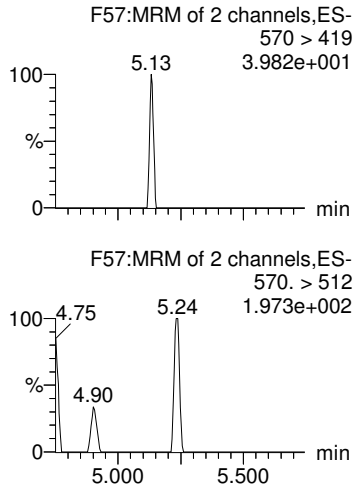
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

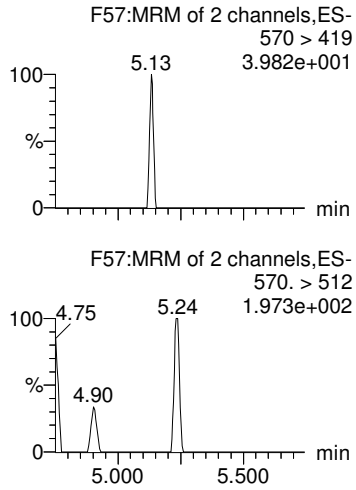
Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

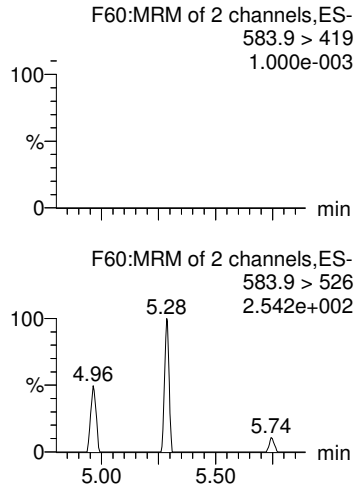
L-MeFOSAA



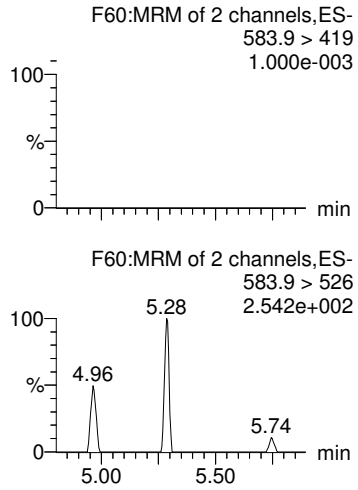
Total N-MeFOSAA



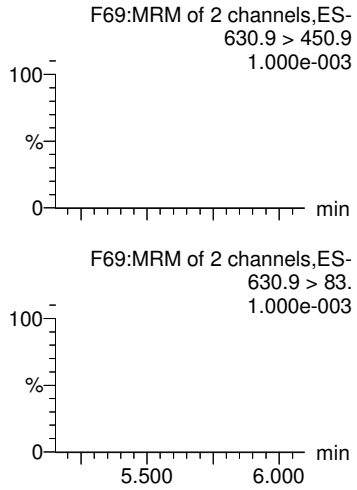
L-EtFOSAA



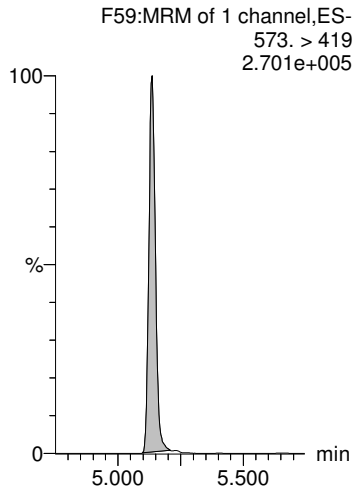
Total N-EtFOSAA



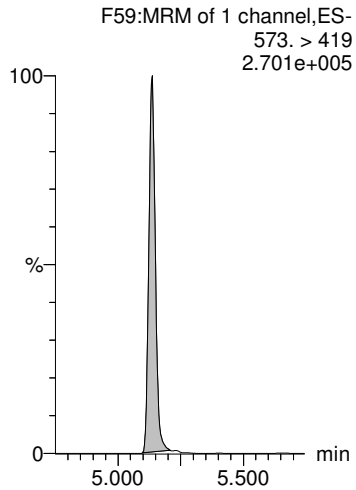
11Cl-PF30UdS



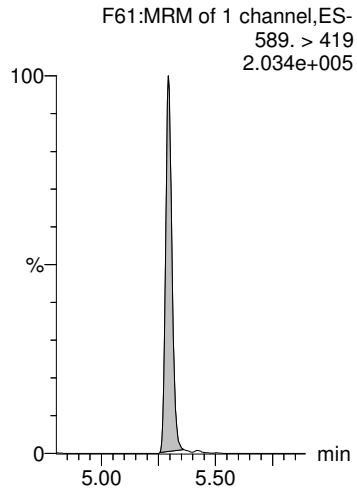
d3-N-MeFOSAA-EIS



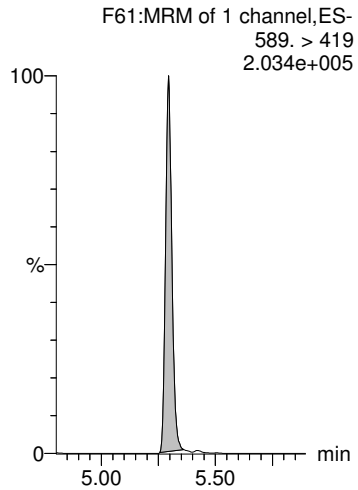
d3-N-MeFOSAA-EIS



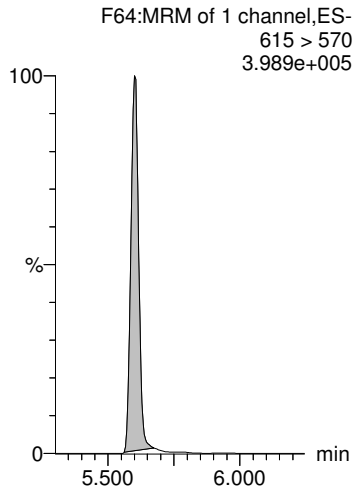
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



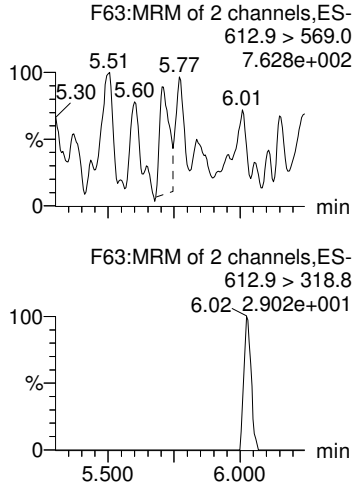
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200713M1\200713M1-28.qld

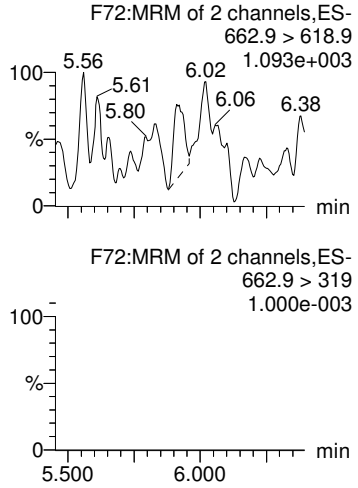
Last Altered: Saturday, July 18, 2020 12:28:58 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:29:46 Pacific Daylight Time

Name: 200713M1_28, Date: 13-Jul-2020, Time: 19:30:06, ID: 2001417-01 EB04-20200706 0.24622, Description: EB04-20200706

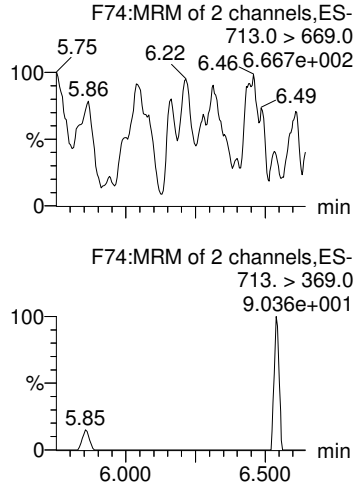
PFDoA



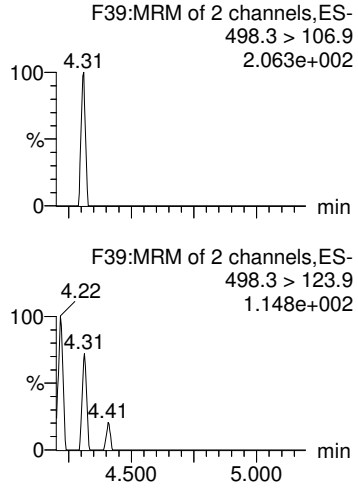
PFTrDA



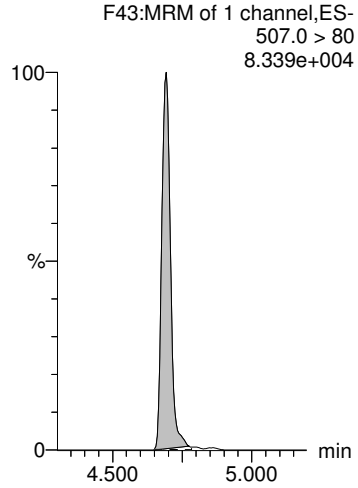
PFTeDA



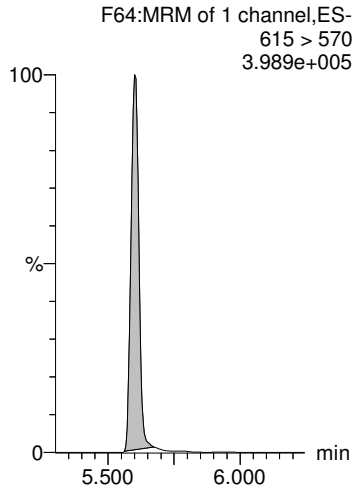
TDCA



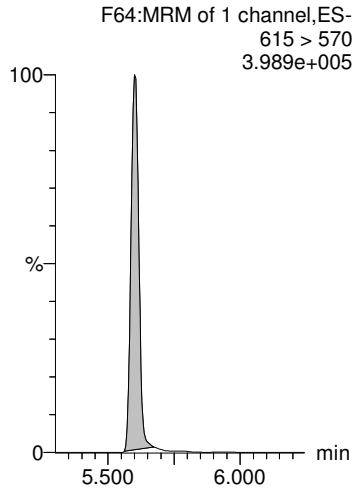
13C8-PFOS-EIS



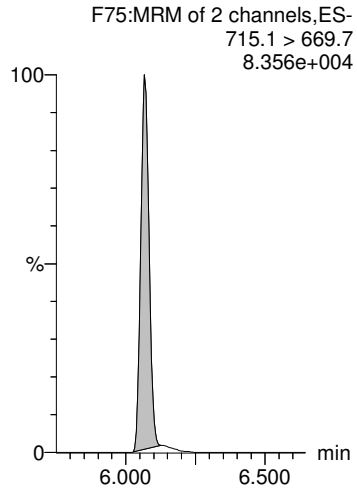
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

	#	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		1.344e3	0.262		2.59						YES
2	7	PFHxA	313.0 > 269.0	4.159e3	1.013e4	0.262		3.12	3.12	5.13	17.034		17.174	NO
3	9	HFPO-DA	285.1 > 168.9		8.323e2	0.262		3.34						YES
4	11	PFHpA	363.0 > 318.9	1.037e3	5.843e3	0.262		3.73	3.73	2.22	6.587		9.357	NO
5	12	ADONA	376.8 > 250.9		5.843e3	0.262		3.82						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.344e3		0.262	129.326	2.57	2.59	1340	39.679	83.2		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.013e4		0.262	1011.534	3.10	3.12	10100	38.241	80.1		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	8.323e2		0.262	77.431	3.32	3.34	832	41.034	86.0		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.843e3		0.262	565.792	3.72	3.73	5840	39.425	82.6		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.843e3		0.262	565.792	3.72	3.73	5840	39.425	82.6		
11	-1													
12	13	L-PFHxS	399 > 80.0	1.434e2	3.202e3	0.262		3.87	3.88	0.560	1.983		1.465	NO
13	1...	Total PFHxS	399 > 80	1.434e2	3.202e3	0.262		3.83		0.560	1.983			
14	16	L-PFOA	412.8 > 368.9	1.503e4	1.289e4	0.262		4.24	4.24	14.6	38.965		3.819	NO
15	1...	Total PFOA	412.8 > 368.9	1.503e4	1.289e4	0.262		4.20		14.6	38.965			
16	21	PFNA	463.0 > 418.8	1.223e3	1.061e4	0.262		4.67	4.67	1.44	4.241		3.998	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	3.202e3		0.262	288.156	3.86	3.87	3200	42.424	88.9		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	3.202e3		0.262	288.156	3.86	3.87	3200	42.424	88.9		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.289e4		0.262	1239.770	4.23	4.24	12900	39.675	83.1		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.289e4		0.262	1239.770	4.23	4.24	12900	39.675	83.1		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.061e4		0.262	979.239	4.66	4.67	10600	41.375	86.7		
22	-1													
23	23	L-PFOS	499 > 80	4.907e2	3.402e3	0.262		4.75	4.75	1.80	6.433		1.906	NO
24	1...	Total PFOS	499 > 80	4.907e2	3.402e3	0.262		4.73		1.80	6.433			
25	25	9Cl-PF30NS	531 > 351.0		3.402e3	0.262		4.96						YES
26	26	PFDA	513 > 468.8	8.973e3	1.159e4	0.262		5.04	5.04	9.68	26.339		5.594	NO
27	33	PFUdA	563.0 > 518.9	3.433e2	1.420e4	0.262		5.37	5.37	0.302	1.144		7.693	NO
28	73	13C8-PFOS-EIS	507.0 > 80	3.402e3		0.262	320.319	4.75	4.75	3400	40.539	85.0		
29	73	13C8-PFOS-EIS	507.0 > 80	3.402e3		0.262	320.319	4.75	4.75	3400	40.539	85.0		
30	73	13C8-PFOS-EIS	507.0 > 80	3.402e3		0.262	320.319	4.75	4.75	3400	40.539	85.0		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.159e4		0.262	1072.606	5.03	5.04	11600	41.235	86.4		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.420e4		0.262	1779.457	5.36	5.37	14200	30.471	63.9		
33	-1													
34	29	L-MeFOSAA	570 > 419	1.659e1	8.634e3	0.262		5.19	5.19	0.0240	0.251		1.753	NO
35	1...	Total N-MeFOSAA	570. > 419	1.659e1	8.634e3	0.262		5.17		0.0240	0.251			
36	31	L-EtFOSAA	583.9 > 419		7.513e3	0.262		5.35						YES

AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	7.513e3	0.262		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.369e4	0.262		5.58						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	8.634e3		0.262	923.888	5.18	5.19	8630	35.676	74.8		
40	79	d3-N-MeFOSAA-EIS	573. > 419	8.634e3		0.262	923.888	5.18	5.19	8630	35.676	74.8		
41	83	d5-N-EtFOSAA-EIS	589. > 419	7.513e3		0.262	867.283	5.34	5.35	7510	33.070	69.3		
42	83	d5-N-EtFOSAA-EIS	589. > 419	7.513e3		0.262	867.283	5.34	5.35	7510	33.070	69.3		
43	85	13C2-PFDoA-EIS	615 > 570	1.369e4		0.262	1924.259	5.64	5.65	13700	27.159	56.9		
44	-1													
45	37	PFDoA	612.9 > 569.0	8.957e2	1.369e4	0.262		5.65	5.65	0.818	2.857		7.716	NO
46	39	PFTrDA	662.9 > 618.9	6.800e1	1.369e4	0.262		5.90	5.90	0.0621	0.219		5.434	NO
47	41	PFTeDA	713.0 > 669.0	1.233e2	4.430e3	0.262		6.11	6.11	0.348	0.901		43.361	YES
48	1...	TDCA	498.3>106.9			0.262		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	3.402e3		0.262	320.319	4.75	4.75	3400	40.539	85.0		
50	85	13C2-PFDoA-EIS	615 > 570	1.369e4		0.262	1924.259	5.64	5.65	13700	27.159	56.9		
51	85	13C2-PFDoA-EIS	615 > 570	1.369e4		0.262	1924.259	5.64	5.65	13700	27.159	56.9		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	4.430e3		0.262	1314.260	6.11	6.11	4430	12.868	27.0		

AMR 7/18/2020

Vista Analytical Laboratory L18

OC 7/20/2020

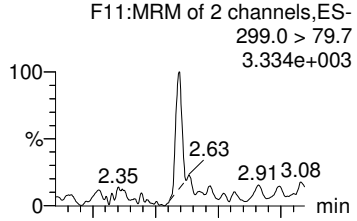
Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

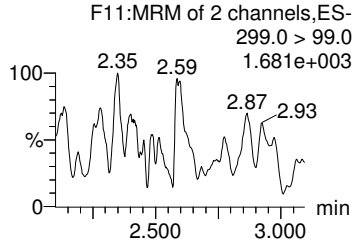
Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

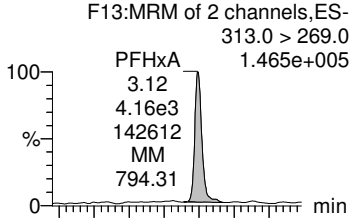
Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

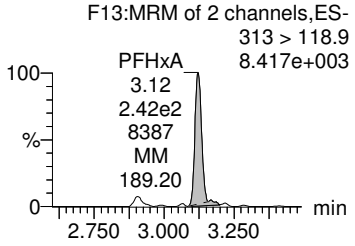
PFBS



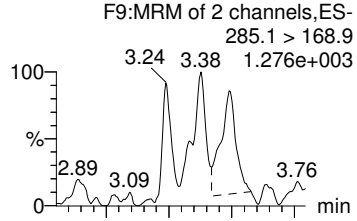


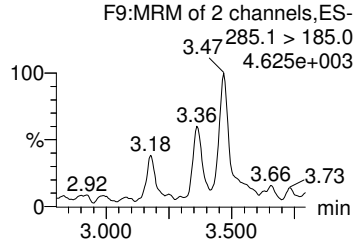
PFHxA



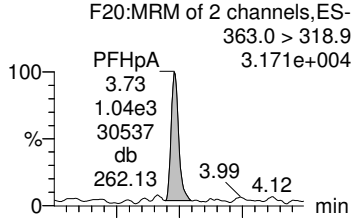


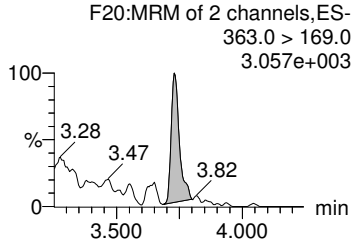
HFPO-DA



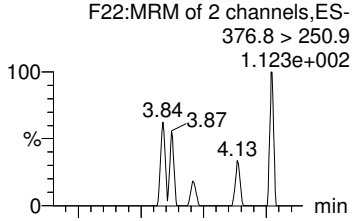


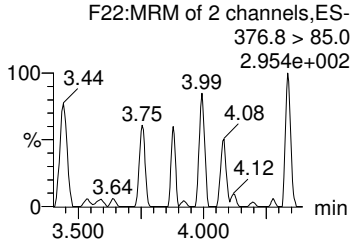
PFHpA



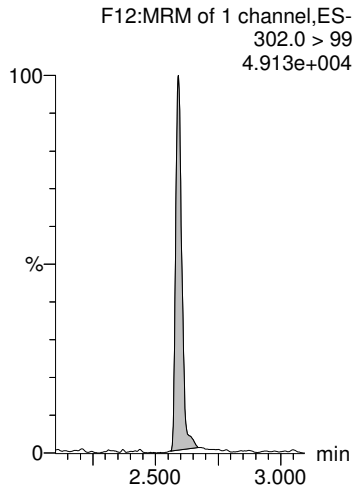


ADONA

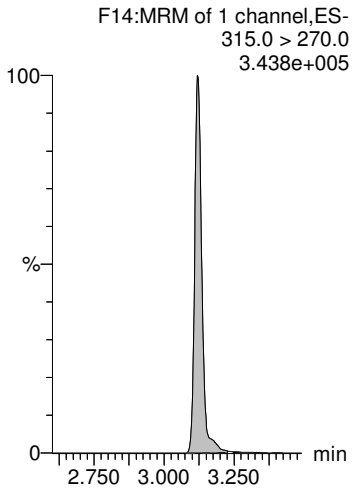




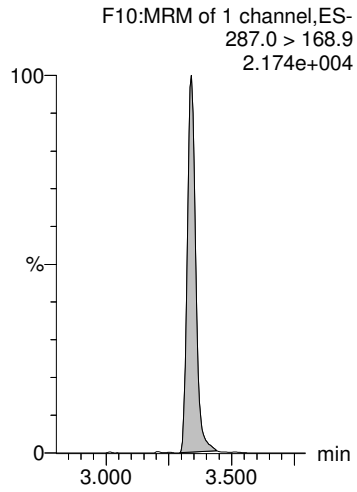
13C3-PFBS-EIS



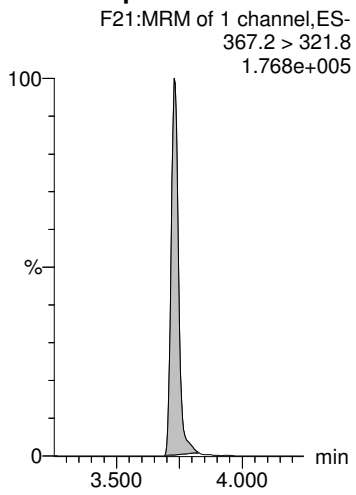
13C2-PFHxA-EIS



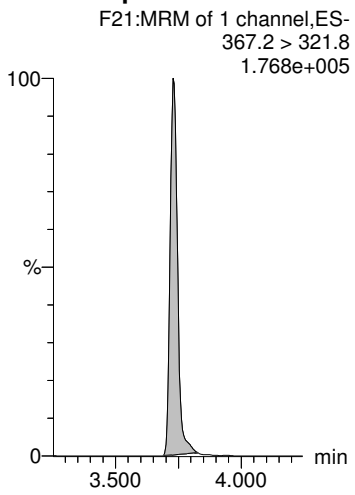
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



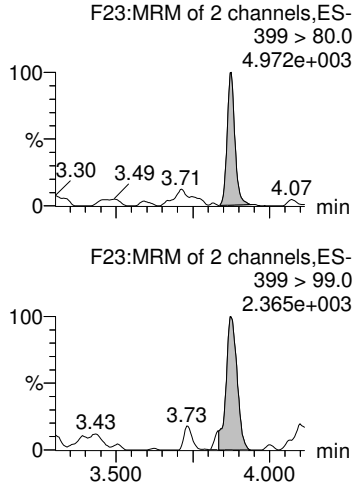
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

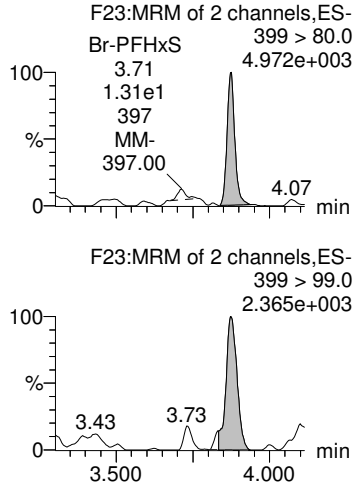
Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

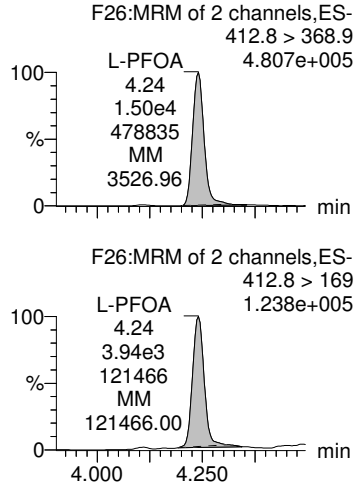
L-PFHxS



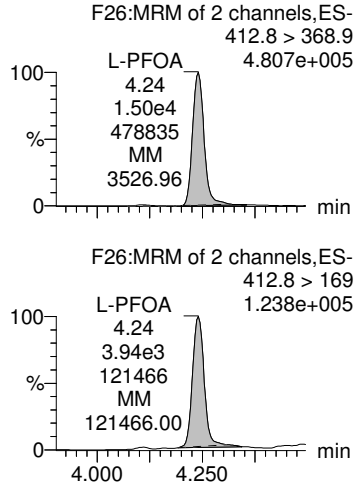
Total PFHxS



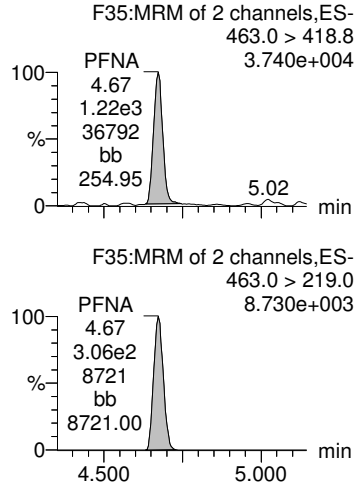
L-PFOA



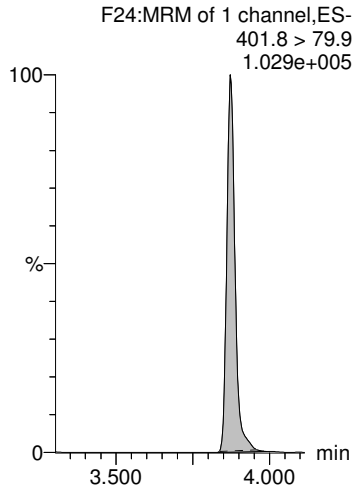
Total PFOA



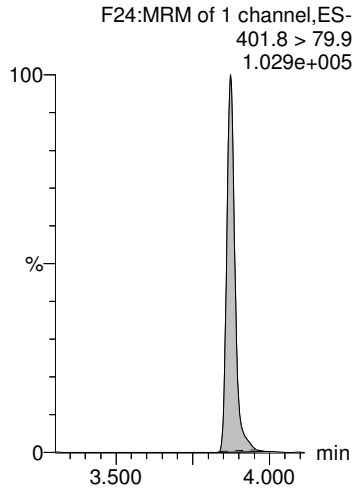
PFNA



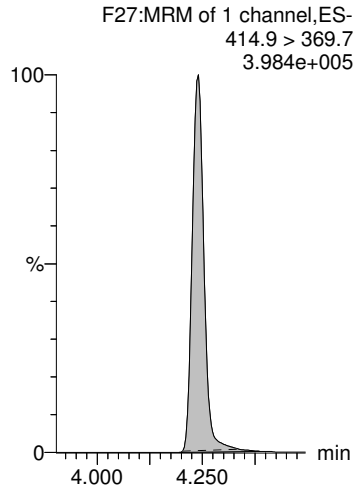
13C3-PFHxS-EIS



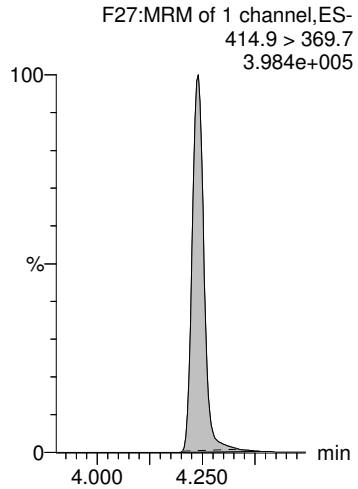
13C3-PFHxS-EIS



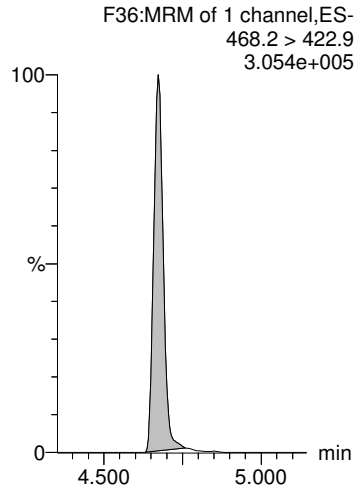
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



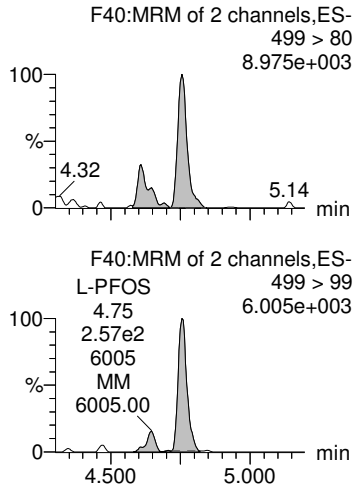
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

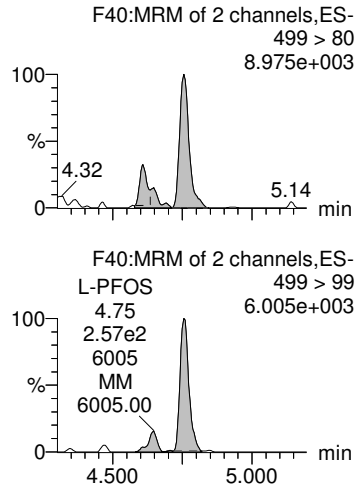
Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

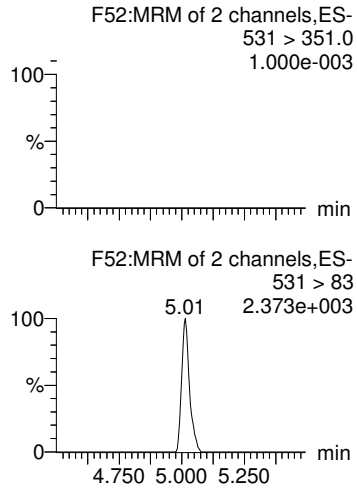
L-PFOS



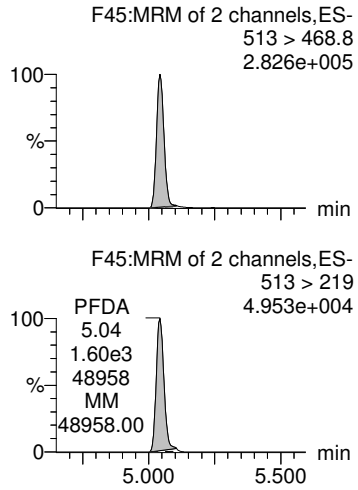
Total PFOS



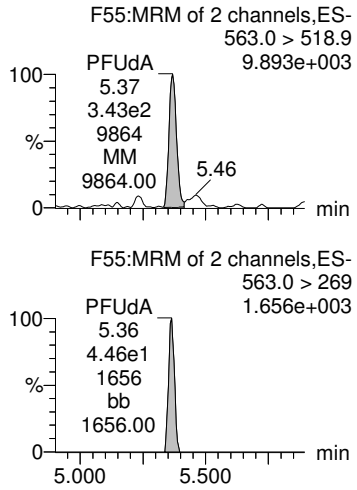
9Cl-PF30NS



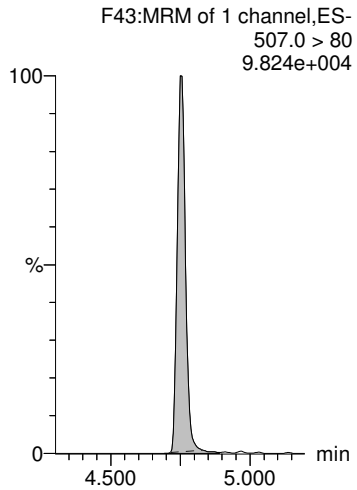
PFDA



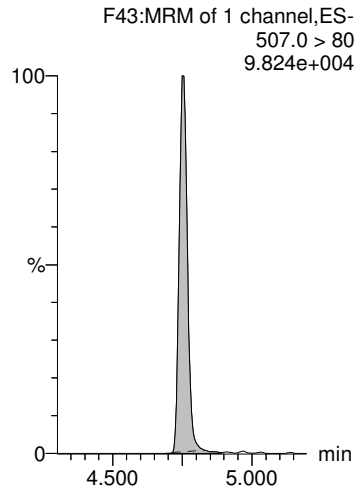
PFUdA



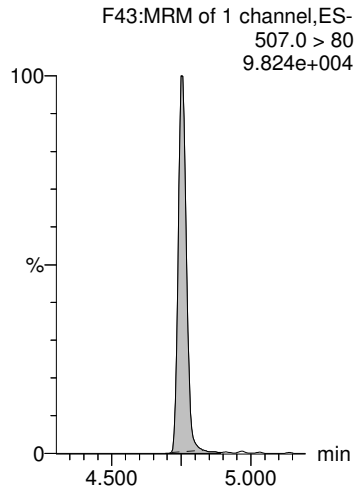
13C8-PFOS-EIS



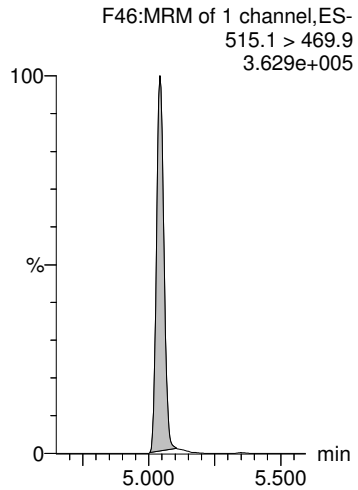
13C8-PFOS-EIS



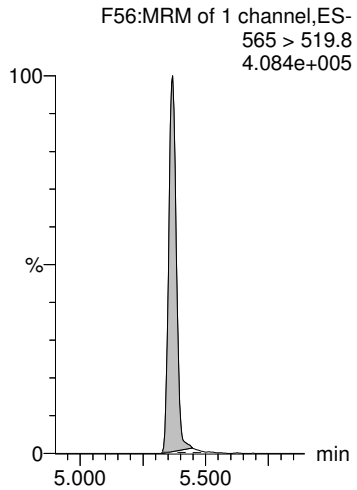
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



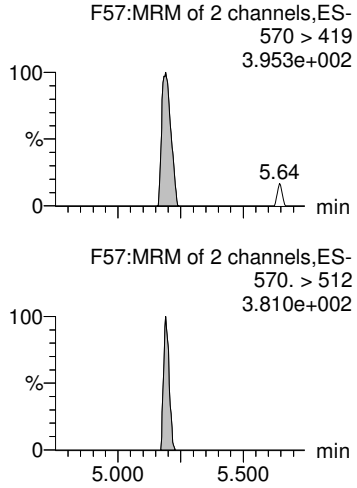
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

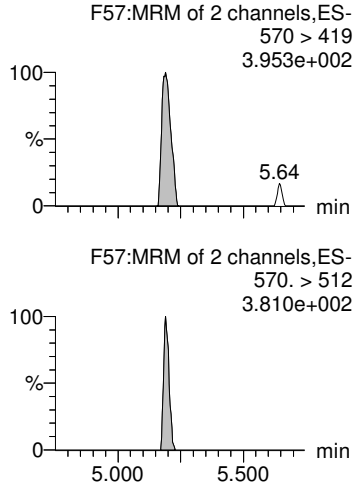
Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

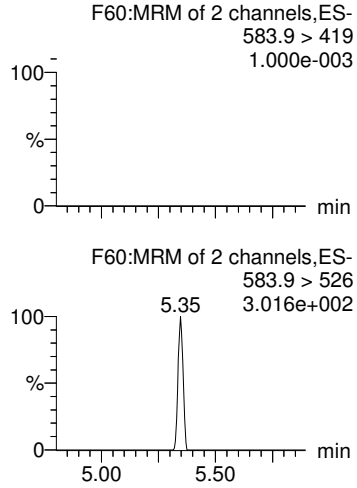
L-MeFOSAA



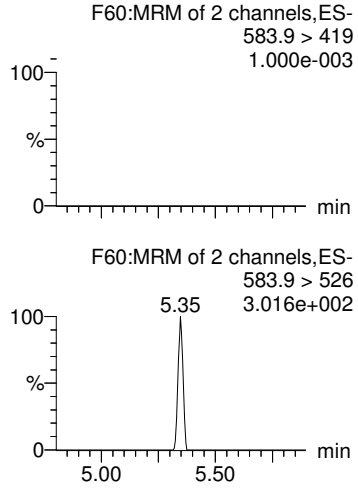
Total N-MeFOSAA



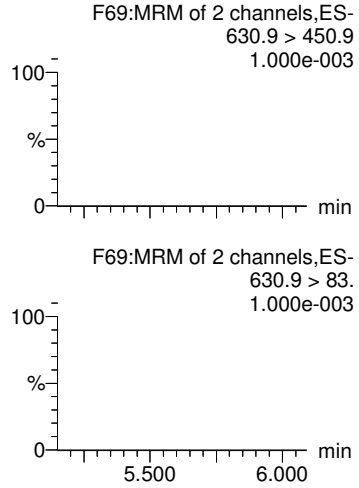
L-EtFOSAA



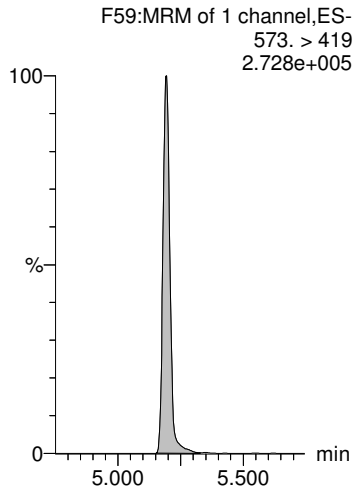
Total N-EtFOSAA



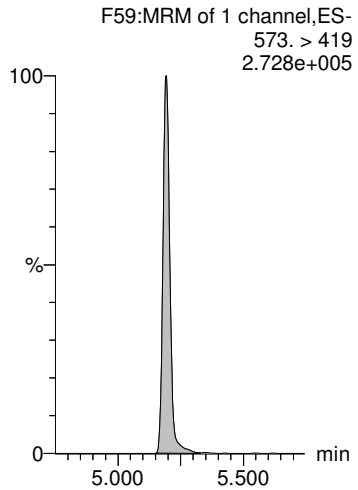
11Cl-PF30UdS



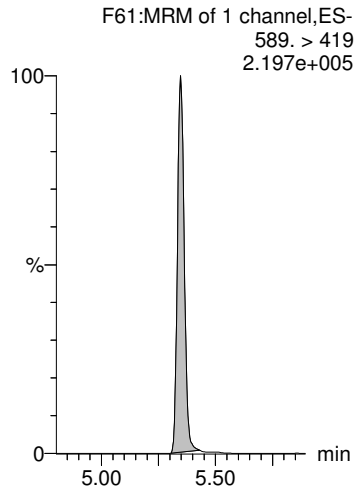
d3-N-MeFOSAA-EIS



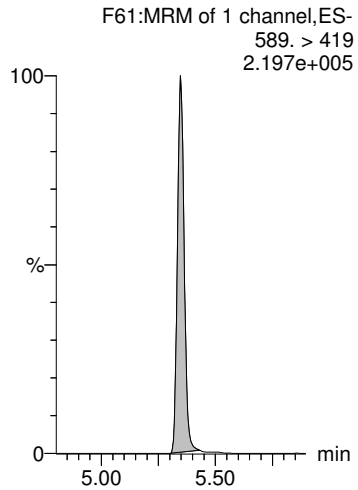
d3-N-MeFOSAA-EIS



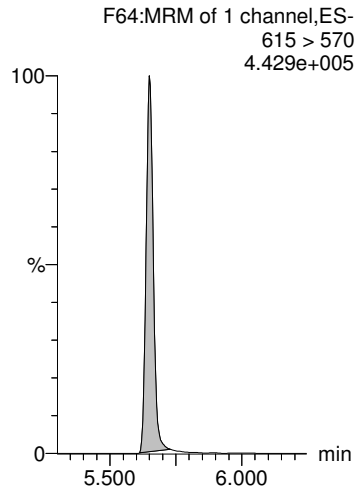
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



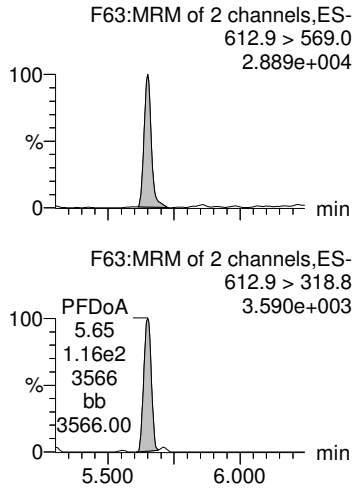
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-120.qld

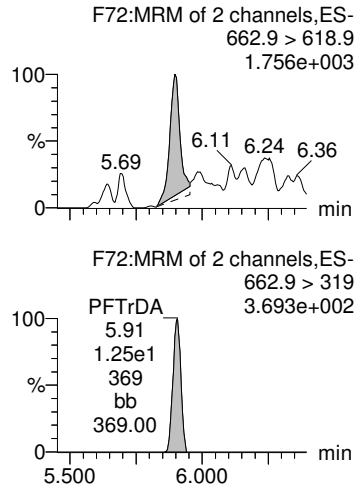
Last Altered: Saturday, July 18, 2020 11:48:48 Pacific Daylight Time
Printed: Saturday, July 18, 2020 11:49:59 Pacific Daylight Time

Name: 200710M1_120, Date: 11-Jul-2020, Time: 04:59:30, ID: 2001417-02 TW06D-20200706 0.26196, Description: TW06D-20200706

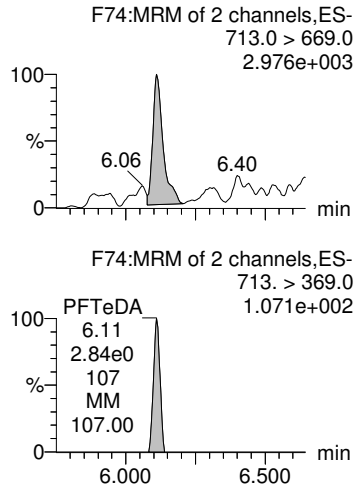
PFDoA



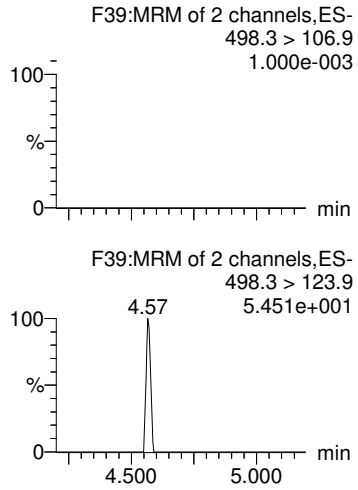
PFTrDA



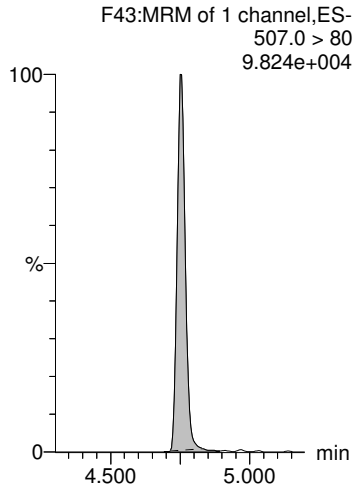
PFTeDA



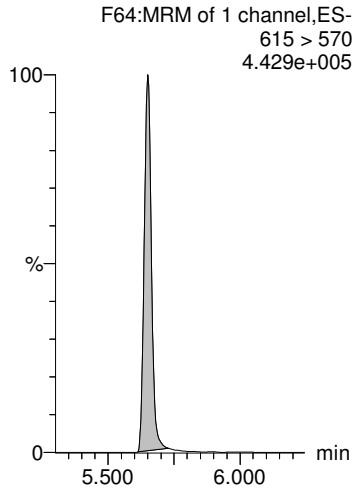
TDCA



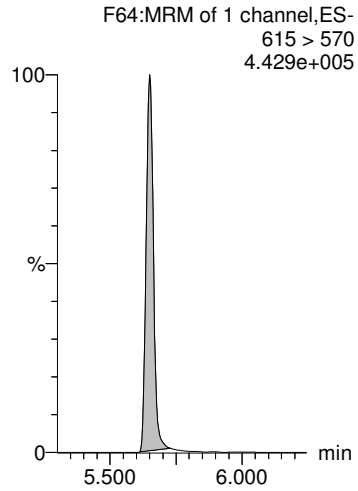
13C8-PFOS-EIS



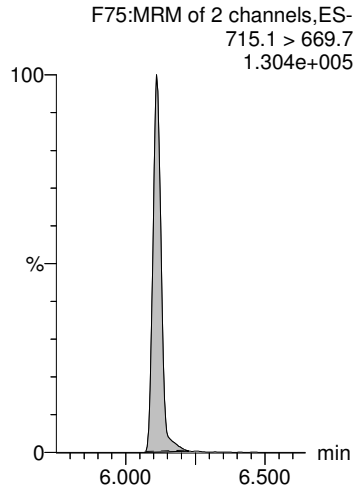
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

	#	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	1.397e3	1.289e3	0.259		2.59	2.60	13.6	25.882		2.558	NO
2	7	PFHxA	313.0 > 269.0	3.202e4	9.242e3	0.259		3.12	3.12	43.3	147.292		17.188	NO
3	9	HFPO-DA	285.1 > 168.9		8.064e2	0.259		3.34						YES
4	11	PFHpA	363.0 > 318.9	4.586e3	5.368e3	0.259		3.73	3.73	10.7	32.670		9.361	NO
5	12	ADONA	376.8 > 250.9		5.368e3	0.259		3.83						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.289e3		0.259	129.326	2.57	2.59	1290	38.536	79.7		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.242e3		0.259	1011.534	3.10	3.12	9240	35.321	73.1		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	8.064e2		0.259	77.431	3.32	3.34	806	40.261	83.3		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.368e3		0.259	565.792	3.72	3.73	5370	36.681	75.9		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.368e3		0.259	565.792	3.72	3.73	5370	36.681	75.9		
11	-1													
12	13	L-PFHxS	399 > 80.0	8.196e3	2.906e3	0.259		3.88	3.88	35.3	123.458		1.659	NO
13	1...	Total PFHxS	399 > 80	8.196e3	2.906e3	0.259		3.83		35.3	123.458			
14	16	L-PFOA	412.8 > 368.9	1.539e5	1.222e4	0.259		4.24	4.24	157	437.166		3.456	NO
15	1...	Total PFOA	412.8 > 368.9	1.539e5	1.222e4	0.259		4.20		157	437.166			
16	21	PFNA	463.0 > 418.8	8.504e2	9.869e3	0.259		4.68	4.68	1.08	3.225		3.235	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	2.906e3		0.259	288.156	3.86	3.88	2910	38.991	80.7		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	2.906e3		0.259	288.156	3.86	3.88	2910	38.991	80.7		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.222e4		0.259	1239.770	4.23	4.24	12200	38.112	78.9		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.222e4		0.259	1239.770	4.23	4.24	12200	38.112	78.9		
21	65	13C5-PFNA-EIS	468.2 > 422.9	9.869e3		0.259	979.239	4.66	4.68	9870	38.963	80.6		
22	-1													
23	23	L-PFOS	499 > 80	6.695e2	2.677e3	0.259		4.75	4.76	3.13	11.061		1.956	NO
24	1...	Total PFOS	499 > 80	6.695e2	2.677e3	0.259		4.73		3.13	11.061			
25	25	9Cl-PF30NS	531 > 351.0		2.677e3	0.259		4.96						YES
26	26	PFDA	513 > 468.8	4.638e3	1.066e4	0.259		5.05	5.05	5.44	14.914		5.135	NO
27	33	PFUdA	563.0 > 518.9	1.801e2	1.232e4	0.259		5.37	5.38	0.183	0.659		129.690	YES
28	73	13C8-PFOS-EIS	507.0 > 80	2.677e3		0.259	320.319	4.75	4.75	2680	32.311	66.9		
29	73	13C8-PFOS-EIS	507.0 > 80	2.677e3		0.259	320.319	4.75	4.75	2680	32.311	66.9		
30	73	13C8-PFOS-EIS	507.0 > 80	2.677e3		0.259	320.319	4.75	4.75	2680	32.311	66.9		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.066e4		0.259	1072.606	5.03	5.05	10700	38.423	79.5		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.232e4		0.259	1779.457	5.36	5.37	12300	26.765	55.4		
33	-1													
34	29	L-MeFOSAA	570 > 419		7.436e3	0.259		5.19						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	7.436e3	0.259		5.17		0.000				
36	31	L-EtFOSAA	583.9 > 419		5.032e3	0.259		5.35						YES

AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	5.032e3	0.259		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.027e4	0.259		5.58						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	7.436e3		0.259	923.888	5.18	5.19	7440	31.118	64.4		
40	79	d3-N-MeFOSAA-EIS	573. > 419	7.436e3		0.259	923.888	5.18	5.19	7440	31.118	64.4		
41	83	d5-N-EtFOSAA-EIS	589. > 419	5.032e3		0.259	867.283	5.34	5.35	5030	22.433	46.4		
42	83	d5-N-EtFOSAA-EIS	589. > 419	5.032e3		0.259	867.283	5.34	5.35	5030	22.433	46.4		
43	85	13C2-PFDoA-EIS	615 > 570	1.027e4		0.259	1924.259	5.64	5.65	10300	20.641	42.7		
44	-1													
45	37	PFDoA	612.9 > 569.0	2.670e2	1.027e4	0.259		5.65	5.65	0.325	0.819		17.577	YES
46	39	PFTrDA	662.9 > 618.9		1.027e4	0.259		5.91						YES
47	41	PFTeDA	713.0 > 669.0	6.093e1	2.838e3	0.259		6.11	6.12	0.268	0.720		54.350	YES
48	1...	TDCA	498.3>106.9			0.259		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	2.677e3		0.259	320.319	4.75	4.75	2680	32.311	66.9		
50	85	13C2-PFDoA-EIS	615 > 570	1.027e4		0.259	1924.259	5.64	5.65	10300	20.641	42.7		
51	85	13C2-PFDoA-EIS	615 > 570	1.027e4		0.259	1924.259	5.64	5.65	10300	20.641	42.7		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	2.838e3		0.259	1314.260	6.11	6.11	2840	8.349	17.3		

AMR 7/18/2020

Vista Analytical Laboratory L18

OC 7/20/2020

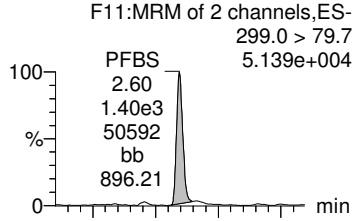
Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

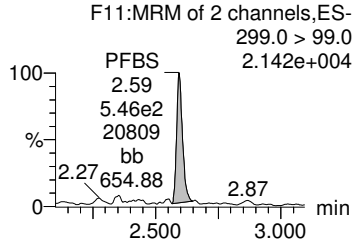
Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

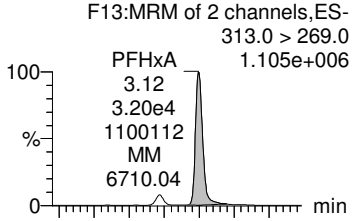
Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

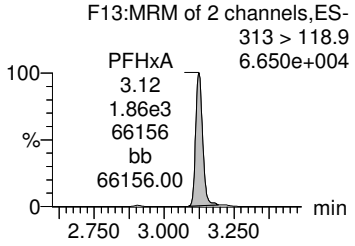
PFBS



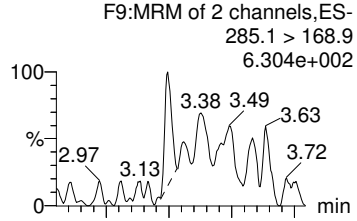


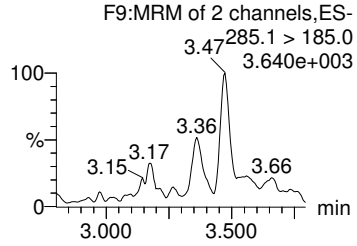
PFHxA



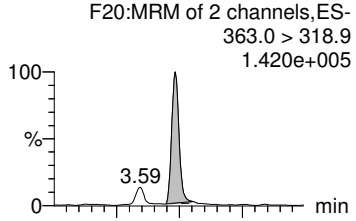


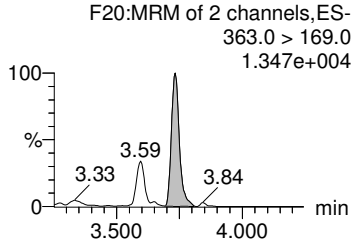
HFPO-DA



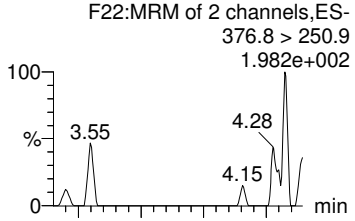


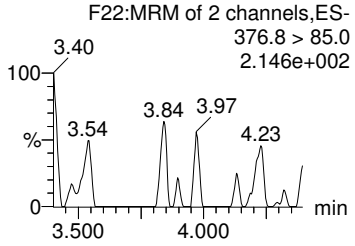
PFHpA



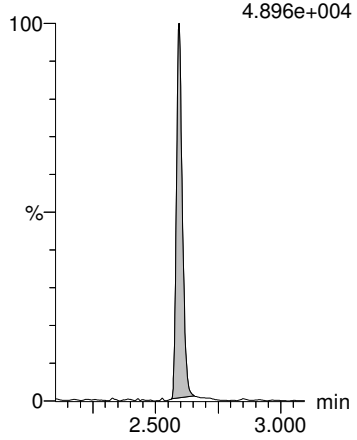


ADONA

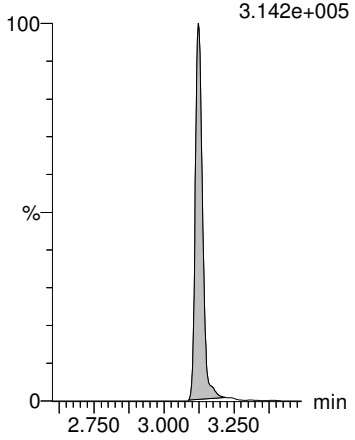




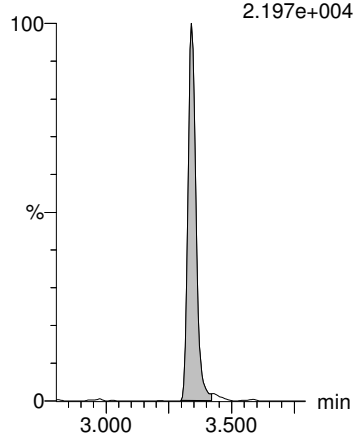
13C3-PFBS-EIS



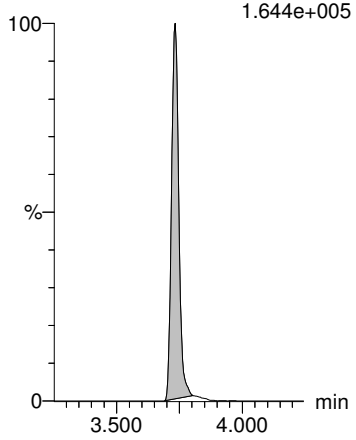
13C2-PFHxA-EIS



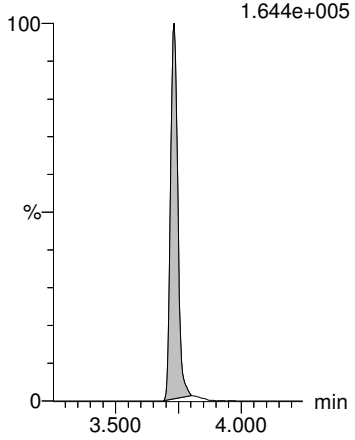
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



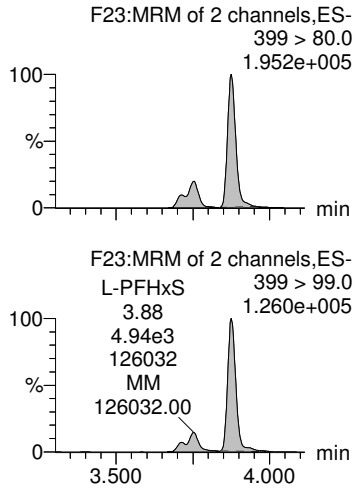
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

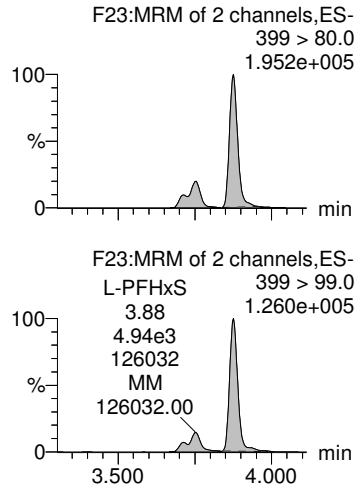
Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

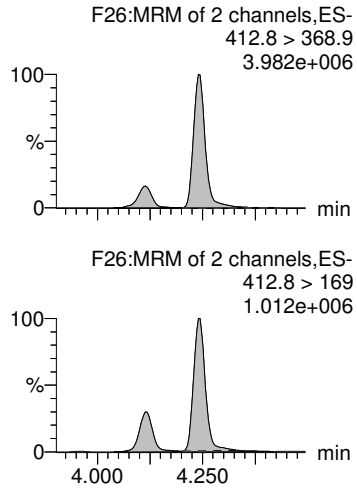
L-PFHxS



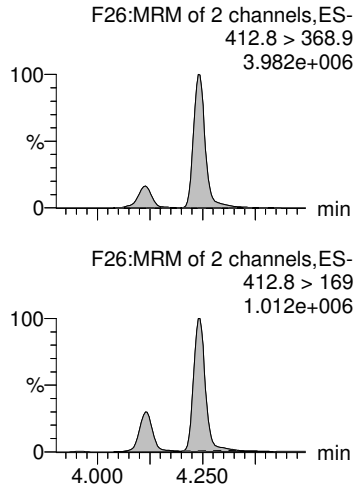
Total PFHxS



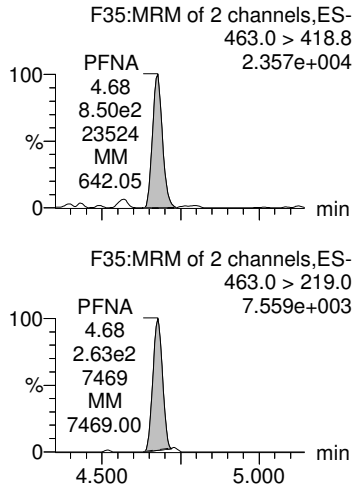
L-PFOA



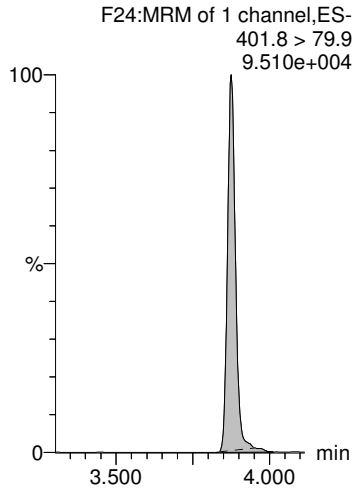
Total PFOA



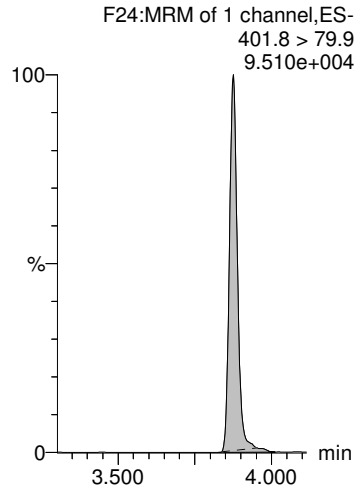
PFNA



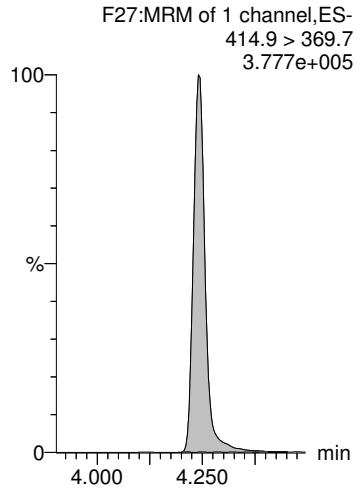
13C3-PFHxS-EIS



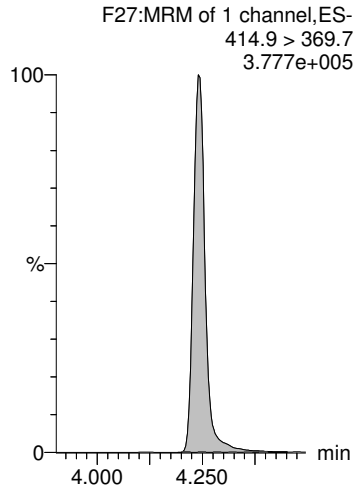
13C3-PFHxS-EIS



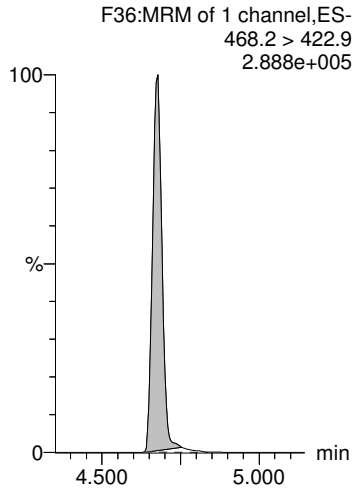
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



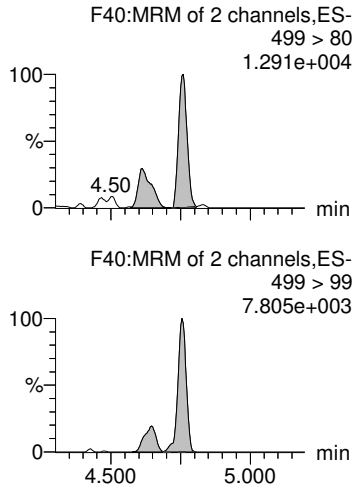
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

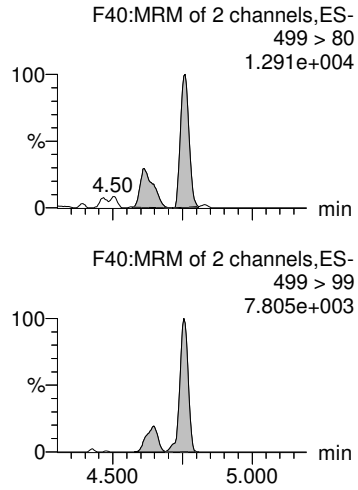
Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

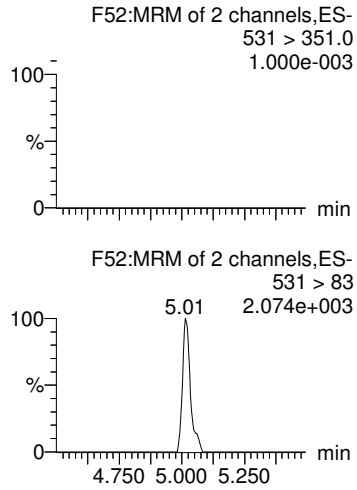
L-PFOS



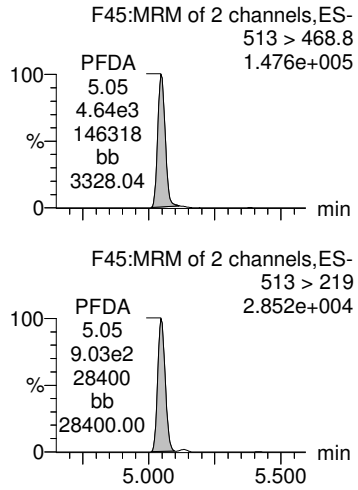
Total PFOS



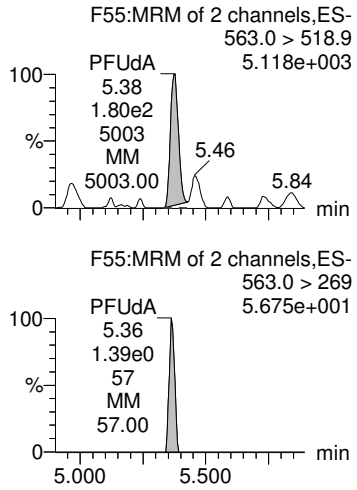
9Cl-PF30NS



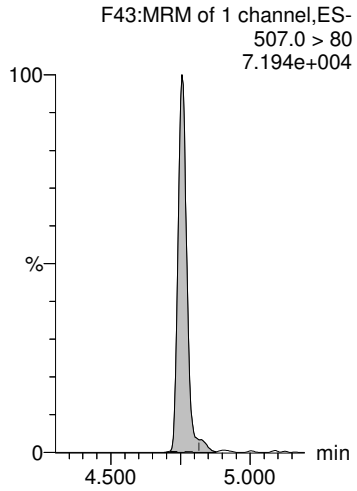
PFDA



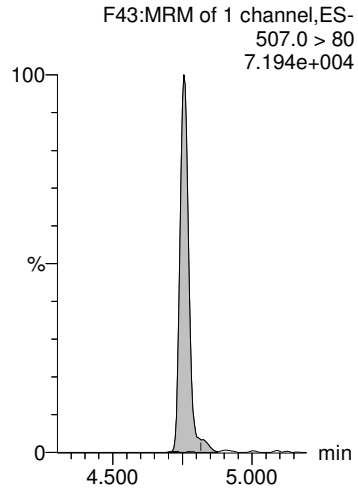
PFUdA



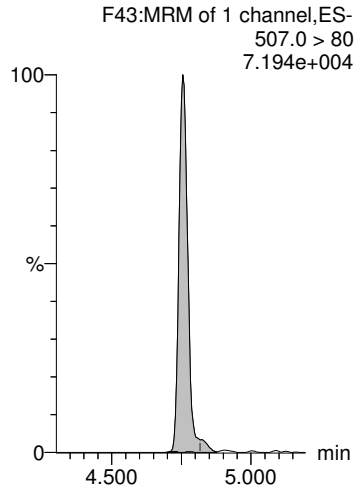
13C8-PFOS-EIS



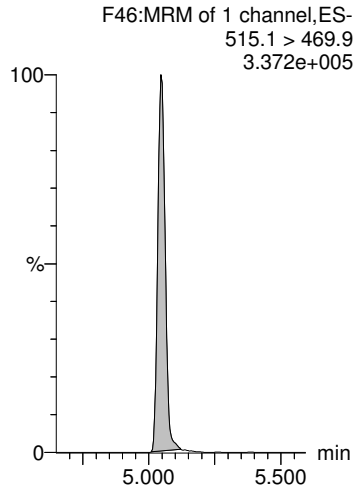
13C8-PFOS-EIS



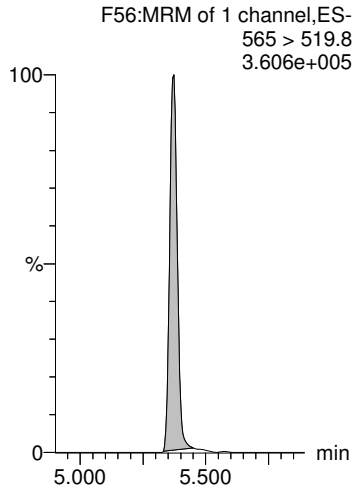
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



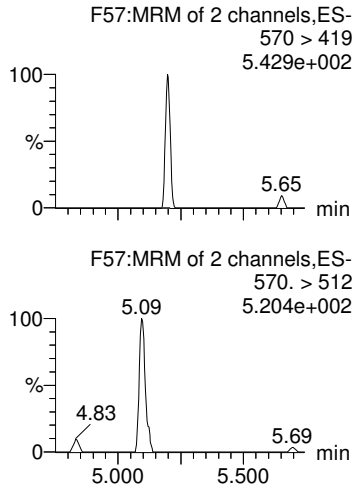
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

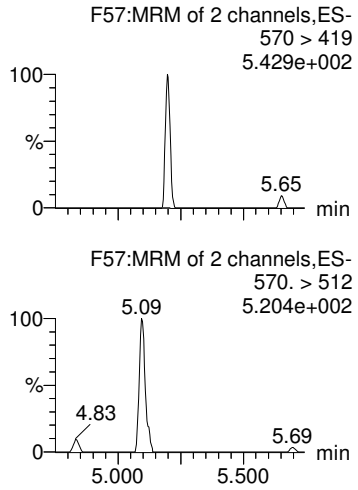
Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

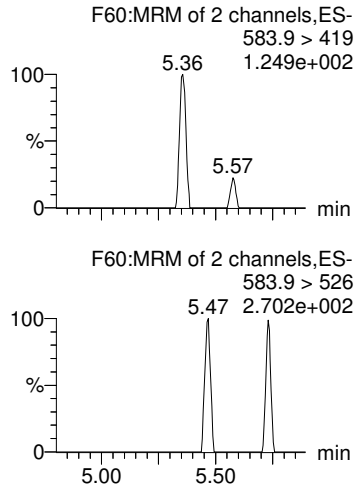
L-MeFOSAA



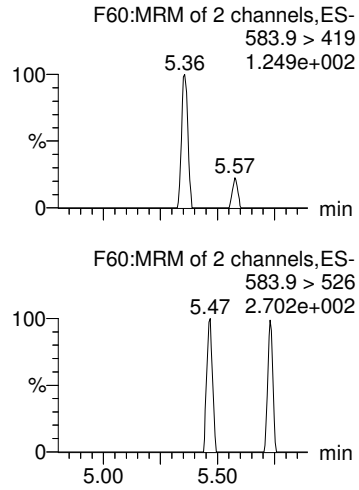
Total N-MeFOSAA



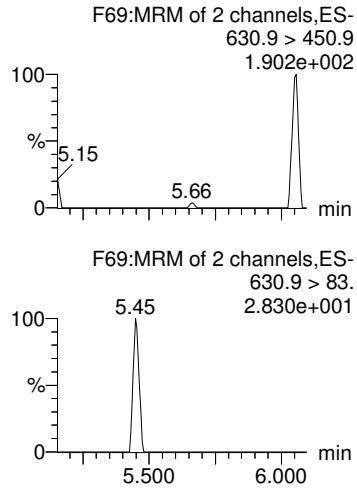
L-EtFOSAA



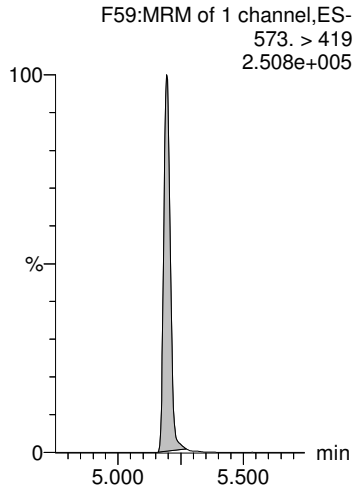
Total N-EtFOSAA



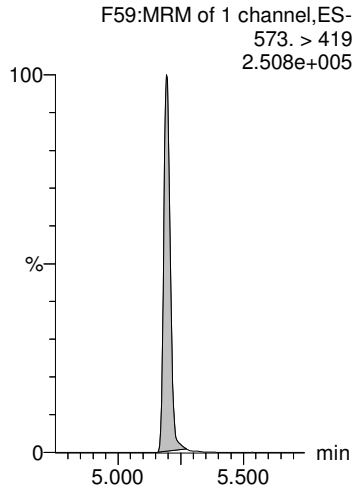
11Cl-PF30UdS



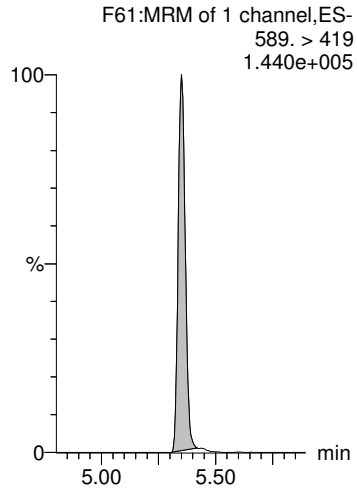
d3-N-MeFOSAA-EIS



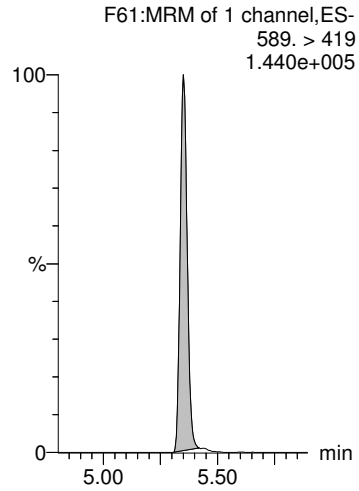
d3-N-MeFOSAA-EIS



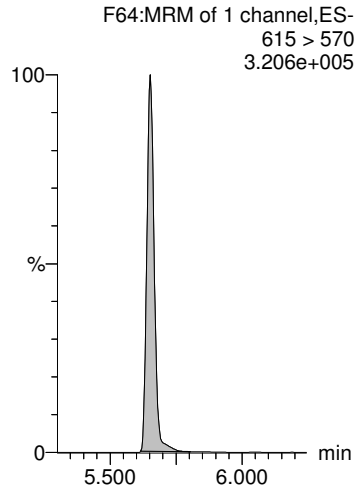
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



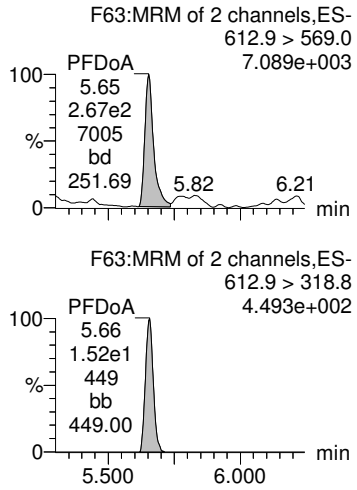
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-121.qld

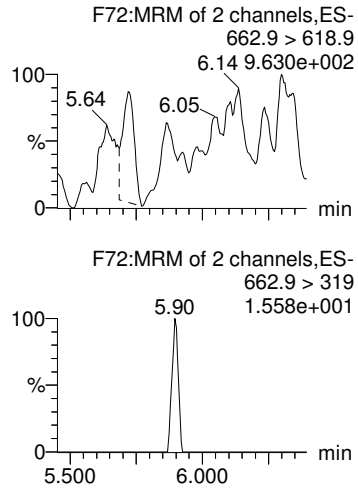
Last Altered: Saturday, July 18, 2020 12:00:24 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:00:53 Pacific Daylight Time

Name: 200710M1_121, Date: 11-Jul-2020, Time: 05:09:52, ID: 2001417-03 TW25D-20200706 0.25866, Description: TW25D-20200706

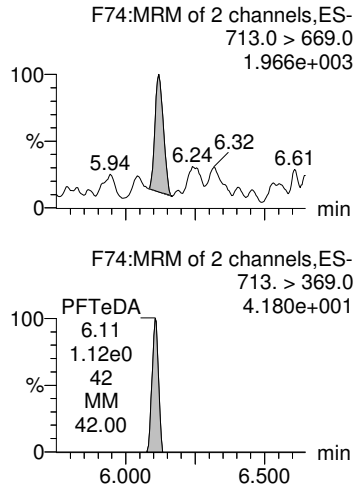
PFDoA



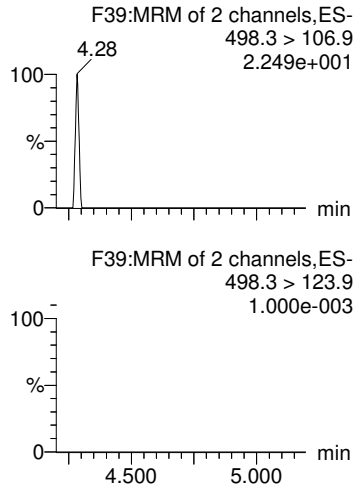
PFTrDA



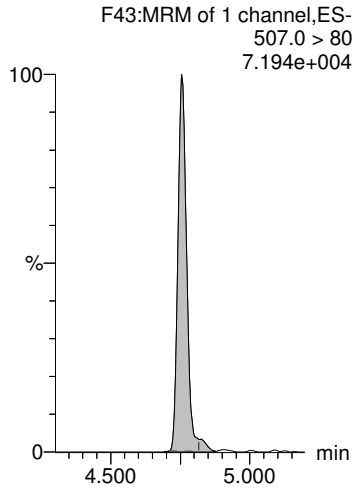
PFTeDA



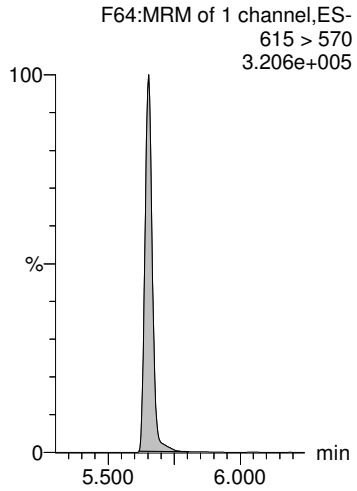
TDCA



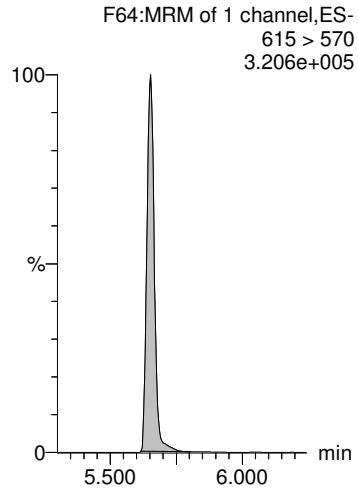
13C8-PFOS-EIS



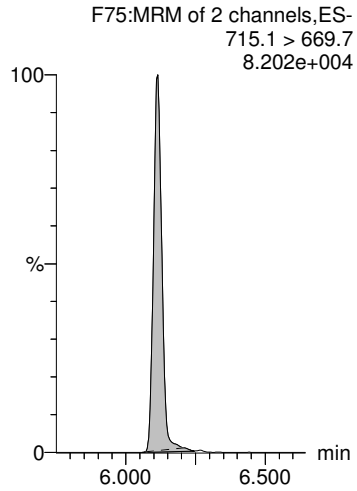
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

	#	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		1.332e3	0.280		2.59						YES
2	7	PFHxA	313.0 > 269.0	4.775e2	9.826e3	0.280		3.12	3.12	0.607	1.830		20.253	NO
3	9	HFPO-DA	285.1 > 168.9		8.767e2	0.280		3.34						YES
4	11	PFHpA	363.0 > 318.9	9.087e1	5.809e3	0.280		3.73	3.73	0.196	0.430		8.081	NO
5	12	ADONA	376.8 > 250.9		5.809e3	0.280		3.83						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.332e3		0.280	129.326	2.57	2.59	1330	36.828	82.4		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.826e3		0.280	1011.534	3.10	3.12	9830	34.740	77.7		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	8.767e2		0.280	77.431	3.32	3.34	877	40.491	90.6		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	5.809e3		0.280	565.792	3.72	3.73	5810	36.719	82.1		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	5.809e3		0.280	565.792	3.72	3.73	5810	36.719	82.1		
11	-1													
12	13	L-PFHxS	399 > 80.0	5.434e1	2.965e3	0.280		3.88	3.87	0.229	0.795		0.799	YES
13	1...	Total PFHxS	399 > 80	5.434e1	2.965e3	0.280		3.83		0.229	0.795			
14	16	L-PFOA	412.8 > 368.9	1.907e3	1.265e4	0.280		4.24	4.24	1.88	4.476		3.455	NO
15	1...	Total PFOA	412.8 > 368.9	1.907e3	1.265e4	0.280		4.20		1.88	4.476			
16	21	PFNA	463.0 > 418.8	1.388e2	1.083e4	0.280		4.67	4.68	0.160	0.485		4.339	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	2.965e3		0.280	288.156	3.86	3.88	2970	36.799	82.3		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	2.965e3		0.280	288.156	3.86	3.88	2970	36.799	82.3		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.265e4		0.280	1239.770	4.23	4.24	12600	36.488	81.6		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.265e4		0.280	1239.770	4.23	4.24	12600	36.488	81.6		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.083e4		0.280	979.239	4.66	4.67	10800	39.569	88.5		
22	-1													
23	23	L-PFOS	499 > 80	7.169e1	3.176e3	0.280		4.75	4.76	0.282	1.195		1.694	NO
24	1...	Total PFOS	499 > 80	7.169e1	3.176e3	0.280		4.73		0.282	1.195			
25	25	9Cl-PF30NS	531 > 351.0		3.176e3	0.280		4.96						YES
26	26	PFDA	513 > 468.8	4.818e2	1.120e4	0.280		5.05	5.05	0.538	1.232		6.917	NO
27	33	PFUdA	563.0 > 518.9		1.358e4	0.280		5.37						YES
28	73	13C8-PFOS-EIS	507.0 > 80	3.176e3		0.280	320.319	4.75	4.75	3180	35.457	79.3		
29	73	13C8-PFOS-EIS	507.0 > 80	3.176e3		0.280	320.319	4.75	4.75	3180	35.457	79.3		
30	73	13C8-PFOS-EIS	507.0 > 80	3.176e3		0.280	320.319	4.75	4.75	3180	35.457	79.3		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.120e4		0.280	1072.606	5.03	5.05	11200	37.344	83.5		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.358e4		0.280	1779.457	5.36	5.37	13600	27.300	61.1		
33	-1													
34	29	L-MeFOSAA	570 > 419		8.387e3	0.280		5.19						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	8.387e3	0.280		5.17		0.000				
36	31	L-EtFOSAA	583.9 > 419		6.118e3	0.280		5.35						YES

AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	6.118e3	0.280		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.303e4	0.280		5.58						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	8.387e3		0.280	923.888	5.18	5.19	8390	32.465	72.6		
40	79	d3-N-MeFOSAA-EIS	573. > 419	8.387e3		0.280	923.888	5.18	5.19	8390	32.465	72.6		
41	83	d5-N-EtFOSAA-EIS	589. > 419	6.118e3		0.280	867.283	5.34	5.35	6120	25.229	56.4		
42	83	d5-N-EtFOSAA-EIS	589. > 419	6.118e3		0.280	867.283	5.34	5.35	6120	25.229	56.4		
43	85	13C2-PFDoA-EIS	615 > 570	1.303e4		0.280	1924.259	5.64	5.65	13000	24.209	54.2		
44	-1													
45	37	PFDoA	612.9 > 569.0	7.619e1	1.303e4	0.280		5.65	5.65	0.0731			12.173	YES
46	39	PFTrDA	662.9 > 618.9		1.303e4	0.280		5.91						YES
47	41	PFTeDA	713.0 > 669.0		3.998e3	0.280		6.11						YES
48	1...	TDCA	498.3>106.9			0.280		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	3.176e3		0.280	320.319	4.75	4.75	3180	35.457	79.3		
50	85	13C2-PFDoA-EIS	615 > 570	1.303e4		0.280	1924.259	5.64	5.65	13000	24.209	54.2		
51	85	13C2-PFDoA-EIS	615 > 570	1.303e4		0.280	1924.259	5.64	5.65	13000	24.209	54.2		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	3.998e3		0.280	1314.260	6.11	6.11	4000	10.878	24.3		

AMR 7/18/2020

Vista Analytical Laboratory L18

OC 7/20/2020

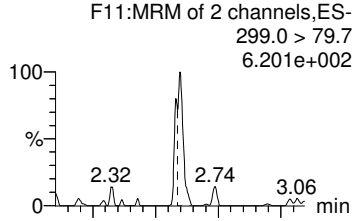
Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

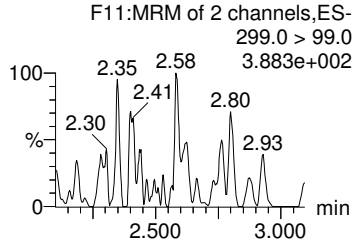
Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

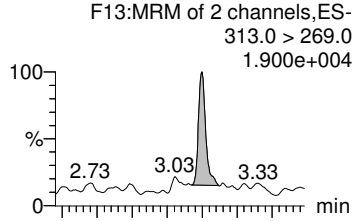
Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

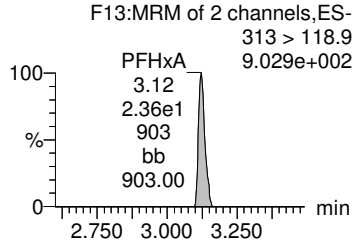
PFBS



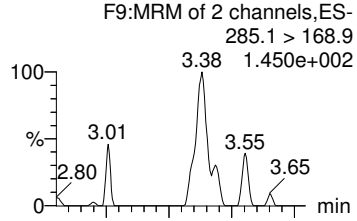


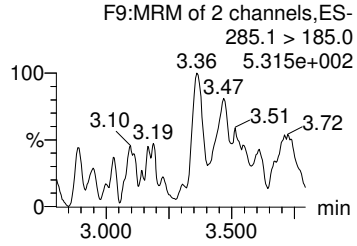
PFHxA



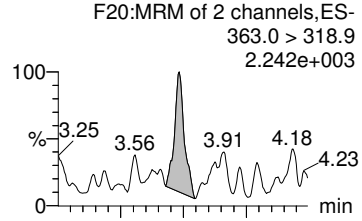


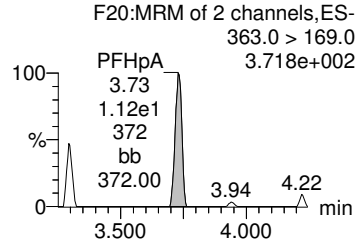
HFPO-DA



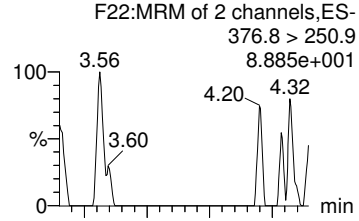


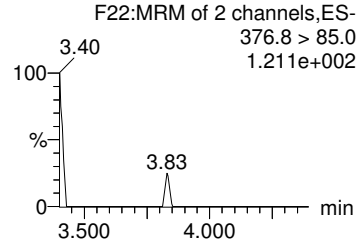
PFHpA



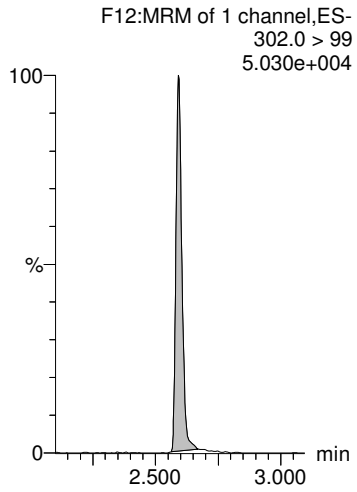


ADONA

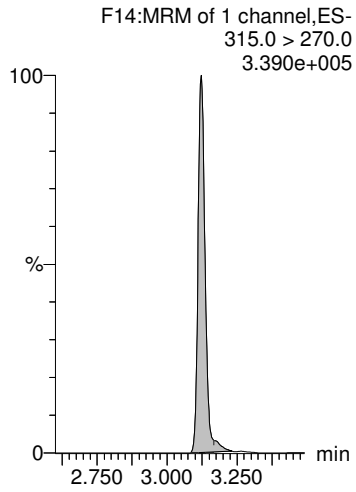




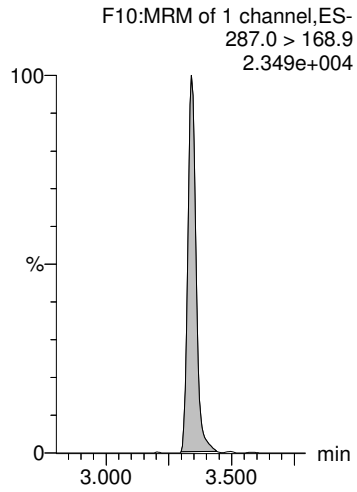
13C3-PFBS-EIS



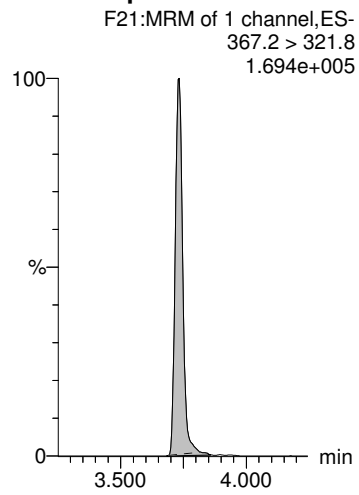
13C2-PFHxA-EIS



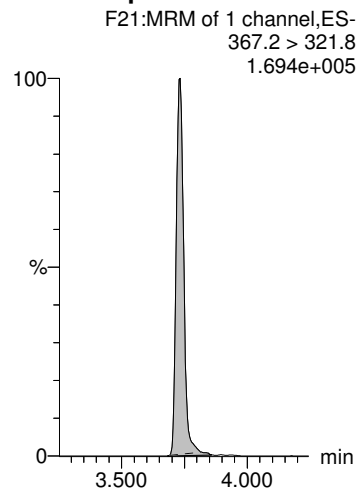
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



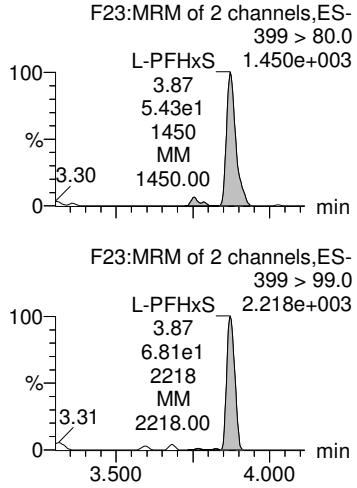
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

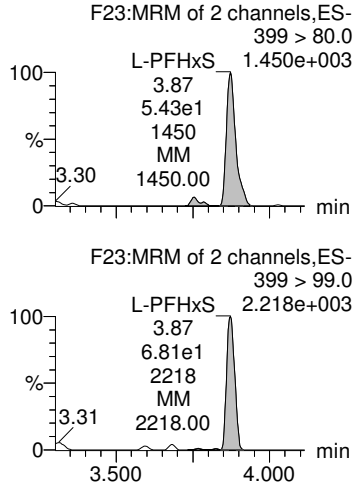
Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

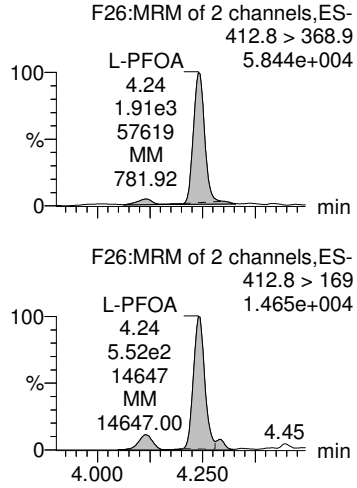
L-PFHxS



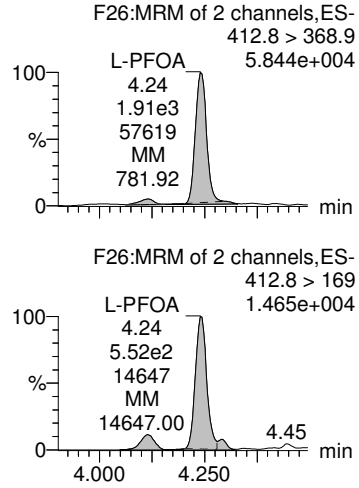
Total PFHxS



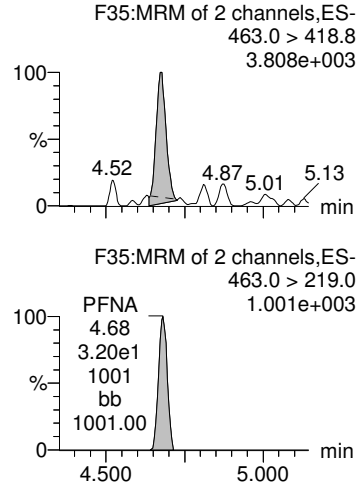
L-PFOA



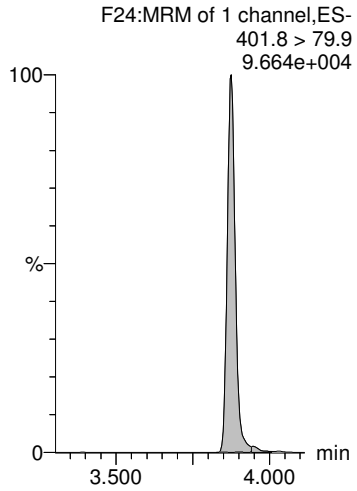
Total PFOA



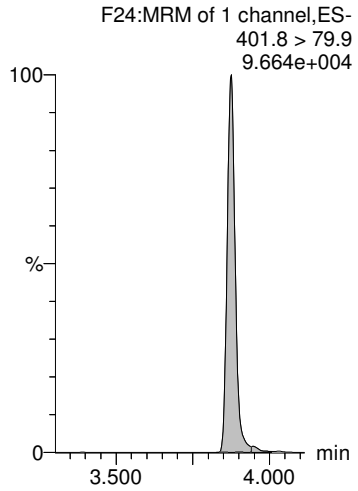
PFNA



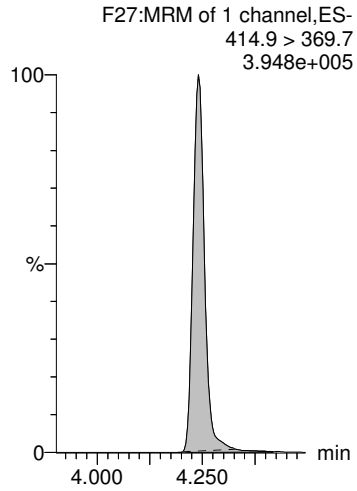
13C3-PFHxS-EIS



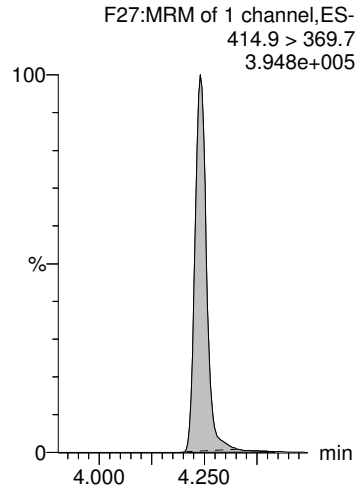
13C3-PFHxS-EIS



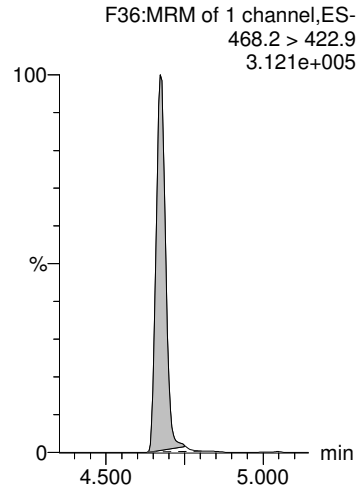
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



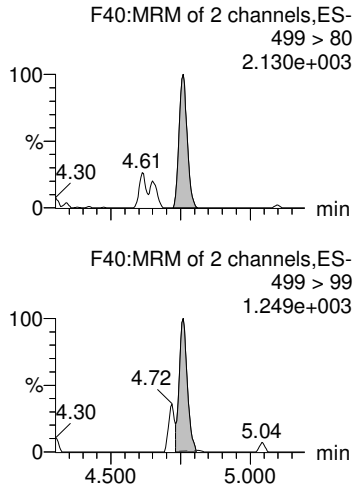
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

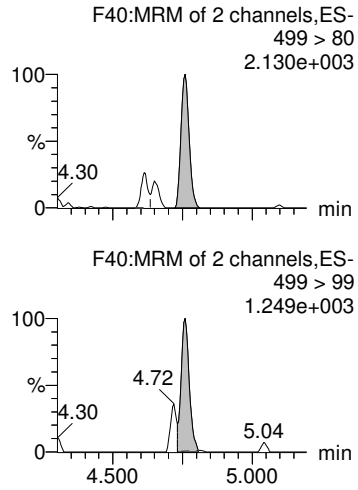
Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

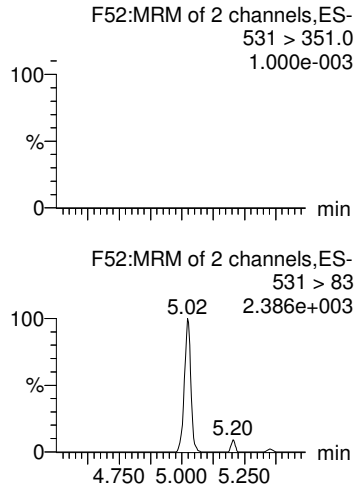
L-PFOS



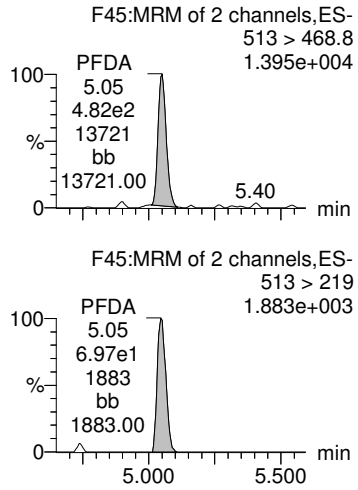
Total PFOS



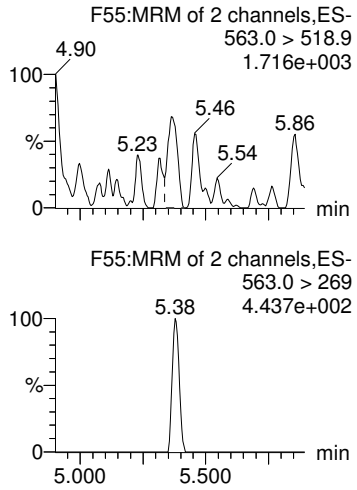
9Cl-PF30NS



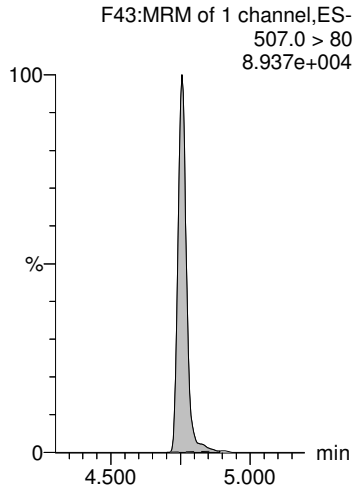
PFDA



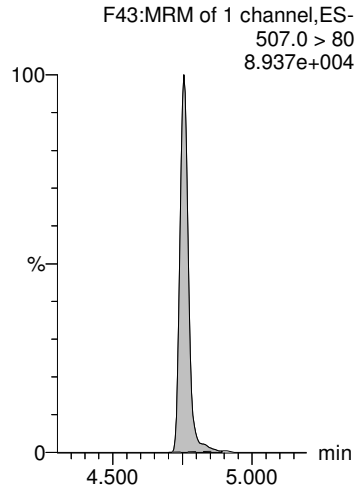
PFUdA



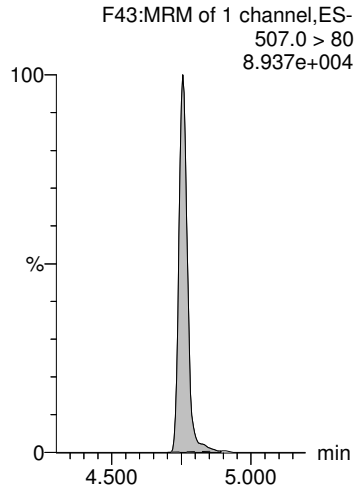
13C8-PFOS-EIS



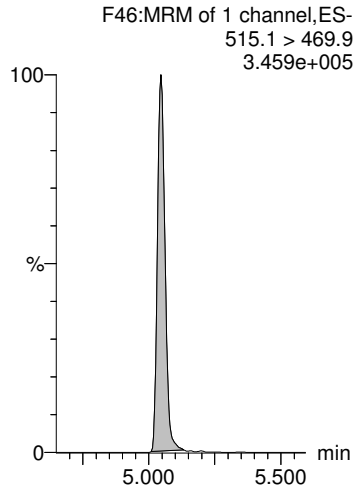
13C8-PFOS-EIS



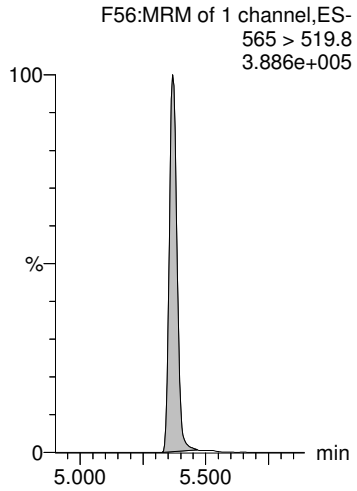
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



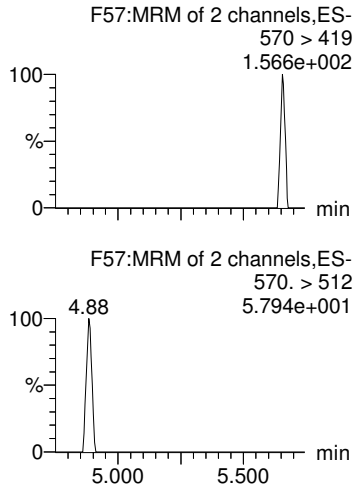
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

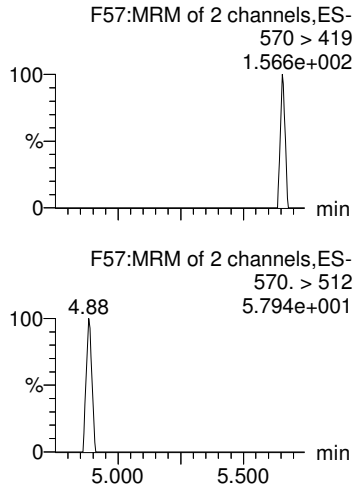
Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

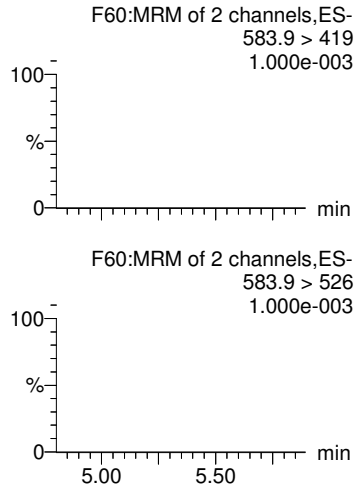
L-MeFOSAA



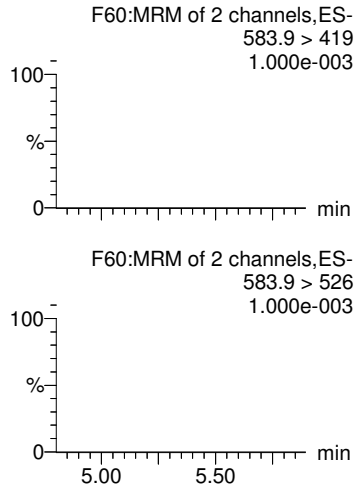
Total N-MeFOSAA



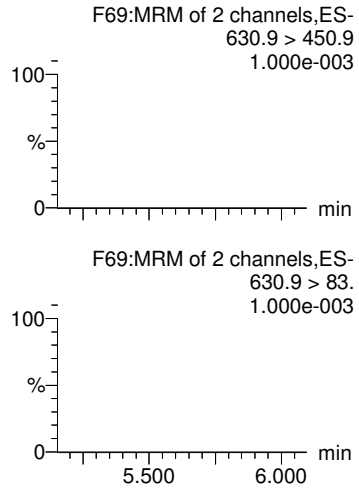
L-EtFOSAA



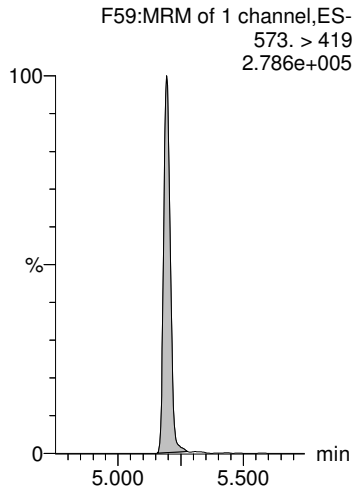
Total N-EtFOSAA



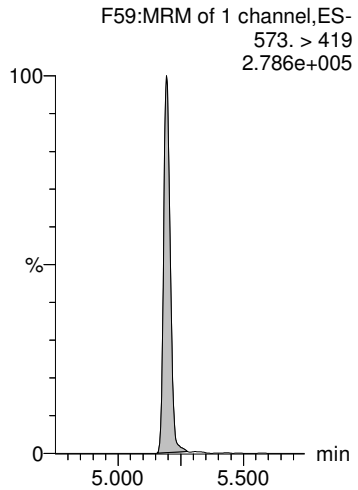
11Cl-PF30UdS



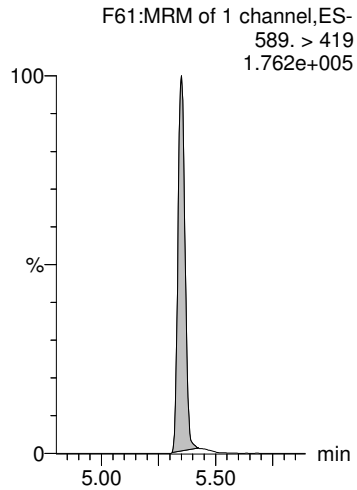
d3-N-MeFOSAA-EIS



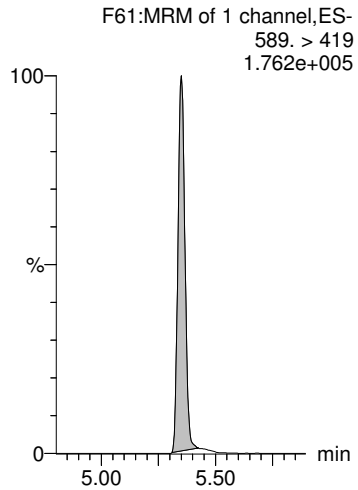
d3-N-MeFOSAA-EIS



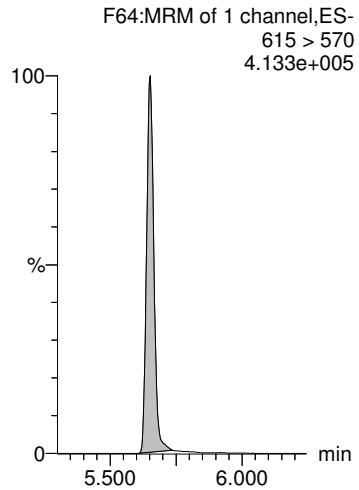
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



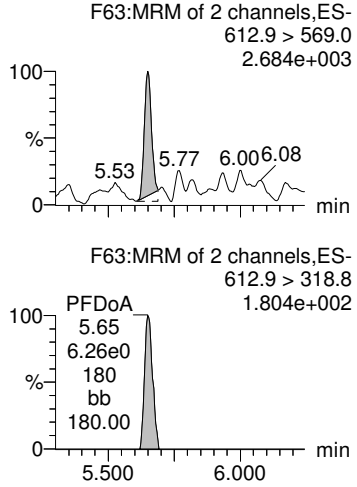
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-122.qld

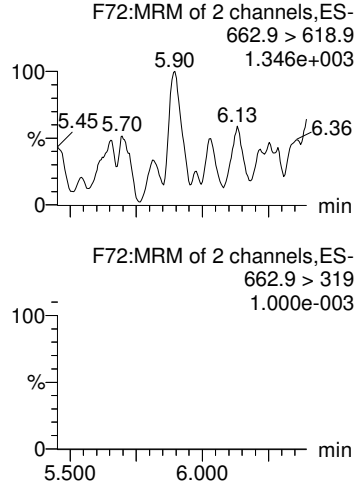
Last Altered: Saturday, July 18, 2020 12:14:03 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:14:15 Pacific Daylight Time

Name: 200710M1_122, Date: 11-Jul-2020, Time: 05:20:14, ID: 2001417-04 TW26D-20200706 0.27962, Description: TW26D-20200706

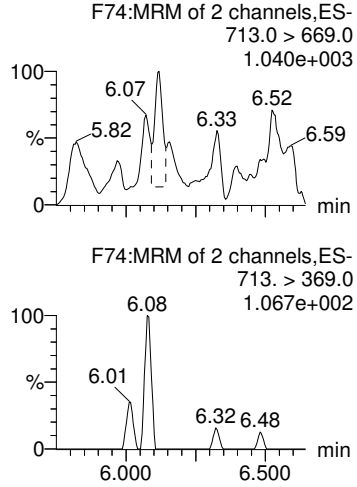
PFDoA



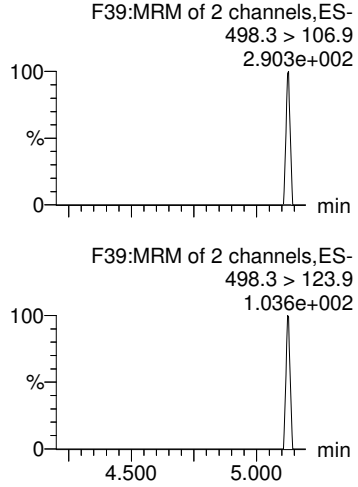
PFTrDA



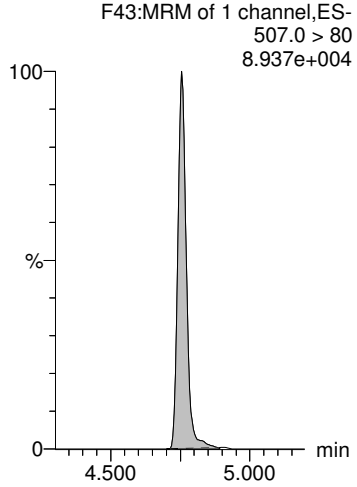
PFTeDA



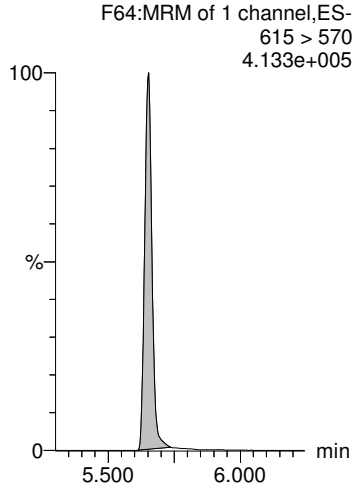
TDCA



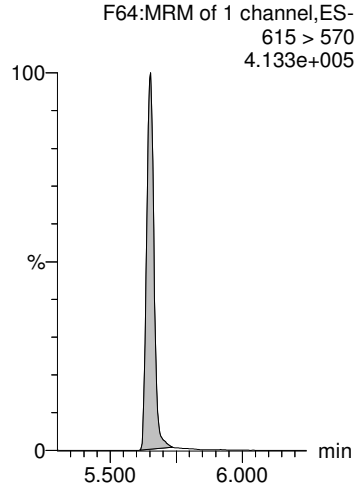
13C8-PFOS-EIS



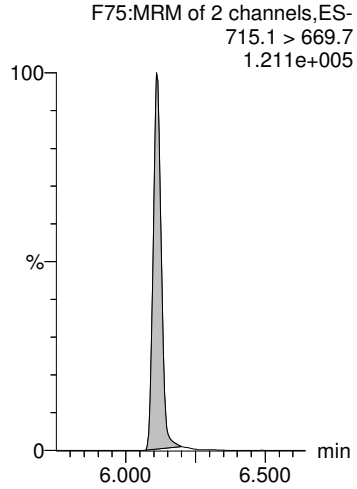
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

	#	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	5.337e2	1.476e3	0.258		2.59	2.59	4.52	8.736		2.617	NO
2	7	PFHxA	313.0 > 269.0	5.003e3	1.052e4	0.258		3.12	3.12	5.94	20.057		17.931	NO
3	9	HFPO-DA	285.1 > 168.9		8.305e2	0.258		3.34						YES
4	11	PFHpA	363.0 > 318.9	1.057e3	6.462e3	0.258		3.73	3.73	2.05	6.158		13.651	NO
5	12	ADONA	376.8 > 250.9		6.462e3	0.258		3.83						YES
6	51	13C3-PFBS-EIS	302.0 > 99	1.476e3		0.258	129.326	2.57	2.59	1480	44.269	91.3		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.052e4		0.258	1011.534	3.10	3.12	10500	40.345	83.2		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	8.305e2		0.258	77.431	3.32	3.34	831	41.590	85.8		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	6.462e3		0.258	565.792	3.72	3.73	6460	44.285	91.4		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	6.462e3		0.258	565.792	3.72	3.73	6460	44.285	91.4		
11	-1													
12	13	L-PFHxS	399 > 80.0	4.925e3	3.337e3	0.258		3.88	3.88	18.4	64.601		1.647	NO
13	1...	Total PFHxS	399 > 80	4.925e3	3.337e3	0.258		3.83		18.4	64.601			
14	16	L-PFOA	412.8 > 368.9	3.869e4	1.388e4	0.258		4.24	4.24	34.8	95.232		3.433	NO
15	1...	Total PFOA	412.8 > 368.9	3.869e4	1.388e4	0.258		4.20		34.8	95.232			
16	21	PFNA	463.0 > 418.8	2.399e2	1.231e4	0.258		4.68	4.67	0.244	0.773		3.662	NO
17	61	13C3-PFHxS-EIS	401.8 > 79.9	3.337e3		0.258	288.156	3.86	3.88	3340	44.908	92.6		
18	61	13C3-PFHxS-EIS	401.8 > 79.9	3.337e3		0.258	288.156	3.86	3.88	3340	44.908	92.6		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.388e4		0.258	1239.770	4.23	4.24	13900	43.420	89.6		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.388e4		0.258	1239.770	4.23	4.24	13900	43.420	89.6		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.231e4		0.258	979.239	4.66	4.68	12300	48.749	100.6		
22	-1													
23	23	L-PFOS	499 > 80	1.706e3	3.555e3	0.258		4.75	4.61	6.00	21.009		2.350	NO
24	1...	Total PFOS	499 > 80	1.706e3	3.555e3	0.258		4.73		6.00	21.009			
25	25	9Cl-PF30NS	531 > 351.0		3.555e3	0.258		4.96						YES
26	26	PFDA	513 > 468.8	6.916e2	1.255e4	0.258		5.05	5.05	0.689	1.756		4.626	NO
27	33	PFUdA	563.0 > 518.9		1.608e4	0.258		5.37						YES
28	73	13C8-PFOS-EIS	507.0 > 80	3.555e3		0.258	320.319	4.75	4.75	3560	43.040	88.8		
29	73	13C8-PFOS-EIS	507.0 > 80	3.555e3		0.258	320.319	4.75	4.75	3560	43.040	88.8		
30	73	13C8-PFOS-EIS	507.0 > 80	3.555e3		0.258	320.319	4.75	4.75	3560	43.040	88.8		
31	75	13C2-PFDA-EIS	515.1 > 469.9	1.255e4		0.258	1072.606	5.03	5.05	12500	45.366	93.6		
32	81	13C2-PFUdA-EIS	565 > 519.8	1.608e4		0.258	1779.457	5.36	5.37	16100	35.049	72.3		
33	-1													
34	29	L-MeFOSAA	570 > 419		9.708e3	0.258		5.20						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	9.708e3	0.258		5.17		0.000				
36	31	L-EtFOSAA	583.9 > 419		8.296e3	0.258		5.35						YES

AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	8.296e3	0.258		5.33		0.000				
38	35	11Cl-PF30UdS	630.9 > 450.9		1.695e4	0.258		5.59						YES
39	79	d3-N-MeFOSAA-EIS	573. > 419	9.708e3		0.258	923.888	5.18	5.20	9710	40.744	84.1		
40	79	d3-N-MeFOSAA-EIS	573. > 419	9.708e3		0.258	923.888	5.18	5.20	9710	40.744	84.1		
41	83	d5-N-EtFOSAA-EIS	589. > 419	8.296e3		0.258	867.283	5.34	5.35	8300	37.092	76.5		
42	83	d5-N-EtFOSAA-EIS	589. > 419	8.296e3		0.258	867.283	5.34	5.35	8300	37.092	76.5		
43	85	13C2-PFDoA-EIS	615 > 570	1.695e4		0.258	1924.259	5.64	5.65	17000	34.161	70.5		
44	-1													
45	37	PFDoA	612.9 > 569.0	1.386e2	1.695e4	0.258		5.65	5.65	0.102			8.771	NO
46	39	PFTrDA	662.9 > 618.9		1.695e4	0.258		5.91						YES
47	41	PFTeDA	713.0 > 669.0	8.822e1	1.051e4	0.258		6.12	6.11	0.105	0.326		14.236	NO
48	1...	TDCA	498.3>106.9			0.258		4.85						YES
49	73	13C8-PFOS-EIS	507.0 > 80	3.555e3		0.258	320.319	4.75	4.75	3560	43.040	88.8		
50	85	13C2-PFDoA-EIS	615 > 570	1.695e4		0.258	1924.259	5.64	5.65	17000	34.161	70.5		
51	85	13C2-PFDoA-EIS	615 > 570	1.695e4		0.258	1924.259	5.64	5.65	17000	34.161	70.5		
52	91	13C2-PFTeDA-EIS	715.1 > 669.7	1.051e4		0.258	1314.260	6.11	6.12	10500	30.996	63.9		

AMR 7/18/2020

Vista Analytical Laboratory L18

OC 7/20/2020

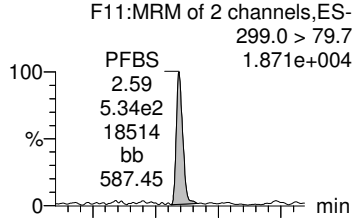
Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

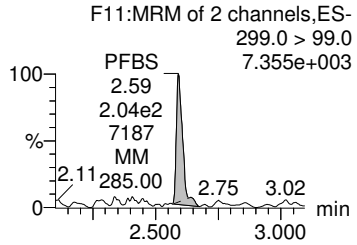
Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Method: Z:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Z:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

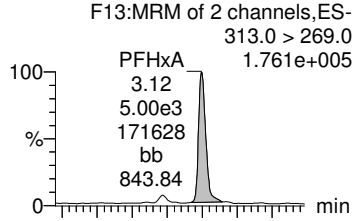
Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

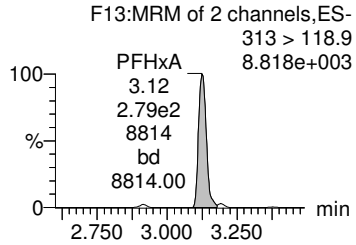
PFBS



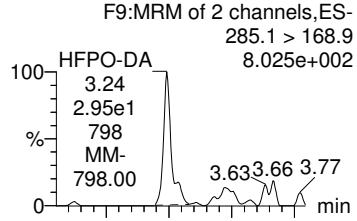


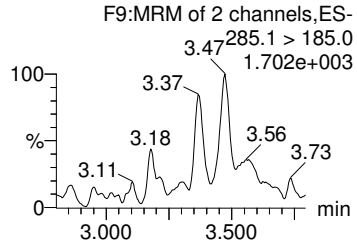
PFHxA



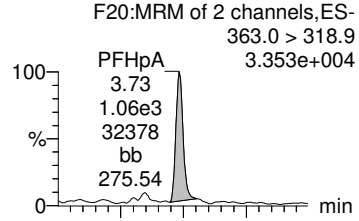


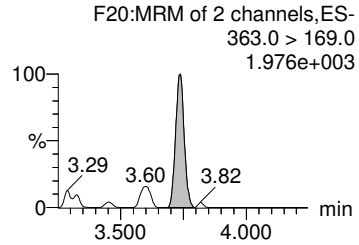
HFPO-DA



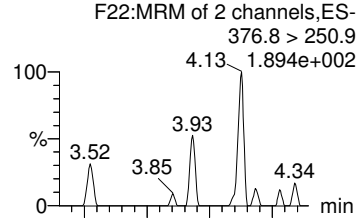


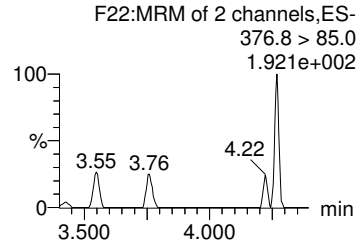
PFHpA



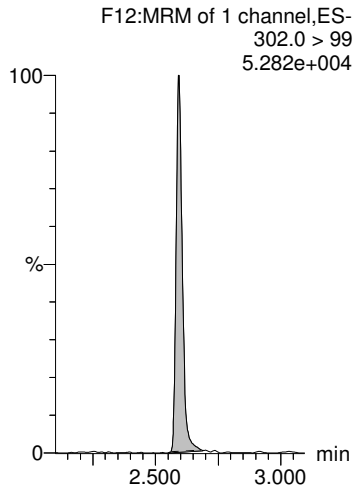


ADONA

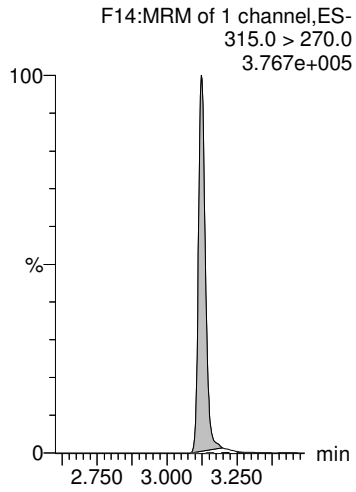




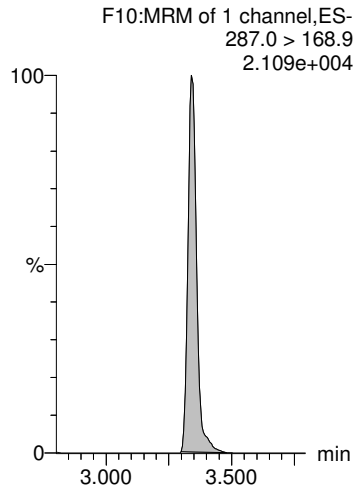
13C3-PFBS-EIS



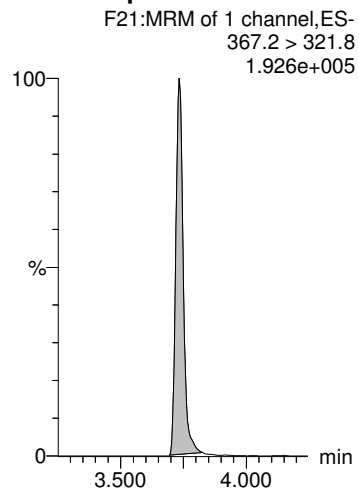
13C2-PFHxA-EIS



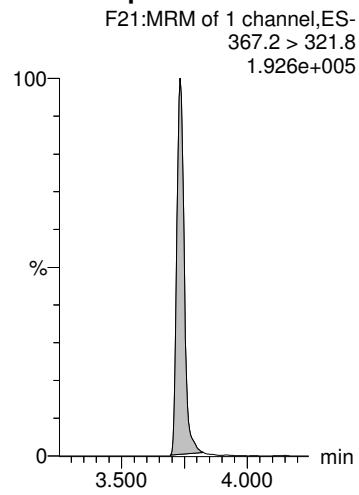
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



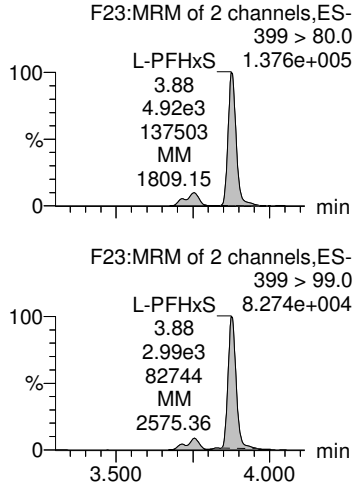
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

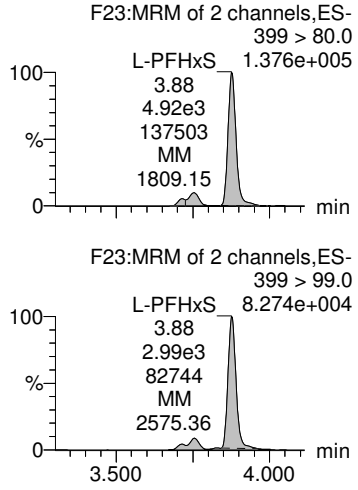
Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

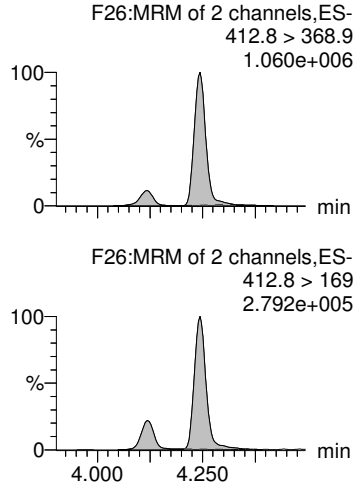
L-PFHxS



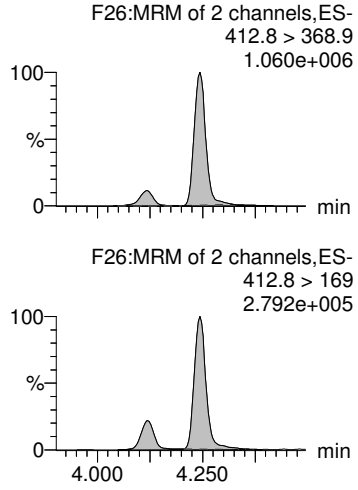
Total PFHxS



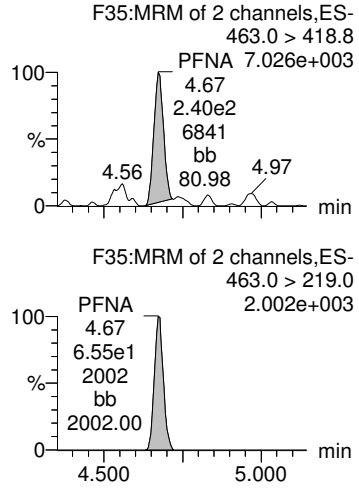
L-PFOA



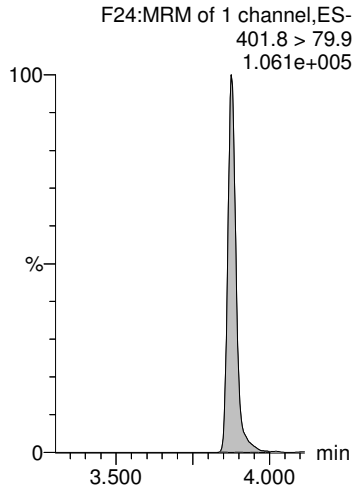
Total PFOA



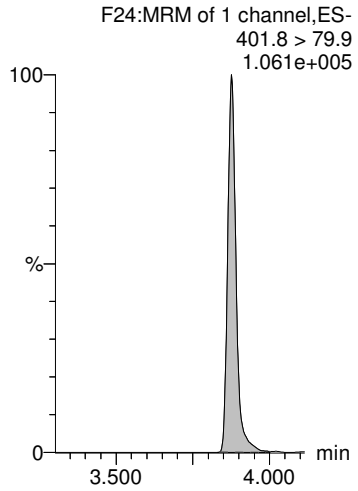
PFNA



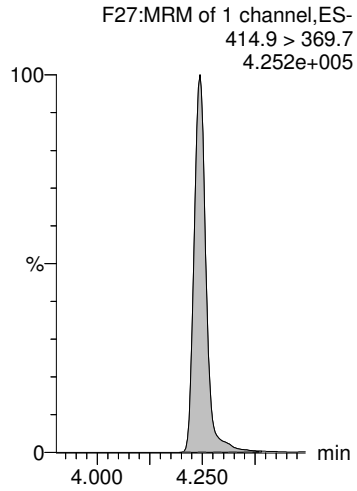
13C3-PFHxS-EIS



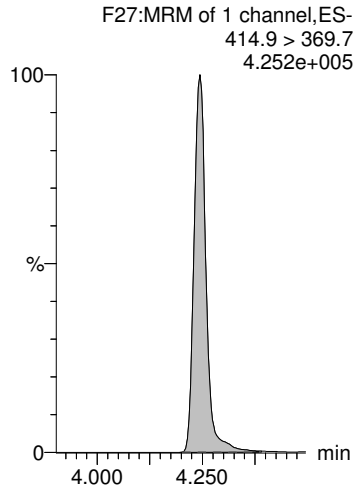
13C3-PFHxS-EIS



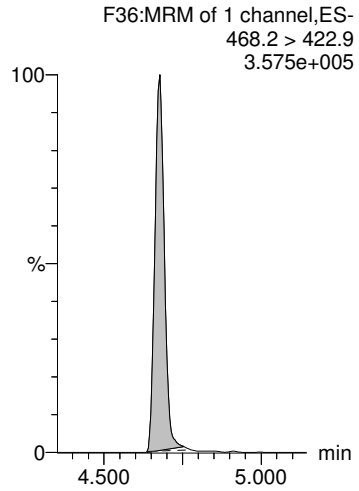
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



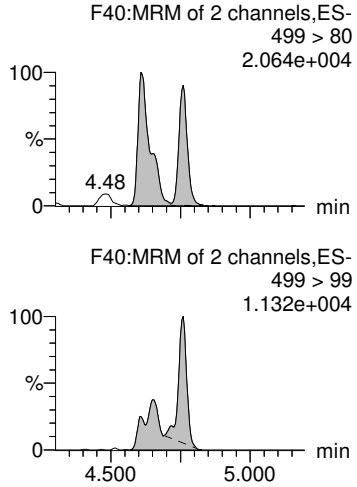
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

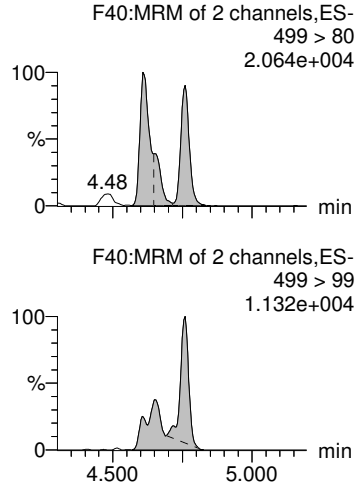
Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

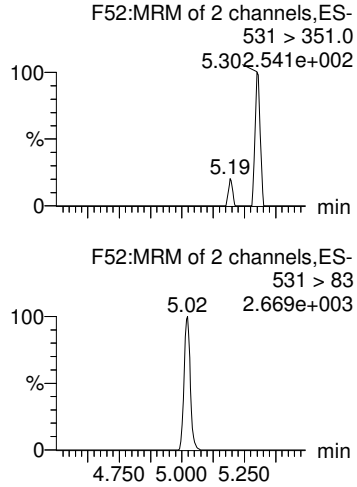
L-PFOS



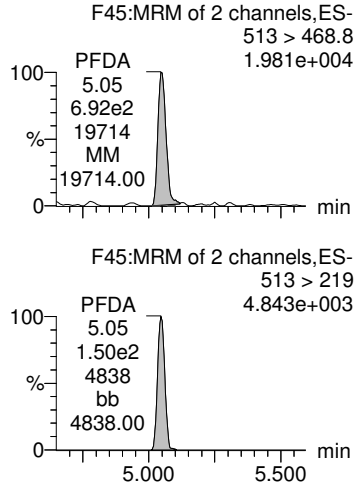
Total PFOS



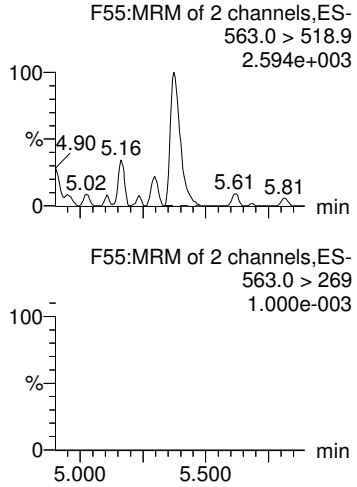
9Cl-PF30NS



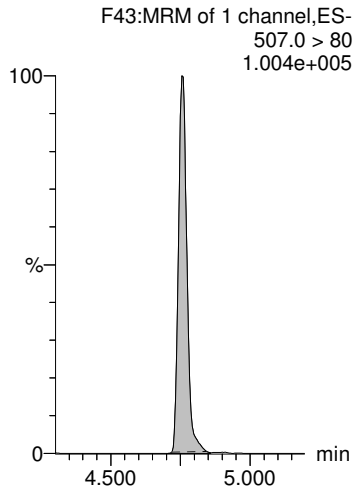
PFDA



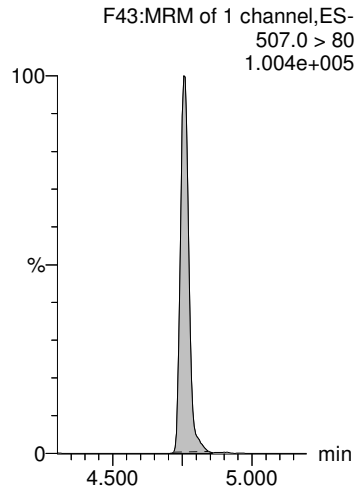
PFUdA



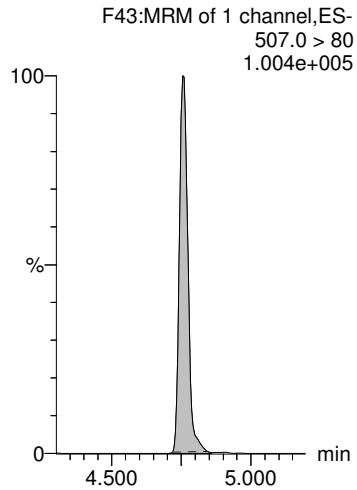
13C8-PFOS-EIS



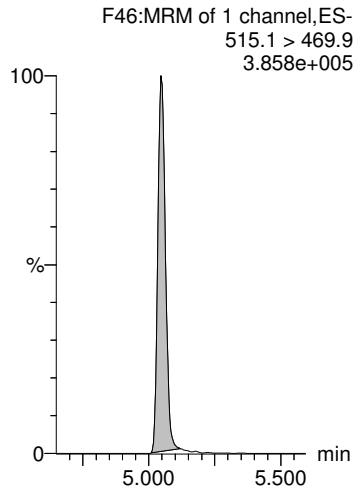
13C8-PFOS-EIS



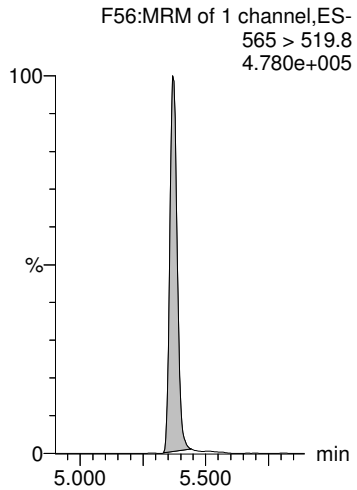
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



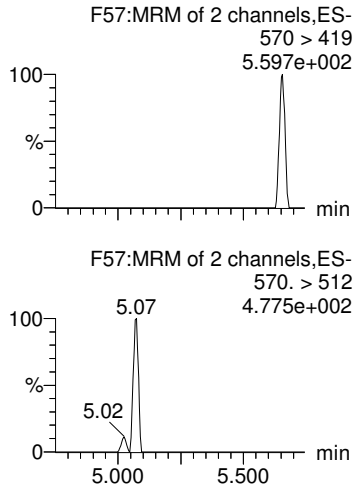
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

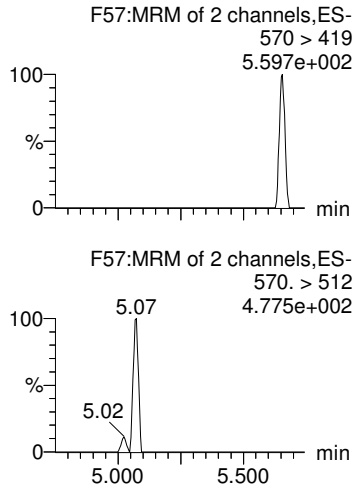
Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

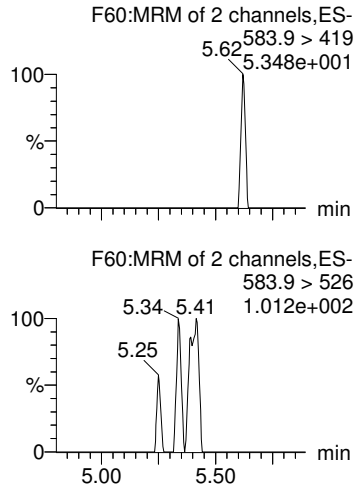
L-MeFOSAA



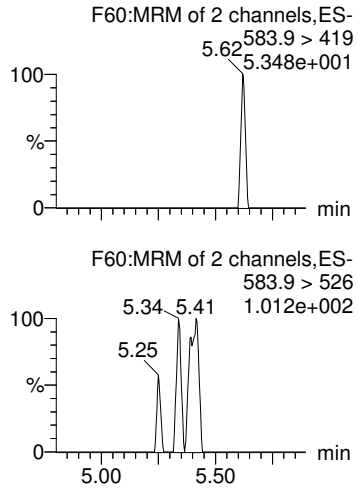
Total N-MeFOSAA



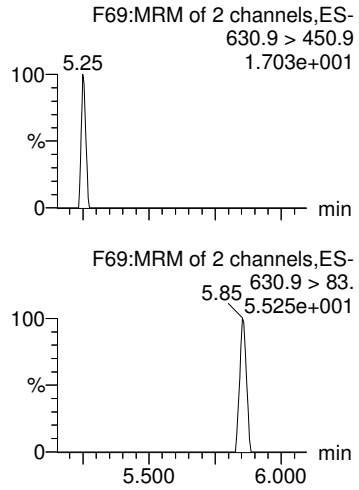
L-EtFOSAA



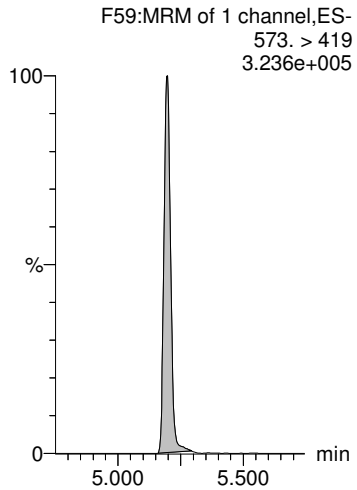
Total N-EtFOSAA



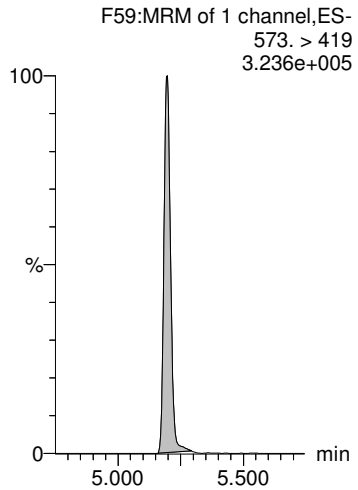
11Cl-PF30UdS



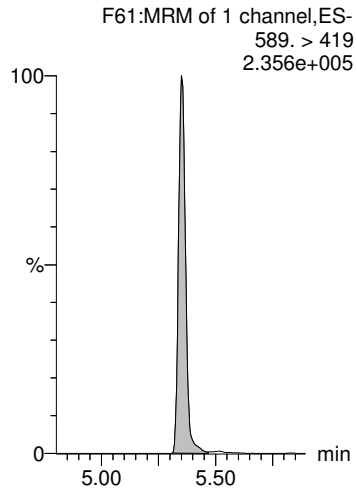
d3-N-MeFOSAA-EIS



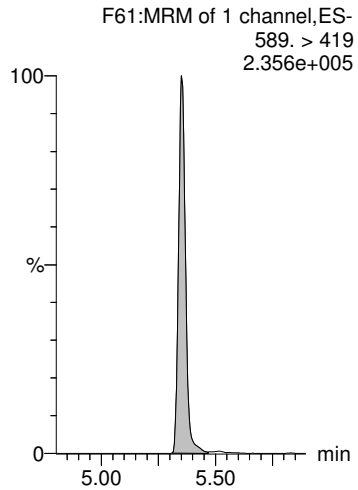
d3-N-MeFOSAA-EIS



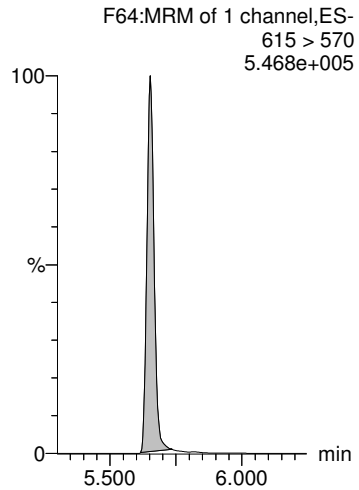
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



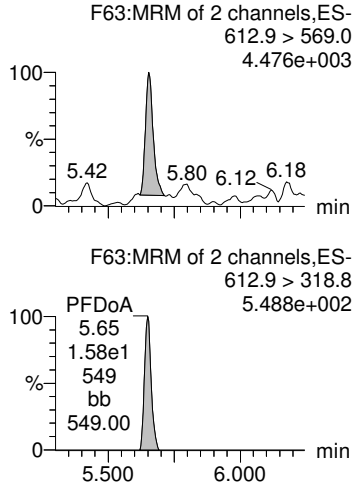
AMR 7/18/2020

Dataset: Z:\Projects\PFAS.PRO\Results\200710M1\200710M1-123.qld

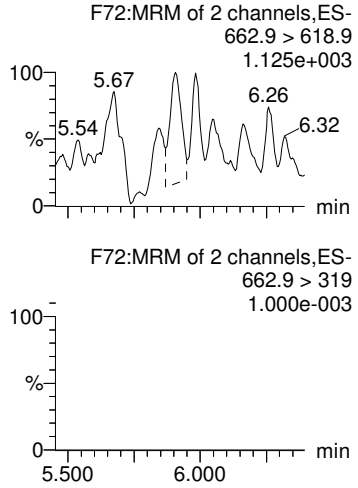
Last Altered: Saturday, July 18, 2020 12:21:20 Pacific Daylight Time
Printed: Saturday, July 18, 2020 12:22:40 Pacific Daylight Time

Name: 200710M1_123, Date: 11-Jul-2020, Time: 05:30:37, ID: 2001417-05 TW08D-20200706 0.25789, Description: TW08D-20200706

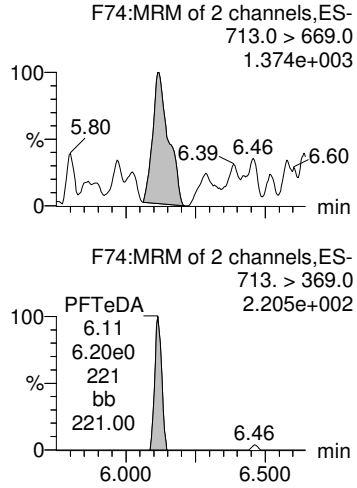
PFDoA



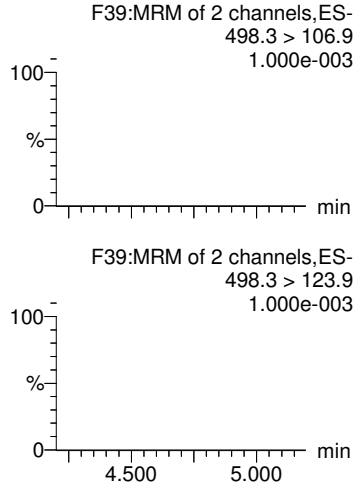
PFTrDA



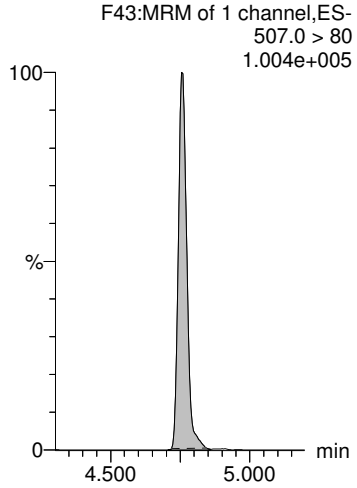
PFTeDA



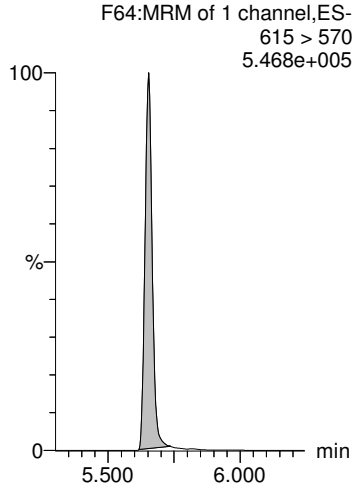
TDCA



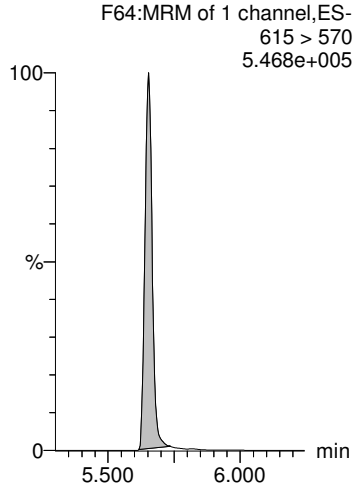
13C8-PFOS-EIS



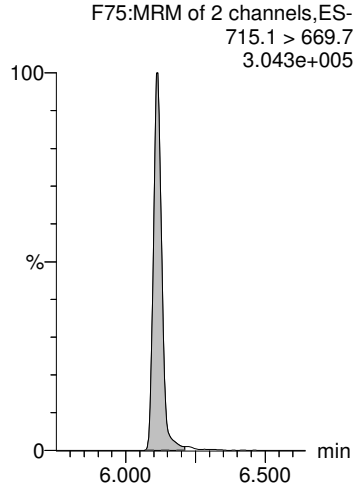
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



AMR 7/18/2020

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS (CCV)

Vista Analytical Laboratory

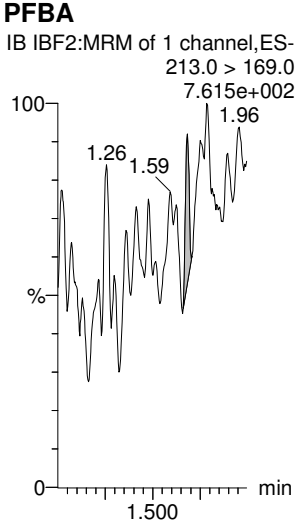
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

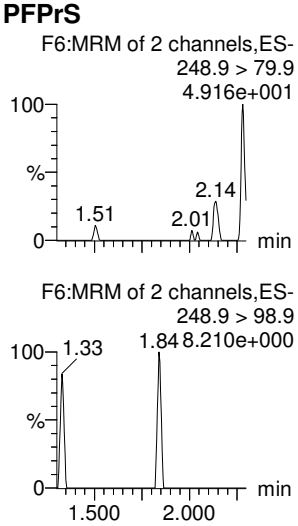
Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 15:25:56
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

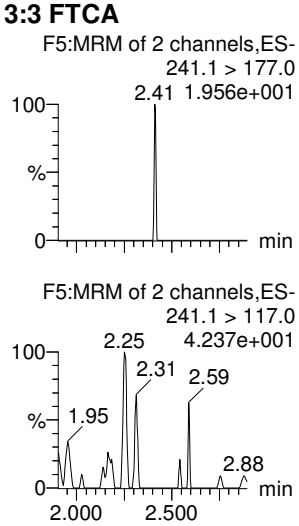
PFBA



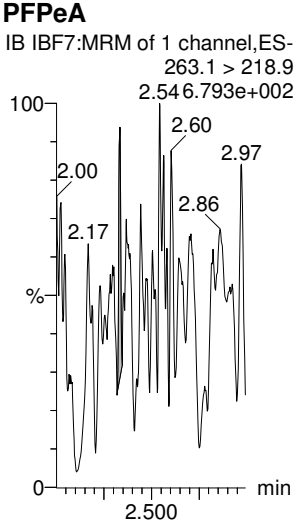
PFPrS



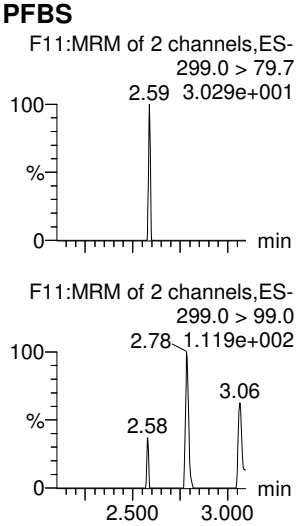
3:3 FTCA



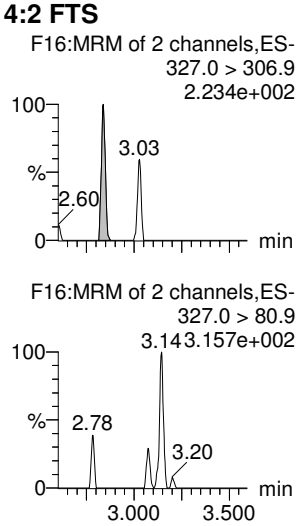
PFPeA



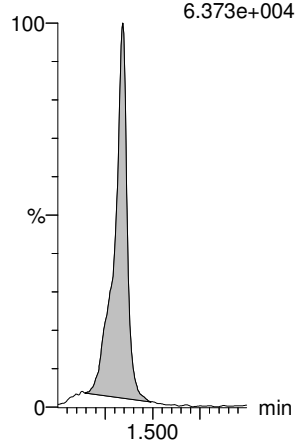
PFBS



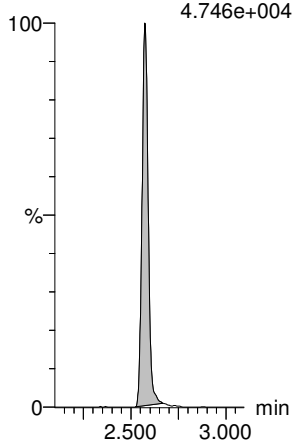
4:2 FTS



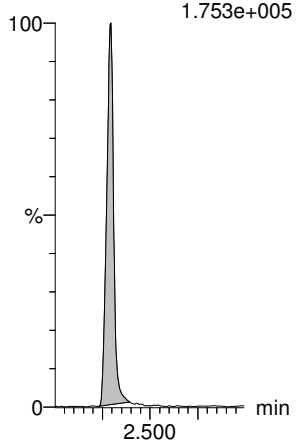
13C3-PFBA-EIS



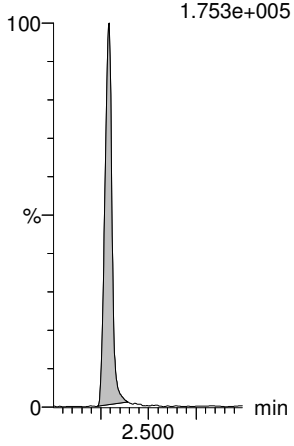
13C3-PFBS-EIS



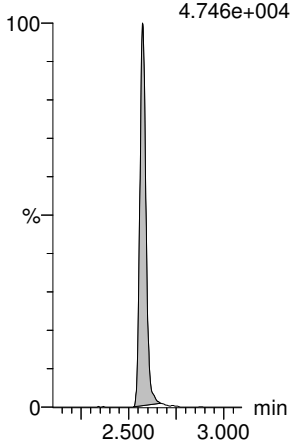
13C3-PFPeA-EIS



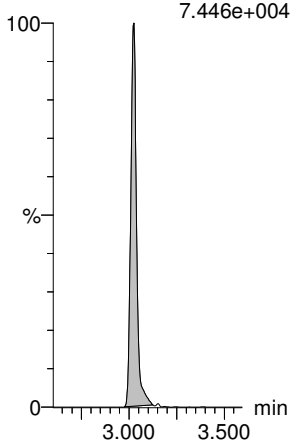
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

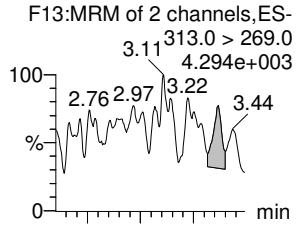


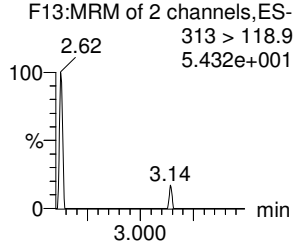
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

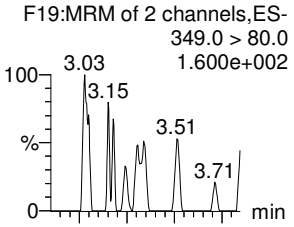
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

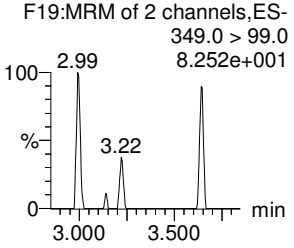
PFHxA



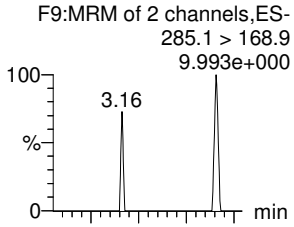


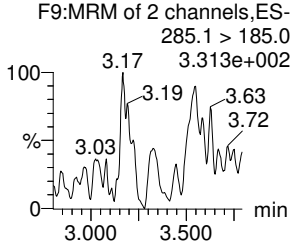
PFPeS



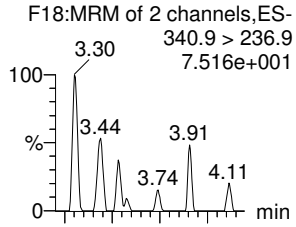


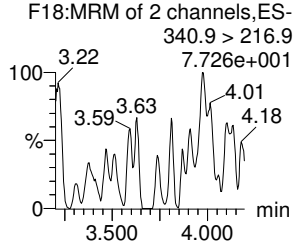
HFPO-DA



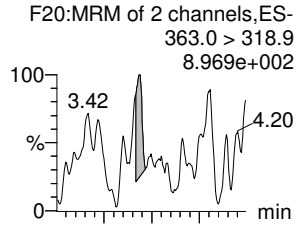


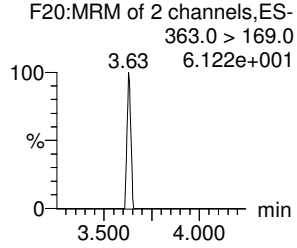
5:3 FTCA



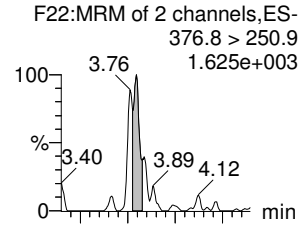


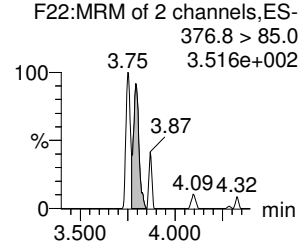
PFHpA



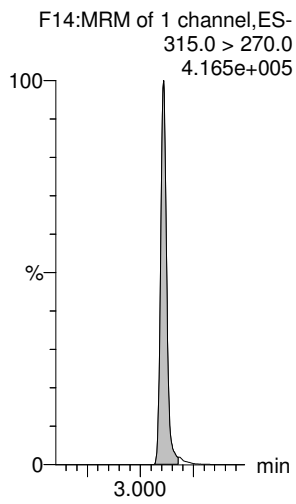


ADONA

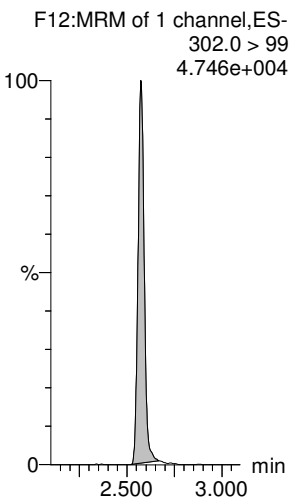




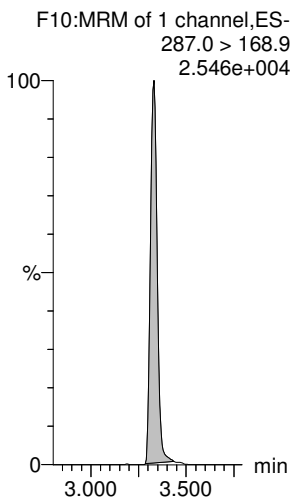
13C2-PFHxA-EIS



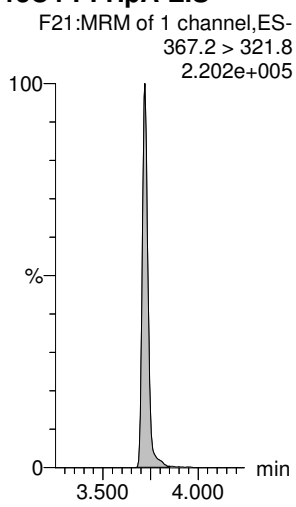
13C3-PFBS-EIS



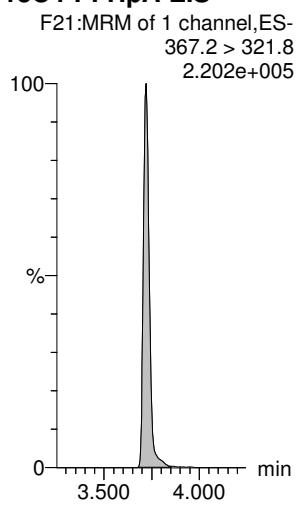
13C3-HFPO-DA-EIS



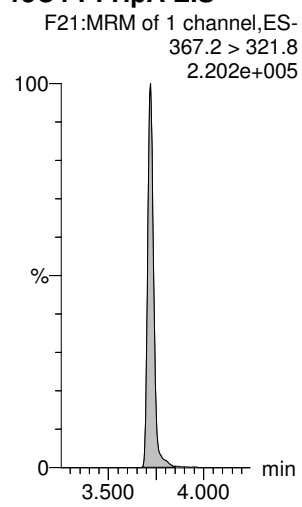
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



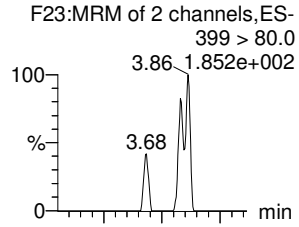
Vista Analytical Laboratory

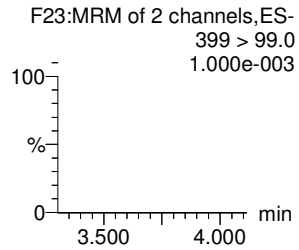
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

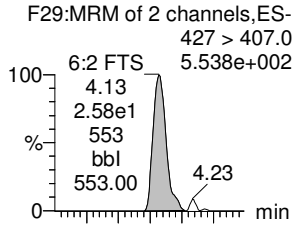
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

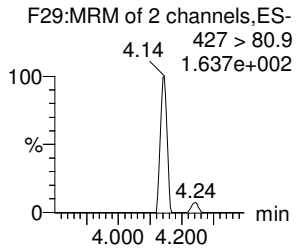
L-PFHxS



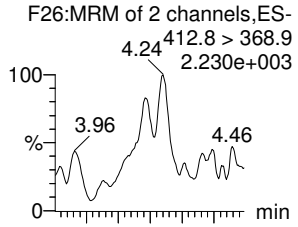


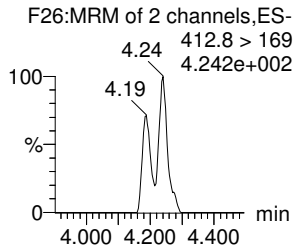
6:2 FTS



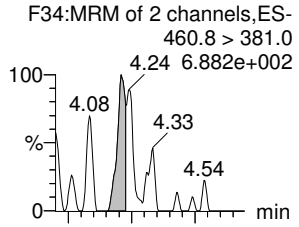


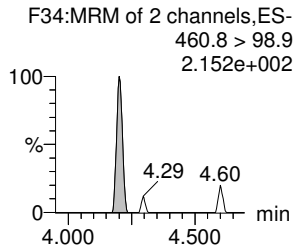
L-PFOA



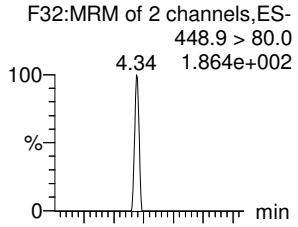


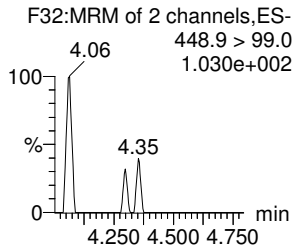
PFEChS



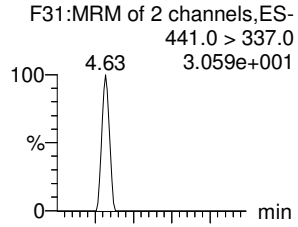


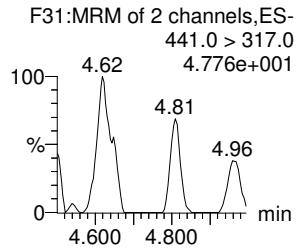
PFHpS



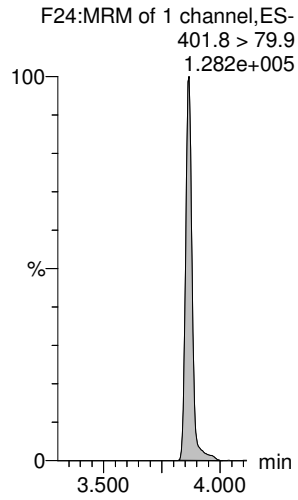


7:3 FTCA

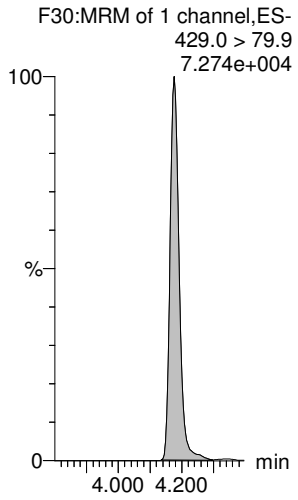




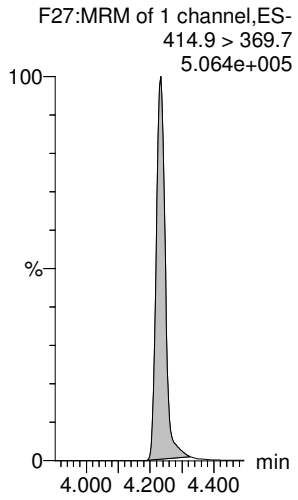
13C3-PFHxS-EIS



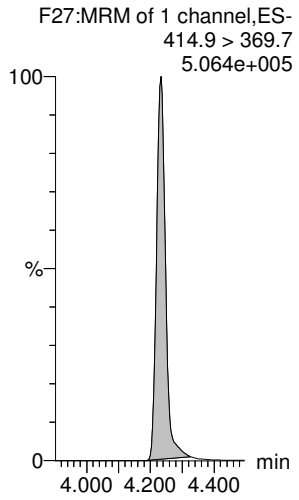
13C2-6:2 FTS-EIS



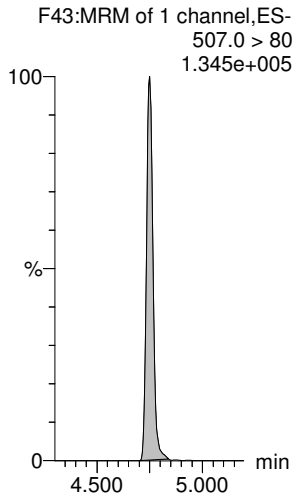
13C2-PFOA-EIS



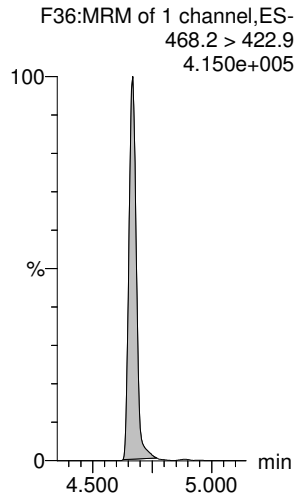
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

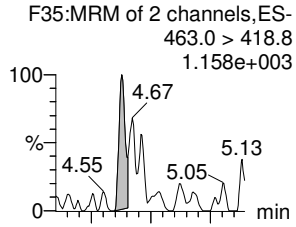


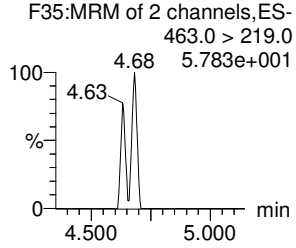
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

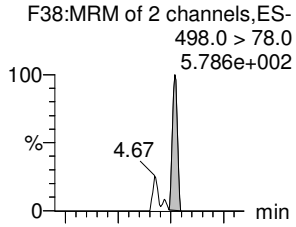
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

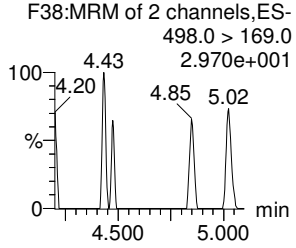
PFNA



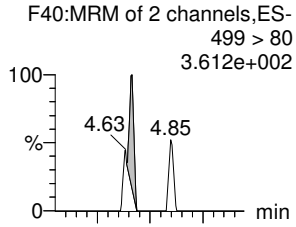


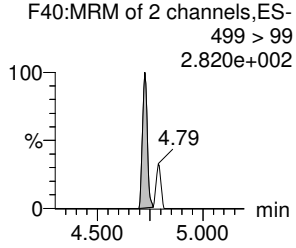
PFOSA



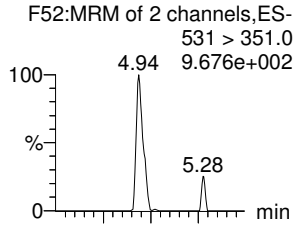


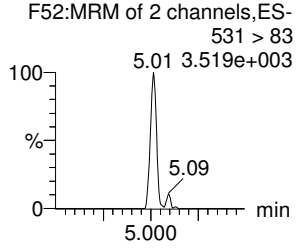
L-PFOS



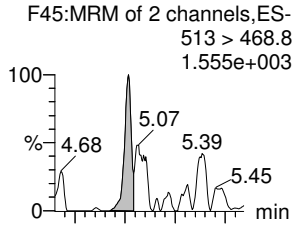


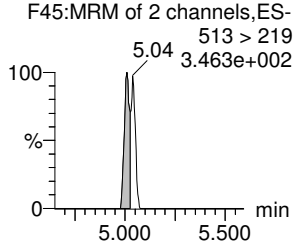
9Cl-PF30NS



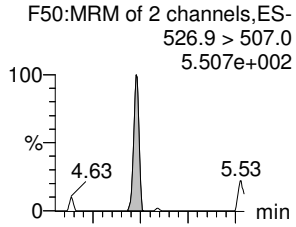


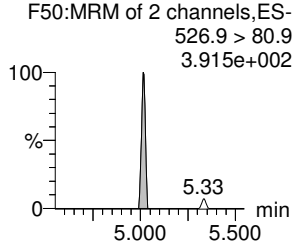
PFDA



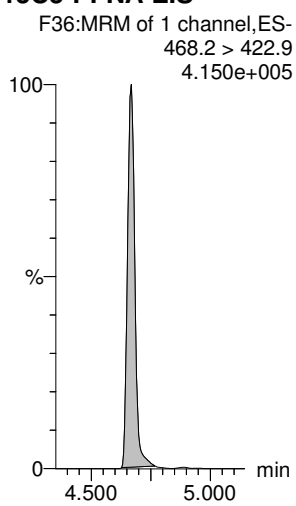


8:2 FTS

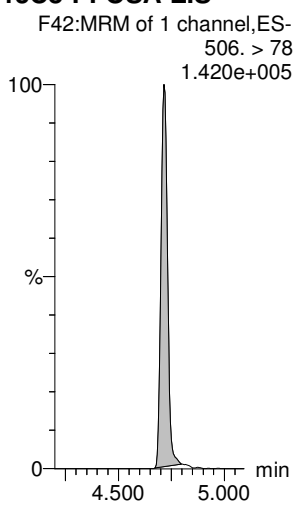




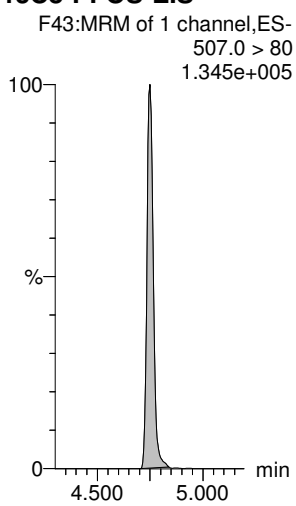
13C5-PFNA-EIS



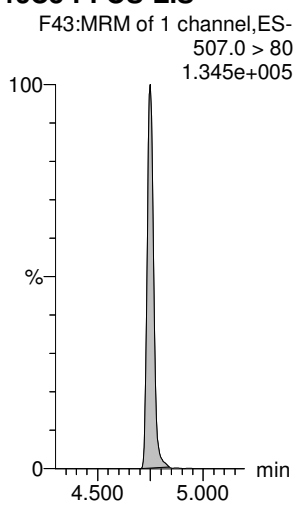
13C8-PFOSA-EIS



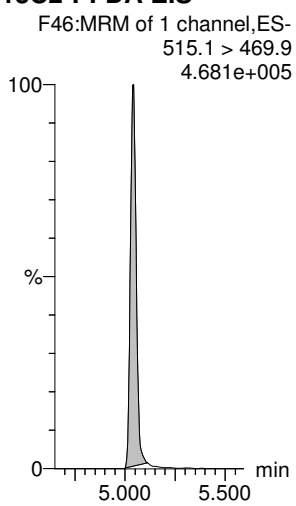
13C8-PFOS-EIS



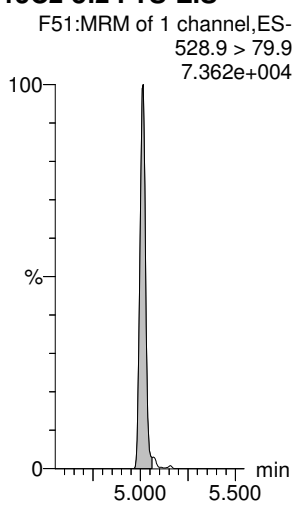
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

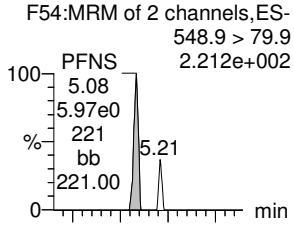


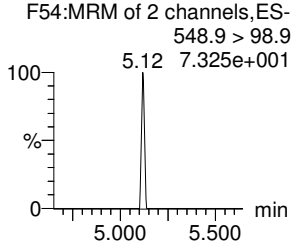
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

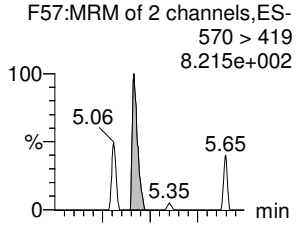
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

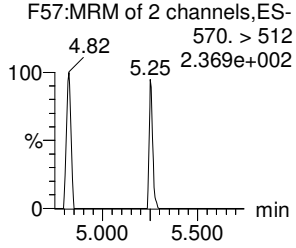
PFNS



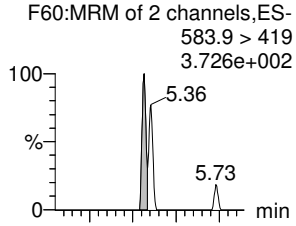


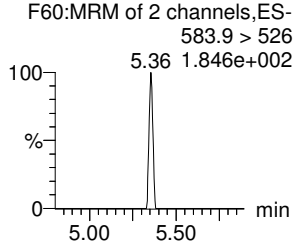
L-MeFOSAA



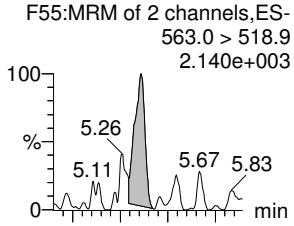


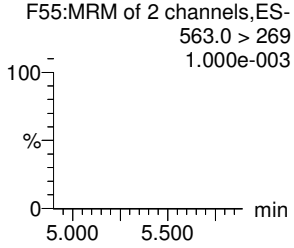
L-EtFOSAA



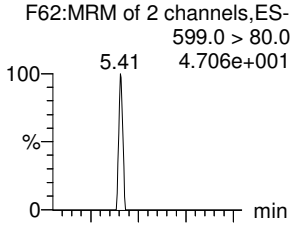


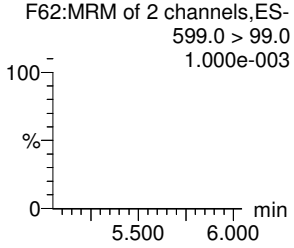
PFUdA



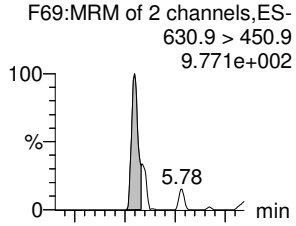


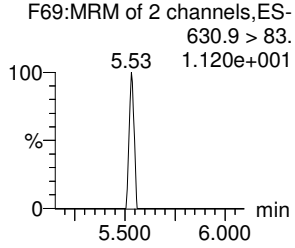
PFDS



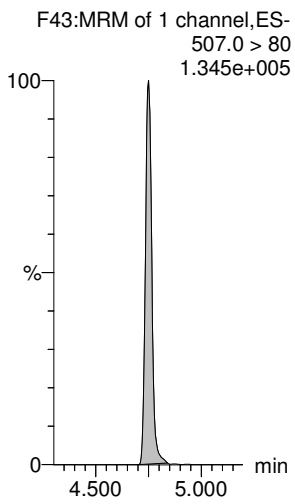


11Cl-PF30UdS

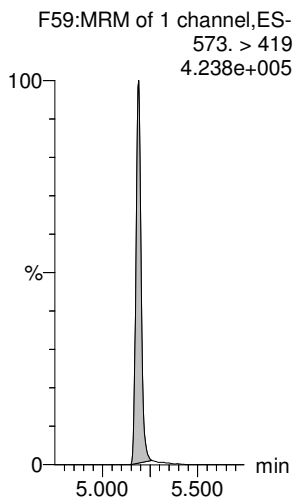




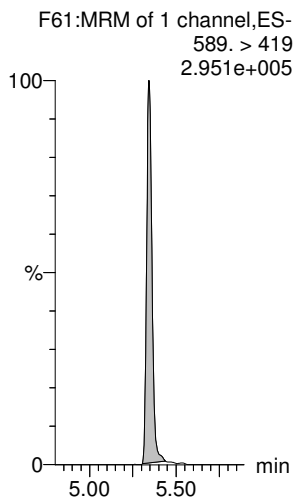
13C8-PFOS-EIS



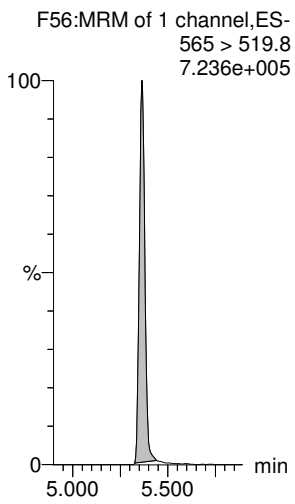
d3-N-MeFOSAA-EIS



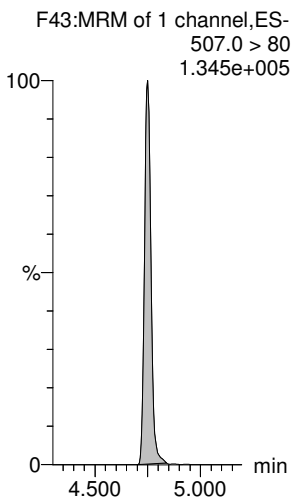
d5-N-EtFOSAA-EIS



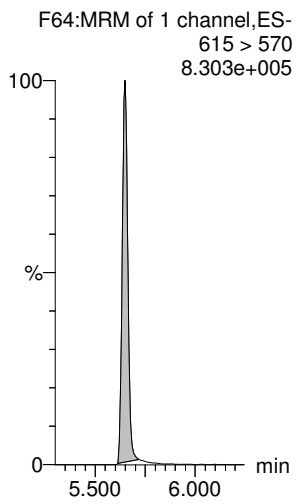
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



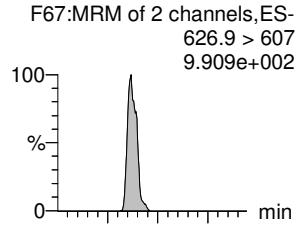
Vista Analytical Laboratory

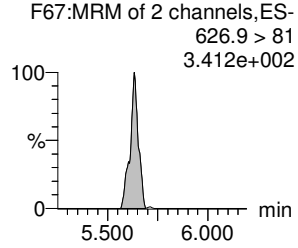
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

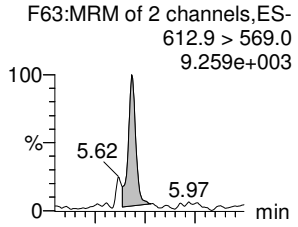
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

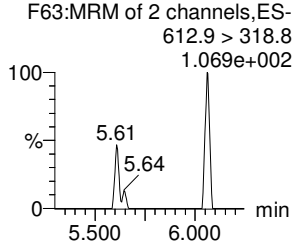
10:2 FTS



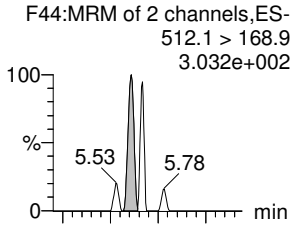


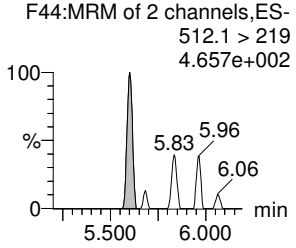
PFDoA



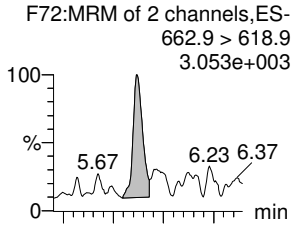


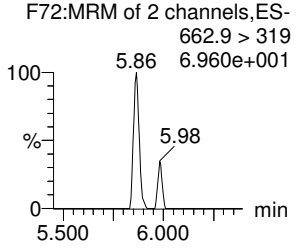
N-MeFOSA



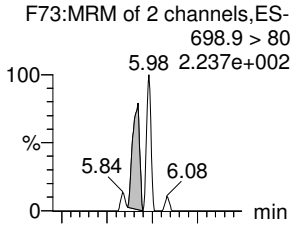


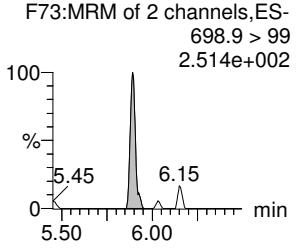
PFTrDA



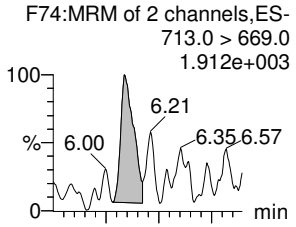


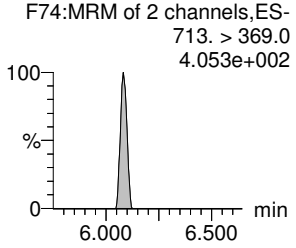
PFDoS



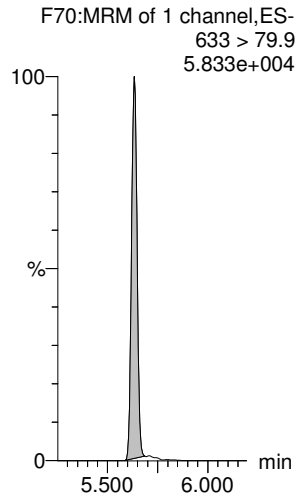


PFTeDA

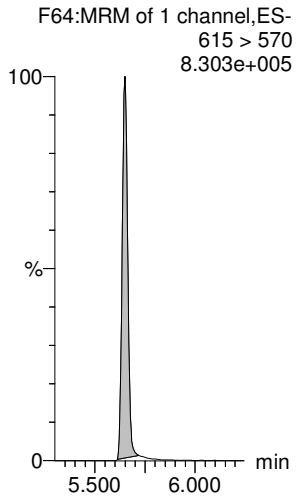




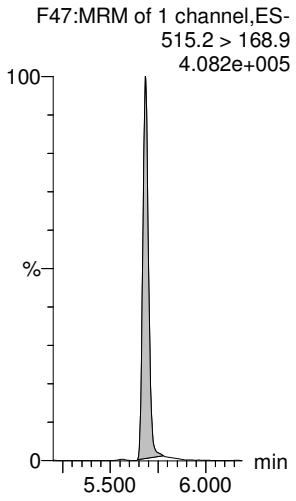
13C2-10:2 FTS-EIS



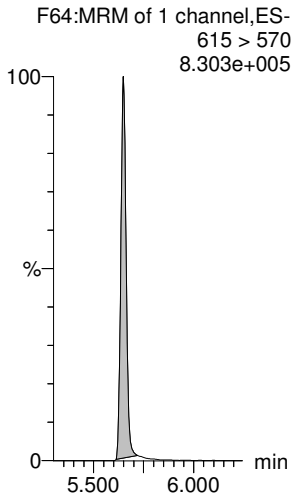
13C2-PFDoA-EIS



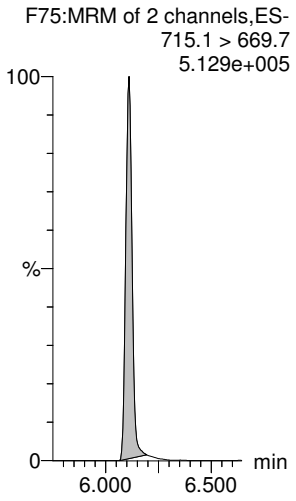
d3-N-MeFOSA-EIS



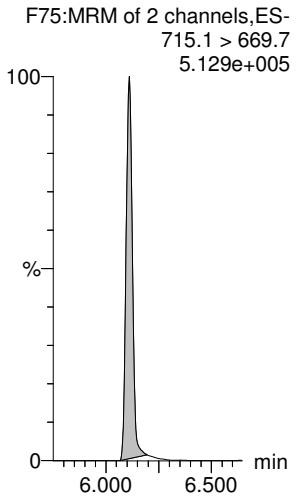
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



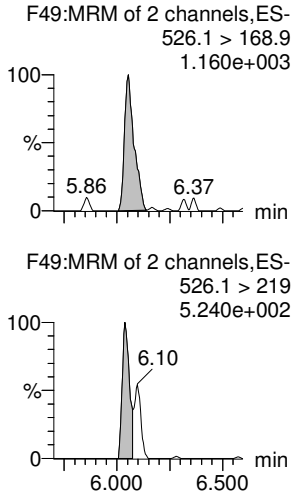
Vista Analytical Laboratory

Dataset: Untitled

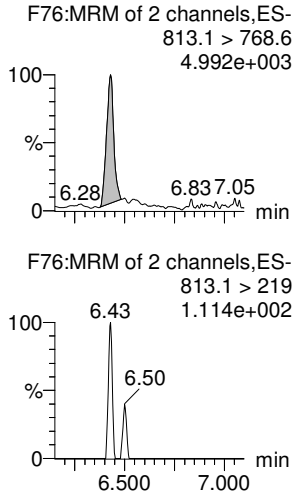
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

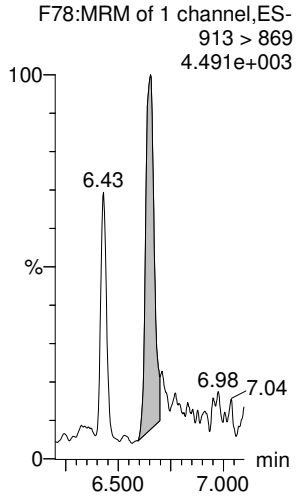
N-EtFOSA



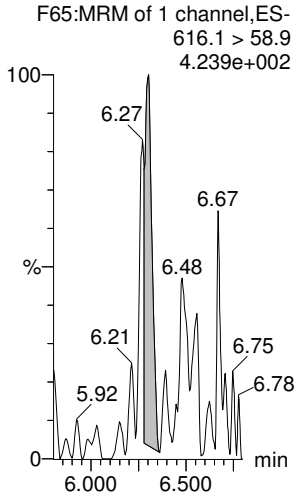
PFHxDA



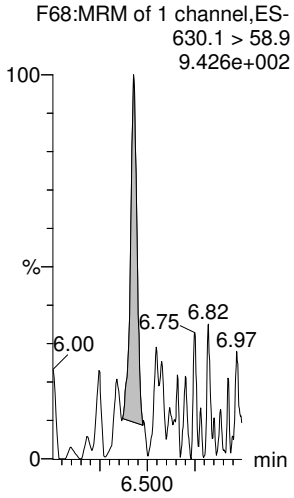
PFODA



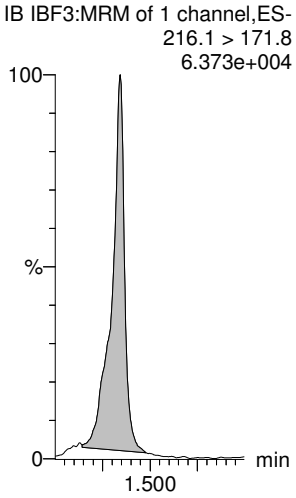
N-MeFOSE



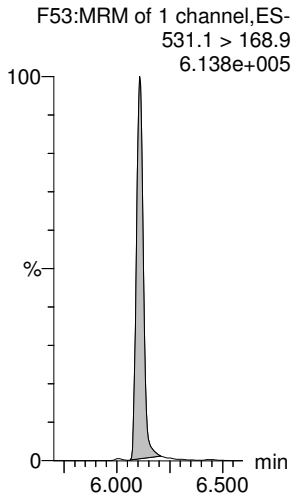
N-EtFOSE



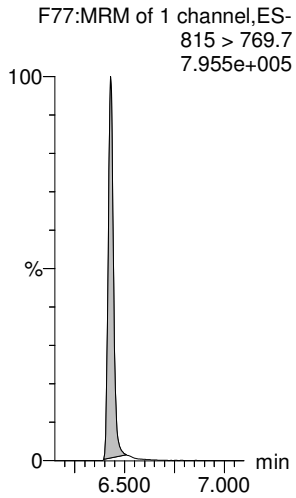
13C3-PFBA-RSD



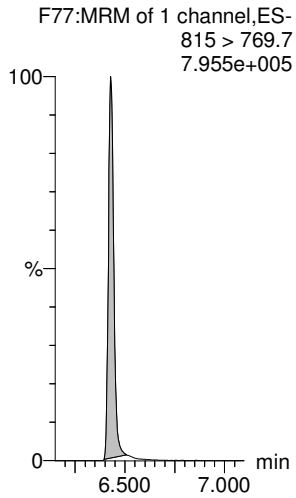
d5-N-ETFOSA-EIS



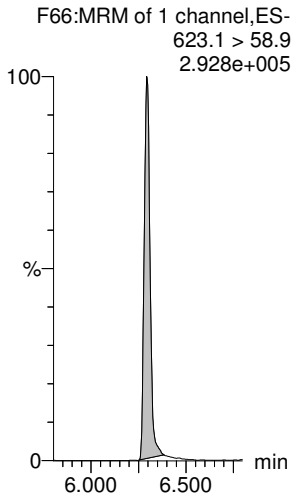
13C2-PFHxDA-EIS



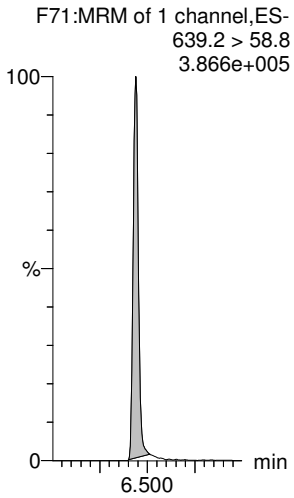
13C2-PFHxDA-EIS



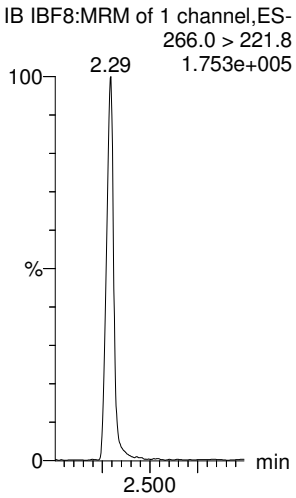
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

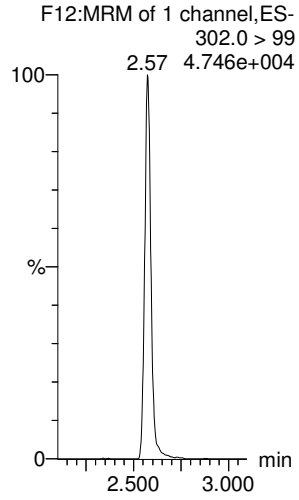


Dataset: Untitled

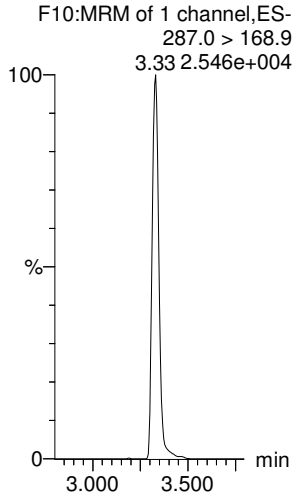
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

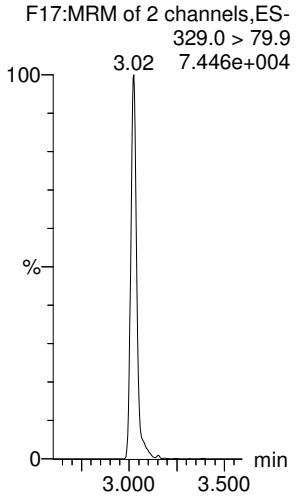
13C3-PFBS-RSD



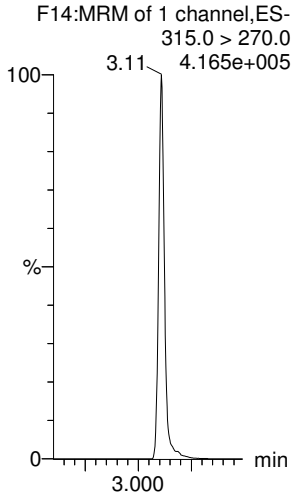
13C3-HFPO-DA-RSD



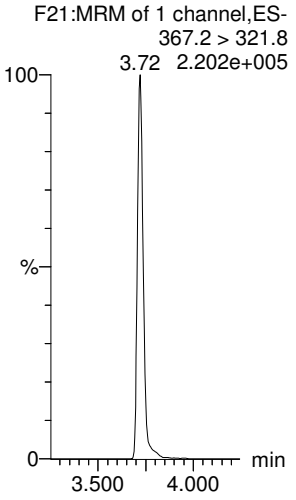
13C2-4:2 FTS-RSD



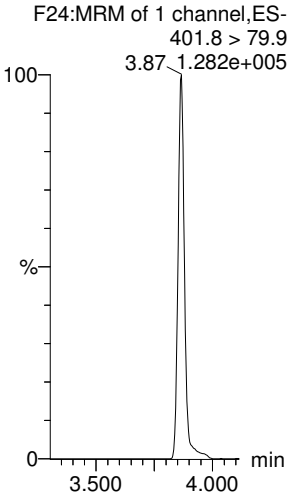
13C2-PFHxA-RSD



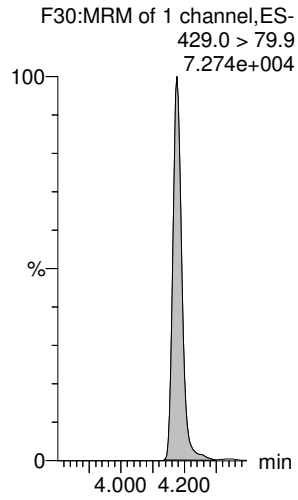
13C4-PFHpA-RSD



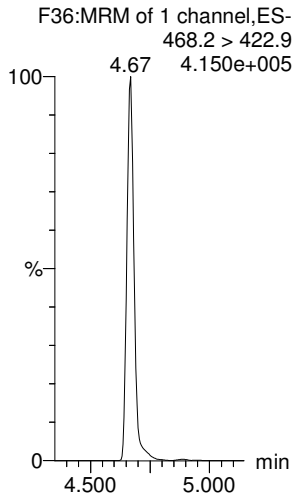
13C3-PFHxS-RSD



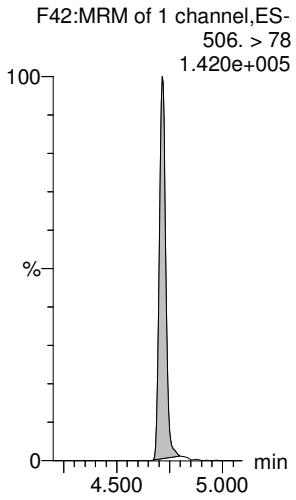
13C2-6:2 FTS-RSD



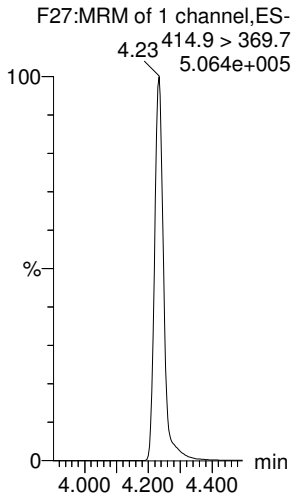
13C5-PFNA-RSD



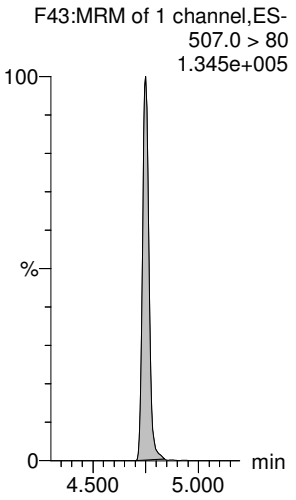
13C8-PFOSA-RSD



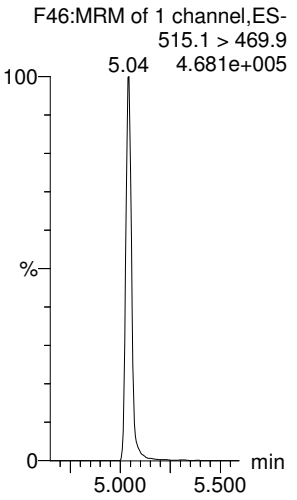
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

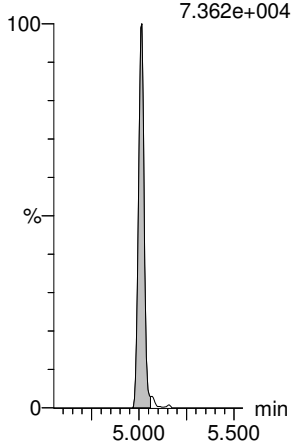


Dataset: Untitled

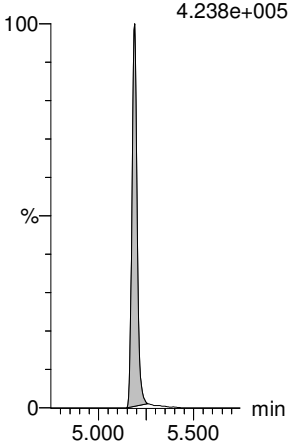
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

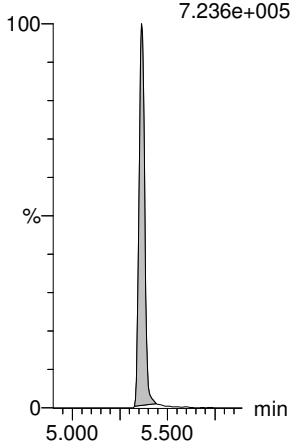
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.362e+004



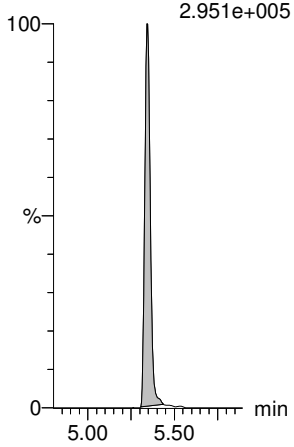
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.238e+005



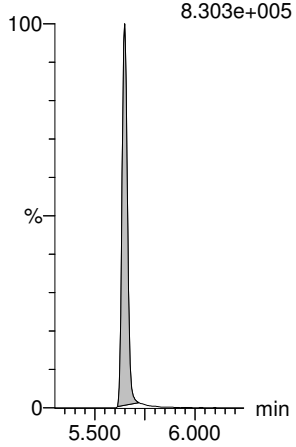
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.236e+005



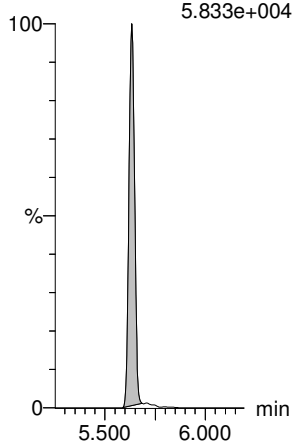
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.951e+005



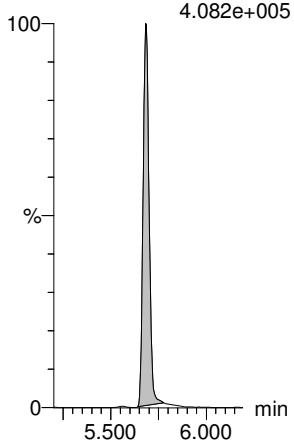
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
8.303e+005



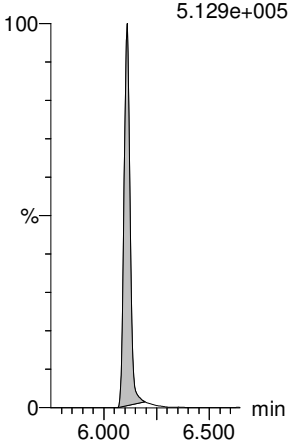
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.833e+004



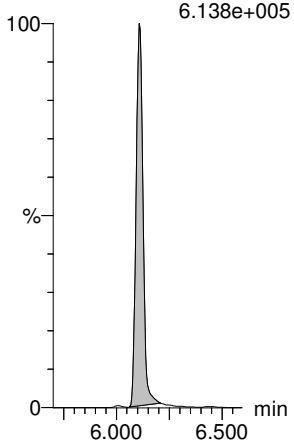
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.082e+005



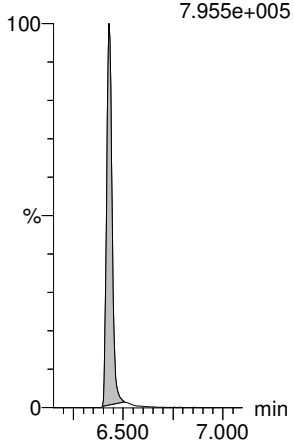
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.129e+005



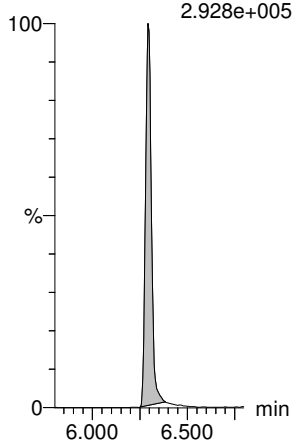
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.138e+005



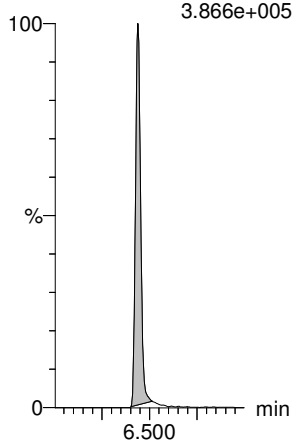
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.955e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.928e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.866e+005



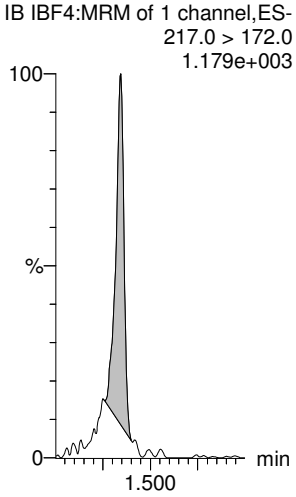
Vista Analytical Laboratory

Dataset: Untitled

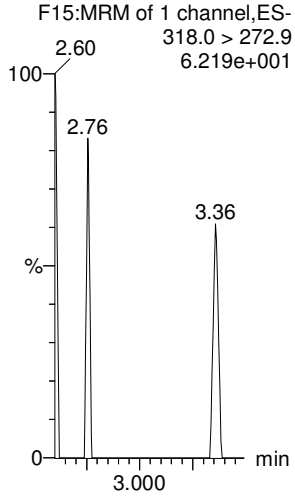
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

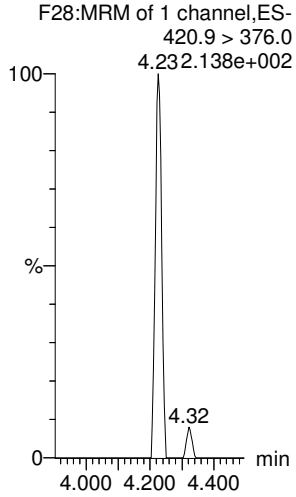
13C4-PFBA



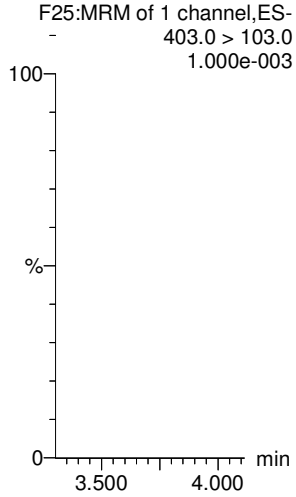
13C5-PFHxA



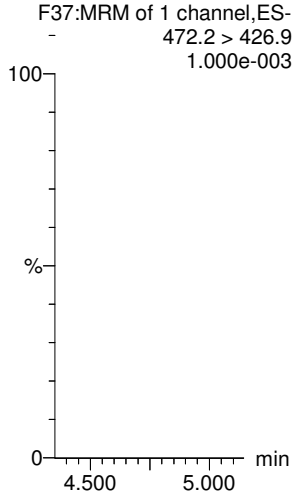
13C8-PFOA



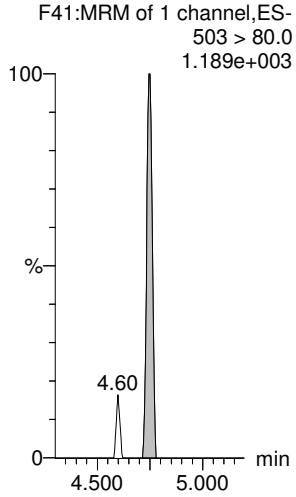
18O2-PFHxS



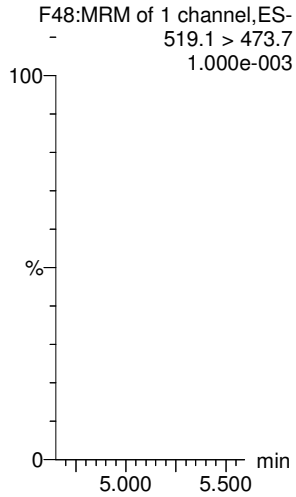
13C9-PFNA



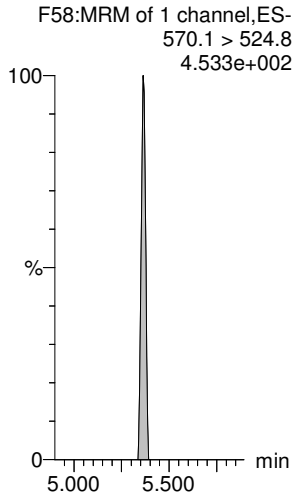
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	6.470	4794.997	1.00	1.68	0.017		0.0487		NO		
2	2	PFPrS	248.9 > 79.9		1733.769	1.00						NO		YES
3	3	3:3 FTCA	241.1 > 177.0		7417.804	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9	5.052	7417.804	1.00	2.33	0.009		0.00891		NO		
5	5	PFBS	299.0 > 79.7		1733.769	1.00						NO		YES
6	6	4:2 FTS	327.0 > 306.9	5.518	2639.538	1.00	2.84	0.026		0.0146		NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	4794.997		1.00	1.34	4794.997	12.500	14.0	111.7	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	7417.804		1.00	2.29	7417.804	12.500	13.8	110.4	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	7417.804		1.00	2.29	7417.804	12.500	13.8	110.4	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2639.538		1.00	3.02	2639.538	12.500	13.1	105.1	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	92.114	13204.556	1.00	3.37	0.087		0.0577		NO		YES
15	8	PFPeS	349.0 > 80.0		1733.769	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		1008.023	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9		7753.160	1.00						NO		YES
18	11	PFHpA	363.0 > 318.9	22.519	7753.160	1.00	3.68	0.036				NO		YES
19	12	ADONA	376.8 > 250.9	58.491	7753.160	1.00	3.80	0.094		0.0001...		NO	5.515	YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	13204.556		1.00	3.11	13204.556	12.500	13.1	104.4	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1008.023		1.00	3.33	1008.023	12.500	13.0	104.1	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0		4054.742	1.00						NO		YES
28	15	6:2 FTS	427 > 407.0	25.824	2413.766	1.00	4.13	0.134				NO		YES
29	16	L-PFOA	412.8 > 368.9		16333.068	1.00						NO		YES
30	18	PFecHS	460.8 > 381.0	24.282	16333.068	1.00	4.21	0.019		0.152		NO	4.301	YES
31	19	PFHpS	448.9 > 80.0		4651.309	1.00						NO		YES
32	20	7:3 FTCA	441.0 > 337.0		14516.408	1.00						NO		YES
33	61	13C3-PFHxS-EIS	401.8 > 79.9	4054.742		1.00	3.87	4054.742	12.500	14.1	112.6	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2413.766		1.00	4.18	2413.766	12.500	13.8	110.6	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	16333.068		1.00	4.23	16333.068	12.500	13.2	105.4	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	16333.068		1.00	4.23	16333.068	12.500	13.2	105.4	NO		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	14516.408		1.00	4.67	14516.408	12.500	14.8	118.6	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	33.967	14516.408	1.00	4.63	0.029		0.0361		NO		YES
41	22	PFOSA	498.0 > 78.0	15.407	4943.442	1.00	4.77	0.039		0.153		NO		YES
42	23	L-PFOS	499 > 80	6.993	4651.309	1.00	4.66	0.019		0.100		NO	0.935	YES
43	25	9Cl-PF30NS	531 > 351.0		4651.309	1.00						NO		YES
44	26	PFDA	513 > 468.8	58.985	15203.589	1.00	5.02	0.048				NO	6.028	NO
45	27	8:2 FTS	526.9 > 507.0	18.288	2448.766	1.00	4.98	0.093				NO	2.047	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	14516.408		1.00	4.67	14516.408	12.500	14.8	118.6	NO		
47	67	13C8-PFOSA-EIS	506. > 78	4943.442		1.00	4.71	4943.442	12.500	12.7	101.8	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	15203.589		1.00	5.04	15203.589	12.500	14.2	113.4	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2448.766		1.00	5.01	2448.766	12.500	12.5	100.1	NO		
52	-1													
53	28	PFNS	548.9 > 79.9	5.969	4651.309	1.00	5.08	0.016		0.147		NO		YES
54	29	L-MeFOSAA	570 > 419	25.209	12896.198	1.00	5.17	0.024		0.0662		NO		YES
55	31	L-EtFOSAA	583.9 > 419	9.354	10608.742	1.00	5.31	0.011		0.0878		NO		YES
56	33	PFUdA	563.0 > 518.9	132.109	24296.852	1.00	5.36	0.068		0.0463		NO		YES
57	34	PFDS	599.0 > 80.0		4651.309	1.00						NO		YES
58	35	11Cl-PF30UdS	630.9 > 450.9	36.784	25809.420	1.00	5.55	0.018		0.0204		NO		YES
59	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	12896.198		1.00	5.19	12896.198	12.500	14.0	111.7	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	10608.742		1.00	5.34	10608.742	12.500	12.2	97.9	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	24296.852		1.00	5.36	24296.852	12.500	13.7	109.2	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
64	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	51.932	1841.801	1.00	5.62	0.352		0.0541		NO	3.271	YES
67	37	PFDoA	612.9 > 569.0	388.992	25809.420	1.00	5.68	0.188		0.0632		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	10.662	14298.525	1.00	5.61	0.111				NO	0.705	YES
69	39	PFTrDA	662.9 > 618.9	152.845	25809.420	1.00	5.86	0.074		0.0709		NO		YES
70	40	PFDoS	698.9 > 80	7.843	17043.047	1.00	5.92	0.006		0.0936		NO	0.946	NO
71	41	PFTeDA	713.0 > 669.0	126.424	17043.047	1.00	6.09	0.093		0.0763		NO	8.934	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1841.801		1.00	5.63	1841.801	12.500	13.9	111.1	NO		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	14298.525		1.00	5.68	14298.525	149.200	142	95.5	NO		
75	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	17043.047		1.00	6.11	17043.047	12.500	13.0	103.7	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	17043.047		1.00	6.11	17043.047	12.500	13.0	103.7	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	59.845	22433.379	1.00	6.05	0.398		0.451		NO	3.037	YES
80	43	PFHxDA	813.1 > 768.6	199.570	24498.477	1.00	6.43	0.102		0.00810		NO		YES
81	44	PFODA	913 > 869	194.795	24498.477	1.00	6.65	0.099		0.106		NO		
82	45	N-MeFOSE	616.1 > 58.9	17.225	10140.663	1.00	6.30	0.253				NO		
83	46	N-EtFOSE	630.1 > 58.9	32.785	12196.826	1.00	6.43	0.401		0.334		NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	4850.166	52.545	1.00	1.34	1153.812	12.500	1670	13366.2	YES		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	22433.379		1.00	6.11	22433.379	149.200	144	96.4	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	24498.477		1.00	6.43	24498.477	12.500	13.5	108.0	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	24498.477		1.00	6.43	24498.477	12.500	13.5	108.0	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	10140.663		1.00	6.29	10140.663	149.200	144	96.6	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	12196.826		1.00	6.44	12196.826	149.200	159	106.7	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2413.766	35.570	1.00	4.18	848.245	12.500	1600	12828.2	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9			1.00			12.500			NO		
100	68	13C8-PFOSA-RSD	506. > 78	4943.442	11.861	1.00	4.71	5209.765	12.500	24400	19524...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4651.309	35.570	1.00	4.75	1634.562	12.500	1670	13364.0	YES		
103	76	13C2-PFDA-RSD	515.1 > 469.9			1.00			12.500			NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2448.766	35.570	1.00	5.01	860.545	12.500	1470	11734.2	YES		
106	80	d3-N-MeFOSAA-RSD	573. > 419	12896.198	11.861	1.00	5.19	13590.968	12.500	28100	22445...	YES		
107	82	13C2-PFUdA-RSD	565 > 519.8	24296.852	11.861	1.00	5.36	25605.822	12.500	28800	23036...	YES		
108	84	d5-N-EtFOSAA-RSD	589. > 419	10608.742	11.861	1.00	5.34	11180.278	12.500	26200	20970...	YES		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	25809.420		1.00	5.65		12.500			NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1841.801	35.570	1.00	5.63	647.245	12.500	1630	13006.2	YES		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	14298.525	11.861	1.00	5.68	15068.844	149.200	275000	18459...	YES		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	17043.047	11.861	1.00	6.11	17961.225	12.500	26300	21057...	YES		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	22433.379	11.861	1.00	6.11	23641.956	149.200	289000	19391...	YES		
114	96	13C2-PFHxDA-RSD	815 > 769.7	24498.477	11.861	1.00	6.43	25818.309	12.500	26300	21052...	YES		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	10140.663	11.861	1.00	6.29	10686.981	149.200	277000	18537...	YES		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	12196.826	11.861	1.00	6.44	12853.918	149.200	310000	20772...	YES		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	52.545	52.545	1.00	1.35	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103.0			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9			1.00			12.500			NO		
123	1...	13C4-PFOS	503 > 80.0	35.570	35.570	1.00	4.75	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7			1.00			12.500			NO		
125	1...	13C7-PFUdA	570.1 > 524.8	11.861	11.861	1.00	5.36	12.500	12.500	12.5	100.0	NO		

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

VAP 07/13/20

A Above criteria
B Below criteria

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

1 PFBA	213.0 > 169.0	506.911	4426.718	1.00	1.41	1.431	1.000	1.05	104.8	NO		
2 PFPrS	248.9 > 79.9	191.612	1740.761	1.00	1.74	1.376	1.000	0.853	85.3	NO	2.118	NO
3 3:3 FTCA	241.1 > 177.0	17.345	7043.822	1.00	2.18	0.031	1.000	0.542	54.2 B	YES	1.403	NO
4 PFPeA	263.1 > 218.9	505.611	7043.822	1.00	2.33	0.897	1.000	0.944	94.4	NO		
5 PFBS	299.0 > 79.7	281.341	1740.761	1.00	2.60	2.020	1.000	1.02	102.4	NO	2.487	NO
6 4:2 FTS	327.0 > 306.9	616.592	2647.680	1.00	3.01	2.911	1.000	1.11	111.3	NO	1.950	NO
47 13C3-PFBA-EIS	216.1 > 171.8	4426.718		1.00	1.42	4426.718	12.500	12.9	103.1	NO		
51 13C3-PFBS-EIS	302.0 > 99	1740.761		1.00	2.60	1740.761	12.500	13.5	107.7	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7043.822		1.00	2.33	7043.822	12.500	13.1	104.8	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7043.822		1.00	2.33	7043.822	12.500	13.1	104.8	NO		
51 13C3-PFBS-EIS	302.0 > 99	1740.761		1.00	2.60	1740.761	12.500	13.5	107.7	NO		
55 13C2-4:2 FTS-EIS	329.0 >79.9	2647.680		1.00	3.01	2647.680	12.500	13.2	105.5	NO		
-1												
7 PFHxA	313.0 > 269.0	1216.809	12280.301	1.00	3.10	1.239	1.000	1.06	106.3	NO	15.704	NO
8 PFPeS	349.0 > 80.0	263.260	1740.761	1.00	3.30	1.890	1.000	0.741	74.1	NO	1.646	NO
9 HFPO-DA	285.1 > 168.9	63.414	807.838	1.00	3.31	0.981	1.000	1.08	107.7	NO	1.433	NO
10 5:3 FTCA	340.9 > 236.9	192.582	7241.121	1.00	3.65	0.332	1.000	1.05	105.1	NO	1.480	NO
11 PFHpA	363.0 > 318.9	762.592	7241.121	1.00	3.72	1.316	1.000	1.01	101.0	NO	9.458	NO
12 ADONA	376.8 > 250.9	2911.496	7241.121	1.00	3.82	5.026	1.000	0.993	99.3	NO	3.560	NO
57 13C2-PFHxA-EIS	315.0 > 270.0	12280.301		1.00	3.10	12280.301	12.500	12.1	97.1	NO		
51 13C3-PFBS-EIS	302.0 > 99	1740.761		1.00	2.60	1740.761	12.500	13.5	107.7	NO		
53 13C3-HFPO-DA-EIS	287.0 > 168.9	807.838		1.00	3.31	807.838	12.500	10.4	83.5	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7241.121		1.00	3.71	7241.121	12.500	12.8	102.4	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7241.121		1.00	3.71	7241.121	12.500	12.8	102.4	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7241.121		1.00	3.71	7241.121	12.500	12.8	102.4	NO		
-1												
13 L-PFHxS	399 > 80.0	298.943	3761.933	1.00	3.86	0.993	1.000	0.909	90.9	NO	1.507	NO
15 6:2 FTS	427 > 407.0	456.502	2474.621	1.00	4.17	2.306	1.000	0.795	79.5	NO	1.609	NO
16 L-PFOA	412.8 > 368.9	1914.189	15695.438	1.00	4.23	1.524	1.000	0.998	99.8	NO	3.619	NO
18 PFecHS	460.8 > 381.0	492.910	15695.438	1.00	4.25	0.393	1.000	1.01	100.5	NO	0.848	NO
19 PFHpS	448.9 > 80.0	308.289	3869.780	1.00	4.34	0.996	1.000	1.17	117.3	NO	2.452	NO
20 7:3 FTCA	441.0 > 337.0	437.456	12724.537	1.00	4.65	0.430	1.000	1.36	136.2 A	YES	1.414	NO
61 13C3-PFHxS-EIS	401.8 > 79.9	3761.933		1.00	3.86	3761.933	12.500	13.1	104.4	NO		
63 13C2-6:2 FTS-EIS	429.0 >79.9	2474.621		1.00	4.17	2474.621	12.500	14.2	113.3	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	15695.438		1.00	4.23	15695.438	12.500	12.7	101.3	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	15695.438		1.00	4.23	15695.438	12.500	12.7	101.3	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

73 13C8-PFOS-EIS	507.0 > 80	3869.780		1.00	4.75	3869.780	12.500	12.1	96.6	NO		
65 13C5-PFNA-EIS	468.2 > 422.9	12724.537		1.00	4.66	12724.537	12.500	13.0	104.0	NO		
-1												
21 PFNA	463.0 > 418.8	1401.920	12724.537	1.00	4.66	1.377	1.000	1.06	106.3	NO	3.235	NO
22 PFOSA	498.0 > 78.0	537.604	6314.828	1.00	4.71	1.064	1.000	1.17	116.9	NO	32.144	NO
23 L-PFOS	499 > 80	353.806	3869.780	1.00	4.75	1.143	1.000	1.10	109.8	NO	2.209	NO
25 9Cl-PF30NS	531 > 351.0	1409.708	3869.780	1.00	4.96	4.554	1.000	1.18	118.4	NO	6.535	YES
26 PFDA	513 > 468.8	1954.051	14946.352	1.00	5.03	1.634	1.000	1.13	113.0	NO	5.588	NO
27 8:2 FTS	526.9 > 507.0	670.006	3299.455	1.00	5.01	2.538	1.000	0.996	99.6	NO	1.747	NO
65 13C5-PFNA-EIS	468.2 > 422.9	12724.537		1.00	4.66	12724.537	12.500	13.0	104.0	NO		
67 13C8-PFOSA-EIS	506. > 78	6314.828		1.00	4.71	6314.828	12.500	16.2	130.0	NO		
73 13C8-PFOS-EIS	507.0 > 80	3869.780		1.00	4.75	3869.780	12.500	12.1	96.6	NO		
73 13C8-PFOS-EIS	507.0 > 80	3869.780		1.00	4.75	3869.780	12.500	12.1	96.6	NO		
75 13C2-PFDA-EIS	515.1 > 469.9	14946.352		1.00	5.03	14946.352	12.500	13.9	111.5	NO		
77 13C2-8:2 FTS-EIS	528.9 > 79.9	3299.455		1.00	5.01	3299.455	12.500	16.9	134.9	NO		
-1												
28 PFNS	548.9 > 79.9	333.369	3869.780	1.00	5.10	1.077	1.000	1.11	110.5	NO	1.651	NO
29 L-MeFOSAA	570 > 419	794.810	13012.834	1.00	5.19	0.763	1.000	0.856	85.6	NO	2.731	NO
31 L-EtFOSAA	583.9 > 419	793.993	11477.255	1.00	5.35	0.865	1.000	0.974	97.4	NO	1.180	NO
33 PFUdA	563.0 > 518.9	1781.030	23073.594	1.00	5.36	0.965	1.000	1.02	101.6	NO	10.496	NO
34 PFDS	599.0 > 80.0	279.618	3869.780	1.00	5.41	0.903	1.000	1.00	100.3	NO	1.659	NO
35 11Cl-PF30UdS	630.9 > 450.9	1181.419	25435.783	1.00	5.57	0.581	1.000	1.00	100.2	NO	28.165	NO
73 13C8-PFOS-EIS	507.0 > 80	3869.780		1.00	4.75	3869.780	12.500	12.1	96.6	NO		
79 d3-N-MeFOSAA-EIS	573. > 419	13012.834		1.00	5.18	13012.834	12.500	14.1	112.7	NO		
83 d5-N-EtFOSAA-EIS	589. > 419	11477.255		1.00	5.34	11477.255	12.500	13.2	105.9	NO		
81 13C2-PFUdA-EIS	565 > 519.8	23073.594		1.00	5.36	23073.594	12.500	13.0	103.7	NO		
73 13C8-PFOS-EIS	507.0 > 80	3869.780		1.00	4.75	3869.780	12.500	12.1	96.6	NO		
85 13C2-PFDoA-EIS	615 > 570	25435.783		1.00	5.64	25435.783	12.500	13.2	105.7	NO		
-1												
36 10:2 FTS	626.9 > 607	573.239	2282.877	1.00	5.63	3.139	1.000	0.954	95.4	NO	1.485	NO
37 PFDoA	612.9 > 569.0	2539.196	25435.783	1.00	5.64	1.248	1.000	1.22	121.7	NO	9.622	NO
38 N-MeFOSA	512.1 > 168.9	565.246	15432.990	1.00	5.64	5.465	5.000	5.28	105.6	NO	1.307	NO
39 PFTrDA	662.9 > 618.9	2165.338	25435.783	1.00	5.89	1.064	1.000	1.20	119.6	NO	11.774	NO
40 PFDoS	698.9 > 80	375.202	17329.232	1.00	5.92	0.271	1.000	0.992	99.2	NO	2.337	NO
41 PFTeDA	713.0 > 669.0	2093.723	17329.232	1.00	6.11	1.510	1.000	0.963	96.3	NO	14.605	NO
87 13C2-10:2 FTS-EIS	633 > 79.9	2282.877		1.00	5.63	2282.877	12.500	17.2	137.7	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

85	13C2-PFDoA-EIS	615 > 570	25435.783		1.00	5.64	25435.783	12.500	13.2	105.7	NO		
89	d3-N-MeFOSA-EIS	515.2 > 168.9	15432.990		1.00	5.67	15432.990	149.200	154	103.0	NO		
85	13C2-PFDoA-EIS	615 > 570	25435.783		1.00	5.64	25435.783	12.500	13.2	105.7	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17329.232		1.00	6.11	17329.232	12.500	13.2	105.5	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17329.232		1.00	6.11	17329.232	12.500	13.2	105.5	NO		
-1													
42	N-EtFOSA	526.1 > 168.9	604.752	22981.904	1.00	6.08	3.926	5.000	4.63	92.6	NO	1.167	NO
43	PFHxDA	813.1 > 768.6	1569.373	25369.207	1.00	6.43	0.773	1.000	1.11	110.6	NO	27.883	NO
44	PFODA	913 > 869	1982.027	25369.207	1.00	6.65	0.977	1.000	0.905	90.5	NO		
45	N-MeFOSE	616.1 > 58.9	344.438	9857.279	1.00	6.30	5.213	5.000	5.18	103.6	NO		
46	N-EtFOSE	630.1 > 58.9	461.199	10931.442	1.00	6.45	6.295	5.000	5.37	107.4	NO		
48	13C3-PFBA-RSD	216.1 > 171.8	4418.225	6821.067	1.00	1.42	8.097	12.500	11.7	93.8	NO		
93	d5-N-ETFOSA-EIS	531.1 > 168.9	22981.904		1.00	6.10	22981.904	149.200	147	98.7	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25369.207		1.00	6.42	25369.207	12.500	14.0	111.8	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25369.207		1.00	6.42	25369.207	12.500	14.0	111.8	NO		
97	d7-N-MeFOSE-EIS	623.1 > 58.9	9857.279		1.00	6.29	9857.279	149.200	140	93.9	NO		
99	d9-N-EtFOSE-EIS	639.2 > 58.8	10931.442		1.00	6.44	10931.442	149.200	143	95.6	NO		
50	13C3-PFPeA-RSD	266.0 > 221.8	7044.294	14990.768	1.00	2.33	5.874	12.500	12.5	100.0	NO		
-1													
52	13C3-PFBS-RSD	302.0 > 99	1736.832	2277.727	1.00	2.60	9.532	12.500	12.4	99.0	NO		
54	13C3-HFPO-DA-RSD	287.0 > 168.9	807.838	14990.768	1.00	3.31	0.674	12.500	9.42	75.3	NO		
56	13C2-4:2 FTS-RSD	329.0 >79.9	2647.680	2277.727	1.00	3.01	14.530	12.500	12.2	97.4	NO		
58	13C2-PFHxA-RSD	315.0 > 270.0	12234.009	14990.768	1.00	3.10	10.201	12.500	11.9	95.2	NO		
60	13C4-PFHpA-RSD	367.2 > 321.8	7241.121	14990.768	1.00	3.71	6.038	12.500	12.2	97.9	NO		
62	13C3-PFHxS-RSD	401.8 > 79.9	3761.933	2277.727	1.00	3.86	20.645	12.500	11.8	94.5	NO		
64	13C2-6:2 FTS-RSD	429.0 >79.9	2474.621	4194.453	1.00	4.17	7.375	12.500	13.9	111.5	NO		
66	13C5-PFNA-RSD	468.2 > 422.9	12724.537	15811.081	1.00	4.66	10.060	12.500	11.2	89.4	NO		
68	13C8-PFOSA-RSD	506. > 78	6314.828	28154.656	1.00	4.71	2.804	12.500	13.1	105.1	NO		
70	13C2-PFOA-RSD	414.9 > 369.7	15695.438	24627.904	1.00	4.23	7.966	12.500	11.7	93.4	NO		
74	13C8-PFOS-RSD	507.0 > 80	3869.780	4194.453	1.00	4.75	11.532	12.500	11.8	94.3	NO		
76	13C2-PFDA-RSD	515.1 > 469.9	14959.388	21260.938	1.00	5.03	8.795	12.500	11.6	93.1	NO		
-1													
78	13C2-8:2 FTS-RSD	528.9 > 79.9	3299.455	4194.453	1.00	5.01	9.833	12.500	16.8	134.1	NO		
80	d3-N-MeFOSAA-RSD	573. > 419	13011.688	28154.656	1.00	5.18	5.777	12.500	11.9	95.4	NO		
82	13C2-PFUdA-RSD	565 > 519.8	23073.594	28154.656	1.00	5.36	10.244	12.500	11.5	92.2	NO		
84	d5-N-EtFOSAA-RSD	589. > 419	11480.364	28154.656	1.00	5.34	5.097	12.500	12.0	95.6	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

	86 13C2-PFDoA-RSD	615 > 570	25435.783	21260.938	1.00	5.64	14.955	12.500	11.7	93.8	NO
	88 13C2-10:2 FTS-RSD	633 > 79.9	2282.877	4194.453	1.00	5.63	6.803	12.500	17.1	136.7	NO
	90 d3-N-MeFOSA-RSD	515.2 > 168.9	15432.990	28154.656	1.00	5.67	6.852	149.200	125	83.9	NO
	92 13C2-PFTeDA-RSD	715.1 > 669.7	17329.232	28154.656	1.00	6.11	7.694	12.500	11.3	90.2	NO
	94 d5-N-ETFOSA-RSD	531.1 > 168.9	23056.715	28154.656	1.00	6.10	10.237	149.200	125	84.0	NO
	96 13C2-PFHxDA-RSD	815 > 769.7	25469.168	28154.656	1.00	6.42	11.308	12.500	11.5	92.2	NO
	98 d7-N-MeFOSE-RSD	623.1 > 58.9	9857.279	28154.656	1.00	6.29	4.376	149.200	113	75.9	NO
	1... d9-N-EtFOSE-RSD	639.2 > 58.8	10928.592	28154.656	1.00	6.44	4.852	149.200	117	78.4	NO
	-1										
	1... 13C4-PFBA	217.0 > 172.0	6821.067	6821.067	1.00	1.41	12.500	12.500	12.5	100.0	NO
	1... 13C5-PFHxA	318.0 > 272.9	14990.768	14990.768	1.00	3.10	12.500	12.500	12.5	100.0	NO
	1... 13C8-PFOA	420.9 > 376.0	24627.904	24627.904	1.00	4.23	12.500	12.500	12.5	100.0	NO
	1... 18O2-PFHxS	403.0 > 103.0	2277.727	2277.727	1.00	3.86	12.500	12.500	12.5	100.0	NO
	1... 13C9-PFNA	472.2 > 426.9	15811.081	15811.081	1.00	4.66	12.500	12.500	12.5	100.0	NO
	1... 13C4-PFOS	503 > 80.0	4194.453	4194.453	1.00	4.75	12.500	12.500	12.5	100.0	NO
	1... 13C6-PFDA	519.1 > 473.7	21260.938	21260.938	1.00	5.03	12.500	12.500	12.5	100.0	NO
	1... 13C7-PFUdA	570.1 > 524.8	28154.656	28154.656	1.00	5.36	12.500	12.500	12.5	100.0	NO

FBR 7/13/2020

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	200710M1_1	IPA	10-Jul-20	07:55:03
2	200710M1_2	IPA	10-Jul-20	08:05:23
3	200710M1_3	ST200710M1-1 PFC CS-2 20F1901	10-Jul-20	08:15:44
4	200710M1_4	ST200710M1-2 PFC CS-1 20F1902	10-Jul-20	08:26:06
5	200710M1_5	ST200710M1-3 PFC CS0 20F1903	10-Jul-20	08:36:28
6	200710M1_6	ST200710M1-4 PFC CS1 20F1904	10-Jul-20	08:46:51
7	200710M1_7	ST200710M1-5 PFC CS2 20F1905	10-Jul-20	08:57:13
8	200710M1_8	ST200710M1-6 PFC CS3 20F1906	10-Jul-20	09:07:35
9	200710M1_9	ST200710M1-7 PFC CS4 20F1907	10-Jul-20	09:17:57
10	200710M1_10	ST200710M1-8 PFC CS5 20F1908	10-Jul-20	09:28:20
11	200710M1_11	ST200710M1-9 PFC CS6 20F1909	10-Jul-20	09:38:42
12	200710M1_12	ST200710M1-10 PFC CS7 20F1910	10-Jul-20	09:49:04
13	200710M1_13	IB	10-Jul-20	09:59:26
14	200710M1_14	ICV200710M1-1 PFC ICV 20F1911	10-Jul-20	10:09:48
15	200710M1_15	IB	10-Jul-20	10:20:11
16	200710M1_16	B0G0038-BLK1 Method Blank 0.25	10-Jul-20	10:30:33
17	200710M1_17	B0G0038-BS1 OPR 0.25	10-Jul-20	10:40:55
18	200710M1_18	B0G0038-BSD1 LCSD 0.25	10-Jul-20	10:51:17
19	200710M1_19	2001410-01 PFC-AF-01-410-070120 0.23313	10-Jul-20	11:01:40
20	200710M1_20	B0F0238-BLK1 Method Blank 1	10-Jul-20	11:12:02
21	200710M1_21	B0F0238-BS1 OPR 1	10-Jul-20	11:22:24
22	200710M1_22	2001332-01 B2 (20') 1.17	10-Jul-20	11:32:46
23	200710M1_23	2001332-02 B2 (40') 1.13	10-Jul-20	11:43:08
24	200710M1_24	2001332-03 B2 (dup) 1.12	10-Jul-20	11:53:30
25	200710M1_25	2001332-04 B2 (60') 1.12	10-Jul-20	12:03:53
26	200710M1_26	2001332-05 B2 (80') 1.08	10-Jul-20	12:14:15
27	200710M1_27	2001332-06 B2 (100') 1.19	10-Jul-20	12:24:37
28	200710M1_28	2001332-08 MB7 (0-1) 1.3	10-Jul-20	12:34:59
29	200710M1_29	2001332-09 MB7 (2-3) 1.29	10-Jul-20	12:45:21
30	200710M1_30	2001332-10 MB8 (0-1) 1.25	10-Jul-20	12:55:44
31	200710M1_31	IB	10-Jul-20	13:06:06
32	200710M1_32	ST200710M1-11 PFC CS3 20F1906	10-Jul-20	13:16:29

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

33	200710M1_33	IB	10-Jul-20	13:26:51
34	200710M1_34	2001332-11 MB8 (2-3) 1.37	10-Jul-20	13:37:13
35	200710M1_35	2001332-12 MB10 (0-1) 1.13	10-Jul-20	13:47:37
36	200710M1_36	2001332-13 MB10 (2-3) 1.33	10-Jul-20	13:58:02
37	200710M1_37	2001332-14 MB (DUPB) 1.21	10-Jul-20	14:08:27
38	200710M1_38	2001332-17 MB9 (0-1) 1.35	10-Jul-20	14:18:51
39	200710M1_39	2001332-18 MB9 (2-3) 1.28	10-Jul-20	14:29:16
40	200710M1_40	B0F0284-BLK1 Method Blank 0.125	10-Jul-20	14:39:41
41	200710M1_41	B0F0284-BS1 OPR 0.125	10-Jul-20	14:50:06
42	200710M1_42	B0F0284-BSD1 LCSD 0.125	10-Jul-20	15:00:31
43	200710M1_43	2001367-03 CHFZ10-EB02-062520 0.1165	10-Jul-20	15:10:56
44	200710M1_44	2001377-01 CASTLE-OU2-EF02-200626 0.11074	10-Jul-20	15:21:20
45	200710M1_45	2001377-02 CASTLE-OU2-IN01-200626 0.11395	10-Jul-20	15:31:45
46	200710M1_46	2001377-03 CASTLE-P3-IN01-200626 0.11384	10-Jul-20	15:42:09
47	200710M1_47	IB	10-Jul-20	15:52:34
48	200710M1_48	ST200710M1-12 PFC CS3 20F1906	10-Jul-20	16:02:56
49	200710M1_49	IB	10-Jul-20	16:13:18
50	200710M1_50	2001377-04 CASTLE-P3-EF01-200626 0.11664	10-Jul-20	16:28:10
51	200710M1_51	2001377-05 CASTLE-P3-EF02-200626 0.11245	10-Jul-20	16:38:29
52	200710M1_52	2001379-10 CHFZ10-EB03-062620 0.11496	10-Jul-20	16:48:51
53	200710M1_53	B0G0026-BLK1 Method Blank 0.125	10-Jul-20	16:59:16
54	200710M1_54	B0G0026-BS1 OPR 0.125	10-Jul-20	17:09:41
55	200710M1_55	B0G0026-MS1 Matrix Spike 0.24411	10-Jul-20	17:20:03
56	200710M1_56	B0G0026-MSD1 Matrix Spike Dup 0.24084	10-Jul-20	17:30:28
57	200710M1_57	2001325-01RE1 AHLS 0.26314	10-Jul-20	17:40:51
58	200710M1_58	B0F0219-BS5 OPR 0.125	10-Jul-20	17:51:13
59	200710M1_59	B0F0219-BS6 OPR 0.125	10-Jul-20	18:01:35
60	200710M1_60	B0F0219-BS7 OPR 0.125	10-Jul-20	18:11:57
61	200710M1_61	IB	10-Jul-20	18:22:20
62	200710M1_62	ST200710M1-13 PFC CS3 20F1906	10-Jul-20	18:32:44
63	200710M1_63	IB	10-Jul-20	18:43:10
64	200710M1_64	ST200710M1-14 PFC CS0 20F1903	10-Jul-20	19:17:42
65	200710M1_65	IB	10-Jul-20	19:28:03
66	200710M1_66	B0F0278-BLK1 Method Blank 1	10-Jul-20	19:38:25
67	200710M1_67	B0F0278-BS1 OPR 1	10-Jul-20	19:48:47
68	200710M1_68	2001348-03 AB-20 (0.5-1) 1.3	10-Jul-20	19:59:09

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

69	200710M1_69	2001348-04 AB-20 (1.5-2) 1.38	10-Jul-20	20:09:32
70	200710M1_70	2001348-05 AB-21 (0.5-1) 1.31	10-Jul-20	20:19:57
71	200710M1_71	2001348-06 AB-21 (4-4.5) 1.41	10-Jul-20	20:30:21
72	200710M1_72	2001348-07 AB-22 (0.5-1) 1.27	10-Jul-20	20:40:47
73	200710M1_73	2001348-08 AB-22 (2.5-3) 1.2	10-Jul-20	20:51:11
74	200710M1_74	2001348-09 AB-17 (1.5-2) 1.27	10-Jul-20	21:01:36
75	200710M1_75	2001348-10 AB-15 (0.5-1) 1.22	10-Jul-20	21:12:01
76	200710M1_76	2001348-11 AB-15 (1.5-2) 1.27	10-Jul-20	21:22:23
77	200710M1_77	2001348-14 AB-10 (0.5-1) 1.24	10-Jul-20	21:32:46
78	200710M1_78	ST200710M1-15 PFC CS3 20F1906	10-Jul-20	21:43:07
79	200710M1_79	IB	10-Jul-20	21:53:30
80	200710M1_80	2001348-15 AB-10 (4.5-5) 1.43	10-Jul-20	22:03:53
81	200710M1_81	2001348-16 AB-11 (0.5-1) 1.34	10-Jul-20	22:14:14
82	200710M1_82	2001348-17 AB-11 (3-3.5) 1.34	10-Jul-20	22:24:36
83	200710M1_83	2001348-18 AB-12 (0.5-1) 1.28	10-Jul-20	22:35:01
84	200710M1_84	2001348-19 AB-14 (0.5-1) 1.25	10-Jul-20	22:45:26
85	200710M1_85	2001348-20 AB-16 (0.5-1) 1.32	10-Jul-20	22:55:52
86	200710M1_86	2001348-21 AB-17 (0.5-1) 1.26	10-Jul-20	23:06:17
87	200710M1_87	2001348-22 AB-18 (0.5-1) 1.26	10-Jul-20	23:16:38
88	200710M1_88	2001348-23 AB-19 (0.5-1) 1.27	10-Jul-20	23:27:01
89	200710M1_89	2001348-24 AB-19 (3-3.5) 1.42	10-Jul-20	23:37:23
90	200710M1_90	ST200710M1-16 PFC CS3 20F1906	10-Jul-20	23:47:45
91	200710M1_91	IB	10-Jul-20	23:58:07
92	200710M1_92	B0G0040-BLK1 Method Blank 0.25	11-Jul-20	00:08:29
93	200710M1_93	B0G0040-BS1 OPR 0.25	11-Jul-20	00:18:52
94	200710M1_94	B0G0040-BSD1 LCSD 0.25	11-Jul-20	00:29:14
95	200710M1_95	B0G0040-MS1 Matrix Spike 0.24021	11-Jul-20	00:39:36
96	200710M1_96	B0G0040-MSD1 Matrix Spike Dup 0.24163	11-Jul-20	00:49:58
97	200710M1_97	2001326-01RE1 REEPEF2658FS 0.10891	11-Jul-20	01:00:22
98	200710M1_98	2001419-01 WEY-SW001-20200706 0.25448	11-Jul-20	01:10:48
99	200710M1_99	2001419-02 WEY-SW-DUP1-20200706 0.24444	11-Jul-20	01:21:13
100	200710M1_100	B0F0279-BLK1 Method Blank 1	11-Jul-20	01:31:38
101	200710M1_101	B0F0279-BS1 OPR 1	11-Jul-20	01:42:02
102	200710M1_102	2001346-01 AA-MW-2 0-1' 1.26	11-Jul-20	01:52:27
103	200710M1_103	2001346-02 AA-MW-2 2-3' 1.2	11-Jul-20	02:02:52
104	200710M1_104	2001346-03 AA-MW-1 0-1' 1.08	11-Jul-20	02:13:16

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

105	200710M1_105	2001346-04 AA-MW-1 3-4' 1.26	11-Jul-20	02:23:41
106	200710M1_106	2001346-05 AA-MW-5 0-1' 1.13	11-Jul-20	02:34:05
107	200710M1_107	2001346-06 AA-MW-5 3-4' 1.13	11-Jul-20	02:44:30
108	200710M1_108	2001346-07 AA-MW-4 0-1' 1.14	11-Jul-20	02:54:54
109	200710M1_109	ST200710M1-17 PFC CS3 20F1906	11-Jul-20	03:05:19
110	200710M1_110	IB	11-Jul-20	03:15:44
111	200710M1_111	2001346-08 AA-MW-4 3-4' 1.3	11-Jul-20	03:26:09
112	200710M1_112	2001346-09 AA-MW-3 0-1' 1.1	11-Jul-20	03:36:31
113	200710M1_113	2001346-10 AA-MW-3 3-4' 1.3	11-Jul-20	03:46:54
114	200710M1_114	B0G0039-BLK1 Method Blank 0.25	11-Jul-20	03:57:16
115	200710M1_115	B0G0039-BS1 OPR 0.25	11-Jul-20	04:07:38
116	200710M1_116	B0G0039-BSD1 LCSD 0.25	11-Jul-20	04:18:01
117	200710M1_117	2001416-01 TN-LW03-20200706 0.24653	11-Jul-20	04:28:23
118	200710M1_118	2001416-02 TN-LW04-20200706 0.24435	11-Jul-20	04:38:45
119	200710M1_119	2001417-01 EB04-20200706 0.24622	11-Jul-20	04:49:07
120	200710M1_120	2001417-02 TW06D-20200706 0.26196	11-Jul-20	04:59:30
121	200710M1_121	2001417-03 TW25D-20200706 0.25866	11-Jul-20	05:09:52
122	200710M1_122	2001417-04 TW26D-20200706 0.27962	11-Jul-20	05:20:14
123	200710M1_123	2001417-05 TW08D-20200706 0.25789	11-Jul-20	05:30:37
124	200710M1_124	ST200710M1-18 PFC CS3 20F1906	11-Jul-20	05:40:59
125	200710M1_125	IB	11-Jul-20	05:51:21

Vista Analytical Laboratory

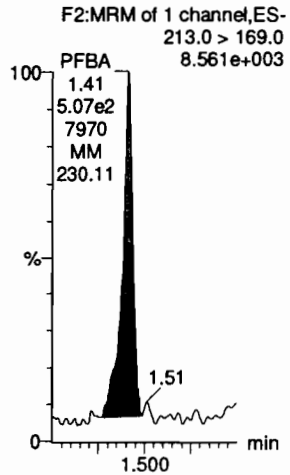
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

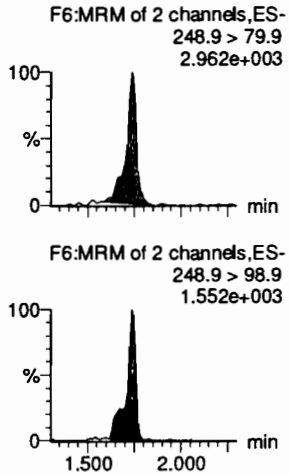
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

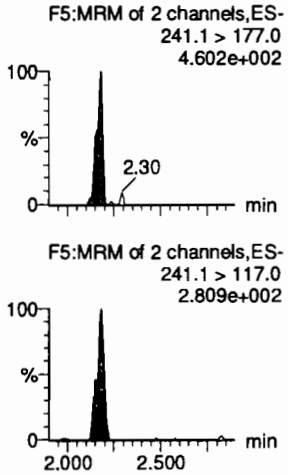
PFBA



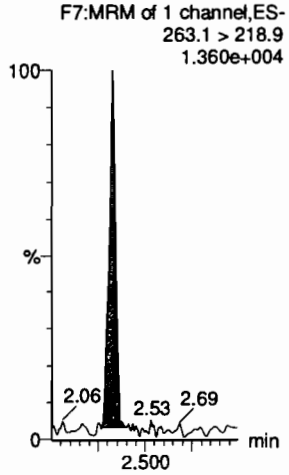
PFPrS



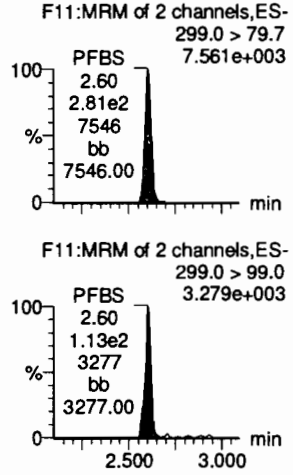
3:3 FTCA



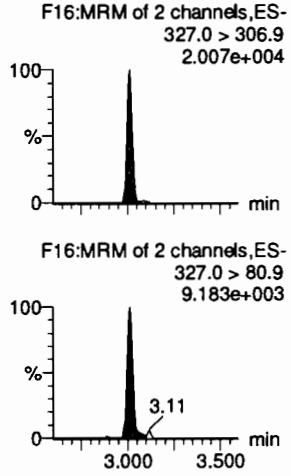
PFPeA



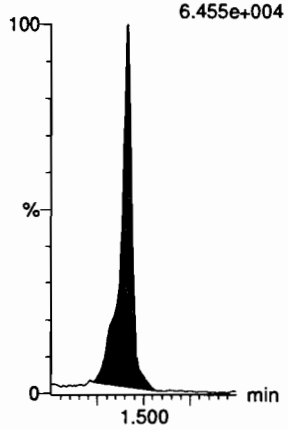
PFBS



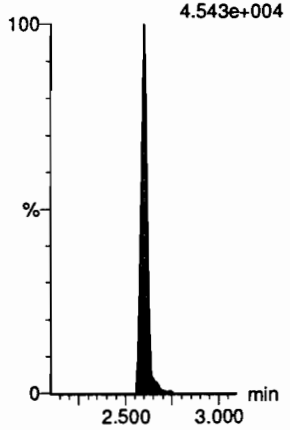
4:2 FTS



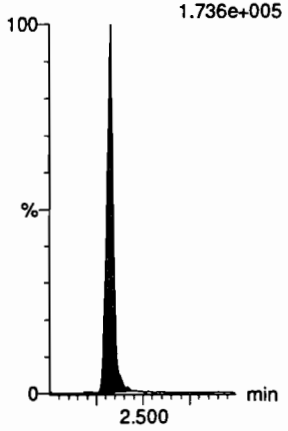
13C3-PFBA-EIS



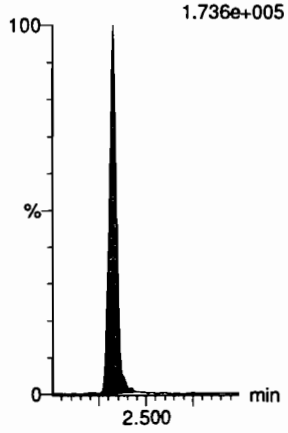
13C3-PFBS-EIS



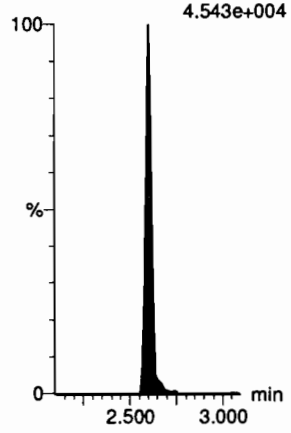
13C3-PFPeA-EIS



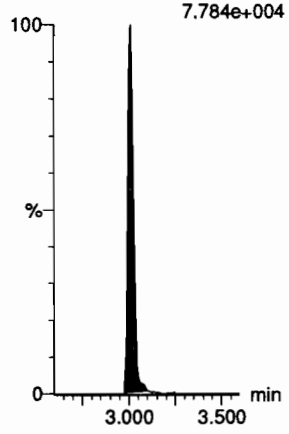
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



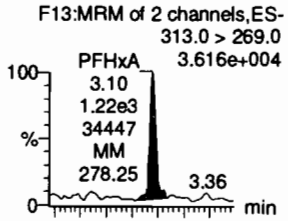
FBR 7/13/2020

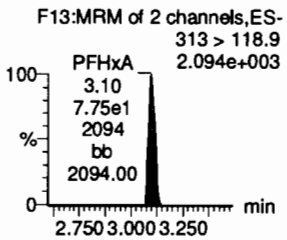
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

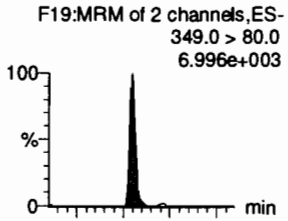
Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

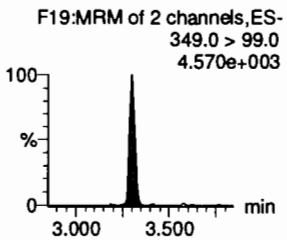
PFHxA



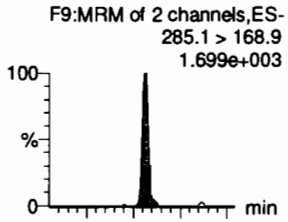


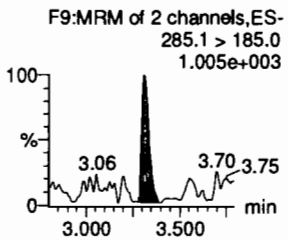
PFPeS



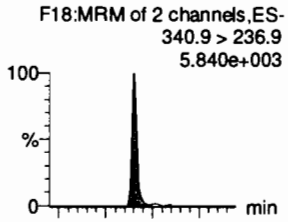


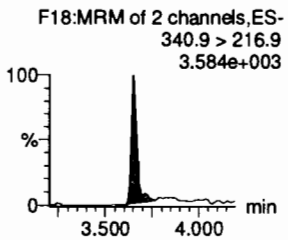
HFPO-DA



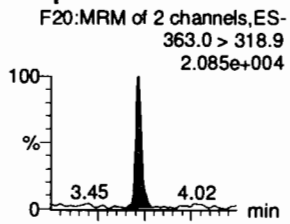


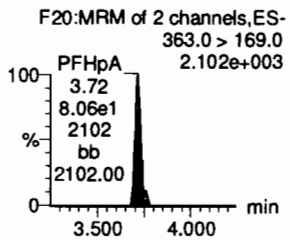
5:3 FTCA



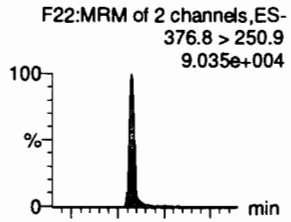


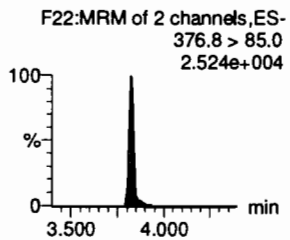
PFHpA



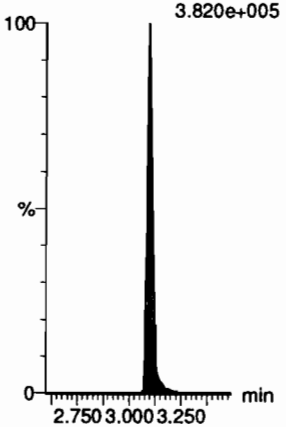


ADONA

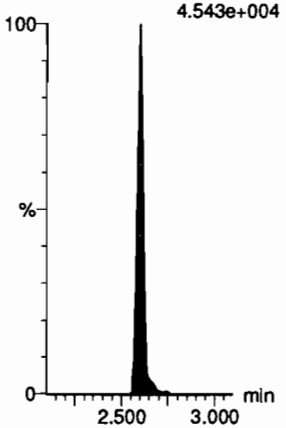




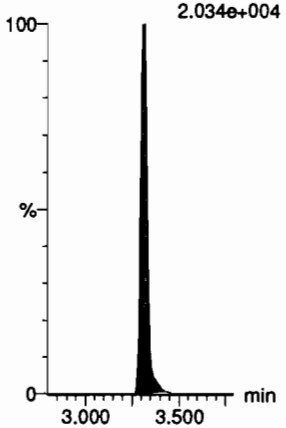
13C2-PFHxA-EIS



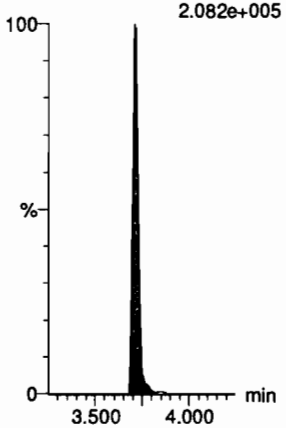
13C3-PFBS-EIS



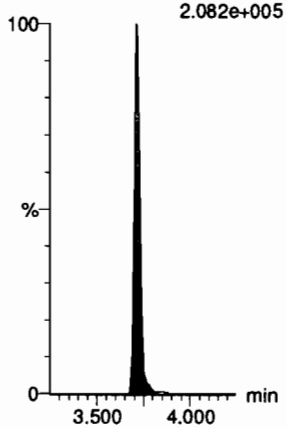
13C3-HFPO-DA-EIS



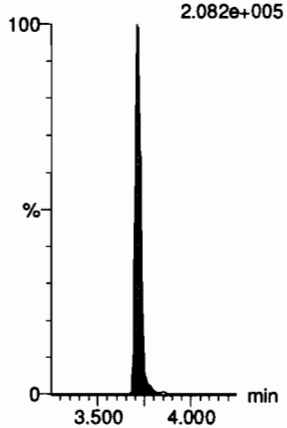
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



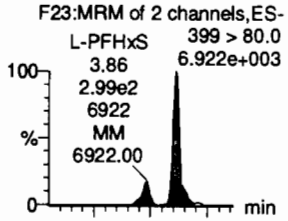
FBR 7/13/2020

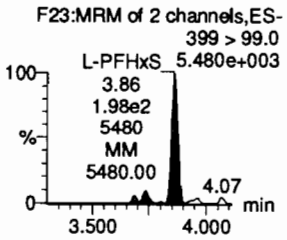
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

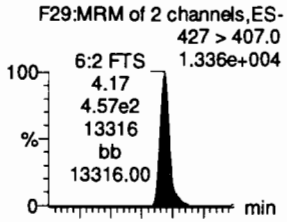
Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

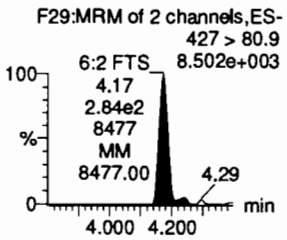
L-PFHxS



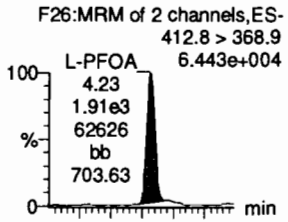


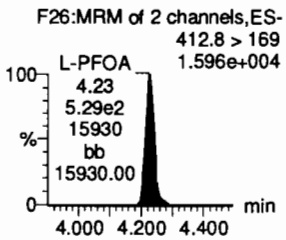
6:2 FTS



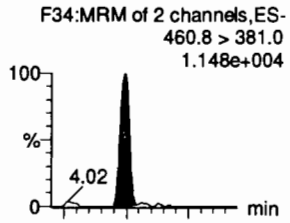


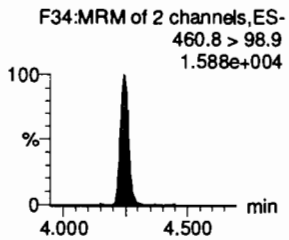
L-PFOA



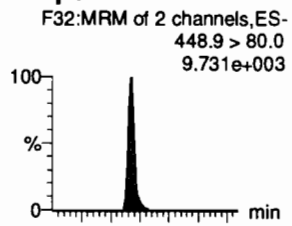


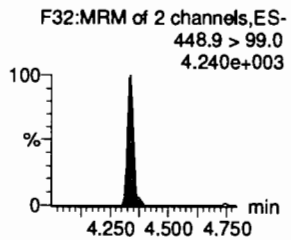
PFEChS



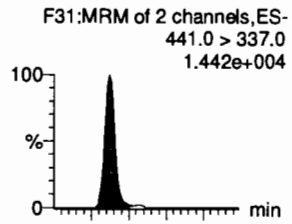


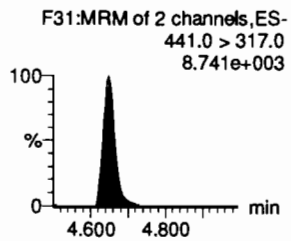
PFHpS



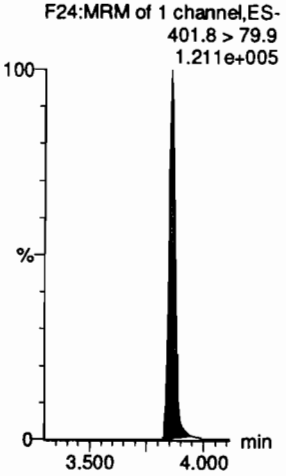


7:3 FTCA

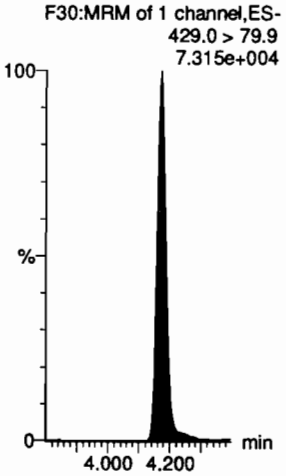




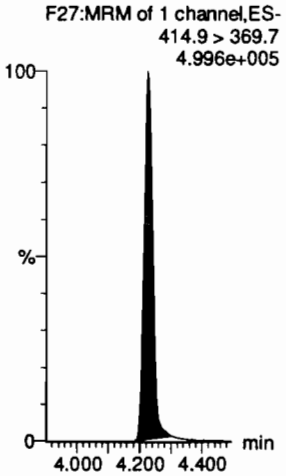
13C3-PFHxS-EIS



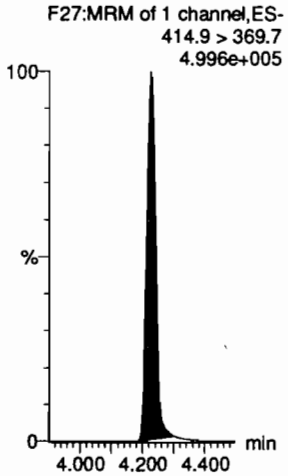
13C2-6:2 FTS-EIS



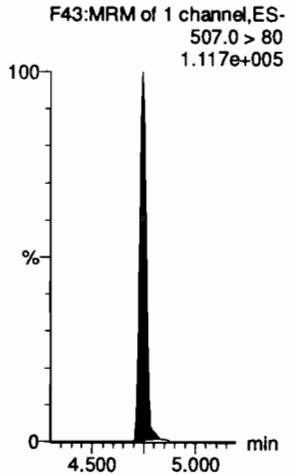
13C2-PFOA-EIS



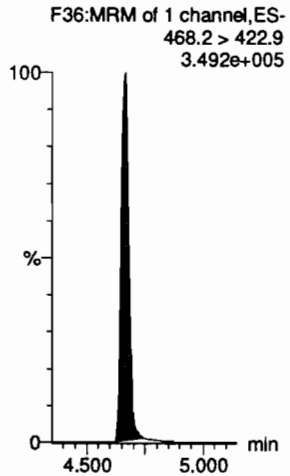
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



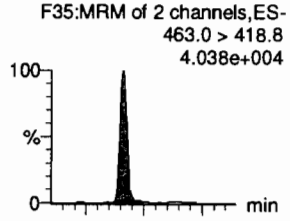
FBR 7/13/2020

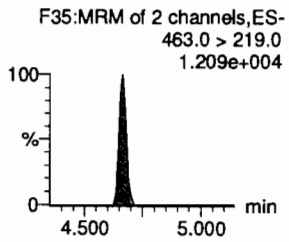
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

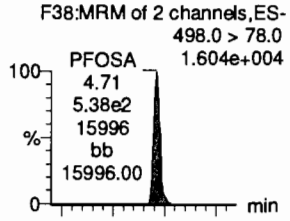
Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

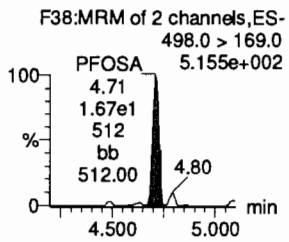
PFNA



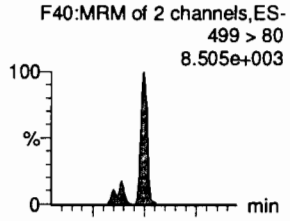


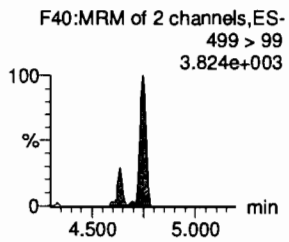
PFOSA



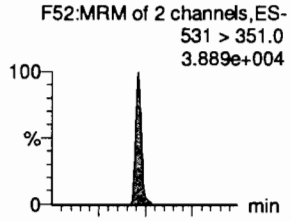


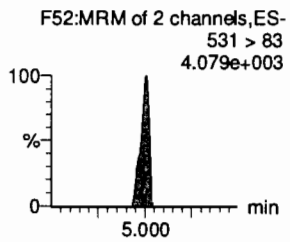
L-PFOS



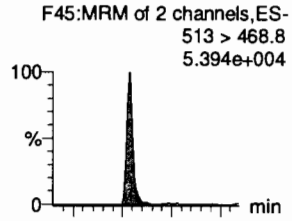


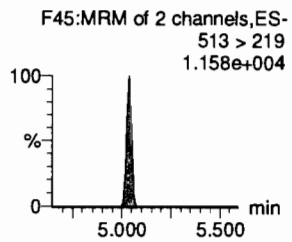
9Cl-PF30NS



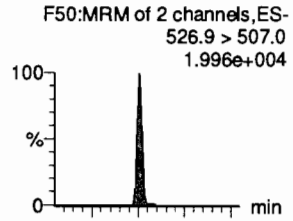


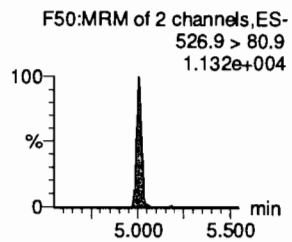
PFDA



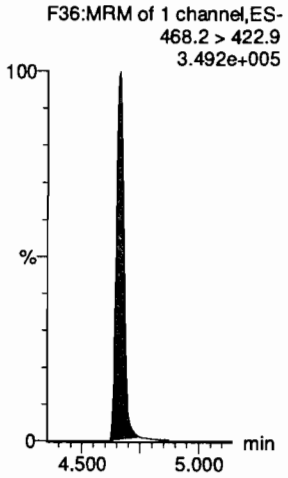


8:2 FTS

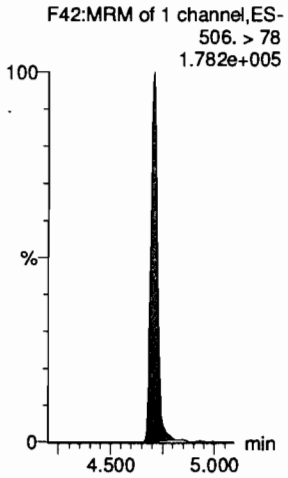




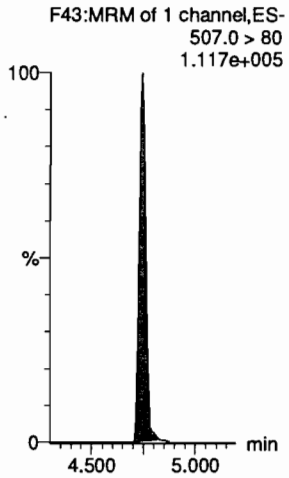
13C5-PFNA-EIS



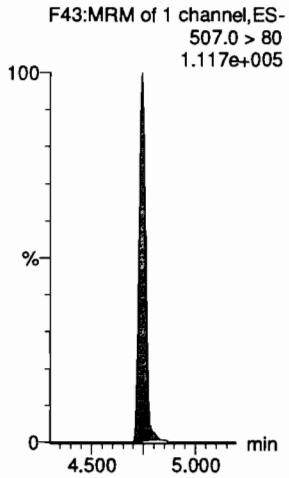
13C8-PFOSA-EIS



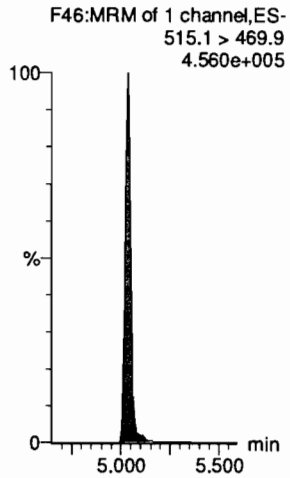
13C8-PFOS-EIS



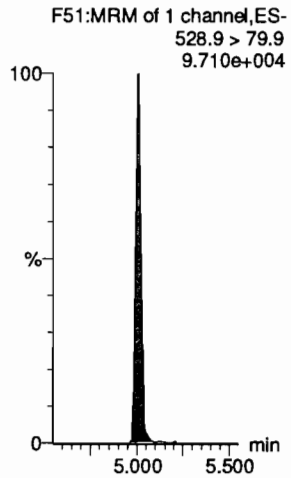
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



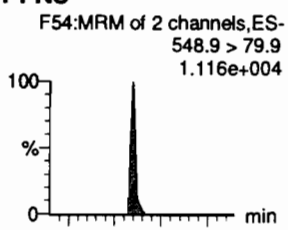
FBR 7/13/2020

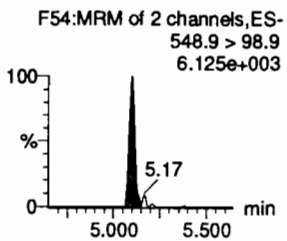
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

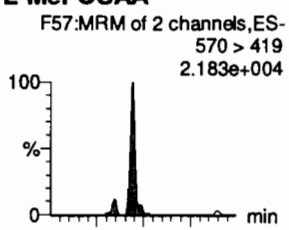
Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

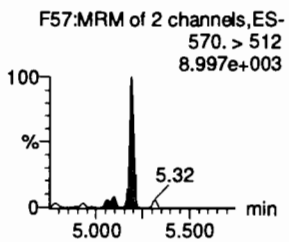
PFNS



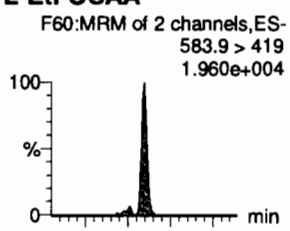


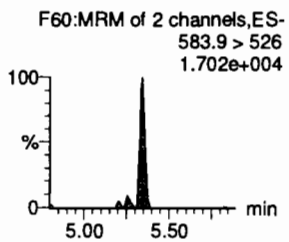
L-MeFOSAA



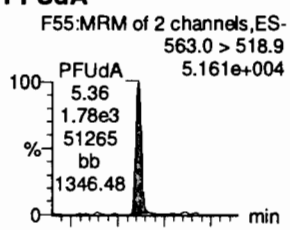


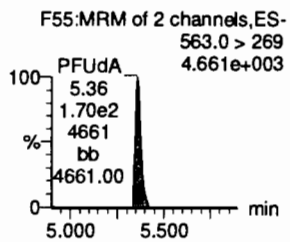
L-EtFOSAA



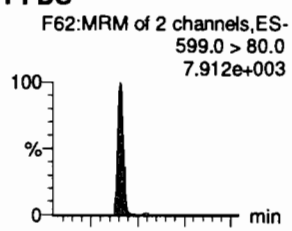


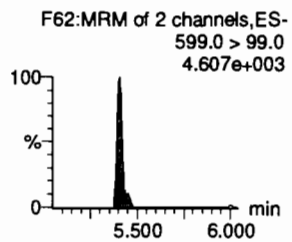
PFUdA



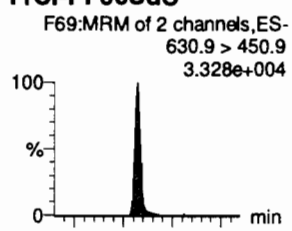


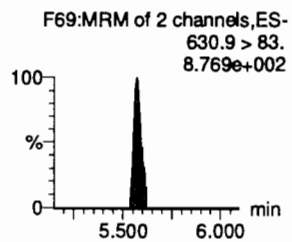
PFDS



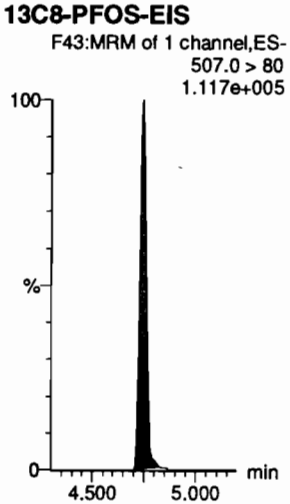


11Cl-PF30UdS

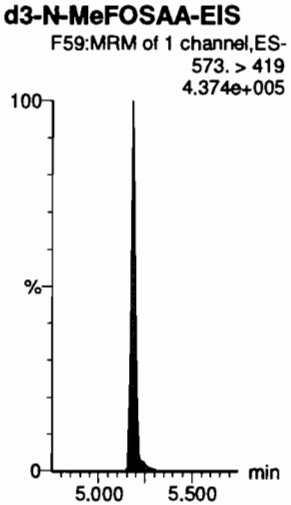




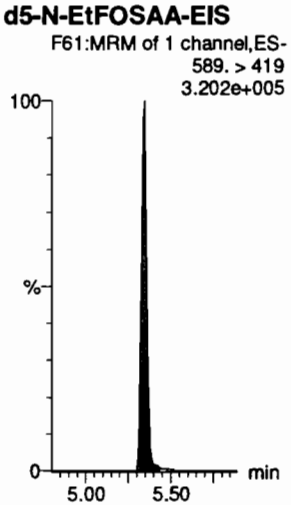
13C8-PFOS-EIS



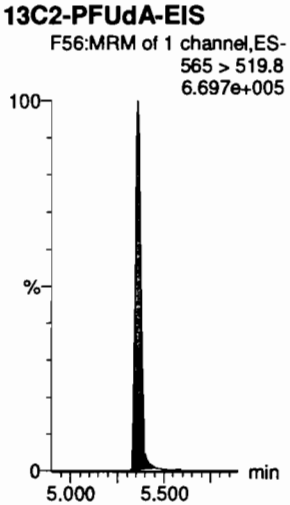
d3-N-MeFOSAA-EIS



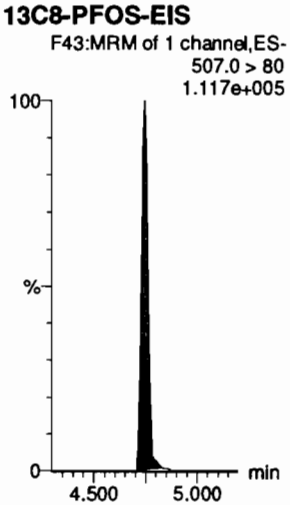
d5-N-EtFOSAA-EIS



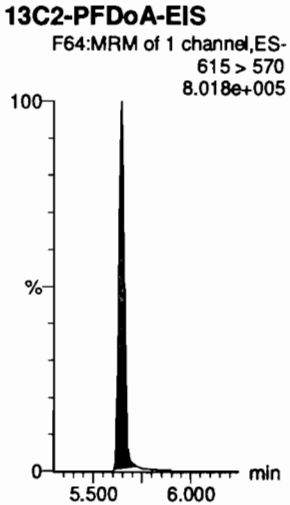
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



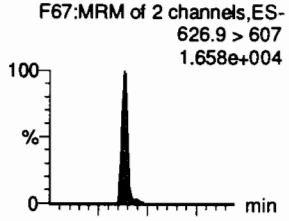
FBR 7/13/2020

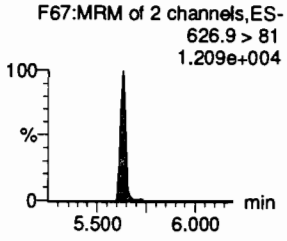
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

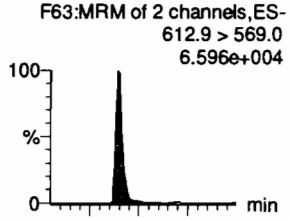
Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

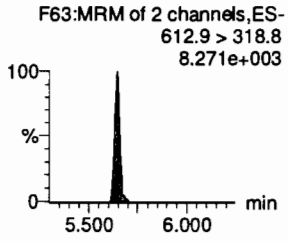
10:2 FTS



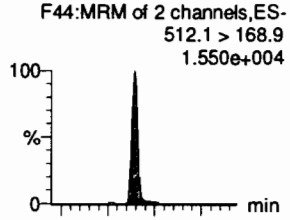


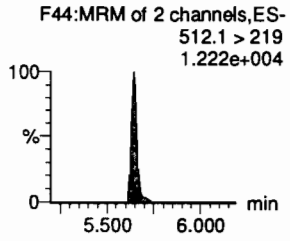
PFDoA



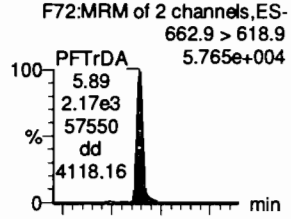


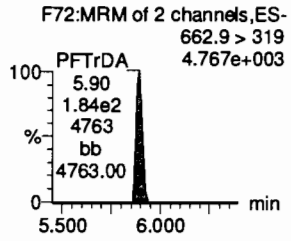
N-MeFOSA



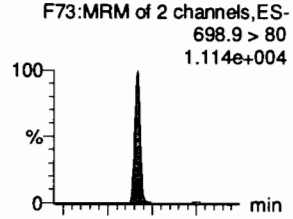


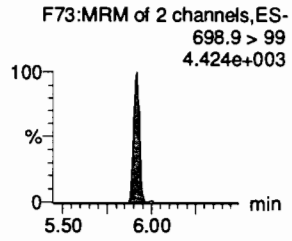
PFTrDA



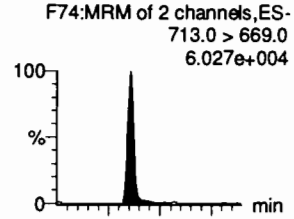


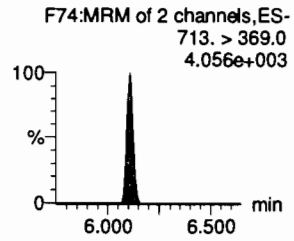
PFDoS



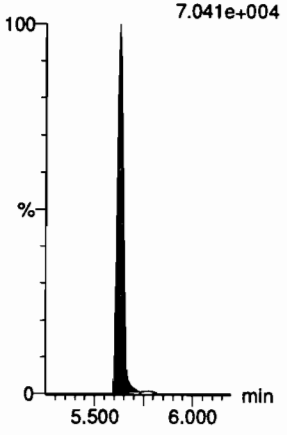


PFTeDA

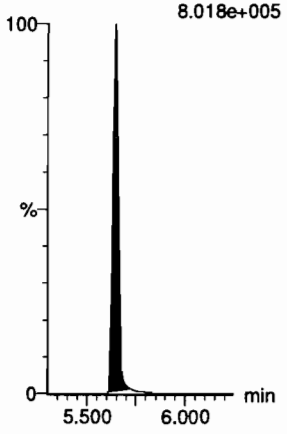




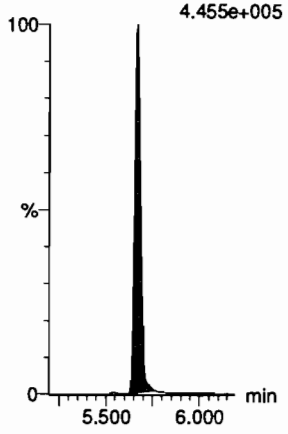
13C2-10:2 FTS-EIS



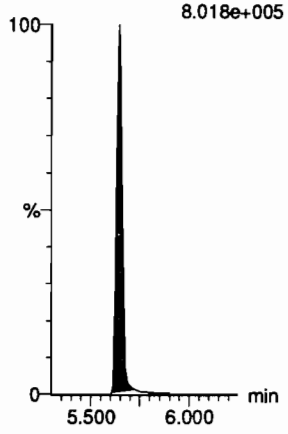
13C2-PFDoA-EIS



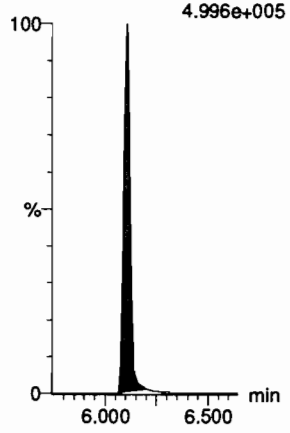
d3-N-MeFOSA-EIS



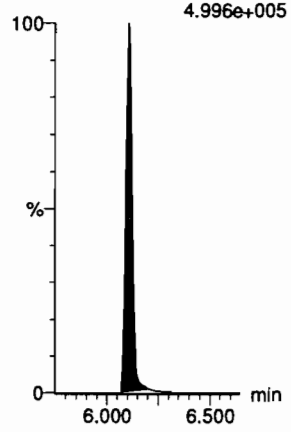
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



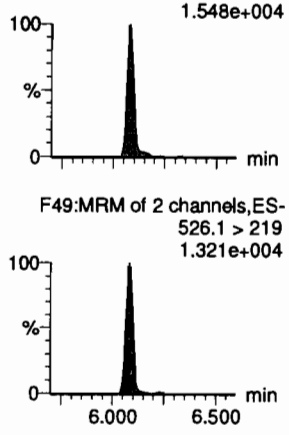
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

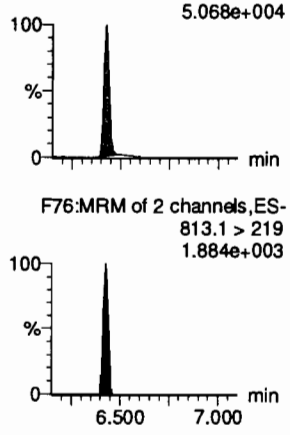
Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

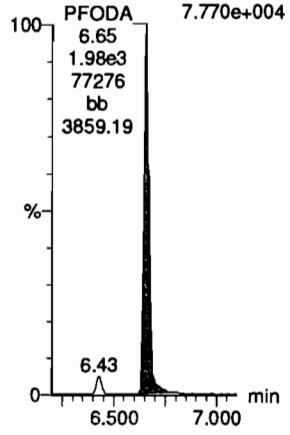
N-EtFOSA



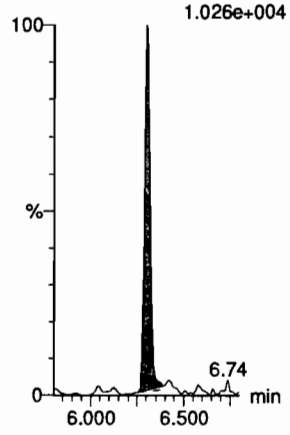
PFHxDA



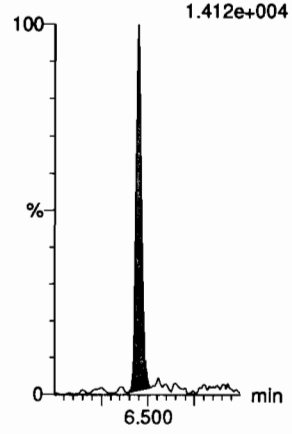
PFODA



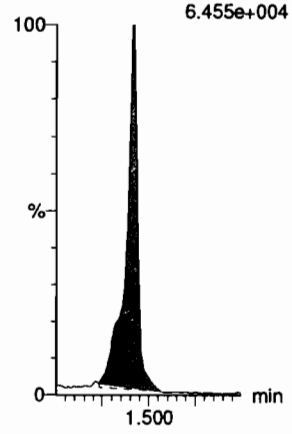
N-MeFOSE



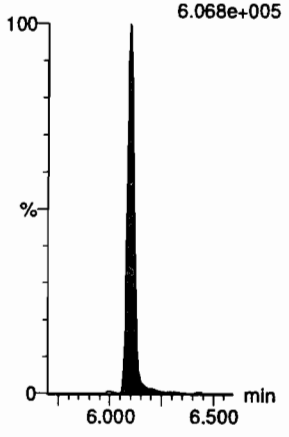
N-EtFOSE



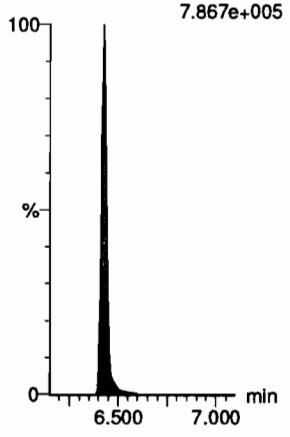
13C3-PFBA-RSD



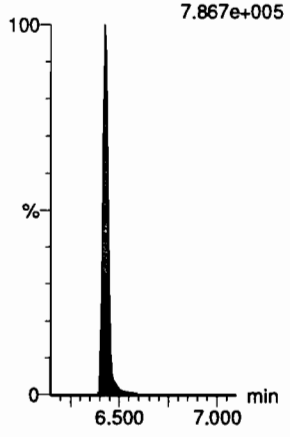
d5-N-ETFOSA-EIS



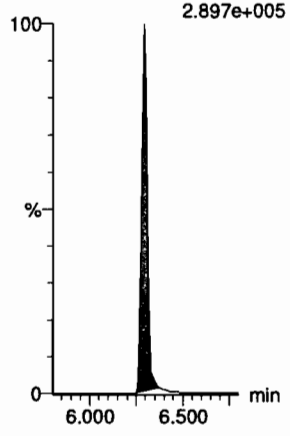
13C2-PFHxDA-EIS



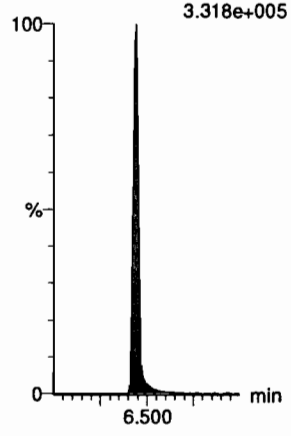
13C2-PFHxDA-EIS



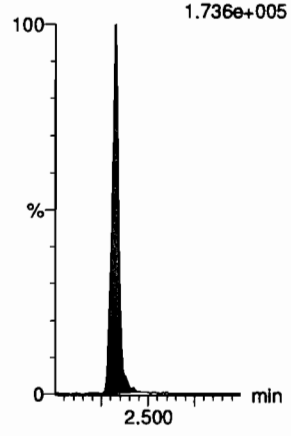
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



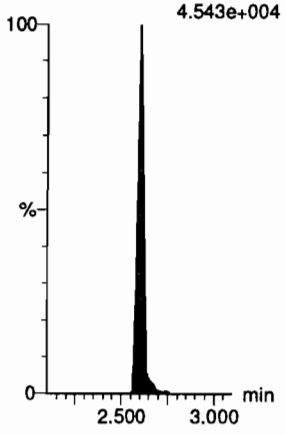
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

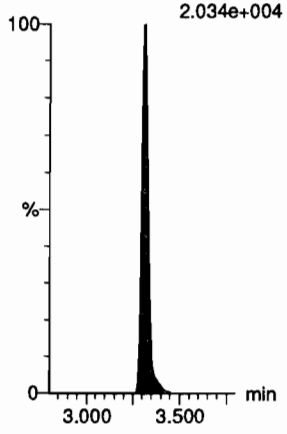
Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

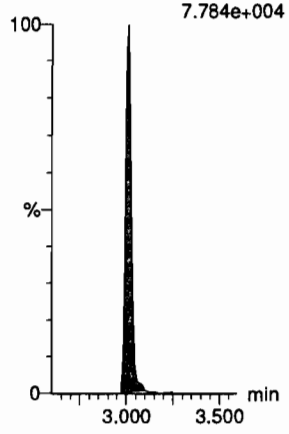
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.543e+004



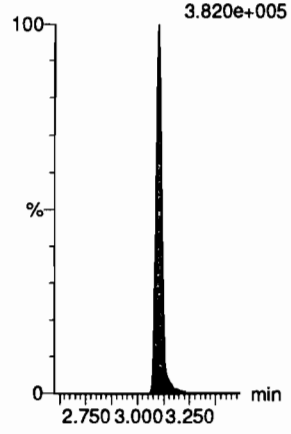
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.034e+004



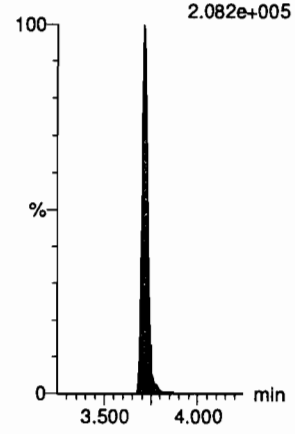
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.784e+004



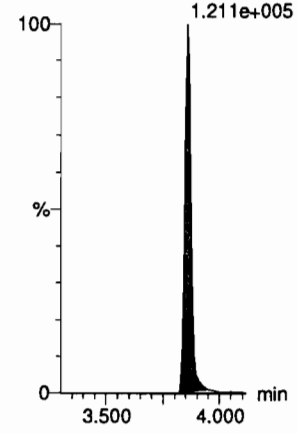
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.820e+005



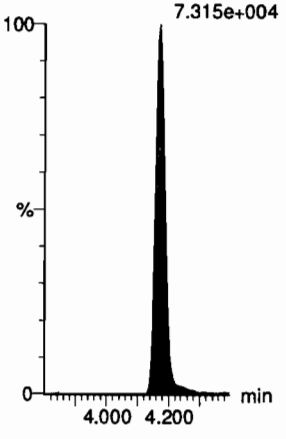
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.082e+005



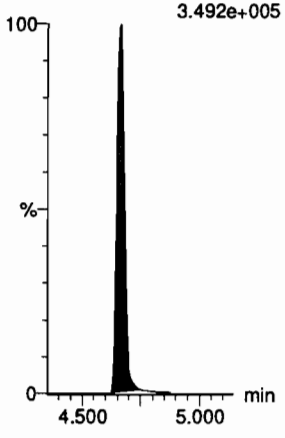
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.211e+005



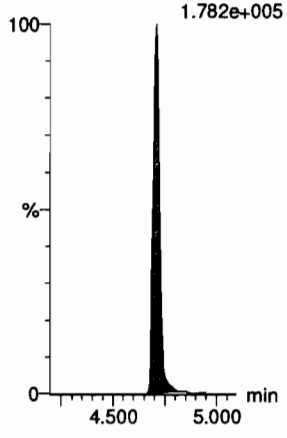
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
7.315e+004



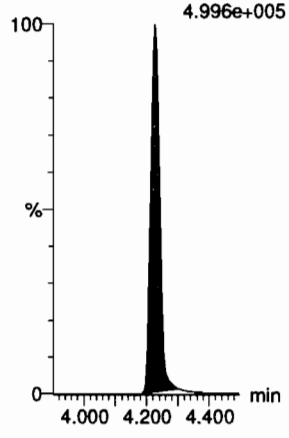
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.492e+005



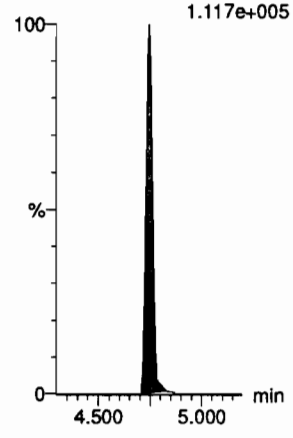
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.782e+005



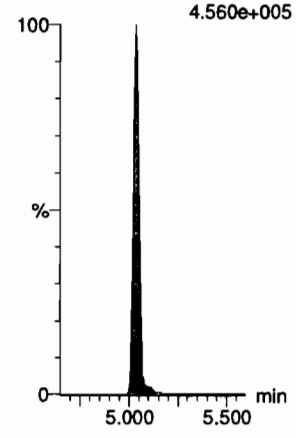
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.996e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.117e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.560e+005



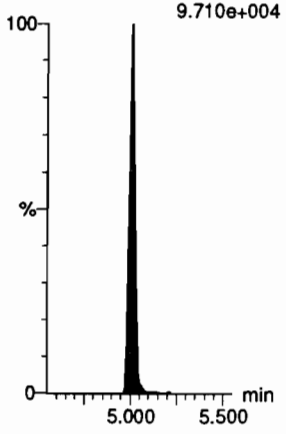
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

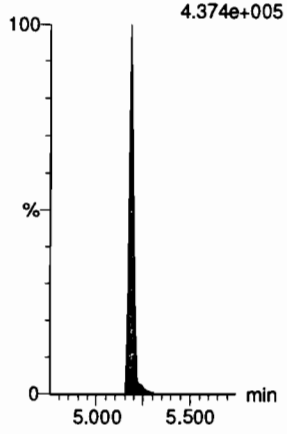
Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

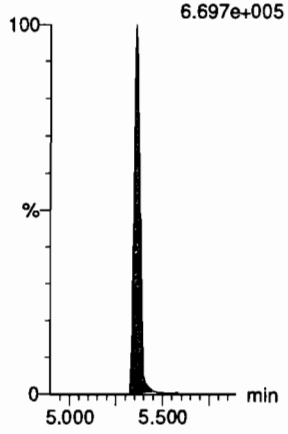
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
9.710e+004



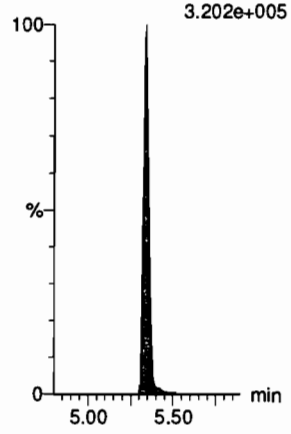
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.374e+005



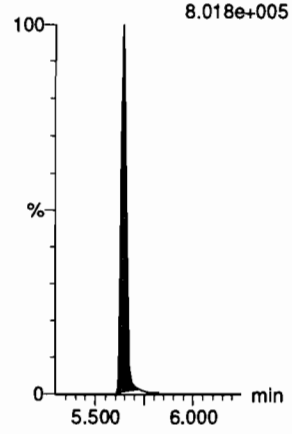
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.697e+005



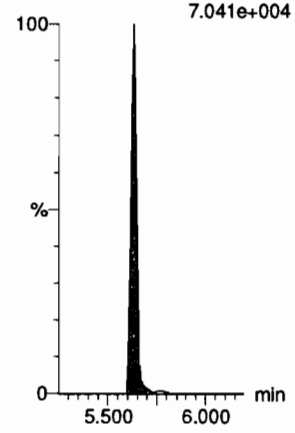
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.202e+005



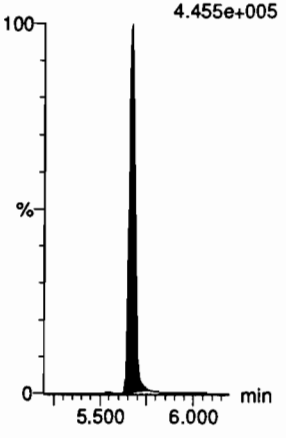
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
8.018e+005



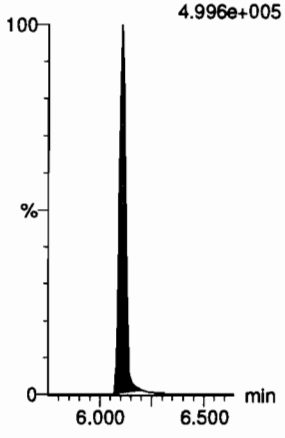
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
7.041e+004



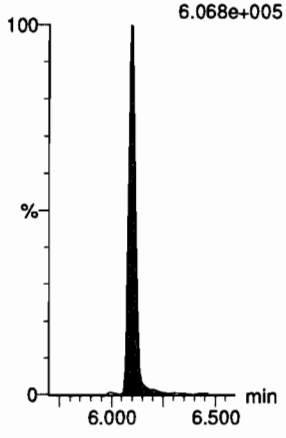
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.455e+005



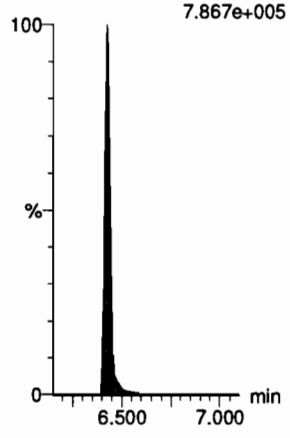
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.996e+005



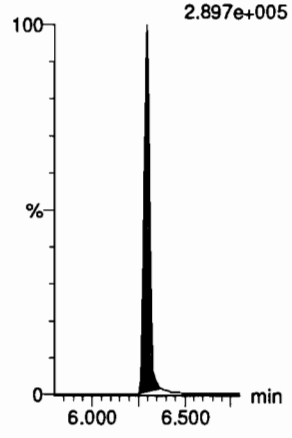
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.068e+005



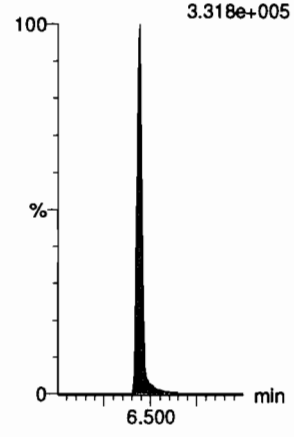
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.867e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.897e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.318e+005



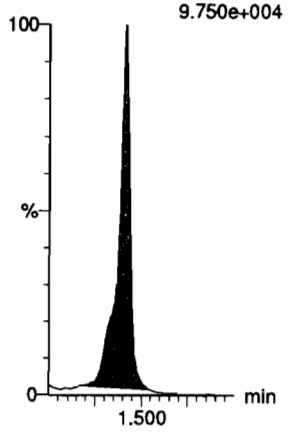
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-64.qld

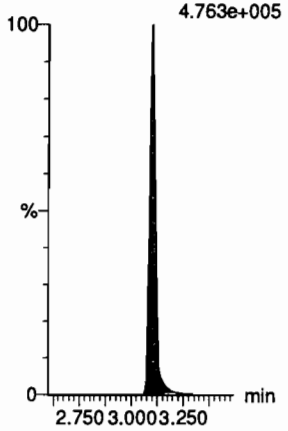
Last Altered: Monday, July 13, 2020 08:00:20 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:00:47 Pacific Daylight Time

Name: 200710M1_64, Date: 10-Jul-2020, Time: 19:17:42, ID: ST200710M1-14 PFC CS0 20F1903, Description: PFC CS0 20F1903

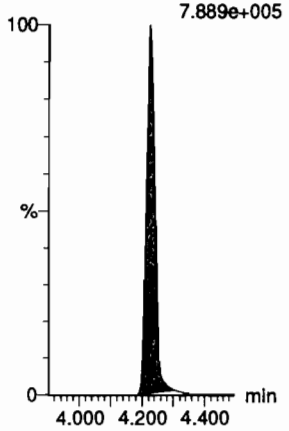
13C4-PFBA



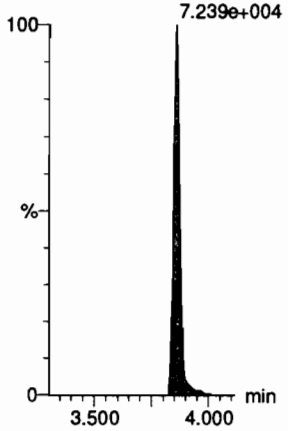
13C5-PFHxA



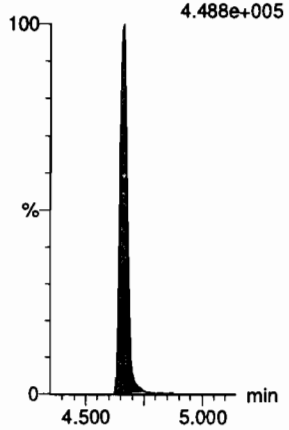
13C8-PFOA



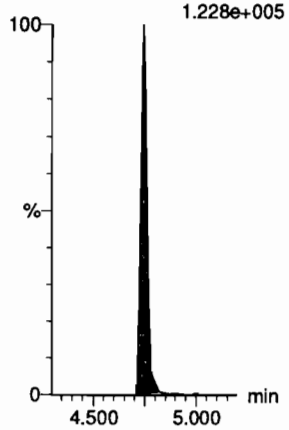
18O2-PFHxS



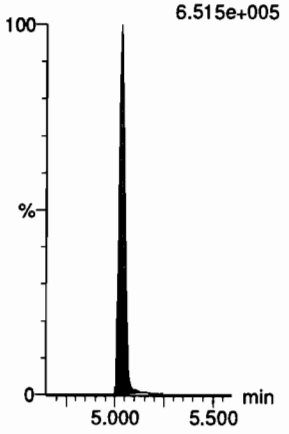
13C9-PFNA



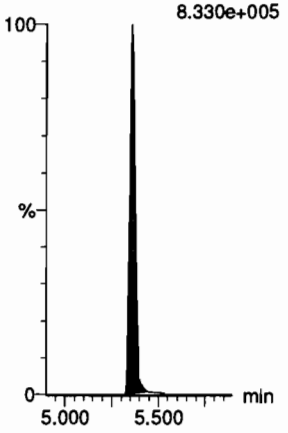
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

JQW 07/13/20

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

1 PFBA	213.0 > 169.0	4946.458	4723.861	1.00	1.36	13.089	10.000	9.28	92.8	NO		
2 PFPrS	248.9 > 79.9	2453.633	1756.276	1.00	1.69	17.463	10.000	9.77	97.7	NO	2.450	NO
3 3:3 FTCA	241.1 > 177.0	304.073	7009.288	1.00	2.16	0.542	10.000	8.57	85.7	NO	2.012	NO
4 PFPeA	263.1 > 218.9	5333.600	7009.288	1.00	2.31	9.512	10.000	10.0	100.2	NO		
5 PFBS	299.0 > 79.7	2827.684	1756.276	1.00	2.59	20.126	10.000	9.93	99.3	NO	2.668	NO
6 4:2 FTS	327.0 > 306.9	6024.409	2741.359	1.00	3.03	27.470	10.000	10.5	104.9	NO	2.169	NO
47 13C3-PFBA-EIS	216.1 > 171.8	4723.861		1.00	1.36	4723.861	12.500	13.8	110.0	NO		
51 13C3-PFBS-EIS	302.0 > 99	1756.276		1.00	2.59	1756.276	12.500	13.6	108.6	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7009.288		1.00	2.31	7009.288	12.500	13.0	104.3	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7009.288		1.00	2.31	7009.288	12.500	13.0	104.3	NO		
51 13C3-PFBS-EIS	302.0 > 99	1756.276		1.00	2.59	1756.276	12.500	13.6	108.6	NO		
55 13C2-4:2 FTS-EIS	329.0 >79.9	2741.359		1.00	3.03	2741.359	12.500	13.6	109.2	NO		
-1												
7 PFHxA	313.0 > 269.0	11977.528	12933.716	1.00	3.12	11.576	10.000	10.1	101.1	NO	17.452	NO
8 PFPeS	349.0 > 80.0	2889.400	1756.276	1.00	3.32	20.565	10.000	8.92	89.2	NO	1.573	NO
9 HFPO-DA	285.1 > 168.9	830.102	1062.127	1.00	3.34	9.769	10.000	10.4	104.0	NO	2.094	NO
10 5:3 FTCA	340.9 > 236.9	1721.972	7465.151	1.00	3.67	2.883	10.000	9.15	91.5	NO	1.460	NO
11 PFHpA	363.0 > 318.9	7389.860	7465.151	1.00	3.73	12.374	10.000	9.80	98.0	NO	10.358	NO
12 ADONA	376.8 > 250.9	29522.537	7465.151	1.00	3.84	49.434	10.000	9.95	99.5	NO	3.576	NO
57 13C2-PFHxA-EIS	315.0 > 270.0	12933.716		1.00	3.12	12933.716	12.500	12.8	102.3	NO		
51 13C3-PFBS-EIS	302.0 > 99	1756.276		1.00	2.59	1756.276	12.500	13.6	108.6	NO		
53 13C3-HFPO-DA-EIS	287.0 > 168.9	1062.127		1.00	3.34	1062.127	12.500	13.7	109.7	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7465.151		1.00	3.73	7465.151	12.500	13.2	105.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7465.151		1.00	3.73	7465.151	12.500	13.2	105.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7465.151		1.00	3.73	7465.151	12.500	13.2	105.6	NO		
-1												
13 L-PFHxS	399 > 80.0	3186.292	3677.733	1.00	3.88	10.830	10.000	9.77	97.7	NO	1.620	NO
15 6:2 FTS	427 > 407.0	5209.012	2375.762	1.00	4.19	27.407	10.000	10.3	102.6	NO	2.172	NO
16 L-PFOA	412.8 > 368.9	19453.588	15989.232	1.00	4.24	15.208	10.000	10.7	106.5	NO	3.811	NO
18 PFecHS	460.8 > 381.0	5891.198	15989.232	1.00	4.26	4.606	10.000	10.6	106.2	NO	0.940	NO
19 PFHpS	448.9 > 80.0	3004.657	4153.992	1.00	4.35	9.041	10.000	10.9	109.2	NO	1.969	NO
20 7:3 FTCA	441.0 > 337.0	3000.808	14962.729	1.00	4.66	2.507	10.000	7.39	73.9	NO	1.341	NO
61 13C3-PFHxS-EIS	401.8 > 79.9	3677.733		1.00	3.87	3677.733	12.500	12.8	102.1	NO		
63 13C2-6:2 FTS-EIS	429.0 >79.9	2375.762		1.00	4.19	2375.762	12.500	13.6	108.8	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	15989.232		1.00	4.24	15989.232	12.500	12.9	103.2	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	15989.232		1.00	4.24	15989.232	12.500	12.9	103.2	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

73	13C8-PFOS-EIS	507.0 > 80	4153.992		1.00	4.75	4153.992	12.500	13.0	103.7	NO		
65	13C5-PFNA-EIS	468.2 > 422.9	14962.729		1.00	4.67	14962.729	12.500	15.3	122.2	NO		
-1													
21	PFNA	463.0 > 418.8	14977.517	14962.729	1.00	4.68	12.512	10.000	9.59	95.9	NO	4.036	NO
22	PFOSA	498.0 > 78.0	3894.060	4944.917	1.00	4.72	9.844	10.000	9.89	98.9	NO	31.481	NO
23	L-PFOS	499 > 80	3170.039	4153.992	1.00	4.75	9.539	10.000	8.57	85.7	NO	1.976	NO
25	9Cl-PF30NS	531 > 351.0	12184.893	4153.992	1.00	4.97	36.666	10.000	9.17	91.7	NO	21.705	NO
26	PFDA	513 > 468.8	17370.348	15175.353	1.00	5.05	14.308	10.000	10.2	102.2	NO	5.636	NO
27	8:2 FTS	526.9 > 507.0	4727.745	2342.624	1.00	5.02	25.227	10.000	10.6	106.4	NO	1.777	NO
65	13C5-PFNA-EIS	468.2 > 422.9	14962.729		1.00	4.67	14962.729	12.500	15.3	122.2	NO		
67	13C8-PFOSA-EIS	506. > 78	4944.917		1.00	4.72	4944.917	12.500	12.7	101.8	NO		
73	13C8-PFOS-EIS	507.0 > 80	4153.992		1.00	4.75	4153.992	12.500	13.0	103.7	NO		
73	13C8-PFOS-EIS	507.0 > 80	4153.992		1.00	4.75	4153.992	12.500	13.0	103.7	NO		
75	13C2-PFDA-EIS	515.1 > 469.9	15175.353		1.00	5.05	15175.353	12.500	14.1	113.2	NO		
77	13C2-8:2 FTS-EIS	528.9 > 79.9	2342.624		1.00	5.02	2342.624	12.500	12.0	95.8	NO		
-1													
28	PFNS	548.9 > 79.9	3397.176	4153.992	1.00	5.11	10.223	10.000	9.40	94.0	NO	1.549	NO
29	L-MeFOSAA	570 > 419	8285.645	11928.093	1.00	5.20	8.683	10.000	9.34	93.4	NO	2.882	NO
31	L-EtFOSAA	583.9 > 419	8132.499	9722.020	1.00	5.36	10.456	10.000	10.9	109.4	NO	1.396	NO
33	PFUdA	563.0 > 518.9	17332.363	22744.551	1.00	5.37	9.526	10.000	10.3	102.9	NO	8.642	NO
34	PFDS	599.0 > 80.0	2844.394	4153.992	1.00	5.42	8.559	10.000	9.00	90.0	NO	1.644	NO
35	11Cl-PF30UdS	630.9 > 450.9	12123.862	25344.875	1.00	5.58	5.979	10.000	10.4	104.3	NO	27.764	NO
73	13C8-PFOS-EIS	507.0 > 80	4153.992		1.00	4.75	4153.992	12.500	13.0	103.7	NO		
79	d3-N-MeFOSAA-EIS	573. > 419	11928.093		1.00	5.19	11928.093	12.500	12.9	103.3	NO		
83	d5-N-EtFOSAA-EIS	589. > 419	9722.020		1.00	5.35	9722.020	12.500	11.2	89.7	NO		
81	13C2-PFUdA-EIS	565 > 519.8	22744.551		1.00	5.37	22744.551	12.500	12.8	102.3	NO		
73	13C8-PFOS-EIS	507.0 > 80	4153.992		1.00	4.75	4153.992	12.500	13.0	103.7	NO		
85	13C2-PFDoA-EIS	615 > 570	25344.875		1.00	5.65	25344.875	12.500	13.2	105.4	NO		
-1													
36	10:2 FTS	626.9 > 607	4129.271	1627.946	1.00	5.64	31.706	10.000	10.2	102.0	NO	1.491	NO
37	PFDoA	612.9 > 569.0	20032.807	25344.875	1.00	5.65	9.880	10.000	10.6	106.3	NO	8.338	NO
38	N-MeFOSA	512.1 > 168.9	5437.968	14942.065	1.00	5.67	54.299	50.000	53.8	107.7	NO	1.417	NO
39	PFTrDA	662.9 > 618.9	19576.947	25344.875	1.00	5.90	9.655	10.000	11.0	109.8	NO	9.290	NO
40	PFDoS	698.9 > 80	3685.359	17175.209	1.00	5.92	2.682	10.000	9.21	92.1	NO	1.807	NO
41	PFTeDA	713.0 > 669.0	20443.451	17175.209	1.00	6.11	14.879	10.000	9.36	93.6	NO	13.768	NO
87	13C2-10:2 FTS-EIS	633 > 79.9	1627.946		1.00	5.64	1627.946	12.500	12.3	98.2	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

85	13C2-PFDoA-EIS	615 > 570	25344.875		1.00	5.65	25344.875	12.500	13.2	105.4	NO		
89	d3-N-MeFOSA-EIS	515.2 > 168.9	14942.065		1.00	5.69	14942.065	149.200	149	99.8	NO		
85	13C2-PFDoA-EIS	615 > 570	25344.875		1.00	5.65	25344.875	12.500	13.2	105.4	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17175.209		1.00	6.11	17175.209	12.500	13.1	104.5	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17175.209		1.00	6.11	17175.209	12.500	13.1	104.5	NO		
-1													
42	N-EtFOSA	526.1 > 168.9	6668.069	23670.754	1.00	6.10	42.030	50.000	49.9	99.7	NO	1.456	NO
43	PFHxDA	813.1 > 768.6	13077.393	25836.213	1.00	6.43	6.327	10.000	10.2	102.0	NO	23.629	NO
44	PFODA	913 > 869	21123.150	25836.213	1.00	6.66	10.220	10.000	9.34	93.4	NO		
45	N-MeFOSE	616.1 > 58.9	3840.206	11663.149	1.00	6.30	49.126	50.000	53.8	107.7	NO		
46	N-EtFOSE	630.1 > 58.9	4203.047	10733.779	1.00	6.45	58.423	50.000	50.0	100.0	NO		
48	13C3-PFBA-RSD	216.1 > 171.8	4600.934	6594.179	1.00	1.36	8.722	12.500	12.6	101.0	NO		
93	d5-N-ETFOSA-EIS	531.1 > 168.9	23670.754		1.00	6.12	23670.754	149.200	152	101.7	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25836.213		1.00	6.43	25836.213	12.500	14.2	113.9	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25836.213		1.00	6.43	25836.213	12.500	14.2	113.9	NO		
97	d7-N-MeFOSE-EIS	623.1 > 58.9	11663.149		1.00	6.29	11663.149	149.200	166	111.1	NO		
99	d9-N-EtFOSE-EIS	639.2 > 58.8	10733.779		1.00	6.44	10733.779	149.200	140	93.9	NO		
50	13C3-PFPeA-RSD	266.0 > 221.8	6999.552	15316.007	1.00	2.31	5.713	12.500	12.2	97.3	NO		
-1													
52	13C3-PFBS-RSD	302.0 > 99	1751.963	2199.350	1.00	2.59	9.957	12.500	12.9	103.5	NO		
54	13C3-HFPO-DA-RSD	287.0 > 168.9	1062.127	15316.007	1.00	3.34	0.867	12.500	12.1	97.0	NO		
56	13C2-4:2 FTS-RSD	329.0 >79.9	2741.359	2199.350	1.00	3.03	15.581	12.500	13.1	104.4	NO		
58	13C2-PFHxA-RSD	315.0 > 270.0	12922.804	15316.007	1.00	3.12	10.547	12.500	12.3	98.4	NO		
60	13C4-PFHpA-RSD	367.2 > 321.8	7465.151	15316.007	1.00	3.73	6.093	12.500	12.4	98.8	NO		
62	13C3-PFHxS-RSD	401.8 > 79.9	3677.733	2199.350	1.00	3.87	20.902	12.500	12.0	95.7	NO		
64	13C2-6:2 FTS-RSD	429.0 >79.9	2375.762	4277.402	1.00	4.19	6.943	12.500	13.1	105.0	NO		
66	13C5-PFNA-RSD	468.2 > 422.9	14893.724	16570.283	1.00	4.67	11.235	12.500	12.5	99.8	NO		
68	13C8-PFOSA-RSD	506. > 78	4944.917	26328.543	1.00	4.72	2.348	12.500	11.0	88.0	NO		
70	13C2-PFOA-RSD	414.9 > 369.7	15989.232	23911.166	1.00	4.24	8.359	12.500	12.3	98.0	NO		
74	13C8-PFOS-RSD	507.0 > 80	4149.673	4277.402	1.00	4.75	12.127	12.500	12.4	99.1	NO		
76	13C2-PFDA-RSD	515.1 > 469.9	15142.152	20020.008	1.00	5.05	9.454	12.500	12.5	100.1	NO		
-1													
78	13C2-8:2 FTS-RSD	528.9 > 79.9	2342.624	4277.402	1.00	5.02	6.846	12.500	11.7	93.3	NO		
80	d3-N-MeFOSAA-RSD	573. > 419	11928.093	26328.543	1.00	5.19	5.663	12.500	11.7	93.5	NO		
82	13C2-PFUdA-RSD	565 > 519.8	22736.430	26328.543	1.00	5.37	10.795	12.500	12.1	97.1	NO		
84	d5-N-EtFOSAA-RSD	589. > 419	9722.020	26328.543	1.00	5.35	4.616	12.500	10.8	86.6	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

86	13C2-PFDoA-RSD	615 > 570	25344.875	20020.008	1.00	5.65	15.825	12.500	12.4	99.3	NO
88	13C2-10:2 FTS-RSD	633 > 79.9	1627.946	4277.402	1.00	5.64	4.757	12.500	11.9	95.6	NO
90	d3-N-MeFOSA-RSD	515.2 > 168.9	14942.065	26328.543	1.00	5.69	7.094	149.200	130	86.9	NO
92	13C2-PFTeDA-RSD	715.1 > 669.7	17171.268	26328.543	1.00	6.11	8.152	12.500	11.9	95.6	NO
94	d5-N-ETFOSA-RSD	531.1 > 168.9	23670.754	26328.543	1.00	6.12	11.238	149.200	138	92.2	NO
96	13C2-PFHxDA-RSD	815 > 769.7	25836.213	26328.543	1.00	6.43	12.266	12.500	12.5	100.0	NO
98	d7-N-MeFOSE-RSD	623.1 > 58.9	11633.905	26328.543	1.00	6.29	5.523	149.200	143	95.8	NO
1...	d9-N-EtFOSE-RSD -1	639.2 > 58.8	10924.697	26328.543	1.00	6.44	5.187	149.200	125	83.8	NO
1...	13C4-PFBA	217.0 > 172.0	6594.179	6594.179	1.00	1.36	12.500	12.500	12.5	100.0	NO
1...	13C5-PFHxA	318.0 > 272.9	15316.007	15316.007	1.00	3.12	12.500	12.500	12.5	100.0	NO
1...	13C8-PFOA	420.9 > 376.0	23911.166	23911.166	1.00	4.24	12.500	12.500	12.5	100.0	NO
1...	18O2-PFHxS	403.0 > 103.0	2199.350	2199.350	1.00	3.88	12.500	12.500	12.5	100.0	NO
1...	13C9-PFNA	472.2 > 426.9	16570.283	16570.283	1.00	4.67	12.500	12.500	12.5	100.0	NO
1...	13C4-PFOS	503 > 80.0	4277.402	4277.402	1.00	4.75	12.500	12.500	12.5	100.0	NO
1...	13C6-PFDA	519.1 > 473.7	20020.008	20020.008	1.00	5.05	12.500	12.500	12.5	100.0	NO
1...	13C7-PFUdA	570.1 > 524.8	26328.543	26328.543	1.00	5.37	12.500	12.500	12.5	100.0	NO

FBR 7/13/2020

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: PFBA

1	200710M1_1	IPA	10-Jul-20	07:55:03
2	200710M1_2	IPA	10-Jul-20	08:05:23
3	200710M1_3	ST200710M1-1 PFC CS-2 20F1901	10-Jul-20	08:15:44
4	200710M1_4	ST200710M1-2 PFC CS-1 20F1902	10-Jul-20	08:26:06
5	200710M1_5	ST200710M1-3 PFC CS0 20F1903	10-Jul-20	08:36:28
6	200710M1_6	ST200710M1-4 PFC CS1 20F1904	10-Jul-20	08:46:51
7	200710M1_7	ST200710M1-5 PFC CS2 20F1905	10-Jul-20	08:57:13
8	200710M1_8	ST200710M1-6 PFC CS3 20F1906	10-Jul-20	09:07:35
9	200710M1_9	ST200710M1-7 PFC CS4 20F1907	10-Jul-20	09:17:57
10	200710M1_10	ST200710M1-8 PFC CS5 20F1908	10-Jul-20	09:28:20
11	200710M1_11	ST200710M1-9 PFC CS6 20F1909	10-Jul-20	09:38:42
12	200710M1_12	ST200710M1-10 PFC CS7 20F1910	10-Jul-20	09:49:04
13	200710M1_13	IB	10-Jul-20	09:59:26
14	200710M1_14	ICV200710M1-1 PFC ICV 20F1911	10-Jul-20	10:09:48
15	200710M1_15	IB	10-Jul-20	10:20:11
16	200710M1_16	B0G0038-BLK1 Method Blank 0.25	10-Jul-20	10:30:33
17	200710M1_17	B0G0038-BS1 OPR 0.25	10-Jul-20	10:40:55
18	200710M1_18	B0G0038-BSD1 LCSD 0.25	10-Jul-20	10:51:17
19	200710M1_19	2001410-01 PFC-AF-01-410-070120 0.23313	10-Jul-20	11:01:40
20	200710M1_20	B0F0238-BLK1 Method Blank 1	10-Jul-20	11:12:02
21	200710M1_21	B0F0238-BS1 OPR 1	10-Jul-20	11:22:24
22	200710M1_22	2001332-01 B2 (20') 1.17	10-Jul-20	11:32:46
23	200710M1_23	2001332-02 B2 (40') 1.13	10-Jul-20	11:43:08
24	200710M1_24	2001332-03 B2 (dup) 1.12	10-Jul-20	11:53:30
25	200710M1_25	2001332-04 B2 (60') 1.12	10-Jul-20	12:03:53
26	200710M1_26	2001332-05 B2 (80') 1.08	10-Jul-20	12:14:15
27	200710M1_27	2001332-06 B2 (100') 1.19	10-Jul-20	12:24:37
28	200710M1_28	2001332-08 MB7 (0-1) 1.3	10-Jul-20	12:34:59
29	200710M1_29	2001332-09 MB7 (2-3) 1.29	10-Jul-20	12:45:21
30	200710M1_30	2001332-10 MB8 (0-1) 1.25	10-Jul-20	12:55:44
31	200710M1_31	IB	10-Jul-20	13:06:06
32	200710M1_32	ST200710M1-11 PFC CS3 20F1906	10-Jul-20	13:16:29

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

33	200710M1_33	IB	10-Jul-20	13:26:51
34	200710M1_34	2001332-11 MB8 (2-3) 1.37	10-Jul-20	13:37:13
35	200710M1_35	2001332-12 MB10 (0-1) 1.13	10-Jul-20	13:47:37
36	200710M1_36	2001332-13 MB10 (2-3) 1.33	10-Jul-20	13:58:02
37	200710M1_37	2001332-14 MB (DUPB) 1.21	10-Jul-20	14:08:27
38	200710M1_38	2001332-17 MB9 (0-1) 1.35	10-Jul-20	14:18:51
39	200710M1_39	2001332-18 MB9 (2-3) 1.28	10-Jul-20	14:29:16
40	200710M1_40	B0F0284-BLK1 Method Blank 0.125	10-Jul-20	14:39:41
41	200710M1_41	B0F0284-BS1 OPR 0.125	10-Jul-20	14:50:06
42	200710M1_42	B0F0284-BSD1 LCSD 0.125	10-Jul-20	15:00:31
43	200710M1_43	2001367-03 CHFZ10-EB02-062520 0.1165	10-Jul-20	15:10:56
44	200710M1_44	2001377-01 CASTLE-OU2-EF02-200626 0.11074	10-Jul-20	15:21:20
45	200710M1_45	2001377-02 CASTLE-OU2-IN01-200626 0.11395	10-Jul-20	15:31:45
46	200710M1_46	2001377-03 CASTLE-P3-IN01-200626 0.11384	10-Jul-20	15:42:09
47	200710M1_47	IB	10-Jul-20	15:52:34
48	200710M1_48	ST200710M1-12 PFC CS3 20F1906	10-Jul-20	16:02:56
49	200710M1_49	IB	10-Jul-20	16:13:18
50	200710M1_50	2001377-04 CASTLE-P3-EF01-200626 0.11664	10-Jul-20	16:28:10
51	200710M1_51	2001377-05 CASTLE-P3-EF02-200626 0.11245	10-Jul-20	16:38:29
52	200710M1_52	2001379-10 CHFZ10-EB03-062620 0.11496	10-Jul-20	16:48:51
53	200710M1_53	B0G0026-BLK1 Method Blank 0.125	10-Jul-20	16:59:16
54	200710M1_54	B0G0026-BS1 OPR 0.125	10-Jul-20	17:09:41
55	200710M1_55	B0G0026-MS1 Matrix Spike 0.24411	10-Jul-20	17:20:03
56	200710M1_56	B0G0026-MSD1 Matrix Spike Dup 0.24084	10-Jul-20	17:30:28
57	200710M1_57	2001325-01RE1 AHLS 0.26314	10-Jul-20	17:40:51
58	200710M1_58	B0F0219-BS5 OPR 0.125	10-Jul-20	17:51:13
59	200710M1_59	B0F0219-BS6 OPR 0.125	10-Jul-20	18:01:35
60	200710M1_60	B0F0219-BS7 OPR 0.125	10-Jul-20	18:11:57
61	200710M1_61	IB	10-Jul-20	18:22:20
62	200710M1_62	ST200710M1-13 PFC CS3 20F1906	10-Jul-20	18:32:44
63	200710M1_63	IB	10-Jul-20	18:43:10
64	200710M1_64	ST200710M1-14 PFC CS0 20F1903	10-Jul-20	19:17:42
65	200710M1_65	IB	10-Jul-20	19:28:03
66	200710M1_66	B0F0278-BLK1 Method Blank 1	10-Jul-20	19:38:25
67	200710M1_67	B0F0278-BS1 OPR 1	10-Jul-20	19:48:47
68	200710M1_68	2001348-03 AB-20 (0.5-1) 1.3	10-Jul-20	19:59:09

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

69	200710M1_69	2001348-04 AB-20 (1.5-2) 1.38	10-Jul-20	20:09:32
70	200710M1_70	2001348-05 AB-21 (0.5-1) 1.31	10-Jul-20	20:19:57
71	200710M1_71	2001348-06 AB-21 (4-4.5) 1.41	10-Jul-20	20:30:21
72	200710M1_72	2001348-07 AB-22 (0.5-1) 1.27	10-Jul-20	20:40:47
73	200710M1_73	2001348-08 AB-22 (2.5-3) 1.2	10-Jul-20	20:51:11
74	200710M1_74	2001348-09 AB-17 (1.5-2) 1.27	10-Jul-20	21:01:36
75	200710M1_75	2001348-10 AB-15 (0.5-1) 1.22	10-Jul-20	21:12:01
76	200710M1_76	2001348-11 AB-15 (1.5-2) 1.27	10-Jul-20	21:22:23
77	200710M1_77	2001348-14 AB-10 (0.5-1) 1.24	10-Jul-20	21:32:46
78	200710M1_78	ST200710M1-15 PFC CS3 20F1906	10-Jul-20	21:43:07
79	200710M1_79	IB	10-Jul-20	21:53:30
80	200710M1_80	2001348-15 AB-10 (4.5-5) 1.43	10-Jul-20	22:03:53
81	200710M1_81	2001348-16 AB-11 (0.5-1) 1.34	10-Jul-20	22:14:14
82	200710M1_82	2001348-17 AB-11 (3-3.5) 1.34	10-Jul-20	22:24:36
83	200710M1_83	2001348-18 AB-12 (0.5-1) 1.28	10-Jul-20	22:35:01
84	200710M1_84	2001348-19 AB-14 (0.5-1) 1.25	10-Jul-20	22:45:26
85	200710M1_85	2001348-20 AB-16 (0.5-1) 1.32	10-Jul-20	22:55:52
86	200710M1_86	2001348-21 AB-17 (0.5-1) 1.26	10-Jul-20	23:06:17
87	200710M1_87	2001348-22 AB-18 (0.5-1) 1.26	10-Jul-20	23:16:38
88	200710M1_88	2001348-23 AB-19 (0.5-1) 1.27	10-Jul-20	23:27:01
89	200710M1_89	2001348-24 AB-19 (3-3.5) 1.42	10-Jul-20	23:37:23
90	200710M1_90	ST200710M1-16 PFC CS3 20F1906	10-Jul-20	23:47:45
91	200710M1_91	IB	10-Jul-20	23:58:07
92	200710M1_92	B0G0040-BLK1 Method Blank 0.25	11-Jul-20	00:08:29
93	200710M1_93	B0G0040-BS1 OPR 0.25	11-Jul-20	00:18:52
94	200710M1_94	B0G0040-BSD1 LCSD 0.25	11-Jul-20	00:29:14
95	200710M1_95	B0G0040-MS1 Matrix Spike 0.24021	11-Jul-20	00:39:36
96	200710M1_96	B0G0040-MSD1 Matrix Spike Dup 0.24163	11-Jul-20	00:49:58
97	200710M1_97	2001326-01RE1 REEPEF2658FS 0.10891	11-Jul-20	01:00:22
98	200710M1_98	2001419-01 WEY-SW001-20200706 0.25448	11-Jul-20	01:10:48
99	200710M1_99	2001419-02 WEY-SW-DUP1-20200706 0.24444	11-Jul-20	01:21:13
100	200710M1_100	B0F0279-BLK1 Method Blank 1	11-Jul-20	01:31:38
101	200710M1_101	B0F0279-BS1 OPR 1	11-Jul-20	01:42:02
102	200710M1_102	2001346-01 AA-MW-2 0-1' 1.26	11-Jul-20	01:52:27
103	200710M1_103	2001346-02 AA-MW-2 2-3' 1.2	11-Jul-20	02:02:52
104	200710M1_104	2001346-03 AA-MW-1 0-1' 1.08	11-Jul-20	02:13:16

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

105	200710M1_105	2001346-04 AA-MW-1 3-4' 1.26	11-Jul-20	02:23:41
106	200710M1_106	2001346-05 AA-MW-5 0-1' 1.13	11-Jul-20	02:34:05
107	200710M1_107	2001346-06 AA-MW-5 3-4' 1.13	11-Jul-20	02:44:30
108	200710M1_108	2001346-07 AA-MW-4 0-1' 1.14	11-Jul-20	02:54:54
109	200710M1_109	ST200710M1-17 PFC CS3 20F1906	11-Jul-20	03:05:19
110	200710M1_110	IB	11-Jul-20	03:15:44
111	200710M1_111	2001346-08 AA-MW-4 3-4' 1.3	11-Jul-20	03:26:09
112	200710M1_112	2001346-09 AA-MW-3 0-1' 1.1	11-Jul-20	03:36:31
113	200710M1_113	2001346-10 AA-MW-3 3-4' 1.3	11-Jul-20	03:46:54
114	200710M1_114	B0G0039-BLK1 Method Blank 0.25	11-Jul-20	03:57:16
115	200710M1_115	B0G0039-BS1 OPR 0.25	11-Jul-20	04:07:38
116	200710M1_116	B0G0039-BSD1 LCSD 0.25	11-Jul-20	04:18:01
117	200710M1_117	2001416-01 TN-LW03-20200706 0.24653	11-Jul-20	04:28:23
118	200710M1_118	2001416-02 TN-LW04-20200706 0.24435	11-Jul-20	04:38:45
119	200710M1_119	2001417-01 EB04-20200706 0.24622	11-Jul-20	04:49:07
120	200710M1_120	2001417-02 TW06D-20200706 0.26196	11-Jul-20	04:59:30
121	200710M1_121	2001417-03 TW25D-20200706 0.25866	11-Jul-20	05:09:52
122	200710M1_122	2001417-04 TW26D-20200706 0.27962	11-Jul-20	05:20:14
123	200710M1_123	2001417-05 TW08D-20200706 0.25789	11-Jul-20	05:30:37
124	200710M1_124	ST200710M1-18 PFC CS3 20F1906	11-Jul-20	05:40:59
125	200710M1_125	IB	11-Jul-20	05:51:21

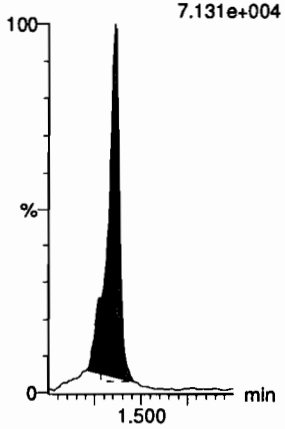
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

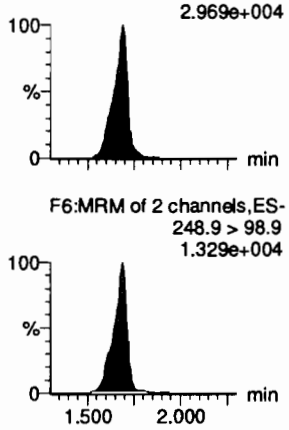
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

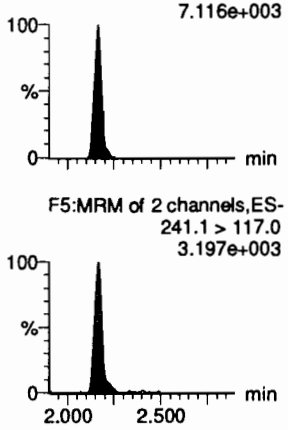
PFBA



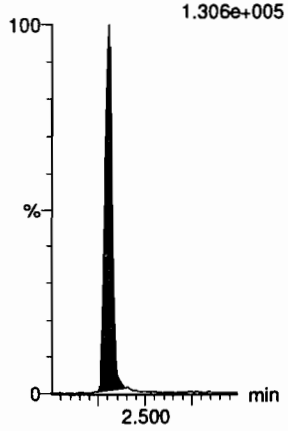
PFPrS



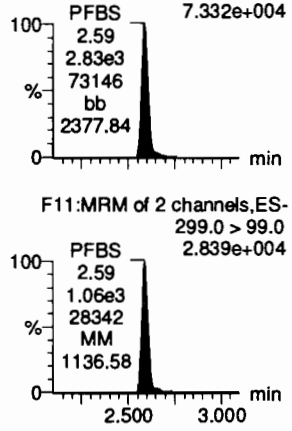
3:3 FTCA



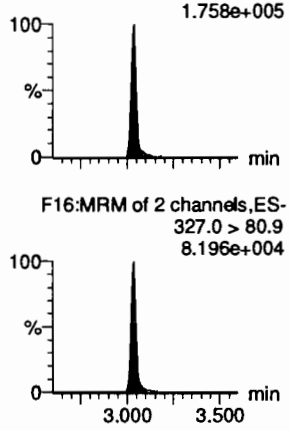
PFPeA



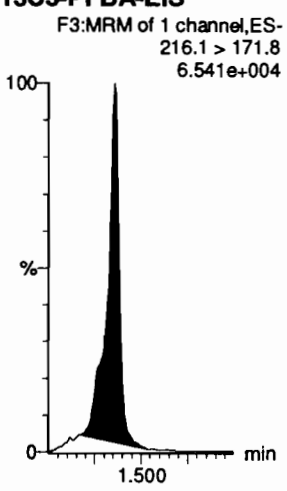
PFBS



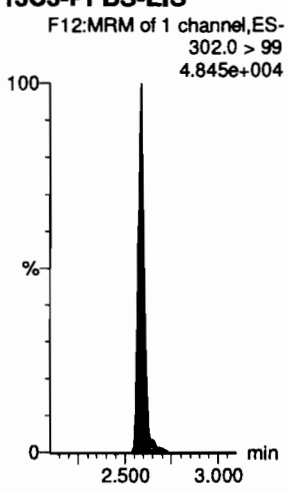
4:2 FTS



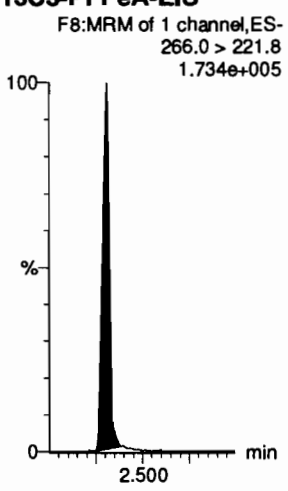
13C3-PFBA-EIS



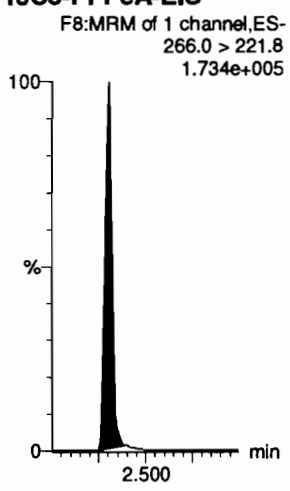
13C3-PFBS-EIS



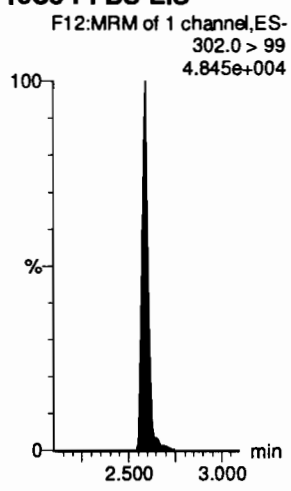
13C3-PFPeA-EIS



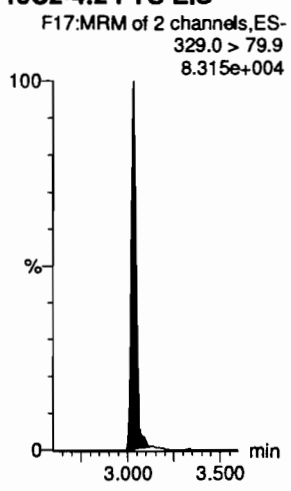
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



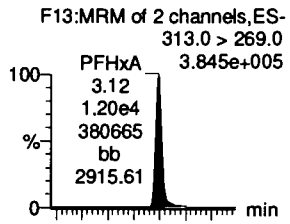
FBR 7/13/2020

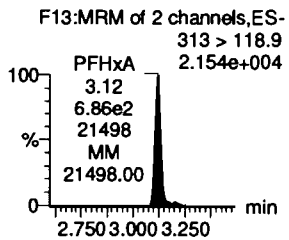
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

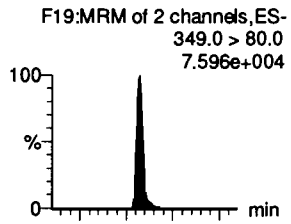
Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

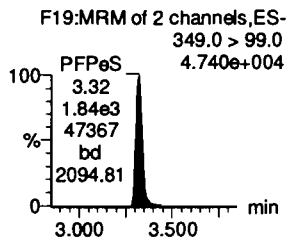
PFHxA



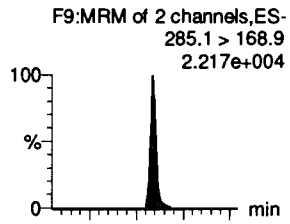


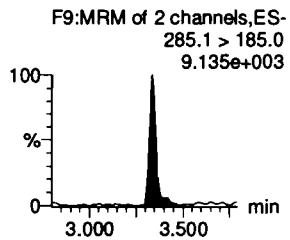
PFPeS



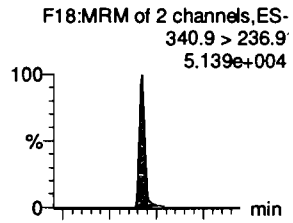


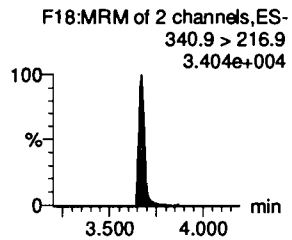
HFPO-DA



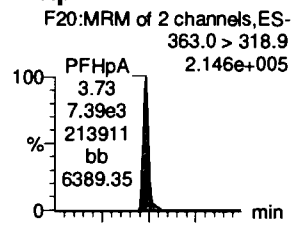


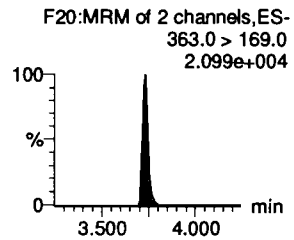
5:3 FTCA



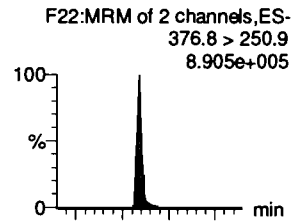


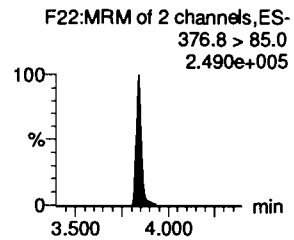
PFHpA



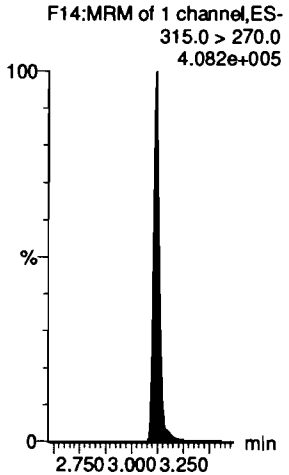


ADONA

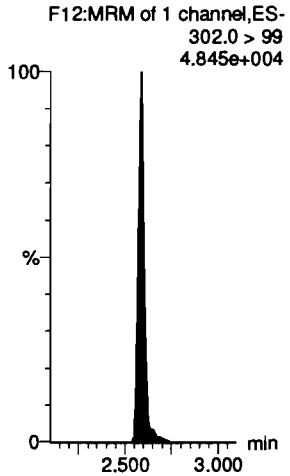




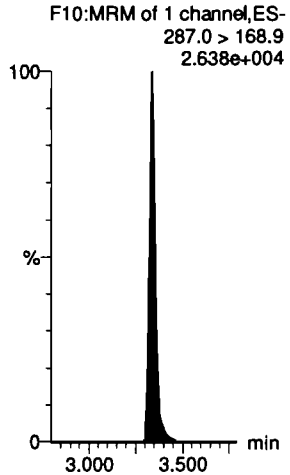
13C2-PFHxA-EIS



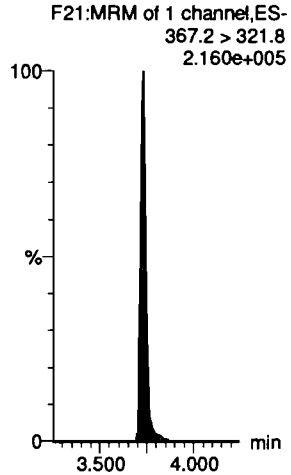
13C3-PFBS-EIS



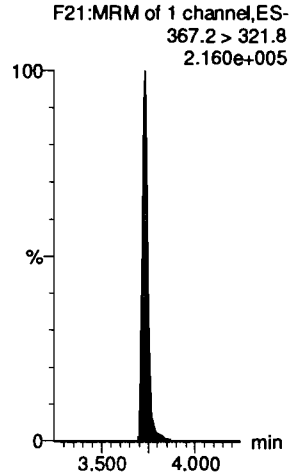
13C3-HFPO-DA-EIS



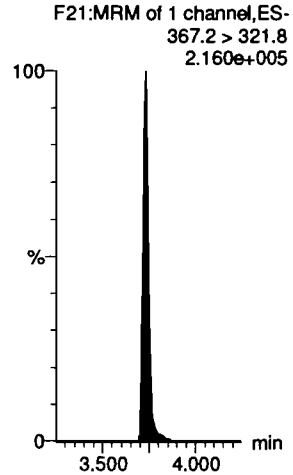
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



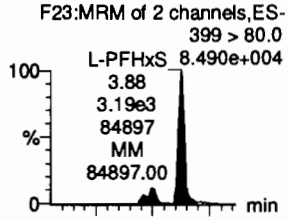
FBR 7/13/2020

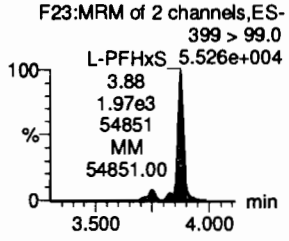
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

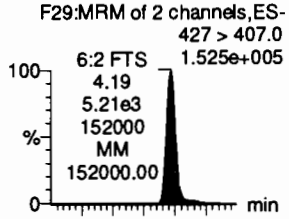
Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

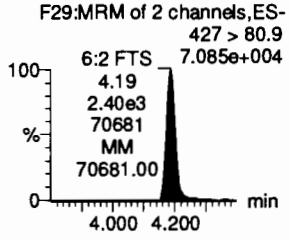
L-PFHxS



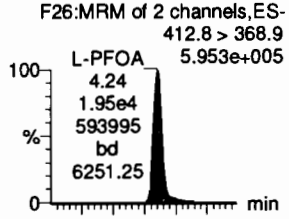


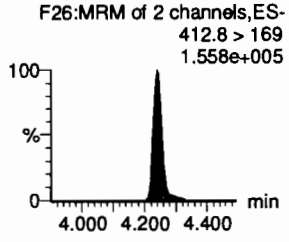
6:2 FTS



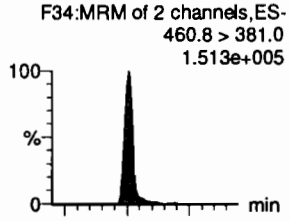


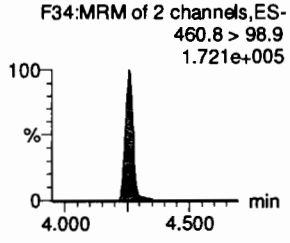
L-PFOA



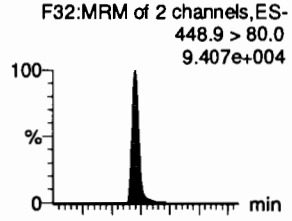


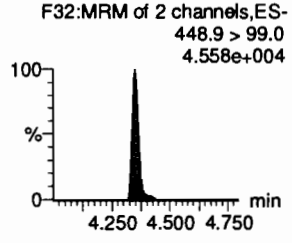
PFEChS



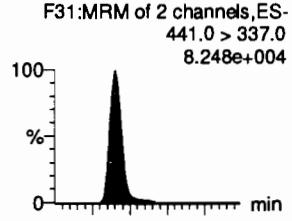


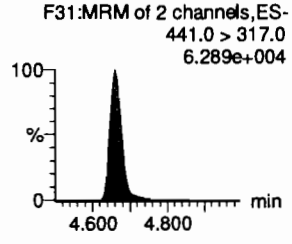
PFHpS



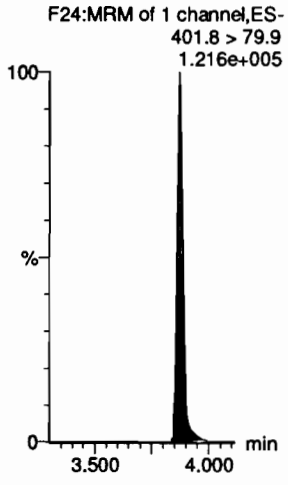


7:3 FTCA

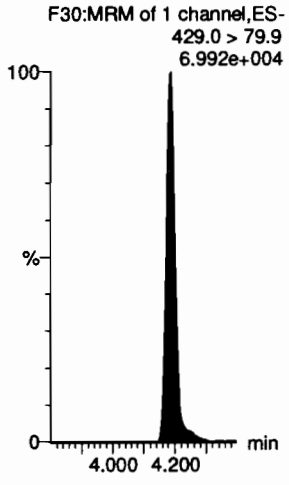




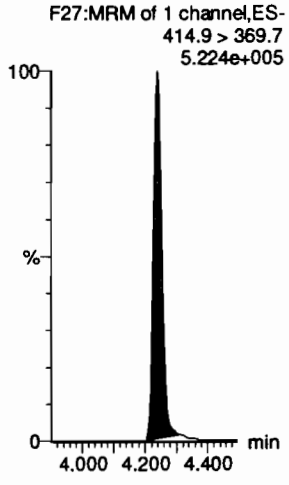
13C3-PFHxS-EIS



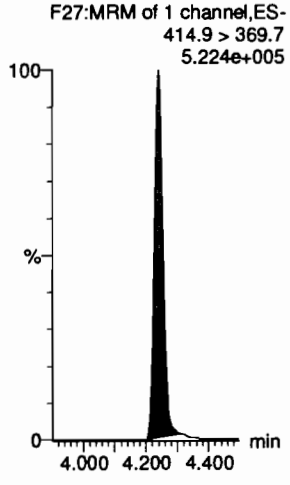
13C2-6:2 FTS-EIS



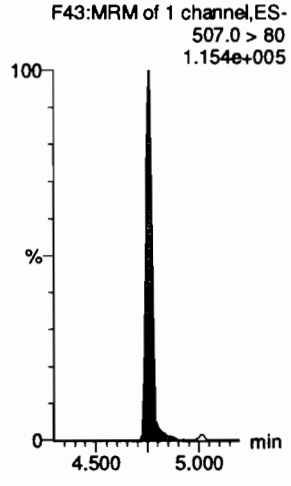
13C2-PFOA-EIS



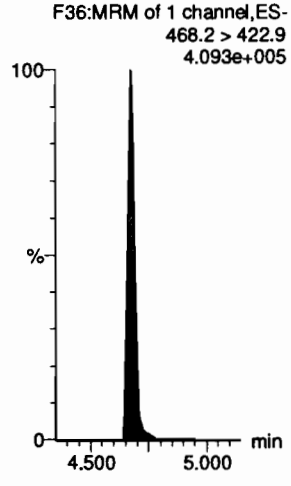
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



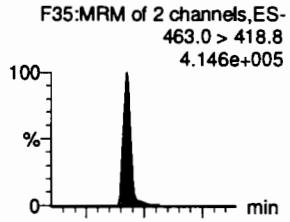
FBR 7/13/2020

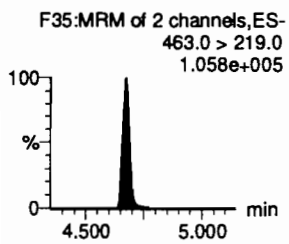
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

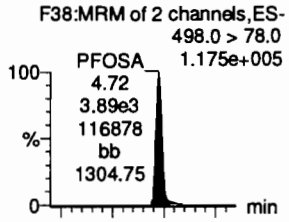
Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

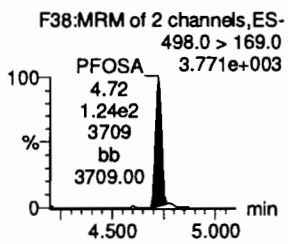
PFNA



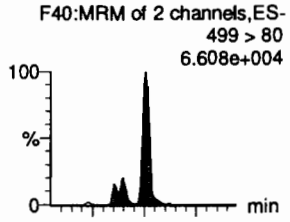


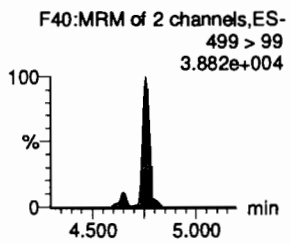
PFOSA



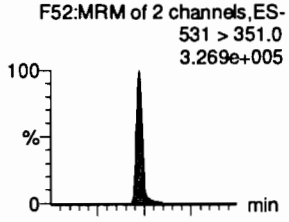


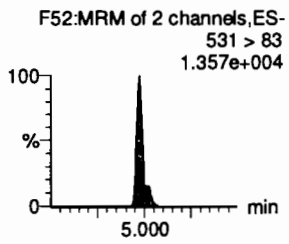
L-PFOS



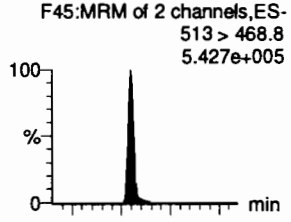


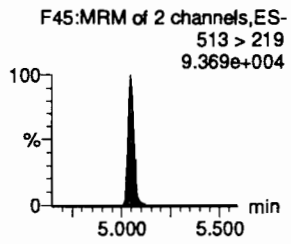
9Cl-PF30NS



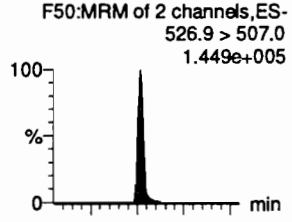


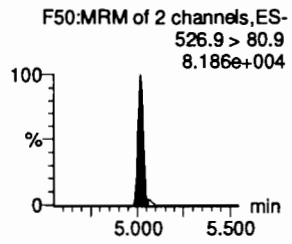
PFDA



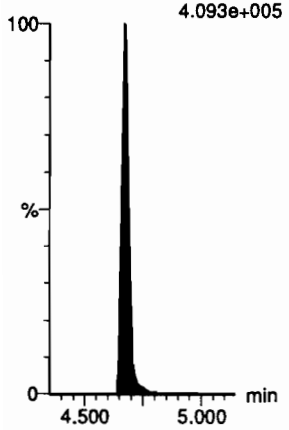


8:2 FTS

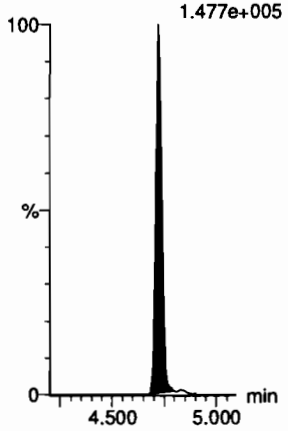




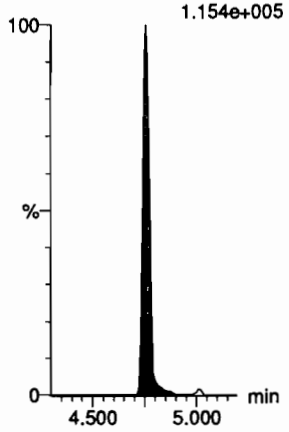
13C5-PFNA-EIS



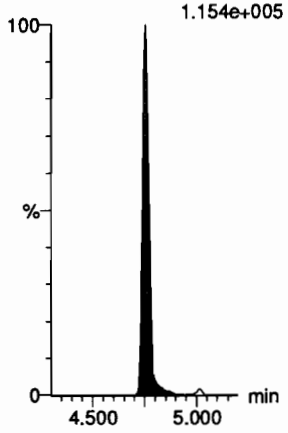
13C8-PFOSA-EIS



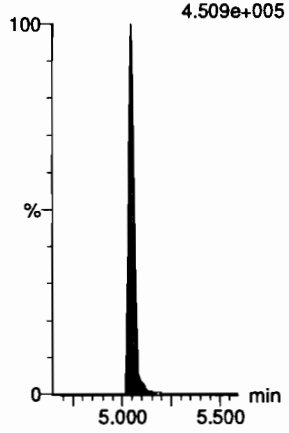
13C8-PFOS-EIS



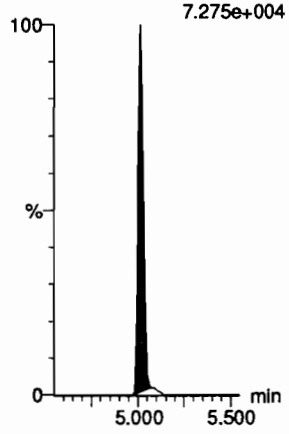
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



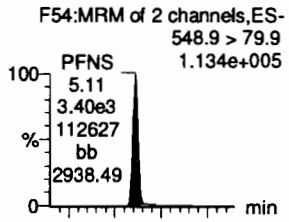
FBR 7/13/2020

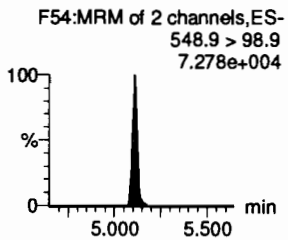
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

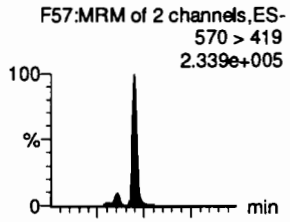
Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

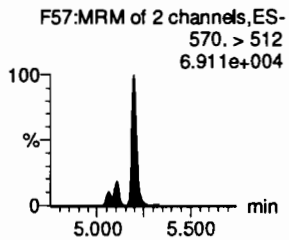
PFNS



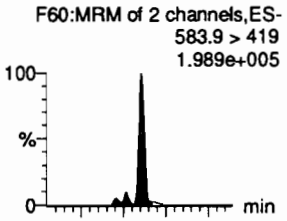


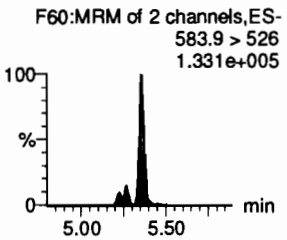
L-MeFOSAA



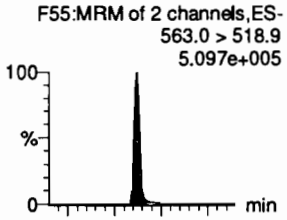


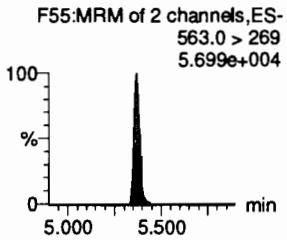
L-EtFOSAA



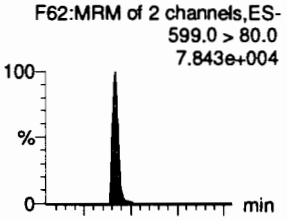


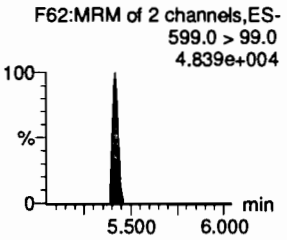
PFUdA



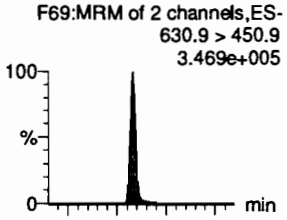


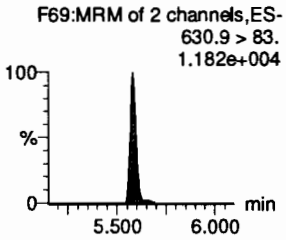
PFDS



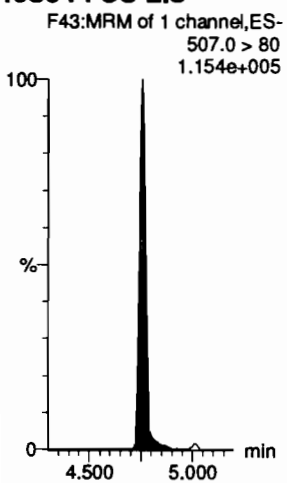


11Cl-PF30UdS

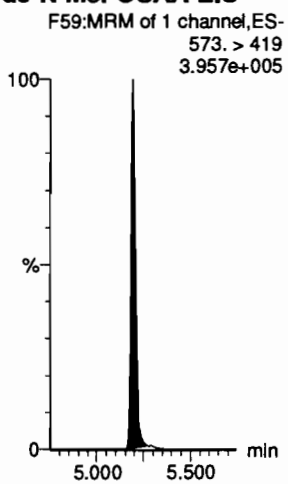




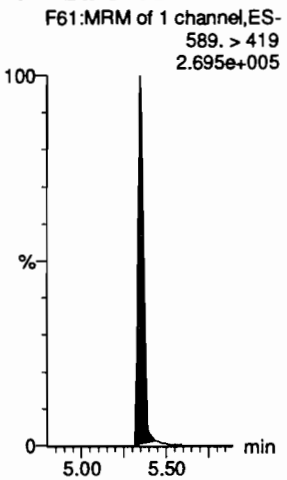
13C8-PFOS-EIS



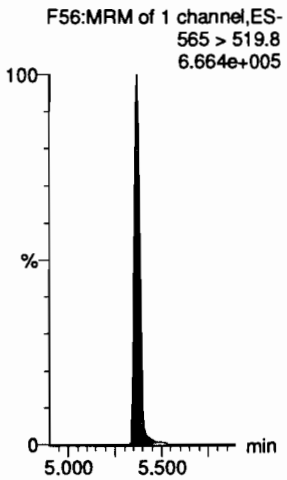
d3-N-MeFOSAA-EIS



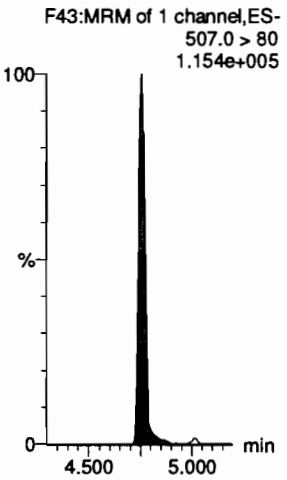
d5-N-EtFOSAA-EIS



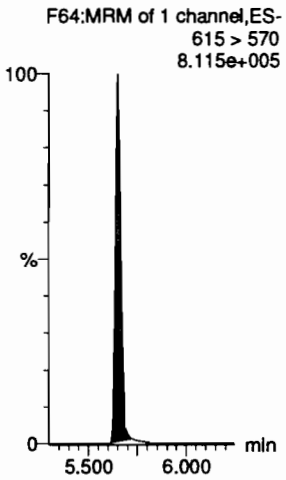
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



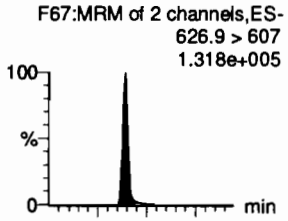
FBR 7/13/2020

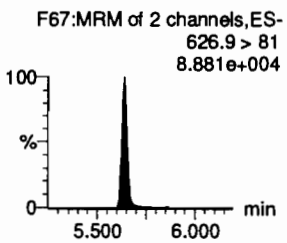
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

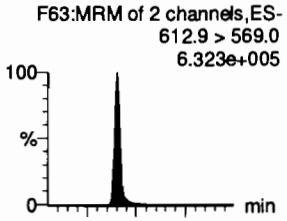
Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

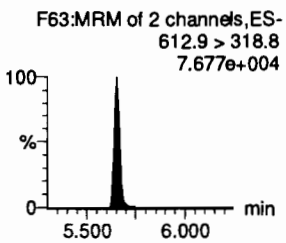
10:2 FTS



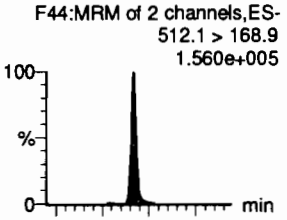


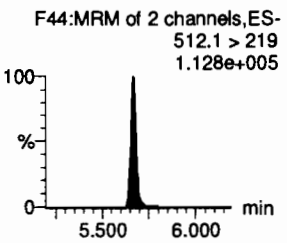
PFDoA



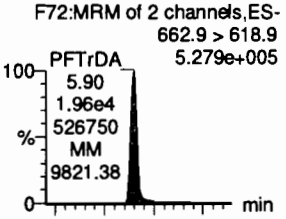


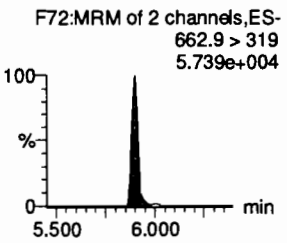
N-MeFOSA



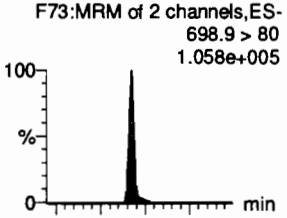


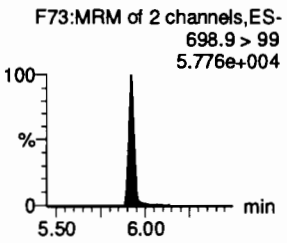
PFTrDA



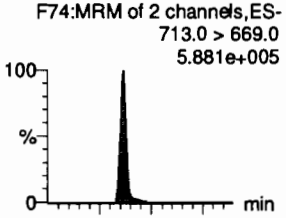


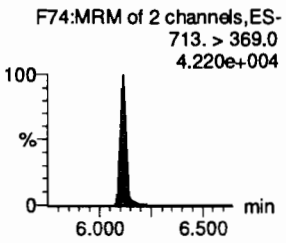
PFDoS



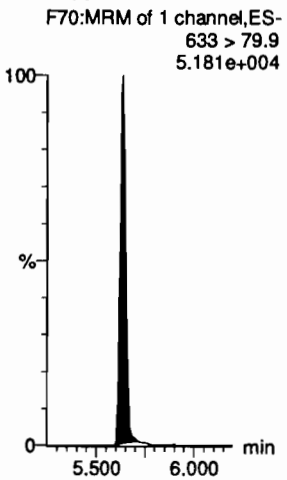


PFTeDA

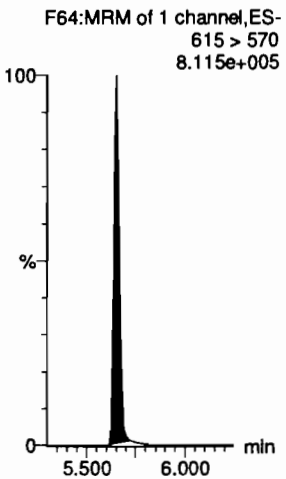




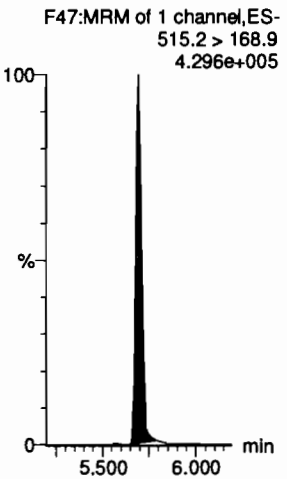
13C2-10:2 FTS-EIS



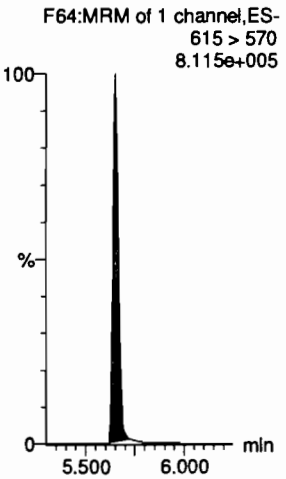
13C2-PFDoA-EIS



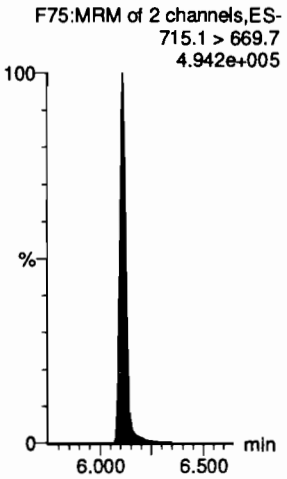
d3-N-MeFOSA-EIS



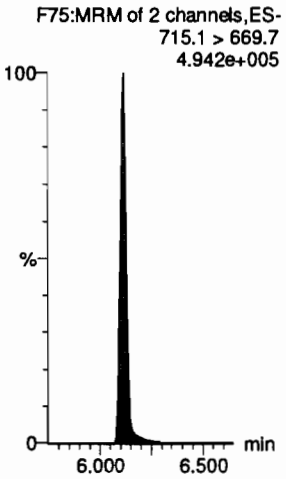
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



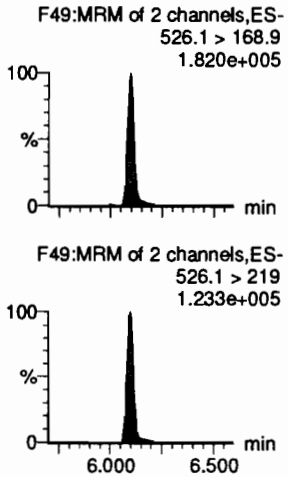
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

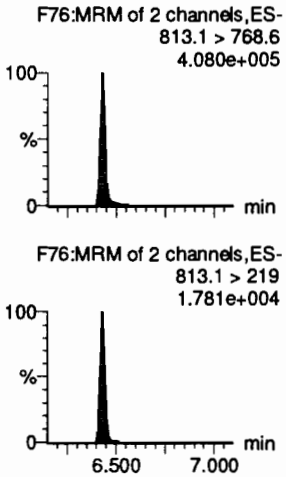
Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

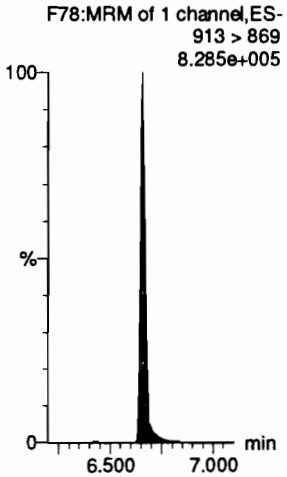
N-EtFOSA



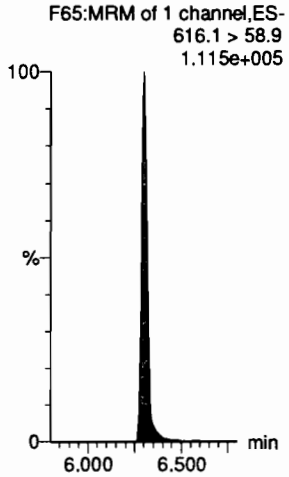
PFHxDA



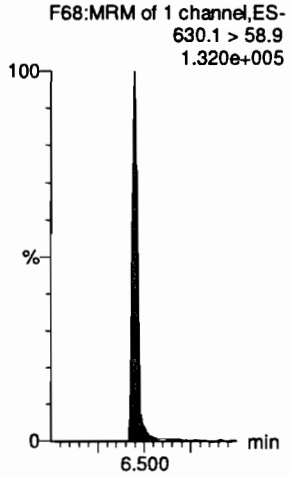
PFODA



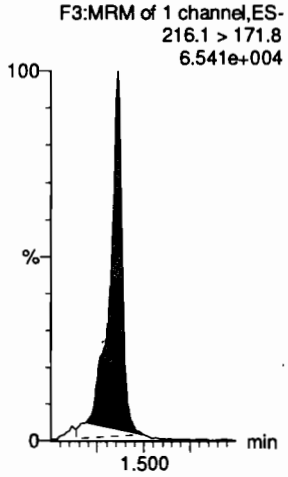
N-MeFOSE



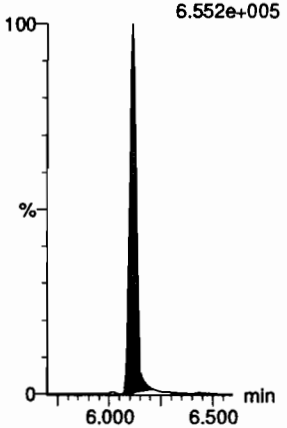
N-EtFOSE



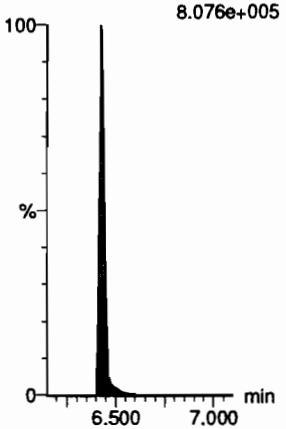
13C3-PFBA-RSD



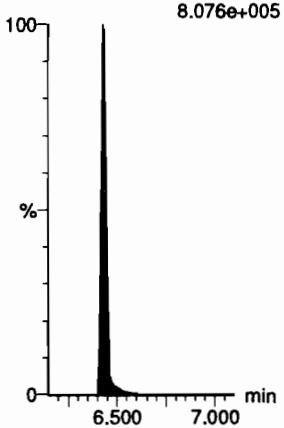
d5-N-ETFOSA-EIS



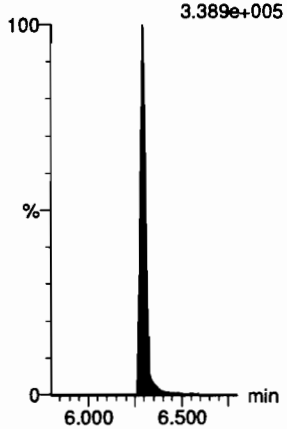
13C2-PFHxDA-EIS



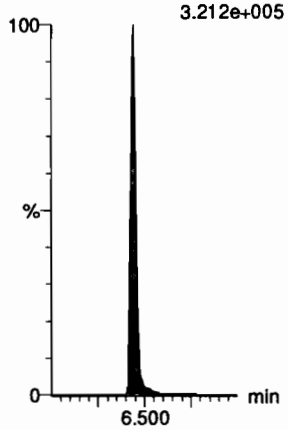
13C2-PFHxDA-EIS



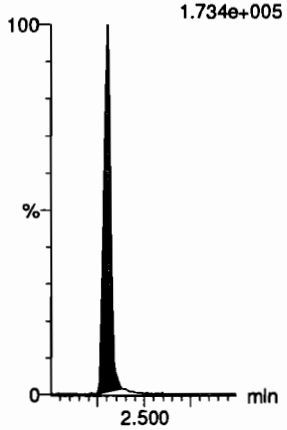
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



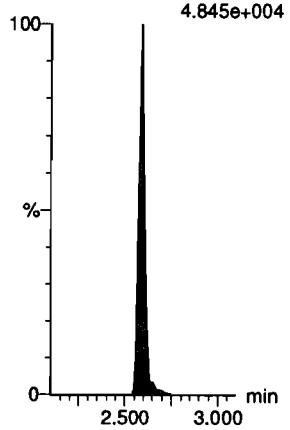
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

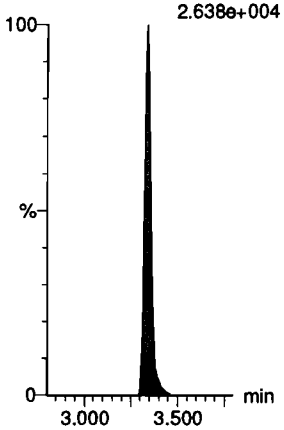
Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

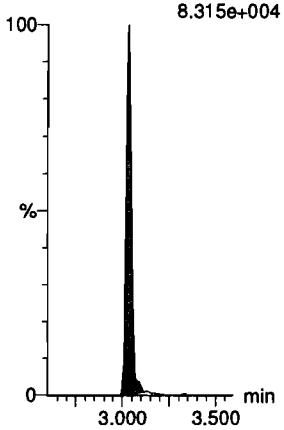
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.845e+004



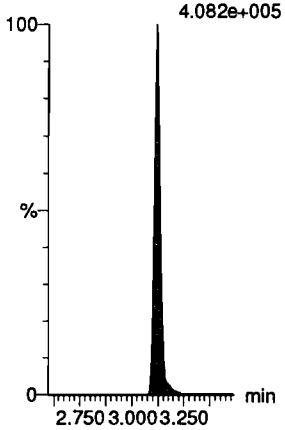
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.638e+004



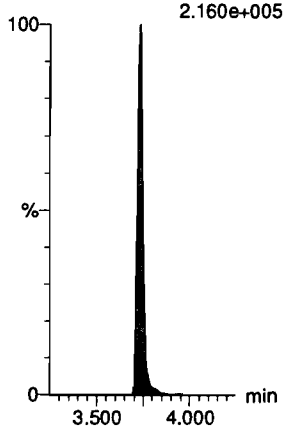
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
8.315e+004



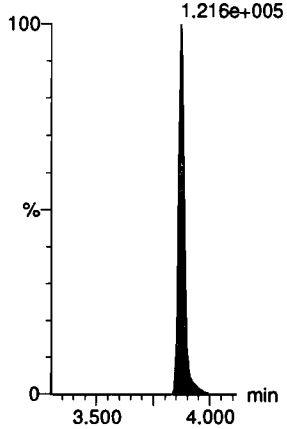
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.082e+005



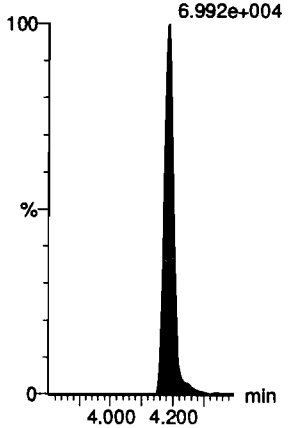
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.160e+005



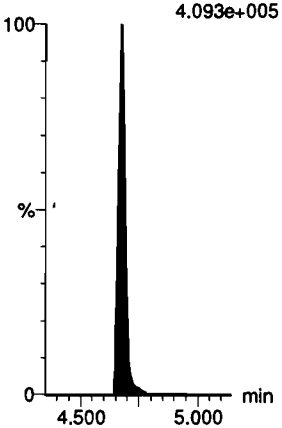
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.216e+005



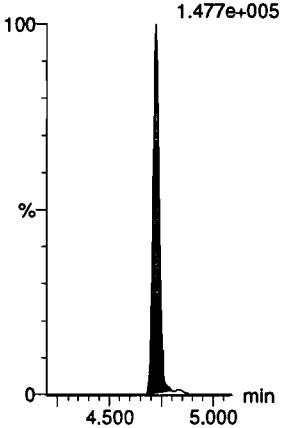
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.992e+004



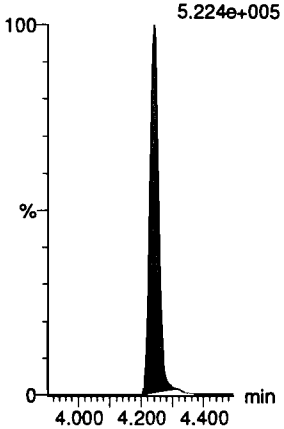
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.093e+005



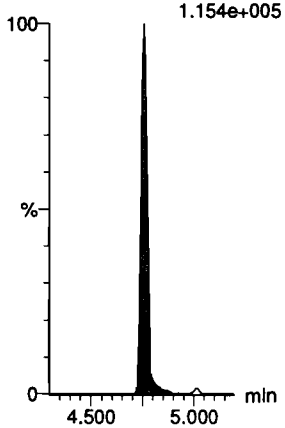
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.477e+005



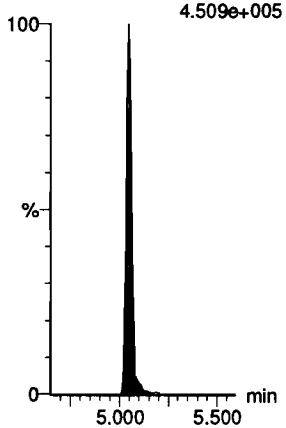
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.224e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.154e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.509e+005



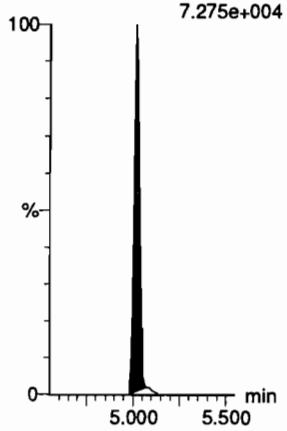
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

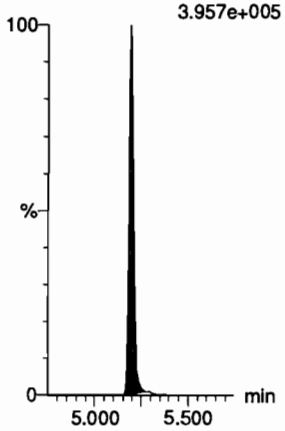
Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

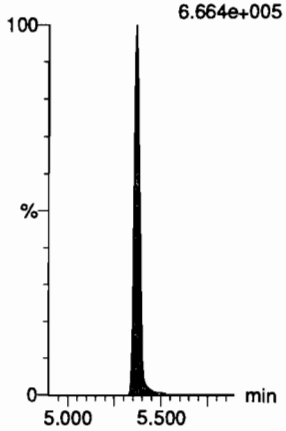
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.275e+004



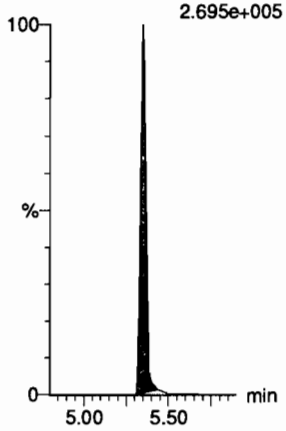
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.957e+005



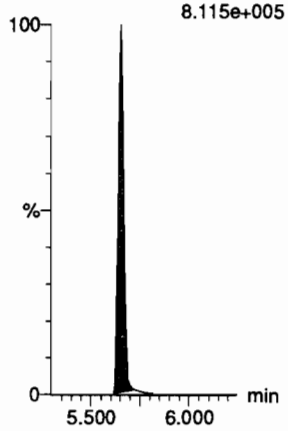
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.664e+005



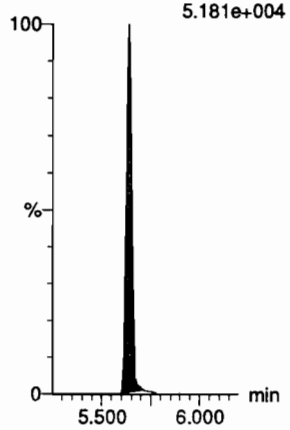
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.695e+005



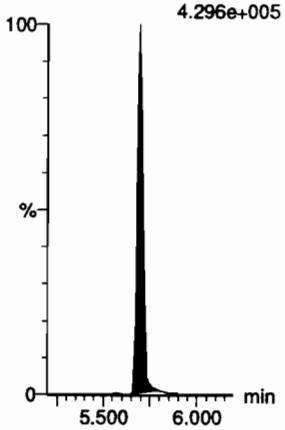
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
8.115e+005



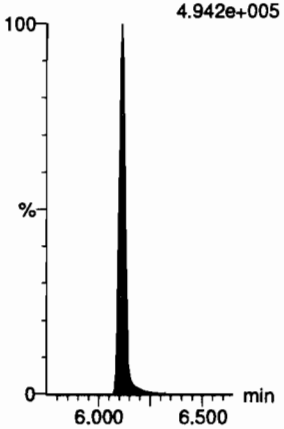
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.181e+004



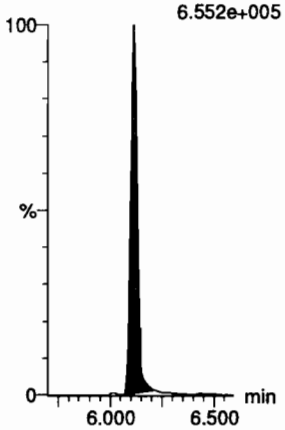
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.296e+005



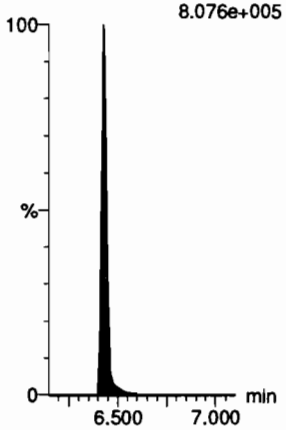
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.942e+005



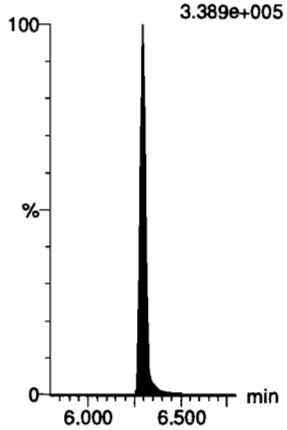
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.552e+005



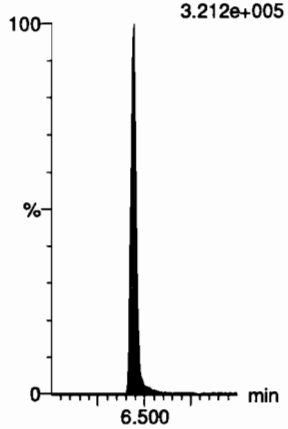
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.076e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.389e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.212e+005



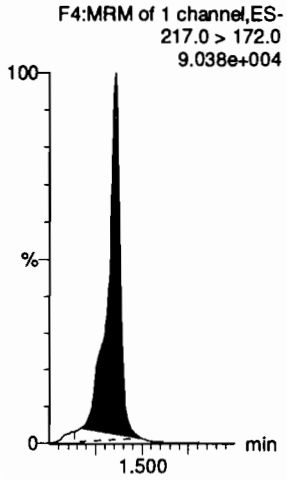
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-109.qld

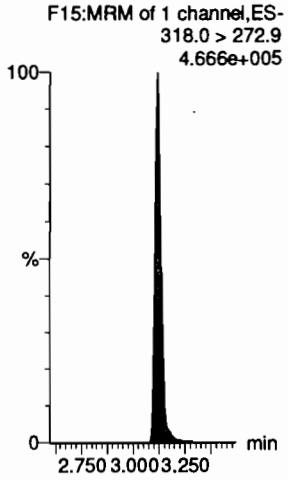
Last Altered: Monday, July 13, 2020 08:44:35 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:44:56 Pacific Daylight Time

Name: 200710M1_109, Date: 11-Jul-2020, Time: 03:05:19, ID: ST200710M1-17 PFC CS3 20F1906, Description: PFC CS3 20F1906

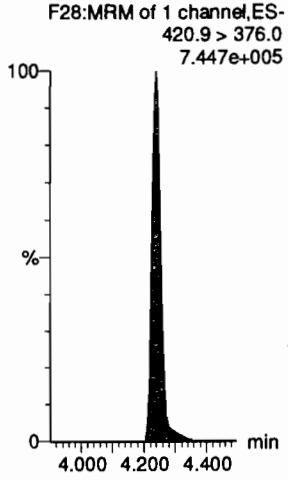
13C4-PFBA



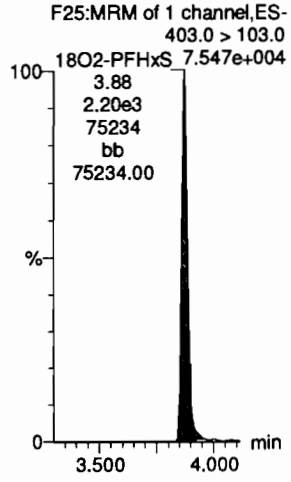
13C5-PFHxA



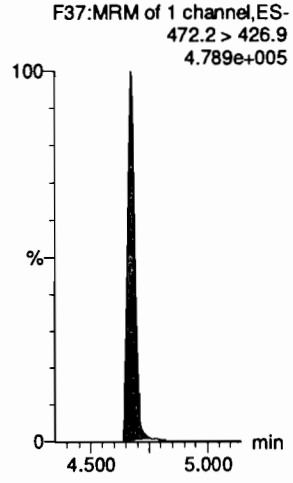
13C8-PFOA



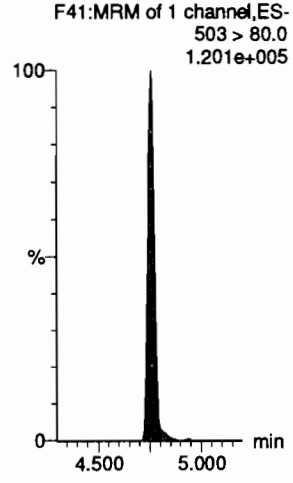
18O2-PFHxS



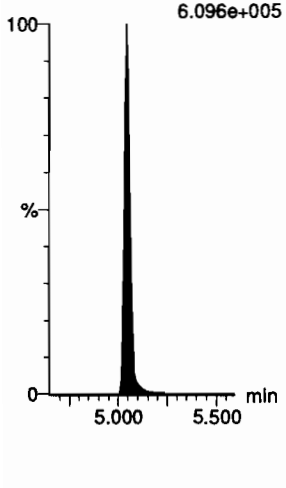
13C9-PFNA



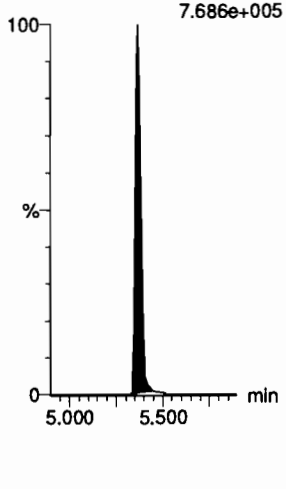
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

07/13/20

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

1 PFBA	213.0 > 169.0	5079.024	4682.865	1.00	1.36	13.557	10.000	9.61	96.1	NO		
2 PFPrS	248.9 > 79.9	2532.351	1751.511	1.00	1.69	18.073	10.000	10.1	101.1	NO	2.417	NO
3 3:3 FTCA	241.1 > 177.0	300.930	7277.969	1.00	2.17	0.517	10.000	8.17	81.7	NO	2.184	NO
4 PFPeA	263.1 > 218.9	5456.545	7277.969	1.00	2.31	9.372	10.000	9.88	98.8	NO		
5 PFBS	299.0 > 79.7	2937.379	1751.511	1.00	2.59	20.963	10.000	10.3	103.4	NO	2.613	NO
6 4:2 FTS	327.0 > 306.9	5450.557	2562.792	1.00	3.04	26.585	10.000	10.1	101.5	NO	1.875	NO
47 13C3-PFBA-EIS	216.1 > 171.8	4682.865		1.00	1.36	4682.865	12.500	13.6	109.1	NO		
51 13C3-PFBS-EIS	302.0 > 99	1751.511		1.00	2.59	1751.511	12.500	13.5	108.3	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7277.969		1.00	2.31	7277.969	12.500	13.5	108.3	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	7277.969		1.00	2.31	7277.969	12.500	13.5	108.3	NO		
51 13C3-PFBS-EIS	302.0 > 99	1751.511		1.00	2.59	1751.511	12.500	13.5	108.3	NO		
55 13C2-4:2 FTS-EIS	329.0 >79.9	2562.792		1.00	3.03	2562.792	12.500	12.8	102.1	NO		
-1												
7 PFHxA	313.0 > 269.0	11988.837	13551.330	1.00	3.12	11.059	10.000	9.65	96.5	NO	17.203	NO
8 PFPeS	349.0 > 80.0	3003.608	1751.511	1.00	3.32	21.436	10.000	9.30	93.0	NO	1.490	NO
9 HFPO-DA	285.1 > 168.9	886.398	1197.184	1.00	3.34	9.255	10.000	9.86	98.6	NO	2.302	NO
10 5:3 FTCA	340.9 > 236.9	1749.738	7965.211	1.00	3.67	2.746	10.000	8.71	87.1	NO	1.470	NO
11 PFHpA	363.0 > 318.9	7760.443	7965.211	1.00	3.73	12.179	10.000	9.65	96.5	NO	10.045	NO
12 ADONA	376.8 > 250.9	30400.709	7965.211	1.00	3.84	47.709	10.000	9.60	96.0	NO	3.522	NO
57 13C2-PFHxA-EIS	315.0 > 270.0	13551.330		1.00	3.12	13551.330	12.500	13.4	107.2	NO		
51 13C3-PFBS-EIS	302.0 > 99	1751.511		1.00	2.59	1751.511	12.500	13.5	108.3	NO		
53 13C3-HFPO-DA-EIS	287.0 > 168.9	1197.184		1.00	3.34	1197.184	12.500	15.5	123.7	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7965.211		1.00	3.73	7965.211	12.500	14.1	112.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7965.211		1.00	3.73	7965.211	12.500	14.1	112.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	7965.211		1.00	3.73	7965.211	12.500	14.1	112.6	NO		
-1												
13 L-PFHxS	399 > 80.0	3367.889	3923.761	1.00	3.88	10.729	10.000	9.68	96.8	NO	1.599	NO
15 6:2 FTS	427 > 407.0	5892.390	2337.920	1.00	4.19	31.504	10.000	11.8	118.0	NO	2.274	NO
16 L-PFOA	412.8 > 368.9	18743.365	16365.851	1.00	4.24	14.316	10.000	10.0	100.2	NO	3.925	NO
18 PFecHS	460.8 > 381.0	5983.409	16365.851	1.00	4.26	4.570	10.000	10.5	105.4	NO	0.997	NO
19 PFHpS	448.9 > 80.0	3315.960	4231.166	1.00	4.35	9.796	10.000	11.8	118.4	NO	2.076	NO
20 7:3 FTCA	441.0 > 337.0	3059.582	14048.717	1.00	4.66	2.722	10.000	8.03	80.3	NO	1.408	NO
61 13C3-PFHxS-EIS	401.8 > 79.9	3923.761		1.00	3.88	3923.761	12.500	13.6	108.9	NO		
63 13C2-6:2 FTS-EIS	429.0 >79.9	2337.920		1.00	4.19	2337.920	12.500	13.4	107.1	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	16365.851		1.00	4.24	16365.851	12.500	13.2	105.6	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	16365.851		1.00	4.24	16365.851	12.500	13.2	105.6	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

73 13C8-PFOS-EIS	507.0 > 80	4231.166		1.00	4.75	4231.166	12.500	13.2	105.7	NO		
65 13C5-PFNA-EIS	468.2 > 422.9	14048.717		1.00	4.68	14048.717	12.500	14.3	114.8	NO		
-1												
21 PFNA	463.0 > 418.8	15165.336	14048.717	1.00	4.68	13.494	10.000	10.3	103.4	NO	3.790	NO
22 PFOSA	498.0 > 78.0	3902.167	4510.168	1.00	4.73	10.815	10.000	10.9	108.6	NO	27.052	NO
23 L-PFOS	499 > 80	3579.912	4231.166	1.00	4.75	10.576	10.000	9.50	95.0	NO	2.428	NO
25 9Cl-PF30NS	531 > 351.0	13086.179	4231.166	1.00	4.97	38.660	10.000	9.67	96.7	NO	23.318	NO
26 PFDA	513 > 468.8	16570.447	14894.396	1.00	5.05	13.907	10.000	9.93	99.3	NO	5.295	NO
27 8:2 FTS	526.9 > 507.0	4702.104	2468.915	1.00	5.02	23.807	10.000	10.0	100.4	NO	1.817	NO
65 13C5-PFNA-EIS	468.2 > 422.9	14048.717		1.00	4.68	14048.717	12.500	14.3	114.8	NO		
67 13C8-PFOSA-EIS	506. > 78	4510.168		1.00	4.72	4510.168	12.500	11.6	92.8	NO		
73 13C8-PFOS-EIS	507.0 > 80	4231.166		1.00	4.75	4231.166	12.500	13.2	105.7	NO		
73 13C8-PFOS-EIS	507.0 > 80	4231.166		1.00	4.75	4231.166	12.500	13.2	105.7	NO		
75 13C2-PFDA-EIS	515.1 > 469.9	14894.396		1.00	5.05	14894.396	12.500	13.9	111.1	NO		
77 13C2-8:2 FTS-EIS	528.9 > 79.9	2468.915		1.00	5.02	2468.915	12.500	12.6	101.0	NO		
-1												
28 PFNS	548.9 > 79.9	3216.241	4231.166	1.00	5.11	9.502	10.000	8.75	87.5	NO	1.594	NO
29 L-MeFOSAA	570 > 419	8764.200	12238.710	1.00	5.20	8.951	10.000	9.63	96.3	NO	2.736	NO
31 L-EtFOSAA	583.9 > 419	8092.436	10414.304	1.00	5.36	9.713	10.000	10.2	101.7	NO	1.282	NO
33 PFUdA	563.0 > 518.9	17568.604	24957.031	1.00	5.37	8.799	10.000	9.50	95.0	NO	8.273	NO
34 PFDS	599.0 > 80.0	2837.955	4231.166	1.00	5.42	8.384	10.000	8.82	88.2	NO	1.365	NO
35 11Cl-PF30UdS	630.9 > 450.9	11143.275	24744.846	1.00	5.58	5.629	10.000	9.82	98.2	NO	25.177	NO
73 13C8-PFOS-EIS	507.0 > 80	4231.166		1.00	4.75	4231.166	12.500	13.2	105.7	NO		
79 d3-N-MeFOSAA-EIS	573. > 419	12238.710		1.00	5.20	12238.710	12.500	13.2	106.0	NO		
83 d5-N-EtFOSAA-EIS	589. > 419	10414.304		1.00	5.35	10414.304	12.500	12.0	96.1	NO		
81 13C2-PFUdA-EIS	565 > 519.8	24957.031		1.00	5.37	24957.031	12.500	14.0	112.2	NO		
73 13C8-PFOS-EIS	507.0 > 80	4231.166		1.00	4.75	4231.166	12.500	13.2	105.7	NO		
85 13C2-PFDoA-EIS	615 > 570	24744.846		1.00	5.65	24744.846	12.500	12.9	102.9	NO		
-1												
36 10:2 FTS	626.9 > 607	4359.060	1712.324	1.00	5.64	31.821	10.000	10.2	102.4	NO	1.511	NO
37 PFDoA	612.9 > 569.0	19752.477	24744.846	1.00	5.65	9.978	10.000	10.7	107.4	NO	8.168	NO
38 N-MeFOSA	512.1 > 168.9	5466.635	15182.989	1.00	5.67	53.719	50.000	53.3	106.5	NO	1.423	NO
39 PFTrDA	662.9 > 618.9	18554.746	24744.846	1.00	5.90	9.373	10.000	10.7	106.6	NO	8.707	NO
40 PFDoS	698.9 > 80	3722.827	17814.594	1.00	5.92	2.612	10.000	8.97	89.7	NO	1.710	NO
41 PFTeDA	713.0 > 669.0	19370.805	17814.594	1.00	6.11	13.592	10.000	8.55	85.5	NO	13.726	NO
87 13C2-10:2 FTS-EIS	633 > 79.9	1712.324		1.00	5.64	1712.324	12.500	12.9	103.3	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

85	13C2-PFDoA-EIS	615 > 570	24744.846		1.00	5.65	24744.846	12.500	12.9	102.9	NO		
89	d3-N-MeFOSA-EIS	515.2 > 168.9	15182.989		1.00	5.69	15182.989	149.200	151	101.4	NO		
85	13C2-PFDoA-EIS	615 > 570	24744.846		1.00	5.65	24744.846	12.500	12.9	102.9	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17814.594		1.00	6.11	17814.594	12.500	13.6	108.4	NO		
91	13C2-PFTeDA-EIS	715.1 > 669.7	17814.594		1.00	6.11	17814.594	12.500	13.6	108.4	NO		
-1													
42	N-EtFOSA	526.1 > 168.9	6767.465	24001.033	1.00	6.10	42.069	50.000	49.9	99.8	NO	1.511	NO
43	PFHxDA	813.1 > 768.6	13241.372	25688.490	1.00	6.43	6.443	10.000	10.4	103.9	NO	22.779	NO
44	PFODA	913 > 869	21178.939	25688.490	1.00	6.66	10.306	10.000	9.42	94.2	NO		
45	N-MeFOSE	616.1 > 58.9	3687.573	11580.931	1.00	6.30	47.508	50.000	52.0	104.1	NO		
46	N-EtFOSE	630.1 > 58.9	4354.589	11442.378	1.00	6.45	56.781	50.000	48.6	97.2	NO		
48	13C3-PFBA-RSD	216.1 > 171.8	4423.449	6327.395	1.00	1.36	8.739	12.500	12.7	101.2	NO		
93	d5-N-ETFOSA-EIS	531.1 > 168.9	24001.033		1.00	6.12	24001.033	149.200	154	103.1	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25688.490		1.00	6.43	25688.490	12.500	14.2	113.3	NO		
95	13C2-PFHxDA-EIS	815 > 769.7	25688.490		1.00	6.43	25688.490	12.500	14.2	113.3	NO		
97	d7-N-MeFOSE-EIS	623.1 > 58.9	11580.931		1.00	6.29	11580.931	149.200	165	110.3	NO		
99	d9-N-EtFOSE-EIS	639.2 > 58.8	11442.378		1.00	6.44	11442.378	149.200	149	100.1	NO		
50	13C3-PFPeA-RSD	266.0 > 221.8	7277.969	15710.311	1.00	2.31	5.791	12.500	12.3	98.6	NO		
-1													
52	13C3-PFBS-RSD	302.0 > 99	1751.511	2200.823	1.00	2.59	9.948	12.500	12.9	103.4	NO		
54	13C3-HFPO-DA-RSD	287.0 > 168.9	1197.684	15710.311	1.00	3.34	0.953	12.500	13.3	106.6	NO		
56	13C2-4:2 FTS-RSD	329.0 >79.9	2560.900	2200.823	1.00	3.03	14.545	12.500	12.2	97.5	NO		
58	13C2-PFHxA-RSD	315.0 > 270.0	13560.930	15710.311	1.00	3.12	10.790	12.500	12.6	100.7	NO		
60	13C4-PFHpA-RSD	367.2 > 321.8	7962.452	15710.311	1.00	3.73	6.335	12.500	12.8	102.7	NO		
62	13C3-PFHxS-RSD	401.8 > 79.9	3923.761	2200.823	1.00	3.88	22.286	12.500	12.8	102.1	NO		
64	13C2-6:2 FTS-RSD	429.0 >79.9	2337.920	4121.152	1.00	4.19	7.091	12.500	13.4	107.2	NO		
66	13C5-PFNA-RSD	468.2 > 422.9	14048.717	16560.387	1.00	4.68	10.604	12.500	11.8	94.2	NO		
68	13C8-PFOSA-RSD	506. > 78	4510.168	28445.979	1.00	4.72	1.982	12.500	9.28	74.3	NO		
70	13C2-PFOA-RSD	414.9 > 369.7	16365.851	23901.432	1.00	4.24	8.559	12.500	12.6	100.4	NO		
74	13C8-PFOS-RSD	507.0 > 80	4231.166	4121.152	1.00	4.75	12.834	12.500	13.1	104.9	NO		
76	13C2-PFDA-RSD	515.1 > 469.9	14894.396	19881.945	1.00	5.05	9.364	12.500	12.4	99.2	NO		
-1													
78	13C2-8:2 FTS-RSD	528.9 > 79.9	2468.915	4121.152	1.00	5.02	7.489	12.500	12.8	102.1	NO		
80	d3-N-MeFOSAA-RSD	573. > 419	12238.710	28445.979	1.00	5.20	5.378	12.500	11.1	88.8	NO		
82	13C2-PFUdA-RSD	565 > 519.8	24957.031	28445.979	1.00	5.37	10.967	12.500	12.3	98.7	NO		
84	d5-N-EtFOSAA-RSD	589. > 419	10414.304	28445.979	1.00	5.35	4.576	12.500	10.7	85.8	NO		

FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

86 13C2-PFDoA-RSD	615 > 570	24744.846	19881.945	1.00	5.65	15.557	12.500	12.2	97.6	NO
88 13C2-10:2 FTS-RSD	633 > 79.9	1712.324	4121.152	1.00	5.64	5.194	12.500	13.0	104.4	NO
90 d3-N-MeFOSA-RSD	515.2 > 168.9	15291.090	28445.979	1.00	5.69	6.719	149.200	123	82.3	NO
92 13C2-PFTeDA-RSD	715.1 > 669.7	17814.594	28445.979	1.00	6.11	7.828	12.500	11.5	91.8	NO
94 d5-N-ETFOSA-RSD	531.1 > 168.9	24001.033	28445.979	1.00	6.12	10.547	149.200	129	86.5	NO
96 13C2-PFHxDA-RSD	815 > 769.7	25698.334	28445.979	1.00	6.43	11.293	12.500	11.5	92.1	NO
98 d7-N-MeFOSE-RSD	623.1 > 58.9	11580.931	28445.979	1.00	6.29	5.089	149.200	132	88.3	NO
1... d9-N-EtFOSE-RSD	639.2 > 58.8	11431.397	28445.979	1.00	6.44	5.023	149.200	121	81.2	NO
-1										
1... 13C4-PFBA	217.0 > 172.0	6327.395	6327.395	1.00	1.36	12.500	12.500	12.5	100.0	NO
1... 13C5-PFHxA	318.0 > 272.9	15710.311	15710.311	1.00	3.12	12.500	12.500	12.5	100.0	NO
1... 13C8-PFOA	420.9 > 376.0	23901.432	23901.432	1.00	4.24	12.500	12.500	12.5	100.0	NO
1... 18O2-PFHxS	403.0 > 103.0	2200.823	2200.823	1.00	3.88	12.500	12.500	12.5	100.0	NO
1... 13C9-PFNA	472.2 > 426.9	16560.387	16560.387	1.00	4.68	12.500	12.500	12.5	100.0	NO
1... 13C4-PFOS	503 > 80.0	4121.152	4121.152	1.00	4.75	12.500	12.500	12.5	100.0	NO
1... 13C6-PFDA	519.1 > 473.7	19881.945	19881.945	1.00	5.05	12.500	12.500	12.5	100.0	NO
1... 13C7-PFUdA	570.1 > 524.8	28445.979	28445.979	1.00	5.37	12.500	12.500	12.5	100.0	NO

FBR 7/13/2020

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: PFBA

1	200710M1_1	IPA	10-Jul-20 07:55:03
2	200710M1_2	IPA	10-Jul-20 08:05:23
3	200710M1_3	ST200710M1-1 PFC CS-2 20F1901	10-Jul-20 08:15:44
4	200710M1_4	ST200710M1-2 PFC CS-1 20F1902	10-Jul-20 08:26:06
5	200710M1_5	ST200710M1-3 PFC CS0 20F1903	10-Jul-20 08:36:28
6	200710M1_6	ST200710M1-4 PFC CS1 20F1904	10-Jul-20 08:46:51
7	200710M1_7	ST200710M1-5 PFC CS2 20F1905	10-Jul-20 08:57:13
8	200710M1_8	ST200710M1-6 PFC CS3 20F1906	10-Jul-20 09:07:35
9	200710M1_9	ST200710M1-7 PFC CS4 20F1907	10-Jul-20 09:17:57
10	200710M1_10	ST200710M1-8 PFC CS5 20F1908	10-Jul-20 09:28:20
11	200710M1_11	ST200710M1-9 PFC CS6 20F1909	10-Jul-20 09:38:42
12	200710M1_12	ST200710M1-10 PFC CS7 20F1910	10-Jul-20 09:49:04
13	200710M1_13	IB	10-Jul-20 09:59:26
14	200710M1_14	ICV200710M1-1 PFC ICV 20F1911	10-Jul-20 10:09:48
15	200710M1_15	IB	10-Jul-20 10:20:11
16	200710M1_16	B0G0038-BLK1 Method Blank 0.25	10-Jul-20 10:30:33
17	200710M1_17	B0G0038-BS1 OPR 0.25	10-Jul-20 10:40:55
18	200710M1_18	B0G0038-BSD1 LCSD 0.25	10-Jul-20 10:51:17
19	200710M1_19	2001410-01 PFC-AF-01-410-070120 0.23313	10-Jul-20 11:01:40
20	200710M1_20	B0F0238-BLK1 Method Blank 1	10-Jul-20 11:12:02
21	200710M1_21	B0F0238-BS1 OPR 1	10-Jul-20 11:22:24
22	200710M1_22	2001332-01 B2 (20') 1.17	10-Jul-20 11:32:46
23	200710M1_23	2001332-02 B2 (40') 1.13	10-Jul-20 11:43:08
24	200710M1_24	2001332-03 B2 (dup) 1.12	10-Jul-20 11:53:30
25	200710M1_25	2001332-04 B2 (60') 1.12	10-Jul-20 12:03:53
26	200710M1_26	2001332-05 B2 (80') 1.08	10-Jul-20 12:14:15
27	200710M1_27	2001332-06 B2 (100') 1.19	10-Jul-20 12:24:37
28	200710M1_28	2001332-08 MB7 (0-1) 1.3	10-Jul-20 12:34:59
29	200710M1_29	2001332-09 MB7 (2-3) 1.29	10-Jul-20 12:45:21
30	200710M1_30	2001332-10 MB8 (0-1) 1.25	10-Jul-20 12:55:44
31	200710M1_31	IB	10-Jul-20 13:06:06
32	200710M1_32	ST200710M1-11 PFC CS3 20F1906	10-Jul-20 13:16:29

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

33	200710M1_33	IB	10-Jul-20	13:26:51
34	200710M1_34	2001332-11 MB8 (2-3) 1.37	10-Jul-20	13:37:13
35	200710M1_35	2001332-12 MB10 (0-1) 1.13	10-Jul-20	13:47:37
36	200710M1_36	2001332-13 MB10 (2-3) 1.33	10-Jul-20	13:58:02
37	200710M1_37	2001332-14 MB (DUPB) 1.21	10-Jul-20	14:08:27
38	200710M1_38	2001332-17 MB9 (0-1) 1.35	10-Jul-20	14:18:51
39	200710M1_39	2001332-18 MB9 (2-3) 1.28	10-Jul-20	14:29:16
40	200710M1_40	B0F0284-BLK1 Method Blank 0.125	10-Jul-20	14:39:41
41	200710M1_41	B0F0284-BS1 OPR 0.125	10-Jul-20	14:50:06
42	200710M1_42	B0F0284-BSD1 LCSD 0.125	10-Jul-20	15:00:31
43	200710M1_43	2001367-03 CHFZ10-EB02-062520 0.1165	10-Jul-20	15:10:56
44	200710M1_44	2001377-01 CASTLE-OU2-EF02-200626 0.11074	10-Jul-20	15:21:20
45	200710M1_45	2001377-02 CASTLE-OU2-IN01-200626 0.11395	10-Jul-20	15:31:45
46	200710M1_46	2001377-03 CASTLE-P3-IN01-200626 0.11384	10-Jul-20	15:42:09
47	200710M1_47	IB	10-Jul-20	15:52:34
48	200710M1_48	ST200710M1-12 PFC CS3 20F1906	10-Jul-20	16:02:56
49	200710M1_49	IB	10-Jul-20	16:13:18
50	200710M1_50	2001377-04 CASTLE-P3-EF01-200626 0.11664	10-Jul-20	16:28:10
51	200710M1_51	2001377-05 CASTLE-P3-EF02-200626 0.11245	10-Jul-20	16:38:29
52	200710M1_52	2001379-10 CHFZ10-EB03-062620 0.11496	10-Jul-20	16:48:51
53	200710M1_53	B0G0026-BLK1 Method Blank 0.125	10-Jul-20	16:59:16
54	200710M1_54	B0G0026-BS1 OPR 0.125	10-Jul-20	17:09:41
55	200710M1_55	B0G0026-MS1 Matrix Spike 0.24411	10-Jul-20	17:20:03
56	200710M1_56	B0G0026-MSD1 Matrix Spike Dup 0.24084	10-Jul-20	17:30:28
57	200710M1_57	2001325-01RE1 AHLS 0.26314	10-Jul-20	17:40:51
58	200710M1_58	B0F0219-BS5 OPR 0.125	10-Jul-20	17:51:13
59	200710M1_59	B0F0219-BS6 OPR 0.125	10-Jul-20	18:01:35
60	200710M1_60	B0F0219-BS7 OPR 0.125	10-Jul-20	18:11:57
61	200710M1_61	IB	10-Jul-20	18:22:20
62	200710M1_62	ST200710M1-13 PFC CS3 20F1906	10-Jul-20	18:32:44
63	200710M1_63	IB	10-Jul-20	18:43:10
64	200710M1_64	ST200710M1-14 PFC CS0 20F1903	10-Jul-20	19:17:42
65	200710M1_65	IB	10-Jul-20	19:28:03
66	200710M1_66	B0F0278-BLK1 Method Blank 1	10-Jul-20	19:38:25
67	200710M1_67	B0F0278-BS1 OPR 1	10-Jul-20	19:48:47
68	200710M1_68	2001348-03 AB-20 (0.5-1) 1.3	10-Jul-20	19:59:09

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

69	200710M1_69	2001348-04 AB-20 (1.5-2) 1.38	10-Jul-20	20:09:32
70	200710M1_70	2001348-05 AB-21 (0.5-1) 1.31	10-Jul-20	20:19:57
71	200710M1_71	2001348-06 AB-21 (4-4.5) 1.41	10-Jul-20	20:30:21
72	200710M1_72	2001348-07 AB-22 (0.5-1) 1.27	10-Jul-20	20:40:47
73	200710M1_73	2001348-08 AB-22 (2.5-3) 1.2	10-Jul-20	20:51:11
74	200710M1_74	2001348-09 AB-17 (1.5-2) 1.27	10-Jul-20	21:01:36
75	200710M1_75	2001348-10 AB-15 (0.5-1) 1.22	10-Jul-20	21:12:01
76	200710M1_76	2001348-11 AB-15 (1.5-2) 1.27	10-Jul-20	21:22:23
77	200710M1_77	2001348-14 AB-10 (0.5-1) 1.24	10-Jul-20	21:32:46
78	200710M1_78	ST200710M1-15 PFC CS3 20F1906	10-Jul-20	21:43:07
79	200710M1_79	IB	10-Jul-20	21:53:30
80	200710M1_80	2001348-15 AB-10 (4.5-5) 1.43	10-Jul-20	22:03:53
81	200710M1_81	2001348-16 AB-11 (0.5-1) 1.34	10-Jul-20	22:14:14
82	200710M1_82	2001348-17 AB-11 (3-3.5) 1.34	10-Jul-20	22:24:36
83	200710M1_83	2001348-18 AB-12 (0.5-1) 1.28	10-Jul-20	22:35:01
84	200710M1_84	2001348-19 AB-14 (0.5-1) 1.25	10-Jul-20	22:45:26
85	200710M1_85	2001348-20 AB-16 (0.5-1) 1.32	10-Jul-20	22:55:52
86	200710M1_86	2001348-21 AB-17 (0.5-1) 1.26	10-Jul-20	23:06:17
87	200710M1_87	2001348-22 AB-18 (0.5-1) 1.26	10-Jul-20	23:16:38
88	200710M1_88	2001348-23 AB-19 (0.5-1) 1.27	10-Jul-20	23:27:01
89	200710M1_89	2001348-24 AB-19 (3-3.5) 1.42	10-Jul-20	23:37:23
90	200710M1_90	ST200710M1-16 PFC CS3 20F1906	10-Jul-20	23:47:45
91	200710M1_91	IB	10-Jul-20	23:58:07
92	200710M1_92	B0G0040-BLK1 Method Blank 0.25	11-Jul-20	00:08:29
93	200710M1_93	B0G0040-BS1 OPR 0.25	11-Jul-20	00:18:52
94	200710M1_94	B0G0040-BSD1 LCSD 0.25	11-Jul-20	00:29:14
95	200710M1_95	B0G0040-MS1 Matrix Spike 0.24021	11-Jul-20	00:39:36
96	200710M1_96	B0G0040-MSD1 Matrix Spike Dup 0.24163	11-Jul-20	00:49:58
97	200710M1_97	2001326-01RE1 REEPEF2658FS 0.10891	11-Jul-20	01:00:22
98	200710M1_98	2001419-01 WEY-SW001-20200706 0.25448	11-Jul-20	01:10:48
99	200710M1_99	2001419-02 WEY-SW-DUP1-20200706 0.24444	11-Jul-20	01:21:13
100	200710M1_100	B0F0279-BLK1 Method Blank 1	11-Jul-20	01:31:38
101	200710M1_101	B0F0279-BS1 OPR 1	11-Jul-20	01:42:02
102	200710M1_102	2001346-01 AA-MW-2 0-1' 1.26	11-Jul-20	01:52:27
103	200710M1_103	2001346-02 AA-MW-2 2-3' 1.2	11-Jul-20	02:02:52
104	200710M1_104	2001346-03 AA-MW-1 0-1' 1.08	11-Jul-20	02:13:16

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 13, 2020 08:56:19 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:56:30 Pacific Daylight Time

Compound name: PFBA

105	200710M1_105	2001346-04 AA-MW-1 3-4' 1.26	11-Jul-20	02:23:41
106	200710M1_106	2001346-05 AA-MW-5 0-1' 1.13	11-Jul-20	02:34:05
107	200710M1_107	2001346-06 AA-MW-5 3-4' 1.13	11-Jul-20	02:44:30
108	200710M1_108	2001346-07 AA-MW-4 0-1' 1.14	11-Jul-20	02:54:54
109	200710M1_109	ST200710M1-17 PFC CS3 20F1906	11-Jul-20	03:05:19
110	200710M1_110	IB	11-Jul-20	03:15:44
111	200710M1_111	2001346-08 AA-MW-4 3-4' 1.3	11-Jul-20	03:26:09
112	200710M1_112	2001346-09 AA-MW-3 0-1' 1.1	11-Jul-20	03:36:31
113	200710M1_113	2001346-10 AA-MW-3 3-4' 1.3	11-Jul-20	03:46:54
114	200710M1_114	B0G0039-BLK1 Method Blank 0.25	11-Jul-20	03:57:16
115	200710M1_115	B0G0039-BS1 OPR 0.25	11-Jul-20	04:07:38
116	200710M1_116	B0G0039-BSD1 LCSD 0.25	11-Jul-20	04:18:01
117	200710M1_117	2001416-01 TN-LW03-20200706 0.24653	11-Jul-20	04:28:23
118	200710M1_118	2001416-02 TN-LW04-20200706 0.24435	11-Jul-20	04:38:45
119	200710M1_119	2001417-01 EB04-20200706 0.24622	11-Jul-20	04:49:07
120	200710M1_120	2001417-02 TW06D-20200706 0.26196	11-Jul-20	04:59:30
121	200710M1_121	2001417-03 TW25D-20200706 0.25866	11-Jul-20	05:09:52
122	200710M1_122	2001417-04 TW26D-20200706 0.27962	11-Jul-20	05:20:14
123	200710M1_123	2001417-05 TW08D-20200706 0.25789	11-Jul-20	05:30:37
124	200710M1_124	ST200710M1-18 PFC CS3 20F1906	11-Jul-20	05:40:59
125	200710M1_125	IB	11-Jul-20	05:51:21

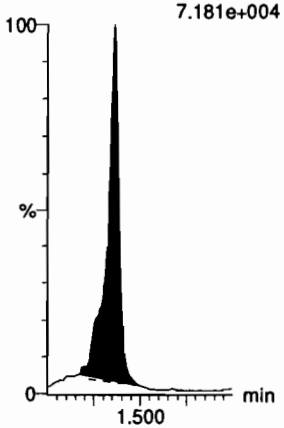
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

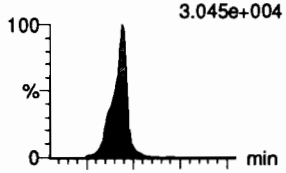
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

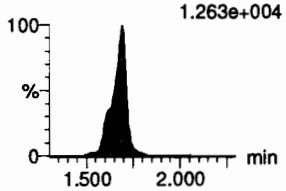
PFBA
F2:MRM of 1 channel,ES-
213.0 > 169.0
7.181e+004



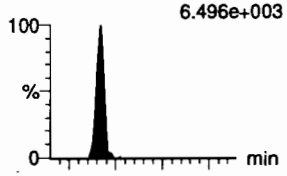
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
3.045e+004



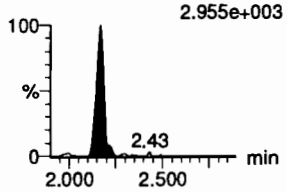
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.263e+004



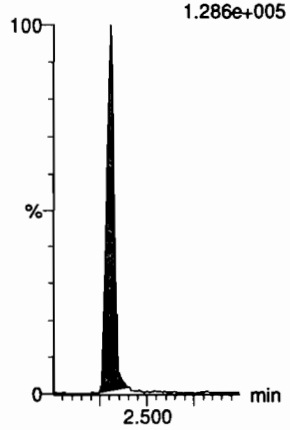
3:3 FTCA
F5:MRM of 2 channels,ES-
241.1 > 177.0
6.496e+003



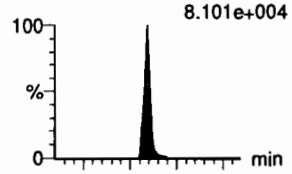
F5:MRM of 2 channels,ES-
241.1 > 117.0
2.955e+003



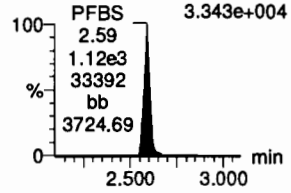
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
1.286e+005



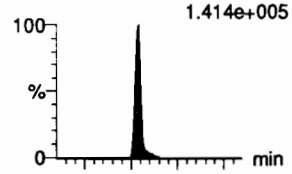
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
8.101e+004



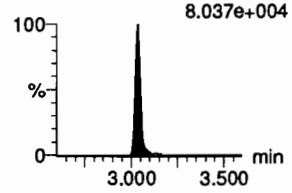
F11:MRM of 2 channels,ES-
299.0 > 99.0
3.343e+004



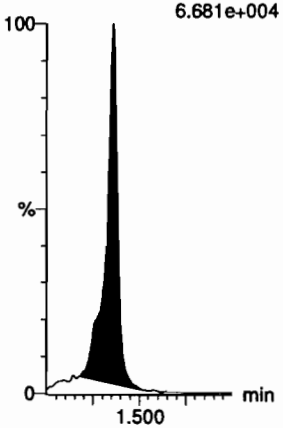
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.414e+005



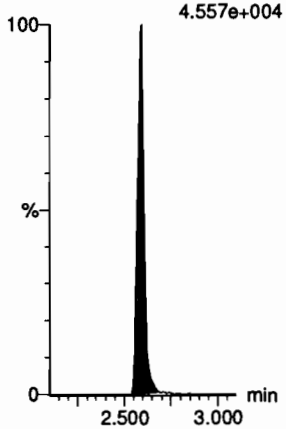
F16:MRM of 2 channels,ES-
327.0 > 80.9
8.037e+004



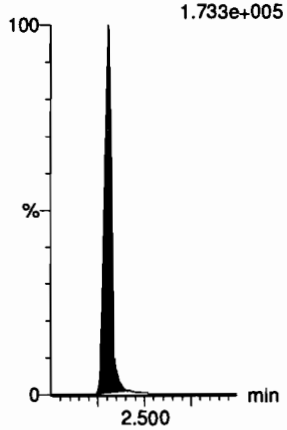
13C3-PFBA-EIS
F3:MRM of 1 channel,ES-
216.1 > 171.8
6.681e+004



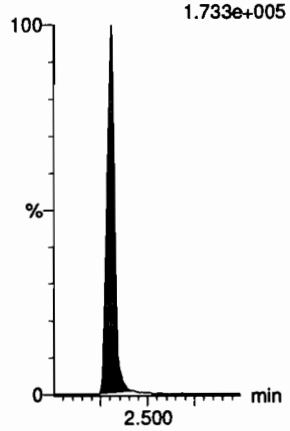
13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.557e+004



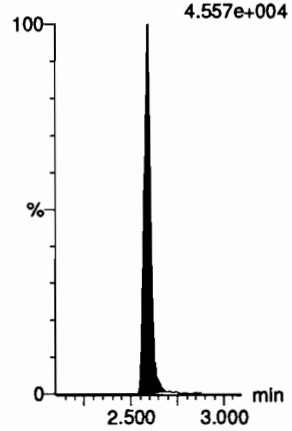
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.733e+005



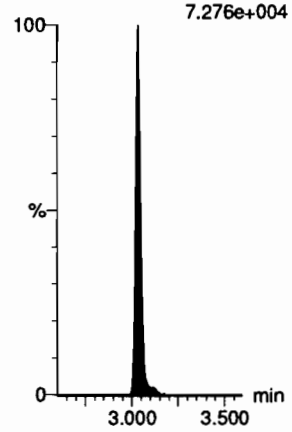
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.733e+005



13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.557e+004



13C2-4:2 FTS-EIS
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.276e+004



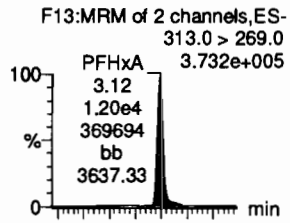
FBR 7/13/2020

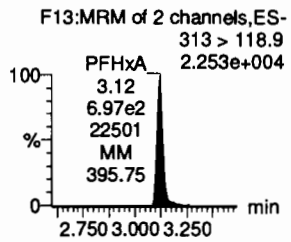
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

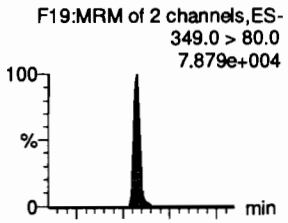
Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

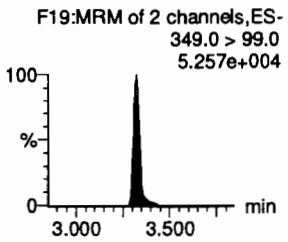
PFHxA



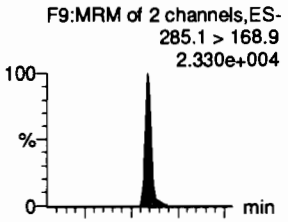


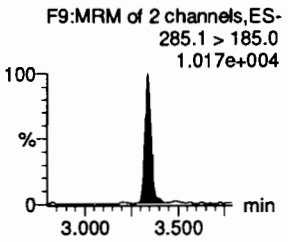
PFPeS



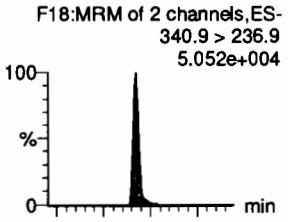


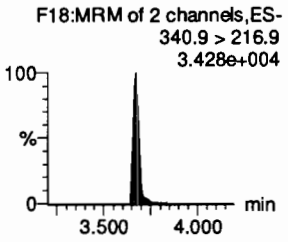
HFPO-DA



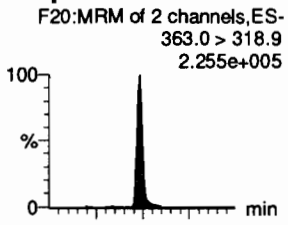


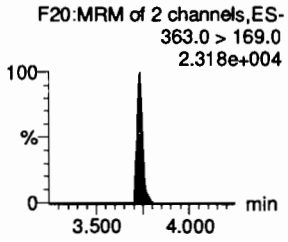
5:3 FTCA



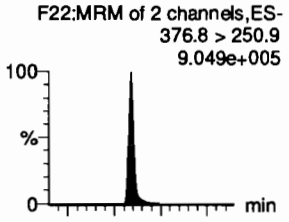


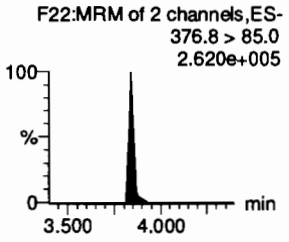
PFHpA



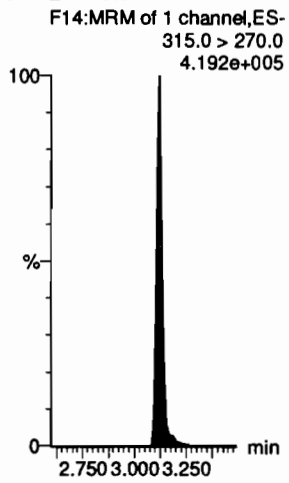


ADONA

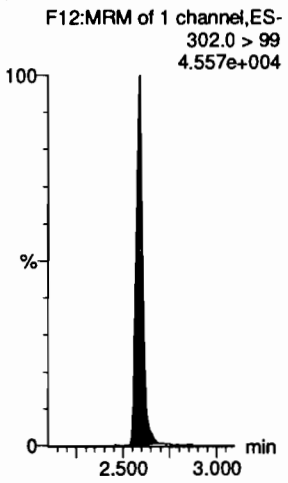




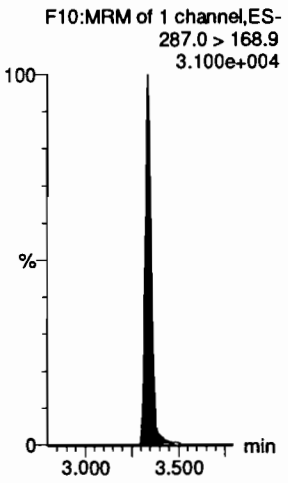
13C2-PFHxA-EIS



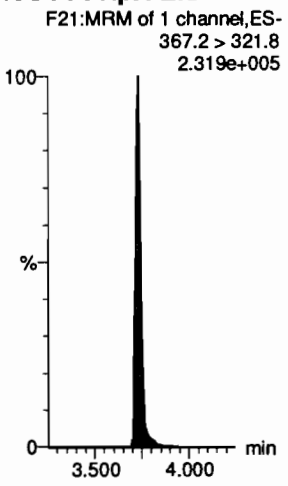
13C3-PFBS-EIS



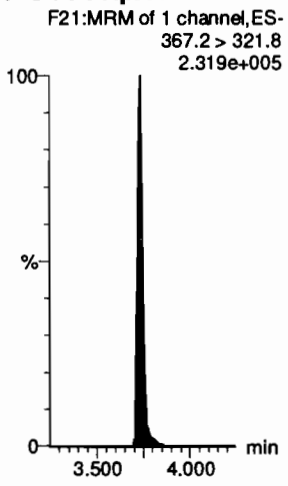
13C3-HFPO-DA-EIS



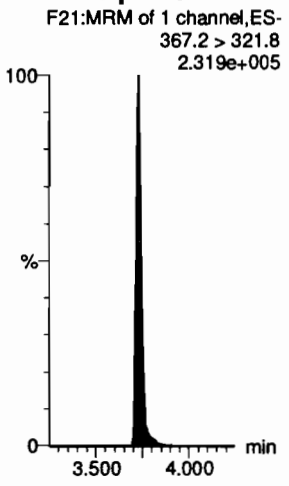
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



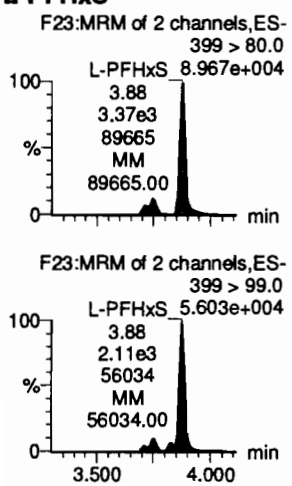
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

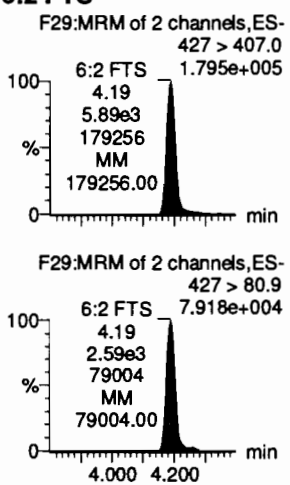
Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

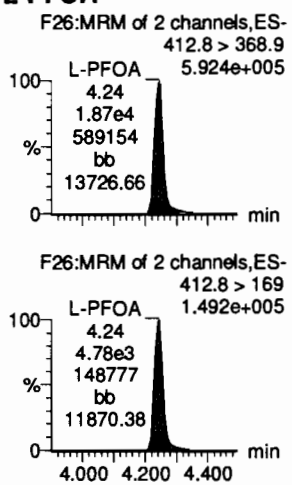
L-PFHxS



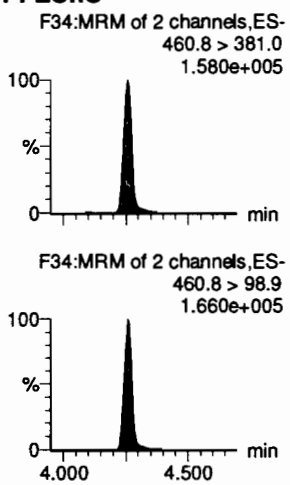
6:2 FTS



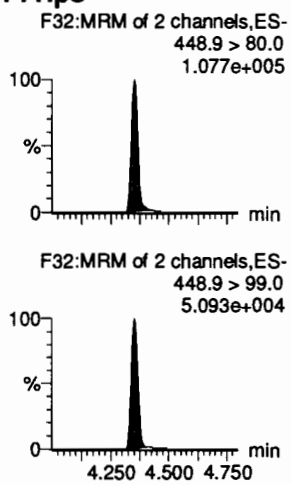
L-PFOA



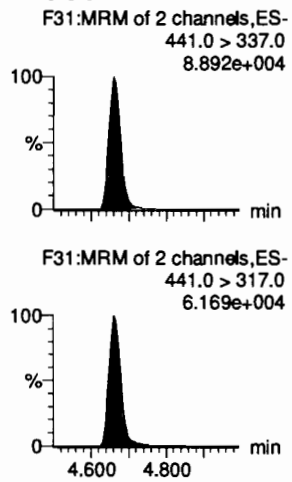
PFEChS



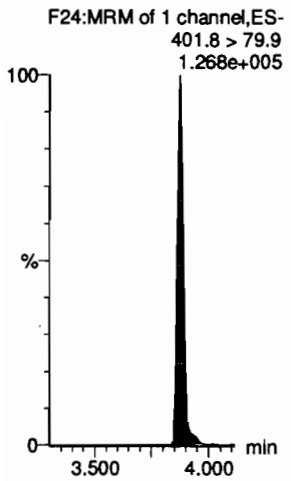
PFHpS



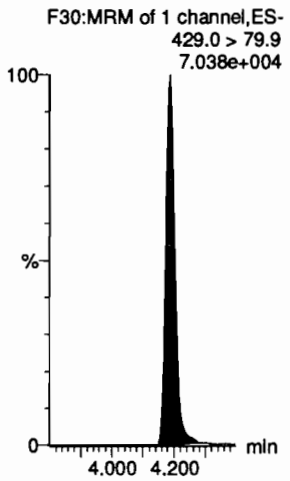
7:3 FTCA



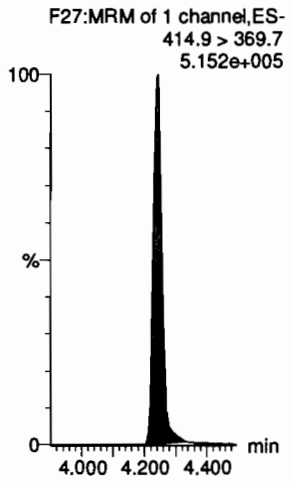
13C3-PFHxS-EIS



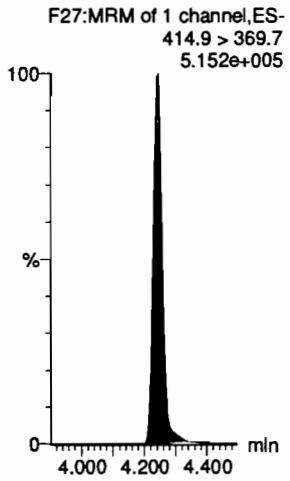
13C2-6:2 FTS-EIS



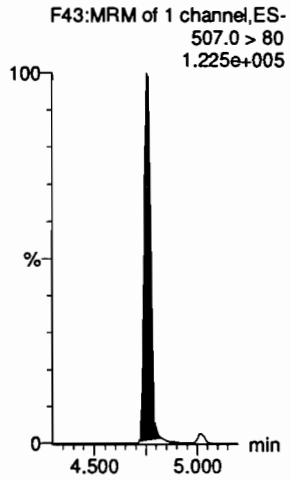
13C2-PFOA-EIS



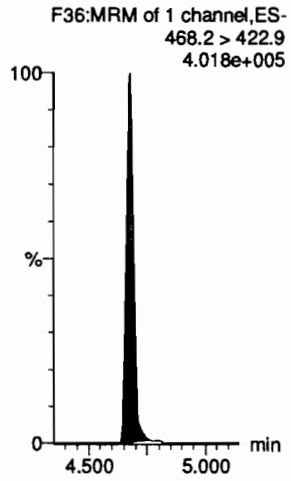
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



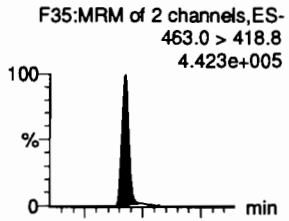
FBR 7/13/2020

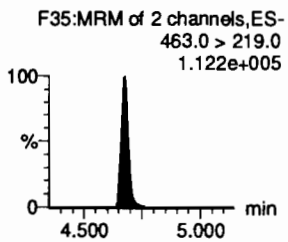
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

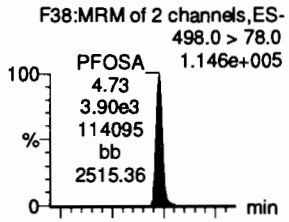
Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

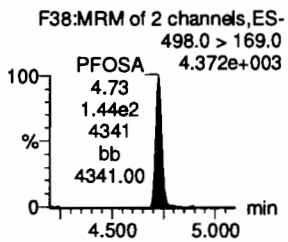
PFNA



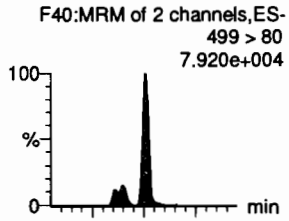


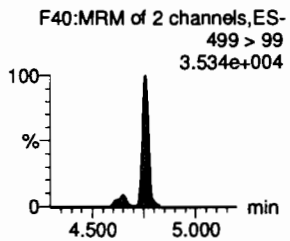
PFOSA



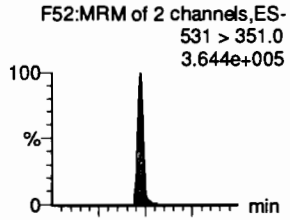


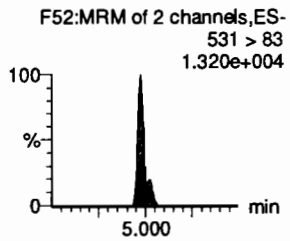
L-PFOS



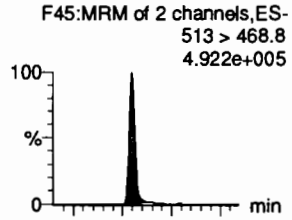


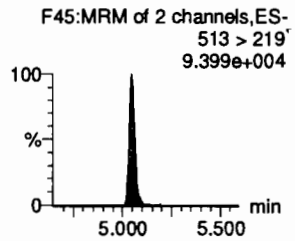
9Cl-PF30NS



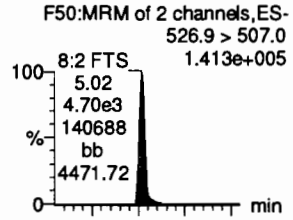


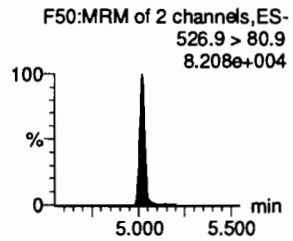
PFDA



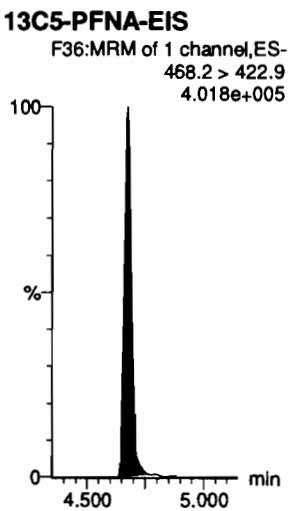


8:2 FTS

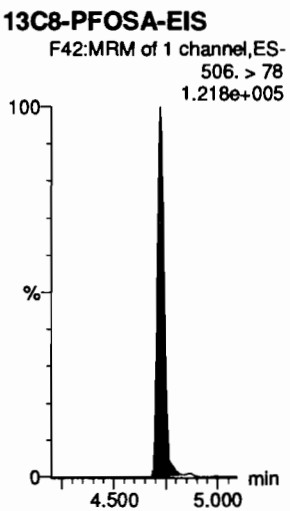




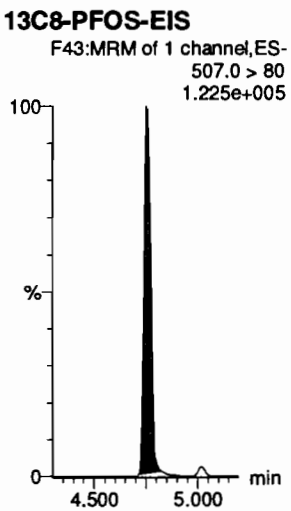
13C5-PFNA-EIS



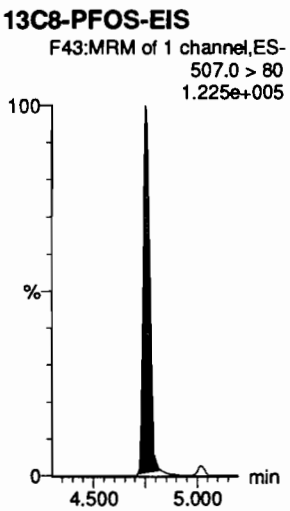
13C8-PFOSA-EIS



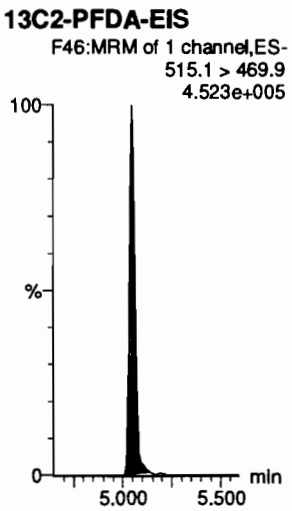
13C8-PFOS-EIS



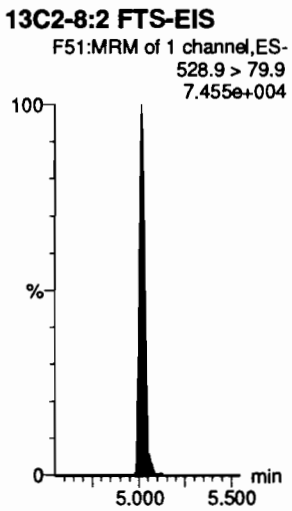
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



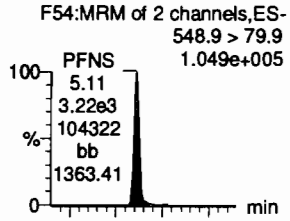
FBR 7/13/2020

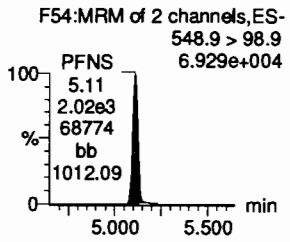
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

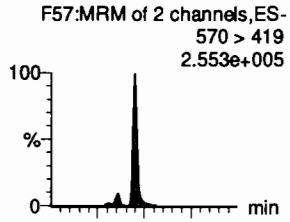
Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

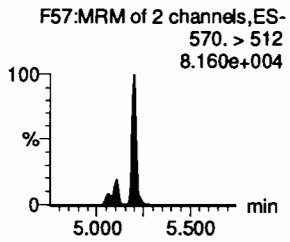
PFNS



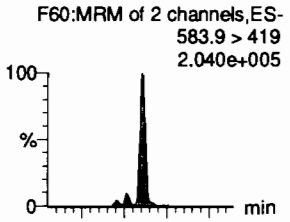


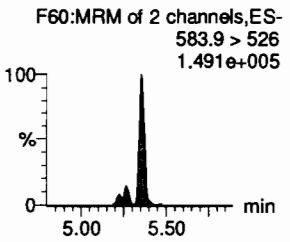
L-MeFOSAA



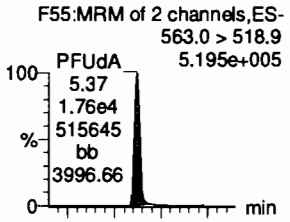


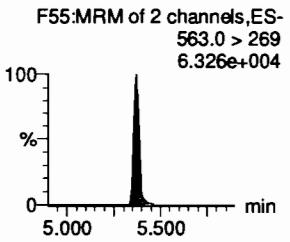
L-EtFOSAA



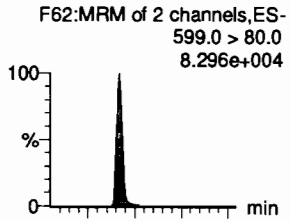


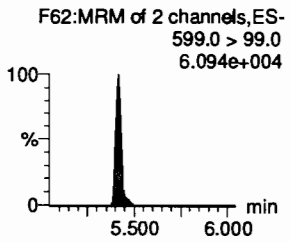
PFUdA



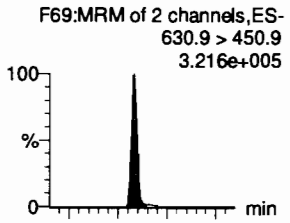


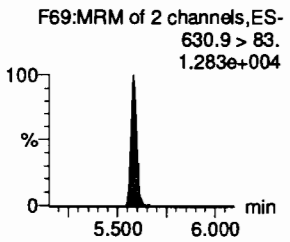
PFDS



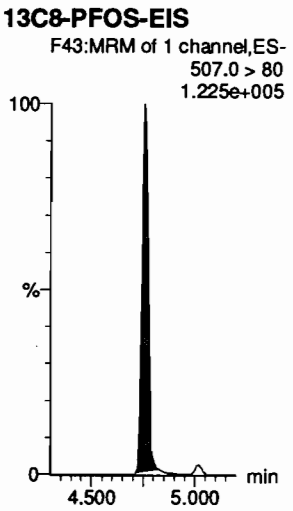


11Cl-PF30UdS

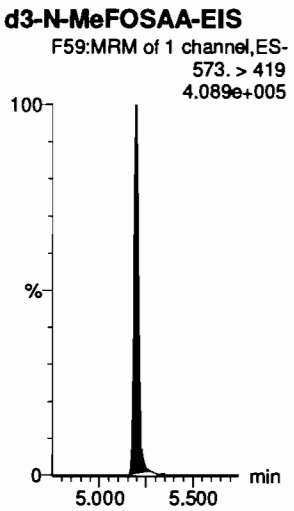




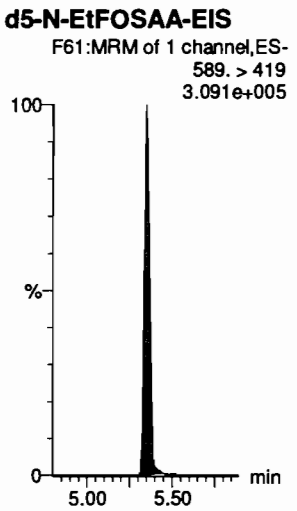
13C8-PFOS-EIS



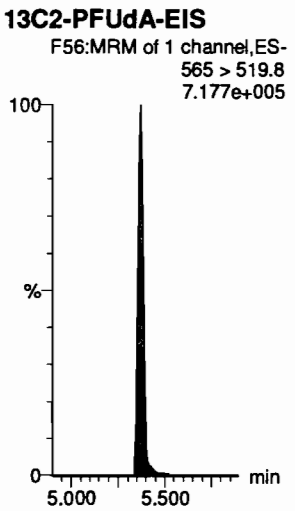
d3-N-MeFOSAA-EIS



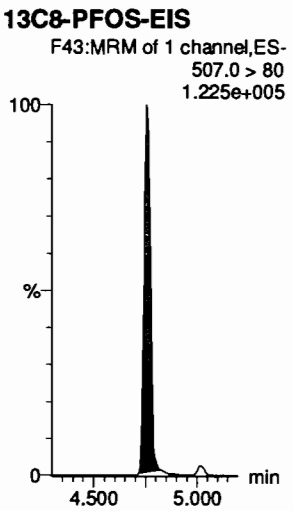
d5-N-EtFOSAA-EIS



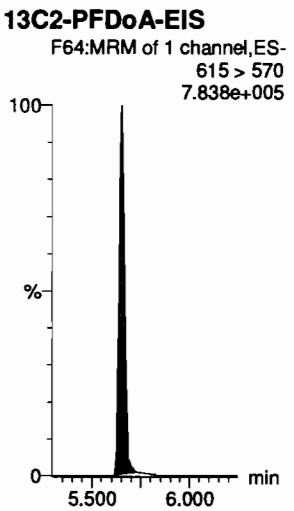
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



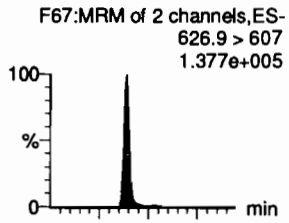
FBR 7/13/2020

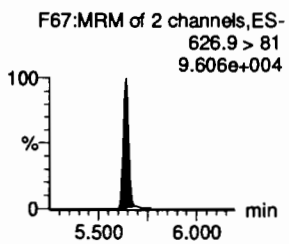
Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

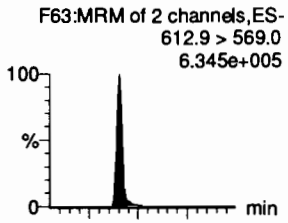
Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

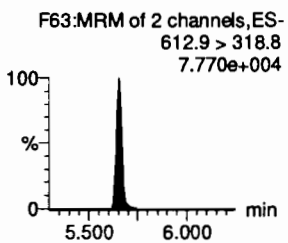
10:2 FTS



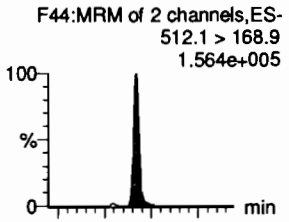


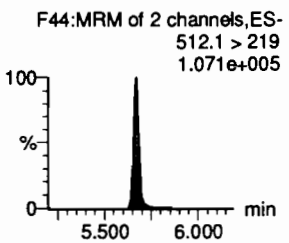
PFDoA



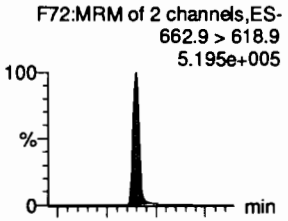


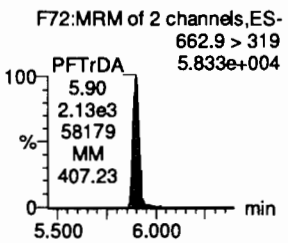
N-MeFOSA



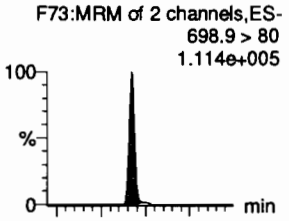


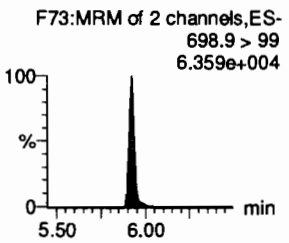
PFTrDA



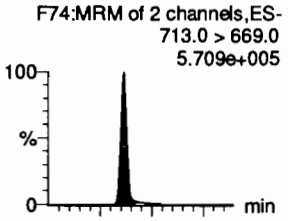


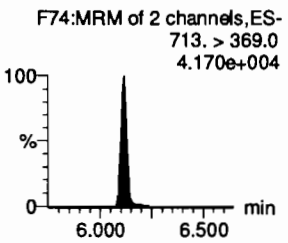
PFDoS



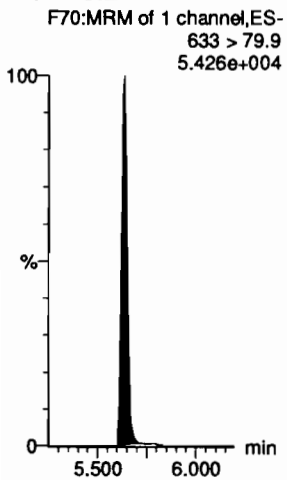


PFTeDA

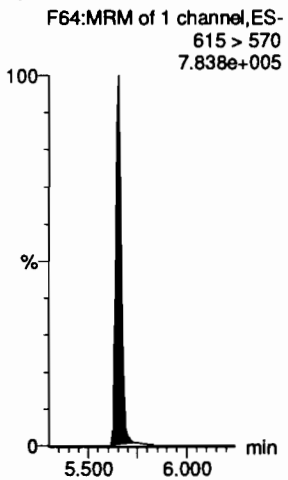




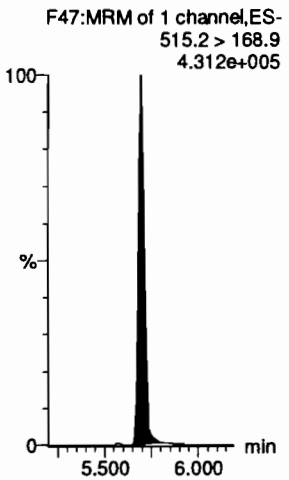
13C2-10:2 FTS-EIS



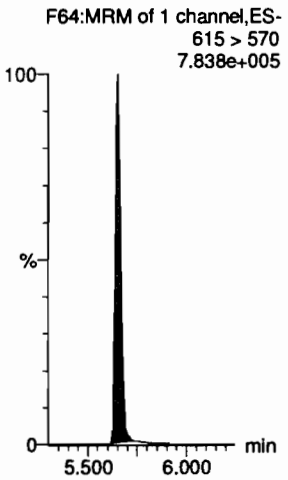
13C2-PFDoA-EIS



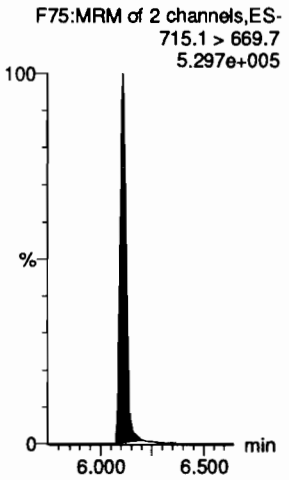
d3-N-MeFOSA-EIS



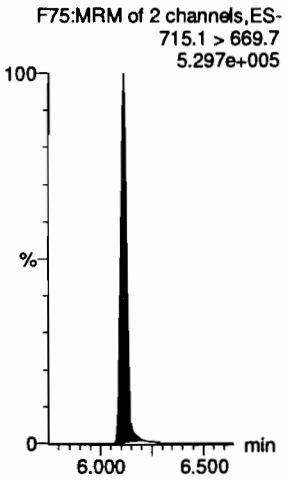
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



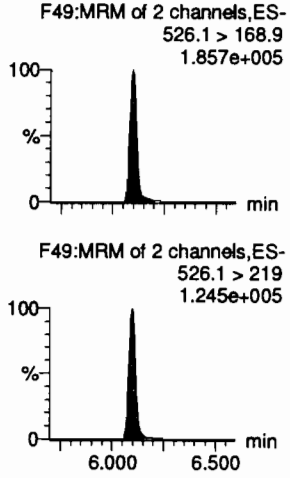
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

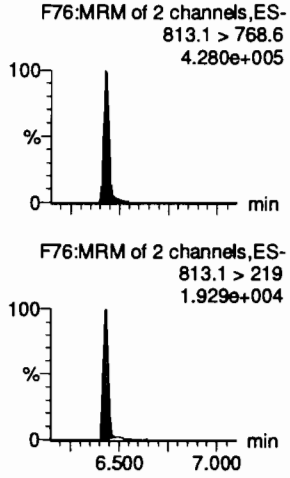
Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

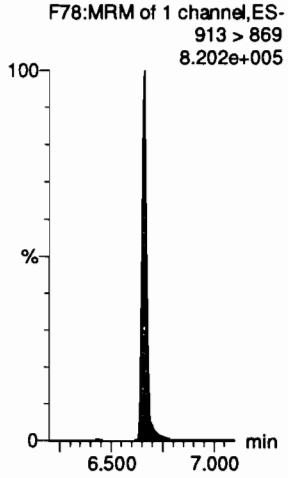
N-EtFOSA



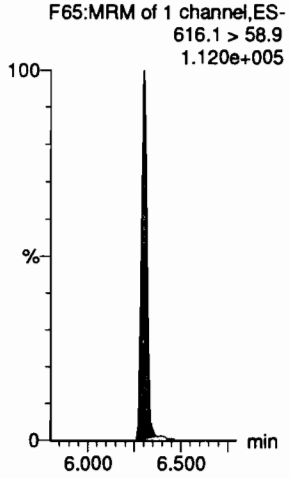
PFHxDA



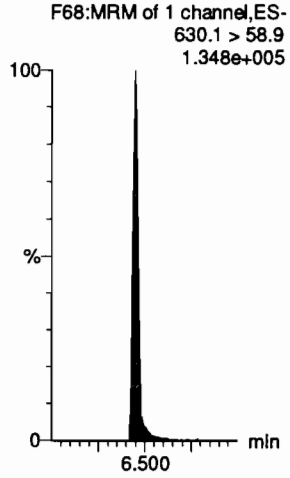
PFODA



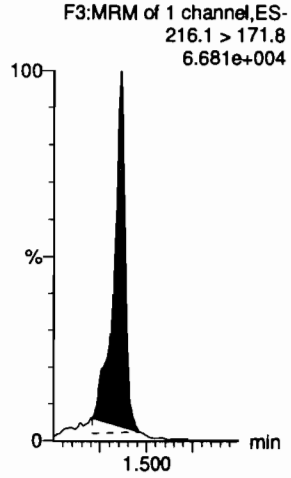
N-MeFOSE



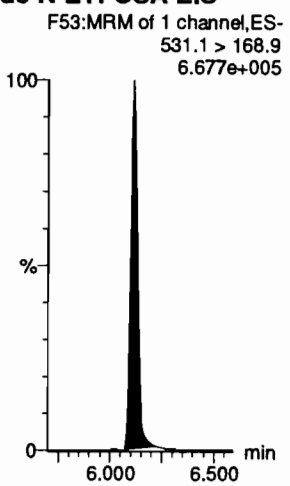
N-EtFOSE



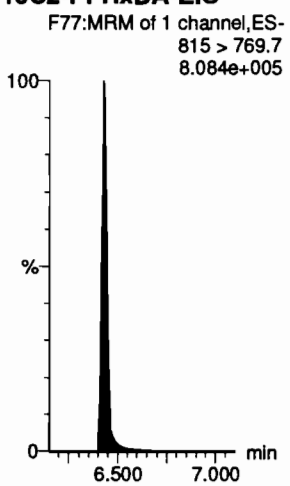
13C3-PFBA-RSD



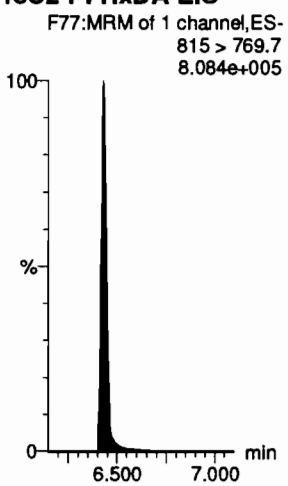
d5-N-ETFOSA-EIS



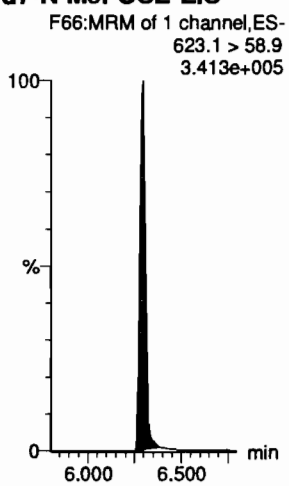
13C2-PFHxDA-EIS



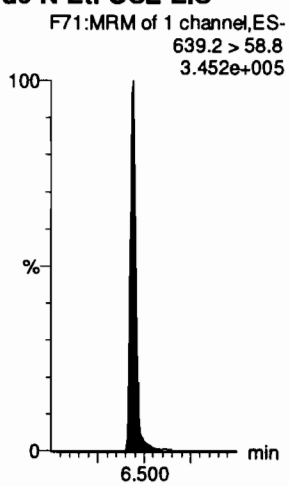
13C2-PFHxDA-EIS



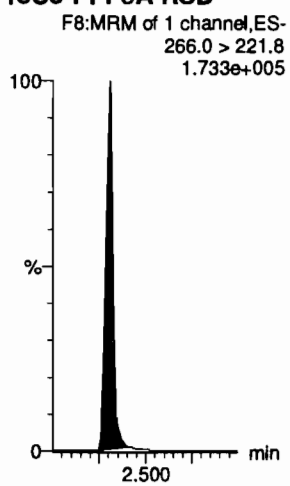
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



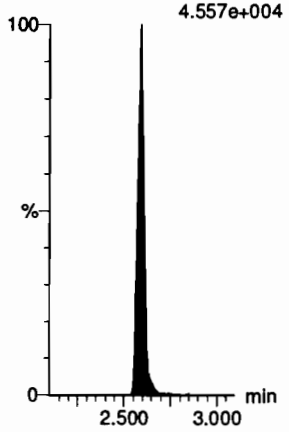
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

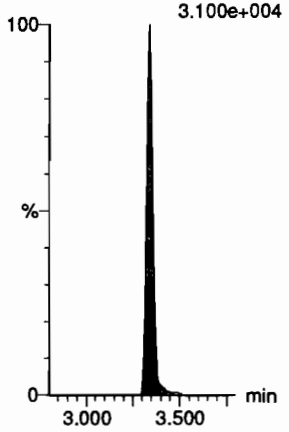
Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

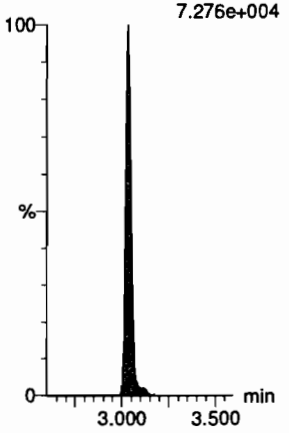
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.557e+004



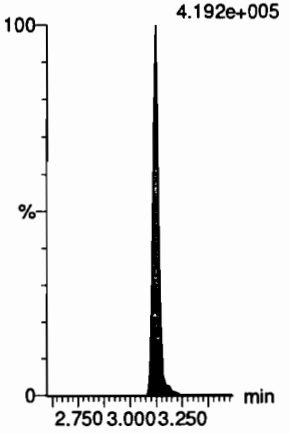
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
3.100e+004



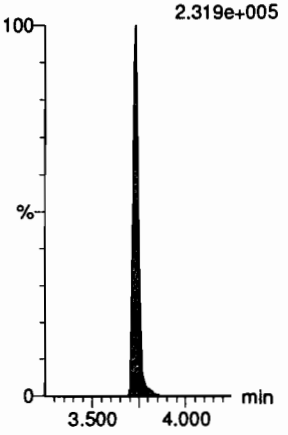
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.276e+004



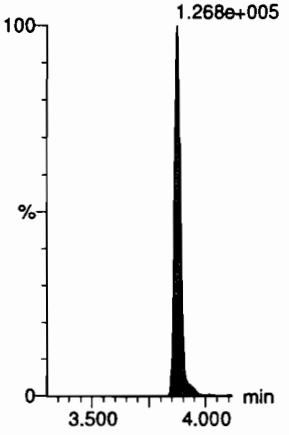
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.192e+005



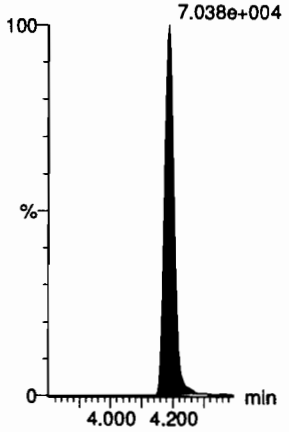
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.319e+005



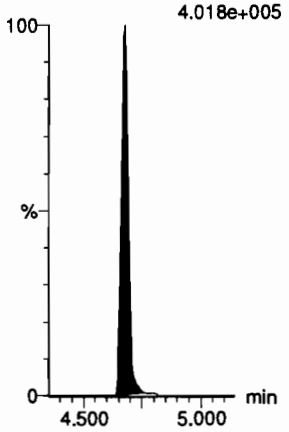
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.268e+005



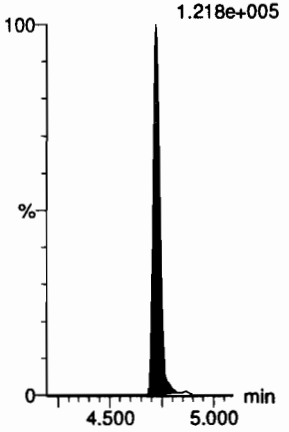
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
7.038e+004



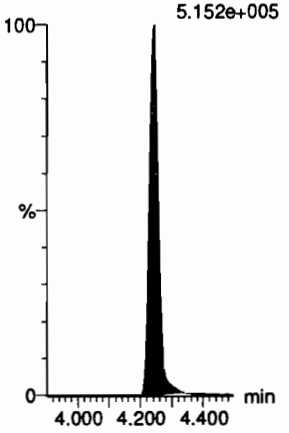
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.018e+005



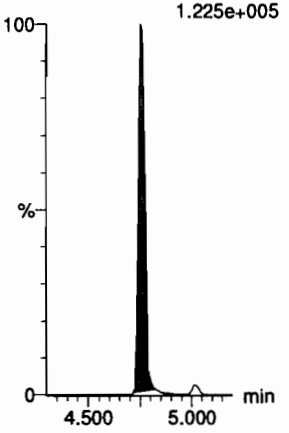
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.218e+005



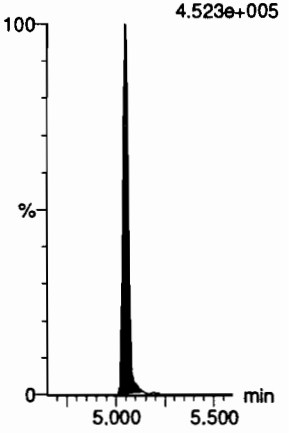
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.152e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.225e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.523e+005



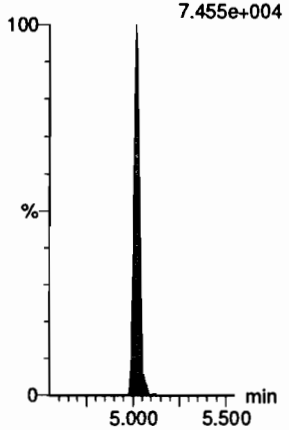
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

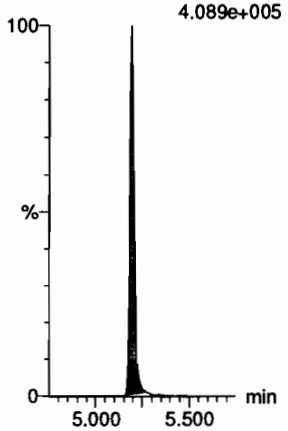
Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

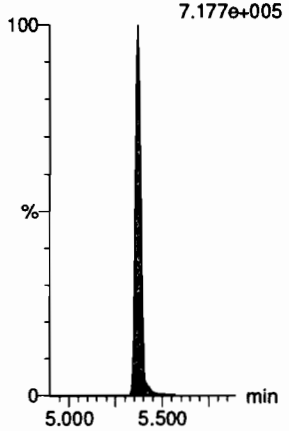
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.455e+004



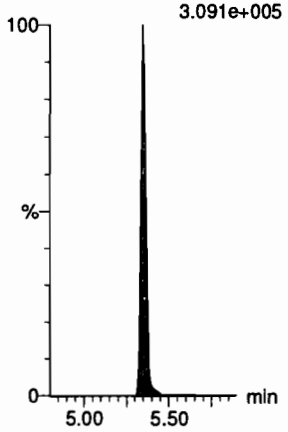
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.089e+005



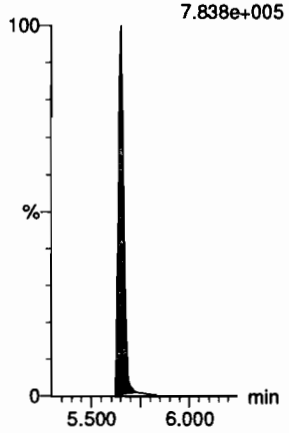
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.177e+005



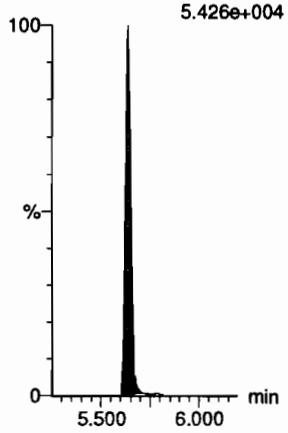
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.091e+005



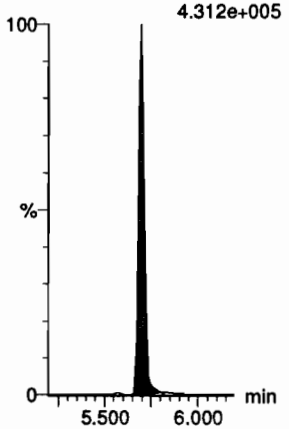
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.838e+005



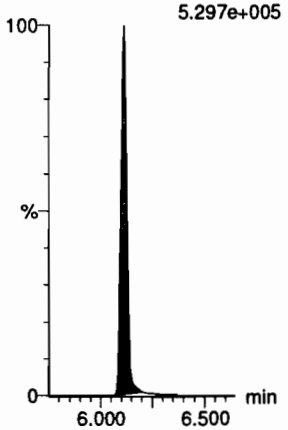
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.426e+004



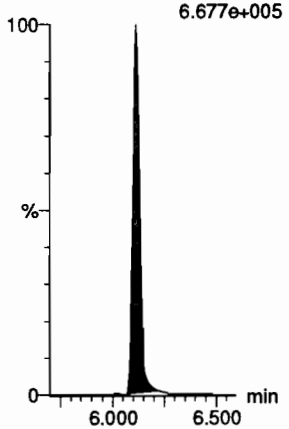
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.312e+005



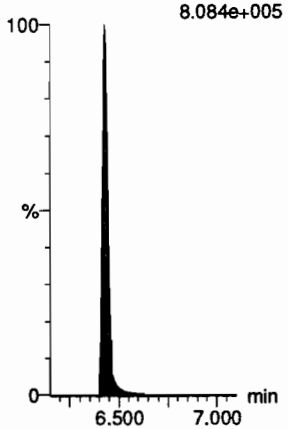
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.297e+005



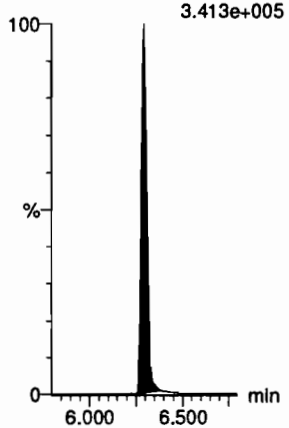
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.677e+005



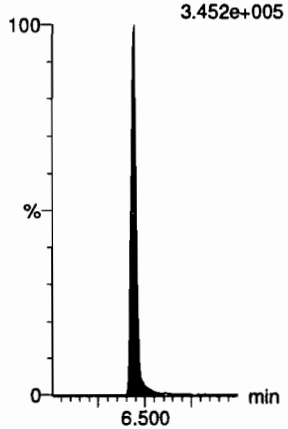
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.084e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.413e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.452e+005



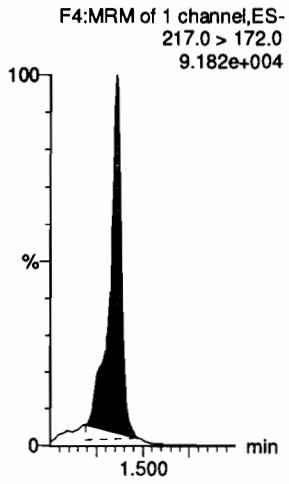
FBR 7/13/2020

Dataset: F:\Projects\PFAS.PRO\Results\200710M1\200710M1-124.qld

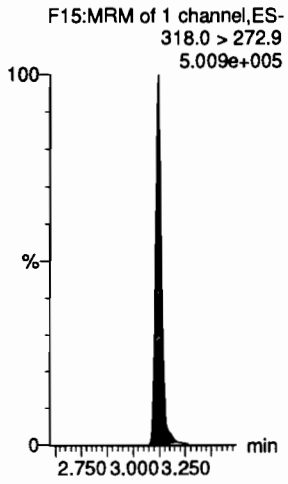
Last Altered: Monday, July 13, 2020 08:53:31 Pacific Daylight Time
Printed: Monday, July 13, 2020 08:54:09 Pacific Daylight Time

Name: 200710M1_124, Date: 11-Jul-2020, Time: 05:40:59, ID: ST200710M1-18 PFC CS3 20F1906, Description: PFC CS3 20F1906

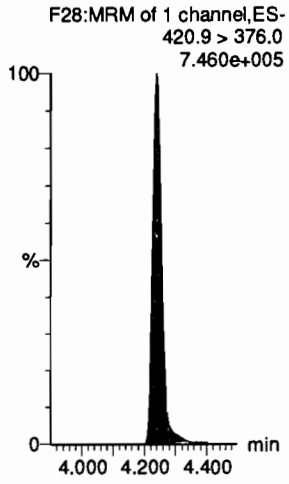
13C4-PFBA



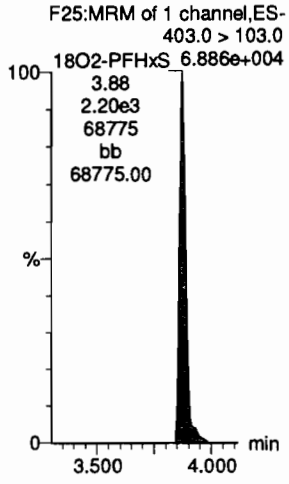
13C5-PFHxA



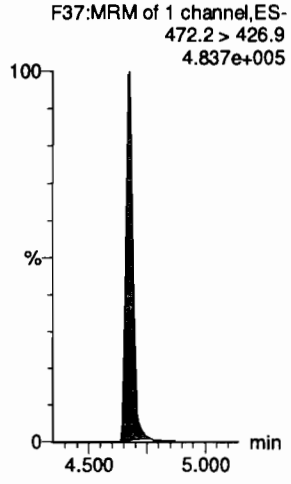
13C8-PFOA



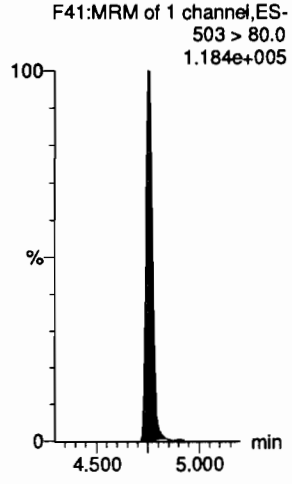
18O2-PFHxS



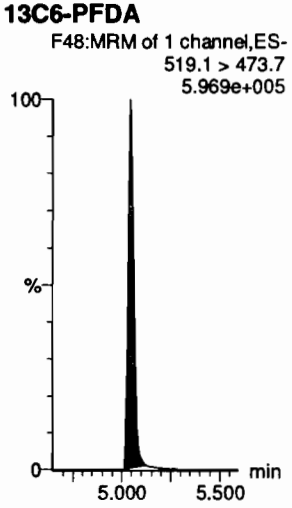
13C9-PFNA



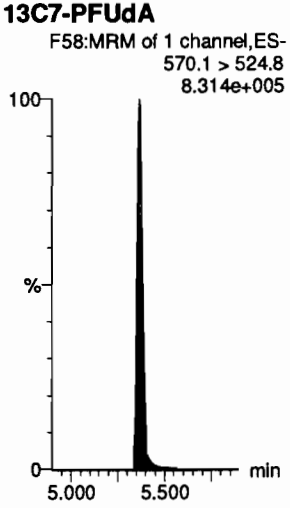
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/13/2020

Vista Analytical Laboratory

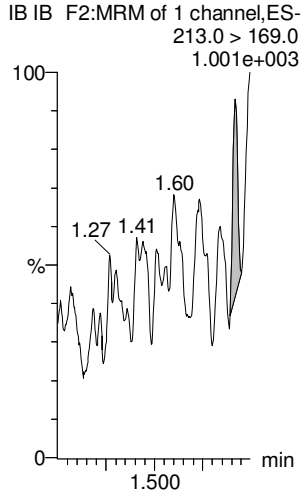
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

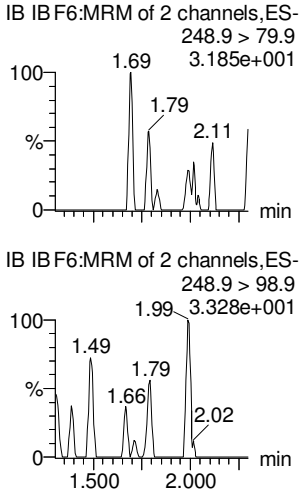
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 08:18:00

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

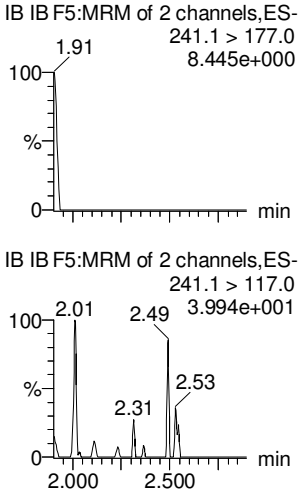
PFBA



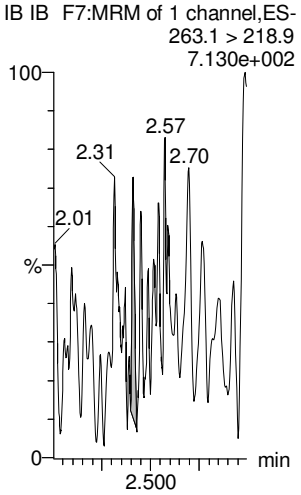
PFPrS



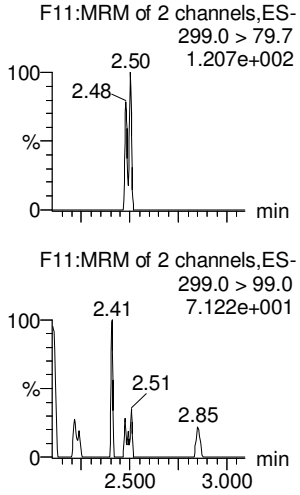
3:3 FTCA



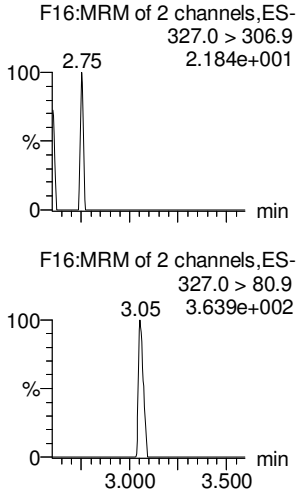
PFPeA



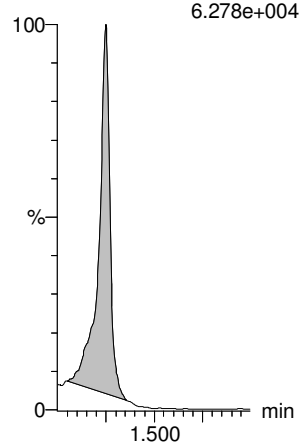
PFBS



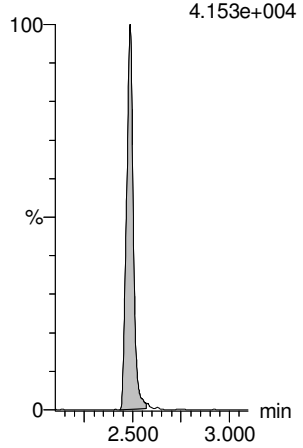
4:2 FTS



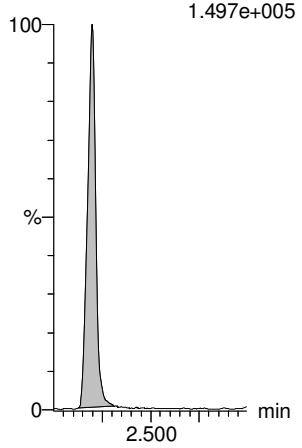
13C3-PFBA-EIS



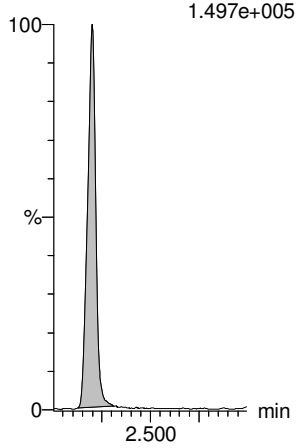
13C3-PFBS-EIS



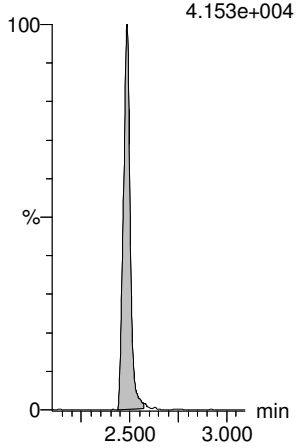
13C3-PFPeA-EIS



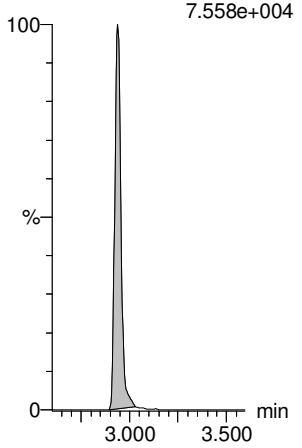
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

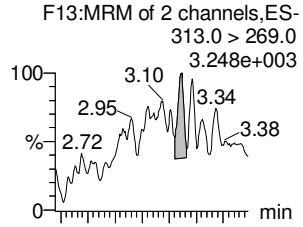


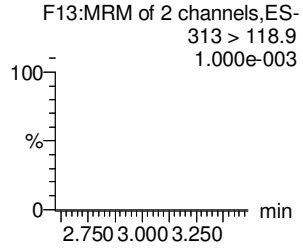
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

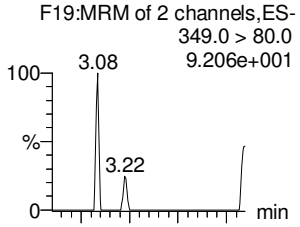
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

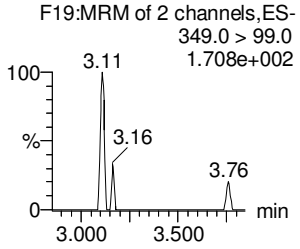
PFHxA



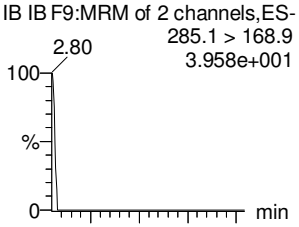


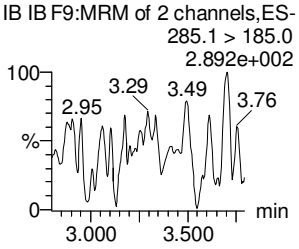
PFPeS



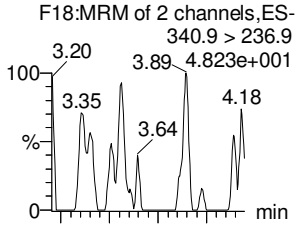


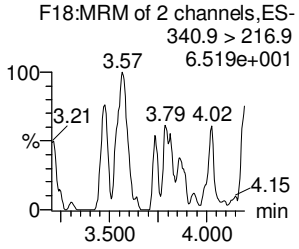
HFPO-DA



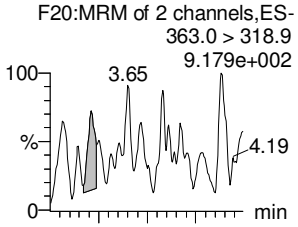


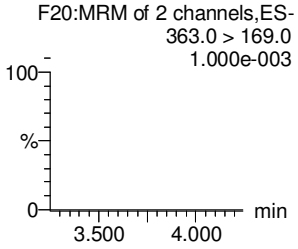
5:3 FTCA



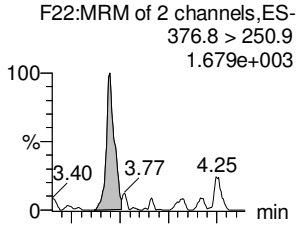


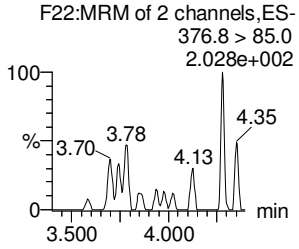
PFHpA



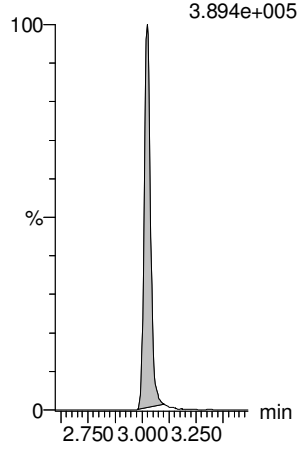


ADONA

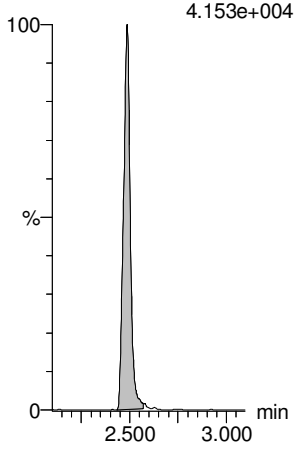




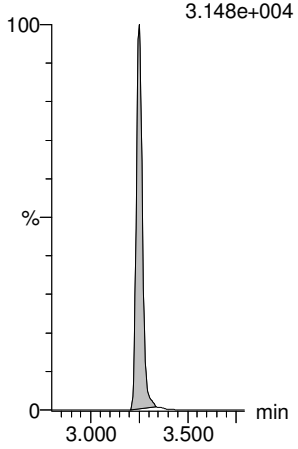
13C2-PFHxA-EIS



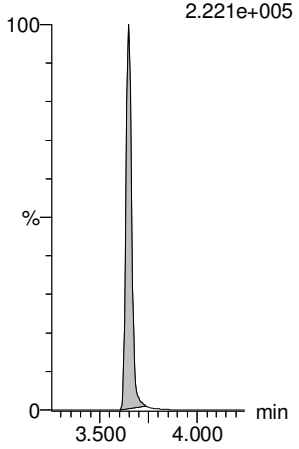
13C3-PFBS-EIS



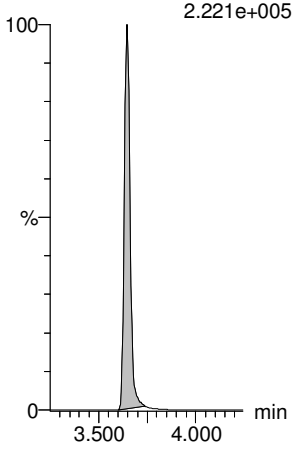
13C3-HFPO-DA-EIS



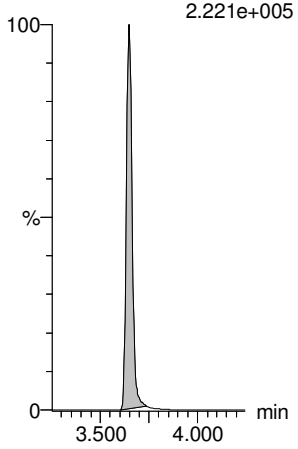
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

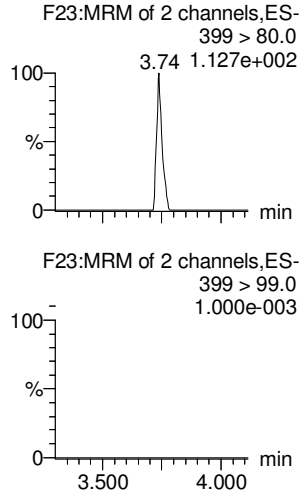


Dataset: Untitled

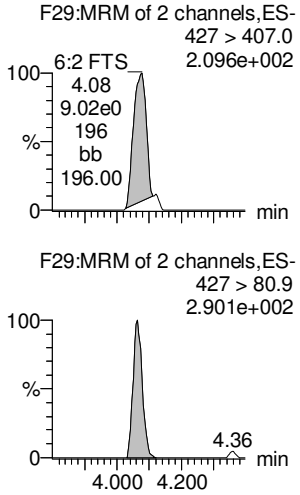
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

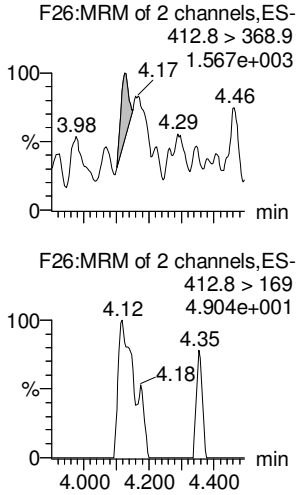
L-PFHxS



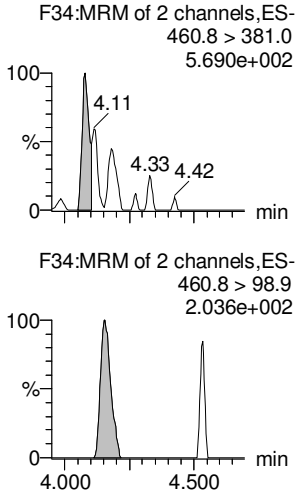
6:2 FTS



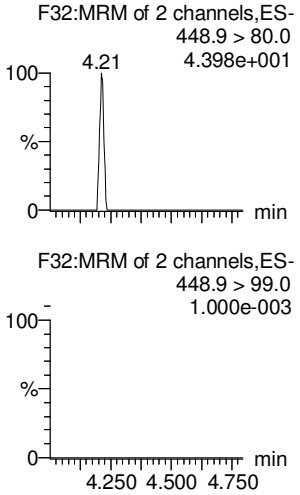
L-PFOA



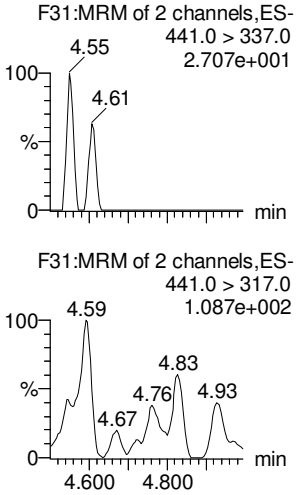
PFEChS



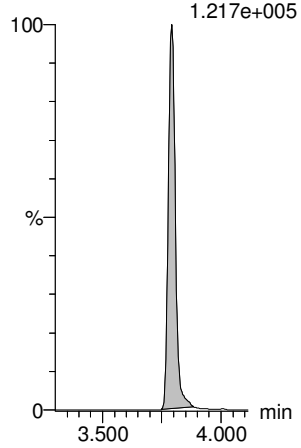
PFHpS



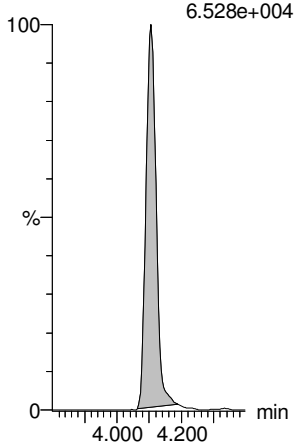
7:3 FTCA



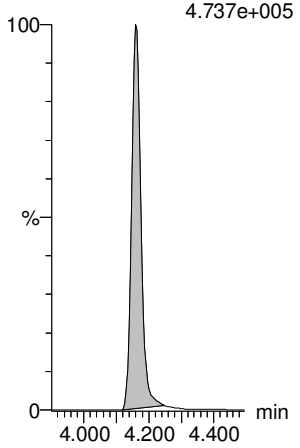
13C3-PFHxS-EIS



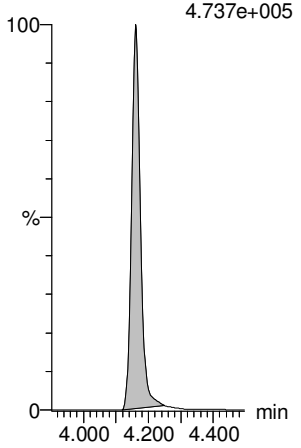
13C2-6:2 FTS-EIS



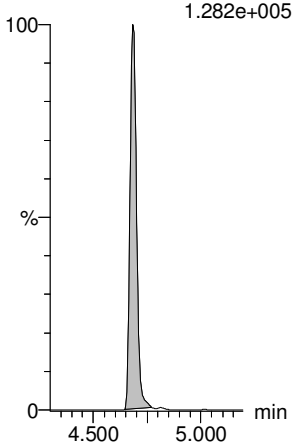
13C2-PFOA-EIS



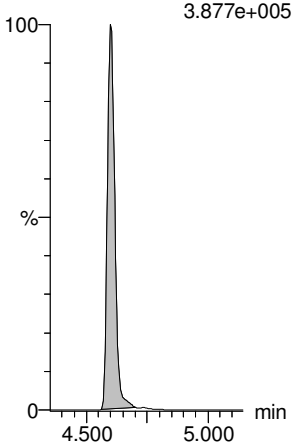
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

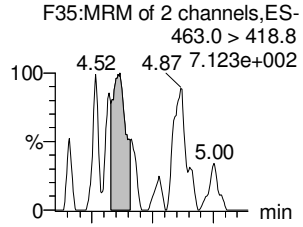


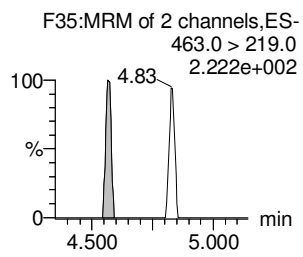
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

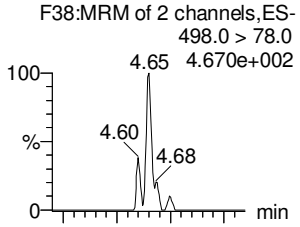
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

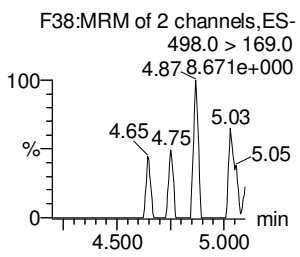
PFNA



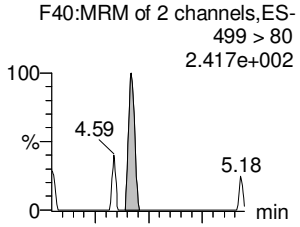


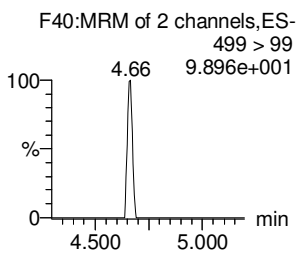
PFOSA



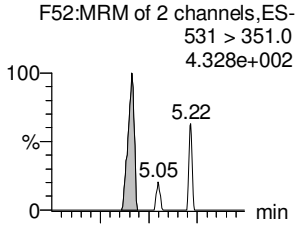


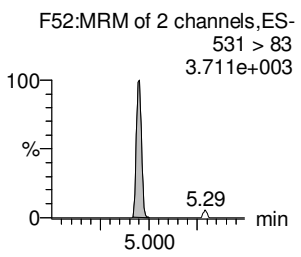
L-PFOS



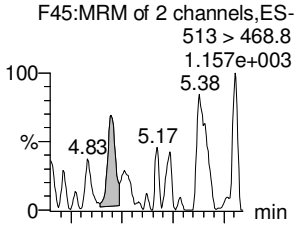


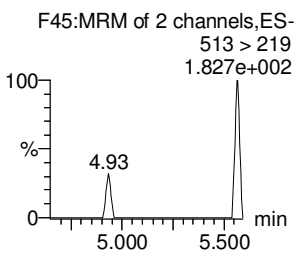
9Cl-PF30NS



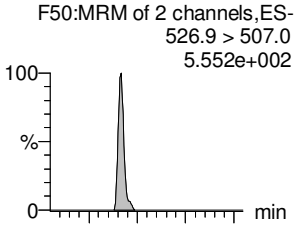


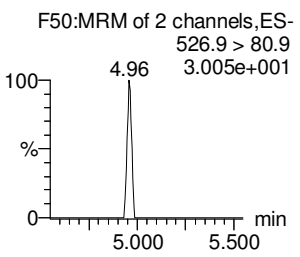
PFDA



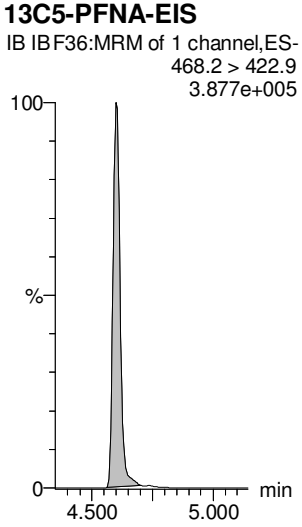


8:2 FTS

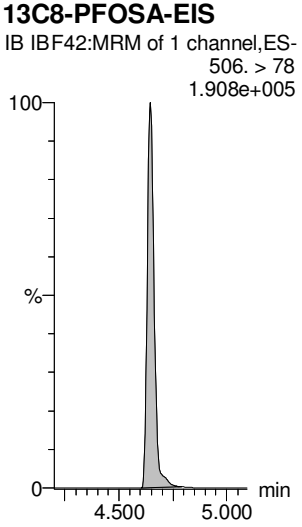




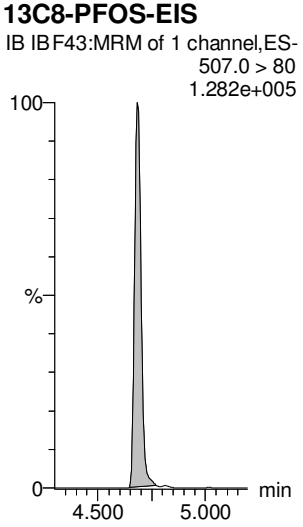
13C5-PFNA-EIS



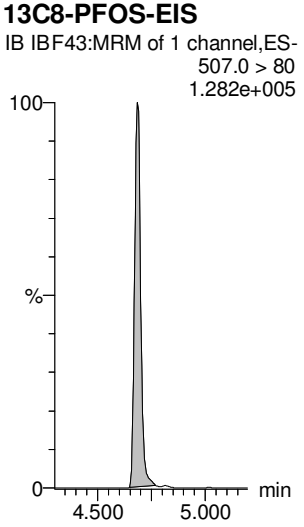
13C8-PFOSA-EIS



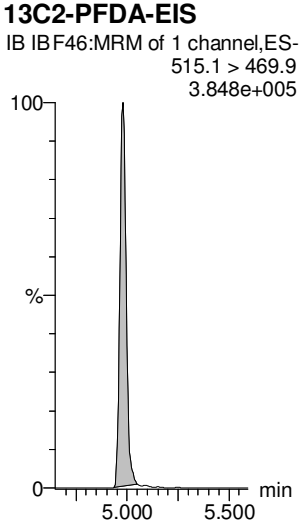
13C8-PFOS-EIS



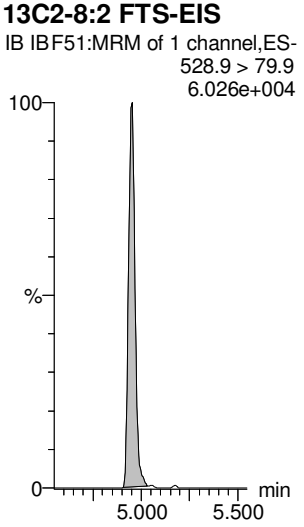
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

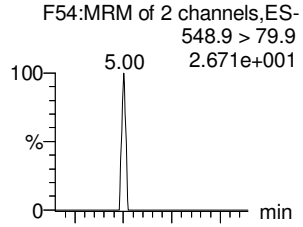


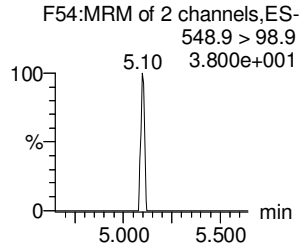
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

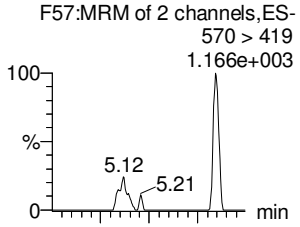
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

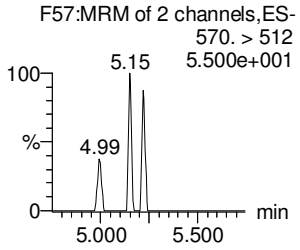
PFNS



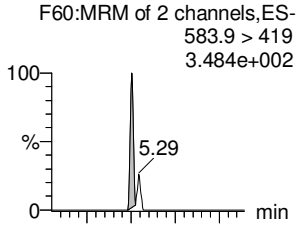


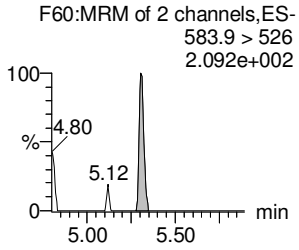
L-MeFOSAA



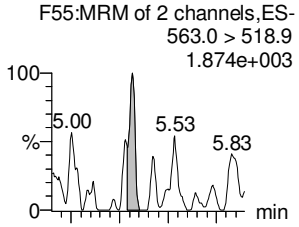


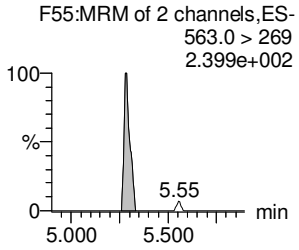
L-EtFOSAA



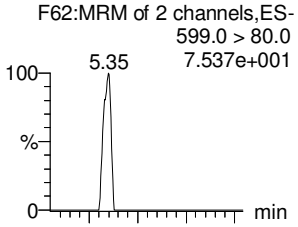


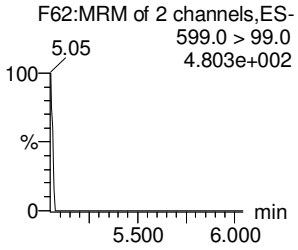
PFUdA



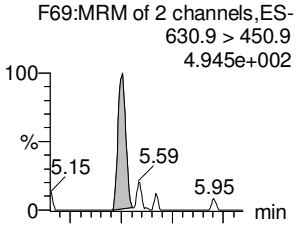


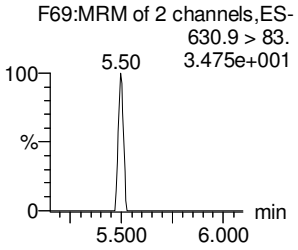
PFDS



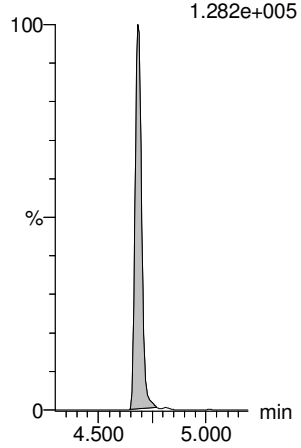


11Cl-PF30UdS

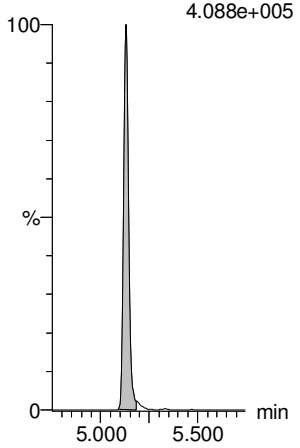




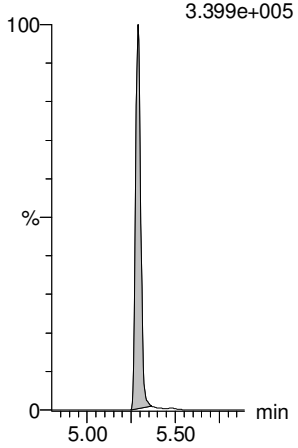
13C8-PFOS-EIS



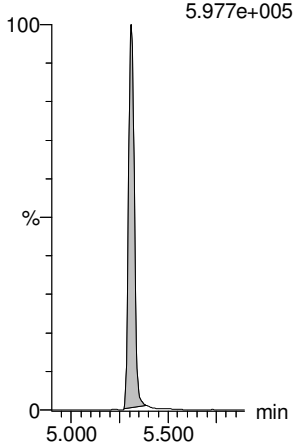
d3-N-MeFOSAA-EIS



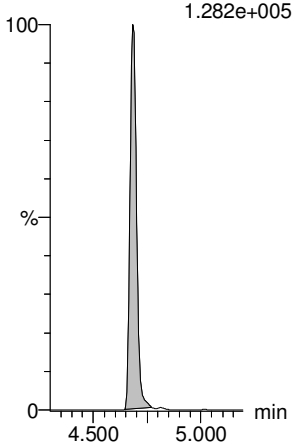
d5-N-EtFOSAA-EIS



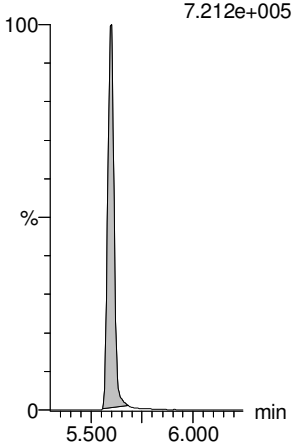
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

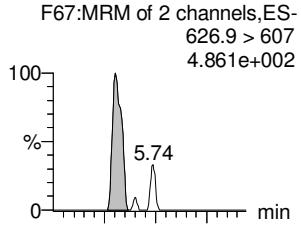


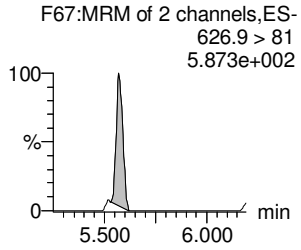
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

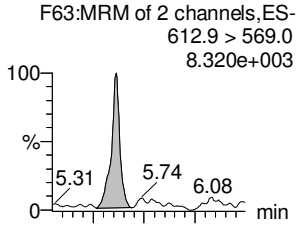
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

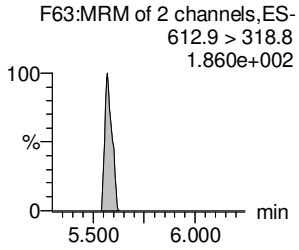
10:2 FTS



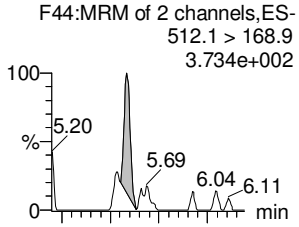


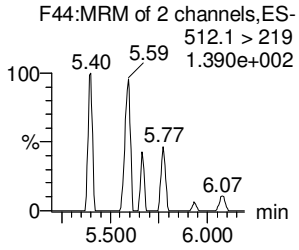
PFDoA



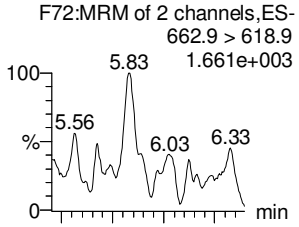


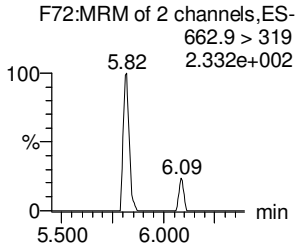
N-MeFOSA



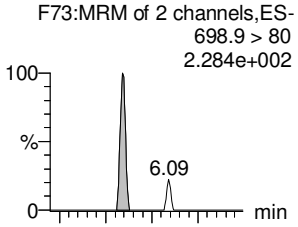


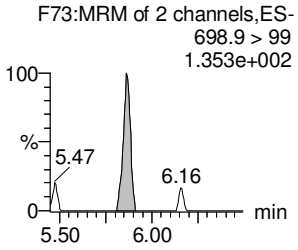
PFTrDA



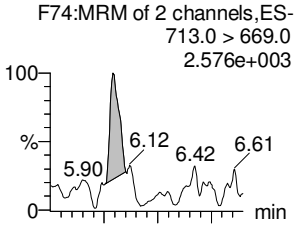


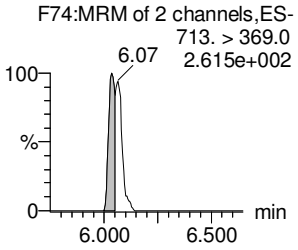
PFDoS



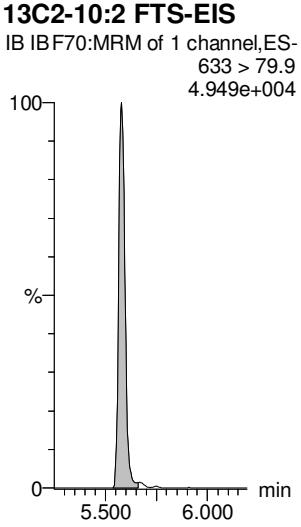


PFTeDA

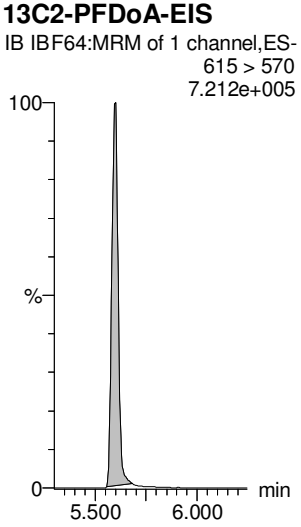




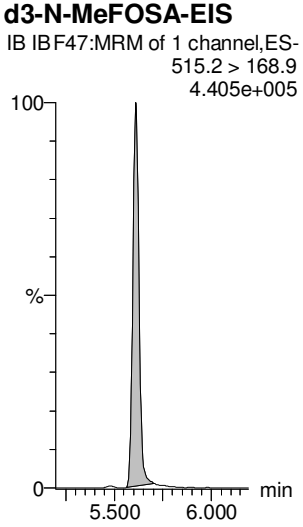
13C2-10:2 FTS-EIS



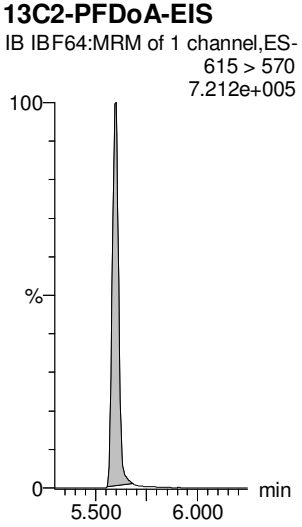
13C2-PFDoA-EIS



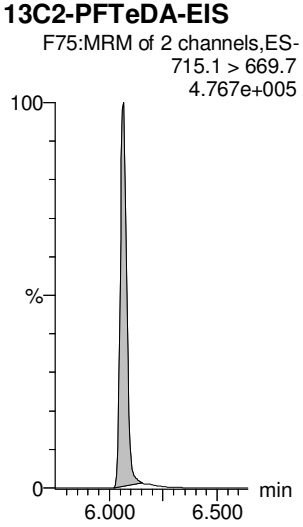
d3-N-MeFOSA-EIS



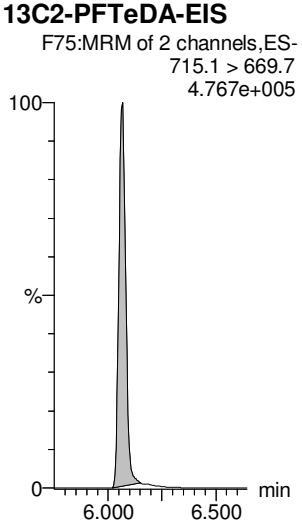
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

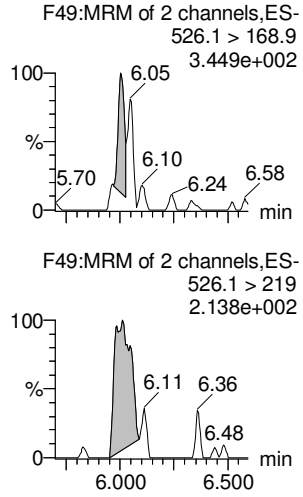


Dataset: Untitled

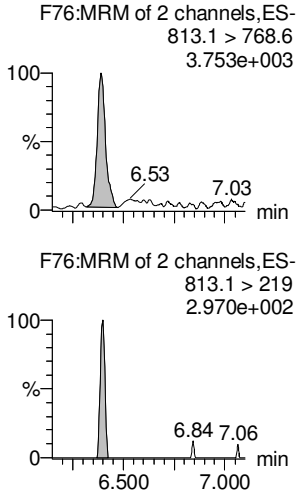
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

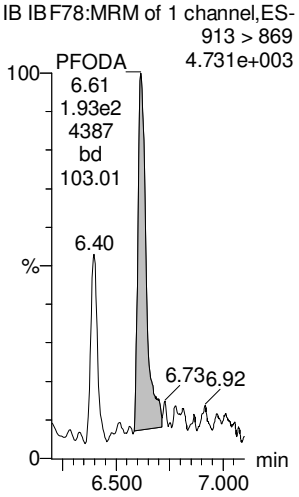
N-EtFOSA



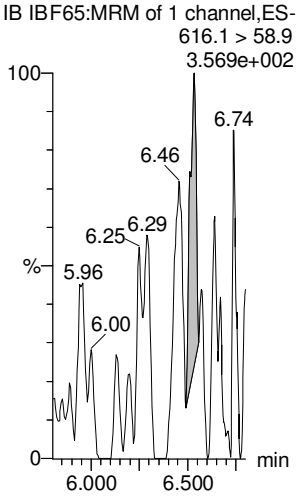
PFHxDA



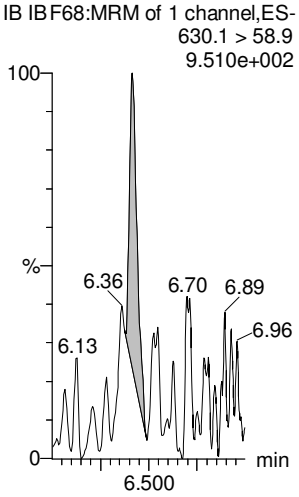
PFODA



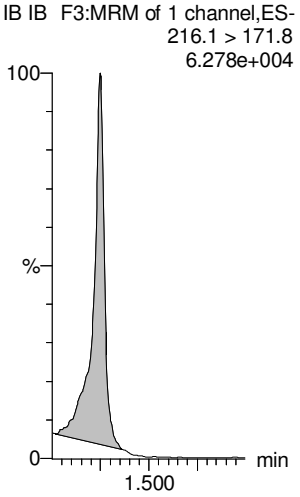
N-MeFOSE



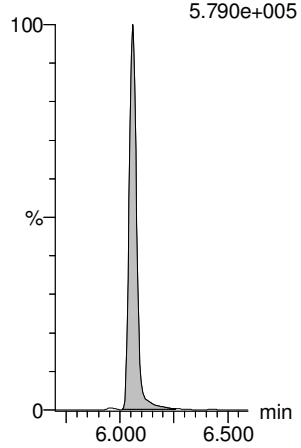
N-EtFOSE



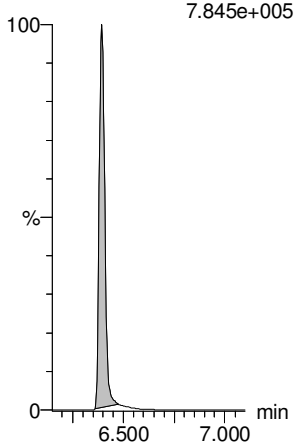
13C3-PFBA-RSD



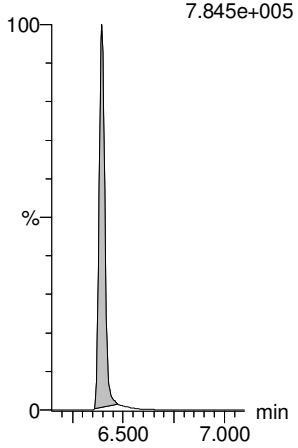
d5-N-ETFOSA-EIS



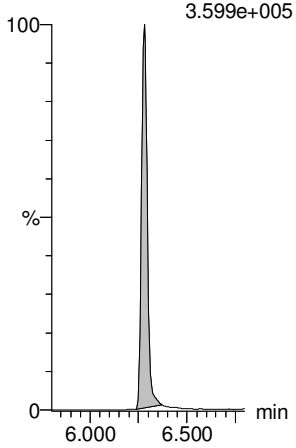
13C2-PFHxDA-EIS



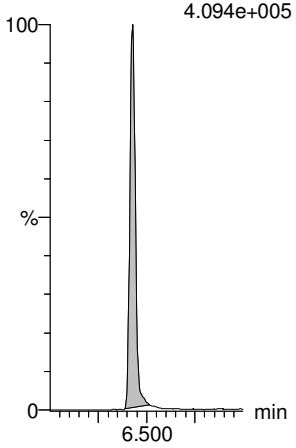
13C2-PFHxDA-EIS



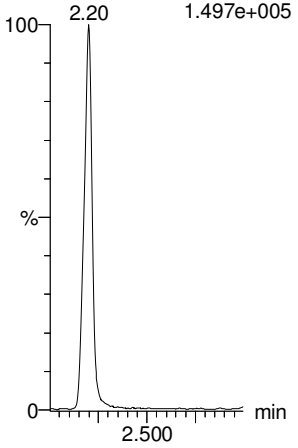
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

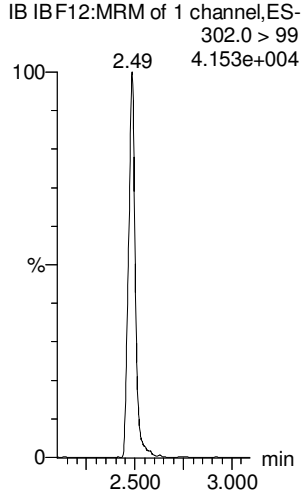


Dataset: Untitled

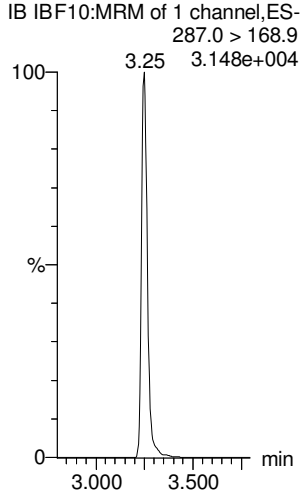
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

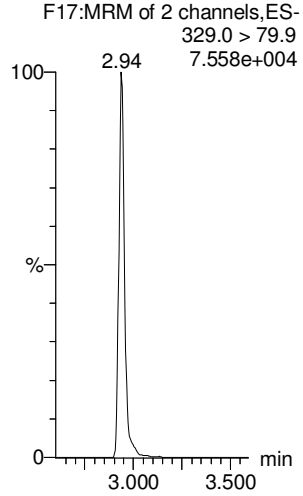
13C3-PFBS-RSD



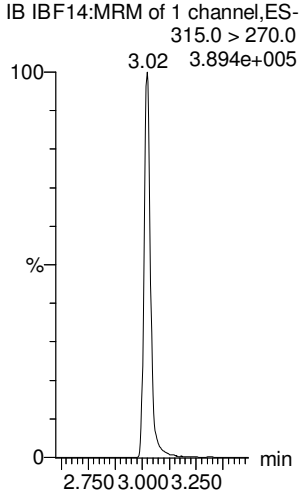
13C3-HFPO-DA-RSD



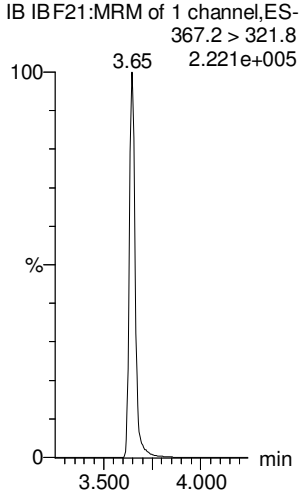
13C2-4:2 FTS-RSD



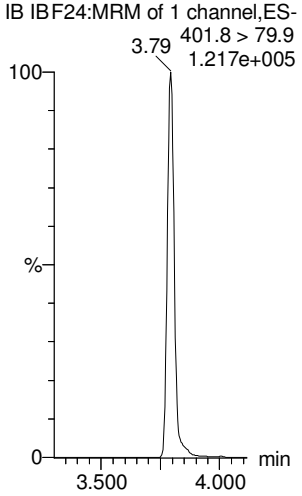
13C2-PFHxA-RSD



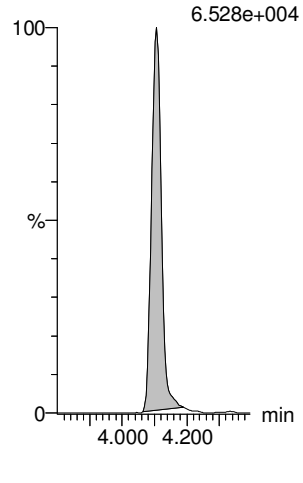
13C4-PFHpA-RSD



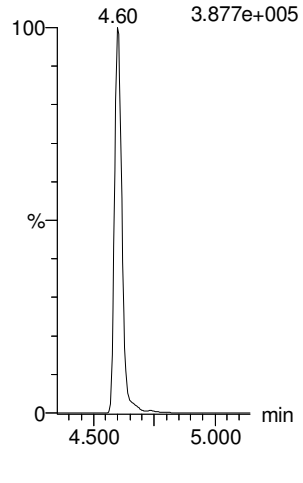
13C3-PFHxS-RSD



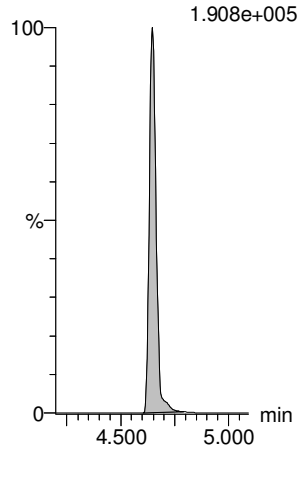
13C2-6:2 FTS-RSD



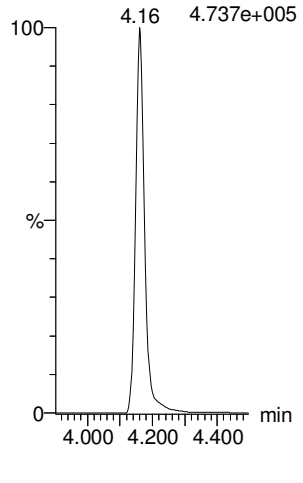
13C5-PFNA-RSD



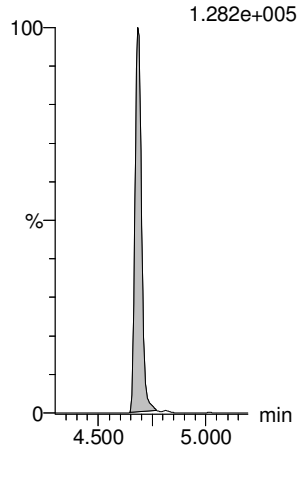
13C8-PFOSA-RSD



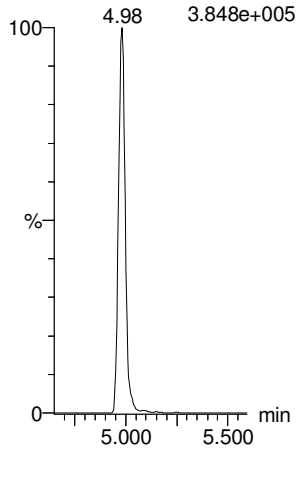
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

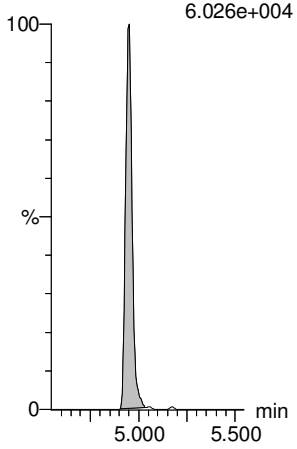


Dataset: Untitled

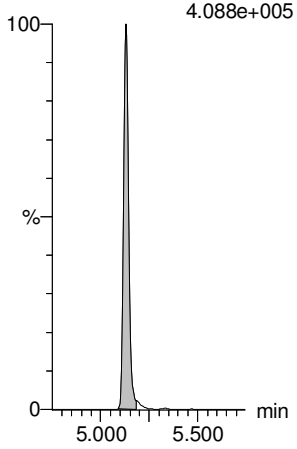
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

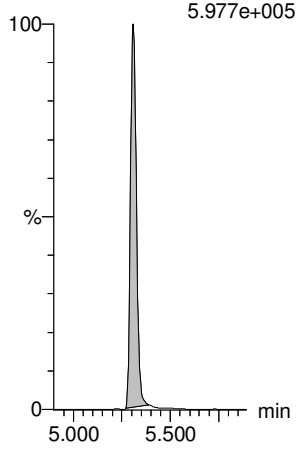
13C2-8:2 FTS-RSD
IB IBF51:MRM of 1 channel,ES-
528.9 > 79.9
6.026e+004



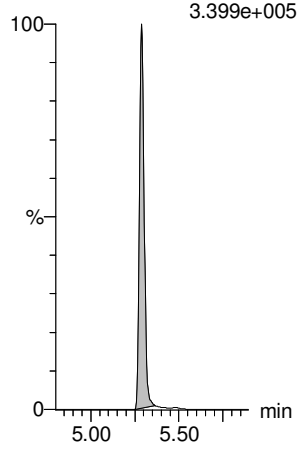
d3-N-MeFOSAA-RSD
IB IBF59:MRM of 1 channel,ES-
573. > 419
4.088e+005



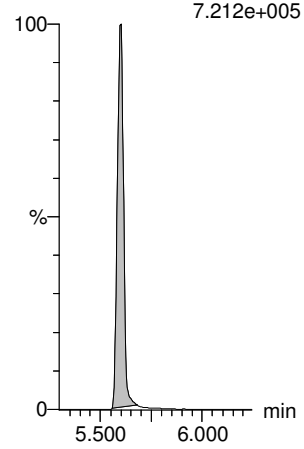
13C2-PFUdA-RSD
IB IBF56:MRM of 1 channel,ES-
565 > 519.8
5.977e+005



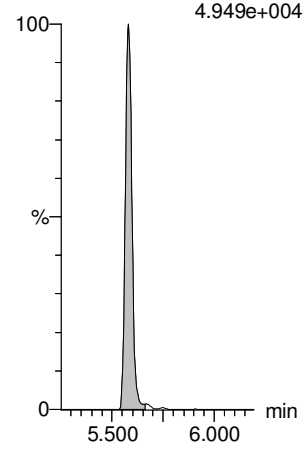
d5-N-EtFOSAA-RSD
IB IBF61:MRM of 1 channel,ES-
589. > 419
3.399e+005



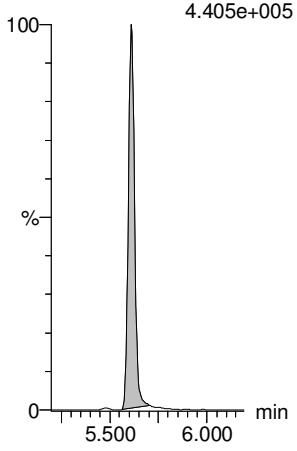
13C2-PFDoA-RSD
IB IBF64:MRM of 1 channel,ES-
615 > 570
7.212e+005



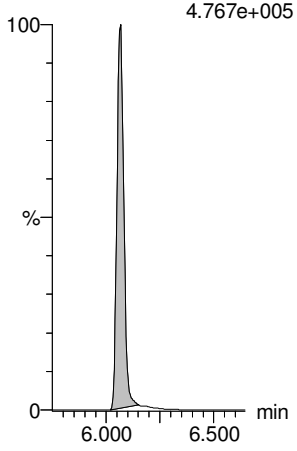
13C2-10:2 FTS-RSD
IB IBF70:MRM of 1 channel,ES-
633 > 79.9
4.949e+004



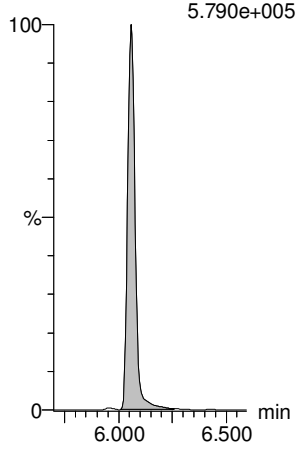
d3-N-MeFOSA-RSD
IB IBF47:MRM of 1 channel,ES-
515.2 > 168.9
4.405e+005



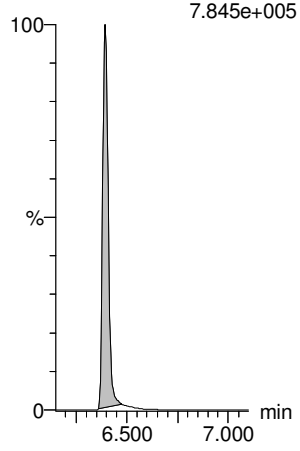
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.767e+005



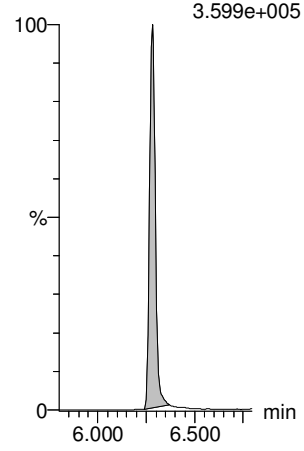
d5-N-ETFOSA-RSD
IB IBF53:MRM of 1 channel,ES-
531.1 > 168.9
5.790e+005



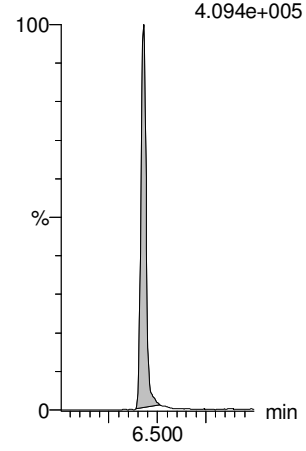
13C2-PFHxDA-RSD
IB IBF77:MRM of 1 channel,ES-
815 > 769.7
7.845e+005



d7-N-MeFOSE-RSD
IB IBF66:MRM of 1 channel,ES-
623.1 > 58.9
3.599e+005



d9-N-EtFOSE-RSD
IB IBF71:MRM of 1 channel,ES-
639.2 > 58.8
4.094e+005

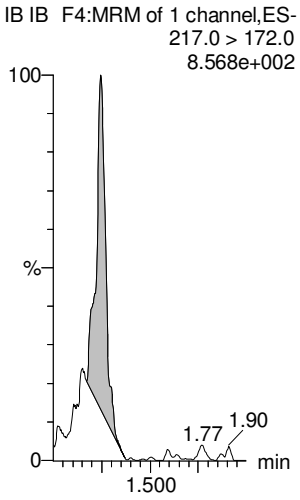


Dataset: Untitled

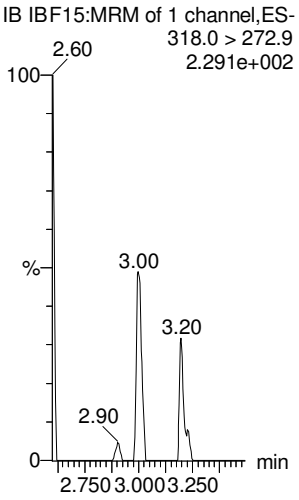
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

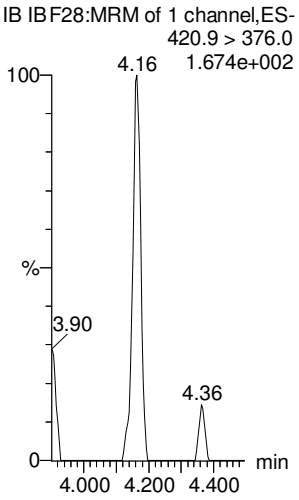
13C4-PFBA



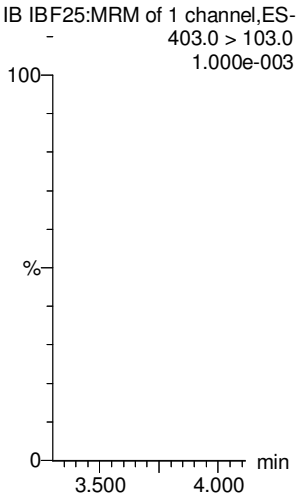
13C5-PFHxA



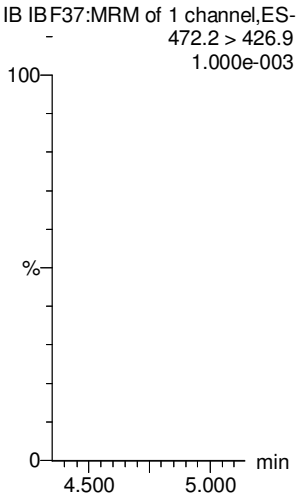
13C8-PFOA



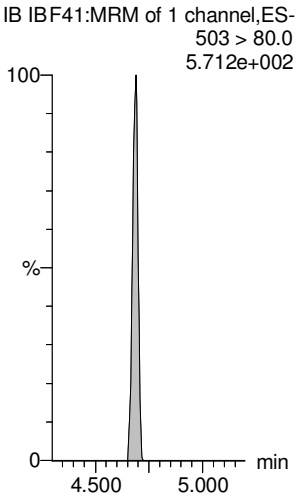
18O2-PFHxS



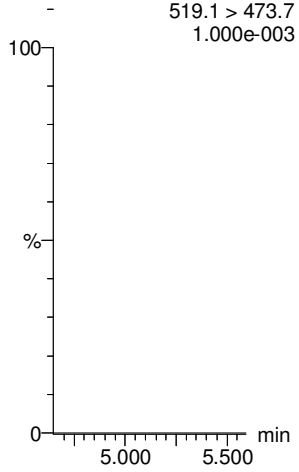
13C9-PFNA



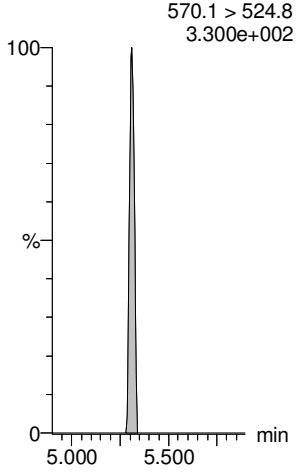
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	15.695	3991.360	1.00	1.92	0.049		0.0148		NO		
2	2	PFPrS	248.9 > 79.9		1635.998	1.00						NO		
3	3	3:3 FTCA	241.1 > 177.0		6991.409	1.00						NO		
4	4	PFPeA	263.1 > 218.9	6.487	6991.409	1.00	2.41	0.012		0.0103		NO		
5	5	PFBS	299.0 > 79.7		1635.998	1.00						NO		
6	6	4:2 FTS	327.0 > 306.9		2712.067	1.00						NO		
7	47	13C3-PFBA-EIS	216.1 > 171.8	3991.360		1.00	1.25	3991.360	12.500	14.1	112.8	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	6991.409		1.00	2.20	6991.409	12.500	13.5	108.3	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	6991.409		1.00	2.20	6991.409	12.500	13.5	108.3	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2712.067		1.00	2.94	2712.067	12.500	12.4	99.4	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	65.246	12766.795	1.00	3.18	0.064		0.0452		NO		
15	8	PFPeS	349.0 > 80.0		1635.998	1.00						NO		
16	9	HFPO-DA	285.1 > 168.9		1119.857	1.00						NO		
17	10	5:3 FTCA	340.9 > 236.9		7423.614	1.00						NO		
18	11	PFHpA	363.0 > 318.9	21.454	7423.614	1.00	3.46	0.036				NO		
19	12	ADONA	376.8 > 250.9	78.453	7423.614	1.00	3.70	0.132		0.0186		NO		
20	57	13C2-PFHxA-EIS	315.0 > 270.0	12766.795		1.00	3.02	12766.795	12.500	13.3	106.5	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1119.857		1.00	3.25	1119.857	12.500	15.2	121.6	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0		4015.268	1.00						NO		
28	15	6:2 FTS	427 > 407.0	9.021	2286.202	1.00	4.08	0.049		0.00935		NO	0.917	YES
29	16	L-PFOA	412.8 > 368.9	18.288	15655.589	1.00	4.13	0.015				NO		
30	18	PFecHS	460.8 > 381.0	17.303	15655.589	1.00	4.08	0.014		0.103		NO	1.872	YES
31	19	PFHpS	448.9 > 80.0		4378.122	1.00						NO		
32	20	7:3 FTCA	441.0 > 337.0		13312.106	1.00						NO		
33	61	13C3-PFHxS-EIS	401.8 > 79.9	4015.268		1.00	3.79	4015.268	12.500	13.4	107.1	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2286.202		1.00	4.11	2286.202	12.500	13.7	109.7	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	15655.589		1.00	4.16	15655.589	12.500	13.2	105.7	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	15655.589		1.00	4.16	15655.589	12.500	13.2	105.7	NO		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	13312.106		1.00	4.60	13312.106	12.500	12.2	97.3	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	45.797	13312.106	1.00	4.62	0.043		0.0691		NO	8.089	YES
41	22	PFOSA	498.0 > 78.0		6863.483	1.00						NO		
42	23	L-PFOS	499 > 80	7.631	4378.122	1.00	4.67	0.022		0.0976		NO		
43	25	9Cl-PF30NS	531 > 351.0	15.835	4378.122	1.00	4.91	0.045		0.123		NO	0.137	YES
44	26	PFDA	513 > 468.8	34.027	14083.672	1.00	4.95	0.030		0.0103		NO		
45	27	8:2 FTS	526.9 > 507.0	18.684	2265.313	1.00	4.92	0.103		0.0121		NO		
46	65	13C5-PFNA-EIS	468.2 > 422.9	13312.106		1.00	4.60	13312.106	12.500	12.2	97.3	NO		
47	67	13C8-PFOSA-EIS	506. > 78	6863.483		1.00	4.65	6863.483	12.500	13.9	111.0	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	14083.672		1.00	4.98	14083.672	12.500	13.1	104.9	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2265.313		1.00	4.95	2265.313	12.500	13.7	110.0	NO		
52	-1													
53	28	PFNS	548.9 > 79.9		4378.122	1.00						NO		
54	29	L-MeFOSAA	570 > 419		12337.550	1.00						NO		
55	31	L-EtFOSAA	583.9 > 419	7.089	11056.373	1.00	5.25	0.008		0.0143		NO	1.124	NO
56	33	PFUdA	563.0 > 518.9	64.518	20445.463	1.00	5.31	0.039				NO	8.111	NO
57	34	PFDS	599.0 > 80.0		4378.122	1.00						NO		
58	35	11Cl-PF30UdS	630.9 > 450.9	20.879	24809.785	1.00	5.51	0.011		0.0544		NO		
59	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	12337.550		1.00	5.13	12337.550	12.500	14.4	114.9	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	11056.373		1.00	5.29	11056.373	12.500	12.9	103.0	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	20445.463		1.00	5.31	20445.463	12.500	12.2	97.4	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
64	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	25.640	1800.397	1.00	5.55	0.178		0.0749		NO	1.176	NO
67	37	PFDoA	612.9 > 569.0	383.803	24809.785	1.00	5.61	0.193		0.169		NO	52.641	YES
68	38	N-MeFOSA	512.1 > 168.9	11.598	15787.488	1.00	5.58	0.110		0.0819		NO		
69	39	PFTrDA	662.9 > 618.9		24809.785	1.00						NO		
70	40	PFDoS	698.9 > 80	7.307	16917.061	1.00	5.84	0.005				NO	1.253	NO
71	41	PFTeDA	713.0 > 669.0	94.428	16917.061	1.00	6.04	0.070		0.00167		NO	11.518	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1800.397		1.00	5.58	1800.397	12.500	14.1	112.7	NO		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	15787.488		1.00	5.61	15787.488	149.200	143	95.7	NO		
75	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	16917.061		1.00	6.07	16917.061	12.500	14.8	118.5	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	16917.061		1.00	6.07	16917.061	12.500	14.8	118.5	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	10.291	22820.334	1.00	6.00	0.067				NO	0.578	YES
80	43	PFHxDA	813.1 > 768.6	176.827	24762.742	1.00	6.39	0.089				NO	22.908	NO
81	44	PFODA	913 > 869	193.257	24762.742	1.00	6.61	0.098		0.0557		NO		
82	45	N-MeFOSE	616.1 > 58.9	9.844	12033.841	1.00	6.53	0.122				NO		
83	46	N-EtFOSE	630.1 > 58.9	32.562	13012.792	1.00	6.41	0.373		0.211		NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	4154.545	40.276	1.00	1.25	1289.398	12.500	1900	15189.5	YES		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	22820.334		1.00	6.06	22820.334	149.200	144	96.2	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	24762.742		1.00	6.40	24762.742	12.500	13.1	104.5	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	24762.742		1.00	6.40	24762.742	12.500	13.1	104.5	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	12033.841		1.00	6.28	12033.841	149.200	149	99.8	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	13012.792		1.00	6.43	13012.792	149.200	142	94.9	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2286.202	18.030	1.00	4.11	1584.999	12.500	2960	23678.5	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9			1.00			12.500			NO		
100	68	13C8-PFOSA-RSD	506. > 78	6863.483	9.627	1.00	4.65	8911.762	12.500	34200	27326...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4378.122	18.030	1.00	4.68	3035.304	12.500	3070	24591.7	YES		
103	76	13C2-PFDA-RSD	515.1 > 469.9			1.00			12.500			NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2265.313	18.030	1.00	4.95	1570.517	12.500	2840	22708.3	YES		
106	80	d3-N-MeFOSAA-RSD	573. > 419	12337.550	9.627	1.00	5.13	16019.463	12.500	33100	26450...	YES		
107	82	13C2-PFUdA-RSD	565 > 519.8	20445.463	9.627	1.00	5.31	26547.033	12.500	31600	25299...	YES		
108	84	d5-N-EtFOSAA-RSD	589. > 419	11056.373	9.627	1.00	5.29	14355.943	12.500	32400	25929...	YES		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	24809.785		1.00	5.60		12.500			NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1800.397	18.030	1.00	5.58	1248.195	12.500	2910	23307.1	YES		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	15787.488	9.627	1.00	5.61	20498.972	149.200	360000	24148...	YES		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	16917.061	9.627	1.00	6.07	21965.645	12.500	32100	25651...	YES		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	22820.334	9.627	1.00	6.06	29630.640	149.200	372000	24914...	YES		
114	96	13C2-PFHxDA-RSD	815 > 769.7	24762.742	9.627	1.00	6.40	32152.724	12.500	32200	25777...	YES		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	12033.841	9.627	1.00	6.28	15625.118	149.200	347000	23243...	YES		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	13012.792	9.627	1.00	6.43	16896.219	149.200	369000	24731...	YES		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	40.276	40.276	1.00	1.24	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103.0			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9			1.00			12.500			NO		
123	1...	13C4-PFOS	503 > 80.0	18.030	18.030	1.00	4.69	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7			1.00			12.500			NO		
125	1...	13C7-PFUdA	570.1 > 524.8	9.627	9.627	1.00	5.31	12.500	12.500	12.5	100.0	NO		

LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID:	ST200713M1-11	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:	-16	L (M) H	☑	☑	☑	☑	☑	☑	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 20200701

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑

All Branches in Acquisition Window ☑

IIS Area Saved ☐ N/A

Reviewed By: CPW 07/14/20
Initials/Date

Comments:

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

√ qpv 07/14/20

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	# Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1 PFBA	213.0 > 169.0	4366.788	3663.383	1.00	1.25	14.900	10.000	10.1	101.0	NO		
2	2 PFPrS	248.9 > 79.9	1946.604	1654.245	1.00	1.58	14.709	10.000	9.62	96.2	NO	2.220	NO
3	3 3:3 FTCA	241.1 > 177.0	379.706	6891.854	1.00	2.07	0.689	10.000	9.52	95.2	NO	2.000	NO
4	4 PFPeA	263.1 > 218.9	5361.929	6891.854	1.00	2.20	9.725	10.000	10.0	100.4	NO		
5	5 PFBS	299.0 > 79.7	2637.605	1654.245	1.00	2.49	19.931	10.000	9.81	98.1	NO	2.690	NO
6	6 4:2 FTS	327.0 > 306.9	5545.819	2789.015	1.00	2.94	24.856	10.000	9.35	93.5	NO	1.922	NO
7	47 13C3-PFBA-EIS	216.1 > 171.8	3663.383		1.00	1.25	3663.383	12.500	12.9	103.6	NO		
8	51 13C3-PFBS-EIS	302.0 > 99	1654.245		1.00	2.49	1654.245	12.500	13.9	111.1	NO		
9	49 13C3-PFPeA-EIS	266.0 > 221.8	6891.854		1.00	2.20	6891.854	12.500	13.3	106.8	NO		
10	49 13C3-PFPeA-EIS	266.0 > 221.8	6891.854		1.00	2.20	6891.854	12.500	13.3	106.8	NO		
11	51 13C3-PFBS-EIS	302.0 > 99	1654.245		1.00	2.49	1654.245	12.500	13.9	111.1	NO		
12	55 13C2-4:2 FTS-EIS	329.0 >79.9	2789.015		1.00	2.94	2789.015	12.500	12.8	102.2	NO		
13	-1												
14	7 PFHxA	313.0 > 269.0	11391.850	12614.045	1.00	3.03	11.289	10.000	10.3	103.2	NO	15.821	NO
15	8 PFPeS	349.0 > 80.0	3123.091	1654.245	1.00	3.24	23.599	10.000	9.87	98.7	NO	1.717	NO
16	9 HFPO-DA	285.1 > 168.9	728.714	978.020	1.00	3.25	9.314	10.000	9.50	95.0	NO	2.347	NO
17	10 5:3 FTCA	340.9 > 236.9	2207.329	7069.078	1.00	3.59	3.903	10.000	8.84	88.4	NO	1.494	NO
18	11 PFHpA	363.0 > 318.9	7387.278	7069.078	1.00	3.65	13.063	10.000	10.5	105.2	NO	9.057	NO
19	12 ADONA	376.8 > 250.9	29707.326	7069.078	1.00	3.76	52.530	10.000	10.6	106.0	NO	3.566	NO
20	57 13C2-PFHxA-EIS	315.0 > 270.0	12614.045		1.00	3.03	12614.045	12.500	13.2	105.2	NO		
21	51 13C3-PFBS-EIS	302.0 > 99	1654.245		1.00	2.49	1654.245	12.500	13.9	111.1	NO		
22	53 13C3-HFPO-DA-EIS	287.0 > 168.9	978.020		1.00	3.25	978.020	12.500	13.3	106.2	NO		
23	59 13C4-PFHpA-EIS	367.2 > 321.8	7069.078		1.00	3.65	7069.078	12.500	12.7	102.0	NO		
24	59 13C4-PFHpA-EIS	367.2 > 321.8	7069.078		1.00	3.65	7069.078	12.500	12.7	102.0	NO		
25	59 13C4-PFHpA-EIS	367.2 > 321.8	7069.078		1.00	3.65	7069.078	12.500	12.7	102.0	NO		
26	-1												
27	13 L-PFHxS	399 > 80.0	3193.494	3603.971	1.00	3.80	11.076	10.000	11.4	113.5	NO	1.738	NO
28	15 6:2 FTS	427 > 407.0	4701.815	2150.214	1.00	4.11	27.333	10.000	8.79	87.9	NO	1.945	NO
29	16 L-PFOA	412.8 > 368.9	18884.242	15518.982	1.00	4.17	15.211	10.000	10.1	101.5	NO	3.919	NO
30	18 PFecHS	460.8 > 381.0	5950.840	15518.982	1.00	4.18	4.793	10.000	10.7	107.0	NO	0.985	NO
31	19 PFHpS	448.9 > 80.0	3126.343	4057.420	1.00	4.28	9.632	10.000	9.18	91.8	NO	2.156	NO
32	20 7:3 FTCA	441.0 > 337.0	4508.212	14961.727	1.00	4.59	3.766	10.000	9.07	90.7	NO	1.419	NO
33	61 13C3-PFHxS-EIS	401.8 > 79.9	3603.971		1.00	3.80	3603.971	12.500	12.0	96.1	NO		
34	63 13C2-6:2 FTS-EIS	429.0 >79.9	2150.214		1.00	4.11	2150.214	12.500	12.9	103.2	NO		
35	69 13C2-PFOA-EIS	414.9 > 369.7	15518.982		1.00	4.16	15518.982	12.500	13.1	104.8	NO		
36	69 13C2-PFOA-EIS	414.9 > 369.7	15518.982		1.00	4.16	15518.982	12.500	13.1	104.8	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	# Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73 13C8-PFOS-EIS	507.0 > 80	4057.420		1.00	4.69	4057.420	12.500	13.5	107.8	NO		
38	65 13C5-PFNA-EIS	468.2 > 422.9	14961.727		1.00	4.61	14961.727	12.500	13.7	109.4	NO		
39	-1												
40	21 PFNA	463.0 > 418.8	13485.767	14961.727	1.00	4.60	11.267	10.000	8.98	89.8	NO	3.479	NO
41	22 PFOSA	498.0 > 78.0	5309.685	6715.808	1.00	4.65	9.883	10.000	10.7	107.4	NO	26.958	NO
42	23 L-PFOS	499 > 80	3414.775	4057.420	1.00	4.69	10.520	10.000	9.44	94.4	NO	2.093	NO
43	25 9Cl-PF30NS	531 > 351.0	12192.704	4057.420	1.00	4.91	37.563	10.000	9.57	95.7	NO	22.450	NO
44	26 PFDA	513 > 468.8	17361.959	13398.683	1.00	4.99	16.197	10.000	10.5	104.8	NO	5.410	NO
45	27 8:2 FTS	526.9 > 507.0	4838.197	2409.503	1.00	4.96	25.100	10.000	10.4	104.3	NO	1.882	NO
46	65 13C5-PFNA-EIS	468.2 > 422.9	14961.727		1.00	4.61	14961.727	12.500	13.7	109.4	NO		
47	67 13C8-PFOSA-EIS	506. > 78	6715.808		1.00	4.65	6715.808	12.500	13.6	108.6	NO		
48	73 13C8-PFOS-EIS	507.0 > 80	4057.420		1.00	4.69	4057.420	12.500	13.5	107.8	NO		
49	73 13C8-PFOS-EIS	507.0 > 80	4057.420		1.00	4.69	4057.420	12.500	13.5	107.8	NO		
50	75 13C2-PFDA-EIS	515.1 > 469.9	13398.683		1.00	4.99	13398.683	12.500	12.5	99.8	NO		
51	77 13C2-8:2 FTS-EIS	528.9 > 79.9	2409.503		1.00	4.96	2409.503	12.500	14.6	117.0	NO		
52	-1												
53	28 PFNS	548.9 > 79.9	3478.620	4057.420	1.00	5.05	10.717	10.000	9.48	94.8	NO	1.552	NO
54	29 L-MeFOSAA	570 > 419	8708.622	11856.246	1.00	5.14	9.181	10.000	10.3	102.6	NO	2.713	NO
55	31 L-EtFOSAA	583.9 > 419	8838.479	10602.481	1.00	5.30	10.420	10.000	11.3	113.0	NO	1.329	NO
56	33 PFUdA	563.0 > 518.9	15601.230	22015.475	1.00	5.31	8.858	10.000	9.77	97.7	NO	7.688	NO
57	34 PFDS	599.0 > 80.0	2898.360	4057.420	1.00	5.36	8.929	10.000	9.38	93.8	NO	1.256	NO
58	35 11Cl-PF30UdS	630.9 > 450.9	11245.652	23392.932	1.00	5.53	6.009	10.000	10.1	101.1	NO	24.437	NO
59	73 13C8-PFOS-EIS	507.0 > 80	4057.420		1.00	4.69	4057.420	12.500	13.5	107.8	NO		
60	79 d3-N-MeFOSAA-EIS	573. > 419	11856.246		1.00	5.13	11856.246	12.500	13.8	110.5	NO		
61	83 d5-N-EtFOSAA-EIS	589. > 419	10602.481		1.00	5.29	10602.481	12.500	12.3	98.7	NO		
62	81 13C2-PFUdA-EIS	565 > 519.8	22015.475		1.00	5.31	22015.475	12.500	13.1	104.8	NO		
63	73 13C8-PFOS-EIS	507.0 > 80	4057.420		1.00	4.69	4057.420	12.500	13.5	107.8	NO		
64	85 13C2-PFDoA-EIS	615 > 570	23392.932		1.00	5.60	23392.932	12.500	11.7	93.8	NO		
65	-1												
66	36 10:2 FTS	626.9 > 607	4333.381	1507.142	1.00	5.59	35.940	10.000	11.7	117.2	NO	1.756	NO
67	37 PFDoA	612.9 > 569.0	18413.764	23392.932	1.00	5.60	9.839	10.000	10.1	101.4	NO	7.754	NO
68	38 N-MeFOSA	512.1 > 168.9	6235.359	17511.832	1.00	5.59	53.125	50.000	51.7	103.4	NO	1.452	NO
69	39 PFTrDA	662.9 > 618.9	18189.854	23392.932	1.00	5.85	9.720	10.000	10.3	103.0	NO	8.587	NO
70	40 PFDoS	698.9 > 80	3673.955	16231.831	1.00	5.88	2.829	10.000	10.7	107.2	NO	1.726	NO
71	41 PFTeDA	713.0 > 669.0	19856.373	16231.831	1.00	6.07	15.291	10.000	10.3	102.9	NO	13.569	NO
72	87 13C2-10:2 FTS-EIS	633 > 79.9	1507.142		1.00	5.58	1507.142	12.500	11.8	94.4	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	23392.932		1.00	5.60	23392.932	12.500	11.7	93.8	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	17511.832		1.00	5.61	17511.832	149.200	158	106.2	NO		
75	85	13C2-PFDoA-EIS	615 > 570	23392.932		1.00	5.60	23392.932	12.500	11.7	93.8	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	16231.831		1.00	6.07	16231.831	12.500	14.2	113.7	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	16231.831		1.00	6.07	16231.831	12.500	14.2	113.7	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	7215.147	24671.416	1.00	6.04	43.633	50.000	52.4	104.9	NO	1.546	NO
80	43	PFHxDA	813.1 > 768.6	12723.054	24421.061	1.00	6.40	6.512	10.000	10.6	105.5	NO	19.927	NO
81	44	PFODA	913 > 869	21050.154	24421.061	1.00	6.63	10.775	10.000	11.1	110.9	NO		
82	45	N-MeFOSE	616.1 > 58.9	4394.473	14427.036	1.00	6.29	45.446	50.000	45.6	91.2	NO		
83	46	N-EtFOSE	630.1 > 58.9	5588.552	13607.204	1.00	6.44	61.277	50.000	55.5	111.0	NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	3675.880	5478.563	1.00	1.25	8.387	12.500	12.4	98.8	NO		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	24671.416		1.00	6.06	24671.416	149.200	155	104.0	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	24421.061		1.00	6.40	24421.061	12.500	12.9	103.0	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	24421.061		1.00	6.40	24421.061	12.500	12.9	103.0	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	14427.036		1.00	6.28	14427.036	149.200	179	119.7	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	13607.204		1.00	6.43	13607.204	149.200	148	99.2	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	6891.854	14777.582	1.00	2.20	5.830	12.500	12.8	102.0	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99	1658.628	2102.919	1.00	2.49	9.859	12.500	13.5	108.0	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	978.020	14777.582	1.00	3.25	0.827	12.500	12.6	100.9	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9	2789.015	2102.919	1.00	2.94	16.578	12.500	13.9	111.0	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	12614.045	14777.582	1.00	3.03	10.670	12.500	12.4	99.3	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	7069.078	14777.582	1.00	3.65	5.980	12.500	12.1	97.1	NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9	3603.971	2102.919	1.00	3.80	21.422	12.500	12.1	97.1	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2153.303	3926.137	1.00	4.11	6.856	12.500	12.8	102.4	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	14961.727	15753.888	1.00	4.61	11.871	12.500	13.1	105.0	NO		
100	68	13C8-PFOSA-RSD	506. > 78	6715.808	26230.514	1.00	4.65	3.200	12.500	12.3	98.1	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	15518.982	24782.297	1.00	4.16	7.828	12.500	12.1	96.6	NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4057.420	3926.137	1.00	4.69	12.918	12.500	13.1	104.7	NO		
103	76	13C2-PFDA-RSD	515.1 > 469.9	13398.683	20415.223	1.00	4.99	8.204	12.500	11.5	91.9	NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2409.503	3926.137	1.00	4.96	7.671	12.500	13.9	110.9	NO		
106	80	d3-N-MeFOSAA-RSD	573. > 419	11856.246	26230.514	1.00	5.13	5.650	12.500	11.7	93.3	NO		
107	82	13C2-PFUdA-RSD	565 > 519.8	22015.475	26230.514	1.00	5.31	10.491	12.500	12.5	100.0	NO		
108	84	d5-N-EtFOSAA-RSD	589. > 419	10602.481	26230.514	1.00	5.29	5.053	12.500	11.4	91.3	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	# Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86 13C2-PFDoA-RSD	615 > 570	23392.932	20415.223	1.00	5.60	14.323	12.500	11.1	88.8	NO		
110	88 13C2-10:2 FTS-RSD	633 > 79.9	1506.868	3926.137	1.00	5.58	4.798	12.500	11.2	89.6	NO		
111	90 d3-N-MeFOSA-RSD	515.2 > 168.9	17527.480	26230.514	1.00	5.61	8.353	149.200	147	98.4	NO		
112	92 13C2-PFTeDA-RSD	715.1 > 669.7	16231.831	26230.514	1.00	6.07	7.735	12.500	11.3	90.3	NO		
113	94 d5-N-ETFOSA-RSD	531.1 > 168.9	24671.416	26230.514	1.00	6.06	11.757	149.200	147	98.9	NO		
114	96 13C2-PFHxDA-RSD	815 > 769.7	24558.910	26230.514	1.00	6.40	11.703	12.500	11.7	93.8	NO		
115	98 d7-N-MeFOSE-RSD	623.1 > 58.9	14439.451	26230.514	1.00	6.28	6.881	149.200	153	102.4	NO		
116	1... d9-N-EtFOSE-RSD	639.2 > 58.8	13609.521	26230.514	1.00	6.43	6.486	149.200	142	94.9	NO		
117	-1												
118	1... 13C4-PFBA	217.0 > 172.0	5478.563	5478.563	1.00	1.26	12.500	12.500	12.5	100.0	NO		
119	1... 13C5-PFHxA	318.0 > 272.9	14777.582	14777.582	1.00	3.03	12.500	12.500	12.5	100.0	NO		
120	1... 13C8-PFOA	420.9 > 376.0	24782.297	24782.297	1.00	4.16	12.500	12.500	12.5	100.0	NO		
121	1... 18O2-PFHxS	403.0 > 103.0	2102.919	2102.919	1.00	3.80	12.500	12.500	12.5	100.0	NO		
122	1... 13C9-PFNA	472.2 > 426.9	15753.888	15753.888	1.00	4.60	12.500	12.500	12.5	100.0	NO		
123	1... 13C4-PFOS	503 > 80.0	3926.137	3926.137	1.00	4.69	12.500	12.500	12.5	100.0	NO		
124	1... 13C6-PFDA	519.1 > 473.7	20415.223	20415.223	1.00	4.99	12.500	12.500	12.5	100.0	NO		
125	1... 13C7-PFUdA	570.1 > 524.8	26230.514	26230.514	1.00	5.31	12.500	12.500	12.5	100.0	NO		

FBR 7/14/2020

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 11:02:44 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:03:28 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
1	1 200713M1_1	IPA	13-Jul-20	13:54:41
2	2 200713M1_2	IPA	13-Jul-20	14:05:07
3	3 200713M1_3	ST200713M1-1 PFC CS-2 20F1901	13-Jul-20	14:15:32
4	4 200713M1_4	ST200713M1-2 PFC CS-1 20F1902	13-Jul-20	14:25:58
5	5 200713M1_5	ST200713M1-3 PFC CS0 20F1903	13-Jul-20	14:36:20
6	6 200713M1_6	ST200713M1-4 PFC CS1 20F1904	13-Jul-20	14:46:42
7	7 200713M1_7	ST200713M1-5 PFC CS2 20F1905	13-Jul-20	14:58:03
8	8 200713M1_8	ST200713M1-6 PFC CS3 20F1906	13-Jul-20	15:08:24
9	9 200713M1_9	ST200713M1-7 PFC CS4 20F1907	13-Jul-20	16:11:36
10	10 200713M1_10	ST200713M1-8 PFC CS5 20F1908	13-Jul-20	16:23:22
11	11 200713M1_11	ST200713M1-9 PFC CS6 20F1909	13-Jul-20	16:33:48
12	12 200713M1_12	ST200713M1-10 PFC CS7 20F1910	13-Jul-20	16:44:10
13	13 200713M1_13	IB	13-Jul-20	16:54:32
14	14 200713M1_14	ICV200713M1-1 PFC ICV 20F1911	13-Jul-20	17:04:54
15	15 200713M1_15	IB	13-Jul-20	17:15:17
16	16 200713M1_16	B0F0278-BLK1 Method Blank 1	13-Jul-20	17:25:39
17	17 200713M1_17	B0F0278-BS1 OPR 1	13-Jul-20	17:36:01
18	18 200713M1_18	2001348-03 AB-20 (0.5-1) 1.3	13-Jul-20	17:46:23
19	19 200713M1_19	2001348-04 AB-20 (1.5-2) 1.38	13-Jul-20	17:56:46
20	20 200713M1_20	2001348-05 AB-21 (0.5-1) 1.31	13-Jul-20	18:07:08
21	21 200713M1_21	2001348-06 AB-21 (4-4.5) 1.41	13-Jul-20	18:17:30
22	22 200713M1_22	2001348-07 AB-22 (0.5-1) 1.27	13-Jul-20	18:27:52
23	23 200713M1_23	2001348-08 AB-22 (2.5-3) 1.2	13-Jul-20	18:38:14
24	24 200713M1_24	2001348-09 AB-17 (1.5-2) 1.27	13-Jul-20	18:48:36
25	25 200713M1_25	2001348-10 AB-15 (0.5-1) 1.22	13-Jul-20	18:58:59
26	26 200713M1_26	2001348-11 AB-15 (1.5-2) 1.27	13-Jul-20	19:09:21
27	27 200713M1_27	2001348-14 AB-10 (0.5-1) 1.24	13-Jul-20	19:19:43
28	28 200713M1_28	2001417-01 EB04-20200706 0.24622	13-Jul-20	19:30:06
29	29 200713M1_29	ST200713M1-11 PFC CS3 20F1906	13-Jul-20	19:40:28
30	30 200713M1_30	IB	13-Jul-20	19:50:50
31	31 200713M1_31	B0F0279-BLK1 Method Blank 1	13-Jul-20	20:01:12
32	32 200713M1_32	B0F0279-BS1 OPR 1	13-Jul-20	20:11:35

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 11:02:44 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:03:28 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
33	33 200713M1_33	2001346-06 AA-MW-5 3-4' 1.13	13-Jul-20	20:21:57
34	34 200713M1_34	2001346-10 AA-MW-3 3-4' 1.3	13-Jul-20	20:32:19
35	35 200713M1_35	2001362-04@20X GMW-24 0.25105	13-Jul-20	20:42:42
36	36 200713M1_36	B0F0251-BS1 OPR 0.25	13-Jul-20	20:53:04
37	37 200713M1_37	B0F0251-BSD1 LCSD 0.25	13-Jul-20	21:03:26
38	38 200713M1_38	B0F0238-BLK1 Method Blank 1	13-Jul-20	21:13:48
39	39 200713M1_39	B0F0238-BS1 OPR 1	13-Jul-20	21:24:10
40	40 200713M1_40	2001332-02 B2 (40') 1.13	13-Jul-20	21:34:33
41	41 200713M1_41	2001332-03 B2 (dup) 1.12	13-Jul-20	21:44:55
42	42 200713M1_42	2001332-08 MB7 (0-1) 1.3	13-Jul-20	21:55:17
43	43 200713M1_43	2001332-10 MB8 (0-1) 1.25	13-Jul-20	22:05:40
44	44 200713M1_44	2001332-12 MB10 (0-1) 1.13	13-Jul-20	22:16:02
45	45 200713M1_45	2001332-17 MB9 (0-1) 1.35	13-Jul-20	22:26:24
46	46 200713M1_46	2001303-07@5X MB (dupA) 1.16	13-Jul-20	22:36:47
47	47 200713M1_47	ST200713M1-12 PFC CS3 20F1906	13-Jul-20	22:47:08
48	48 200713M1_48	IB	13-Jul-20	22:57:31
49	49 200713M1_49	2001303-08 MB5 (2-3) 1.17	13-Jul-20	23:07:56
50	50 200713M1_50	B0G0009-BLK1 Method Blank 0.25	13-Jul-20	23:18:21
51	51 200713M1_51	B0G0009-BS1 OPR 0.25	13-Jul-20	23:28:46
52	52 200713M1_52	B0G0009-MS1 Matrix Spike 0.2455	13-Jul-20	23:39:08
53	53 200713M1_53	B0G0009-MSD1 Matrix Spike Dup 0.24111	13-Jul-20	23:49:30
54	54 200713M1_54	2001394-10 CHFZ10-EB04-062920 0.11085	13-Jul-20	23:59:52
55	55 200713M1_55	2001400-01 30/10 F PM 0.1974	14-Jul-20	00:10:14
56	56 200713M1_56	2001400-02 30/10 PFA PM 0.19799	14-Jul-20	00:20:37
57	57 200713M1_57	2001400-03 120/10 F PM 0.19557	14-Jul-20	00:30:59
58	58 200713M1_58	2001400-04 120/10 PFA PM 0.18942	14-Jul-20	00:41:21
59	59 200713M1_59	2001400-05 NAC F PM 0.25304	14-Jul-20	00:51:44
60	60 200713M1_60	2001400-06 NAC PFA PM 0.24487	14-Jul-20	01:02:06
61	61 200713M1_61	2001401-01 MH-117N-20200630 0.25484	14-Jul-20	01:12:28
62	62 200713M1_62	2001401-02 MH-118.5N-20200630 0.25582	14-Jul-20	01:22:51
63	63 200713M1_63	2001401-03 DUP01-20200630 0.25005	14-Jul-20	01:33:13
64	64 200713M1_64	ST200713M1-13 PFC CS0 20F1903	14-Jul-20	01:43:35
65	65 200713M1_65	IB	14-Jul-20	01:53:57
66	66 200713M1_66	2001401-04 FRB-20200630 0.25111	14-Jul-20	02:04:19
67	67 200713M1_67	2001404-07 CHFZ10-EB05-063020 0.11538	14-Jul-20	02:14:42
68	68 200713M1_68	2001404-08 CHFZ10-FB01-063020 0.11273	14-Jul-20	02:25:04

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 11:02:44 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:03:28 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
69	69 200713M1_69	2001406-01 REEPIN2684FS 0.10961	14-Jul-20	02:35:26
70	70 200713M1_70	B0G0031-BLK1 Method Blank 2	14-Jul-20	02:45:49
71	71 200713M1_71	B0G0031-BS1 OPR 2	14-Jul-20	02:56:10
72	72 200713M1_72	B0G0031-MS1 Matrix Spike 2.13	14-Jul-20	03:06:33
73	73 200713M1_73	B0G0031-MSD1 Matrix Spike Dup 2.12	14-Jul-20	03:16:55
74	74 200713M1_74	2001367-01 CH48-SS04-000H 2.03	14-Jul-20	03:27:17
75	75 200713M1_75	2001367-02 CH48-SB04-0406 2.23	14-Jul-20	03:37:39
76	76 200713M1_76	2001394-01 CH48-SB08-0204 2.43	14-Jul-20	03:48:02
77	77 200713M1_77	2001394-02 CH48-SB08-0406 2.34	14-Jul-20	03:58:24
78	78 200713M1_78	2001394-03 CH48-SB08-0810 2.52	14-Jul-20	04:08:46
79	79 200713M1_79	2001394-04 CH48-SS09-000H 2.47	14-Jul-20	04:19:08
80	80 200713M1_80	2001394-05 CH48-SB09-0406 2.13	14-Jul-20	04:29:30
81	81 200713M1_81	ST200713M1-14 PFC CS3 20F1906	14-Jul-20	04:39:53
82	82 200713M1_82	IB	14-Jul-20	04:50:15
83	83 200713M1_83	2001394-06 CH48-SB09-0810 2.52	14-Jul-20	05:00:37
84	84 200713M1_84	2001394-07 CH48-SS10-000H 2.48	14-Jul-20	05:10:59
85	85 200713M1_85	2001394-08 CH48-SB10-0406 2.14	14-Jul-20	05:21:22
86	86 200713M1_86	2001394-09 CH48-SB10-0810 2.53	14-Jul-20	05:31:44
87	87 200713M1_87	2001404-01 CH48-SS11-000H 2.52	14-Jul-20	05:42:06
88	88 200713M1_88	2001404-02 CH48-SB11-0406 2.45	14-Jul-20	05:52:28
89	89 200713M1_89	2001404-03 CH48-SB11-0810 2.47	14-Jul-20	06:02:51
90	90 200713M1_90	2001404-04 CH48-SS12-000H 2.17	14-Jul-20	06:13:13
91	91 200713M1_91	2001404-05 CH48-SB12-0406 2.24	14-Jul-20	06:23:36
92	92 200713M1_92	2001404-06 CH48-SB12-0810 2.41	14-Jul-20	06:33:57
93	93 200713M1_93	B0G0026-BS1 OPR 0.125	14-Jul-20	06:44:20
94	94 200713M1_94	B0G0049-BS2 OPR 2	14-Jul-20	06:54:42
95	95 200713M1_95	B0G0048-BS2 OPR 0.125	14-Jul-20	07:05:04
96	96 200713M1_96	ST200713M1-15 PFC CS3 20F1906	14-Jul-20	07:15:26
97	97 200713M1_97	IB	14-Jul-20	07:25:50
98	98 200713M1_98	B0G0109-BLK1@100X Method Blank 0.001	14-Jul-20	07:36:14
99	99 200713M1_99	B0G0109-BS1@100X OPR 0.001	14-Jul-20	07:46:34
100	100 200713M1_100	2001382-01RE1@100X FC2006101400DB 0.00101	14-Jul-20	07:56:56
101	101 200713M1_101	2001382-02RE1@100X FC2006101430DB 0.00101	14-Jul-20	08:07:18
102	102 200713M1_102	2001382-03RE1@100X FC2006101440DB 0.001	14-Jul-20	08:17:40
103	103 200713M1_103	IB	14-Jul-20	08:28:02
104	104 200713M1_104	ST200713M1-16 PFC CS3 20F1906	14-Jul-20	08:38:25

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 11:02:44 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 11:03:28 Pacific Daylight Time

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
105	105 200713M1_105	IB	14-Jul-20	08:48:47

Vista Analytical Laboratory

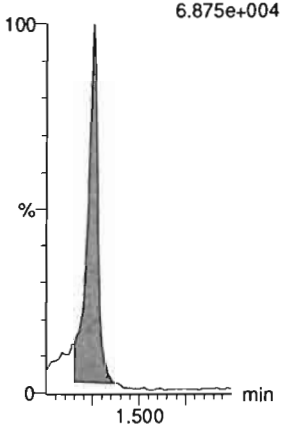
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

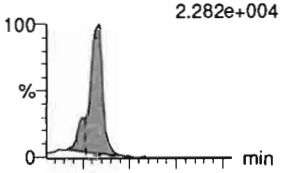
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

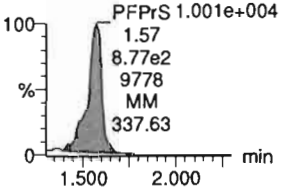
PFBA
F2:MRM of 1 channel,ES-
213.0 > 169.0
6.875e+004



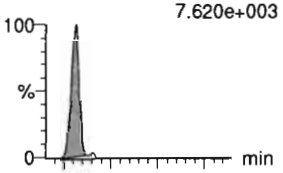
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.282e+004



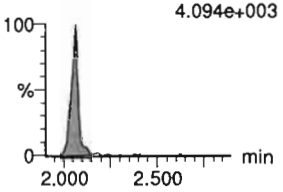
F6:MRM of 2 channels,ES-
248.9 > 98.9
PFPrS 1.001e+004
1.57
8.77e2
9778
MM
337.63



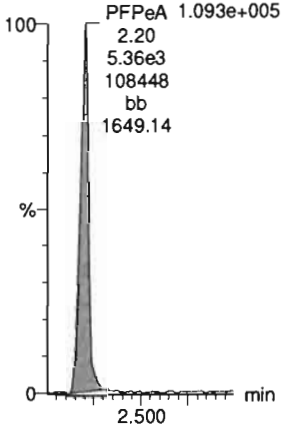
3:3 FTCA
F5:MRM of 2 channels,ES-
241.1 > 177.0
7.620e+003



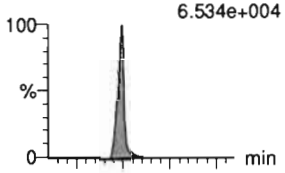
F5:MRM of 2 channels,ES-
241.1 > 117.0
4.094e+003



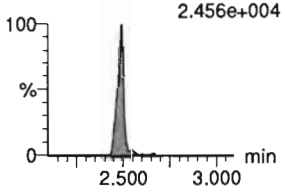
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
PFPeA 1.093e+005
2.20
5.36e3
108448
bb
1649.14



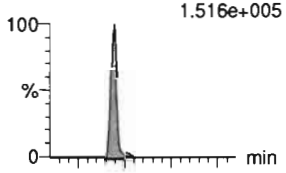
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
6.534e+004



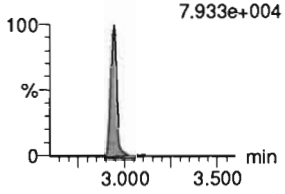
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.456e+004



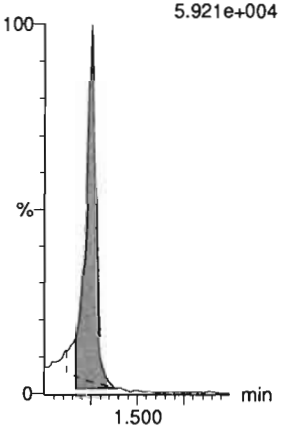
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.516e+005



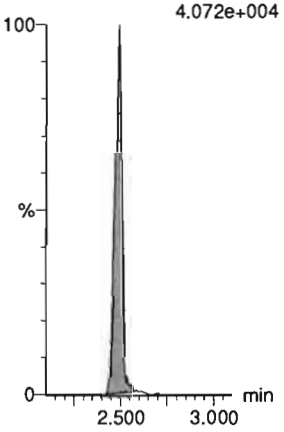
F16:MRM of 2 channels,ES-
327.0 > 80.9
7.933e+004



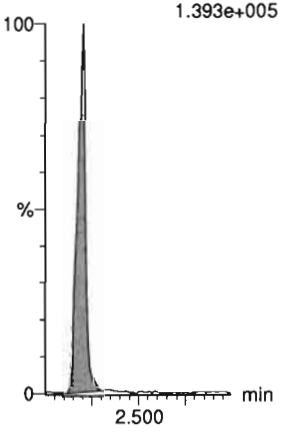
13C3-PFBA-EIS
F3:MRM of 1 channel,ES-
216.1 > 171.8
5.921e+004



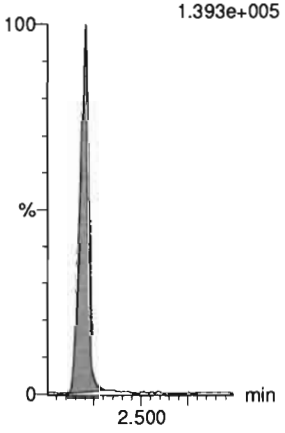
13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.072e+004



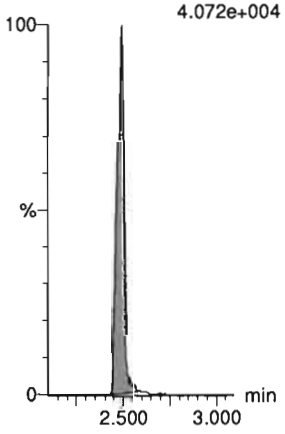
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.393e+005



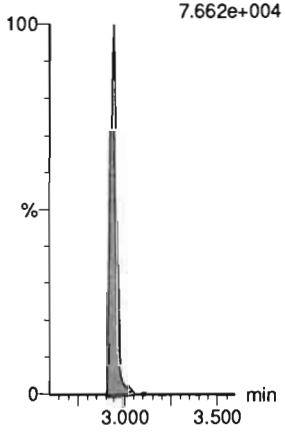
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.393e+005



13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.072e+004



13C2-4:2 FTS-EIS
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.662e+004



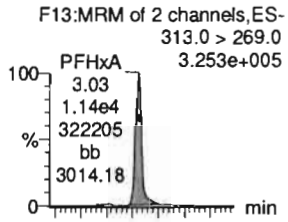
FBR 7/14/2020

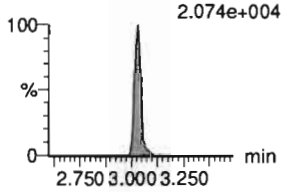
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

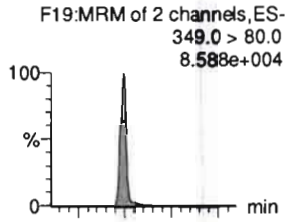
Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

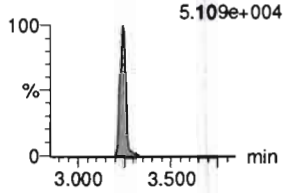
PFHxA



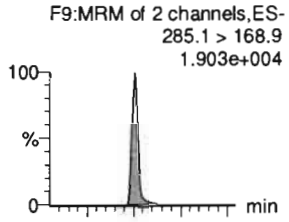


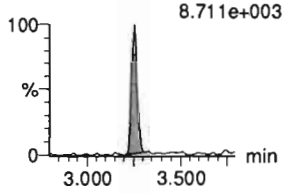
PFPeS



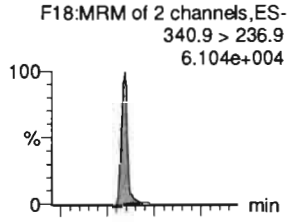


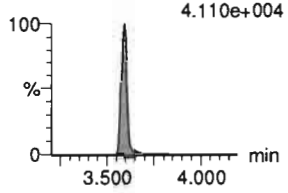
HFPO-DA



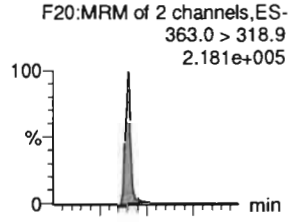


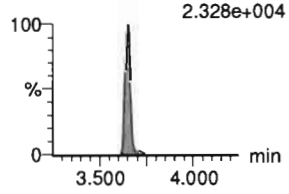
5:3 FTCA



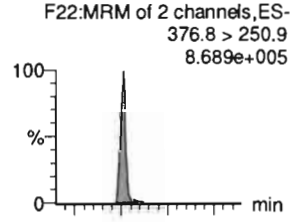


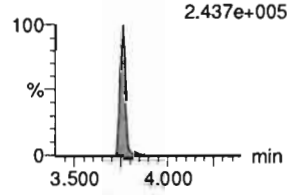
PFHpA



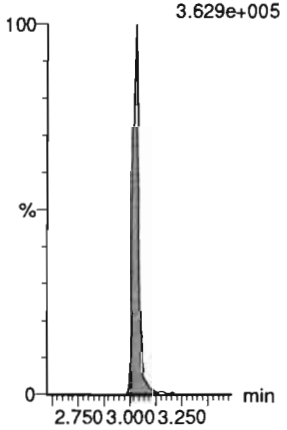


ADONA

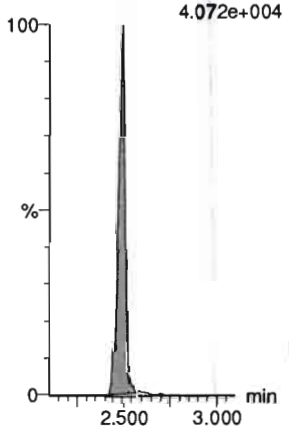




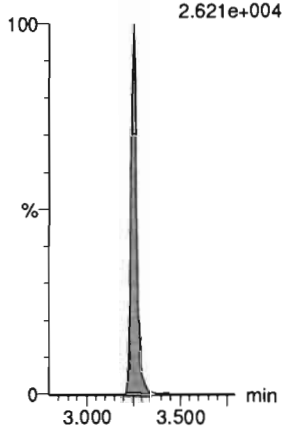
13C2-PFHxA-EIS



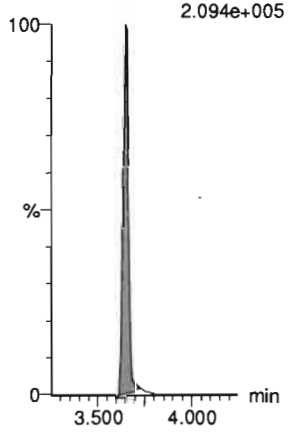
13C3-PFBS-EIS



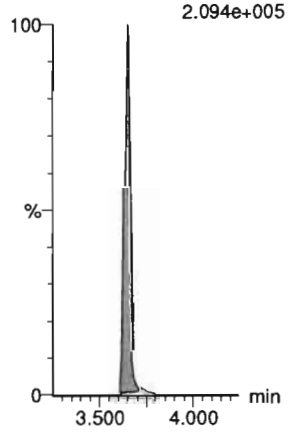
13C3-HFPO-DA-EIS



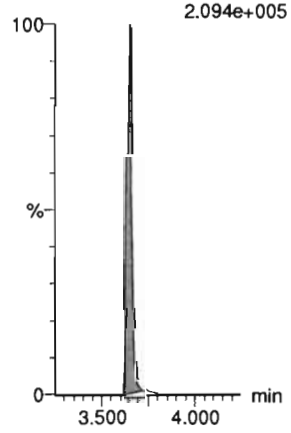
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



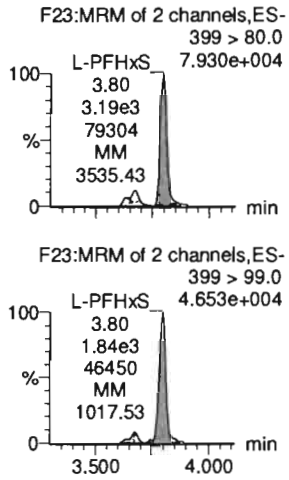
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

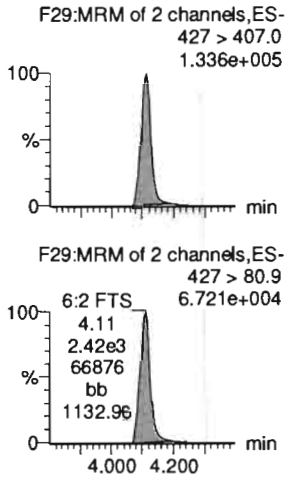
Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

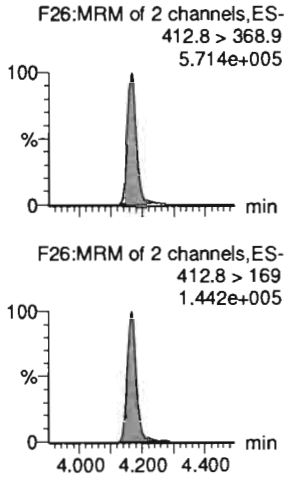
L-PFHxS



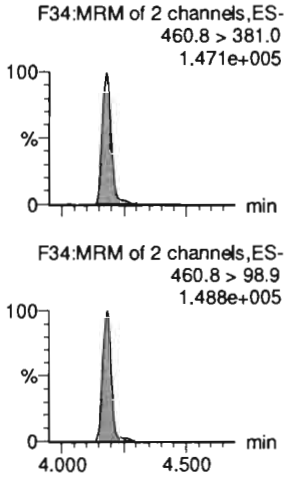
6:2 FTS



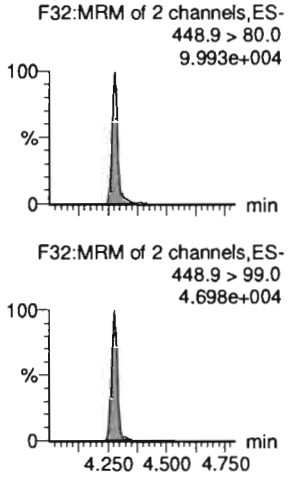
L-PFOA



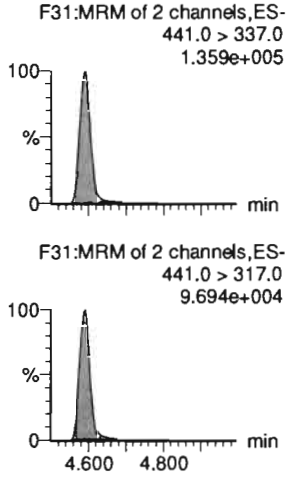
PFEChS



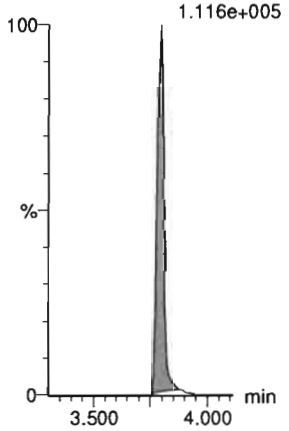
PFHpS



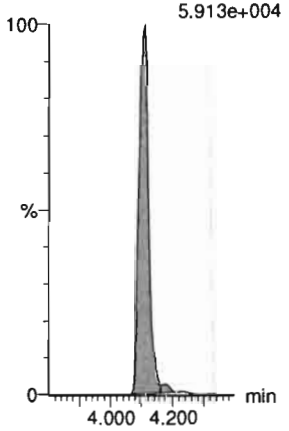
7:3 FTCA



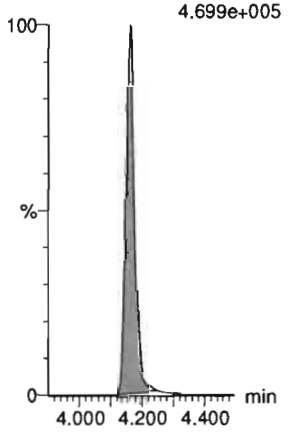
13C3-PFHxS-EIS



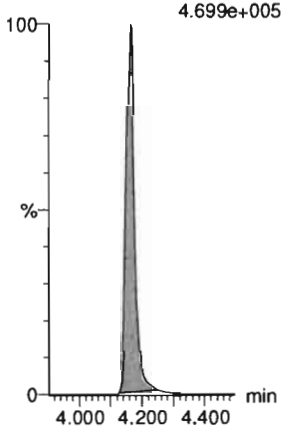
13C2-6:2 FTS-EIS



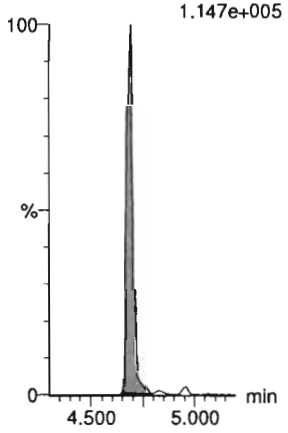
13C2-PFOA-EIS



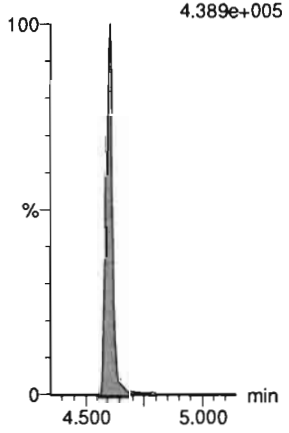
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



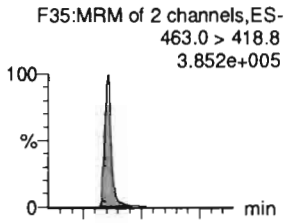
FBR 7/14/2020

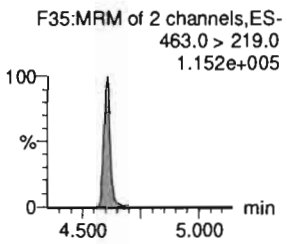
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

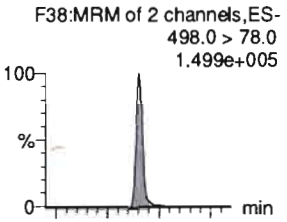
Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

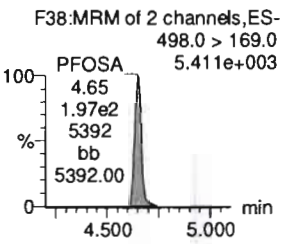
PFNA



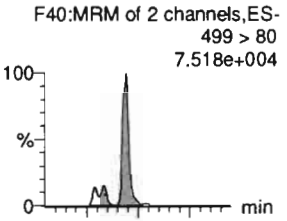


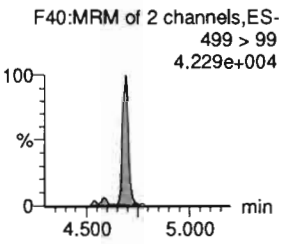
PFOSA



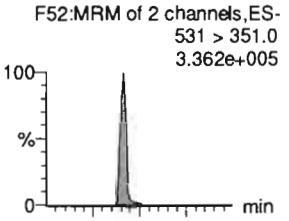


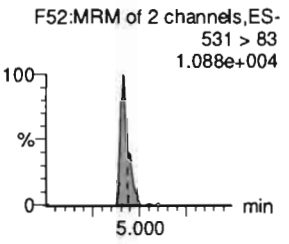
L-PFOS



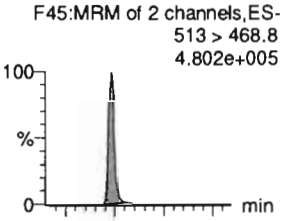


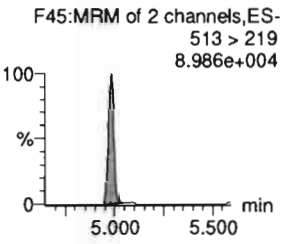
9Cl-PF30NS



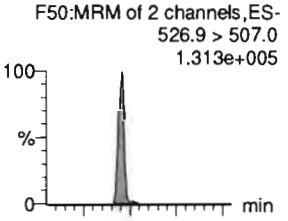


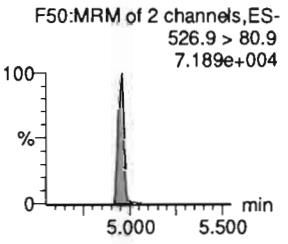
PFDA



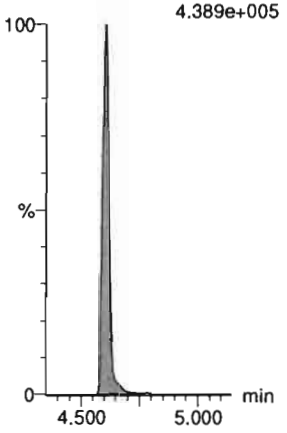


8:2 FTS

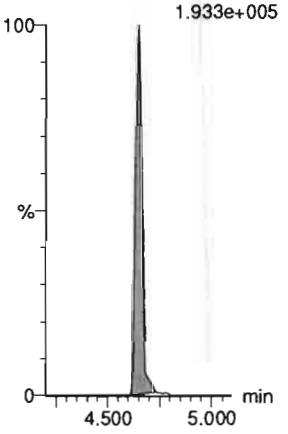




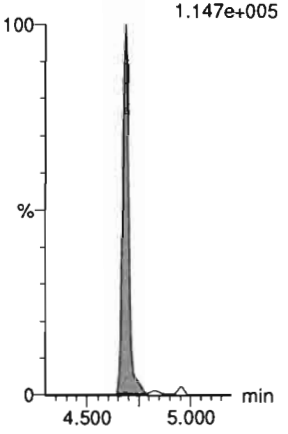
13C5-PFNA-EIS



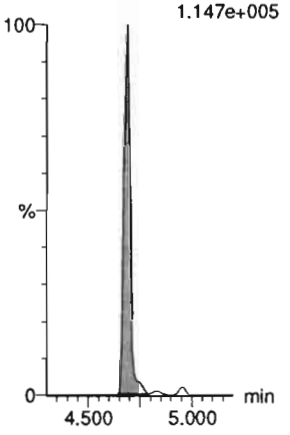
13C8-PFOSA-EIS



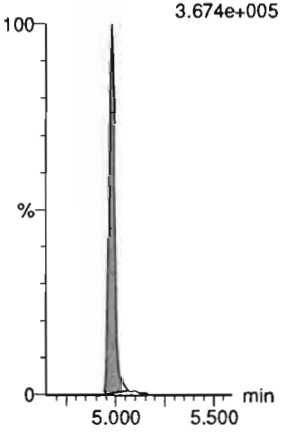
13C8-PFOS-EIS



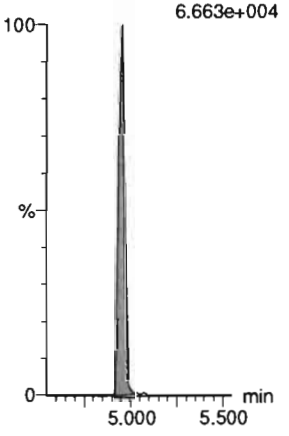
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



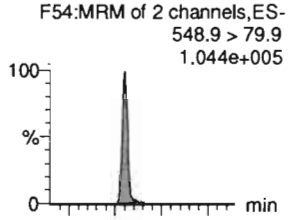
FBR 7/14/2020

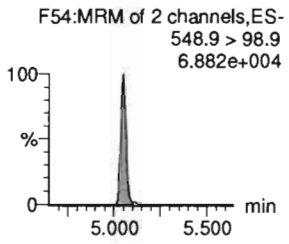
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

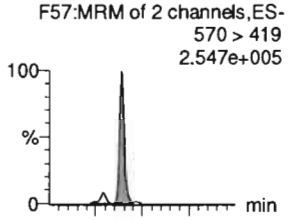
Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

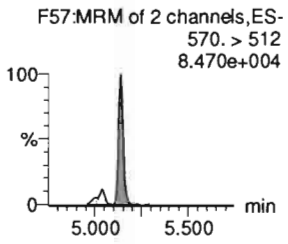
PFNS



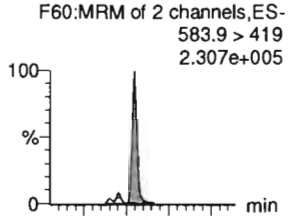


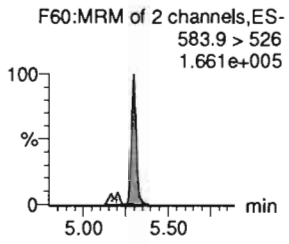
L-MeFOSAA



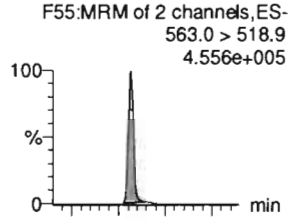


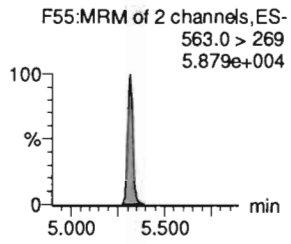
L-EtFOSAA



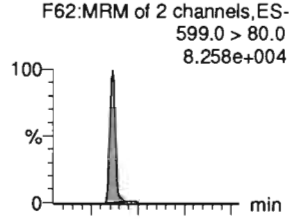


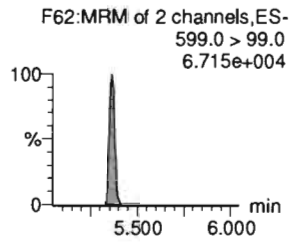
PFUdA



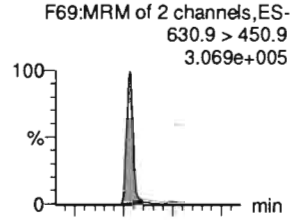


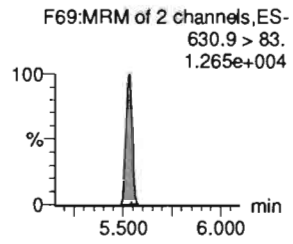
PFDS



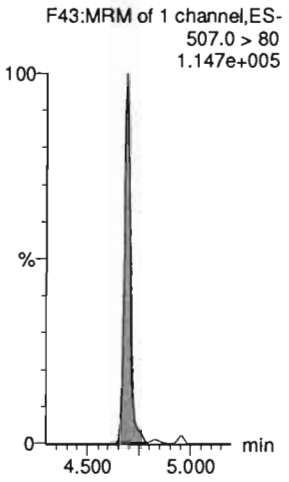


11Cl-PF30UdS

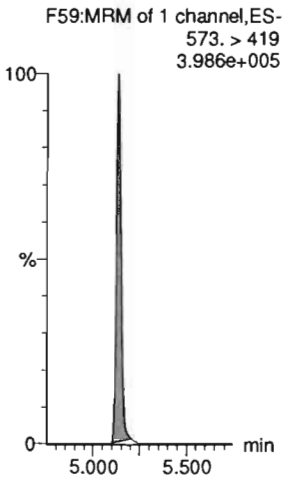




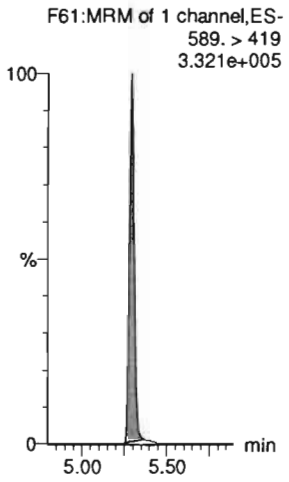
13C8-PFOS-EIS



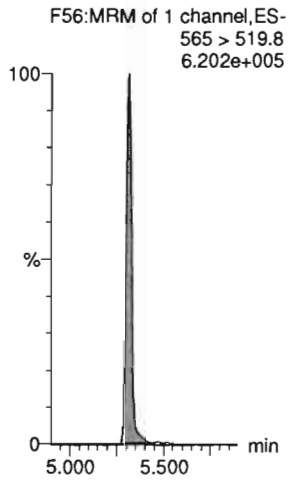
d3-N-MeFOSAA-EIS



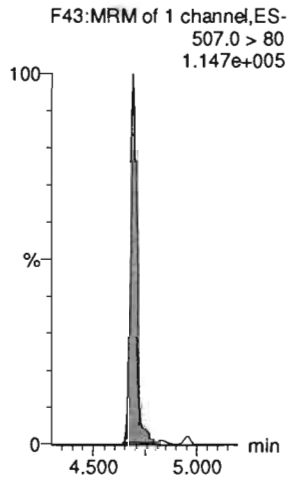
d5-N-EtFOSAA-EIS



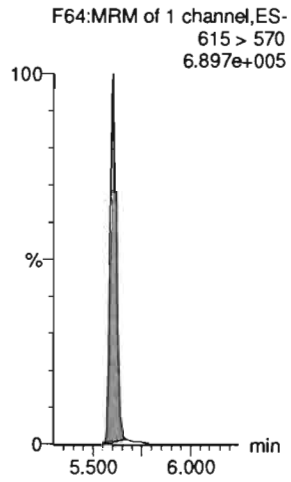
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



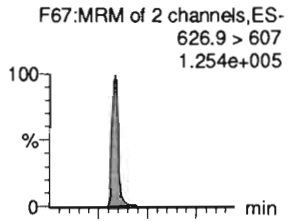
FBR 7/14/2020

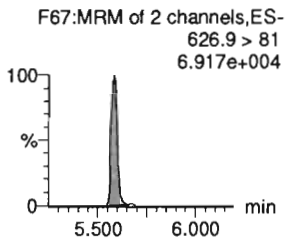
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

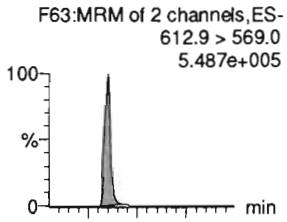
Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

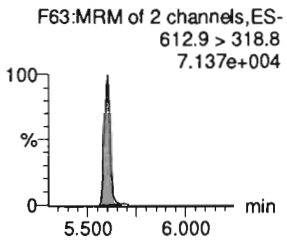
10:2 FTS



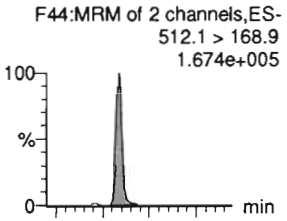


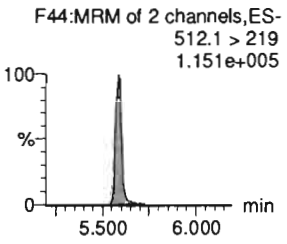
PFDoA



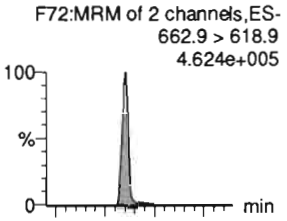


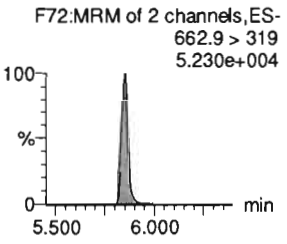
N-MeFOSA



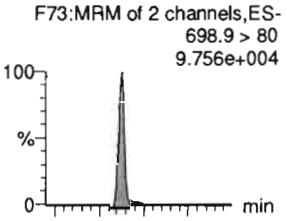


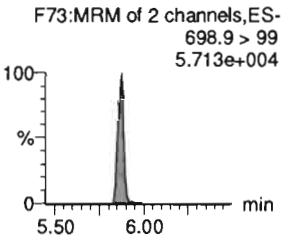
PFTrDA



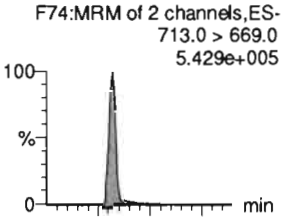


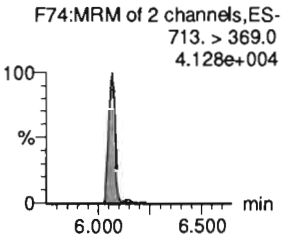
PFDoS



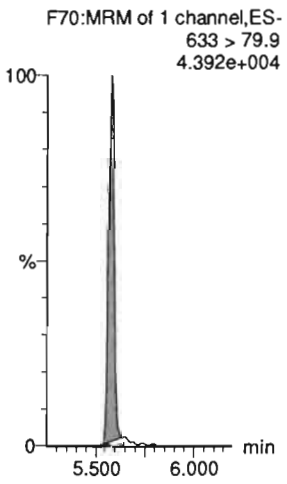


PFTeDA

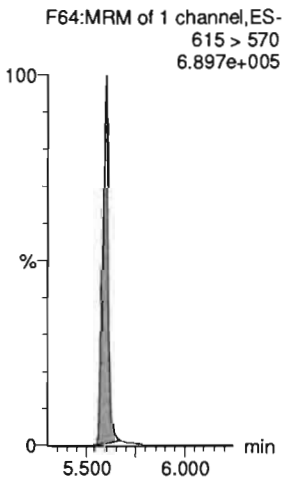




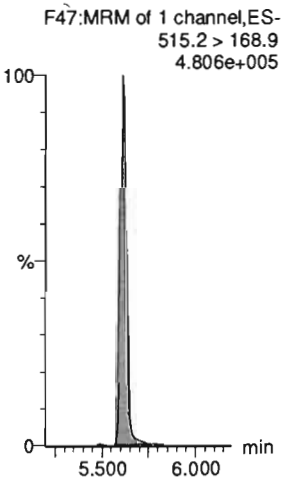
13C2-10:2 FTS-EIS



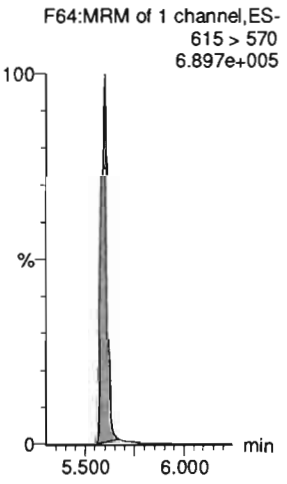
13C2-PFDoA-EIS



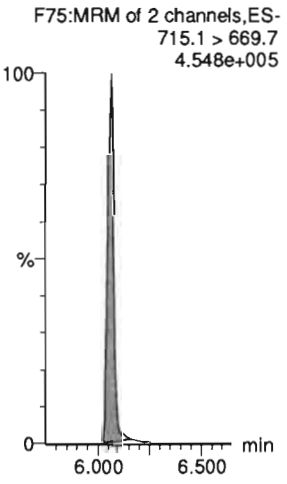
d3-N-MeFOSA-EIS



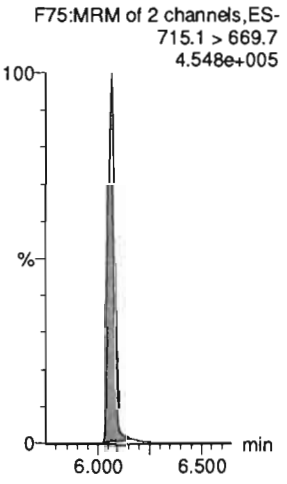
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



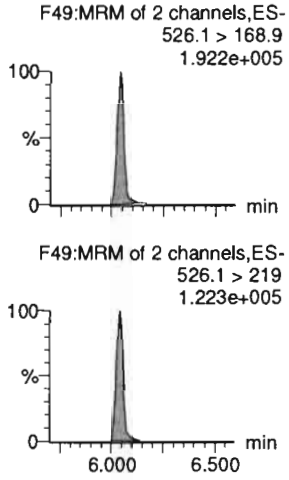
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

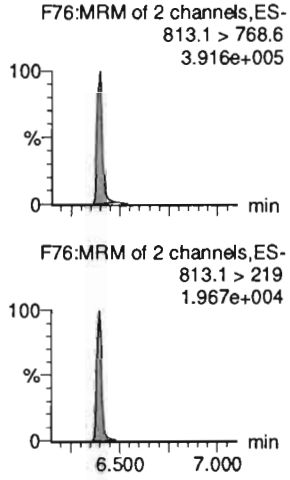
Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

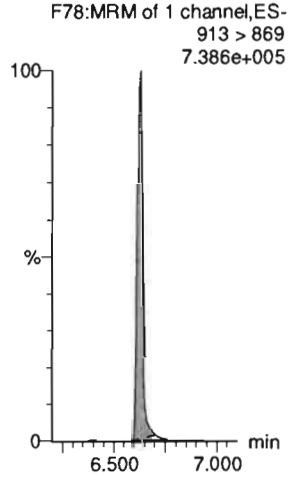
N-EtFOSA



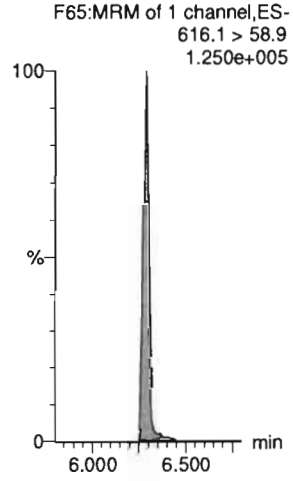
PFHxDA



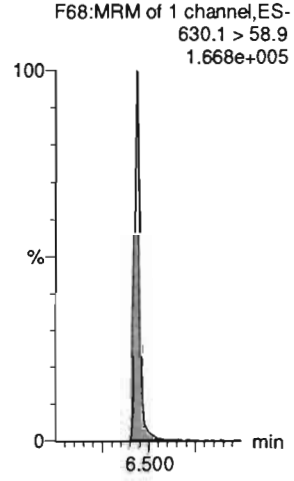
PFODA



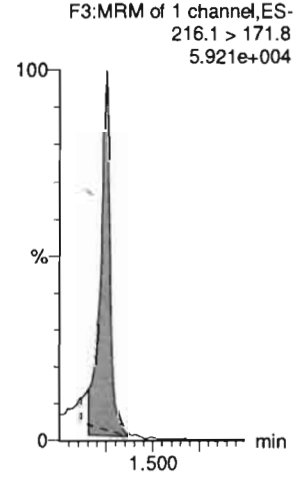
N-MeFOSE



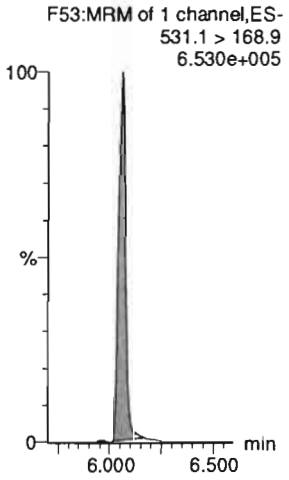
N-EtFOSE



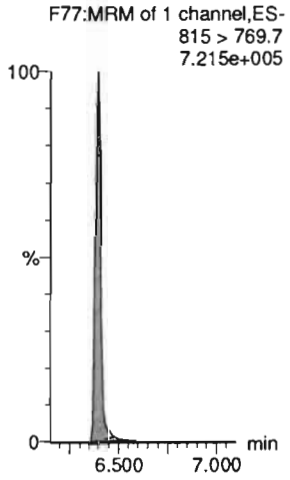
13C3-PFBA-RSD



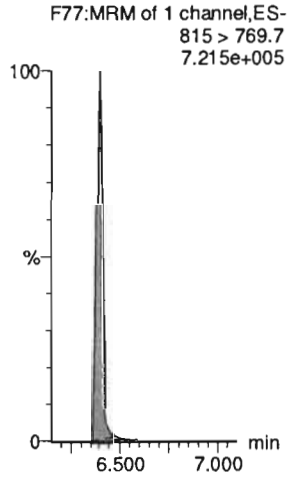
d5-N-ETFOSA-EIS



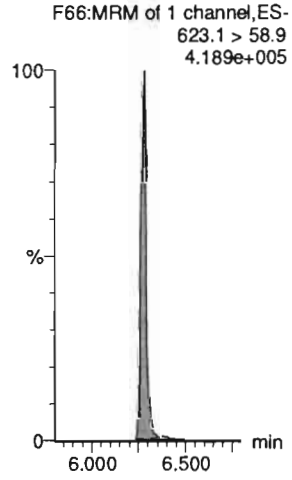
13C2-PFHxDA-EIS



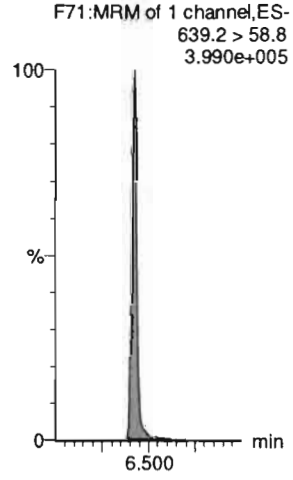
13C2-PFHxDA-EIS



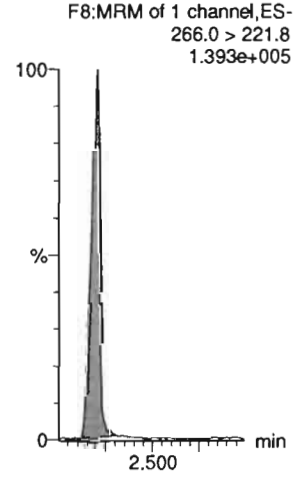
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



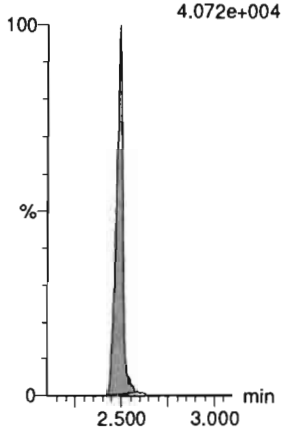
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

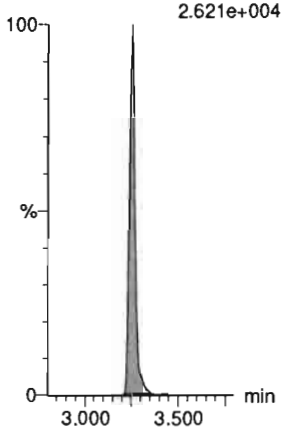
Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

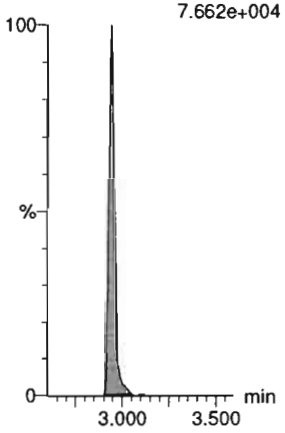
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.072e+004



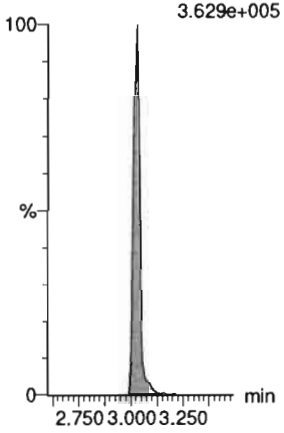
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.621e+004



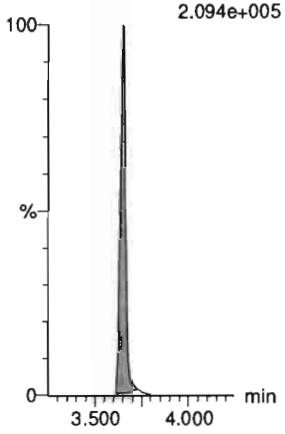
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.662e+004



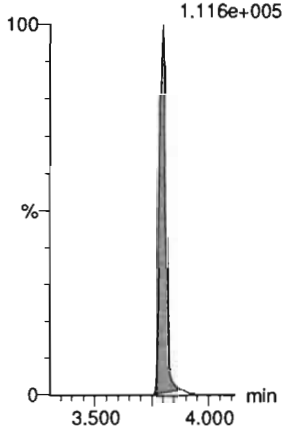
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.629e+005



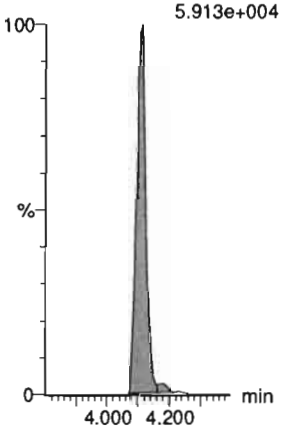
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.094e+005



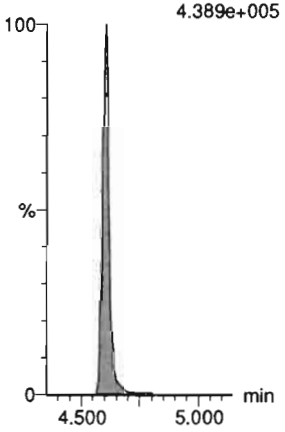
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.116e+005



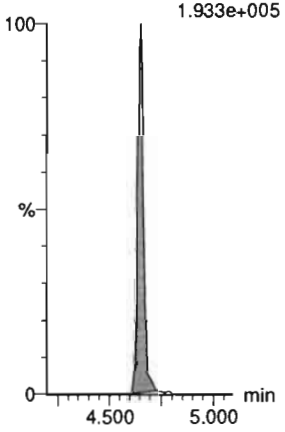
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.913e+004



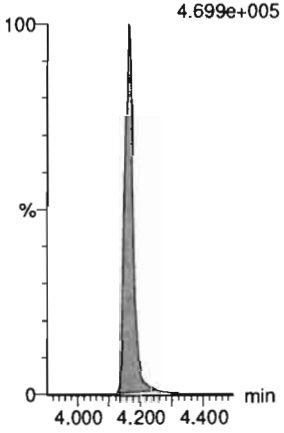
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.389e+005



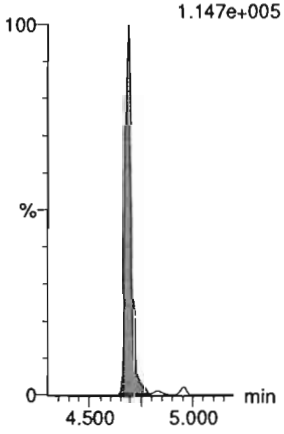
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.933e+005



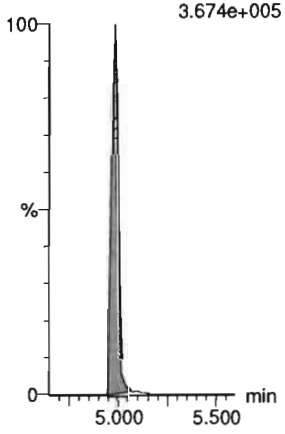
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.699e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.147e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.674e+005



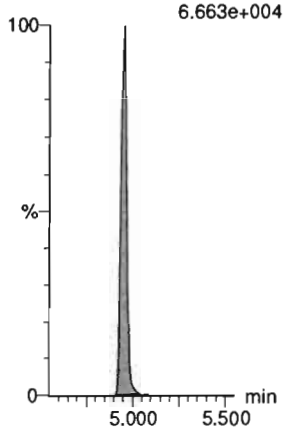
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

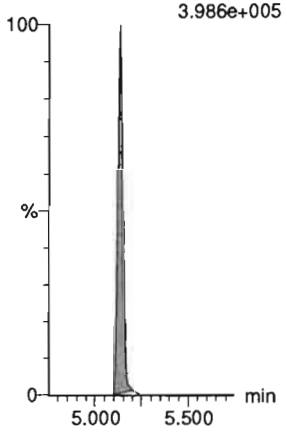
Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

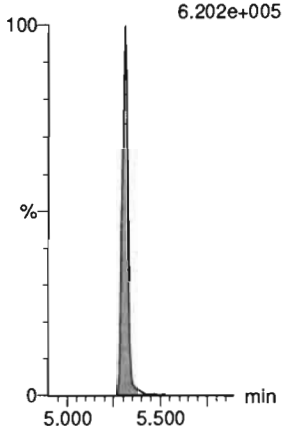
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.663e+004



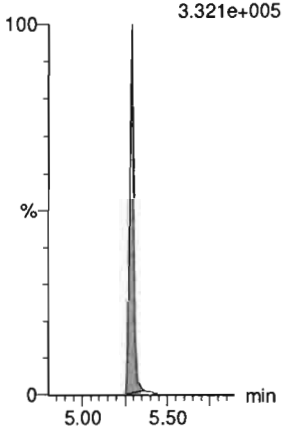
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.986e+005



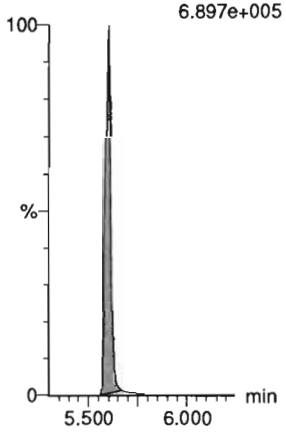
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.202e+005



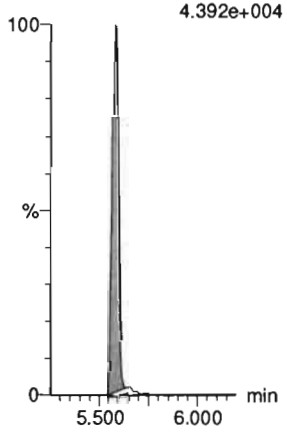
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.321e+005



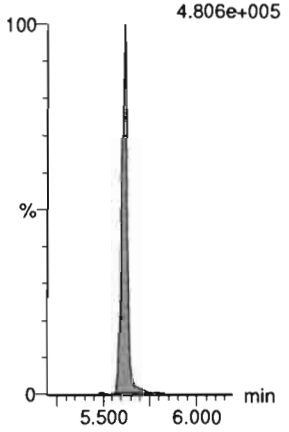
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
6.897e+005



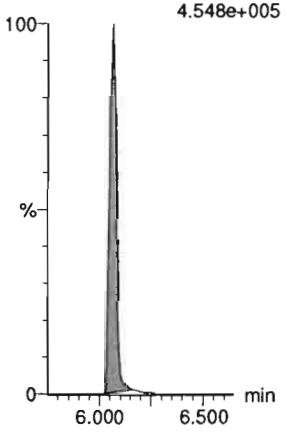
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.392e+004



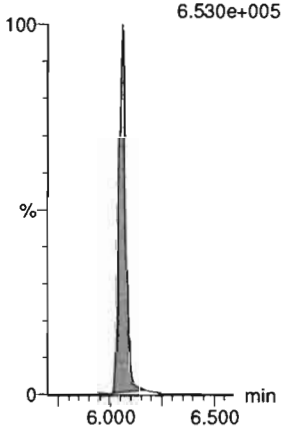
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.806e+005



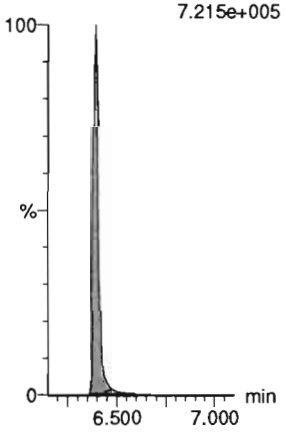
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.548e+005



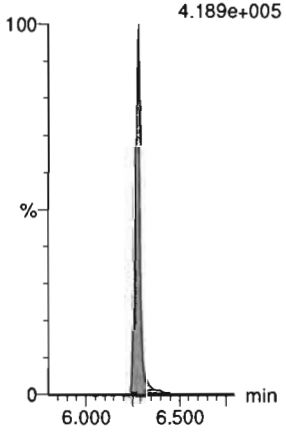
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.530e+005



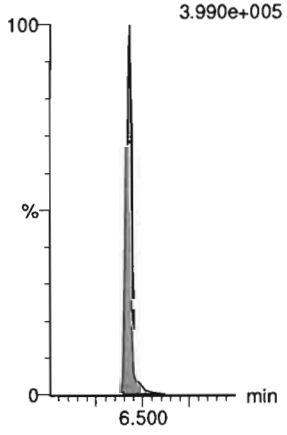
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.215e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
4.189e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.990e+005



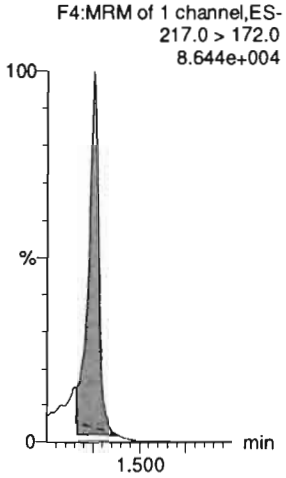
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-29.qld

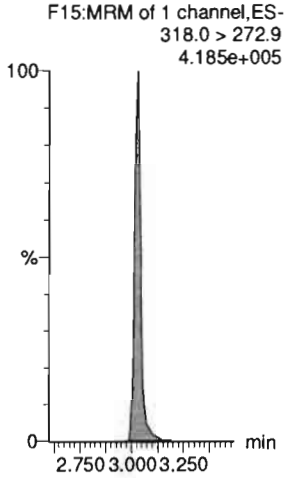
Last Altered: Tuesday, July 14, 2020 10:05:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 10:05:43 Pacific Daylight Time

Name: 200713M1_29, Date: 13-Jul-2020, Time: 19:40:28, ID: ST200713M1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

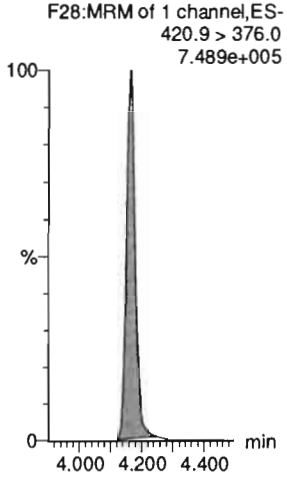
13C4-PFBA



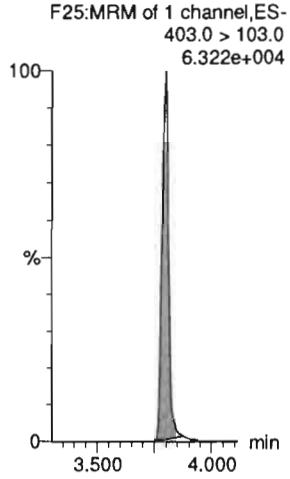
13C5-PFHxA



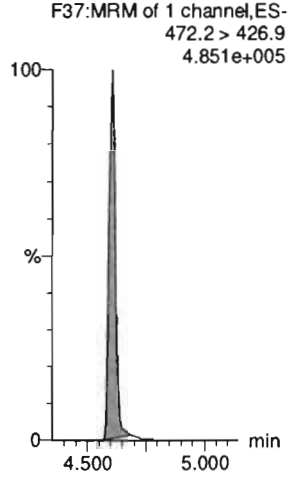
13C8-PFOA



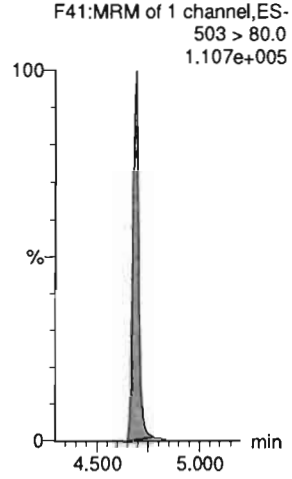
18O2-PFHxS



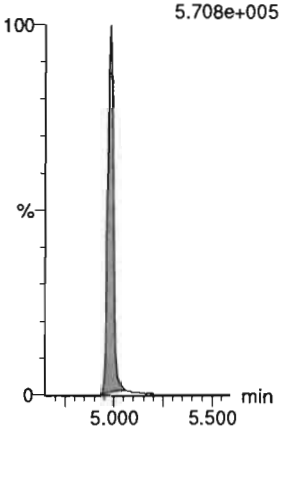
13C9-PFNA



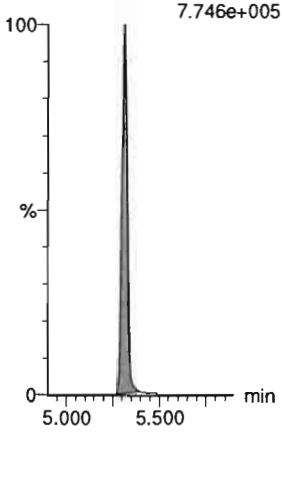
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/14/2020

INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

Low Points
3:3 FTCA: 1.0
PFOSA: 0.5

High Points
3:3 FTCA: 100
5:3 FTCA
7:3 FTCA: ↓
PFNA: 250.0

Quantify Compound Summary Report **MassLynx V4.2 SCN982**
Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:07:49

YM 7/10/2020

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999938
Calibration curve: 9.93188e-006 * x^2 + 1.41616 * x + -0.0520854
Response type: Internal Std (Ref 47), 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	200710M1_3	Standard	0.250	1.34	66.733	3935.627	0.212	0.2	-25.4	NO	1.000	NO	MM
2	2	200710M1_4	Standard	0.500	1.34	230.031	4166.241	0.690	0.5	4.8	NO	1.000	NO	MM
3	3	200710M1_5	Standard	1.000	1.34	421.358	3713.091	1.418	1.0	3.8	NO	1.000	NO	MM
4	4	200710M1_6	Standard	2.000	1.34	929.061	3940.130	2.947	2.1	5.9	NO	1.000	NO	MM
5	5	200710M1_7	Standard	5.000	1.34	2544.644	4519.553	7.038	5.0	0.1	NO	1.000	NO	MM
6	6	200710M1_8	Standard	10.000	1.34	4624.803	4293.367	13.465	9.5	-4.6	NO	1.000	NO	MM
7	7	200710M1_9	Standard	50.000	1.34	24502.656	4322.520	70.858	50.1	0.1	NO	1.000	NO	MM
8	8	200710M1_10	Standard	100.000	1.34	49199.707	4314.523	142.541	100.6	0.6	NO	1.000	NO	MM
9	9	200710M1_11	Standard	250.000	1.34	123516.461	4361.689	353.981	249.6	-0.2	NO	1.000	NO	MM
10	10	200710M1_12	Standard	500.000	1.34	235926.375	4149.832	710.650	500.1	0.0	NO	1.000	NO	MM

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999852
Calibration curve: 0.000246536 * x^2 + 1.80116 * x + -0.161006
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	200710M1_3	Standard	0.250	1.67	43.885	1462.606	0.375	0.3	19.0	NO	1.000	NO	MM
2	2	200710M1_4	Standard	0.500	1.67	99.709	1639.901	0.760	0.5	2.3	NO	1.000	NO	MM
3	3	200710M1_5	Standard	1.000	1.67	207.923	1543.070	1.684	1.0	2.4	NO	1.000	NO	MM
4	4	200710M1_6	Standard	2.000	1.67	391.451	1672.751	2.925	1.7	-14.3	NO	1.000	NO	MM
5	5	200710M1_7	Standard	5.000	1.67	1206.257	1801.617	8.369	4.7	-5.3	NO	1.000	NO	MM
6	6	200710M1_8	Standard	10.000	1.67	2243.366	1616.580	17.347	9.7	-2.9	NO	1.000	NO	MM
7	7	200710M1_9	Standard	50.000	1.67	12017.406	1703.586	88.177	48.7	-2.6	NO	1.000	NO	MM
8	8	200710M1_10	Standard	100.000	1.67	22953.584	1563.162	183.551	100.6	0.6	NO	1.000	NO	bb
9	9	200710M1_11	Standard	250.000	1.67	56076.371	1489.329	470.651	252.7	1.1	NO	1.000	NO	bb
10	10	200710M1_12	Standard	500.000	1.68	107808.367	1404.460	959.518	498.8	-0.2	NO	1.000	NO	MM

QV 07/10/20

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999290
Calibration curve: -8.79981e-005 * x^2 + 0.0645033 * x + -0.00415579
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	200710M1_3	Standard	0.250	2.12	6.786	6922.766	0.012	0.3	1.8	NO	0.999	NO	MMX
2	2	200710M1_4	Standard	0.500	2.13	1.289	6864.322	0.002	0.1	-79.8	YES	0.999	NO	MMX
3	3	200710M1_5	Standard	1.000	2.14	37.534	6816.714	0.069	1.1	13.3	NO	0.999	NO	MM
4	4	200710M1_6	Standard	2.000	2.15	65.840	6959.054	0.118	1.9	-4.9	NO	0.999	NO	MM
5	5	200710M1_7	Standard	5.000	2.15	169.550	7304.222	0.290	4.6	-8.2	NO	0.999	NO	bb
6	6	200710M1_8	Standard	10.000	2.15	332.764	6718.425	0.619	9.8	-2.1	NO	0.999	NO	bb
7	7	200710M1_9	Standard	50.000	2.15	1659.220	6758.002	3.069	51.2	2.4	NO	0.999	NO	bb
8	8	200710M1_10	Standard	100.000	2.15	2932.142	6622.012	5.535	99.3	-0.7	NO	0.999	NO	bb
9	9	200710M1_11	Standard	250.000	2.15	1739.083	6572.442	3.308	55.6	-77.8	YES	0.999	NO	bbX
10	10	200710M1_12	Standard	500.000	2.15	3059.302	6524.354	5.861	106.4	-78.7	YES	0.999	NO	bbX

Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999947
Calibration curve: -0.000143835 * x^2 + 0.950258 * x + 4.5513e-005
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200710M1_3	Standard	0.250	2.28	134.381	6922.766	0.243	0.3	2.1	NO	1.000	NO	bb
2	2	200710M1_4	Standard	0.500	2.29	244.350	6864.322	0.445	0.5	-6.4	NO	1.000	NO	bb
3	3	200710M1_5	Standard	1.000	2.29	576.433	6816.714	1.057	1.1	11.2	NO	1.000	NO	MM
4	4	200710M1_6	Standard	2.000	2.29	1060.492	6959.054	1.905	2.0	0.3	NO	1.000	NO	bb
5	5	200710M1_7	Standard	5.000	2.29	2609.569	7304.222	4.466	4.7	-5.9	NO	1.000	NO	bb
6	6	200710M1_8	Standard	10.000	2.29	4987.636	6718.425	9.280	9.8	-2.2	NO	1.000	NO	MM
7	7	200710M1_9	Standard	50.000	2.29	25750.555	6758.002	47.630	50.5	1.0	NO	1.000	NO	bb
8	8	200710M1_10	Standard	100.000	2.29	49471.145	6622.012	93.384	99.8	-0.2	NO	1.000	NO	bb
9	9	200710M1_11	Standard	250.000	2.29	120321.406	6572.442	228.837	250.3	0.1	NO	1.000	NO	bb
10	10	200710M1_12	Standard	500.000	2.29	229155.656	6524.354	439.039	499.8	-0.0	NO	1.000	NO	bb

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.999879
Calibration curve: -4.61534e-006 * x^2 + 2.03363 * x + -0.0631009
Response type: Internal Std (Ref 51), 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 200710M1_3	Standard	0.250	2.58	53.355	1462.606	0.456	0.3	2.1	NO	1.000	NO	MM
2	2 200710M1_4	Standard	0.500	2.58	115.070	1639.901	0.877	0.5	-7.5	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	2.58	228.639	1543.070	1.852	0.9	-5.8	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	2.58	532.631	1672.751	3.980	2.0	-0.6	NO	1.000	NO	bb
5	5 200710M1_7	Standard	5.000	2.57	1377.705	1801.617	9.559	4.7	-5.4	NO	1.000	NO	bb
6	6 200710M1_8	Standard	10.000	2.57	2789.111	1616.580	21.566	10.6	6.4	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	2.58	13484.318	1703.586	98.941	48.7	-2.6	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	2.57	25673.133	1563.162	205.298	101.0	1.0	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	2.57	60591.359	1489.329	508.546	250.2	0.1	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	2.58	114063.648	1404.460	1015.191	499.8	-0.0	NO	1.000	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999504
Calibration curve: -0.00047368 * x^2 + 2.62599 * x + -0.012296
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 200710M1_3	Standard	0.250	3.02	110.039	2540.447	0.541	0.2	-15.7	NO	1.000	NO	MM
2	2 200710M1_4	Standard	0.500	3.02	284.768	2671.546	1.332	0.5	2.4	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	3.02	485.809	2674.974	2.270	0.9	-13.1	NO	1.000	NO	MM
4	4 200710M1_6	Standard	2.000	3.02	1234.369	2697.598	5.720	2.2	9.2	NO	1.000	NO	bb
5	5 200710M1_7	Standard	5.000	3.02	3098.574	2752.759	14.070	5.4	7.4	NO	1.000	NO	bb
6	6 200710M1_8	Standard	10.000	3.02	5791.120	2480.661	29.181	11.1	11.4	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	3.02	25219.197	2450.821	128.626	49.4	-1.1	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	3.02	48108.559	2421.802	248.310	96.2	-3.8	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	3.02	102829.438	2018.117	636.914	254.2	1.7	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	3.02	189032.469	1983.088	1191.528	498.6	-0.3	NO	1.000	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.999570
Calibration curve: -0.00026069 * x^2 + 1.1461 * x + 0.0210736
Response type: Internal Std (Ref 57), 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 200710M1_3	Standard	0.250	3.10	290.725	12331.943	0.295	0.2	-4.5	NO	1.000	NO	MM
2	2 200710M1_4	Standard	0.500	3.11	609.781	12777.548	0.597	0.5	0.4	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	3.11	1261.500	12358.052	1.276	1.1	9.5	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	3.10	2243.920	12846.003	2.183	1.9	-5.6	NO	1.000	NO	MM
5	5 200710M1_7	Standard	5.000	3.11	6099.404	13343.991	5.714	5.0	-0.5	NO	1.000	NO	MM
6	6 200710M1_8	Standard	10.000	3.11	11584.670	12644.174	11.453	10.0	-0.0	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	3.11	55590.113	12498.887	55.595	49.0	-1.9	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	3.11	109423.203	11693.957	116.966	104.5	4.5	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	3.11	249612.719	11800.067	264.419	244.3	-2.3	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	3.11	476708.344	11685.472	509.937	502.3	0.5	NO	1.000	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999168
Calibration curve: -0.000575203 * x^2 + 2.28911 * x + 0.195238
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 200710M1_3	Standard	0.250	3.31	92.029	1462.606	0.787	0.3	3.3	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	3.31	150.774	1639.901	1.149	0.4	-16.6	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	3.31	350.052	1543.070	2.836	1.2	15.4	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	3.31	632.024	1672.751	4.723	2.0	-1.1	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	3.31	1611.946	1801.617	11.184	4.8	-3.9	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	3.31	3064.511	1616.580	23.696	10.3	2.9	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	3.31	14831.319	1703.586	108.824	48.0	-3.9	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	3.31	29595.922	1563.162	236.667	106.1	6.1	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	3.31	62245.121	1489.329	522.426	243.0	-2.8	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	3.31	113004.578	1404.460	1005.765	502.8	0.6	NO	0.999	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999320
Calibration curve: -0.000287356 * x^2 + 0.945682 * x + -0.0369496
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	0.250	3.32	14.162	1156.504	0.153	0.2	-19.6	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	3.33	42.497	1172.788	0.453	0.5	3.6	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	3.33	77.053	1117.828	0.862	1.0	-5.0	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	3.32	165.828	1051.131	1.972	2.1	6.3	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	3.32	421.219	1141.804	4.611	4.9	-1.5	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	3.32	707.940	967.892	9.143	9.7	-2.6	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	3.32	3655.411	915.355	49.918	53.7	7.4	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	3.33	7159.278	1023.153	87.466	95.3	-4.7	NO	0.999	NO	MM
9	9 200710M1_11	Standard	250.000	3.33	16344.226	930.439	219.577	251.4	0.6	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	3.33	30080.029	937.906	400.893	499.9	-0.0	NO	0.999	NO	bb

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999435
Calibration curve: -0.000197121 * x^2 + 0.316955 * x + -0.000397296
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	0.250	3.66	41.508	6550.741	0.079	0.3	0.5	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	3.66	94.659	7407.362	0.160	0.5	1.1	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	3.66	197.279	7215.534	0.342	1.1	8.0	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	3.66	359.570	7641.392	0.588	1.9	-7.0	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	3.66	920.303	7958.843	1.445	4.6	-8.5	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	3.66	1882.382	7072.405	3.327	10.6	5.7	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	3.66	9150.386	7464.814	15.323	49.9	-0.2	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	3.66	16110.190	6773.646	29.730	100.0	0.0	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	3.66	9112.609	6870.986	16.578	54.1	-78.3	YES	0.999	NO	bbX
10	10 200710M1_12	Standard	500.000	3.66	16970.203	6670.743	31.800	107.5	-78.5	YES	0.999	NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999343
Calibration curve: -0.000272242 * x^2 + 1.2607 * x + 0.0439884
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 200710M1_3	Standard	0.250	3.71	162.161	6550.741	0.309	0.2	-15.8	NO	0.999	NO	MM
2	2 200710M1_4	Standard	0.500	3.72	446.130	7407.362	0.753	0.6	12.5	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	3.72	673.142	7215.534	1.166	0.9	-11.0	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	3.72	1670.602	7641.392	2.733	2.1	6.7	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	3.72	4103.208	7958.843	6.444	5.1	1.6	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	3.72	7511.879	7072.405	13.277	10.5	5.2	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	3.72	36721.859	7464.814	61.492	49.3	-1.5	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	3.72	69978.508	6773.646	129.137	104.8	4.8	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	3.72	158879.594	6870.986	289.041	241.9	-3.3	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	3.72	301967.250	6670.743	565.843	503.6	0.7	NO	0.999	NO	bb

Compound name: ADONA
Coefficient of Determination: R^2 = 0.998881
Calibration curve: -0.000821812 * x^2 + 4.96814 * x + 0.0937607
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 200710M1_3	Standard	0.250	3.82	690.747	6550.741	1.318	0.2	-1.4	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	3.83	1583.986	7407.362	2.673	0.5	3.8	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	3.83	2856.284	7215.534	4.948	1.0	-2.3	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	3.83	6019.045	7641.392	9.846	2.0	-1.8	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	3.83	15532.434	7958.843	24.395	4.9	-2.1	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	3.83	28530.031	7072.405	50.425	10.1	1.5	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	3.83	145067.750	7464.814	242.919	49.3	-1.4	NO	0.999	NO	MM
8	8 200710M1_10	Standard	100.000	3.83	283394.781	6773.646	522.973	107.1	7.1	NO	0.999	NO	MM
9	9 200710M1_11	Standard	250.000	3.83	627889.750	6870.986	1142.285	239.4	-4.2	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	3.83	1225516.875	6670.743	2296.440	504.3	0.9	NO	0.999	NO	MM

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999447
Calibration curve: -0.00024976 * x^2 + 1.11253 * x + -0.0182313
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 200710M1_3	Standard	0.250	3.86	81.636	3792.904	0.269	0.3	3.3	NO	0.999	NO	MM
2	2 200710M1_4	Standard	0.500	3.86	149.286	3609.121	0.517	0.5	-3.8	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	3.86	348.169	3616.578	1.203	1.1	9.8	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	3.86	542.475	3762.590	1.802	1.6	-18.2	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	3.86	1704.763	3747.042	5.687	5.1	2.7	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	3.86	3272.547	3601.951	11.357	10.2	2.5	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	3.86	15643.894	3431.595	56.985	51.8	3.7	NO	0.999	NO	MM
8	8 200710M1_10	Standard	100.000	3.86	30593.908	3435.717	111.308	102.4	2.4	NO	0.999	NO	MM
9	9 200710M1_11	Standard	250.000	3.86	72206.586	3545.585	254.565	242.0	-3.2	NO	0.999	NO	MM
10	10 200710M1_12	Standard	500.000	3.87	132040.531	3320.560	497.057	503.8	0.8	NO	0.999	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998674
Calibration curve: 0.000259877 * x^2 + 2.65032 * x + 0.19922
Response type: Internal Std (Ref 63), 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 200710M1_3	Standard	0.250	4.17	129.392	2299.710	0.703	0.2	-23.9	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	4.17	272.517	2304.150	1.478	0.5	-3.5	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	4.17	525.129	2297.801	2.857	1.0	0.3	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	4.18	1192.061	2258.296	6.598	2.4	20.7	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	4.18	2892.842	2217.837	16.304	6.1	21.5	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	4.18	5193.604	2183.202	29.736	11.1	11.3	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	4.18	25118.691	2183.743	143.782	53.9	7.8	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	4.18	47643.996	2245.670	265.199	99.0	-1.0	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	4.18	109765.055	2107.125	651.154	240.0	-4.0	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	4.18	185769.422	1654.341	1403.651	504.6	0.9	NO	0.999	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999514
Calibration curve: -0.000256585 * x^2 + 1.42034 * x + 0.107722
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 200710M1_3	Standard	0.250	4.23	530.026	14277.671	0.464	0.3	0.4	NO	1.000	NO	bb
2	2 200710M1_4	Standard	0.500	4.23	1011.638	16455.791	0.768	0.5	-7.0	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	4.23	1950.740	16294.177	1.497	1.0	-2.2	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	4.23	3848.875	16542.689	2.908	2.0	-1.4	NO	1.000	NO	MM
5	5 200710M1_7	Standard	5.000	4.23	10250.494	16329.649	7.847	5.5	9.1	NO	1.000	NO	bb
6	6 200710M1_8	Standard	10.000	4.23	17718.773	15497.129	14.292	10.0	0.0	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	4.23	83706.383	14978.509	69.855	49.5	-0.9	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	4.23	167700.516	14427.123	145.300	104.2	4.2	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	4.23	377601.156	14299.716	330.077	243.0	-2.8	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	4.23	681542.563	13115.018	649.582	503.0	0.6	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999036
Calibration curve: 2.10609e-005 * x^2 + 0.438107 * x + -0.0479398
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 200710M1_3	Standard	0.250	4.25	88.559	14277.671	0.078	0.3	14.6	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	4.25	213.690	16455.791	0.162	0.5	-4.0	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	4.25	409.169	16294.177	0.314	0.8	-17.4	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	4.25	1152.700	16542.689	0.871	2.1	4.9	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	4.25	2839.762	16329.649	2.174	5.1	1.4	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	4.24	5157.201	15497.129	4.160	9.6	-4.0	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	4.25	26825.711	14978.509	22.387	51.1	2.2	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	4.25	53715.949	14427.123	46.541	105.8	5.8	NO	0.999	NO	MM
9	9 200710M1_11	Standard	250.000	4.25	121450.797	14299.716	106.165	239.7	-4.1	NO	0.999	NO	MM
10	10 200710M1_12	Standard	500.000	4.25	237148.703	13115.018	226.028	503.8	0.8	NO	0.999	NO	MM

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFHpS
Correlation coefficient: r = 0.995752, r^2 = 0.991522
Calibration curve: 0.825285 * x + 0.0277791
Response type: Internal Std (Ref 73), 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	200710M1_3	Standard	0.250	4.33	79.435	4016.799	0.247	0.3	6.3	NO	0.992	NO	bb
2	2	200710M1_4	Standard	0.500	4.34	112.345	4317.018	0.325	0.4	-27.9	NO	0.992	NO	bb
3	3	200710M1_5	Standard	1.000	4.34	260.925	4045.730	0.806	0.9	-5.7	NO	0.992	NO	bb
4	4	200710M1_6	Standard	2.000	4.34	589.981	4104.330	1.797	2.1	7.2	NO	0.992	NO	bb
5	5	200710M1_7	Standard	5.000	4.34	1539.272	4617.917	4.167	5.0	0.3	NO	0.992	NO	MM
6	6	200710M1_8	Standard	10.000	4.34	2962.999	4003.983	9.250	11.2	11.7	NO	0.992	NO	MM
7	7	200710M1_9	Standard	50.000	4.34	14304.768	4044.961	44.206	53.5	7.1	NO	0.992	NO	bb
8	8	200710M1_10	Standard	100.000	4.34	29420.723	3928.497	93.613	113.4	13.4	NO	0.992	NO	MM
9	9	200710M1_11	Standard	250.000	4.34	64020.664	3549.547	225.454	273.1	9.3	NO	0.992	NO	bb
10	10	200710M1_12	Standard	500.000	4.34	116744.445	3854.036	378.643	458.8	-8.2	NO	0.992	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.998982
Calibration curve: -0.000845999 * x^2 + 0.351995 * x + -0.0482618
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	200710M1_3	Standard	0.250	4.65	66.504	13417.173	0.062	0.3	25.3	NO	0.999	NO	bb
2	2	200710M1_4	Standard	0.500	4.65	131.332	13700.702	0.120	0.5	-4.4	NO	0.999	NO	bb
3	3	200710M1_5	Standard	1.000	4.65	297.234	12988.686	0.286	1.0	-4.8	NO	0.999	NO	bb
4	4	200710M1_6	Standard	2.000	4.65	667.056	14156.376	0.589	1.8	-9.1	NO	0.999	NO	bb
5	5	200710M1_7	Standard	5.000	4.65	1776.896	14308.128	1.552	4.6	-8.0	NO	0.999	NO	bb
6	6	200710M1_8	Standard	10.000	4.65	3269.312	12240.487	3.339	9.9	-1.4	NO	0.999	NO	MM
7	7	200710M1_9	Standard	50.000	4.65	16474.527	12939.680	15.915	51.8	3.6	NO	0.999	NO	bb
8	8	200710M1_10	Standard	100.000	4.65	27686.250	13076.647	26.465	98.8	-1.2	NO	0.999	NO	bb
9	9	200710M1_11	Standard	250.000	4.65	16109.485	13239.136	15.210	49.2	-80.3	YES	0.999	NO	bbX
10	10	200710M1_12	Standard	500.000	4.65	28079.953	11736.456	29.907	119.3	-76.1	YES	0.999	NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999936
Calibration curve: -0.000674276 * x^2 + 1.31353 * x + -0.0181944
Response type: Internal Std (Ref 65), 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 200710M1_3	Standard	0.250	4.66	258.256	13417.173	0.241	0.2	-21.2	NO	1.000	NO	bb
2	2 200710M1_4	Standard	0.500	4.66	736.145	13700.702	0.672	0.5	5.1	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	4.66	1454.117	12988.686	1.399	1.1	8.0	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	4.66	2992.534	14156.376	2.642	2.0	1.4	NO	1.000	NO	MM
5	5 200710M1_7	Standard	5.000	4.67	7562.753	14308.128	6.607	5.1	1.1	NO	1.000	NO	bb
6	6 200710M1_8	Standard	10.000	4.66	12845.026	12240.487	13.117	10.1	0.5	NO	1.000	NO	MM
7	7 200710M1_9	Standard	50.000	4.66	65943.070	12939.680	63.702	49.8	-0.4	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	4.67	130295.109	13076.647	124.549	100.0	-0.0	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	4.67	303217.031	13239.136	286.289	250.1	0.0	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	4.67	569020.375	11736.456	606.039	750.6	50.1	YES	1.000	NO	bbX

Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999396
Calibration curve: -0.000260279 * x^2 + 1.00977 * x + -0.115907
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 200710M1_3	Standard	0.250	4.71	112.585	4843.123	0.291	0.4	61.0	YES	0.999	NO	bbX
2	2 200710M1_4	Standard	0.500	4.71	119.735	5289.533	0.283	0.4	-21.0	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	4.71	396.184	5035.820	0.983	1.1	8.9	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	4.71	873.642	5078.796	2.150	2.2	12.3	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	4.71	2191.653	5586.744	4.904	5.0	-0.5	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	4.71	3714.627	4857.652	9.559	9.6	-4.0	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	4.71	20317.533	4906.417	51.763	52.1	4.2	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	4.71	38055.160	4720.552	100.770	102.6	2.6	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	4.71	87934.195	4805.584	228.729	241.7	-3.3	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	4.71	166280.297	4695.439	442.664	504.0	0.8	NO	0.999	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999556
Calibration curve: -0.00030804 * x^2 + 1.12631 * x + -0.0940027
Response type: Internal Std (Ref 73), 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 200710M1_3	Standard	0.250	4.75	72.708	4016.799	0.226	0.3	13.7	NO	1.000	NO	bb
2	2 200710M1_4	Standard	0.500	4.75	158.346	4317.018	0.458	0.5	-1.9	NO	1.000	NO	MM
3	3 200710M1_5	Standard	1.000	4.75	303.741	4045.730	0.938	0.9	-8.3	NO	1.000	NO	MM
4	4 200710M1_6	Standard	2.000	4.75	528.087	4104.330	1.608	1.5	-24.4	NO	1.000	NO	MM
5	5 200710M1_7	Standard	5.000	4.75	1888.470	4617.917	5.112	4.6	-7.4	NO	1.000	NO	MM
6	6 200710M1_8	Standard	10.000	4.75	3399.567	4003.983	10.613	9.5	-4.7	NO	1.000	NO	MM
7	7 200710M1_9	Standard	50.000	4.75	17682.842	4044.961	54.645	49.3	-1.5	NO	1.000	NO	MM
8	8 200710M1_10	Standard	100.000	4.75	34192.793	3928.497	108.797	99.4	-0.6	NO	1.000	NO	MM
9	9 200710M1_11	Standard	250.000	4.75	76050.367	3549.547	267.817	255.8	2.3	NO	1.000	NO	MM
10	10 200710M1_12	Standard	500.000	4.75	149069.453	3854.036	483.485	496.9	-0.6	NO	1.000	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999534
Calibration curve: -0.00190611 * x^2 + 4.04208 * x + -0.229846
Response type: Internal Std (Ref 73), 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 200710M1_3	Standard	0.250	4.96	240.650	4016.799	0.749	0.2	-3.1	NO	1.000	NO	bb
2	2 200710M1_4	Standard	0.500	4.96	640.288	4317.018	1.854	0.5	3.1	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	4.96	1309.816	4045.730	4.047	1.1	5.9	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	4.96	2336.373	4104.330	7.116	1.8	-9.1	NO	1.000	NO	bd
5	5 200710M1_7	Standard	5.000	4.97	6030.456	4617.917	16.324	4.1	-17.9	NO	1.000	NO	bd
6	6 200710M1_8	Standard	10.000	4.97	12715.430	4003.983	39.696	9.9	-0.8	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	4.97	61729.188	4044.961	190.760	48.4	-3.3	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	4.97	122768.234	3928.497	390.634	101.6	1.6	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	4.97	256165.656	3549.547	902.107	253.6	1.4	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	4.97	474307.938	3854.036	1538.348	497.2	-0.6	NO	1.000	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998649
Calibration curve: -0.000118415 * x^2 + 1.39555 * x + 0.0570639
Response type: Internal Std (Ref 75), 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 200710M1_3	Standard	0.250	5.04	398.983	13442.098	0.371	0.2	-10.0	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	5.04	790.603	14568.441	0.678	0.4	-11.0	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	5.04	1749.413	13861.643	1.578	1.1	9.0	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	5.04	3560.953	15115.894	2.945	2.1	3.5	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	5.04	9336.659	15475.571	7.541	5.4	7.3	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	5.04	16851.891	13407.576	15.711	11.2	12.3	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	5.04	86280.031	14021.146	76.920	55.3	10.7	NO	0.999	NO	MM
8	8 200710M1_10	Standard	100.000	5.04	162790.328	15112.368	134.650	97.2	-2.8	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	5.04	360732.531	13675.665	329.721	241.2	-3.5	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	5.04	685056.500	12702.835	674.118	504.6	0.9	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998816
Calibration curve: -0.000623596 * x^2 + 2.3592 * x + 0.189047
Response type: Internal Std (Ref 77), 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 200710M1_3	Standard	0.250	5.01	134.419	2389.899	0.703	0.2	-12.8	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	5.01	254.620	2845.570	1.118	0.4	-21.2	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	5.01	447.734	2558.303	2.188	0.8	-15.3	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	5.01	1071.302	2280.495	5.872	2.4	20.5	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	5.01	2798.987	2507.514	13.953	5.8	16.9	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	5.01	5056.735	2445.566	25.846	10.9	9.1	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	5.01	21127.793	2150.289	122.819	52.7	5.4	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	5.01	45416.531	2455.597	231.189	100.6	0.6	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	5.01	96379.141	2277.211	529.042	239.3	-4.3	NO	0.999	NO	MM
10	10 200710M1_12	Standard	500.000	5.01	171740.000	2076.310	1033.926	505.8	1.2	NO	0.999	NO	MM

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998302
Calibration curve: -0.00052154 * x^2 + 1.1076 * x + -0.146876
Response type: Internal Std (Ref 73), 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 200710M1_3	Standard	0.250	5.10	65.819	4016.799	0.205	0.3	27.0	NO	0.998	NO	MM
2	2 200710M1_4	Standard	0.500	5.10	131.829	4317.018	0.382	0.5	-4.5	NO	0.998	NO	MM
3	3 200710M1_5	Standard	1.000	5.10	335.228	4045.730	1.036	1.1	6.8	NO	0.998	NO	bb
4	4 200710M1_6	Standard	2.000	5.10	731.774	4104.330	2.229	2.1	7.3	NO	0.998	NO	MM
5	5 200710M1_7	Standard	5.000	5.10	1484.452	4617.917	4.018	3.8	-24.7	NO	0.998	NO	bb
6	6 200710M1_8	Standard	10.000	5.10	3194.857	4003.983	9.974	9.2	-8.2	NO	0.998	NO	MM
7	7 200710M1_9	Standard	50.000	5.10	15903.647	4044.961	49.146	45.5	-9.0	NO	0.998	NO	bb
8	8 200710M1_10	Standard	100.000	5.10	34006.188	3928.497	108.204	102.8	2.8	NO	0.998	NO	bb
9	9 200710M1_11	Standard	250.000	5.11	71605.227	3549.547	252.163	259.5	3.8	NO	0.998	NO	bb
10	10 200710M1_12	Standard	500.000	5.10	129252.234	3854.036	419.211	493.1	-1.4	NO	0.998	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.998309
Calibration curve: -0.000239175 * x^2 + 0.935552 * x + -0.0375117
Response type: Internal Std (Ref 79), 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 200710M1_3	Standard	0.250	5.19	178.820	10954.634	0.204	0.3	3.3	NO	0.998	NO	MM
2	2 200710M1_4	Standard	0.500	5.19	356.641	11644.225	0.383	0.4	-10.1	NO	0.998	NO	MM
3	3 200710M1_5	Standard	1.000	5.19	757.984	11232.864	0.843	0.9	-5.8	NO	0.998	NO	MM
4	4 200710M1_6	Standard	2.000	5.19	1700.895	12110.571	1.756	1.9	-4.1	NO	0.998	NO	MM
5	5 200710M1_7	Standard	5.000	5.19	4492.184	12633.780	4.445	4.8	-4.1	NO	0.998	NO	MM
6	6 200710M1_8	Standard	10.000	5.19	8549.503	11548.598	9.254	10.0	-0.4	NO	0.998	NO	MM
7	7 200710M1_9	Standard	50.000	5.19	41491.348	11019.461	47.066	51.0	2.0	NO	0.998	NO	MM
8	8 200710M1_10	Standard	100.000	5.19	83654.766	10669.782	98.004	107.8	7.8	NO	0.998	NO	MM
9	9 200710M1_11	Standard	250.000	5.19	189003.734	11411.650	207.029	235.5	-5.8	NO	0.998	NO	MM
10	10 200710M1_12	Standard	500.000	5.19	326192.563	9886.631	412.416	506.4	1.3	NO	0.998	NO	MM

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.998741
Calibration curve: -7.92519e-005 * x^2 + 0.962993 * x + -0.0735279
Response type: Internal Std (Ref 83), 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	200710M1_3	Standard	0.250	5.35	125.425	10497.614	0.149	0.2	-7.4	NO	0.999	NO	bb
2	2	200710M1_4	Standard	0.500	5.35	389.746	10918.964	0.446	0.5	7.9	NO	0.999	NO	MM
3	3	200710M1_5	Standard	1.000	5.35	803.623	10596.396	0.948	1.1	6.1	NO	0.999	NO	MM
4	4	200710M1_6	Standard	2.000	5.35	1663.702	11203.441	1.856	2.0	0.2	NO	0.999	NO	MM
5	5	200710M1_7	Standard	5.000	5.35	3335.802	9346.908	4.461	4.7	-5.8	NO	0.999	NO	MM
6	6	200710M1_8	Standard	10.000	5.35	7590.681	10841.038	8.752	9.2	-8.3	NO	0.999	NO	MM
7	7	200710M1_9	Standard	50.000	5.35	40910.879	10092.870	50.668	52.9	5.8	NO	0.999	NO	MM
8	8	200710M1_10	Standard	100.000	5.35	77204.398	9617.096	100.348	105.2	5.2	NO	0.999	NO	MM
9	9	200710M1_11	Standard	250.000	5.35	160855.047	8945.053	224.782	238.2	-4.7	NO	0.999	NO	MM
10	10	200710M1_12	Standard	500.000	5.35	290085.938	7784.006	465.837	504.8	1.0	NO	0.999	NO	MM

Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999590
Calibration curve: -0.000152795 * x^2 + 0.92475 * x + 0.0251359
Response type: Internal Std (Ref 81), 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	200710M1_3	Standard	0.250	5.36	372.597	20493.672	0.227	0.2	-12.6	NO	1.000	NO	MM
2	2	200710M1_4	Standard	0.500	5.36	933.076	21381.486	0.545	0.6	12.6	NO	1.000	NO	MM
3	3	200710M1_5	Standard	1.000	5.36	1672.764	21812.543	0.959	1.0	1.0	NO	1.000	NO	bb
4	4	200710M1_6	Standard	2.000	5.36	3490.311	21020.635	2.076	2.2	10.9	NO	1.000	NO	MM
5	5	200710M1_7	Standard	5.000	5.36	8679.955	24521.430	4.425	4.8	-4.8	NO	1.000	NO	bb
6	6	200710M1_8	Standard	10.000	5.36	16645.529	22243.213	9.354	10.1	1.1	NO	1.000	NO	MM
7	7	200710M1_9	Standard	50.000	5.36	80720.461	20737.066	48.657	53.1	6.1	NO	1.000	NO	bb
8	8	200710M1_10	Standard	100.000	5.36	153196.953	21737.885	88.093	96.8	-3.2	NO	1.000	NO	bb
9	9	200710M1_11	Standard	250.000	5.36	328335.688	18567.586	221.041	249.3	-0.3	NO	1.000	NO	bb
10	10	200710M1_12	Standard	500.000	5.36	546272.188	16074.021	424.810	500.8	0.2	NO	1.000	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998060
Calibration curve: -0.00048137 * x^2 + 0.961776 * x + -0.0610643
Response type: Internal Std (Ref 73), 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	200710M1_3	Standard	0.250	5.41	66.552	4016.799	0.207	0.3	11.5	NO	0.998	NO	bb
2	2	200710M1_4	Standard	0.500	5.41	116.748	4317.018	0.338	0.4	-17.0	NO	0.998	NO	bb
3	3	200710M1_5	Standard	1.000	5.41	318.874	4045.730	0.985	1.1	8.8	NO	0.998	NO	MM
4	4	200710M1_6	Standard	2.000	5.41	607.940	4104.330	1.852	2.0	-0.5	NO	0.998	NO	MM
5	5	200710M1_7	Standard	5.000	5.41	1434.951	4617.917	3.884	4.1	-17.8	NO	0.998	NO	bb
6	6	200710M1_8	Standard	10.000	5.41	2828.567	4003.983	8.830	9.3	-7.1	NO	0.998	NO	bb
7	7	200710M1_9	Standard	50.000	5.41	14614.271	4044.961	45.162	48.2	-3.6	NO	0.998	NO	MM
8	8	200710M1_10	Standard	100.000	5.41	27429.479	3928.497	87.277	95.4	-4.6	NO	0.998	NO	bb
9	9	200710M1_11	Standard	250.000	5.41	63239.242	3549.547	222.702	267.4	7.0	NO	0.998	NO	bb
10	10	200710M1_12	Standard	500.000	5.41	109539.609	3854.036	355.276	489.3	-2.1	NO	0.998	NO	bb

Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.999828
Calibration curve: -2.32285e-005 * x^2 + 0.57308 * x + 0.0061204
Response type: Internal Std (Ref 85), 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	200710M1_3	Standard	0.250	5.57	302.567	24073.232	0.157	0.3	5.4	NO	1.000	NO	bb
2	2	200710M1_4	Standard	0.500	5.58	545.153	24921.693	0.273	0.5	-6.7	NO	1.000	NO	MM
3	3	200710M1_5	Standard	1.000	5.58	1112.468	24558.652	0.566	1.0	-2.3	NO	1.000	NO	bb
4	4	200710M1_6	Standard	2.000	5.57	2416.091	24899.352	1.213	2.1	5.3	NO	1.000	NO	bb
5	5	200710M1_7	Standard	5.000	5.58	5874.976	26714.104	2.749	4.8	-4.3	NO	1.000	NO	bb
6	6	200710M1_8	Standard	10.000	5.57	11052.989	24053.232	5.744	10.0	0.2	NO	1.000	NO	MM
7	7	200710M1_9	Standard	50.000	5.58	55109.750	23607.797	29.180	51.0	2.0	NO	1.000	NO	bb
8	8	200710M1_10	Standard	100.000	5.58	107808.641	23200.479	58.085	101.8	1.8	NO	1.000	NO	bb
9	9	200710M1_11	Standard	250.000	5.58	248927.922	22332.650	139.330	245.6	-1.8	NO	1.000	NO	bb
10	10	200710M1_12	Standard	500.000	5.58	460301.375	20423.064	281.729	501.8	0.4	NO	1.000	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999247
Calibration curve: -0.000799537 * x^2 + 3.09734 * x + 0.184904
Response type: Internal Std (Ref 87), 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	200710M1_3	Standard	0.250	5.63	112.846	1628.321	0.866	0.2	-12.0	NO	0.999	NO	bb
2	2	200710M1_4	Standard	0.500	5.64	250.712	1855.766	1.689	0.5	-2.9	NO	0.999	NO	bb
3	3	200710M1_5	Standard	1.000	5.63	450.417	1773.803	3.174	1.0	-3.5	NO	0.999	NO	MM
4	4	200710M1_6	Standard	2.000	5.63	983.052	1815.495	6.768	2.1	6.3	NO	0.999	NO	MM
5	5	200710M1_7	Standard	5.000	5.63	2441.573	1932.571	15.792	5.0	0.9	NO	0.999	NO	bb
6	6	200710M1_8	Standard	10.000	5.63	4459.221	1658.112	33.617	10.8	8.2	NO	0.999	NO	MM
7	7	200710M1_9	Standard	50.000	5.63	20384.791	1618.345	157.451	51.5	2.9	NO	0.999	NO	bb
8	8	200710M1_10	Standard	100.000	5.63	37636.453	1512.567	311.031	103.1	3.1	NO	0.999	NO	bb
9	9	200710M1_11	Standard	250.000	5.63	80267.555	1440.516	696.517	239.6	-4.1	NO	0.999	NO	MM
10	10	200710M1_12	Standard	500.000	5.63	135556.406	1245.305	1360.675	505.1	1.0	NO	0.999	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997575
Calibration curve: -0.000130802 * x^2 + 0.918713 * x + 0.130305
Response type: Internal Std (Ref 85), 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	200710M1_3	Standard	0.250	5.64	782.515	24073.232	0.406	0.3	20.2	NO	0.998	NO	MM
2	2	200710M1_4	Standard	0.500	5.64	1241.562	24921.693	0.623	0.5	7.2	NO	0.998	NO	bb
3	3	200710M1_5	Standard	1.000	5.64	2203.590	24558.652	1.122	1.1	7.9	NO	0.998	NO	bb
4	4	200710M1_6	Standard	2.000	5.64	4082.723	24899.352	2.050	2.1	4.5	NO	0.998	NO	bb
5	5	200710M1_7	Standard	5.000	5.65	10562.299	26714.104	4.942	5.2	4.8	NO	0.998	NO	bb
6	6	200710M1_8	Standard	10.000	5.64	18970.855	24053.232	9.859	10.6	6.1	NO	0.998	NO	bb
7	7	200710M1_9	Standard	50.000	5.65	90685.883	23607.797	48.017	52.5	5.0	NO	0.998	NO	bb
8	8	200710M1_10	Standard	100.000	5.65	179603.953	23200.479	96.767	106.8	6.8	NO	0.998	NO	bb
9	9	200710M1_11	Standard	250.000	5.64	367722.969	22332.650	205.821	231.5	-7.4	NO	0.998	NO	bb
10	10	200710M1_12	Standard	500.000	5.65	707840.375	20423.064	433.236	508.2	1.6	NO	0.998	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999536
Calibration curve: -0.00010704 * x^2 + 1.01201 * x + 0.126569
Response type: Internal Std (Ref 89), 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 200710M1_3	Standard	1.250	5.65	135.092	14548.019	1.385	1.2	-0.5	NO	1.000	NO	MM
2	2 200710M1_4	Standard	2.500	5.65	272.518	14531.883	2.798	2.6	5.6	NO	1.000	NO	bb
3	3 200710M1_5	Standard	5.000	5.66	454.632	14557.134	4.660	4.5	-10.4	NO	1.000	NO	bb
4	4 200710M1_6	Standard	10.000	5.65	1099.230	15152.787	10.823	10.6	5.8	NO	1.000	NO	bb
5	5 200710M1_7	Standard	25.000	5.65	2796.416	15799.208	26.408	26.0	4.2	NO	1.000	NO	bb
6	6 200710M1_8	Standard	50.000	5.65	5165.858	14979.424	51.454	51.0	2.0	NO	1.000	NO	bb
7	7 200710M1_9	Standard	250.000	5.66	26266.316	15063.906	260.154	264.3	5.7	NO	1.000	NO	MM
8	8 200710M1_10	Standard	500.000	5.65	48711.402	15271.780	475.894	496.2	-0.8	NO	1.000	NO	bb
9	9 200710M1_11	Standard	1250.000	5.66	110298.547	15317.784	1074.342	1218.5	-2.5	NO	1.000	NO	bb
10	10 200710M1_12	Standard	2500.000	5.66	200198.813	15954.232	1872.209	2523.3	0.9	NO	1.000	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.998909
Calibration curve: -0.00017419 * x^2 + 0.879908 * x + 0.0115974
Response type: Internal Std (Ref 85), 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 200710M1_3	Standard	0.250	5.89	442.635	24073.232	0.230	0.2	-0.8	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	5.89	890.683	24921.693	0.447	0.5	-1.1	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	5.90	1663.427	24558.652	0.847	0.9	-5.1	NO	0.999	NO	bb
4	4 200710M1_6	Standard	2.000	5.89	3541.189	24899.352	1.778	2.0	0.4	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	5.90	8532.043	26714.104	3.992	4.5	-9.4	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	5.89	18972.008	24053.232	9.859	11.2	12.2	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	5.90	85153.500	23607.797	45.088	51.8	3.5	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	5.90	166142.375	23200.479	89.515	103.9	3.9	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	5.90	357296.469	22332.650	199.985	238.5	-4.6	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	5.90	653794.000	20423.064	400.157	505.3	1.1	NO	0.999	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999096
Calibration curve: -0.000124818 * x^2 + 0.294818 * x + -0.021835
Response type: Internal Std (Ref 91), 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 200710M1_3	Standard	0.250	5.91	83.220	15743.638	0.066	0.3	19.3	NO	0.999	NO	bb
2	2 200710M1_4	Standard	0.500	5.92	171.831	16737.859	0.128	0.5	1.9	NO	0.999	NO	bb
3	3 200710M1_5	Standard	1.000	5.92	265.184	16580.090	0.200	0.8	-24.8	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	5.92	641.473	16415.303	0.488	1.7	-13.4	NO	0.999	NO	MM
5	5 200710M1_7	Standard	5.000	5.92	1833.341	17107.979	1.340	4.6	-7.5	NO	0.999	NO	bb
6	6 200710M1_8	Standard	10.000	5.92	3726.631	16428.244	2.836	9.7	-2.7	NO	0.999	NO	bb
7	7 200710M1_9	Standard	50.000	5.92	18074.967	16917.123	13.356	46.3	-7.4	NO	0.999	NO	MM
8	8 200710M1_10	Standard	100.000	5.92	34835.734	14825.854	29.371	104.3	4.3	NO	0.999	NO	MM
9	9 200710M1_11	Standard	250.000	5.92	76127.344	14296.943	66.559	252.9	1.2	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	5.92	134968.438	14579.149	115.720	497.3	-0.5	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999369
Calibration curve: -0.000626517 * x^2 + 1.59881 * x + -0.0293017
Response type: Internal Std (Ref 91), 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 200710M1_3	Standard	0.250	6.11	465.991	15743.638	0.370	0.2	-0.1	NO	0.999	NO	MM
2	2 200710M1_4	Standard	0.500	6.11	1109.924	16737.859	0.829	0.5	7.4	NO	0.999	NO	MM
3	3 200710M1_5	Standard	1.000	6.11	1995.610	16580.090	1.505	1.0	-4.0	NO	0.999	NO	MM
4	4 200710M1_6	Standard	2.000	6.11	4200.046	16415.303	3.198	2.0	1.0	NO	0.999	NO	bb
5	5 200710M1_7	Standard	5.000	6.11	11009.171	17107.979	8.044	5.1	1.2	NO	0.999	NO	MM
6	6 200710M1_8	Standard	10.000	6.11	20427.986	16428.244	15.543	9.8	-2.2	NO	0.999	NO	MM
7	7 200710M1_9	Standard	50.000	6.11	98208.648	16917.123	72.566	46.2	-7.5	NO	0.999	NO	bb
8	8 200710M1_10	Standard	100.000	6.11	189550.547	14825.854	159.814	104.2	4.2	NO	0.999	NO	bb
9	9 200710M1_11	Standard	250.000	6.11	413357.063	14296.943	361.403	250.7	0.3	NO	0.999	NO	bb
10	10 200710M1_12	Standard	500.000	6.11	748365.313	14579.149	641.640	498.9	-0.2	NO	0.999	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999747
Calibration curve: -4.30747e-005 * x^2 + 0.844691 * x + 0.0171007
Response type: Internal Std (Ref 93), 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	200710M1_3	Standard	1.250	6.08	142.390	22012.160	0.965	1.1	-10.2	NO	1.000	NO	bb
2	2	200710M1_4	Standard	2.500	6.09	322.815	23795.551	2.024	2.4	-4.9	NO	1.000	NO	bb
3	3	200710M1_5	Standard	5.000	6.09	692.213	23320.717	4.429	5.2	4.5	NO	1.000	NO	bb
4	4	200710M1_6	Standard	10.000	6.09	1345.281	23578.830	8.513	10.1	0.6	NO	1.000	NO	bb
5	5	200710M1_7	Standard	25.000	6.09	3687.503	24119.996	22.810	27.0	8.1	NO	1.000	NO	bb
6	6	200710M1_8	Standard	50.000	6.09	6745.126	23280.805	43.228	51.3	2.6	NO	1.000	NO	bb
7	7	200710M1_9	Standard	250.000	6.09	33374.840	23702.346	210.086	251.9	0.8	NO	1.000	NO	bb
8	8	200710M1_10	Standard	500.000	6.09	63475.465	22576.434	419.488	509.9	2.0	NO	1.000	NO	bb
9	9	200710M1_11	Standard	1250.000	6.09	139489.281	21510.168	967.533	1221.5	-2.3	NO	1.000	NO	bb
10	10	200710M1_12	Standard	2500.000	6.09	250137.469	20159.398	1851.271	2513.9	0.6	NO	1.000	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999652
Calibration curve: -8.23874e-005 * x^2 + 0.61175 * x + 0.0968722
Response type: Internal Std (Ref 95), 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	200710M1_3	Standard	0.250	6.43	423.497	22793.398	0.232	0.2	-11.5	NO	1.000	NO	bb
2	2	200710M1_4	Standard	0.500	6.43	773.801	23596.092	0.410	0.5	2.4	NO	1.000	NO	MM
3	3	200710M1_5	Standard	1.000	6.43	1289.330	24315.543	0.663	0.9	-7.5	NO	1.000	NO	bb
4	4	200710M1_6	Standard	2.000	6.43	2653.758	23302.734	1.424	2.2	8.5	NO	1.000	NO	MM
5	5	200710M1_7	Standard	5.000	6.43	6715.601	25521.510	3.289	5.2	4.4	NO	1.000	NO	MM
6	6	200710M1_8	Standard	10.000	6.43	11316.552	22681.816	6.237	10.0	0.5	NO	1.000	NO	bb
7	7	200710M1_9	Standard	50.000	6.43	58319.477	22985.422	31.715	52.1	4.1	NO	1.000	NO	bb
8	8	200710M1_10	Standard	100.000	6.43	105405.336	21564.832	61.098	101.1	1.1	NO	1.000	NO	bb
9	9	200710M1_11	Standard	250.000	6.43	240093.250	20813.043	144.196	243.5	-2.6	NO	1.000	NO	bb
10	10	200710M1_12	Standard	500.000	6.43	460293.469	20050.164	286.964	503.0	0.6	NO	1.000	NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999827
Calibration curve: -0.000181063 * x^2 + 1.09779 * x + -0.0167173
Response type: Internal Std (Ref 95), 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 200710M1_3	Standard	0.250	6.65	481.162	22793.398	0.264	0.3	2.2	NO	1.000	NO	MM
2	2 200710M1_4	Standard	0.500	6.65	1062.238	23596.092	0.563	0.5	5.6	NO	1.000	NO	bb
3	3 200710M1_5	Standard	1.000	6.65	2000.036	24315.543	1.028	1.0	-4.8	NO	1.000	NO	bb
4	4 200710M1_6	Standard	2.000	6.65	4169.089	23302.734	2.236	2.1	2.7	NO	1.000	NO	MM
5	5 200710M1_7	Standard	5.000	6.66	10568.835	25521.510	5.176	4.7	-5.3	NO	1.000	NO	bb
6	6 200710M1_8	Standard	10.000	6.65	19852.383	22681.816	10.941	10.0	-0.0	NO	1.000	NO	bb
7	7 200710M1_9	Standard	50.000	6.65	97545.195	22985.422	53.047	48.7	-2.5	NO	1.000	NO	bb
8	8 200710M1_10	Standard	100.000	6.66	191468.813	21564.832	110.984	102.9	2.9	NO	1.000	NO	bb
9	9 200710M1_11	Standard	250.000	6.65	434955.938	20813.043	261.228	248.1	-0.7	NO	1.000	NO	bb
10	10 200710M1_12	Standard	500.000	6.66	808561.500	20050.164	504.087	500.5	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSE
Coefficient of Determination: R^2 = 0.997248
Calibration curve: 2.19734e-005 * x^2 + 0.901327 * x + 0.545702
Response type: Internal Std (Ref 97), 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 200710M1_3	Standard	1.250	6.30	99.407	9357.001	1.585	1.2	-7.8	NO	0.997	NO	bb
2	2 200710M1_4	Standard	2.500	6.30	166.794	9912.952	2.510	2.2	-12.8	NO	0.997	NO	MM
3	3 200710M1_5	Standard	5.000	6.30	373.077	10709.789	5.197	5.2	3.2	NO	0.997	NO	MM
4	4 200710M1_6	Standard	10.000	6.30	887.450	11043.794	11.989	12.7	26.9	NO	0.997	NO	bb
5	5 200710M1_7	Standard	25.000	6.30	1904.146	10482.954	27.101	29.4	17.8	NO	0.997	NO	bb
6	6 200710M1_8	Standard	50.000	6.30	3634.256	10495.478	51.663	56.6	13.3	NO	0.997	NO	MM
7	7 200710M1_9	Standard	250.000	6.30	17940.258	10478.397	255.448	280.9	12.4	NO	0.997	NO	bb
8	8 200710M1_10	Standard	500.000	6.30	33379.555	10824.942	460.070	503.6	0.7	NO	0.997	NO	bb
9	9 200710M1_11	Standard	1250.000	6.30	91792.109	12665.286	1081.332	1166.0	-6.7	NO	0.997	NO	bb
10	10 200710M1_12	Standard	2500.000	6.30	175855.063	10807.863	2427.638	2536.0	1.4	NO	0.997	NO	MM

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: N-EtFOSE
Coefficient of Determination: R^2 = 0.999176
Calibration curve: -4.04414e-005 * x^2 + 1.17062 * x + 0.010152
Response type: Internal Std (Ref 99), 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 200710M1_3	Standard	1.250	6.45	117.693	10710.533	1.639	1.4	11.4	NO	0.999	NO	bb
2	2 200710M1_4	Standard	2.500	6.45	215.044	11469.369	2.797	2.4	-4.8	NO	0.999	NO	MM
3	3 200710M1_5	Standard	5.000	6.45	449.309	11083.343	6.048	5.2	3.2	NO	0.999	NO	bb
4	4 200710M1_6	Standard	10.000	6.45	916.430	11132.795	12.282	10.5	4.9	NO	0.999	NO	bb
5	5 200710M1_7	Standard	25.000	6.45	2225.792	11678.301	28.436	24.3	-2.8	NO	0.999	NO	MM
6	6 200710M1_8	Standard	50.000	6.45	4073.266	11430.527	53.167	45.5	-9.0	NO	0.999	NO	bb
7	7 200710M1_9	Standard	250.000	6.45	25062.285	13922.996	268.570	231.3	-7.5	NO	0.999	NO	bb
8	8 200710M1_10	Standard	500.000	6.45	44161.926	10856.003	606.942	528.1	5.6	NO	0.999	NO	MM
9	9 200710M1_11	Standard	1250.000	6.45	103911.555	11085.724	1398.520	1248.5	-0.1	NO	0.999	NO	MM
10	10 200710M1_12	Standard	2500.000	6.45	211039.328	11790.723	2670.495	2496.6	-0.1	NO	0.999	NO	bb

Compound name: 13C3-PFBA-EIS
Response Factor: 343.469
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	1.33	3935.627		3935.627	11.5	-8.3	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	1.34	4166.241		4166.241	12.1	-3.0	NO		NO	MMX
3	3 200710M1_5	Standard	12.500	1.34	3713.091		3713.091	10.8	-13.5	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	1.34	3940.130		3940.130	11.5	-8.2	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	1.34	4519.553		4519.553	13.2	5.3	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	1.34	4293.367		4293.367	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	1.34	4322.520		4322.520	12.6	0.7	NO		NO	MMX
8	8 200710M1_10	Standard	12.500	1.34	4314.523		4314.523	12.6	0.5	NO		NO	MMX
9	9 200710M1_11	Standard	12.500	1.34	4361.689		4361.689	12.7	1.6	NO		NO	MMX
10	10 200710M1_12	Standard	12.500	1.34	4149.832		4149.832	12.1	-3.3	NO		NO	MMX

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C3-PFBA-RSD
Response Factor: 0.690586
RRF SD: 0.022654, Relative SD: 3.2804
Response type: Internal Std (Ref 101), 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 200710M1_3	Standard	12.500	1.33	4023.160	5391.804	9.327	13.5	8.0	NO		NO	MM
2	2 200710M1_4	Standard	12.500	1.34	4167.920	6078.002	8.572	12.4	-0.7	NO		NO	MM
3	3 200710M1_5	Standard	12.500	1.34	3953.655	5696.254	8.676	12.6	0.5	NO		NO	bb
4	4 200710M1_6	Standard	12.500	1.34	4040.329	5988.490	8.434	12.2	-2.3	NO		NO	MM
5	5 200710M1_7	Standard	12.500	1.34	4452.504	6765.584	8.226	11.9	-4.7	NO		NO	bb
6	6 200710M1_8	Standard	12.500	1.34	4404.102	6307.443	8.728	12.6	1.1	NO		NO	MM
7	7 200710M1_9	Standard	12.500	1.34	4451.178	6405.342	8.686	12.6	0.6	NO		NO	MM
8	8 200710M1_10	Standard	12.500	1.34	4309.322	6280.037	8.577	12.4	-0.6	NO		NO	MM
9	9 200710M1_11	Standard	12.500	1.34	4498.979	6580.050	8.547	12.4	-1.0	NO		NO	MM
10	10 200710M1_12	Standard	12.500	1.34	4065.691	5943.901	8.550	12.4	-1.0	NO		NO	MM

Compound name: 13C3-PFPeA-EIS
Response Factor: 537.474
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	2.28	6922.766		6922.766	12.9	3.0	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	2.29	6864.322		6864.322	12.8	2.2	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	2.29	6816.714		6816.714	12.7	1.5	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	2.29	6959.054		6959.054	12.9	3.6	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	2.29	7304.222		7304.222	13.6	8.7	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	2.29	6718.425		6718.425	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	2.29	6758.002		6758.002	12.6	0.6	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	2.29	6622.012		6622.012	12.3	-1.4	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	2.29	6572.442		6572.442	12.2	-2.2	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	2.29	6524.354		6524.354	12.1	-2.9	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C3-PFPeA-RSD
Response Factor: 0.469755
RRF SD: 0.022959, Relative SD: 4.88744
Response type: Internal Std (Ref 102), 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 200710M1_3	Standard	12.500	2.28	6923.637	13428.833	6.445	13.7	9.8	NO		NO	MM
2	2 200710M1_4	Standard	12.500	2.29	6864.322	15160.891	5.660	12.0	-3.6	NO		NO	bb
3	3 200710M1_5	Standard	12.500	2.29	6816.714	14984.553	5.686	12.1	-3.2	NO		NO	bb
4	4 200710M1_6	Standard	12.500	2.29	6955.690	15025.654	5.787	12.3	-1.5	NO		NO	MM
5	5 200710M1_7	Standard	12.500	2.29	7304.222	16157.552	5.651	12.0	-3.8	NO		NO	bb
6	6 200710M1_8	Standard	12.500	2.29	6718.425	14859.225	5.652	12.0	-3.8	NO		NO	bb
7	7 200710M1_9	Standard	12.500	2.29	6758.002	14893.404	5.672	12.1	-3.4	NO		NO	bb
8	8 200710M1_10	Standard	12.500	2.29	6622.012	13956.150	5.931	12.6	1.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	2.29	6572.442	13832.629	5.939	12.6	1.1	NO		NO	bb
10	10 200710M1_12	Standard	12.500	2.29	6525.294	12952.592	6.297	13.4	7.2	NO		NO	MM

Compound name: 13C3-PFBS-EIS
Response Factor: 129.326
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	2.57	1462.606		1462.606	11.3	-9.5	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	2.57	1639.901		1639.901	12.7	1.4	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	2.57	1543.070		1543.070	11.9	-4.5	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	2.57	1672.751		1672.751	12.9	3.5	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	2.58	1801.617		1801.617	13.9	11.4	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	2.57	1616.580		1616.580	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	2.57	1703.586		1703.586	13.2	5.4	NO		NO	MMX
8	8 200710M1_10	Standard	12.500	2.57	1563.162		1563.162	12.1	-3.3	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	2.57	1489.329		1489.329	11.5	-7.9	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	2.58	1404.460		1404.460	10.9	-13.1	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C3-PFBS-RSD
Response Factor: 0.769985
RRF SD: 0.0587881, Relative SD: 7.63497
Response type: Internal Std (Ref 103), 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 200710M1_3	Standard	12.500	2.57	1461.517	1899.141	9.620	12.5	-0.1	NO		NO	bb
2	2 200710M1_4	Standard	12.500	2.57	1639.901	2203.667	9.302	12.1	-3.4	NO		NO	bb
3	3 200710M1_5	Standard	12.500	2.57	1543.070	2061.554	9.356	12.2	-2.8	NO		NO	bb
4	4 200710M1_6	Standard	12.500	2.57	1672.751	2280.736	9.168	11.9	-4.7	NO		NO	bb
5	5 200710M1_7	Standard	12.500	2.58	1797.337	2336.014	9.618	12.5	-0.1	NO		NO	bb
6	6 200710M1_8	Standard	12.500	2.57	1616.580	2216.941	9.115	11.8	-5.3	NO		NO	bb
7	7 200710M1_9	Standard	12.500	2.57	1704.309	1828.498	11.651	15.1	21.1	NO		NO	MM
8	8 200710M1_10	Standard	12.500	2.57	1560.906	2042.369	9.553	12.4	-0.7	NO		NO	MM
9	9 200710M1_11	Standard	12.500	2.57	1489.329	1999.796	9.309	12.1	-3.3	NO		NO	bb
10	10 200710M1_12	Standard	12.500	2.58	1369.130	1790.862	9.556	12.4	-0.7	NO		NO	MM

Compound name: 13C3-HFPO-DA-EIS
Response Factor: 77.4314
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	3.32	1156.504		1156.504	14.9	19.5	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	3.33	1172.788		1172.788	15.1	21.2	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	3.33	1117.828		1117.828	14.4	15.5	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	3.33	1051.131		1051.131	13.6	8.6	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	3.33	1141.804		1141.804	14.7	18.0	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	3.33	967.892		967.892	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.33	915.355		915.355	11.8	-5.4	NO		NO	MMX
8	8 200710M1_10	Standard	12.500	3.33	1023.153		1023.153	13.2	5.7	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	3.33	930.439		930.439	12.0	-3.9	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	3.33	937.906		937.906	12.1	-3.1	NO		NO	bbX

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C3-HFPO-DA-RSD
Response Factor: 0.0715257
RRF SD: 0.00701128, Relative SD: 9.80246
Response type: Internal Std (Ref 102), 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 200710M1_3	Standard	12.500	3.32	1156.504	13428.833	1.077	15.1	20.4	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.33	1172.788	15160.891	0.967	13.5	8.2	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.33	1117.828	14984.553	0.932	13.0	4.3	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.33	1051.131	15025.654	0.874	12.2	-2.2	NO		NO	bb
5	5 200710M1_7	Standard	12.500	3.33	1098.076	16157.552	0.850	11.9	-5.0	NO		NO	MM
6	6 200710M1_8	Standard	12.500	3.33	967.892	14859.225	0.814	11.4	-8.9	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.33	910.597	14893.404	0.764	10.7	-14.5	NO		NO	MM
8	8 200710M1_10	Standard	12.500	3.33	1023.153	13956.150	0.916	12.8	2.5	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.33	930.439	13832.629	0.841	11.8	-6.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.33	937.906	12952.592	0.905	12.7	1.2	NO		NO	bb

Compound name: 13C2-4:2 FTS-EIS
Response Factor: 200.844
RRF SD: 3.38201, Relative SD: 1.68389
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	3.02	2540.447		2540.447	12.6	1.2	NO		NO	MM
2	2 200710M1_4	Standard	12.500	3.02	2671.546		2671.546	13.3	6.4	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	3.02	2674.974		2674.974	13.3	6.5	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	3.02	2697.598		2697.598	13.4	7.5	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	3.02	2752.759		2752.759	13.7	9.6	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	3.02	2480.661		2480.661	12.4	-1.2	NO		NO	MM
7	7 200710M1_9	Standard	12.500	3.02	2450.821		2450.821	12.2	-2.4	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	3.02	2421.802		2421.802	12.1	-3.5	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	3.02	2018.117		2018.117	10.0	-19.6	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	3.02	1983.088		1983.088	9.9	-21.0	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-4:2 FTS-RSD
Response Factor: 1.1938
RRF SD: 0.102778, Relative SD: 8.60929
Response type: Internal Std (Ref 103), 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 200710M1_3	Standard	12.500	3.02	2489.603	1899.141	16.386	13.7	9.8	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.02	2671.546	2203.667	15.154	12.7	1.6	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.02	2674.974	2061.554	16.219	13.6	8.7	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.02	2699.945	2280.736	14.798	12.4	-0.8	NO		NO	MM
5	5 200710M1_7	Standard	12.500	3.02	2752.871	2336.014	14.731	12.3	-1.3	NO		NO	MM
6	6 200710M1_8	Standard	12.500	3.02	2481.831	2216.941	13.994	11.7	-6.2	NO		NO	MM
7	7 200710M1_9	Standard	12.500	3.02	2450.821	1828.498	16.754	14.0	12.3	NO		NO	bb
8	8 200710M1_10	Standard	12.500	3.02	2421.802	2042.369	14.822	12.4	-0.7	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.02	2018.117	1999.796	12.615	10.6	-15.5	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.02	1970.340	1790.862	13.753	11.5	-7.8	NO		NO	MM

Compound name: 13C2-PFHxA-EIS
Response Factor: 1011.53
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	3.10	12331.943		12331.943	12.2	-2.5	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	3.10	12777.548		12777.548	12.6	1.1	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	3.11	12358.052		12358.052	12.2	-2.3	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	3.10	12846.003		12846.003	12.7	1.6	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	3.11	13343.991		13343.991	13.2	5.5	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	3.11	12644.174		12644.174	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.11	12498.887		12498.887	12.4	-1.1	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	3.11	11693.957		11693.957	11.6	-7.5	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	3.11	11800.067		11800.067	11.7	-6.7	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	3.11	11685.472		11685.472	11.6	-7.6	NO		NO	bbX

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFHxA-RSD
Response Factor: 0.857607
RRF SD: 0.02969, Relative SD: 3.46196
Response type: Internal Std (Ref 102), 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 200710M1_3	Standard	12.500	3.10	12331.943	13428.833	11.479	13.4	7.1	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.10	12777.548	15160.891	10.535	12.3	-1.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.11	12358.052	14984.553	10.309	12.0	-3.8	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.10	12947.500	15025.654	10.771	12.6	0.5	NO		NO	MM
5	5 200710M1_7	Standard	12.500	3.11	13657.226	16157.552	10.566	12.3	-1.4	NO		NO	MM
6	6 200710M1_8	Standard	12.500	3.11	12644.174	14859.225	10.637	12.4	-0.8	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.11	12498.887	14893.404	10.490	12.2	-2.1	NO		NO	bb
8	8 200710M1_10	Standard	12.500	3.11	11693.957	13956.150	10.474	12.2	-2.3	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.11	11800.067	13832.629	10.663	12.4	-0.5	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.11	11685.472	12952.592	11.277	13.1	5.2	NO		NO	bb

Compound name: 13C4-PFHpA-EIS
Response Factor: 565.792
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	3.72	6550.741		6550.741	11.6	-7.4	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	3.72	7407.362		7407.362	13.1	4.7	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	3.72	7215.534		7215.534	12.8	2.0	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	3.72	7641.392		7641.392	13.5	8.0	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	3.72	7958.843		7958.843	14.1	12.5	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	3.72	7072.405		7072.405	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.72	7464.814		7464.814	13.2	5.5	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	3.72	6773.646		6773.646	12.0	-4.2	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	3.72	6870.986		6870.986	12.1	-2.8	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	3.72	6670.743		6670.743	11.8	-5.7	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C4-PFHpA-RSD
Response Factor: 0.493298
RRF SD: 0.0121461, Relative SD: 2.46222
Response type: Internal Std (Ref 102), 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 200710M1_3	Standard	12.500	3.72	6550.741	13428.833	6.098	12.4	-1.1	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.72	7407.362	15160.891	6.107	12.4	-1.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.72	7215.534	14984.553	6.019	12.2	-2.4	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.72	7638.124	15025.654	6.354	12.9	3.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	3.72	7956.621	16157.552	6.155	12.5	-0.2	NO		NO	MM
6	6 200710M1_8	Standard	12.500	3.72	7072.405	14859.225	5.950	12.1	-3.5	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.72	7464.814	14893.404	6.265	12.7	1.6	NO		NO	bb
8	8 200710M1_10	Standard	12.500	3.72	6773.646	13956.150	6.067	12.3	-1.6	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.72	6870.986	13832.629	6.209	12.6	0.7	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.72	6670.844	12952.592	6.438	13.1	4.4	NO		NO	MM

Compound name: 13C3-PFHxS-EIS
Response Factor: 288.156
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	3.86	3792.904		3792.904	13.2	5.3	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	3.86	3609.121		3609.121	12.5	0.2	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	3.86	3616.578		3616.578	12.6	0.4	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	3.86	3762.590		3762.590	13.1	4.5	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	3.86	3747.042		3747.042	13.0	4.0	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	3.86	3601.951		3601.951	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.86	3431.595		3431.595	11.9	-4.7	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	3.86	3435.717		3435.717	11.9	-4.6	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	3.86	3545.585		3545.585	12.3	-1.6	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	3.86	3320.560		3320.560	11.5	-7.8	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C3-PFHxS-RSD
Response Factor: 1.74686
RRF SD: 0.129615, Relative SD: 7.41987
Response type: Internal Std (Ref 103), 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 200710M1_3	Standard	12.500	3.86	3792.904	1899.141	24.965	14.3	14.3	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.86	3609.121	2203.667	20.472	11.7	-6.2	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.86	3616.578	2061.554	21.929	12.6	0.4	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.86	3762.590	2280.736	20.622	11.8	-5.6	NO		NO	bb
5	5 200710M1_7	Standard	12.500	3.86	3762.792	2336.014	20.135	11.5	-7.8	NO		NO	MM
6	6 200710M1_8	Standard	12.500	3.86	3601.951	2216.941	20.309	11.6	-7.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.86	3431.595	1828.498	23.459	13.4	7.4	NO		NO	bb
8	8 200710M1_10	Standard	12.500	3.86	3435.717	2042.369	21.028	12.0	-3.7	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.86	3561.613	1999.796	22.262	12.7	2.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.86	3320.560	1790.862	23.177	13.3	6.1	NO		NO	bb

Compound name: 13C2-6:2 FTS-EIS
Response Factor: 174.656
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.17	2299.710		2299.710	13.2	5.3	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	4.17	2304.150		2304.150	13.2	5.5	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.18	2297.801		2297.801	13.2	5.2	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	4.18	2258.296		2258.296	12.9	3.4	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	4.18	2217.837		2217.837	12.7	1.6	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	4.17	2183.202		2183.202	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.18	2183.743		2183.743	12.5	0.0	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	4.18	2245.670		2245.670	12.9	2.9	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	4.18	2107.125		2107.125	12.1	-3.5	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.18	1654.341		1654.341	9.5	-24.2	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-6:2 FTS-RSD
Response Factor: 0.528986
RRF SD: 0.0490285, Relative SD: 9.26838
Response type: Internal Std (Ref 106), 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 200710M1_3	Standard	12.500	4.17	2299.710	3674.150	7.824	14.8	18.3	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.17	2304.150	4382.920	6.571	12.4	-0.6	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.18	2297.801	4480.571	6.410	12.1	-3.1	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.18	2258.296	4350.005	6.489	12.3	-1.9	NO		NO	bb
5	5 200710M1_7	Standard	12.500	4.18	2297.651	4273.830	6.720	12.7	1.6	NO		NO	MM
6	6 200710M1_8	Standard	12.500	4.17	2183.202	4276.085	6.382	12.1	-3.5	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.18	2183.743	4123.927	6.619	12.5	0.1	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.18	2245.670	3948.264	7.110	13.4	7.5	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.18	2107.125	3974.610	6.627	12.5	0.2	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.18	1654.341	3850.625	5.370	10.2	-18.8	NO		NO	bb

Compound name: 13C5-PFNA-EIS
Response Factor: 979.239
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.66	13417.173		13417.173	13.7	9.6	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	4.66	13700.702		13700.702	14.0	11.9	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.66	12988.686		12988.686	13.3	6.1	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	4.66	14156.376		14156.376	14.5	15.7	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	4.67	14308.128		14308.128	14.6	16.9	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	4.66	12240.487		12240.487	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.66	12939.680		12939.680	13.2	5.7	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	4.67	13076.647		13076.647	13.4	6.8	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	4.67	13239.136		13239.136	13.5	8.2	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.67	11736.456		11736.456	12.0	-4.1	NO		NO	bbX

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C5-PFNA-RSD
Response Factor: 0.900439
RRF SD: 0.0592178, Relative SD: 6.57654
Response type: Internal Std (Ref 105), 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 200710M1_3	Standard	12.500	4.66	13417.173	13956.107	12.017	13.3	6.8	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.66	13700.702	15860.545	10.798	12.0	-4.1	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.66	12988.686	15682.134	10.353	11.5	-8.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.66	14156.376	15012.557	11.787	13.1	4.7	NO		NO	bb
5	5 200710M1_7	Standard	12.500	4.67	14308.128	16666.295	10.731	11.9	-4.7	NO		NO	bb
6	6 200710M1_8	Standard	12.500	4.66	12240.487	15251.029	10.033	11.1	-10.9	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.66	12939.680	13648.922	11.850	13.2	5.3	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.67	13076.647	14661.294	11.149	12.4	-0.9	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.67	13239.136	13743.109	12.042	13.4	7.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.67	11736.456	12438.192	11.795	13.1	4.8	NO		NO	bb

Compound name: 13C8-PFOSA-EIS
Response Factor: 388.612
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.71	4843.123		4843.123	12.5	-0.3	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	4.71	5289.533		5289.533	13.6	8.9	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.71	5035.820		5035.820	13.0	3.7	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	4.71	5078.796		5078.796	13.1	4.6	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	4.71	5586.744		5586.744	14.4	15.0	NO		NO	bdX
6	6 200710M1_8	Standard	12.500	4.71	4857.652		4857.652	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	4.71	4906.417		4906.417	12.6	1.0	NO		NO	MMX
8	8 200710M1_10	Standard	12.500	4.71	4720.552		4720.552	12.1	-2.8	NO		NO	MMX
9	9 200710M1_11	Standard	12.500	4.72	4805.584		4805.584	12.4	-1.1	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.71	4695.439		4695.439	12.1	-3.3	NO		NO	bbX

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C8-PFOSA-RSD
Response Factor: 0.213467
RRF SD: 0.0140429, Relative SD: 6.5785
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	4.71	4720.598	22867.666	2.580	12.1	-3.3	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.71	5289.533	26055.396	2.538	11.9	-4.9	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.71	5037.205	25913.605	2.430	11.4	-8.9	NO		NO	MM
4	4 200710M1_6	Standard	12.500	4.71	5078.796	22585.639	2.811	13.2	5.3	NO		NO	bb
5	5 200710M1_7	Standard	12.500	4.71	5586.744	25107.391	2.781	13.0	4.2	NO		NO	bd
6	6 200710M1_8	Standard	12.500	4.71	4934.742	22356.473	2.759	12.9	3.4	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.71	5016.751	24694.273	2.539	11.9	-4.8	NO		NO	MM
8	8 200710M1_10	Standard	12.500	4.71	4716.072	23884.229	2.468	11.6	-7.5	NO		NO	MM
9	9 200710M1_11	Standard	12.500	4.72	4805.584	20648.563	2.909	13.6	9.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.71	4695.439	20469.617	2.867	13.4	7.5	NO		NO	bb

Compound name: 13C2-PFOA-EIS
Response Factor: 1239.77
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.23	14277.671		14277.671	11.5	-7.9	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	4.23	16455.791		16455.791	13.3	6.2	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.23	16294.177		16294.177	13.1	5.1	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	4.23	16542.689		16542.689	13.3	6.7	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	4.23	16329.649		16329.649	13.2	5.4	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	4.23	15497.129		15497.129	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.23	14978.509		14978.509	12.1	-3.3	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	4.23	14427.123		14427.123	11.6	-6.9	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	4.23	14299.716		14299.716	11.5	-7.7	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.23	13115.018		13115.018	10.6	-15.4	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFOA-RSD
Response Factor: 0.681993
RRF SD: 0.0195952, Relative SD: 2.87322
Response type: Internal Std (Ref 104), 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 200710M1_3	Standard	12.500	4.23	14277.671	20279.977	8.800	12.9	3.2	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.23	16455.791	24035.451	8.558	12.5	0.4	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.23	16195.784	23604.381	8.577	12.6	0.6	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.23	16542.689	25172.318	8.215	12.0	-3.6	NO		NO	bb
5	5 200710M1_7	Standard	12.500	4.23	16330.721	24438.768	8.353	12.2	-2.0	NO		NO	MM
6	6 200710M1_8	Standard	12.500	4.23	15497.129	22227.609	8.715	12.8	2.2	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.23	14978.509	22562.350	8.298	12.2	-2.7	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.23	14427.123	22025.678	8.188	12.0	-4.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.23	14299.716	20545.848	8.700	12.8	2.1	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.23	13115.018	18533.703	8.845	13.0	3.8	NO		NO	bb

Compound name: 13C2-FOUEA-EIS
Response Factor: 1548.42
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.73	18300.123		18300.123	11.8	-5.5	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	4.73	20639.725		20639.725	13.3	6.6	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.73	20167.098		20167.098	13.0	4.2	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	4.73	20796.674		20796.674	13.4	7.4	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	4.73	20889.305		20889.305	13.5	7.9	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	4.73	19355.273		19355.273	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.73	19620.797		19620.797	12.7	1.4	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	4.73	19350.783		19350.783	12.5	-0.0	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	4.73	18200.287		18200.287	11.8	-6.0	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.73	17949.770		17949.770	11.6	-7.3	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-FOUEA-RSD
Response Factor: 0.901116
RRF SD: 0.0369255, Relative SD: 4.09775
Response type: Internal Std (Ref 104), 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 200710M1_3	Standard	12.500	4.73	18910.807	20279.977	11.656	12.9	3.5	NO		NO	MM
2	2 200710M1_4	Standard	12.500	4.73	21085.703	24035.451	10.966	12.2	-2.6	NO		NO	MM
3	3 200710M1_5	Standard	12.500	4.73	20804.502	23604.381	11.017	12.2	-2.2	NO		NO	MM
4	4 200710M1_6	Standard	12.500	4.73	21087.951	25172.318	10.472	11.6	-7.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	4.73	21687.258	24438.768	11.093	12.3	-1.5	NO		NO	MM
6	6 200710M1_8	Standard	12.500	4.73	19983.367	22227.609	11.238	12.5	-0.2	NO		NO	MM
7	7 200710M1_9	Standard	12.500	4.73	20188.262	22562.350	11.185	12.4	-0.7	NO		NO	MM
8	8 200710M1_10	Standard	12.500	4.73	20057.957	22025.678	11.383	12.6	1.1	NO		NO	MM
9	9 200710M1_11	Standard	12.500	4.73	18753.342	20545.848	11.409	12.7	1.3	NO		NO	MM
10	10 200710M1_12	Standard	12.500	4.73	18119.123	18533.703	12.220	13.6	8.5	NO		NO	MM

Compound name: 13C8-PFOS-EIS
Response Factor: 320.319
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	4.75	4016.799		4016.799	12.5	0.3	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	4.75	4317.018		4317.018	13.5	7.8	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	4.75	4045.730		4045.730	12.6	1.0	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	4.75	4104.330		4104.330	12.8	2.5	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	4.75	4617.917		4617.917	14.4	15.3	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	4.75	4003.983		4003.983	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.75	4044.961		4044.961	12.6	1.0	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	4.75	3928.497		3928.497	12.3	-1.9	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	4.75	3549.547		3549.547	11.1	-11.3	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	4.75	3854.036		3854.036	12.0	-3.7	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C8-PFOS-RSD
Response Factor: 0.978489
RRF SD: 0.0612493, Relative SD: 6.25958
Response type: Internal Std (Ref 106), 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 200710M1_3	Standard	12.500	4.75	4016.799	3674.150	13.666	14.0	11.7	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.75	4317.018	4382.920	12.312	12.6	0.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.75	4045.730	4480.571	11.287	11.5	-7.7	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.75	4104.337	4350.005	11.794	12.1	-3.6	NO		NO	MM
5	5 200710M1_7	Standard	12.500	4.75	4466.660	4273.830	13.064	13.4	6.8	NO		NO	MM
6	6 200710M1_8	Standard	12.500	4.75	4042.126	4276.085	11.816	12.1	-3.4	NO		NO	MM
7	7 200710M1_9	Standard	12.500	4.75	4044.961	4123.927	12.261	12.5	0.2	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.75	3928.497	3948.264	12.437	12.7	1.7	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.75	3549.547	3974.610	11.163	11.4	-8.7	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.75	3854.036	3850.625	12.511	12.8	2.3	NO		NO	bb

Compound name: 13C2-PFDA-EIS
Response Factor: 1072.61
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.03	13442.098		13442.098	12.5	0.3	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	5.04	14568.441		14568.441	13.6	8.7	NO		NO	MMX
3	3 200710M1_5	Standard	12.500	5.04	13861.643		13861.643	12.9	3.4	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.04	15115.894		15115.894	14.1	12.7	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.04	15475.571		15475.571	14.4	15.4	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.04	13407.576		13407.576	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.04	14021.146		14021.146	13.1	4.6	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.04	15112.368		15112.368	14.1	12.7	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.04	13675.665		13675.665	12.7	2.0	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	5.04	12702.835		12702.835	11.8	-5.3	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFDA-RSD
Response Factor: 0.755558
RRF SD: 0.0425641, Relative SD: 5.63347
Response type: Internal Std (Ref 107), 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 200710M1_3	Standard	12.500	5.03	13677.361	16273.869	10.506	13.9	11.2	NO		NO	MM
2	2 200710M1_4	Standard	12.500	5.04	14579.646	19894.090	9.161	12.1	-3.0	NO		NO	MM
3	3 200710M1_5	Standard	12.500	5.04	13861.643	18132.928	9.556	12.6	1.2	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.04	15115.894	20528.141	9.204	12.2	-2.5	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.04	15475.571	20831.842	9.286	12.3	-1.7	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.04	13413.030	19621.000	8.545	11.3	-9.5	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.04	14021.146	19235.434	9.112	12.1	-3.5	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.04	15112.368	18966.936	9.960	13.2	5.5	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.04	13675.665	18136.441	9.426	12.5	-0.2	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.04	12702.835	16385.625	9.691	12.8	2.6	NO		NO	bb

Compound name: 13C2-8:2 FTS-EIS
Response Factor: 195.645
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.01	2389.899		2389.899	12.2	-2.3	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	5.01	2845.570		2845.570	14.5	16.4	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.01	2558.303		2558.303	13.1	4.6	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.01	2280.495		2280.495	11.7	-6.7	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.01	2507.514		2507.514	12.8	2.5	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	5.01	2445.566		2445.566	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.01	2150.289		2150.289	11.0	-12.1	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.01	2455.597		2455.597	12.6	0.4	NO		NO	MMX
9	9 200710M1_11	Standard	12.500	5.01	2277.211		2277.211	11.6	-6.9	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	5.01	2076.310		2076.310	10.6	-15.1	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-8:2 FTS-RSD
Response Factor: 0.586693
RRF SD: 0.0484958, Relative SD: 8.26596
Response type: Internal Std (Ref 106), 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 200710M1_3	Standard	12.500	5.01	2389.899	3674.150	8.131	13.9	10.9	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.01	2845.570	4382.920	8.116	13.8	10.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.01	2558.303	4480.571	7.137	12.2	-2.7	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.01	2280.495	4350.005	6.553	11.2	-10.6	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.01	2638.627	4273.830	7.717	13.2	5.2	NO		NO	MM
6	6 200710M1_8	Standard	12.500	5.01	2561.888	4276.085	7.489	12.8	2.1	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.01	2150.289	4123.927	6.518	11.1	-11.1	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.01	2455.488	3948.264	7.774	13.3	6.0	NO		NO	MM
9	9 200710M1_11	Standard	12.500	5.01	2277.211	3974.610	7.162	12.2	-2.3	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.01	2076.310	3850.625	6.740	11.5	-8.1	NO		NO	bb

Compound name: d3-N-MeFOSAA-EIS
Response Factor: 923.888
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.18	10954.634		10954.634	11.9	-5.1	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	5.19	11644.225		11644.225	12.6	0.8	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.19	11232.864		11232.864	12.2	-2.7	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.19	12110.571		12110.571	13.1	4.9	NO		NO	MMX
5	5 200710M1_7	Standard	12.500	5.19	12633.780		12633.780	13.7	9.4	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.19	11548.598		11548.598	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.19	11019.461		11019.461	11.9	-4.6	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.19	10669.782		10669.782	11.5	-7.6	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.19	11411.650		11411.650	12.4	-1.2	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	5.19	9886.631		9886.631	10.7	-14.4	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d3-N-MeFOSAA-RSD
Response Factor: 0.484418
RRF SD: 0.0416976, Relative SD: 8.60776
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	5.18	10954.634	22867.666	5.988	12.4	-1.1	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.19	11644.225	26055.396	5.586	11.5	-7.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.19	11232.864	25913.605	5.418	11.2	-10.5	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.19	12110.229	22585.639	6.702	13.8	10.7	NO		NO	MM
5	5 200710M1_7	Standard	12.500	5.19	12633.780	25107.391	6.290	13.0	3.9	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.19	11553.014	22356.473	6.460	13.3	6.7	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.19	11019.461	24694.273	5.578	11.5	-7.9	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.19	10669.782	23884.229	5.584	11.5	-7.8	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.19	11411.650	20648.563	6.908	14.3	14.1	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.19	9886.631	20469.617	6.037	12.5	-0.3	NO		NO	bb

Compound name: 13C2-PFUdA-EIS
Response Factor: 1779.46
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.36	20493.672		20493.672	11.5	-7.9	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	5.36	21381.486		21381.486	12.0	-3.9	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.36	21812.543		21812.543	12.3	-1.9	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.36	21020.635		21020.635	11.8	-5.5	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.36	24521.430		24521.430	13.8	10.2	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.36	22243.213		22243.213	12.5	0.0	NO		NO	bd
7	7 200710M1_9	Standard	12.500	5.36	20737.066		20737.066	11.7	-6.8	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.36	21737.885		21737.885	12.2	-2.3	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.36	18567.586		18567.586	10.4	-16.5	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	5.36	16074.021		16074.021	9.0	-27.7	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFUdA-RSD
Response Factor: 0.889208
RRF SD: 0.0672403, Relative SD: 7.56182
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	5.36	20493.672	22867.666	11.202	12.6	0.8	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.36	21381.486	26055.396	10.258	11.5	-7.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.36	21812.543	25913.605	10.522	11.8	-5.3	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.36	21020.635	22585.639	11.634	13.1	4.7	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.36	24521.430	25107.391	12.208	13.7	9.8	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.36	22173.199	22356.473	12.398	13.9	11.5	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.36	20737.066	24694.273	10.497	11.8	-5.6	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.36	21737.885	23884.229	11.377	12.8	2.4	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.36	18567.586	20648.563	11.240	12.6	1.1	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.36	16074.021	20469.617	9.816	11.0	-11.7	NO		NO	bb

Compound name: d5-N-EtFOSAA-EIS
Response Factor: 867.283
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.34	10497.614		10497.614	12.1	-3.2	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	5.34	10918.964		10918.964	12.6	0.7	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.34	10596.396		10596.396	12.2	-2.3	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	5.34	11203.441		11203.441	12.9	3.3	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.34	9346.908		9346.908	10.8	-13.8	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.34	10841.038		10841.038	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.34	10092.870		10092.870	11.6	-6.9	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.35	9617.096		9617.096	11.1	-11.3	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.34	8945.053		8945.053	10.3	-17.5	NO		NO	MMX
10	10 200710M1_12	Standard	12.500	5.34	7784.006		7784.006	9.0	-28.2	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d5-N-EtFOSAA-RSD
Response Factor: 0.426505
RRF SD: 0.0417364, Relative SD: 9.78567
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	5.34	10497.614	22867.666	5.738	13.5	7.6	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.34	10918.964	26055.396	5.238	12.3	-1.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.34	10597.655	25913.605	5.112	12.0	-4.1	NO		NO	MM
4	4 200710M1_6	Standard	12.500	5.34	11203.441	22585.639	6.201	14.5	16.3	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.34	9346.908	25107.391	4.653	10.9	-12.7	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.34	10841.038	22356.473	6.061	14.2	13.7	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.34	10092.870	24694.273	5.109	12.0	-4.2	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.35	9617.096	23884.229	5.033	11.8	-5.6	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.34	8942.665	20648.563	5.414	12.7	1.5	NO		NO	MM
10	10 200710M1_12	Standard	12.500	5.34	7784.006	20469.617	4.753	11.1	-10.8	NO		NO	bb

Compound name: 13C2-PFDoA-EIS
Response Factor: 1924.26
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.64	24073.232		24073.232	12.5	0.1	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	5.65	24921.693		24921.693	13.0	3.6	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.64	24558.652		24558.652	12.8	2.1	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.64	24899.352		24899.352	12.9	3.5	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.65	26714.104		26714.104	13.9	11.1	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.64	24053.232		24053.232	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.64	23607.797		23607.797	12.3	-1.9	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.65	23200.479		23200.479	12.1	-3.5	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.65	22332.650		22332.650	11.6	-7.2	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	5.65	20423.064		20423.064	10.6	-15.1	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFDoA-RSD
Response Factor: 1.275
RRF SD: 0.0829347, Relative SD: 6.50469
Response type: Internal Std (Ref 107), 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 200710M1_3	Standard	12.500	5.64	24073.232	16273.869	18.491	14.5	16.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.65	24921.693	19894.090	15.659	12.3	-1.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.64	24558.652	18132.928	16.930	13.3	6.2	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.64	24899.352	20528.141	15.162	11.9	-4.9	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.65	26714.104	20831.842	16.030	12.6	0.6	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.64	24053.232	19621.000	15.324	12.0	-3.9	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.64	23607.797	19235.434	15.341	12.0	-3.7	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.65	23200.479	18966.936	15.290	12.0	-4.1	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.65	22332.650	18136.441	15.392	12.1	-3.4	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.65	20655.100	16385.625	15.757	12.4	-1.1	NO		NO	bb

Compound name: 13C2-10:2 FTS-EIS
Response Factor: 132.649
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	5.63	1628.321		1628.321	12.3	-1.8	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	5.63	1855.766		1855.766	14.0	11.9	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	5.63	1773.803		1773.803	13.4	7.0	NO		NO	bbX
4	4 200710M1_6	Standard	12.500	5.63	1815.495		1815.495	13.7	9.5	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	5.63	1932.571		1932.571	14.6	16.6	NO		NO	bbX
6	6 200710M1_8	Standard	12.500	5.63	1658.112		1658.112	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.63	1618.345		1618.345	12.2	-2.4	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	5.63	1512.567		1512.567	11.4	-8.8	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	5.63	1440.516		1440.516	10.9	-13.1	NO		NO	MMX
10	10 200710M1_12	Standard	12.500	5.63	1245.305		1245.305	9.4	-24.9	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-10:2 FTS-RSD
Response Factor: 0.398115
RRF SD: 0.0383306, Relative SD: 9.62801
Response type: Internal Std (Ref 106), 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 200710M1_3	Standard	12.500	5.63	1629.643	3674.150	5.544	13.9	11.4	NO		NO	MM
2	2 200710M1_4	Standard	12.500	5.63	1855.766	4382.920	5.293	13.3	6.4	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.63	1773.803	4480.571	4.949	12.4	-0.6	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.63	1815.495	4350.005	5.217	13.1	4.8	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.63	1932.571	4273.830	5.652	14.2	13.6	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.63	1655.990	4276.085	4.841	12.2	-2.7	NO		NO	MM
7	7 200710M1_9	Standard	12.500	5.63	1618.345	4123.927	4.905	12.3	-1.4	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.63	1512.567	3948.264	4.789	12.0	-3.8	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.63	1441.113	3974.610	4.532	11.4	-8.9	NO		NO	MM
10	10 200710M1_12	Standard	12.500	5.63	1245.290	3850.625	4.042	10.2	-18.8	NO		NO	MM

Compound name: d3-N-MeFOSA-EIS
Response Factor: 100.398
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	149.200	5.67	14548.019		14548.019	144.9	-2.9	NO		NO	bbX
2	2 200710M1_4	Standard	149.200	5.68	14531.883		14531.883	144.7	-3.0	NO		NO	bbX
3	3 200710M1_5	Standard	149.200	5.68	14557.134		14557.134	145.0	-2.8	NO		NO	bbX
4	4 200710M1_6	Standard	149.200	5.68	15152.787		15152.787	150.9	1.2	NO		NO	MMX
5	5 200710M1_7	Standard	149.200	5.68	15799.208		15799.208	157.4	5.5	NO		NO	MMX
6	6 200710M1_8	Standard	149.200	5.68	14979.424		14979.424	149.2	0.0	NO		NO	bb
7	7 200710M1_9	Standard	149.200	5.68	15063.906		15063.906	150.0	0.6	NO		NO	bbX
8	8 200710M1_10	Standard	149.200	5.68	15271.780		15271.780	152.1	2.0	NO		NO	bbX
9	9 200710M1_11	Standard	149.200	5.68	15317.784		15317.784	152.6	2.3	NO		NO	bbX
10	10 200710M1_12	Standard	149.200	5.68	15954.232		15954.232	158.9	6.5	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d3-N-MeFOSA-RSD
Response Factor: 0.0547139
RRF SD: 0.00605866, Relative SD: 11.0733
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	149.200	5.67	14538.564	22867.666	7.947	145.2	-2.6	NO		NO	MM
2	2 200710M1_4	Standard	149.200	5.68	14531.883	26055.396	6.972	127.4	-14.6	NO		NO	bb
3	3 200710M1_5	Standard	149.200	5.68	14557.134	25913.605	7.022	128.3	-14.0	NO		NO	bb
4	4 200710M1_6	Standard	149.200	5.68	15161.013	22585.639	8.391	153.4	2.8	NO		NO	MM
5	5 200710M1_7	Standard	149.200	5.68	15841.483	25107.391	7.887	144.1	-3.4	NO		NO	MM
6	6 200710M1_8	Standard	149.200	5.68	15679.049	22356.473	8.767	160.2	7.4	NO		NO	bb
7	7 200710M1_9	Standard	149.200	5.68	15063.906	24694.273	7.625	139.4	-6.6	NO		NO	bb
8	8 200710M1_10	Standard	149.200	5.68	15271.156	23884.229	7.992	146.1	-2.1	NO		NO	MM
9	9 200710M1_11	Standard	149.200	5.68	15317.784	20648.563	9.273	169.5	13.6	NO		NO	bb
10	10 200710M1_12	Standard	149.200	5.68	15979.159	20469.617	9.758	178.3	19.5	NO		NO	bb

Compound name: 13C2-PFTeDA-EIS
Response Factor: 1314.26
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	6.11	15743.638		15743.638	12.0	-4.2	NO		NO	bbX
2	2 200710M1_4	Standard	12.500	6.11	16737.859		16737.859	12.7	1.9	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	6.11	16580.090		16580.090	12.6	0.9	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	6.11	16415.303		16415.303	12.5	-0.1	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	6.11	17107.979		17107.979	13.0	4.1	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	6.11	16428.244		16428.244	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	6.11	16917.123		16917.123	12.9	3.0	NO		NO	bbX
8	8 200710M1_10	Standard	12.500	6.11	14825.854		14825.854	11.3	-9.8	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	6.11	14296.943		14296.943	10.9	-13.0	NO		NO	bbX
10	10 200710M1_12	Standard	12.500	6.11	14579.149		14579.149	11.1	-11.3	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFTeDA-RSD
Response Factor: 0.682375
RRF SD: 0.0379422, Relative SD: 5.56032
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	6.11	15689.546	22867.666	8.576	12.6	0.5	NO		NO	bb
2	2 200710M1_4	Standard	12.500	6.11	16737.859	26055.396	8.030	11.8	-5.9	NO		NO	bb
3	3 200710M1_5	Standard	12.500	6.11	16577.498	25913.605	7.997	11.7	-6.3	NO		NO	MM
4	4 200710M1_6	Standard	12.500	6.11	16415.303	22585.639	9.085	13.3	6.5	NO		NO	bb
5	5 200710M1_7	Standard	12.500	6.11	17160.018	25107.391	8.543	12.5	0.2	NO		NO	MM
6	6 200710M1_8	Standard	12.500	6.11	16428.244	22356.473	9.185	13.5	7.7	NO		NO	bb
7	7 200710M1_9	Standard	12.500	6.11	16917.123	24694.273	8.563	12.5	0.4	NO		NO	bb
8	8 200710M1_10	Standard	12.500	6.11	14825.854	23884.229	7.759	11.4	-9.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	6.11	14296.943	20648.563	8.655	12.7	1.5	NO		NO	bb
10	10 200710M1_12	Standard	12.500	6.11	14579.149	20469.617	8.903	13.0	4.4	NO		NO	bb

Compound name: d5-N-ETFOSA-EIS
Response Factor: 156.038
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	149.200	6.10	22012.160		22012.160	141.1	-5.4	NO		NO	bbX
2	2 200710M1_4	Standard	149.200	6.11	23795.551		23795.551	152.5	2.2	NO		NO	bbX
3	3 200710M1_5	Standard	149.200	6.11	23320.717		23320.717	149.5	0.2	NO		NO	bbX
4	4 200710M1_6	Standard	149.200	6.11	23578.830		23578.830	151.1	1.3	NO		NO	bbX
5	5 200710M1_7	Standard	149.200	6.11	24119.996		24119.996	154.6	3.6	NO		NO	bbX
6	6 200710M1_8	Standard	149.200	6.11	23280.805		23280.805	149.2	0.0	NO		NO	bb
7	7 200710M1_9	Standard	149.200	6.11	23702.346		23702.346	151.9	1.8	NO		NO	bbX
8	8 200710M1_10	Standard	149.200	6.11	22576.434		22576.434	144.7	-3.0	NO		NO	bbX
9	9 200710M1_11	Standard	149.200	6.11	21510.168		21510.168	137.9	-7.6	NO		NO	bbX
10	10 200710M1_12	Standard	149.200	6.11	20159.398		20159.398	129.2	-13.4	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d5-N-ETFOSA-RSD
Response Factor: 0.0817145
RRF SD: 0.00438253, Relative SD: 5.36322
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	149.200	6.10	22012.160	22867.666	12.032	147.2	-1.3	NO		NO	bb
2	2 200710M1_4	Standard	149.200	6.11	23795.551	26055.396	11.416	139.7	-6.4	NO		NO	bb
3	3 200710M1_5	Standard	149.200	6.11	23320.717	25913.605	11.249	137.7	-7.7	NO		NO	bb
4	4 200710M1_6	Standard	149.200	6.11	23578.830	22585.639	13.050	159.7	7.0	NO		NO	bb
5	5 200710M1_7	Standard	149.200	6.11	24119.996	25107.391	12.008	147.0	-1.5	NO		NO	bb
6	6 200710M1_8	Standard	149.200	6.11	23280.805	22356.473	13.017	159.3	6.8	NO		NO	bb
7	7 200710M1_9	Standard	149.200	6.11	23702.346	24694.273	11.998	146.8	-1.6	NO		NO	bb
8	8 200710M1_10	Standard	149.200	6.11	22576.434	23884.229	11.816	144.6	-3.1	NO		NO	bb
9	9 200710M1_11	Standard	149.200	6.11	21510.168	20648.563	13.022	159.4	6.8	NO		NO	bb
10	10 200710M1_12	Standard	149.200	6.11	20159.398	20469.617	12.311	150.7	1.0	NO		NO	bb

Compound name: 13C2-PFHxDA-EIS
Response Factor: 1814.55
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	12.500	6.43	22793.398		22793.398	12.6	0.5	NO		NO	MMX
2	2 200710M1_4	Standard	12.500	6.43	23596.092		23596.092	13.0	4.0	NO		NO	bbX
3	3 200710M1_5	Standard	12.500	6.43	24315.543		24315.543	13.4	7.2	NO		NO	MMX
4	4 200710M1_6	Standard	12.500	6.43	23302.734		23302.734	12.8	2.7	NO		NO	bbX
5	5 200710M1_7	Standard	12.500	6.43	25521.510		25521.510	14.1	12.5	NO		NO	MMX
6	6 200710M1_8	Standard	12.500	6.43	22681.816		22681.816	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	6.43	22985.422		22985.422	12.7	1.3	NO		NO	MMX
8	8 200710M1_10	Standard	12.500	6.43	21564.832		21564.832	11.9	-4.9	NO		NO	bbX
9	9 200710M1_11	Standard	12.500	6.43	20813.043		20813.043	11.5	-8.2	NO		NO	MMX
10	10 200710M1_12	Standard	12.500	6.43	20050.164		20050.164	11.0	-11.6	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C2-PFHxDA-RSD
Response Factor: 0.981115
RRF SD: 0.0573863, Relative SD: 5.84909
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	12.500	6.43	22793.063	22867.666	12.459	12.7	1.6	NO		NO	MM
2	2 200710M1_4	Standard	12.500	6.43	23596.092	26055.396	11.320	11.5	-7.7	NO		NO	bb
3	3 200710M1_5	Standard	12.500	6.43	24313.801	25913.605	11.728	12.0	-4.4	NO		NO	MM
4	4 200710M1_6	Standard	12.500	6.43	23992.676	22585.639	13.279	13.5	8.3	NO		NO	MM
5	5 200710M1_7	Standard	12.500	6.43	25535.123	25107.391	12.713	13.0	3.7	NO		NO	MM
6	6 200710M1_8	Standard	12.500	6.43	22691.207	22356.473	12.687	12.9	3.5	NO		NO	MM
7	7 200710M1_9	Standard	12.500	6.43	22984.492	24694.273	11.635	11.9	-5.1	NO		NO	MM
8	8 200710M1_10	Standard	12.500	6.43	21483.029	23884.229	11.243	11.5	-8.3	NO		NO	bb
9	9 200710M1_11	Standard	12.500	6.43	20963.863	20648.563	12.691	12.9	3.5	NO		NO	MM
10	10 200710M1_12	Standard	12.500	6.43	21098.678	20469.617	12.884	13.1	5.1	NO		NO	MM

Compound name: d7-N-MeFOSE-EIS
Response Factor: 70.345
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	149.200	6.29	9357.001		9357.001	133.0	-10.8	NO		NO	bbX
2	2 200710M1_4	Standard	149.200	6.29	9912.952		9912.952	140.9	-5.6	NO		NO	MMX
3	3 200710M1_5	Standard	149.200	6.29	10709.789		10709.789	152.2	2.0	NO		NO	MMX
4	4 200710M1_6	Standard	149.200	6.29	11043.794		11043.794	157.0	5.2	NO		NO	bbX
5	5 200710M1_7	Standard	149.200	6.29	10482.954		10482.954	149.0	-0.1	NO		NO	bbX
6	6 200710M1_8	Standard	149.200	6.29	10495.478		10495.478	149.2	0.0	NO		NO	MM
7	7 200710M1_9	Standard	149.200	6.29	10478.397		10478.397	149.0	-0.2	NO		NO	MMX
8	8 200710M1_10	Standard	149.200	6.29	10824.942		10824.942	153.9	3.1	NO		NO	bbX
9	9 200710M1_11	Standard	149.200	6.29	12665.286		12665.286	180.0	20.7	NO		NO	MMX
10	10 200710M1_12	Standard	149.200	6.29	10807.863		10807.863	153.6	3.0	NO		NO	MMX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d7-N-MeFOSE-RSD
Response Factor: 0.0386389
RRF SD: 0.00589568, Relative SD: 15.2584
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	149.200	6.29	9357.001	22867.666	5.115	132.4	-11.3	NO		NO	bb
2	2 200710M1_4	Standard	149.200	6.29	9904.965	26055.396	4.752	123.0	-17.6	NO		NO	MM
3	3 200710M1_5	Standard	149.200	6.29	10711.209	25913.605	5.167	133.7	-10.4	NO		NO	MM
4	4 200710M1_6	Standard	149.200	6.29	11043.794	22585.639	6.112	158.2	6.0	NO		NO	bb
5	5 200710M1_7	Standard	149.200	6.29	10482.954	25107.391	5.219	135.1	-9.5	NO		NO	bb
6	6 200710M1_8	Standard	149.200	6.29	10462.967	22356.473	5.850	151.4	1.5	NO		NO	MM
7	7 200710M1_9	Standard	149.200	6.29	10474.784	24694.273	5.302	137.2	-8.0	NO		NO	MM
8	8 200710M1_10	Standard	149.200	6.29	11122.461	23884.229	5.821	150.7	1.0	NO		NO	MM
9	9 200710M1_11	Standard	149.200	6.29	12759.118	20648.563	7.724	199.9	34.0	NO		NO	bb
10	10 200710M1_12	Standard	149.200	6.29	10787.022	20469.617	6.587	170.5	14.3	NO		NO	MM

Compound name: d9-N-EtFOSE-EIS
Response Factor: 76.6121
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200710M1_3	Standard	149.200	6.44	10710.533		10710.533	139.8	-6.3	NO		NO	MMX
2	2 200710M1_4	Standard	149.200	6.44	11469.369		11469.369	149.7	0.3	NO		NO	bbX
3	3 200710M1_5	Standard	149.200	6.44	11083.343		11083.343	144.7	-3.0	NO		NO	bbX
4	4 200710M1_6	Standard	149.200	6.44	11132.795		11132.795	145.3	-2.6	NO		NO	bbX
5	5 200710M1_7	Standard	149.200	6.44	11678.301		11678.301	152.4	2.2	NO		NO	bbX
6	6 200710M1_8	Standard	149.200	6.44	11430.527		11430.527	149.2	0.0	NO		NO	bb
7	7 200710M1_9	Standard	149.200	6.44	13922.996		13922.996	181.7	21.8	NO		NO	bbX
8	8 200710M1_10	Standard	149.200	6.44	10856.003		10856.003	141.7	-5.0	NO		NO	bbX
9	9 200710M1_11	Standard	149.200	6.44	11085.724		11085.724	144.7	-3.0	NO		NO	bbX
10	10 200710M1_12	Standard	149.200	6.44	11790.723		11790.723	153.9	3.2	NO		NO	bbX

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: d9-N-EtFOSE-RSD
Response Factor: 0.0414739
RRF SD: 0.00428624, Relative SD: 10.3348
Response type: Internal Std (Ref 108), 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 200710M1_3	Standard	149.200	6.44	11019.270	22867.666	6.023	145.2	-2.7	NO		NO	MM
2	2 200710M1_4	Standard	149.200	6.44	11469.369	26055.396	5.502	132.7	-11.1	NO		NO	bb
3	3 200710M1_5	Standard	149.200	6.44	11083.343	25913.605	5.346	128.9	-13.6	NO		NO	bb
4	4 200710M1_6	Standard	149.200	6.44	11132.795	22585.639	6.161	148.6	-0.4	NO		NO	bb
5	5 200710M1_7	Standard	149.200	6.44	11678.301	25107.391	5.814	140.2	-6.0	NO		NO	bb
6	6 200710M1_8	Standard	149.200	6.44	11430.527	22356.473	6.391	154.1	3.3	NO		NO	bb
7	7 200710M1_9	Standard	149.200	6.44	13922.996	24694.273	7.048	169.9	13.9	NO		NO	bb
8	8 200710M1_10	Standard	149.200	6.44	10856.003	23884.229	5.682	137.0	-8.2	NO		NO	bb
9	9 200710M1_11	Standard	149.200	6.44	11085.724	20648.563	6.711	161.8	8.5	NO		NO	bb
10	10 200710M1_12	Standard	149.200	6.44	11790.723	20469.617	7.200	173.6	16.4	NO		NO	bb

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 3.70074e-017, Relative SD: 3.70074e-015
Response type: Internal Std (Ref 101), 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 200710M1_3	Standard	12.500	1.34	5391.804	5391.804	12.500	12.5	0.0	NO		NO	MM
2	2 200710M1_4	Standard	12.500	1.34	6078.002	6078.002	12.500	12.5	0.0	NO		NO	MM
3	3 200710M1_5	Standard	12.500	1.34	5696.254	5696.254	12.500	12.5	0.0	NO		NO	MM
4	4 200710M1_6	Standard	12.500	1.34	5988.490	5988.490	12.500	12.5	0.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	1.34	6765.584	6765.584	12.500	12.5	0.0	NO		NO	MM
6	6 200710M1_8	Standard	12.500	1.34	6307.443	6307.443	12.500	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	1.34	6405.342	6405.342	12.500	12.5	0.0	NO		NO	MM
8	8 200710M1_10	Standard	12.500	1.34	6280.037	6280.037	12.500	12.5	0.0	NO		NO	MM
9	9 200710M1_11	Standard	12.500	1.34	6580.050	6580.050	12.500	12.5	0.0	NO		NO	MM
10	10 200710M1_12	Standard	12.500	1.35	5943.901	5943.901	12.500	12.5	0.0	NO		NO	MM

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 8.27511e-017, Relative SD: 8.27511e-015
Response type: Internal Std (Ref 102), 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 200710M1_3	Standard	12.500	3.10	13428.833	13428.833	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.10	15160.891	15160.891	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.11	14984.553	14984.553	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.10	15025.654	15025.654	12.500	12.5	0.0	NO		NO	bb
5	5 200710M1_7	Standard	12.500	3.11	16157.552	16157.552	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	3.11	14859.225	14859.225	12.500	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	3.11	14893.404	14893.404	12.500	12.5	0.0	NO		NO	MM
8	8 200710M1_10	Standard	12.500	3.11	13956.150	13956.150	12.500	12.5	0.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.11	13832.629	13832.629	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.11	12952.592	12952.592	12.500	12.5	0.0	NO		NO	bb

Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 1.33432e-016, Relative SD: 1.33432e-014
Response type: Internal Std (Ref 103), 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 200710M1_3	Standard	12.500	3.86	1899.141	1899.141	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	3.86	2203.667	2203.667	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	3.86	2061.554	2061.554	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	3.86	2280.736	2280.736	12.500	12.5	0.0	NO		NO	bb
5	5 200710M1_7	Standard	12.500	3.86	2336.014	2336.014	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	3.86	2216.941	2216.941	12.500	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	3.86	1828.498	1828.498	12.500	12.5	0.0	NO		NO	bb
8	8 200710M1_10	Standard	12.500	3.86	2042.369	2042.369	12.500	12.5	0.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	3.86	1999.796	1999.796	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	3.86	1790.862	1790.862	12.500	12.5	0.0	NO		NO	bb

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 3.70074e-017, Relative SD: 3.70074e-015
Response type: Internal Std (Ref 104), 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 200710M1_3	Standard	12.500	4.23	20279.977	20279.977	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.23	24035.451	24035.451	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.23	23604.381	23604.381	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.23	25172.318	25172.318	12.500	12.5	0.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	4.23	24438.768	24438.768	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	4.23	22227.609	22227.609	12.500	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	4.23	22562.350	22562.350	12.500	12.5	0.0	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.23	22025.678	22025.678	12.500	12.5	0.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.23	20545.848	20545.848	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.23	18533.703	18533.703	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 5.23364e-017, Relative SD: 5.23364e-015
Response type: Internal Std (Ref 105), 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 200710M1_3	Standard	12.500	4.66	13956.107	13956.107	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.66	15860.545	15860.545	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.66	15682.134	15682.134	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.66	15012.557	15012.557	12.500	12.5	0.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	4.66	16666.295	16666.295	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	4.66	15251.029	15251.029	12.500	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	4.66	13648.922	13648.922	12.500	12.5	0.0	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.66	14661.294	14661.294	12.500	12.5	0.0	NO		NO	MM
9	9 200710M1_11	Standard	12.500	4.67	13743.109	13743.109	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.67	12438.192	12438.192	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:34:14 Pacific Daylight Time
Printed: Friday, July 10, 2020 16:12:38 Pacific Daylight Time

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 106), 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 200710M1_3	Standard	12.500	4.75	3674.150	3674.150	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	4.75	4382.920	4382.920	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	4.75	4480.571	4480.571	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	4.75	4350.005	4350.005	12.500	12.5	0.0	NO		NO	MM
5	5 200710M1_7	Standard	12.500	4.75	4273.830	4273.830	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	4.75	4276.085	4276.085	12.500	12.5	0.0	NO		NO	MM
7	7 200710M1_9	Standard	12.500	4.75	4123.927	4123.927	12.500	12.5	0.0	NO		NO	bb
8	8 200710M1_10	Standard	12.500	4.75	3948.264	3948.264	12.500	12.5	0.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	4.75	3974.610	3974.610	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	4.75	3850.625	3850.625	12.500	12.5	0.0	NO		NO	MM

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 107), 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 200710M1_3	Standard	12.500	5.03	16273.869	16273.869	12.500	12.5	0.0	NO		NO	bb
2	2 200710M1_4	Standard	12.500	5.04	19894.090	19894.090	12.500	12.5	0.0	NO		NO	bb
3	3 200710M1_5	Standard	12.500	5.04	18132.928	18132.928	12.500	12.5	0.0	NO		NO	bb
4	4 200710M1_6	Standard	12.500	5.04	20528.141	20528.141	12.500	12.5	0.0	NO		NO	bb
5	5 200710M1_7	Standard	12.500	5.04	20831.842	20831.842	12.500	12.5	0.0	NO		NO	bb
6	6 200710M1_8	Standard	12.500	5.04	19621.000	19621.000	12.500	12.5	0.0	NO		NO	bb
7	7 200710M1_9	Standard	12.500	5.04	19235.434	19235.434	12.500	12.5	0.0	NO		NO	bb
8	8 200710M1_10	Standard	12.500	5.04	18966.936	18966.936	12.500	12.5	0.0	NO		NO	bb
9	9 200710M1_11	Standard	12.500	5.04	18136.441	18136.441	12.500	12.5	0.0	NO		NO	bb
10	10 200710M1_12	Standard	12.500	5.04	16385.625	16385.625	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:34:14 Pacific Daylight Time
Printed: Friday, July 10, 2020 16:12:38 Pacific Daylight Time

Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 108), 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	200710M1_3	Standard	12.500	5.36	22867.666	22867.666	12.500	12.5	0.0	NO		NO	bb
2	2	200710M1_4	Standard	12.500	5.36	26055.396	26055.396	12.500	12.5	0.0	NO		NO	bb
3	3	200710M1_5	Standard	12.500	5.36	25913.605	25913.605	12.500	12.5	0.0	NO		NO	bb
4	4	200710M1_6	Standard	12.500	5.36	22585.639	22585.639	12.500	12.5	0.0	NO		NO	MM
5	5	200710M1_7	Standard	12.500	5.36	25107.391	25107.391	12.500	12.5	0.0	NO		NO	bb
6	6	200710M1_8	Standard	12.500	5.36	22356.473	22356.473	12.500	12.5	0.0	NO		NO	bb
7	7	200710M1_9	Standard	12.500	5.36	24694.273	24694.273	12.500	12.5	0.0	NO		NO	bb
8	8	200710M1_10	Standard	12.500	5.36	23884.229	23884.229	12.500	12.5	0.0	NO		NO	MM
9	9	200710M1_11	Standard	12.500	5.36	20648.563	20648.563	12.500	12.5	0.0	NO		NO	bb
10	10	200710M1_12	Standard	12.500	5.36	20469.617	20469.617	12.500	12.5	0.0	NO		NO	MM

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:34:14 Pacific Daylight Time
Printed: Friday, July 10, 2020 16:10:15 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
69	1...	d9-N-EtFOSE-RSD	108		NO	10.335
70	1...	13C4-PFBA	101		NO	0.000
71	1...	13C5-PFHxA	102		NO	0.000
72	1...	18O2-PFHxS	103		NO	0.000
73	1...	13C8-PFOA	104		NO	0.000
74	1...	13C9-PFNA	105		NO	0.000
75	1...	13C4-PFOS	106		NO	0.000
76	1...	13C6-PFDA	107		NO	0.000
77	1...	13C7-PFUdA	108		NO	0.000

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:16:27 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:07:49

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	47	0.9999	NO	
2	2	PFPrS	51	0.9999	NO	
3	3	3:3 FTCA	49	0.9993	NO	
4	4	PFPeA	49	0.9999	NO	
5	5	PFBS	51	0.9999	NO	
6	6	4:2 FTS	55	0.9995	NO	
7	7	PFHxA	57	0.9996	NO	
8	8	PFPeS	51	0.9992	NO	
9	9	HFPO-DA	53	0.9993	NO	
10	10	5:3 FTCA	59	0.9994	NO	
11	11	PFHpA	59	0.9993	NO	
12	12	ADONA	59	0.9989	NO	
13	13	L-PFHxS	61	0.9994	NO	
14	15	6:2 FTS	63	0.9987	NO	
15	16	L-PFOA	69	0.9995	NO	
16	18	PFecHS	69	0.9990	NO	
17	19	PFHpS	73	0.9915	NO	
18	20	7:3 FTCA	65	0.9990	NO	
19	21	PFNA	65	0.9999	NO	
20	22	PFOSA	67	0.9994	NO	
21	23	L-PFOS	73	0.9996	NO	
22	25	9Cl-PF30NS	73	0.9995	NO	
23	26	PFDA	75	0.9986	NO	
24	27	8:2 FTS	77	0.9988	NO	
25	28	PFNS	73	0.9983	NO	
26	29	L-MeFOSAA	79	0.9983	NO	

Vista Analytical Laboratory

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	83	0.9987	NO	
2	33	PFUdA	81	0.9996	NO	
3	34	PFDS	73	0.9981	NO	
4	35	11Cl-PF30UdS	85	0.9998	NO	
5	36	10:2 FTS	87	0.9992	NO	
6	37	PFDoA	85	0.9976	NO	
7	38	N-MeFOSA	89	0.9995	NO	
8	39	PFTrDA	85	0.9989	NO	
9	40	PFDoS	91	0.9991	NO	
10	41	PFTeDA	91	0.9994	NO	
11	42	N-EtFOSA	93	0.9997	NO	
12	43	PFHxDA	95	0.9997	NO	
13	44	PFODA	95	0.9998	NO	
14	45	N-MeFOSE	97	0.9972	NO	
15	46	N-EtFOSE	99	0.9992	NO	
16	47	13C3-PFBA-EIS			NO	0.000
17	48	13C3-PFBA-RSD	101		NO	3.280
18	49	13C3-PFPeA-EIS			NO	0.000
19	50	13C3-PFPeA-RSD	102		NO	4.887
20	51	13C3-PFBS-EIS			NO	0.000
21	52	13C3-PFBS-RSD	103		NO	7.635
22	53	13C3-HFPO-DA-EIS			NO	0.000
23	54	13C3-HFPO-DA-RSD	102		NO	9.802
24	55	13C2-4:2 FTS-EIS			NO	1.684
25	56	13C2-4:2 FTS-RSD	103		NO	8.609
26	57	13C2-PFHxA-EIS			NO	0.000
27	58	13C2-PFHxA-RSD	102		NO	3.462
28	59	13C4-PFHpA-EIS			NO	0.000
29	60	13C4-PFHpA-RSD	102		NO	2.462
30	61	13C3-PFHxS-EIS			NO	0.000
31	62	13C3-PFHxS-RSD	103		NO	7.420
32	63	13C2-6:2 FTS-EIS			NO	0.000

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:23:51 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
33	64	13C2-6:2 FTS-RSD	106		NO	9.268
34	65	13C5-PFNA-EIS			NO	0.000
35	66	13C5-PFNA-RSD	105		NO	6.577
36	67	13C8-PFOSA-EIS			NO	0.000
37	68	13C8-PFOSA-RSD	108		NO	6.578
38	69	13C2-PFOA-EIS			NO	0.000
39	70	13C2-PFOA-RSD	104		NO	2.873
40	71	13C2-FOUEA-EIS			NO	0.000
41	72	13C2-FOUEA-RSD	104		NO	4.098
42	73	13C8-PFOS-EIS			NO	0.000
43	74	13C8-PFOS-RSD	106		NO	6.260
44	75	13C2-PFDA-EIS			NO	0.000
45	76	13C2-PFDA-RSD	107		NO	5.633
46	77	13C2-8:2 FTS-EIS			NO	0.000
47	78	13C2-8:2 FTS-RSD	106		NO	8.266
48	79	d3-N-MeFOSAA-EIS			NO	0.000
49	80	d3-N-MeFOSAA-RSD	108		NO	8.608
50	81	13C2-PFUdA-EIS			NO	0.000
51	82	13C2-PFUdA-RSD	108		NO	7.562
52	83	d5-N-EtFOSAA-EIS			NO	0.000
53	84	d5-N-EtFOSAA-RSD	108		NO	9.786
54	85	13C2-PFDoA-EIS			NO	0.000
55	86	13C2-PFDoA-RSD	107		NO	6.505
56	87	13C2-10:2 FTS-EIS			NO	0.000
57	88	13C2-10:2 FTS-RSD	106		NO	9.628
58	89	d3-N-MeFOSA-EIS			NO	0.000
59	90	d3-N-MeFOSA-RSD	108		NO	11.073
60	91	13C2-PFTeDA-EIS			NO	0.000
61	92	13C2-PFTeDA-RSD	108		NO	5.560
62	93	d5-N-ETFOSA-EIS			NO	0.000
63	94	d5-N-ETFOSA-RSD	108		NO	5.363
64	95	13C2-PFHxDA-EIS			NO	0.000
65	96	13C2-PFHxDA-RSD	108		NO	5.849
66	97	d7-N-MeFOSE-EIS			NO	0.000
67	98	d7-N-MeFOSE-RSD	108		NO	15.258
68	99	d9-N-EtFOSE-EIS			NO	0.000

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:34:14 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:34:22 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 14:34:13
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	1	PFBA	1.80	1.34			
2	2	PFPrS	1.71	1.67	2.280	2.280	NO
3	3	3:3 FTCA	2.15	2.15	2.350	2.350	NO
4	4	PFPeA	2.29	2.29			
5	5	PFBS	2.57	2.57	2.781	2.781	NO
6	6	4:2 FTS	3.02	3.02	1.955	1.955	NO
7	7	PFHxA	3.11	3.11	19.152	19.152	NO
8	8	PFPeS	3.24	3.31	1.734	1.734	NO
9	9	HFPO-DA	3.33	3.32	1.937	1.937	NO
10	10	5:3 FTCA	3.66	3.66	1.527	1.527	NO
11	11	PFHpA	3.72	3.72	10.333	10.333	NO
12	12	ADONA	3.81	3.83	3.392	3.392	NO
13	13	L-PFHxS	3.86	3.86	1.717	1.717	NO
14	15	6:2 FTS	4.17	4.18	2.000	2.000	NO
15	16	L-PFOA	4.23	4.23	3.792	3.792	NO
16	18	PFecHS	4.25	4.24	0.879	0.879	NO
17	19	PFHpS	4.35	4.34	1.943	1.943	NO
18	20	7:3 FTCA	4.65	4.65	1.456	1.456	NO
19	21	PFNA	4.66	4.66	3.638	3.638	NO
20	22	PFOSA	4.71	4.71	28.701	28.701	NO
21	23	L-PFOS	4.75	4.75	1.939	1.939	NO
22	25	9Cl-PF30NS	4.95	4.97	23.138	23.138	NO
23	26	PFDA	5.04	5.04	5.277	5.277	NO
24	27	8:2 FTS	5.01	5.01	1.823	1.823	NO
25	28	PFNS	5.09	5.10	1.506	1.506	NO
26	29	L-MeFOSAA	5.19	5.19	2.667	2.667	NO

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:34:14 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:34:50 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 14:34:13
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	31	L-EtFOSAA	5.34	5.35	1.352	1.352	NO
2	33	PFUdA	5.36	5.36	9.722	9.722	NO
3	34	PFDS	5.38	5.41	1.425	1.425	NO
4	35	11Cl-PF30UdS	5.58	5.57	23.999	23.999	NO
5	36	10:2 FTS	5.63	5.63	1.553	1.553	NO
6	37	PFDoA	5.64	5.64	8.278	8.278	NO
7	38	N-MeFOSA	5.67	5.65	1.343	1.343	NO
8	39	PFTrDA	5.90	5.89	9.350	9.350	NO
9	40	PFDoS	5.91	5.92	1.847	1.847	NO
10	41	PFTeDA	6.11	6.11	13.161	13.161	NO
11	42	N-EtFOSA	6.09	6.09	1.430	1.430	NO
12	43	PFHxDA	6.43	6.43	20.157	20.157	NO
13	44	PFODA	6.64	6.65			
14	45	N-MeFOSE	6.29	6.30			
15	46	N-EtFOSE	6.44	6.45			

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 10, 2020 14:37:05 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:37:17 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	200710M1_1	IPA	10-Jul-20	07:55:03
2	2	200710M1_2	IPA	10-Jul-20	08:05:23
3	3	200710M1_3	ST200710M1-1 PFC CS-2 20F1901	10-Jul-20	08:15:44
4	4	200710M1_4	ST200710M1-2 PFC CS-1 20F1902	10-Jul-20	08:26:06
5	5	200710M1_5	ST200710M1-3 PFC CS0 20F1903	10-Jul-20	08:36:28
6	6	200710M1_6	ST200710M1-4 PFC CS1 20F1904	10-Jul-20	08:46:51
7	7	200710M1_7	ST200710M1-5 PFC CS2 20F1905	10-Jul-20	08:57:13
8	8	200710M1_8	ST200710M1-6 PFC CS3 20F1906	10-Jul-20	09:07:35
9	9	200710M1_9	ST200710M1-7 PFC CS4 20F1907	10-Jul-20	09:17:57
10	10	200710M1_10	ST200710M1-8 PFC CS5 20F1908	10-Jul-20	09:28:20
11	11	200710M1_11	ST200710M1-9 PFC CS6 20F1909	10-Jul-20	09:38:42
12	12	200710M1_12	ST200710M1-10 PFC CS7 20F1910	10-Jul-20	09:49:04
13	13	200710M1_13	IB	10-Jul-20	09:59:26
14	14	200710M1_14	ICV200710M1-1 PFC ICV 20F1911	10-Jul-20	10:09:48
15	15	200710M1_15	IB	10-Jul-20	10:20:11

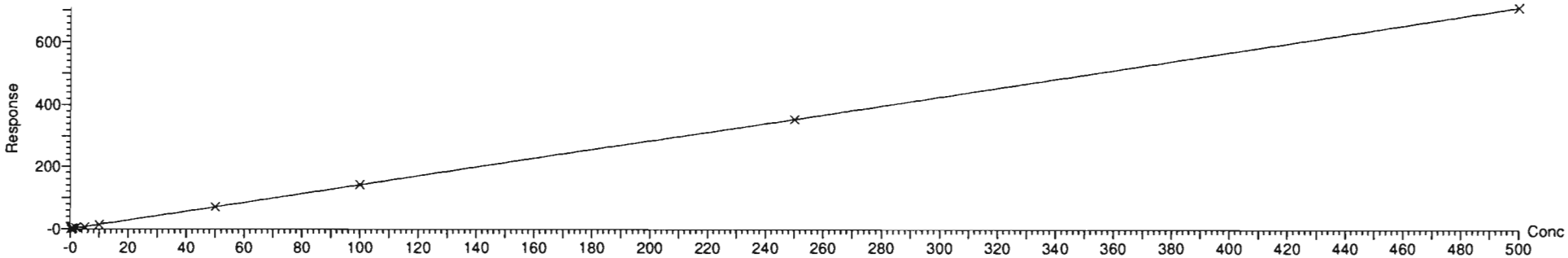
Vista Analytical Laboratory Q1

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

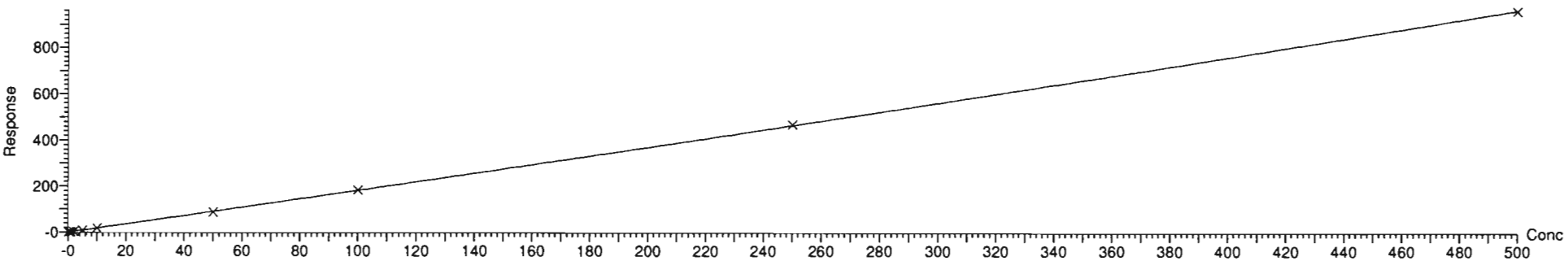
Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999938
Calibration curve: 9.93188e-006 * x^2 + 1.41616 * x + -0.0520854
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



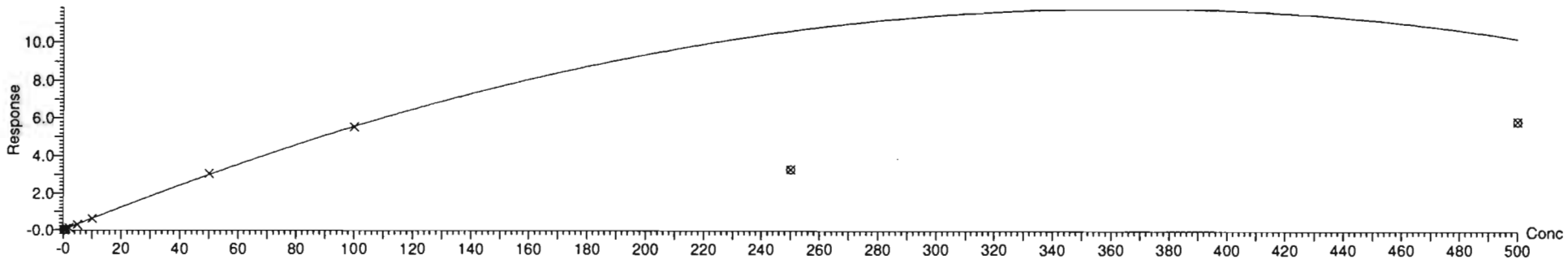
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999852
Calibration curve: 0.000246536 * x^2 + 1.80116 * x + -0.161006
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



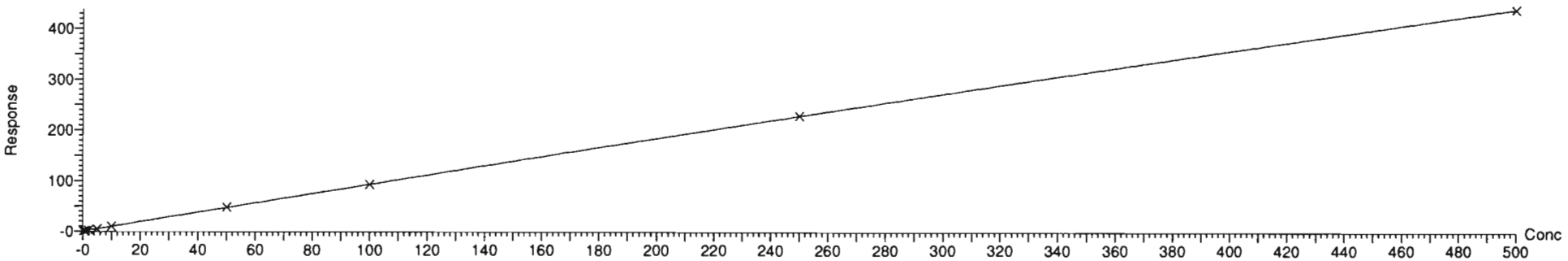
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999290
Calibration curve: -8.79981e-005 * x^2 + 0.0645033 * x + -0.00415579
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



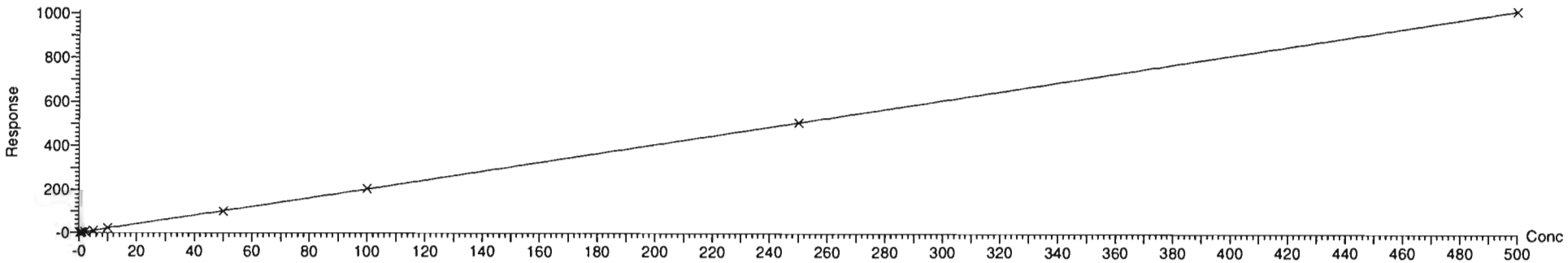
Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999947
Calibration curve: -0.000143835 * x^2 + 0.950258 * x + 4.5513e-005
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



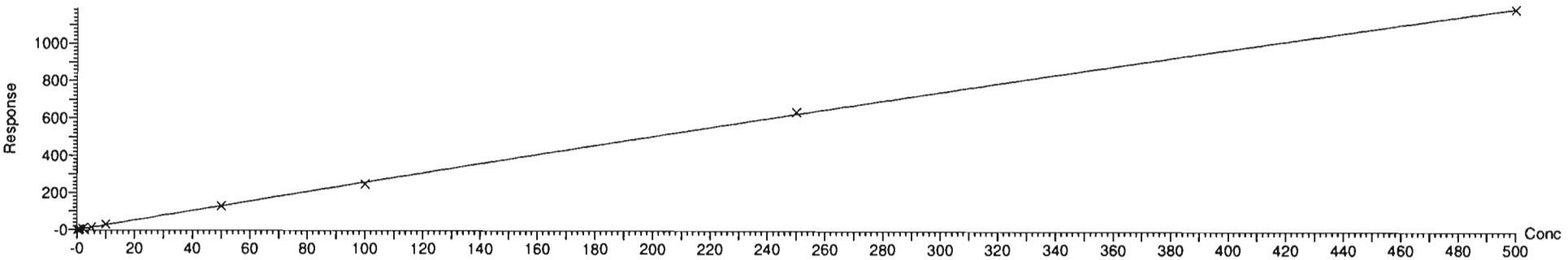
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.999879
Calibration curve: -4.61534e-006 * x^2 + 2.03363 * x + -0.0631009
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



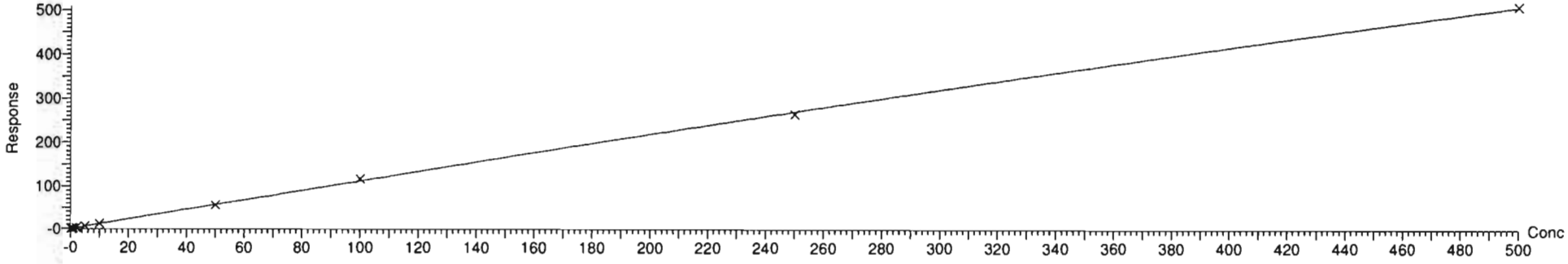
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999504
Calibration curve: -0.00047368 * x^2 + 2.62599 * x + -0.012296
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



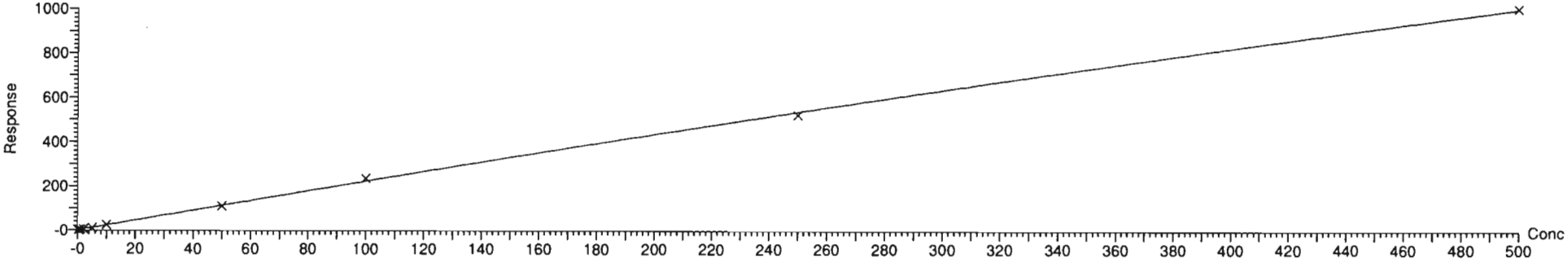
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.999570
Calibration curve: -0.00026069 * x^2 + 1.1461 * x + 0.0210736
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



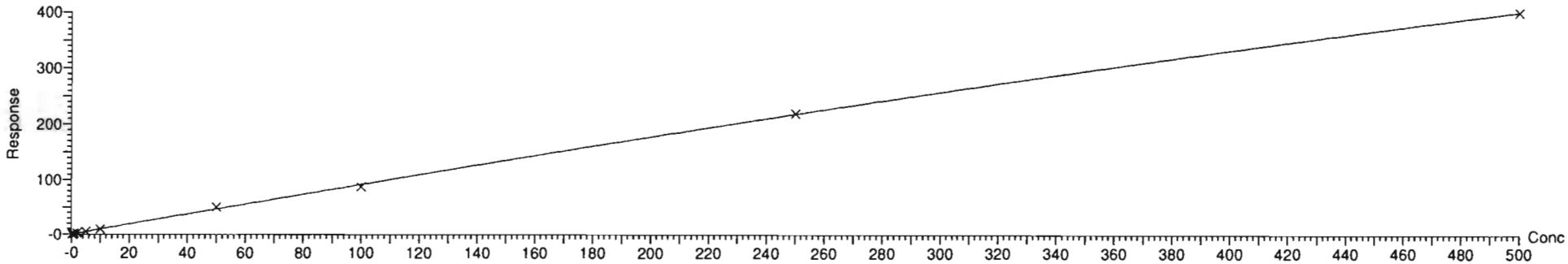
Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999168
Calibration curve: -0.000575203 * x^2 + 2.28911 * x + 0.195238
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



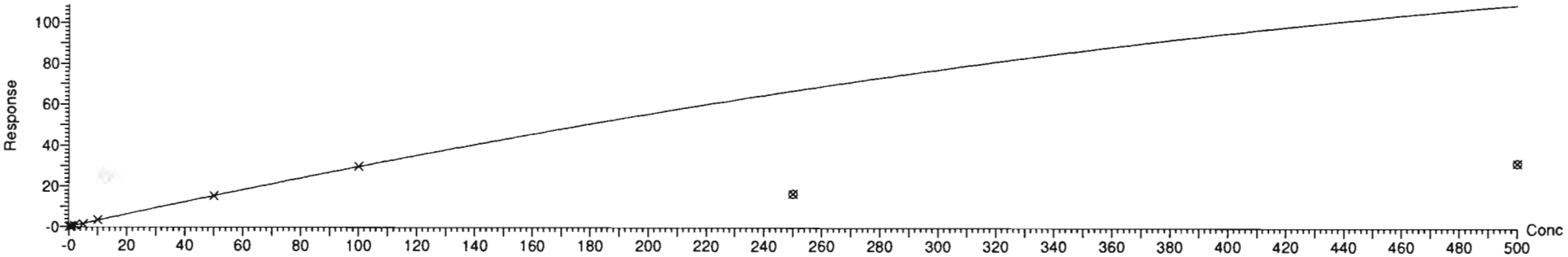
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999320
Calibration curve: -0.000287356 * x^2 + 0.945682 * x + -0.0369496
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



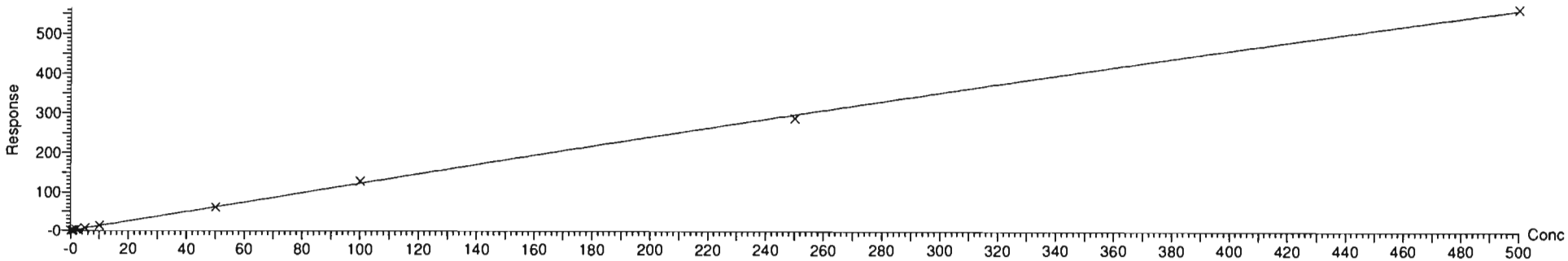
Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.999435
Calibration curve: -0.000197121 * x^2 + 0.316955 * x + -0.000397296
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



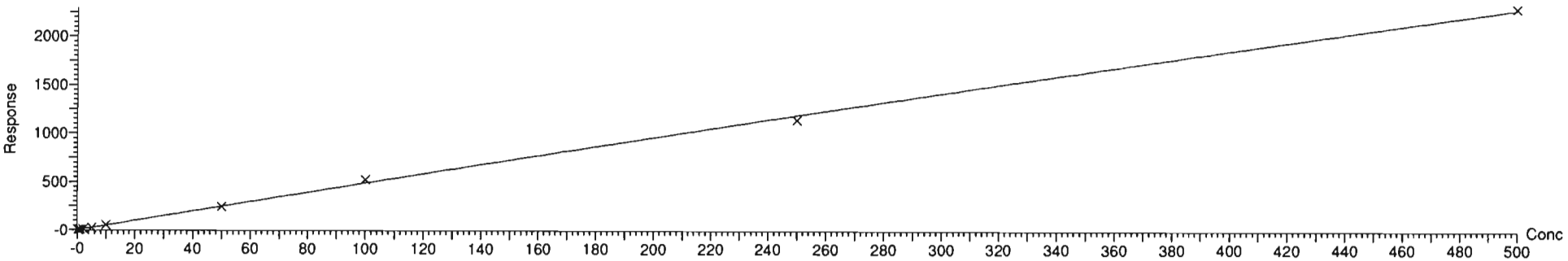
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999343
Calibration curve: -0.000272242 * x^2 + 1.2607 * x + 0.0439884
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



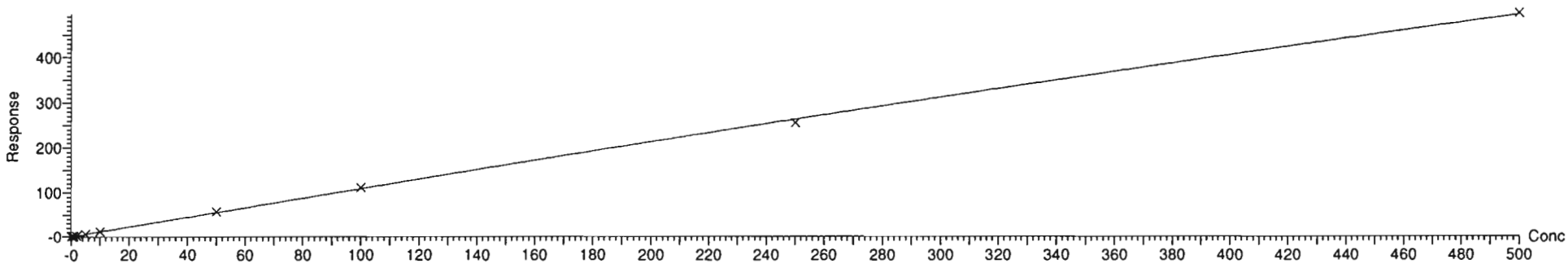
Compound name: ADONA
Coefficient of Determination: R^2 = 0.998881
Calibration curve: -0.000821812 * x^2 + 4.96814 * x + 0.0937607
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



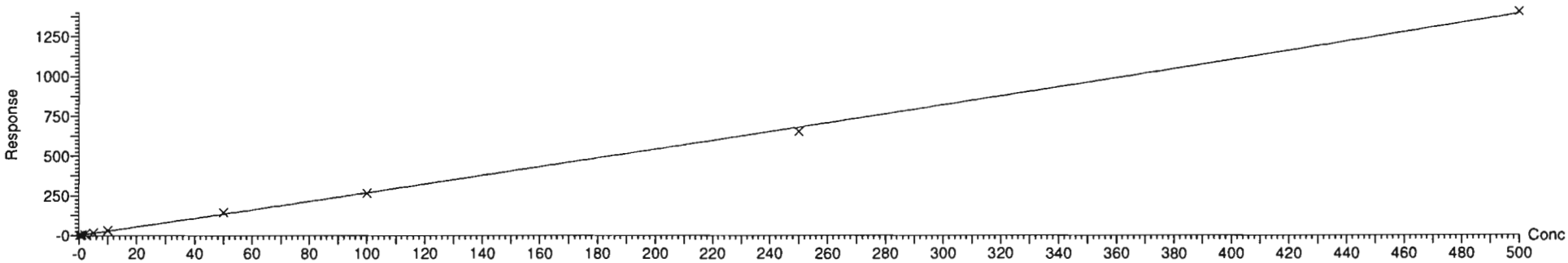
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999447
Calibration curve: -0.00024976 * x^2 + 1.11253 * x + -0.0182313
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



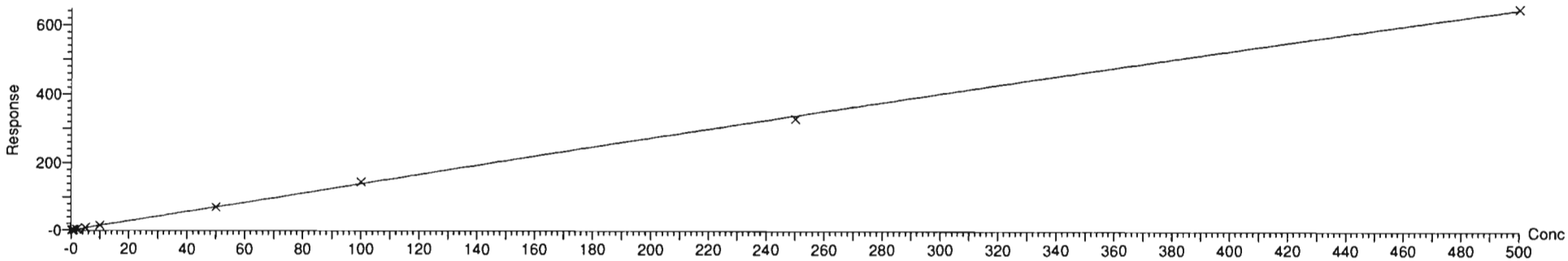
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998674
Calibration curve: 0.000259877 * x^2 + 2.65032 * x + 0.19922
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



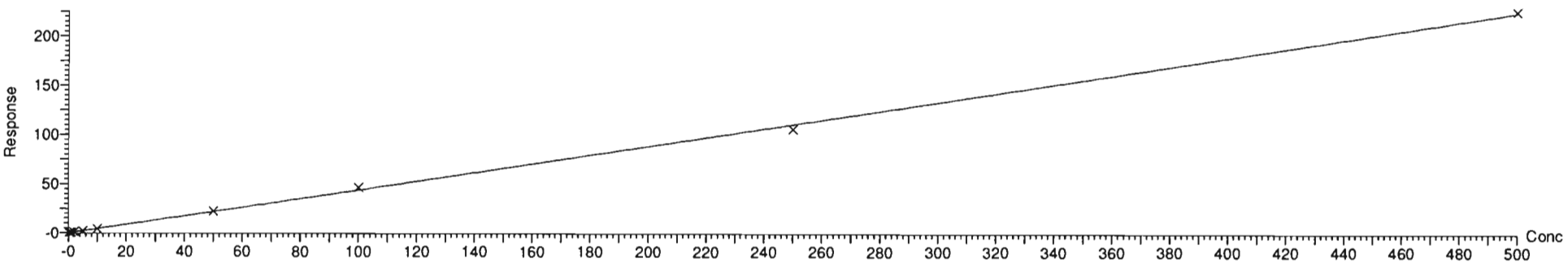
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999514
Calibration curve: -0.000256585 * x^2 + 1.42034 * x + 0.107722
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



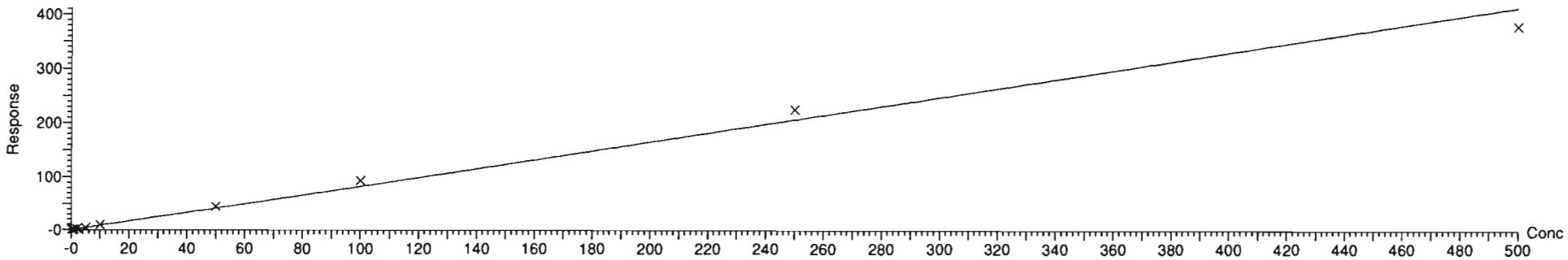
Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999036
Calibration curve: 2.10609e-005 * x^2 + 0.438107 * x + -0.0479398
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



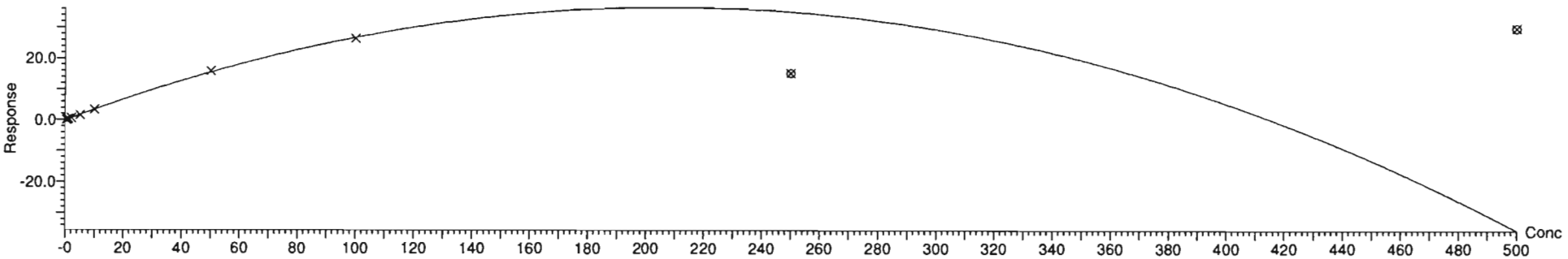
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFHpS
Correlation coefficient: r = 0.995752, r^2 = 0.991522
Calibration curve: 0.825285 * x + 0.0277791
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



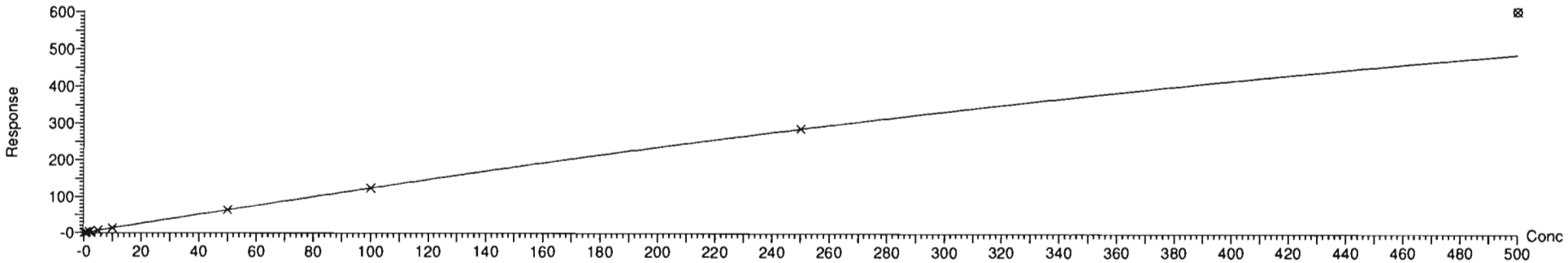
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.998982
Calibration curve: -0.000845999 * x^2 + 0.351995 * x + -0.0482618
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



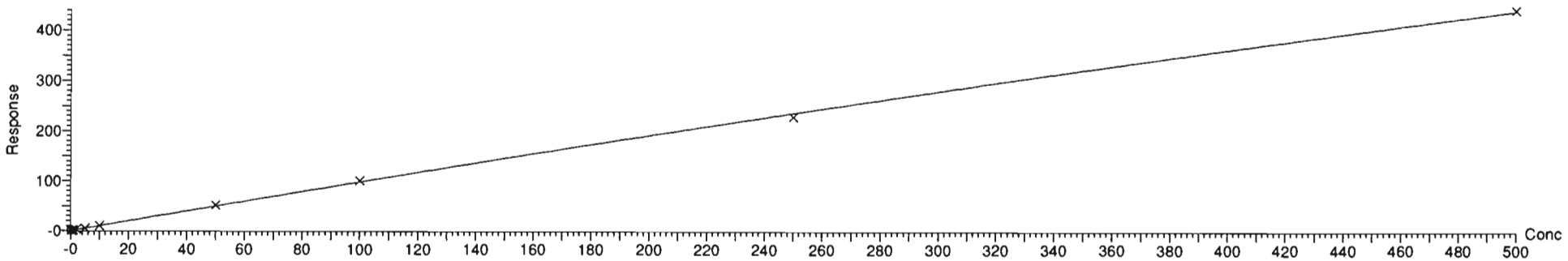
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999936
Calibration curve: -0.000674276 * x^2 + 1.31353 * x + -0.0181944
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



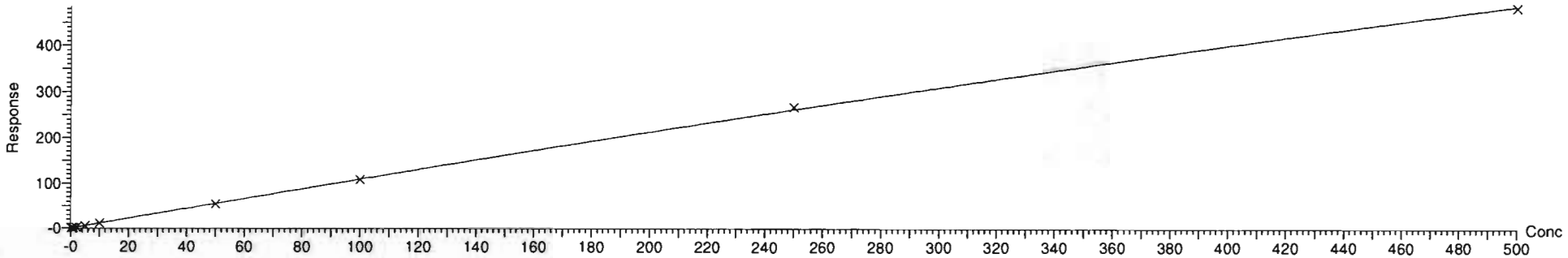
Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999396
Calibration curve: -0.000260279 * x^2 + 1.00977 * x + -0.115907
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



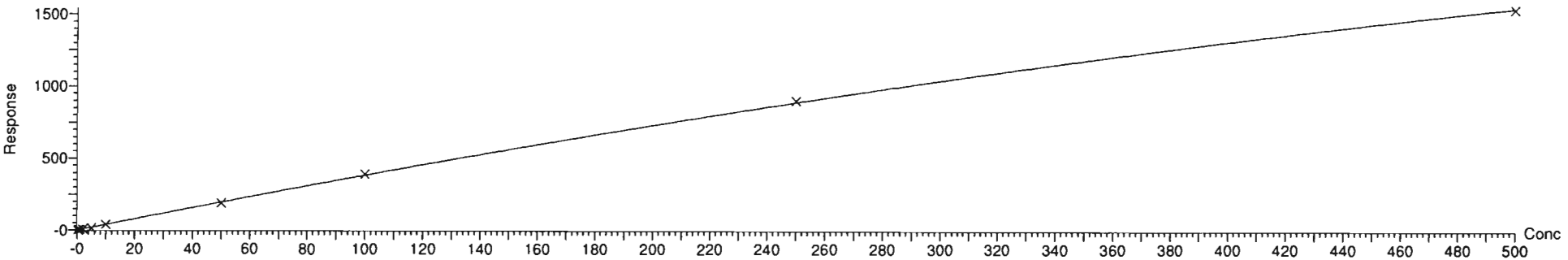
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999556
Calibration curve: -0.00030804 * x^2 + 1.12631 * x + -0.0940027
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



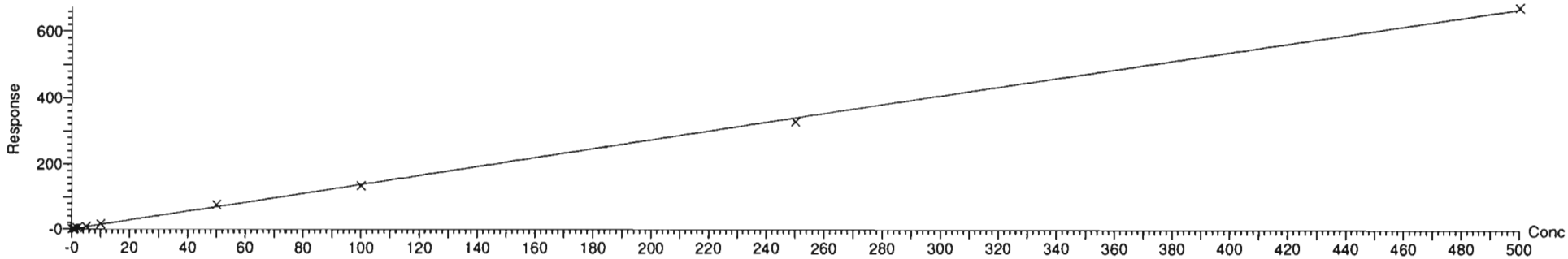
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999534
Calibration curve: -0.00190611 * x^2 + 4.04208 * x + -0.229846
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



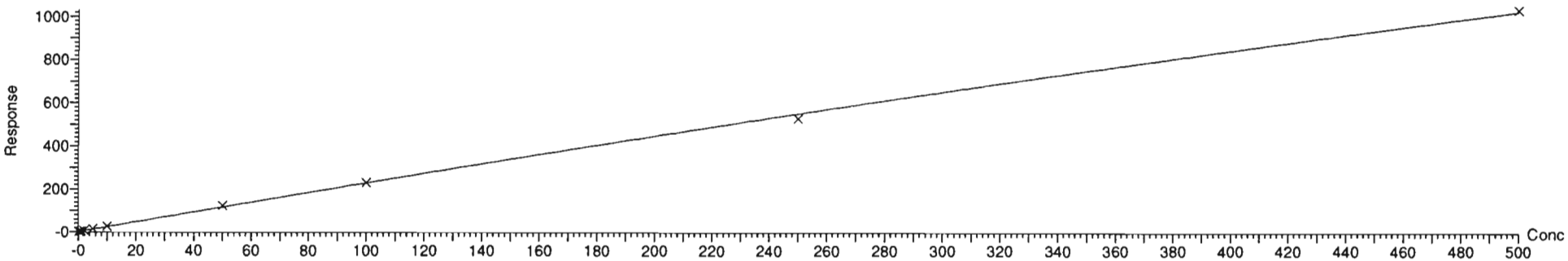
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.998649
Calibration curve: -0.000118415 * x^2 + 1.39555 * x + 0.0570639
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



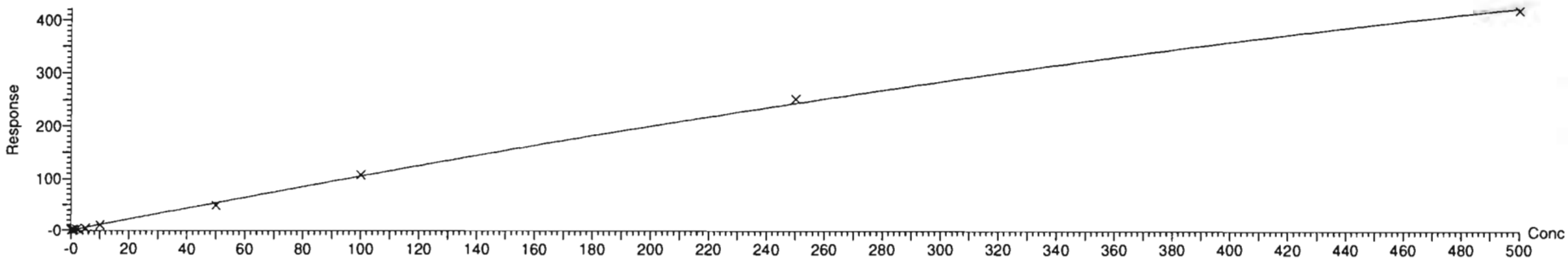
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998816
Calibration curve: -0.000623596 * x^2 + 2.3592 * x + 0.189047
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



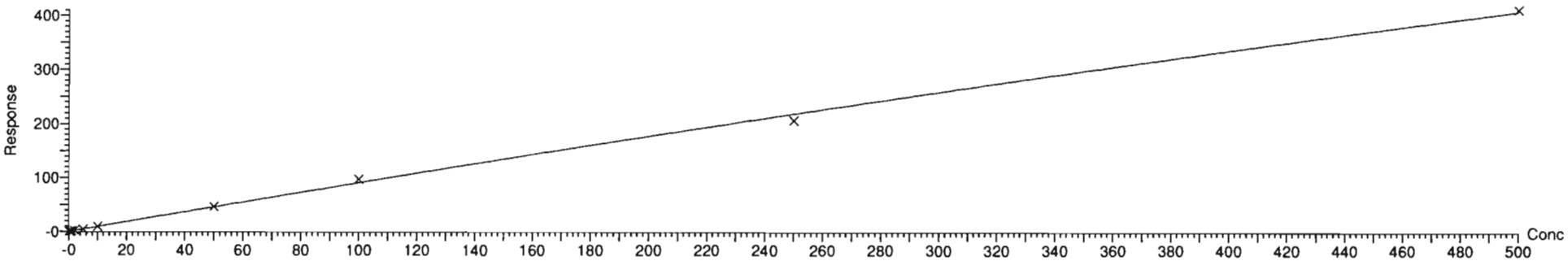
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:28:29 Pacific Daylight Time

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998302
Calibration curve: -0.00052154 * x^2 + 1.1076 * x + -0.146876
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.998309
Calibration curve: -0.000239175 * x^2 + 0.935552 * x + -0.0375117
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



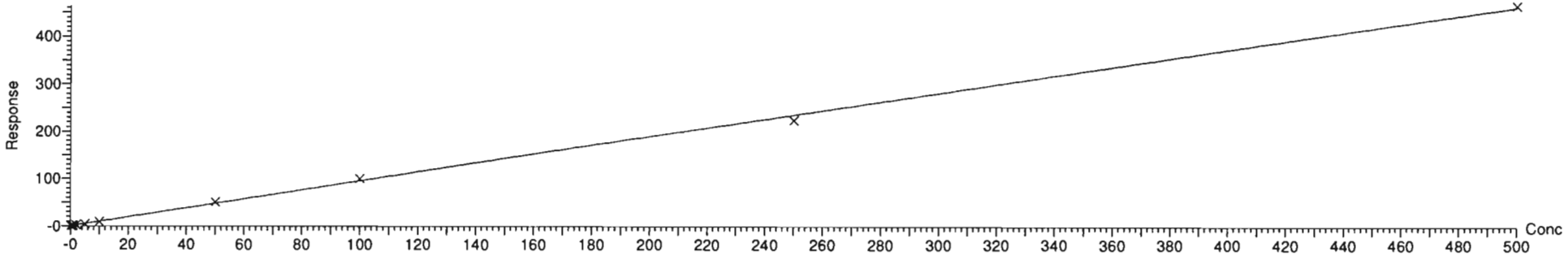
Vista Analytical Laboratory Q1

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

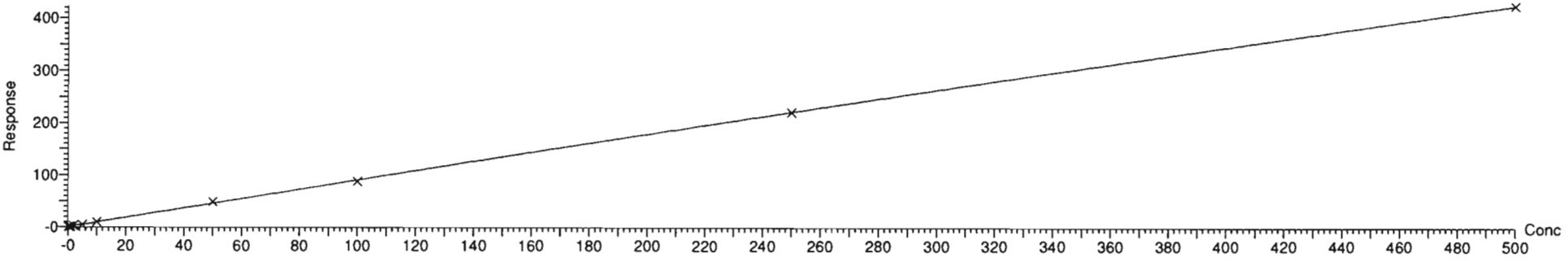
Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.998741
Calibration curve: -7.92519e-005 * x^2 + 0.962993 * x + -0.0735279
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



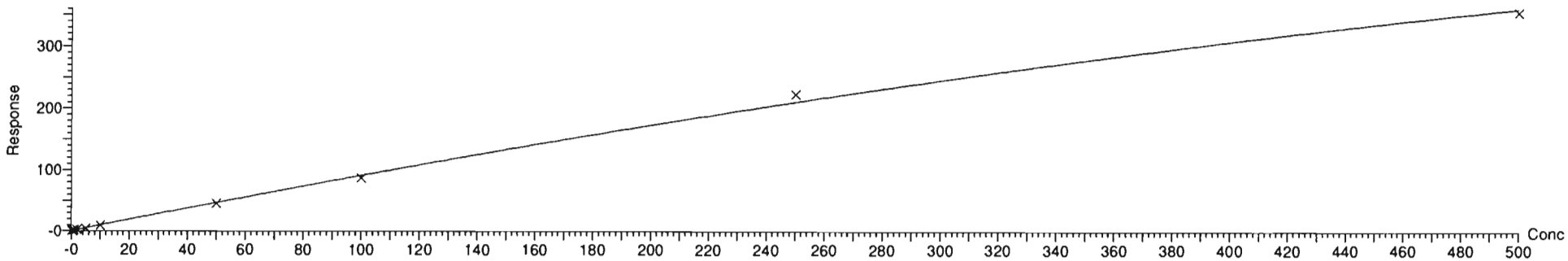
Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999590
Calibration curve: -0.000152795 * x^2 + 0.92475 * x + 0.0251359
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



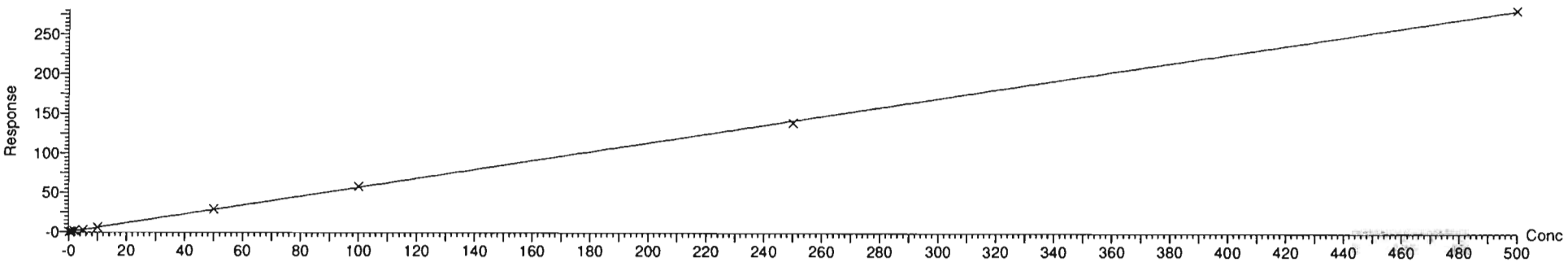
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998060
Calibration curve: -0.00048137 * x^2 + 0.961776 * x + -0.0610643
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



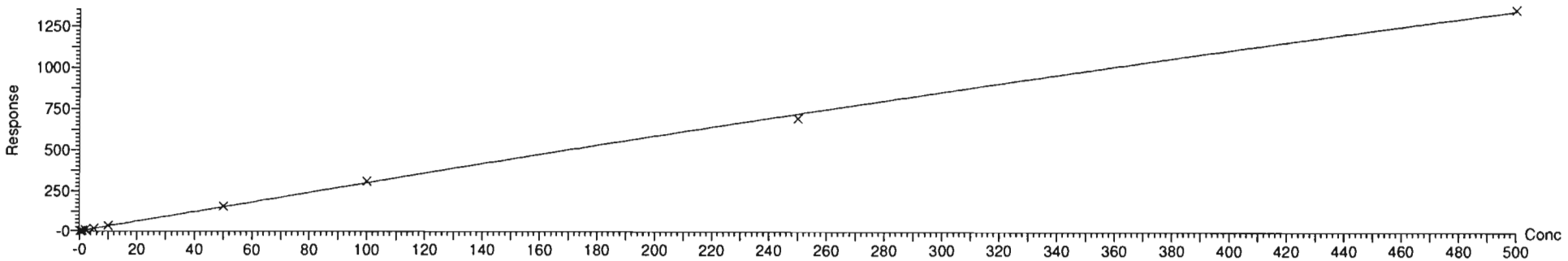
Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.999828
Calibration curve: -2.32285e-005 * x^2 + 0.57308 * x + 0.0061204
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



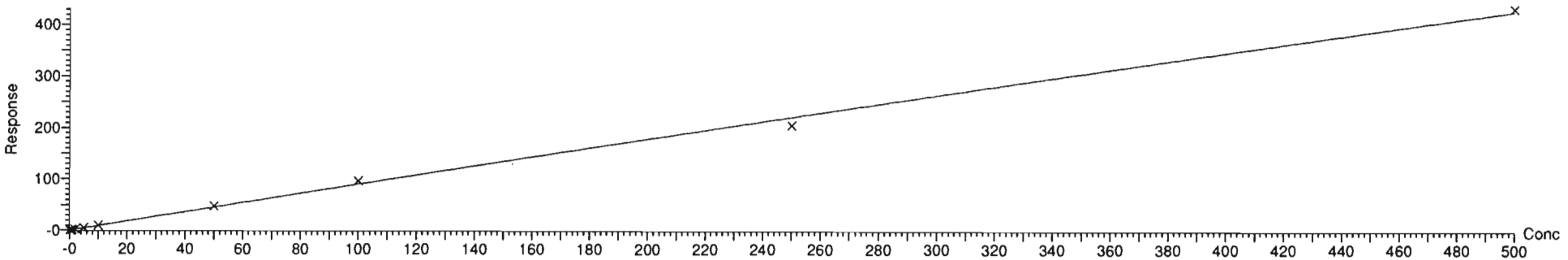
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999247
Calibration curve: -0.000799537 * x^2 + 3.09734 * x + 0.184904
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



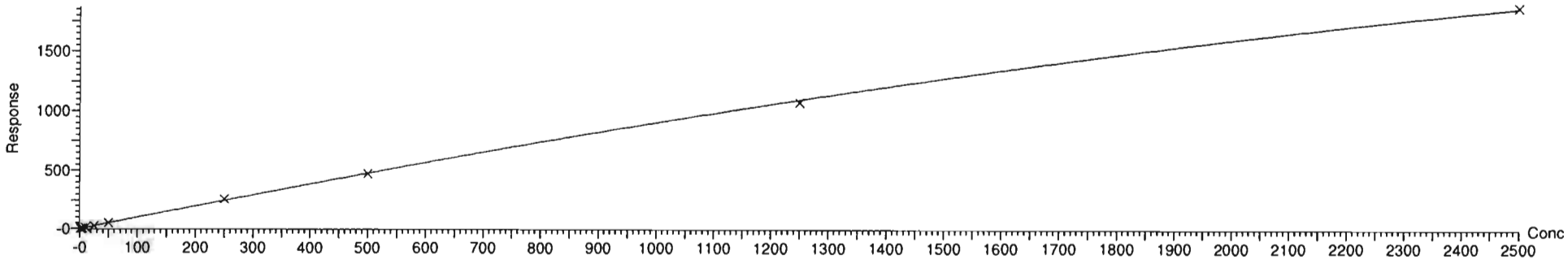
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.997575
Calibration curve: -0.000130802 * x^2 + 0.918713 * x + 0.130305
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



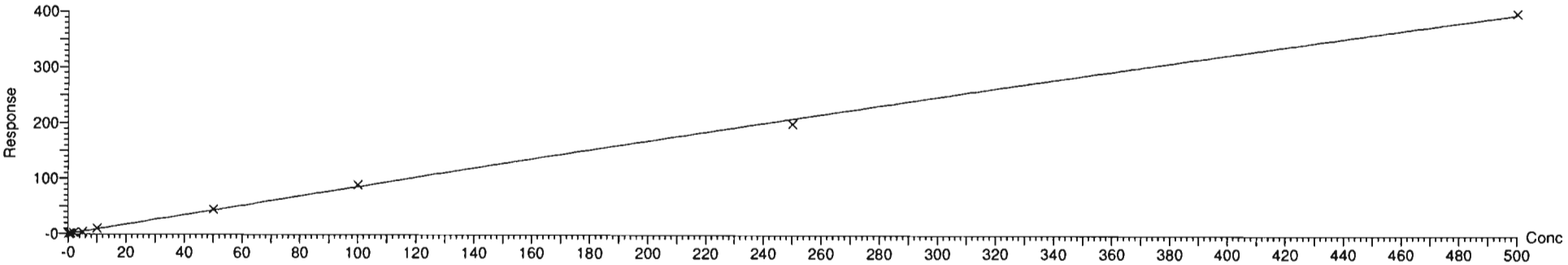
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999536
Calibration curve: -0.00010704 * x^2 + 1.01201 * x + 0.126569
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



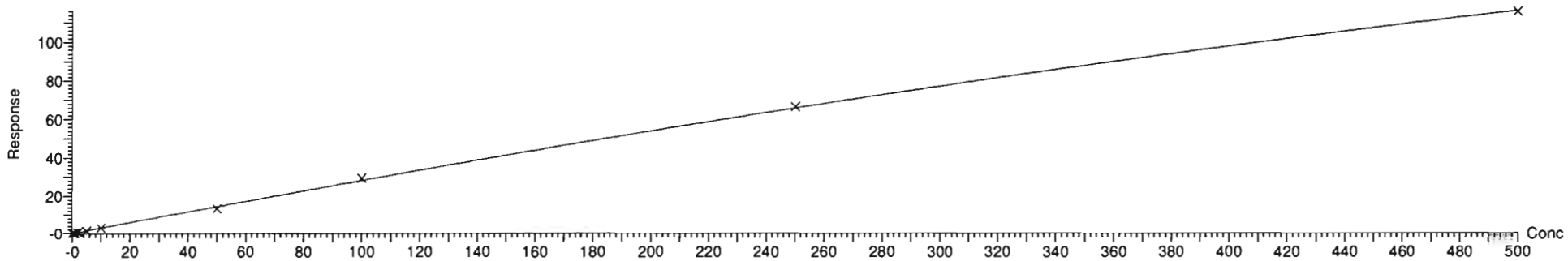
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.998909
Calibration curve: -0.00017419 * x^2 + 0.879908 * x + 0.0115974
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



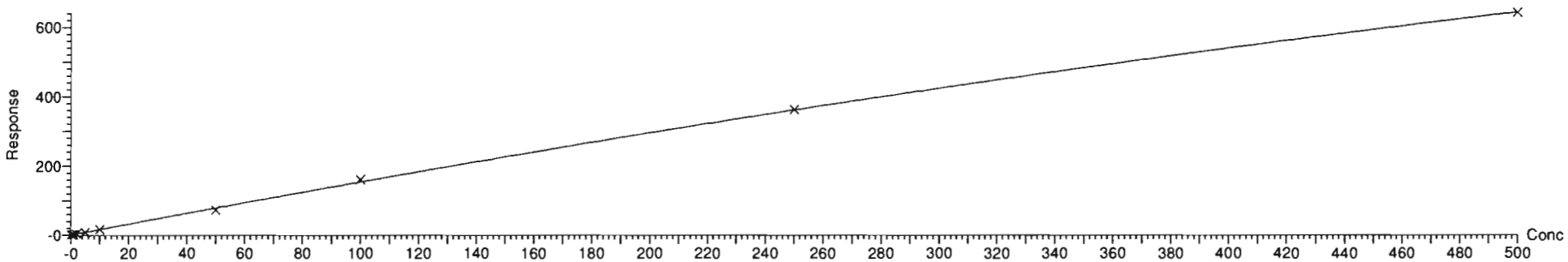
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999096
Calibration curve: -0.000124818 * x^2 + 0.294818 * x + -0.021835
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



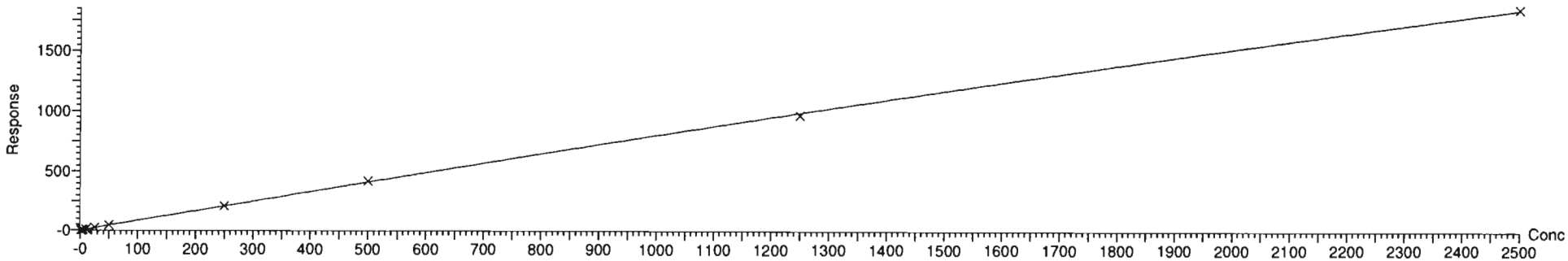
Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999369
Calibration curve: -0.000626517 * x^2 + 1.59881 * x + -0.0293017
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



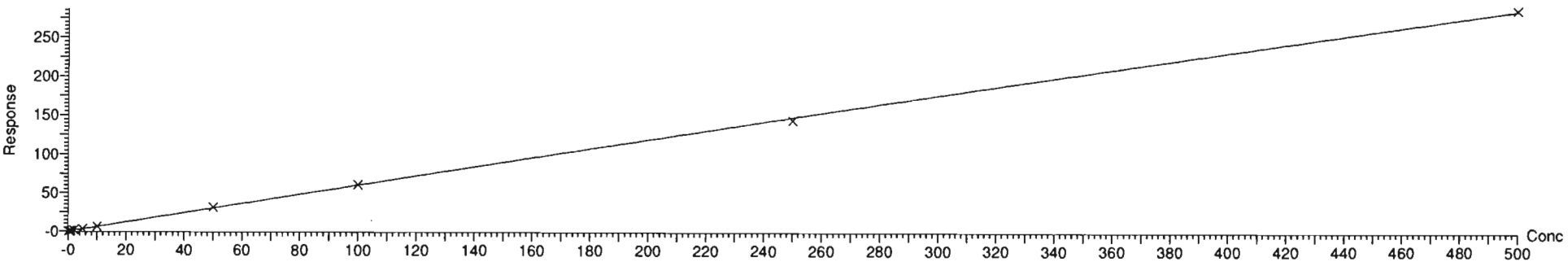
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999747
Calibration curve: -4.30747e-005 * x^2 + 0.844691 * x + 0.0171007
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



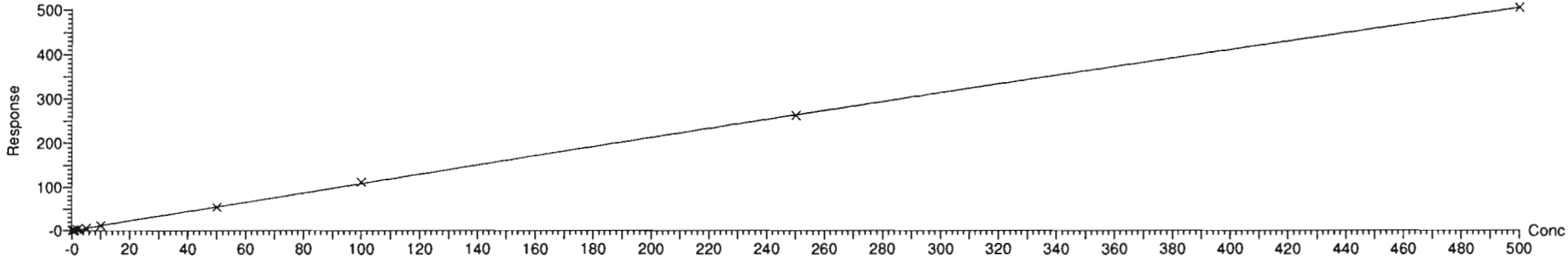
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999652
Calibration curve: -8.23874e-005 * x^2 + 0.61175 * x + 0.0968722
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



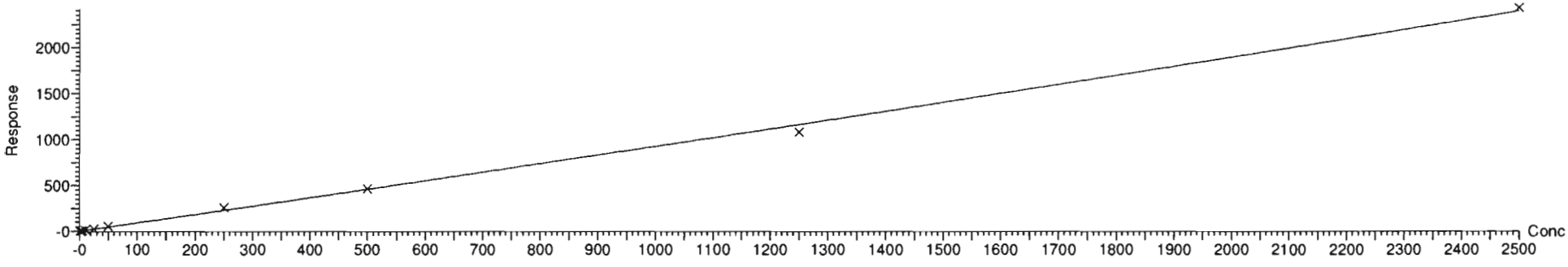
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999827
Calibration curve: -0.000181063 * x^2 + 1.09779 * x + -0.0167173
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



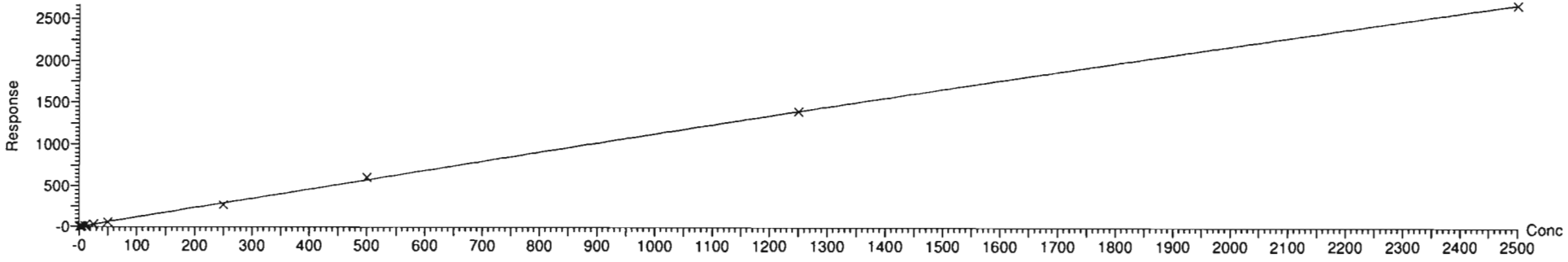
Compound name: N-MeFOSE
Coefficient of Determination: R^2 = 0.997248
Calibration curve: 2.19734e-005 * x^2 + 0.901327 * x + 0.545702
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:23:37 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:29:50 Pacific Daylight Time

Compound name: N-EtFOSE
Coefficient of Determination: R^2 = 0.999176
Calibration curve: -4.04414e-005 * x^2 + 1.17062 * x + 0.010152
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



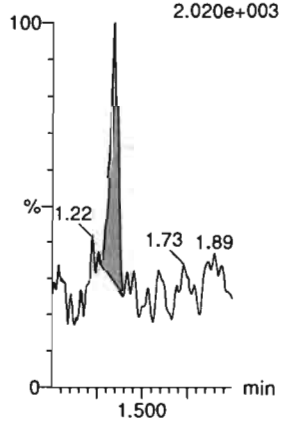
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:07:49 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:08:06 Pacific Daylight Time

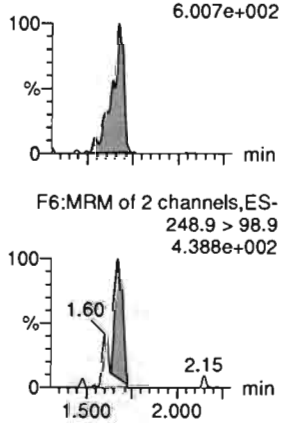
Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 12:55:57
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:07:49

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

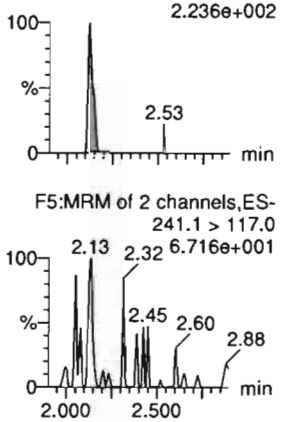
PFBA



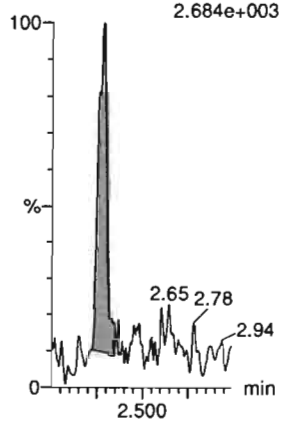
PFPrS



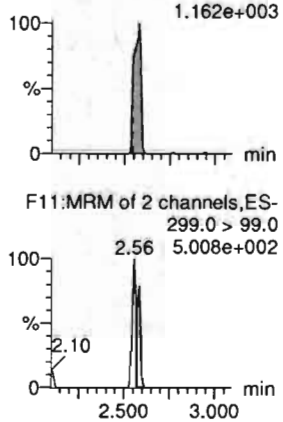
3:3 FTCA



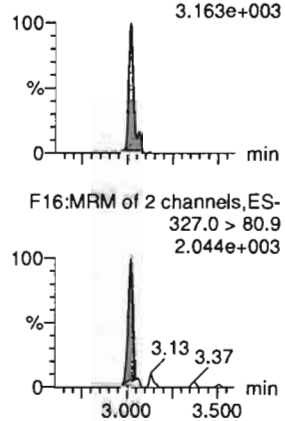
PFPeA



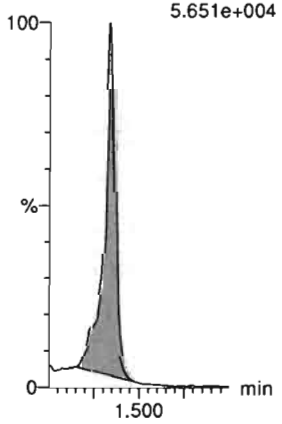
PFBS



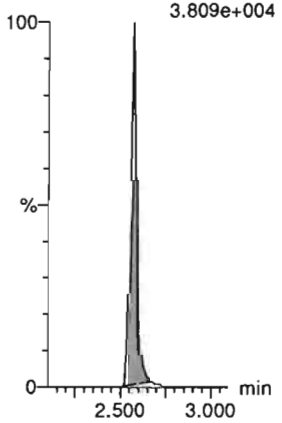
4:2 FTS



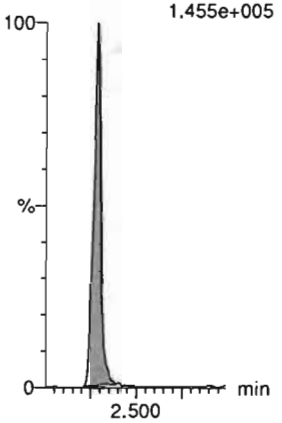
13C3-PFBA-EIS



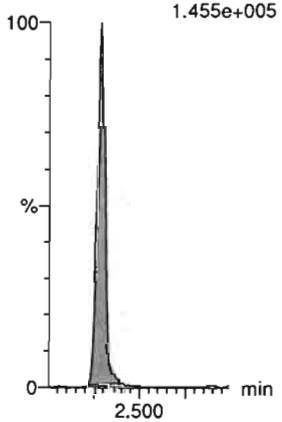
13C3-PFBS-EIS



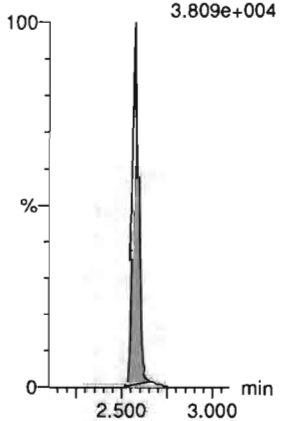
13C3-PFPeA-EIS



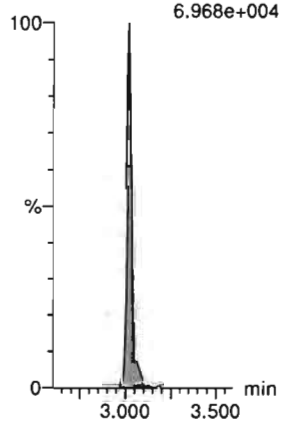
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

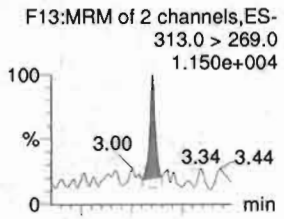


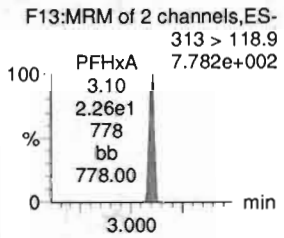
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

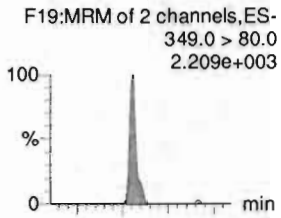
Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

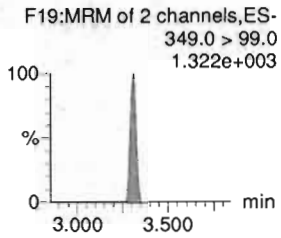
PFHxA



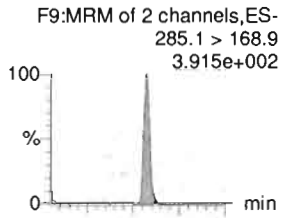


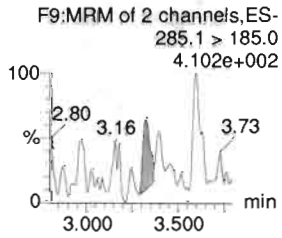
PFPeS



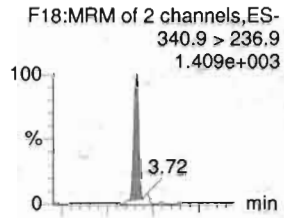


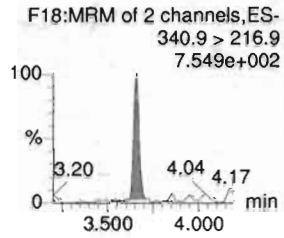
HFPO-DA



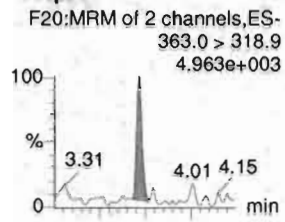


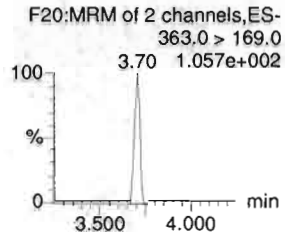
5:3 FTCA



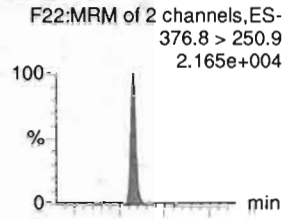


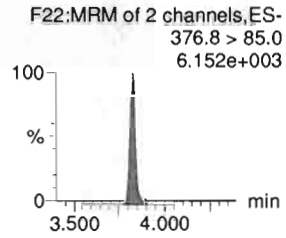
PFHpA



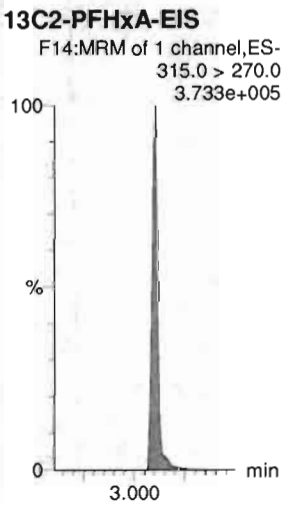


ADONA

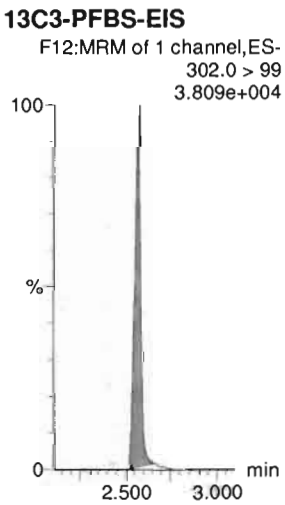




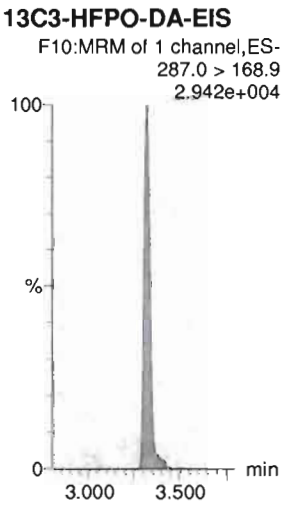
13C2-PFHxA-EIS



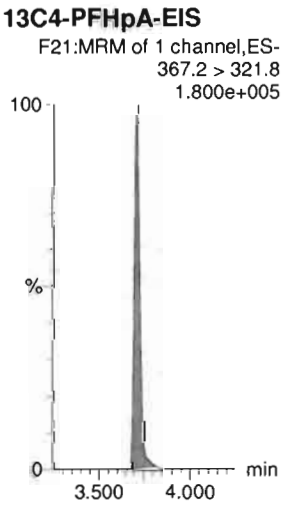
13C3-PFBS-EIS



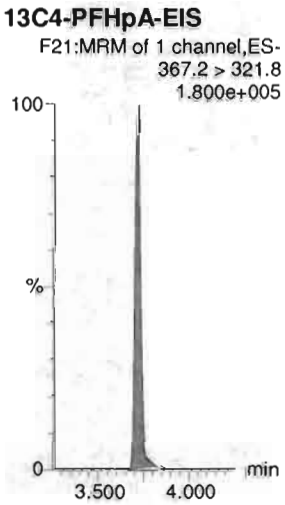
13C3-HFPO-DA-EIS



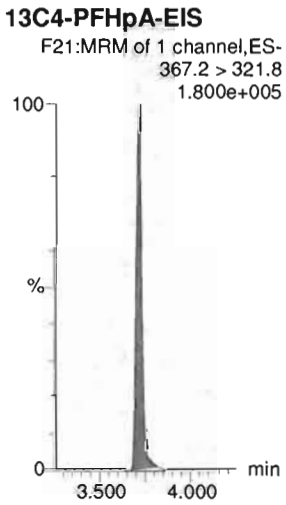
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

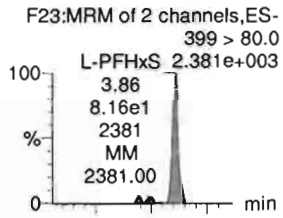


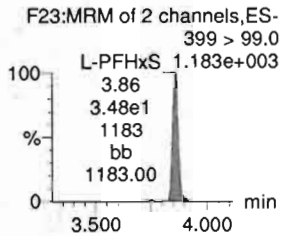
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

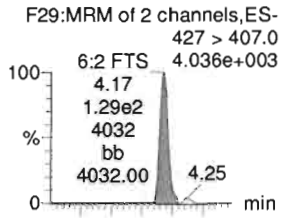
Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

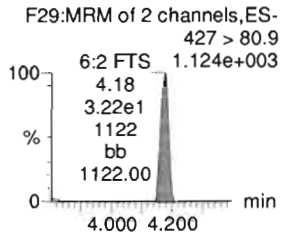
L-PFHxS



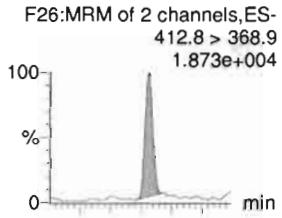


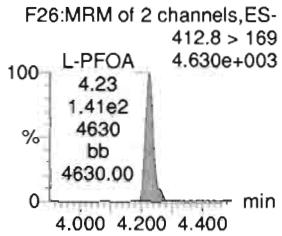
6:2 FTS



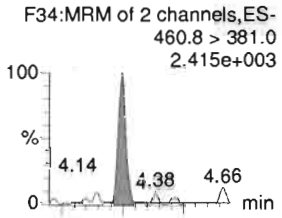


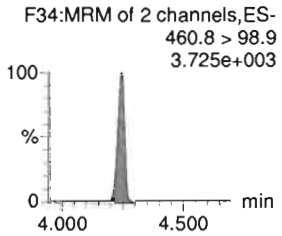
L-PFOA



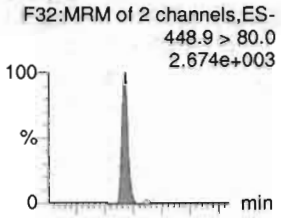


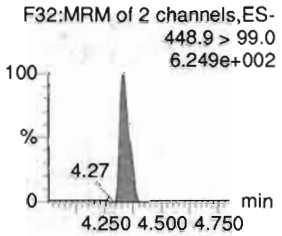
PFEChS



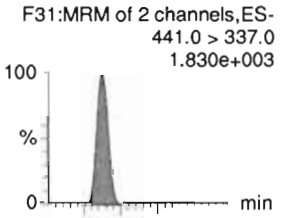


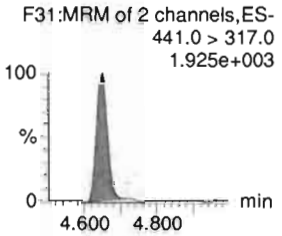
PFHpS



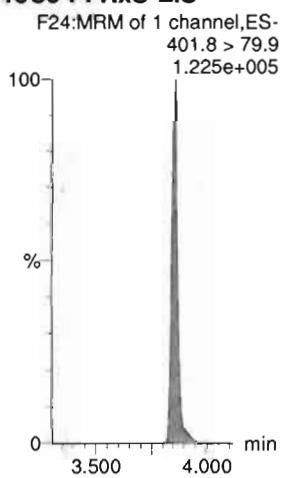


7:3 FTCA

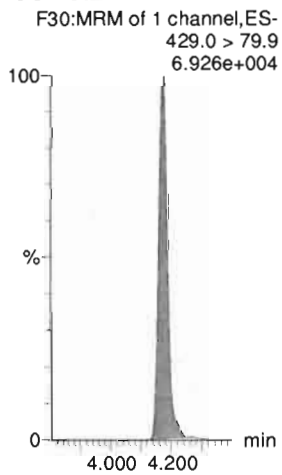




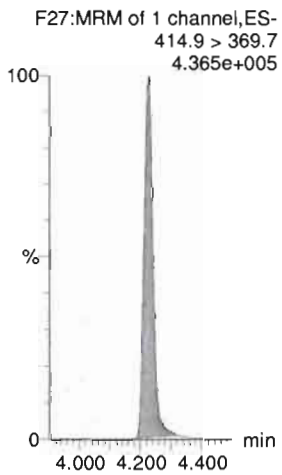
13C3-PFHxS-EIS



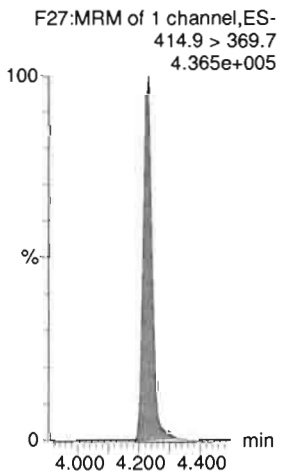
13C2-6:2 FTS-EIS



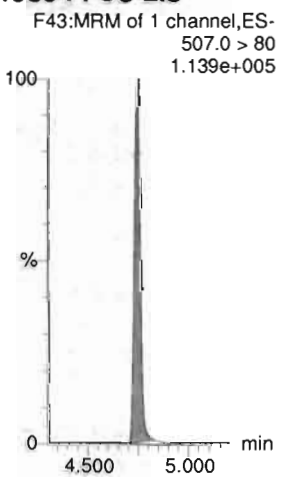
13C2-PFOA-EIS



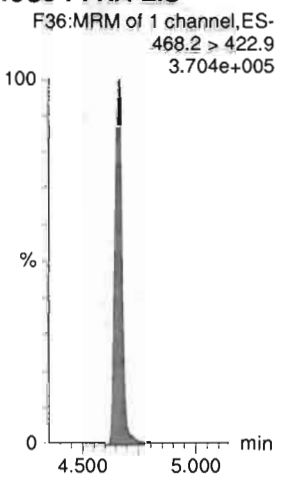
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

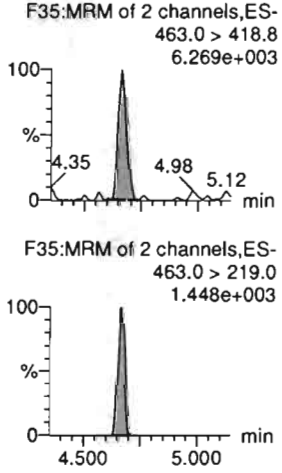


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

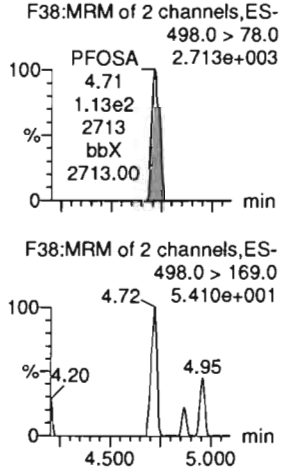
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

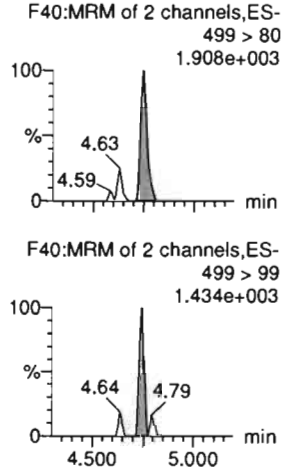
PFNA



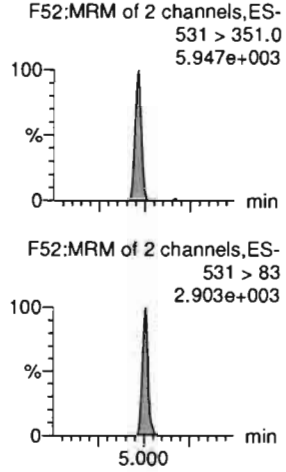
PFOSA



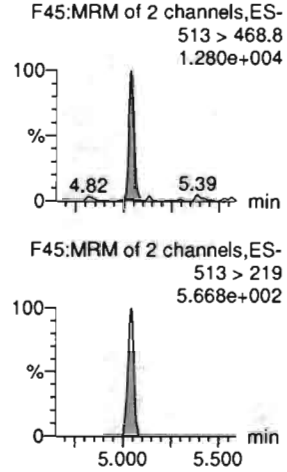
L-PFOS



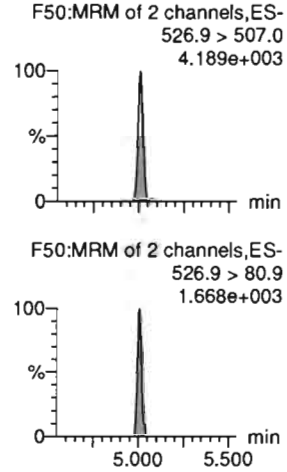
9Cl-PF30NS



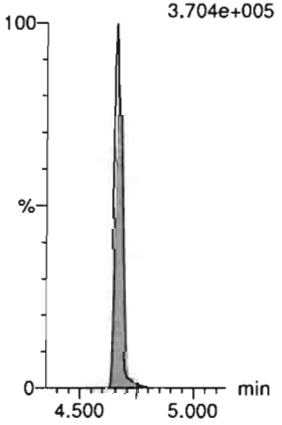
PFDA



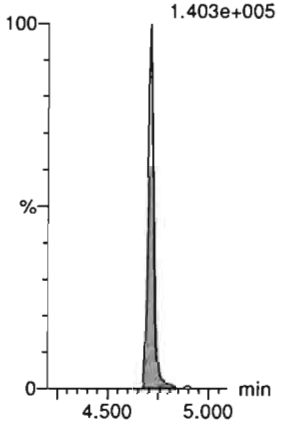
8:2 FTS



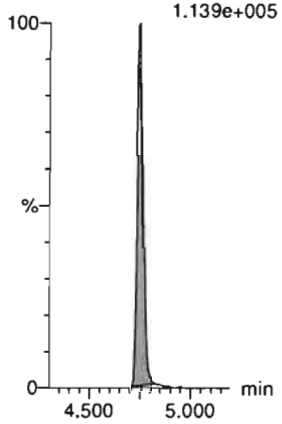
13C5-PFNA-EIS



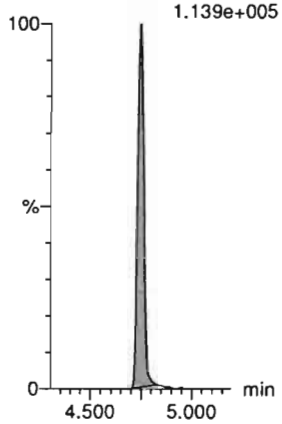
13C8-PFOSA-EIS



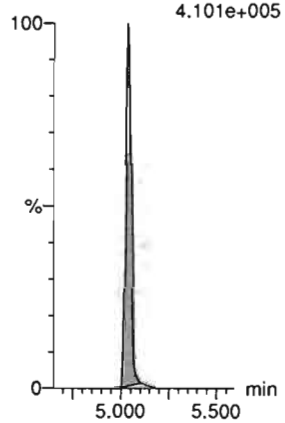
13C8-PFOS-EIS



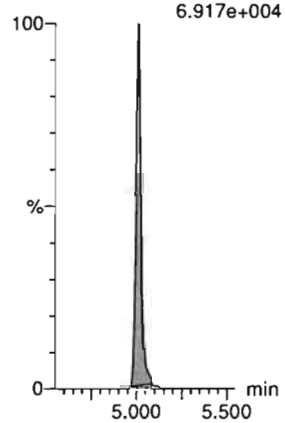
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

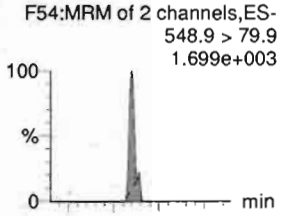


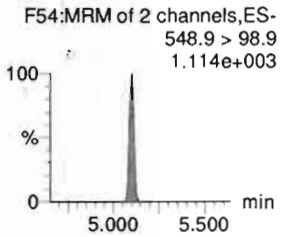
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

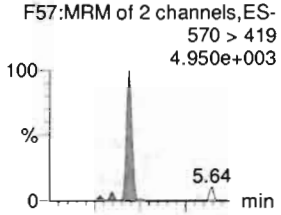
Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

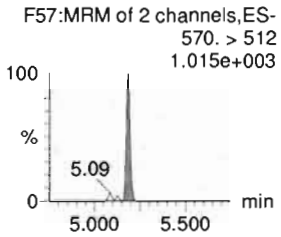
PFNS



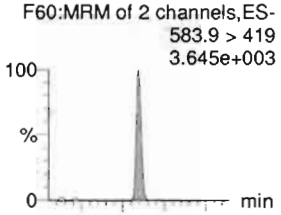


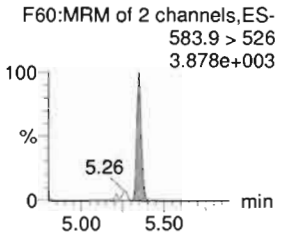
L-MeFOSAA



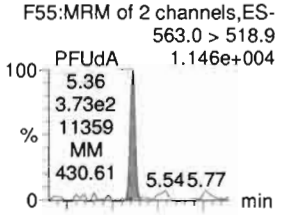


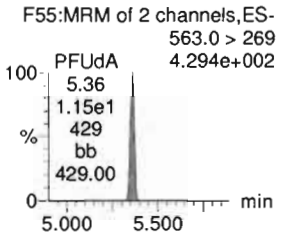
L-EtFOSAA



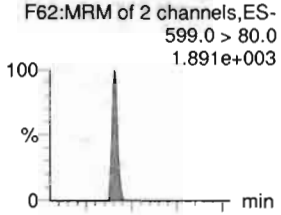


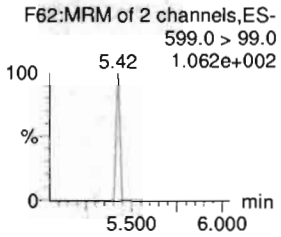
PFUdA



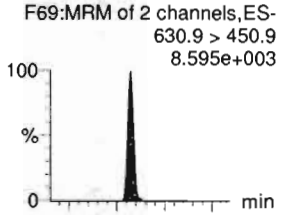


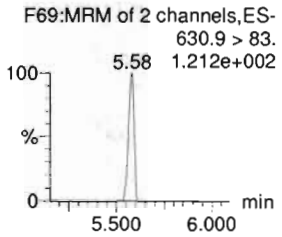
PFDS



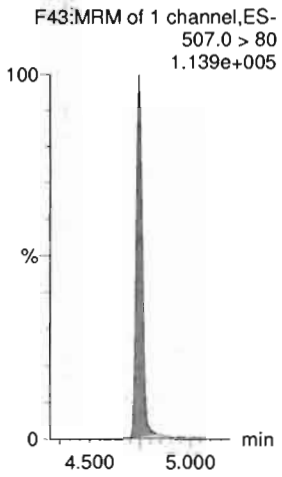


11Cl-PF30UdS

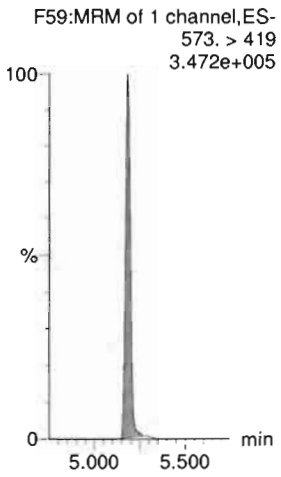




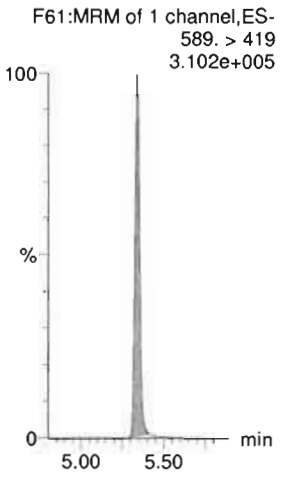
13C8-PFOS-EIS



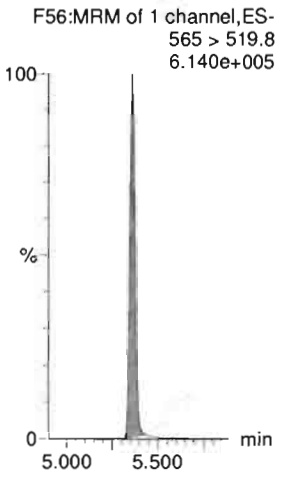
d3-N-MeFOSAA-EIS



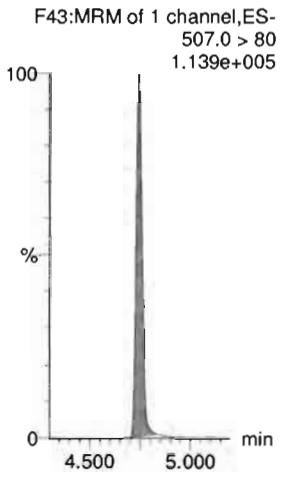
d5-N-EtFOSAA-EIS



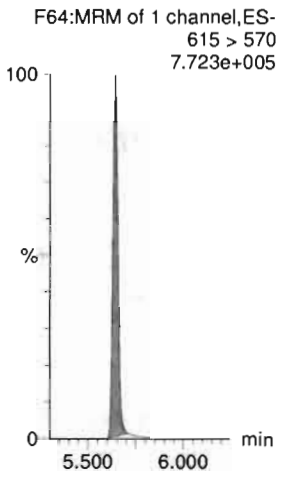
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

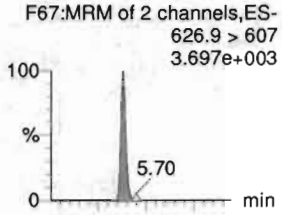


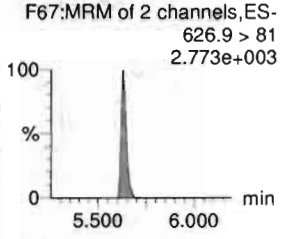
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

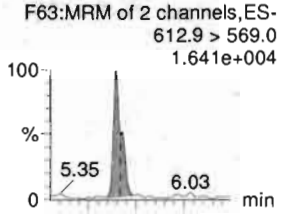
Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

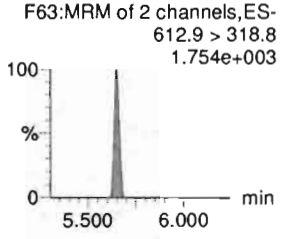
10:2 FTS



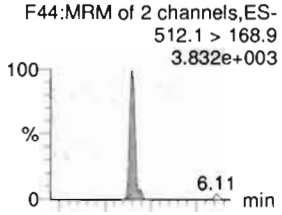


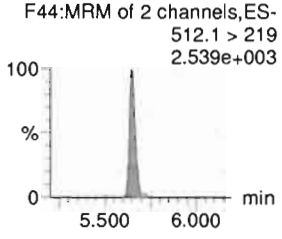
PFDoA



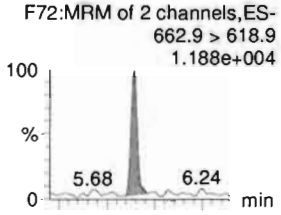


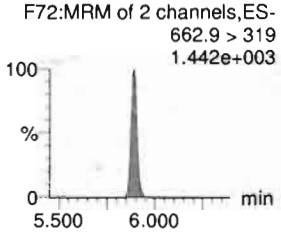
N-MeFOSA



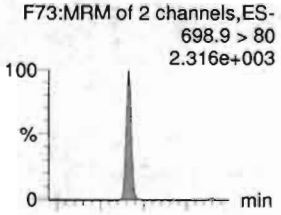


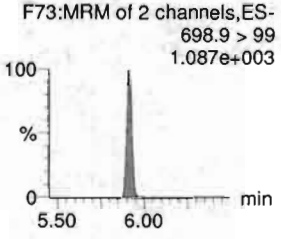
PFTrDA



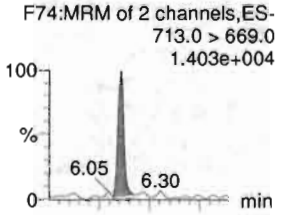


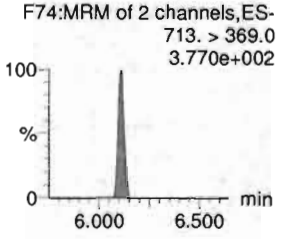
PFDoS



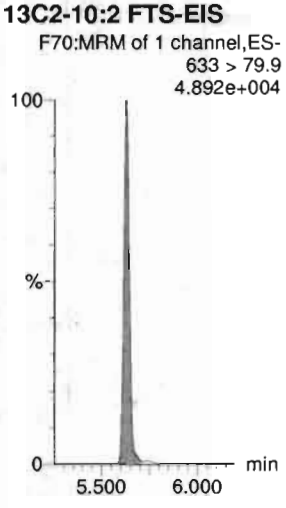


PFTeDA

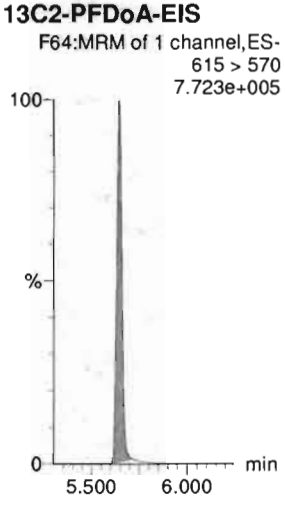




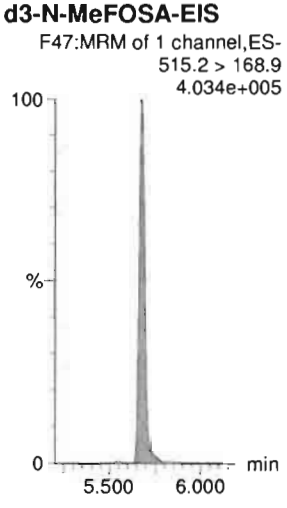
13C2-10:2 FTS-EIS



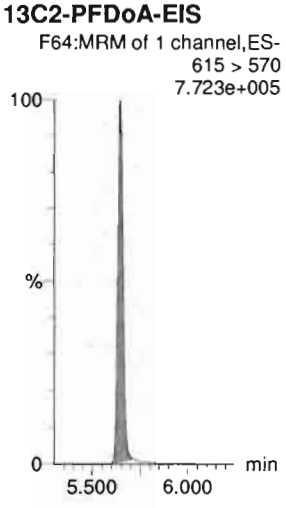
13C2-PFDoA-EIS



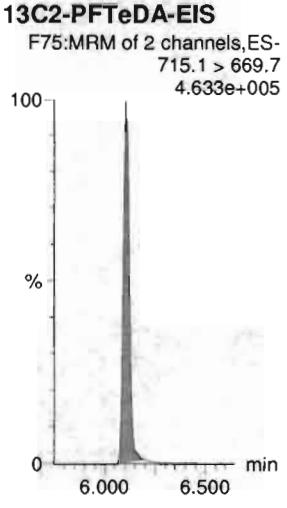
d3-N-MeFOSA-EIS



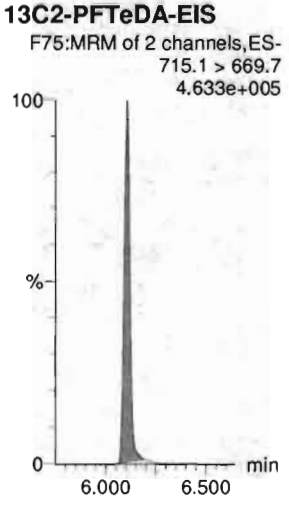
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

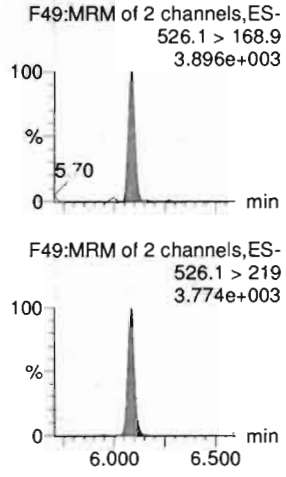


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

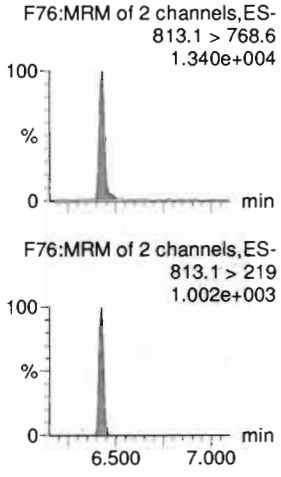
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

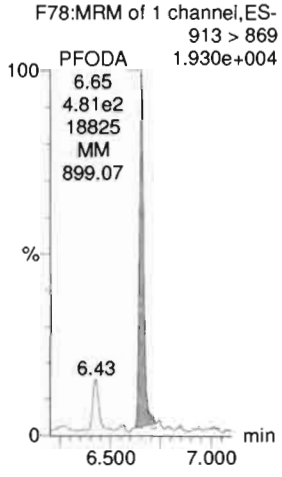
N-EtFOSA



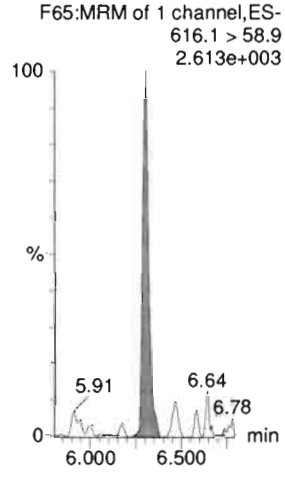
PFHxDA



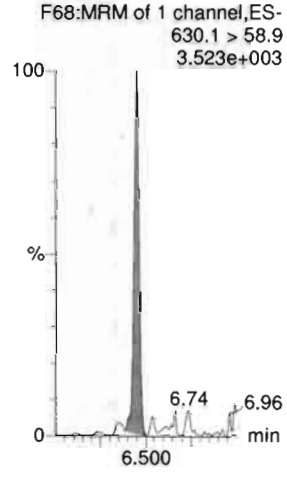
PFODA



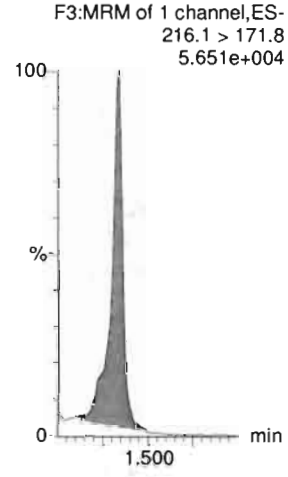
N-MeFOSE



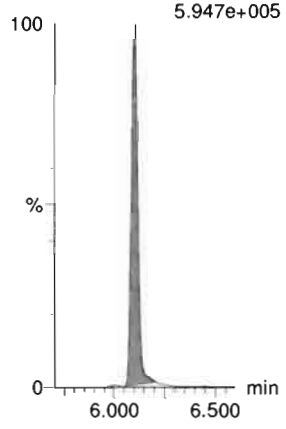
N-EtFOSE



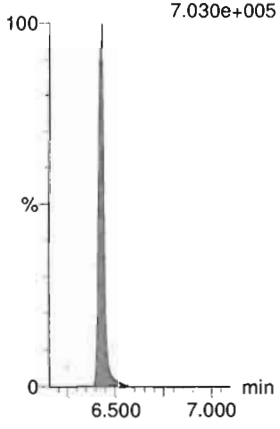
13C3-PFBA-RSD



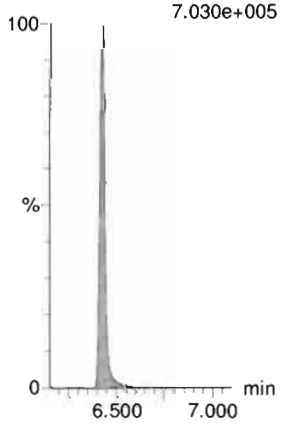
d5-N-ETFOSA-EIS



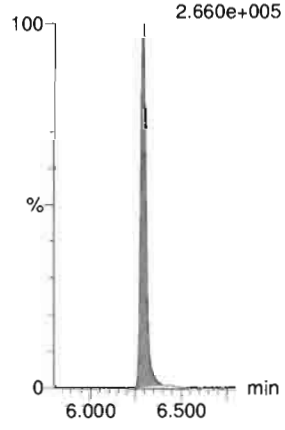
13C2-PFHxDA-EIS



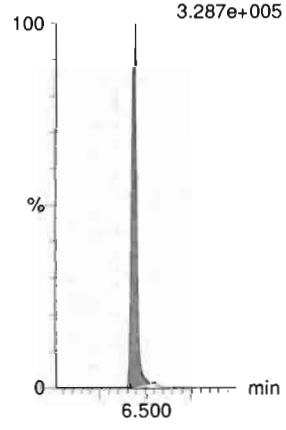
13C2-PFHxDA-EIS



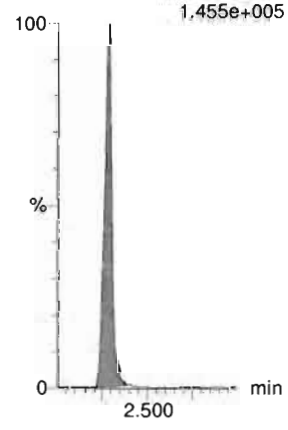
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

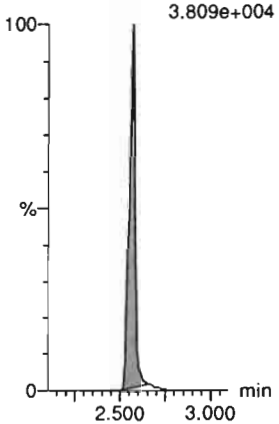


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

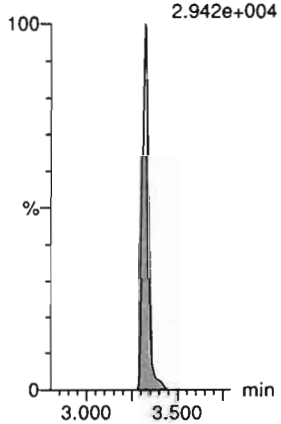
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

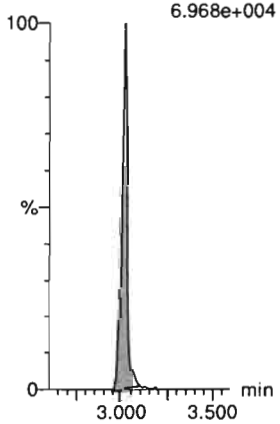
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.809e+004



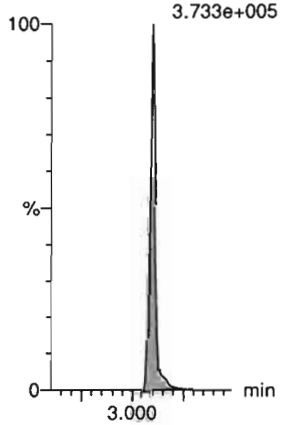
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.942e+004



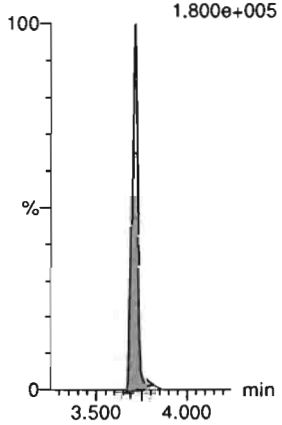
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.968e+004



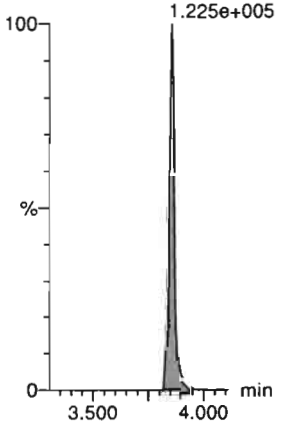
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.733e+005



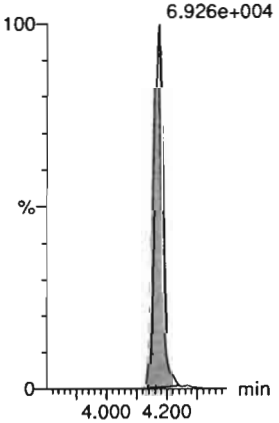
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.800e+005



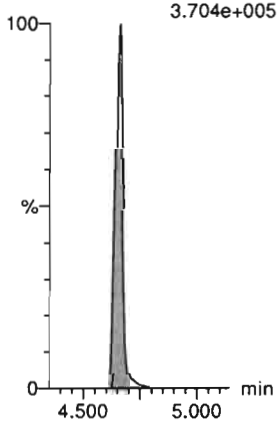
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.225e+005



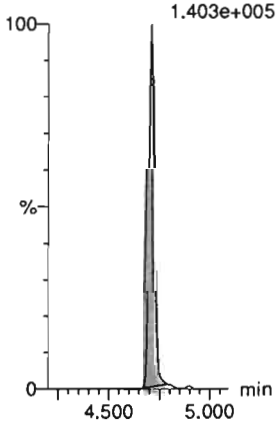
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.926e+004



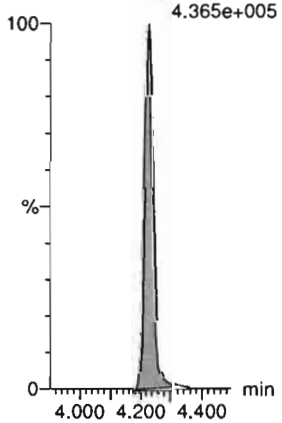
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.704e+005



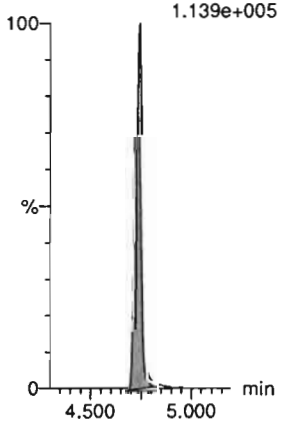
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.403e+005



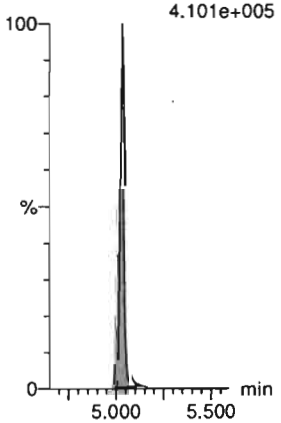
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.365e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.139e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.101e+005

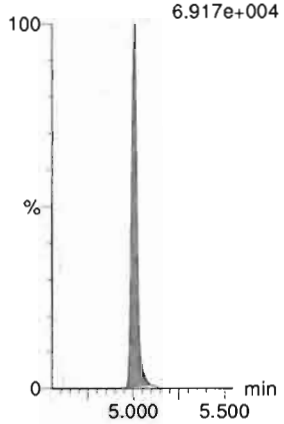


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

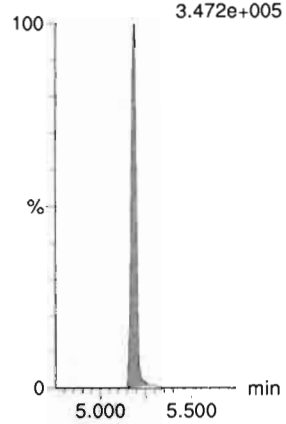
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

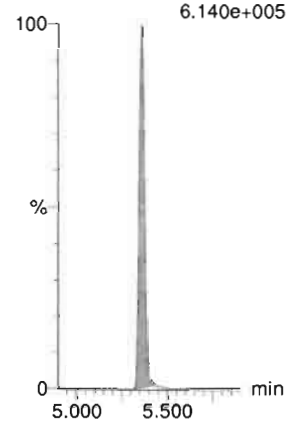
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.917e+004



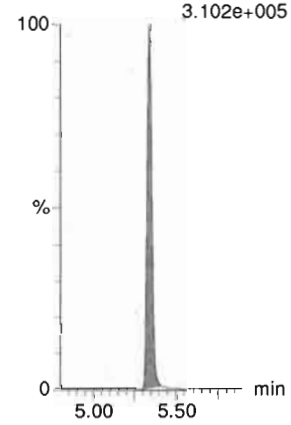
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.472e+005



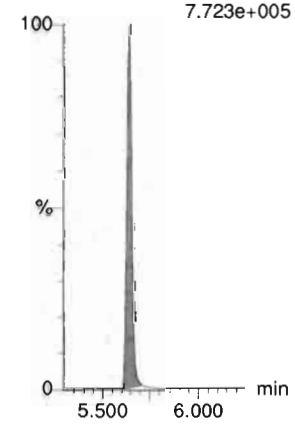
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.140e+005



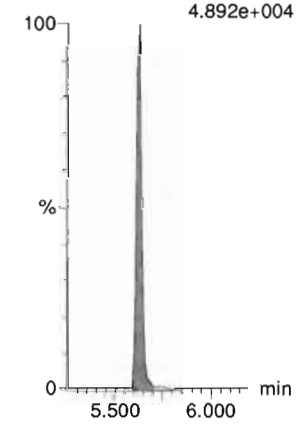
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.102e+005



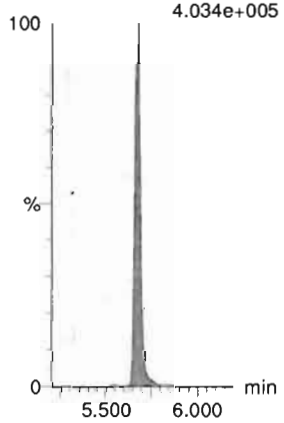
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.723e+005



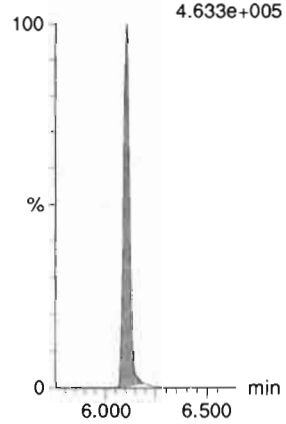
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.892e+004



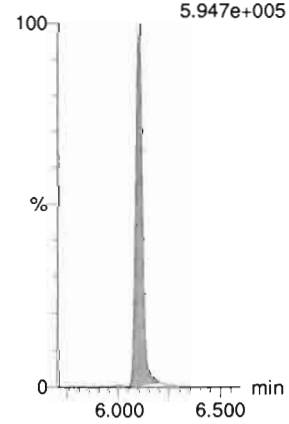
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.034e+005



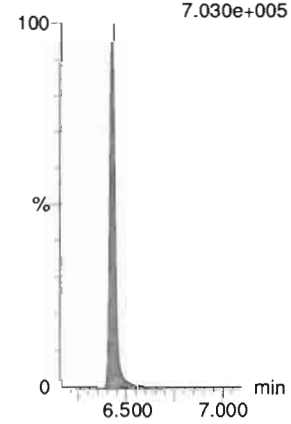
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.633e+005



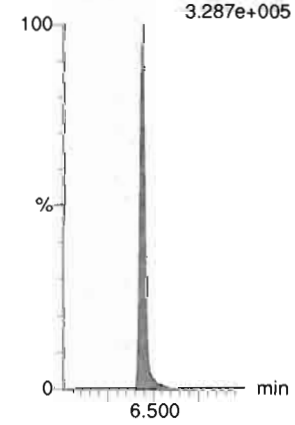
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.947e+005



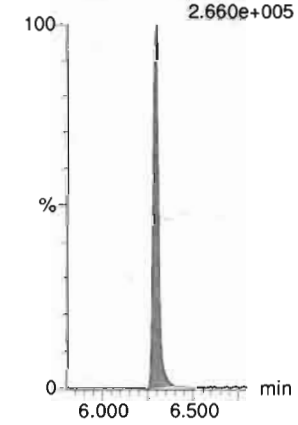
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.030e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.287e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.660e+005

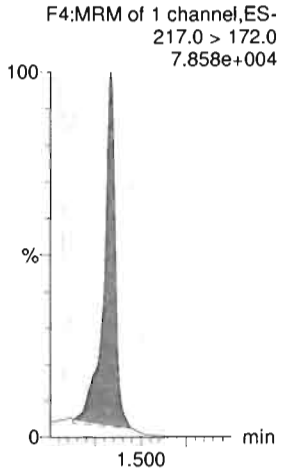


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

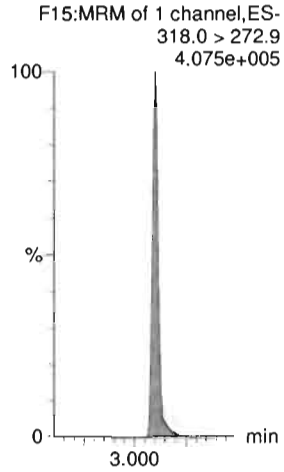
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_3, Date: 10-Jul-2020, Time: 08:15:44, ID: ST200710M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

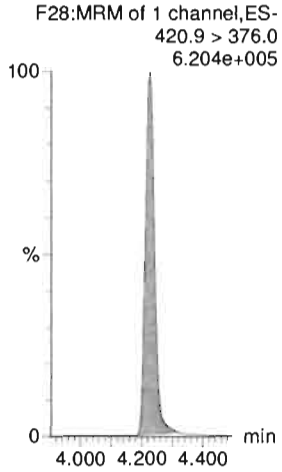
13C4-PFBA



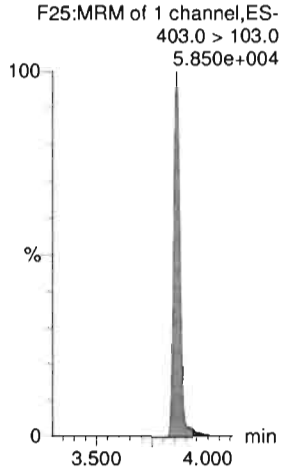
13C5-PFHxA



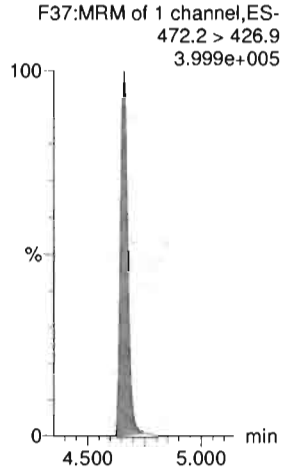
13C8-PFOA



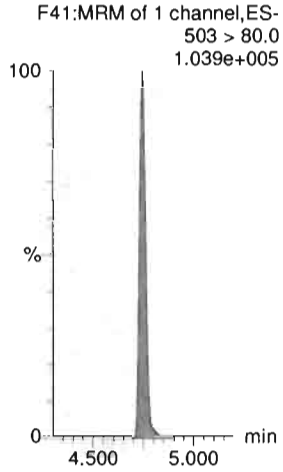
18O2-PFHxS



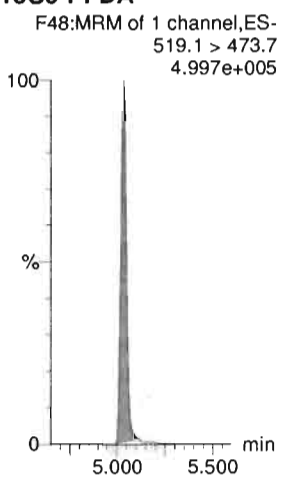
13C9-PFNA



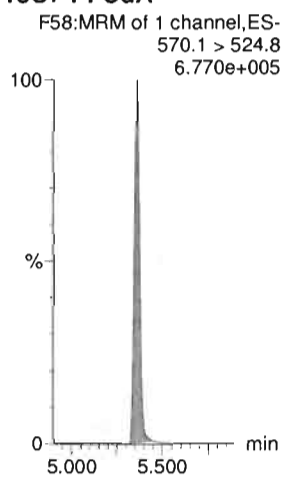
13C4-PFOS



13C6-PFDA



13C7-PFUdA

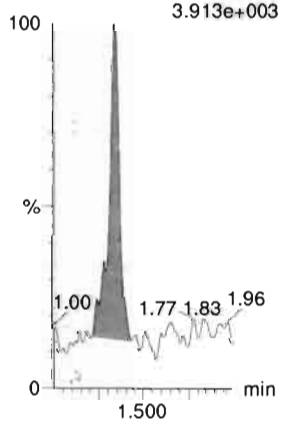


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

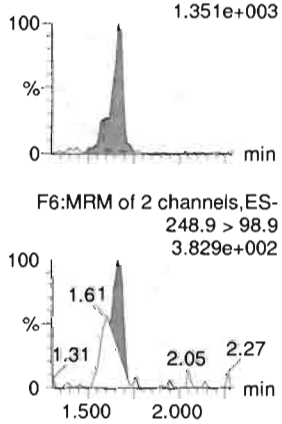
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

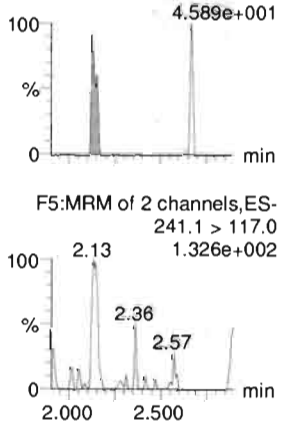
PFBA



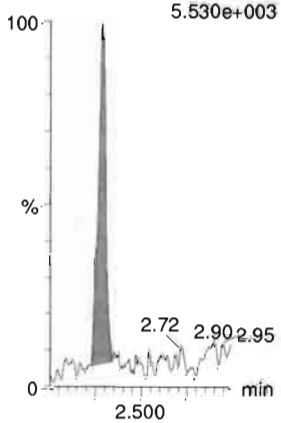
PFPrS



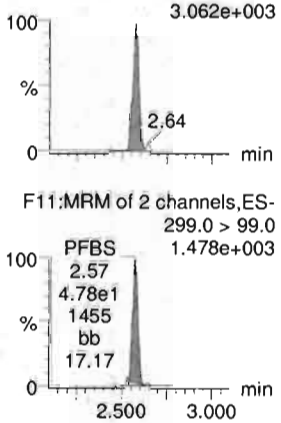
3:3 FTCA



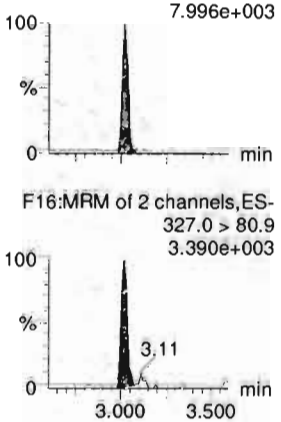
PFPeA



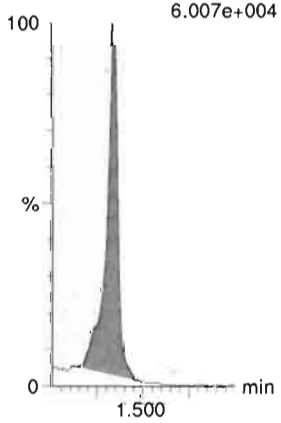
PFBS



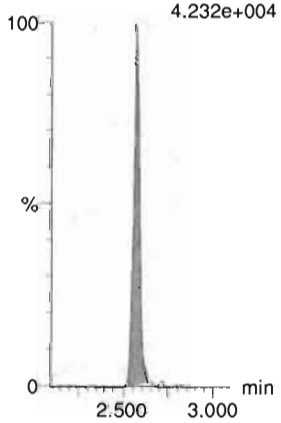
4:2 FTS



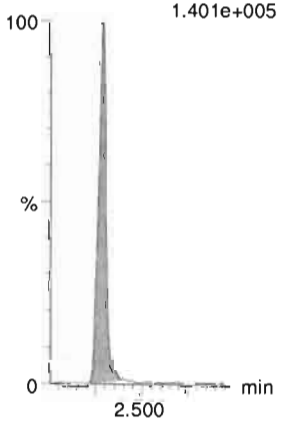
13C3-PFBA-EIS



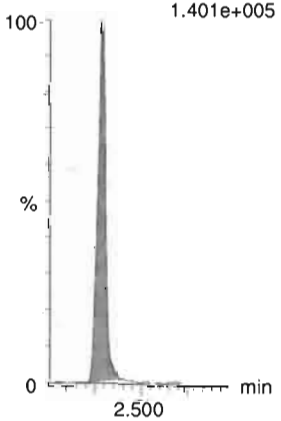
13C3-PFBS-EIS



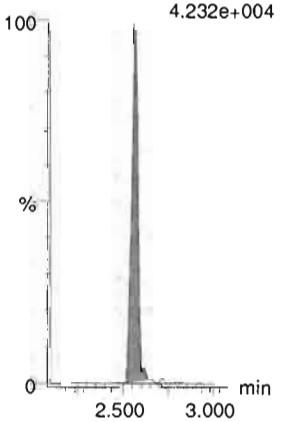
13C3-PFPeA-EIS



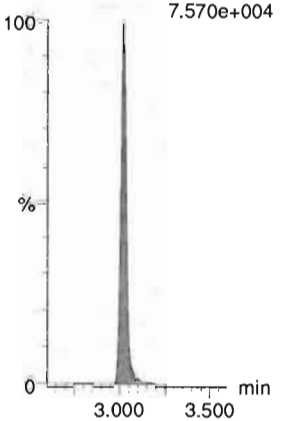
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

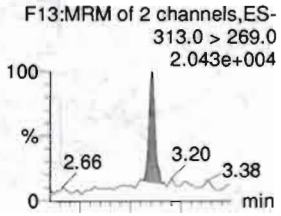


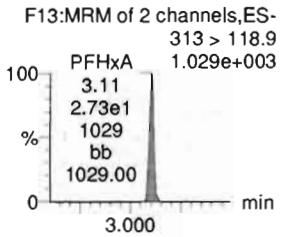
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

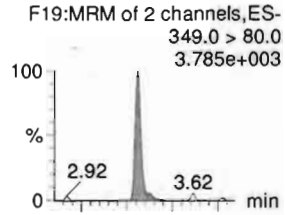
Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

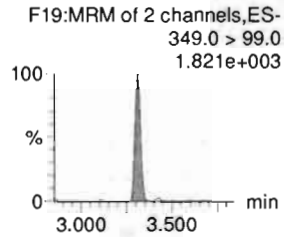
PFHxA



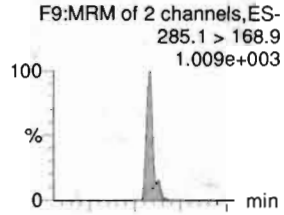


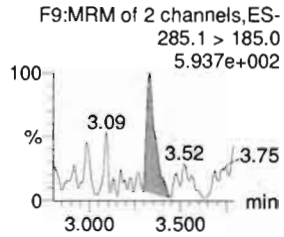
PFPeS



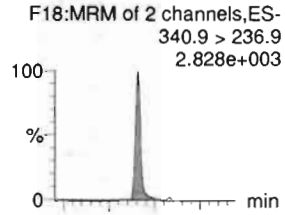


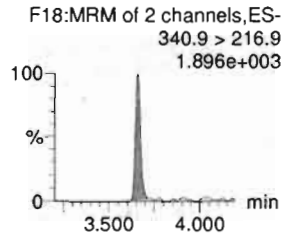
HFPO-DA



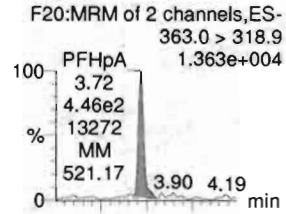


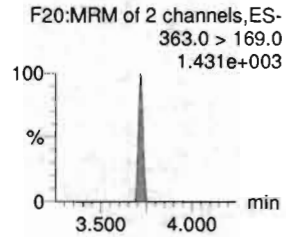
5:3 FTCA



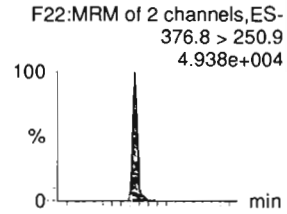


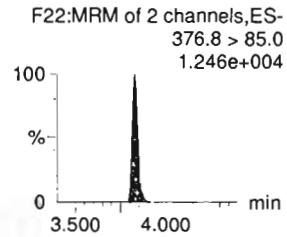
PFHpA



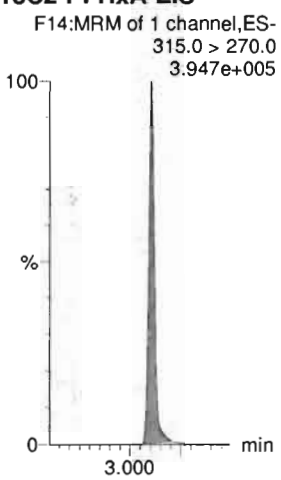


ADONA

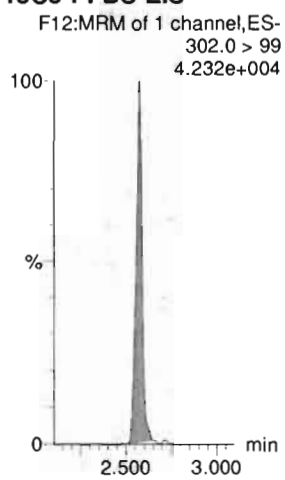




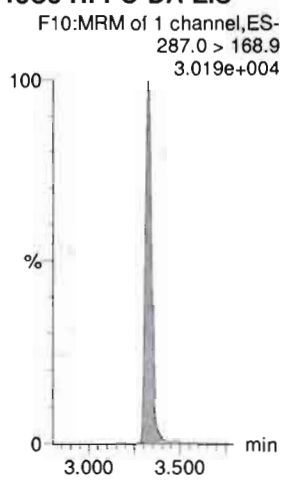
13C2-PFHxA-EIS



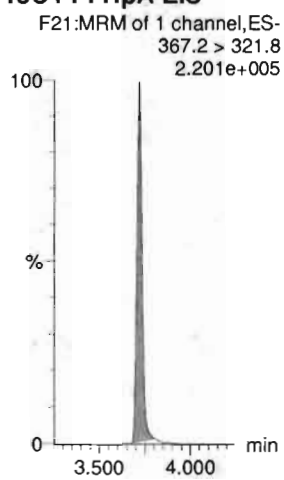
13C3-PFBS-EIS



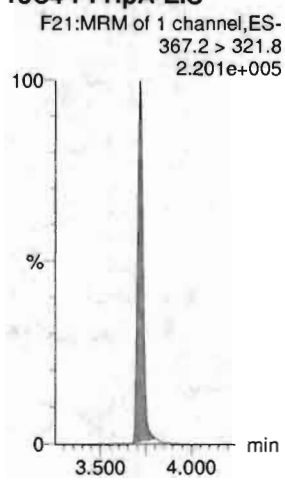
13C3-HFPO-DA-EIS



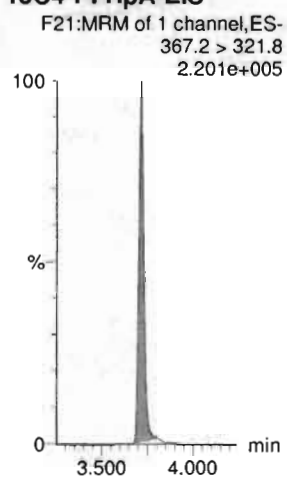
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

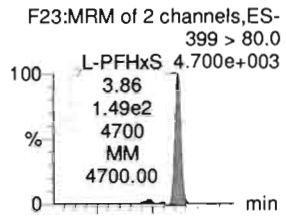


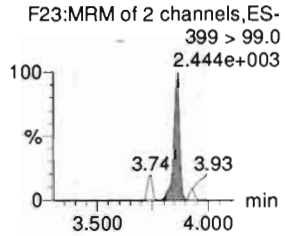
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

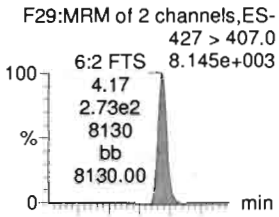
Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

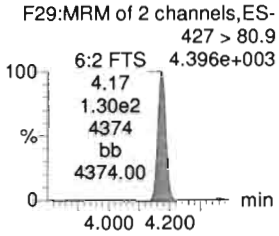
L-PFHxS



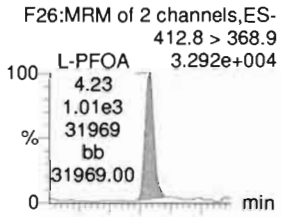


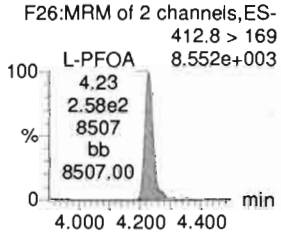
6:2 FTS



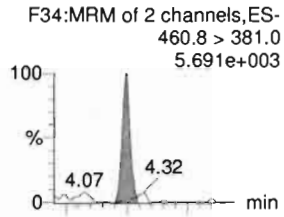


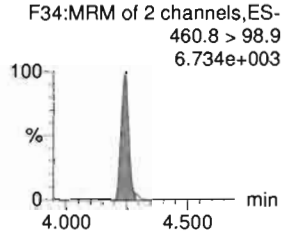
L-PFOA



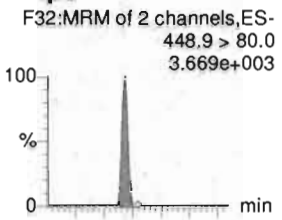


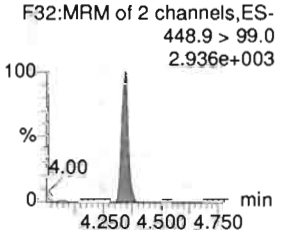
PFEChS



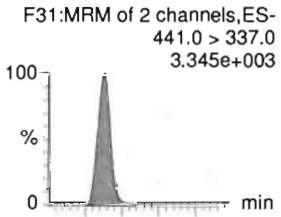


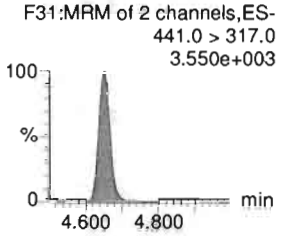
PFHpS



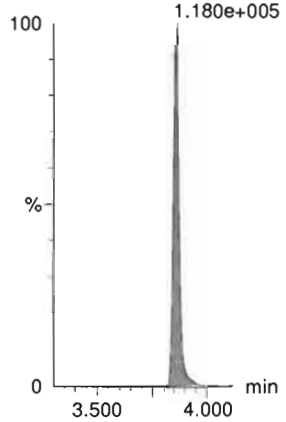


7:3 FTCA

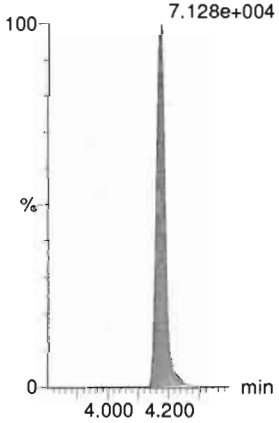




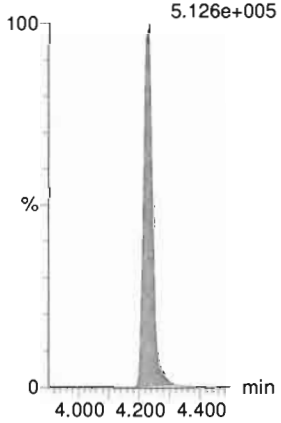
13C3-PFHxS-EIS



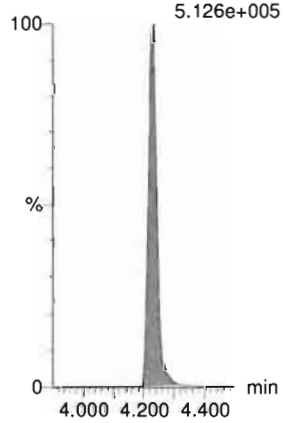
13C2-6:2 FTS-EIS



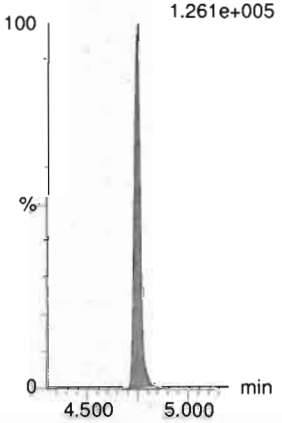
13C2-PFOA-EIS



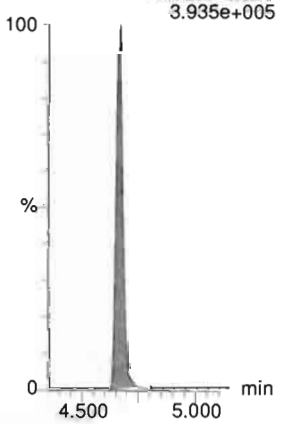
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

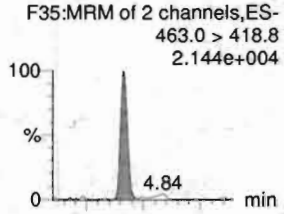


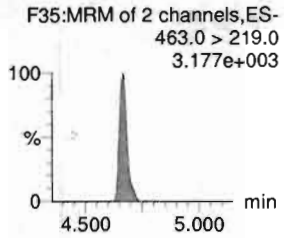
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

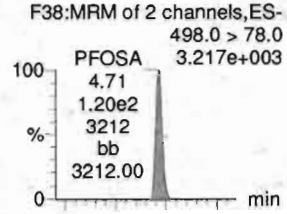
Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

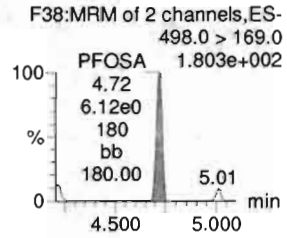
PFNA



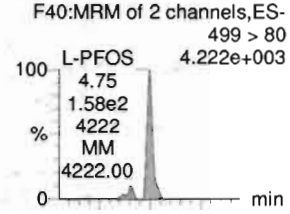


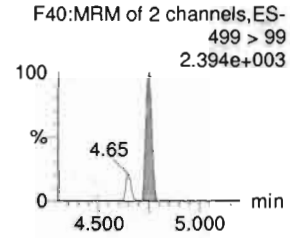
PFOSA



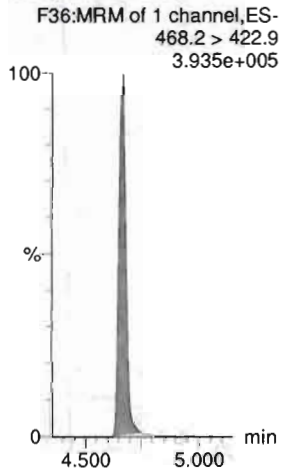


L-PFOS

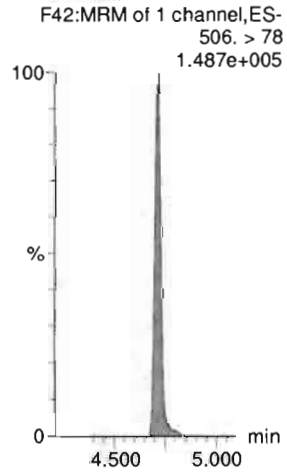




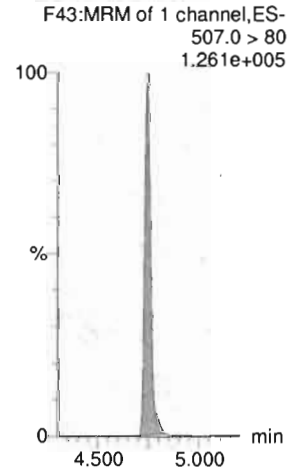
13C5-PFNA-EIS



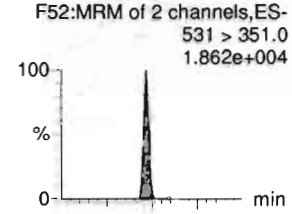
13C8-PFOSA-EIS

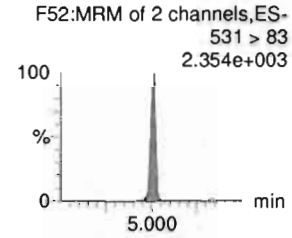


13C8-PFOS-EIS

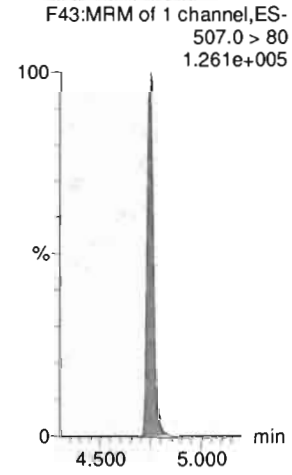


9Cl-PF30NS

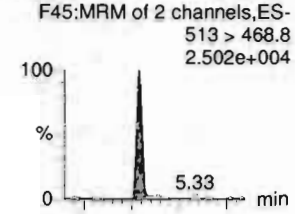


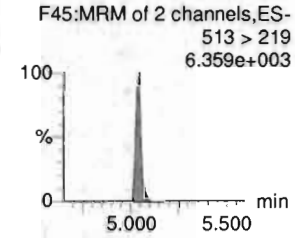


13C8-PFOS-EIS

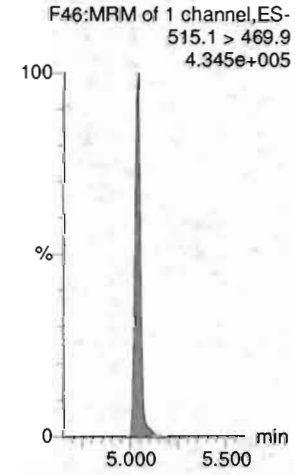


PFDA

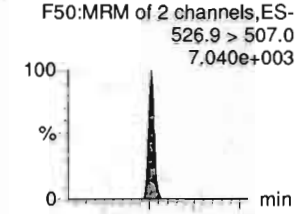


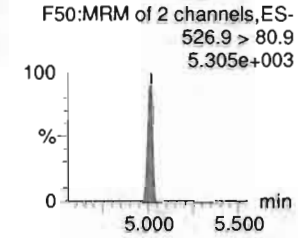


13C2-PFDA-EIS

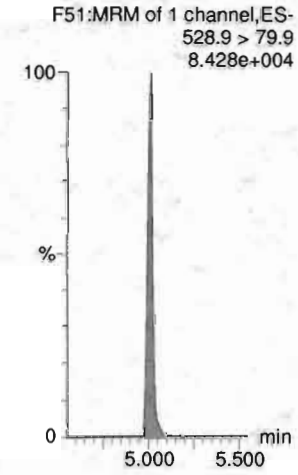


8:2 FTS





13C2-8:2 FTS-EIS

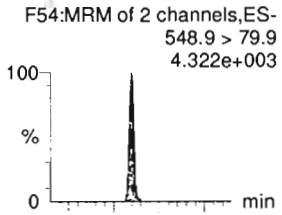


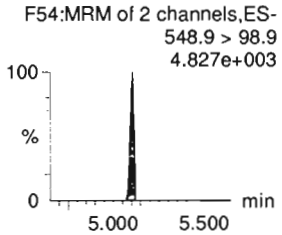
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

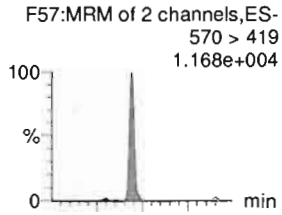
Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

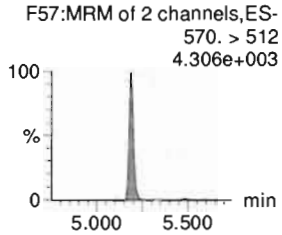
PFNS



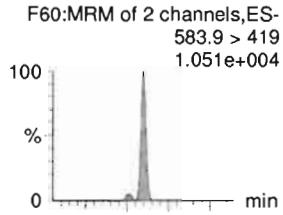


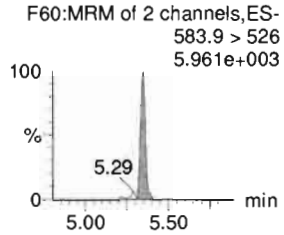
L-MeFOSAA



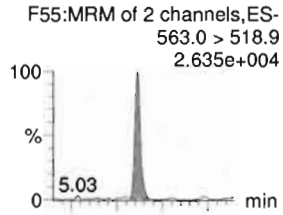


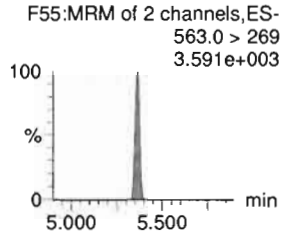
L-EtFOSAA



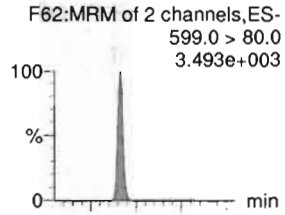


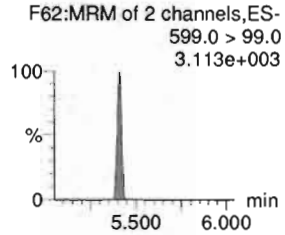
PFUdA



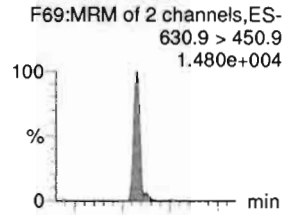


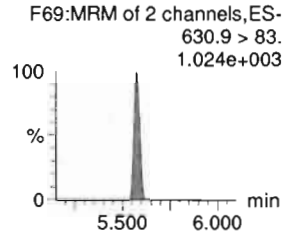
PFDS



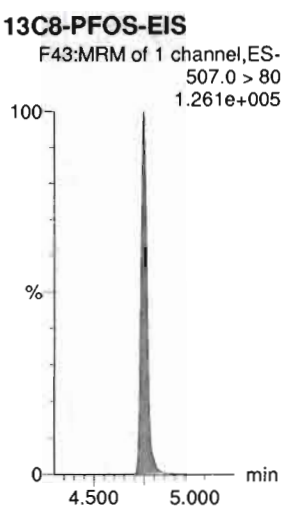


11Cl-PF30UdS

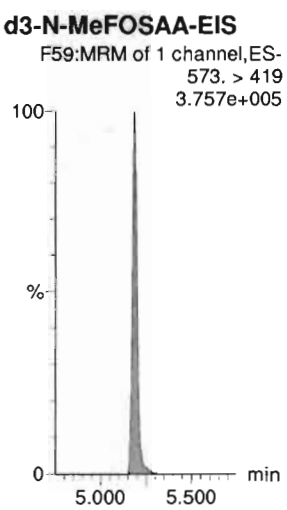




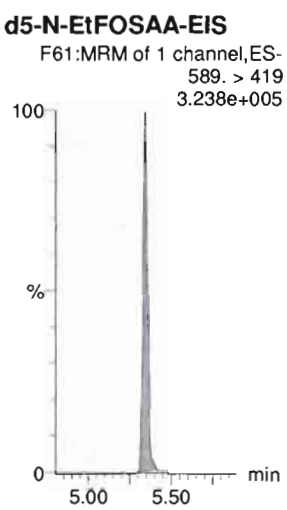
13C8-PFOS-EIS



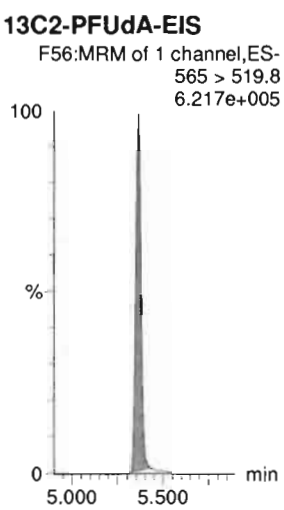
d3-N-MeFOSAA-EIS



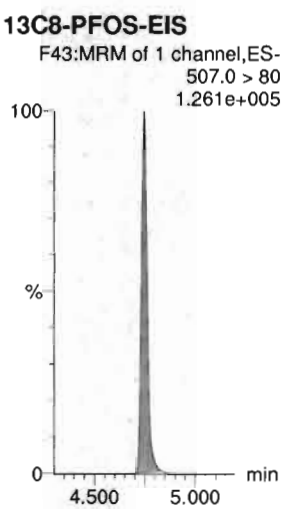
d5-N-EtFOSAA-EIS



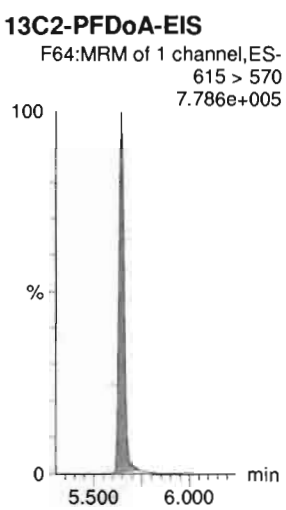
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

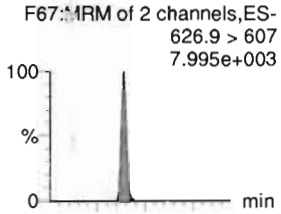


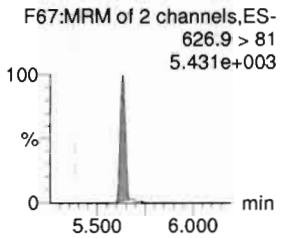
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

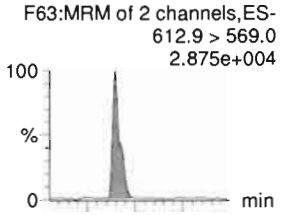
Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

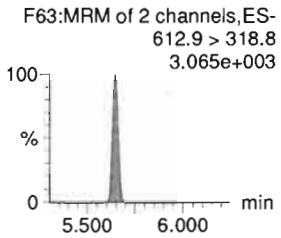
10:2 FTS



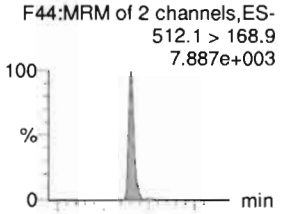


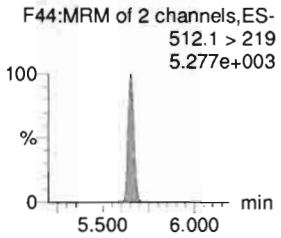
PFDoA



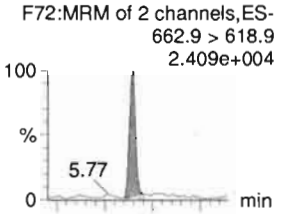


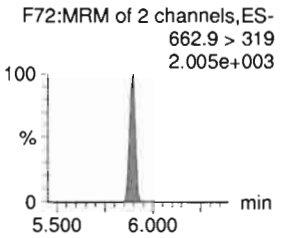
N-MeFOSA



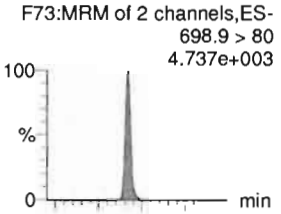


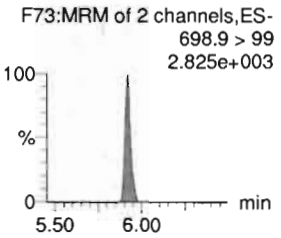
PFTrDA



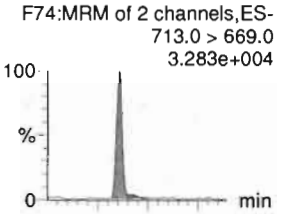


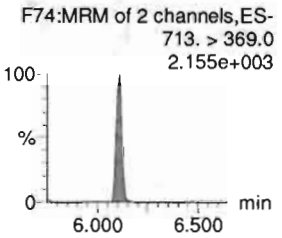
PFDoS



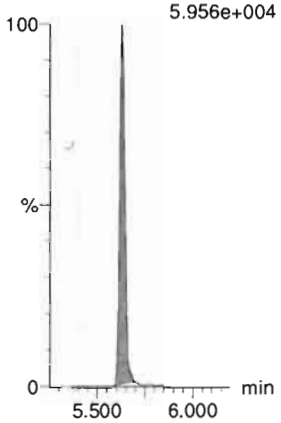


PFTeDA

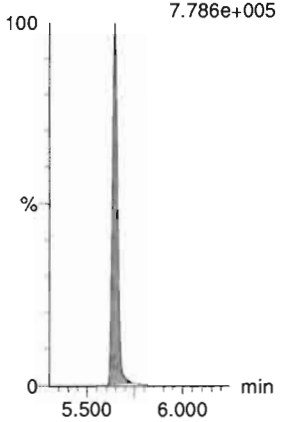




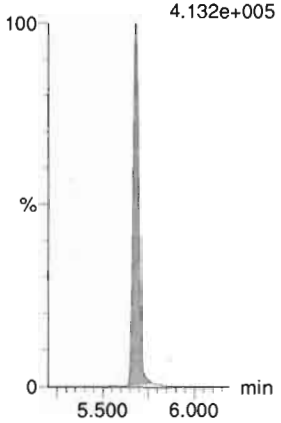
13C2-10:2 FTS-EIS



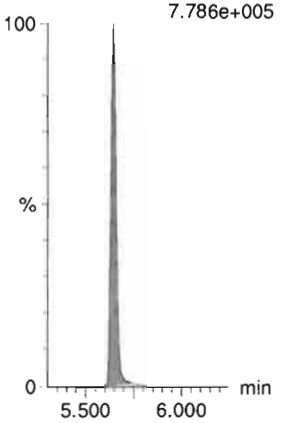
13C2-PFDoA-EIS



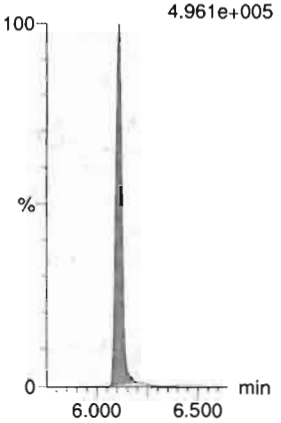
d3-N-MeFOSA-EIS



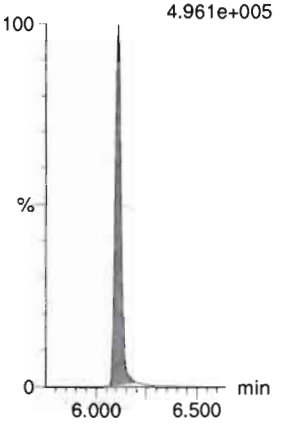
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

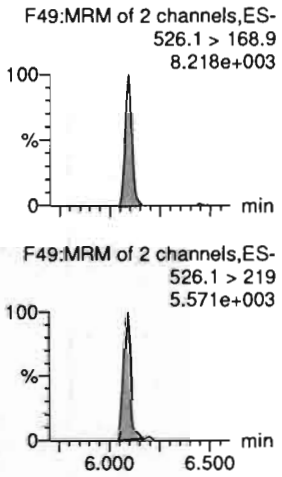


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

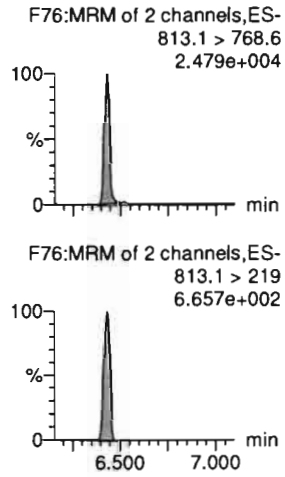
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

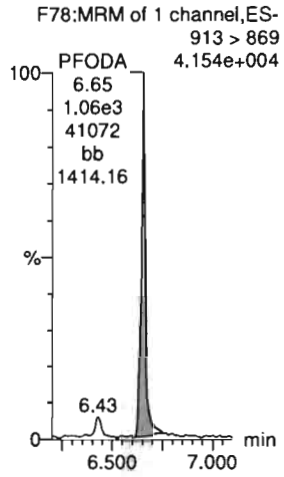
N-EtFOSA



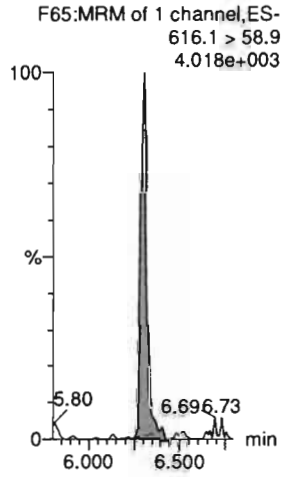
PFHxDA



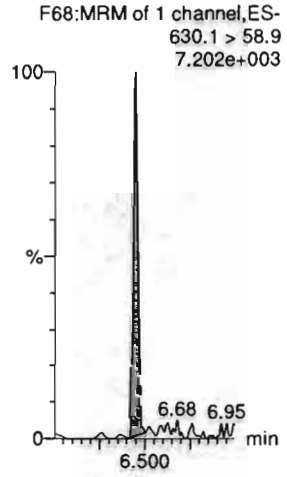
PFODA



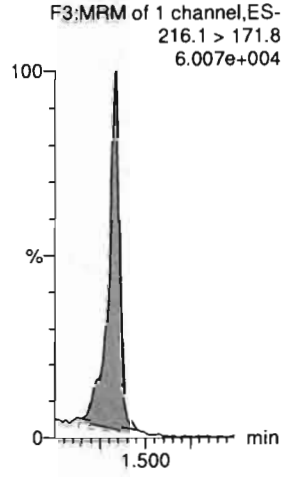
N-MeFOSE



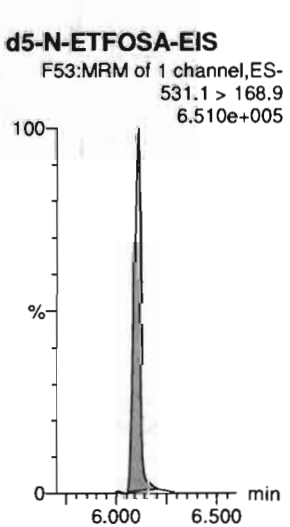
N-EtFOSE



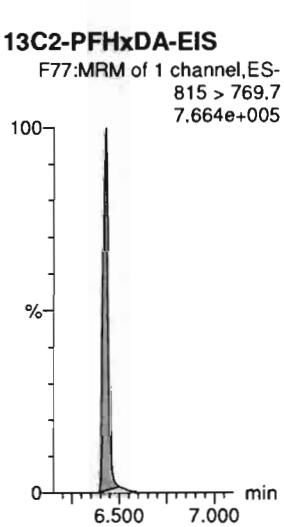
13C3-PFBA-RSD



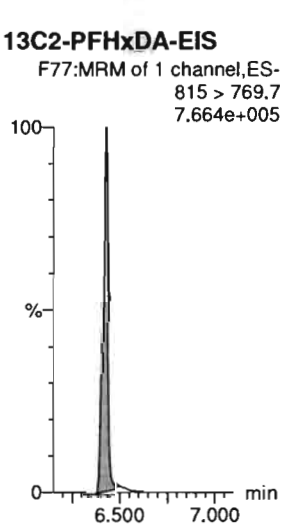
d5-N-ETFOSA-EIS



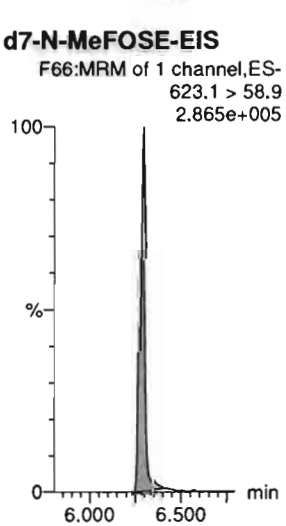
13C2-PFHxDA-EIS



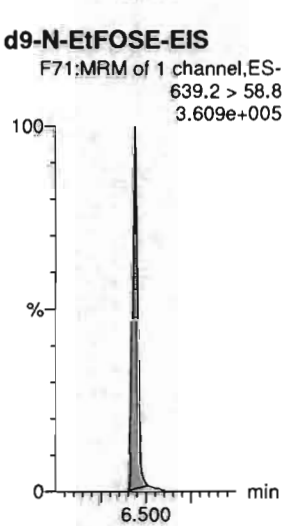
13C2-PFHxDA-EIS



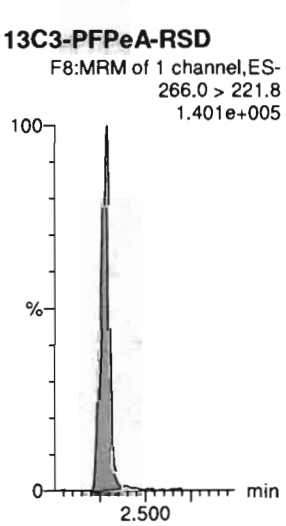
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

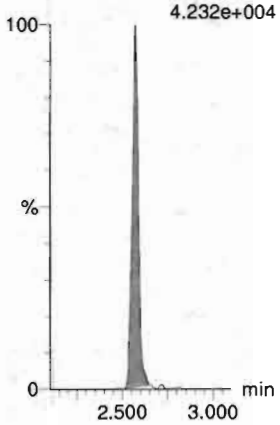


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

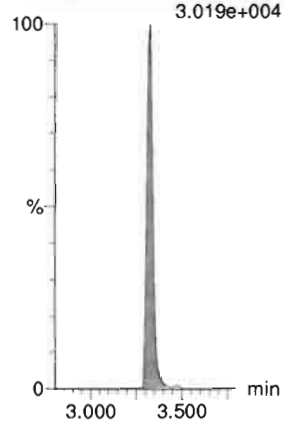
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

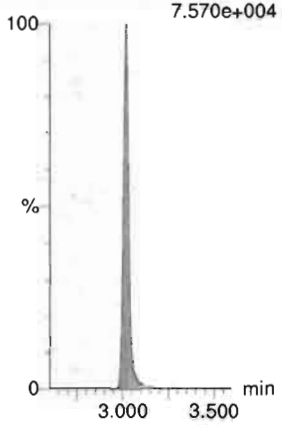
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.232e+004



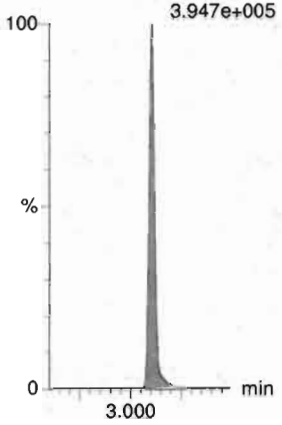
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
3.019e+004



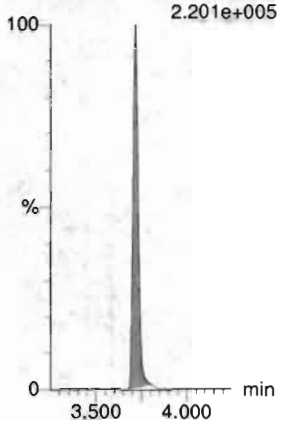
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.570e+004



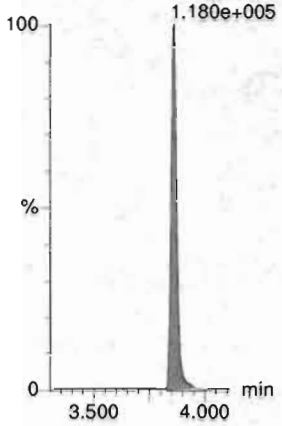
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.947e+005



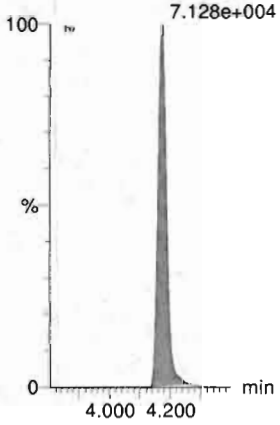
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.201e+005



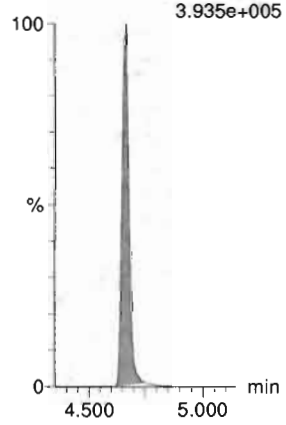
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.180e+005



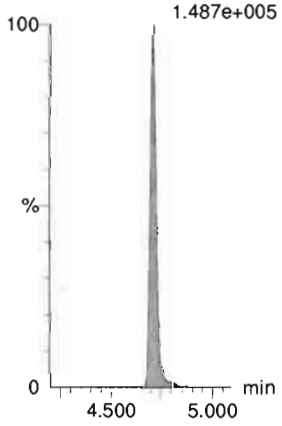
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
7.128e+004



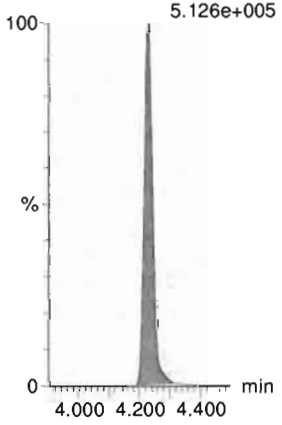
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.935e+005



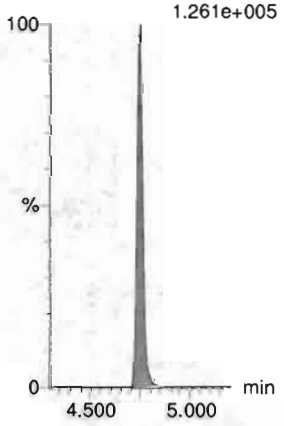
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.487e+005



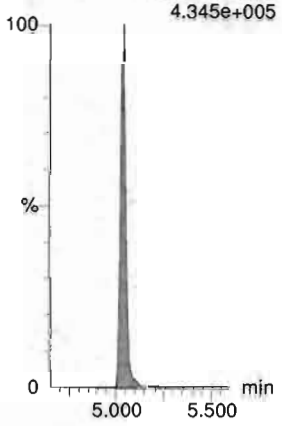
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.126e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.261e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.345e+005

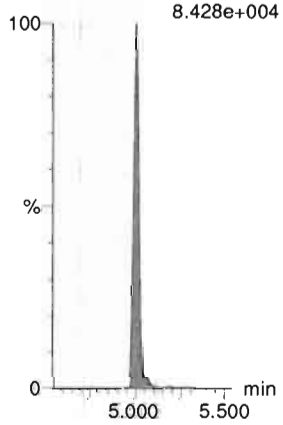


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

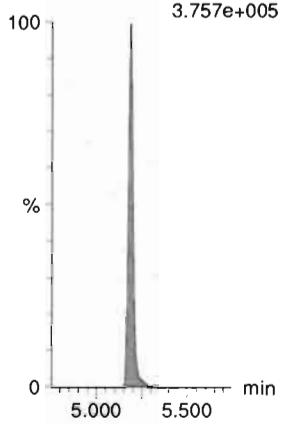
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

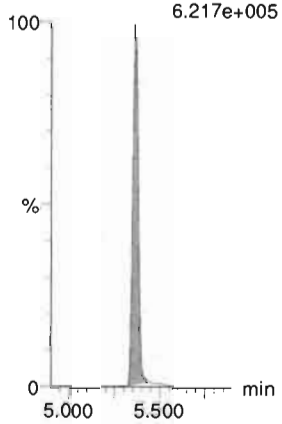
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
8.428e+004



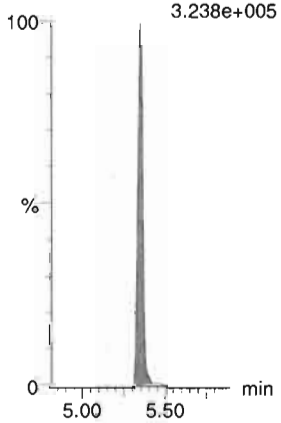
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.757e+005



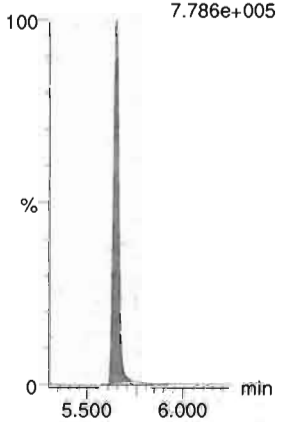
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.217e+005



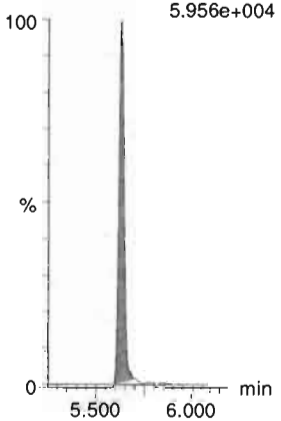
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.238e+005



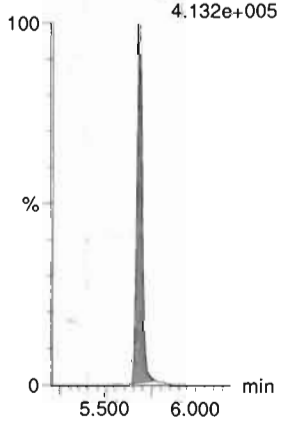
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.786e+005



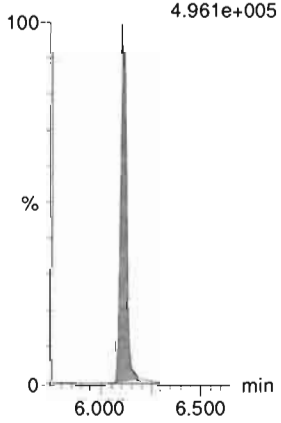
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.956e+004



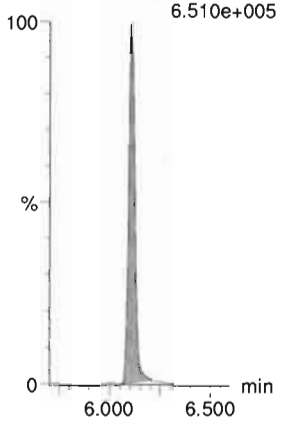
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.132e+005



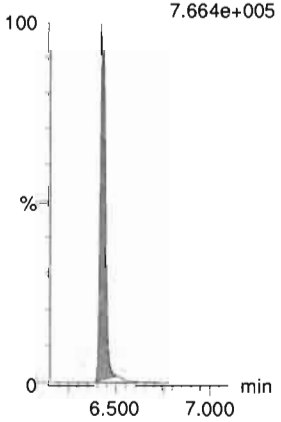
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.961e+005



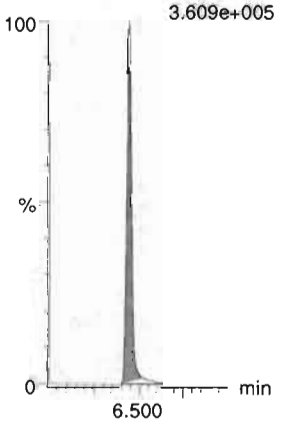
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.510e+005



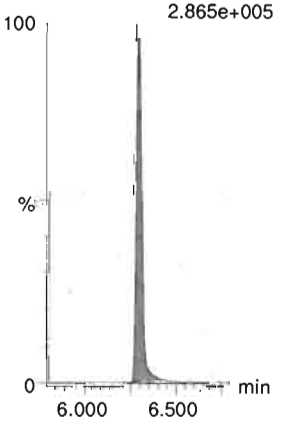
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.664e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.609e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.865e+005

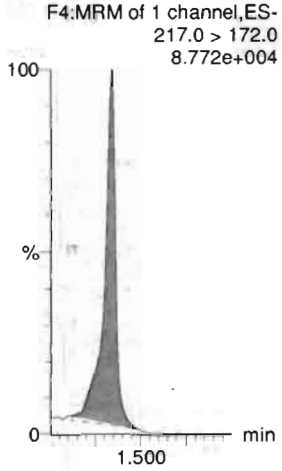


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

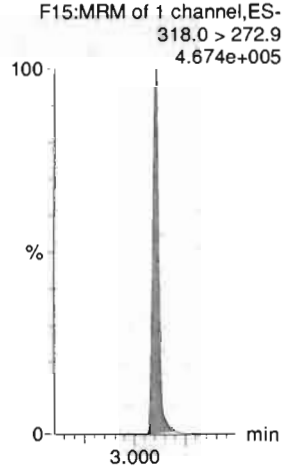
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_4, Date: 10-Jul-2020, Time: 08:26:06, ID: ST200710M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

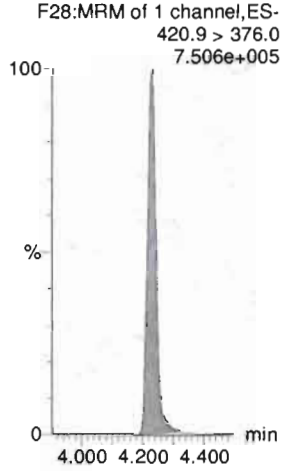
13C4-PFBA



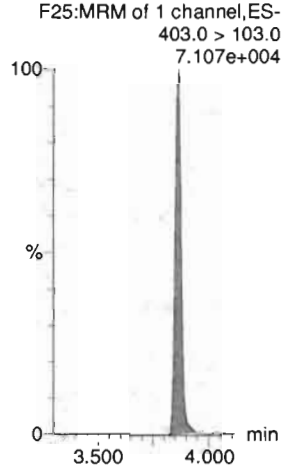
13C5-PFHxA



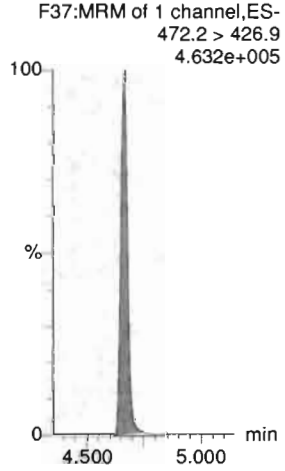
13C8-PFOA



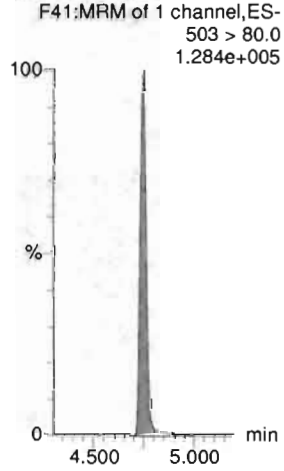
18O2-PFHxS



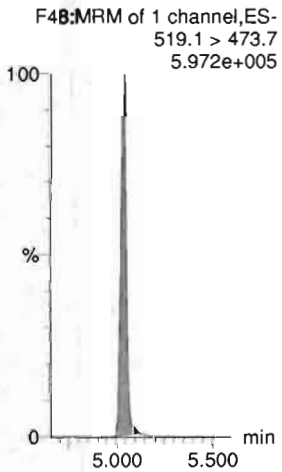
13C9-PFNA



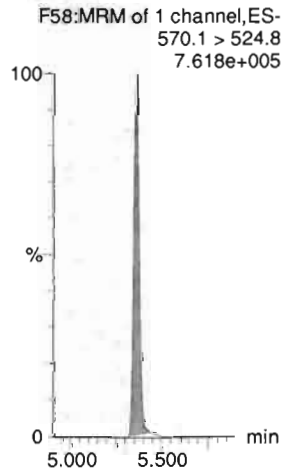
13C4-PFOS



13C6-PFDA



13C7-PFUdA

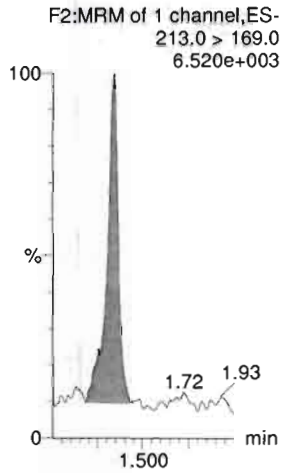


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

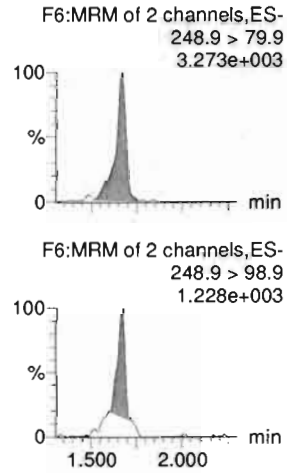
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

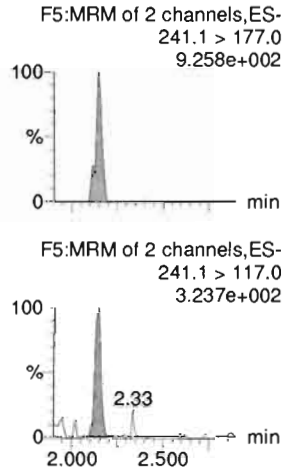
PFBA



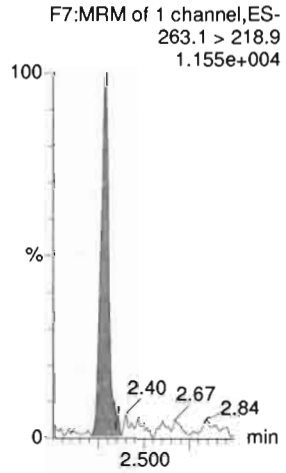
PFPrS



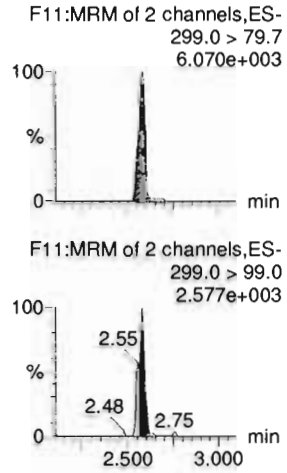
3:3 FTCA



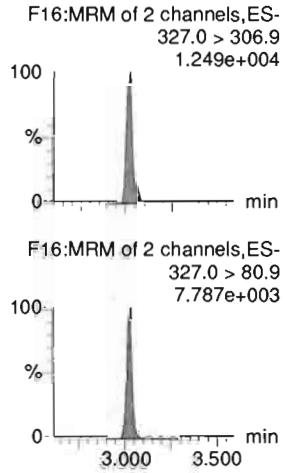
PFPeA



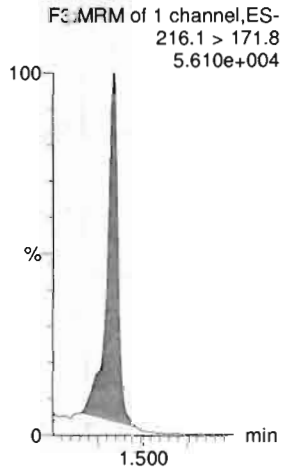
PFBS



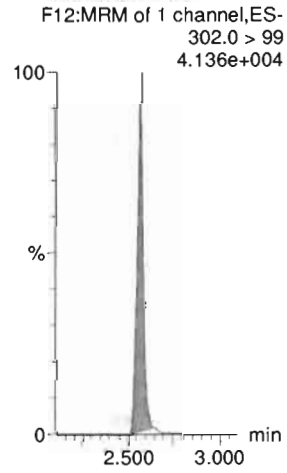
4:2 FTS



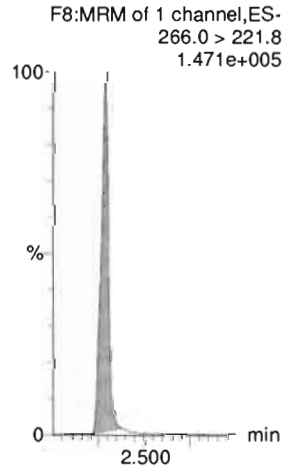
13C3-PFBA-EIS



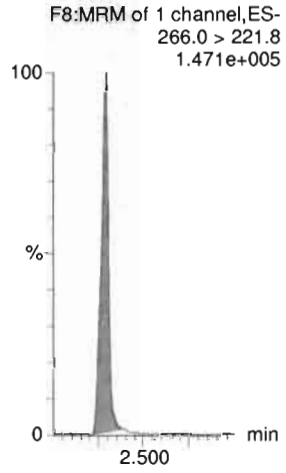
13C3-PFBS-EIS



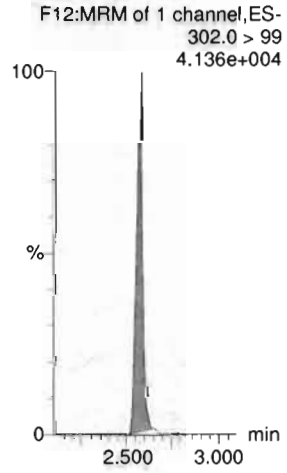
13C3-PFPeA-EIS



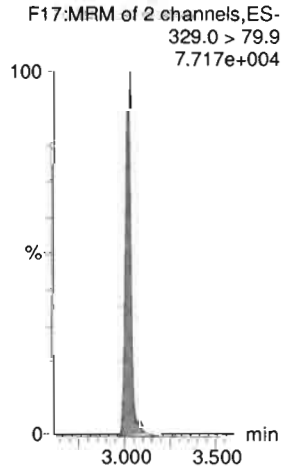
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

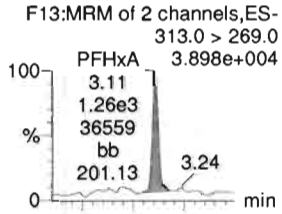


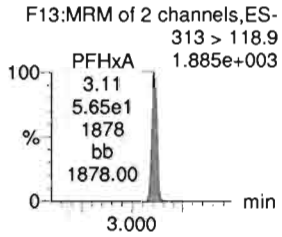
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

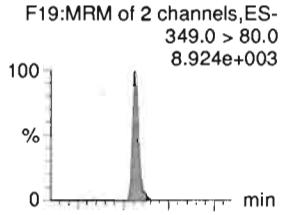
Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

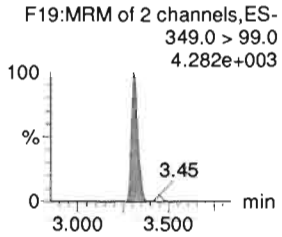
PFHxA



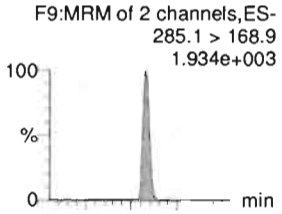


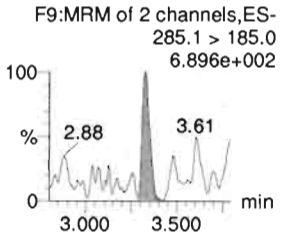
PFPeS



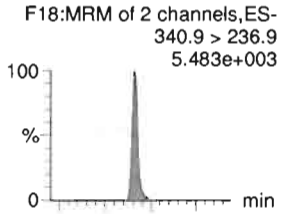


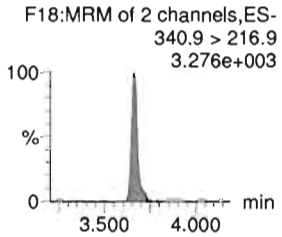
HFPO-DA



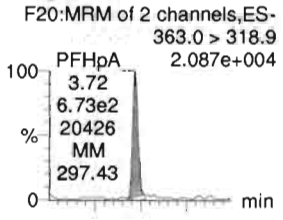


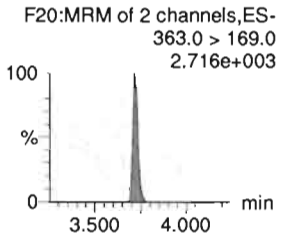
5:3 FTCA



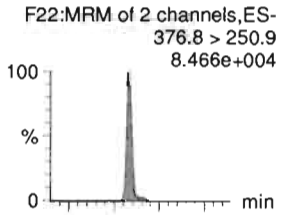


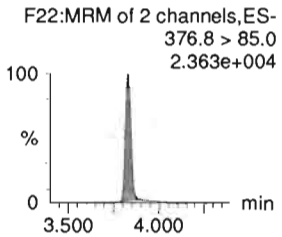
PFHpA



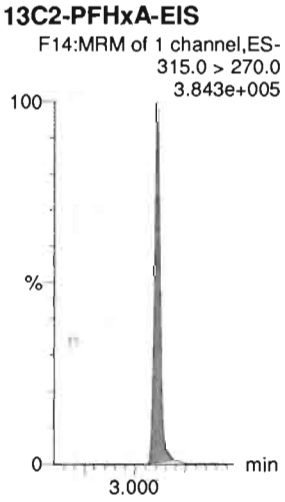


ADONA

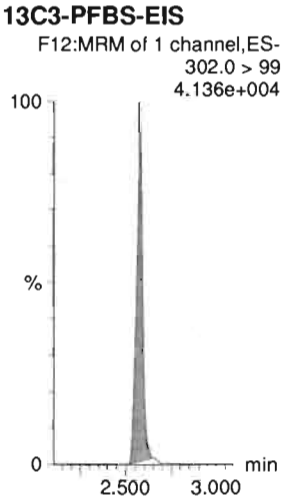




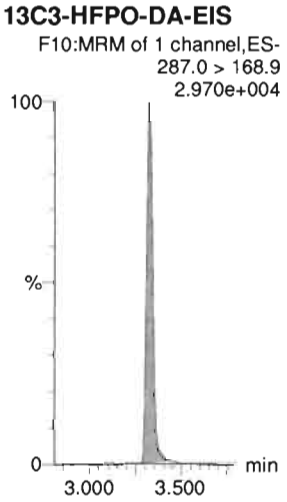
13C2-PFHxA-EIS



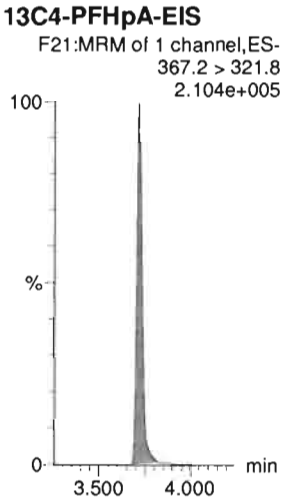
13C3-PFBS-EIS



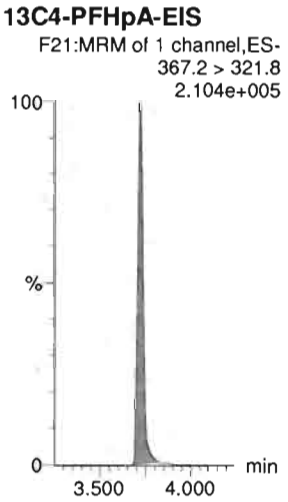
13C3-HFPO-DA-EIS



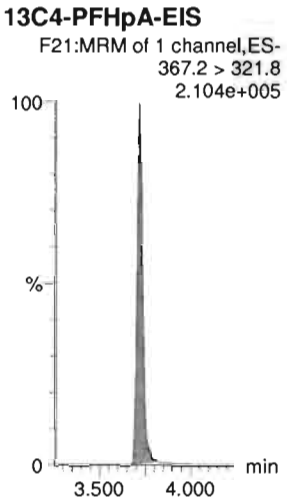
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

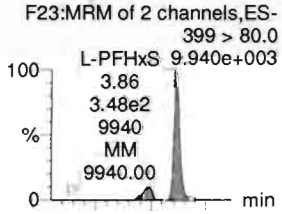


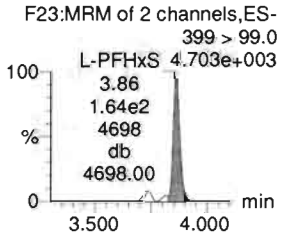
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

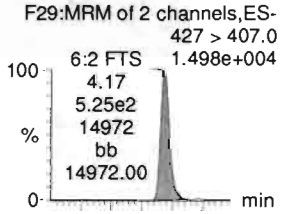
Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

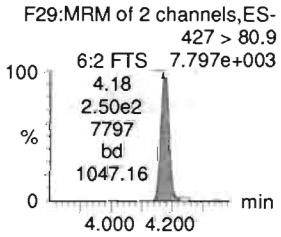
L-PFHxS



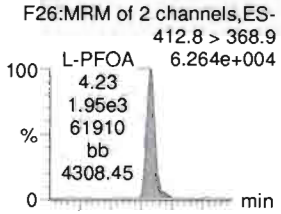


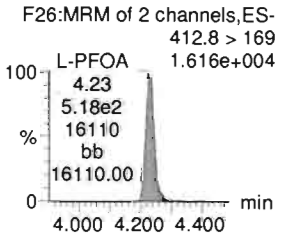
6:2 FTS



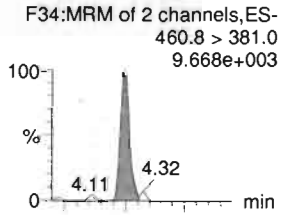


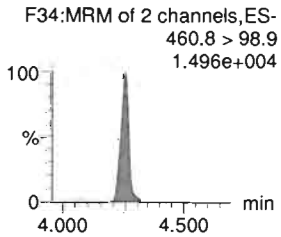
L-PFOA



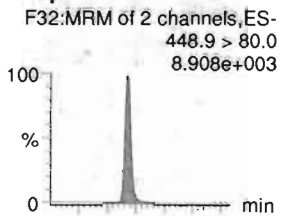


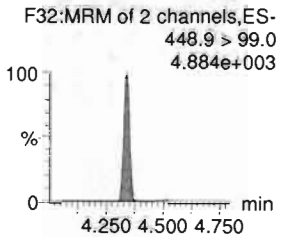
PFEChS



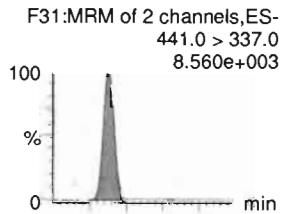


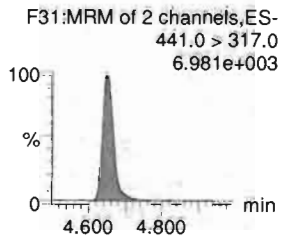
PFHpS



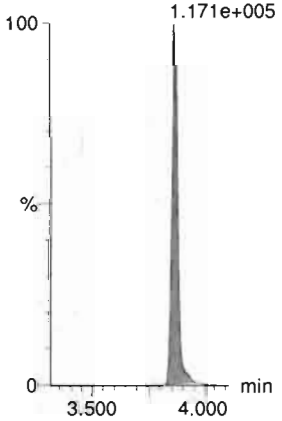


7:3 FTCA

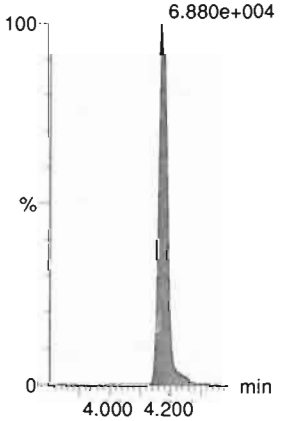




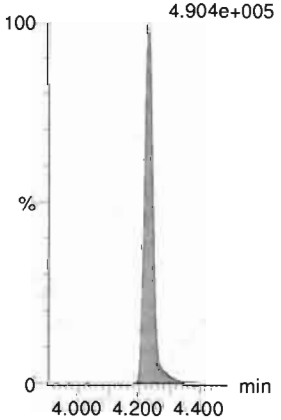
13C3-PFHxS-EIS



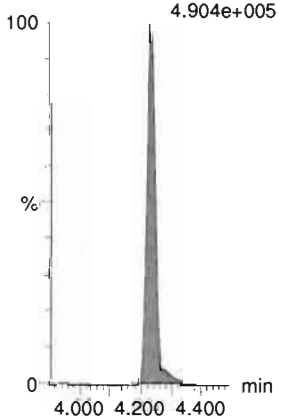
13C2-6:2 FTS-EIS



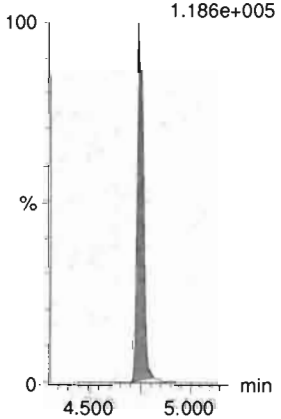
13C2-PFOA-EIS



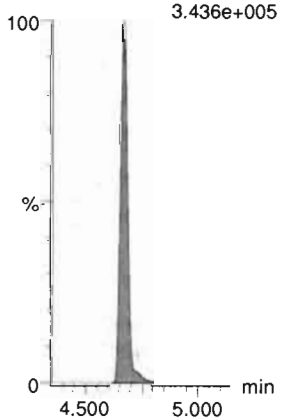
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

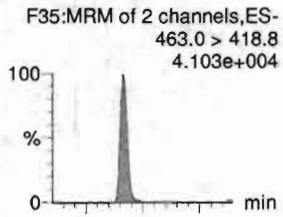


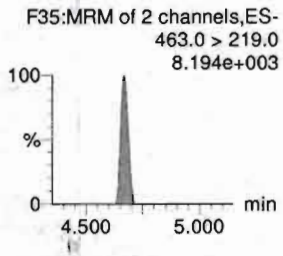
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

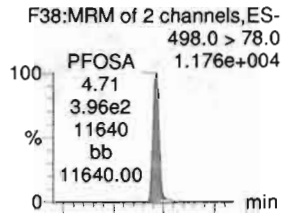
Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

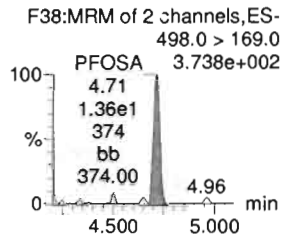
PFNA



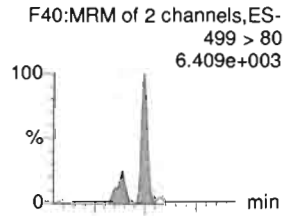


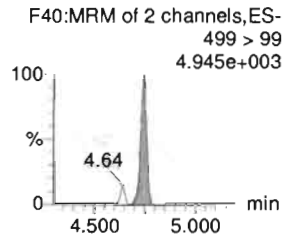
PFOSA



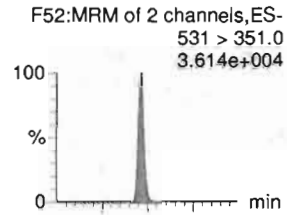


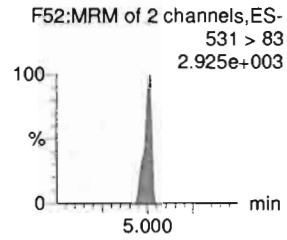
L-PFOS



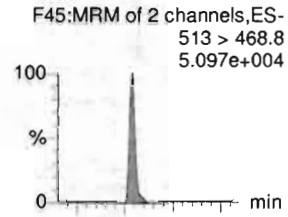


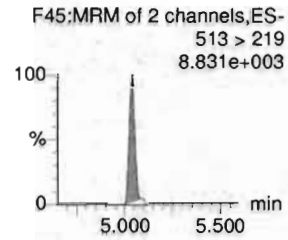
9Cl-PF30NS



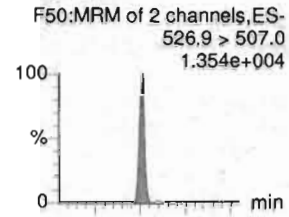


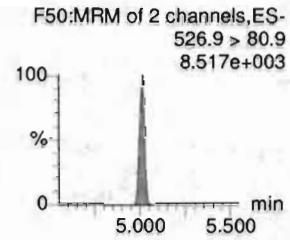
PFDA



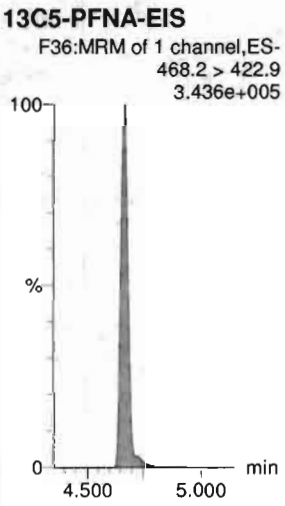


8:2 FTS

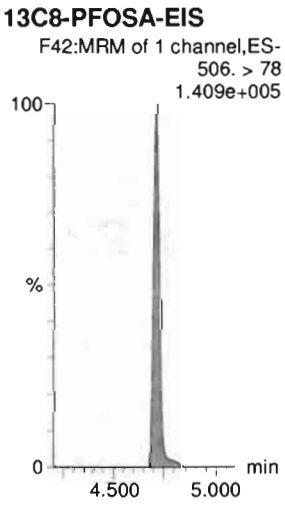




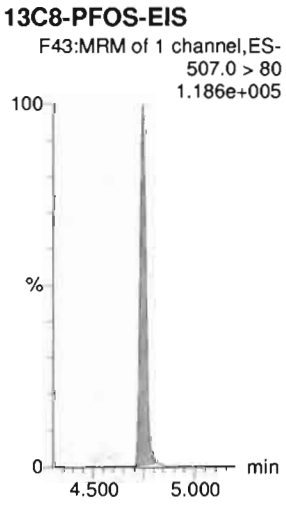
13C5-PFNA-EIS



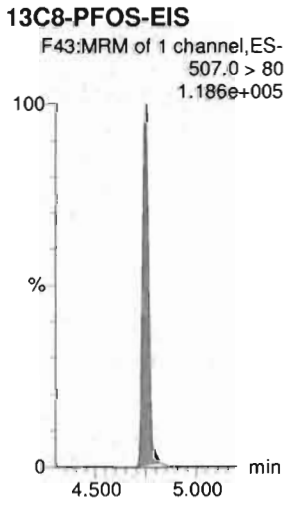
13C8-PFOSA-EIS



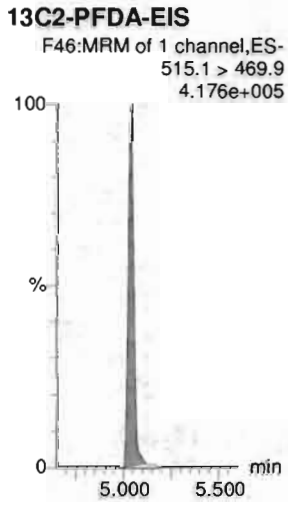
13C8-PFOS-EIS



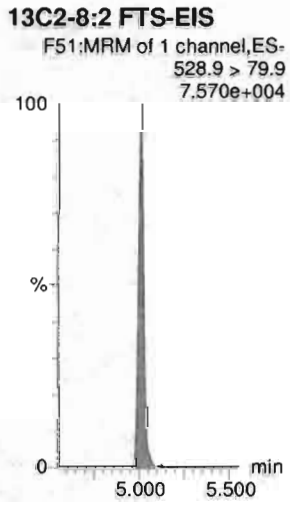
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

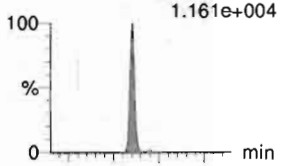


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

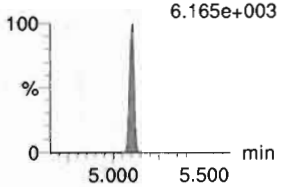
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

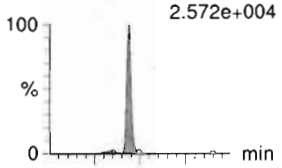
PFNS
F54:MRM of 2 channels,ES-
548.9 > 79.9
1.161e+004



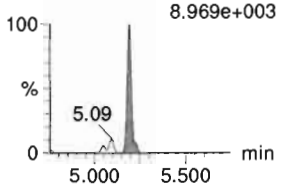
F54:MRM of 2 channels,ES-
548.9 > 98.9
6.165e+003



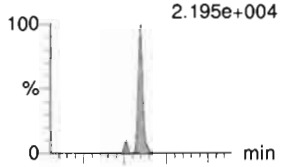
L-MeFOSAA
F57:MRM of 2 channels,ES-
570 > 419
2.572e+004



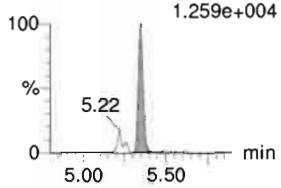
F57:MRM of 2 channels,ES-
570. > 512
8.969e+003



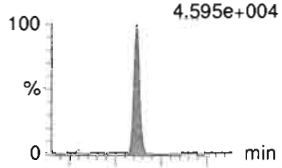
L-EtFOSAA
F60:MRM of 2 channels,ES-
583.9 > 419
2.195e+004



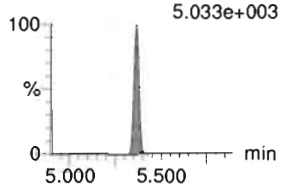
F60:MRM of 2 channels,ES-
583.9 > 526
1.259e+004



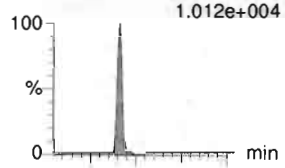
PFUdA
F55:MRM of 2 channels,ES-
563.0 > 518.9
4.595e+004



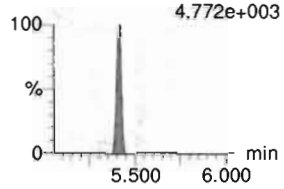
F55:MRM of 2 channels,ES-
563.0 > 269
5.033e+003



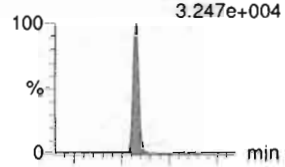
PFDS
F62:MRM of 2 channels,ES-
599.0 > 80.0
1.012e+004



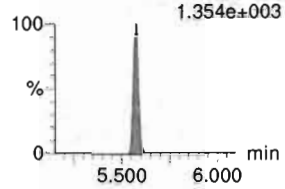
F62:MRM of 2 channels,ES-
599.0 > 99.0
4.772e+003



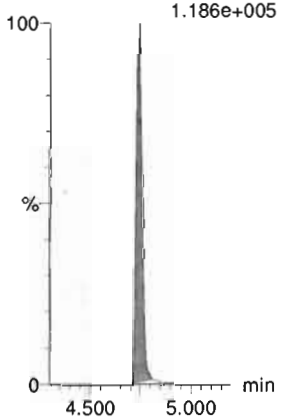
11Cl-PF30UdS
F69:MRM of 2 channels,ES-
630.9 > 450.9
3.247e+004



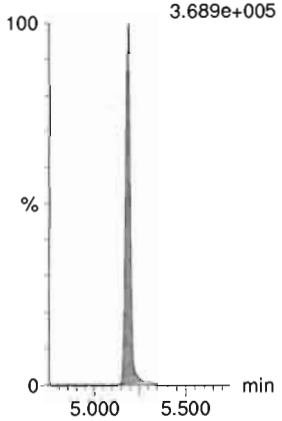
F69:MRM of 2 channels,ES-
630.9 > 83.
1.354e+003



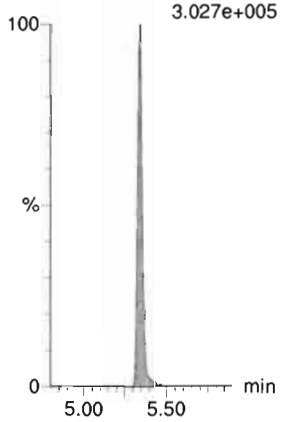
13C8-PFOS-EIS
F43:MRM of 1 channel,ES-
507.0 > 80
1.186e+005



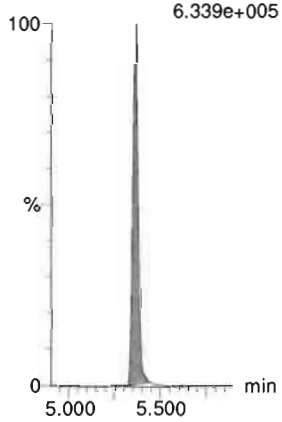
d3-N-MeFOSAA-EIS
F59:MRM of 1 channel,ES-
573. > 419
3.689e+005



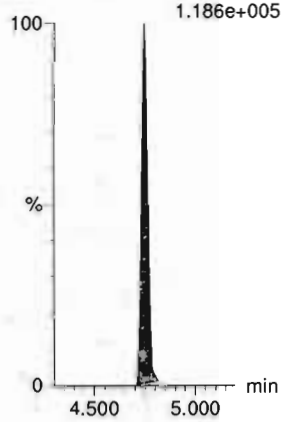
d5-N-EtFOSAA-EIS
F61:MRM of 1 channel,ES-
589. > 419
3.027e+005



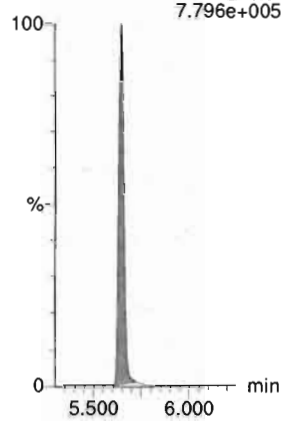
13C2-PFUdA-EIS
F56:MRM of 1 channel,ES-
565 > 519.8
6.339e+005



13C8-PFOS-EIS
F43:MRM of 1 channel,ES-
507.0 > 80
1.186e+005



13C2-PFDoA-EIS
F64:MRM of 1 channel,ES-
615 > 570
7.796e+005

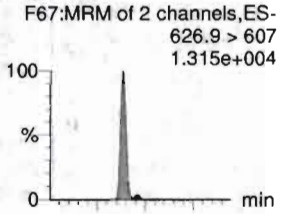


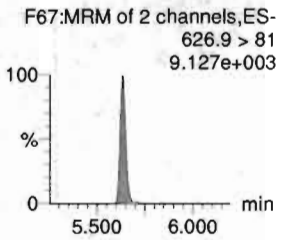
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

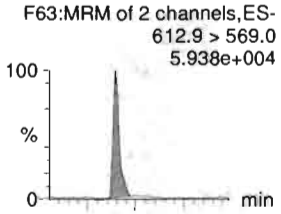
Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

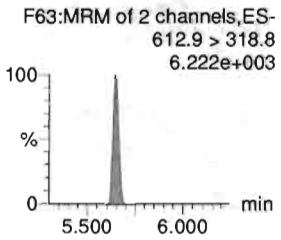
10:2 FTS



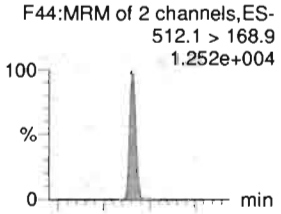


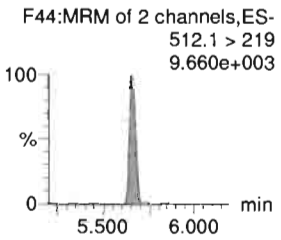
PFDoA



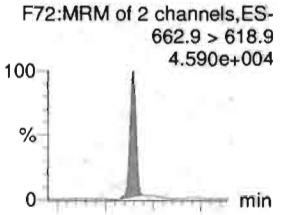


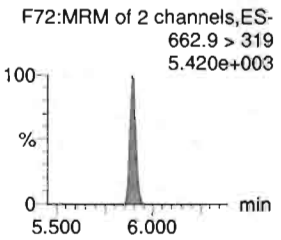
N-MeFOSA



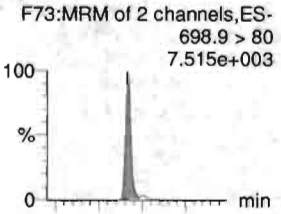


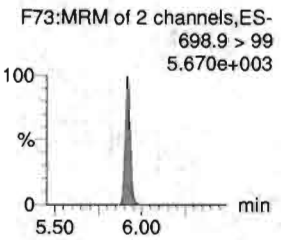
PFTrDA



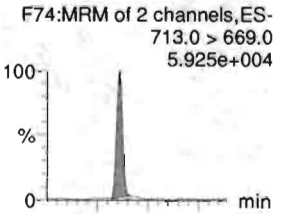


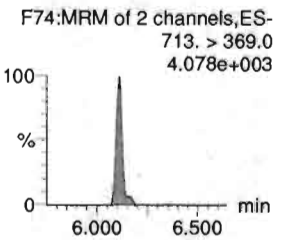
PFDoS



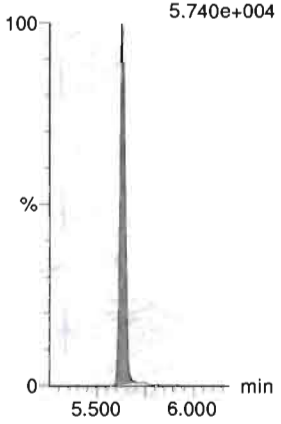


PFTeDA

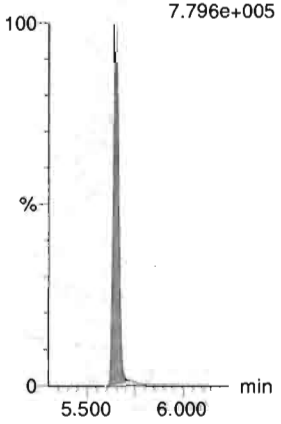




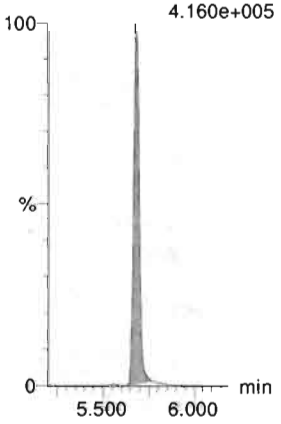
13C2-10:2 FTS-EIS



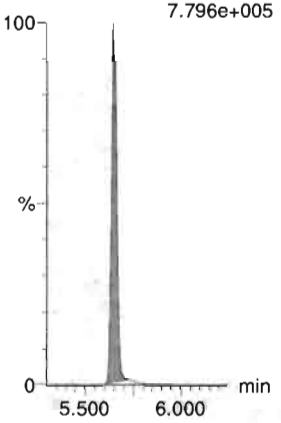
13C2-PFDoA-EIS



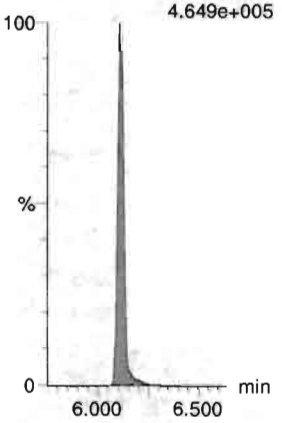
d3-N-MeFOSA-EIS



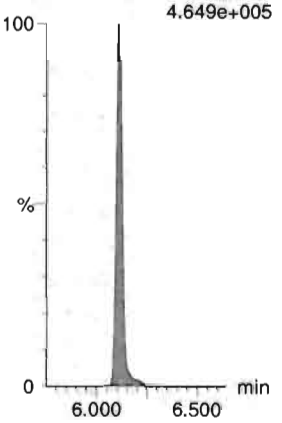
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

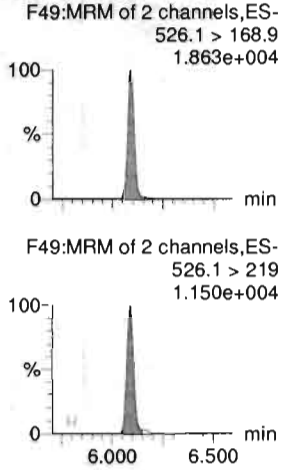


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

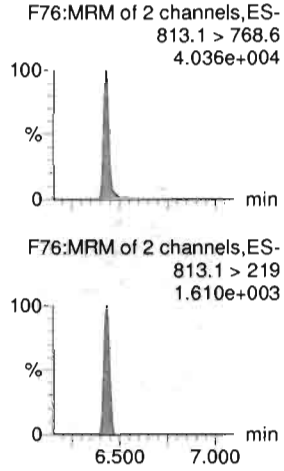
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

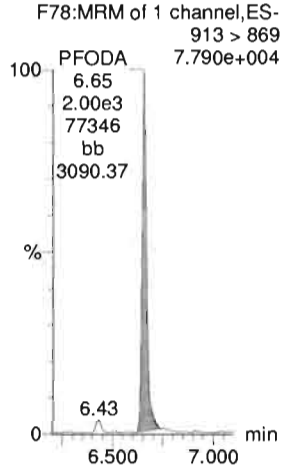
N-EtFOSA



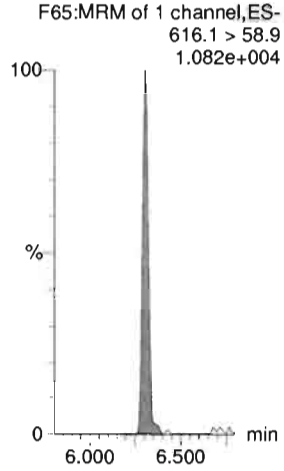
PFHxDA



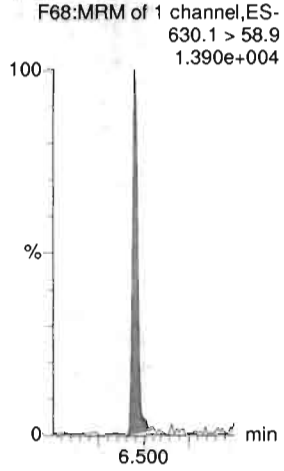
PFODA



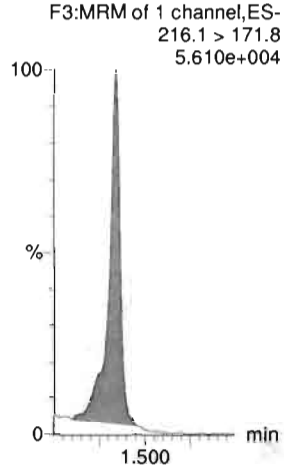
N-MeFOSE



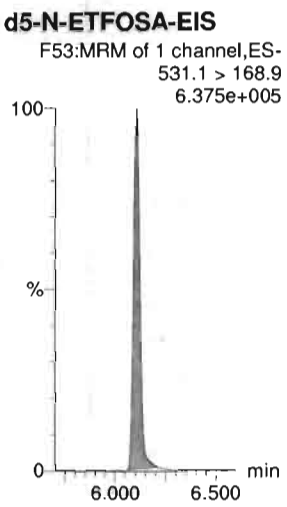
N-EtFOSE



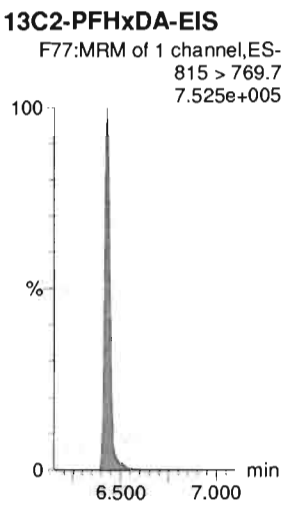
13C3-PFBA-RSD



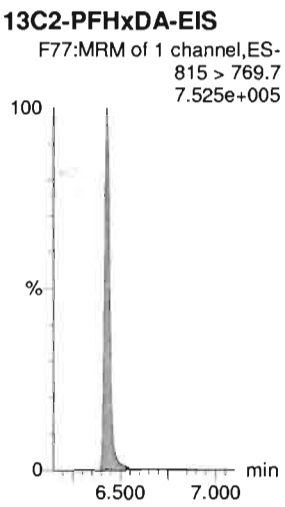
d5-N-ETFOSA-EIS



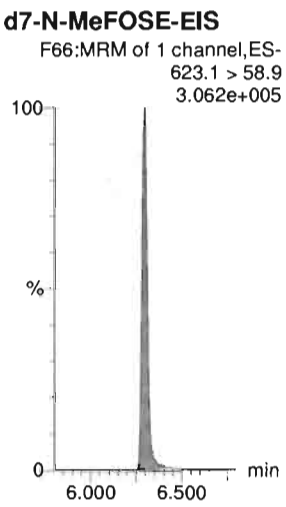
13C2-PFHxDA-EIS



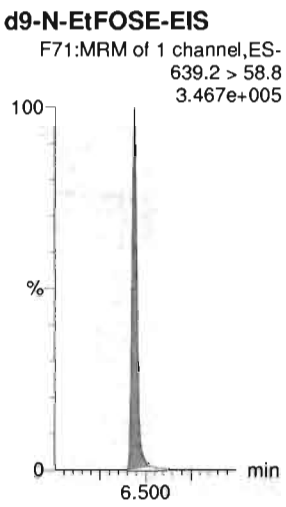
13C2-PFHxDA-EIS



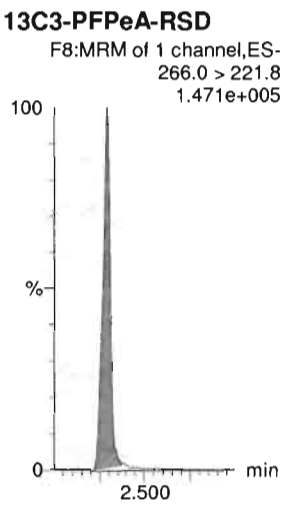
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

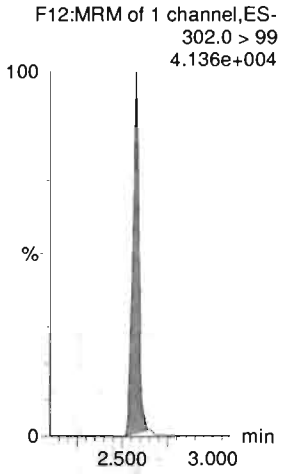


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

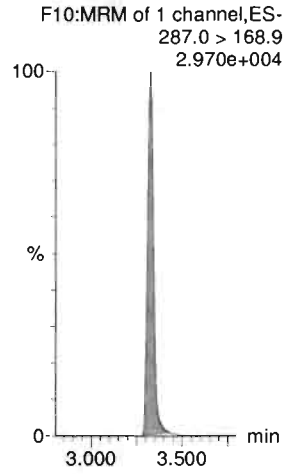
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

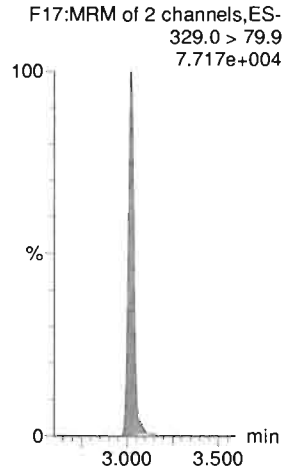
13C3-PFBS-RSD



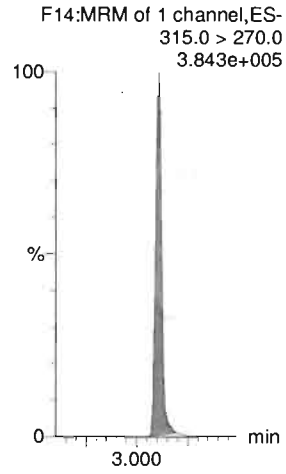
13C3-HFPO-DA-RSD



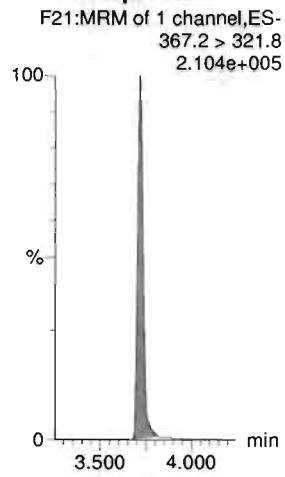
13C2-4:2 FTS-RSD



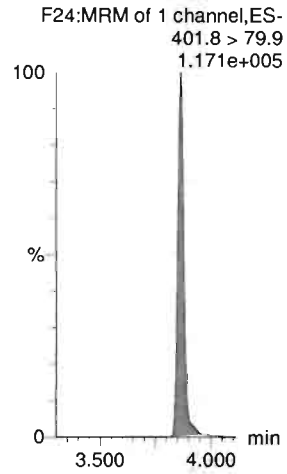
13C2-PFHxA-RSD



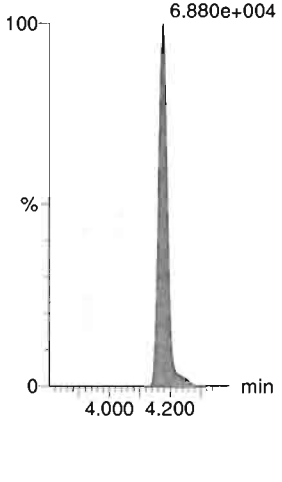
13C4-PFHpA-RSD



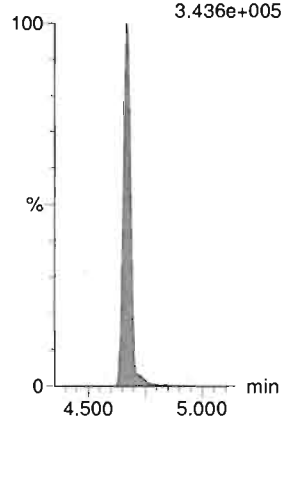
13C3-PFHxS-RSD



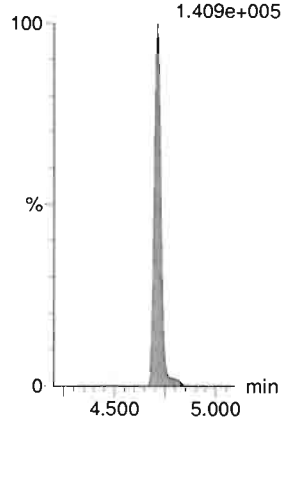
13C2-6:2 FTS-RSD



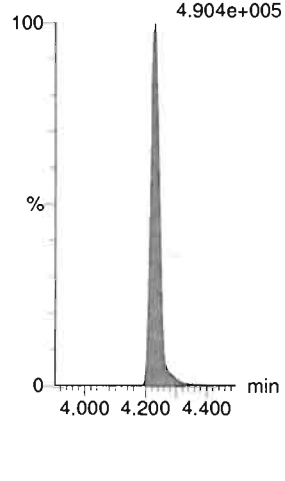
13C5-PFNA-RSD



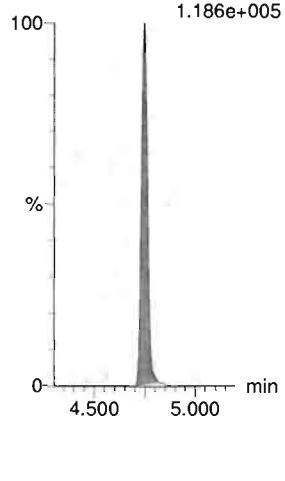
13C8-PFOSA-RSD



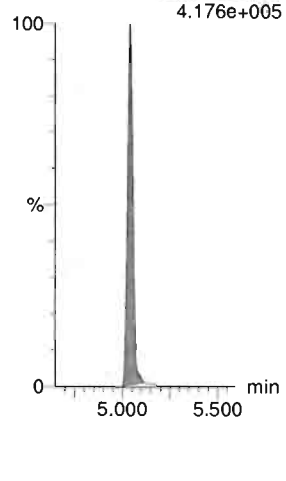
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

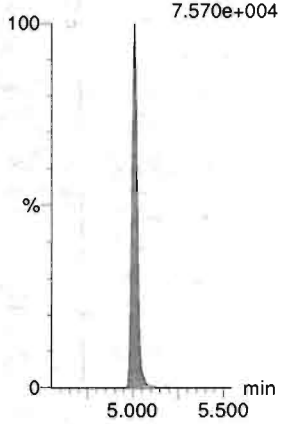


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

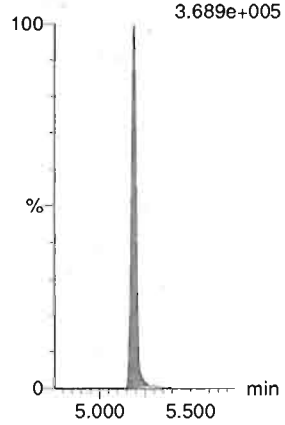
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

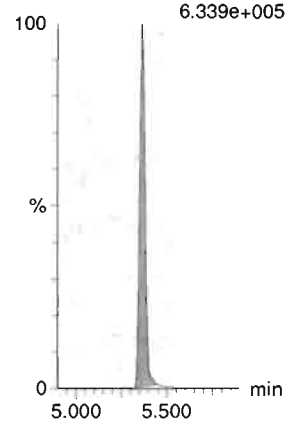
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.570e+004



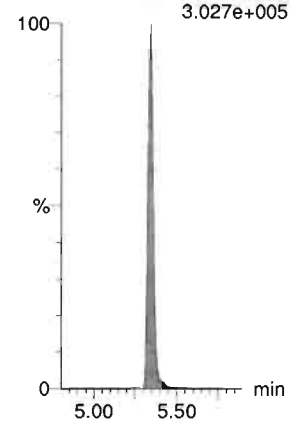
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.689e+005



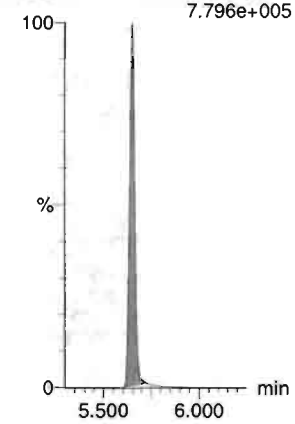
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.339e+005



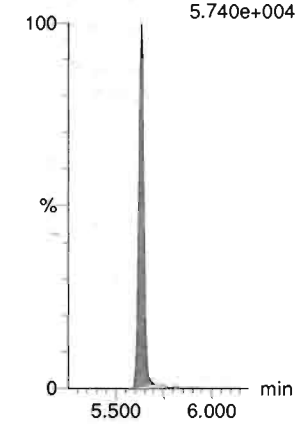
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.027e+005



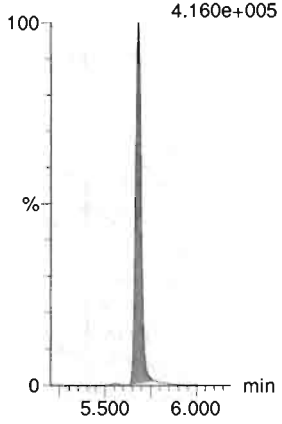
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.796e+005



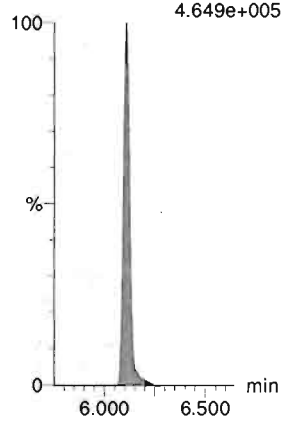
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.740e+004



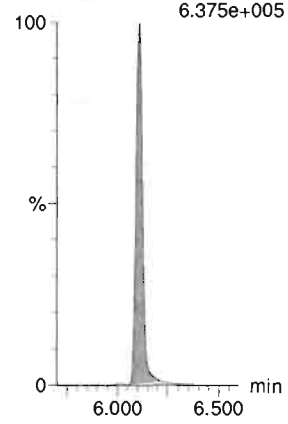
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.160e+005



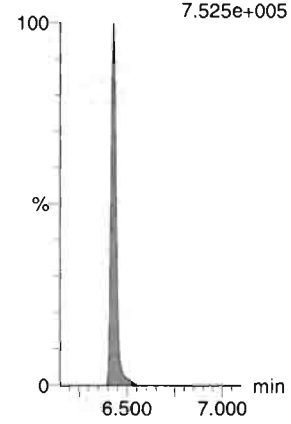
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.649e+005



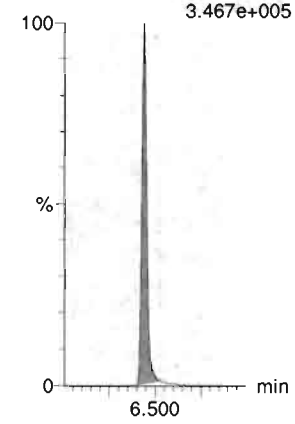
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.375e+005



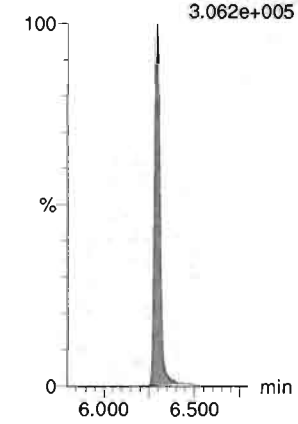
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.525e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.467e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.062e+005

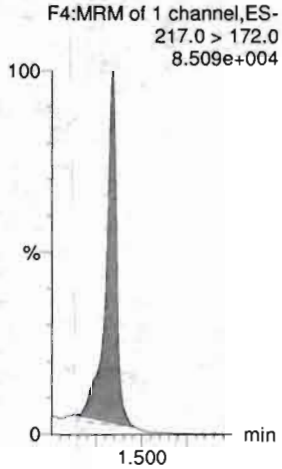


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

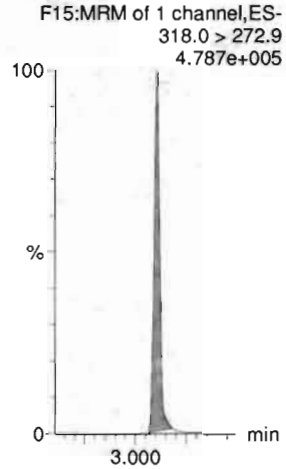
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_5, Date: 10-Jul-2020, Time: 08:36:28, ID: ST200710M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

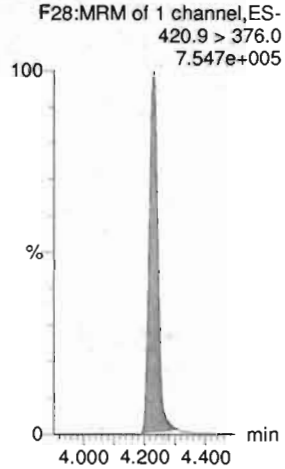
13C4-PFBA



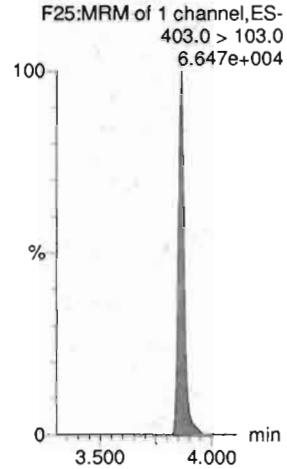
13C5-PFHxA



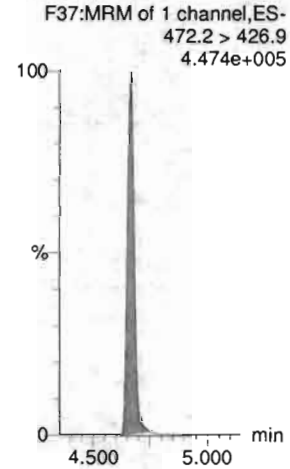
13C8-PFOA



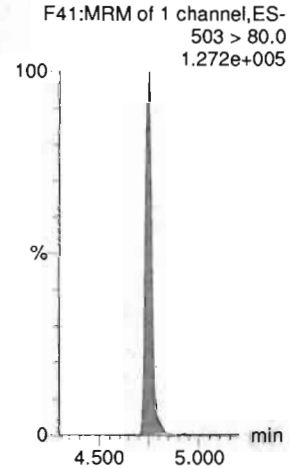
18O2-PFHxS



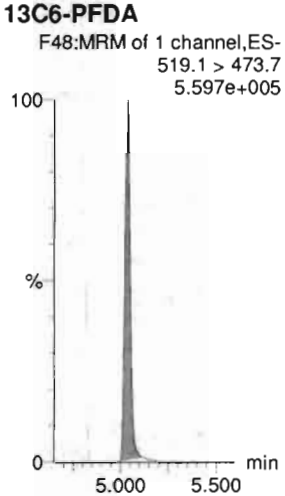
13C9-PFNA



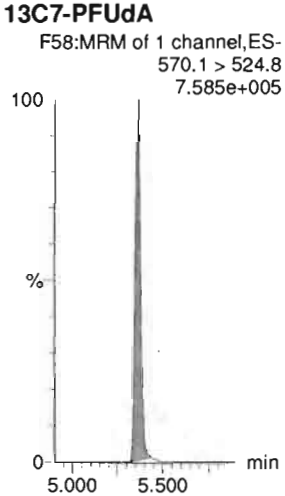
13C4-PFOS



13C6-PFDA



13C7-PFUdA

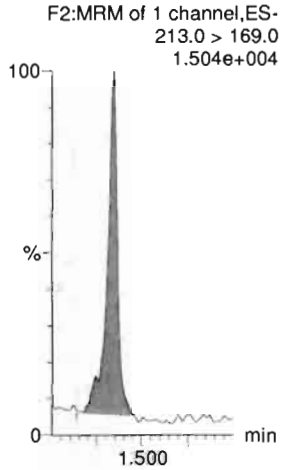


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

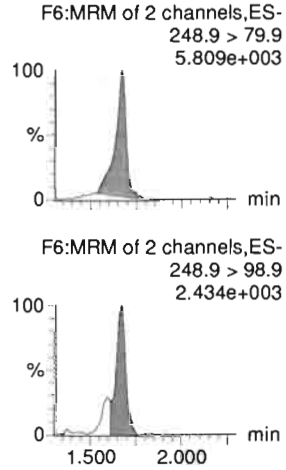
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

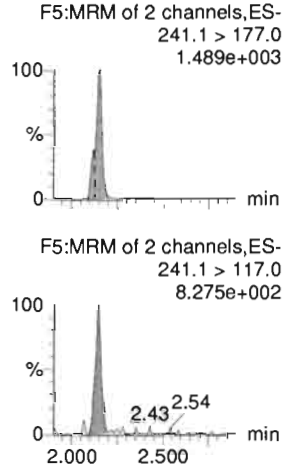
PFBA



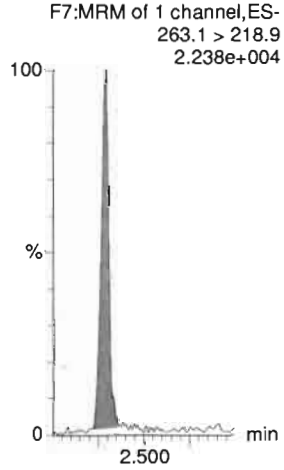
PFPrS



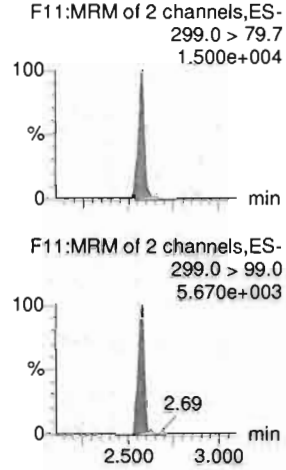
3:3 FTCA



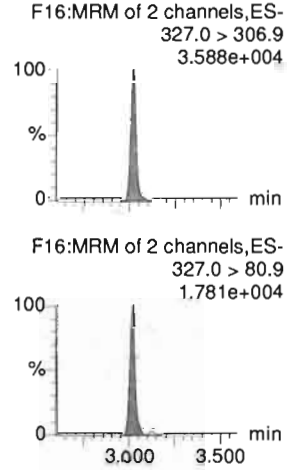
PFPeA



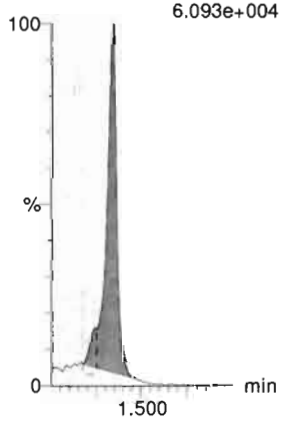
PFBS



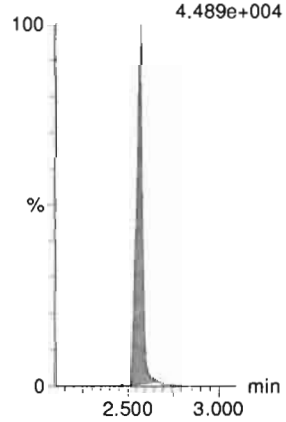
4:2 FTS



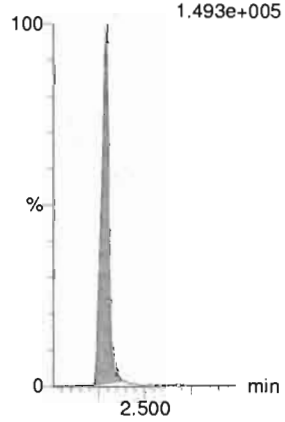
13C3-PFBA-EIS



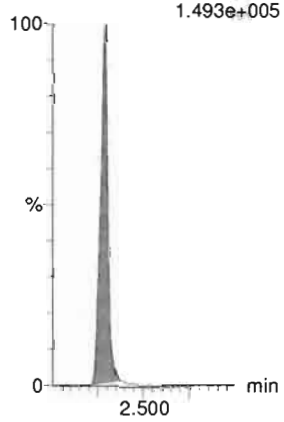
13C3-PFBS-EIS



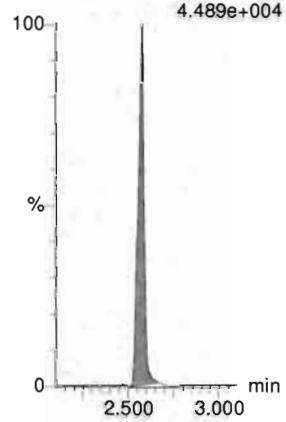
13C3-PFPeA-EIS



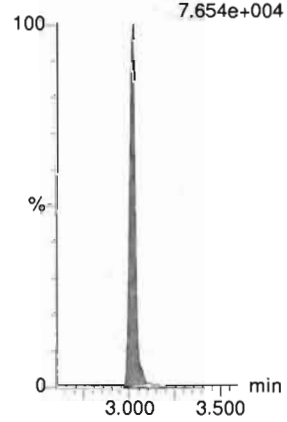
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

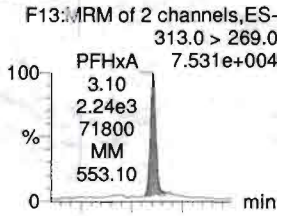


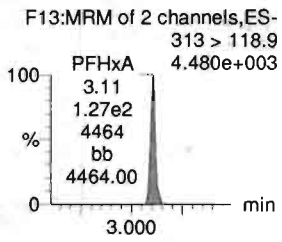
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

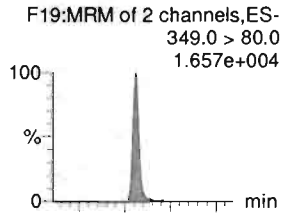
Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

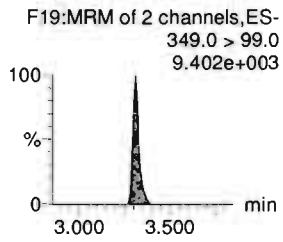
PFHxA



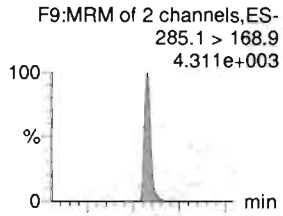


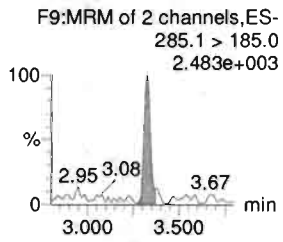
PFPeS



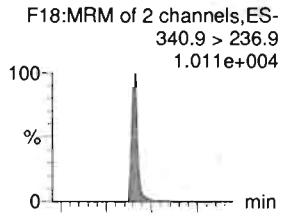


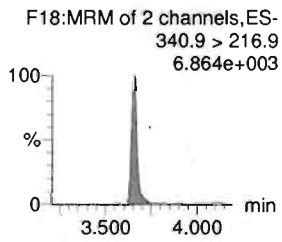
HFPO-DA



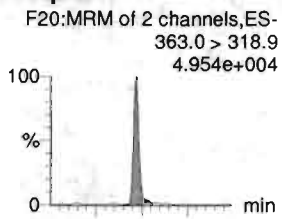


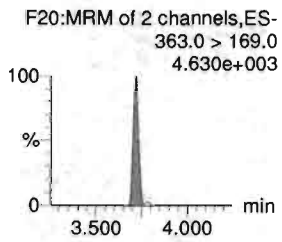
5:3 FTCA



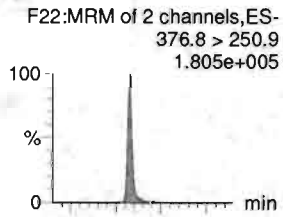


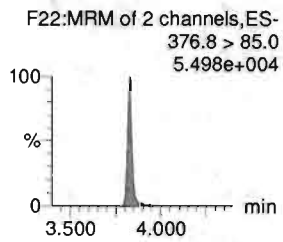
PFHpA



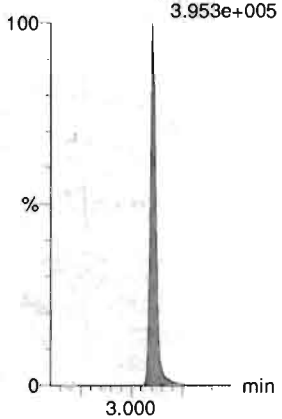


ADONA

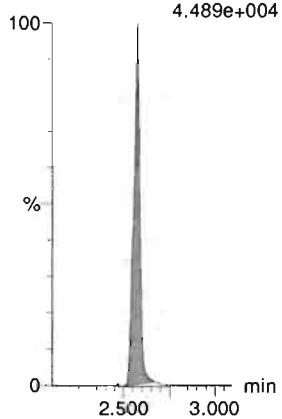




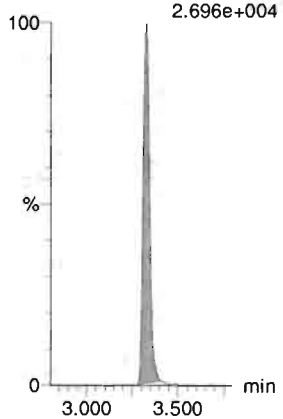
13C2-PFHxA-EIS



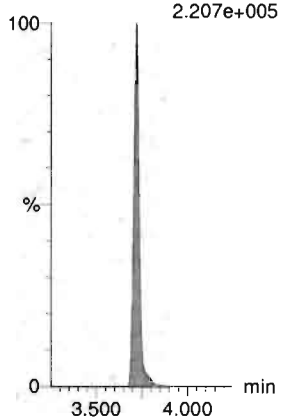
13C3-PFBS-EIS



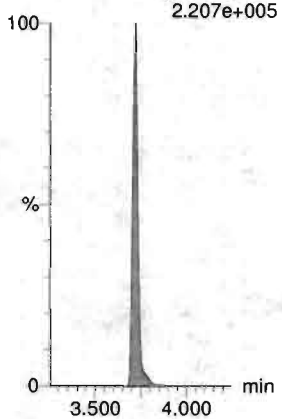
13C3-HFPO-DA-EIS



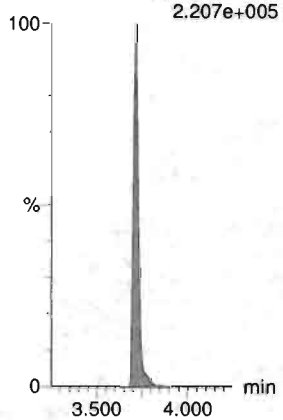
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

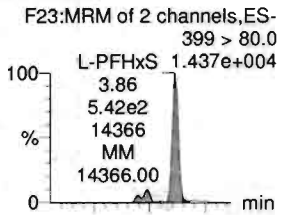


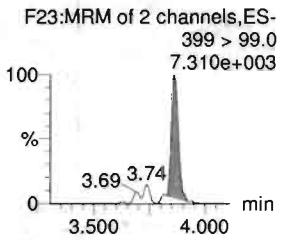
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

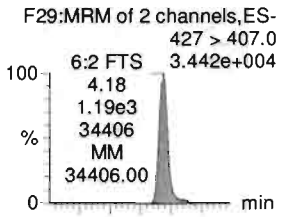
Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

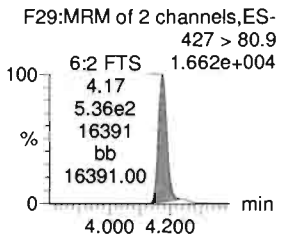
L-PFHxS



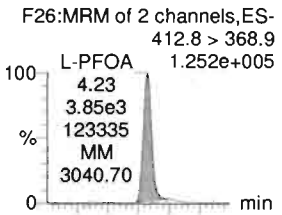


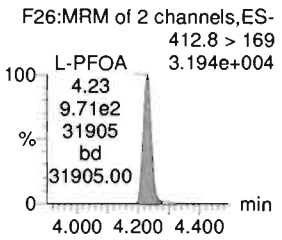
6:2 FTS



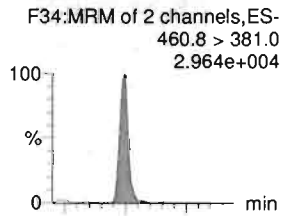


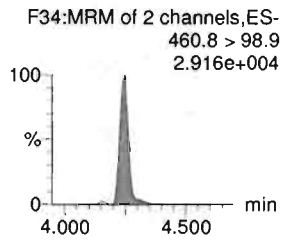
L-PFOA



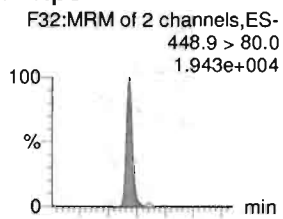


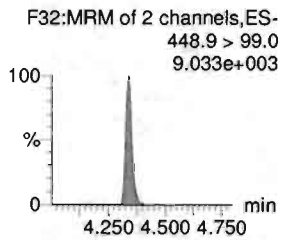
PFEChS



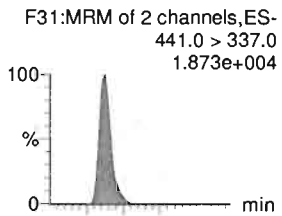


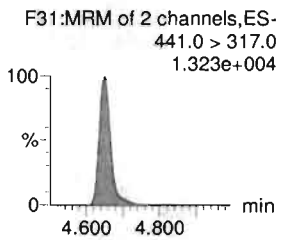
PFHpS



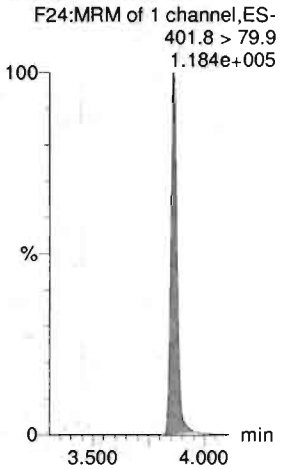


7:3 FTCA

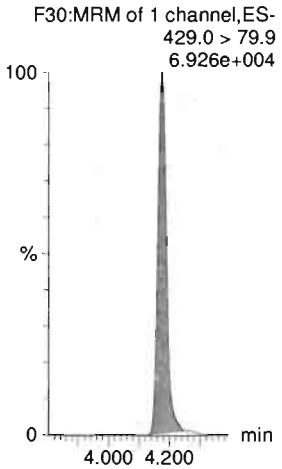




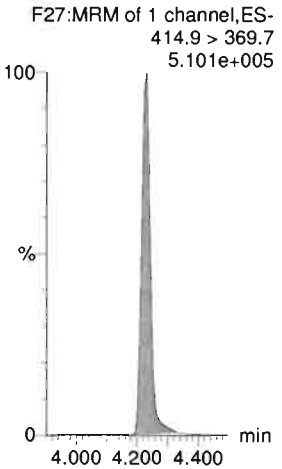
13C3-PFHxS-EIS



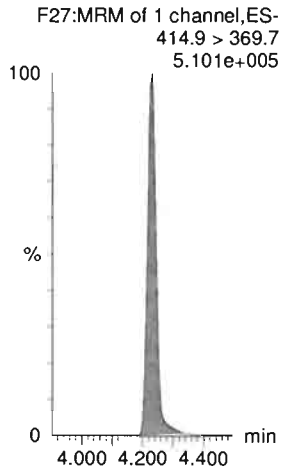
13C2-6:2 FTS-EIS



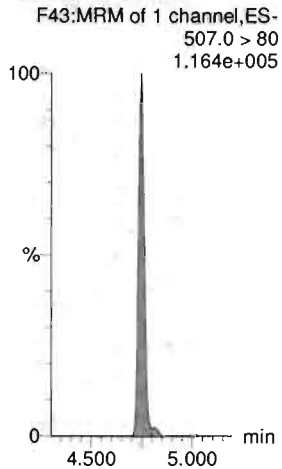
13C2-PFOA-EIS



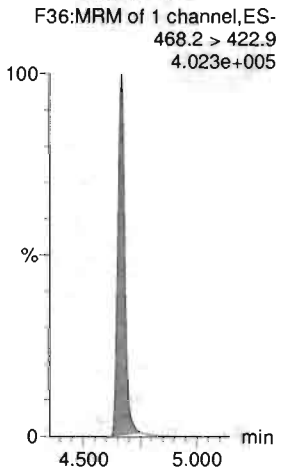
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

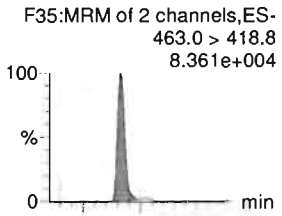


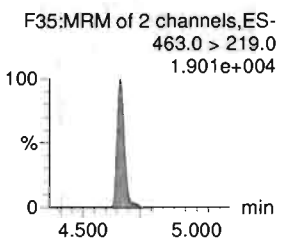
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

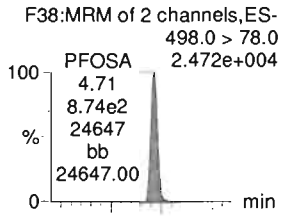
Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

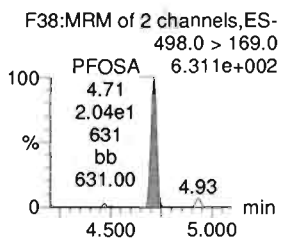
PFNA



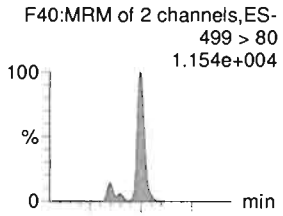


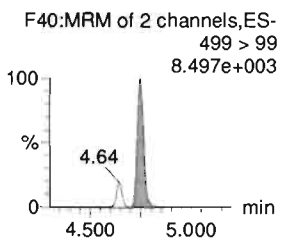
PFOSA



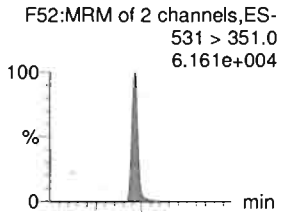


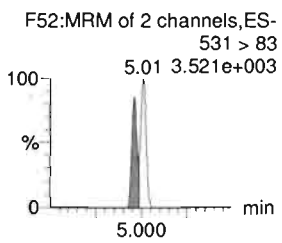
L-PFOS



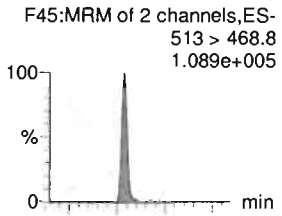


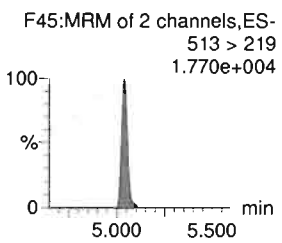
9Cl-PF30NS



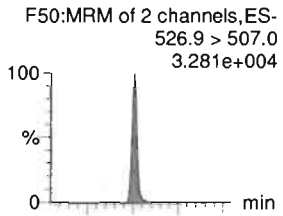


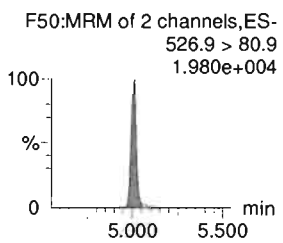
PFDA



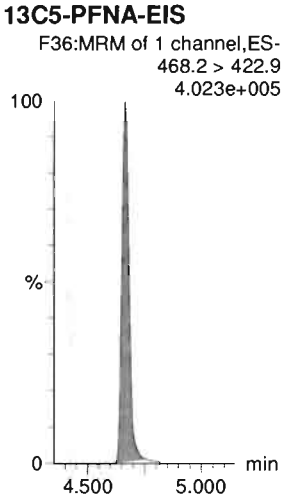


8:2 FTS

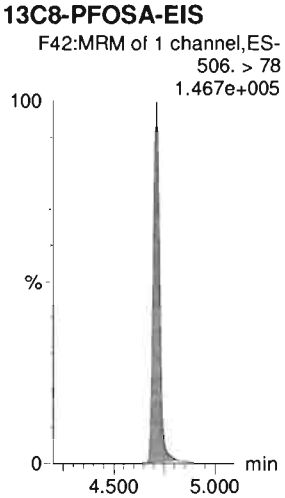




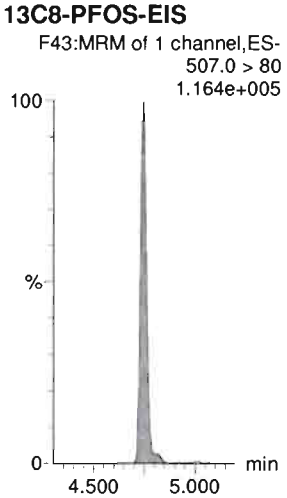
13C5-PFNA-EIS



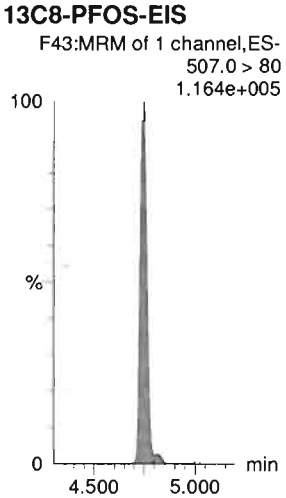
13C8-PFOSA-EIS



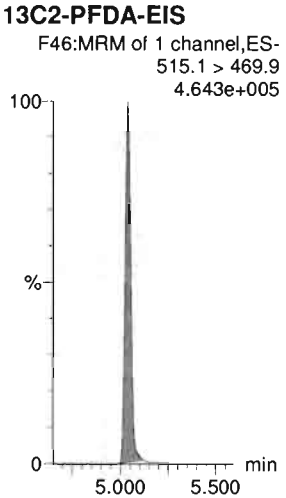
13C8-PFOS-EIS



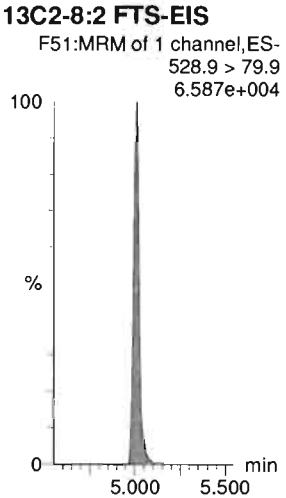
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

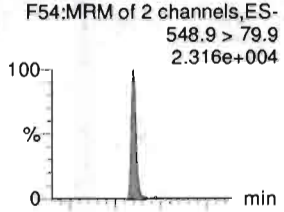


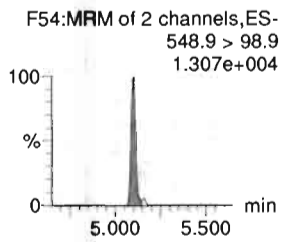
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

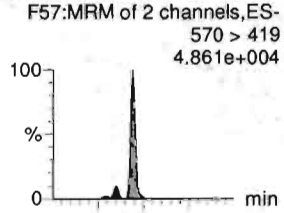
Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

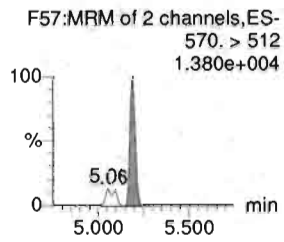
PFNS



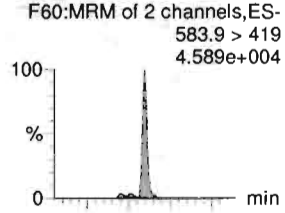


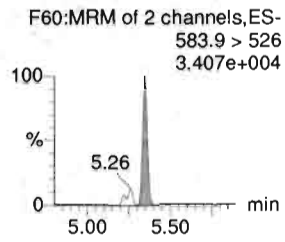
L-MeFOSAA



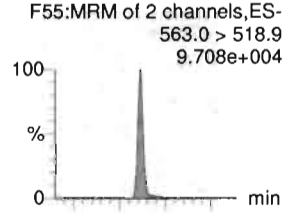


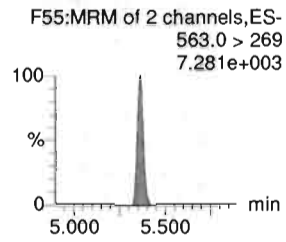
L-EtFOSAA



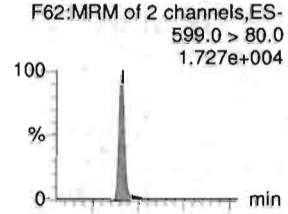


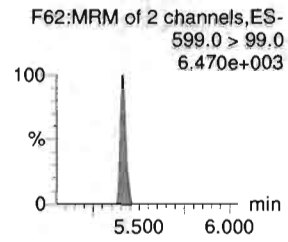
PFUdA



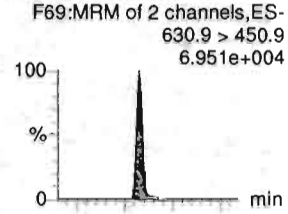


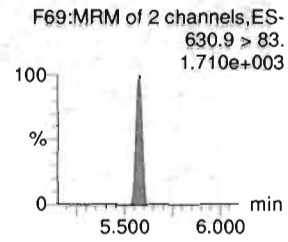
PFDS



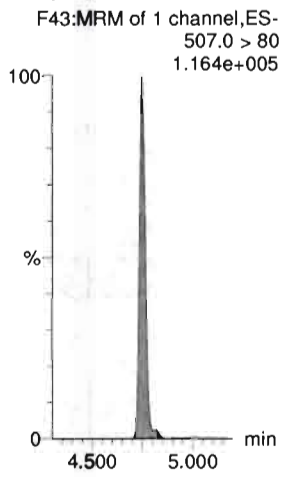


11Cl-PF30UdS

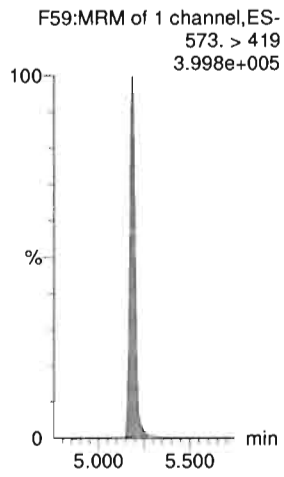




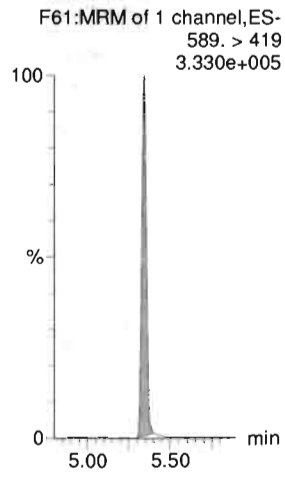
13C8-PFOS-EIS



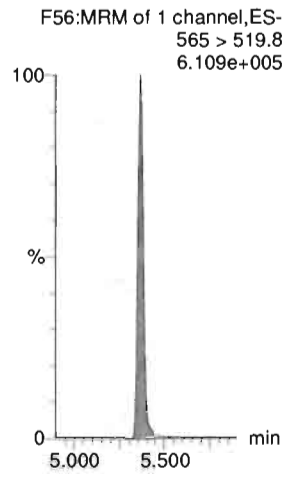
d3-N-MeFOSAA-EIS



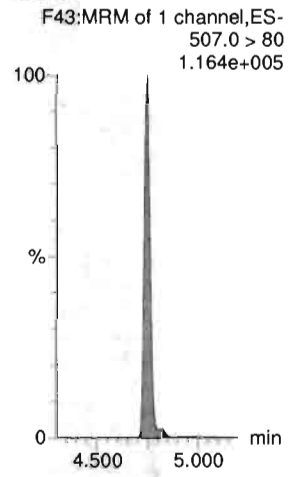
d5-N-EtFOSAA-EIS



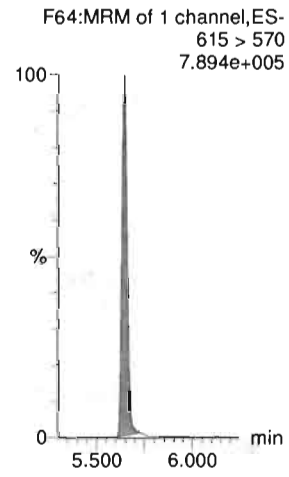
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

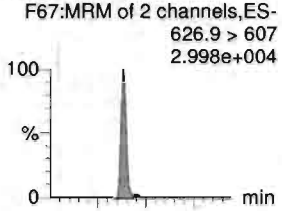


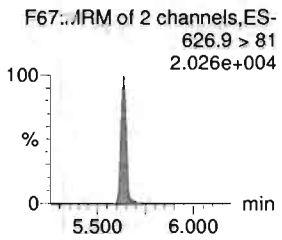
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

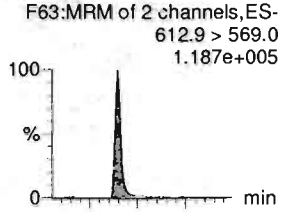
Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

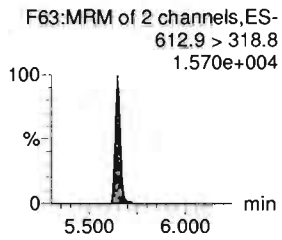
10:2 FTS



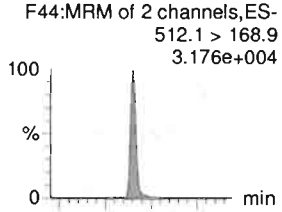


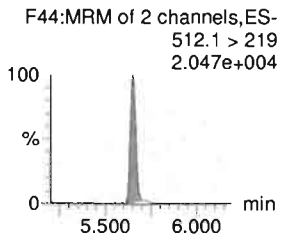
PFDoA



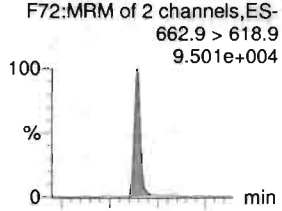


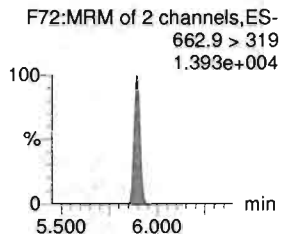
N-MeFOSA



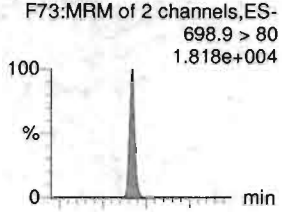


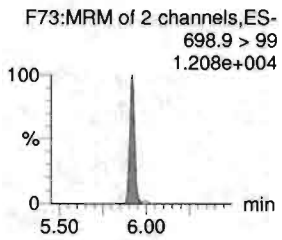
PFTrDA



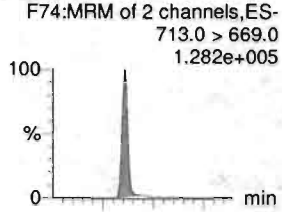


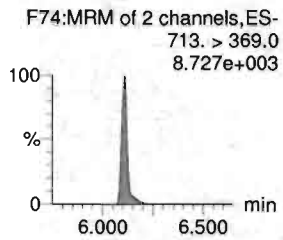
PFDoS



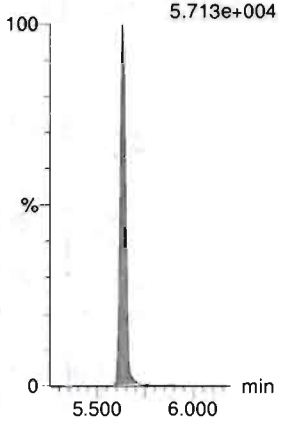


PFTeDA

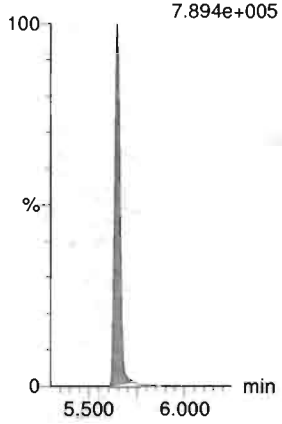




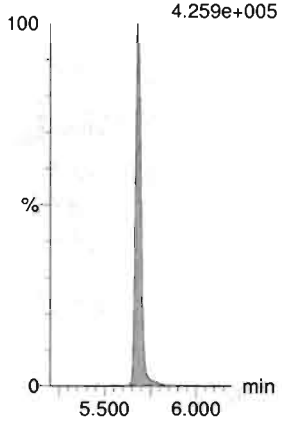
13C2-10:2 FTS-EIS



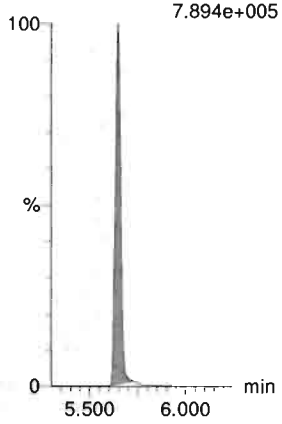
13C2-PFDoA-EIS



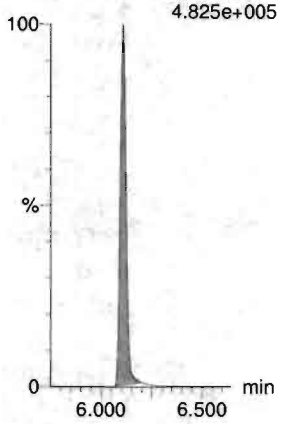
d3-N-MeFOSA-EIS



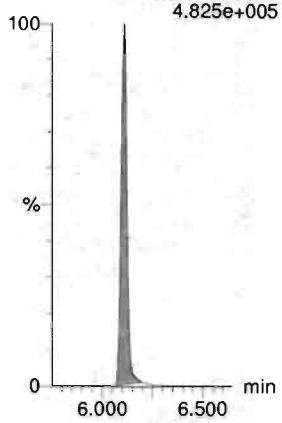
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

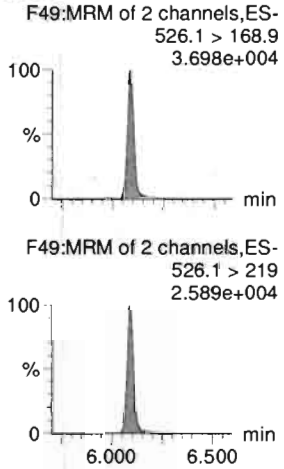


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

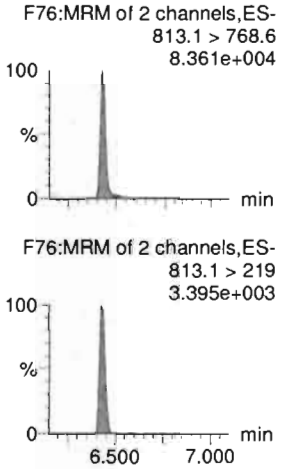
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

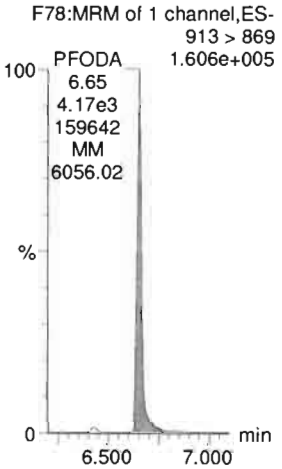
N-EtFOSA



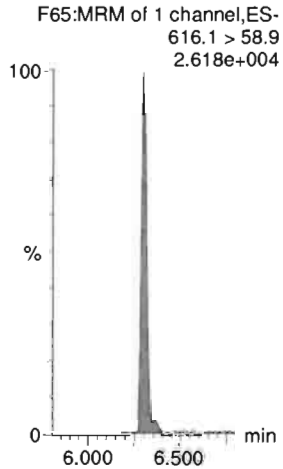
PFHxDA



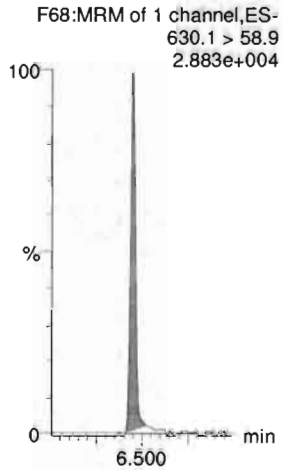
PFODA



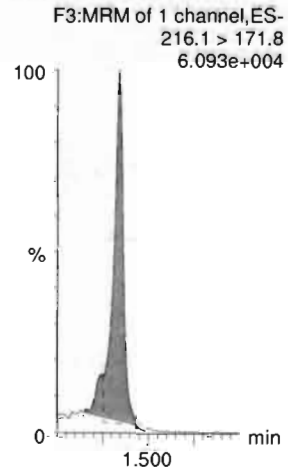
N-MeFOSE



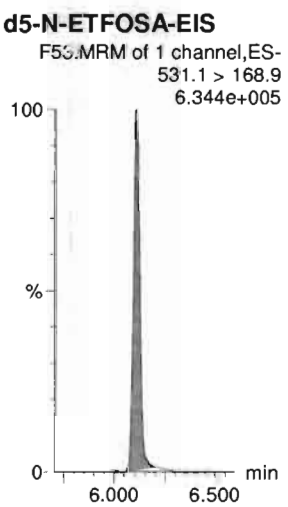
N-EtFOSE



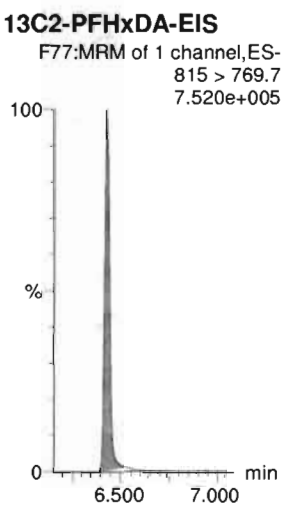
13C3-PFBA-RSD



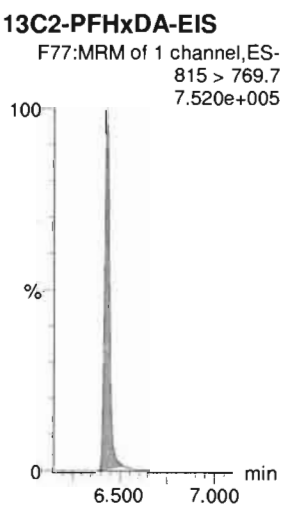
d5-N-ETFOSA-EIS



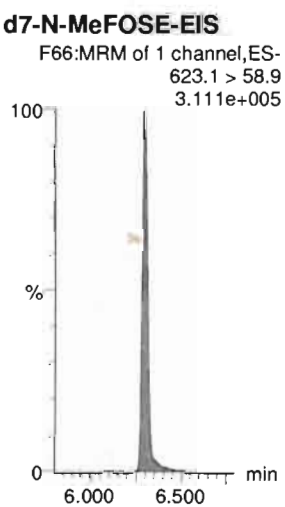
13C2-PFHxDA-EIS



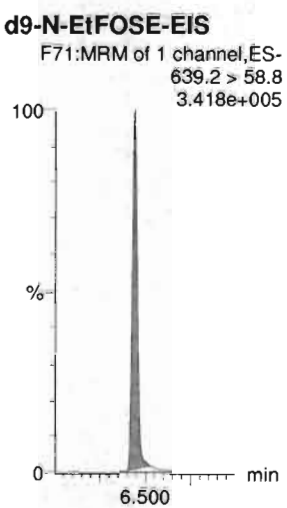
13C2-PFHxDA-EIS



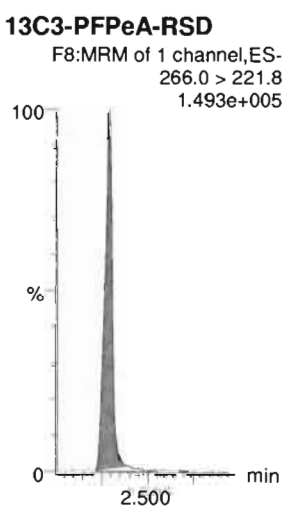
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

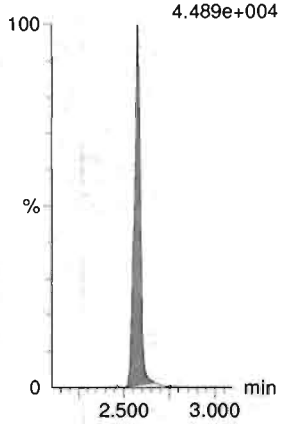


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

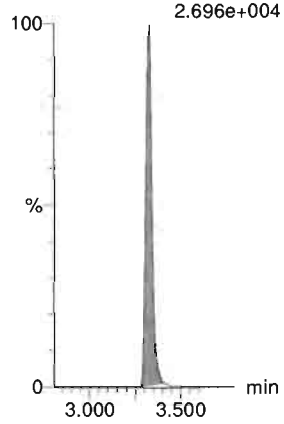
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

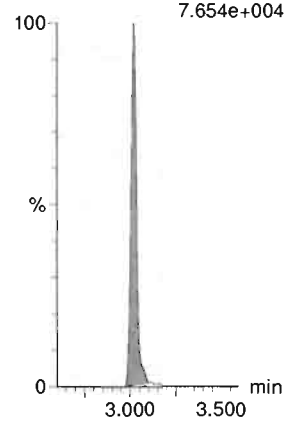
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.489e+004



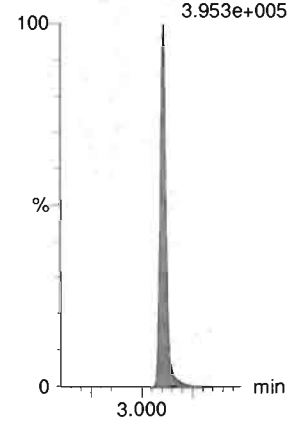
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.696e+004



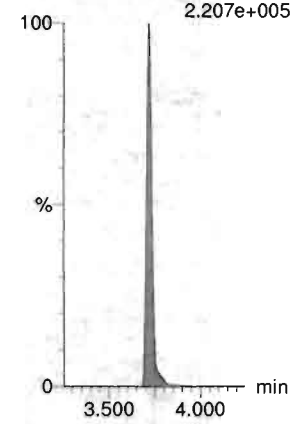
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.654e+004



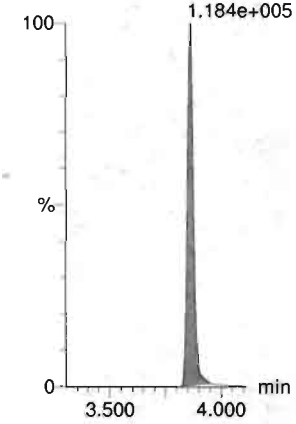
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.953e+005



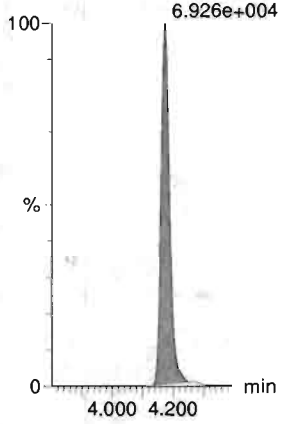
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.207e+005



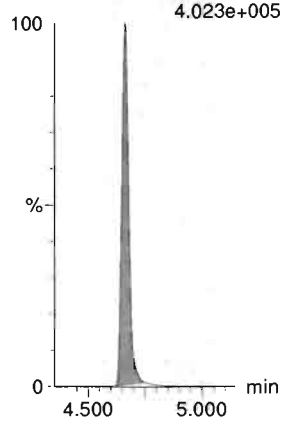
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.184e+005



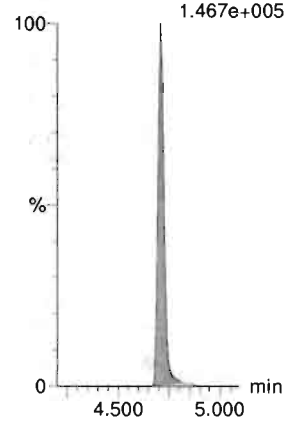
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.926e+004



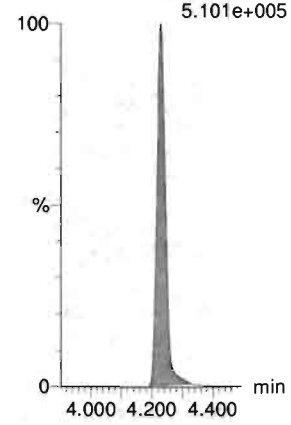
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.023e+005



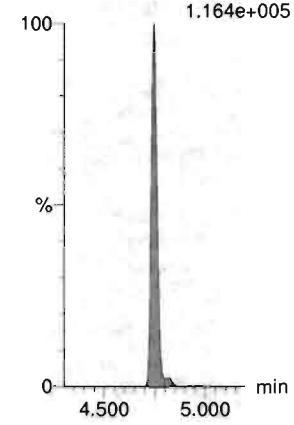
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.467e+005



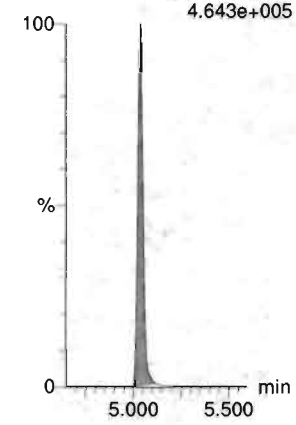
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.101e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.164e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.643e+005

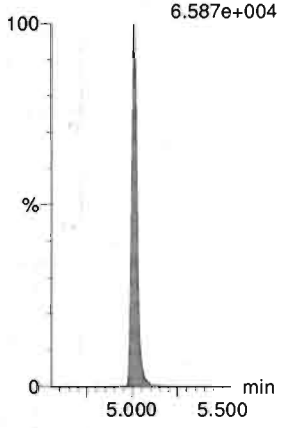


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

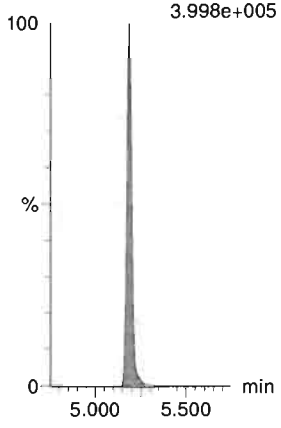
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

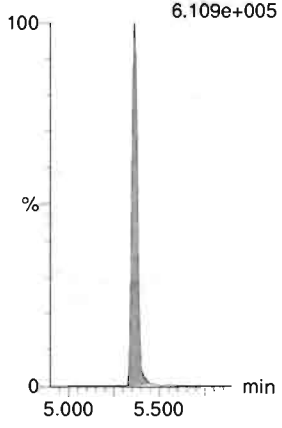
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.587e+004



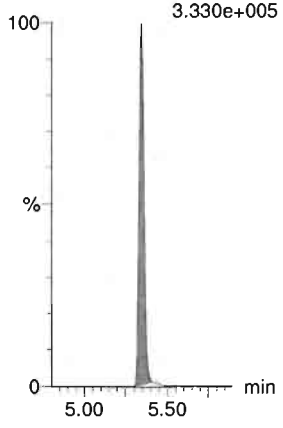
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.998e+005



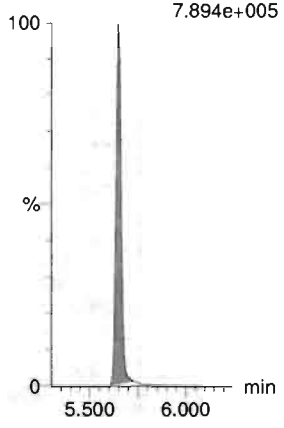
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.109e+005



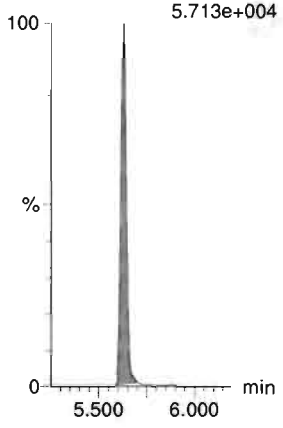
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.330e+005



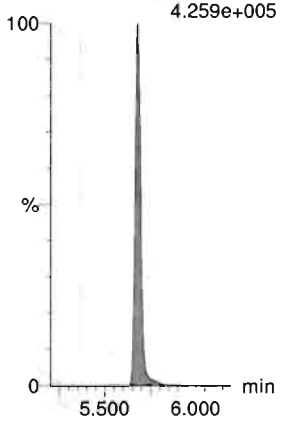
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.894e+005



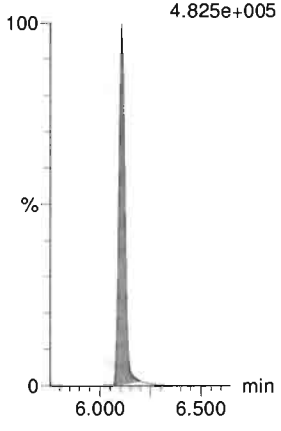
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.713e+004



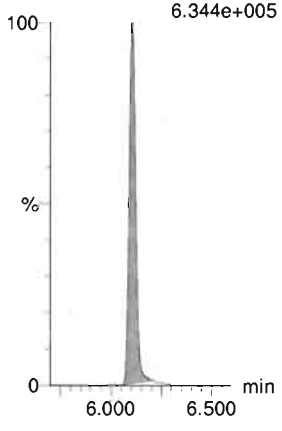
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.259e+005



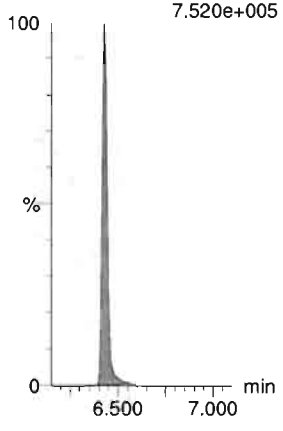
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.825e+005



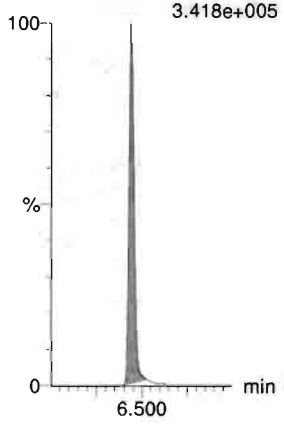
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.344e+005



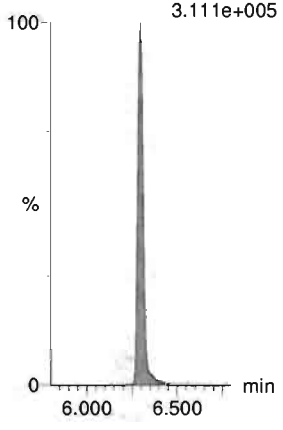
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.520e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.418e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.111e+005

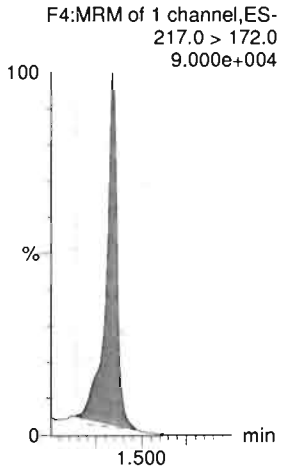


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

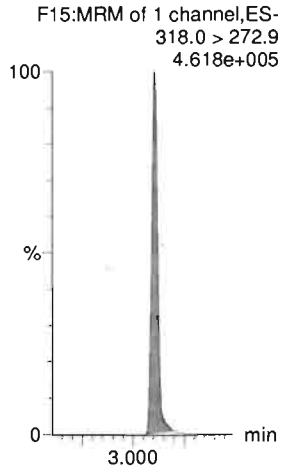
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_6, Date: 10-Jul-2020, Time: 08:46:51, ID: ST200710M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

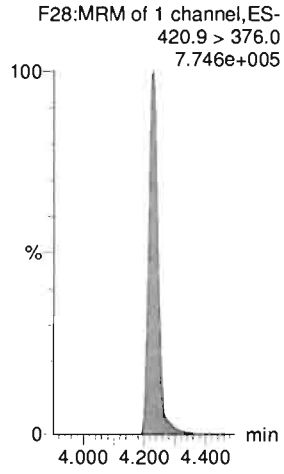
13C4-PFBA



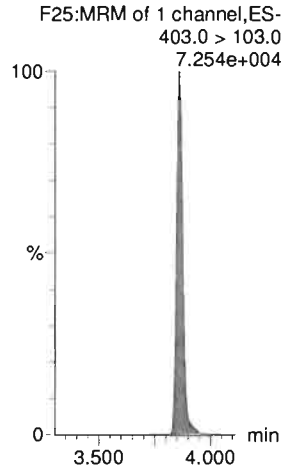
13C5-PFHxA



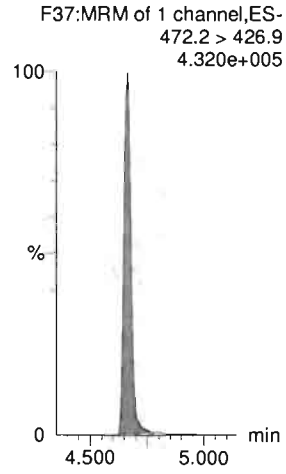
13C8-PFOA



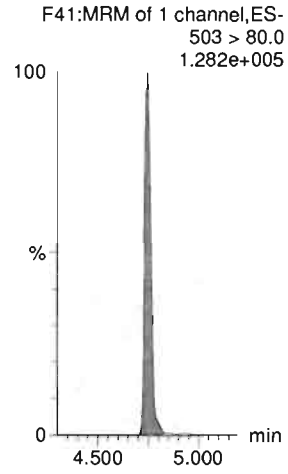
18O2-PFHxS



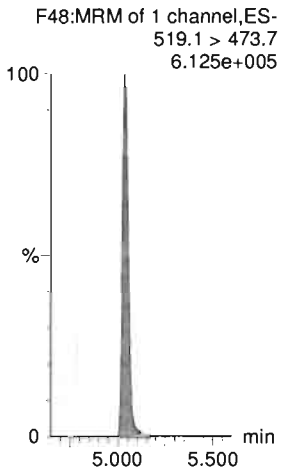
13C9-PFNA



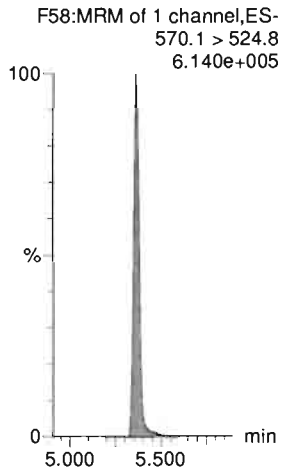
13C4-PFOS



13C6-PFDA



13C7-PFUdA

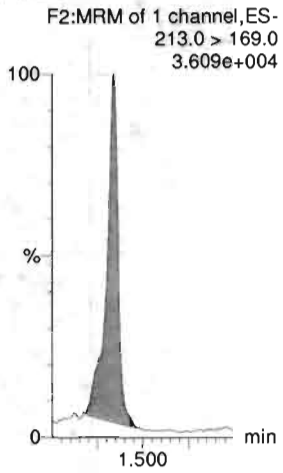


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

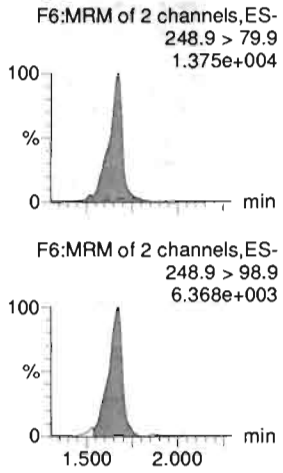
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

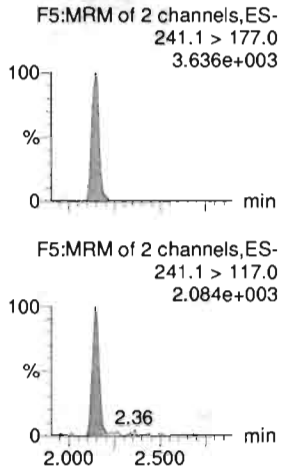
PFBA



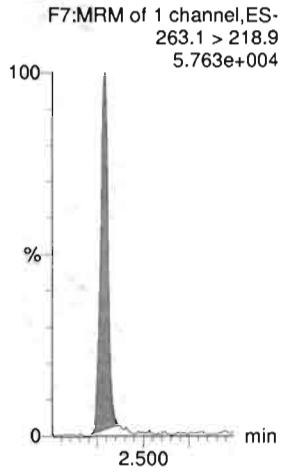
PFPrS



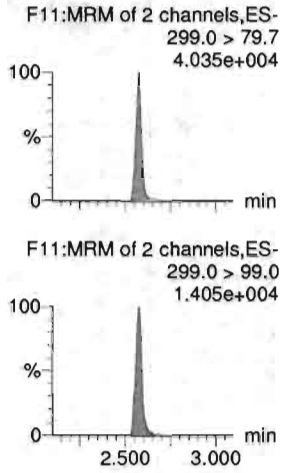
3:3 FTCA



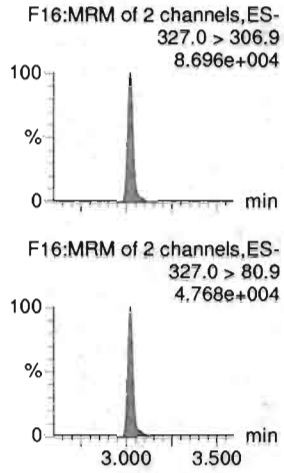
PFPeA



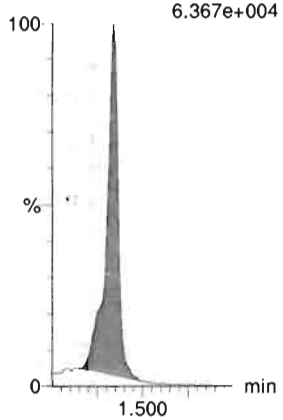
PFBS



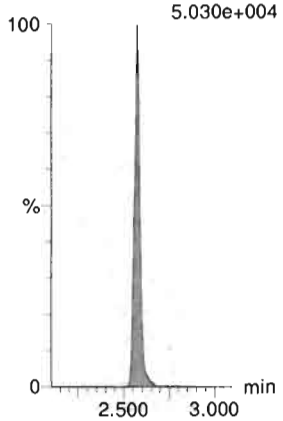
4:2 FTS



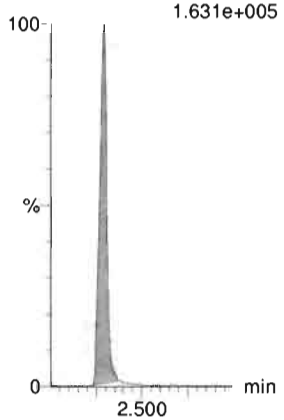
13C3-PFBA-EIS



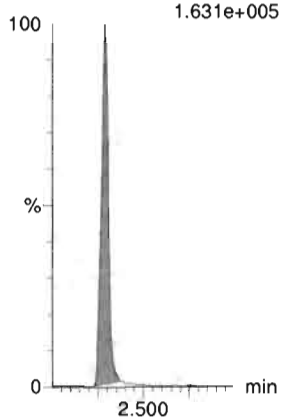
13C3-PFBS-EIS



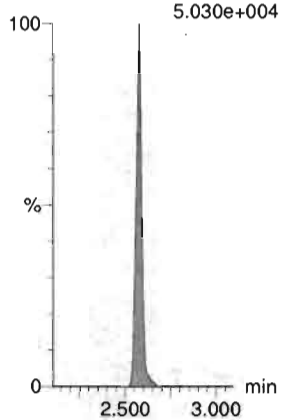
13C3-PFPeA-EIS



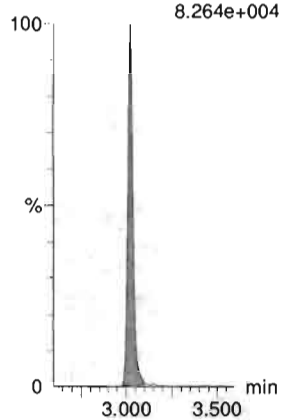
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

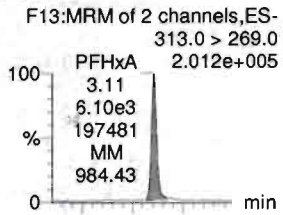


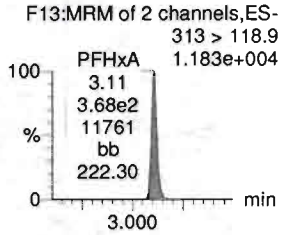
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

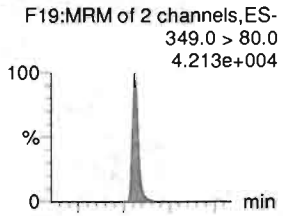
Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

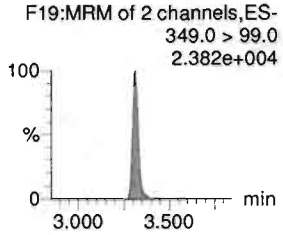
PFHxA



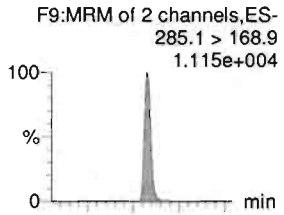


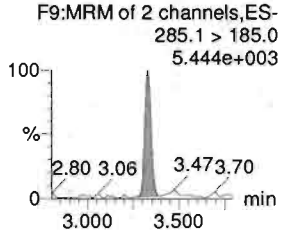
PFPeS



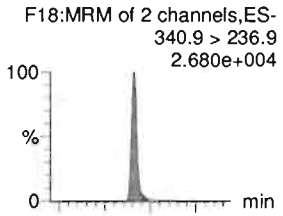


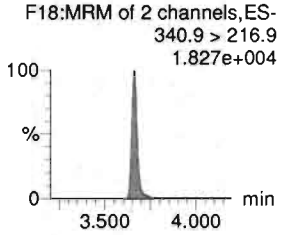
HFPO-DA



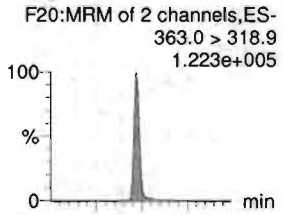


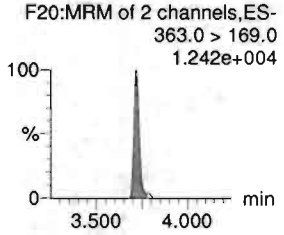
5:3 FTCA



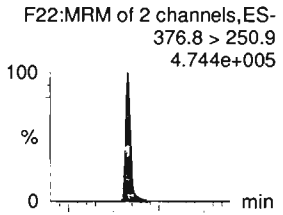


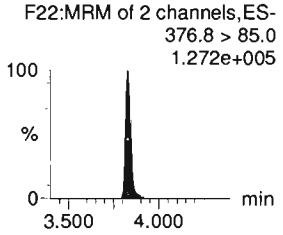
PFHpA



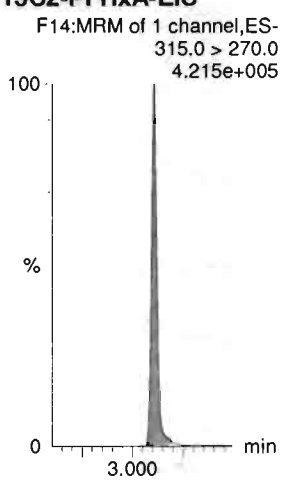


ADONA

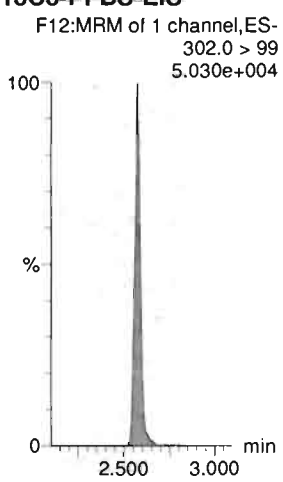




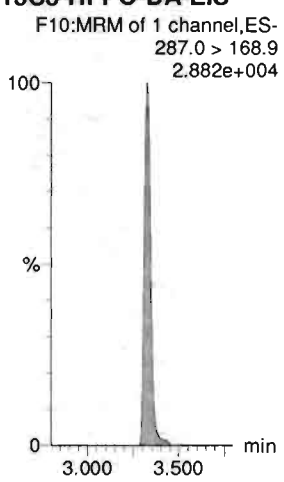
13C2-PFHxA-EIS



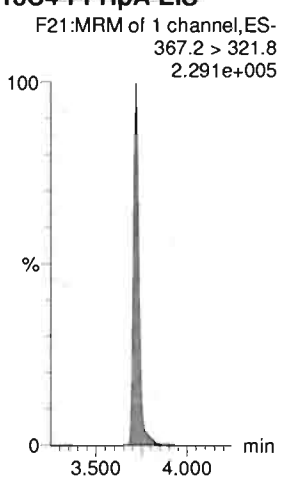
13C3-PFBS-EIS



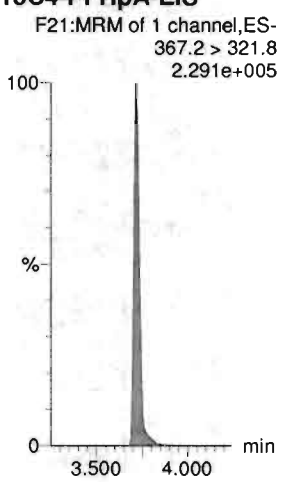
13C3-HFPO-DA-EIS



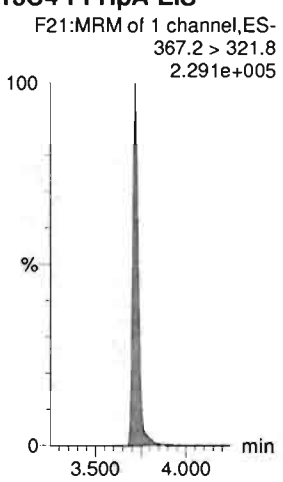
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

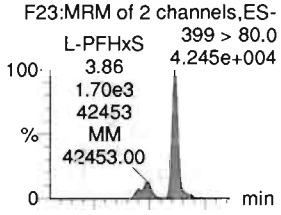


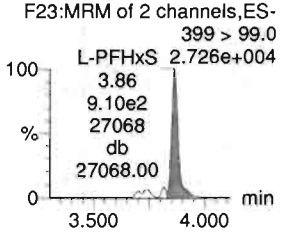
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

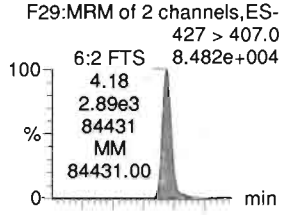
Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

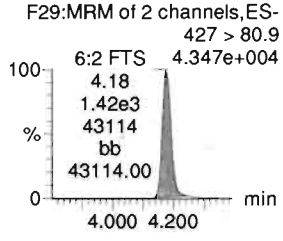
L-PFHxS



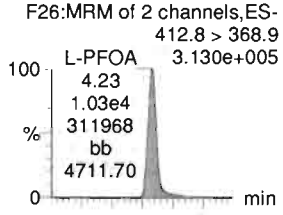


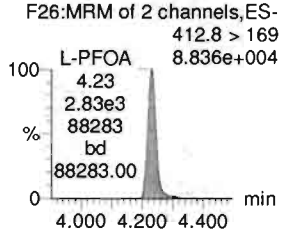
6:2 FTS



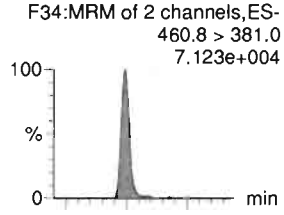


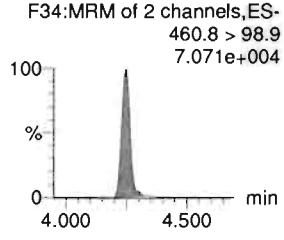
L-PFOA



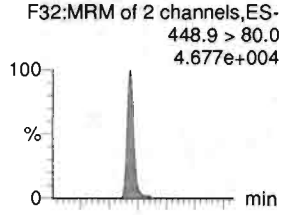


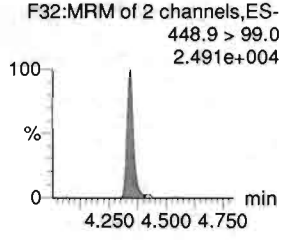
PFEChS



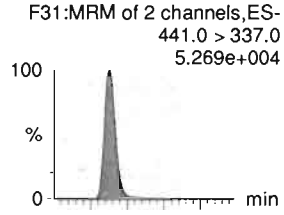


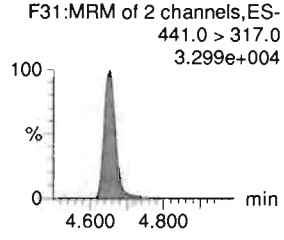
PFHpS



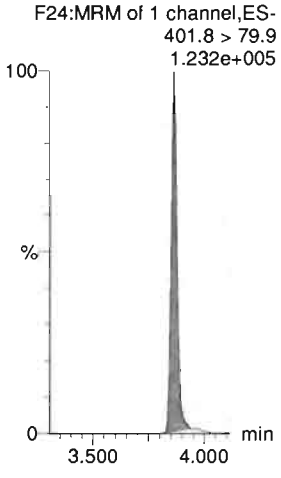


7:3 FTCA

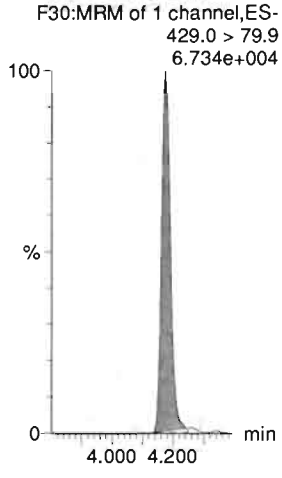




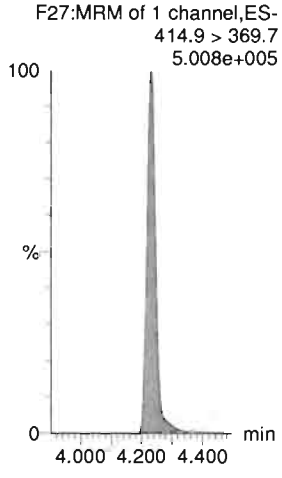
13C3-PFHxS-EIS



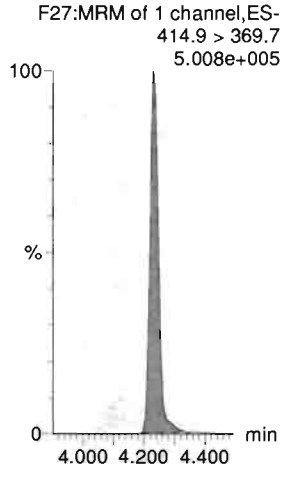
13C2-6:2 FTS-EIS



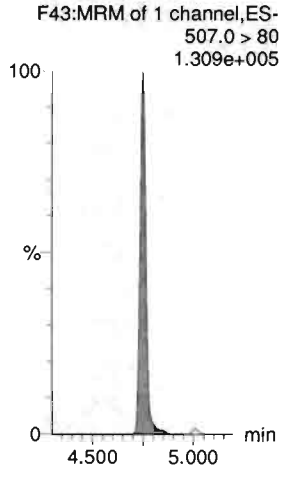
13C2-PFOA-EIS



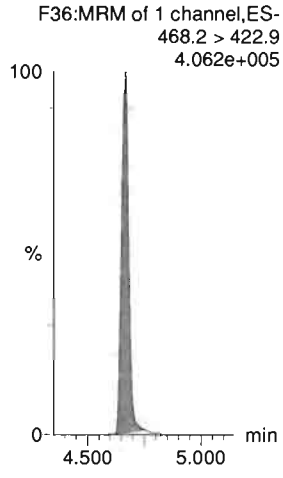
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

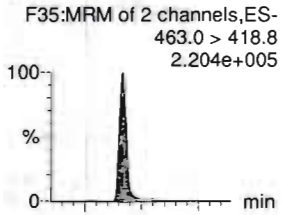


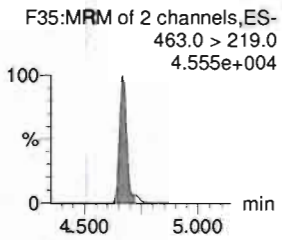
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

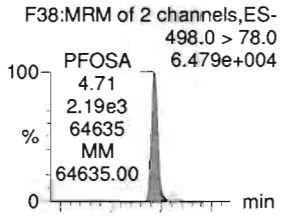
Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

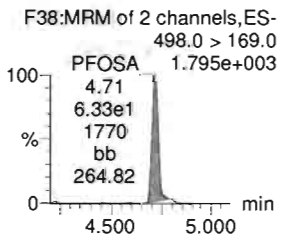
PFNA



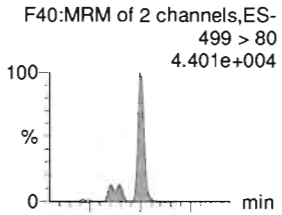


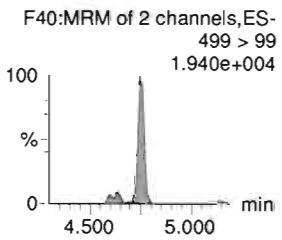
PFOSA



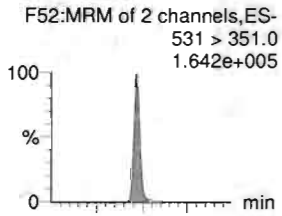


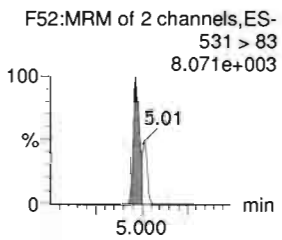
L-PFOS



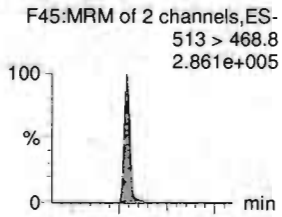


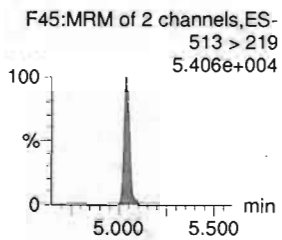
9Cl-PF30NS



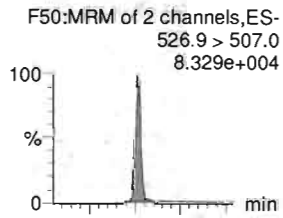


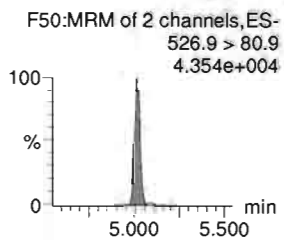
PFDA



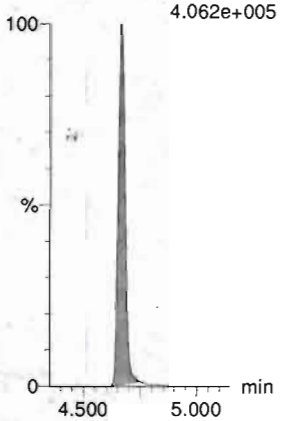


8:2 FTS

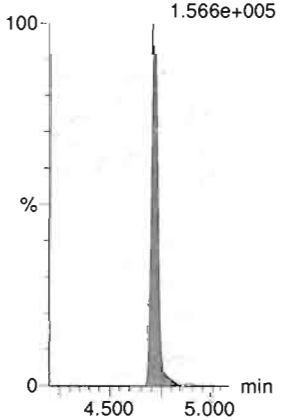




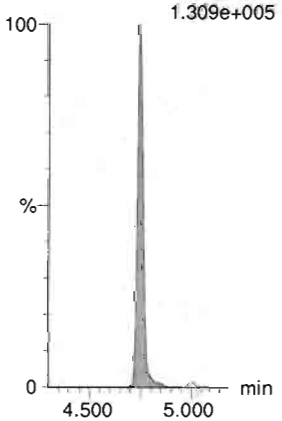
13C5-PFNA-EIS



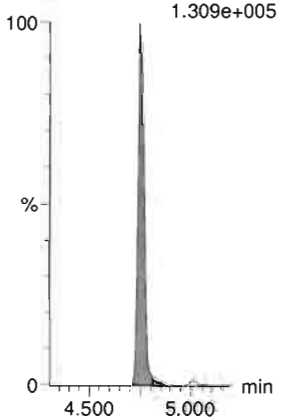
13C8-PFOSA-EIS



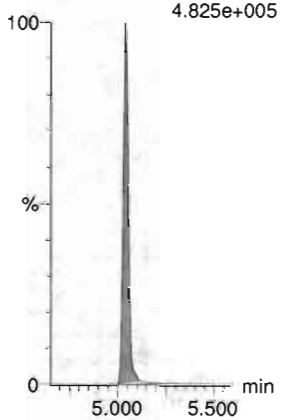
13C8-PFOS-EIS



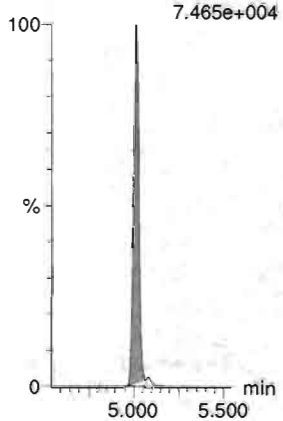
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

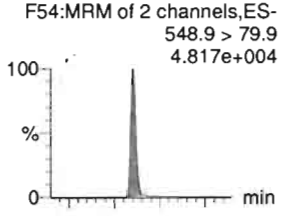


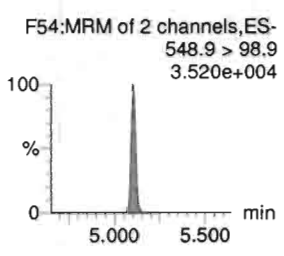
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

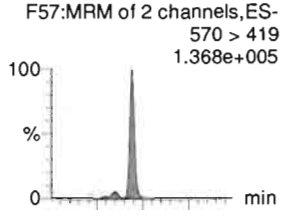
Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

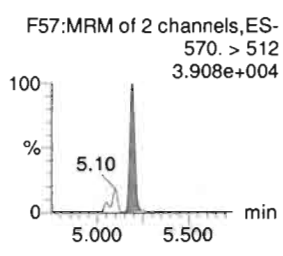
PFNS



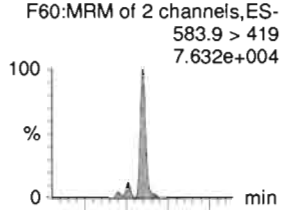


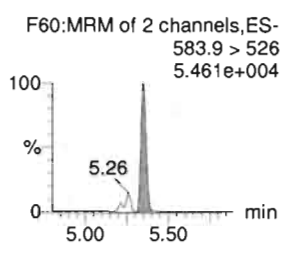
L-MeFOSAA



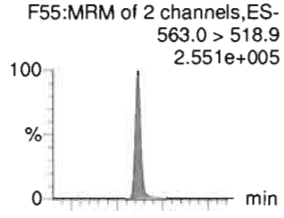


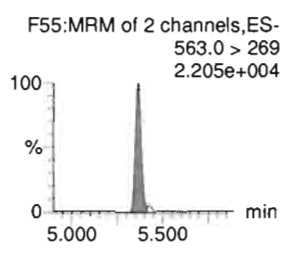
L-EtFOSAA



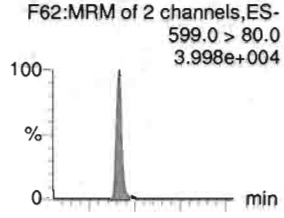


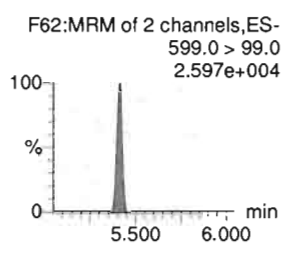
PFUdA



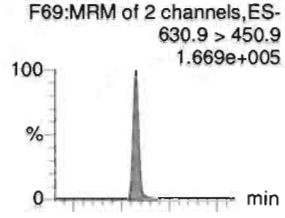


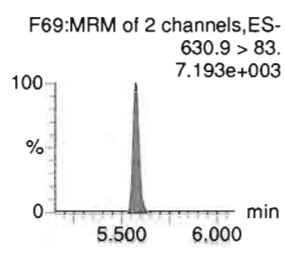
PFDS



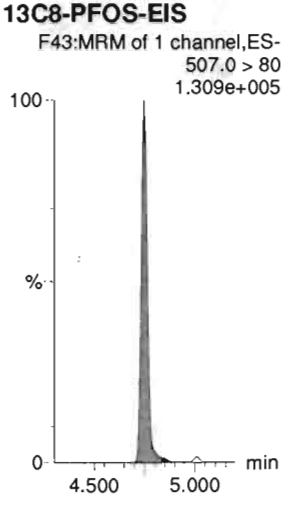


11Cl-PF30UdS

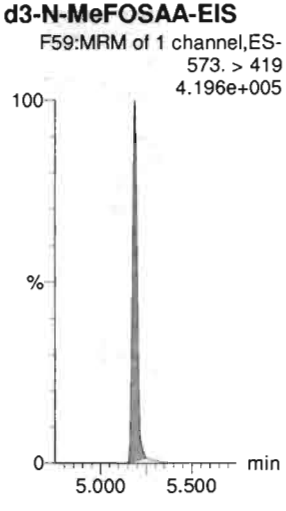




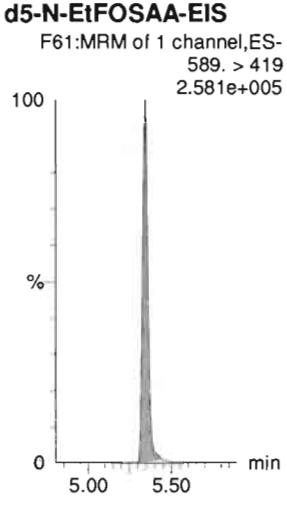
13C8-PFOS-EIS



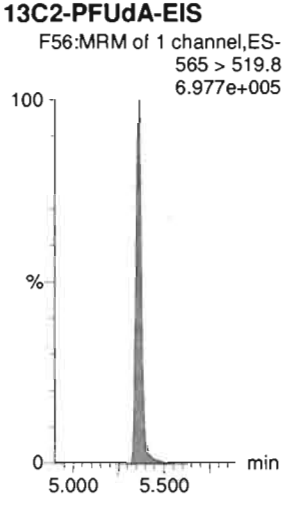
d3-N-MeFOSAA-EIS



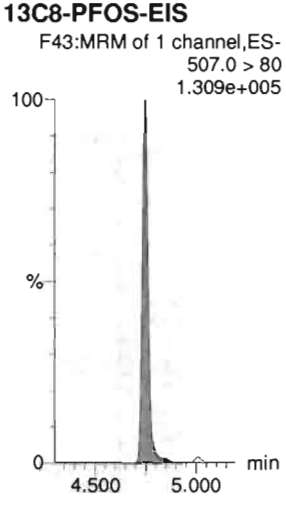
d5-N-EtFOSAA-EIS



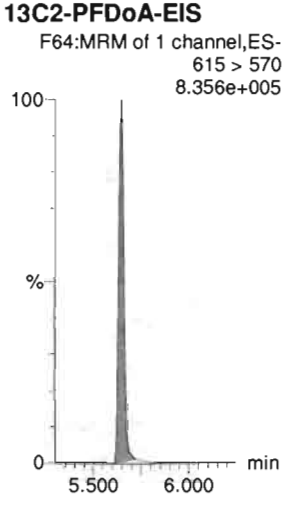
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

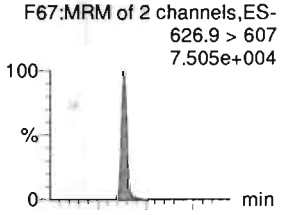


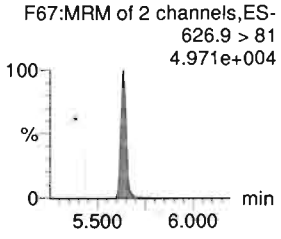
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

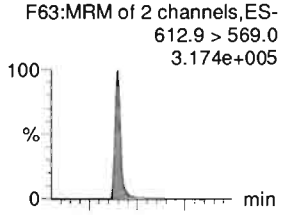
Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

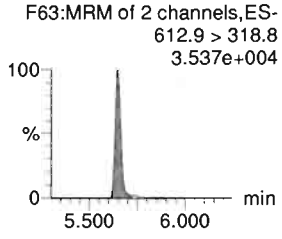
10:2 FTS



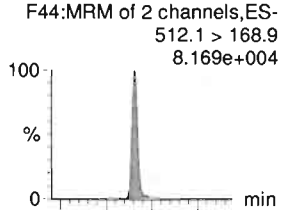


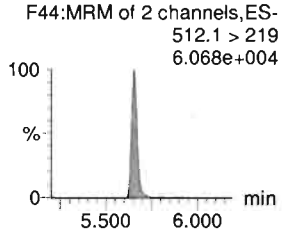
PFDoA



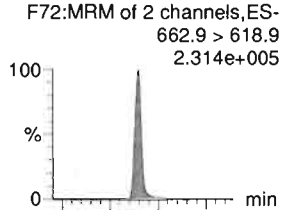


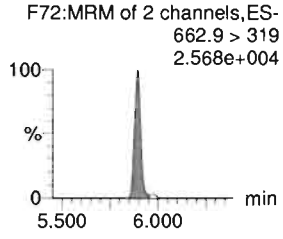
N-MeFOSA



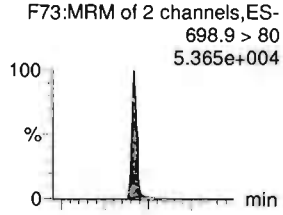


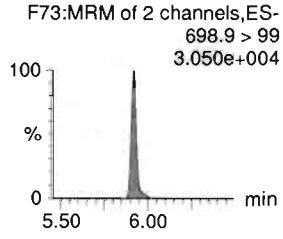
PFTrDA



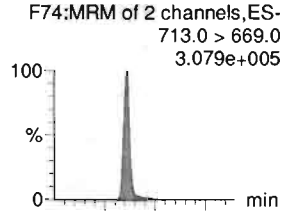


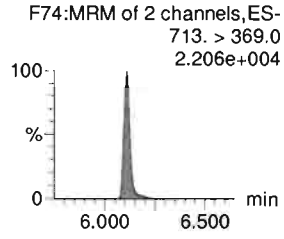
PFDoS



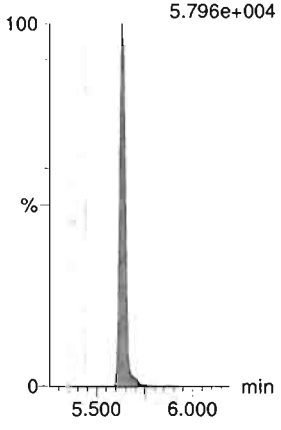


PFTeDA

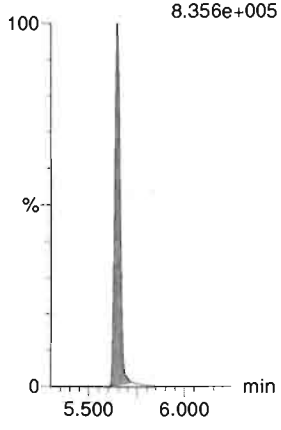




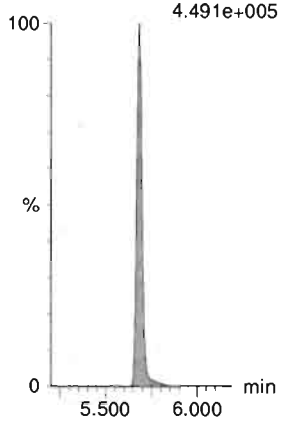
13C2-10:2 FTS-EIS



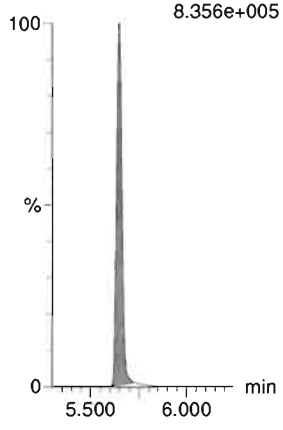
13C2-PFDoA-EIS



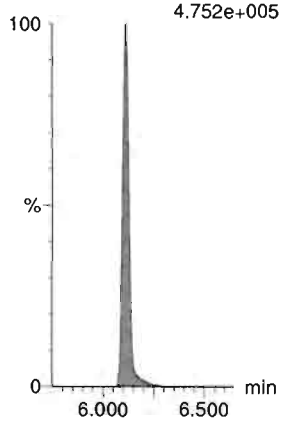
d3-N-MeFOSA-EIS



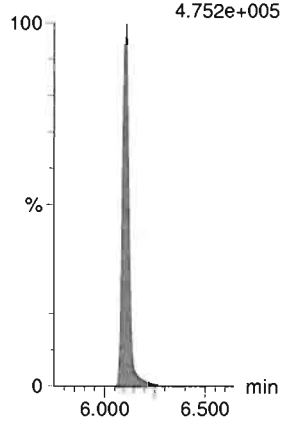
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

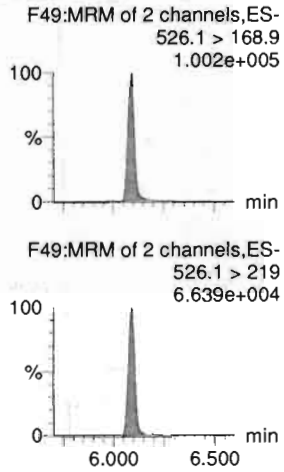


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

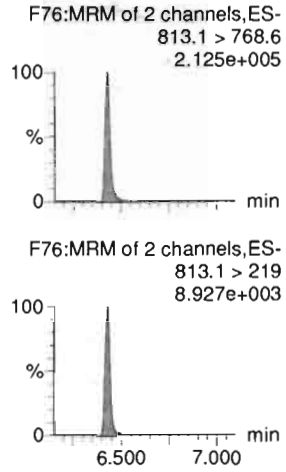
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

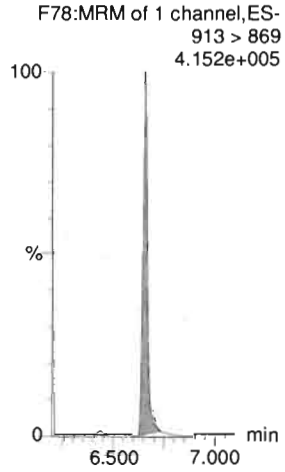
N-EtFOSA



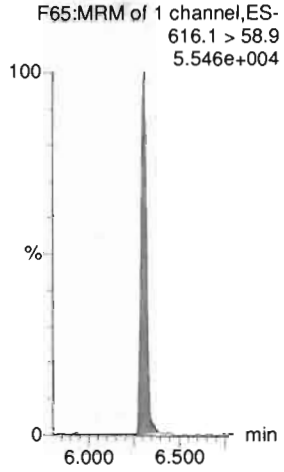
PFHxDA



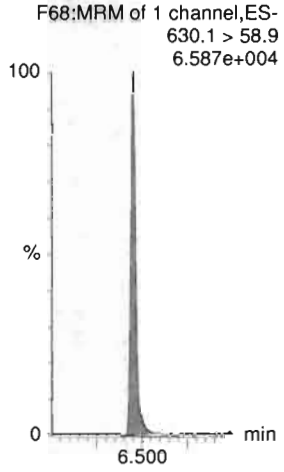
PFODA



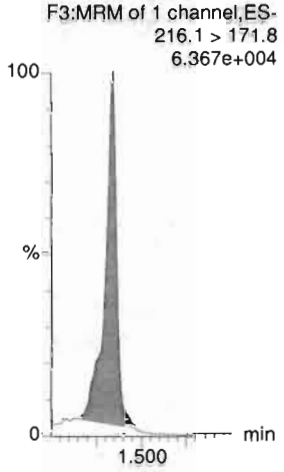
N-MeFOSE



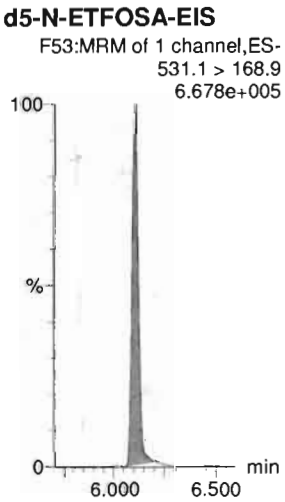
N-EtFOSE



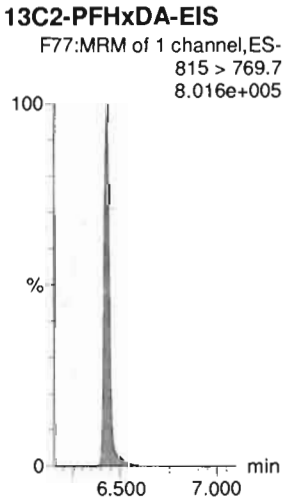
13C3-PFBA-RSD



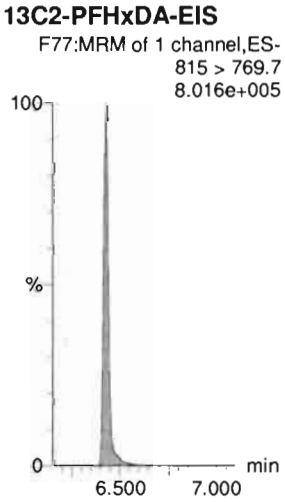
d5-N-ETFOSA-EIS



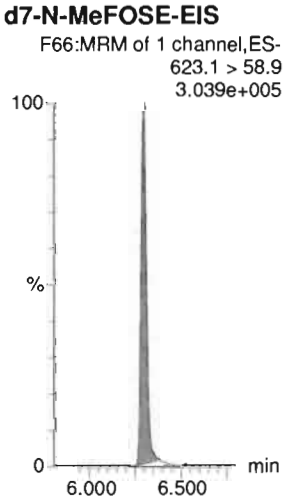
13C2-PFHxDA-EIS



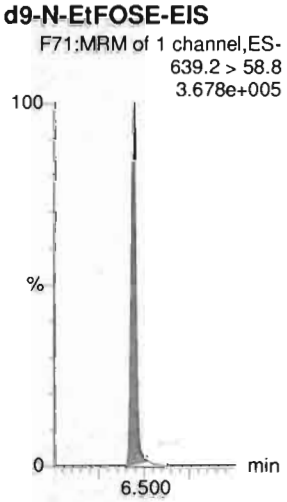
13C2-PFHxDA-EIS



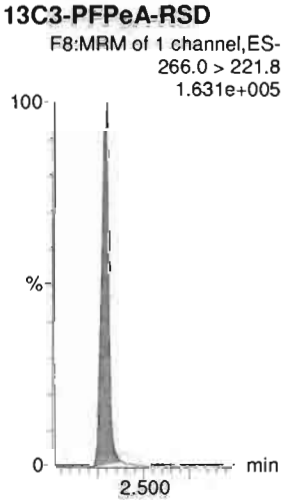
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

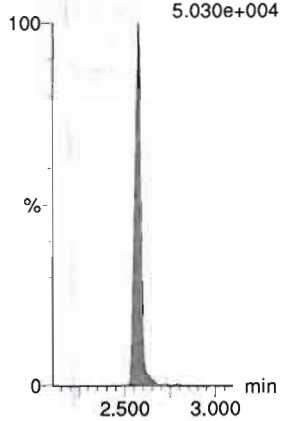


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

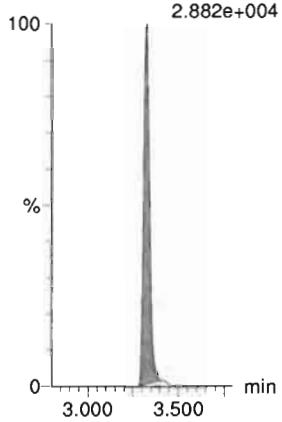
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

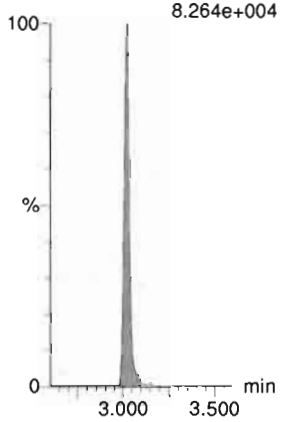
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
5.030e+004



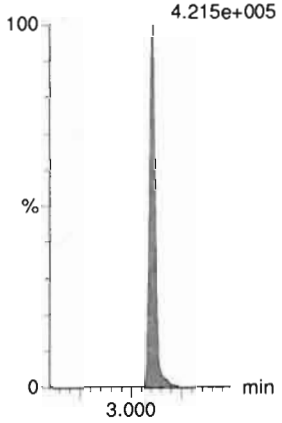
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.882e+004



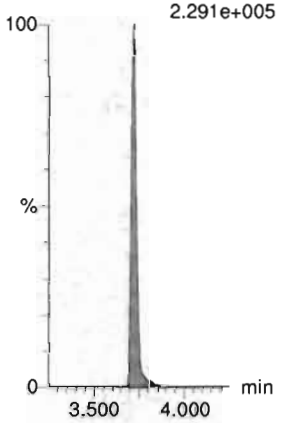
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
8.264e+004



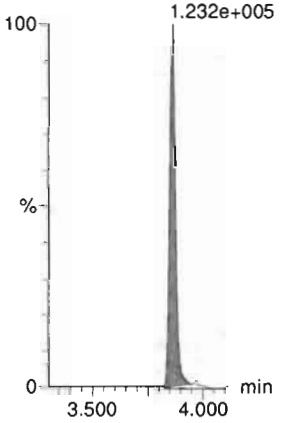
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.215e+005



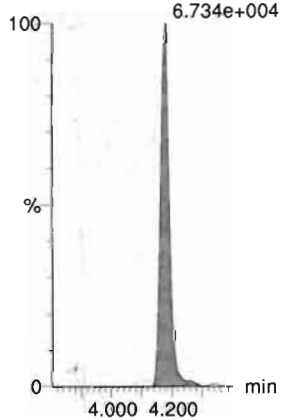
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.291e+005



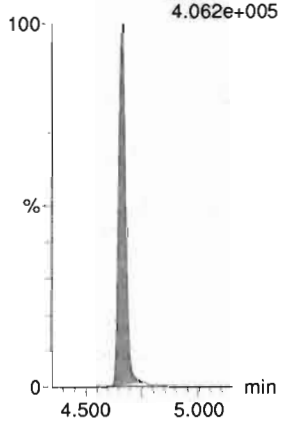
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.232e+005



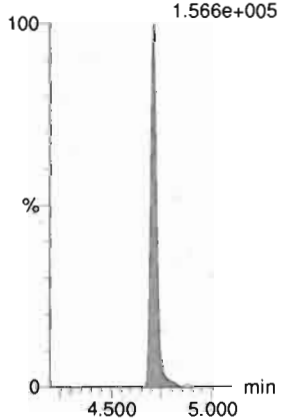
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.734e+004



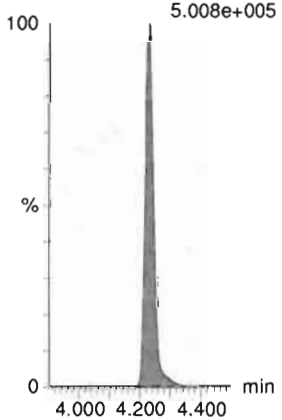
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.062e+005



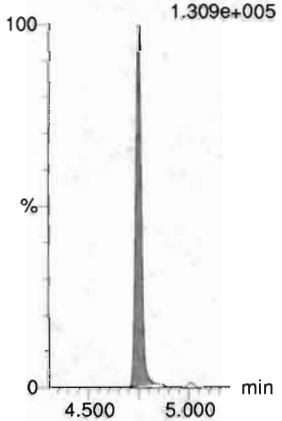
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.566e+005



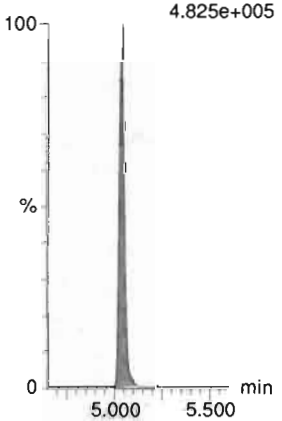
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.008e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.309e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.825e+005

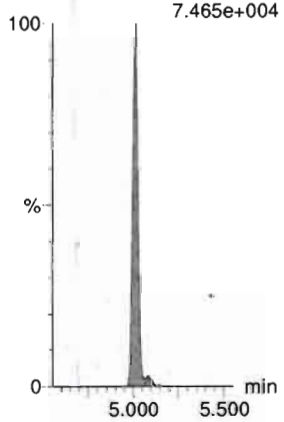


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

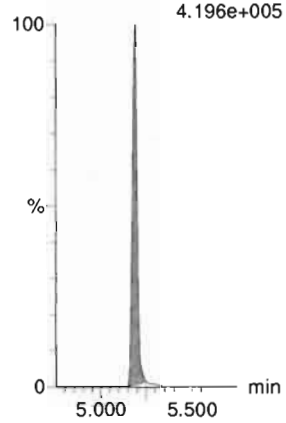
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

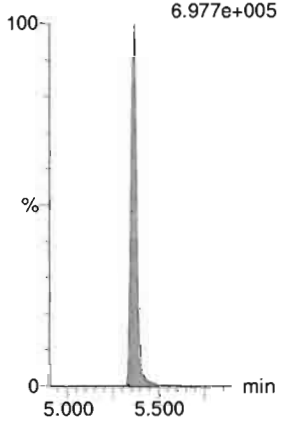
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.465e+004



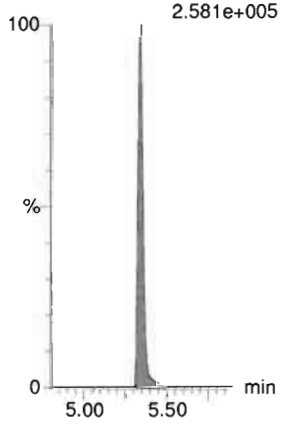
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.196e+005



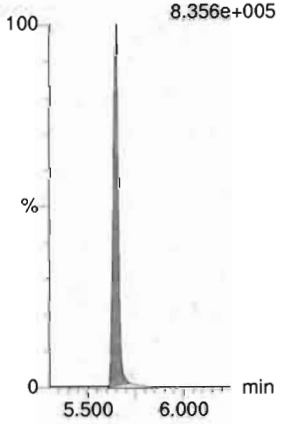
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.977e+005



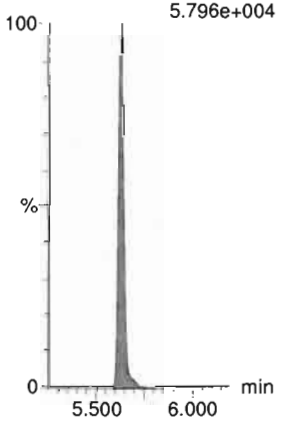
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.581e+005



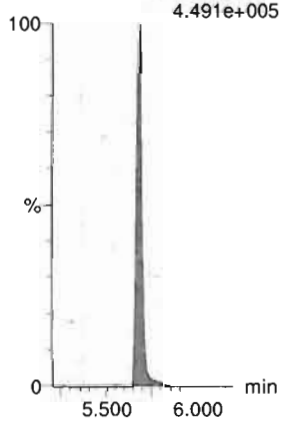
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
8.356e+005



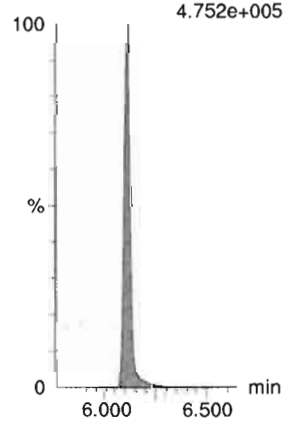
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.796e+004



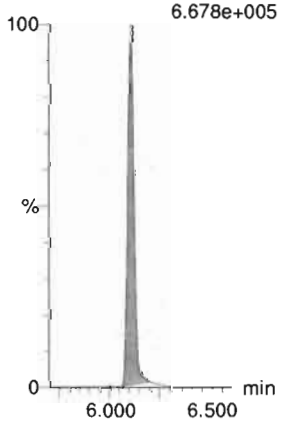
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.491e+005



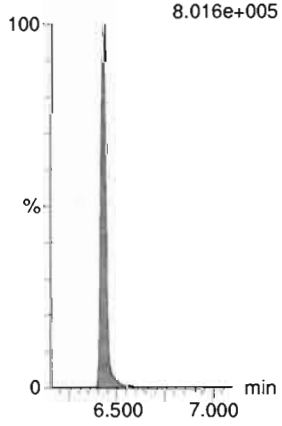
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.752e+005



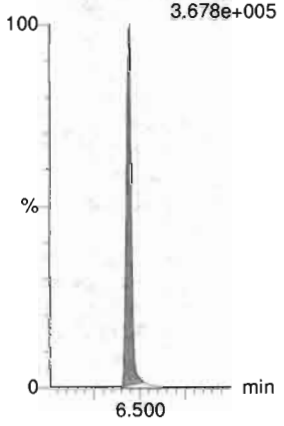
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.678e+005



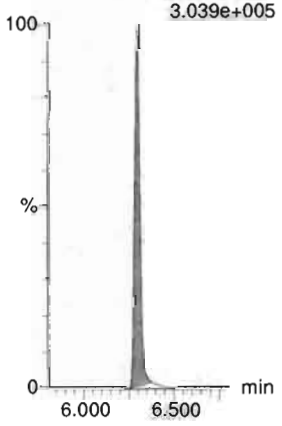
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.016e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.678e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.039e+005

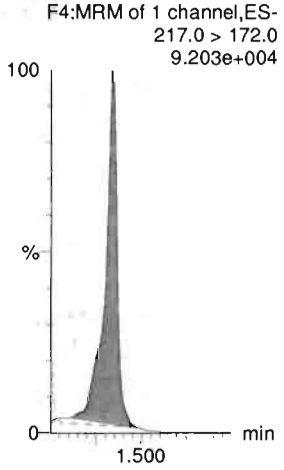


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

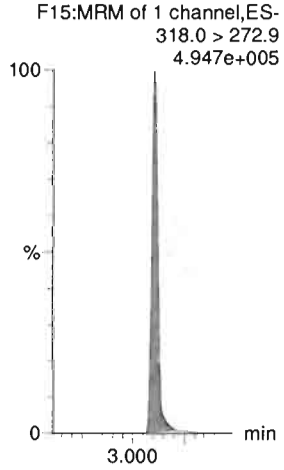
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_7, Date: 10-Jul-2020, Time: 08:57:13, ID: ST200710M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

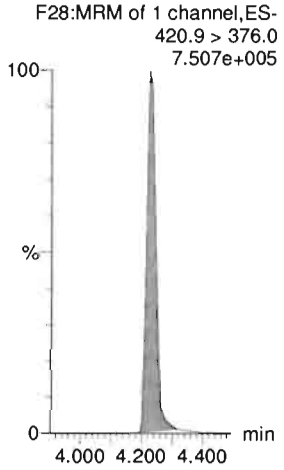
13C4-PFBA



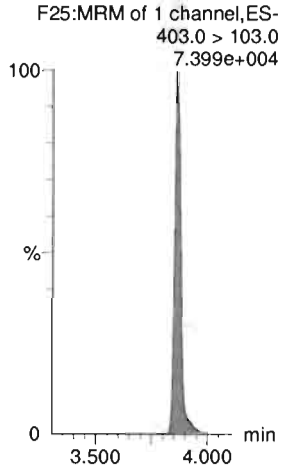
13C5-PFHxA



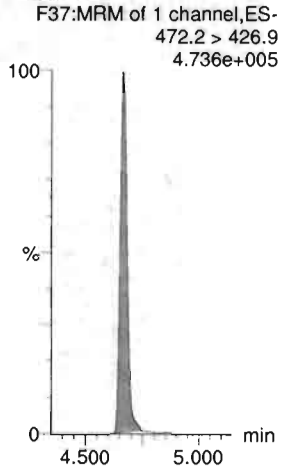
13C8-PFOA



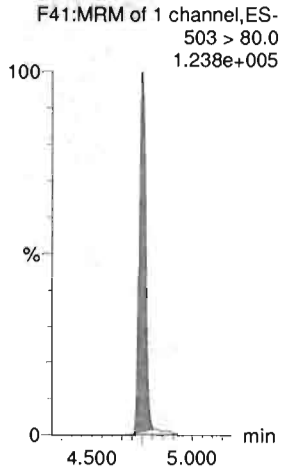
18O2-PFHxS



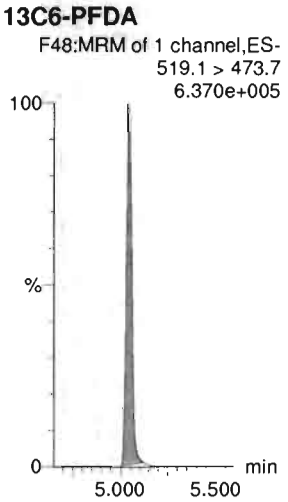
13C9-PFNA



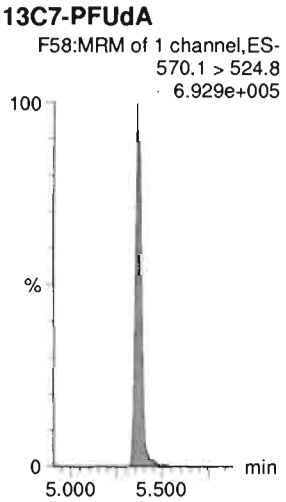
13C4-PFOS



13C6-PFDA



13C7-PFUdA

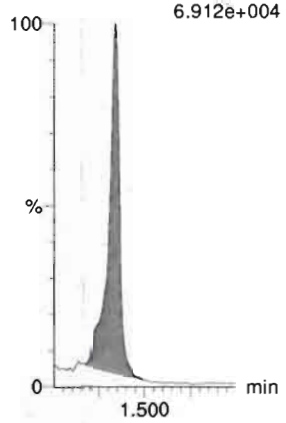


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

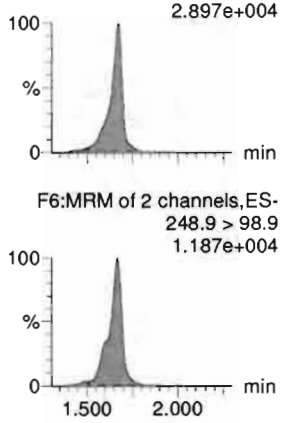
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

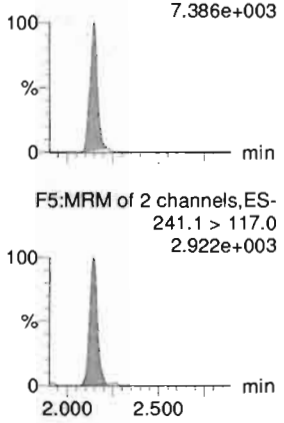
PFBA



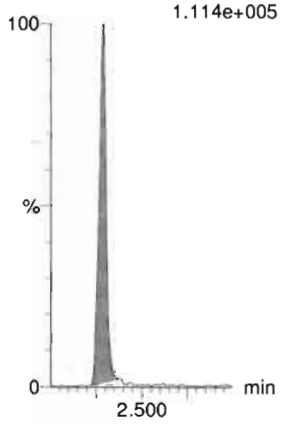
PFPrS



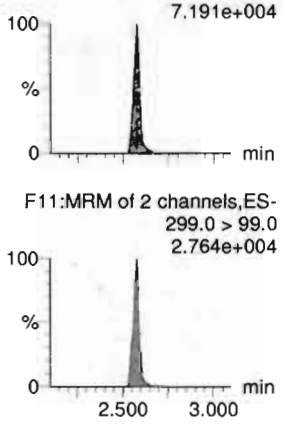
3:3 FTCA



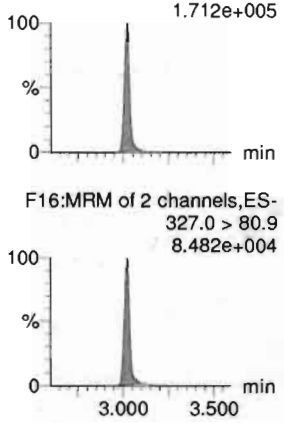
PFPeA



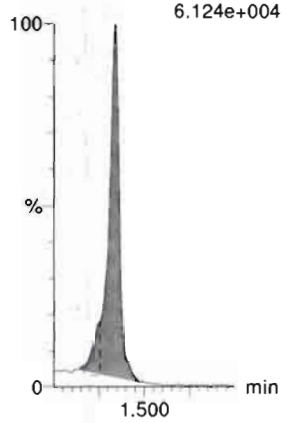
PFBS



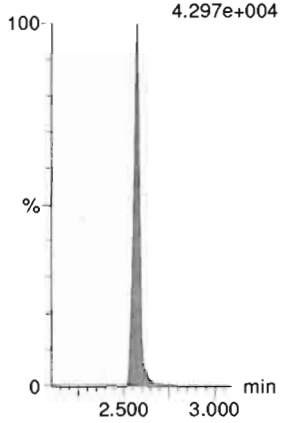
4:2 FTS



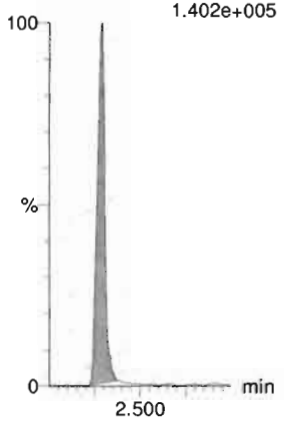
13C3-PFBA-EIS



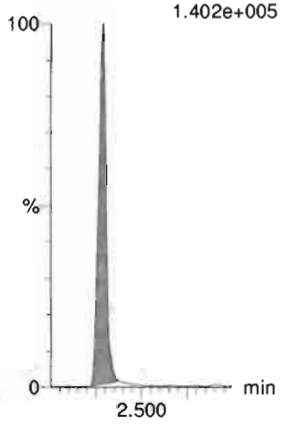
13C3-PFBS-EIS



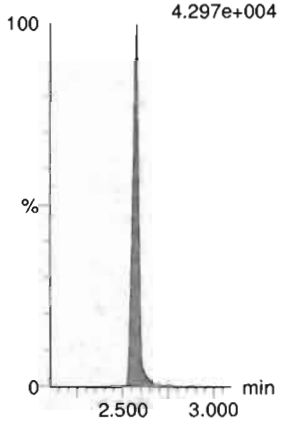
13C3-PFPeA-EIS



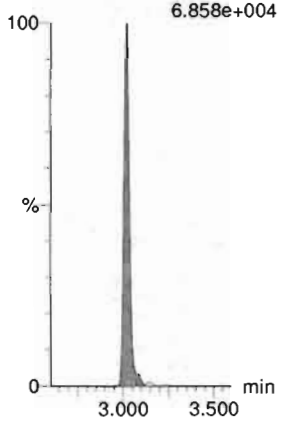
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

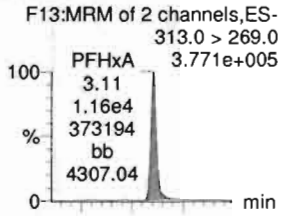


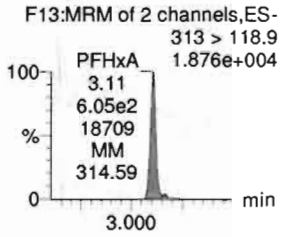
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

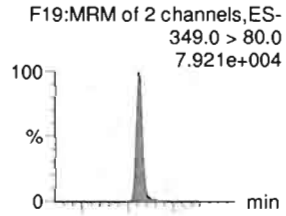
Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

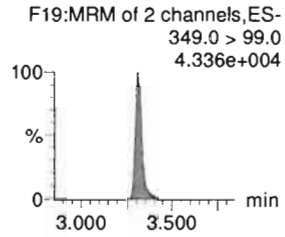
PFHxA



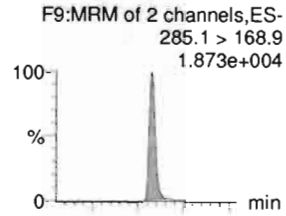


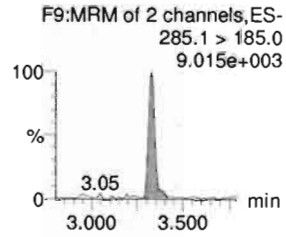
PFPeS



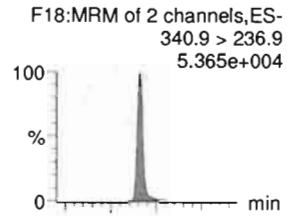


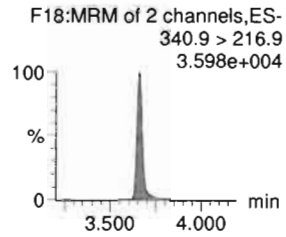
HFPO-DA



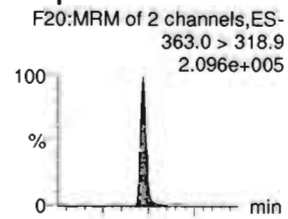


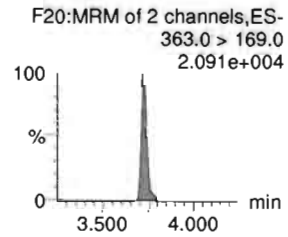
5:3 FTCA



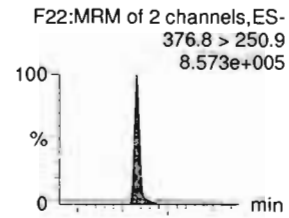


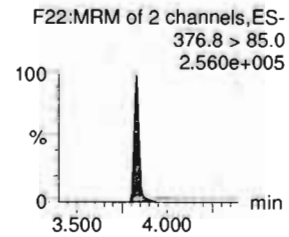
PFHpA



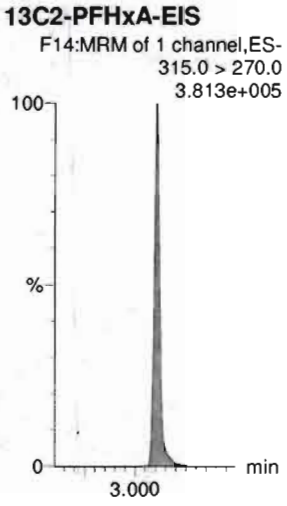


ADONA

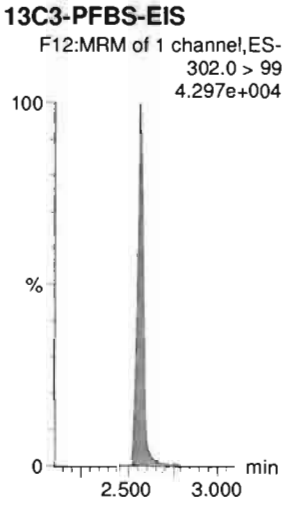




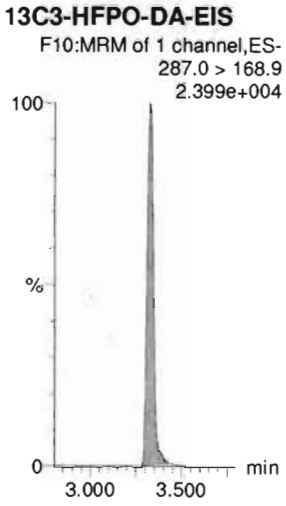
13C2-PFHxA-EIS



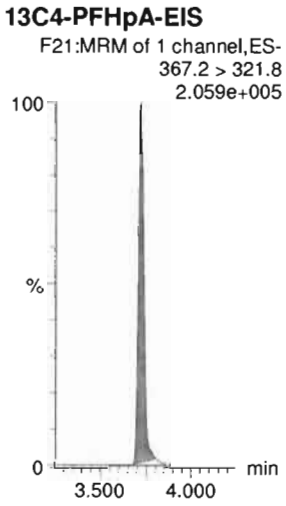
13C3-PFBS-EIS



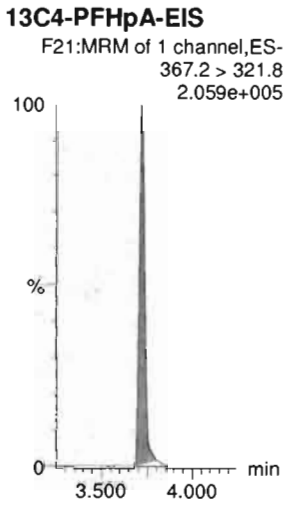
13C3-HFPO-DA-EIS



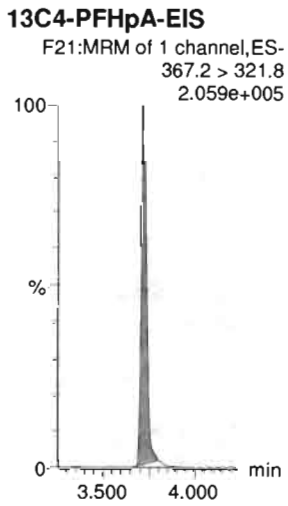
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

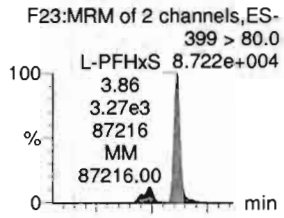


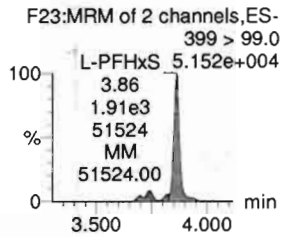
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

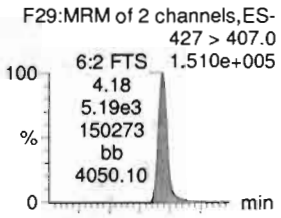
Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

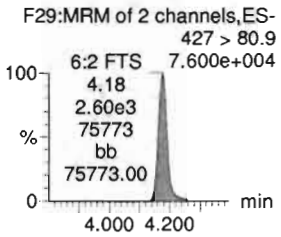
L-PFHxS



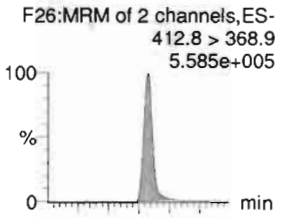


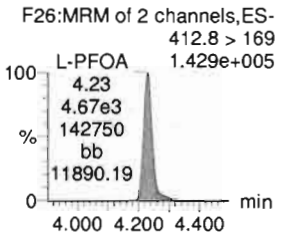
6:2 FTS



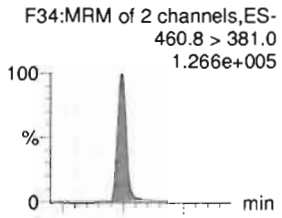


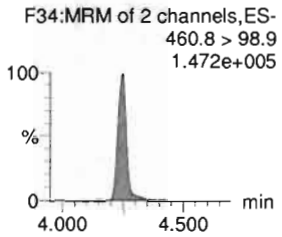
L-PFOA



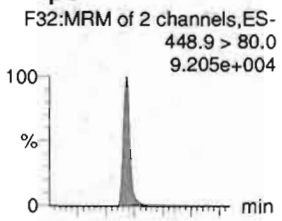


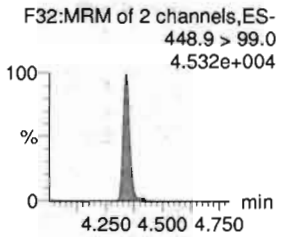
PFEChS



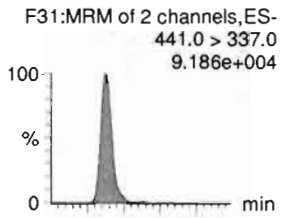


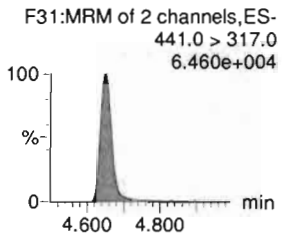
PFHpS



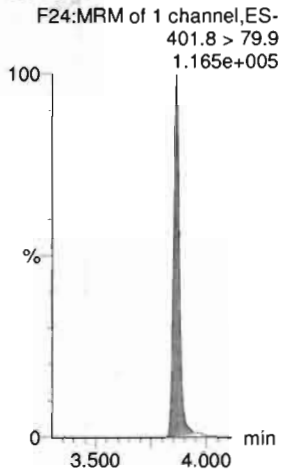


7:3 FTCA

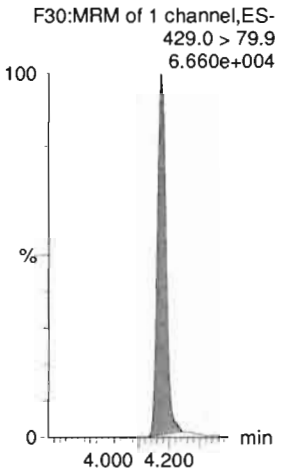




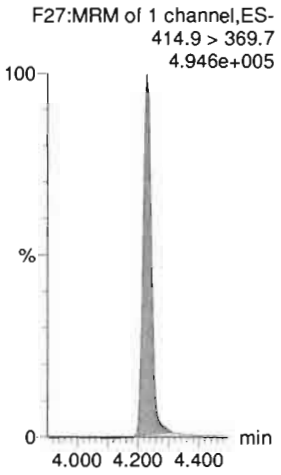
13C3-PFHxS-EIS



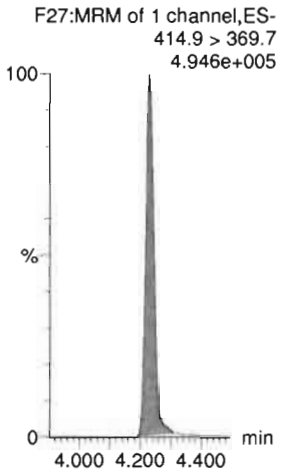
13C2-6:2 FTS-EIS



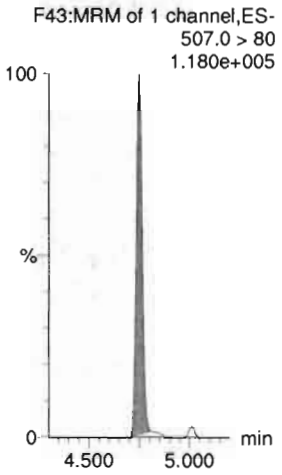
13C2-PFOA-EIS



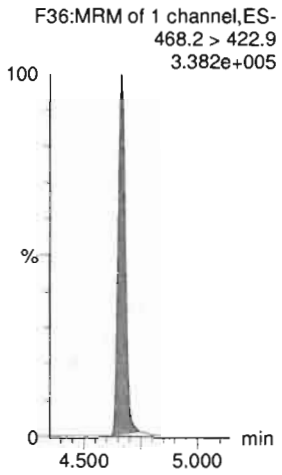
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

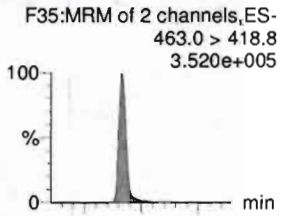


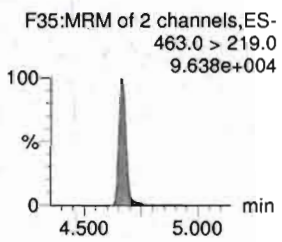
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

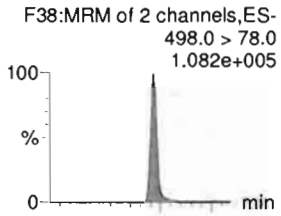
Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

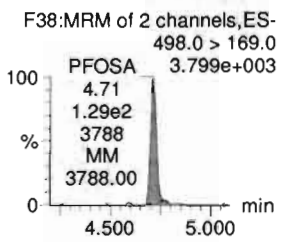
PFNA



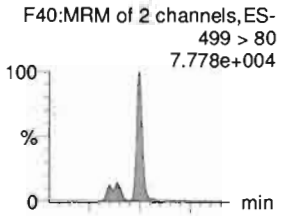


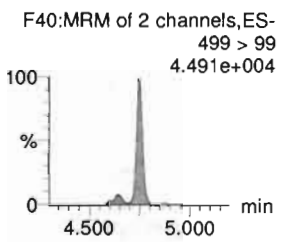
PFOSA



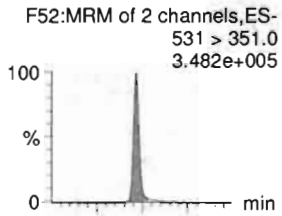


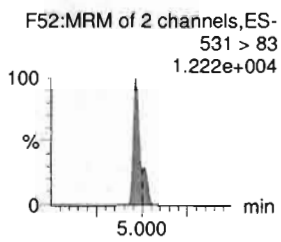
L-PFOS



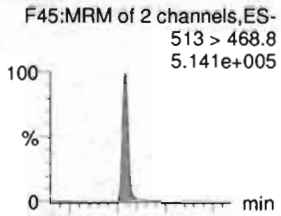


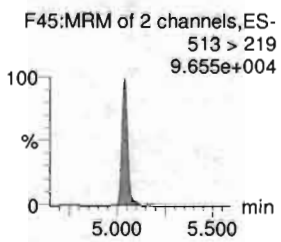
9Cl-PF30NS



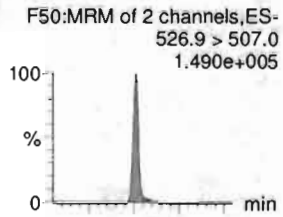


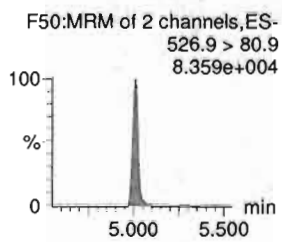
PFDA



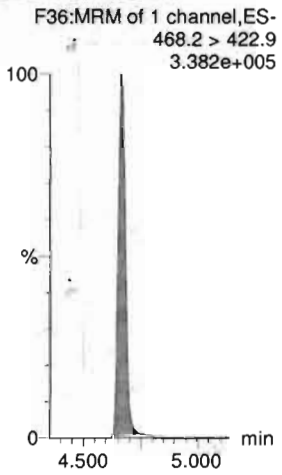


8:2 FTS

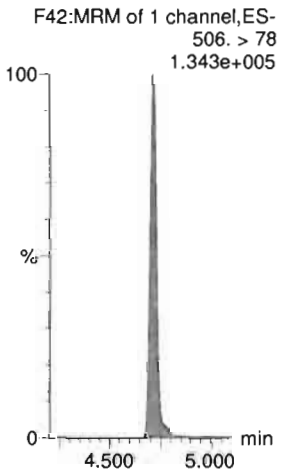




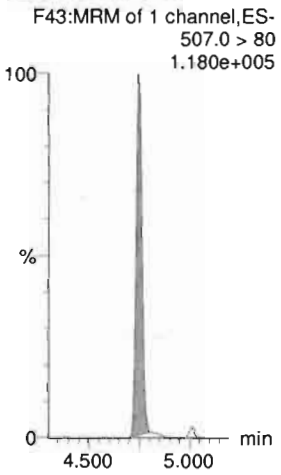
13C5-PFNA-EIS



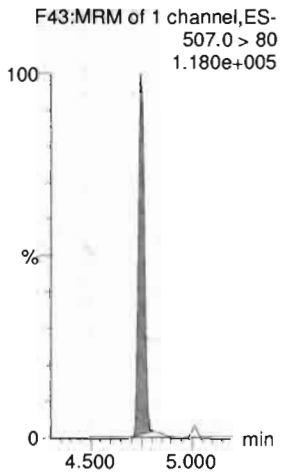
13C8-PFOSA-EIS



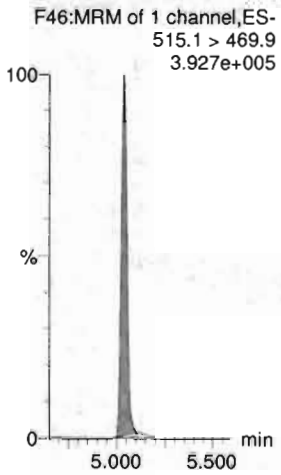
13C8-PFOS-EIS



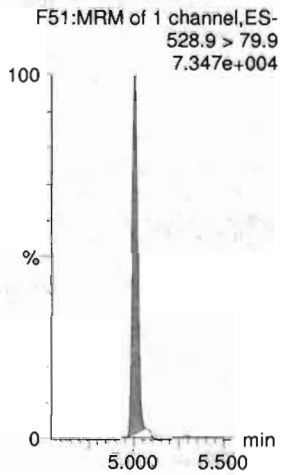
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

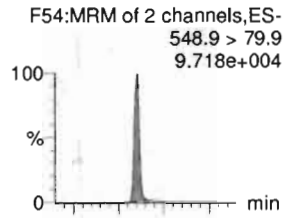


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

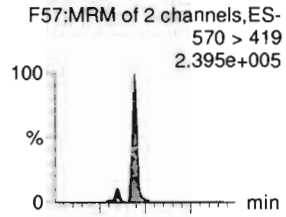
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

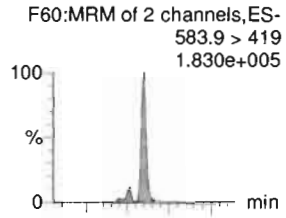
PFNS



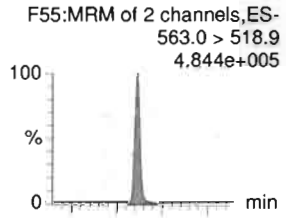
L-MeFOSAA



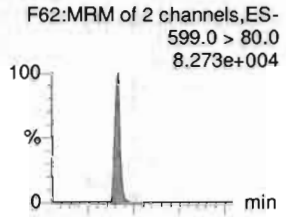
L-EtFOSAA



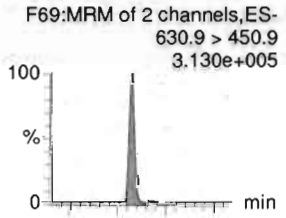
PFUdA

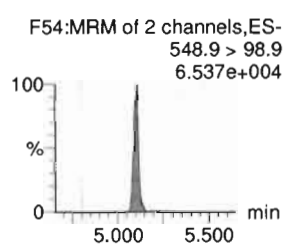


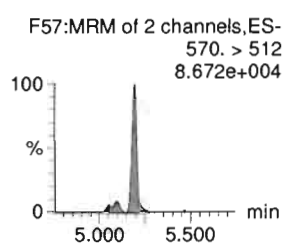
PFDS

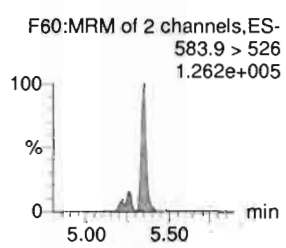


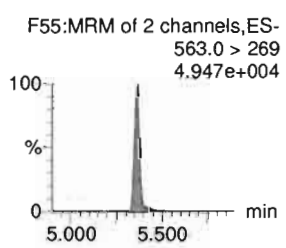
11Cl-PF30UdS

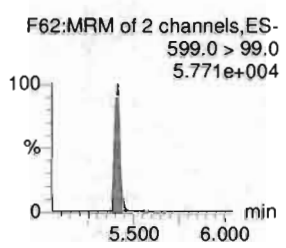


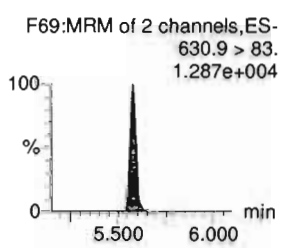




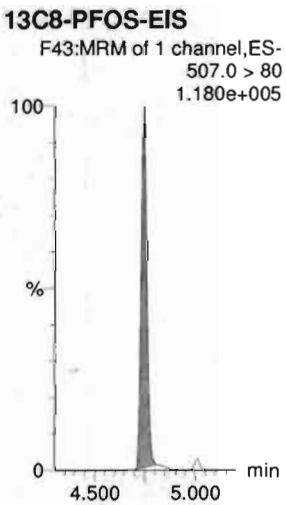




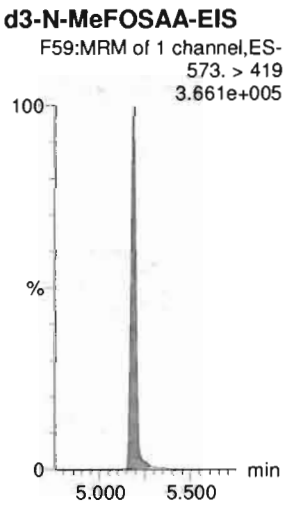




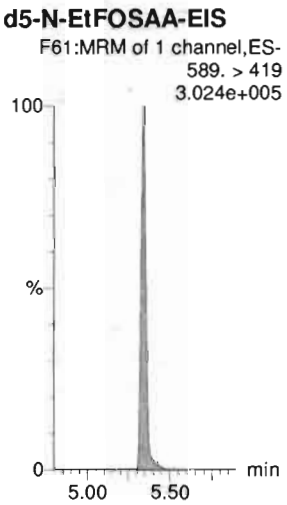
13C8-PFOS-EIS



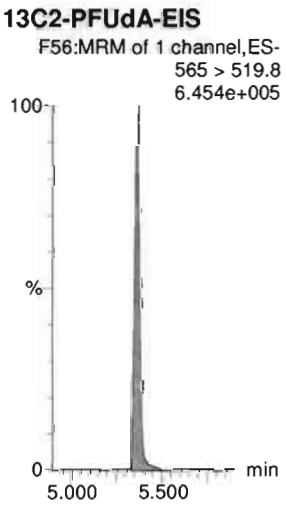
d3-N-MeFOSAA-EIS



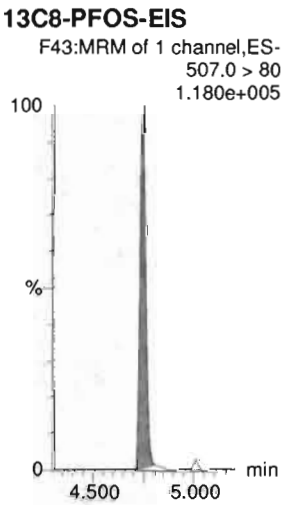
d5-N-EtFOSAA-EIS



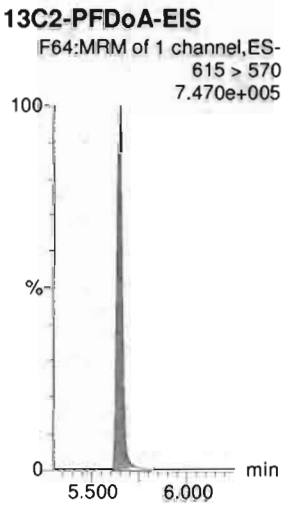
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

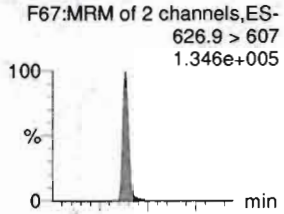


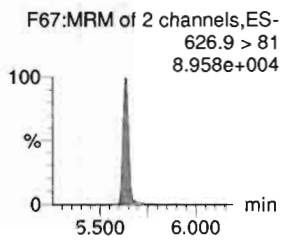
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

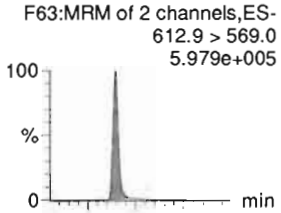
Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

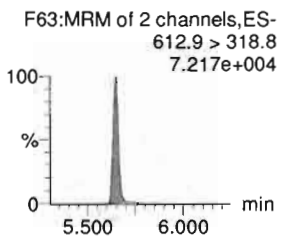
10:2 FTS



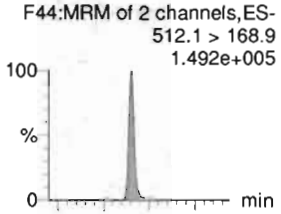


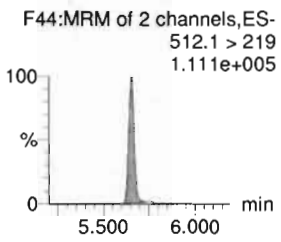
PFDoA



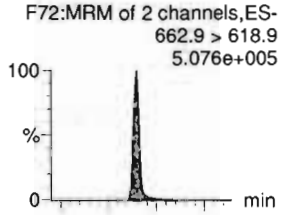


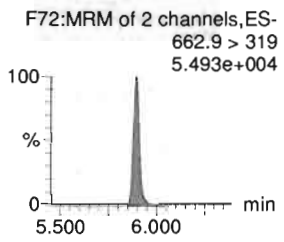
N-MeFOSA



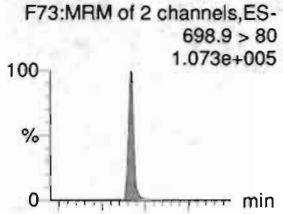


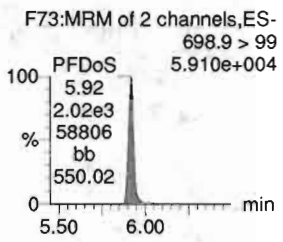
PFTrDA



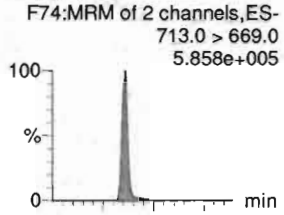


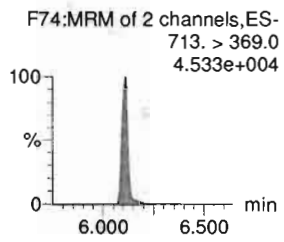
PFDoS



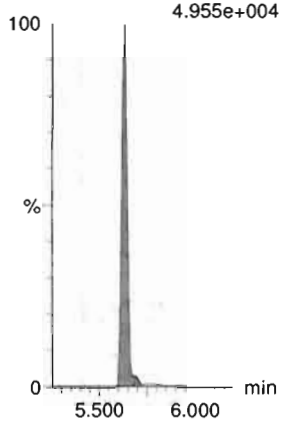


PFTeDA

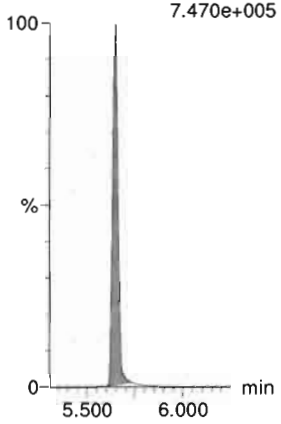




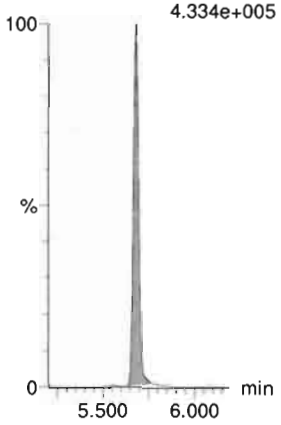
13C2-10:2 FTS-EIS



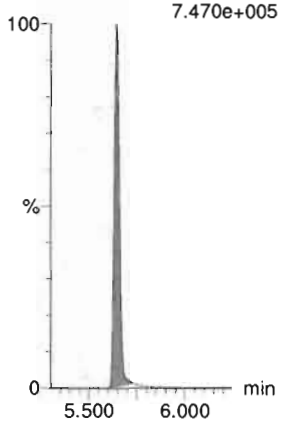
13C2-PFDoA-EIS



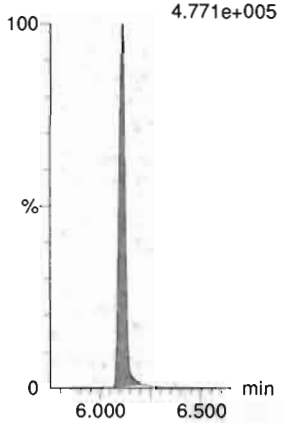
d3-N-MeFOSA-EIS



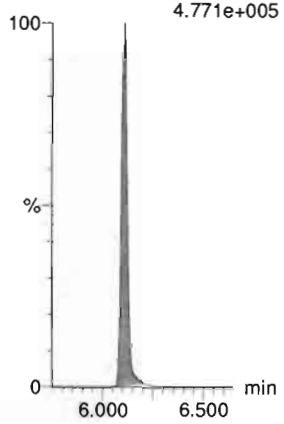
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

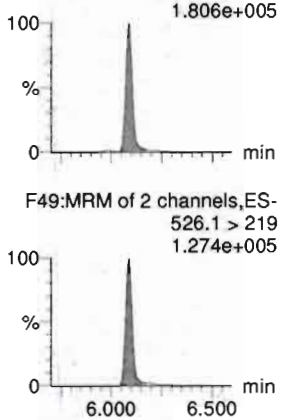


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

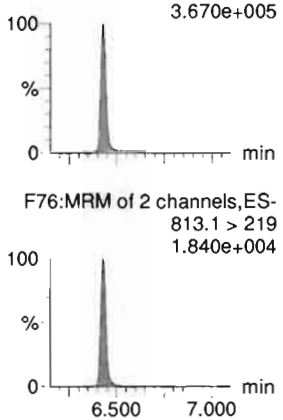
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

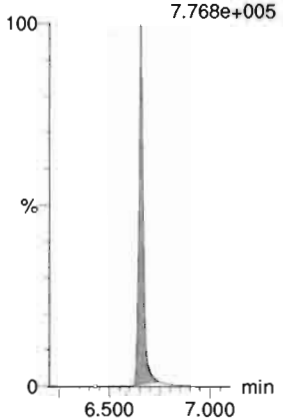
N-EtFOSA



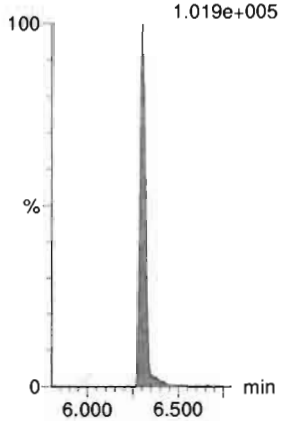
PFHxDA



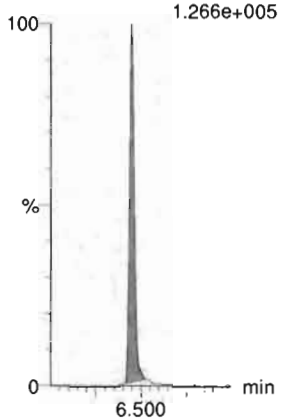
PFODA



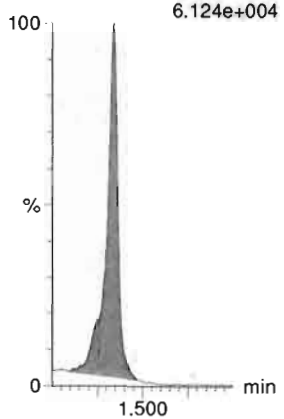
N-MeFOSE



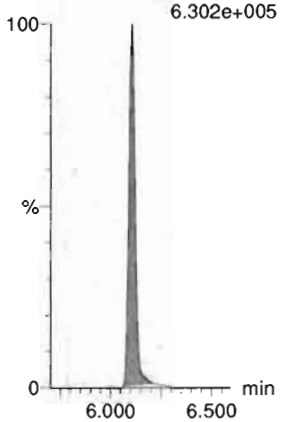
N-EtFOSE



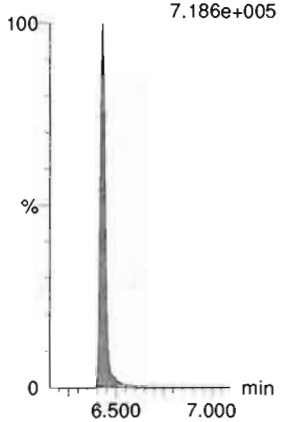
13C3-PFBA-RSD



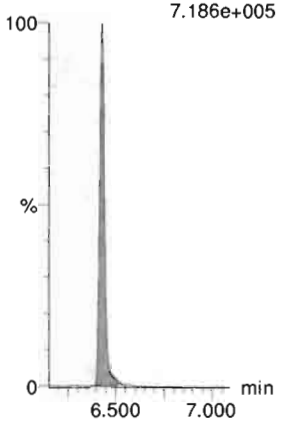
d5-N-ETFOSA-EIS



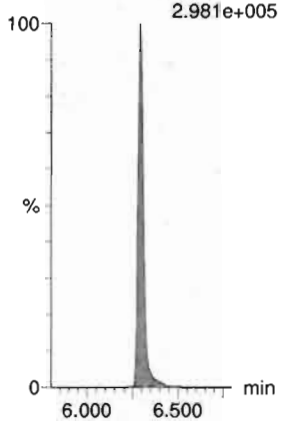
13C2-PFHxDA-EIS



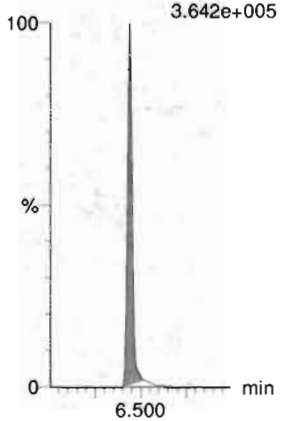
13C2-PFHxDA-EIS



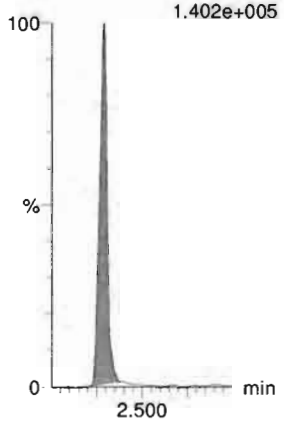
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

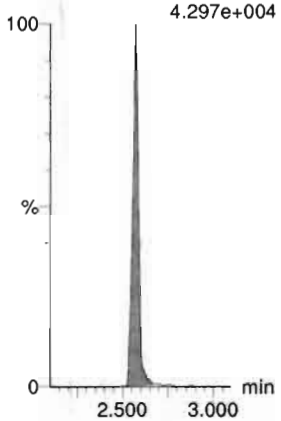


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

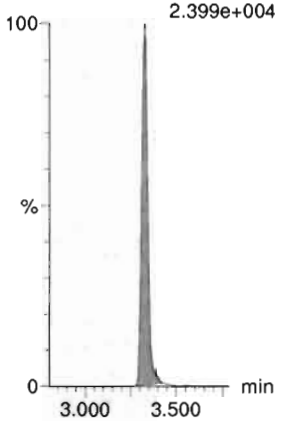
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

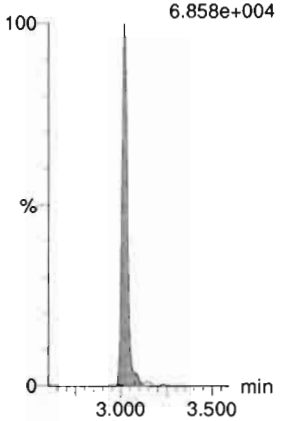
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.297e+004



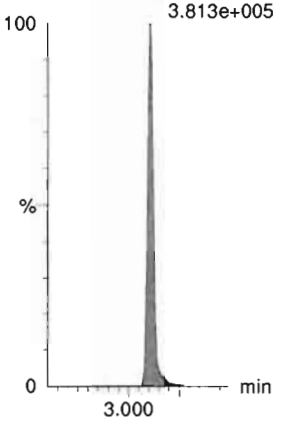
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.399e+004



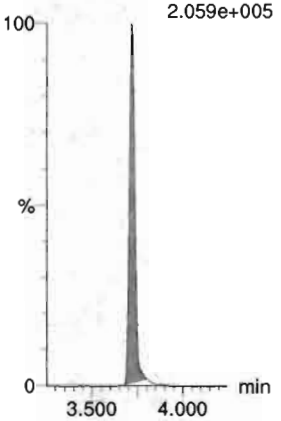
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.858e+004



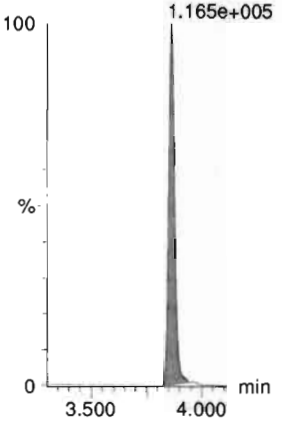
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.813e+005



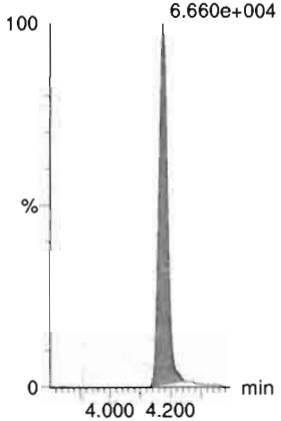
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.059e+005



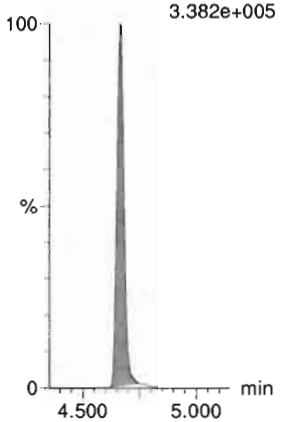
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.165e+005



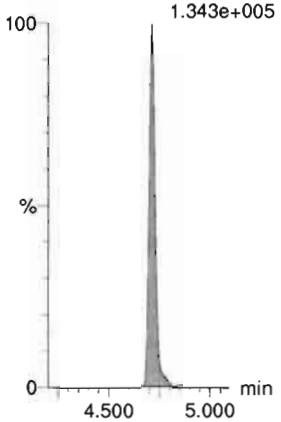
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.660e+004



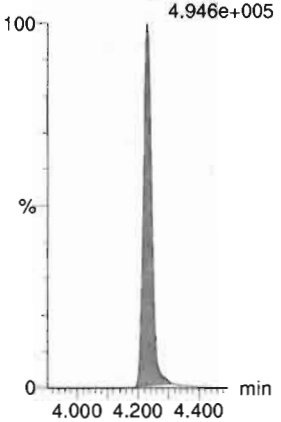
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.382e+005



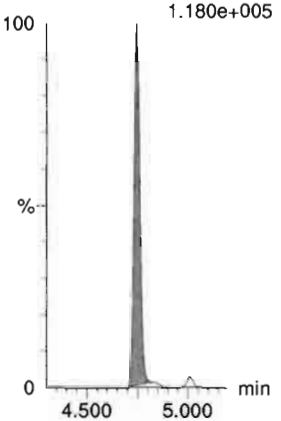
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.343e+005



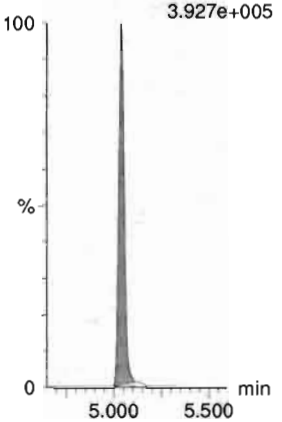
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.946e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.180e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.927e+005

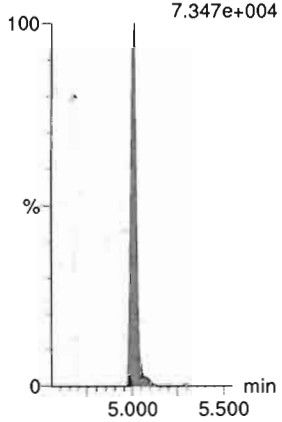


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

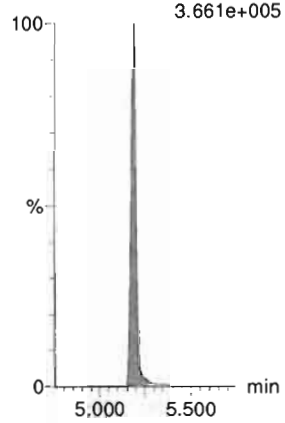
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

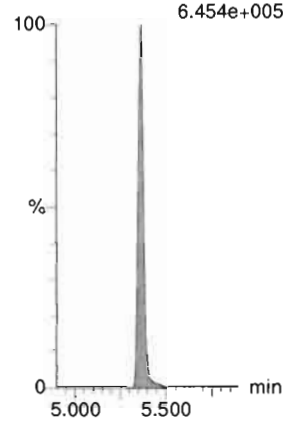
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.347e+004



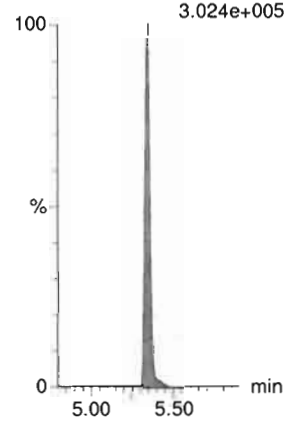
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.661e+005



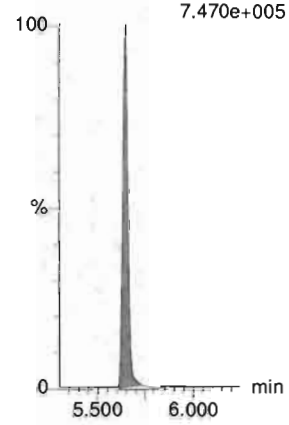
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.454e+005



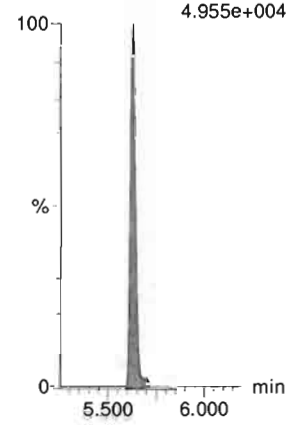
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.024e+005



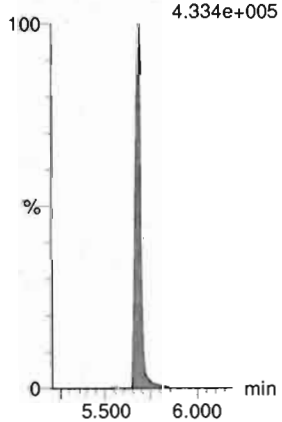
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.470e+005



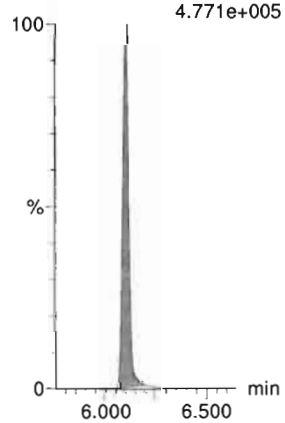
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.955e+004



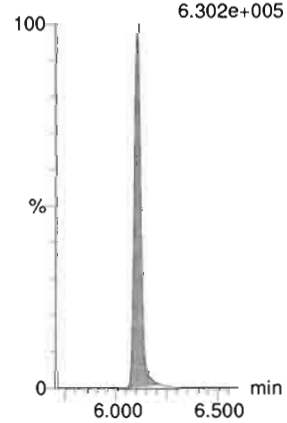
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.334e+005



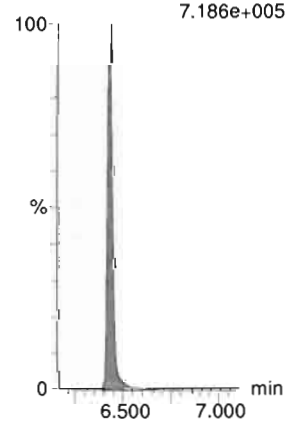
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.771e+005



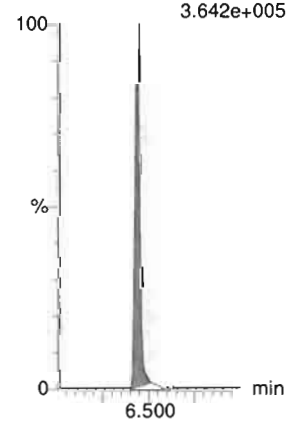
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.302e+005



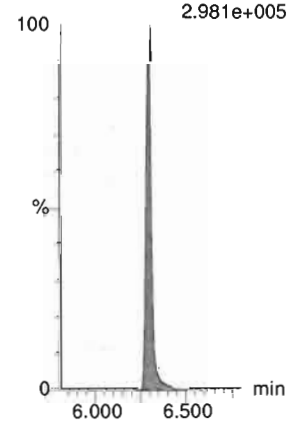
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.186e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.642e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.981e+005

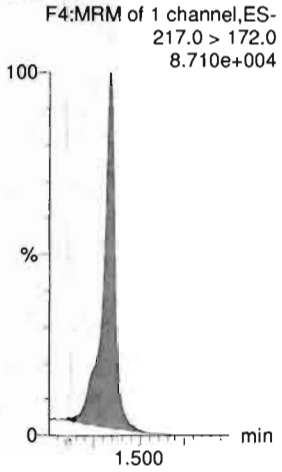


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

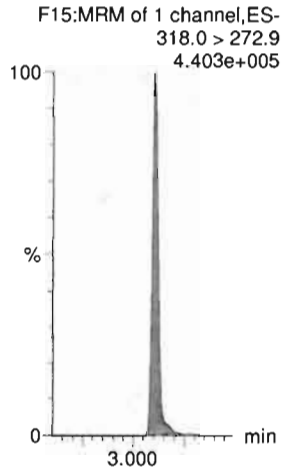
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_8, Date: 10-Jul-2020, Time: 09:07:35, ID: ST200710M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

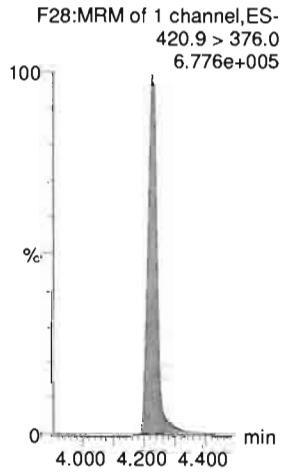
13C4-PFBA



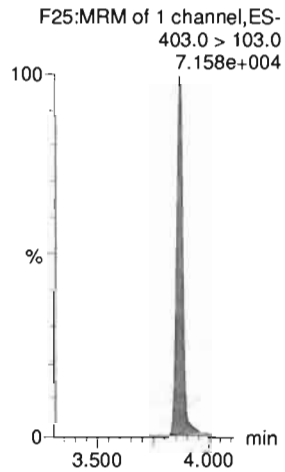
13C5-PFHxA



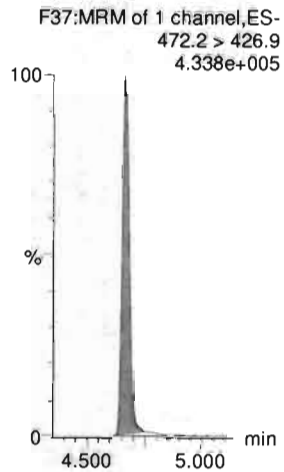
13C8-PFOA



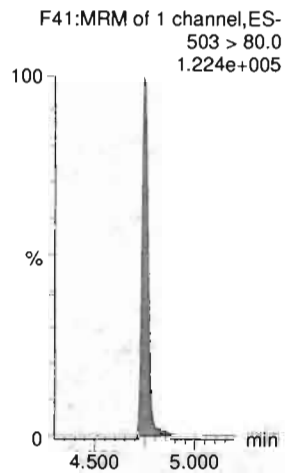
18O2-PFHxS



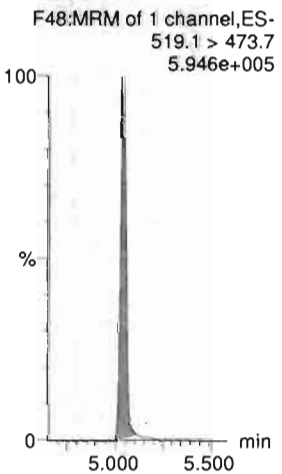
13C9-PFNA



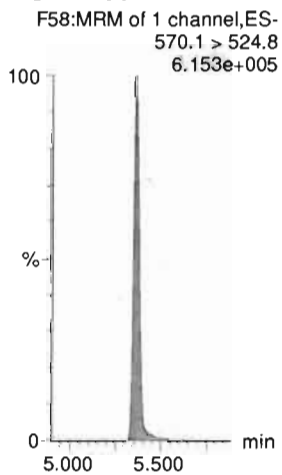
13C4-PFOS



13C6-PFDA



13C7-PFUdA

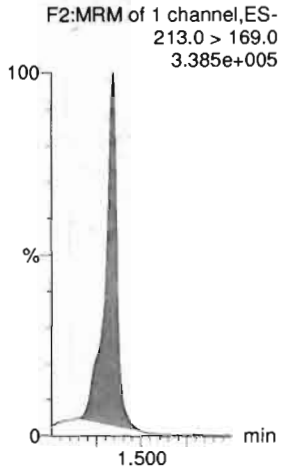


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

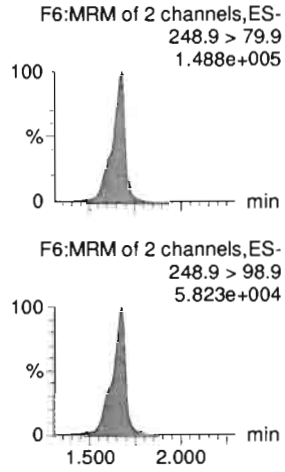
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

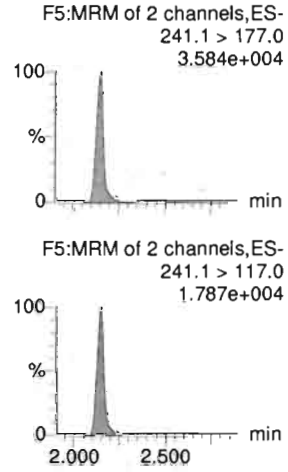
PFBA



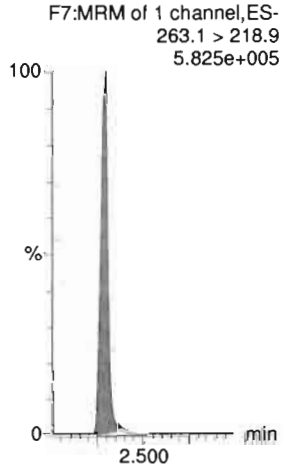
PFPrS



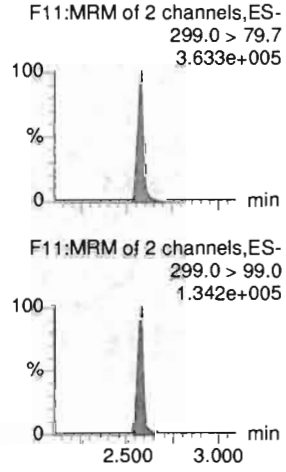
3:3 FTCA



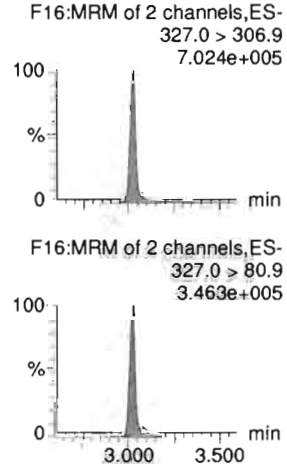
PFPeA



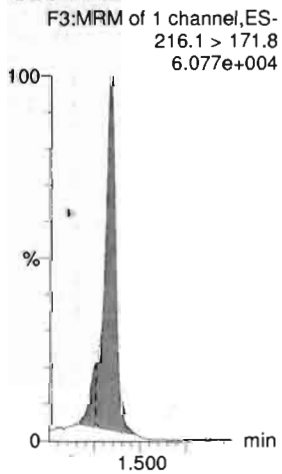
PFBS



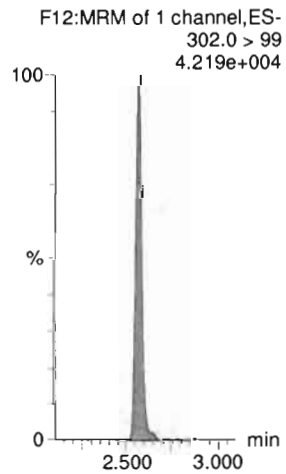
4:2 FTS



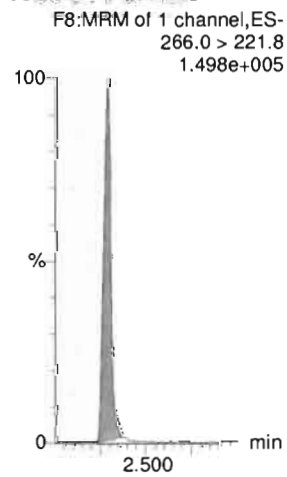
13C3-PFBA-EIS



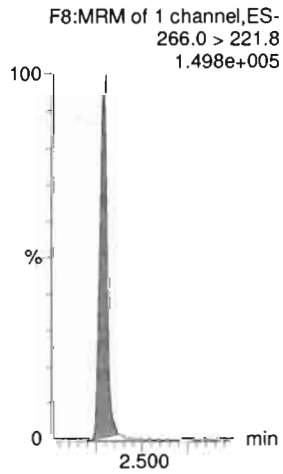
13C3-PFBS-EIS



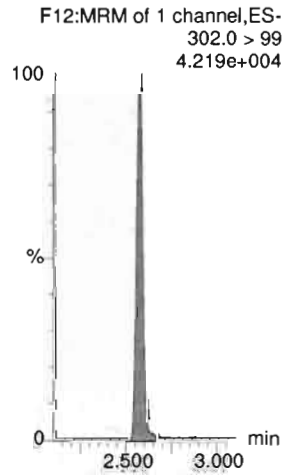
13C3-PFPeA-EIS



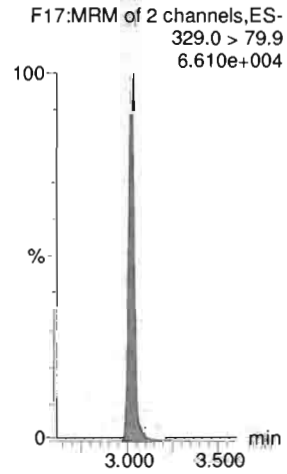
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

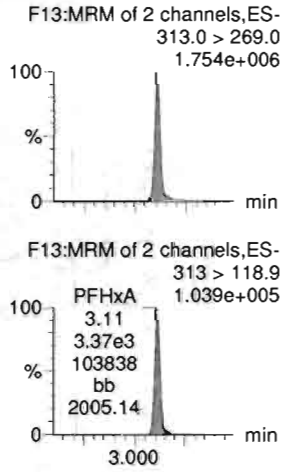


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

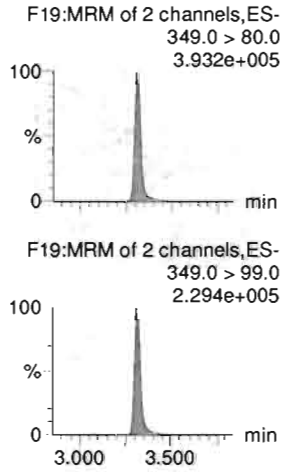
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

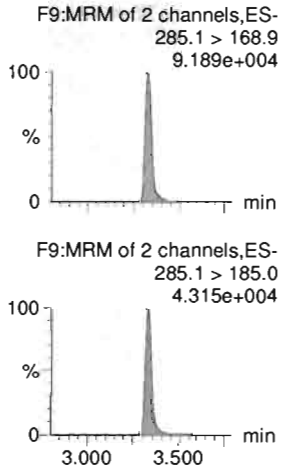
PFHxA



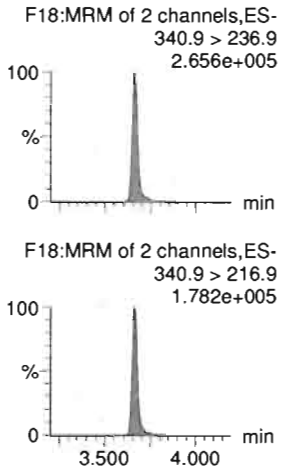
PFPeS



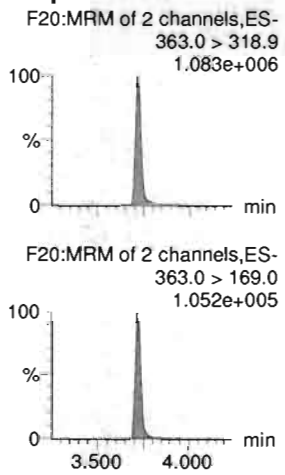
HFPO-DA



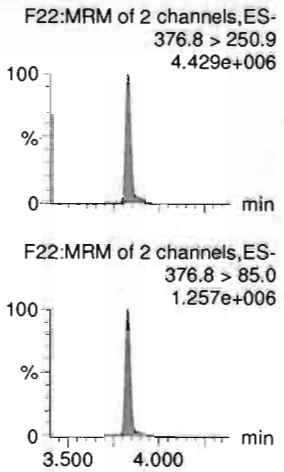
5:3 FTCA



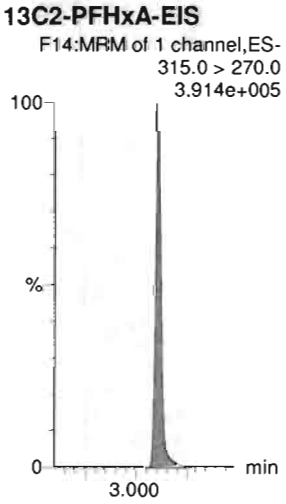
PFHpA



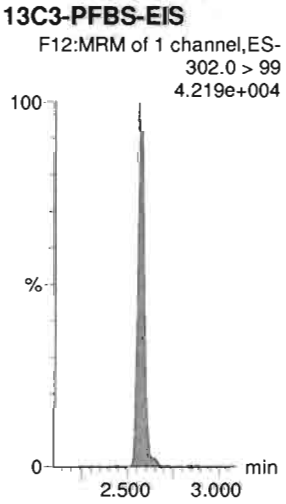
ADONA



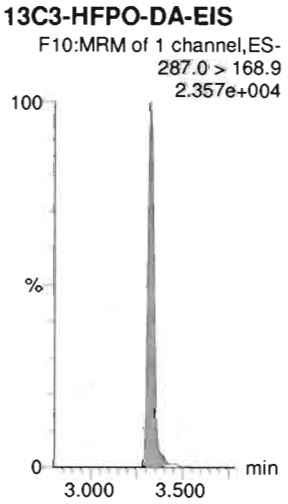
13C2-PFHxA-EIS



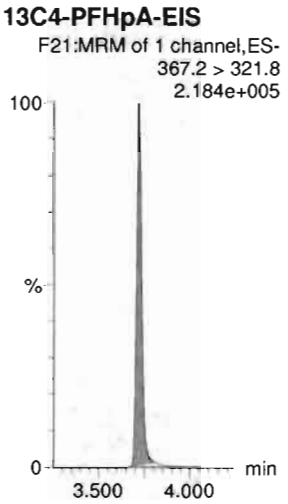
13C3-PFBS-EIS



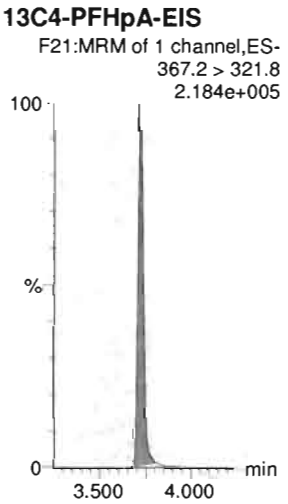
13C3-HFPO-DA-EIS



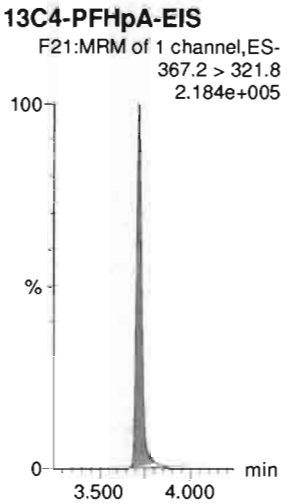
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

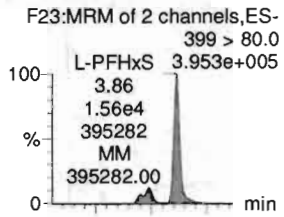


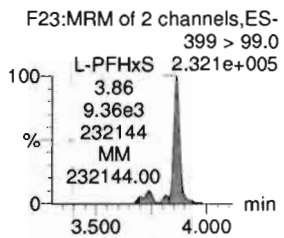
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

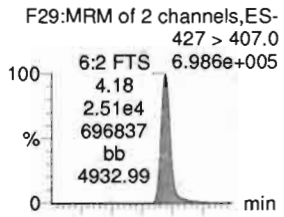
Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

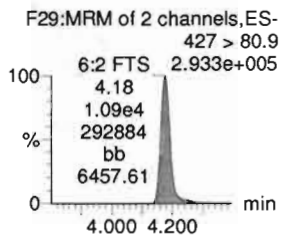
L-PFHxS



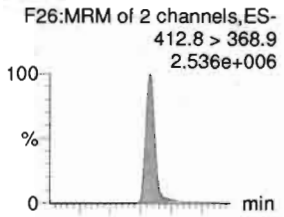


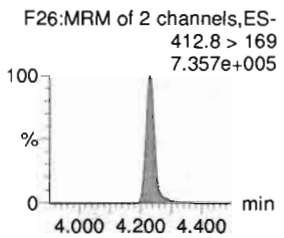
6:2 FTS



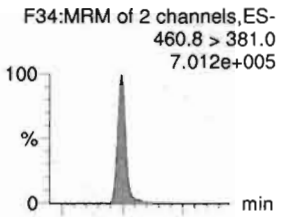


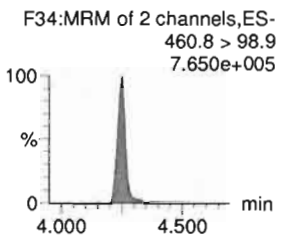
L-PFOA



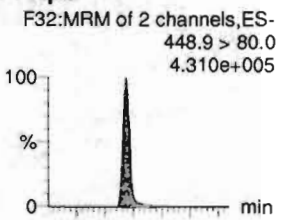


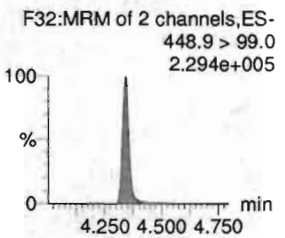
PFEChS



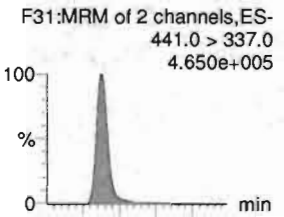


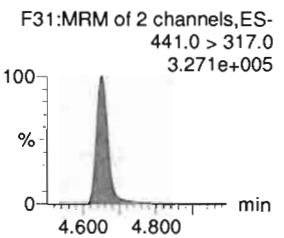
PFHpS



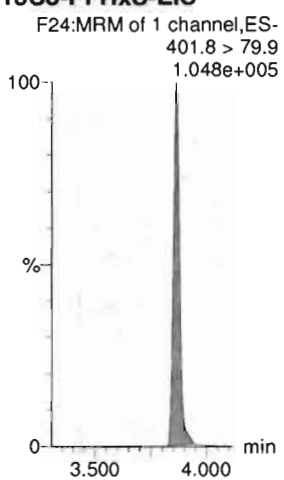


7:3 FTCA

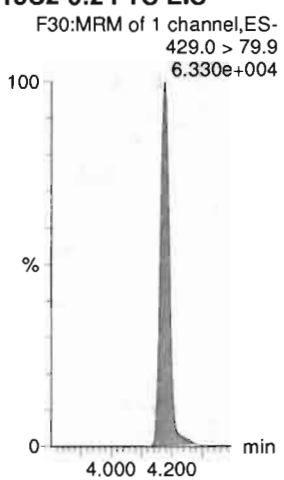




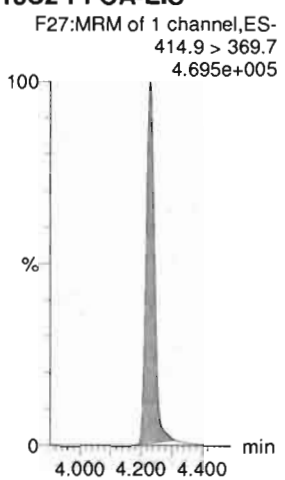
13C3-PFHxS-EIS



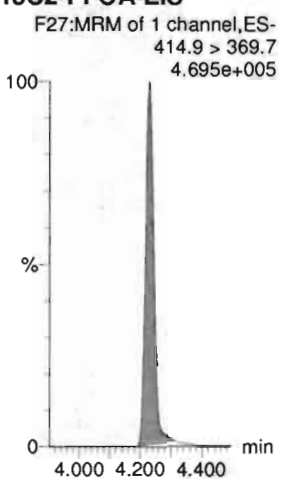
13C2-6:2 FTS-EIS



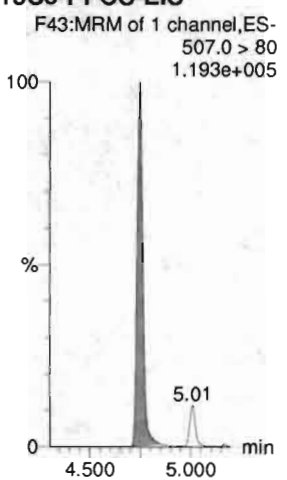
13C2-PFOA-EIS



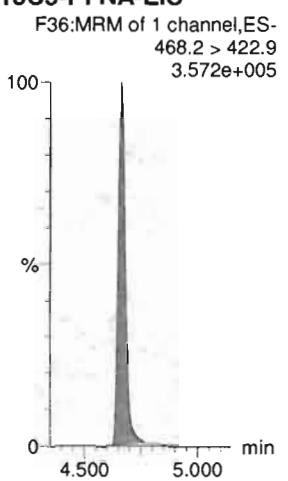
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

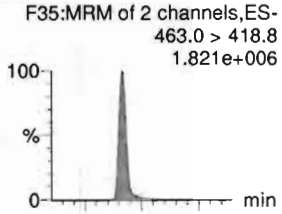


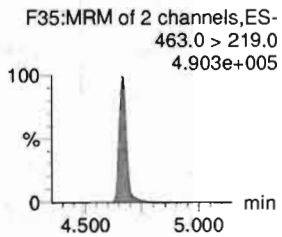
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

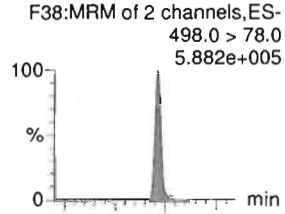
Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

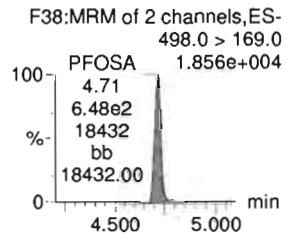
PFNA



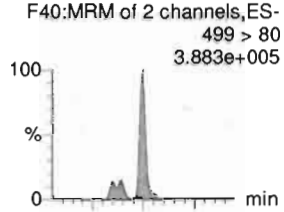


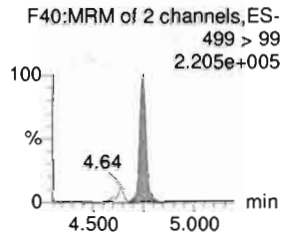
PFOSA



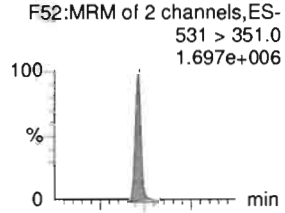


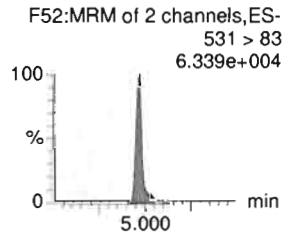
L-PFOS



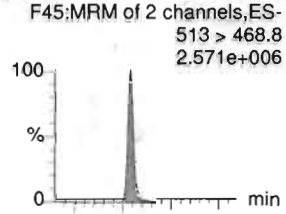


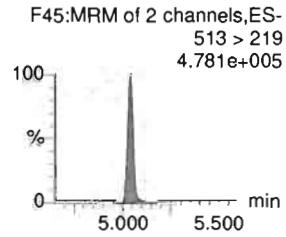
9Cl-PF30NS



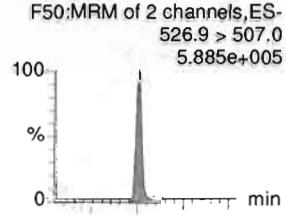


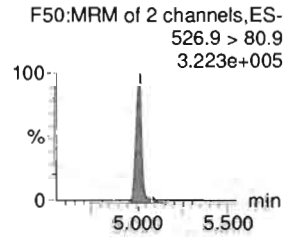
PFDA



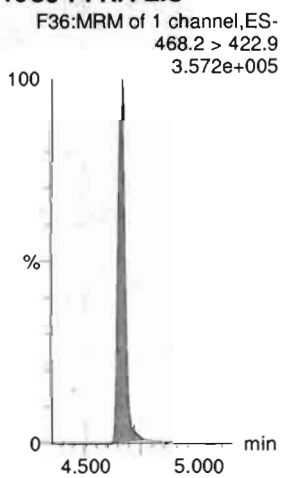


8:2 FTS

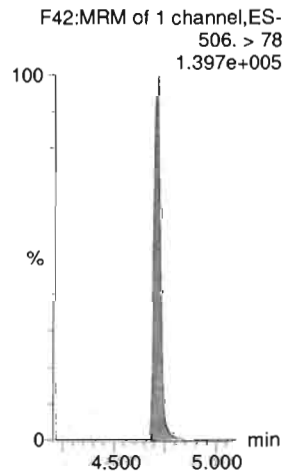




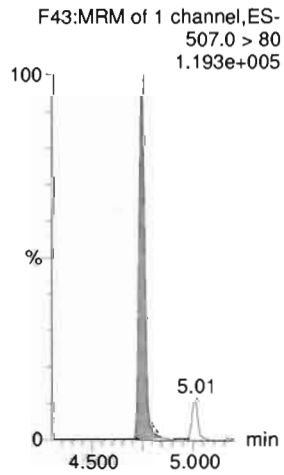
13C5-PFNA-EIS



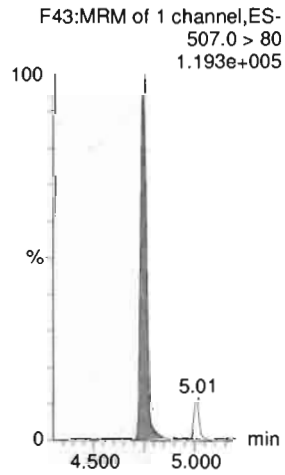
13C8-PFOSA-EIS



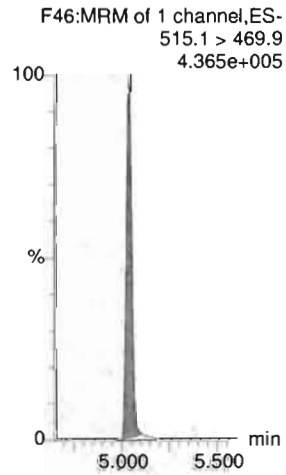
13C8-PFOS-EIS



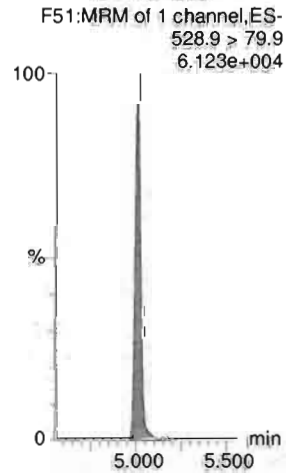
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

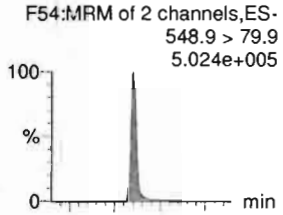


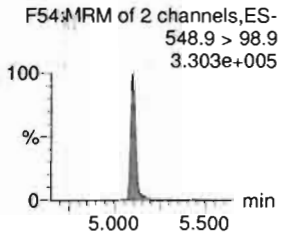
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

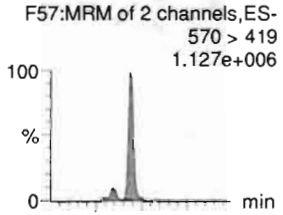
Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

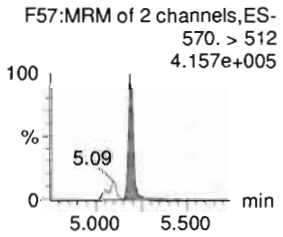
PFNS



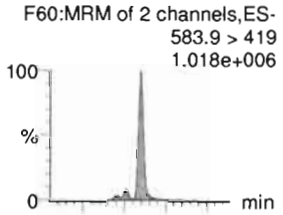


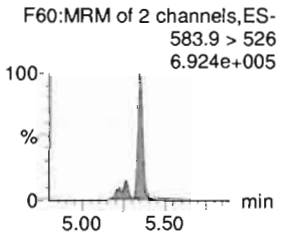
L-MeFOSAA



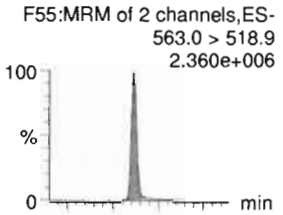


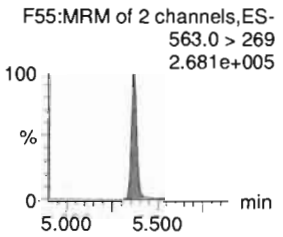
L-EtFOSAA



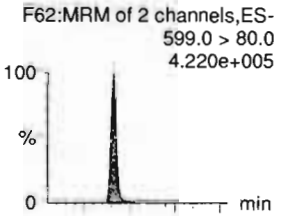


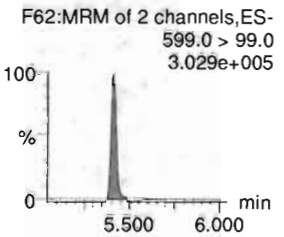
PFUdA



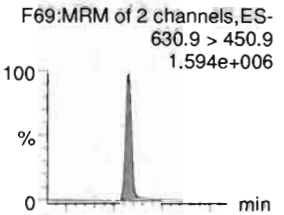


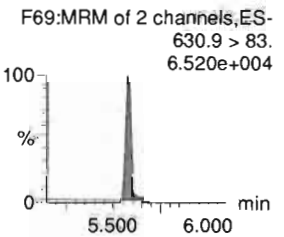
PFDS



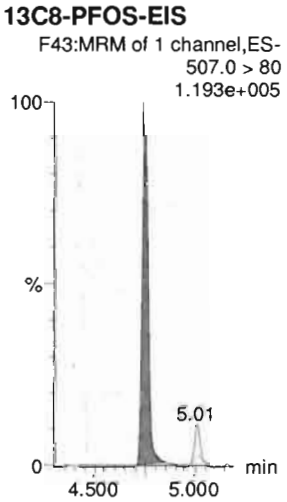


11Cl-PF30UdS

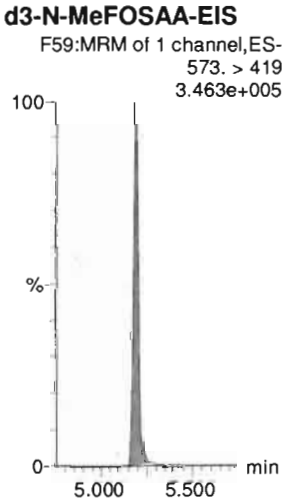




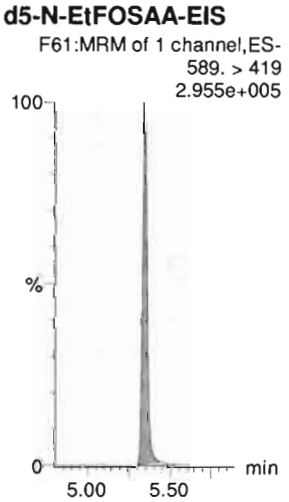
13C8-PFOS-EIS



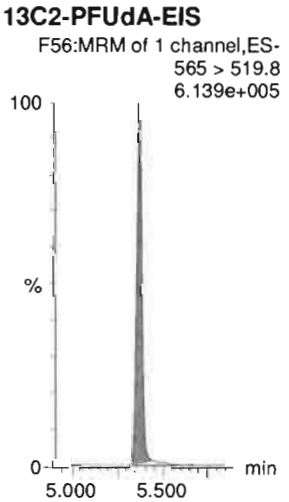
d3-N-MeFOSAA-EIS



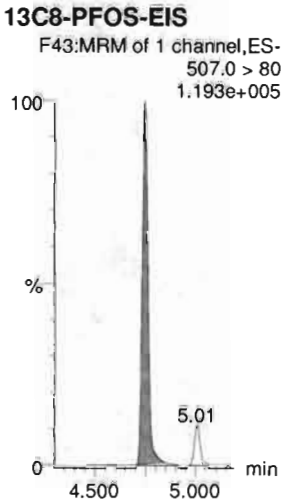
d5-N-EtFOSAA-EIS



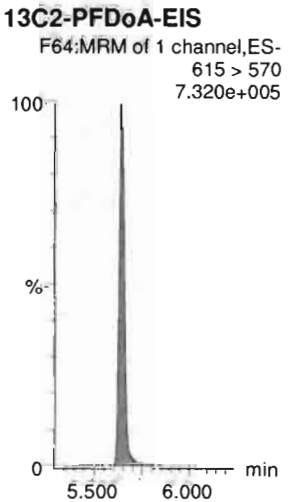
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

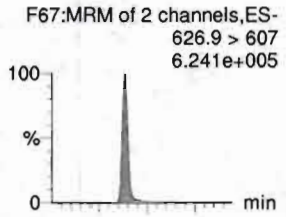


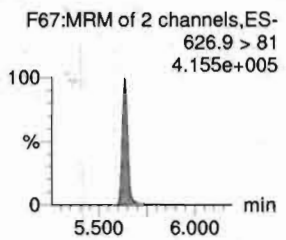
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

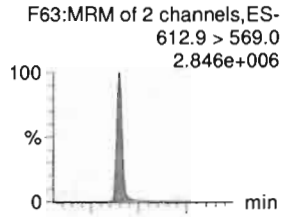
Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

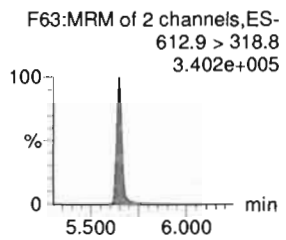
10:2 FTS



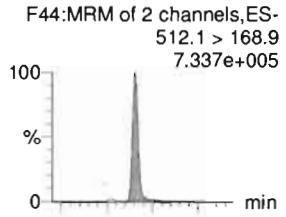


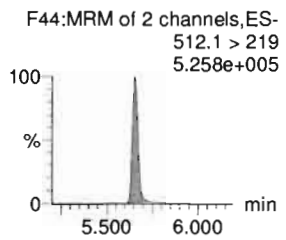
PFDoA



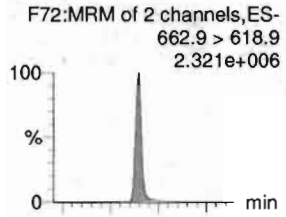


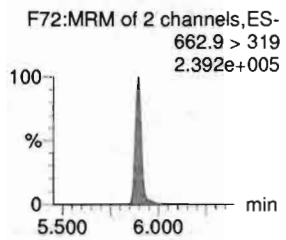
N-MeFOSA



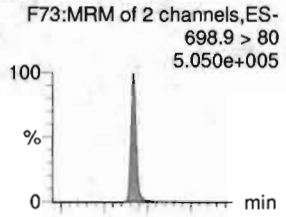


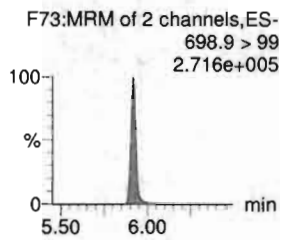
PFTrDA



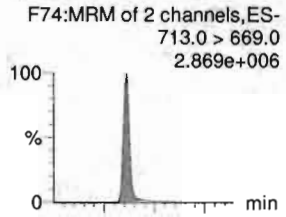


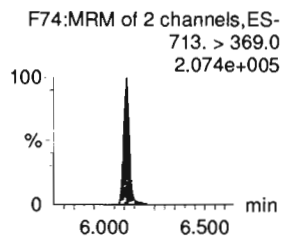
PFDoS



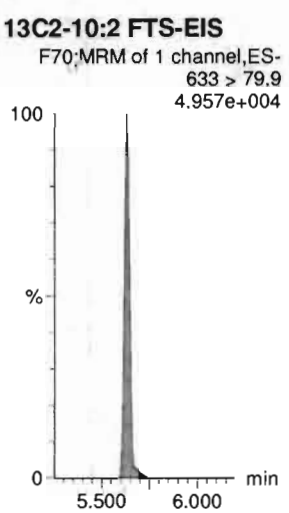


PFTeDA

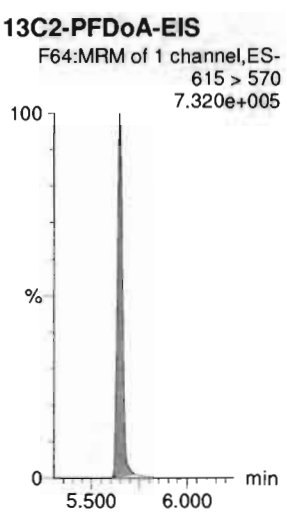




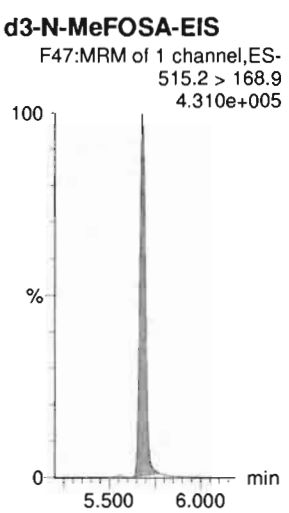
13C2-10:2 FTS-EIS



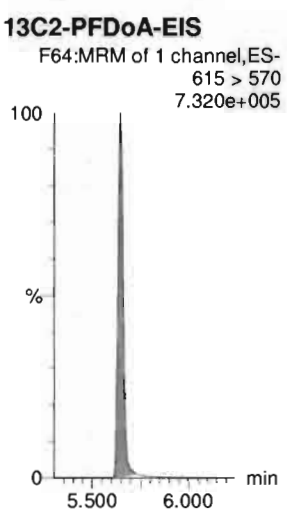
13C2-PFDoA-EIS



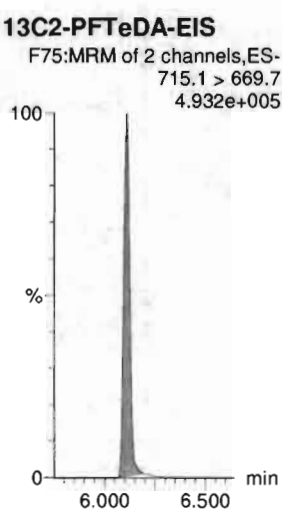
d3-N-MeFOSA-EIS



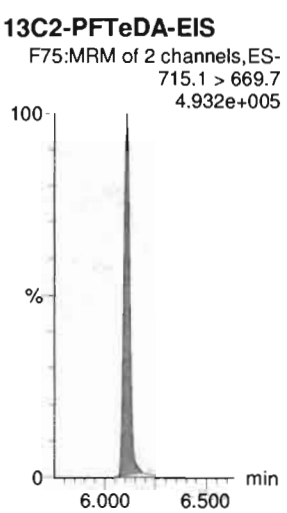
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

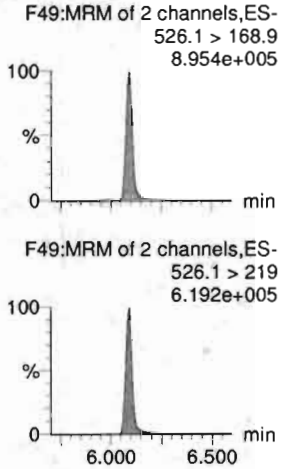


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

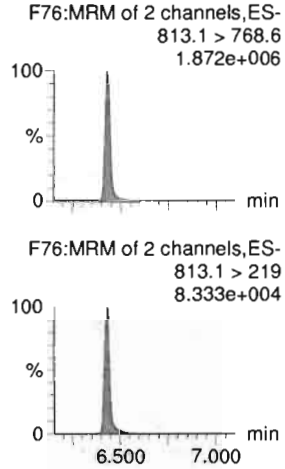
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

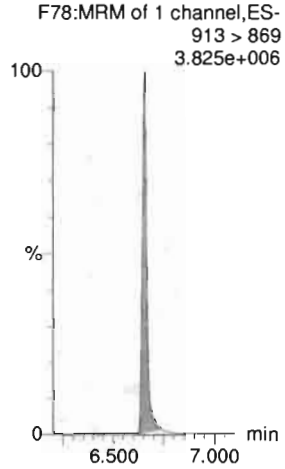
N-EtFOSA



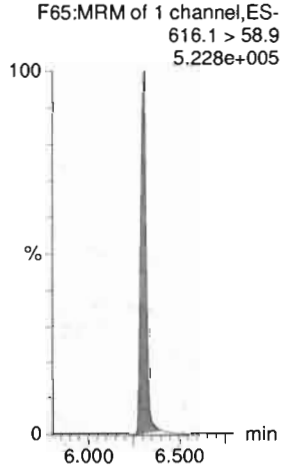
PFHxDA



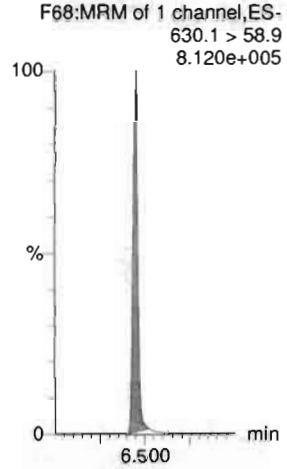
PFODA



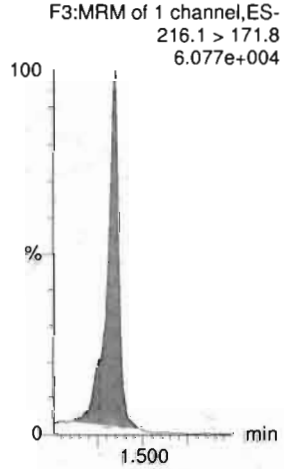
N-MeFOSE



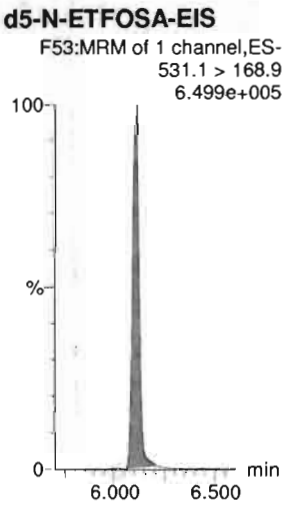
N-EtFOSE



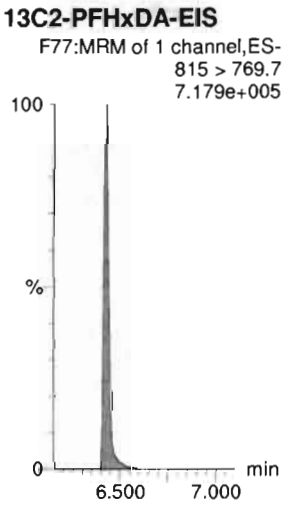
13C3-PFBA-RSD



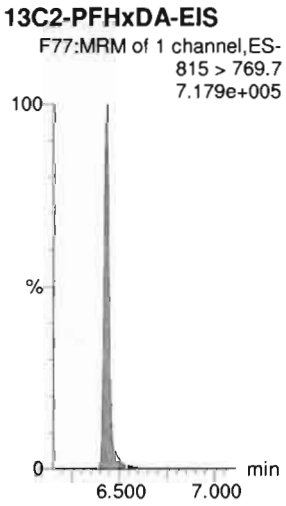
d5-N-ETFOSA-EIS



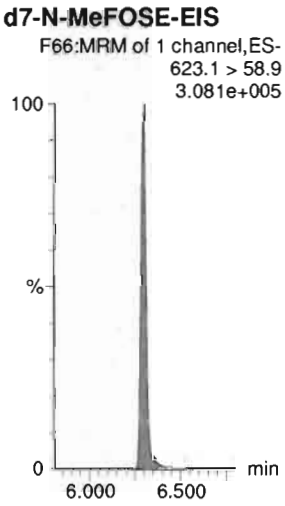
13C2-PFHxDA-EIS



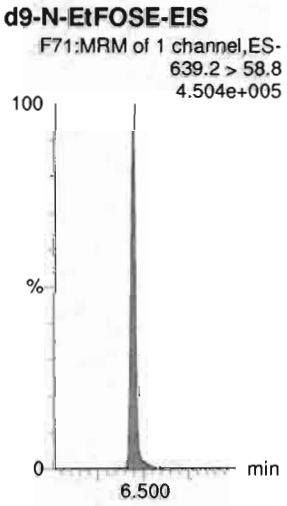
13C2-PFHxDA-EIS



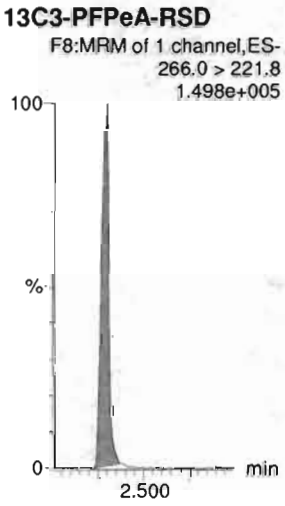
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

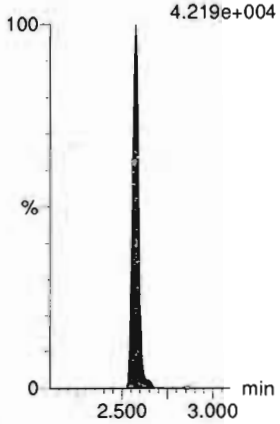


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

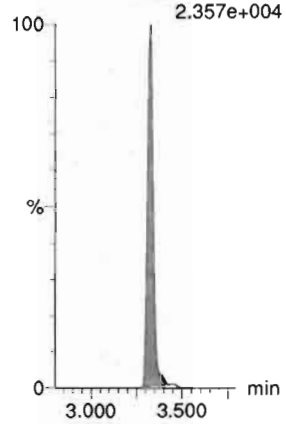
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

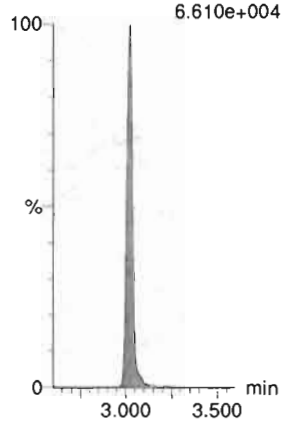
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.219e+004



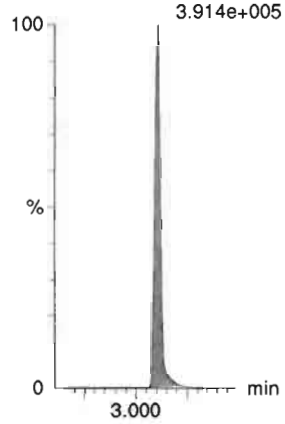
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.357e+004



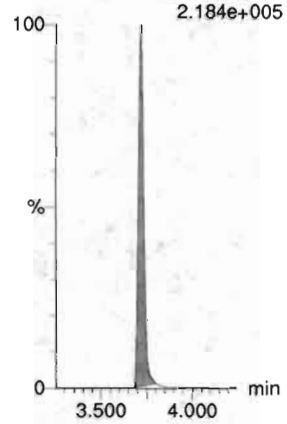
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.610e+004



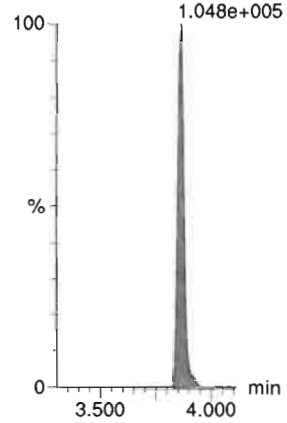
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.914e+005



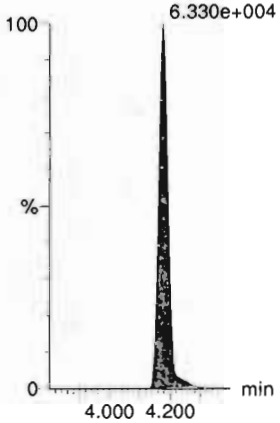
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.184e+005



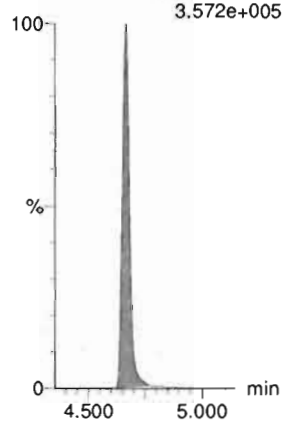
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.048e+005



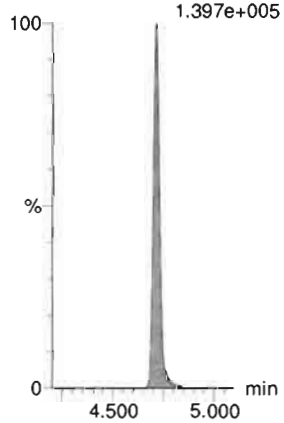
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.330e+004



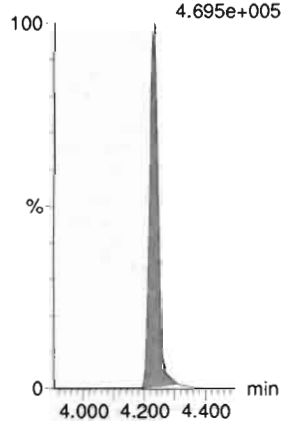
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.572e+005



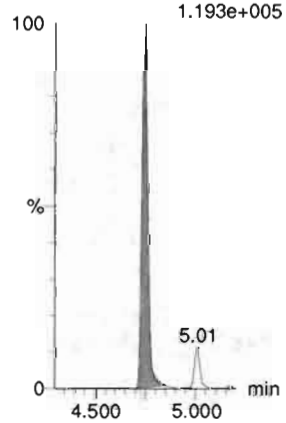
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.397e+005



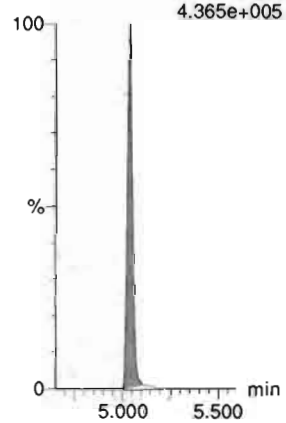
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.695e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.193e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.365e+005

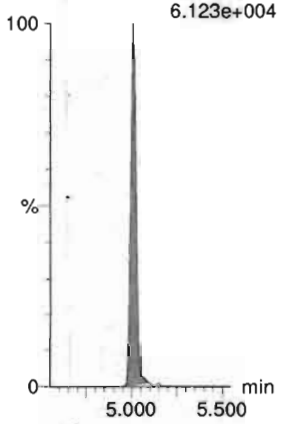


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

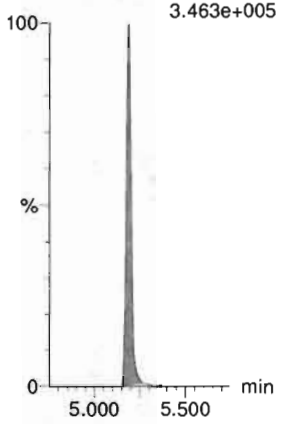
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

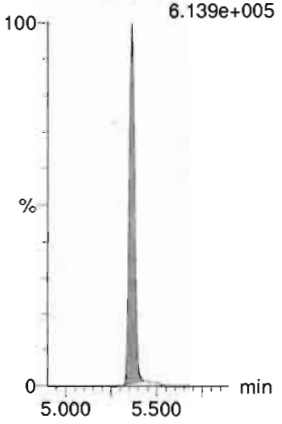
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.123e+004



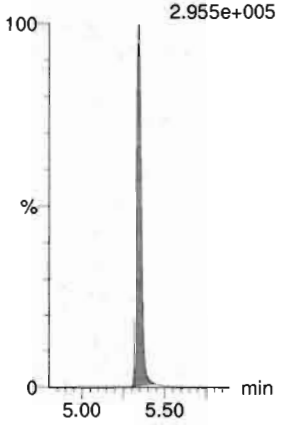
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.463e+005



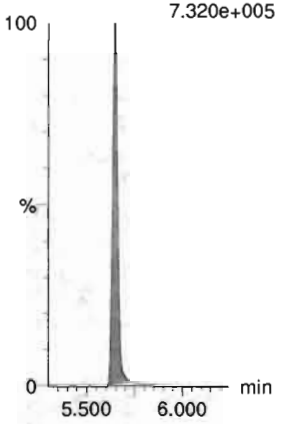
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.139e+005



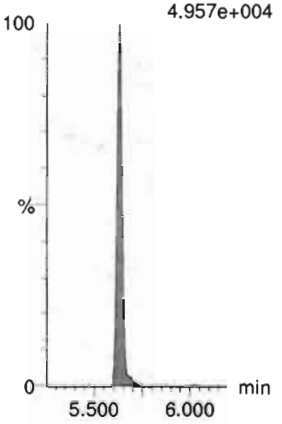
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.955e+005



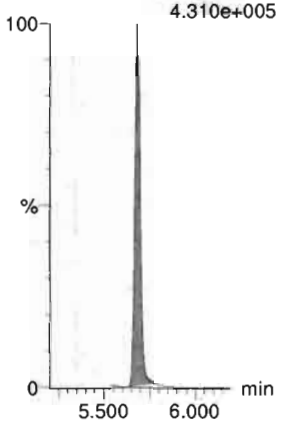
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.320e+005



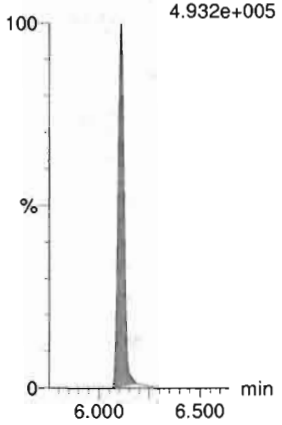
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.957e+004



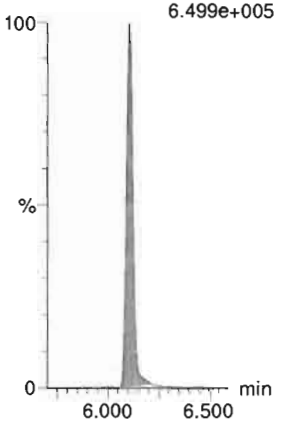
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.310e+005



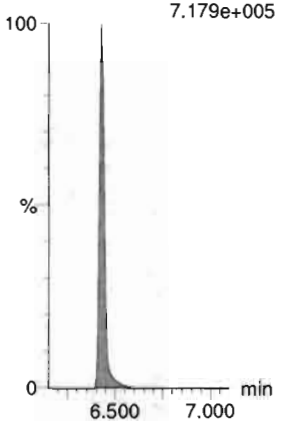
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.932e+005



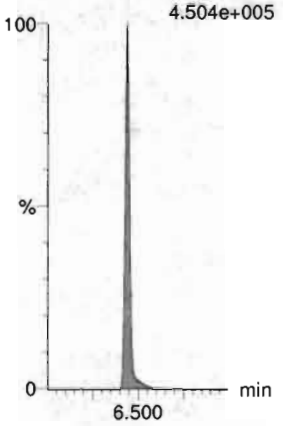
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.499e+005



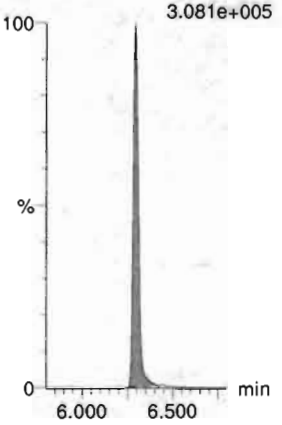
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.179e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.504e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.081e+005

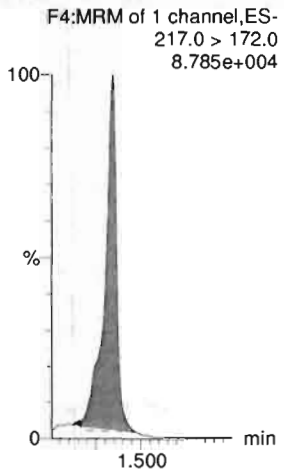


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

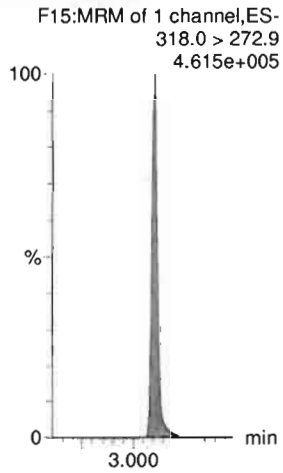
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_9, Date: 10-Jul-2020, Time: 09:17:57, ID: ST200710M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

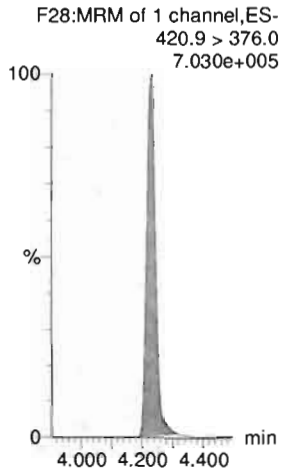
13C4-PFBA



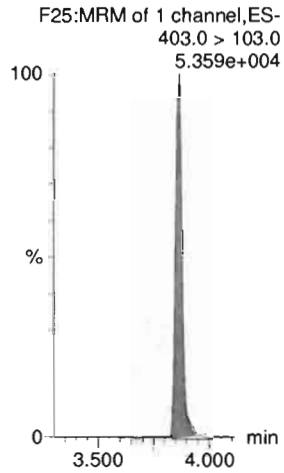
13C5-PFHxA



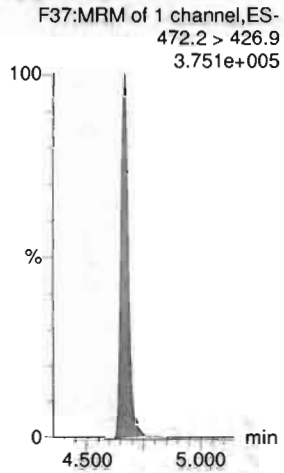
13C8-PFOA



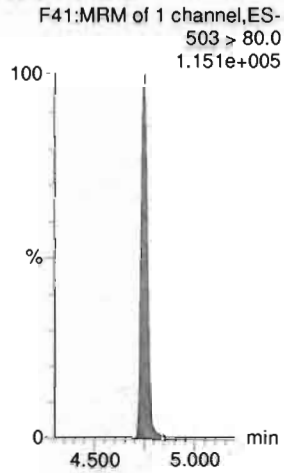
18O2-PFHxS



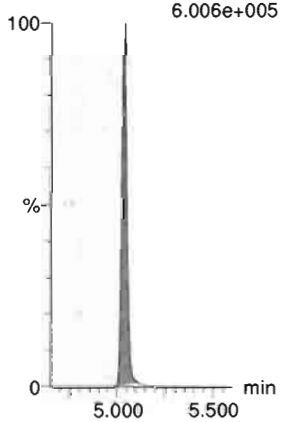
13C9-PFNA



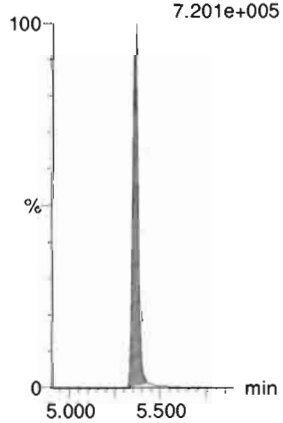
13C4-PFOS



13C6-PFDA



13C7-PFUdA

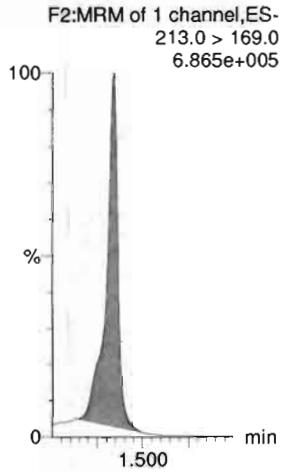


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

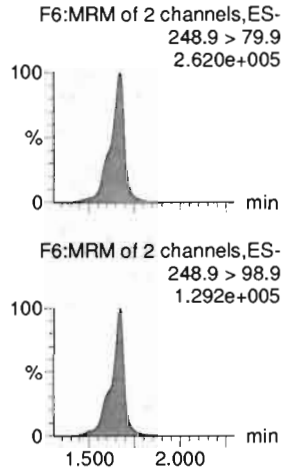
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

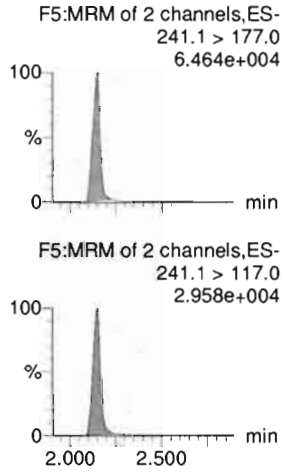
PFBA



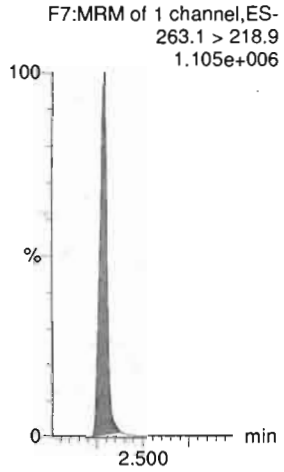
PFPrS



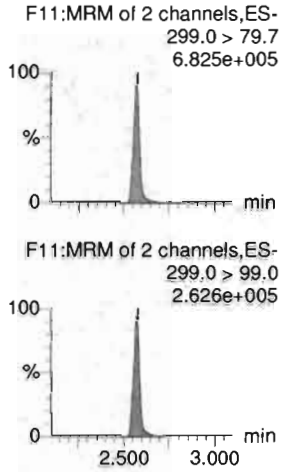
3:3 FTCA



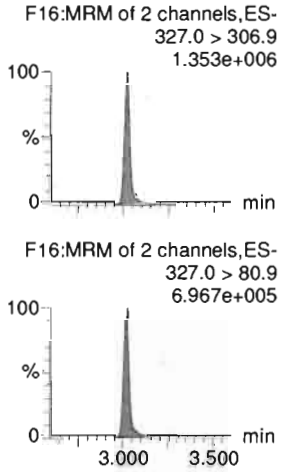
PFPeA



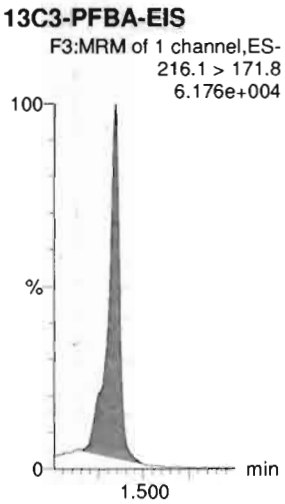
PFBS



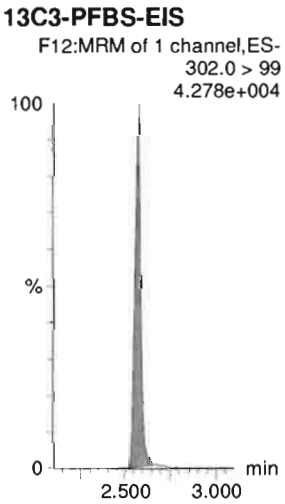
4:2 FTS



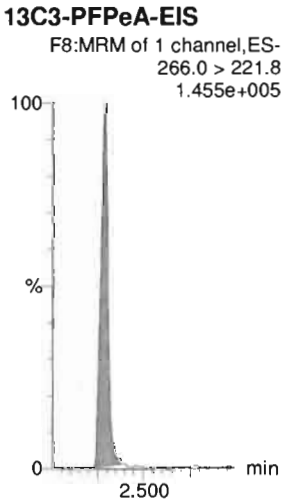
13C3-PFBA-EIS



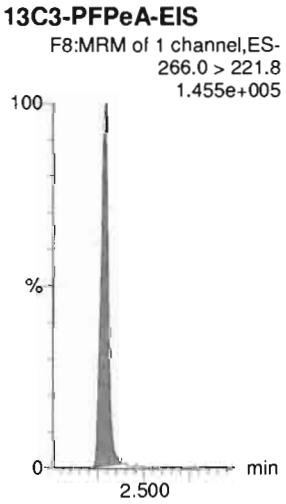
13C3-PFBS-EIS



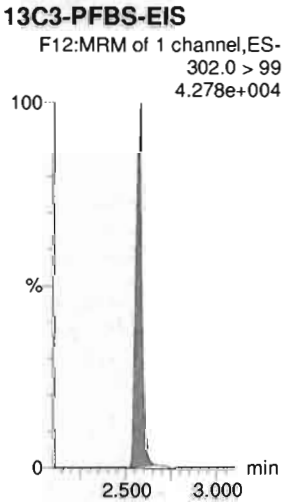
13C3-PFPeA-EIS



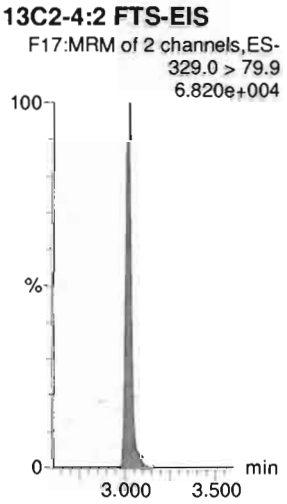
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

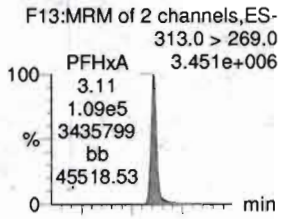


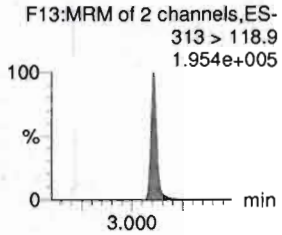
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

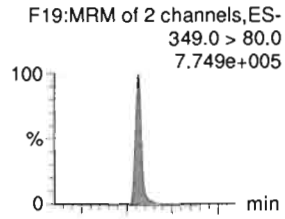
Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

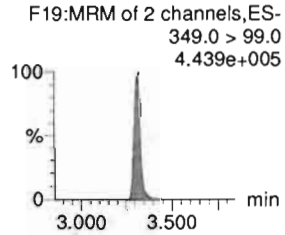
PFHxA



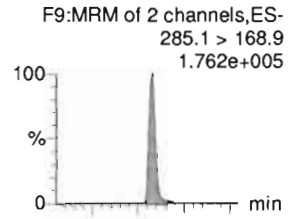


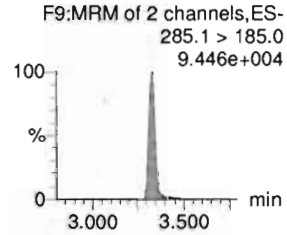
PFPeS



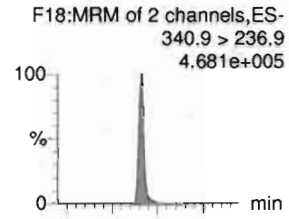


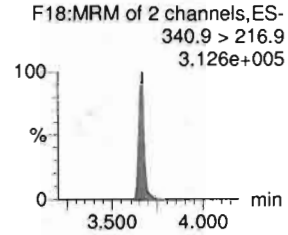
HFPO-DA



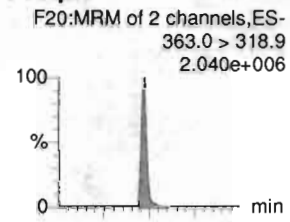


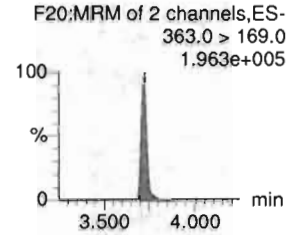
5:3 FTCA



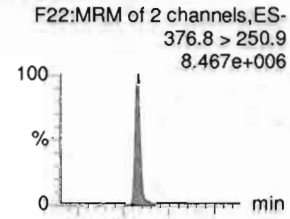


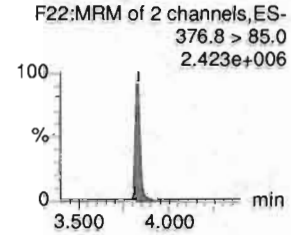
PFHpA



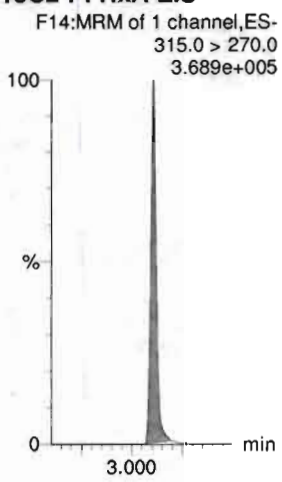


ADONA

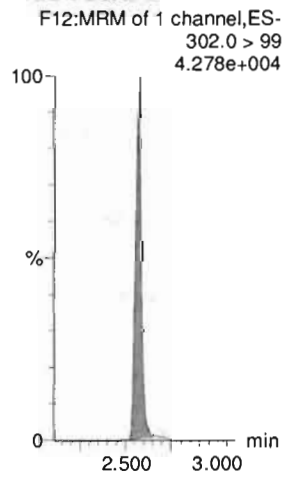




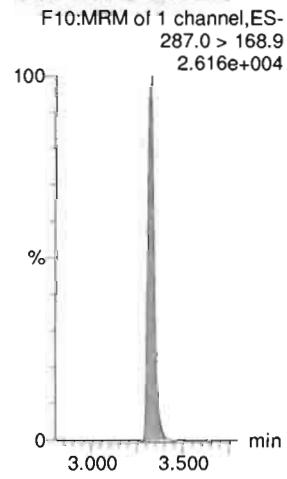
13C2-PFHxA-EIS



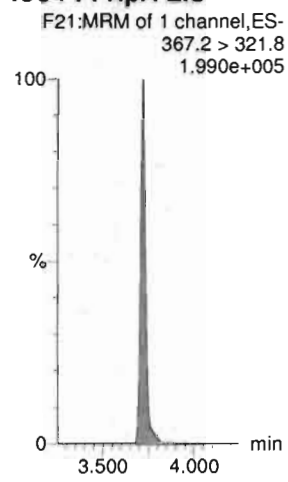
13C3-PFBS-EIS



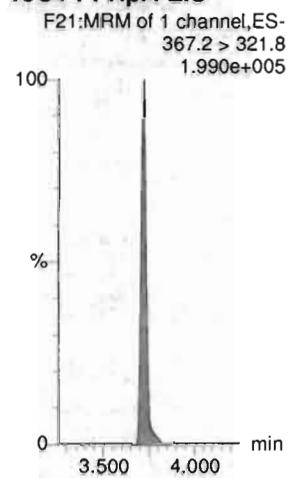
13C3-HFPO-DA-EIS



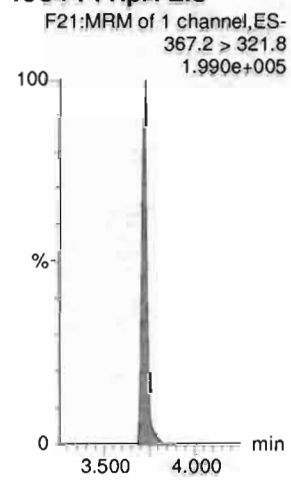
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

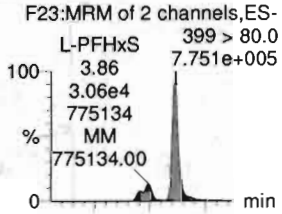


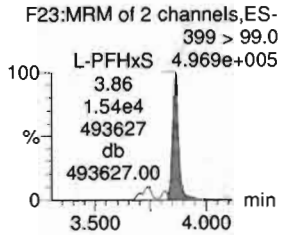
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

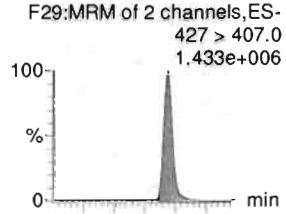
Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

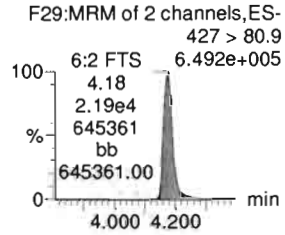
L-PFHxS



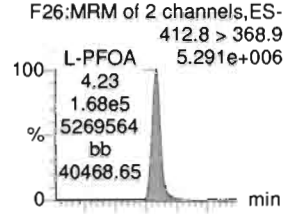


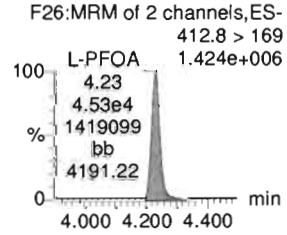
6:2 FTS



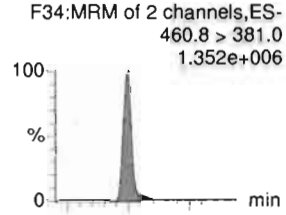


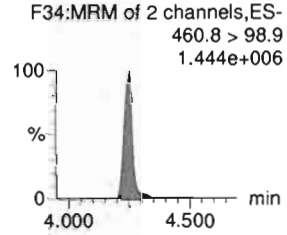
L-PFOA



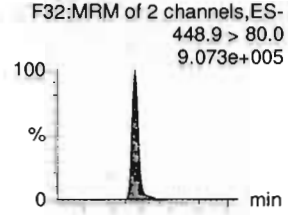


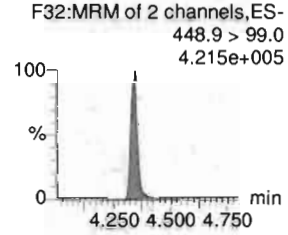
PFEChS



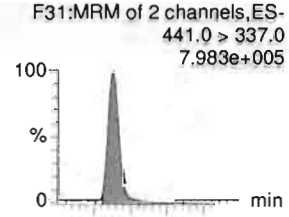


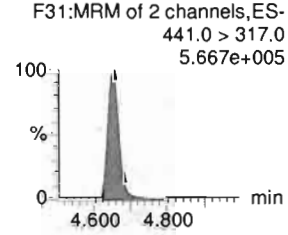
PFHpS



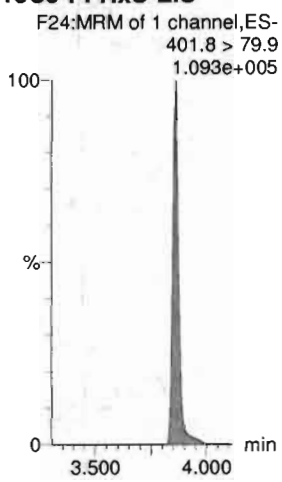


7:3 FTCA

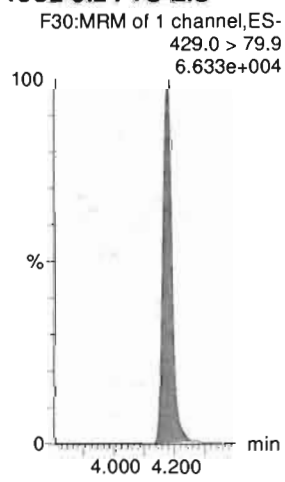




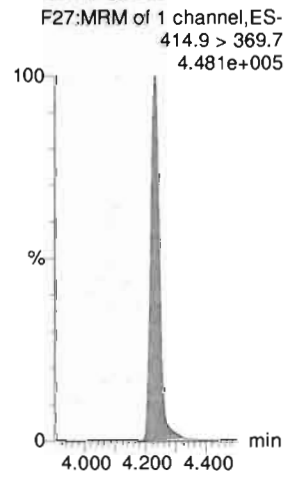
13C3-PFHxS-EIS



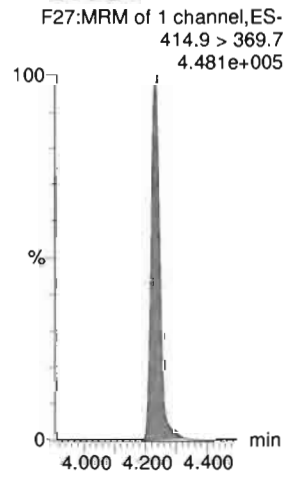
13C2-6:2 FTS-EIS



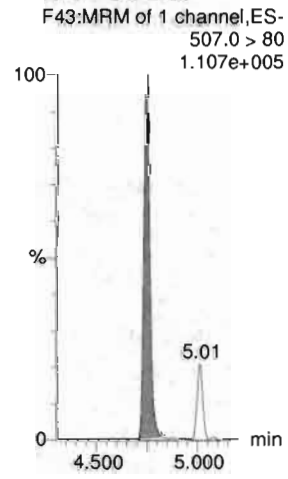
13C2-PFOA-EIS



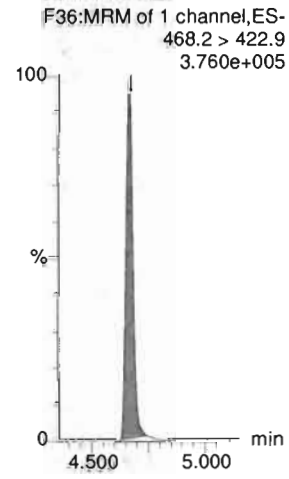
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

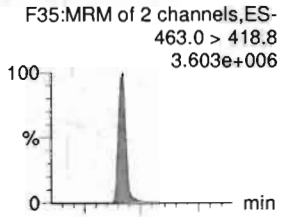


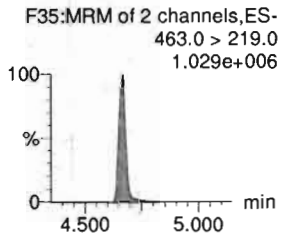
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

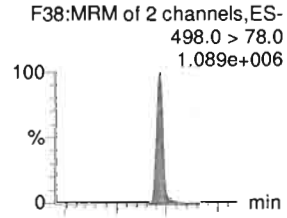
Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

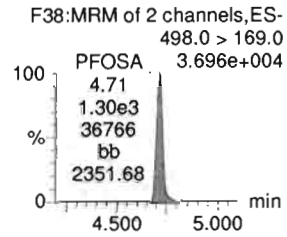
PFNA



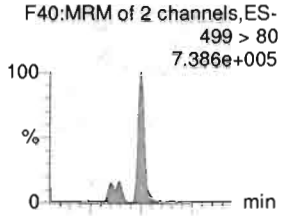


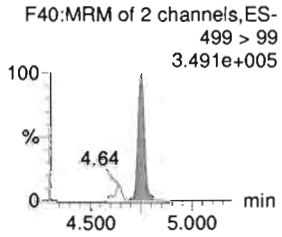
PFOSA



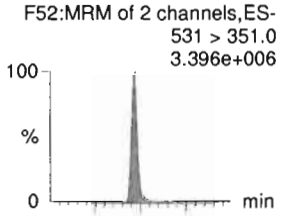


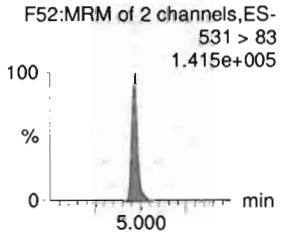
L-PFOS



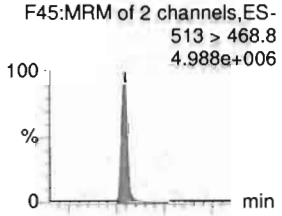


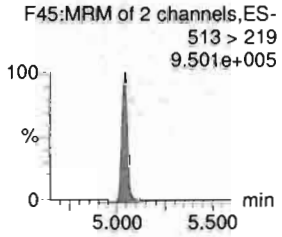
9Cl-PF30NS



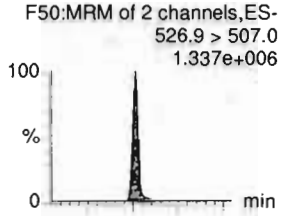


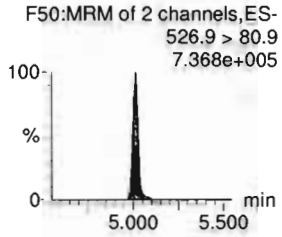
PFDA



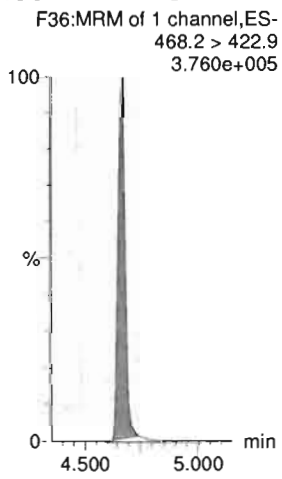


8:2 FTS

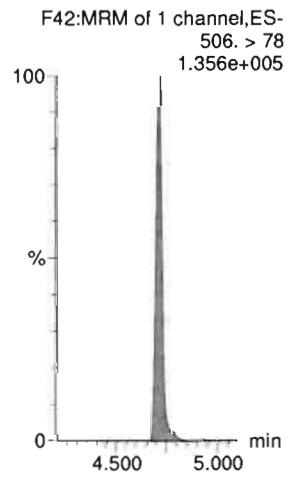




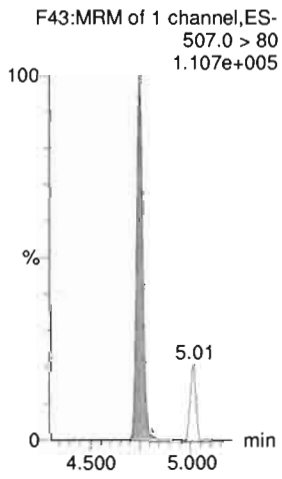
13C5-PFNA-EIS



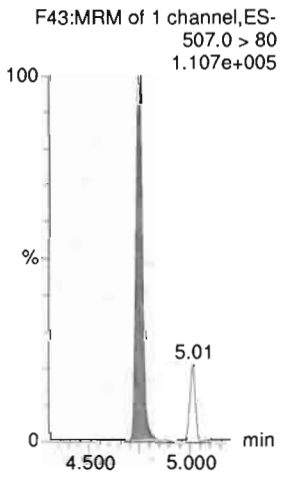
13C8-PFOSA-EIS



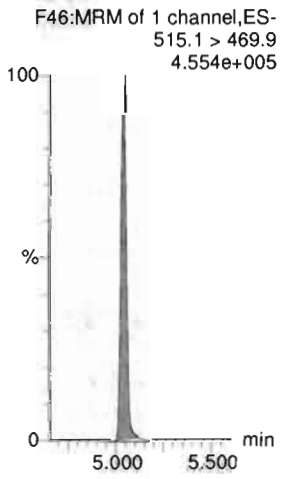
13C8-PFOS-EIS



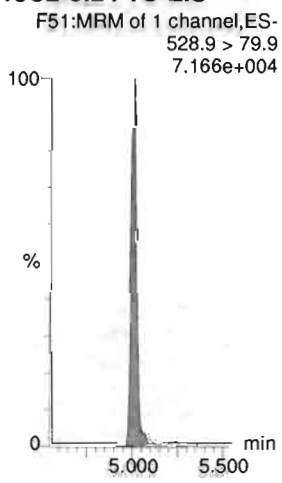
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

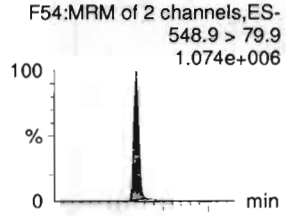


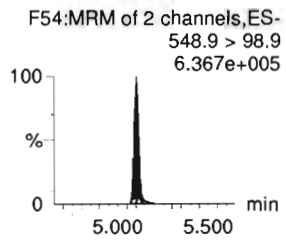
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

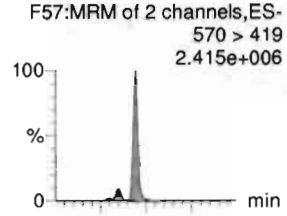
Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

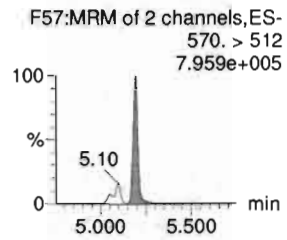
PFNS



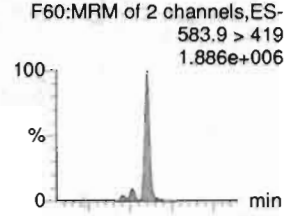


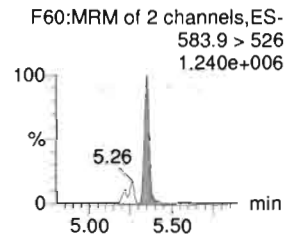
L-MeFOSAA



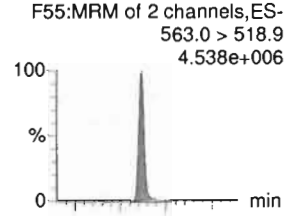


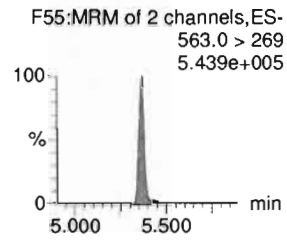
L-EtFOSAA



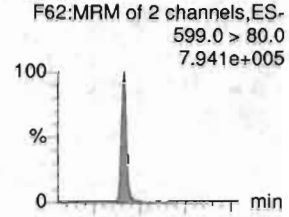


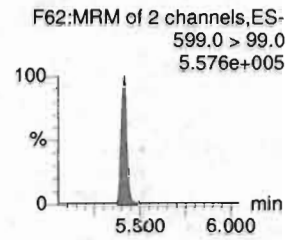
PFUdA



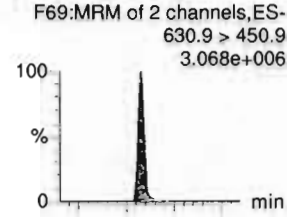


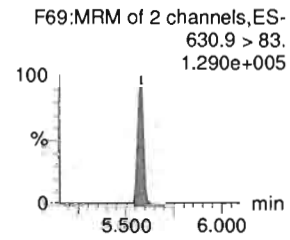
PFDS



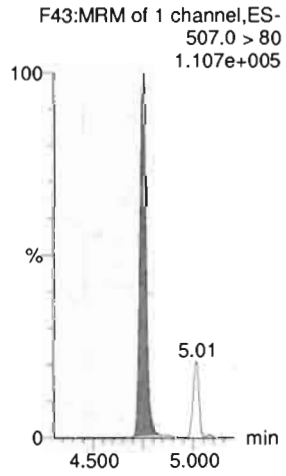


11Cl-PF30UdS

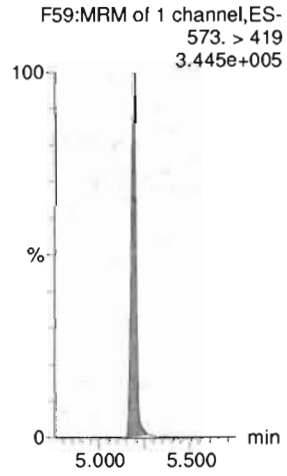




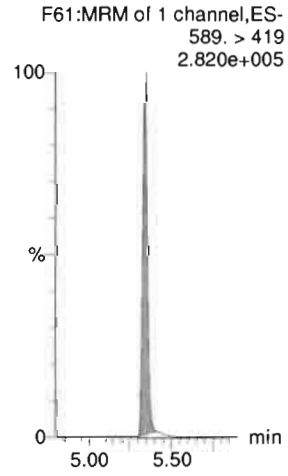
13C8-PFOS-EIS



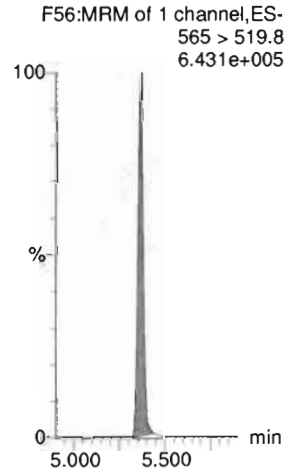
d3-N-MeFOSAA-EIS



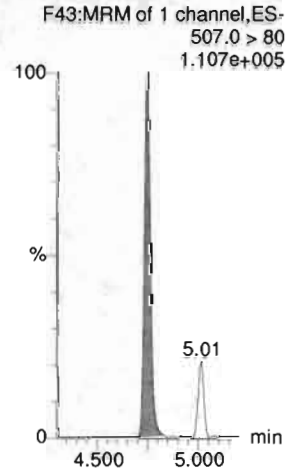
d5-N-EtFOSAA-EIS



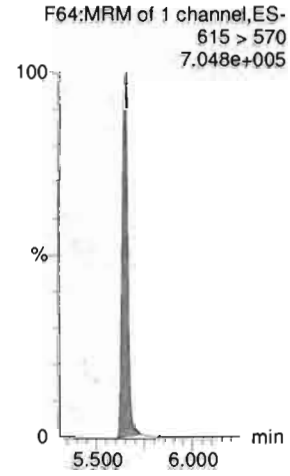
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

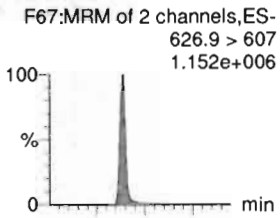


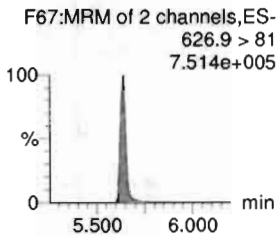
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

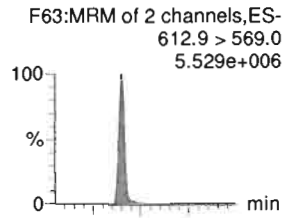
Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

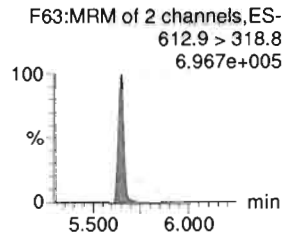
10:2 FTS



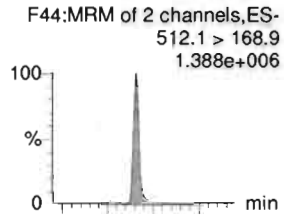


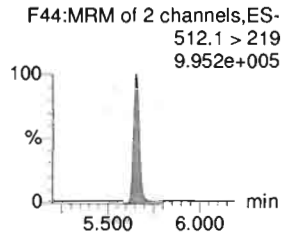
PFDoA



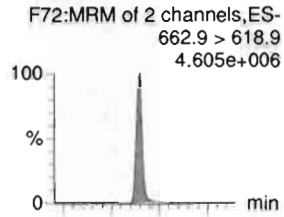


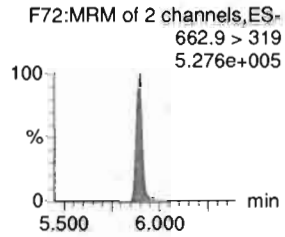
N-MeFOSA



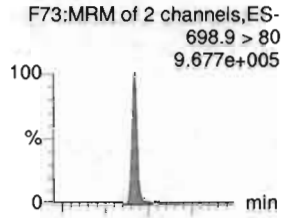


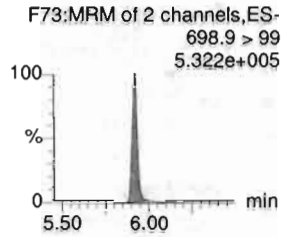
PFTrDA



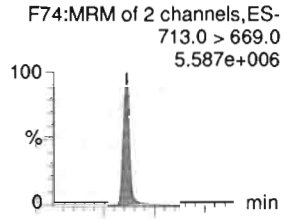


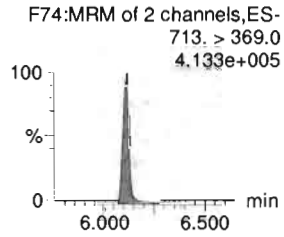
PFDoS



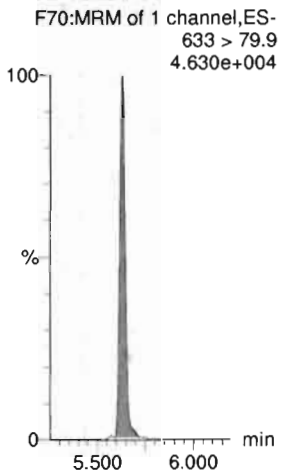


PFTeDA

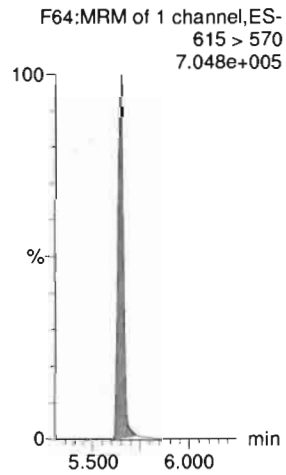




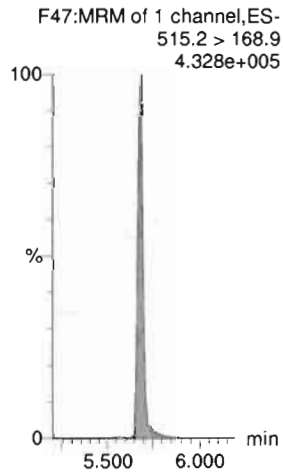
13C2-10:2 FTS-EIS



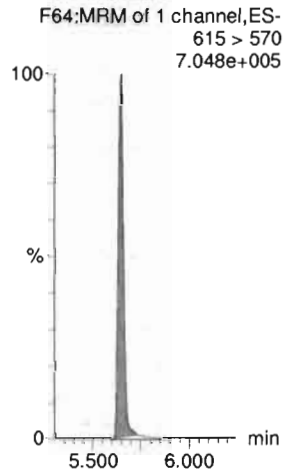
13C2-PFDoA-EIS



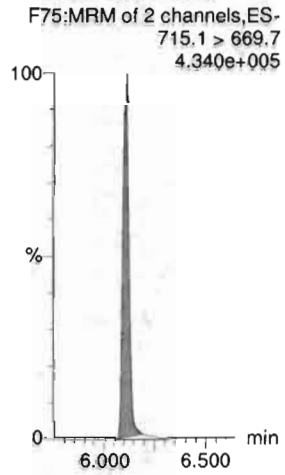
d3-N-MeFOSA-EIS



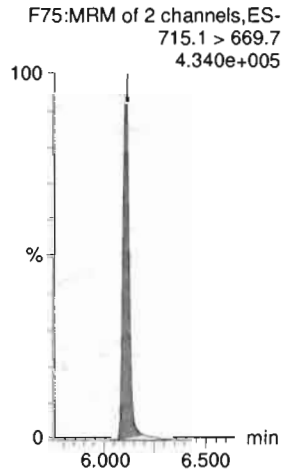
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

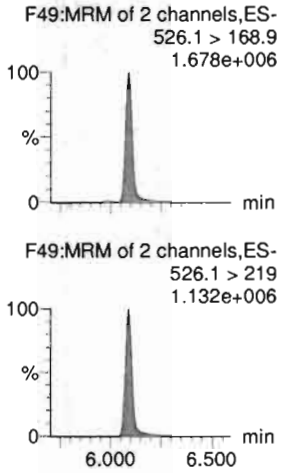


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

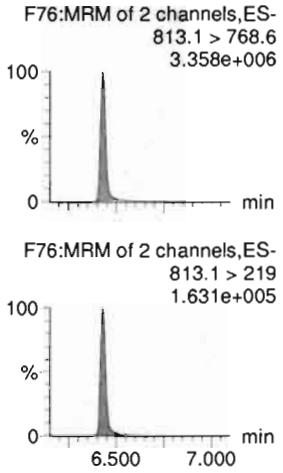
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

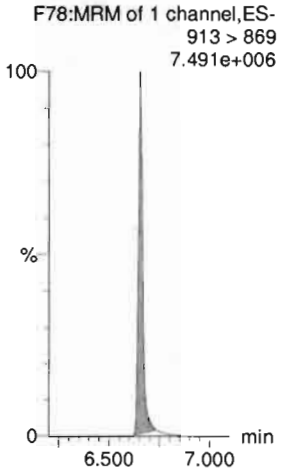
N-EtFOSA



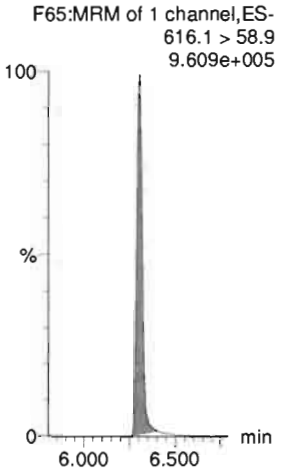
PFHxDA



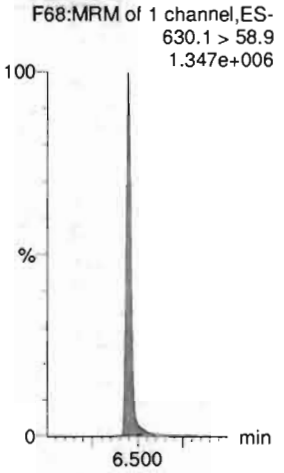
PFODA



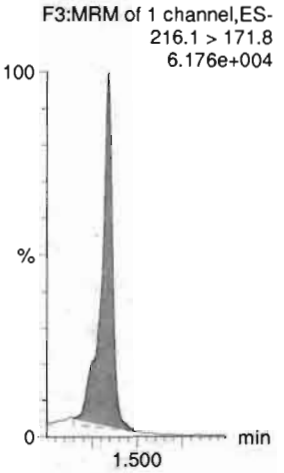
N-MeFOSE



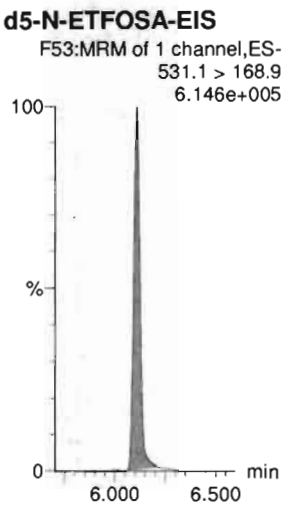
N-EtFOSE



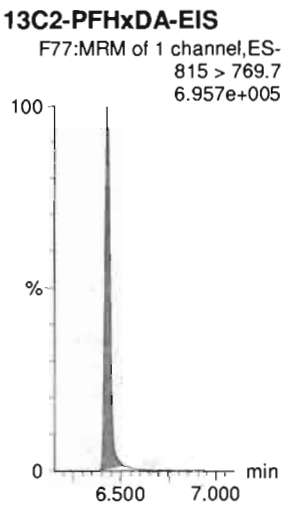
13C3-PFBA-RSD



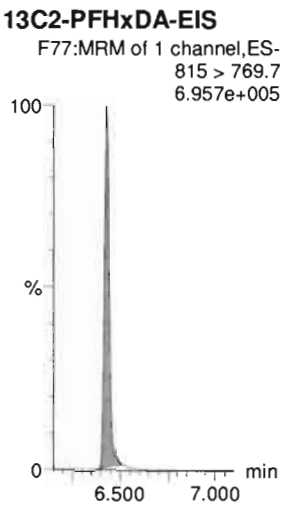
d5-N-ETFOSA-EIS



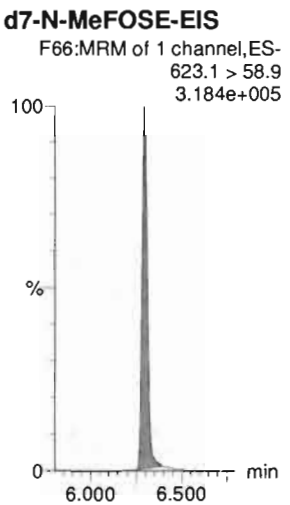
13C2-PFHxDA-EIS



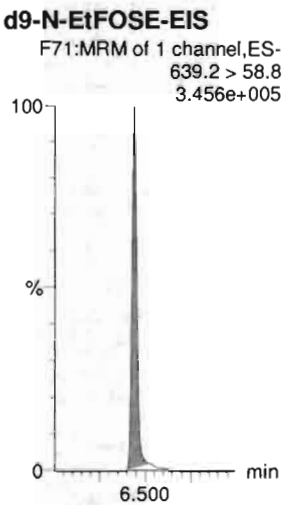
13C2-PFHxDA-EIS



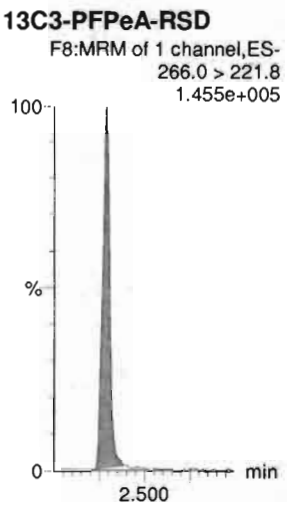
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

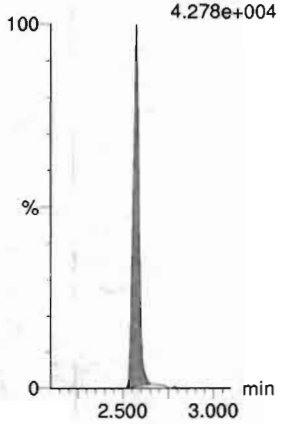


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

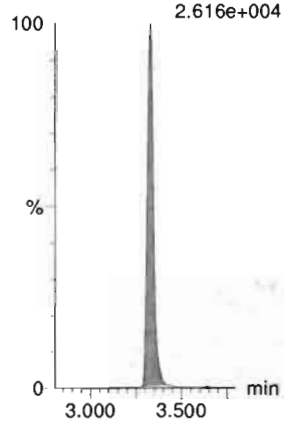
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

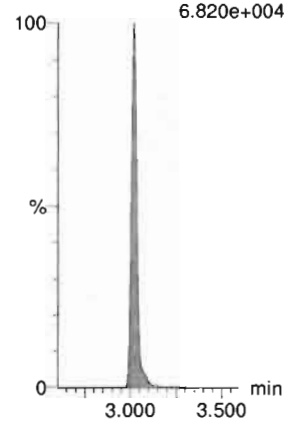
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.278e+004



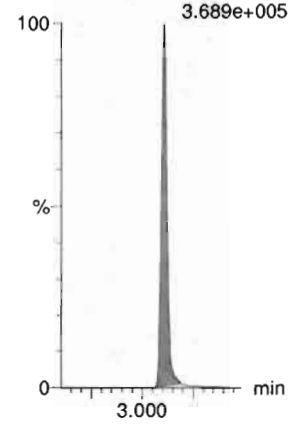
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.616e+004



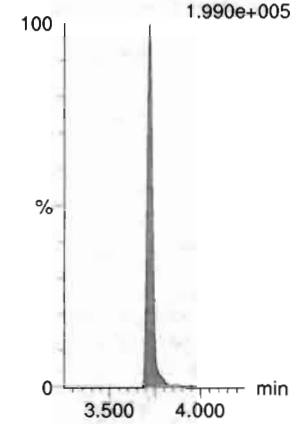
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.820e+004



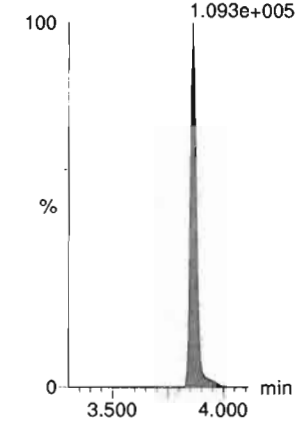
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.689e+005



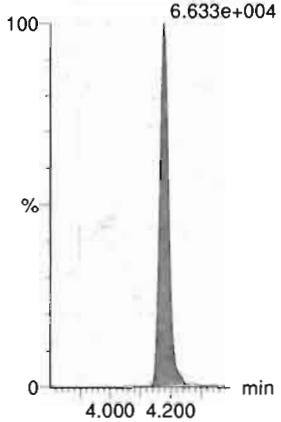
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.990e+005



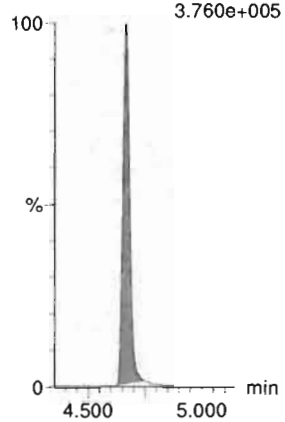
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.093e+005



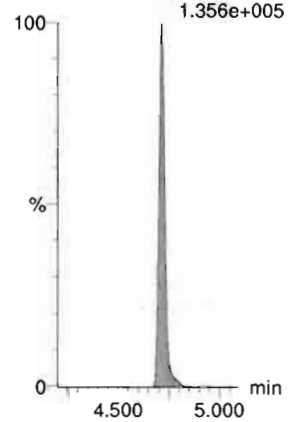
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.633e+004



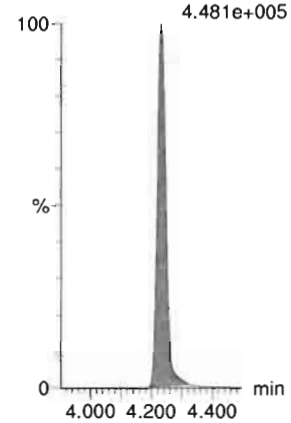
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.760e+005



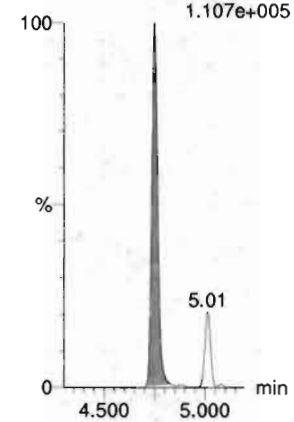
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.356e+005



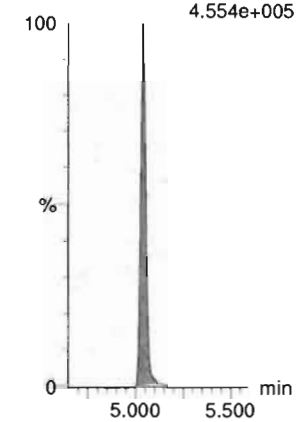
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.481e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.107e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.554e+005

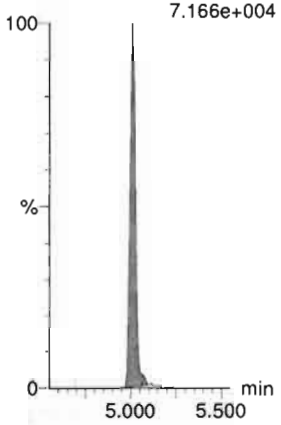


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

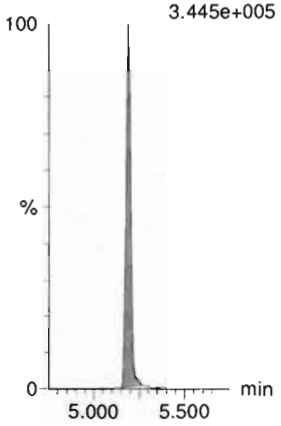
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

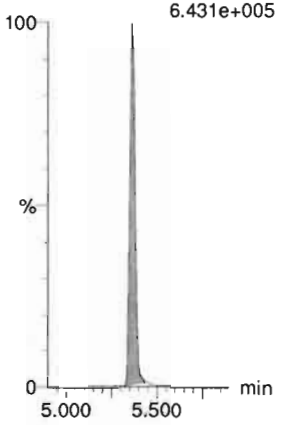
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.166e+004



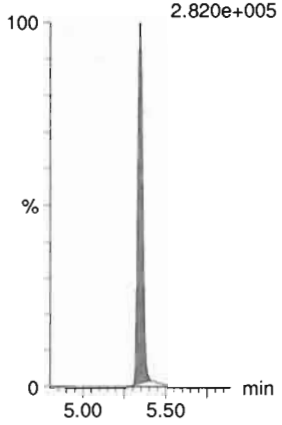
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.445e+005



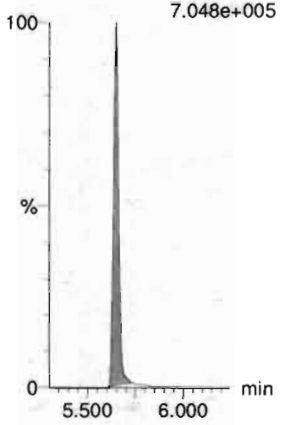
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.431e+005



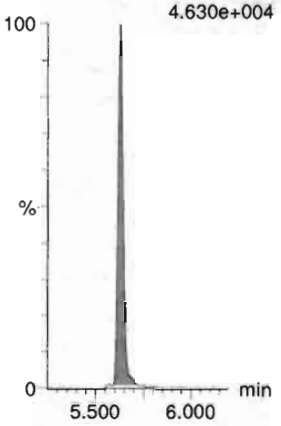
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.820e+005



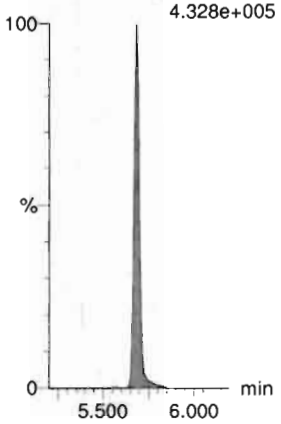
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.048e+005



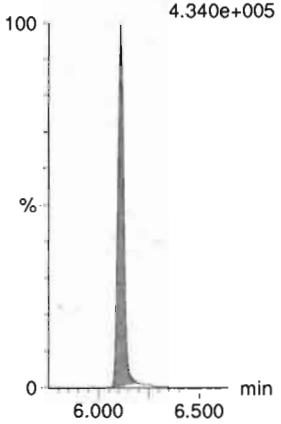
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.630e+004



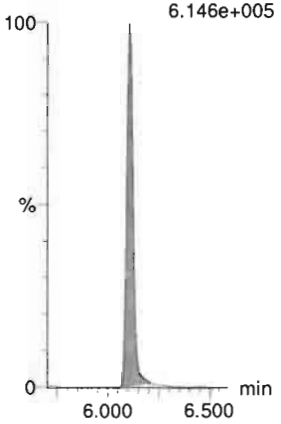
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.328e+005



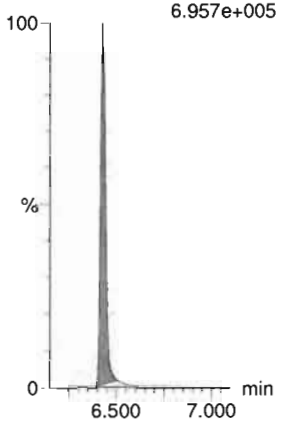
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.340e+005



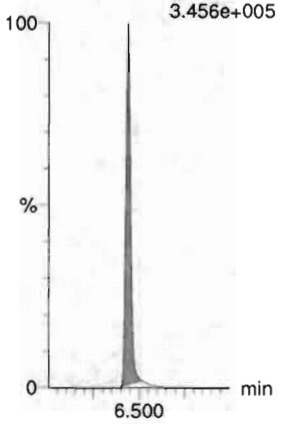
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.146e+005



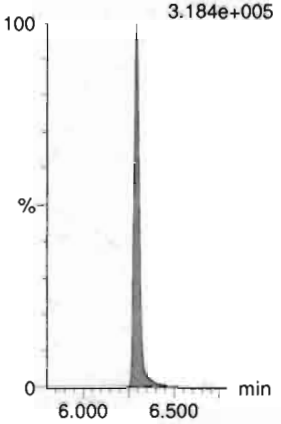
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.957e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.456e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.184e+005

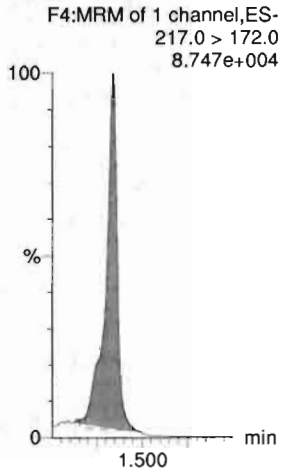


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

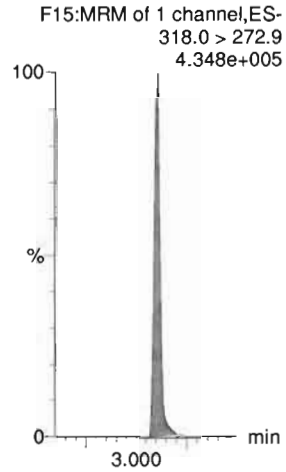
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_10, Date: 10-Jul-2020, Time: 09:28:20, ID: ST200710M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

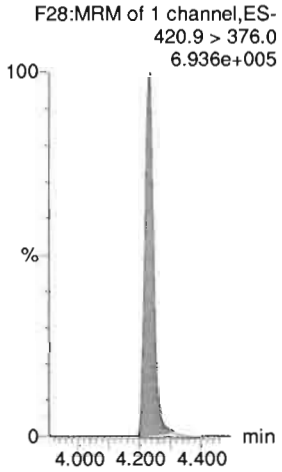
13C4-PFBA



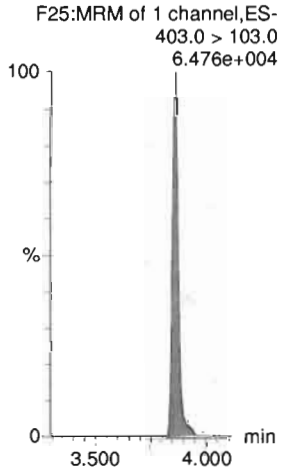
13C5-PFHxA



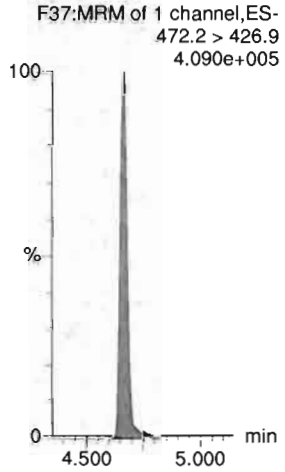
13C8-PFOA



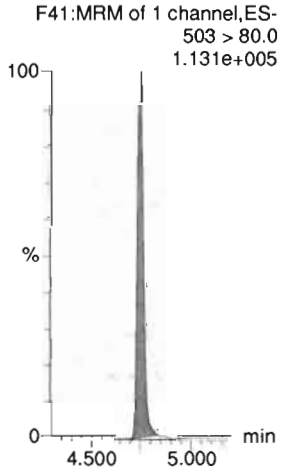
18O2-PFHxS



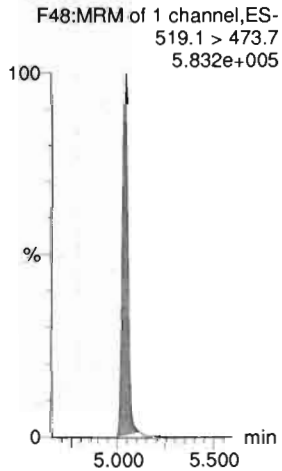
13C9-PFNA



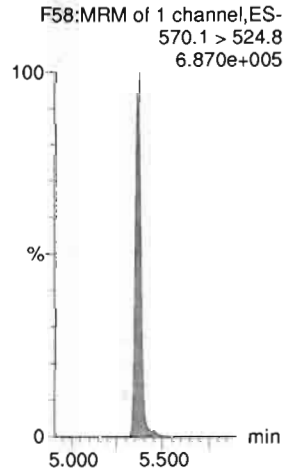
13C4-PFOS



13C6-PFDA



13C7-PFUdA

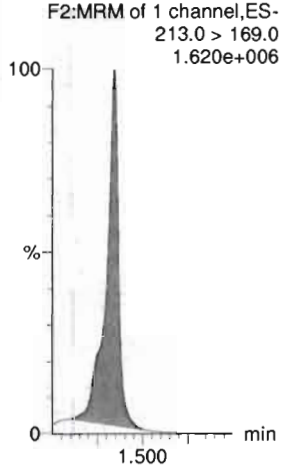


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

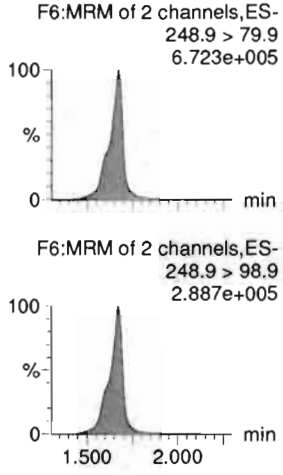
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

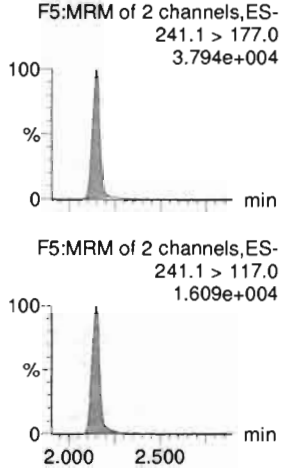
PFBA



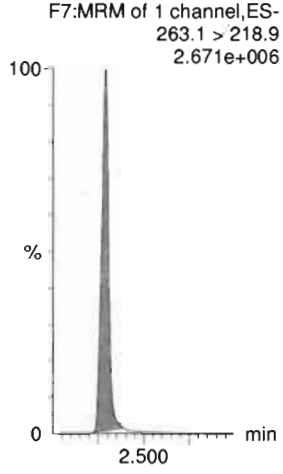
PFPrS



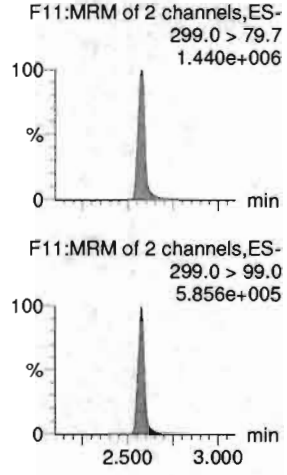
3:3 FTCA



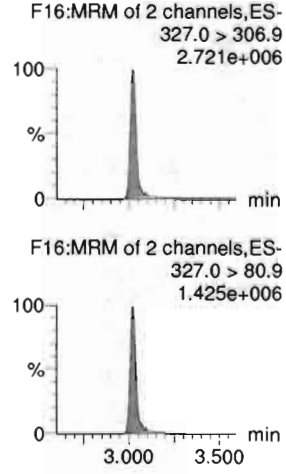
PFPeA



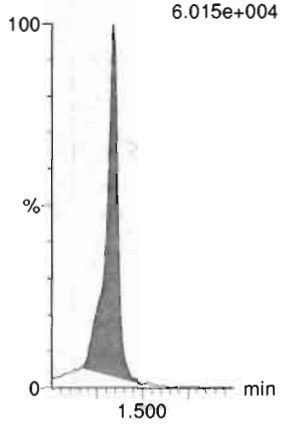
PFBS



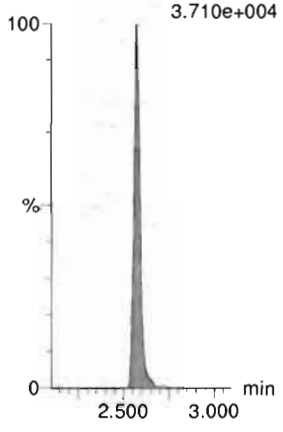
4:2 FTS



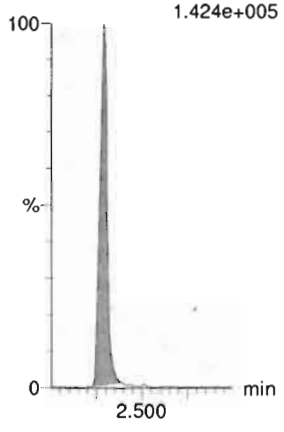
13C3-PFBA-EIS



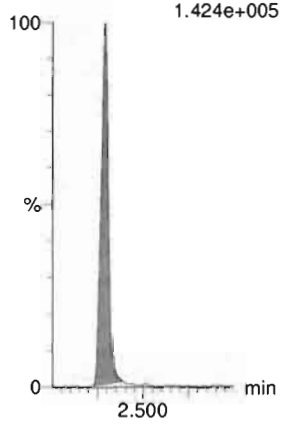
13C3-PFBS-EIS



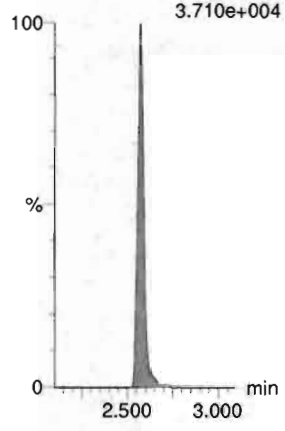
13C3-PFPeA-EIS



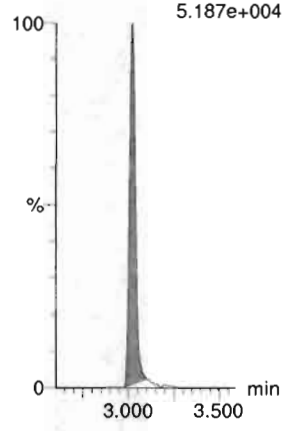
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

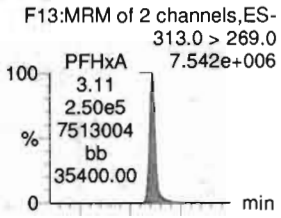


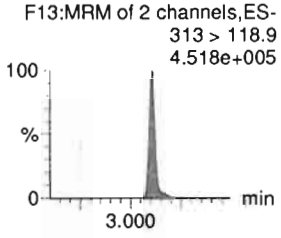
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

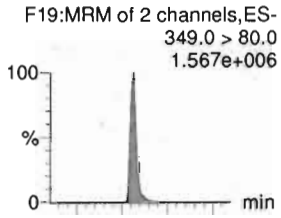
Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

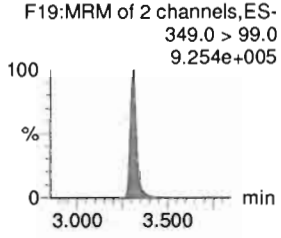
PFHxA



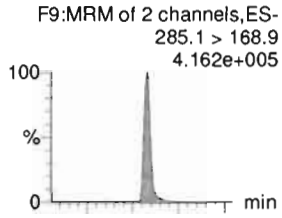


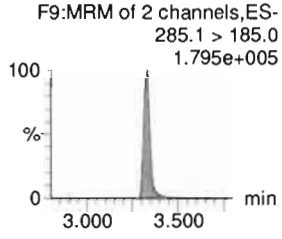
PFPeS



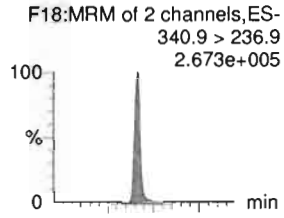


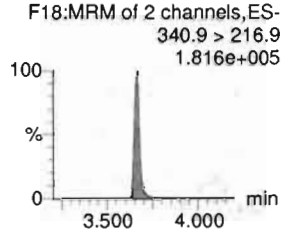
HFPO-DA



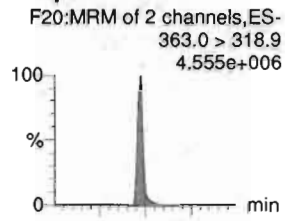


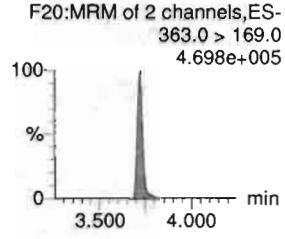
5:3 FTCA



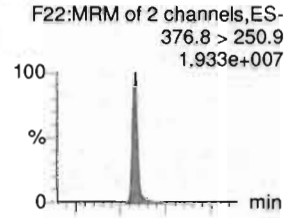


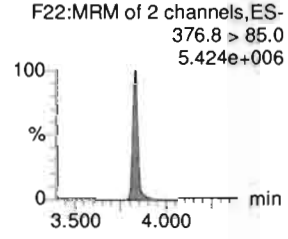
PFHpA



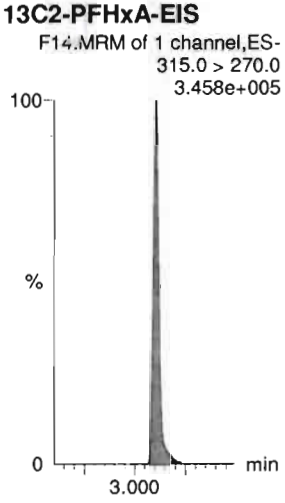


ADONA

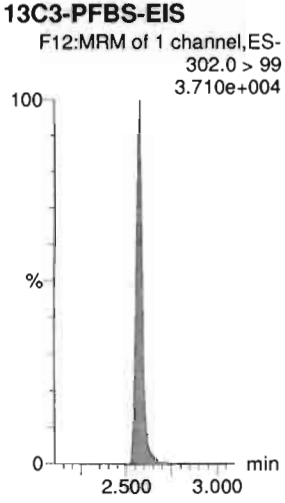




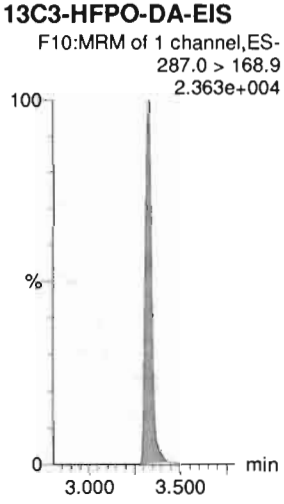
13C2-PFHxA-EIS



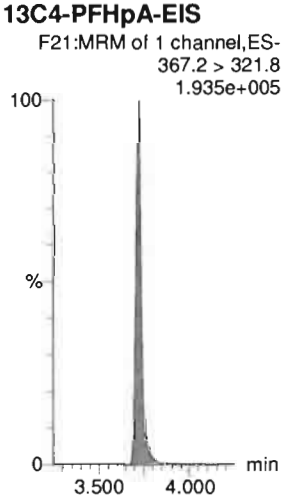
13C3-PFBS-EIS



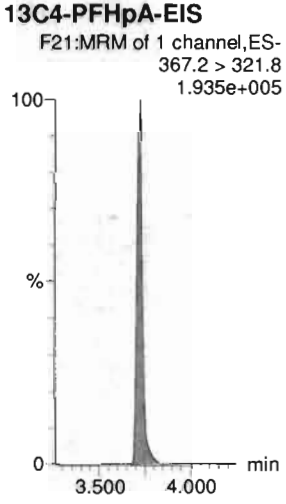
13C3-HFPO-DA-EIS



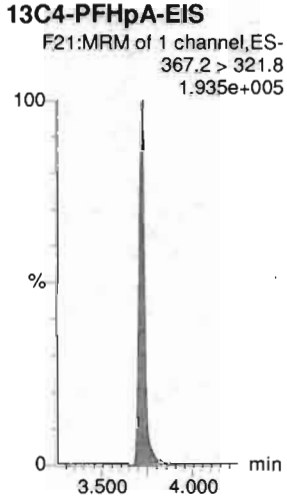
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

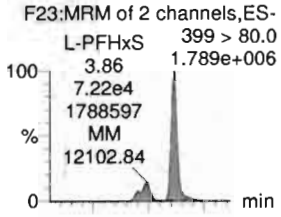


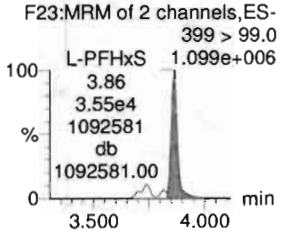
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

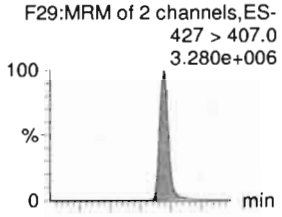
Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

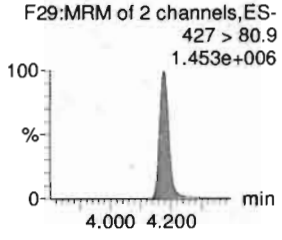
L-PFHxS



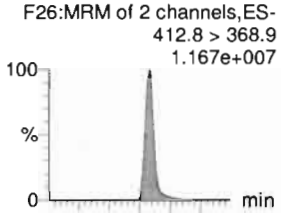


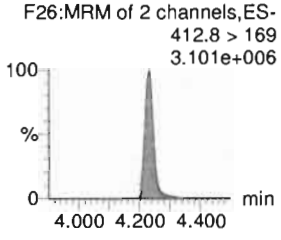
6:2 FTS



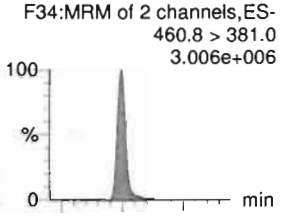


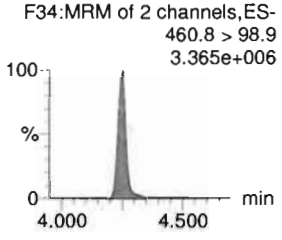
L-PFOA



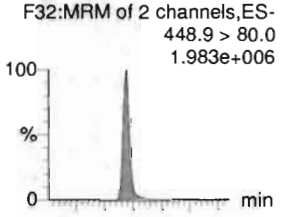


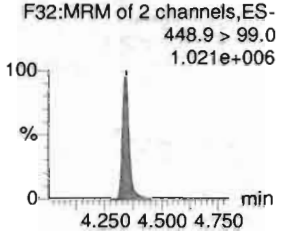
PFEChS



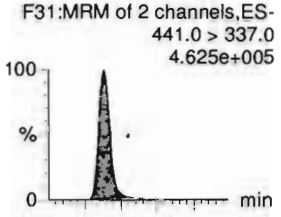


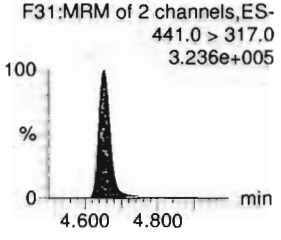
PFHpS



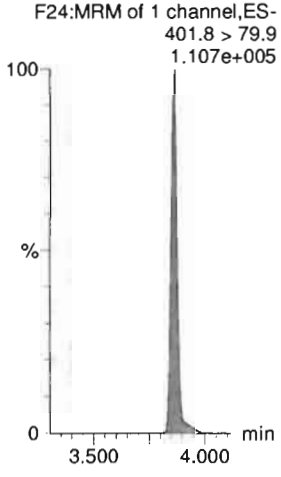


7:3 FTCA

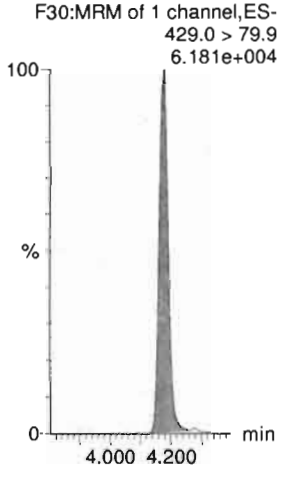




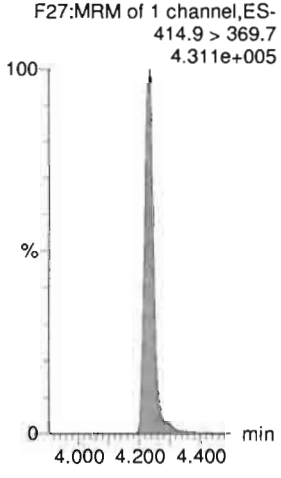
13C3-PFHxS-EIS



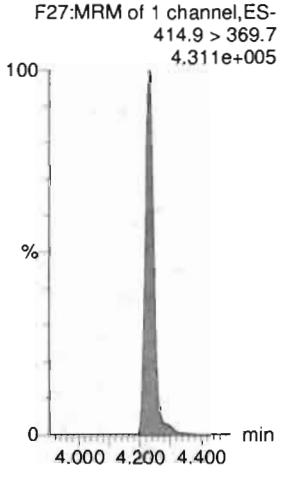
13C2-6:2 FTS-EIS



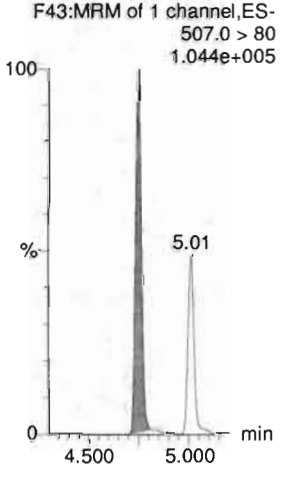
13C2-PFOA-EIS



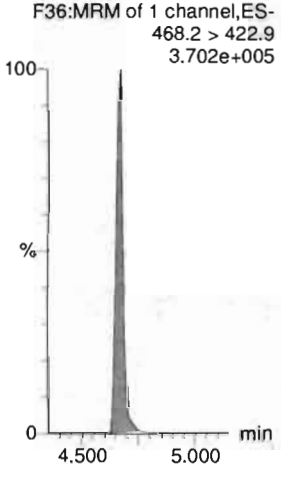
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

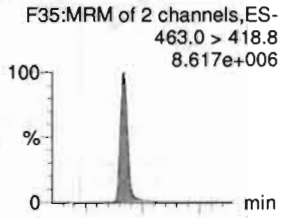


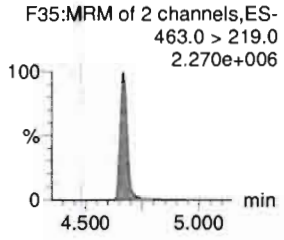
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

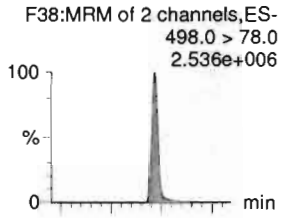
Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

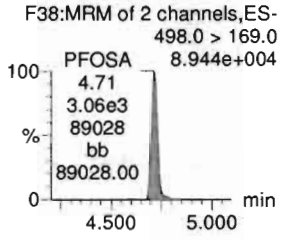
PFNA



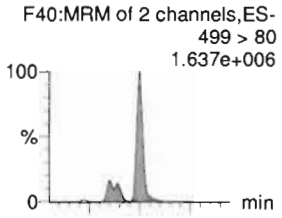


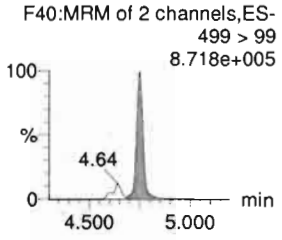
PFOSA



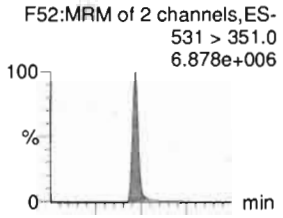


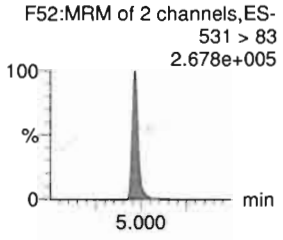
L-PFOS



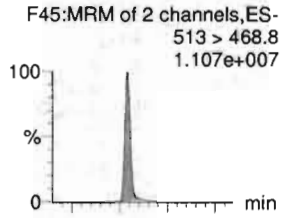


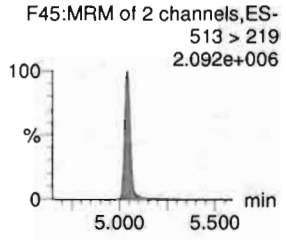
9Cl-PF30NS



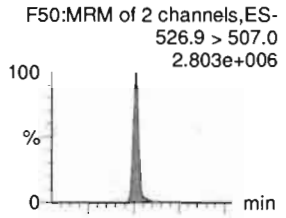


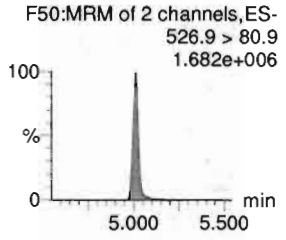
PFDA



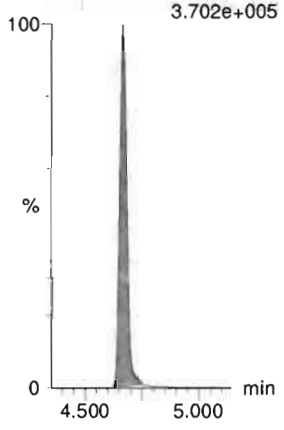


8:2 FTS

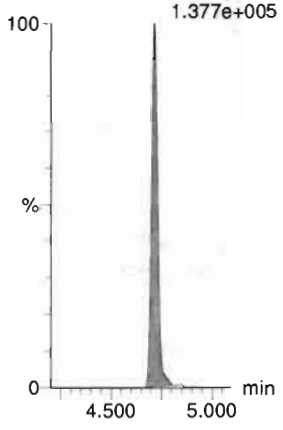




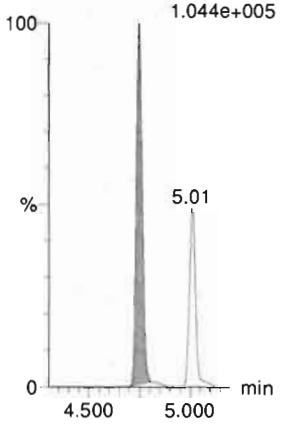
13C5-PFNA-EIS



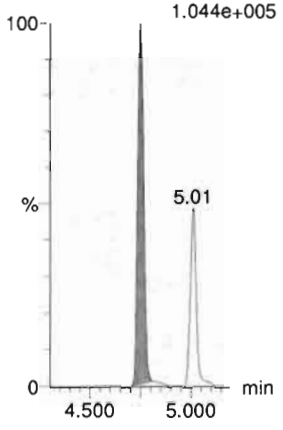
13C8-PFOSA-EIS



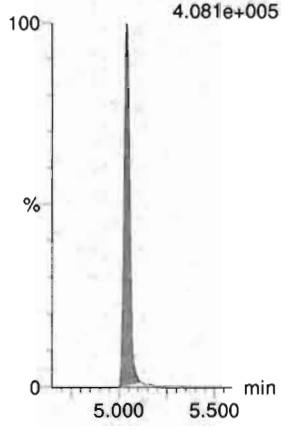
13C8-PFOS-EIS



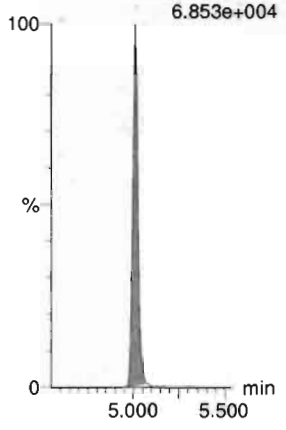
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

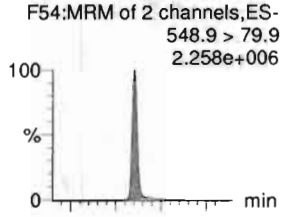


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

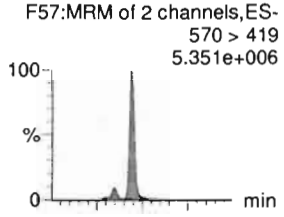
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

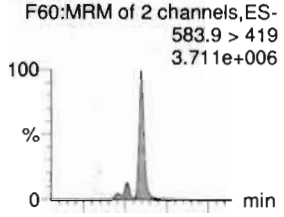
PFNS



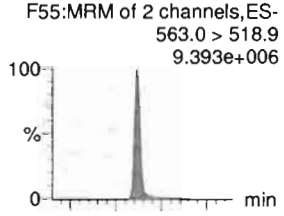
L-MeFOSAA



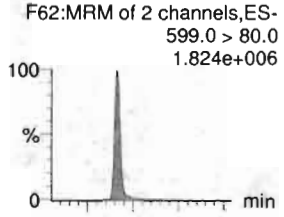
L-EtFOSAA



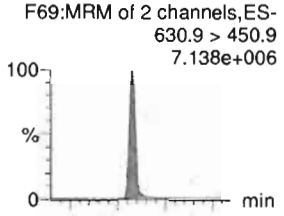
PFUdA

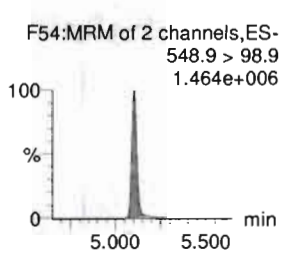


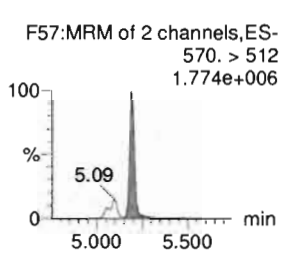
PFDS

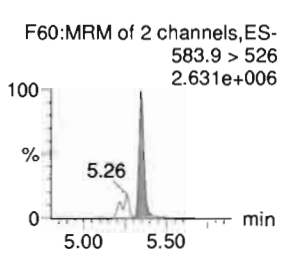


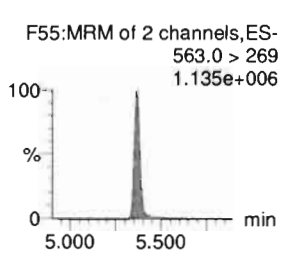
11Cl-PF30UdS

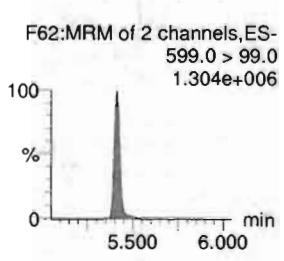


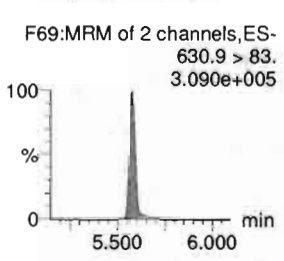




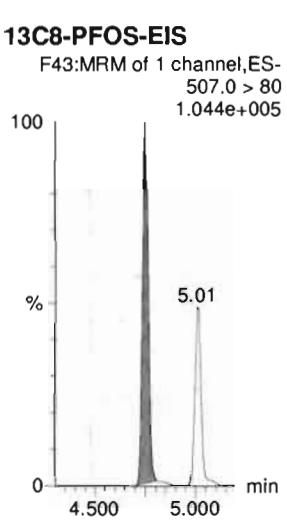




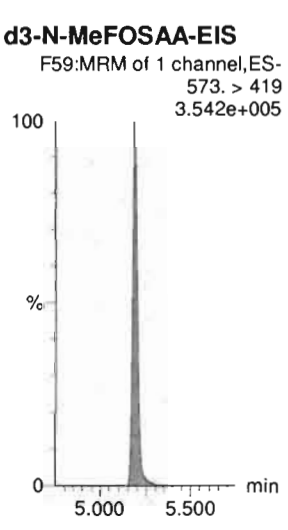




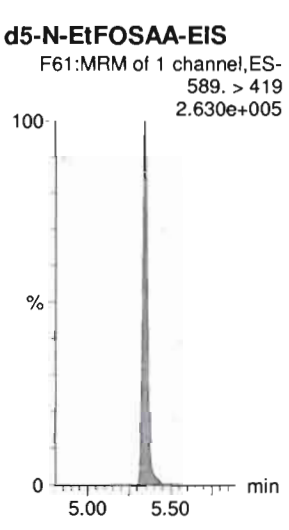
13C8-PFOS-EIS



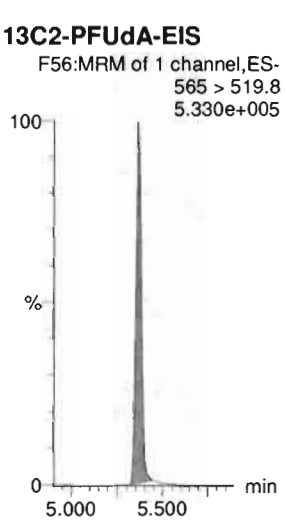
d3-N-MeFOSAA-EIS



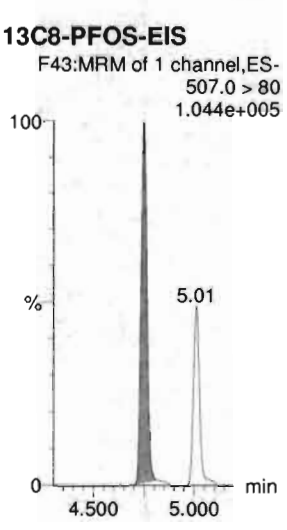
d5-N-EtFOSAA-EIS



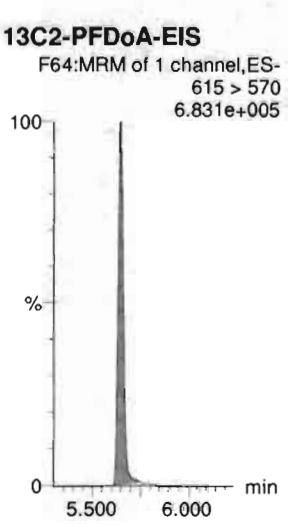
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

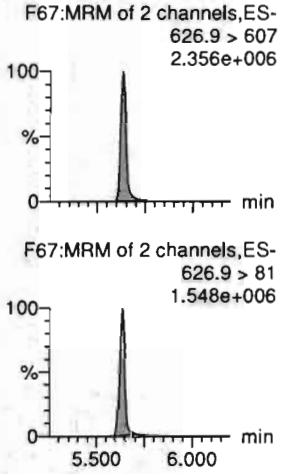


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

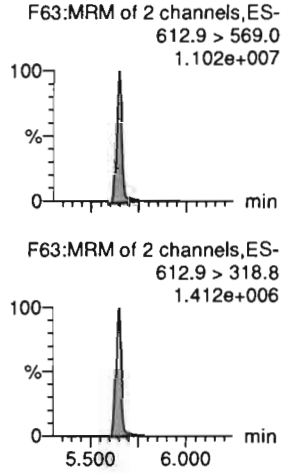
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

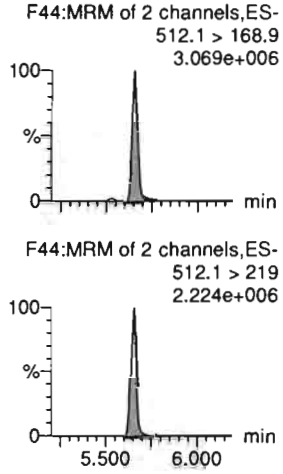
10:2 FTS



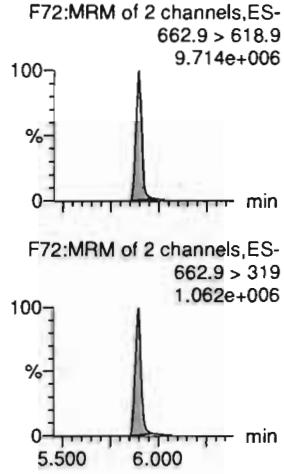
PFDoA



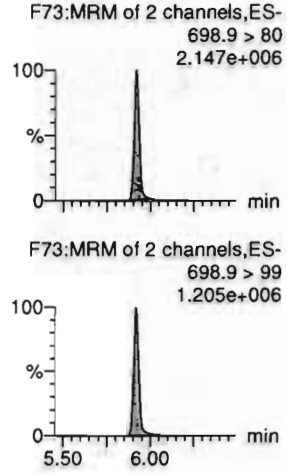
N-MeFOSA



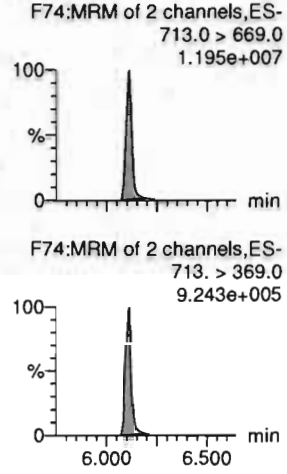
PFTrDA



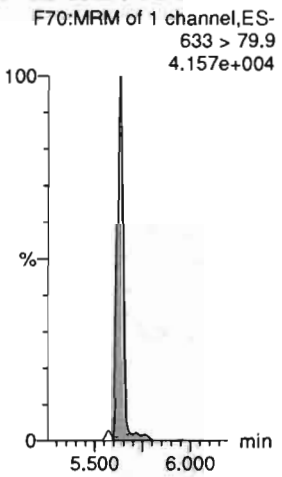
PFDoS



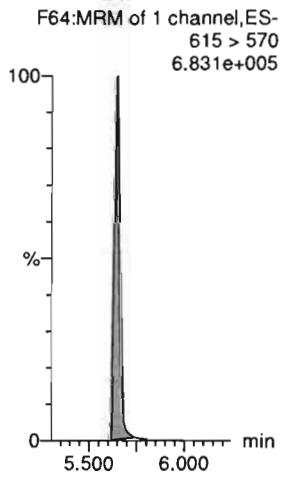
PFTeDA



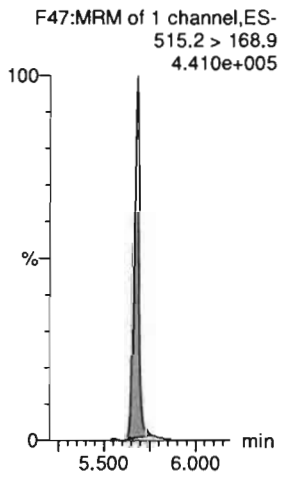
13C2-10:2 FTS-EIS



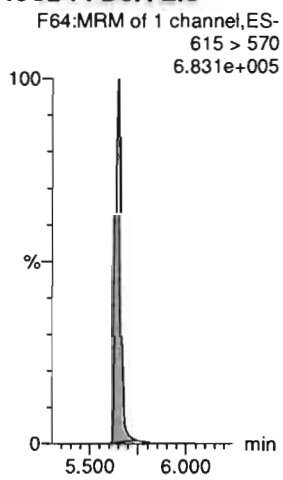
13C2-PFDoA-EIS



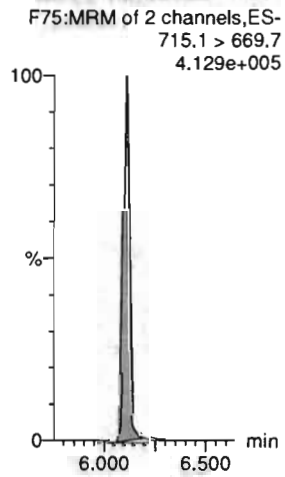
d3-N-MeFOSA-EIS



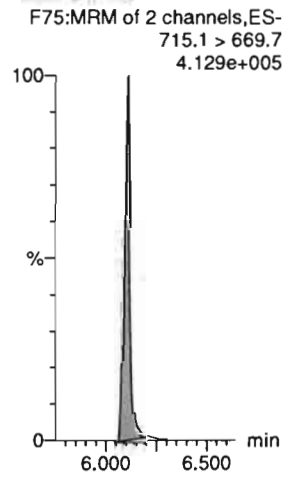
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

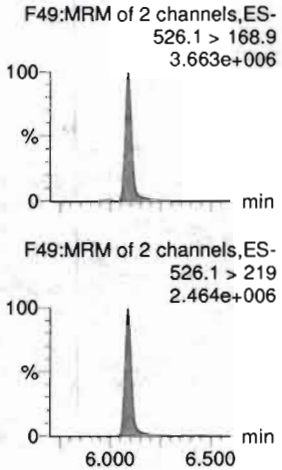


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

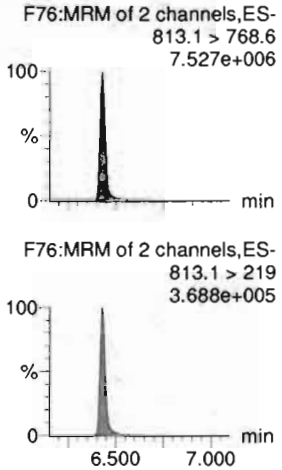
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

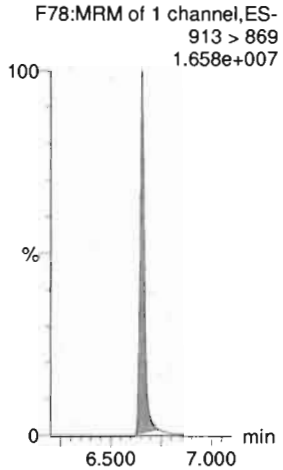
N-EtFOSA



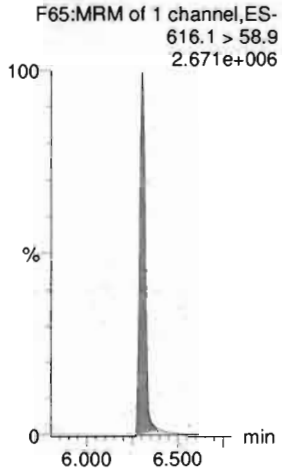
PFHxDA



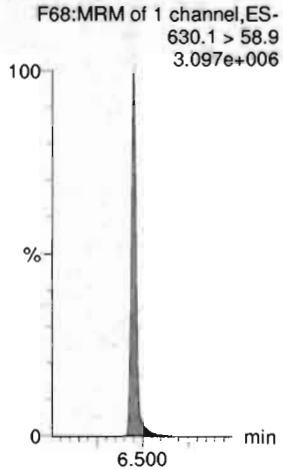
PFODA



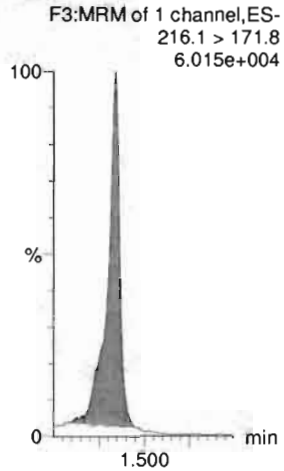
N-MeFOSE



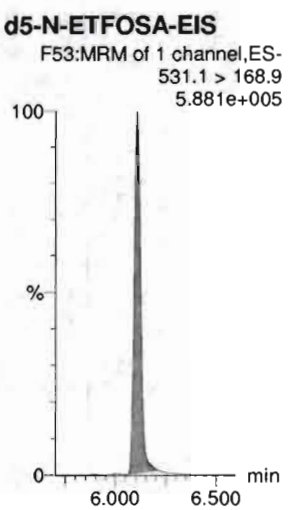
N-EtFOSE



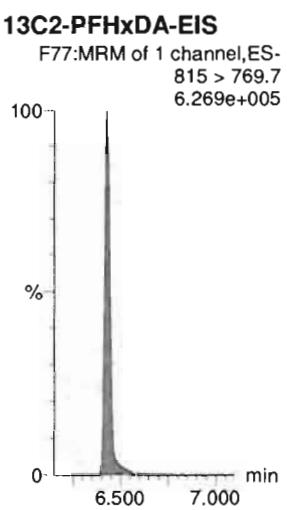
13C3-PFBA-RSD



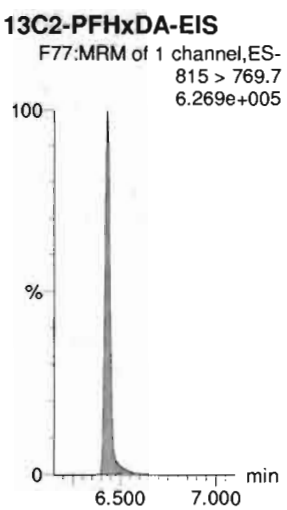
d5-N-ETFOSA-EIS



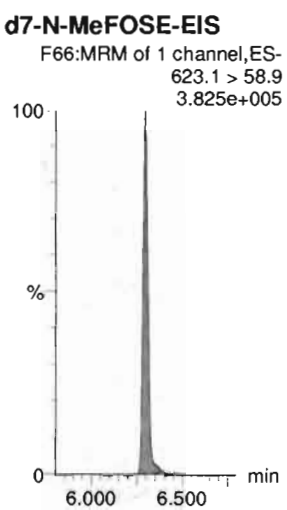
13C2-PFHxDA-EIS



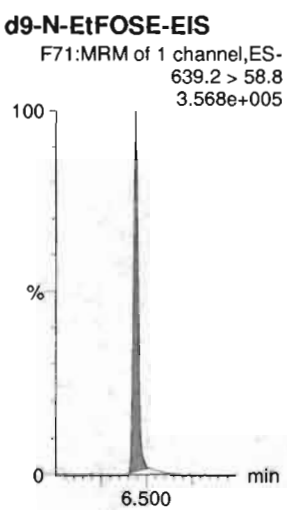
13C2-PFHxDA-EIS



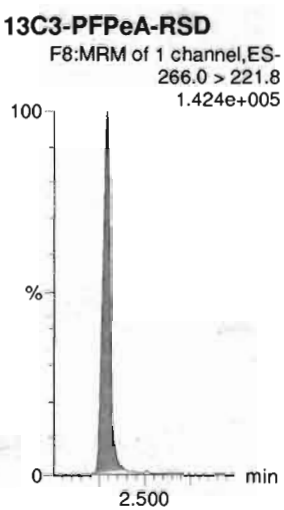
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

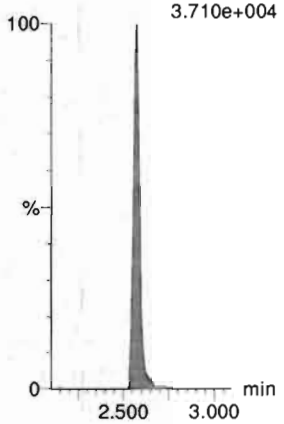


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

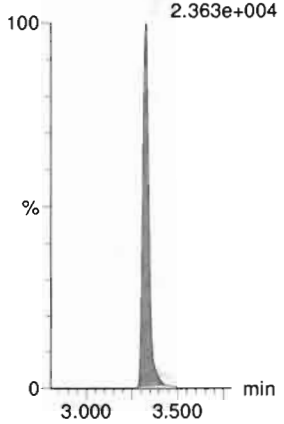
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

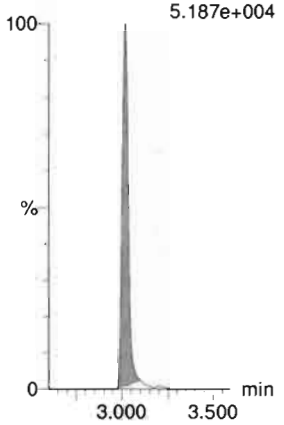
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.710e+004



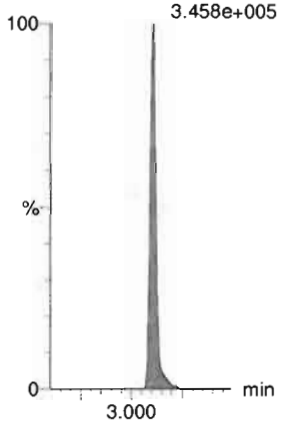
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.363e+004



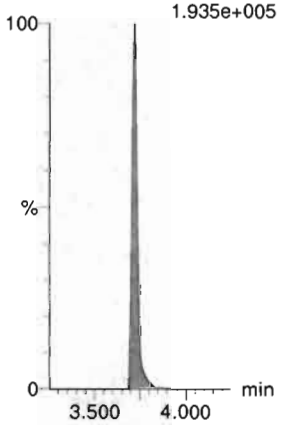
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
5.187e+004



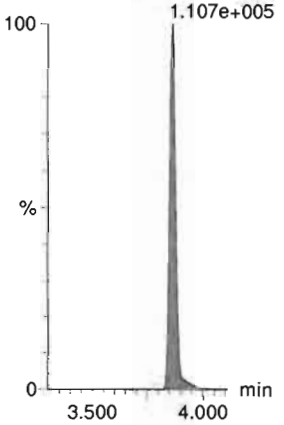
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.458e+005



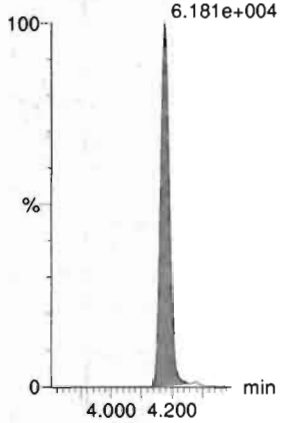
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.935e+005



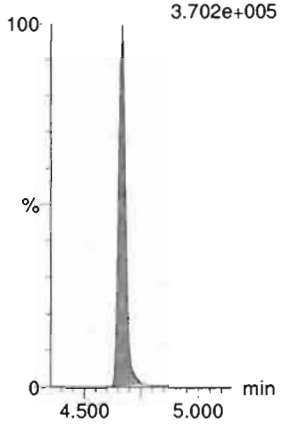
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.107e+005



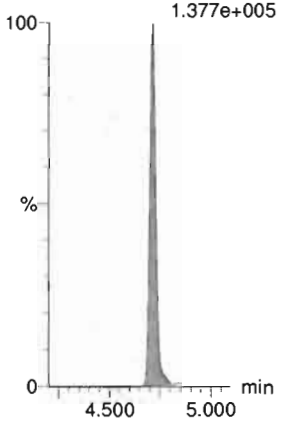
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.181e+004



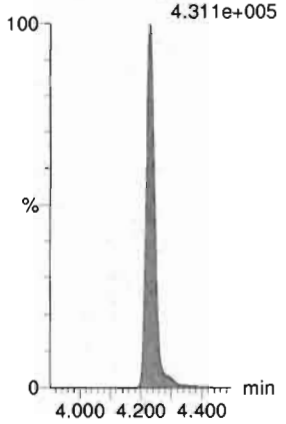
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.702e+005



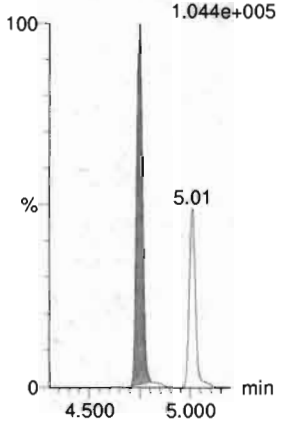
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.377e+005



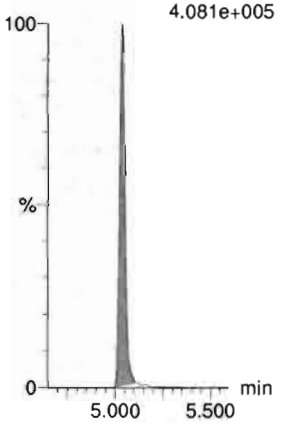
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.311e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.044e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
4.081e+005

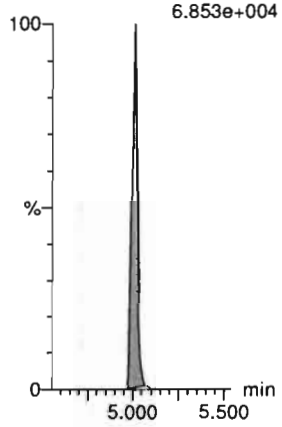


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

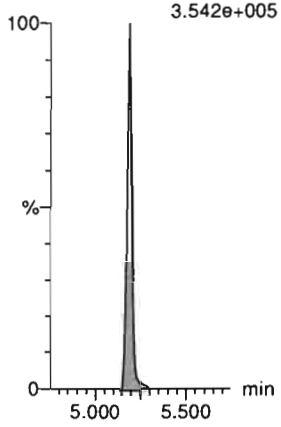
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

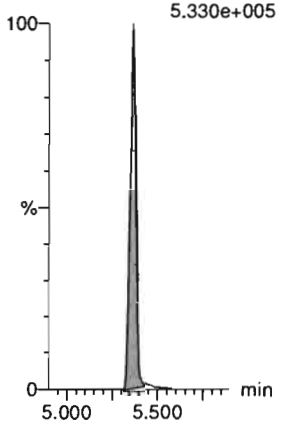
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.853e+004



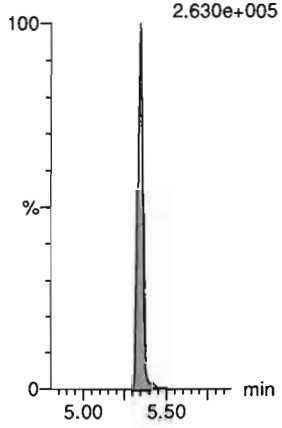
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.542e+005



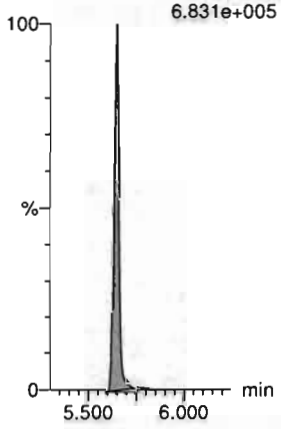
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.330e+005



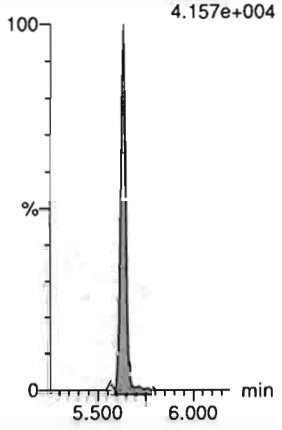
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.630e+005



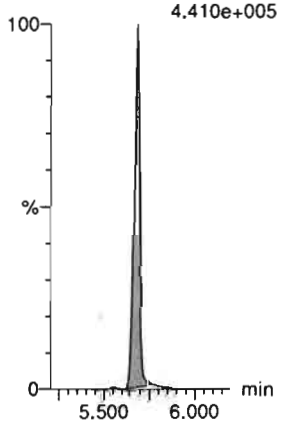
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
6.831e+005



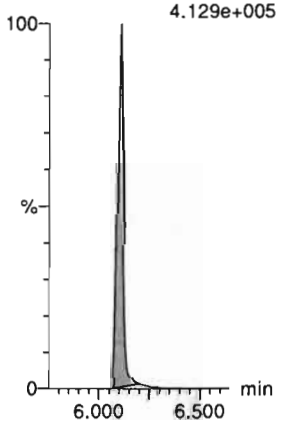
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.157e+004



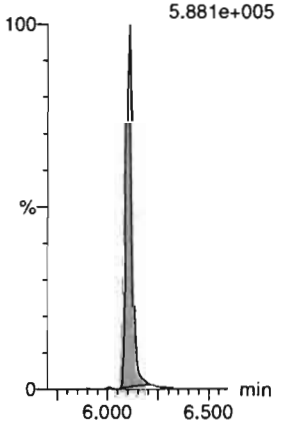
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.410e+005



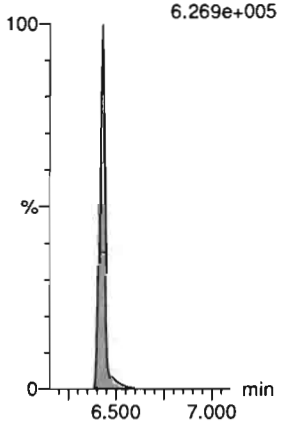
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.129e+005



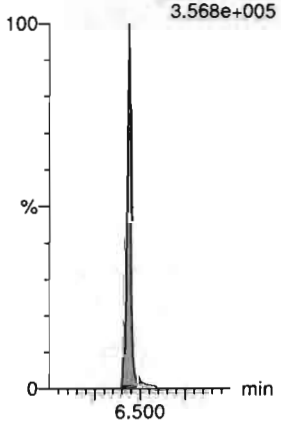
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.881e+005



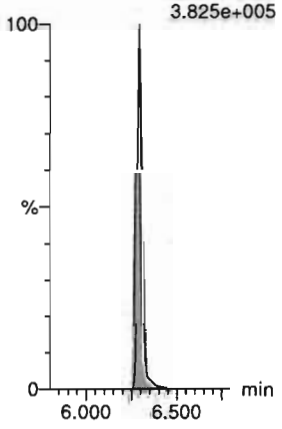
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.269e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.568e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.825e+005

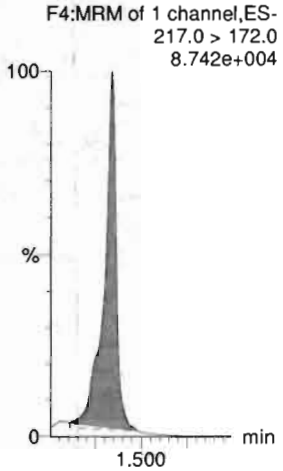


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

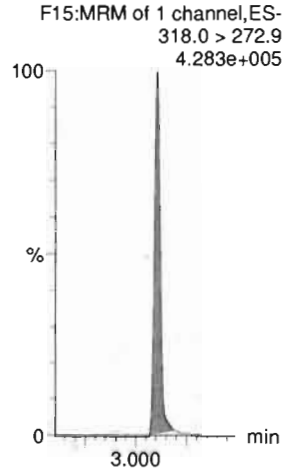
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_11, Date: 10-Jul-2020, Time: 09:38:42, ID: ST200710M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

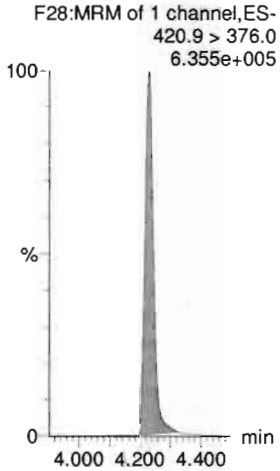
13C4-PFBA



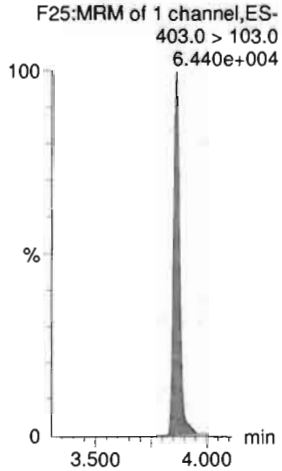
13C5-PFHxA



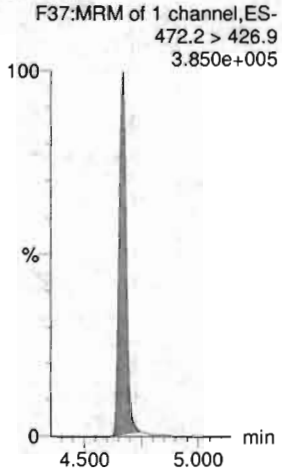
13C8-PFOA



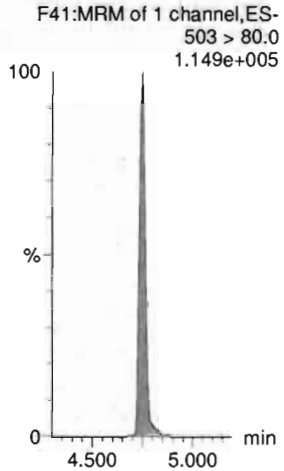
18O2-PFHxS



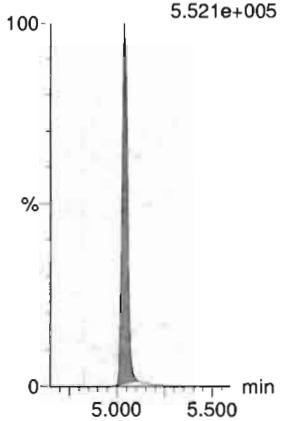
13C9-PFNA



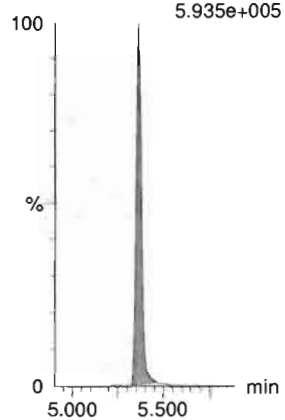
13C4-PFOS



13C6-PFDA



13C7-PFUdA

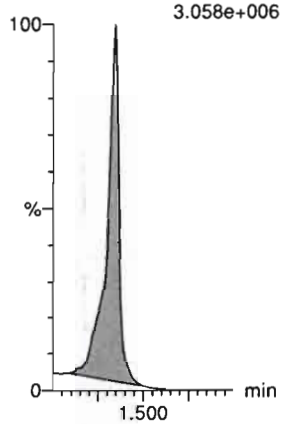


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

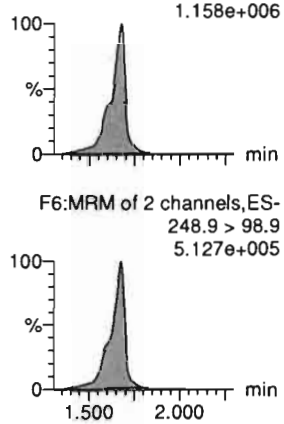
Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

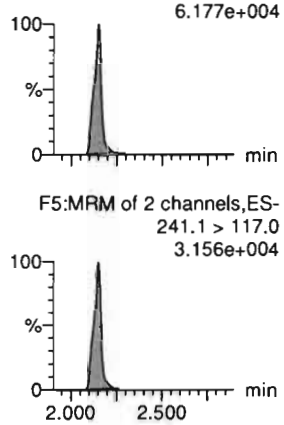
PFBA



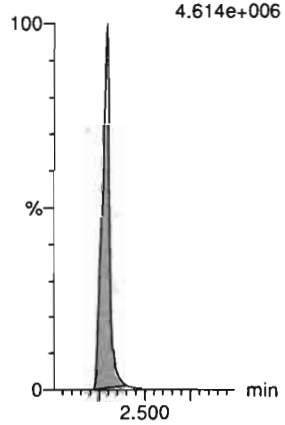
PFPrS



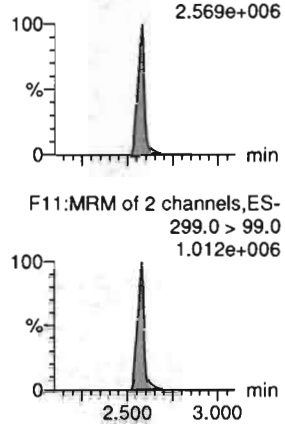
3:3 FTCA



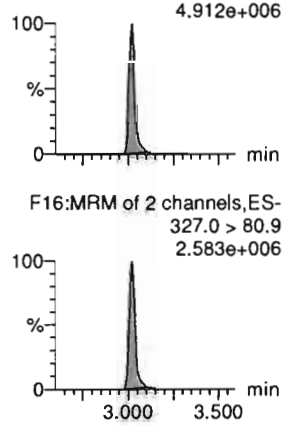
PFPeA



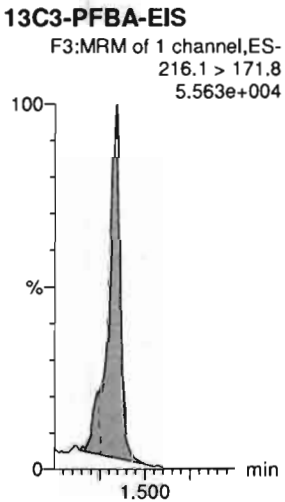
PFBS



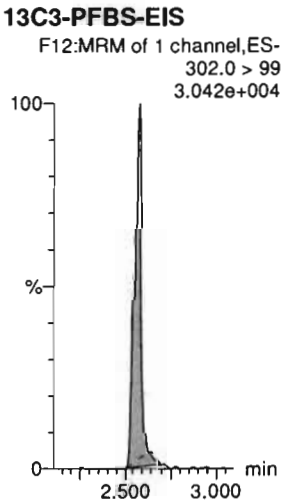
4:2 FTS



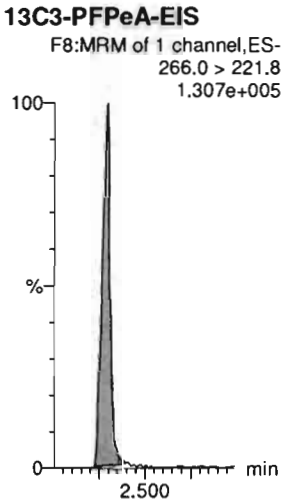
13C3-PFBA-EIS



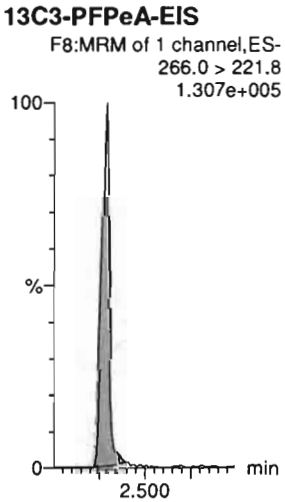
13C3-PFBS-EIS



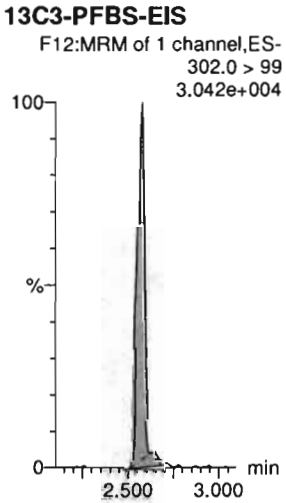
13C3-PFPeA-EIS



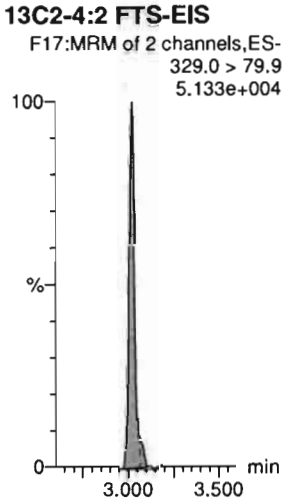
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

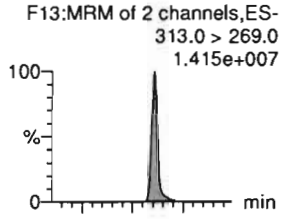


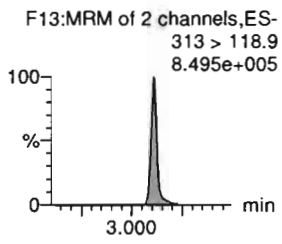
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 14:02:09 Pacific Daylight Time
Printed: Friday, July 10, 2020 14:02:26 Pacific Daylight Time

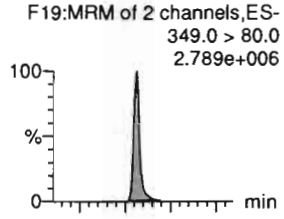
Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

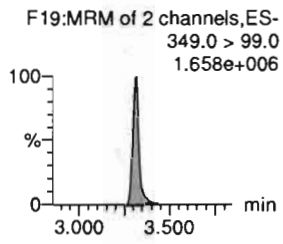
PFHxA



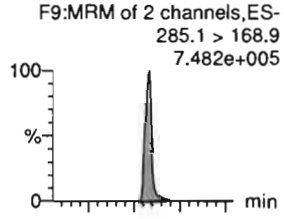


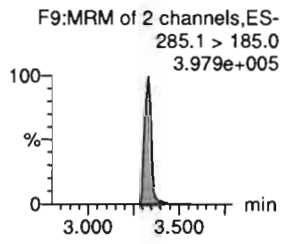
PFPeS



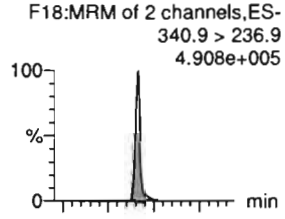


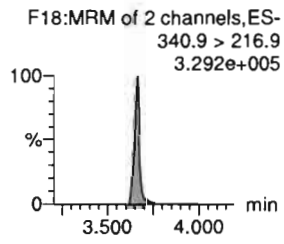
HFPO-DA



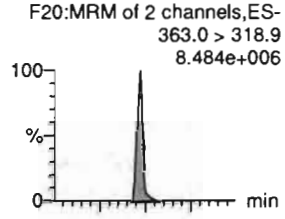


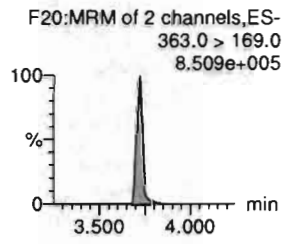
5:3 FTCA



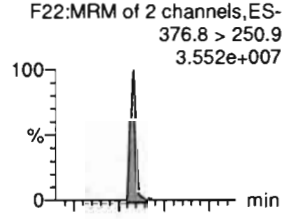


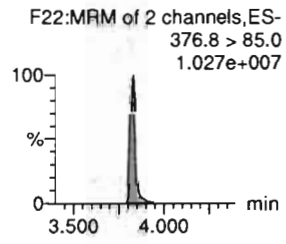
PFHpA



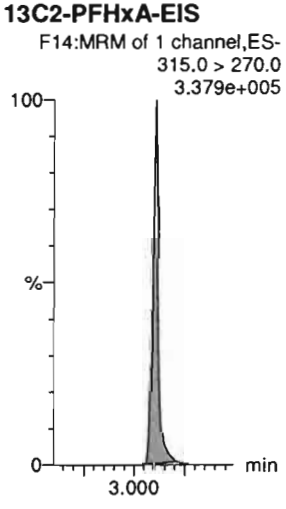


ADONA

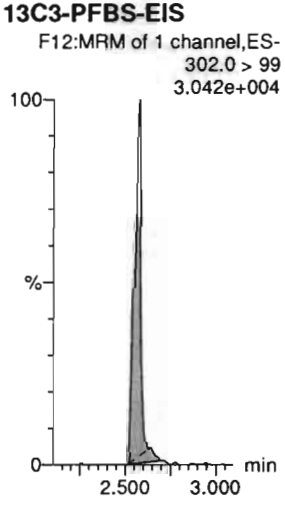




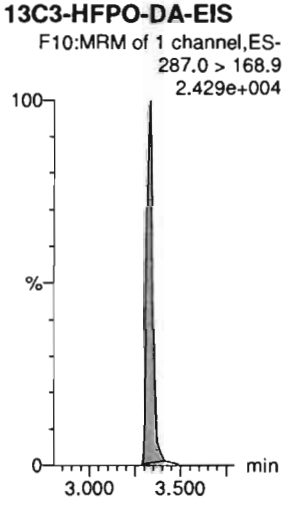
13C2-PFHxA-EIS



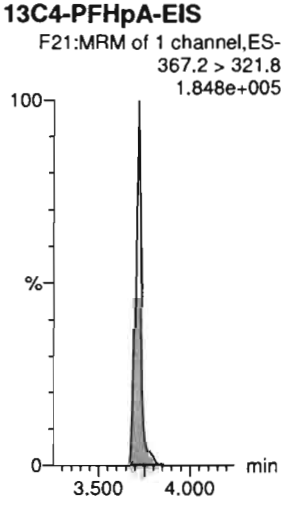
13C3-PFBS-EIS



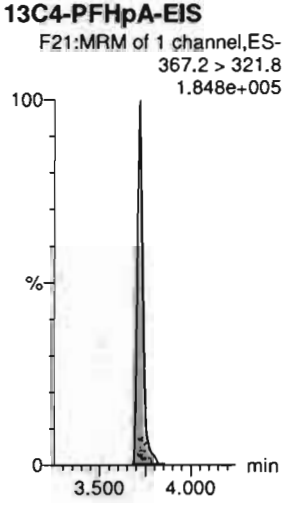
13C3-HFPO-DA-EIS



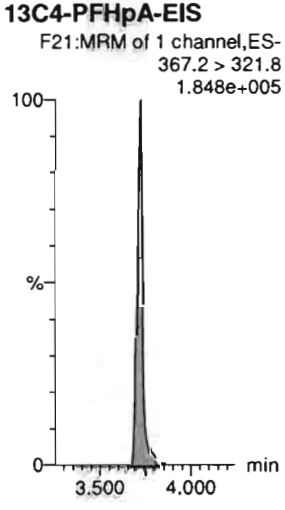
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

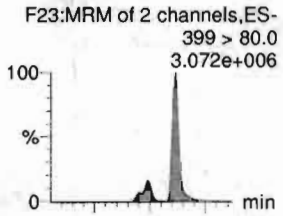


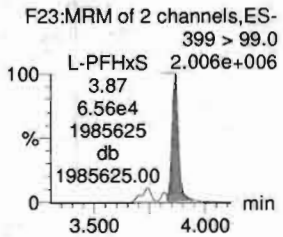
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

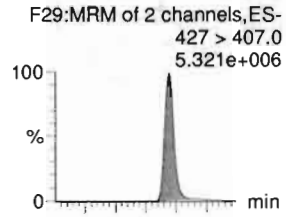
Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

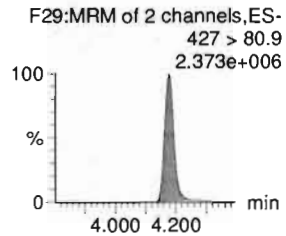
L-PFHxS



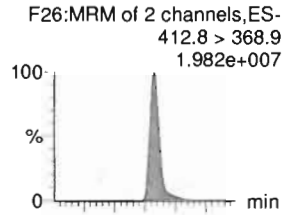


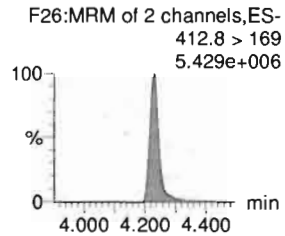
6:2 FTS



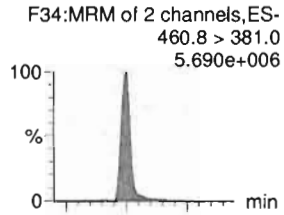


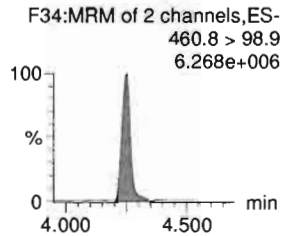
L-PFOA



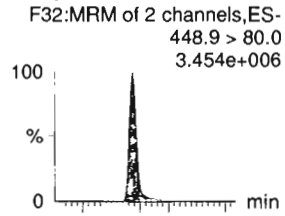


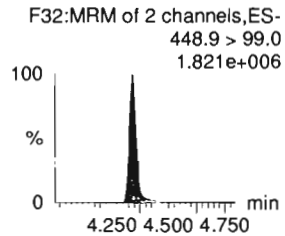
PFEChS



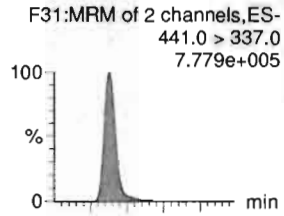


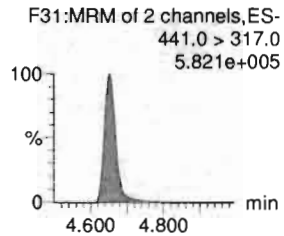
PFHpS



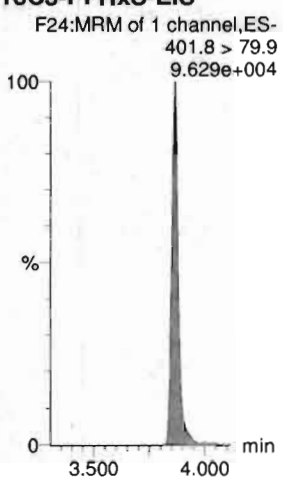


7:3 FTCA

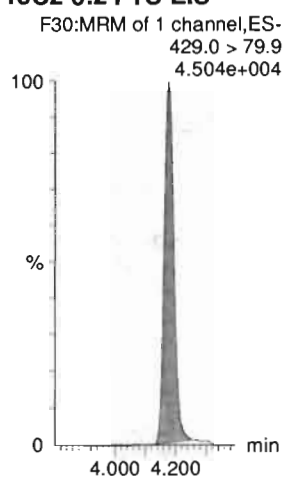




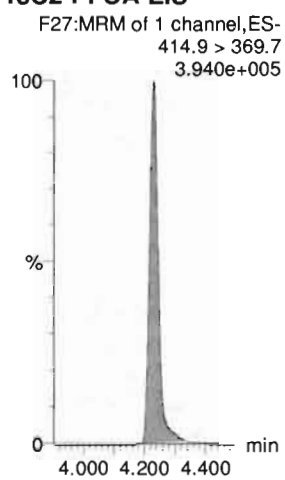
13C3-PFHxS-EIS



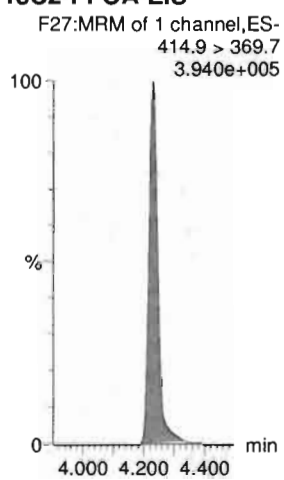
13C2-6:2 FTS-EIS



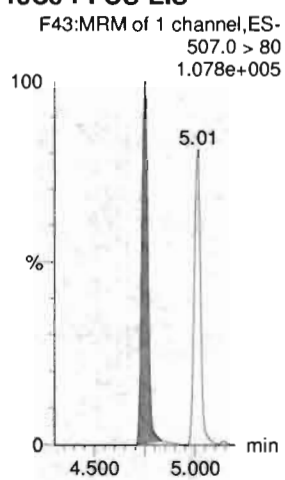
13C2-PFOA-EIS



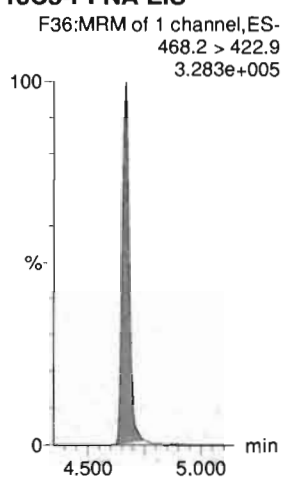
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

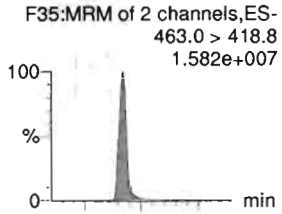


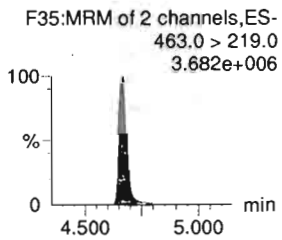
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

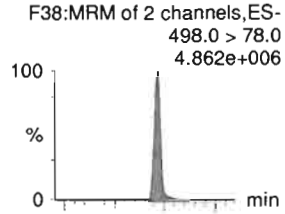
Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

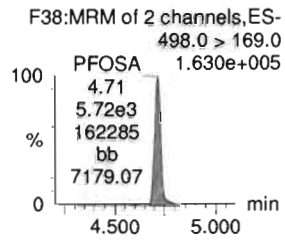
PFNA



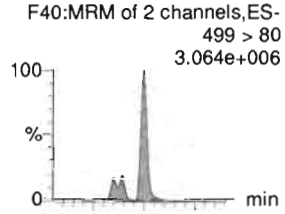


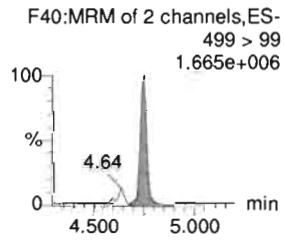
PFOSA



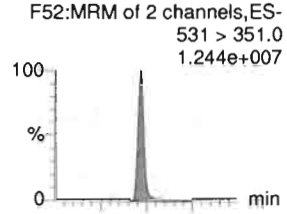


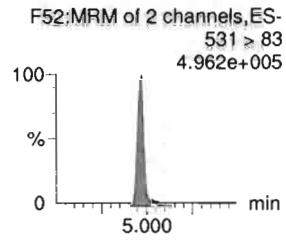
L-PFOS



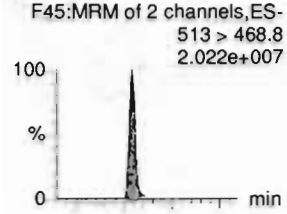


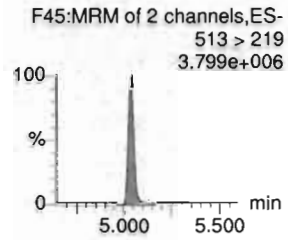
9Cl-PF30NS



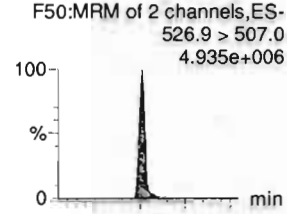


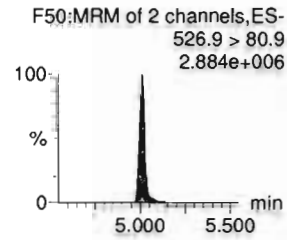
PFDA



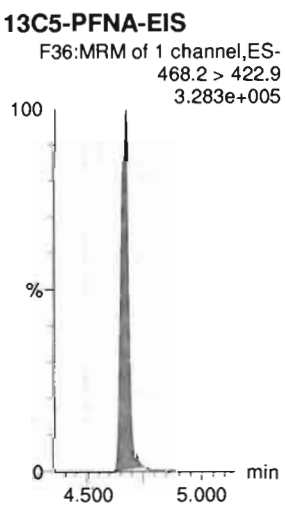


8:2 FTS

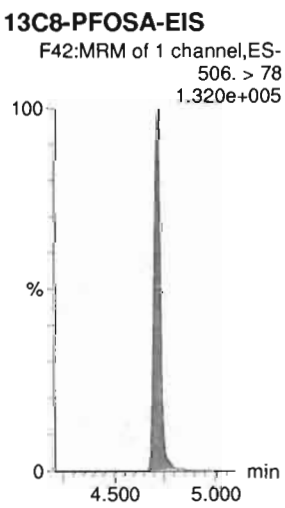




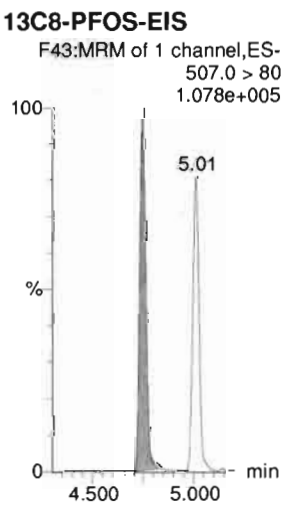
13C5-PFNA-EIS



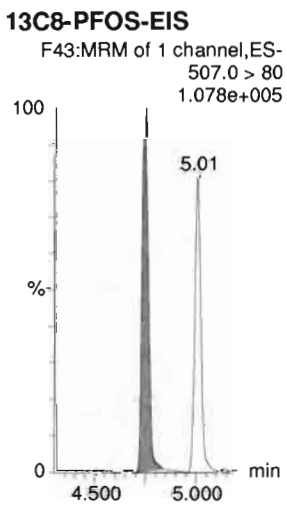
13C8-PFOSA-EIS



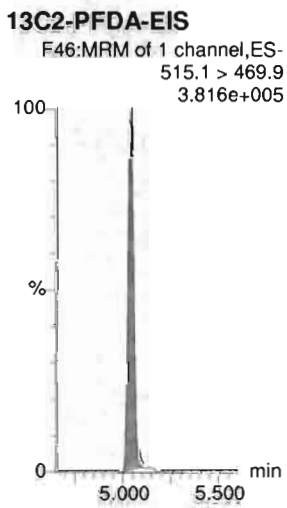
13C8-PFOS-EIS



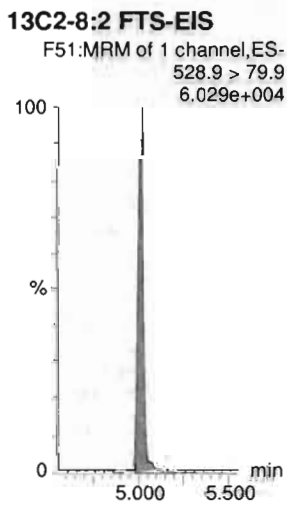
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

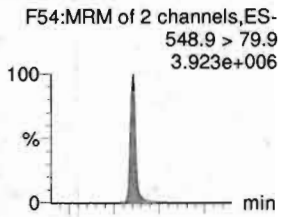


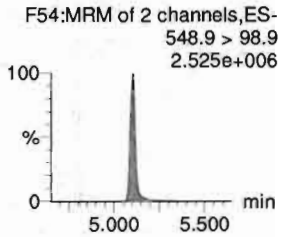
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

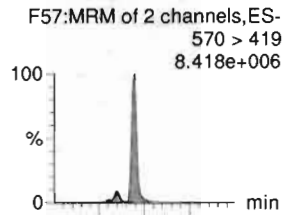
Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

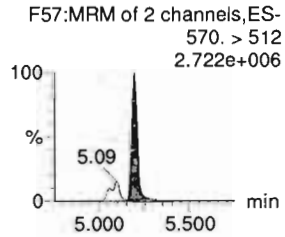
PFNS



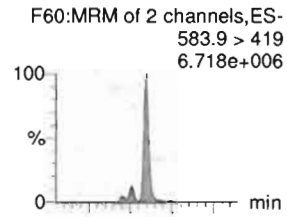


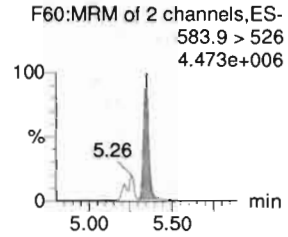
L-MeFOSAA



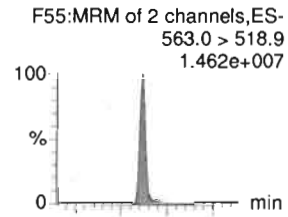


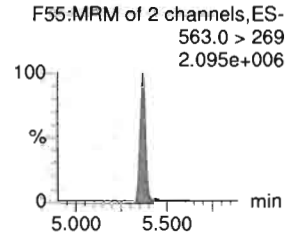
L-EtFOSAA



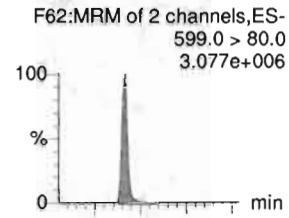


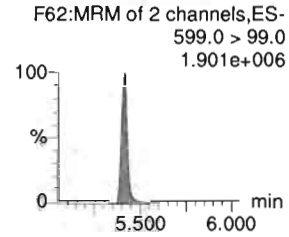
PFUdA



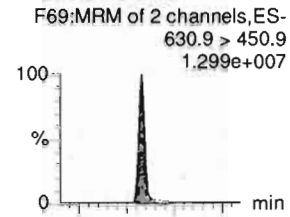


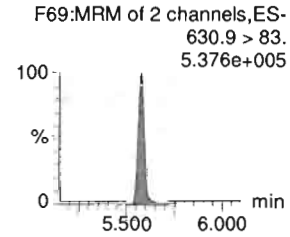
PFDS



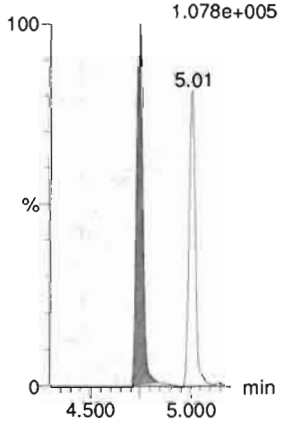


11Cl-PF30UdS

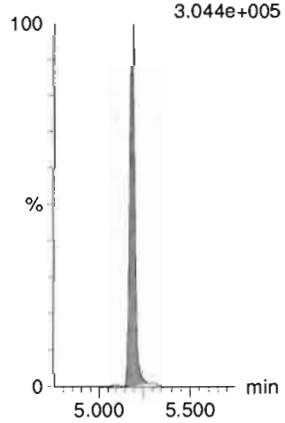




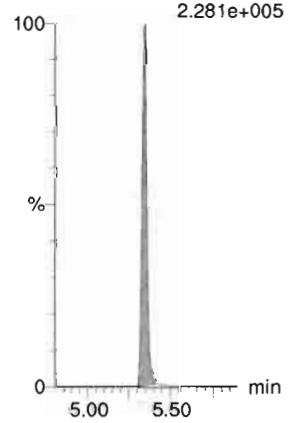
13C8-PFOS-EIS



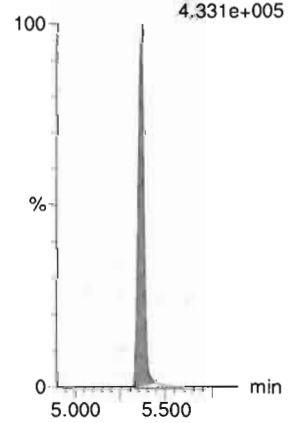
d3-N-MeFOSAA-EIS



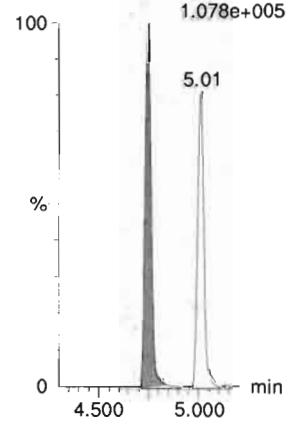
d5-N-EtFOSAA-EIS



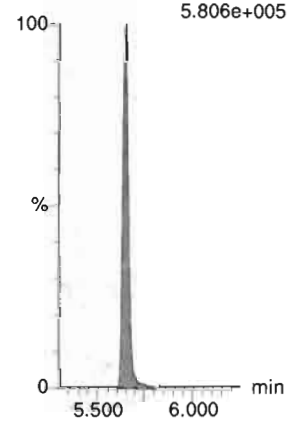
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

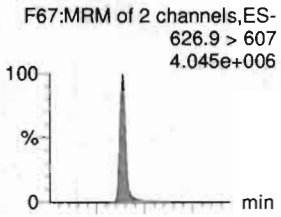


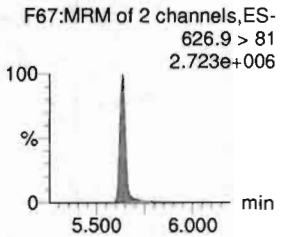
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

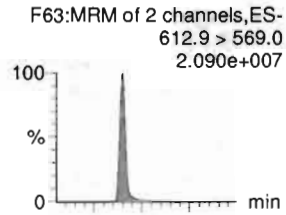
Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

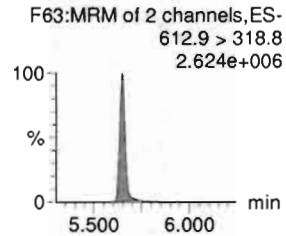
10:2 FTS



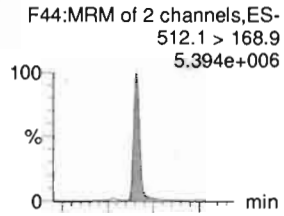


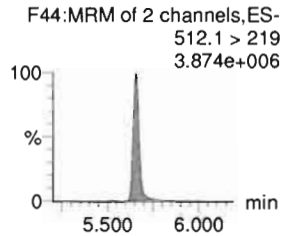
PFDoA



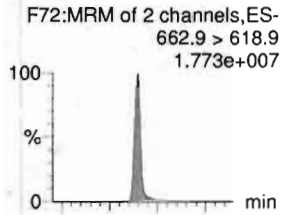


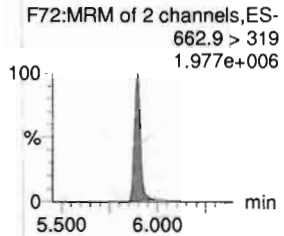
N-MeFOSA



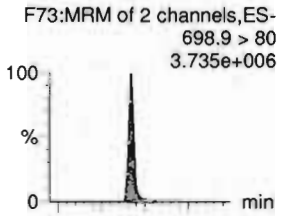


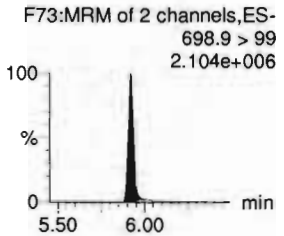
PFTrDA



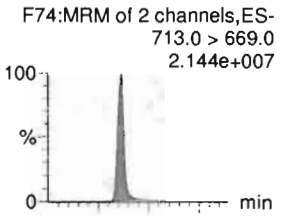


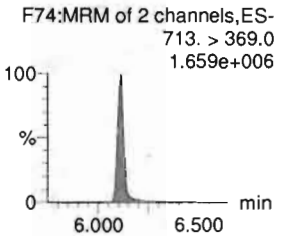
PFDoS



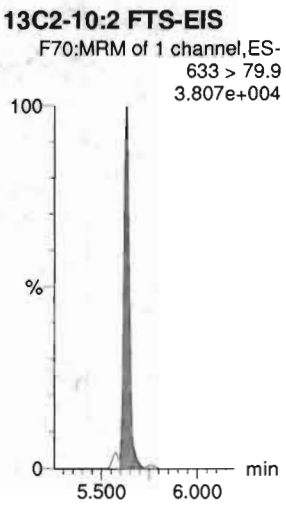


PFTeDA

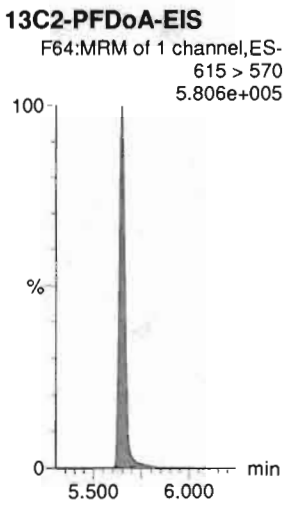




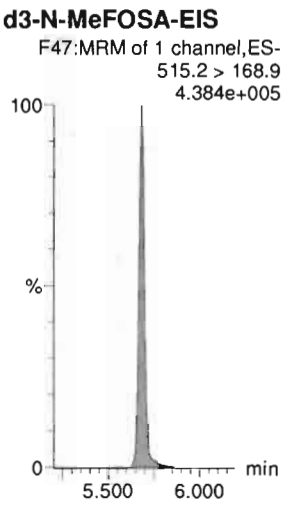
13C2-10:2 FTS-EIS



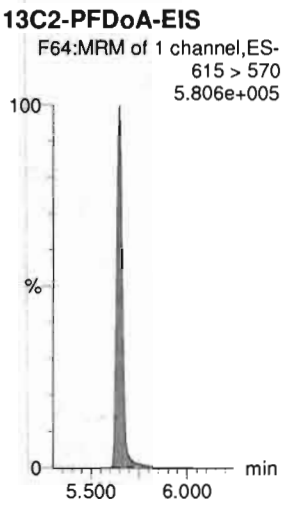
13C2-PFDoA-EIS



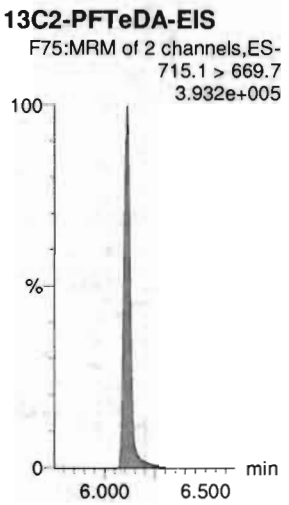
d3-N-MeFOSA-EIS



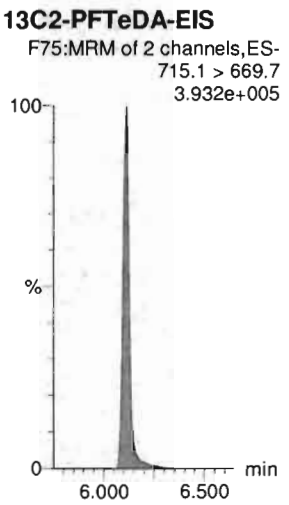
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

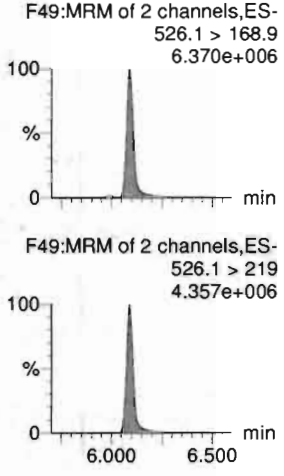


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

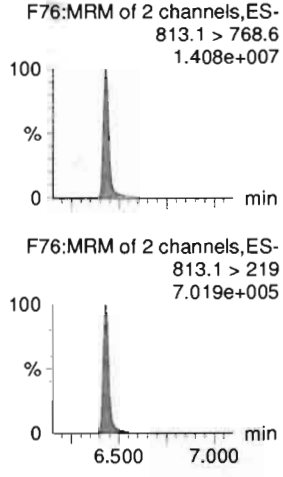
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

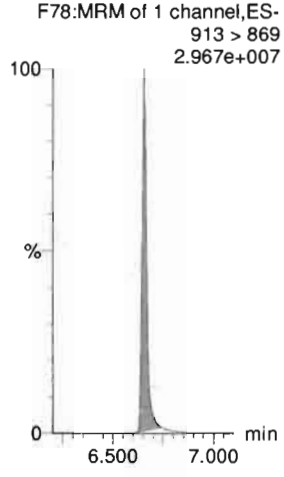
N-EtFOSA



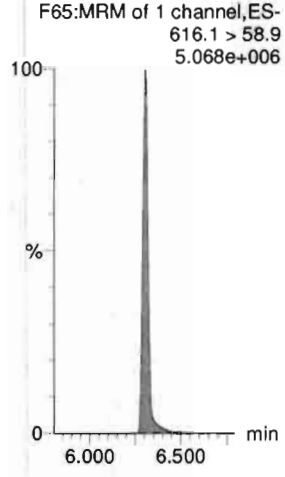
PFHxDA



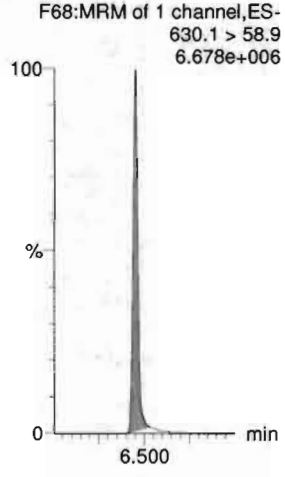
PFODA



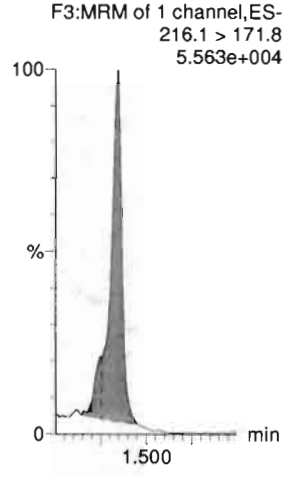
N-MeFOSE



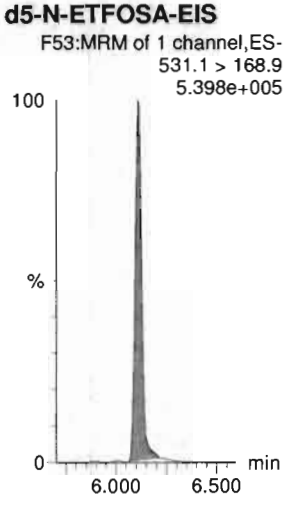
N-EtFOSE



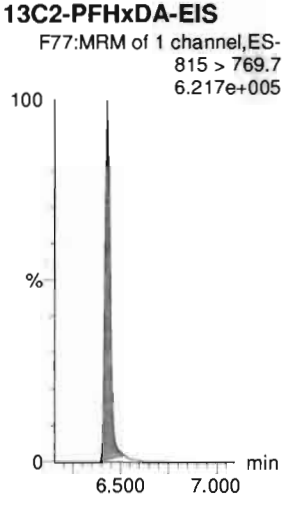
13C3-PFBA-RSD



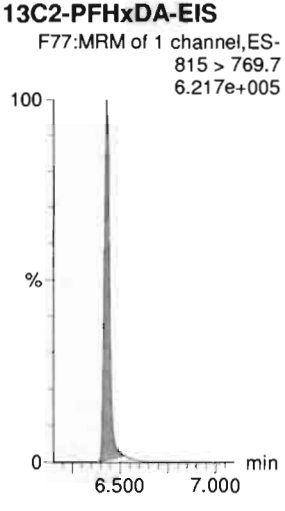
d5-N-ETFOSA-EIS



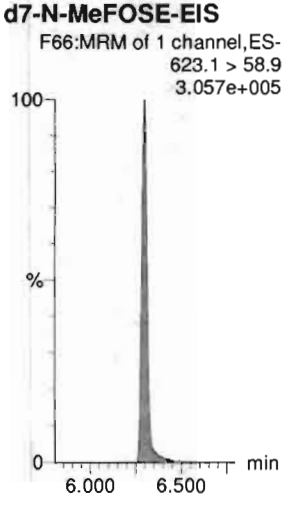
13C2-PFHxDA-EIS



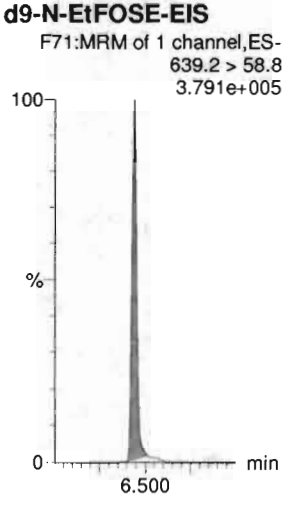
13C2-PFHxDA-EIS



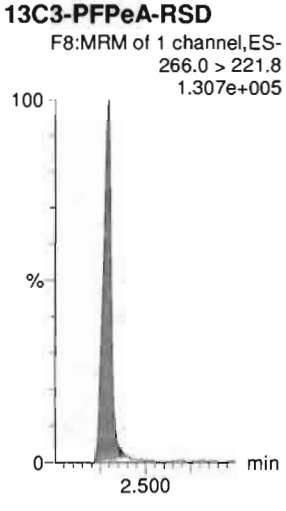
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

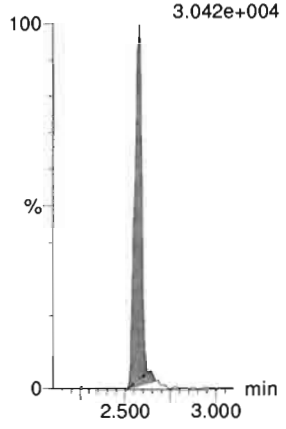


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

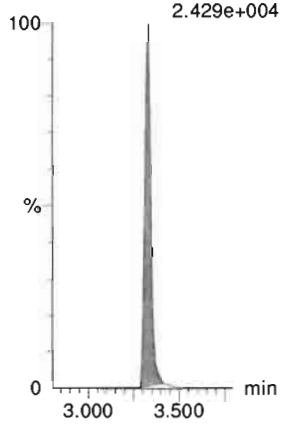
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

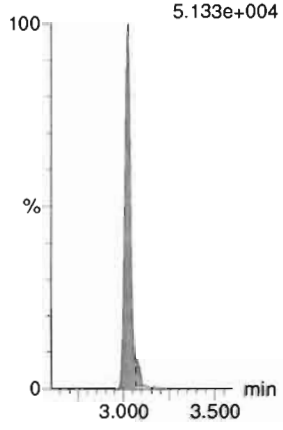
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.042e+004



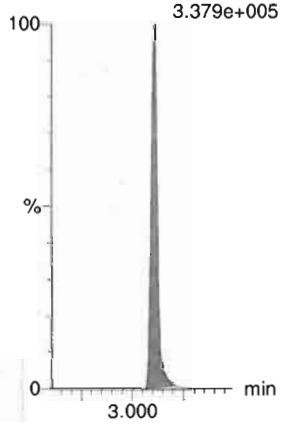
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.429e+004



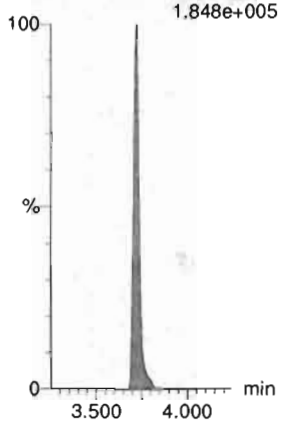
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
5.133e+004



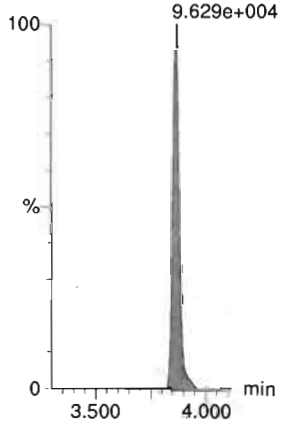
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.379e+005



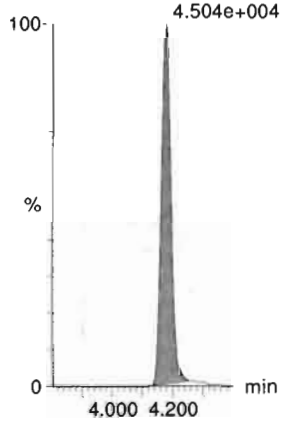
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.848e+005



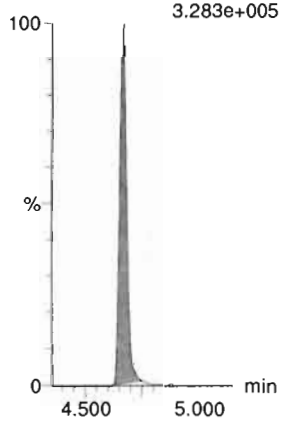
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
9.629e+004



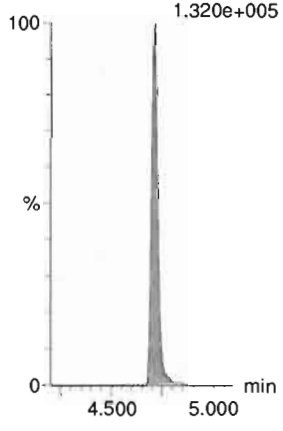
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
4.504e+004



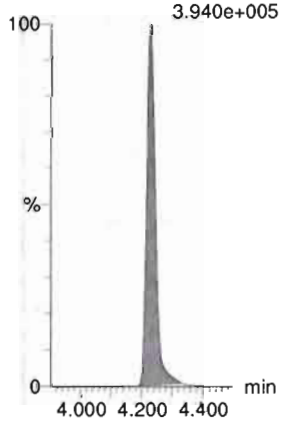
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.283e+005



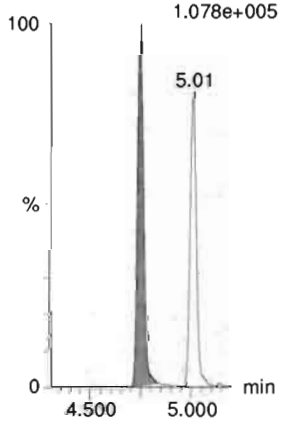
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.320e+005



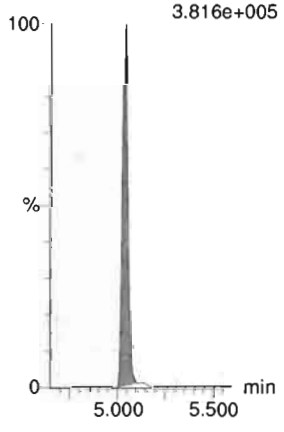
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
3.940e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.078e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.816e+005

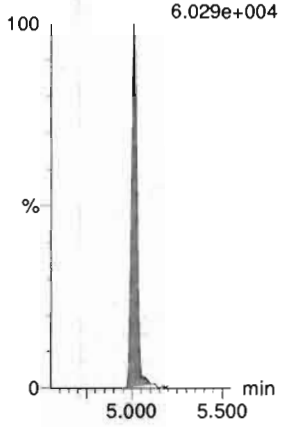


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

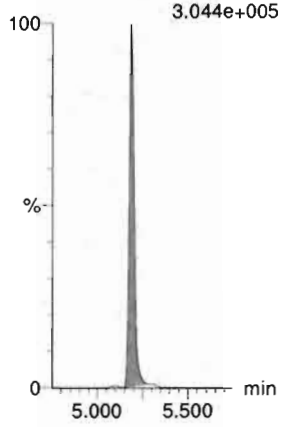
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

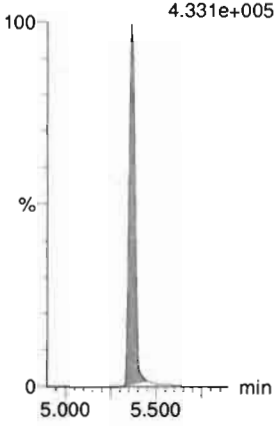
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.029e+004



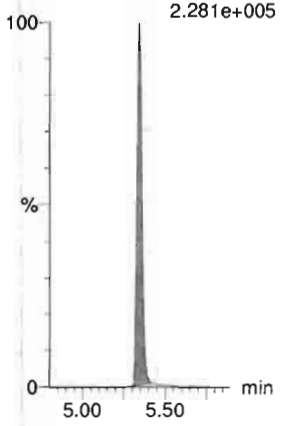
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.044e+005



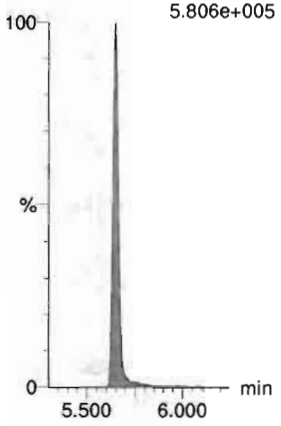
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
4.331e+005



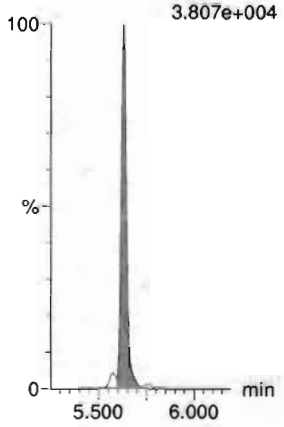
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.281e+005



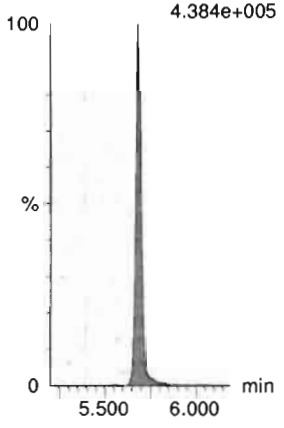
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
5.806e+005



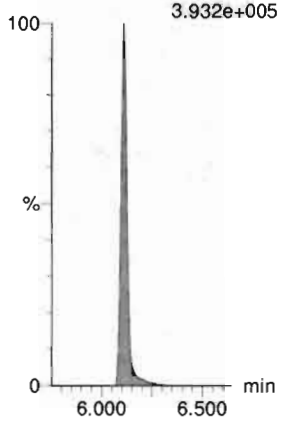
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
3.807e+004



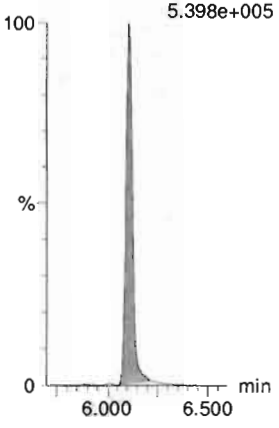
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.384e+005



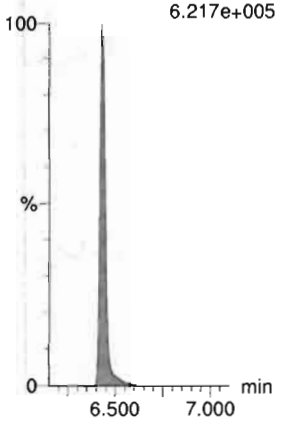
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
3.932e+005



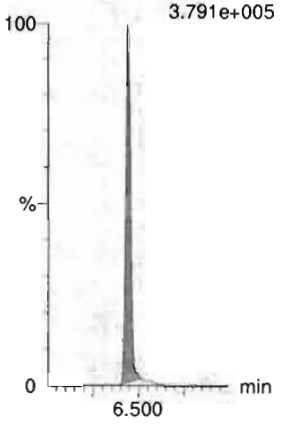
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.398e+005



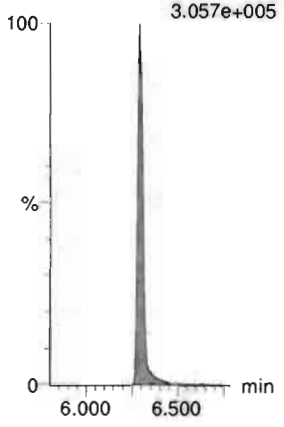
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.217e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.791e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.057e+005

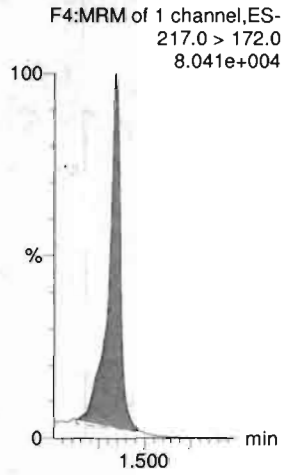


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-crv.qld

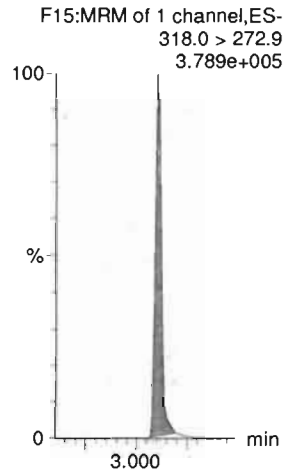
Last Altered: Friday, July 10, 2020 12:55:59 Pacific Daylight Time
Printed: Friday, July 10, 2020 12:57:05 Pacific Daylight Time

Name: 200710M1_12, Date: 10-Jul-2020, Time: 09:49:04, ID: ST200710M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

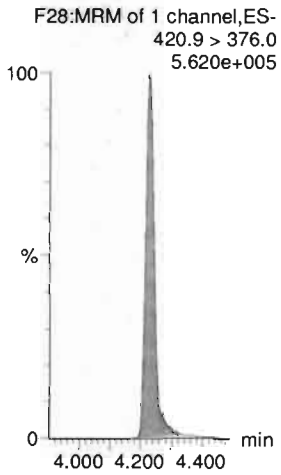
13C4-PFBA



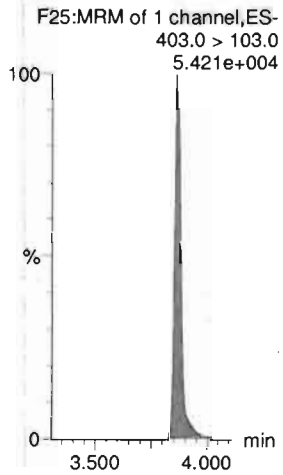
13C5-PFHxA



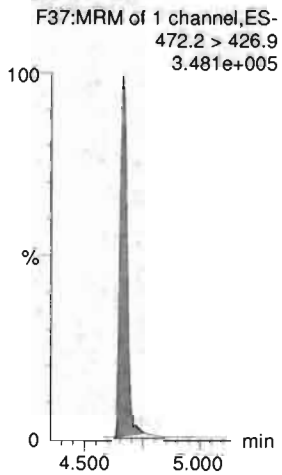
13C8-PFOA



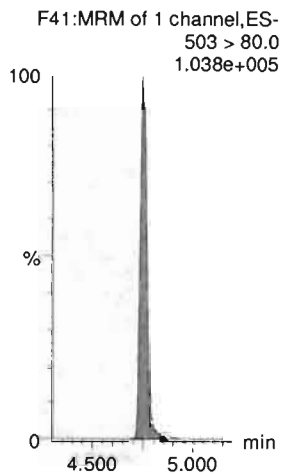
18O2-PFHxS



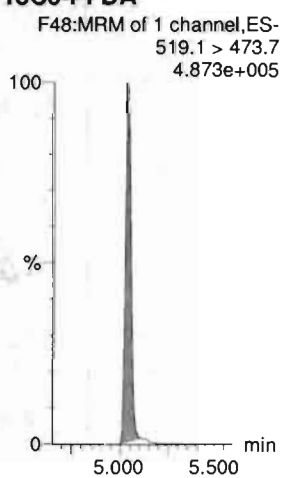
13C9-PFNA



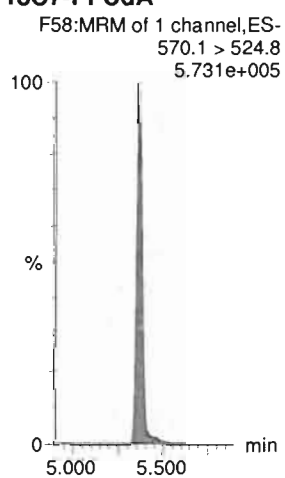
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

VM 7/10/2020

(A) not in ICV

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	4626.488	4051.944	1.00	1.34	14.272	10.000	10.1	101.1	NO		
2	2	PFPrS	248.9 > 79.9		1593.436	1.00			10.000		(A)	NO		YES
3	3	3:3 FTCA	241.1 > 177.0		6513.335	1.00			10.000			NO		YES
4	4	PFPeA	263.1 > 218.9	5182.683	6513.335	1.00	2.29	9.946	10.000	10.5	104.8	NO		
5	5	PFBS	299.0 > 79.7	2113.176	1593.436	1.00	2.58	16.577	8.840	8.18	92.6	NO	2.793	NO
6	6	4:2 FTS	327.0 > 306.9	5342.409	2608.749	1.00	3.02	25.599	9.360	9.77	104.4	NO	1.959	NO
7	47	13C3-PFBA-EIS	216.1 > 171.8	4051.944		1.00	1.34	4051.944	12.500	11.8	94.4	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1593.436		1.00	2.58	1593.436	12.500	12.3	98.6	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	6513.335		1.00	2.29	6513.335	12.500	12.1	96.9	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	6513.335		1.00	2.29	6513.335	12.500	12.1	96.9	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1593.436		1.00	2.58	1593.436	12.500	12.3	98.6	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2608.749		1.00	3.02	2608.749	12.500	13.0	103.9	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	10922.788	12260.936	1.00	3.11	11.136	10.000	9.72	97.2	NO	17.920	NO
15	8	PFPeS	349.0 > 80.0	2662.468	1593.436	1.00	3.31	20.886	9.360	9.06	96.8	NO	1.707	NO
16	9	HFPO-DA	285.1 > 168.9	719.374	953.231	1.00	3.33	9.433	10.000	10.0	100.4	NO	2.073	NO
17	10	5:3 FTCA	340.9 > 236.9		6951.128	1.00			10.000		(A)	NO		YES
18	11	PFHpA	363.0 > 318.9	7134.847	6951.128	1.00	3.72	12.830	10.000	10.2	101.6	NO	11.325	NO
19	12	ADONA	376.8 > 250.9	26403.086	6951.128	1.00	3.83	47.480	9.440	9.55	101.2	NO	3.506	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	12260.936		1.00	3.11	12260.936	12.500	12.1	97.0	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1593.436		1.00	2.58	1593.436	12.500	12.3	98.6	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	953.231		1.00	3.33	953.231	12.500	12.3	98.5	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	6951.128		1.00	3.72	6951.128	12.500	12.3	98.3	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	6951.128		1.00	3.72	6951.128	12.500	12.3	98.3	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	6951.128		1.00	3.72	6951.128	12.500	12.3	98.3	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0	2861.851	3695.699	1.00	3.87	9.680	9.120	8.73	95.8	NO	1.586	NO
28	15	6:2 FTS	427 > 407.0	5026.773	2208.459	1.00	4.18	28.452	9.480	10.6	112.3	NO	2.318	NO
29	16	L-PFOA	412.8 > 368.9	17773.801	15136.057	1.00	4.23	14.678	10.000	10.3	102.8	NO	3.973	NO
30	18	PFecHS	460.8 > 381.0		15136.057	1.00			10.000		(A)	NO		YES
31	19	PFHpS	448.9 > 80.0	2737.256	4108.802	1.00	4.34	8.327	9.520	10.1	105.6	NO	1.948	NO
32	20	7:3 FTCA	441.0 > 337.0		13575.017	1.00			10.000		(A)	NO		YES
33	61	13C3-PFHxS-EIS	401.8 > 79.9	3695.699		1.00	3.87	3695.699	12.500	12.8	102.6	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2208.459		1.00	4.18	2208.459	12.500	12.6	101.2	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	15136.057		1.00	4.23	15136.057	12.500	12.2	97.7	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	15136.057		1.00	4.23	15136.057	12.500	12.2	97.7	NO		

OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4108.802		1.00	4.75	4108.802	12.500	12.8	102.6	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	13575.017		1.00	4.67	13575.017	12.500	13.9	110.9	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	13313.195	13575.017	1.00	4.67	12.259	10.000	9.39	93.9	NO	3.873	NO
41	22	PFOSA	498.0 > 78.0	3833.136	5166.483	1.00	4.71	9.274	10.000	9.32	93.2	NO	32.930	NO
42	23	L-PFOS	499 > 80	2784.229	4108.802	1.00	4.75	8.470	9.280	7.62	82.1	NO	1.785	NO
43	25	9Cl-PF30NS	531 > 351.0	11131.891	4108.802	1.00	4.97	33.866	9.320	8.47	90.9	NO	20.622	NO
44	26	PFDA	513 > 468.8	16444.217	14110.433	1.00	5.04	14.567	10.000	10.4	104.1	NO	5.286	NO
45	27	8:2 FTS	526.9 > 507.0	4137.485	2348.984	1.00	5.01	22.017	9.600	9.28	96.6	NO	1.641	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	13575.017		1.00	4.67	13575.017	12.500	13.9	110.9	NO		
47	67	13C8-PFOSA-EIS	506. > 78	5166.483		1.00	4.71	5166.483	12.500	13.3	106.4	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4108.802		1.00	4.75	4108.802	12.500	12.8	102.6	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4108.802		1.00	4.75	4108.802	12.500	12.8	102.6	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	14110.433		1.00	5.04	14110.433	12.500	13.2	105.2	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2348.984		1.00	5.01	2348.984	12.500	12.0	96.1	NO		
52	-1													
53	28	PFNS	548.9 > 79.9	3174.995	4108.802	1.00	5.11	9.659	9.600	8.89	92.6	NO	1.629	NO
54	29	L-MeFOSAA	570 > 419	8187.615	11503.893	1.00	5.19	8.897	10.000	9.57	95.7	NO	2.789	NO
55	31	L-EtFOSAA	583.9 > 419	7238.116	10312.372	1.00	5.35	8.774	10.000	9.19	91.9	NO	1.291	NO
56	33	PFUdA	563.0 > 518.9	15975.499	18489.418	1.00	5.36	10.800	10.000	11.7	116.7	NO	8.516	NO
57	34	PFDS	599.0 > 80.0	2507.876	4108.802	1.00	5.41	7.630	9.640	8.03	83.3	NO	1.425	NO
58	35	11Cl-PF30UdS	630.9 > 450.9	8547.476	22873.164	1.00	5.58	4.671	9.440	8.14	86.3	NO	18.938	NO
59	73	13C8-PFOS-EIS	507.0 > 80	4108.802		1.00	4.75	4108.802	12.500	12.8	102.6	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	11503.893		1.00	5.19	11503.893	12.500	12.5	99.6	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	10312.372		1.00	5.35	10312.372	12.500	11.9	95.1	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	18489.418		1.00	5.36	18489.418	12.500	10.4	83.1	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4108.802		1.00	4.75	4108.802	12.500	12.8	102.6	NO		
64	85	13C2-PFDoA-EIS	615 > 570	22873.164		1.00	5.65	22873.164	12.500	11.9	95.1	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	14.284	1687.080	1.00	5.63	0.106	10.000		(1)	NO	0.754	NO
67	37	PFDoA	612.9 > 569.0	17143.949	22873.164	1.00	5.65	9.369	10.000	10.1	100.7	NO	7.285	NO
68	38	N-MeFOSA	512.1 > 168.9		14723.620	1.00			9.600		(R)	NO		YES
69	39	PFTrDA	662.9 > 618.9	15945.969	22873.164	1.00	5.90	8.714	10.000	9.91	99.1	NO	8.940	NO
70	40	PFDoS	698.9 > 80		15938.516	1.00			10.000		(R)	NO		YES
71	41	PFTeDA	713.0 > 669.0	18582.564	15938.516	1.00	6.11	14.574	10.000	9.17	91.7	NO	13.405	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1687.080		1.00	5.63	1687.080	12.500	12.7	101.7	NO		

OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	22873.164		1.00	5.65	22873.164	12.500	11.9	95.1	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	14723.620		1.00	5.68	14723.620	149.200	147	98.3	NO		
75	85	13C2-PFDoA-EIS	615 > 570	22873.164		1.00	5.65	22873.164	12.500	11.9	95.1	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	15938.516		1.00	6.11	15938.516	12.500	12.1	97.0	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	15938.516		1.00	6.11	15938.516	12.500	12.1	97.0	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9		22715.945	1.00			9.600			NO		YES
80	43	PFHxDA	813.1 > 768.6		21462.373	1.00			10.000			NO		YES
81	44	PFODA	913 > 869		21462.373	1.00			10.000			NO		
82	45	N-MeFOSE	616.1 > 58.9		11063.563	1.00			9.600			NO		
83	46	N-EtFOSE	630.1 > 58.9		11809.853	1.00			9.600			NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	4163.414	6306.096	1.00	1.34	8.253	12.500	12.0	95.6	NO		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	22715.945		1.00	6.11	22715.945	149.200	146	97.6	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	21462.373		1.00	6.43	21462.373	12.500	11.8	94.6	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	21462.373		1.00	6.43	21462.373	12.500	11.8	94.6	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	11063.563		1.00	6.29	11063.563	149.200	157	105.4	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	11809.853		1.00	6.44	11809.853	149.200	154	103.3	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	6505.965	14470.754	1.00	2.29	5.620	12.500	12.0	95.7	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99	1592.223	2067.689	1.00	2.58	9.626	12.500	12.5	100.0	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	953.231	14470.754	1.00	3.33	0.823	12.500	11.5	92.1	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9	2608.749	2067.689	1.00	3.02	15.771	12.500	13.2	105.7	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	12413.265	14470.754	1.00	3.11	10.723	12.500	12.5	100.0	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	6951.128	14470.754	1.00	3.72	6.004	12.500	12.2	97.4	NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9	3695.699	2067.689	1.00	3.87	22.342	12.500	12.8	102.3	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2208.459	4353.854	1.00	4.18	6.341	12.500	12.0	95.9	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	13575.017	14899.507	1.00	4.67	11.389	12.500	12.6	101.2	NO		
100	68	13C8-PFOSA-RSD	506. > 78	5166.483	24215.377	1.00	4.71	2.667	12.500	12.5	99.9	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	15136.057	23167.996	1.00	4.23	8.166	12.500	12.0	95.8	NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4108.802	4353.854	1.00	4.75	11.796	12.500	12.1	96.4	NO		
103	76	13C2-PFDA-RSD	515.1 > 469.9	14110.433	18627.984	1.00	5.04	9.469	12.500	12.5	100.3	NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2348.984	4353.854	1.00	5.01	6.744	12.500	11.5	92.0	NO		
106	80	d3-N-MeFOSAA-RSD	573. > 419	11503.893	24215.377	1.00	5.19	5.938	12.500	12.3	98.1	NO		
107	82	13C2-PFUdA-RSD	565 > 519.8	18489.418	24215.377	1.00	5.36	9.544	12.500	10.7	85.9	NO		
108	84	d5-N-EtFOSAA-RSD	589. > 419	10312.372	24215.377	1.00	5.35	5.323	12.500	12.5	99.8	NO		

OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	22873.164	18627.984	1.00	5.65	15.349	12.500	12.0	96.3	NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1790.461	4353.854	1.00	5.63	5.140	12.500	12.9	103.3	NO		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	14723.620	24215.377	1.00	5.68	7.600	149.200	139	93.1	NO		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	15933.626	24215.377	1.00	6.11	8.225	12.500	12.1	96.4	NO		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	22715.945	24215.377	1.00	6.11	11.726	149.200	143	96.2	NO		
114	96	13C2-PFHxDA-RSD	815 > 769.7	21443.582	24215.377	1.00	6.43	11.069	12.500	11.3	90.3	NO		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	10750.303	24215.377	1.00	6.29	5.549	149.200	144	96.3	NO		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	11733.002	24215.377	1.00	6.44	6.057	149.200	146	97.9	NO		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	6306.096	6306.096	1.00	1.35	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	14470.754	14470.754	1.00	3.11	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	23167.996	23167.996	1.00	4.23	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103.0	2067.689	2067.689	1.00	3.87	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	14899.507	14899.507	1.00	4.67	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 80.0	4353.854	4353.854	1.00	4.75	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	18627.984	18627.984	1.00	5.04	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	24215.377	24215.377	1.00	5.36	12.500	12.500	12.5	100.0	NO		

OPV 7/10/2020

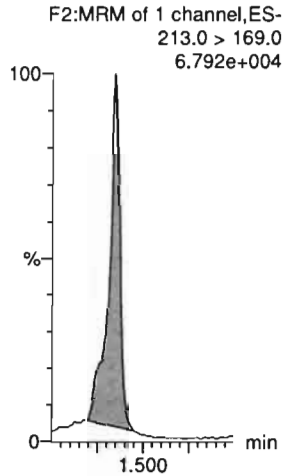
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

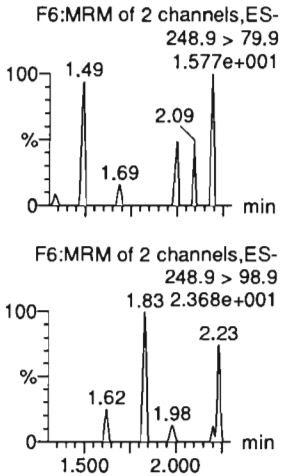
Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_070720_ICV.mdb 10 Jul 2020 14:44:56
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

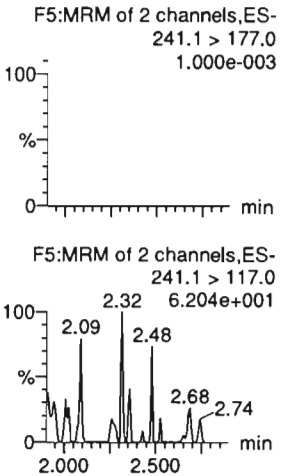
PFBA



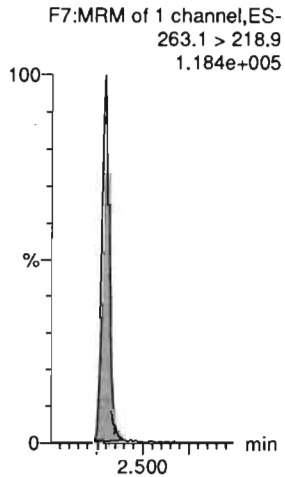
PFPrS



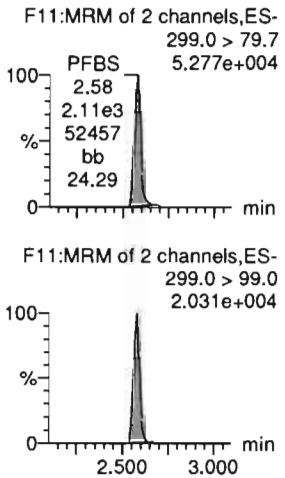
3:3 FTCA



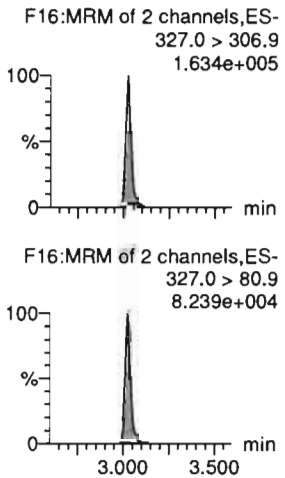
PFPeA



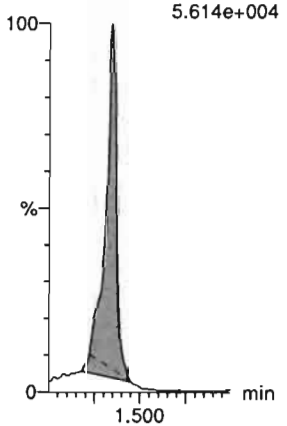
PFBS



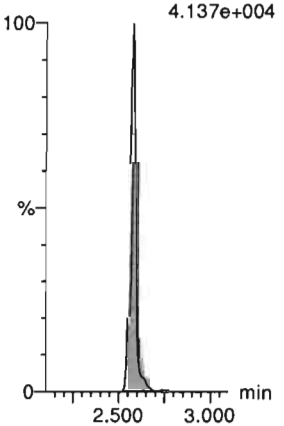
4:2 FTS



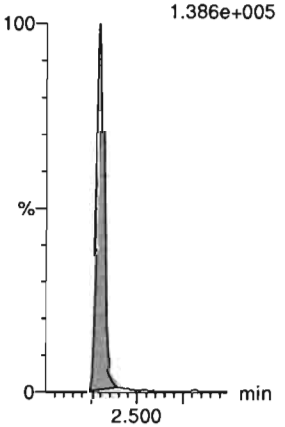
13C3-PFBA-EIS



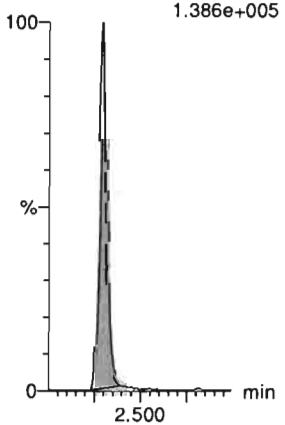
13C3-PFBS-EIS



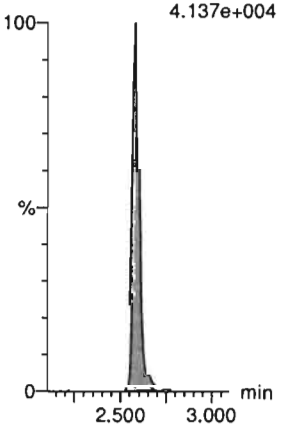
13C3-PFPeA-EIS



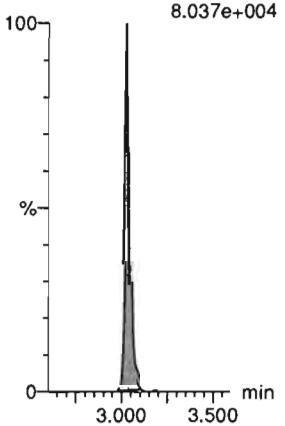
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



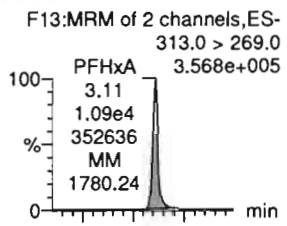
OPV 7/10/2020

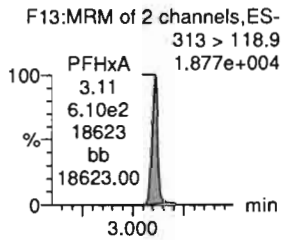
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

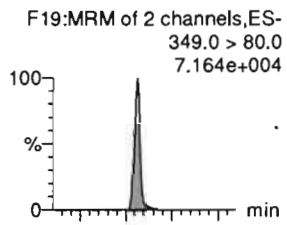
Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

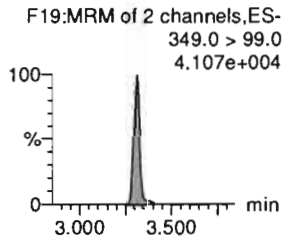
PFHxA



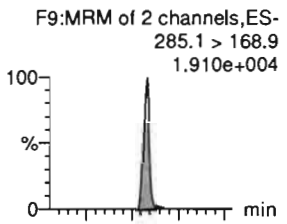


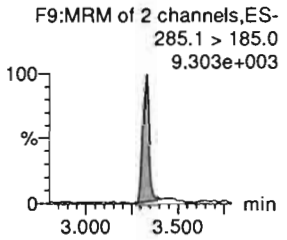
PFPeS



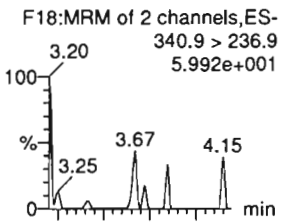


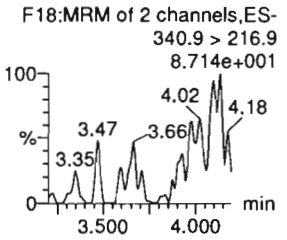
HFPO-DA



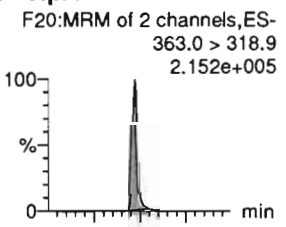


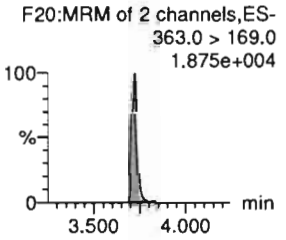
5:3 FTCA



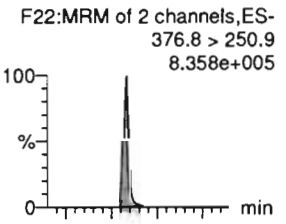


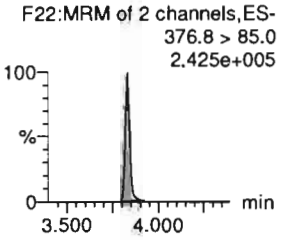
PFHpA



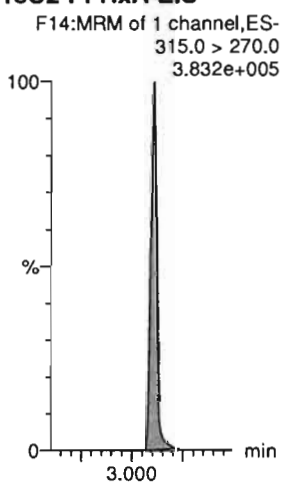


ADONA

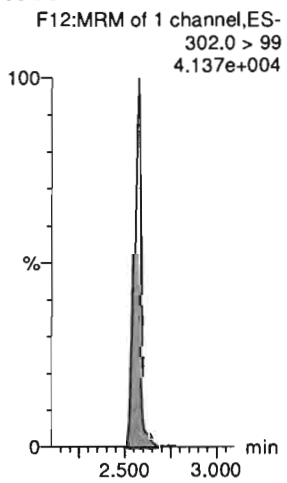




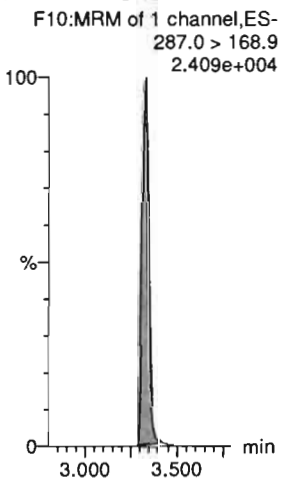
13C2-PFHxA-EIS



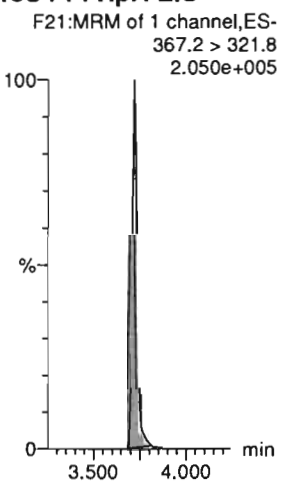
13C3-PFBS-EIS



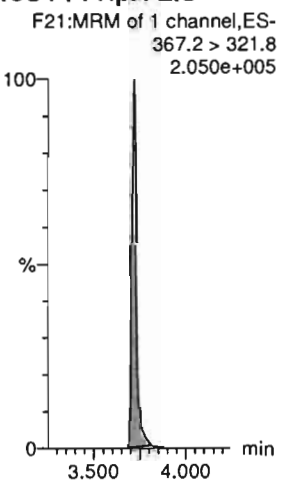
13C3-HFPO-DA-EIS



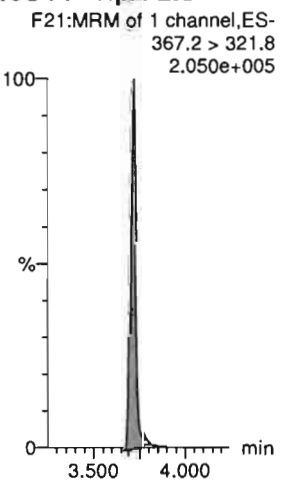
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



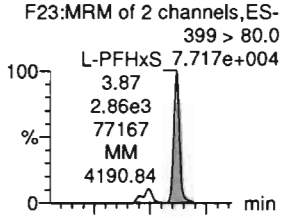
OPV 7/10/2020

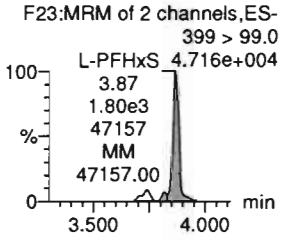
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

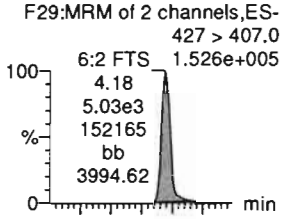
Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

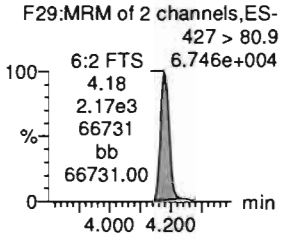
L-PFHxS



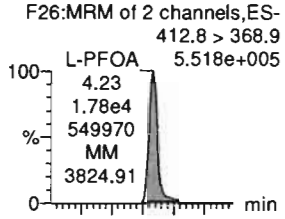


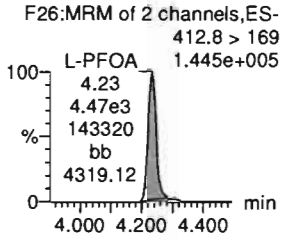
6:2 FTS



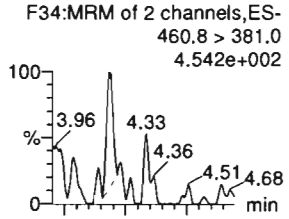


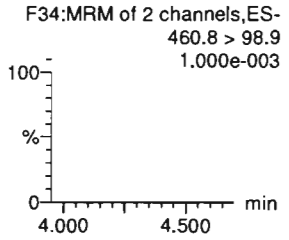
L-PFOA



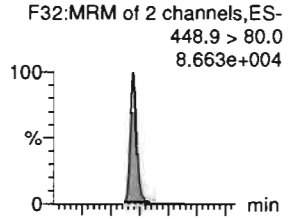


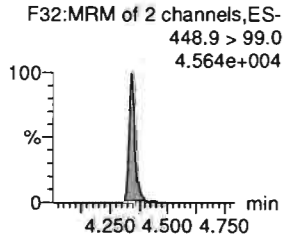
PFEChS



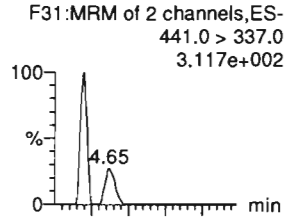


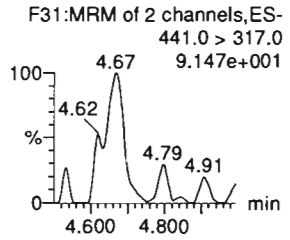
PFHpS



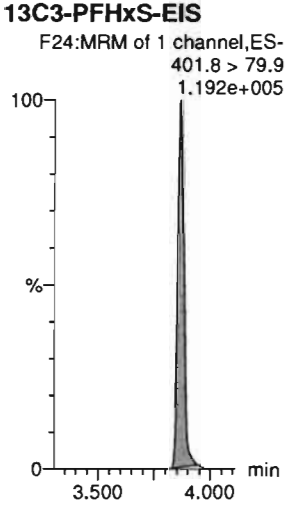


7:3 FTCA

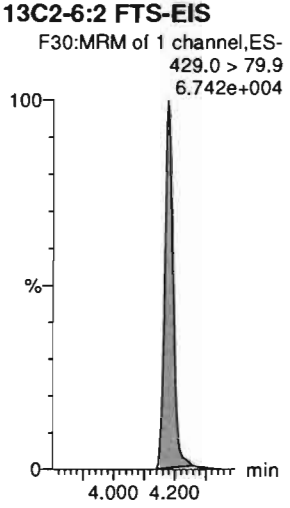




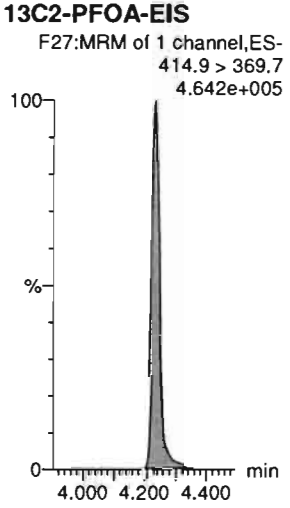
13C3-PFHxS-EIS



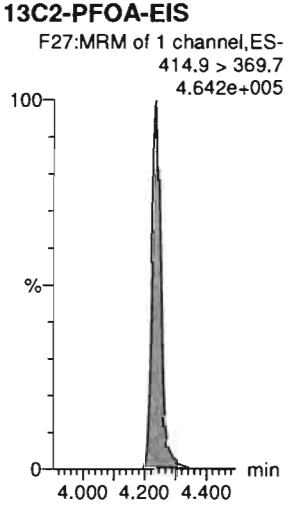
13C2-6:2 FTS-EIS



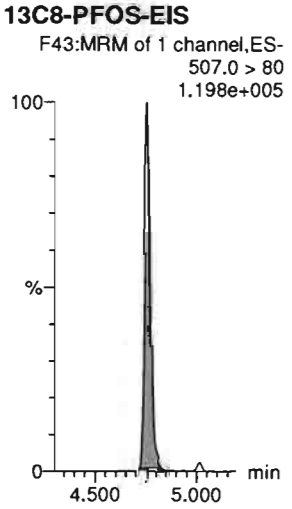
13C2-PFOA-EIS



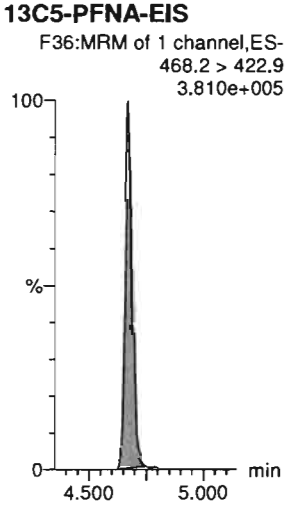
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



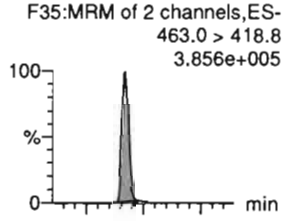
OPV 7/10/2020

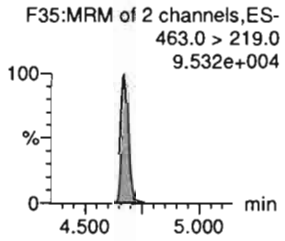
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

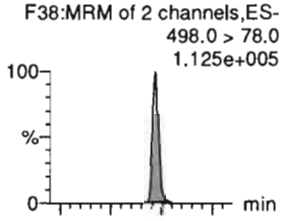
Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

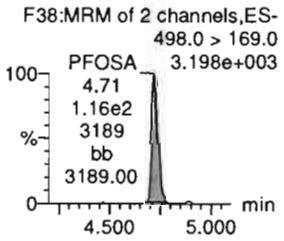
PFNA



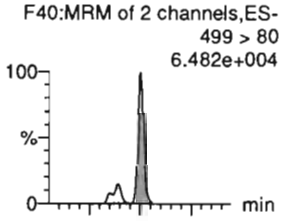


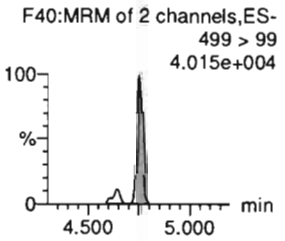
PFOSA



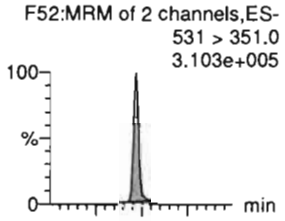


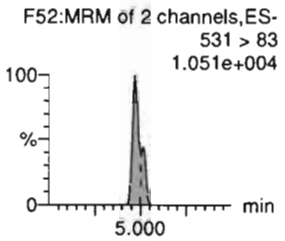
L-PFOS



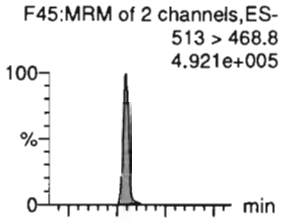


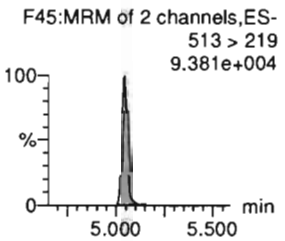
9Cl-PF30NS



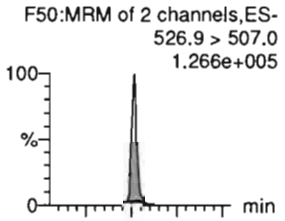


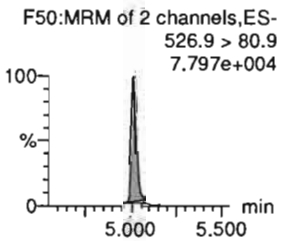
PFDA



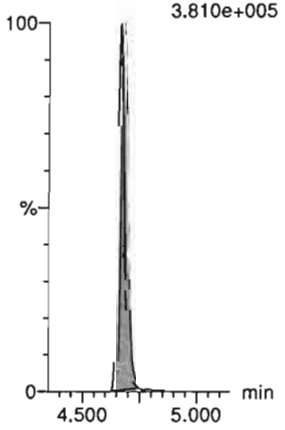


8:2 FTS

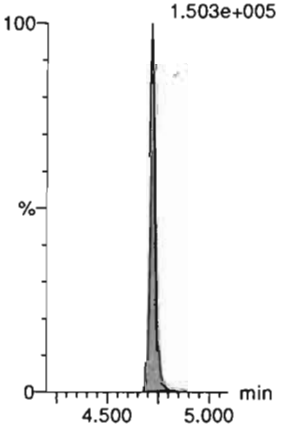




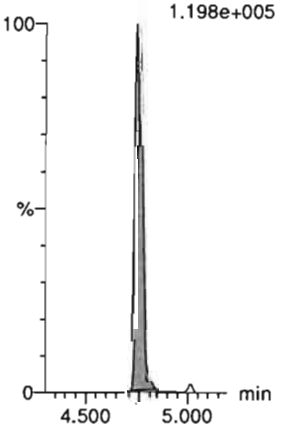
13C5-PFNA-EIS



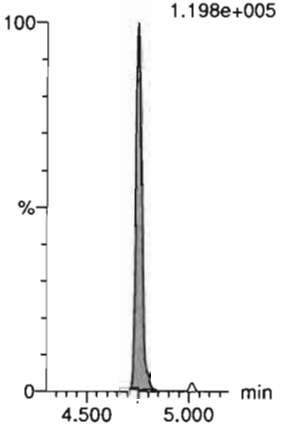
13C8-PFOSA-EIS



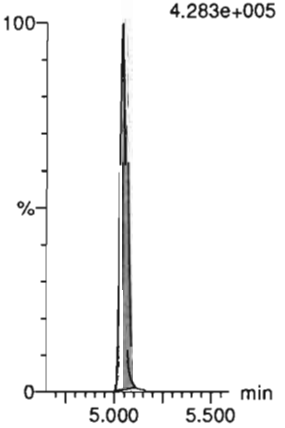
13C8-PFOS-EIS



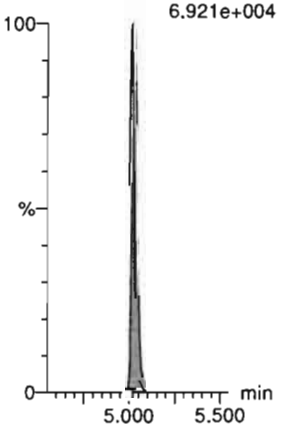
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



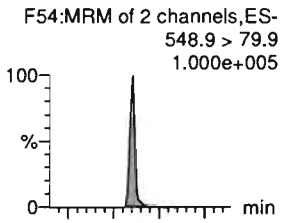
OPV 7/10/2020

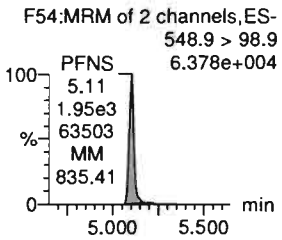
Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

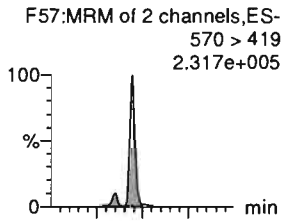
Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

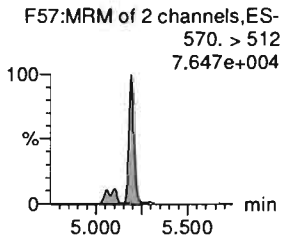
PFNS



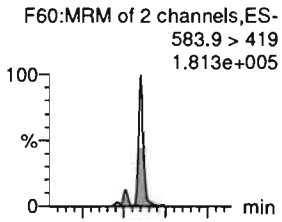


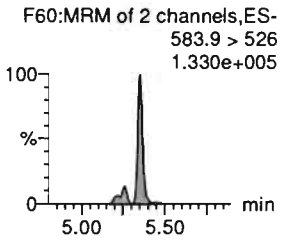
L-MeFOSAA



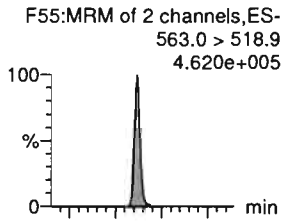


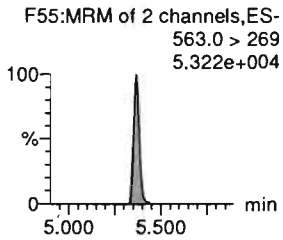
L-EtFOSAA



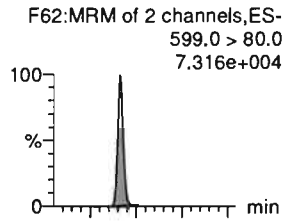


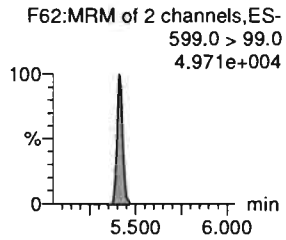
PFUdA



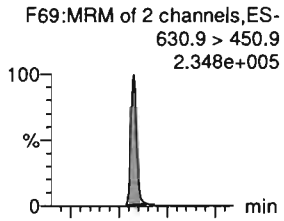


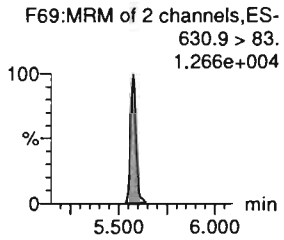
PFDS



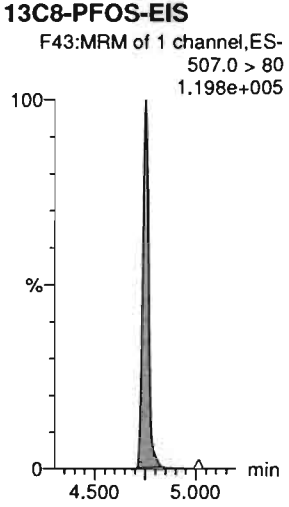


11Cl-PF30UdS

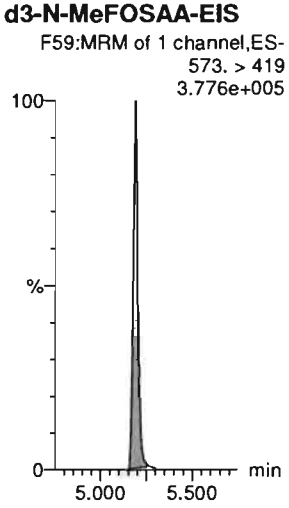




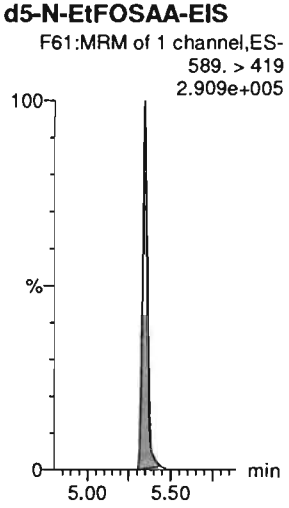
13C8-PFOS-EIS



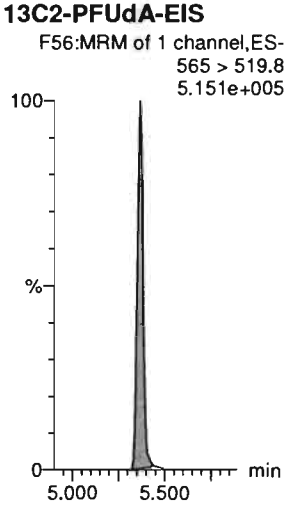
d3-N-MeFOSAA-EIS



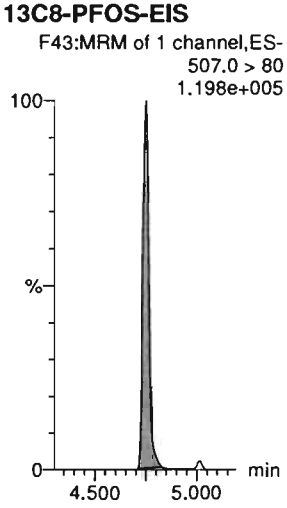
d5-N-EtFOSAA-EIS



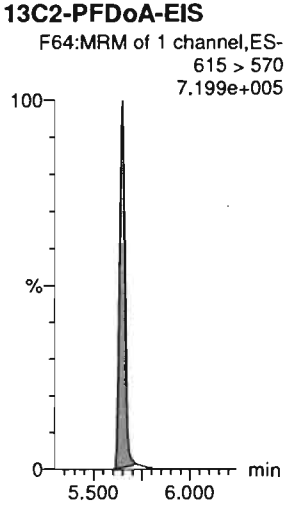
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



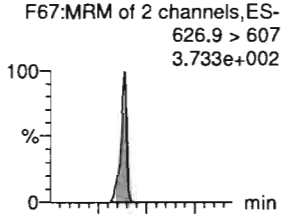
OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

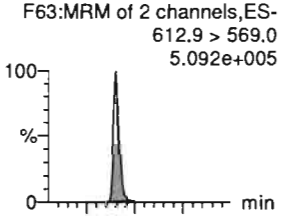
Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

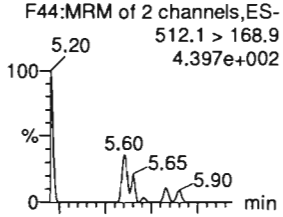
10:2 FTS



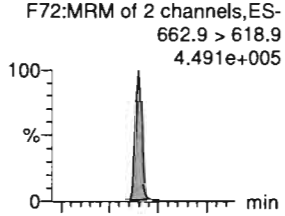
PFDoA



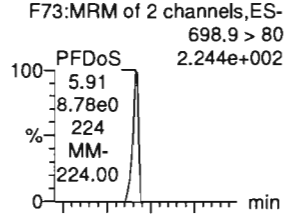
N-MeFOSA



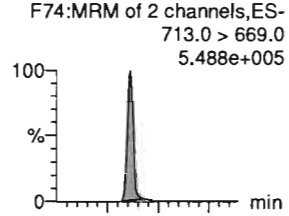
PFTrDA

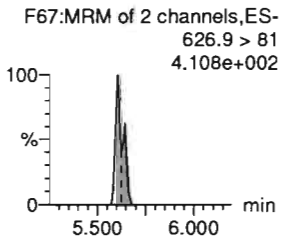


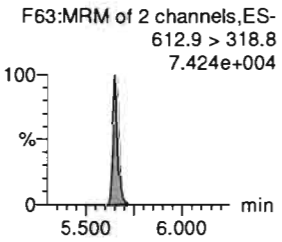
PFDoS

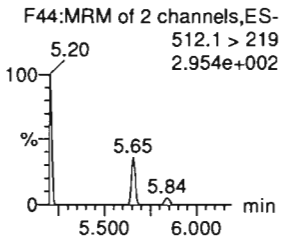


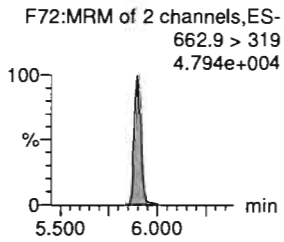
PFTeDA

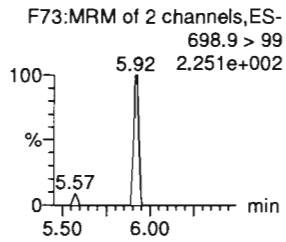


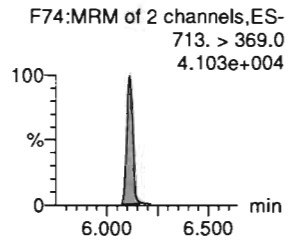




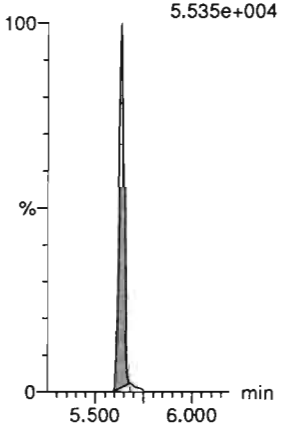




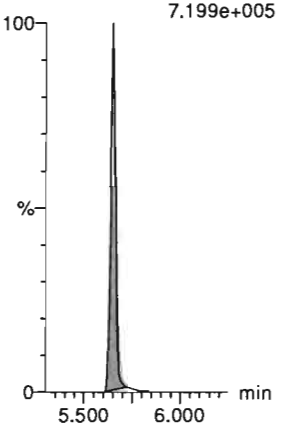




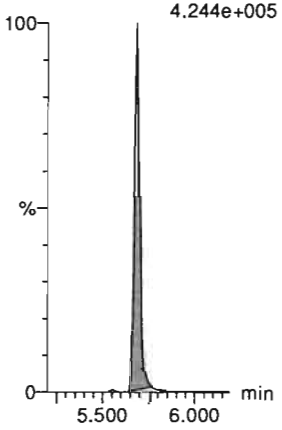
13C2-10:2 FTS-EIS



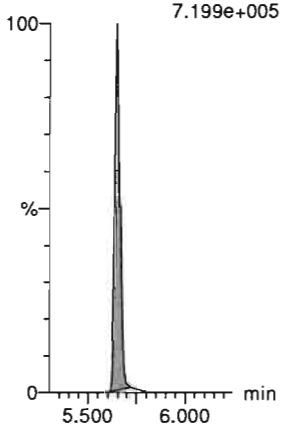
13C2-PFDoA-EIS



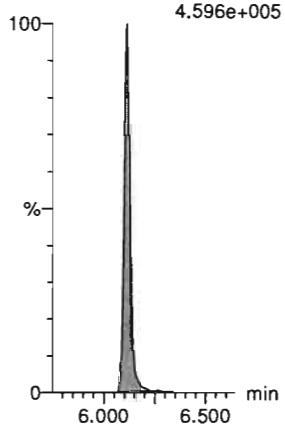
d3-N-MeFOSA-EIS



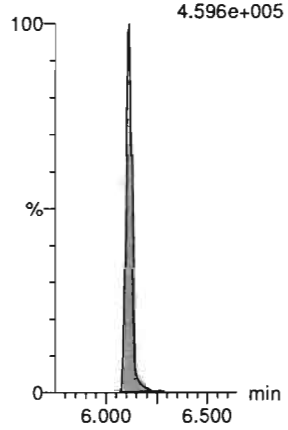
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



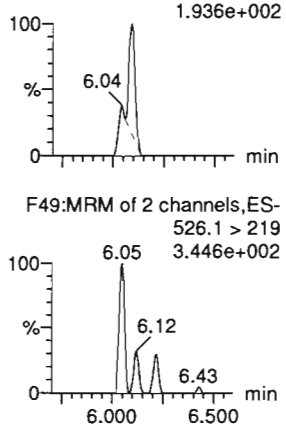
OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

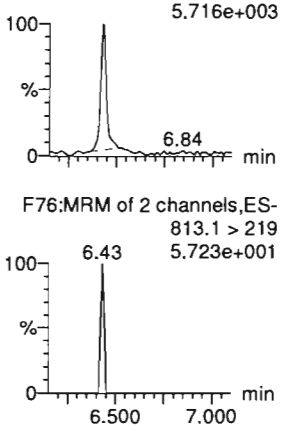
Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

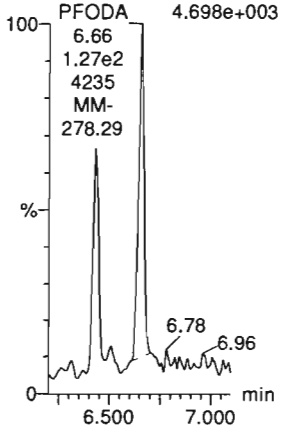
N-EtFOSA



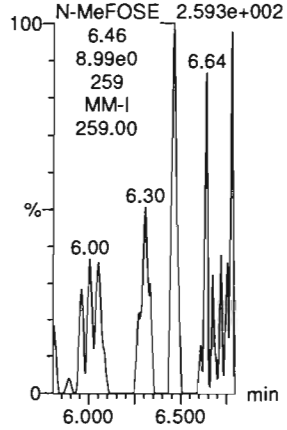
PFHxDA



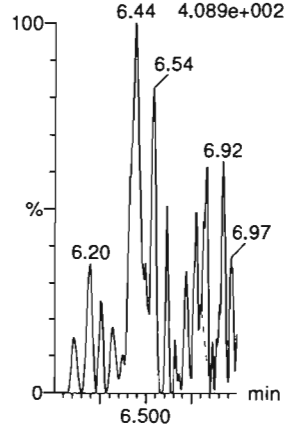
PFODA



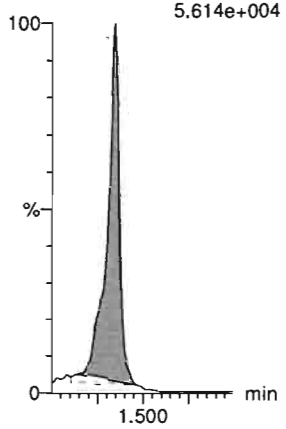
N-MeFOSE



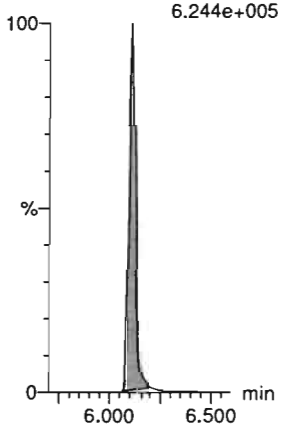
N-EtFOSE



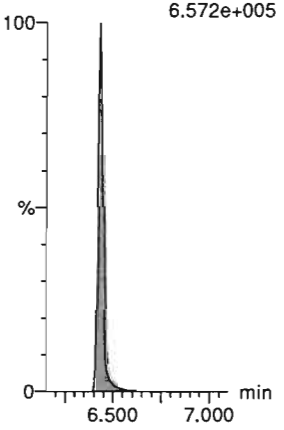
13C3-PFBA-RSD



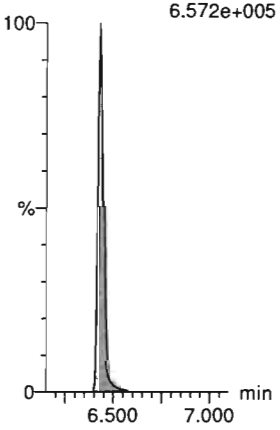
d5-N-ETFOSA-EIS



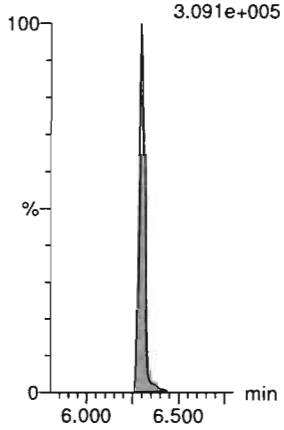
13C2-PFHxDA-EIS



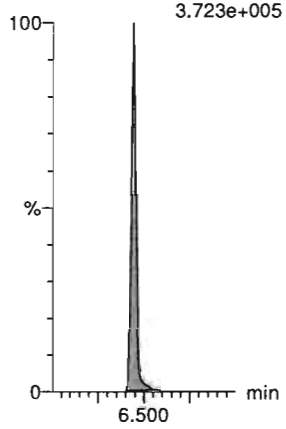
13C2-PFHxDA-EIS



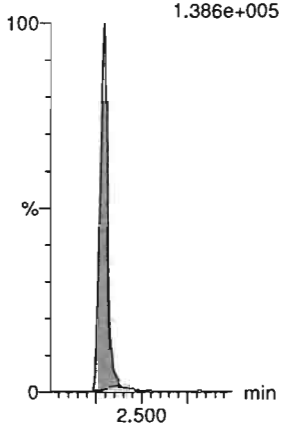
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

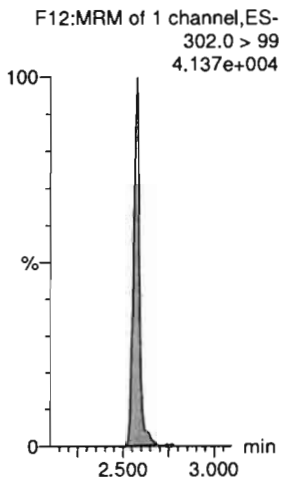


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

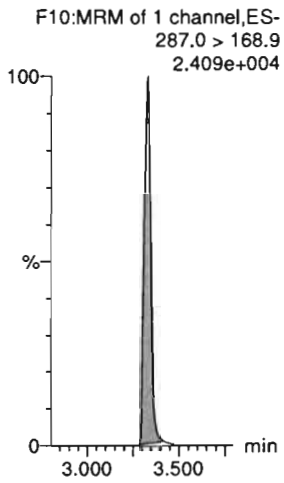
Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

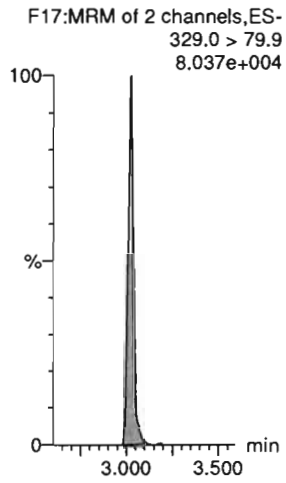
13C3-PFBS-RSD



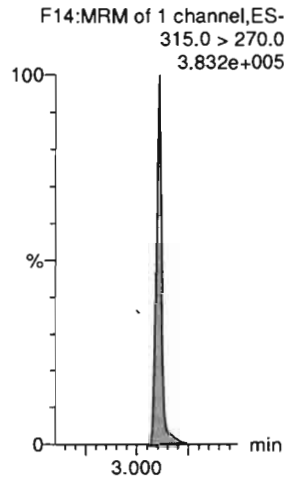
13C3-HFPO-DA-RSD



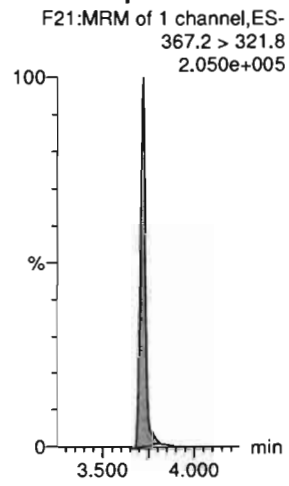
13C2-4:2 FTS-RSD



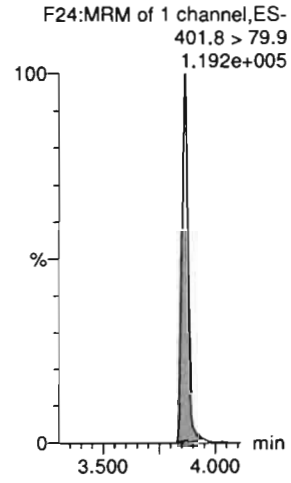
13C2-PFHxA-RSD



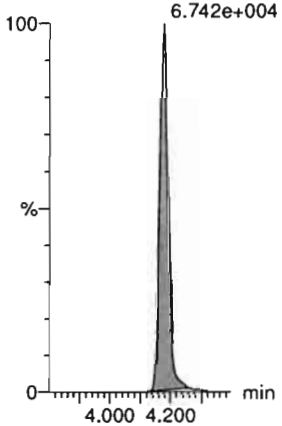
13C4-PFHpA-RSD



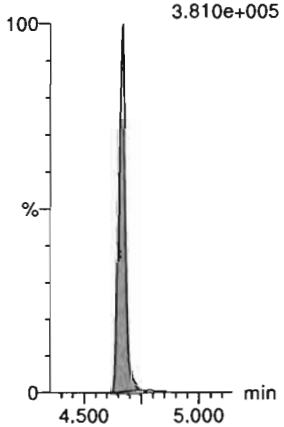
13C3-PFHxS-RSD



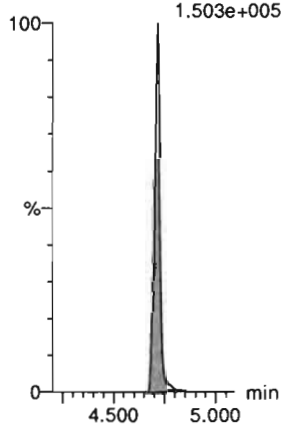
13C2-6:2 FTS-RSD



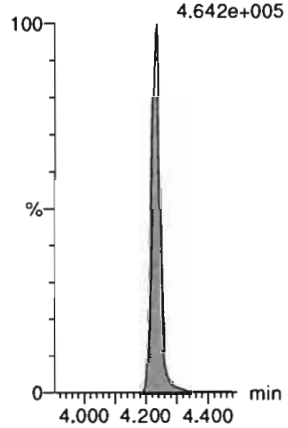
13C5-PFNA-RSD



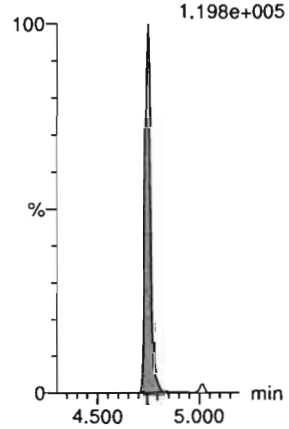
13C8-PFOSA-RSD



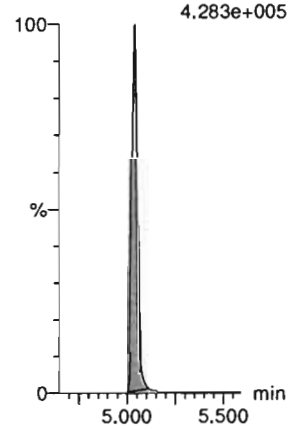
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

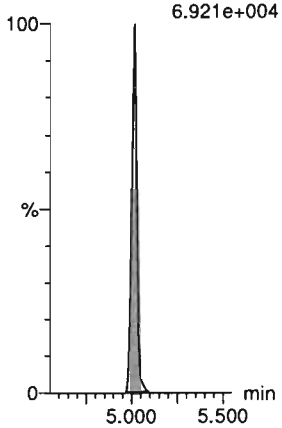


Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

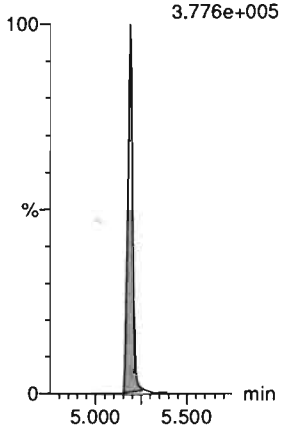
Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

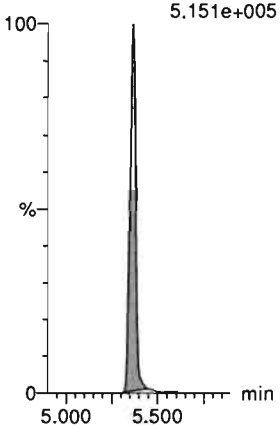
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.921e+004



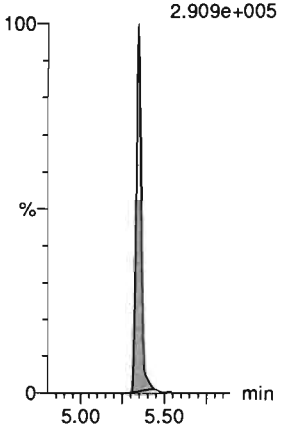
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.776e+005



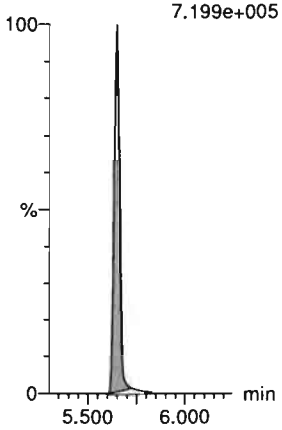
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.151e+005



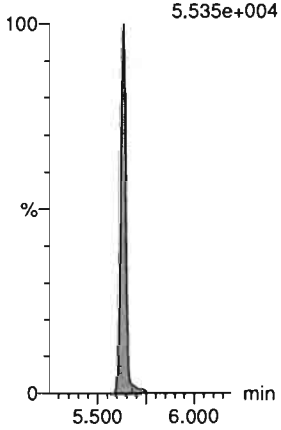
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.909e+005



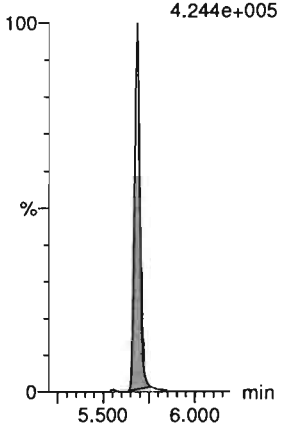
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.199e+005



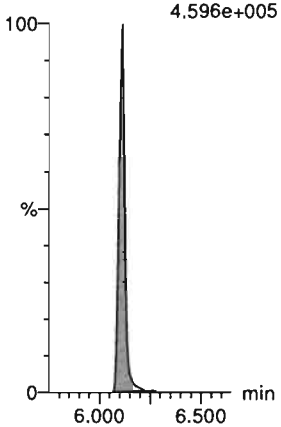
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.535e+004



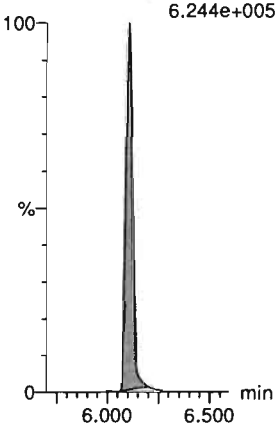
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.244e+005



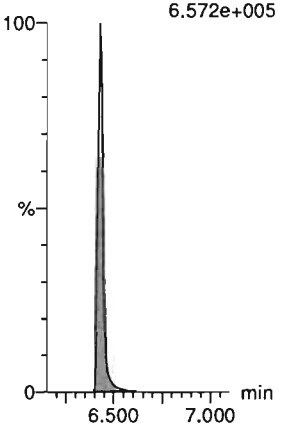
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.596e+005



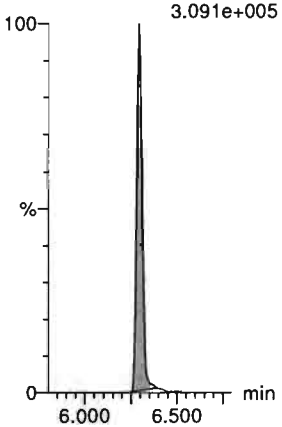
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.244e+005



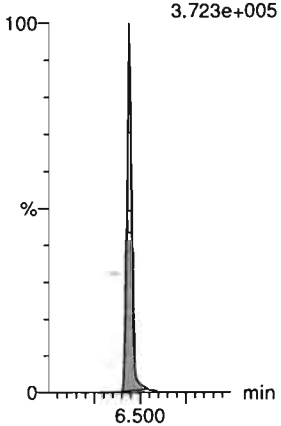
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.572e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.091e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.723e+005



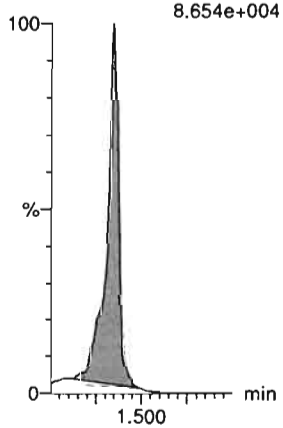
OPV 7/10/2020

Dataset: Y:\Projects\PFAS.PRO\Results\200710M1\200710M1-icv.qld

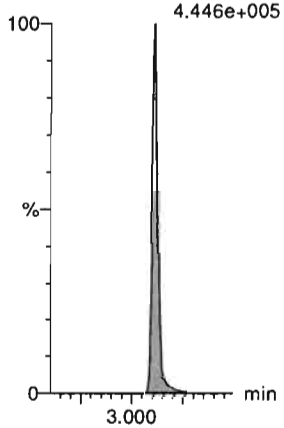
Last Altered: Friday, July 10, 2020 15:09:11 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:13:41 Pacific Daylight Time

Name: 200710M1_14, Date: 10-Jul-2020, Time: 10:09:48, ID: ICV200710M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

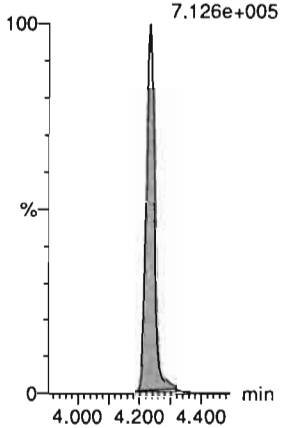
13C4-PFBA



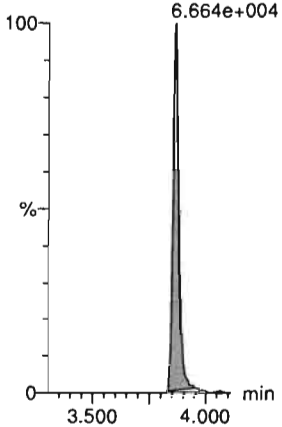
13C5-PFHxA



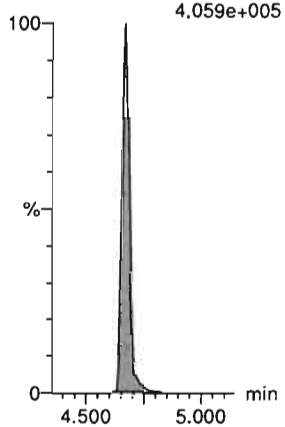
13C8-PFOA



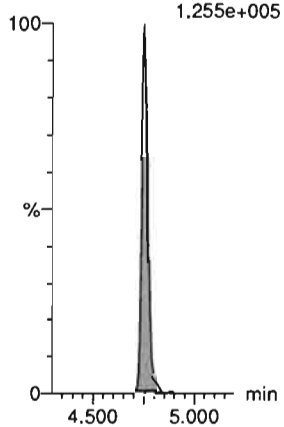
18O2-PFHxS



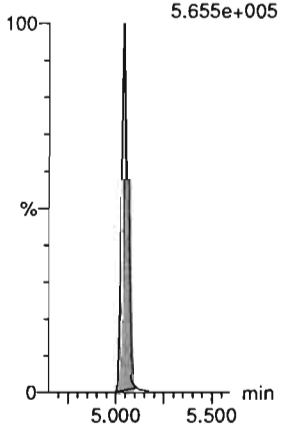
13C9-PFNA



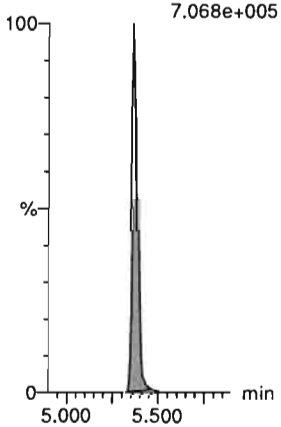
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

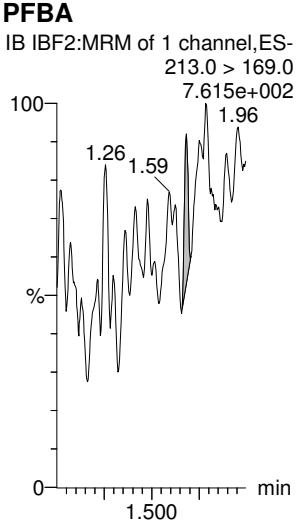
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

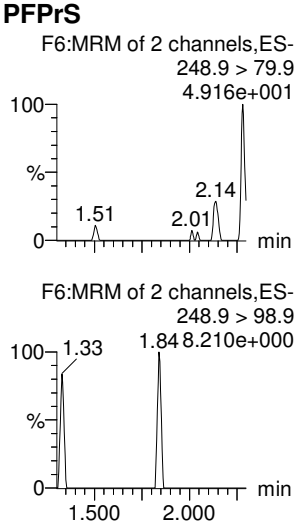
Method: Y:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071020.mdb 10 Jul 2020 15:25:56
Calibration: Y:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-10-20.cdb 10 Jul 2020 14:23:37

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

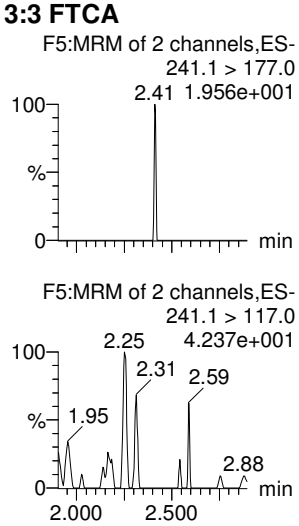
PFBA



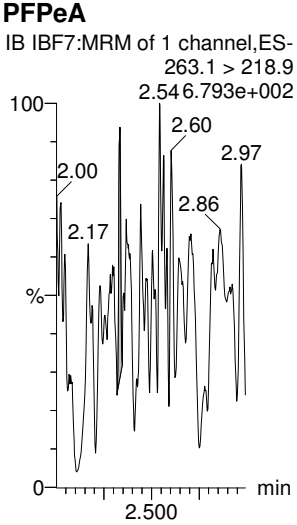
PFPrS



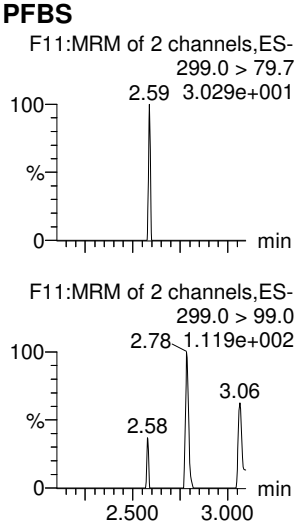
3:3 FTCA



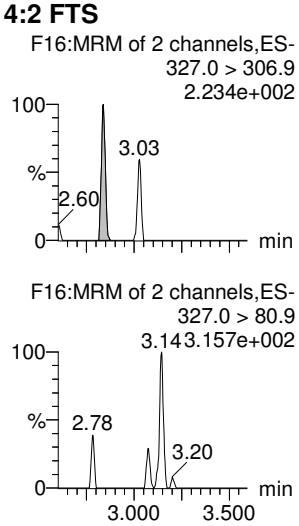
PFPeA



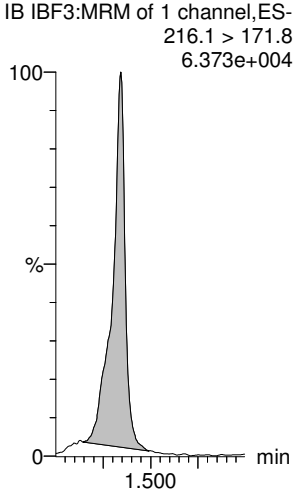
PFBS



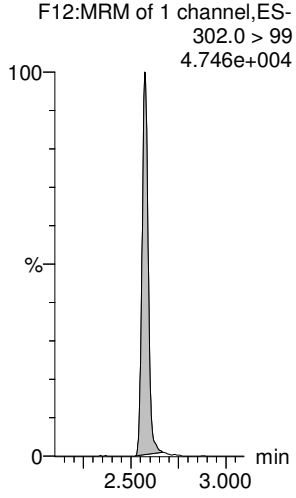
4:2 FTS



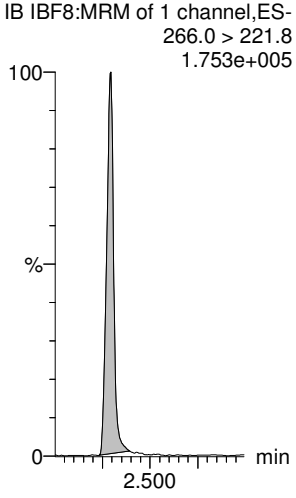
13C3-PFBA-EIS



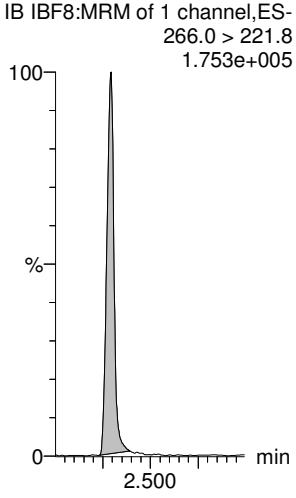
13C3-PFBS-EIS



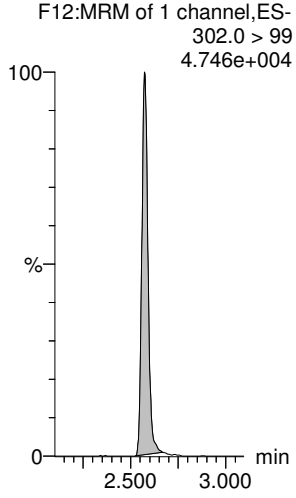
13C3-PFPeA-EIS



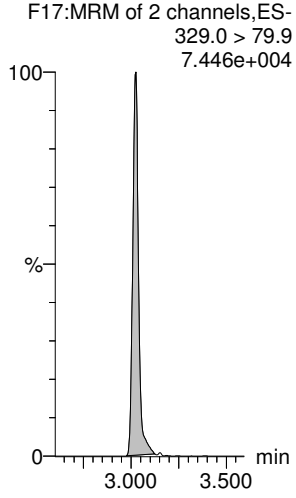
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

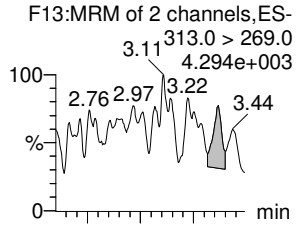


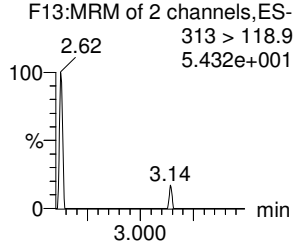
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

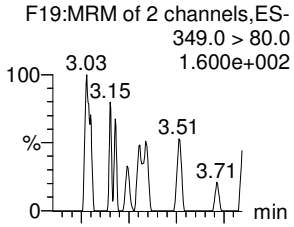
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

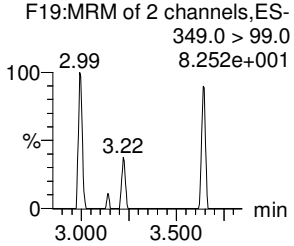
PFHxA



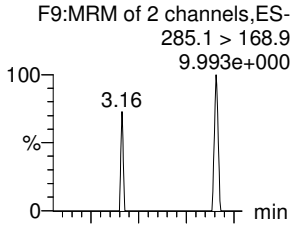


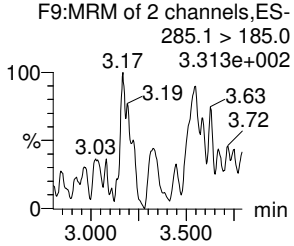
PFPeS



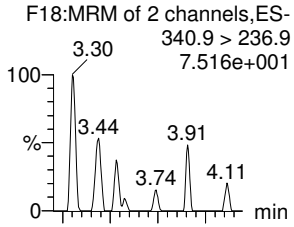


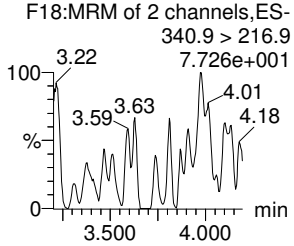
HFPO-DA



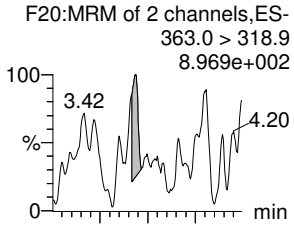


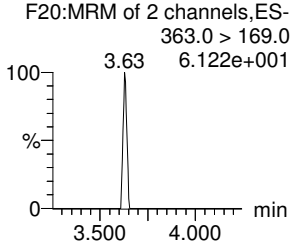
5:3 FTCA



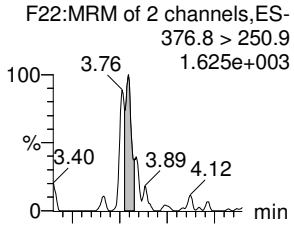


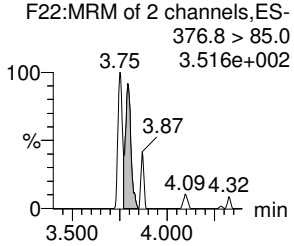
PFHpA



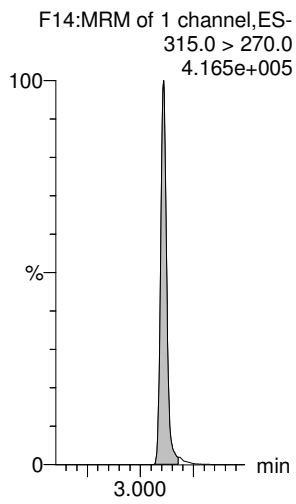


ADONA

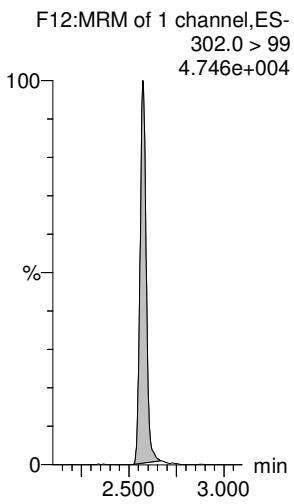




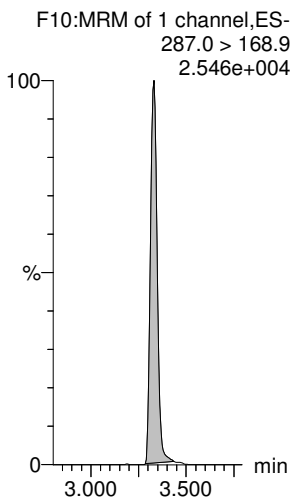
13C2-PFHxA-EIS



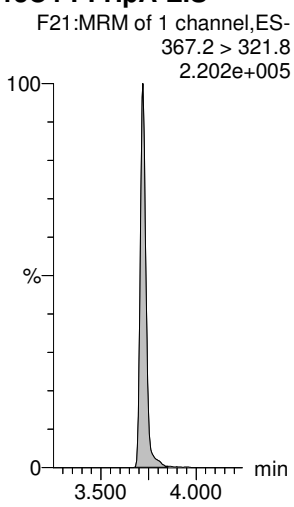
13C3-PFBS-EIS



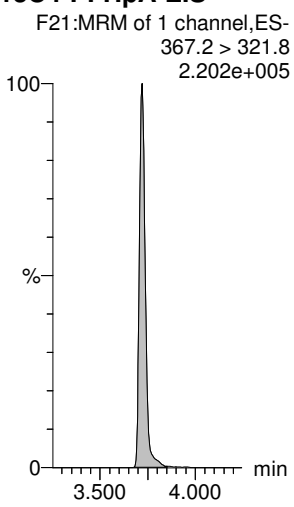
13C3-HFPO-DA-EIS



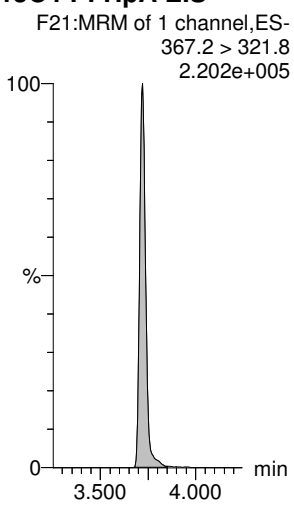
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

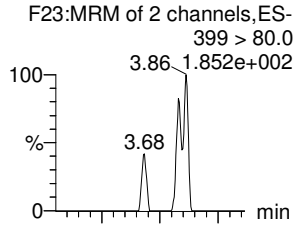


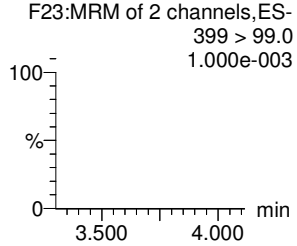
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

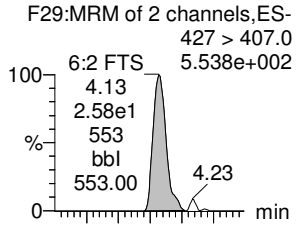
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

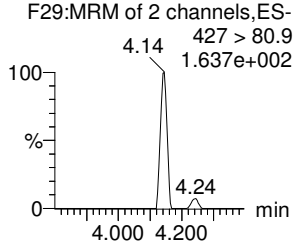
L-PFHxS



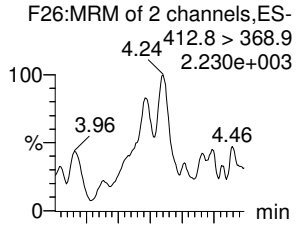


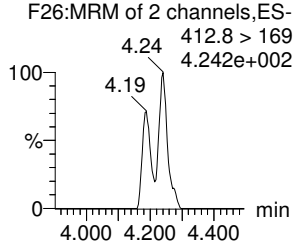
6:2 FTS



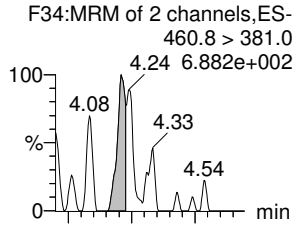


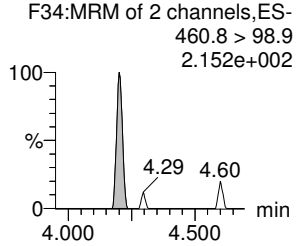
L-PFOA



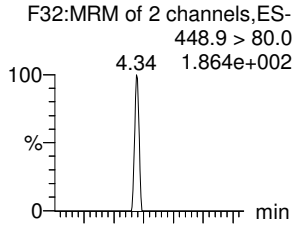


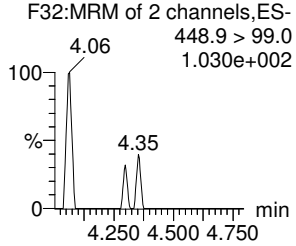
PFEChS



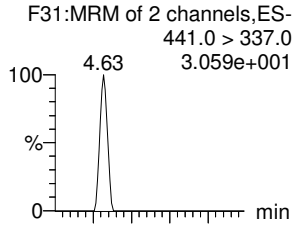


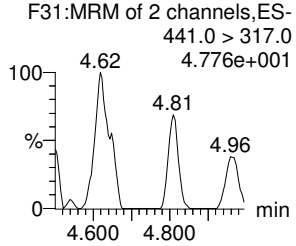
PFHpS



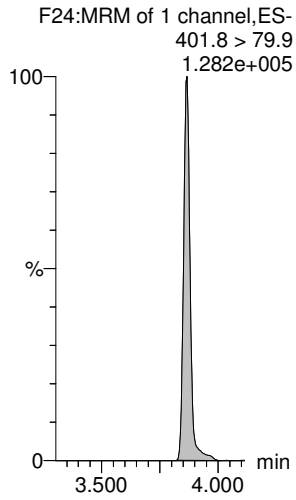


7:3 FTCA

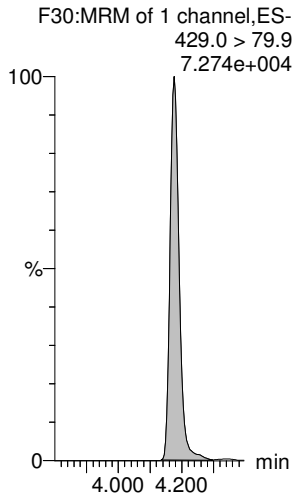




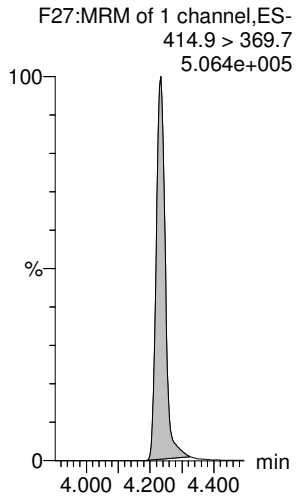
13C3-PFHxS-EIS



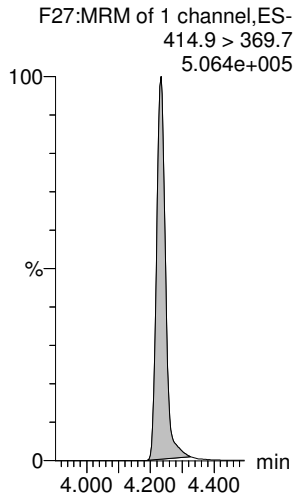
13C2-6:2 FTS-EIS



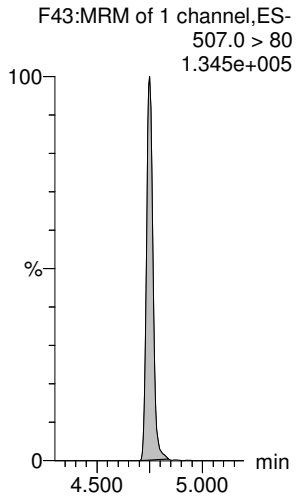
13C2-PFOA-EIS



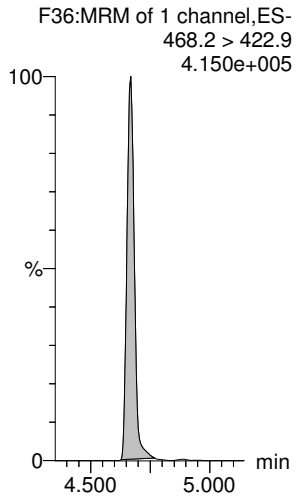
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

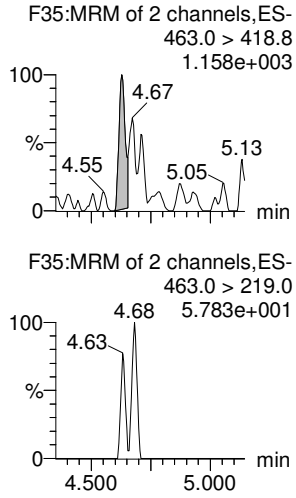


Dataset: Untitled

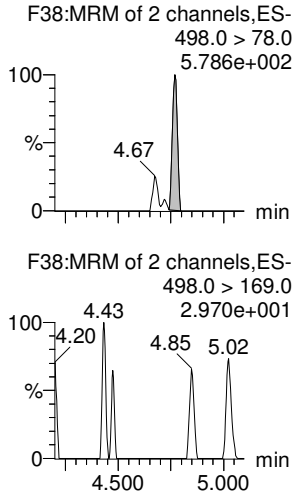
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

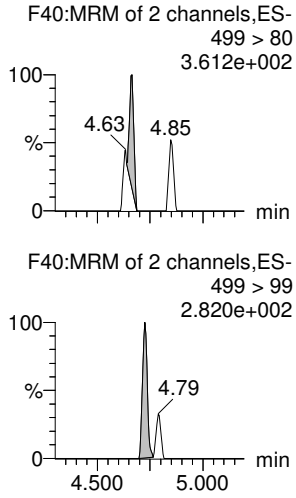
PFNA



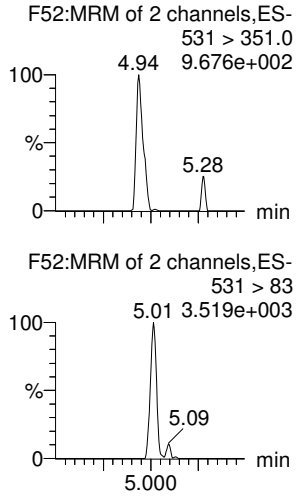
PFOSA



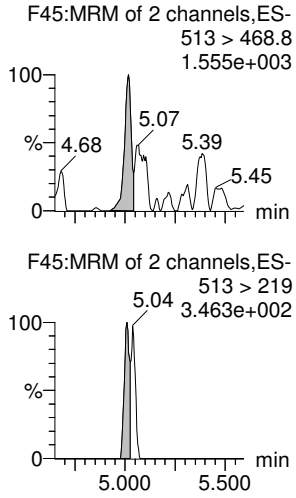
L-PFOS



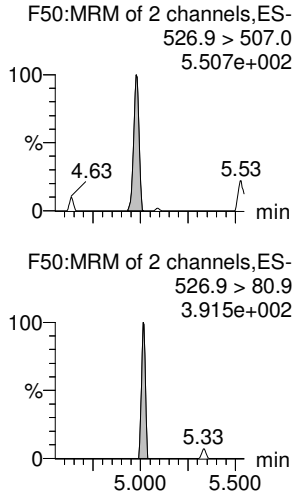
9Cl-PF30NS



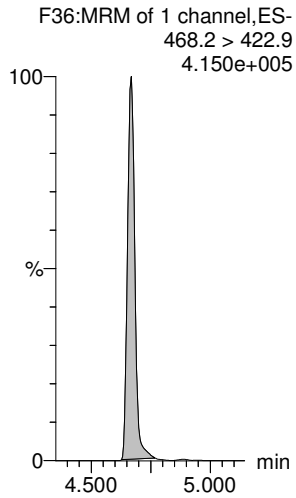
PFDA



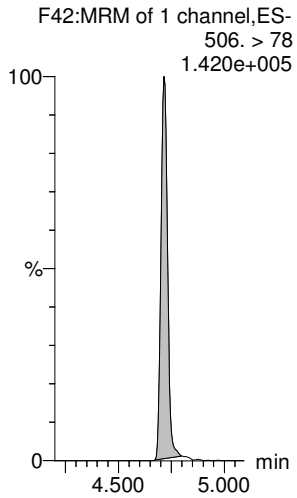
8:2 FTS



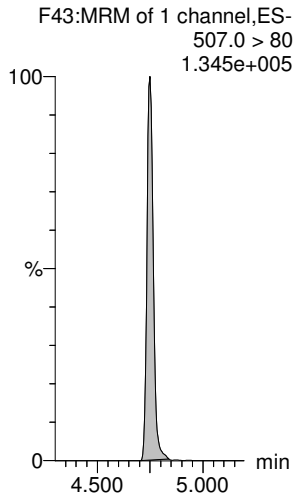
13C5-PFNA-EIS



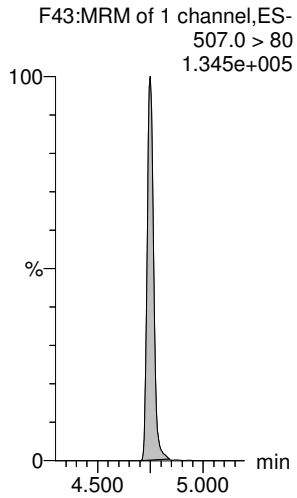
13C8-PFOSA-EIS



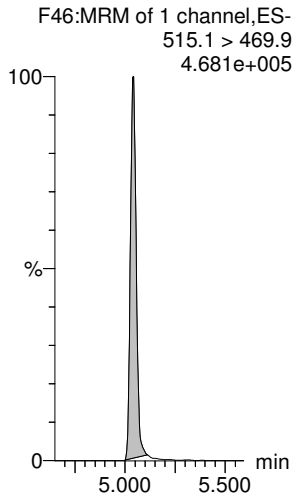
13C8-PFOS-EIS



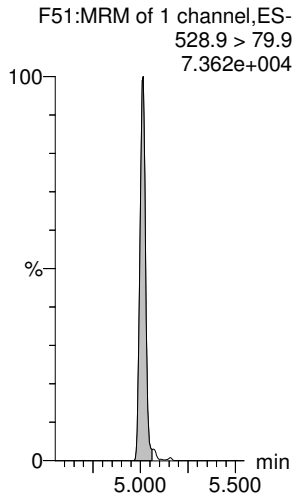
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

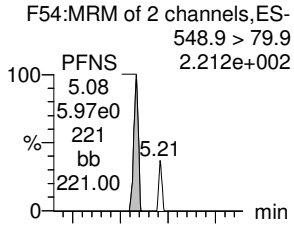


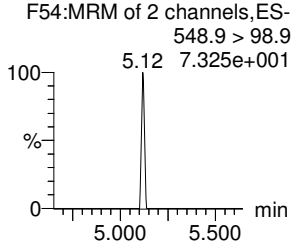
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

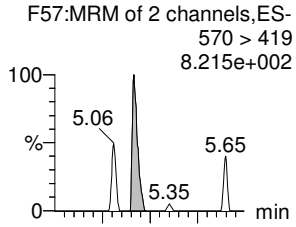
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

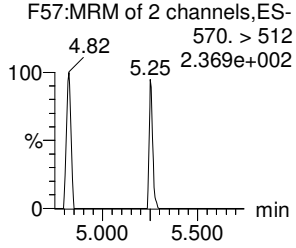
PFNS



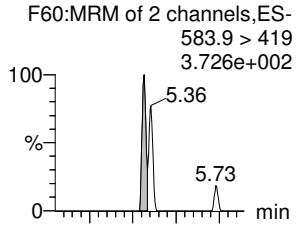


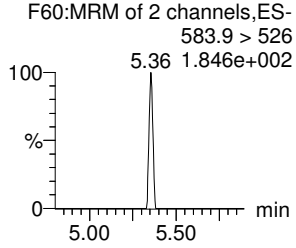
L-MeFOSAA



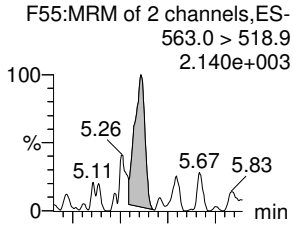


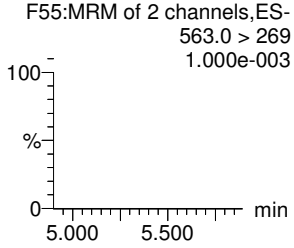
L-EtFOSAA



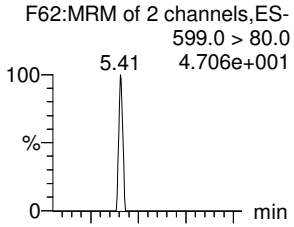


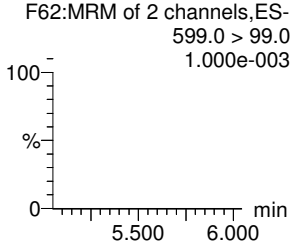
PFUdA



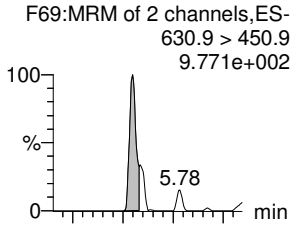


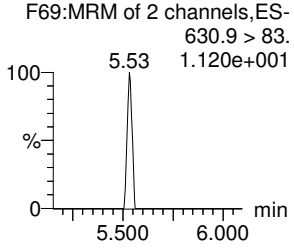
PFDS



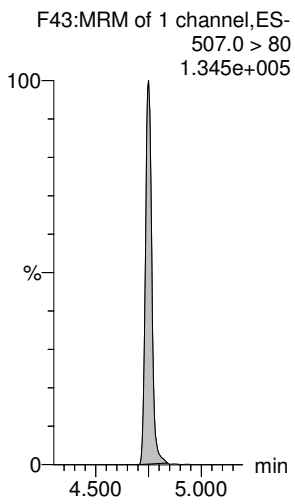


11Cl-PF30UdS

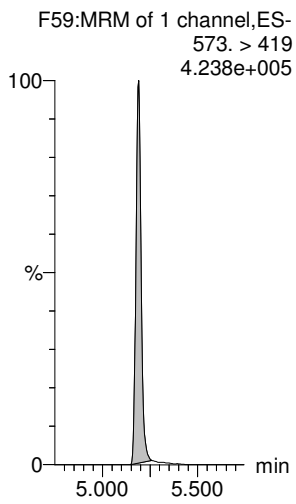




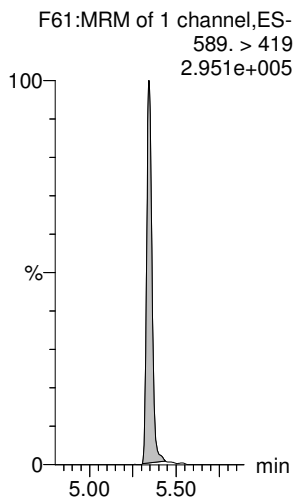
13C8-PFOS-EIS



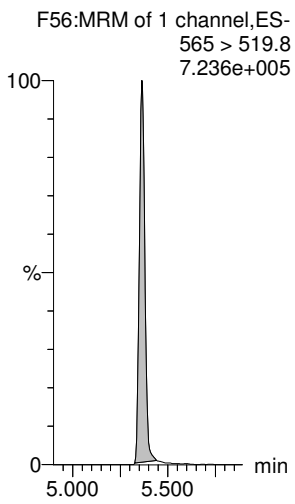
d3-N-MeFOSAA-EIS



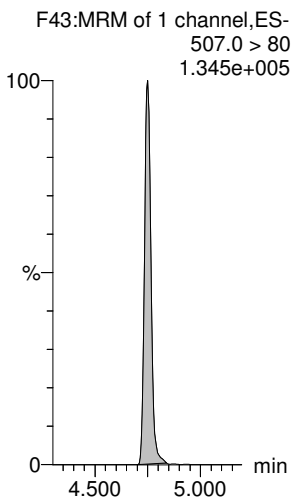
d5-N-EtFOSAA-EIS



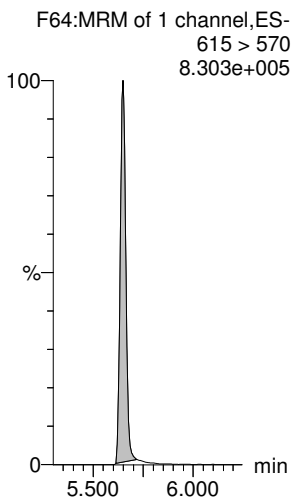
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



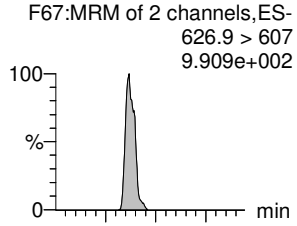
Vista Analytical Laboratory

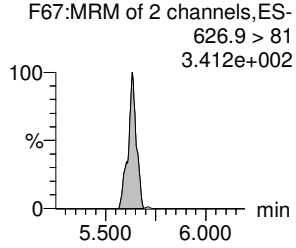
Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

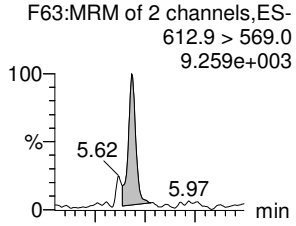
Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

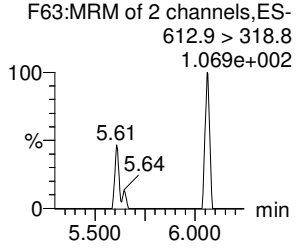
10:2 FTS



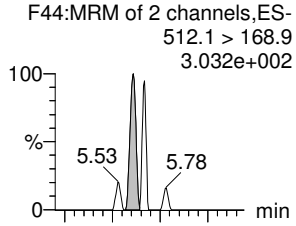


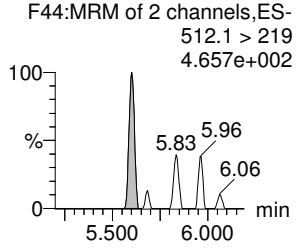
PFDoA



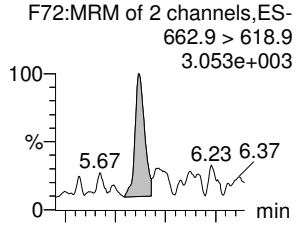


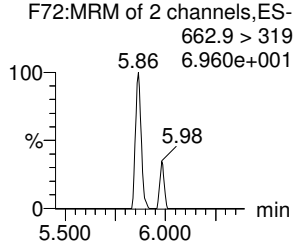
N-MeFOSA



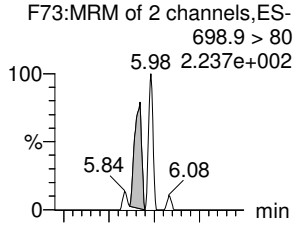


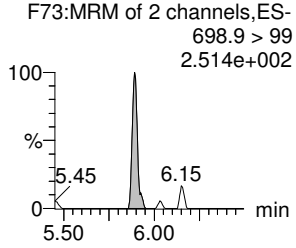
PFTrDA



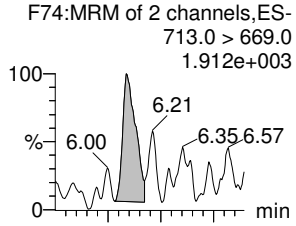


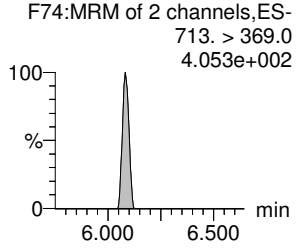
PFDoS



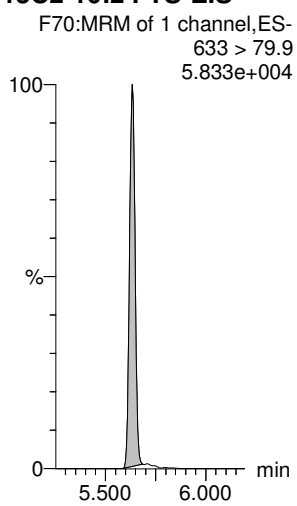


PFTeDA

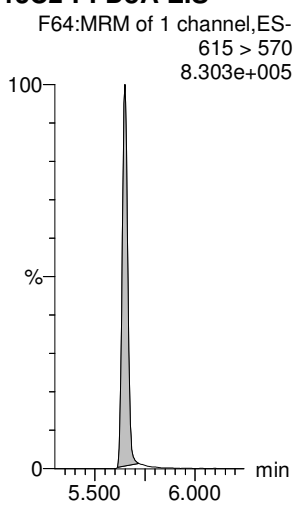




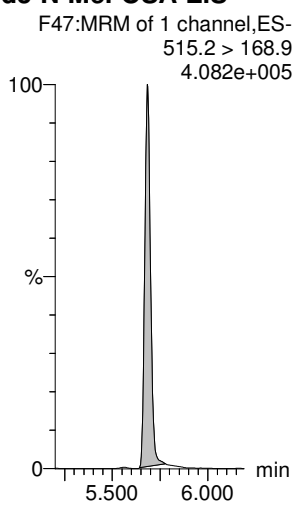
13C2-10:2 FTS-EIS



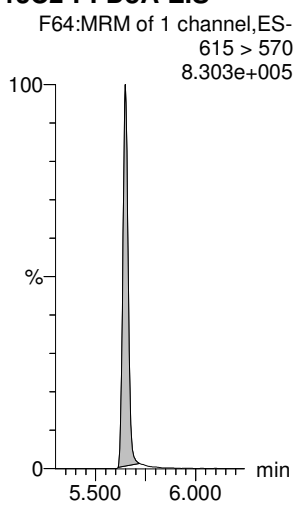
13C2-PFDoA-EIS



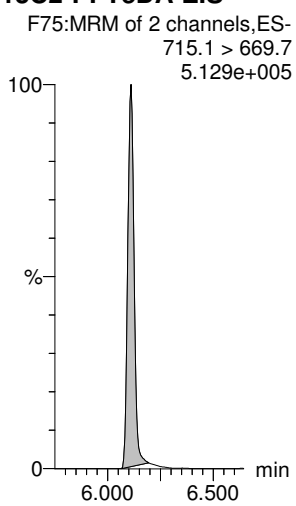
d3-N-MeFOSA-EIS



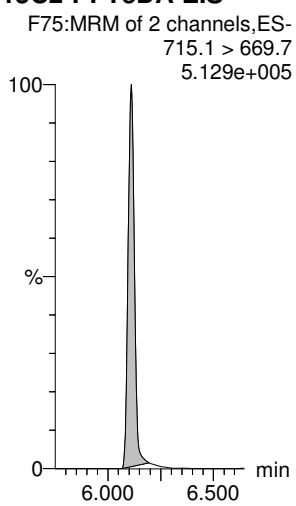
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



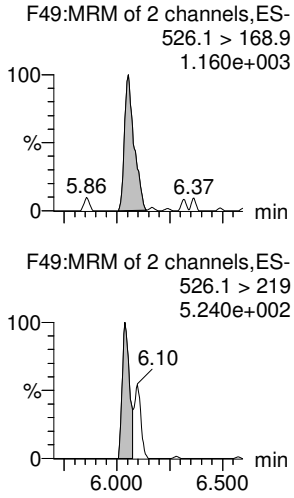
Vista Analytical Laboratory

Dataset: Untitled

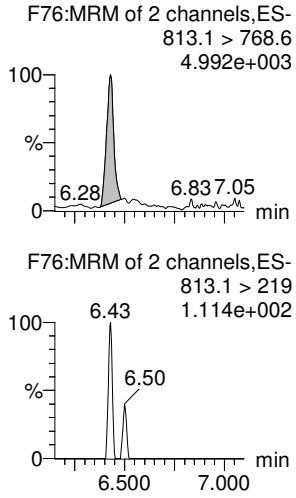
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

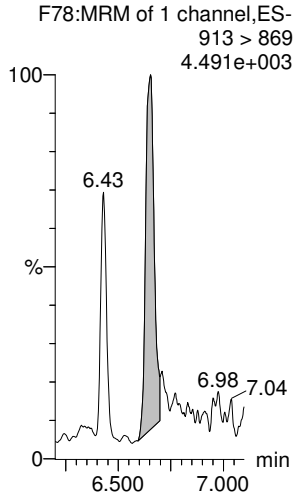
N-EtFOSA



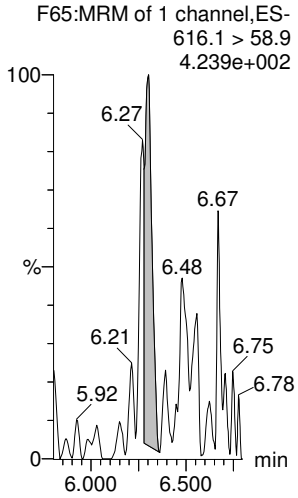
PFHxDA



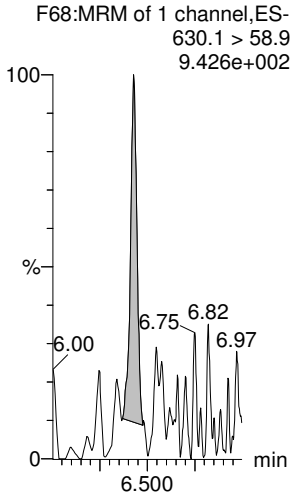
PFODA



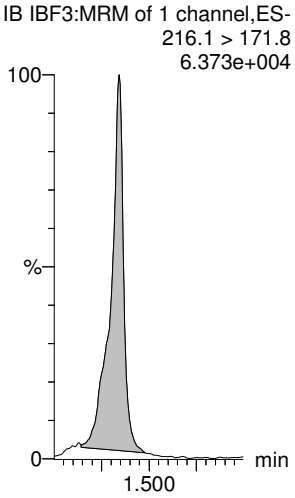
N-MeFOSE



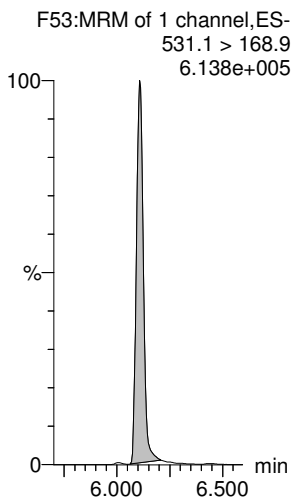
N-EtFOSE



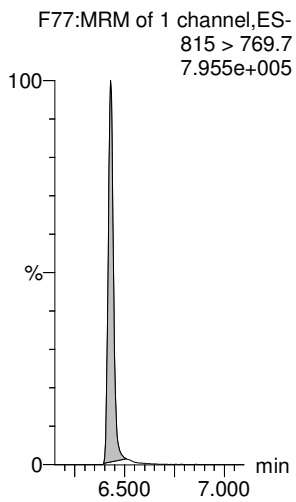
13C3-PFBA-RSD



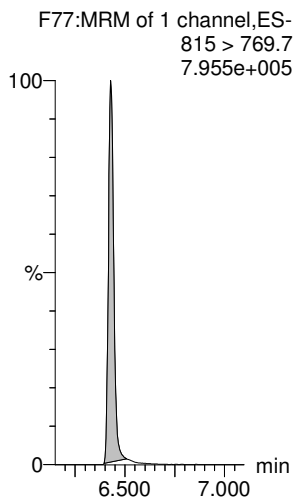
d5-N-ETFOSA-EIS



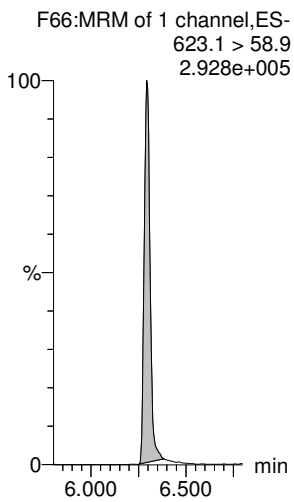
13C2-PFHxDA-EIS



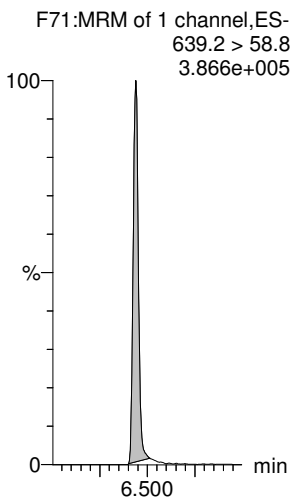
13C2-PFHxDA-EIS



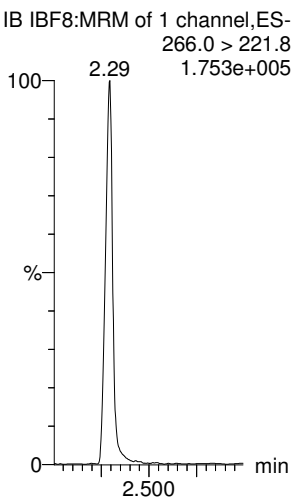
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

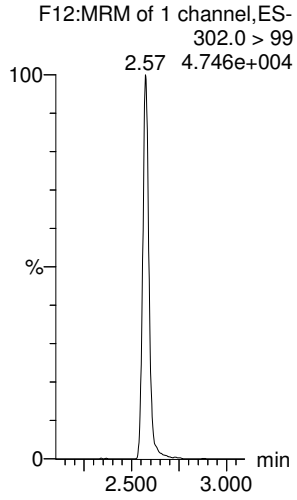


Dataset: Untitled

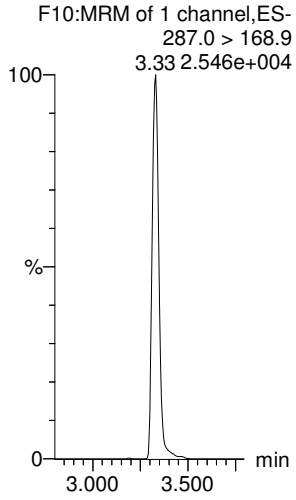
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

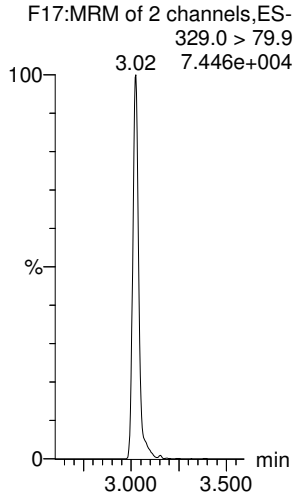
13C3-PFBS-RSD



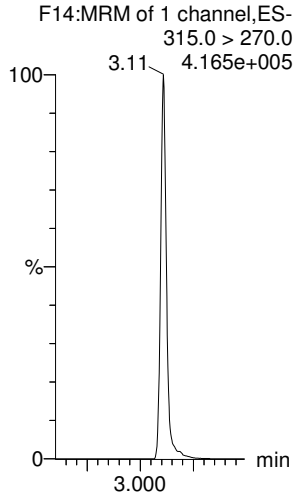
13C3-HFPO-DA-RSD



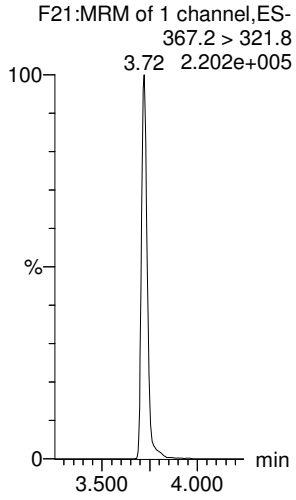
13C2-4:2 FTS-RSD



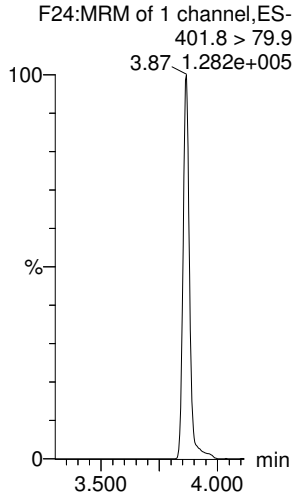
13C2-PFHxA-RSD



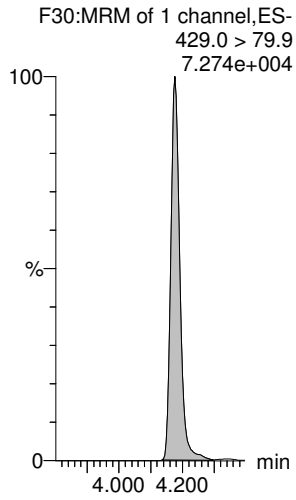
13C4-PFHpA-RSD



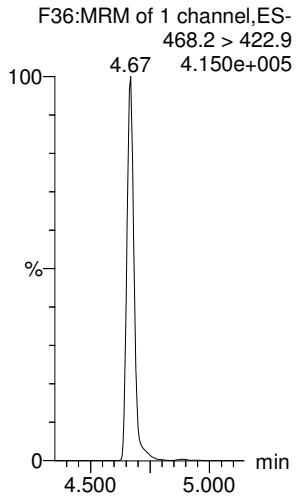
13C3-PFHxS-RSD



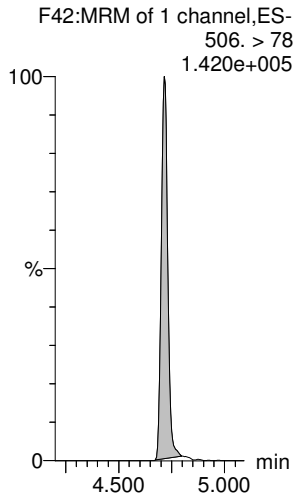
13C2-6:2 FTS-RSD



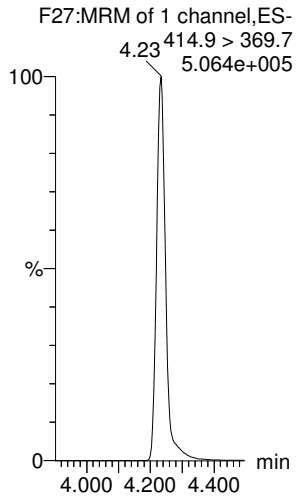
13C5-PFNA-RSD



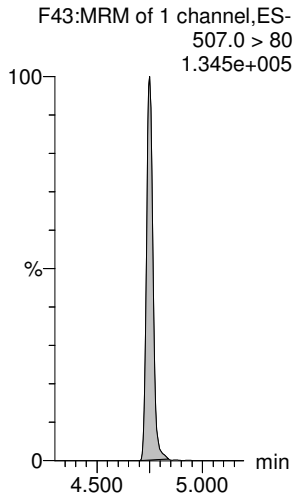
13C8-PFOSA-RSD



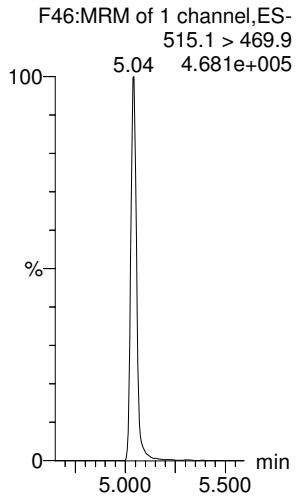
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

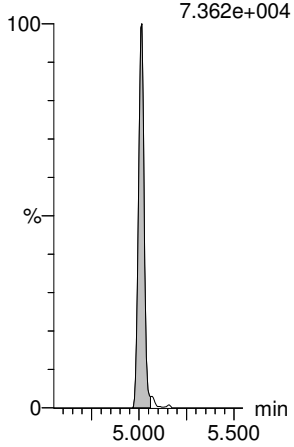


Dataset: Untitled

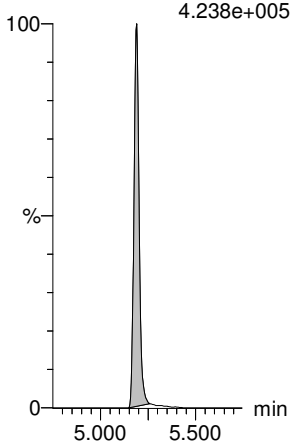
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

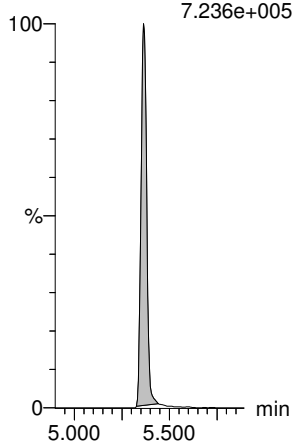
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.362e+004



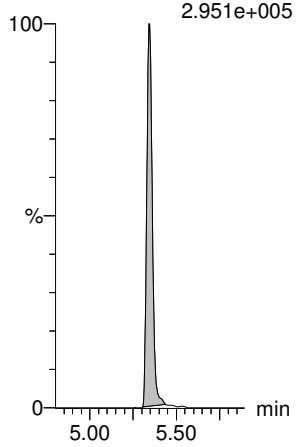
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.238e+005



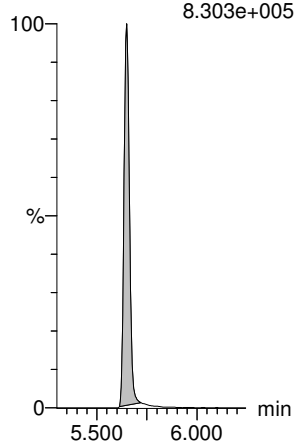
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.236e+005



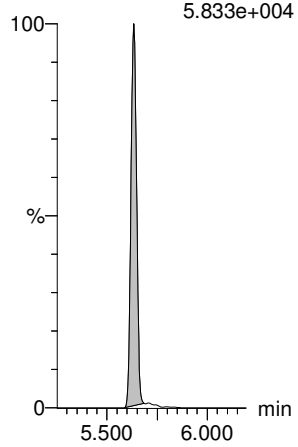
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.951e+005



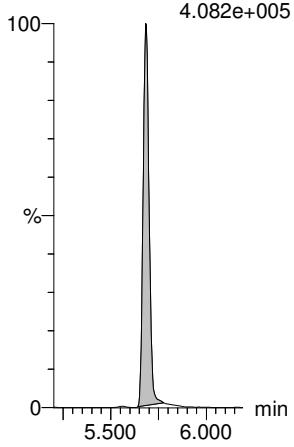
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
8.303e+005



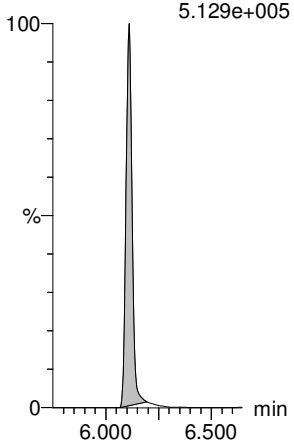
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.833e+004



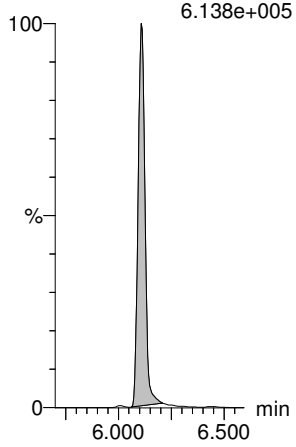
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.082e+005



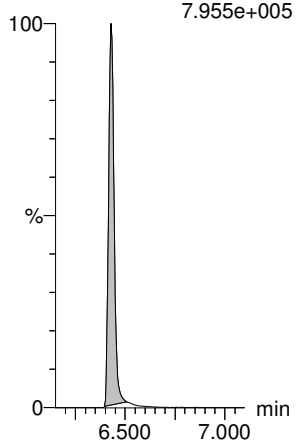
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.129e+005



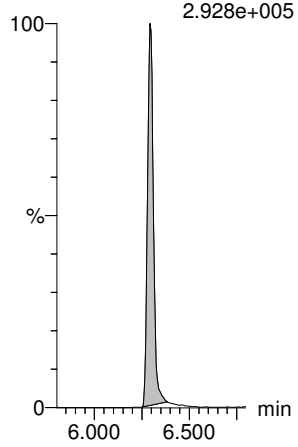
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.138e+005



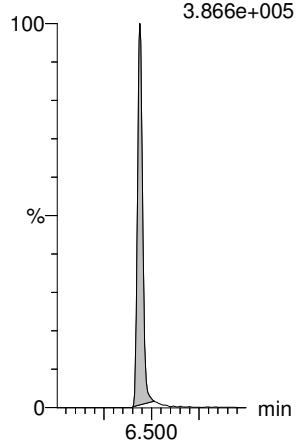
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.955e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.928e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.866e+005

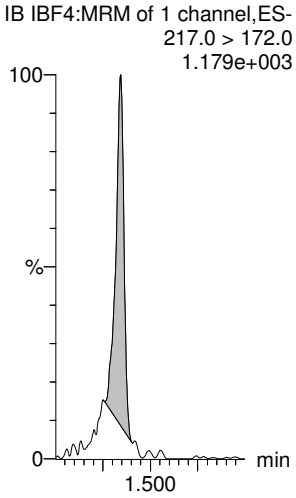


Dataset: Untitled

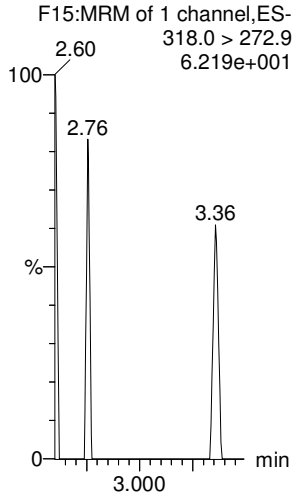
Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

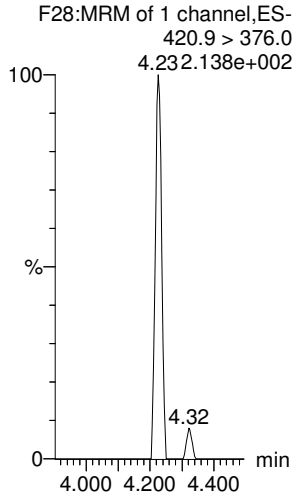
13C4-PFBA



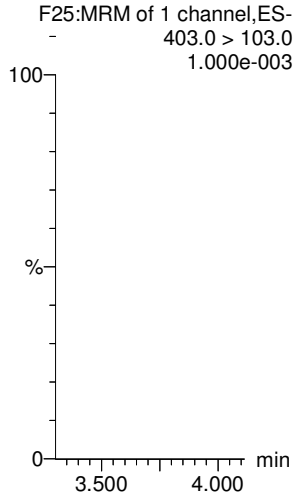
13C5-PFHxA



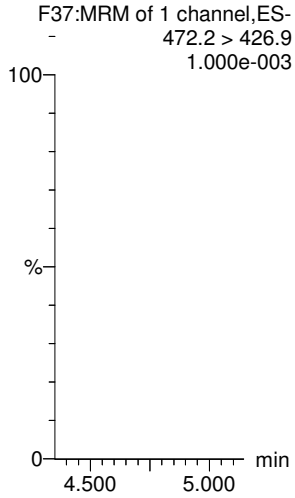
13C8-PFOA



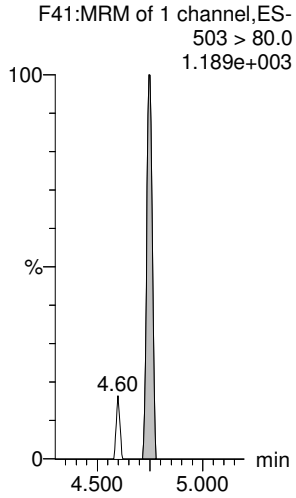
18O2-PFHxS



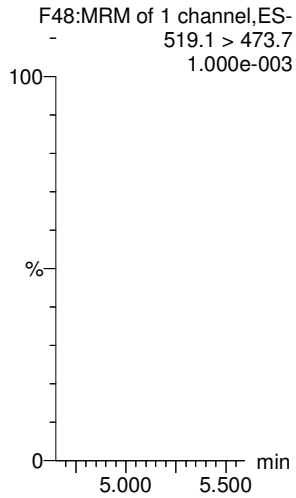
13C9-PFNA



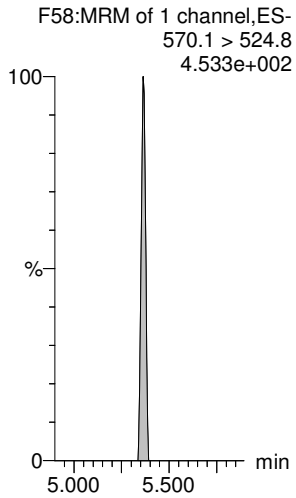
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	6.470	4794.997	1.00	1.68	0.017		0.0487		NO		
2	2	PFPrS	248.9 > 79.9		1733.769	1.00						NO		YES
3	3	3:3 FTCA	241.1 > 177.0		7417.804	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9	5.052	7417.804	1.00	2.33	0.009		0.00891		NO		
5	5	PFBS	299.0 > 79.7		1733.769	1.00						NO		YES
6	6	4:2 FTS	327.0 > 306.9	5.518	2639.538	1.00	2.84	0.026		0.0146		NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	4794.997		1.00	1.34	4794.997	12.500	14.0	111.7	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	7417.804		1.00	2.29	7417.804	12.500	13.8	110.4	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	7417.804		1.00	2.29	7417.804	12.500	13.8	110.4	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2639.538		1.00	3.02	2639.538	12.500	13.1	105.1	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	92.114	13204.556	1.00	3.37	0.087		0.0577		NO		YES
15	8	PFPeS	349.0 > 80.0		1733.769	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		1008.023	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9		7753.160	1.00						NO		YES
18	11	PFHpA	363.0 > 318.9	22.519	7753.160	1.00	3.68	0.036				NO		YES
19	12	ADONA	376.8 > 250.9	58.491	7753.160	1.00	3.80	0.094		0.0001...		NO	5.515	YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	13204.556		1.00	3.11	13204.556	12.500	13.1	104.4	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1733.769		1.00	2.57	1733.769	12.500	13.4	107.2	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1008.023		1.00	3.33	1008.023	12.500	13.0	104.1	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	7753.160		1.00	3.72	7753.160	12.500	13.7	109.6	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0		4054.742	1.00						NO		YES
28	15	6:2 FTS	427 > 407.0	25.824	2413.766	1.00	4.13	0.134				NO		YES
29	16	L-PFOA	412.8 > 368.9		16333.068	1.00						NO		YES
30	18	PFecHS	460.8 > 381.0	24.282	16333.068	1.00	4.21	0.019		0.152		NO	4.301	YES
31	19	PFHpS	448.9 > 80.0		4651.309	1.00						NO		YES
32	20	7:3 FTCA	441.0 > 337.0		14516.408	1.00						NO		YES
33	61	13C3-PFHxS-EIS	401.8 > 79.9	4054.742		1.00	3.87	4054.742	12.500	14.1	112.6	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2413.766		1.00	4.18	2413.766	12.500	13.8	110.6	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	16333.068		1.00	4.23	16333.068	12.500	13.2	105.4	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	16333.068		1.00	4.23	16333.068	12.500	13.2	105.4	NO		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	14516.408		1.00	4.67	14516.408	12.500	14.8	118.6	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	33.967	14516.408	1.00	4.63	0.029		0.0361		NO		YES
41	22	PFOSA	498.0 > 78.0	15.407	4943.442	1.00	4.77	0.039		0.153		NO		YES
42	23	L-PFOS	499 > 80	6.993	4651.309	1.00	4.66	0.019		0.100		NO	0.935	YES
43	25	9Cl-PF30NS	531 > 351.0		4651.309	1.00						NO		YES
44	26	PFDA	513 > 468.8	58.985	15203.589	1.00	5.02	0.048				NO	6.028	NO
45	27	8:2 FTS	526.9 > 507.0	18.288	2448.766	1.00	4.98	0.093				NO	2.047	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	14516.408		1.00	4.67	14516.408	12.500	14.8	118.6	NO		
47	67	13C8-PFOSA-EIS	506. > 78	4943.442		1.00	4.71	4943.442	12.500	12.7	101.8	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	15203.589		1.00	5.04	15203.589	12.500	14.2	113.4	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2448.766		1.00	5.01	2448.766	12.500	12.5	100.1	NO		
52	-1													
53	28	PFNS	548.9 > 79.9	5.969	4651.309	1.00	5.08	0.016		0.147		NO		YES
54	29	L-MeFOSAA	570 > 419	25.209	12896.198	1.00	5.17	0.024		0.0662		NO		YES
55	31	L-EtFOSAA	583.9 > 419	9.354	10608.742	1.00	5.31	0.011		0.0878		NO		YES
56	33	PFUdA	563.0 > 518.9	132.109	24296.852	1.00	5.36	0.068		0.0463		NO		YES
57	34	PFDS	599.0 > 80.0		4651.309	1.00						NO		YES
58	35	11Cl-PF30UdS	630.9 > 450.9	36.784	25809.420	1.00	5.55	0.018		0.0204		NO		YES
59	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	12896.198		1.00	5.19	12896.198	12.500	14.0	111.7	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	10608.742		1.00	5.34	10608.742	12.500	12.2	97.9	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	24296.852		1.00	5.36	24296.852	12.500	13.7	109.2	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4651.309		1.00	4.75	4651.309	12.500	14.5	116.2	NO		
64	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	51.932	1841.801	1.00	5.62	0.352		0.0541		NO	3.271	YES
67	37	PFDoA	612.9 > 569.0	388.992	25809.420	1.00	5.68	0.188		0.0632		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	10.662	14298.525	1.00	5.61	0.111				NO	0.705	YES
69	39	PFTrDA	662.9 > 618.9	152.845	25809.420	1.00	5.86	0.074		0.0709		NO		YES
70	40	PFDoS	698.9 > 80	7.843	17043.047	1.00	5.92	0.006		0.0936		NO	0.946	NO
71	41	PFTeDA	713.0 > 669.0	126.424	17043.047	1.00	6.09	0.093		0.0763		NO	8.934	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1841.801		1.00	5.63	1841.801	12.500	13.9	111.1	NO		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	14298.525		1.00	5.68	14298.525	149.200	142	95.5	NO		
75	85	13C2-PFDoA-EIS	615 > 570	25809.420		1.00	5.65	25809.420	12.500	13.4	107.3	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	17043.047		1.00	6.11	17043.047	12.500	13.0	103.7	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	17043.047		1.00	6.11	17043.047	12.500	13.0	103.7	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	59.845	22433.379	1.00	6.05	0.398		0.451		NO	3.037	YES
80	43	PFHxDA	813.1 > 768.6	199.570	24498.477	1.00	6.43	0.102		0.00810		NO		YES
81	44	PFODA	913 > 869	194.795	24498.477	1.00	6.65	0.099		0.106		NO		
82	45	N-MeFOSE	616.1 > 58.9	17.225	10140.663	1.00	6.30	0.253				NO		
83	46	N-EtFOSE	630.1 > 58.9	32.785	12196.826	1.00	6.43	0.401		0.334		NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	4850.166	52.545	1.00	1.34	1153.812	12.500	1670	13366.2	YES		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	22433.379		1.00	6.11	22433.379	149.200	144	96.4	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	24498.477		1.00	6.43	24498.477	12.500	13.5	108.0	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	24498.477		1.00	6.43	24498.477	12.500	13.5	108.0	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	10140.663		1.00	6.29	10140.663	149.200	144	96.6	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	12196.826		1.00	6.44	12196.826	149.200	159	106.7	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2413.766	35.570	1.00	4.18	848.245	12.500	1600	12828.2	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9			1.00			12.500			NO		
100	68	13C8-PFOSA-RSD	506. > 78	4943.442	11.861	1.00	4.71	5209.765	12.500	24400	19524...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4651.309	35.570	1.00	4.75	1634.562	12.500	1670	13364.0	YES		
103	76	13C2-PFDA-RSD	515.1 > 469.9			1.00			12.500			NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2448.766	35.570	1.00	5.01	860.545	12.500	1470	11734.2	YES		
106	80	d3-N-MeFOSAA-RSD	573. > 419	12896.198	11.861	1.00	5.19	13590.968	12.500	28100	22445...	YES		
107	82	13C2-PFUdA-RSD	565 > 519.8	24296.852	11.861	1.00	5.36	25605.822	12.500	28800	23036...	YES		
108	84	d5-N-EtFOSAA-RSD	589. > 419	10608.742	11.861	1.00	5.34	11180.278	12.500	26200	20970...	YES		

Dataset: Untitled

Last Altered: Friday, July 10, 2020 15:26:02 Pacific Daylight Time
Printed: Friday, July 10, 2020 15:26:06 Pacific Daylight Time

Name: 200710M1_13, Date: 10-Jul-2020, Time: 09:59:26, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	25809.420		1.00	5.65		12.500			NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1841.801	35.570	1.00	5.63	647.245	12.500	1630	13006.2	YES		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	14298.525	11.861	1.00	5.68	15068.844	149.200	275000	18459...	YES		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	17043.047	11.861	1.00	6.11	17961.225	12.500	26300	21057...	YES		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	22433.379	11.861	1.00	6.11	23641.956	149.200	289000	19391...	YES		
114	96	13C2-PFHxDA-RSD	815 > 769.7	24498.477	11.861	1.00	6.43	25818.309	12.500	26300	21052...	YES		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	10140.663	11.861	1.00	6.29	10686.981	149.200	277000	18537...	YES		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	12196.826	11.861	1.00	6.44	12853.918	149.200	310000	20772...	YES		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	52.545	52.545	1.00	1.35	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103.0			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9			1.00			12.500			NO		
123	1...	13C4-PFOS	503 > 80.0	35.570	35.570	1.00	4.75	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7			1.00			12.500			NO		
125	1...	13C7-PFUdA	570.1 > 524.8	11.861	11.861	1.00	5.36	12.500	12.500	12.5	100.0	NO		

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN945 SCN960**
Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:23:13 Pacific Daylight Time

Low point
PFHxS 0.500
10:2 FTS 0.500
MeFOSE 5.000

High point
3:3 FTCA 100.000
5:3 FTCA 100.000
7:3 FTCA 50.000
HFPO-DA 250.000
10:2 FTS 250.000
MeFOSE 1250.000

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999843
Calibration curve: -0.000264269 * x^2 + 1.4756 * x + 0.0273328
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

Vopr 07/14/20

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	0.250	1.40	133.391	3369.964	0.495	0.3	26.7	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	1.40	194.975	3337.699	0.730	0.5	-4.7	NO	1.000	NO	MM
3	3 200713M1_5	Standard	1.000	1.30	322.359	3382.398	1.191	0.8	-21.1	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	1.26	782.211	3286.889	2.975	2.0	-0.1	NO	1.000	NO	MM
5	5 200713M1_7	Standard	5.000	1.28	2139.968	3793.533	7.051	4.8	-4.7	NO	1.000	NO	MM
6	6 200713M1_8	Standard	10.000	1.26	4273.344	3537.232	15.101	10.2	2.3	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	1.35	21719.092	3659.774	74.182	50.7	1.4	NO	1.000	NO	MM
8	8 200713M1_10	Standard	100.000	1.28	40456.063	3455.136	146.362	101.0	1.0	NO	1.000	NO	MM
9	9 200713M1_11	Standard	250.000	1.25	97337.242	3488.372	348.792	247.3	-1.1	NO	1.000	NO	MM
10	10 200713M1_12	Standard	500.000	1.25	194827.344	3617.669	673.180	501.2	0.2	NO	1.000	NO	MM

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999426
Calibration curve: 0.00050431 * x^2 + 1.518 * x + 0.0611456
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 200713M1_3	Standard	0.250	1.73	44.582	1472.464	0.378	0.2	-16.4	NO	0.999	NO	MM
2	2 200713M1_4	Standard	0.500	1.72	94.985	1486.694	0.799	0.5	-2.9	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	1.62	187.215	1398.172	1.674	1.1	6.2	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	1.59	359.026	1494.759	3.002	1.9	-3.2	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	1.60	997.016	1499.131	8.313	5.4	8.5	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	1.59	1901.854	1488.333	15.973	10.4	4.5	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	1.67	9328.778	1470.984	79.273	51.3	2.6	NO	0.999	NO	MM
8	8 200713M1_10	Standard	100.000	1.61	18328.814	1411.053	162.368	103.4	3.4	NO	0.999	NO	MM
9	9 200713M1_11	Standard	250.000	1.57	43851.086	1383.504	396.196	241.6	-3.4	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	1.58	85460.500	1198.588	891.262	503.0	0.6	NO	0.999	NO	MM

FR 07/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.997112
Calibration curve: -8.29946e-006 * x^2 + 0.0737104 * x + -0.0125602
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	0.250	2.21	2.964	5508.791	0.007	0.3	4.7	NO	0.997	NO	MM
2	2 200713M1_4	Standard	0.500	2.19	6.727	5580.999	0.015	0.4	-25.0	NO	0.997	NO	MM
3	3 200713M1_5	Standard	1.000	2.09	22.909	6135.382	0.047	0.8	-19.6	NO	0.997	NO	MM
4	4 200713M1_6	Standard	2.000	2.09	47.901	6262.542	0.096	1.5	-26.6	NO	0.997	NO	bb
5	5 200713M1_7	Standard	5.000	2.08	164.832	6451.926	0.319	4.5	-9.9	NO	0.997	NO	bb
6	6 200713M1_8	Standard	10.000	2.07	396.886	6453.526	0.769	10.6	6.1	NO	0.997	NO	MM
7	7 200713M1_9	Standard	50.000	2.10	1923.775	6391.175	3.763	51.5	3.0	NO	0.997	NO	MM
8	8 200713M1_10	Standard	100.000	2.08	3607.614	6247.073	7.219	99.2	-0.8	NO	0.997	NO	bb
9	9 200713M1_11	Standard	250.000	2.06	2127.483	6230.859	4.268	58.5	-76.6	YES	0.997	NO	bbX
10	10 200713M1_12	Standard	500.000	2.06	3628.497	6016.560	7.539	103.7	-79.3	YES	0.997	NO	MMX

Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999528
Calibration curve: -0.000197089 * x^2 + 0.970087 * x + 0.00160944
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	0.250	2.33	107.548	5508.791	0.244	0.2	-0.0	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	2.34	221.273	5580.999	0.496	0.5	1.9	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	2.24	455.732	6135.382	0.928	1.0	-4.4	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	2.22	1024.889	6262.542	2.046	2.1	5.4	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	2.23	2453.671	6451.926	4.754	4.9	-1.9	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	2.21	4860.639	6453.526	9.415	9.7	-2.8	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	2.25	24692.268	6391.175	48.294	50.3	0.6	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	2.23	49493.852	6247.073	99.034	104.3	4.3	NO	1.000	NO	MM
9	9 200713M1_11	Standard	250.000	2.20	111596.695	6230.859	223.879	242.8	-2.9	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	2.20	210875.672	6016.560	438.115	503.0	0.6	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.998535
Calibration curve: 0.000225606 * x^2 + 2.03093 * x + -0.0119333
Response type: Internal Std (Ref 51), 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 200713M1_3	Standard	0.250	2.60	53.856	1472.464	0.457	0.2	-7.6	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	2.61	108.361	1486.694	0.911	0.5	-9.1	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	2.52	211.029	1398.172	1.887	0.9	-6.5	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	2.51	497.708	1494.759	4.162	2.1	2.7	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	2.52	1294.083	1499.131	10.790	5.3	6.3	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	2.50	2594.639	1488.333	21.791	10.7	7.2	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	2.53	12371.600	1470.984	105.130	51.5	3.0	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	2.52	24616.031	1411.053	218.064	106.1	6.1	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	2.49	54471.223	1383.504	492.149	236.1	-5.5	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	2.49	103922.852	1198.588	1083.805	505.3	1.1	NO	0.999	NO	MM

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999567
Calibration curve: -0.000604241 * x^2 + 2.66561 * x + -0.0125417
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 200713M1_3	Standard	0.250	3.05	115.951	2159.456	0.671	0.3	2.6	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	3.05	236.640	2356.741	1.255	0.5	-4.9	NO	1.000	NO	MM
3	3 200713M1_5	Standard	1.000	2.97	525.175	2526.928	2.598	1.0	-2.0	NO	1.000	NO	bb
4	4 200713M1_6	Standard	2.000	2.95	953.593	2322.507	5.132	1.9	-3.5	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	2.97	2993.524	2562.200	14.604	5.5	9.8	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	2.95	5763.073	2728.064	26.406	9.9	-0.7	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	2.94	28238.785	2740.510	128.803	48.9	-2.3	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	2.95	46853.109	2319.872	252.455	96.8	-3.2	NO	1.000	NO	MM
9	9 200713M1_11	Standard	250.000	2.94	98224.055	1903.097	645.159	257.0	2.8	NO	1.000	NO	MM
10	10 200713M1_12	Standard	500.000	2.94	174666.500	1857.583	1175.361	496.9	-0.6	NO	1.000	NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.999734
Calibration curve: -0.000127277 * x^2 + 1.09334 * x + 0.014512
Response type: Internal Std (Ref 57), 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 200713M1_3	Standard	0.250	3.14	282.776	11388.440	0.310	0.3	8.2	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	3.13	533.132	11288.024	0.590	0.5	5.3	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	3.05	883.237	11260.342	0.980	0.9	-11.6	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	3.04	2020.636	11637.593	2.170	2.0	-1.4	NO	1.000	NO	MM
5	5 200713M1_7	Standard	5.000	3.05	5323.500	12136.501	5.483	5.0	0.1	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	3.04	10688.363	11986.491	11.146	10.2	1.9	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	3.03	53979.141	12092.669	55.797	51.3	2.7	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	3.04	103032.977	11696.924	110.107	101.9	1.9	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	3.02	233719.203	11264.662	259.350	244.1	-2.3	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	3.02	431032.500	10414.777	517.333	502.6	0.5	NO	1.000	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.998975
Calibration curve: -0.000584717 * x^2 + 2.39418 * x + 0.0249729
Response type: Internal Std (Ref 51), 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 200713M1_3	Standard	0.250	3.33	66.725	1472.464	0.566	0.2	-9.5	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	3.33	149.190	1486.694	1.254	0.5	2.7	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	3.26	290.311	1398.172	2.595	1.1	7.4	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	3.25	551.960	1494.759	4.616	1.9	-4.1	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	3.24	1475.279	1499.131	12.301	5.1	2.7	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	3.25	2876.639	1488.333	24.160	10.1	1.1	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	3.23	14244.404	1470.984	121.045	51.2	2.4	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	3.23	27731.738	1411.053	245.665	105.3	5.3	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	3.24	59400.098	1383.504	536.682	238.0	-4.8	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	3.23	101727.375	1198.588	1060.908	505.5	1.1	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.997118
Calibration curve: -0.000469212 * x^2 + 0.995387 * x + -0.104898
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 200713M1_3	Standard	0.250	3.36	5.470	841.655	0.081	0.2	-25.2	NO	0.997	NO	bb
2	2 200713M1_4	Standard	0.500	3.34	32.551	946.604	0.430	0.5	7.5	NO	0.997	NO	bb
3	3 200713M1_5	Standard	1.000	3.28	71.404	840.037	1.063	1.2	17.3	NO	0.997	NO	bb
4	4 200713M1_6	Standard	2.000	3.27	142.895	861.506	2.073	2.2	9.5	NO	0.997	NO	bb
5	5 200713M1_7	Standard	5.000	3.26	364.373	908.212	5.015	5.2	3.1	NO	0.997	NO	bb
6	6 200713M1_8	Standard	10.000	3.26	654.254	921.049	8.879	9.1	-9.4	NO	0.997	NO	bb
7	7 200713M1_9	Standard	50.000	3.24	3561.339	1009.452	44.100	45.4	-9.2	NO	0.997	NO	bb
8	8 200713M1_10	Standard	100.000	3.25	7040.795	869.112	101.264	107.3	7.3	NO	0.997	NO	bb
9	9 200713M1_11	Standard	250.000	3.25	14684.632	843.103	217.717	247.8	-0.9	NO	0.997	NO	bb
10	10 200713M1_12	Standard	500.000	3.25	25081.586	757.461	413.909	568.0	13.6	NO	0.997	NO	bbX

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.994594
Calibration curve: -0.00119015 * x^2 + 0.462057 * x + -0.0888155
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 200713M1_3	Standard	0.250	3.69	27.700	6197.746	0.056	0.3	25.4	NO	0.995	NO	bb
2	2 200713M1_4	Standard	0.500	3.67	72.238	6773.949	0.133	0.5	-3.7	NO	0.995	NO	bb
3	3 200713M1_5	Standard	1.000	3.61	223.137	6872.049	0.406	1.1	7.4	NO	0.995	NO	bb
4	4 200713M1_6	Standard	2.000	3.60	408.626	6797.195	0.751	1.8	-8.6	NO	0.995	NO	bb
5	5 200713M1_7	Standard	5.000	3.59	1065.822	7108.544	1.874	4.3	-14.1	NO	0.995	NO	bb
6	6 200713M1_8	Standard	10.000	3.60	2136.075	6933.613	3.851	8.7	-12.8	NO	0.995	NO	bb
7	7 200713M1_9	Standard	50.000	3.58	11573.571	6666.811	21.700	54.9	9.9	NO	0.995	NO	bb
8	8 200713M1_10	Standard	100.000	3.58	18623.172	6957.684	33.458	96.7	-3.3	NO	0.995	NO	bb
9	9 200713M1_11	Standard	250.000	3.58	10729.537	6184.172	21.687	54.9	-78.0	YES	0.995	NO	bbX
10	10 200713M1_12	Standard	500.000	3.58	19098.084	5669.824	42.105	146.9	-70.6	YES	0.995	NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999795
Calibration curve: -8.7206e-005 * x^2 + 1.23782 * x + 0.0466922
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 200713M1_3	Standard	0.250	3.74	180.362	6197.746	0.364	0.3	2.5	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	3.73	349.653	6773.949	0.645	0.5	-3.3	NO	1.000	NO	bd
3	3 200713M1_5	Standard	1.000	3.67	599.974	6872.049	1.091	0.8	-15.6	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	3.66	1427.765	6797.195	2.626	2.1	4.2	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	3.66	3720.457	7108.544	6.542	5.2	5.0	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	3.66	7283.958	6933.613	13.132	10.6	5.8	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	3.65	34014.809	6666.811	63.776	51.7	3.3	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	3.65	67755.430	6957.684	121.728	99.0	-1.0	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	3.65	148671.797	6184.172	300.509	247.0	-1.2	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	3.65	271676.094	5669.824	598.952	501.6	0.3	NO	1.000	NO	bb

Compound name: ADONA
Coefficient of Determination: R^2 = 0.999196
Calibration curve: -0.00014098 * x^2 + 4.95545 * x + 0.0397225
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	0.250	3.85	626.663	6197.746	1.264	0.2	-1.2	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	3.84	1308.019	6773.949	2.414	0.5	-4.2	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	3.78	2789.098	6872.049	5.073	1.0	1.6	NO	0.999	NO	bd
4	4 200713M1_6	Standard	2.000	3.77	5297.166	6797.195	9.741	2.0	-2.1	NO	0.999	NO	MM
5	5 200713M1_7	Standard	5.000	3.77	13731.702	7108.544	24.146	4.9	-2.7	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	3.77	29122.047	6933.613	52.502	10.6	5.9	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	3.75	143974.547	6666.811	269.946	54.6	9.1	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	3.75	272793.563	6957.684	490.094	99.2	-0.8	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	3.75	589839.313	6184.172	1192.236	242.3	-3.1	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	3.75	1115805.50(	5669.824	2459.965	503.6	0.7	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.998428
Calibration curve: 0.000339353 * x^2 + 0.960167 * x + 0.131834
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 200713M1_3	Standard	0.250	3.89	44.297	3422.853	0.162	0.0	-87.5	YES	0.998	NO	MMX
2	2 200713M1_4	Standard	0.500	3.87	147.416	3304.051	0.558	0.4	-11.3	NO	0.998	NO	MM
3	3 200713M1_5	Standard	1.000	3.81	310.610	3574.556	1.086	1.0	-0.6	NO	0.998	NO	MM
4	4 200713M1_6	Standard	2.000	3.81	571.815	3666.260	1.950	1.9	-5.4	NO	0.998	NO	MM
5	5 200713M1_7	Standard	5.000	3.80	1487.324	3761.575	4.942	5.0	0.0	NO	0.998	NO	MM
6	6 200713M1_8	Standard	10.000	3.81	3168.373	3750.111	10.561	10.8	8.2	NO	0.998	NO	MM
7	7 200713M1_9	Standard	50.000	3.80	15345.422	3506.146	54.709	55.7	11.5	NO	0.998	NO	MM
8	8 200713M1_10	Standard	100.000	3.79	28925.809	3569.288	101.301	101.7	1.7	NO	0.998	NO	MM
9	9 200713M1_11	Standard	250.000	3.79	64277.348	3252.350	247.042	237.3	-5.1	NO	0.998	NO	MM
10	10 200713M1_12	Standard	500.000	3.79	128943.367	2821.345	571.285	504.8	1.0	NO	0.998	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998687
Calibration curve: -0.00113801 * x^2 + 3.1175 * x + 0.0201894
Response type: Internal Std (Ref 63), 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 200713M1_3	Standard	0.250	4.19	133.660	1862.069	0.897	0.3	12.5	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	4.18	220.745	1910.027	1.445	0.5	-8.6	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	4.12	570.486	2093.600	3.406	1.1	8.7	NO	0.999	NO	bb
4	4 200713M1_6	Standard	2.000	4.12	1014.821	2179.603	5.820	1.9	-6.9	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	4.12	2620.514	2375.035	13.792	4.4	-11.5	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	4.12	5408.065	2084.403	32.432	10.4	4.4	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	4.11	26733.904	2148.962	155.505	50.8	1.6	NO	0.999	NO	MM
8	8 200713M1_10	Standard	100.000	4.11	46522.711	1826.115	318.454	106.3	6.3	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	4.11	100522.617	1858.137	676.233	237.5	-5.0	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	4.11	176769.094	1717.647	1286.419	506.2	1.2	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999640
Calibration curve: -0.000249651 * x^2 + 1.49503 * x + 0.0619264
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 200713M1_3	Standard	0.250	4.25	444.012	14452.981	0.384	0.2	-13.8	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	4.24	902.718	14364.062	0.786	0.5	-3.2	NO	1.000	NO	MM
3	3 200713M1_5	Standard	1.000	4.18	1860.625	13871.957	1.677	1.1	8.0	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	4.18	3636.183	14018.490	3.242	2.1	6.4	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	4.18	9387.813	16110.366	7.284	4.8	-3.3	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	4.18	18161.898	14809.175	15.330	10.2	2.3	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	4.16	89599.242	14398.688	77.784	52.4	4.9	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	4.16	167709.234	14174.936	147.892	100.6	0.6	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	4.16	351466.219	12560.517	349.773	243.8	-2.5	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	4.16	644069.563	11687.334	688.854	503.0	0.6	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999476
Calibration curve: 6.93205e-005 * x^2 + 0.450237 * x + -0.0326589
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 200713M1_3	Standard	0.250	4.27	77.959	14452.981	0.067	0.2	-11.1	NO	0.999	NO	bd
2	2 200713M1_4	Standard	0.500	4.25	250.688	14364.062	0.218	0.6	11.4	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	4.20	455.846	13871.957	0.411	1.0	-1.5	NO	0.999	NO	bb
4	4 200713M1_6	Standard	2.000	4.19	1129.695	14018.490	1.007	2.3	15.5	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	4.19	2771.656	16110.366	2.151	4.8	-3.1	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	4.19	4712.019	14809.175	3.977	8.9	-11.1	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	4.18	26537.256	14398.688	23.038	50.8	1.7	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	4.18	49836.832	14174.936	43.948	96.3	-3.7	NO	0.999	NO	MM
9	9 200713M1_11	Standard	250.000	4.18	120350.195	12560.517	119.770	256.0	2.4	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	4.18	225593.000	11687.334	241.279	497.8	-0.4	NO	0.999	NO	MM

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999208
Calibration curve: -0.000493793 * x^2 + 1.06145 * x + -0.0696837
Response type: Internal Std (Ref 73), 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 200713M1_3	Standard	0.250	4.35	77.611	3875.555	0.250	0.3	20.6	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	4.34	139.719	4183.383	0.417	0.5	-8.2	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	4.29	288.720	3543.583	1.018	1.0	2.6	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	4.29	601.601	3549.414	2.119	2.1	3.2	NO	0.999	NO	MM
5	5 200713M1_7	Standard	5.000	4.28	1572.450	4014.573	4.896	4.7	-6.2	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	4.29	2890.172	3765.241	9.595	9.1	-8.6	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	4.27	14110.463	3613.604	48.810	47.1	-5.8	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	4.27	28546.971	3534.768	100.951	99.8	-0.2	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	4.27	65261.465	3367.320	242.260	259.7	3.9	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	4.27	113314.195	3509.073	403.647	493.8	-1.2	NO	0.999	NO	MM

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999620
Calibration curve: 0.00500204 * x^2 + 0.376121 * x + -0.0578015
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 200713M1_3	Standard	0.250	4.67	20.466	12903.303	0.020	0.2	-17.7	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	4.65	128.100	12584.190	0.127	0.5	-2.2	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	4.60	382.840	12876.763	0.372	1.1	12.5	NO	1.000	NO	bb
4	4 200713M1_6	Standard	2.000	4.60	823.630	12958.551	0.794	2.2	10.1	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	4.59	2126.104	13680.033	1.943	5.0	-0.2	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	4.60	4465.765	13681.104	4.080	9.7	-2.6	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	4.59	31293.076	12507.438	31.274	50.0	0.0	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	4.58	38990.293	12409.167	39.276	58.7	-41.3	YES	1.000	NO	bbX
9	9 200713M1_11	Standard	250.000	4.58	20500.816	11959.679	21.427	38.0	-84.8	YES	1.000	NO	bbX
10	10 200713M1_12	Standard	500.000	4.58	35612.352	11034.256	40.343	59.8	-88.0	YES	1.000	NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999887
Calibration curve: -0.000136823 * x^2 + 1.26068 * x + -0.044152
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 200713M1_3	Standard	0.250	4.68	220.743	12903.303	0.214	0.2	-18.1	NO	1.000	NO	bd
2	2 200713M1_4	Standard	0.500	4.66	654.955	12584.190	0.651	0.6	10.2	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	4.62	1307.662	12876.763	1.269	1.0	4.2	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	4.61	2438.786	12958.551	2.352	1.9	-4.9	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	4.61	7096.665	13680.033	6.485	5.2	3.6	NO	1.000	NO	MM
6	6 200713M1_8	Standard	10.000	4.62	14274.787	13681.104	13.042	10.4	3.9	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	4.60	64150.102	12507.438	64.112	51.2	2.3	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	4.60	123057.820	12409.167	123.959	99.4	-0.6	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	4.60	290632.250	11959.679	303.763	247.6	-0.9	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	4.60	527418.625	11034.256	597.479	501.2	0.2	NO	1.000	NO	bb

Compound name: PFOSA
Correlation coefficient: r = 0.999296, r^2 = 0.998592
Calibration curve: 0.917934 * x + 0.0250885
Response type: Internal Std (Ref 67), 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 200713M1_3	Standard	0.250	4.73	70.080	3752.865	0.233	0.2	-9.2	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	4.72	118.447	4248.137	0.349	0.4	-29.5	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	4.66	498.879	5828.183	1.070	1.1	13.8	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	4.66	1060.522	5882.154	2.254	2.4	21.4	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	4.66	2713.705	6852.612	4.950	5.4	7.3	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	4.66	4915.785	6181.293	9.941	10.8	8.0	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	4.65	28785.766	7347.913	48.969	53.3	6.6	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	4.65	46554.207	6753.457	86.167	93.8	-6.2	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	4.65	107027.695	6023.223	222.115	241.9	-3.2	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	4.65	207337.359	5543.124	467.555	509.3	1.9	NO	0.999	NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999734
Calibration curve: -0.000370835 * x^2 + 1.12687 * x + -0.088223
Response type: Internal Std (Ref 73), 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	200713M1_3	Standard	0.250	4.76	70.960	3875.555	0.229	0.3	12.6	NO	1.000	NO	MM
2	2	200713M1_4	Standard	0.500	4.75	153.809	4183.383	0.460	0.5	-2.8	NO	1.000	NO	MM
3	3	200713M1_5	Standard	1.000	4.70	303.153	3543.583	1.069	1.0	2.8	NO	1.000	NO	MM
4	4	200713M1_6	Standard	2.000	4.70	581.905	3549.414	2.049	1.9	-5.1	NO	1.000	NO	MM
5	5	200713M1_7	Standard	5.000	4.70	1690.992	4014.573	5.265	4.8	-4.8	NO	1.000	NO	MM
6	6	200713M1_8	Standard	10.000	4.70	3343.166	3765.241	11.099	10.0	-0.4	NO	1.000	NO	MM
7	7	200713M1_9	Standard	50.000	4.69	15222.688	3613.604	52.658	47.6	-4.9	NO	1.000	NO	MM
8	8	200713M1_10	Standard	100.000	4.69	31423.494	3534.768	111.123	102.1	2.1	NO	1.000	NO	MM
9	9	200713M1_11	Standard	250.000	4.69	70158.180	3367.320	260.438	252.1	0.8	NO	1.000	NO	MM
10	10	200713M1_12	Standard	500.000	4.69	131791.719	3509.073	469.468	498.5	-0.3	NO	1.000	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.997113
Calibration curve: -0.00133866 * x^2 + 3.98452 * x + -0.443693
Response type: Internal Std (Ref 73), 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	200713M1_3	Standard	0.250	4.97	149.861	3875.555	0.483	0.2	-6.9	NO	0.997	NO	bb
2	2	200713M1_4	Standard	0.500	4.96	612.970	4183.383	1.832	0.6	14.2	NO	0.997	NO	bb
3	3	200713M1_5	Standard	1.000	4.92	972.724	3543.583	3.431	1.0	-2.7	NO	0.997	NO	bb
4	4	200713M1_6	Standard	2.000	4.92	2267.553	3549.414	7.986	2.1	5.9	NO	0.997	NO	MM
5	5	200713M1_7	Standard	5.000	4.92	6138.119	4014.573	19.112	4.9	-1.7	NO	0.997	NO	MM
6	6	200713M1_8	Standard	10.000	4.92	11503.167	3765.241	38.189	9.7	-2.7	NO	0.997	NO	bb
7	7	200713M1_9	Standard	50.000	4.91	54907.840	3613.604	189.934	48.6	-2.9	NO	0.997	NO	bb
8	8	200713M1_10	Standard	100.000	4.91	98959.367	3534.768	349.950	90.7	-9.3	NO	0.997	NO	bb
9	9	200713M1_11	Standard	250.000	4.91	263737.375	3367.320	979.033	270.4	8.2	NO	0.997	NO	bb
10	10	200713M1_12	Standard	500.000	4.91	457906.750	3509.073	1631.153	490.2	-2.0	NO	0.997	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.999357
Calibration curve: -0.000489863 * x^2 + 1.54989 * x + 0.0142121
Response type: Internal Std (Ref 75), 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 200713M1_3	Standard	0.250	5.05	421.044	12838.079	0.410	0.3	2.1	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	5.03	713.922	12706.782	0.702	0.4	-11.2	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	5.00	1521.937	12184.558	1.561	1.0	-0.1	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	4.99	3328.663	12881.227	3.230	2.1	3.8	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	4.99	8621.752	13085.901	8.236	5.3	6.3	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	4.99	16390.938	13429.206	15.257	9.9	-1.3	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	4.98	78825.914	12367.725	79.669	52.3	4.5	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	4.98	159106.063	12938.358	153.715	102.5	2.5	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	4.98	334248.281	12132.467	344.374	240.5	-3.8	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	4.98	610004.000	11593.853	657.680	504.9	1.0	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998454
Calibration curve: -0.00112367 * x^2 + 2.41131 * x + 0.0738972
Response type: Internal Std (Ref 77), 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 200713M1_3	Standard	0.250	5.02	75.105	1695.161	0.553	0.2	-20.5	NO	0.998	NO	bb
2	2 200713M1_4	Standard	0.500	5.01	182.982	1936.185	1.181	0.5	-8.1	NO	0.998	NO	bb
3	3 200713M1_5	Standard	1.000	4.97	409.610	1866.089	2.744	1.1	10.8	NO	0.998	NO	bb
4	4 200713M1_6	Standard	2.000	4.97	891.807	2210.329	5.043	2.1	3.1	NO	0.998	NO	bb
5	5 200713M1_7	Standard	5.000	4.96	2090.451	1905.647	13.712	5.7	13.4	NO	0.998	NO	MM
6	6 200713M1_8	Standard	10.000	4.97	4433.139	2060.073	26.899	11.2	11.8	NO	0.998	NO	bb
7	7 200713M1_9	Standard	50.000	4.95	26712.203	2784.473	119.916	50.9	1.8	NO	0.998	NO	bb
8	8 200713M1_10	Standard	100.000	4.95	39648.070	2072.079	239.180	104.2	4.2	NO	0.998	NO	bb
9	9 200713M1_11	Standard	250.000	4.95	83967.266	2078.086	505.076	235.2	-5.9	NO	0.998	NO	bb
10	10 200713M1_12	Standard	500.000	4.95	158606.984	2117.058	936.482	509.1	1.8	NO	0.998	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:18:51 Pacific Daylight Time

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998942
Calibration curve: -0.000469713 * x^2 + 1.14036 * x + -0.0495037
Response type: Internal Std (Ref 73), 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 200713M1_3	Standard	0.250	5.11	94.830	3875.555	0.306	0.3	24.7	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	5.09	139.985	4183.383	0.418	0.4	-17.9	NO	0.999	NO	bb
3	3 200713M1_5	Standard	1.000	5.06	317.411	3543.583	1.120	1.0	2.6	NO	0.999	NO	bb
4	4 200713M1_6	Standard	2.000	5.06	702.458	3549.414	2.474	2.2	10.7	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	5.06	1618.703	4014.573	5.040	4.5	-10.6	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	5.06	3242.674	3765.241	10.765	9.5	-4.8	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	5.05	14720.469	3613.604	50.920	45.6	-8.9	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	5.05	31550.275	3534.768	111.571	102.2	2.2	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	5.04	70734.000	3367.320	262.575	257.6	3.1	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	5.04	126131.164	3509.073	449.304	494.9	-1.0	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999264
Calibration curve: -0.000197739 * x^2 + 0.905325 * x + -0.0887652
Response type: Internal Std (Ref 79), 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 200713M1_3	Standard	0.250	5.20	123.651	9805.646	0.158	0.3	8.9	NO	0.999	NO	MM
2	2 200713M1_4	Standard	0.500	5.19	352.312	10869.625	0.405	0.5	9.1	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	5.15	723.769	11276.629	0.802	1.0	-1.6	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	5.15	1338.425	10855.999	1.541	1.8	-9.9	NO	0.999	NO	MM
5	5 200713M1_7	Standard	5.000	5.15	3890.982	11781.630	4.128	4.7	-6.7	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	5.15	8010.841	10733.402	9.329	10.4	4.3	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	5.13	41830.047	12107.724	43.185	48.3	-3.4	NO	0.999	NO	MM
8	8 200713M1_10	Standard	100.000	5.13	78637.703	11521.869	85.314	96.4	-3.6	NO	0.999	NO	MM
9	9 200713M1_11	Standard	250.000	5.13	170835.688	9630.492	221.738	259.8	3.9	NO	0.999	NO	MM
10	10 200713M1_12	Standard	500.000	5.13	311854.031	9745.716	399.989	495.6	-0.9	NO	0.999	NO	MM

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:26:26 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.997992
Calibration curve: 5.22437e-007 * x^2 + 0.922706 * x + -0.00520008
Response type: Internal Std (Ref 83), 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	200713M1_3	Standard	0.250	5.36	165.617	9928.245	0.209	0.2	-7.4	NO	0.998	NO	MM
2	2	200713M1_4	Standard	0.500	5.34	350.089	10014.214	0.437	0.5	-4.2	NO	0.998	NO	MM
3	3	200713M1_5	Standard	1.000	5.31	641.513	9730.325	0.824	0.9	-10.1	NO	0.998	NO	MM
4	4	200713M1_6	Standard	2.000	5.31	1696.525	10686.688	1.984	2.2	7.8	NO	0.998	NO	MM
5	5	200713M1_7	Standard	5.000	5.30	3919.277	10805.164	4.534	4.9	-1.6	NO	0.998	NO	MM
6	6	200713M1_8	Standard	10.000	5.31	8267.648	10738.345	9.624	10.4	4.4	NO	0.998	NO	MM
7	7	200713M1_9	Standard	50.000	5.30	44267.031	10926.359	50.642	54.9	9.8	NO	0.998	NO	MM
8	8	200713M1_10	Standard	100.000	5.29	74293.477	9663.431	96.101	104.2	4.2	NO	0.998	NO	MM
9	9	200713M1_11	Standard	250.000	5.29	159248.422	9224.920	215.786	233.8	-6.5	NO	0.998	NO	MM
10	10	200713M1_12	Standard	500.000	5.29	279206.375	7462.012	467.713	506.8	1.4	NO	0.998	NO	MM

Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999687
Calibration curve: -6.96236e-005 * x^2 + 0.900367 * x + 0.0674567
Response type: Internal Std (Ref 81), 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	200713M1_3	Standard	0.250	5.36	365.768	17081.197	0.268	0.2	-11.1	NO	1.000	NO	MM
2	2	200713M1_4	Standard	0.500	5.35	806.973	19123.855	0.527	0.5	2.2	NO	1.000	NO	bb
3	3	200713M1_5	Standard	1.000	5.32	1326.486	18790.385	0.882	0.9	-9.5	NO	1.000	NO	bb
4	4	200713M1_6	Standard	2.000	5.32	3118.470	19014.623	2.050	2.2	10.1	NO	1.000	NO	bb
5	5	200713M1_7	Standard	5.000	5.32	7731.929	20402.146	4.737	5.2	3.8	NO	1.000	NO	bb
6	6	200713M1_8	Standard	10.000	5.32	15479.179	20997.867	9.215	10.2	1.7	NO	1.000	NO	bb
7	7	200713M1_9	Standard	50.000	5.31	78789.422	20776.732	47.402	52.8	5.6	NO	1.000	NO	bb
8	8	200713M1_10	Standard	100.000	5.31	123940.773	17673.189	87.662	98.0	-2.0	NO	1.000	NO	bb
9	9	200713M1_11	Standard	250.000	5.31	306105.219	17525.768	218.325	247.1	-1.1	NO	1.000	NO	MM
10	10	200713M1_12	Standard	500.000	5.31	567033.188	16324.784	434.181	501.6	0.3	NO	1.000	NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.999898
Calibration curve: -0.000329579 * x^2 + 0.961915 * x + -0.0642123
Response type: Internal Std (Ref 73), 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 200713M1_3	Standard	0.250	5.41	58.655	3875.555	0.189	0.3	5.4	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	5.40	131.303	4183.383	0.392	0.5	-5.1	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	5.37	258.321	3543.583	0.911	1.0	1.4	NO	1.000	NO	bb
4	4 200713M1_6	Standard	2.000	5.37	574.569	3549.414	2.023	2.2	8.6	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	5.37	1420.214	4014.573	4.422	4.7	-6.6	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	5.37	2752.174	3765.241	9.137	9.6	-4.0	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	5.36	13673.675	3613.604	47.299	50.1	0.2	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	5.36	26105.332	3534.768	92.316	99.4	-0.6	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	5.36	59674.273	3367.320	221.520	252.1	0.9	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	5.36	111658.844	3509.073	397.751	498.8	-0.2	NO	1.000	NO	bb

Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.997971
Calibration curve: -9.86049e-005 * x^2 + 0.597544 * x + -0.0219777
Response type: Internal Std (Ref 85), 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 200713M1_3	Standard	0.250	5.58	223.193	22569.309	0.124	0.2	-2.5	NO	0.998	NO	bb
2	2 200713M1_4	Standard	0.500	5.56	556.991	22179.334	0.314	0.6	12.4	NO	0.998	NO	bb
3	3 200713M1_5	Standard	1.000	5.54	1094.947	23969.695	0.571	1.0	-0.7	NO	0.998	NO	bb
4	4 200713M1_6	Standard	2.000	5.54	2146.892	23724.088	1.131	1.9	-3.5	NO	0.998	NO	MM
5	5 200713M1_7	Standard	5.000	5.54	5701.825	24564.666	2.901	4.9	-2.1	NO	0.998	NO	MM
6	6 200713M1_8	Standard	10.000	5.54	10635.229	24950.451	5.328	9.0	-10.3	NO	0.998	NO	bb
7	7 200713M1_9	Standard	50.000	5.53	51567.023	24680.242	26.118	44.1	-11.9	NO	0.998	NO	bb
8	8 200713M1_10	Standard	100.000	5.53	103866.430	22236.289	58.388	99.4	-0.6	NO	0.998	NO	bb
9	9 200713M1_11	Standard	250.000	5.53	244632.766	20195.859	151.413	265.0	6.0	NO	0.998	NO	bb
10	10 200713M1_12	Standard	500.000	5.53	421489.500	19482.580	270.427	492.7	-1.5	NO	0.998	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999797
Calibration curve: 0.000480558 * x^2 + 3.06486 * x + -0.0515897
Response type: Internal Std (Ref 87), 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 200713M1_3	Standard	0.250	5.64	116.390	1230.918	1.182	0.4	61.0	YES	1.000	NO	bbX
2	2 200713M1_4	Standard	0.500	5.62	174.495	1605.436	1.359	0.5	-8.0	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	5.60	399.956	1676.586	2.982	1.0	-1.0	NO	1.000	NO	bb
4	4 200713M1_6	Standard	2.000	5.60	832.566	1631.467	6.379	2.1	4.9	NO	1.000	NO	MM
5	5 200713M1_7	Standard	5.000	5.60	2016.772	1752.601	14.384	4.7	-5.9	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	5.60	4214.033	1597.372	32.976	10.8	7.6	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	5.59	29457.959	2400.288	153.408	49.7	-0.6	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	5.59	37644.980	1517.673	310.055	99.6	-0.4	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	5.58	76894.492	1206.315	796.791	250.2	0.1	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	5.58	123930.227	1075.479	1440.407	439.7	-12.1	NO	1.000	NO	bbX

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999826
Calibration curve: -0.000327399 * x^2 + 0.970795 * x + 0.0297058
Response type: Internal Std (Ref 85), 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 200713M1_3	Standard	0.250	5.65	427.158	22569.309	0.237	0.2	-14.8	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	5.64	849.105	22179.334	0.479	0.5	-7.5	NO	1.000	NO	MM
3	3 200713M1_5	Standard	1.000	5.61	2132.056	23969.695	1.112	1.1	11.5	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	5.61	3816.196	23724.088	2.011	2.0	2.1	NO	1.000	NO	MM
5	5 200713M1_7	Standard	5.000	5.61	10410.854	24564.666	5.298	5.4	8.7	NO	1.000	NO	MM
6	6 200713M1_8	Standard	10.000	5.61	19130.713	24950.451	9.584	9.9	-1.3	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	5.60	96929.477	24680.242	49.093	51.4	2.9	NO	1.000	NO	MM
8	8 200713M1_10	Standard	100.000	5.60	164962.031	22236.289	92.732	98.8	-1.2	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	5.59	356830.844	20195.859	220.856	248.3	-0.7	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	5.60	630248.625	19482.580	404.367	501.2	0.2	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999421
Calibration curve: -0.000103824 * x^2 + 1.03289 * x + 0.0249735
Response type: Internal Std (Ref 89), 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 200713M1_3	Standard	1.250	5.71	77.462	10755.012	1.075	1.0	-18.7	NO	0.999	NO	bd
2	2 200713M1_4	Standard	2.500	5.68	200.585	12891.313	2.322	2.2	-11.0	NO	0.999	NO	bb
3	3 200713M1_5	Standard	5.000	5.60	537.692	15043.335	5.333	5.1	2.8	NO	0.999	NO	bb
4	4 200713M1_6	Standard	10.000	5.60	1213.475	15637.069	11.578	11.2	12.0	NO	0.999	NO	MM
5	5 200713M1_7	Standard	25.000	5.59	3118.281	16397.191	28.374	27.5	10.1	NO	0.999	NO	MM
6	6 200713M1_8	Standard	50.000	5.60	5957.956	16495.449	53.889	52.4	4.9	NO	0.999	NO	bb
7	7 200713M1_9	Standard	250.000	5.57	29496.672	16587.619	265.313	263.8	5.5	NO	0.999	NO	bb
8	8 200713M1_10	Standard	500.000	5.58	53181.234	16558.178	479.198	487.8	-2.4	NO	0.999	NO	bb
9	9 200713M1_11	Standard	1250.000	5.58	117955.727	15841.713	1110.927	1226.8	-1.9	NO	0.999	NO	MM
10	10 200713M1_12	Standard	2500.000	5.58	197893.891	15194.691	1943.163	2519.2	0.8	NO	0.999	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999868
Calibration curve: -0.000235704 * x^2 + 0.947956 * x + -0.0185311
Response type: Internal Std (Ref 85), 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 200713M1_3	Standard	0.250	5.89	448.995	22569.309	0.249	0.3	12.8	NO	1.000	NO	bb
2	2 200713M1_4	Standard	0.500	5.88	805.303	22179.334	0.454	0.5	-0.3	NO	1.000	NO	bd
3	3 200713M1_5	Standard	1.000	5.86	1670.825	23969.695	0.871	0.9	-6.1	NO	1.000	NO	bb
4	4 200713M1_6	Standard	2.000	5.86	3391.771	23724.088	1.787	1.9	-4.7	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	5.86	9240.150	24564.666	4.702	5.0	-0.3	NO	1.000	NO	MM
6	6 200713M1_8	Standard	10.000	5.86	18247.814	24950.451	9.142	9.7	-3.1	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	5.85	95352.195	24680.242	48.294	51.6	3.3	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	5.85	161700.531	22236.289	90.899	98.3	-1.7	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	5.85	359982.969	20195.859	222.807	250.7	0.3	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	5.85	646680.688	19482.580	414.910	499.8	-0.0	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999087
Calibration curve: -2.69079e-005 * x^2 + 0.263033 * x + 0.0132517
Response type: Internal Std (Ref 91), 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 200713M1_3	Standard	0.250	5.92	81.466	15062.310	0.068	0.2	-17.3	NO	0.999	NO	bb
2	2 200713M1_4	Standard	0.500	5.91	166.397	14906.719	0.140	0.5	-4.0	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	5.89	351.714	15594.744	0.282	1.0	2.2	NO	0.999	NO	bb
4	4 200713M1_6	Standard	2.000	5.89	633.910	15471.972	0.512	1.9	-5.1	NO	0.999	NO	bb
5	5 200713M1_7	Standard	5.000	5.88	1785.930	16249.732	1.374	5.2	3.5	NO	0.999	NO	bb
6	6 200713M1_8	Standard	10.000	5.89	3770.576	14278.485	3.301	12.5	25.2	NO	0.999	NO	MM
7	7 200713M1_9	Standard	50.000	5.88	16440.328	16401.475	12.530	47.8	-4.4	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	5.87	33923.098	16169.275	26.225	100.7	0.7	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	5.87	75235.195	14805.618	63.519	247.7	-0.9	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	5.87	137025.547	13692.063	125.096	501.2	0.2	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999899
Calibration curve: -0.000331662 * x^2 + 1.48307 * x + 0.067296
Response type: Internal Std (Ref 91), 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 200713M1_3	Standard	0.250	6.11	475.539	15062.310	0.395	0.2	-11.7	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	6.09	996.791	14906.719	0.836	0.5	3.7	NO	1.000	NO	MM
3	3 200713M1_5	Standard	1.000	6.08	1880.585	15594.744	1.507	1.0	-2.9	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	6.08	3908.227	15471.972	3.158	2.1	4.2	NO	1.000	NO	MM
5	5 200713M1_7	Standard	5.000	6.08	9804.755	16249.732	7.542	5.0	0.9	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	6.08	17846.750	14278.485	15.624	10.5	5.1	NO	1.000	NO	bb
7	7 200713M1_9	Standard	50.000	6.07	97466.609	16401.475	74.282	50.6	1.2	NO	1.000	NO	bb
8	8 200713M1_10	Standard	100.000	6.07	188271.016	16169.275	145.547	100.3	0.3	NO	1.000	NO	bb
9	9 200713M1_11	Standard	250.000	6.07	409781.688	14805.618	345.968	246.9	-1.3	NO	1.000	NO	bb
10	10 200713M1_12	Standard	500.000	6.07	723548.125	13692.063	660.554	501.6	0.3	NO	1.000	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999601
Calibration curve: -3.82194e-005 * x^2 + 0.829975 * x + 0.208625
Response type: Internal Std (Ref 93), 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 200713M1_3	Standard	1.250	6.12	126.924	18090.516	1.047	1.0	-19.2	NO	1.000	NO	bb
2	2 200713M1_4	Standard	2.500	6.10	315.621	20308.432	2.319	2.5	1.7	NO	1.000	NO	bb
3	3 200713M1_5	Standard	5.000	6.05	649.338	20918.012	4.631	5.3	6.6	NO	1.000	NO	bb
4	4 200713M1_6	Standard	10.000	6.05	1277.468	21844.281	8.725	10.3	2.7	NO	1.000	NO	MM
5	5 200713M1_7	Standard	25.000	6.05	3542.747	23840.902	22.171	26.5	6.0	NO	1.000	NO	MM
6	6 200713M1_8	Standard	50.000	6.05	6626.504	23724.953	41.672	50.1	0.1	NO	1.000	NO	MM
7	7 200713M1_9	Standard	250.000	6.03	31014.732	22219.861	208.255	253.6	1.5	NO	1.000	NO	MM
8	8 200713M1_10	Standard	500.000	6.04	60680.129	21698.650	417.237	514.7	2.9	NO	1.000	NO	MM
9	9 200713M1_11	Standard	1250.000	6.04	133747.594	20985.855	950.885	1213.2	-2.9	NO	1.000	NO	bb
10	10 200713M1_12	Standard	2500.000	6.04	234008.172	18901.217	1847.184	2517.1	0.7	NO	1.000	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999104
Calibration curve: -3.46889e-005 * x^2 + 0.607413 * x + 0.105087
Response type: Internal Std (Ref 95), 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 200713M1_3	Standard	0.250	6.42	381.489	21325.449	0.224	0.2	-21.9	NO	0.999	NO	MM
2	2 200713M1_4	Standard	0.500	6.41	708.457	22370.438	0.396	0.5	-4.3	NO	0.999	NO	MM
3	3 200713M1_5	Standard	1.000	6.40	1295.133	21738.541	0.745	1.1	5.3	NO	0.999	NO	MM
4	4 200713M1_6	Standard	2.000	6.40	2548.788	22704.916	1.403	2.1	6.9	NO	0.999	NO	MM
5	5 200713M1_7	Standard	5.000	6.40	6329.458	24058.770	3.289	5.2	4.9	NO	0.999	NO	MM
6	6 200713M1_8	Standard	10.000	6.40	12232.975	23699.084	6.452	10.5	4.6	NO	0.999	NO	bb
7	7 200713M1_9	Standard	50.000	6.40	57154.797	22345.820	31.972	52.6	5.2	NO	0.999	NO	bb
8	8 200713M1_10	Standard	100.000	6.40	114506.445	23008.594	62.209	102.8	2.8	NO	0.999	NO	bb
9	9 200713M1_11	Standard	250.000	6.40	249297.719	21755.988	143.235	238.9	-4.4	NO	0.999	NO	bb
10	10 200713M1_12	Standard	500.000	6.40	463022.469	19427.996	297.909	504.8	1.0	NO	0.999	NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999519
Calibration curve: 7.02968e-005 * x^2 + 0.966927 * x + 0.0437366
Response type: Internal Std (Ref 95), 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 200713M1_3	Standard	0.250	6.65	439.701	21325.449	0.258	0.2	-11.5	NO	1.000	NO	MM
2	2 200713M1_4	Standard	0.500	6.64	874.203	22370.438	0.488	0.5	-8.0	NO	1.000	NO	bb
3	3 200713M1_5	Standard	1.000	6.63	1800.905	21738.541	1.036	1.0	2.6	NO	1.000	NO	MM
4	4 200713M1_6	Standard	2.000	6.63	3830.940	22704.916	2.109	2.1	6.8	NO	1.000	NO	bb
5	5 200713M1_7	Standard	5.000	6.63	9654.473	24058.770	5.016	5.1	2.8	NO	1.000	NO	bb
6	6 200713M1_8	Standard	10.000	6.63	19757.996	23699.084	10.421	10.7	7.2	NO	1.000	NO	MM
7	7 200713M1_9	Standard	50.000	6.63	85215.844	22345.820	47.669	49.1	-1.8	NO	1.000	NO	MM
8	8 200713M1_10	Standard	100.000	6.63	186683.734	23008.594	101.421	104.1	4.1	NO	1.000	NO	MM
9	9 200713M1_11	Standard	250.000	6.63	417005.250	21755.988	239.592	243.4	-2.6	NO	1.000	NO	MM
10	10 200713M1_12	Standard	500.000	6.63	782789.188	19427.996	503.648	502.5	0.5	NO	1.000	NO	MM

Compound name: N-MeFOSE
Coefficient of Determination: R^2 = 0.999312
Calibration curve: -5.58156e-005 * x^2 + 0.975627 * x + 1.08254
Response type: Internal Std (Ref 97), 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 200713M1_3	Standard	1.250	6.31	39.489	7010.145	0.840			NO	0.999	NO	bbXI
2	2 200713M1_4	Standard	2.500	6.30	83.931	8347.602	1.500	0.4	-82.9	YES	0.999	NO	bbX
3	3 200713M1_5	Standard	5.000	6.30	388.751	10336.713	5.611	4.6	-7.1	NO	0.999	NO	bb
4	4 200713M1_6	Standard	10.000	6.30	963.350	13007.071	11.050	10.2	2.2	NO	0.999	NO	bd
5	5 200713M1_7	Standard	25.000	6.30	2244.113	13143.246	25.475	25.0	0.1	NO	0.999	NO	MM
6	6 200713M1_8	Standard	50.000	6.30	4326.424	12057.198	53.537	53.9	7.9	NO	0.999	NO	MM
7	7 200713M1_9	Standard	250.000	6.29	19777.008	12874.613	229.190	237.0	-5.2	NO	0.999	NO	bb
8	8 200713M1_10	Standard	500.000	6.29	42409.875	13035.301	485.417	511.4	2.3	NO	0.999	NO	MM
9	9 200713M1_11	Standard	1250.000	6.29	101314.211	13359.049	1131.524	1247.8	-0.2	NO	0.999	NO	bb
10	10 200713M1_12	Standard	2500.000	6.29	185210.766	12465.808	2216.739	2682.8	7.3	NO	0.999	NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: N-EtFOSE
Coefficient of Determination: R^2 = 0.999973
Calibration curve: -9.04476e-006 * x^2 + 1.10244 * x + 0.140615
Response type: Internal Std (Ref 99), 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 200713M1_3	Standard	1.250	6.44	87.452	7717.476	1.691	1.4	12.5	NO	1.000	NO	bb
2	2 200713M1_4	Standard	2.500	6.44	173.114	10070.906	2.565	2.2	-12.0	NO	1.000	NO	bb
3	3 200713M1_5	Standard	5.000	6.44	451.449	12224.547	5.510	4.9	-2.6	NO	1.000	NO	MM
4	4 200713M1_6	Standard	10.000	6.44	899.040	11686.481	11.478	10.3	2.8	NO	1.000	NO	MM
5	5 200713M1_7	Standard	25.000	6.44	2510.014	13539.607	27.659	25.0	-0.1	NO	1.000	NO	MM
6	6 200713M1_8	Standard	50.000	6.44	5003.400	13712.159	54.441	49.3	-1.5	NO	1.000	NO	MM
7	7 200713M1_9	Standard	250.000	6.44	24943.006	13381.682	278.104	252.7	1.1	NO	1.000	NO	MM
8	8 200713M1_10	Standard	500.000	6.44	49094.984	13330.265	549.499	500.4	0.1	NO	1.000	NO	MM
9	9 200713M1_11	Standard	1250.000	6.44	123279.430	13526.631	1359.784	1246.0	-0.3	NO	1.000	NO	MM
10	10 200713M1_12	Standard	2500.000	6.44	226762.078	12523.778	2701.493	2501.7	0.1	NO	1.000	NO	MM

Compound name: 13C3-PFBA-EIS
Response Factor: 282.979
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	1.40	3369.964		3369.964	11.9	-4.7	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	1.40	3337.699		3337.699	11.8	-5.6	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	1.30	3382.398		3382.398	12.0	-4.4	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	1.26	3286.889		3286.889	11.6	-7.1	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	1.28	3793.533		3793.533	13.4	7.2	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	1.26	3537.232		3537.232	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	1.35	3659.774		3659.774	12.9	3.5	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	1.27	3455.136		3455.136	12.2	-2.3	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	1.25	3488.372		3488.372	12.3	-1.4	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	1.25	3617.669		3617.669	12.8	2.3	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C3-PFBA-RSD
Response Factor: 0.679098
RRF SD: 0.0226682, Relative SD: 3.33798
Response type: Internal Std (Ref 101), 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 200713M1_3	Standard	12.500	1.40	3375.800	4769.916	8.847	13.0	4.2	NO		NO	MM
2	2 200713M1_4	Standard	12.500	1.40	3323.141	4982.314	8.337	12.3	-1.8	NO		NO	MM
3	3 200713M1_5	Standard	12.500	1.30	3192.878	4994.940	7.990	11.8	-5.9	NO		NO	MM
4	4 200713M1_6	Standard	12.500	1.26	3268.062	4933.582	8.280	12.2	-2.5	NO		NO	MM
5	5 200713M1_7	Standard	12.500	1.28	3914.892	5514.208	8.875	13.1	4.5	NO		NO	MM
6	6 200713M1_8	Standard	12.500	1.26	3536.203	5197.343	8.505	12.5	0.2	NO		NO	MM
7	7 200713M1_9	Standard	12.500	1.35	3653.095	5433.095	8.405	12.4	-1.0	NO		NO	MM
8	8 200713M1_10	Standard	12.500	1.27	3456.264	5184.804	8.333	12.3	-1.8	NO		NO	MM
9	9 200713M1_11	Standard	12.500	1.25	3491.045	5125.724	8.514	12.5	0.3	NO		NO	MM
10	10 200713M1_12	Standard	12.500	1.25	3614.838	5133.202	8.803	13.0	3.7	NO		NO	MM

Compound name: 13C3-PFPeA-EIS
Response Factor: 516.282
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	2.34	5508.791		5508.791	10.7	-14.6	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	2.34	5580.999		5580.999	10.8	-13.5	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	2.24	6135.382		6135.382	11.9	-4.9	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	2.22	6262.542		6262.542	12.1	-3.0	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	2.23	6451.926		6451.926	12.5	-0.0	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	2.21	6453.526		6453.526	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	2.26	6391.175		6391.175	12.4	-1.0	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	2.23	6247.073		6247.073	12.1	-3.2	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	2.20	6230.859		6230.859	12.1	-3.5	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	2.20	6016.560		6016.560	11.7	-6.8	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C3-PFPeA-RSD
Response Factor: 0.457137
RRF SD: 0.0250588, Relative SD: 5.4817
Response type: Internal Std (Ref 102), 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 200713M1_3	Standard	12.500	2.34	5508.791	11778.972	5.846	12.8	2.3	NO		NO	bb
2	2 200713M1_4	Standard	12.500	2.34	5580.999	13629.279	5.119	11.2	-10.4	NO		NO	bb
3	3 200713M1_5	Standard	12.500	2.24	6135.382	13907.682	5.514	12.1	-3.5	NO		NO	bb
4	4 200713M1_6	Standard	12.500	2.22	6262.542	13526.853	5.787	12.7	1.3	NO		NO	bb
5	5 200713M1_7	Standard	12.500	2.23	6451.926	14908.561	5.410	11.8	-5.3	NO		NO	bb
6	6 200713M1_8	Standard	12.500	2.21	6453.526	13720.716	5.879	12.9	2.9	NO		NO	bb
7	7 200713M1_9	Standard	12.500	2.26	6391.175	13368.848	5.976	13.1	4.6	NO		NO	bb
8	8 200713M1_10	Standard	12.500	2.23	6247.073	14151.472	5.518	12.1	-3.4	NO		NO	bb
9	9 200713M1_11	Standard	12.500	2.20	6233.244	13089.593	5.952	13.0	4.2	NO		NO	MM
10	10 200713M1_12	Standard	12.500	2.20	6016.560	12247.320	6.141	13.4	7.5	NO		NO	bb

Compound name: 13C3-PFBS-EIS
Response Factor: 119.067
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	2.61	1472.464		1472.464	12.4	-1.1	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	2.61	1486.694		1486.694	12.5	-0.1	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	2.52	1398.172		1398.172	11.7	-6.1	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	2.51	1494.759		1494.759	12.6	0.4	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	2.52	1499.131		1499.131	12.6	0.7	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	2.50	1488.333		1488.333	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	2.53	1470.984		1470.984	12.4	-1.2	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	2.52	1411.053		1411.053	11.9	-5.2	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	2.49	1383.504		1383.504	11.6	-7.0	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	2.48	1198.588		1198.588	10.1	-19.5	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C3-PFBS-RSD
Response Factor: 0.730575
RRF SD: 0.0527656, Relative SD: 7.22247
Response type: Internal Std (Ref 103), 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 200713M1_3	Standard	12.500	2.61	1472.464	1832.178	10.046	13.8	10.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	2.61	1489.714	2039.610	9.130	12.5	-0.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	2.52	1398.367	1996.010	8.757	12.0	-4.1	NO		NO	MM
4	4 200713M1_6	Standard	12.500	2.51	1495.167	2142.915	8.722	11.9	-4.5	NO		NO	MM
5	5 200713M1_7	Standard	12.500	2.52	1501.349	2196.312	8.545	11.7	-6.4	NO		NO	MM
6	6 200713M1_8	Standard	12.500	2.50	1487.529	2245.523	8.281	11.3	-9.3	NO		NO	MM
7	7 200713M1_9	Standard	12.500	2.53	1470.984	1807.388	10.173	13.9	11.4	NO		NO	bb
8	8 200713M1_10	Standard	12.500	2.52	1411.053	2014.389	8.756	12.0	-4.1	NO		NO	bb
9	9 200713M1_11	Standard	12.500	2.49	1383.019	1901.390	9.092	12.4	-0.4	NO		NO	MM
10	10 200713M1_12	Standard	12.500	2.48	1198.353	1525.332	9.820	13.4	7.5	NO		NO	MM

Compound name: 13C3-HFPO-DA-EIS
Response Factor: 73.6839
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	3.35	841.655		841.655	11.4	-8.6	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	3.34	946.604		946.604	12.8	2.8	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	3.27	840.037		840.037	11.4	-8.8	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	3.26	861.506		861.506	11.7	-6.5	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	3.26	908.212		908.212	12.3	-1.4	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	3.26	921.049		921.049	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.24	1009.452		1009.452	13.7	9.6	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	3.25	869.112		869.112	11.8	-5.6	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	3.25	843.103		843.103	11.4	-8.5	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	3.25	757.461		757.461	10.3	-17.8	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C3-HFPO-DA-RSD
Response Factor: 0.065614
RRF SD: 0.00510539, Relative SD: 7.78094
Response type: Internal Std (Ref 102), 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 200713M1_3	Standard	12.500	3.35	841.655	11778.972	0.893	13.6	8.9	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.34	945.449	13629.279	0.867	13.2	5.7	NO		NO	MM
3	3 200713M1_5	Standard	12.500	3.27	840.037	13907.682	0.755	11.5	-7.9	NO		NO	bb
4	4 200713M1_6	Standard	12.500	3.26	861.506	13526.853	0.796	12.1	-2.9	NO		NO	bb
5	5 200713M1_7	Standard	12.500	3.26	908.212	14908.561	0.761	11.6	-7.2	NO		NO	bb
6	6 200713M1_8	Standard	12.500	3.26	921.049	13720.716	0.839	12.8	2.3	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.24	1009.452	13368.848	0.944	14.4	15.1	NO		NO	bb
8	8 200713M1_10	Standard	12.500	3.25	869.112	14151.472	0.768	11.7	-6.4	NO		NO	bb
9	9 200713M1_11	Standard	12.500	3.25	843.103	13089.593	0.805	12.3	-1.8	NO		NO	bb
10	10 200713M1_12	Standard	12.500	3.25	757.461	12247.320	0.773	11.8	-5.7	NO		NO	bb

Compound name: 13C2-4:2 FTS-EIS
Response Factor: 218.245
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	3.05	2159.456		2159.456	9.9	-20.8	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	3.04	2356.741		2356.741	10.8	-13.6	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	2.97	2526.928		2526.928	11.6	-7.4	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	2.95	2322.507		2322.507	10.6	-14.9	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	2.97	2562.200		2562.200	11.7	-6.1	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	2.95	2728.064		2728.064	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	2.94	2740.510		2740.510	12.6	0.5	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	2.95	2319.872		2319.872	10.6	-15.0	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	2.94	1903.097		1903.097	8.7	-30.2	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	2.94	1857.583		1857.583	8.5	-31.9	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-4:2 FTS-RSD
Response Factor: 1.19458
RRF SD: 0.13526, Relative SD: 11.3228
Response type: Internal Std (Ref 103), 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 200713M1_3	Standard	12.500	3.05	2158.741	1832.178	14.728	12.3	-1.4	NO		NO	MM
2	2 200713M1_4	Standard	12.500	3.04	2352.600	2039.610	14.418	12.1	-3.4	NO		NO	MM
3	3 200713M1_5	Standard	12.500	2.97	2526.631	1996.010	15.823	13.2	6.0	NO		NO	MM
4	4 200713M1_6	Standard	12.500	2.95	2321.762	2142.915	13.543	11.3	-9.3	NO		NO	MM
5	5 200713M1_7	Standard	12.500	2.97	2563.876	2196.312	14.592	12.2	-2.3	NO		NO	MM
6	6 200713M1_8	Standard	12.500	2.95	2731.418	2245.523	15.205	12.7	1.8	NO		NO	MM
7	7 200713M1_9	Standard	12.500	2.94	2740.252	1807.388	18.952	15.9	26.9	NO		NO	MM
8	8 200713M1_10	Standard	12.500	2.95	2320.022	2014.389	14.397	12.1	-3.6	NO		NO	MM
9	9 200713M1_11	Standard	12.500	2.94	1898.679	1901.390	12.482	10.4	-16.4	NO		NO	MM
10	10 200713M1_12	Standard	12.500	2.94	1852.670	1525.332	15.183	12.7	1.7	NO		NO	bb

Compound name: 13C2-PFHxA-EIS
Response Factor: 958.919
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	3.14	11388.440		11388.440	11.9	-5.0	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	3.13	11288.024		11288.024	11.8	-5.8	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	3.05	11260.342		11260.342	11.7	-6.1	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	3.04	11637.593		11637.593	12.1	-2.9	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	3.05	12136.501		12136.501	12.7	1.3	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	3.04	11986.491		11986.491	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	3.03	12092.669		12092.669	12.6	0.9	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	3.04	11696.924		11696.924	12.2	-2.4	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	3.02	11264.662		11264.662	11.7	-6.0	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	3.02	10414.777		10414.777	10.9	-13.1	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFHxA-RSD
Response Factor: 0.859383
RRF SD: 0.0480615, Relative SD: 5.59256
Response type: Internal Std (Ref 102), 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 200713M1_3	Standard	12.500	3.14	11388.440	11778.972	12.086	14.1	12.5	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.13	11278.341	13629.279	10.344	12.0	-3.7	NO		NO	MM
3	3 200713M1_5	Standard	12.500	3.05	11243.490	13907.682	10.105	11.8	-5.9	NO		NO	MM
4	4 200713M1_6	Standard	12.500	3.04	11638.820	13526.853	10.755	12.5	0.1	NO		NO	MM
5	5 200713M1_7	Standard	12.500	3.05	12126.518	14908.561	10.167	11.8	-5.4	NO		NO	MM
6	6 200713M1_8	Standard	12.500	3.04	11996.354	13720.716	10.929	12.7	1.7	NO		NO	MM
7	7 200713M1_9	Standard	12.500	3.03	12105.140	13368.848	11.318	13.2	5.4	NO		NO	MM
8	8 200713M1_10	Standard	12.500	3.04	11695.779	14151.472	10.331	12.0	-3.8	NO		NO	MM
9	9 200713M1_11	Standard	12.500	3.02	11264.662	13089.593	10.757	12.5	0.1	NO		NO	bb
10	10 200713M1_12	Standard	12.500	3.02	10414.777	12247.320	10.630	12.4	-1.0	NO		NO	bb

Compound name: 13C4-PFHpA-EIS
Response Factor: 554.689
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	3.74	6197.746		6197.746	11.2	-10.6	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	3.73	6773.949		6773.949	12.2	-2.3	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	3.67	6872.049		6872.049	12.4	-0.9	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	3.66	6797.195		6797.195	12.3	-2.0	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	3.66	7108.544		7108.544	12.8	2.5	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	3.66	6933.613		6933.613	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.65	6666.811		6666.811	12.0	-3.8	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	3.65	6957.684		6957.684	12.5	0.3	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	3.65	6184.172		6184.172	11.1	-10.8	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	3.65	5669.824		5669.824	10.2	-18.2	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C4-PFHpA-RSD
Response Factor: 0.492789
RRF SD: 0.0181716, Relative SD: 3.6875
Response type: Internal Std (Ref 102), 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 200713M1_3	Standard	12.500	3.74	6197.746	11778.972	6.577	13.3	6.8	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.73	6773.949	13629.279	6.213	12.6	0.9	NO		NO	bb
3	3 200713M1_5	Standard	12.500	3.67	6872.618	13907.682	6.177	12.5	0.3	NO		NO	MM
4	4 200713M1_6	Standard	12.500	3.66	6797.195	13526.853	6.281	12.7	2.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	3.66	7108.544	14908.561	5.960	12.1	-3.2	NO		NO	bb
6	6 200713M1_8	Standard	12.500	3.66	6933.613	13720.716	6.317	12.8	2.5	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.65	6666.811	13368.848	6.234	12.6	1.2	NO		NO	bb
8	8 200713M1_10	Standard	12.500	3.65	6957.684	14151.472	6.146	12.5	-0.2	NO		NO	bb
9	9 200713M1_11	Standard	12.500	3.65	6184.172	13089.593	5.906	12.0	-4.1	NO		NO	bb
10	10 200713M1_12	Standard	12.500	3.65	5671.821	12247.320	5.789	11.7	-6.0	NO		NO	MM

Compound name: 13C3-PFHxS-EIS
Response Factor: 300.009
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	3.88	3422.853		3422.853	11.4	-8.7	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	3.87	3304.051		3304.051	11.0	-11.9	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	3.81	3574.556		3574.556	11.9	-4.7	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	3.81	3666.260		3666.260	12.2	-2.2	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	3.80	3761.575		3761.575	12.5	0.3	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	3.81	3750.111		3750.111	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.79	3506.146		3506.146	11.7	-6.5	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	3.79	3569.288		3569.288	11.9	-4.8	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	3.79	3252.350		3252.350	10.8	-13.3	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	3.79	2821.345		2821.345	9.4	-24.8	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C3-PFHxS-RSD
Response Factor: 1.76438
RRF SD: 0.0986474, Relative SD: 5.59104
Response type: Internal Std (Ref 103), 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 200713M1_3	Standard	12.500	3.88	3422.853	1832.178	23.352	13.2	5.9	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.87	3304.051	2039.610	20.249	11.5	-8.2	NO		NO	bb
3	3 200713M1_5	Standard	12.500	3.81	3574.556	1996.010	22.386	12.7	1.5	NO		NO	bb
4	4 200713M1_6	Standard	12.500	3.81	3665.274	2142.915	21.380	12.1	-3.1	NO		NO	MM
5	5 200713M1_7	Standard	12.500	3.80	3760.449	2196.312	21.402	12.1	-3.0	NO		NO	MM
6	6 200713M1_8	Standard	12.500	3.81	3750.111	2245.523	20.875	11.8	-5.3	NO		NO	bb
7	7 200713M1_9	Standard	12.500	3.79	3505.260	1807.388	24.243	13.7	9.9	NO		NO	MM
8	8 200713M1_10	Standard	12.500	3.79	3567.966	2014.389	22.140	12.5	0.4	NO		NO	MM
9	9 200713M1_11	Standard	12.500	3.79	3255.063	1901.390	21.399	12.1	-3.0	NO		NO	MM
10	10 200713M1_12	Standard	12.500	3.79	2821.345	1525.332	23.121	13.1	4.8	NO		NO	bb

Compound name: 13C2-6:2 FTS-EIS
Response Factor: 166.752
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	4.20	1862.069		1862.069	11.2	-10.7	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	4.18	1910.027		1910.027	11.5	-8.4	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	4.12	2093.600		2093.600	12.6	0.4	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.12	2179.603		2179.603	13.1	4.6	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.12	2375.035		2375.035	14.2	13.9	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	4.12	2084.403		2084.403	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.11	2148.962		2148.962	12.9	3.1	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	4.11	1826.115		1826.115	11.0	-12.4	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.11	1858.137		1858.137	11.1	-10.9	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	4.11	1717.647		1717.647	10.3	-17.6	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-6:2 FTS-RSD
Response Factor: 0.535506
RRF SD: 0.0549154, Relative SD: 10.2549
Response type: Internal Std (Ref 106), 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 200713M1_3	Standard	12.500	4.20	1862.069	3462.904	6.721	12.6	0.4	NO		NO	bb
2	2 200713M1_4	Standard	12.500	4.18	1910.027	3970.946	6.013	11.2	-10.2	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.12	2093.600	3889.363	6.729	12.6	0.5	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.12	2179.603	3571.740	7.628	14.2	14.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.12	2375.287	3673.555	8.082	15.1	20.7	NO		NO	MM
6	6 200713M1_8	Standard	12.500	4.12	2084.403	4081.645	6.383	11.9	-4.6	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.11	2149.145	3913.347	6.865	12.8	2.6	NO		NO	MM
8	8 200713M1_10	Standard	12.500	4.11	1826.115	3785.234	6.030	11.3	-9.9	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.11	1859.571	3702.624	6.278	11.7	-6.2	NO		NO	MM
10	10 200713M1_12	Standard	12.500	4.11	1717.610	3458.027	6.209	11.6	-7.2	NO		NO	MM

Compound name: 13C5-PFNA-EIS
Response Factor: 1094.49
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	4.68	12903.303		12903.303	11.8	-5.7	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	4.66	12584.190		12584.190	11.5	-8.0	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	4.62	12876.763		12876.763	11.8	-5.9	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.61	12958.551		12958.551	11.8	-5.3	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.61	13680.033		13680.033	12.5	-0.0	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	4.62	13681.104		13681.104	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.60	12507.438		12507.438	11.4	-8.6	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.60	12409.167		12409.167	11.3	-9.3	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.60	11959.679		11959.679	10.9	-12.6	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.60	11034.256		11034.256	10.1	-19.3	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C5-PFNA-RSD
Response Factor: 0.904905
RRF SD: 0.0439446, Relative SD: 4.85627
Response type: Internal Std (Ref 105), 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 200713M1_3	Standard	12.500	4.68	12889.403	13102.070	12.297	13.6	8.7	NO		NO	MM
2	2 200713M1_4	Standard	12.500	4.66	12584.190	15254.506	10.312	11.4	-8.8	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.62	12876.763	14280.216	11.272	12.5	-0.4	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.61	12958.551	14354.931	11.284	12.5	-0.2	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.61	13678.888	14489.491	11.801	13.0	4.3	NO		NO	MM
6	6 200713M1_8	Standard	12.500	4.62	13681.104	14740.308	11.602	12.8	2.6	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.60	12507.438	14245.771	10.975	12.1	-3.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.60	12409.167	14114.251	10.990	12.1	-2.8	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.60	11959.679	13623.407	10.973	12.1	-3.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.60	11034.256	11882.159	11.608	12.8	2.6	NO		NO	bb

Compound name: 13C8-PFOSA-EIS
Response Factor: 494.503
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	4.73	3752.865		3752.865	7.6	-39.3	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	4.71	4248.137		4248.137	8.6	-31.3	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	4.66	5828.183		5828.183	11.8	-5.7	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.66	5882.154		5882.154	11.9	-4.8	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.66	6852.612		6852.612	13.9	10.9	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	4.66	6181.293		6181.293	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.65	7347.913		7347.913	14.9	18.9	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.65	6753.457		6753.457	13.7	9.3	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.65	6023.223		6023.223	12.2	-2.6	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.65	5543.124		5543.124	11.2	-10.3	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C8-PFOSA-RSD
Response Factor: 0.260894
RRF SD: 0.0456188, Relative SD: 17.4856
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	4.73	3752.865	19647.213	2.388	9.2	-26.8	NO		NO	bb
2	2 200713M1_4	Standard	12.500	4.71	4248.137	23589.637	2.251	8.6	-31.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.66	5828.183	24274.781	3.001	11.5	-8.0	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.66	5882.154	23279.443	3.158	12.1	-3.1	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.66	6852.612	24161.885	3.545	13.6	8.7	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.66	6181.293	23649.896	3.267	12.5	0.2	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.65	7347.913	25331.473	3.626	13.9	11.2	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.65	6753.457	22662.881	3.725	14.3	14.2	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.65	6023.223	19657.844	3.830	14.7	17.4	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.65	5542.967	18136.641	3.820	14.6	17.1	NO		NO	MM

Compound name: 13C2-PFOA-EIS
Response Factor: 1184.73
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	4.25	14452.981		14452.981	12.2	-2.4	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	4.24	14364.062		14364.062	12.1	-3.0	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	4.18	13871.957		13871.957	11.7	-6.3	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.18	14018.490		14018.490	11.8	-5.3	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.17	16110.366		16110.366	13.6	8.8	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	4.18	14809.175		14809.175	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.16	14398.688		14398.688	12.2	-2.8	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.16	14174.936		14174.936	12.0	-4.3	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.16	12560.517		12560.517	10.6	-15.2	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.16	11687.334		11687.334	9.9	-21.1	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFOA-RSD
Response Factor: 0.648121
RRF SD: 0.0207662, Relative SD: 3.20405
Response type: Internal Std (Ref 104), 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 200713M1_3	Standard	12.500	4.25	14452.981	21098.799	8.563	13.2	5.7	NO		NO	bb
2	2 200713M1_4	Standard	12.500	4.24	14364.062	22903.840	7.839	12.1	-3.2	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.18	13871.957	21868.881	7.929	12.2	-2.1	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.18	14018.490	22502.492	7.787	12.0	-3.9	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.17	16110.366	24183.877	8.327	12.8	2.8	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.18	14809.175	23746.551	7.795	12.0	-3.8	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.16	14398.688	22133.756	8.132	12.5	0.4	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.16	14174.936	21728.854	8.154	12.6	0.7	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.16	12560.517	19186.959	8.183	12.6	1.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.16	11687.334	17589.898	8.305	12.8	2.5	NO		NO	bb

Compound name: 13C8-PFOS-EIS
Response Factor: 301.219
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	4.76	3875.555		3875.555	12.9	2.9	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	4.75	4183.383		4183.383	13.9	11.1	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	4.70	3543.583		3543.583	11.8	-5.9	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.70	3549.414		3549.414	11.8	-5.7	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.70	4014.573		4014.573	13.3	6.6	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	4.70	3765.241		3765.241	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.69	3613.604		3613.604	12.0	-4.0	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.69	3534.768		3534.768	11.7	-6.1	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.68	3367.320		3367.320	11.2	-10.6	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.69	3509.073		3509.073	11.6	-6.8	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C8-PFOS-RSD
Response Factor: 0.987423
RRF SD: 0.0793814, Relative SD: 8.03926
Response type: Internal Std (Ref 106), 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 200713M1_3	Standard	12.500	4.76	3875.555	3462.904	13.990	14.2	13.3	NO		NO	bb
2	2 200713M1_4	Standard	12.500	4.75	4183.383	3970.946	13.169	13.3	6.7	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.70	3543.583	3889.363	11.389	11.5	-7.7	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.70	3549.414	3571.740	12.422	12.6	0.6	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.70	4014.573	3673.555	13.660	13.8	10.7	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.70	3765.241	4081.645	11.531	11.7	-6.6	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.69	3613.604	3913.347	11.543	11.7	-6.5	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.69	3534.768	3785.234	11.673	11.8	-5.4	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.68	3367.320	3702.624	11.368	11.5	-7.9	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.69	3508.971	3458.027	12.684	12.8	2.8	NO		NO	MM

Compound name: 13C2-PFDA-EIS
Response Factor: 1074.34
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.05	12838.079		12838.079	11.9	-4.4	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	5.03	12706.782		12706.782	11.8	-5.4	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	5.00	12184.558		12184.558	11.3	-9.3	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.99	12881.227		12881.227	12.0	-4.1	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.99	13085.901		13085.901	12.2	-2.6	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	4.99	13429.206		13429.206	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.98	12367.725		12367.725	11.5	-7.9	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.98	12938.358		12938.358	12.0	-3.7	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.98	12132.467		12132.467	11.3	-9.7	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.98	11593.853		11593.853	10.8	-13.7	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFDA-RSD
Response Factor: 0.71433
RRF SD: 0.0492234, Relative SD: 6.89085
Response type: Internal Std (Ref 107), 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 200713M1_3	Standard	12.500	5.05	12840.840	17534.150	9.154	12.8	2.5	NO		NO	MM
2	2 200713M1_4	Standard	12.500	5.03	12708.146	19463.410	8.162	11.4	-8.6	NO		NO	MM
3	3 200713M1_5	Standard	12.500	5.00	12184.558	17599.207	8.654	12.1	-3.1	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.99	12881.227	18232.439	8.831	12.4	-1.1	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.99	13085.901	19605.357	8.343	11.7	-6.6	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.99	13429.206	18892.895	8.885	12.4	-0.5	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.98	12367.725	18028.115	8.575	12.0	-4.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.98	12938.358	17543.846	9.219	12.9	3.2	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.98	12132.467	16686.563	9.089	12.7	1.8	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.98	11593.853	13962.801	10.379	14.5	16.2	NO		NO	bb

Compound name: 13C2-8:2 FTS-EIS
Response Factor: 164.806
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.02	1698.161		1698.161	10.3	-17.6	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	5.01	1936.185		1936.185	11.7	-6.0	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	4.97	1866.089		1866.089	11.3	-9.4	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	4.96	2210.329		2210.329	13.4	7.3	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	4.96	1905.647		1905.647	11.6	-7.5	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	4.97	2060.073		2060.073	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	4.95	2784.473		2784.473	16.9	35.2	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	4.95	2072.079		2072.079	12.6	0.6	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	4.95	2078.086		2078.086	12.6	0.9	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	4.95	2117.058		2117.058	12.8	2.8	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-8:2 FTS-RSD
Response Factor: 0.553283
RRF SD: 0.0746214, Relative SD: 13.487
Response type: Internal Std (Ref 106), 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 200713M1_3	Standard	12.500	5.02	1698.089	3462.904	6.130	11.1	-11.4	NO		NO	MM
2	2 200713M1_4	Standard	12.500	5.01	1936.699	3970.946	6.096	11.0	-11.9	NO		NO	MM
3	3 200713M1_5	Standard	12.500	4.97	1866.089	3889.363	5.997	10.8	-13.3	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.96	2210.329	3571.740	7.735	14.0	11.8	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.96	1905.647	3673.555	6.484	11.7	-6.2	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.97	2060.733	4081.645	6.311	11.4	-8.7	NO		NO	MM
7	7 200713M1_9	Standard	12.500	4.95	2784.473	3913.347	8.894	16.1	28.6	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.95	2072.079	3785.234	6.843	12.4	-1.1	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.95	2078.086	3702.624	7.016	12.7	1.4	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.95	2117.349	3458.027	7.654	13.8	10.7	NO		NO	MM

Compound name: d3-N-MeFOSAA-EIS
Response Factor: 858.672
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.19	9805.646		9805.646	11.4	-8.6	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	5.18	10869.625		10869.625	12.7	1.3	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	5.14	11276.629		11276.629	13.1	5.1	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	5.14	10855.999		10855.999	12.6	1.1	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	5.14	11781.630		11781.630	13.7	9.8	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	5.14	10733.402		10733.402	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	5.13	12107.724		12107.724	14.1	12.8	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	5.13	11521.869		11521.869	13.4	7.3	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	5.13	9630.492		9630.492	11.2	-10.3	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	5.13	9745.716		9745.716	11.3	-9.2	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: d3-N-MeFOSAA-RSD
Response Factor: 0.484519
RRF SD: 0.0255549, Relative SD: 5.27428
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	5.19	9805.872	19647.213	6.239	12.9	3.0	NO		NO	MM
2	2 200713M1_4	Standard	12.500	5.18	10869.625	23589.637	5.760	11.9	-4.9	NO		NO	bb
3	3 200713M1_5	Standard	12.500	5.14	11276.616	24274.781	5.807	12.0	-4.1	NO		NO	MM
4	4 200713M1_6	Standard	12.500	5.14	10855.999	23279.443	5.829	12.0	-3.8	NO		NO	bb
5	5 200713M1_7	Standard	12.500	5.14	11781.630	24161.885	6.095	12.6	0.6	NO		NO	bb
6	6 200713M1_8	Standard	12.500	5.14	10725.688	23649.896	5.669	11.7	-6.4	NO		NO	MM
7	7 200713M1_9	Standard	12.500	5.13	12107.724	25331.473	5.975	12.3	-1.4	NO		NO	bb
8	8 200713M1_10	Standard	12.500	5.13	11516.958	22662.881	6.352	13.1	4.9	NO		NO	MM
9	9 200713M1_11	Standard	12.500	5.13	9632.695	19657.844	6.125	12.6	1.1	NO		NO	MM
10	10 200713M1_12	Standard	12.500	5.13	9741.709	18136.641	6.714	13.9	10.9	NO		NO	MM

Compound name: 13C2-PFUdA-EIS
Response Factor: 1679.83
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.37	17081.197		17081.197	10.2	-18.7	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	5.35	19123.855		19123.855	11.4	-8.9	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	5.32	18790.385		18790.385	11.2	-10.5	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	5.32	19014.623		19014.623	11.3	-9.4	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	5.32	20402.146		20402.146	12.1	-2.8	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	5.32	20997.867		20997.867	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.31	20776.732		20776.732	12.4	-1.1	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	5.31	17673.189		17673.189	10.5	-15.8	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	5.31	17525.768		17525.768	10.4	-16.5	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	5.31	16324.784		16324.784	9.7	-22.3	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFUdA-RSD
Response Factor: 0.839448
RRF SD: 0.0462237, Relative SD: 5.50644
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	5.37	17065.732	19647.213	10.858	12.9	3.5	NO		NO	MM
2	2 200713M1_4	Standard	12.500	5.35	19119.334	23589.637	10.131	12.1	-3.4	NO		NO	MM
3	3 200713M1_5	Standard	12.500	5.32	18790.385	24274.781	9.676	11.5	-7.8	NO		NO	bb
4	4 200713M1_6	Standard	12.500	5.32	19014.623	23279.443	10.210	12.2	-2.7	NO		NO	bb
5	5 200713M1_7	Standard	12.500	5.32	20402.146	24161.885	10.555	12.6	0.6	NO		NO	bb
6	6 200713M1_8	Standard	12.500	5.32	20997.867	23649.896	11.098	13.2	5.8	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.31	20776.732	25331.473	10.252	12.2	-2.3	NO		NO	bb
8	8 200713M1_10	Standard	12.500	5.31	17673.189	22662.881	9.748	11.6	-7.1	NO		NO	bb
9	9 200713M1_11	Standard	12.500	5.31	17529.311	19657.844	11.147	13.3	6.2	NO		NO	MM
10	10 200713M1_12	Standard	12.500	5.31	16332.144	18136.641	11.256	13.4	7.3	NO		NO	MM

Compound name: d5-N-EtFOSAA-EIS
Response Factor: 859.068
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.35	9928.245		9928.245	11.6	-7.5	NO		NO	MMX
2	2 200713M1_4	Standard	12.500	5.33	10014.214		10014.214	11.7	-6.7	NO		NO	bbX
3	3 200713M1_5	Standard	12.500	5.30	9730.325		9730.325	11.3	-9.4	NO		NO	MMX
4	4 200713M1_6	Standard	12.500	5.30	10686.688		10686.688	12.4	-0.5	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	5.30	10805.164		10805.164	12.6	0.6	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	5.30	10738.345		10738.345	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.29	10926.359		10926.359	12.7	1.8	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	5.29	9663.431		9663.431	11.2	-10.0	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	5.28	9224.920		9224.920	10.7	-14.1	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	5.28	7462.012		7462.012	8.7	-30.5	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:26:26 Pacific Daylight Time

Compound name: d5-N-EtFOSAA-RSD
Response Factor: 0.442917
RRF SD: 0.0307531, Relative SD: 6.94329
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	5.35	9927.592	19647.213	6.316	14.3	14.1	NO		NO	MM
2	2 200713M1_4	Standard	12.500	5.33	10014.214	23589.637	5.306	12.0	-4.2	NO		NO	bb
3	3 200713M1_5	Standard	12.500	5.30	9725.582	24274.781	5.008	11.3	-9.5	NO		NO	MM
4	4 200713M1_6	Standard	12.500	5.30	10686.688	23279.443	5.738	13.0	3.6	NO		NO	bb
5	5 200713M1_7	Standard	12.500	5.30	10804.229	24161.885	5.590	12.6	1.0	NO		NO	MM
6	6 200713M1_8	Standard	12.500	5.30	10738.345	23649.896	5.676	12.8	2.5	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.29	10926.359	25331.473	5.392	12.2	-2.6	NO		NO	bb
8	8 200713M1_10	Standard	12.500	5.29	9663.431	22662.881	5.330	12.0	-3.7	NO		NO	bb
9	9 200713M1_11	Standard	12.500	5.28	9224.920	19657.844	5.866	13.2	6.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	5.28	7462.012	18136.641	5.143	11.6	-7.1	NO		NO	bb

Compound name: 13C2-PFDoA-EIS
Response Factor: 1996.04
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.65	22569.309		22569.309	11.3	-9.5	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	5.63	22179.334		22179.334	11.1	-11.1	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	5.61	23969.695		23969.695	12.0	-3.9	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	5.61	23724.088		23724.088	11.9	-4.9	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	5.61	24564.666		24564.666	12.3	-1.5	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	5.61	24950.451		24950.451	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	5.60	24680.242		24680.242	12.4	-1.1	NO		NO	bbX
8	8 200713M1_10	Standard	12.500	5.60	22236.289		22236.289	11.1	-10.9	NO		NO	bbX
9	9 200713M1_11	Standard	12.500	5.59	20195.859		20195.859	10.1	-19.1	NO		NO	bbX
10	10 200713M1_12	Standard	12.500	5.60	19482.580		19482.580	9.8	-21.9	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFDoA-RSD
Response Factor: 1.29088
RRF SD: 0.0778151, Relative SD: 6.02807
Response type: Internal Std (Ref 107), 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 200713M1_3	Standard	12.500	5.65	22569.309	17534.150	16.090	12.5	-0.3	NO		NO	bb
2	2 200713M1_4	Standard	12.500	5.63	22179.031	19463.410	14.244	11.0	-11.7	NO		NO	MM
3	3 200713M1_5	Standard	12.500	5.61	23969.695	17599.207	17.025	13.2	5.5	NO		NO	bb
4	4 200713M1_6	Standard	12.500	5.61	23782.826	18232.439	16.305	12.6	1.0	NO		NO	MM
5	5 200713M1_7	Standard	12.500	5.61	24564.666	19605.357	15.662	12.1	-2.9	NO		NO	bb
6	6 200713M1_8	Standard	12.500	5.61	24955.969	18892.895	16.511	12.8	2.3	NO		NO	MM
7	7 200713M1_9	Standard	12.500	5.60	24680.242	18028.115	17.112	13.3	6.1	NO		NO	bb
8	8 200713M1_10	Standard	12.500	5.60	22236.289	17543.846	15.843	12.3	-1.8	NO		NO	bb
9	9 200713M1_11	Standard	12.500	5.59	20195.859	16686.563	15.129	11.7	-6.2	NO		NO	bb
10	10 200713M1_12	Standard	12.500	5.60	19479.057	13962.801	17.438	13.5	8.1	NO		NO	MM

Compound name: 13C2-10:2 FTS-EIS
Response Factor: 127.79
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	5.63	1230.918		1230.918	9.6	-22.9	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	5.62	1605.436		1605.436	12.6	0.5	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	5.59	1676.586		1676.586	13.1	5.0	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	5.59	1631.467		1631.467	12.8	2.1	NO		NO	bbX
5	5 200713M1_7	Standard	12.500	5.59	1752.601		1752.601	13.7	9.7	NO		NO	bbX
6	6 200713M1_8	Standard	12.500	5.60	1597.372		1597.372	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.58	2400.288		2400.288	18.8	50.3	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	5.58	1517.673		1517.673	11.9	-5.0	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	5.58	1206.315		1206.315	9.4	-24.5	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	5.58	1075.479		1075.479	8.4	-32.7	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-10:2 FTS-RSD
Response Factor: 0.428435
RRF SD: 0.0836347, Relative SD: 19.521
Response type: Internal Std (Ref 106), 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 200713M1_3	Standard	12.500	5.63	1230.918	3462.904	4.443	10.4	-17.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	5.62	1602.013	3970.946	5.043	11.8	-5.8	NO		NO	MM
3	3 200713M1_5	Standard	12.500	5.59	1676.586	3889.363	5.388	12.6	0.6	NO		NO	bb
4	4 200713M1_6	Standard	12.500	5.59	1631.467	3571.740	5.710	13.3	6.6	NO		NO	bb
5	5 200713M1_7	Standard	12.500	5.59	1752.601	3673.555	5.964	13.9	11.4	NO		NO	bb
6	6 200713M1_8	Standard	12.500	5.60	1597.372	4081.645	4.892	11.4	-8.7	NO		NO	bb
7	7 200713M1_9	Standard	12.500	5.58	2400.293	3913.347	7.667	17.9	43.2	NO		NO	MM
8	8 200713M1_10	Standard	12.500	5.58	1520.138	3785.234	5.020	11.7	-6.3	NO		NO	MM
9	9 200713M1_11	Standard	12.500	5.58	1206.242	3702.624	4.072	9.5	-24.0	NO		NO	MM
10	10 200713M1_12	Standard	12.500	5.58	1075.479	3458.027	3.888	9.1	-27.4	NO		NO	MMX

Compound name: d3-N-MeFOSA-EIS
Response Factor: 110.559
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	149.200	5.73	10755.012		10755.012	97.3	-34.8	NO		NO	bbX
2	2 200713M1_4	Standard	149.200	5.71	12891.313		12891.313	116.6	-21.8	NO		NO	bbX
3	3 200713M1_5	Standard	149.200	5.63	15043.335		15043.335	136.1	-8.8	NO		NO	bbX
4	4 200713M1_6	Standard	149.200	5.62	15637.069		15637.069	141.4	-5.2	NO		NO	bbX
5	5 200713M1_7	Standard	149.200	5.62	16397.191		16397.191	148.3	-0.6	NO		NO	bbX
6	6 200713M1_8	Standard	149.200	5.62	16495.449		16495.449	149.2	0.0	NO		NO	bb
7	7 200713M1_9	Standard	149.200	5.60	16587.619		16587.619	150.0	0.6	NO		NO	bbX
8	8 200713M1_10	Standard	149.200	5.61	16558.178		16558.178	149.8	0.4	NO		NO	MMX
9	9 200713M1_11	Standard	149.200	5.61	15841.713		15841.713	143.3	-4.0	NO		NO	bbX
10	10 200713M1_12	Standard	149.200	5.61	15194.691		15194.691	137.4	-7.9	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: d3-N-MeFOSA-RSD
Response Factor: 0.056896
RRF SD: 0.00806499, Relative SD: 14.175
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	149.200	5.73	10755.012	19647.213	6.843	120.3	-19.4	NO		NO	bb
2	2 200713M1_4	Standard	149.200	5.71	12891.313	23589.637	6.831	120.1	-19.5	NO		NO	bb
3	3 200713M1_5	Standard	149.200	5.63	15043.335	24274.781	7.746	136.1	-8.7	NO		NO	bb
4	4 200713M1_6	Standard	149.200	5.62	15637.069	23279.443	8.396	147.6	-1.1	NO		NO	bb
5	5 200713M1_7	Standard	149.200	5.62	16397.191	24161.885	8.483	149.1	-0.1	NO		NO	bb
6	6 200713M1_8	Standard	149.200	5.62	16495.449	23649.896	8.719	153.2	2.7	NO		NO	bb
7	7 200713M1_9	Standard	149.200	5.60	16588.760	25331.473	8.186	143.9	-3.6	NO		NO	MM
8	8 200713M1_10	Standard	149.200	5.61	16569.889	22662.881	9.139	160.6	7.7	NO		NO	MM
9	9 200713M1_11	Standard	149.200	5.61	15841.713	19657.844	10.073	177.0	18.7	NO		NO	bb
10	10 200713M1_12	Standard	149.200	5.61	15194.691	18136.641	10.472	184.1	23.4	NO		NO	bb

Compound name: 13C2-PFTeDA-EIS
Response Factor: 1142.28
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	6.10	15062.310		15062.310	13.2	5.5	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	6.09	14906.719		14906.719	13.0	4.4	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	6.08	15594.744		15594.744	13.7	9.2	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	6.08	15471.972		15471.972	13.5	8.4	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	6.08	16249.732		16249.732	14.2	13.8	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	6.08	14278.485		14278.485	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	6.07	16401.475		16401.475	14.4	14.9	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	6.07	16169.275		16169.275	14.2	13.2	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	6.07	14805.618		14805.618	13.0	3.7	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	6.07	13692.063		13692.063	12.0	-4.1	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFTeDA-RSD
Response Factor: 0.685036
RRF SD: 0.0578168, Relative SD: 8.43996
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	6.10	15062.310	19647.213	9.583	14.0	11.9	NO		NO	bb
2	2 200713M1_4	Standard	12.500	6.09	14904.783	23589.637	7.898	11.5	-7.8	NO		NO	MM
3	3 200713M1_5	Standard	12.500	6.08	15594.744	24274.781	8.030	11.7	-6.2	NO		NO	bb
4	4 200713M1_6	Standard	12.500	6.08	15476.373	23279.443	8.310	12.1	-3.0	NO		NO	MM
5	5 200713M1_7	Standard	12.500	6.08	16258.764	24161.885	8.411	12.3	-1.8	NO		NO	MM
6	6 200713M1_8	Standard	12.500	6.08	14278.485	23649.896	7.547	11.0	-11.9	NO		NO	bb
7	7 200713M1_9	Standard	12.500	6.07	16401.746	25331.473	8.094	11.8	-5.5	NO		NO	MM
8	8 200713M1_10	Standard	12.500	6.07	16165.640	22662.881	8.916	13.0	4.1	NO		NO	MM
9	9 200713M1_11	Standard	12.500	6.07	14786.996	19657.844	9.403	13.7	9.8	NO		NO	MM
10	10 200713M1_12	Standard	12.500	6.07	13692.861	18136.641	9.437	13.8	10.2	NO		NO	MM

Compound name: d5-N-ETFOSA-EIS
Response Factor: 159.014
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	149.200	6.13	18090.516		18090.516	113.8	-23.7	NO		NO	bbX
2	2 200713M1_4	Standard	149.200	6.12	20308.432		20308.432	127.7	-14.4	NO		NO	bbX
3	3 200713M1_5	Standard	149.200	6.07	20918.012		20918.012	131.5	-11.8	NO		NO	bbX
4	4 200713M1_6	Standard	149.200	6.07	21844.281		21844.281	137.4	-7.9	NO		NO	bbX
5	5 200713M1_7	Standard	149.200	6.06	23840.902		23840.902	149.9	0.5	NO		NO	MMX
6	6 200713M1_8	Standard	149.200	6.07	23724.953		23724.953	149.2	0.0	NO		NO	bb
7	7 200713M1_9	Standard	149.200	6.05	22219.861		22219.861	139.7	-6.3	NO		NO	MMX
8	8 200713M1_10	Standard	149.200	6.06	21698.650		21698.650	136.5	-8.5	NO		NO	bbX
9	9 200713M1_11	Standard	149.200	6.06	20985.855		20985.855	132.0	-11.5	NO		NO	bbX
10	10 200713M1_12	Standard	149.200	6.06	18901.217		18901.217	118.9	-20.3	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: d5-N-ETFOSA-RSD
Response Factor: 0.0797105
RRF SD: 0.00616077, Relative SD: 7.72893
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	149.200	6.13	18090.516	19647.213	11.510	144.4	-3.2	NO		NO	bb
2	2 200713M1_4	Standard	149.200	6.12	20308.432	23589.637	10.761	135.0	-9.5	NO		NO	bb
3	3 200713M1_5	Standard	149.200	6.07	20918.012	24274.781	10.771	135.1	-9.4	NO		NO	bb
4	4 200713M1_6	Standard	149.200	6.07	21844.281	23279.443	11.729	147.1	-1.4	NO		NO	bb
5	5 200713M1_7	Standard	149.200	6.06	23826.039	24161.885	12.326	154.6	3.6	NO		NO	MM
6	6 200713M1_8	Standard	149.200	6.07	23724.953	23649.896	12.540	157.3	5.4	NO		NO	bb
7	7 200713M1_9	Standard	149.200	6.05	22192.023	25331.473	10.951	137.4	-7.9	NO		NO	MM
8	8 200713M1_10	Standard	149.200	6.06	21698.650	22662.881	11.968	150.1	0.6	NO		NO	bb
9	9 200713M1_11	Standard	149.200	6.06	20985.855	19657.844	13.344	167.4	12.2	NO		NO	bb
10	10 200713M1_12	Standard	149.200	6.06	18901.217	18136.641	13.027	163.4	9.5	NO		NO	bb

Compound name: 13C2-PFHxDA-EIS
Response Factor: 1895.93
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	12.500	6.42	21325.449		21325.449	11.2	-10.0	NO		NO	bbX
2	2 200713M1_4	Standard	12.500	6.41	22370.438		22370.438	11.8	-5.6	NO		NO	MMX
3	3 200713M1_5	Standard	12.500	6.40	21738.541		21738.541	11.5	-8.3	NO		NO	bbX
4	4 200713M1_6	Standard	12.500	6.40	22704.916		22704.916	12.0	-4.2	NO		NO	MMX
5	5 200713M1_7	Standard	12.500	6.40	24058.770		24058.770	12.7	1.5	NO		NO	MMX
6	6 200713M1_8	Standard	12.500	6.40	23699.084		23699.084	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	6.40	22345.820		22345.820	11.8	-5.7	NO		NO	MMX
8	8 200713M1_10	Standard	12.500	6.40	23008.594		23008.594	12.1	-2.9	NO		NO	MMX
9	9 200713M1_11	Standard	12.500	6.40	21755.988		21755.988	11.5	-8.2	NO		NO	MMX
10	10 200713M1_12	Standard	12.500	6.40	19427.996		19427.996	10.2	-18.0	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C2-PFHxDA-RSD
Response Factor: 0.997873
RRF SD: 0.0760419, Relative SD: 7.6204
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	6.42	21325.449	19647.213	13.568	13.6	8.8	NO		NO	bb
2	2 200713M1_4	Standard	12.500	6.41	22360.887	23589.637	11.849	11.9	-5.0	NO		NO	MM
3	3 200713M1_5	Standard	12.500	6.40	21738.541	24274.781	11.194	11.2	-10.3	NO		NO	bb
4	4 200713M1_6	Standard	12.500	6.40	22720.225	23279.443	12.200	12.2	-2.2	NO		NO	MM
5	5 200713M1_7	Standard	12.500	6.40	24061.186	24161.885	12.448	12.5	-0.2	NO		NO	MM
6	6 200713M1_8	Standard	12.500	6.40	23707.520	23649.896	12.530	12.6	0.5	NO		NO	MM
7	7 200713M1_9	Standard	12.500	6.40	22345.586	25331.473	11.027	11.1	-11.6	NO		NO	MM
8	8 200713M1_10	Standard	12.500	6.40	23020.410	22662.881	12.697	12.7	1.8	NO		NO	MM
9	9 200713M1_11	Standard	12.500	6.40	21751.936	19657.844	13.832	13.9	10.9	NO		NO	MM
10	10 200713M1_12	Standard	12.500	6.40	19427.996	18136.641	13.390	13.4	7.3	NO		NO	bb

Compound name: d7-N-MeFOSE-EIS
Response Factor: 80.8123
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	149.200	6.29	7010.145		7010.145	86.7	-41.9	NO		NO	bbX
2	2 200713M1_4	Standard	149.200	6.29	8347.602		8347.602	103.3	-30.8	NO		NO	bbX
3	3 200713M1_5	Standard	149.200	6.29	10336.713		10336.713	127.9	-14.3	NO		NO	bbX
4	4 200713M1_6	Standard	149.200	6.29	13007.071		13007.071	161.0	7.9	NO		NO	MMX
5	5 200713M1_7	Standard	149.200	6.29	13143.246		13143.246	162.6	9.0	NO		NO	MMX
6	6 200713M1_8	Standard	149.200	6.29	12057.198		12057.198	149.2	0.0	NO		NO	MM
7	7 200713M1_9	Standard	149.200	6.29	12874.613		12874.613	159.3	6.8	NO		NO	MMX
8	8 200713M1_10	Standard	149.200	6.28	13035.301		13035.301	161.3	8.1	NO		NO	MMX
9	9 200713M1_11	Standard	149.200	6.28	13359.049		13359.049	165.3	10.8	NO		NO	bbX
10	10 200713M1_12	Standard	149.200	6.28	12465.808		12465.808	154.3	3.4	NO		NO	bbX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: d7-N-MeFOSE-RSD
Response Factor: 0.0450568
RRF SD: 0.00900134, Relative SD: 19.9778
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	149.200	6.29	7010.145	19647.213	4.460	99.0	-33.7	NO		NO	bbX
2	2 200713M1_4	Standard	149.200	6.29	8347.602	23589.637	4.423	98.2	-34.2	NO		NO	bb
3	3 200713M1_5	Standard	149.200	6.29	10336.713	24274.781	5.323	118.1	-20.8	NO		NO	bb
4	4 200713M1_6	Standard	149.200	6.29	13010.543	23279.443	6.986	155.1	3.9	NO		NO	MM
5	5 200713M1_7	Standard	149.200	6.29	13143.555	24161.885	6.800	150.9	1.1	NO		NO	MM
6	6 200713M1_8	Standard	149.200	6.29	12014.495	23649.896	6.350	140.9	-5.5	NO		NO	MM
7	7 200713M1_9	Standard	149.200	6.29	12888.212	25331.473	6.360	141.2	-5.4	NO		NO	MM
8	8 200713M1_10	Standard	149.200	6.28	13006.730	22662.881	7.174	159.2	6.7	NO		NO	MM
9	9 200713M1_11	Standard	149.200	6.28	13359.049	19657.844	8.495	188.5	26.4	NO		NO	bb
10	10 200713M1_12	Standard	149.200	6.28	12465.808	18136.641	8.592	190.7	27.8	NO		NO	bb

Compound name: d9-N-EtFOSE-EIS
Response Factor: 91.9046
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200713M1_3	Standard	149.200	6.44	7717.476		7717.476	84.0	-43.7	NO		NO	bbX
2	2 200713M1_4	Standard	149.200	6.44	10070.906		10070.906	109.6	-26.6	NO		NO	bbX
3	3 200713M1_5	Standard	149.200	6.44	12224.547		12224.547	133.0	-10.8	NO		NO	bbX
4	4 200713M1_6	Standard	149.200	6.44	11686.481		11686.481	127.2	-14.8	NO		NO	bbX
5	5 200713M1_7	Standard	149.200	6.44	13539.607		13539.607	147.3	-1.3	NO		NO	MMX
6	6 200713M1_8	Standard	149.200	6.44	13712.159		13712.159	149.2	0.0	NO		NO	MM
7	7 200713M1_9	Standard	149.200	6.43	13381.682		13381.682	145.6	-2.4	NO		NO	MMX
8	8 200713M1_10	Standard	149.200	6.43	13330.265		13330.265	145.0	-2.8	NO		NO	MMX
9	9 200713M1_11	Standard	149.200	6.43	13526.631		13526.631	147.2	-1.4	NO		NO	MMX
10	10 200713M1_12	Standard	149.200	6.43	12523.778		12523.778	136.3	-8.7	NO		NO	MMX

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: d9-N-EtFOSE-RSD
Response Factor: 0.0457898
RRF SD: 0.00827311, Relative SD: 18.0676
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	149.200	6.44	7717.476	19647.213	4.910	107.2	-28.1	NO		NO	bb
2	2 200713M1_4	Standard	149.200	6.44	10070.906	23589.637	5.337	116.5	-21.9	NO		NO	bb
3	3 200713M1_5	Standard	149.200	6.44	12224.547	24274.781	6.295	137.5	-7.9	NO		NO	bb
4	4 200713M1_6	Standard	149.200	6.44	11686.481	23279.443	6.275	137.0	-8.1	NO		NO	bb
5	5 200713M1_7	Standard	149.200	6.44	13538.845	24161.885	7.004	153.0	2.5	NO		NO	MM
6	6 200713M1_8	Standard	149.200	6.44	13709.183	23649.896	7.246	158.2	6.1	NO		NO	MM
7	7 200713M1_9	Standard	149.200	6.43	13377.571	25331.473	6.601	144.2	-3.4	NO		NO	MM
8	8 200713M1_10	Standard	149.200	6.43	13292.355	22662.881	7.332	160.1	7.3	NO		NO	MM
9	9 200713M1_11	Standard	149.200	6.43	13591.371	19657.844	8.642	188.7	26.5	NO		NO	MM
10	10 200713M1_12	Standard	149.200	6.43	12588.891	18136.641	8.676	189.5	27.0	NO		NO	MM

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 101), 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 200713M1_3	Standard	12.500	1.40	4769.916	4769.916	12.500	12.5	0.0	NO		NO	MM
2	2 200713M1_4	Standard	12.500	1.40	4982.314	4982.314	12.500	12.5	0.0	NO		NO	MM
3	3 200713M1_5	Standard	12.500	1.30	4994.940	4994.940	12.500	12.5	0.0	NO		NO	MM
4	4 200713M1_6	Standard	12.500	1.26	4933.582	4933.582	12.500	12.5	0.0	NO		NO	MM
5	5 200713M1_7	Standard	12.500	1.28	5514.208	5514.208	12.500	12.5	0.0	NO		NO	MM
6	6 200713M1_8	Standard	12.500	1.26	5197.343	5197.343	12.500	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	1.35	5433.095	5433.095	12.500	12.5	0.0	NO		NO	MM
8	8 200713M1_10	Standard	12.500	1.28	5184.804	5184.804	12.500	12.5	0.0	NO		NO	MM
9	9 200713M1_11	Standard	12.500	1.25	5125.724	5125.724	12.500	12.5	0.0	NO		NO	MM
10	10 200713M1_12	Standard	12.500	1.25	5133.202	5133.202	12.500	12.5	0.0	NO		NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 5.23364e-017, Relative SD: 5.23364e-015
Response type: Internal Std (Ref 102), 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 200713M1_3	Standard	12.500	3.14	11778.972	11778.972	12.500	12.5	0.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.13	13629.279	13629.279	12.500	12.5	0.0	NO		NO	MM
3	3 200713M1_5	Standard	12.500	3.05	13907.682	13907.682	12.500	12.5	0.0	NO		NO	MM
4	4 200713M1_6	Standard	12.500	3.04	13526.853	13526.853	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	3.05	14908.561	14908.561	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	3.04	13720.716	13720.716	12.500	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	3.03	13368.848	13368.848	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	3.04	14151.472	14151.472	12.500	12.5	0.0	NO		NO	MM
9	9 200713M1_11	Standard	12.500	3.02	13089.593	13089.593	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	3.02	12247.320	12247.320	12.500	12.5	0.0	NO		NO	MM

Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 103), 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 200713M1_3	Standard	12.500	3.88	1832.178	1832.178	12.500	12.5	0.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	3.87	2039.610	2039.610	12.500	12.5	0.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	3.81	1996.010	1996.010	12.500	12.5	0.0	NO		NO	bb
4	4 200713M1_6	Standard	12.500	3.81	2142.915	2142.915	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	3.80	2196.312	2196.312	12.500	12.5	0.0	NO		NO	MM
6	6 200713M1_8	Standard	12.500	3.81	2245.523	2245.523	12.500	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	3.79	1807.388	1807.388	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	3.79	2014.389	2014.389	12.500	12.5	0.0	NO		NO	bb
9	9 200713M1_11	Standard	12.500	3.79	1901.390	1901.390	12.500	12.5	0.0	NO		NO	MM
10	10 200713M1_12	Standard	12.500	3.79	1525.332	1525.332	12.500	12.5	0.0	NO		NO	MM

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 104), 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 200713M1_3	Standard	12.500	4.25	21098.799	21098.799	12.500	12.5	0.0	NO		NO	MM
2	2 200713M1_4	Standard	12.500	4.24	22903.840	22903.840	12.500	12.5	0.0	NO		NO	MM
3	3 200713M1_5	Standard	12.500	4.18	21868.881	21868.881	12.500	12.5	0.0	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.18	22502.492	22502.492	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.17	24183.877	24183.877	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.18	23746.551	23746.551	12.500	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.16	22133.756	22133.756	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.16	21728.854	21728.854	12.500	12.5	0.0	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.16	19186.959	19186.959	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.16	17589.898	17589.898	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 9.06493e-017, Relative SD: 9.06493e-015
Response type: Internal Std (Ref 105), 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 200713M1_3	Standard	12.500	4.68	13102.070	13102.070	12.500	12.5	0.0	NO		NO	MM
2	2 200713M1_4	Standard	12.500	4.66	15254.506	15254.506	12.500	12.5	0.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.62	14280.216	14280.216	12.500	12.5	0.0	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.61	14354.931	14354.931	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.61	14489.491	14489.491	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.62	14740.308	14740.308	12.500	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.60	14245.771	14245.771	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.60	14114.251	14114.251	12.500	12.5	0.0	NO		NO	bb
9	9 200713M1_11	Standard	12.500	4.60	13623.407	13623.407	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.60	11882.159	11882.159	12.500	12.5	0.0	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 6.40988e-017, Relative SD: 6.40988e-015
Response type: Internal Std (Ref 106), 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 200713M1_3	Standard	12.500	4.76	3462.904	3462.904	12.500	12.5	0.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	4.75	3970.946	3970.946	12.500	12.5	0.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	4.70	3889.363	3889.363	12.500	12.5	0.0	NO		NO	MM
4	4 200713M1_6	Standard	12.500	4.70	3571.740	3571.740	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.70	3673.555	3673.555	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.70	4081.645	4081.645	12.500	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	4.69	3913.347	3913.347	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	4.69	3785.234	3785.234	12.500	12.5	0.0	NO		NO	MM
9	9 200713M1_11	Standard	12.500	4.69	3702.624	3702.624	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.68	3458.027	3458.027	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 107), 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 200713M1_3	Standard	12.500	5.05	17534.150	17534.150	12.500	12.5	0.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	5.03	19463.410	19463.410	12.500	12.5	0.0	NO		NO	MM
3	3 200713M1_5	Standard	12.500	5.00	17599.207	17599.207	12.500	12.5	0.0	NO		NO	bb
4	4 200713M1_6	Standard	12.500	4.99	18232.439	18232.439	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	4.99	19605.357	19605.357	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	4.99	18892.895	18892.895	12.500	12.5	0.0	NO		NO	bb
7	7 200713M1_9	Standard	12.500	4.98	18028.115	18028.115	12.500	12.5	0.0	NO		NO	MM
8	8 200713M1_10	Standard	12.500	4.98	17543.846	17543.846	12.500	12.5	0.0	NO		NO	MM
9	9 200713M1_11	Standard	12.500	4.98	16686.563	16686.563	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	4.98	13962.801	13962.801	12.500	12.5	0.0	NO		NO	bb

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:23:19 Pacific Daylight Time

Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 108), 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 200713M1_3	Standard	12.500	5.37	19647.213	19647.213	12.500	12.5	0.0	NO		NO	bb
2	2 200713M1_4	Standard	12.500	5.35	23589.637	23589.637	12.500	12.5	0.0	NO		NO	bb
3	3 200713M1_5	Standard	12.500	5.32	24274.781	24274.781	12.500	12.5	0.0	NO		NO	MM
4	4 200713M1_6	Standard	12.500	5.32	23279.443	23279.443	12.500	12.5	0.0	NO		NO	bb
5	5 200713M1_7	Standard	12.500	5.32	24161.885	24161.885	12.500	12.5	0.0	NO		NO	bb
6	6 200713M1_8	Standard	12.500	5.32	23649.896	23649.896	12.500	12.5	0.0	NO		NO	MM
7	7 200713M1_9	Standard	12.500	5.31	25331.473	25331.473	12.500	12.5	0.0	NO		NO	bb
8	8 200713M1_10	Standard	12.500	5.31	22662.881	22662.881	12.500	12.5	0.0	NO		NO	MM
9	9 200713M1_11	Standard	12.500	5.31	19657.844	19657.844	12.500	12.5	0.0	NO		NO	bb
10	10 200713M1_12	Standard	12.500	5.30	18136.641	18136.641	12.500	12.5	0.0	NO		NO	MM

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:28:34 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	47	0.9998	NO	
2	2	PFPrS	51	0.9994	NO	
3	3	3:3 FTCA	49	0.9971	NO	
4	4	PFPeA	49	0.9995	NO	
5	5	PFBS	51	0.9985	NO	
6	6	4:2 FTS	55	0.9996	NO	
7	7	PFHxA	57	0.9997	NO	
8	8	PFPeS	51	0.9990	NO	
9	9	HFPO-DA	53	0.9971	NO	
10	10	5:3 FTCA	59	0.9946	NO	
11	11	PFHpA	59	0.9998	NO	
12	12	ADONA	59	0.9992	NO	
13	13	L-PFHxS	61	0.9984	NO	
14	15	6:2 FTS	63	0.9987	NO	
15	16	L-PFOA	69	0.9996	NO	
16	18	PFecHS	69	0.9995	NO	
17	19	PFHpS	73	0.9992	NO	
18	20	7:3 FTCA	65	0.9996	NO	
19	21	PFNA	65	0.9999	NO	
20	22	PFOSA	67	0.9986	NO	
21	23	L-PFOS	73	0.9997	NO	
22	25	9Cl-PF3ONS	73	0.9971	NO	
23	26	PFDA	75	0.9994	NO	
24	27	8:2 FTS	77	0.9985	NO	
25	28	PFNS	73	0.9989	NO	
26	29	L-MeFOSAA	79	0.9993	NO	

Vista Analytical Laboratory

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:29:33 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	83	0.9980	NO	
2	33	PFUdA	81	0.9997	NO	
3	34	PFDS	73	0.9999	NO	
4	35	11Cl-PF30UdS	85	0.9980	NO	
5	36	10:2 FTS	87	0.9998	NO	
6	37	PFDoA	85	0.9998	NO	
7	38	N-MeFOSA	89	0.9994	NO	
8	39	PFTrDA	85	0.9999	NO	
9	40	PFDoS	91	0.9991	NO	
10	41	PFTeDA	91	0.9999	NO	
11	42	N-EtFOSA	93	0.9996	NO	
12	43	PFHxDA	95	0.9991	NO	
13	44	PFODA	95	0.9995	NO	
14	45	N-MeFOSE	97	0.9993	NO	
15	46	N-EtFOSE	99	1.0000	NO	
16	47	13C3-PFBA-EIS			NO	0.000
17	48	13C3-PFBA-RSD	101		NO	3.338
18	49	13C3-PFPeA-EIS			NO	0.000
19	50	13C3-PFPeA-RSD	102		NO	5.482
20	51	13C3-PFBS-EIS			NO	0.000
21	52	13C3-PFBS-RSD	103		NO	7.222
22	53	13C3-HFPO-DA-EIS			NO	0.000
23	54	13C3-HFPO-DA-RSD	102		NO	7.781
24	55	13C2-4:2 FTS-EIS			NO	0.000
25	56	13C2-4:2 FTS-RSD	103		NO	11.323
26	57	13C2-PFHxA-EIS			NO	0.000
27	58	13C2-PFHxA-RSD	102		NO	5.593
28	59	13C4-PFHpA-EIS			NO	0.000
29	60	13C4-PFHpA-RSD	102		NO	3.687
30	61	13C3-PFHxS-EIS			NO	0.000
31	62	13C3-PFHxS-RSD	103		NO	5.591
32	63	13C2-6:2 FTS-EIS			NO	0.000

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:29:33 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	IS#	CoD	CoD Flag	%RSD
33	64	13C2-6:2 FTS-RSD	106		NO	10.255
34	65	13C5-PFNA-EIS			NO	0.000
35	66	13C5-PFNA-RSD	105		NO	4.856
36	67	13C8-PFOSA-EIS			NO	0.000
37	68	13C8-PFOSA-RSD	108		NO	17.486
38	69	13C2-PFOA-EIS			NO	0.000
39	70	13C2-PFOA-RSD	104		NO	3.204
40	73	13C8-PFOS-EIS			NO	0.000
41	74	13C8-PFOS-RSD	106		NO	8.039
42	75	13C2-PFDA-EIS			NO	0.000
43	76	13C2-PFDA-RSD	107		NO	6.891
44	77	13C2-8:2 FTS-EIS			NO	0.000
45	78	13C2-8:2 FTS-RSD	106		NO	13.487
46	79	d3-N-MeFOSAA-EIS			NO	0.000
47	80	d3-N-MeFOSAA-RSD	108		NO	5.274
48	81	13C2-PFUdA-EIS			NO	0.000
49	82	13C2-PFUdA-RSD	108		NO	5.506
50	83	d5-N-EtFOSAA-EIS			NO	0.000
51	84	d5-N-EtFOSAA-RSD	108		NO	6.943
52	85	13C2-PFDoA-EIS			NO	0.000
53	86	13C2-PFDoA-RSD	107		NO	6.028
54	87	13C2-10:2 FTS-EIS			NO	0.000
55	88	13C2-10:2 FTS-RSD	106		NO	19.521
56	89	d3-N-MeFOSA-EIS			NO	0.000
57	90	d3-N-MeFOSA-RSD	108		NO	14.175
58	91	13C2-PFTeDA-EIS			NO	0.000
59	92	13C2-PFTeDA-RSD	108		NO	8.440
60	93	d5-N-ETFOSA-EIS			NO	0.000
61	94	d5-N-ETFOSA-RSD	108		NO	7.729
62	95	13C2-PFHxDA-EIS			NO	0.000
63	96	13C2-PFHxDA-RSD	108		NO	7.620
64	97	d7-N-MeFOSE-EIS			NO	0.000
65	98	d7-N-MeFOSE-RSD	108		NO	19.978
66	99	d9-N-EtFOSE-EIS			NO	0.000
67	1...	d9-N-EtFOSE-RSD	108		NO	18.068
68	1...	13C4-PFBA	101		NO	0.000

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:18:00 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:26:29 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	IS#	CoD	CoD Flag	%RSD
69	1...	13C5-PFHxA	102		NO	0.000
70	1...	18O2-PFHxS	103		NO	0.000
71	1...	13C8-PFOA	104		NO	0.000
72	1...	13C9-PFNA	105		NO	0.000
73	1...	13C4-PFOS	106		NO	0.000
74	1...	13C6-PFDA	107		NO	0.000
75	1...	13C7-PFUdA	108		NO	0.000

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:32:02 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	1	PFBA	1.26	1.26			
2	2	PFPrS	1.66	1.59	2.362	2.362	NO
3	3	3:3 FTCA	2.08	2.07	2.225	2.225	NO
4	4	PFPeA	2.21	2.21			
5	5	PFBS	2.50	2.50	2.877	2.877	NO
6	6	4:2 FTS	2.95	2.95	1.997	1.997	NO
7	7	PFHxA	3.04	3.04	16.831	16.831	NO
8	8	PFPeS	3.25	3.25	1.687	1.687	NO
9	9	HFPO-DA	3.26	3.26	1.986	1.986	NO
10	10	5:3 FTCA	3.61	3.60	1.507	1.507	NO
11	11	PFHpA	3.66	3.66	10.086	10.086	NO
12	12	ADONA	3.75	3.77	3.484	3.484	NO
13	13	L-PFHxS	3.81	3.81	1.653	1.653	NO
14	15	6:2 FTS	4.12	4.12	2.502	2.502	NO
15	16	L-PFOA	4.18	4.18	3.731	3.731	NO
16	18	PFecHS	4.19	4.19	0.866	0.866	NO
17	19	PFHpS	4.31	4.29	1.960	1.960	NO
18	20	7:3 FTCA	4.61	4.60	1.451	1.451	NO
19	21	PFNA	4.62	4.62	4.156	4.156	NO
20	22	PFOSA	4.66	4.66	31.223	31.223	NO
21	23	L-PFOS	4.70	4.70	2.232	2.232	NO
22	25	9Cl-PF30NS	4.91	4.92	21.968	21.968	NO
23	26	PFDA	4.99	4.99	5.127	5.127	NO
24	27	8:2 FTS	4.97	4.97	1.823	1.823	NO
25	28	PFNS	5.04	5.06	1.518	1.518	NO
26	29	L-MeFOSAA	5.14	5.15	2.701	2.701	NO

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:32:52 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	31	L-EtFOSAA	5.30	5.31	1.350	1.350	NO
2	33	PFUdA	5.32	5.32	7.838	7.838	NO
3	34	PFDS	5.33	5.37	1.298	1.298	NO
4	35	11Cl-PF30UdS	5.54	5.54	22.305	22.305	NO
5	36	10:2 FTS	5.60	5.60	1.468	1.468	NO
6	37	PFDoA	5.61	5.61	8.244	8.244	NO
7	38	N-MeFOSA	5.61	5.60	1.389	1.389	NO
8	39	PFTrDA	5.86	5.86	8.112	8.112	NO
9	40	PFDoS	5.88	5.89	1.876	1.876	NO
10	41	PFTeDA	6.08	6.08	13.602	13.602	NO
11	42	N-EtFOSA	6.05	6.05	1.449	1.449	NO
12	43	PFHxDA	6.40	6.40	20.330	20.330	NO
13	44	PFODA	6.62	6.63			
14	45	N-MeFOSE	6.29	6.30			
15	46	N-EtFOSE	6.44	6.44			

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:33:23 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:33:33 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: PFBA

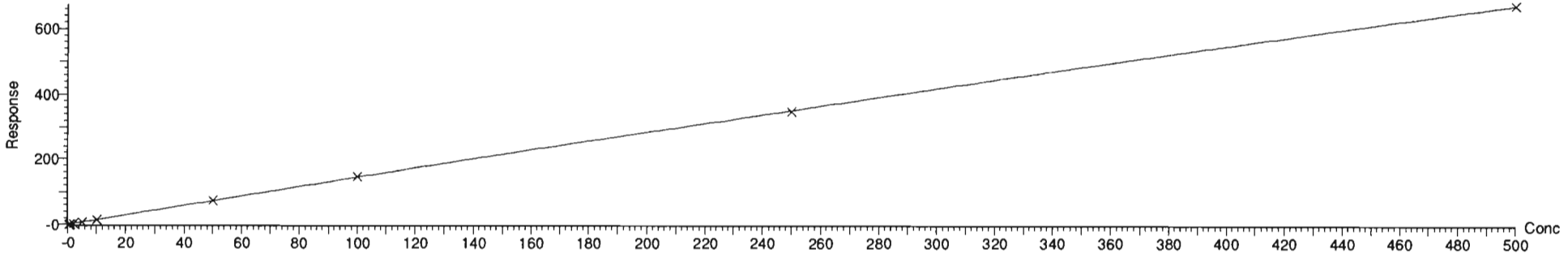
	# Name	ID	Acq.Date	Acq.Time
1	1 200713M1_1	IPA	13-Jul-20	13:54:41
2	2 200713M1_2	IPA	13-Jul-20	14:05:07
3	3 200713M1_3	ST200713M1-1 PFC CS-2 20F1901	13-Jul-20	14:15:32
4	4 200713M1_4	ST200713M1-2 PFC CS-1 20F1902	13-Jul-20	14:25:58
5	5 200713M1_5	ST200713M1-3 PFC CS0 20F1903	13-Jul-20	14:36:20
6	6 200713M1_6	ST200713M1-4 PFC CS1 20F1904	13-Jul-20	14:46:42
7	7 200713M1_7	ST200713M1-5 PFC CS2 20F1905	13-Jul-20	14:58:03
8	8 200713M1_8	ST200713M1-6 PFC CS3 20F1906	13-Jul-20	15:08:24
9	9 200713M1_9	ST200713M1-7 PFC CS4 20F1907	13-Jul-20	16:11:36
10	10 200713M1_10	ST200713M1-8 PFC CS5 20F1908	13-Jul-20	16:23:22
11	11 200713M1_11	ST200713M1-9 PFC CS6 20F1909	13-Jul-20	16:33:48
12	12 200713M1_12	ST200713M1-10 PFC CS7 20F1910	13-Jul-20	16:44:10
13	13 200713M1_13	IB	13-Jul-20	16:54:32
14	14 200713M1_14	ICV200713M1-1 PFC ICV 20F1911	13-Jul-20	17:04:54
15	15 200713M1_15	IB	13-Jul-20	17:15:17

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

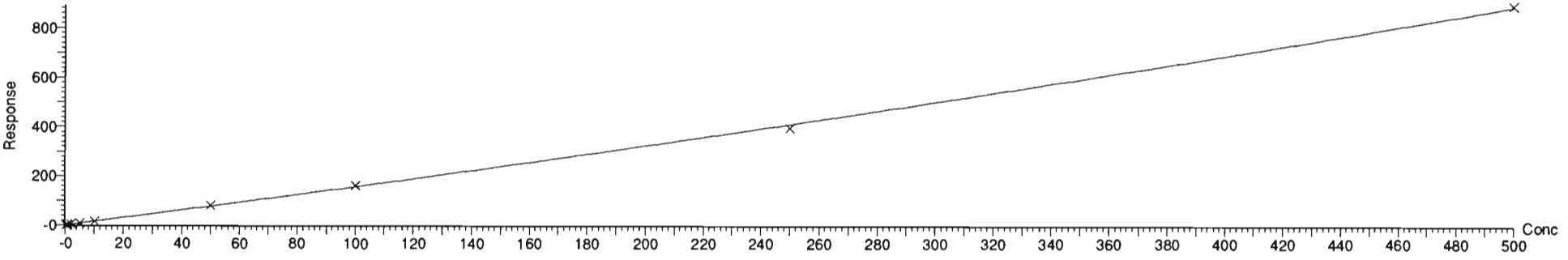
Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:30:25 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: PFBA
Coefficient of Determination: R^2 = 0.999843
Calibration curve: -0.000264269 * x^2 + 1.4756 * x + 0.0273328
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



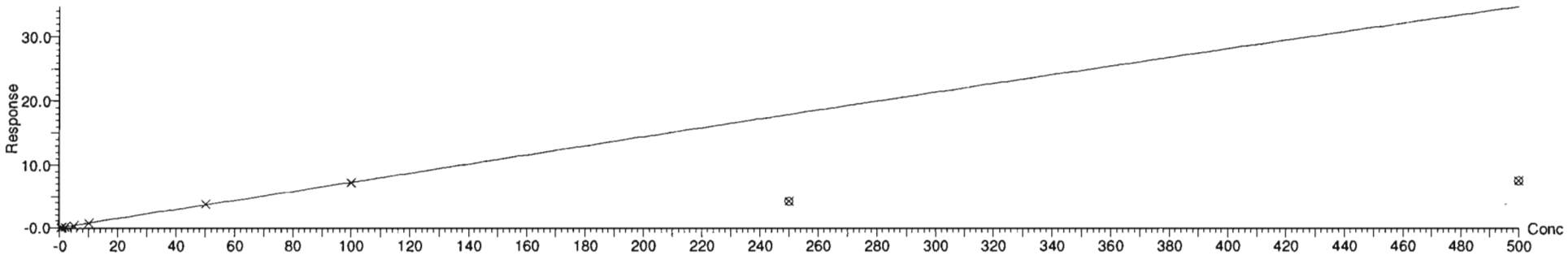
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999426
Calibration curve: 0.00050431 * x^2 + 1.518 * x + 0.0611456
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



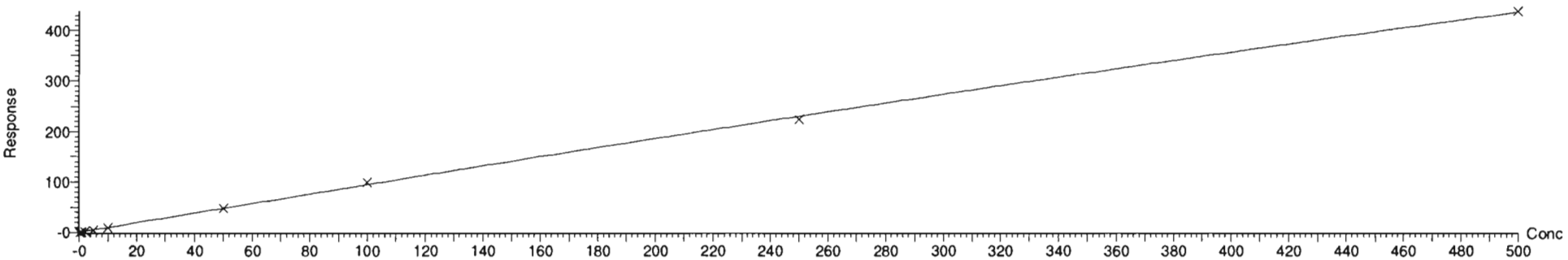
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.997112
Calibration curve: -8.29946e-006 * x^2 + 0.0737104 * x + -0.0125602
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



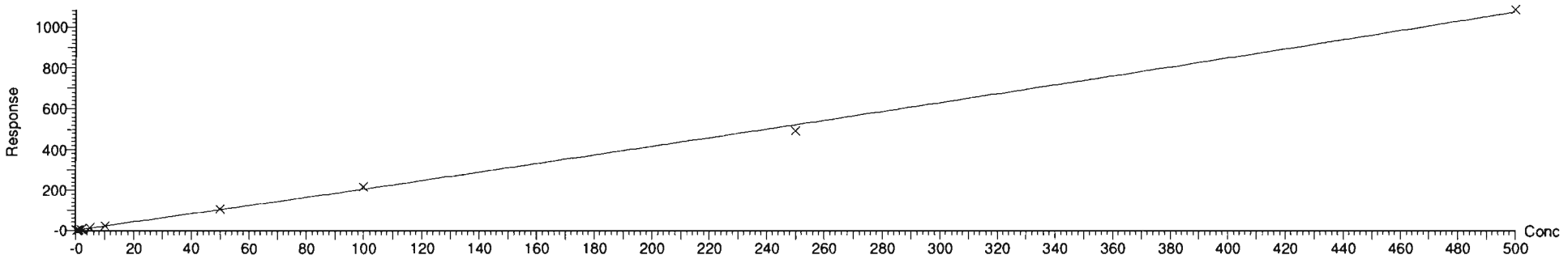
Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999528
Calibration curve: -0.000197089 * x^2 + 0.970087 * x + 0.00160944
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



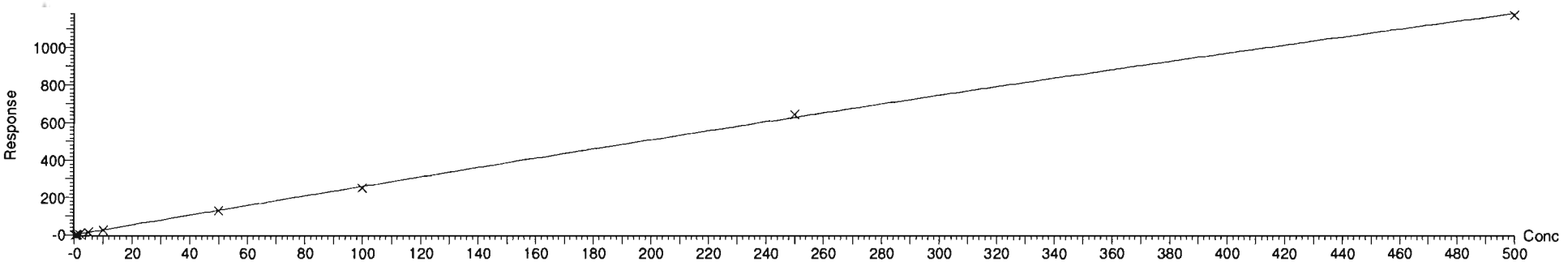
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.998535
Calibration curve: 0.000225606 * x^2 + 2.03093 * x + -0.0119333
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



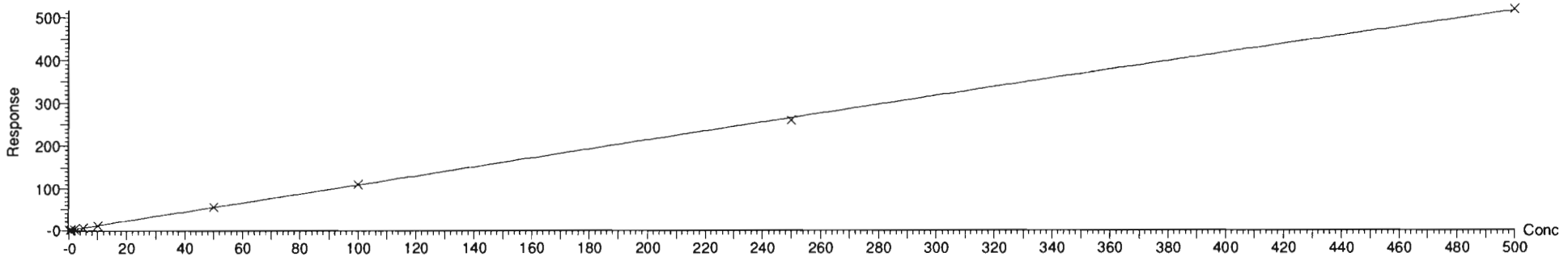
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999567
Calibration curve: -0.000604241 * x^2 + 2.66561 * x + -0.0125417
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



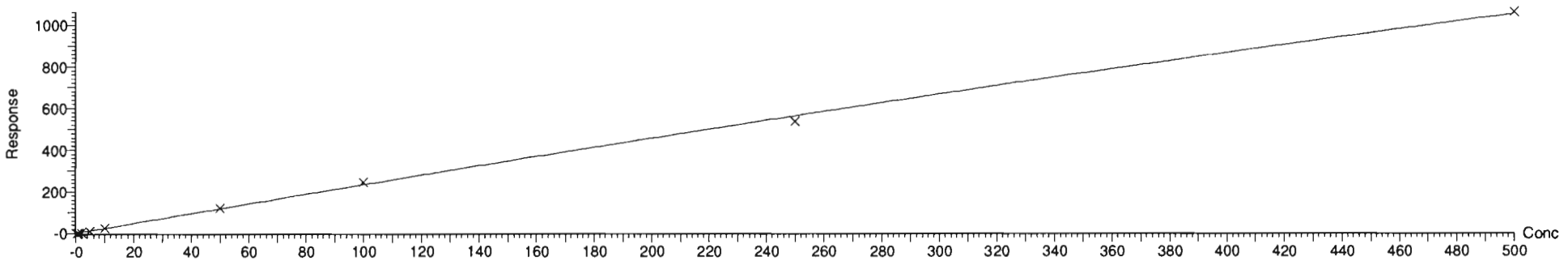
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.999734
Calibration curve: -0.000127277 * x^2 + 1.09334 * x + 0.014512
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



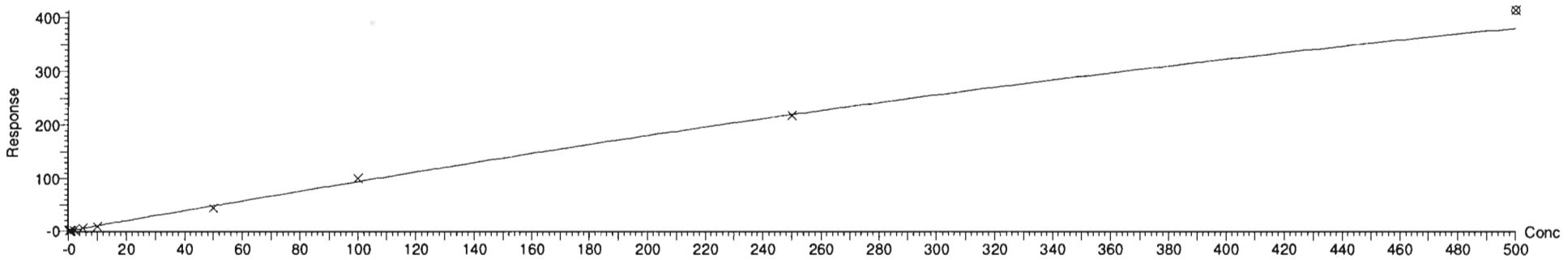
Compound name: PFPeS
Coefficient of Determination: R^2 = 0.998975
Calibration curve: -0.000584717 * x^2 + 2.39418 * x + 0.0249729
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



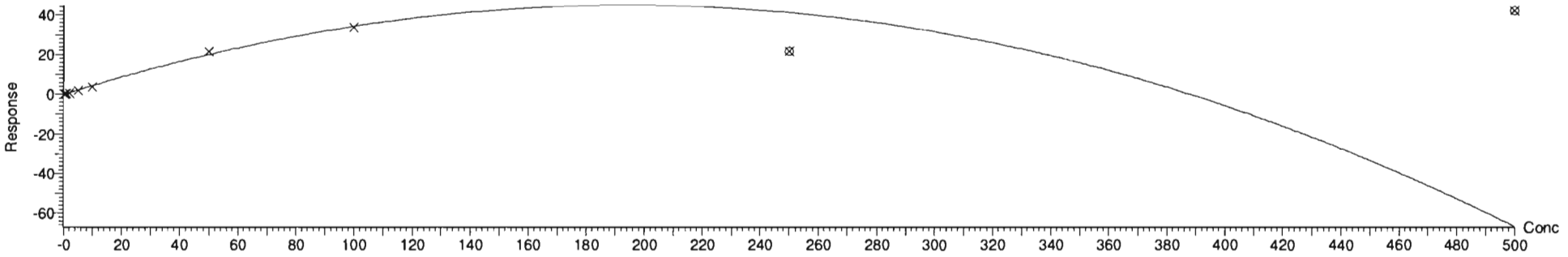
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.997118
Calibration curve: -0.000469212 * x^2 + 0.995387 * x + -0.104898
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



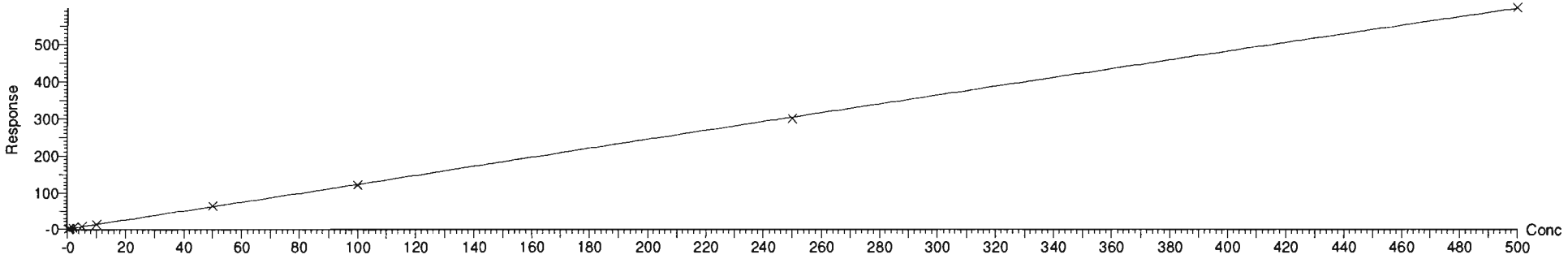
Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.994594
Calibration curve: -0.00119015 * x^2 + 0.462057 * x + -0.0888155
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



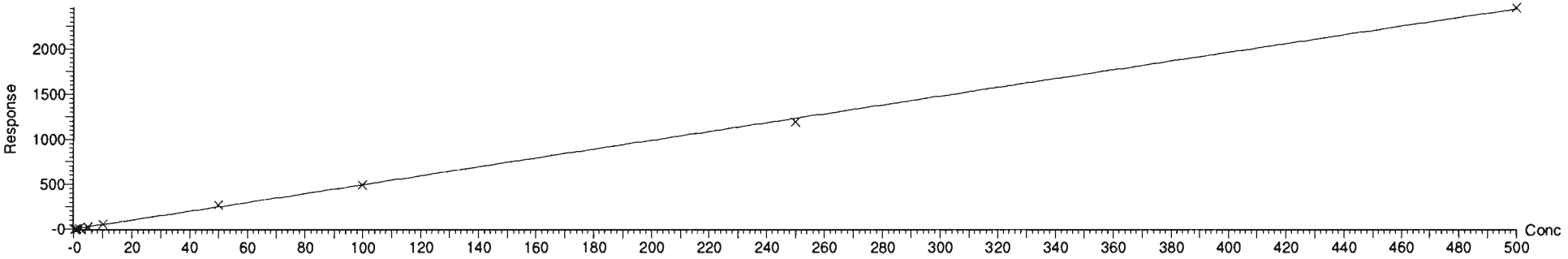
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999795
Calibration curve: -8.7206e-005 * x^2 + 1.23782 * x + 0.0466922
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



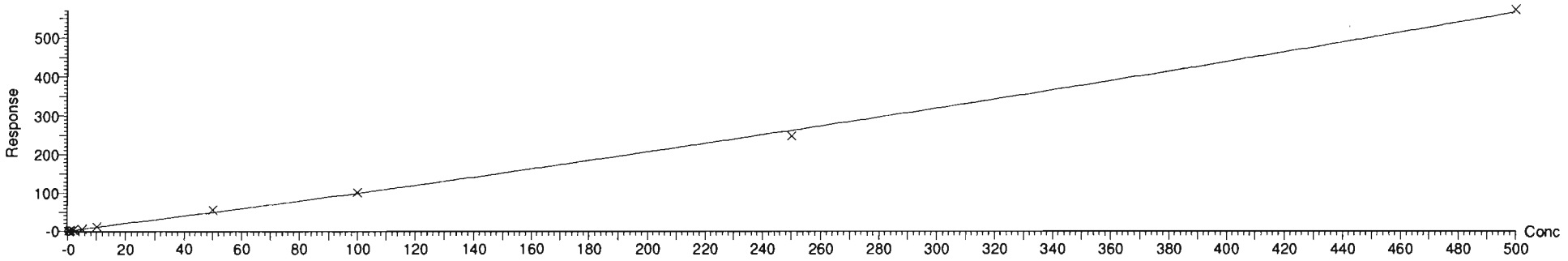
Compound name: ADONA
Coefficient of Determination: R^2 = 0.999196
Calibration curve: -0.00014098 * x^2 + 4.95545 * x + 0.0397225
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



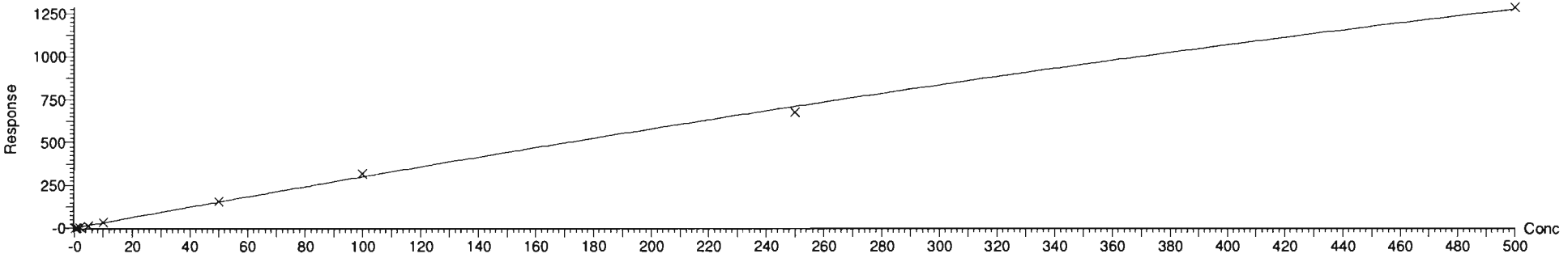
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.998428
Calibration curve: 0.000339353 * x^2 + 0.960167 * x + 0.131834
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



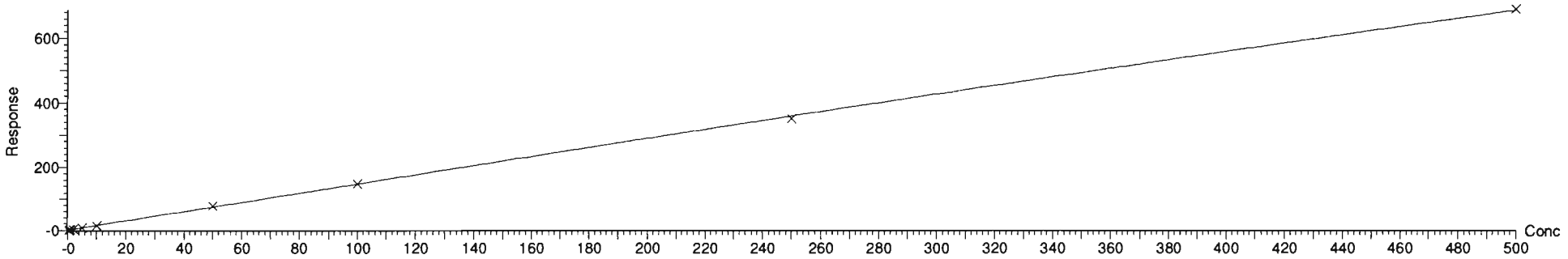
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.998687
Calibration curve: -0.00113801 * x^2 + 3.1175 * x + 0.0201894
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



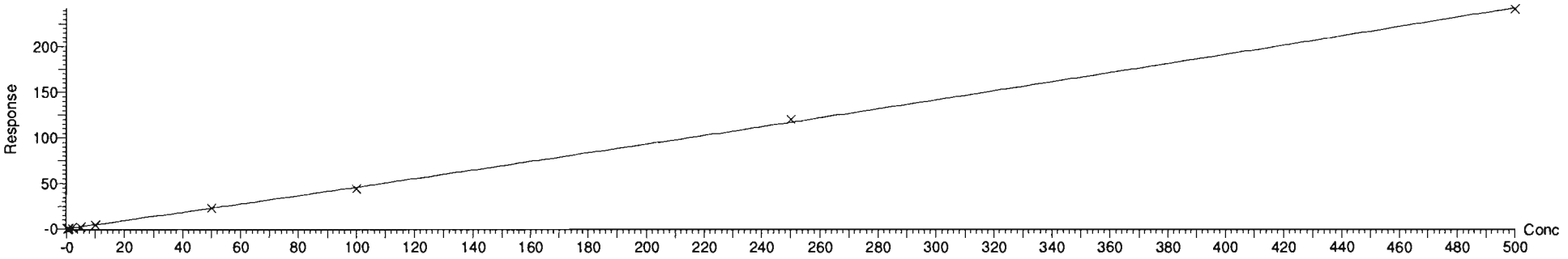
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999640
Calibration curve: -0.000249651 * x^2 + 1.49503 * x + 0.0619264
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



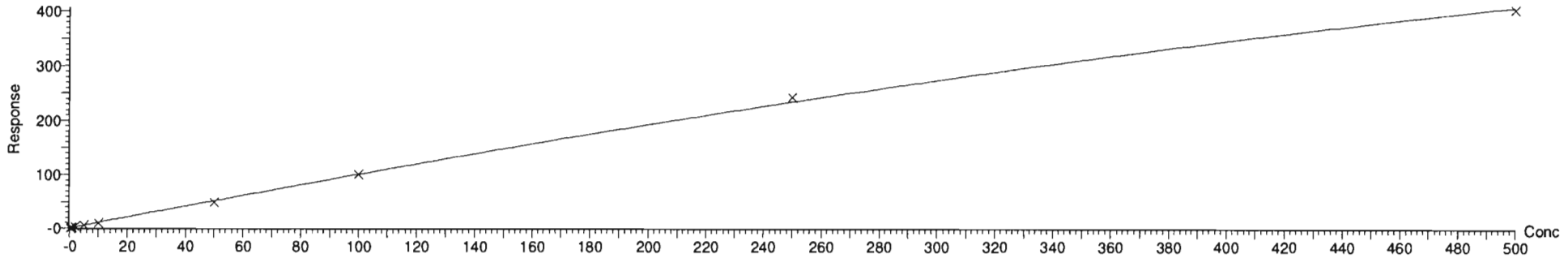
Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999476
Calibration curve: 6.93205e-005 * x^2 + 0.450237 * x + -0.0326589
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



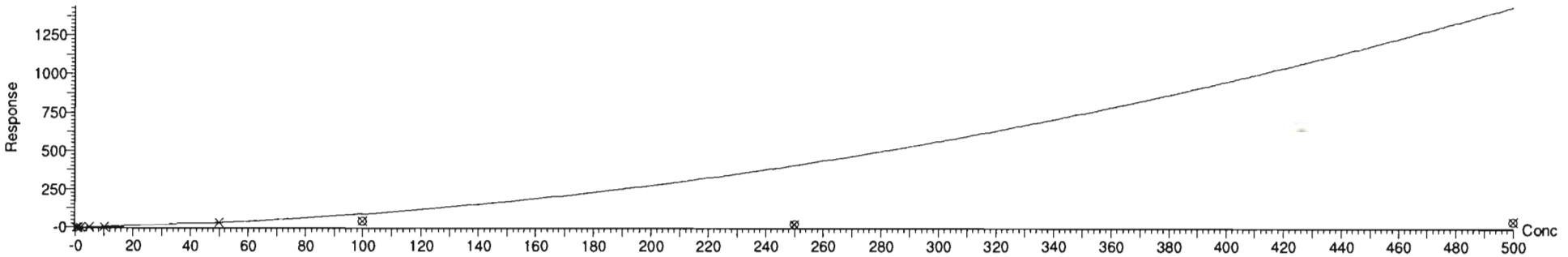
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999208
Calibration curve: -0.000493793 * x^2 + 1.06145 * x + -0.0696837
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



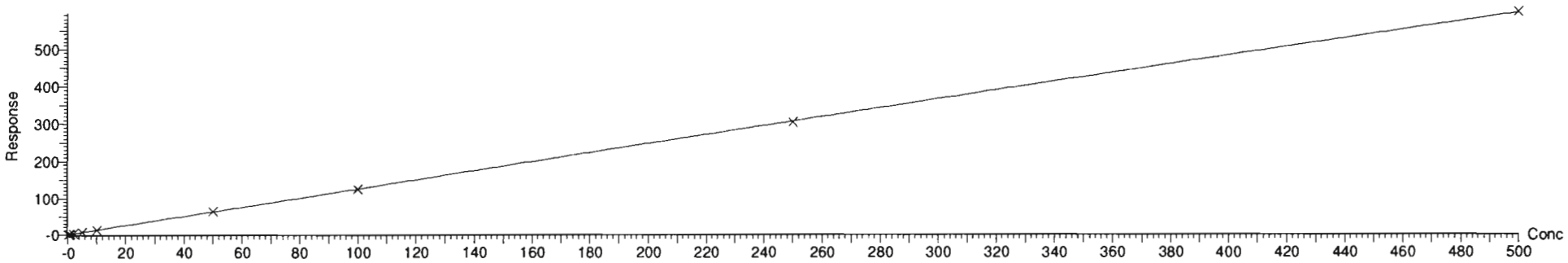
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999620
Calibration curve: 0.00500204 * x^2 + 0.376121 * x + -0.0578015
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



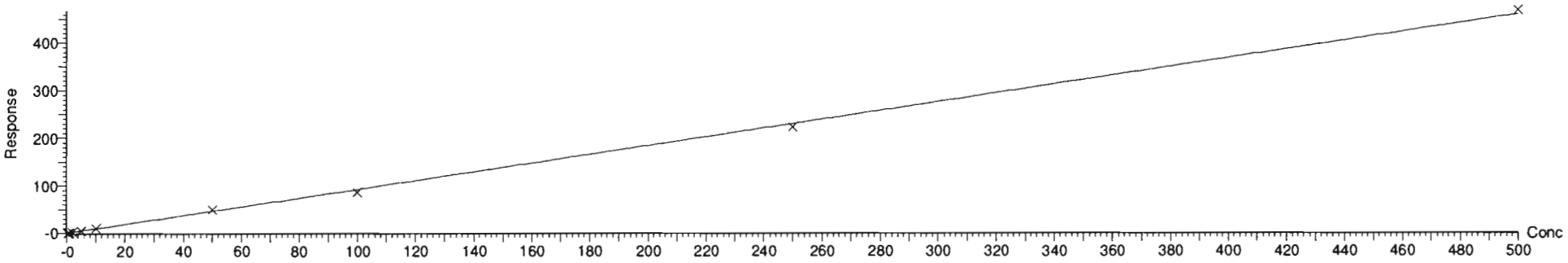
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999887
Calibration curve: -0.000136823 * x^2 + 1.26068 * x + -0.044152
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



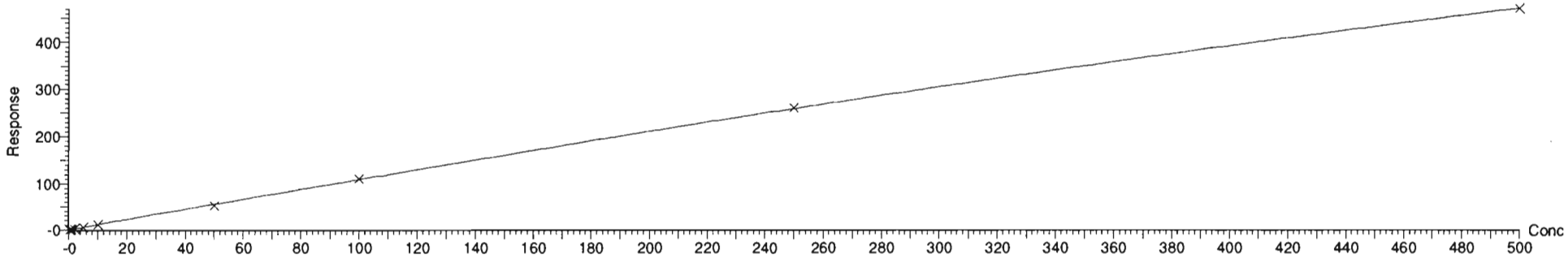
Compound name: PFOSA
Correlation coefficient: r = 0.999296, r^2 = 0.998592
Calibration curve: 0.917934 * x + 0.0250885
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



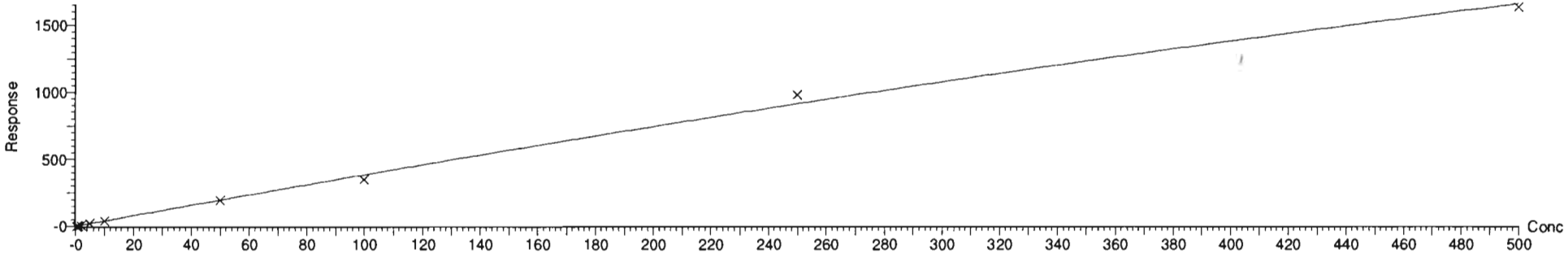
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999734
Calibration curve: -0.000370835 * x^2 + 1.12687 * x + -0.088223
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



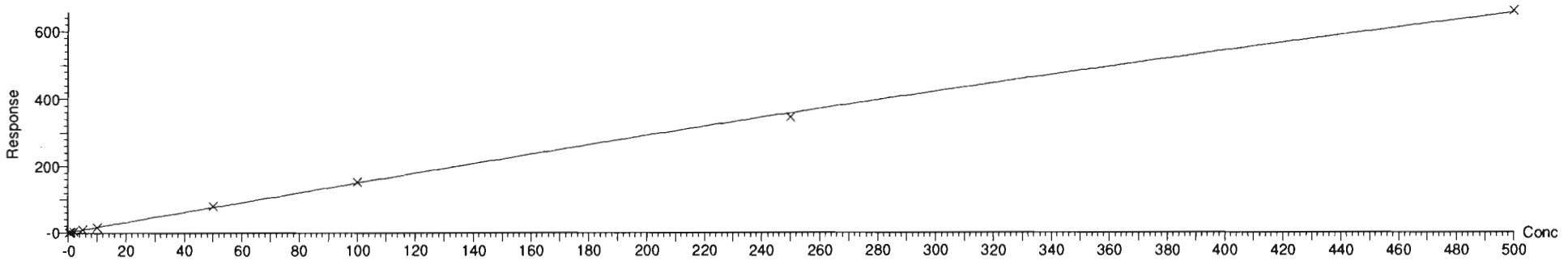
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.997113
Calibration curve: -0.00133866 * x^2 + 3.98452 * x + -0.443693
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



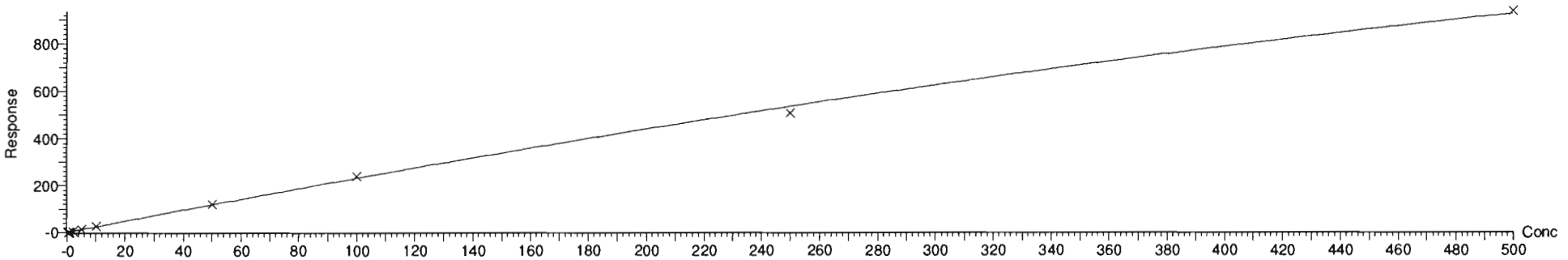
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.999357
Calibration curve: -0.000489863 * x^2 + 1.54989 * x + 0.0142121
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



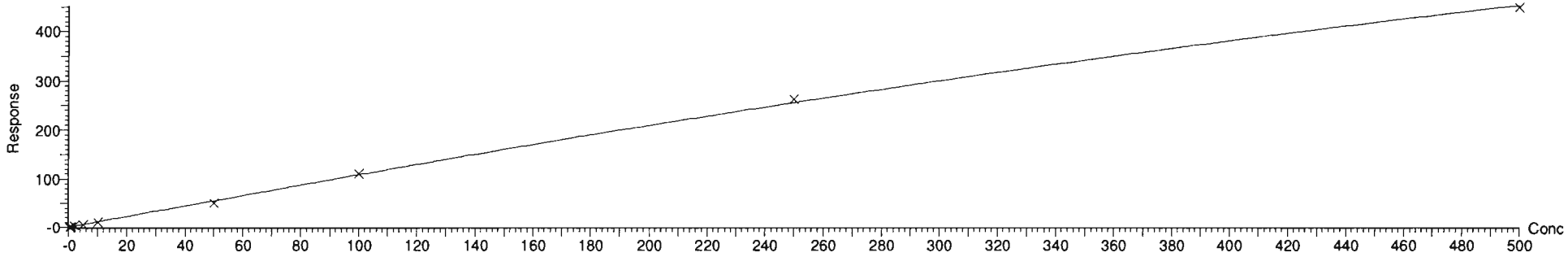
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998454
Calibration curve: -0.00112367 * x^2 + 2.41131 * x + 0.0738972
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



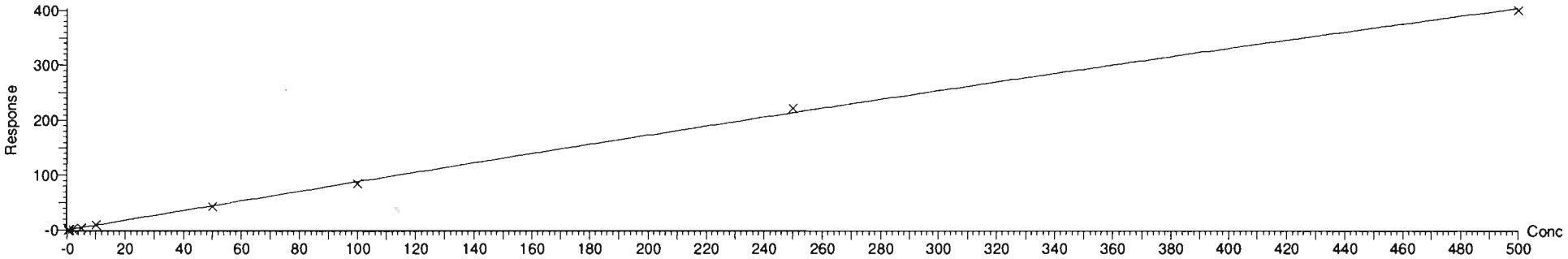
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:07 Pacific Daylight Time

Compound name: PFNS
Coefficient of Determination: R^2 = 0.998942
Calibration curve: -0.000469713 * x^2 + 1.14036 * x + -0.0495037
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999264
Calibration curve: -0.000197739 * x^2 + 0.905325 * x + -0.0887652
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

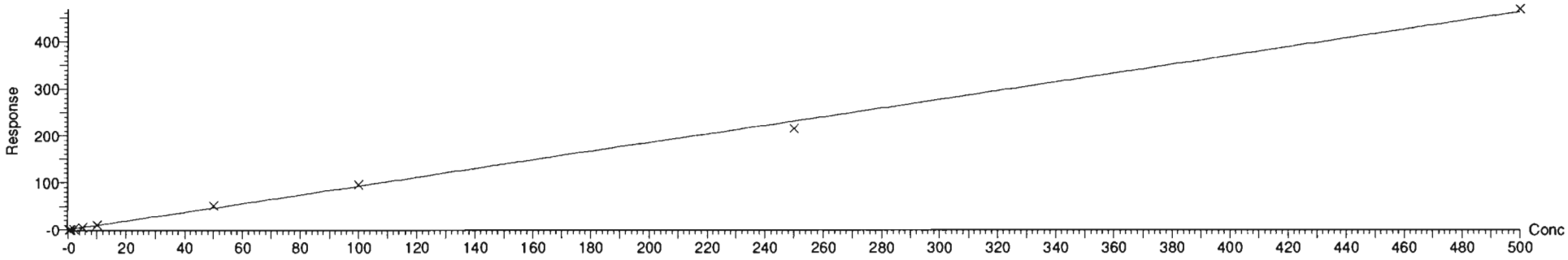


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

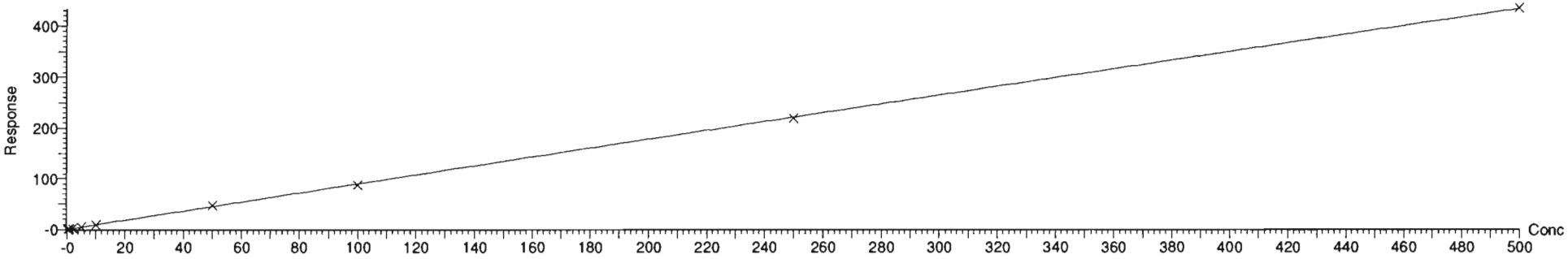
Last Altered: Tuesday, July 14, 2020 09:22:28 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:31:09 Pacific Daylight Time

Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 10 Jul 2020 12:55:57
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.997992
Calibration curve: 5.22437e-007 * x^2 + 0.922706 * x + -0.00520008
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



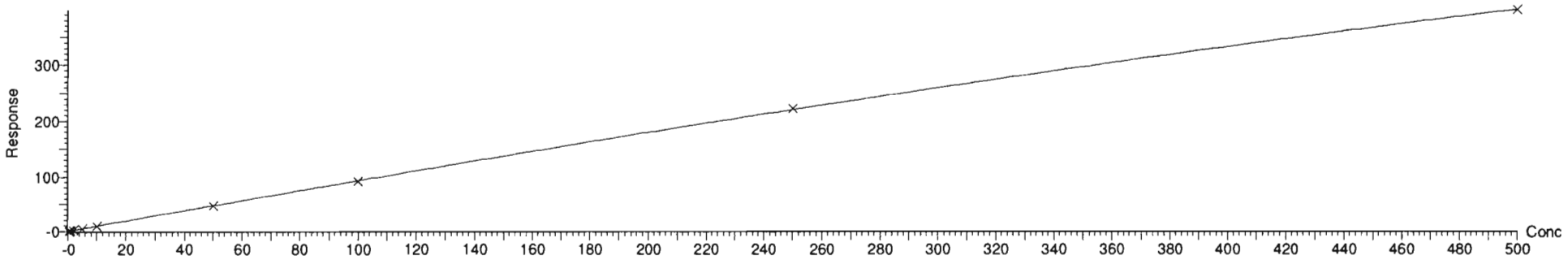
Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999687
Calibration curve: -6.96236e-005 * x^2 + 0.900367 * x + 0.0674567
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



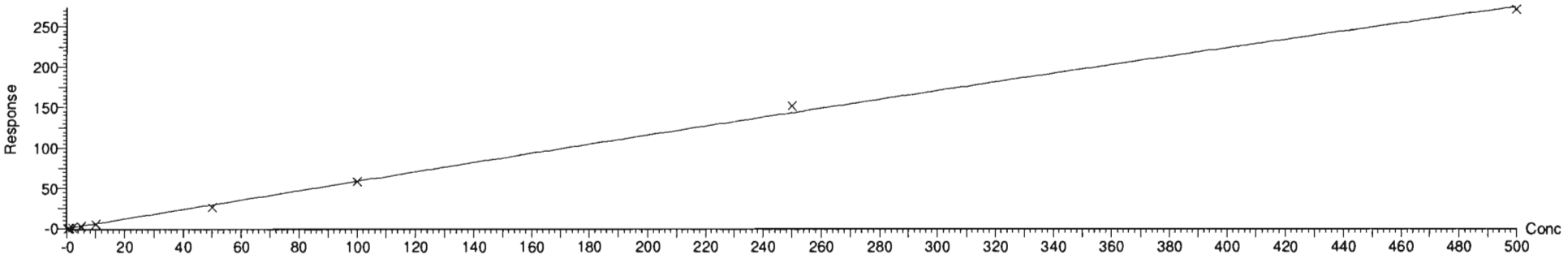
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.999898
Calibration curve: -0.000329579 * x^2 + 0.961915 * x + -0.0642123
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



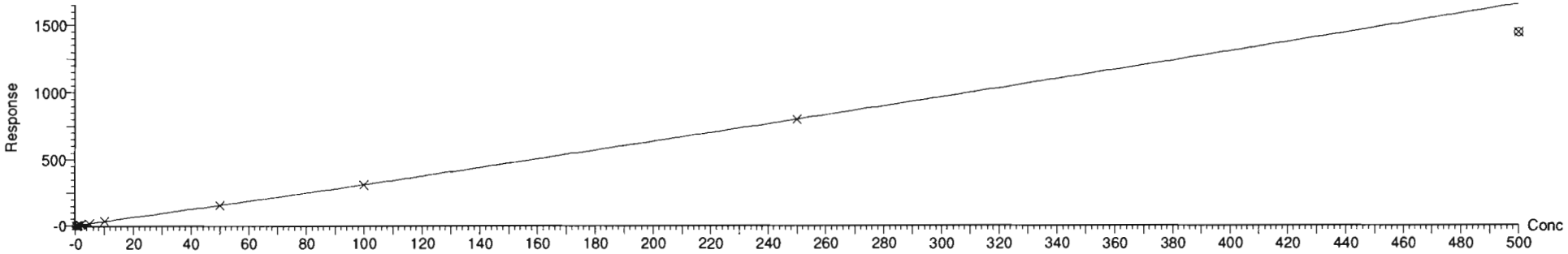
Compound name: 11Cl-PF30UdS
Coefficient of Determination: R^2 = 0.997971
Calibration curve: -9.86049e-005 * x^2 + 0.597544 * x + -0.0219777
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



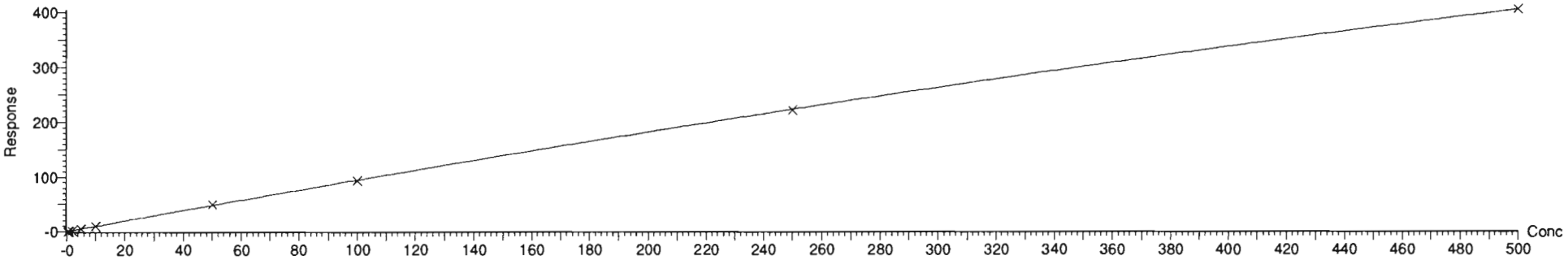
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999797
Calibration curve: 0.000480558 * x^2 + 3.06486 * x + -0.0515897
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



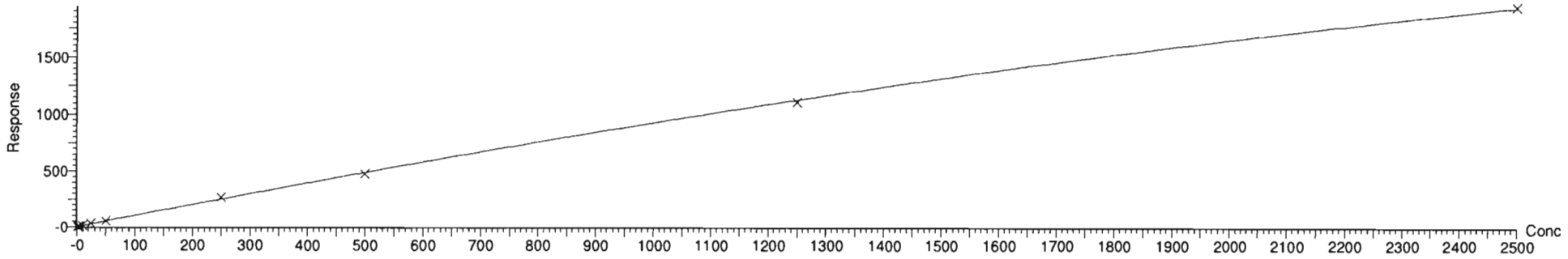
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999826
Calibration curve: -0.000327399 * x^2 + 0.970795 * x + 0.0297058
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



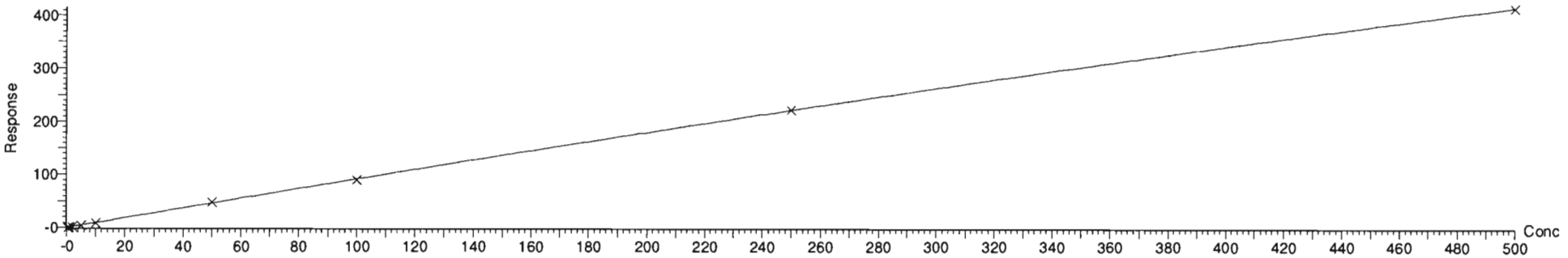
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999421
Calibration curve: -0.000103824 * x^2 + 1.03289 * x + 0.0249735
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



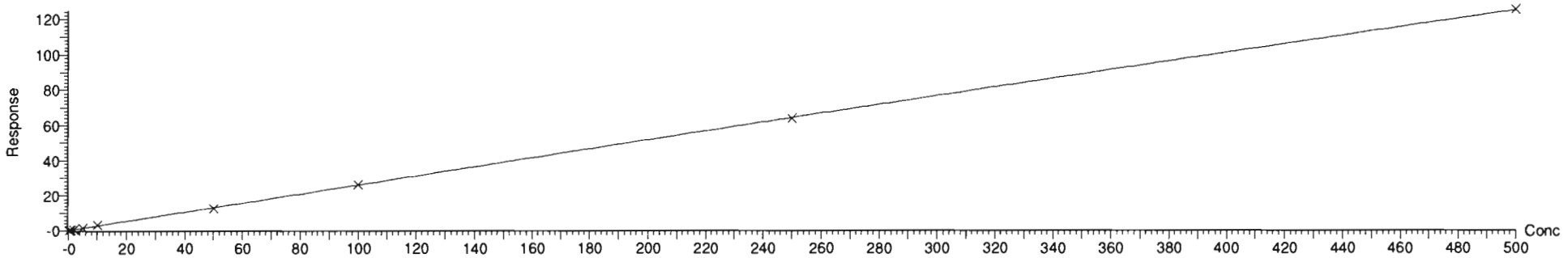
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999868
Calibration curve: -0.000235704 * x^2 + 0.947956 * x + -0.0185311
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



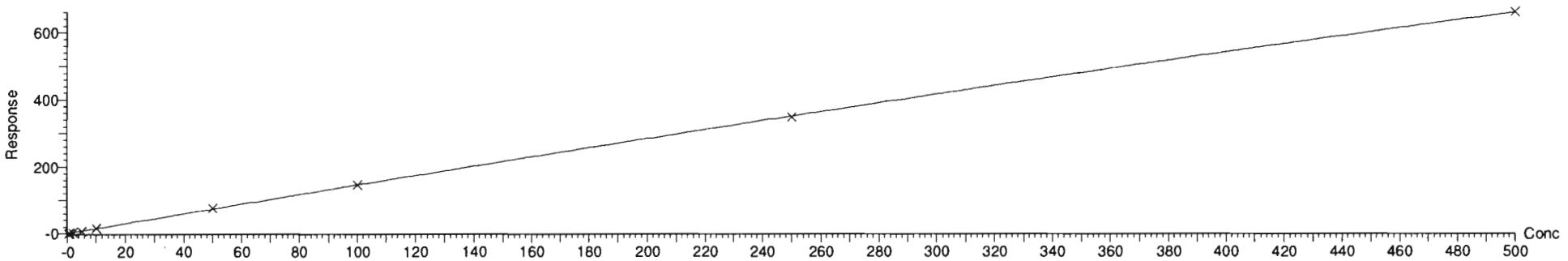
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999087
Calibration curve: -2.69079e-005 * x^2 + 0.263033 * x + 0.0132517
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



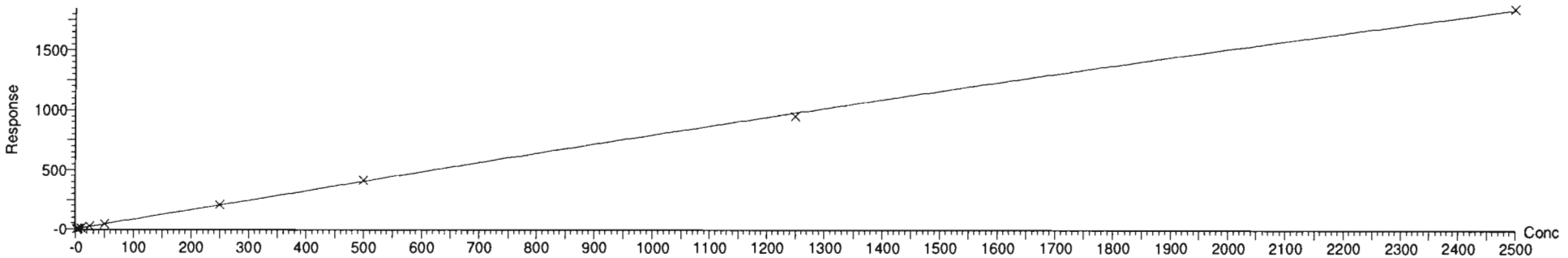
Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999899
Calibration curve: -0.000331662 * x^2 + 1.48307 * x + 0.067296
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



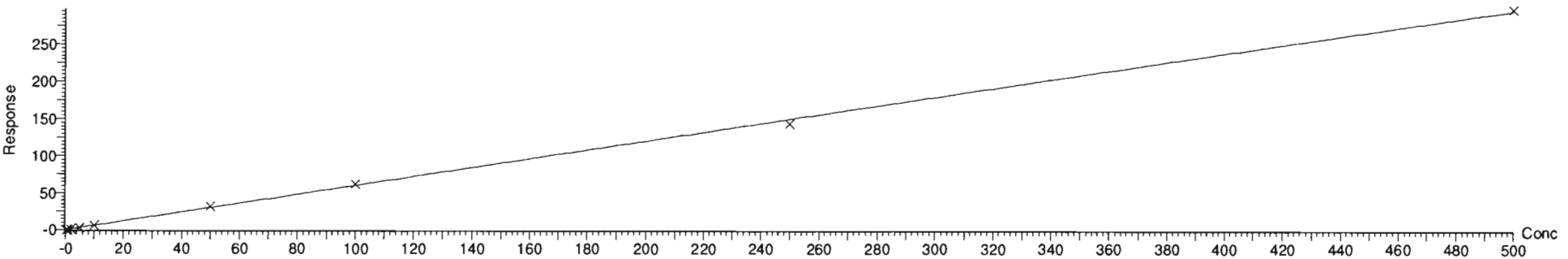
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999601
Calibration curve: -3.82194e-005 * x^2 + 0.829975 * x + 0.208625
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



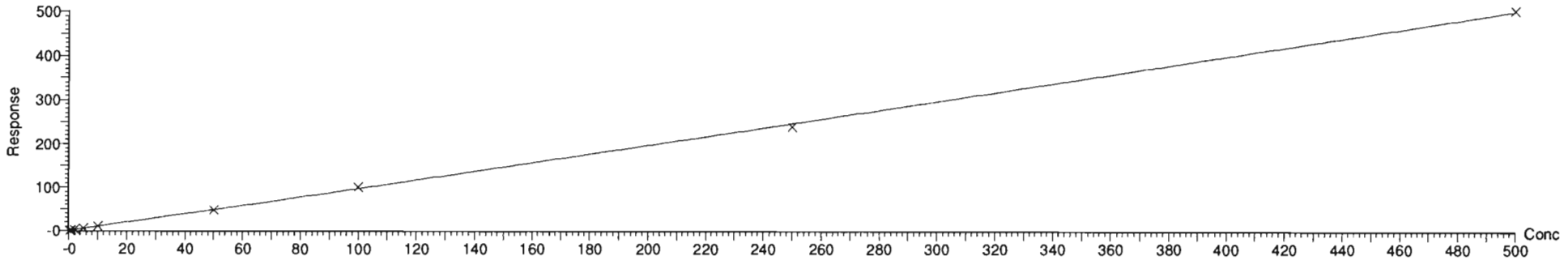
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999104
Calibration curve: -3.46889e-005 * x^2 + 0.607413 * x + 0.105087
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



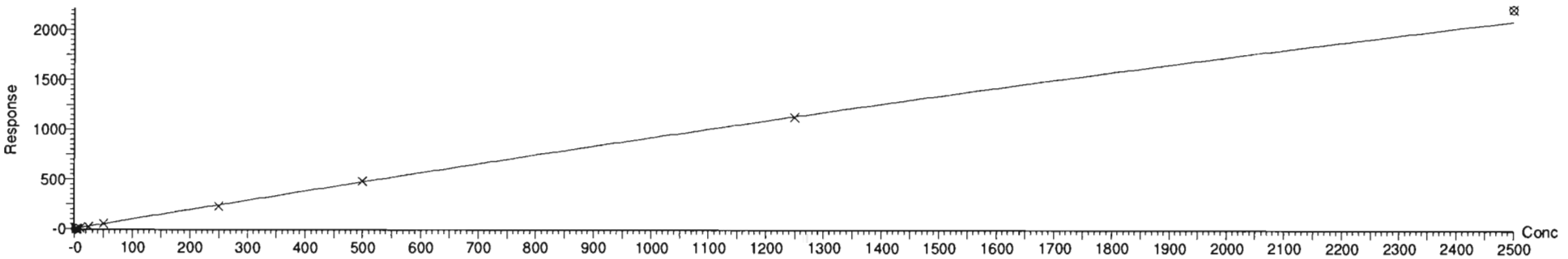
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999519
Calibration curve: 7.02968e-005 * x^2 + 0.966927 * x + 0.0437366
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



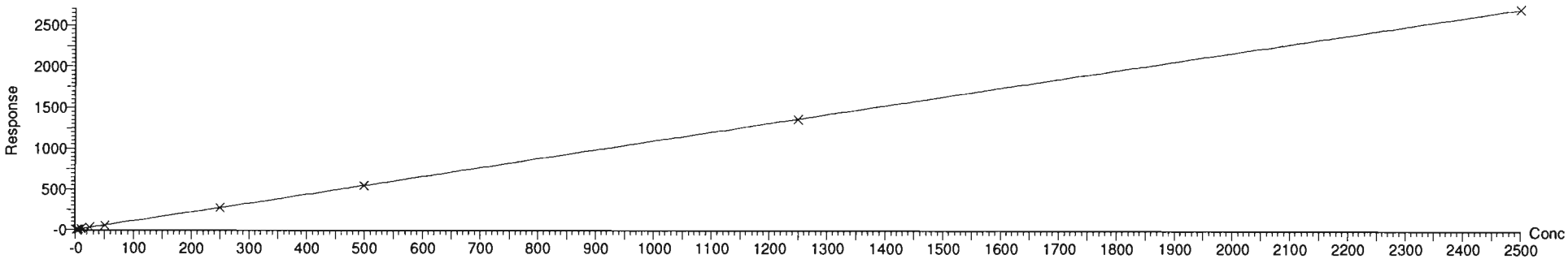
Compound name: N-MeFOSE
Coefficient of Determination: R^2 = 0.999312
Calibration curve: -5.58156e-005 * x^2 + 0.975627 * x + 1.08254
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 08:31:29 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 08:33:41 Pacific Daylight Time

Compound name: N-EtFOSE
Coefficient of Determination: R^2 = 0.999973
Calibration curve: -9.04476e-006 * x^2 + 1.10244 * x + 0.140615
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



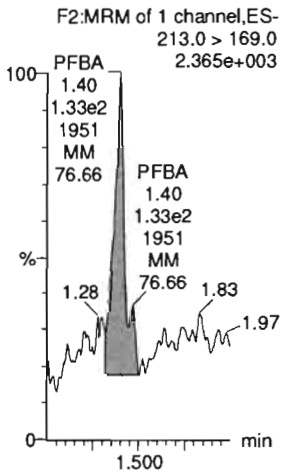
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

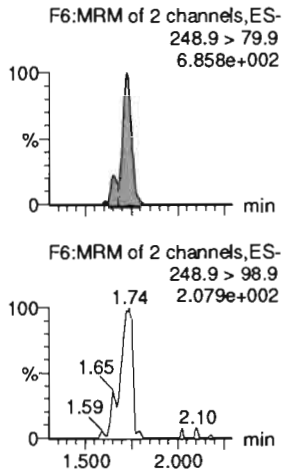
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: 14 Jul 2020 07:43:41

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

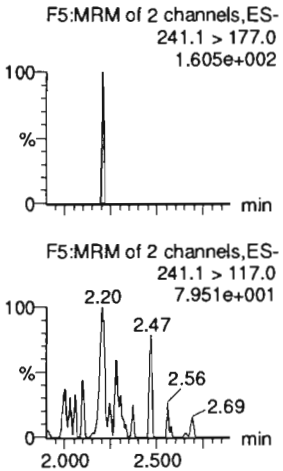
PFBA



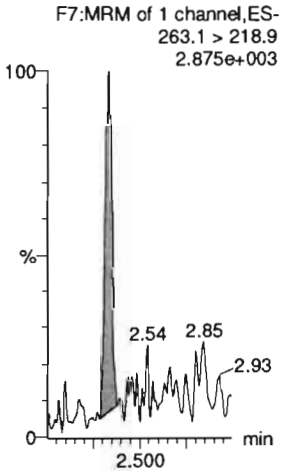
PFPrS



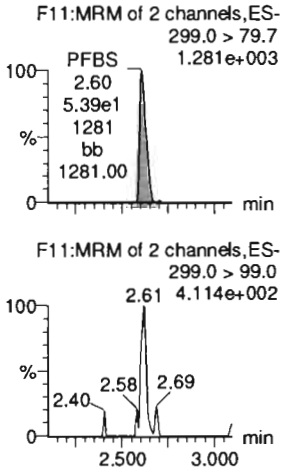
3:3 FTCA



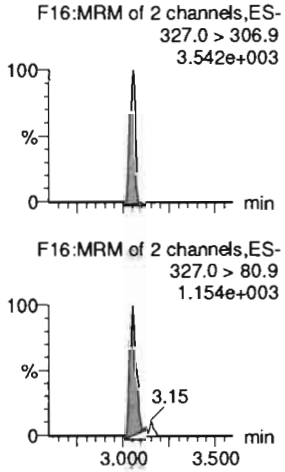
PFPeA



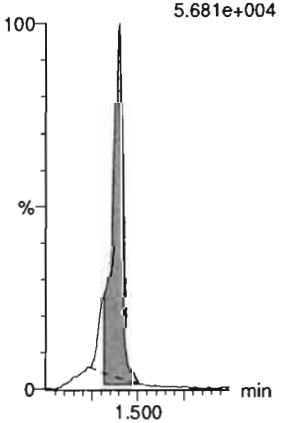
PFBS



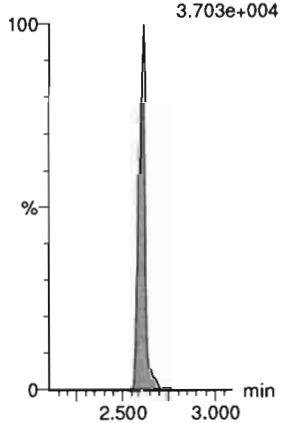
4:2 FTS



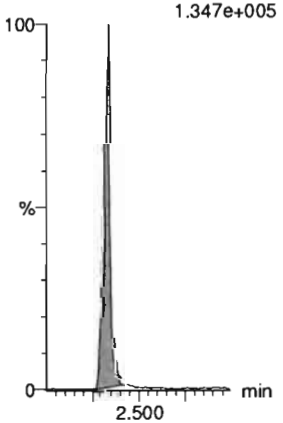
13C3-PFBA-EIS



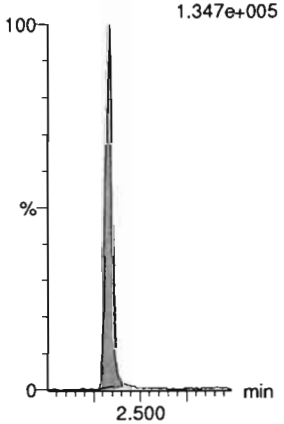
13C3-PFBS-EIS



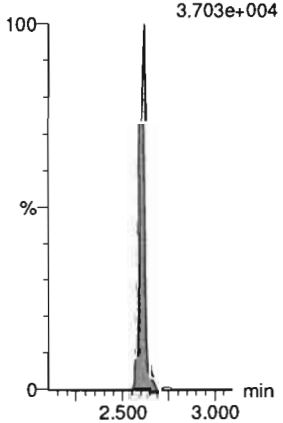
13C3-PFPeA-EIS



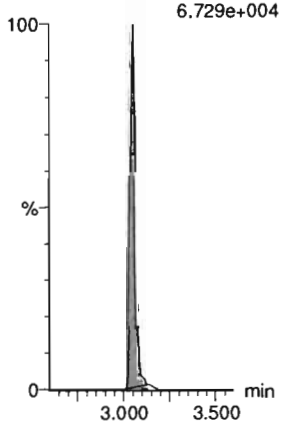
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

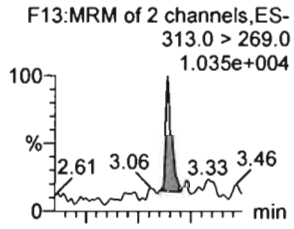


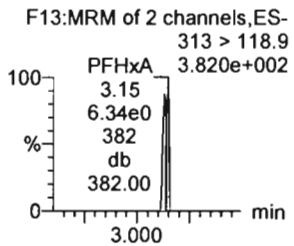
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

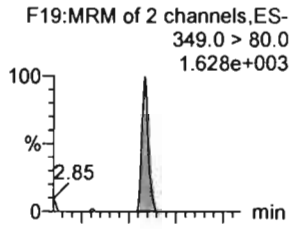
Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

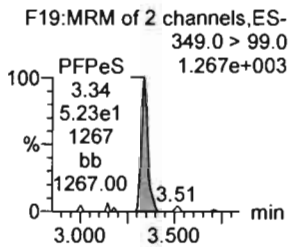
PFHxA



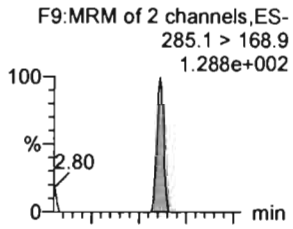


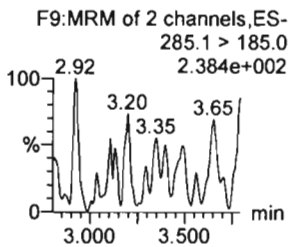
PFPeS



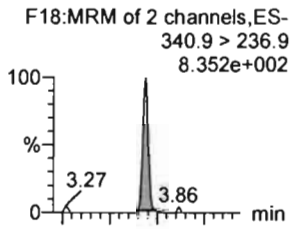


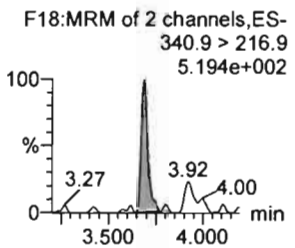
HFPO-DA



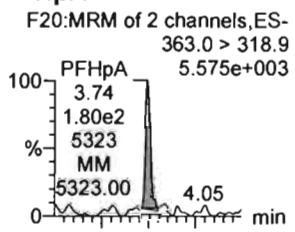


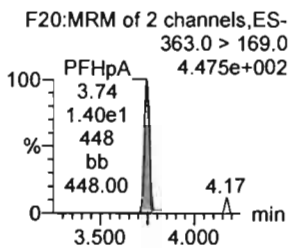
5:3 FTCA



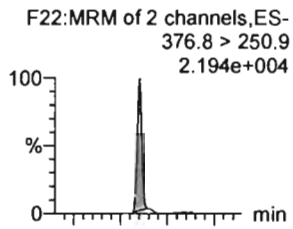


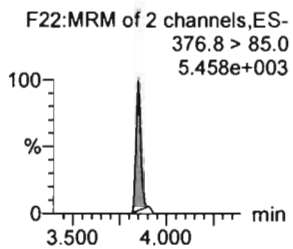
PFHpA



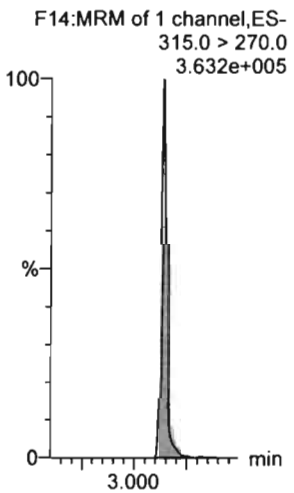


ADONA

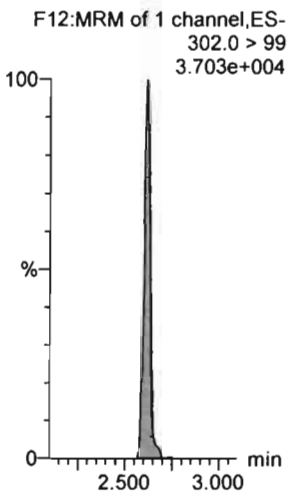




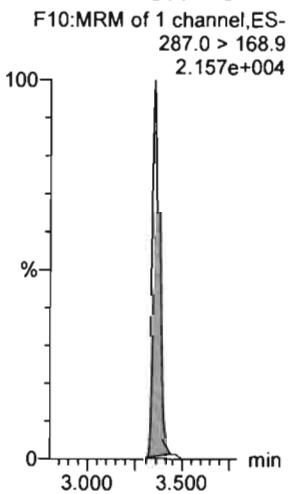
13C2-PFHxA-EIS



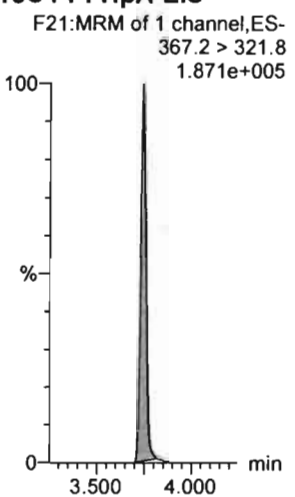
13C3-PFBS-EIS



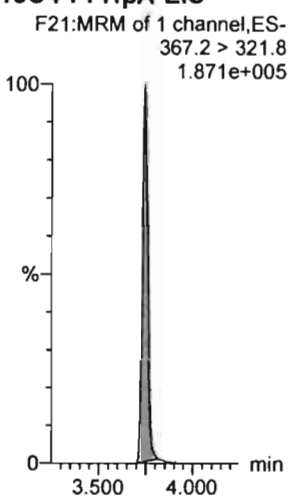
13C3-HFPO-DA-EIS



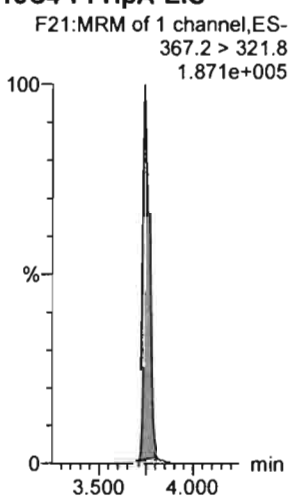
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

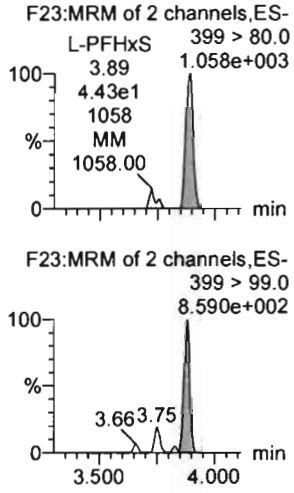


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

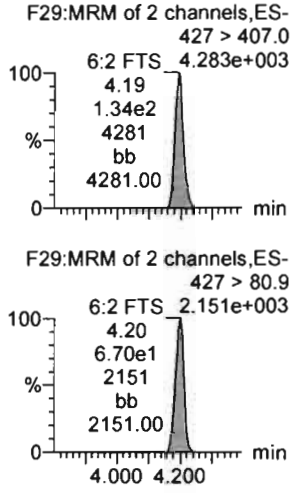
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

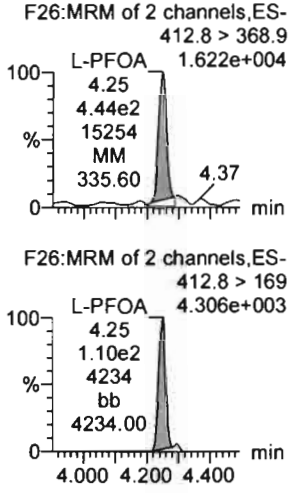
L-PFHxS



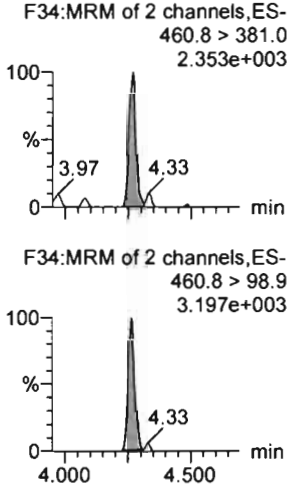
6:2 FTS



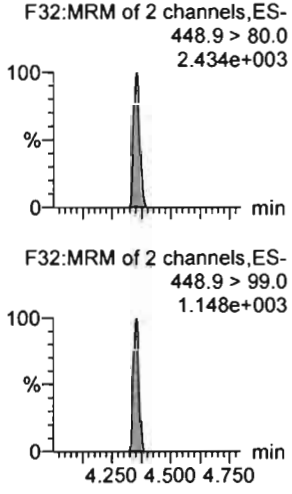
L-PFOA



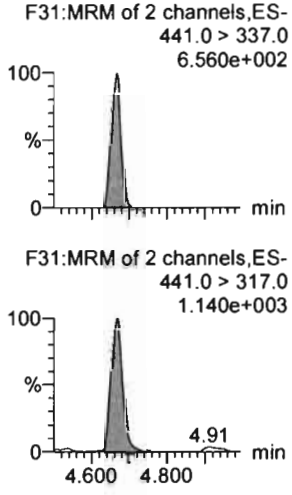
PFEChS



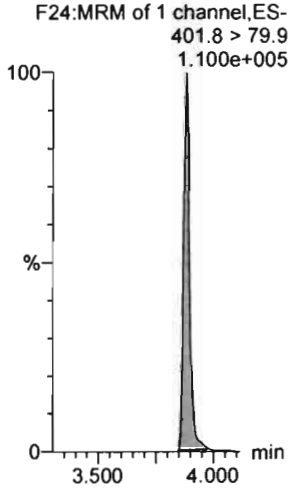
PFHpS



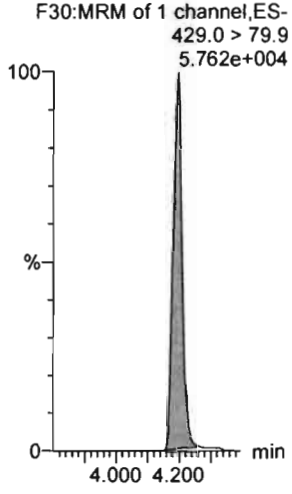
7:3 FTCA



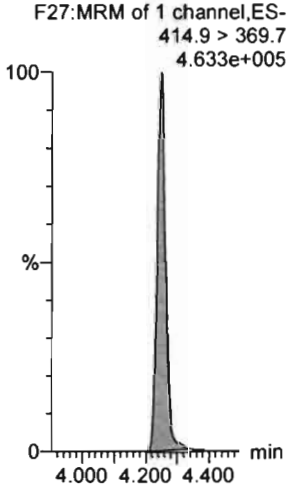
13C3-PFHxS-EIS



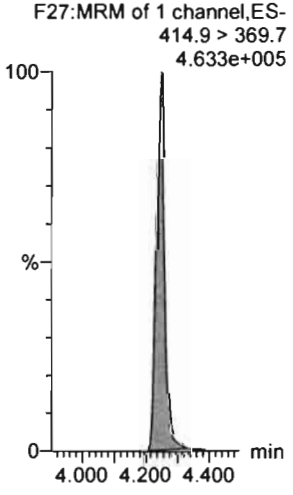
13C2-6:2 FTS-EIS



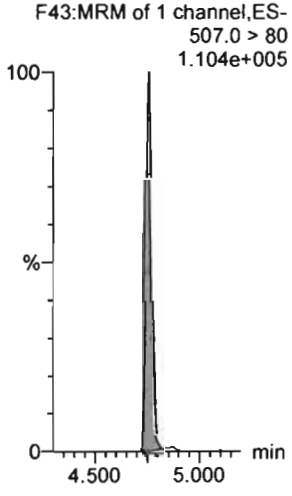
13C2-PFOA-EIS



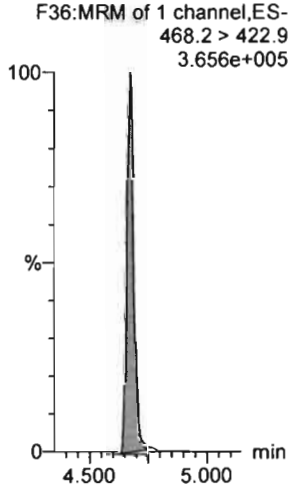
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

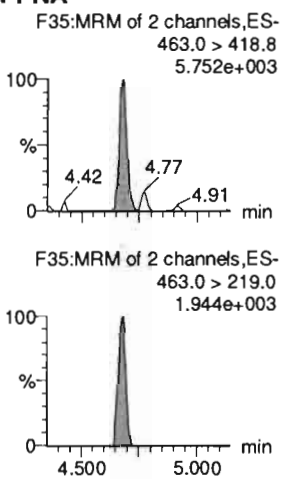


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

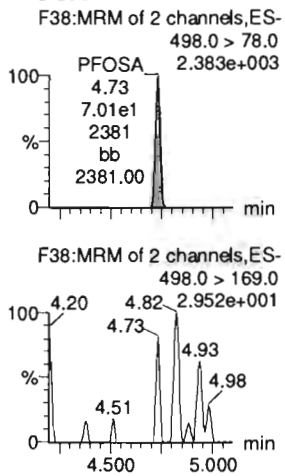
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

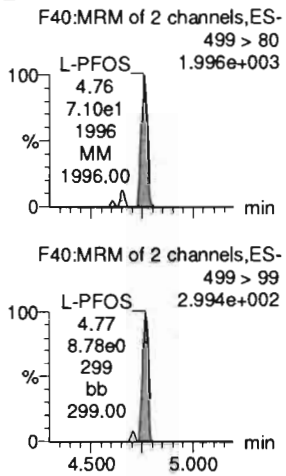
PFNA



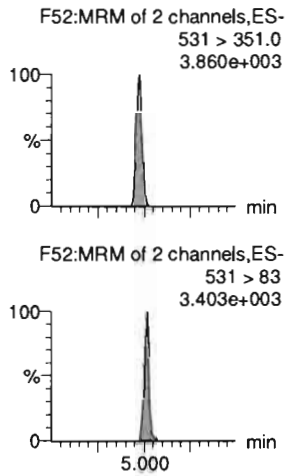
PFOSA



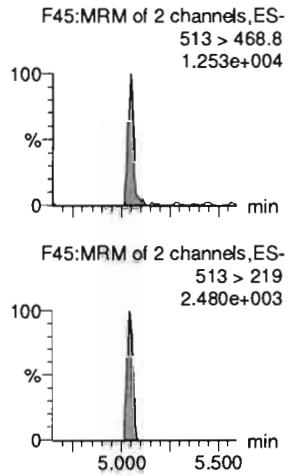
L-PFOS



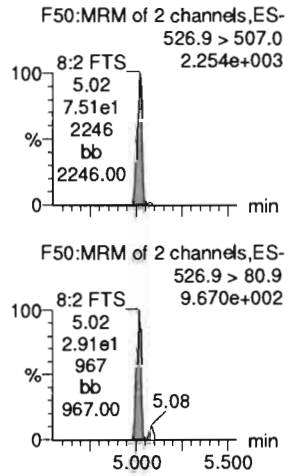
9Cl-PF30NS



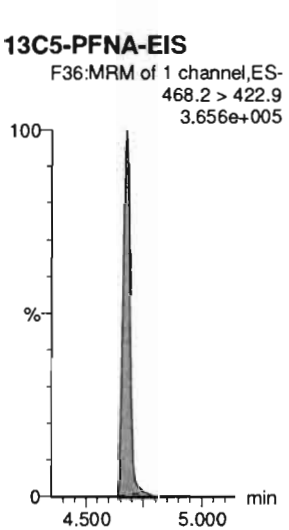
PFDA



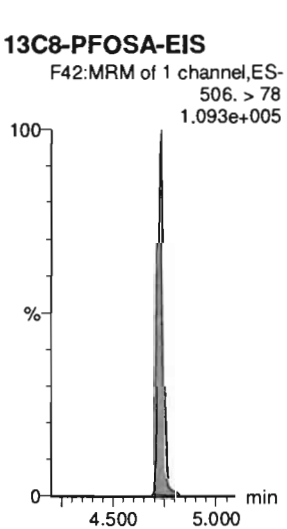
8:2 FTS



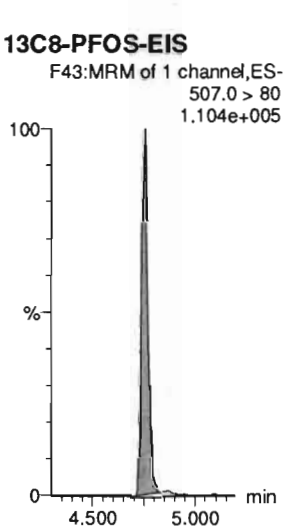
13C5-PFNA-EIS



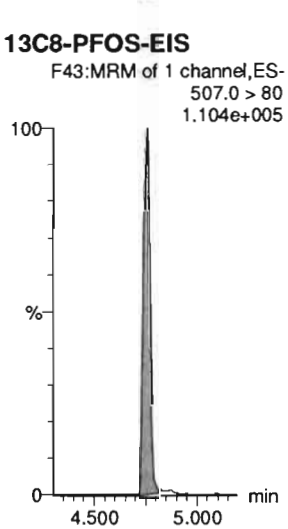
13C8-PFOSA-EIS



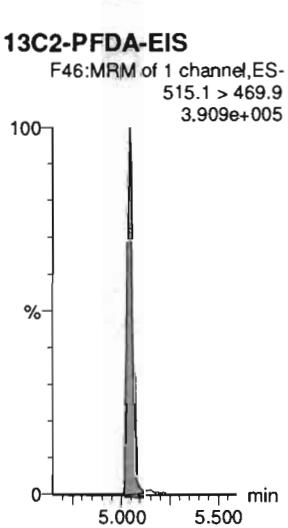
13C8-PFOS-EIS



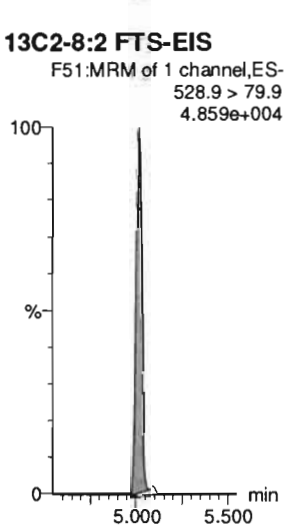
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

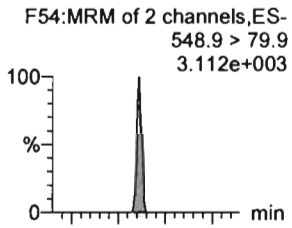


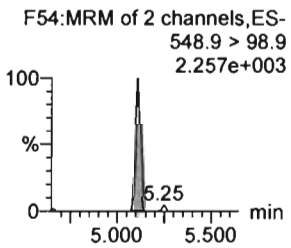
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

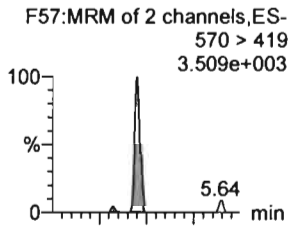
Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

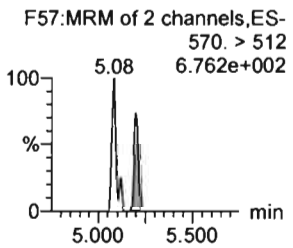
PFNS



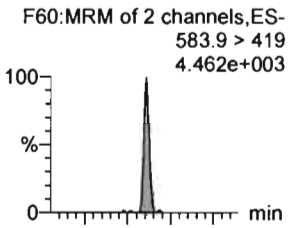


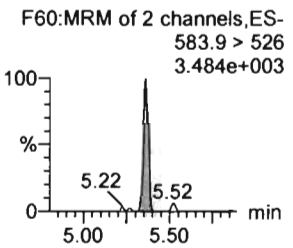
L-MeFOSAA



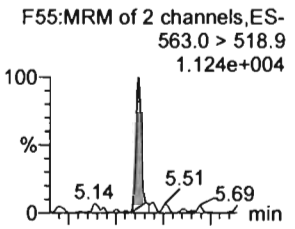


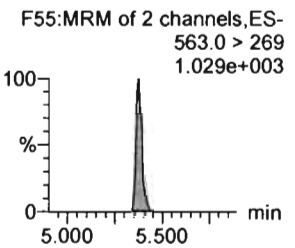
L-EtFOSAA



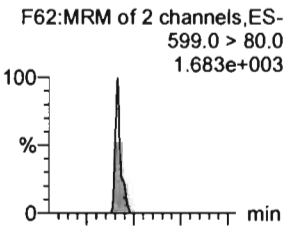


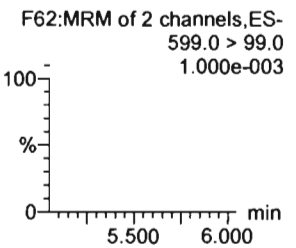
PFUdA



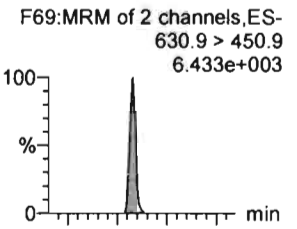


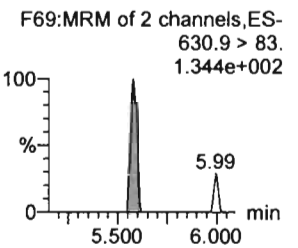
PFDS



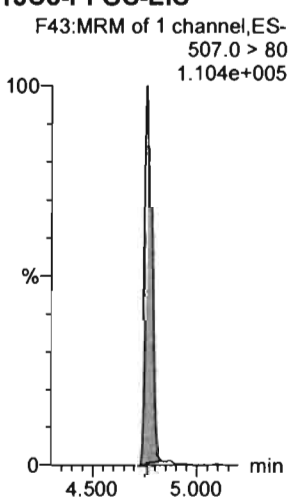


11Cl-PF30UdS

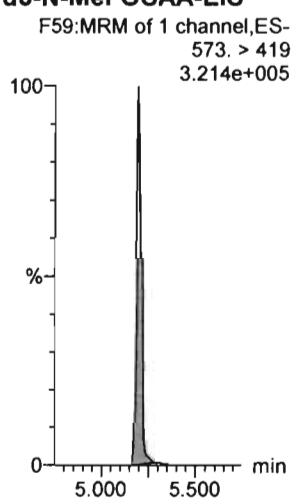




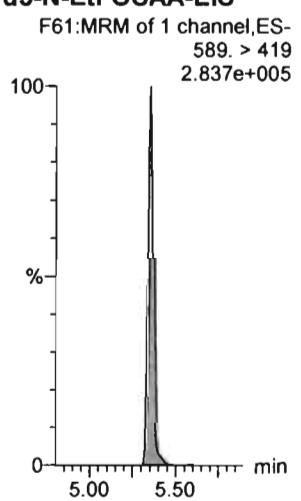
13C8-PFOS-EIS



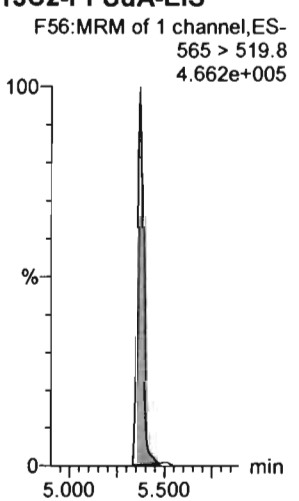
d3-N-MeFOSAA-EIS



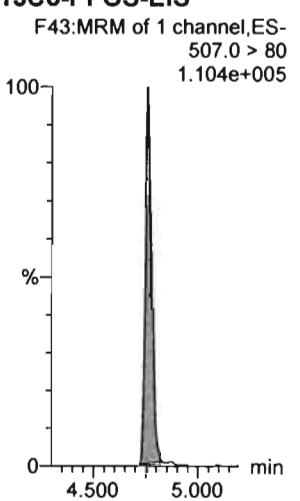
d5-N-EtFOSAA-EIS



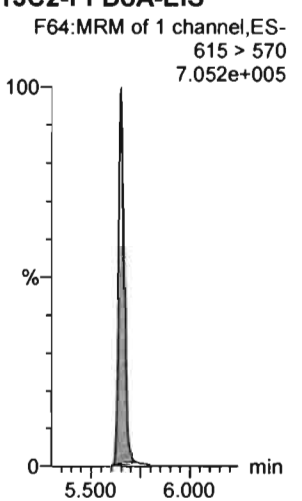
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

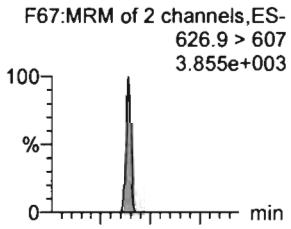


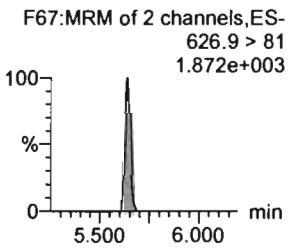
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

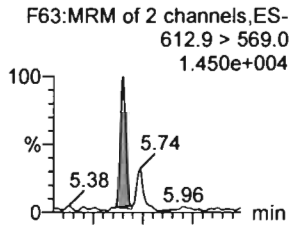
Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

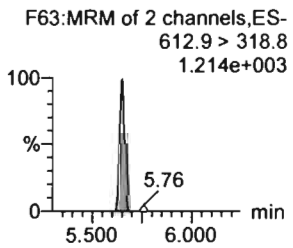
10:2 FTS



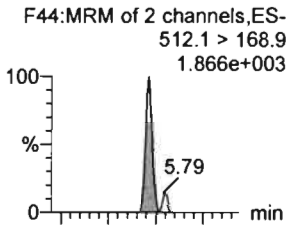


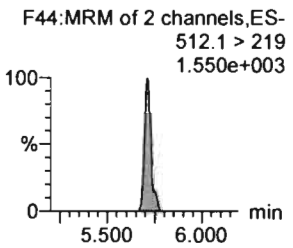
PFDoA



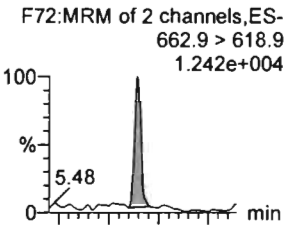


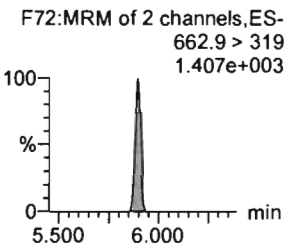
N-MeFOSA



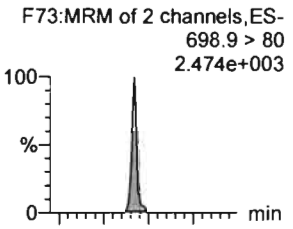


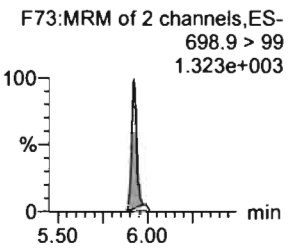
PFTrDA



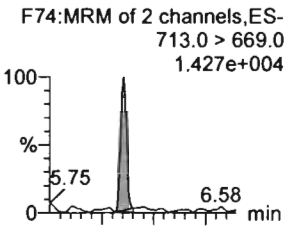


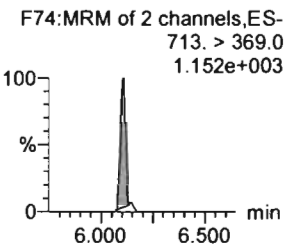
PFDoS



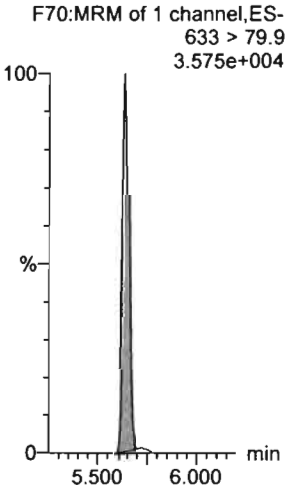


PFTeDA

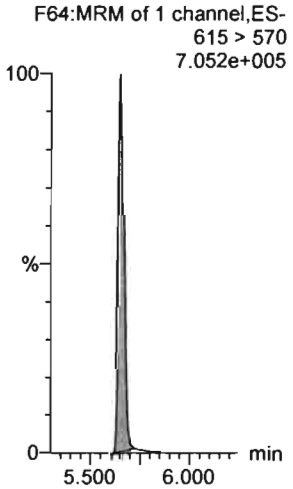




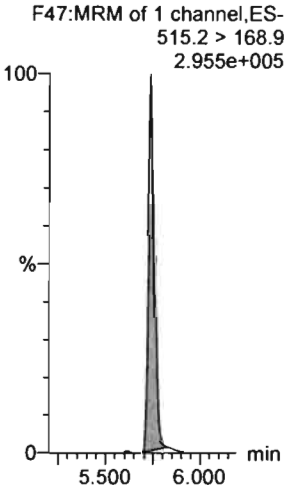
13C2-10:2 FTS-EIS



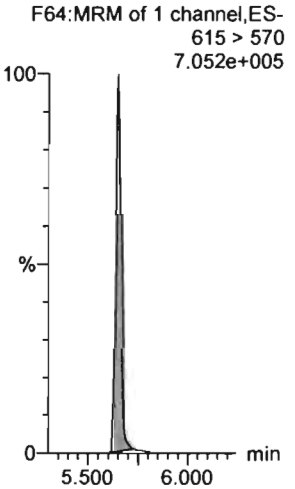
13C2-PFDoA-EIS



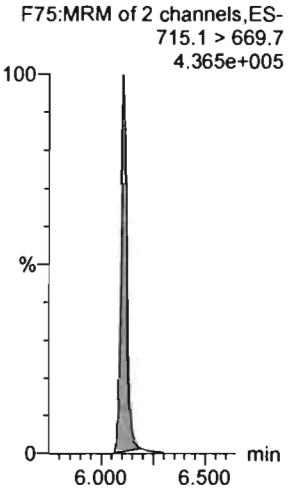
d3-N-MeFOSA-EIS



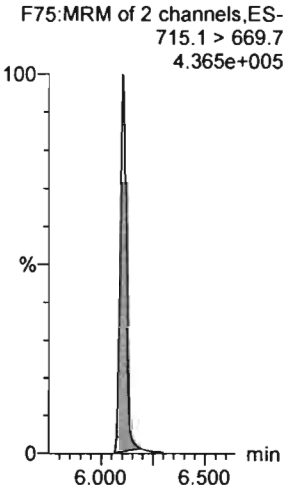
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

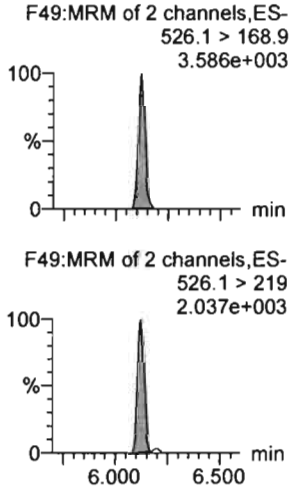


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

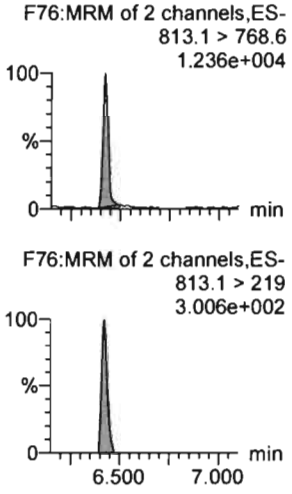
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

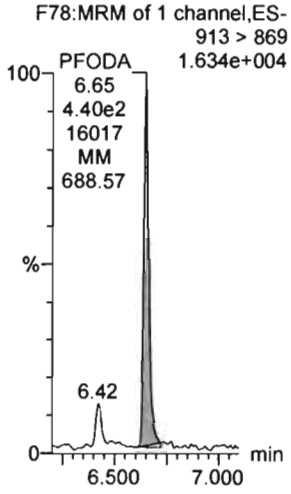
N-EtFOSA



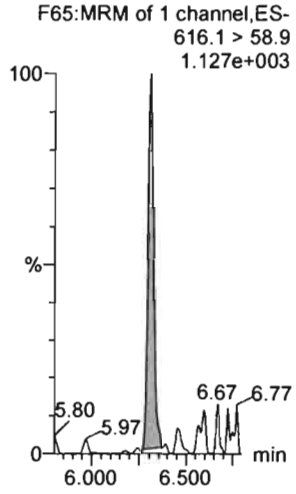
PFHxDA



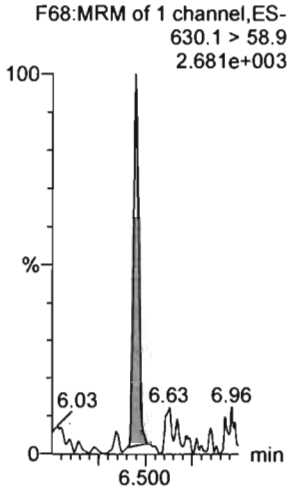
PFODA



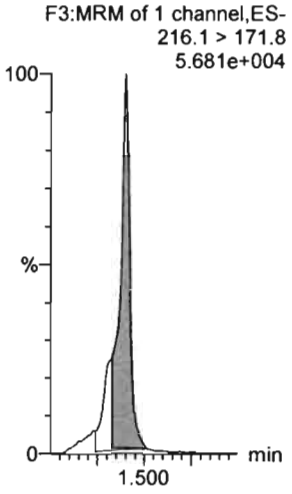
N-MeFOSE



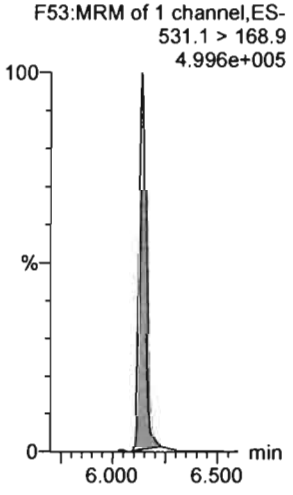
N-EtFOSE



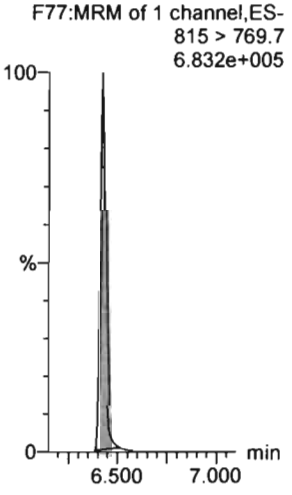
13C3-PFBA-RSD



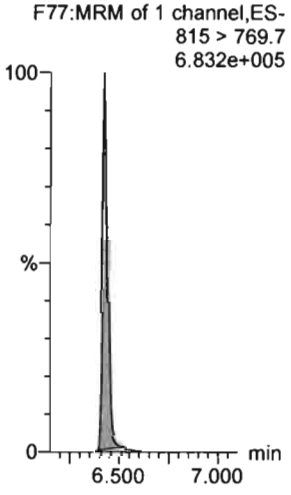
d5-N-ETFOSA-EIS



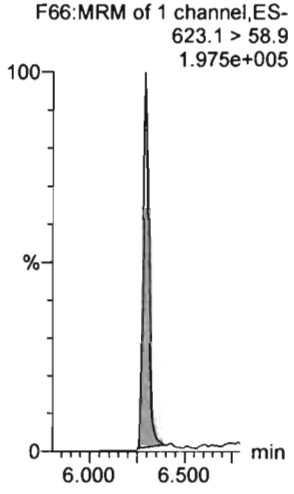
13C2-PFHxDA-EIS



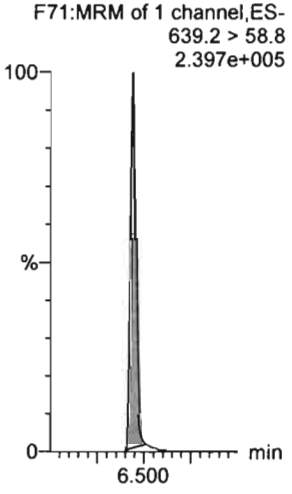
13C2-PFHxDA-EIS



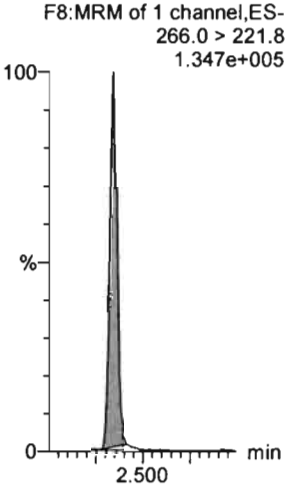
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

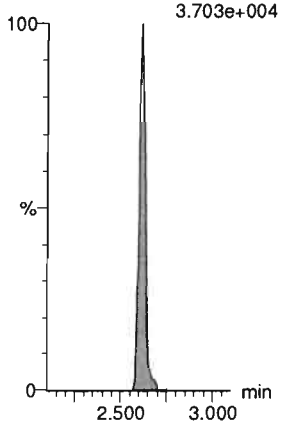


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

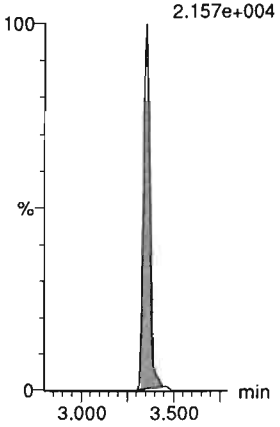
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

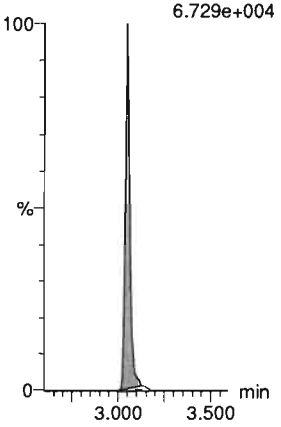
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.703e+004



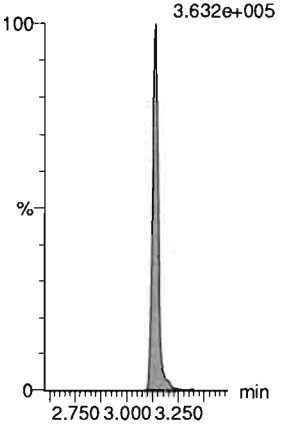
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.157e+004



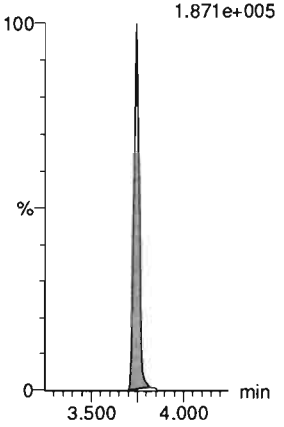
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.729e+004



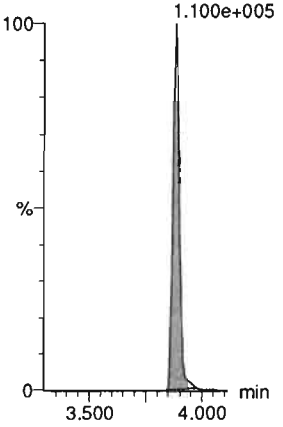
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.632e+005



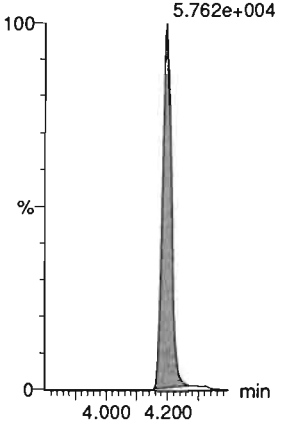
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.871e+005



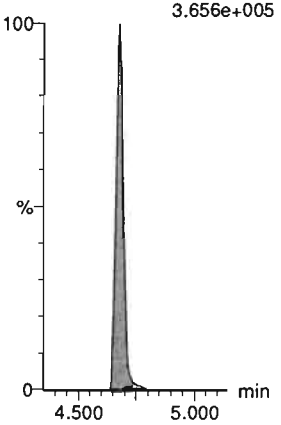
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.100e+005



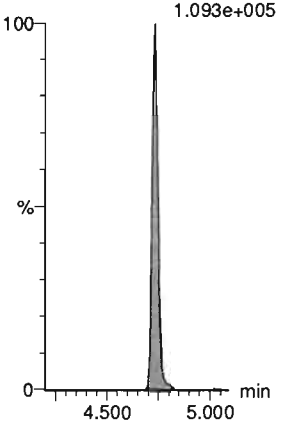
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.762e+004



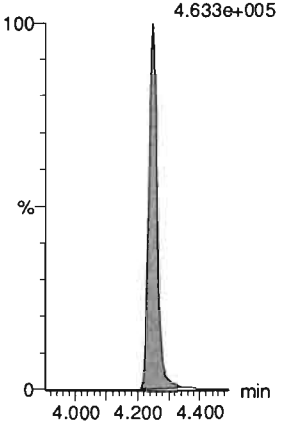
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.656e+005



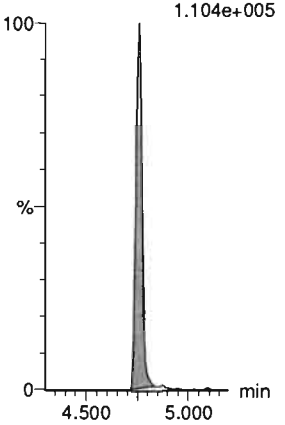
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.093e+005



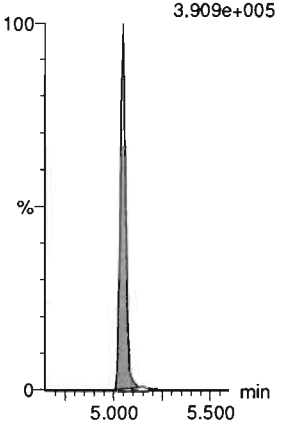
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.633e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.104e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.909e+005

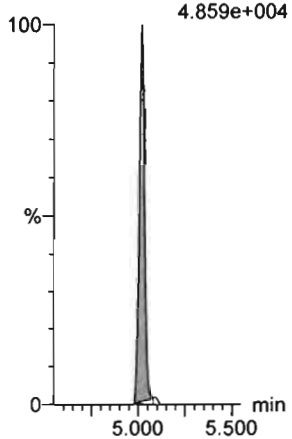


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

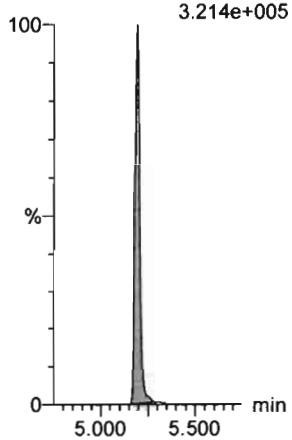
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

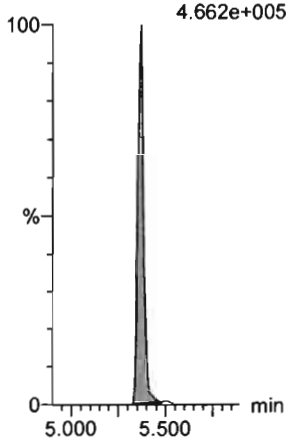
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
4.859e+004



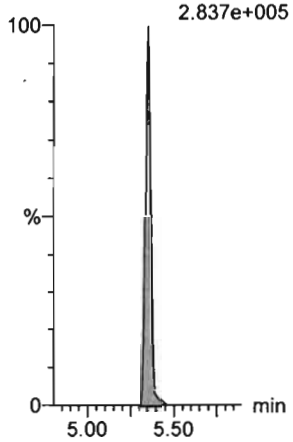
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.214e+005



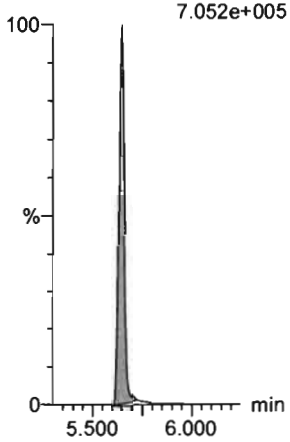
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
4.662e+005



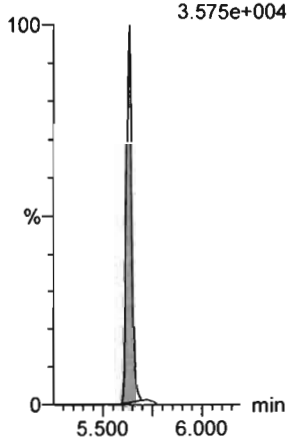
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.837e+005



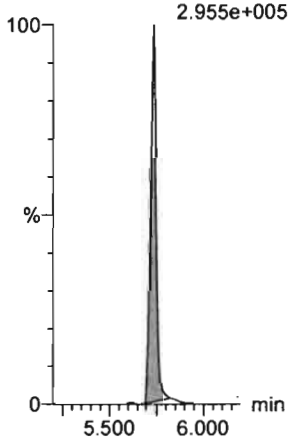
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.052e+005



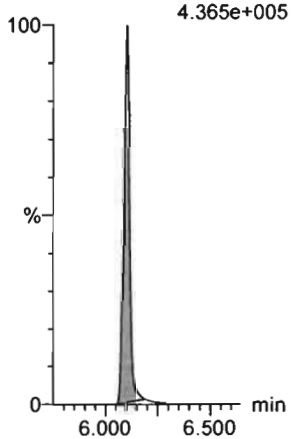
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
3.575e+004



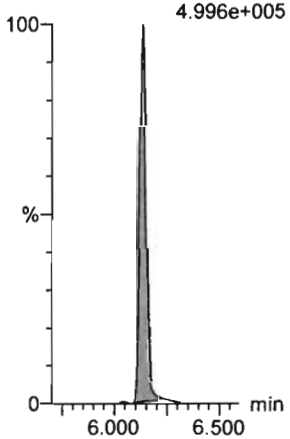
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
2.955e+005



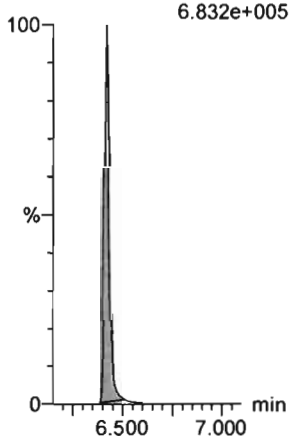
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.365e+005



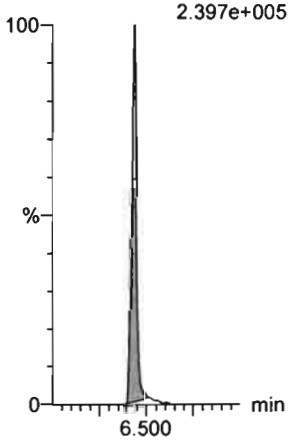
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
4.996e+005



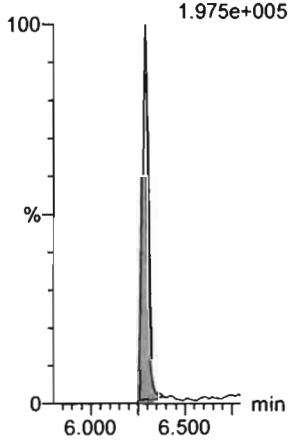
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.832e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
2.397e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
1.975e+005

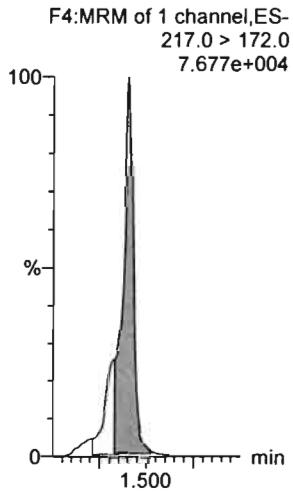


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

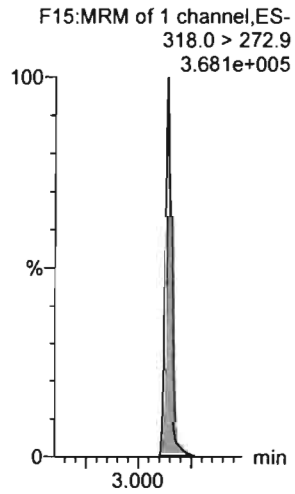
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_3, Date: 13-Jul-2020, Time: 14:15:32, ID: ST200713M1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

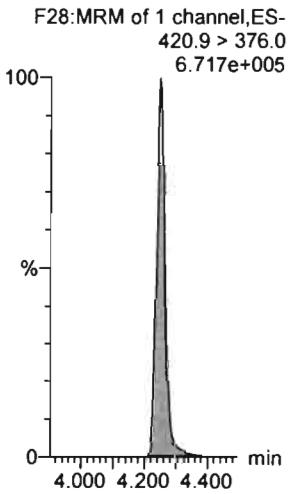
13C4-PFBA



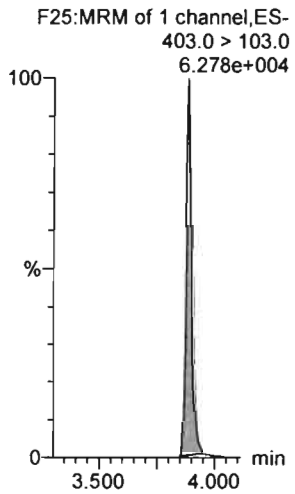
13C5-PFHxA



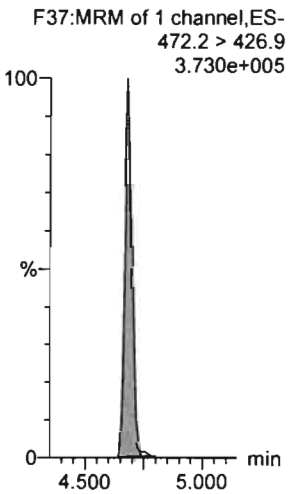
13C8-PFOA



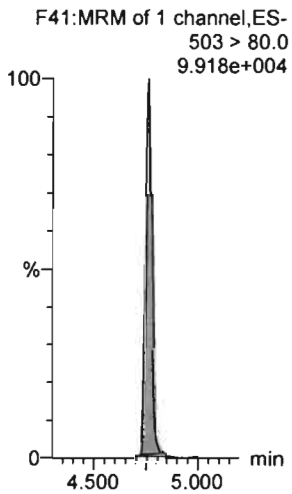
18O2-PFHxS



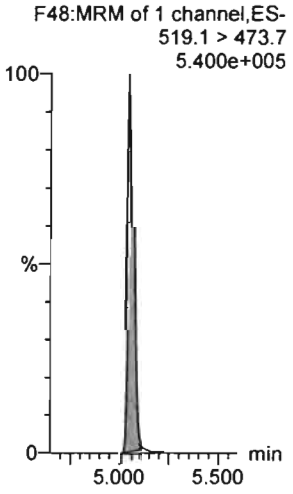
13C9-PFNA



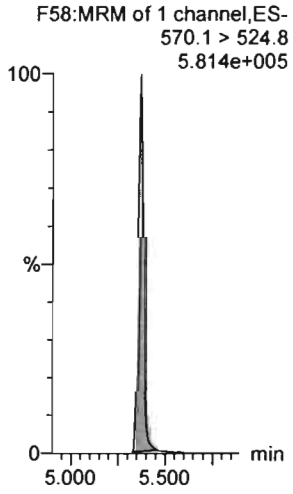
13C4-PFOS



13C6-PFDA



13C7-PFUdA

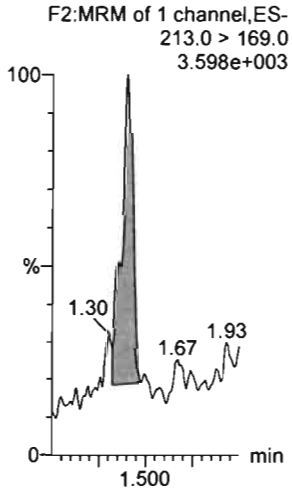


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

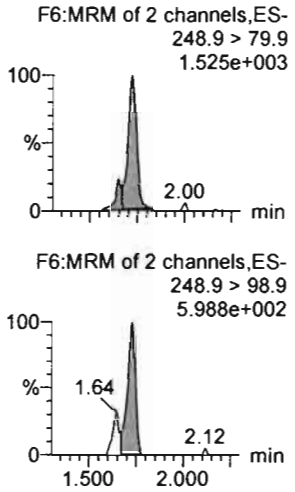
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

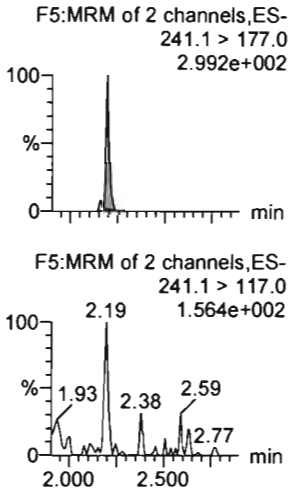
PFBA



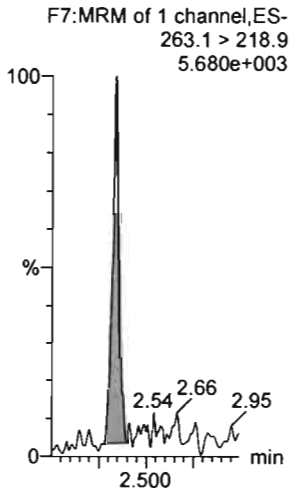
PFPrS



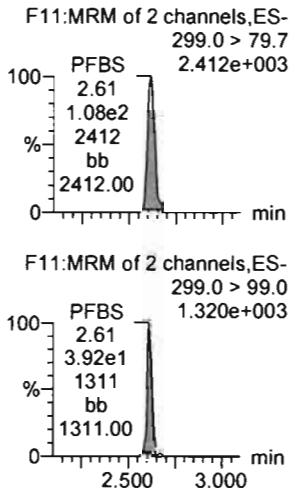
3:3 FTCA



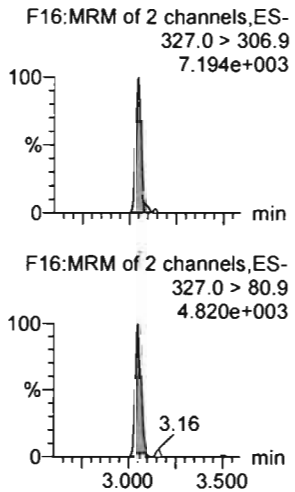
PFPeA



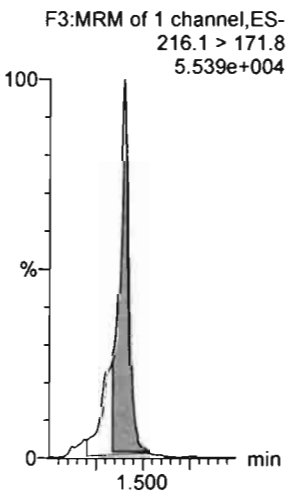
PFBS



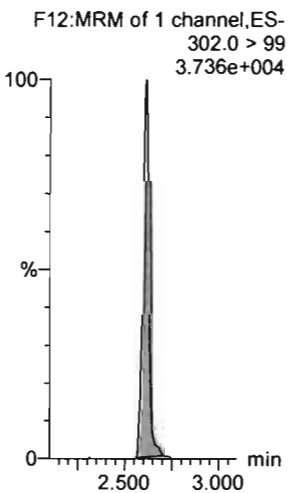
4:2 FTS



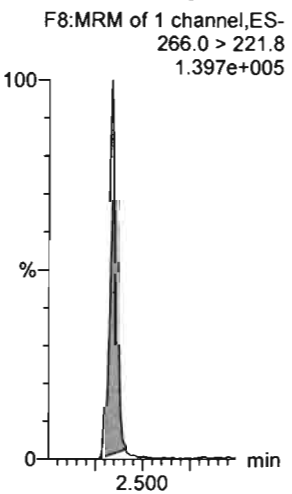
13C3-PFBA-EIS



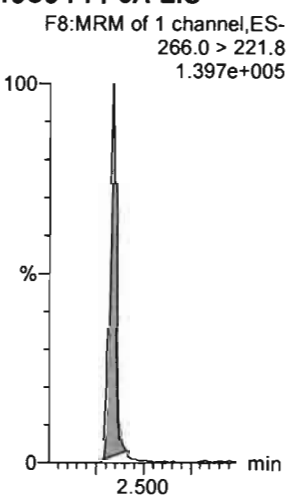
13C3-PFBS-EIS



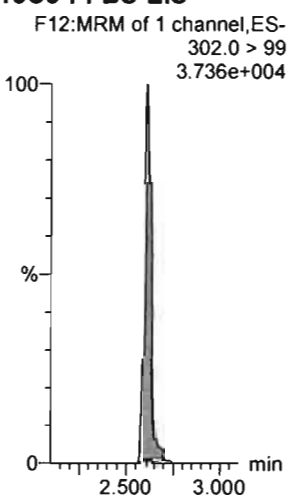
13C3-PFPeA-EIS



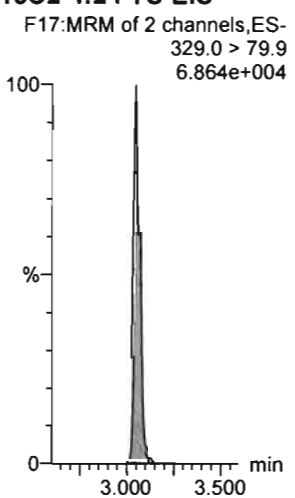
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

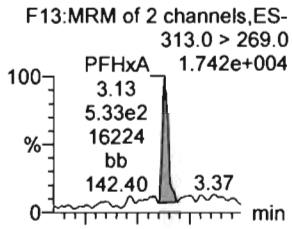


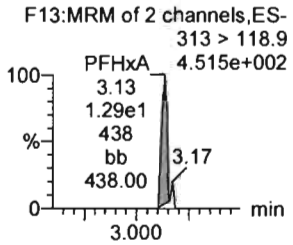
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

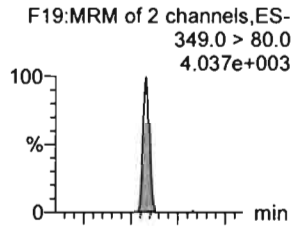
Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

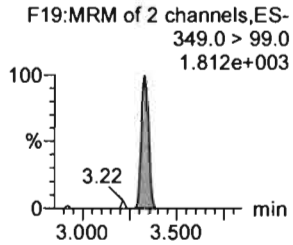
PFHxA



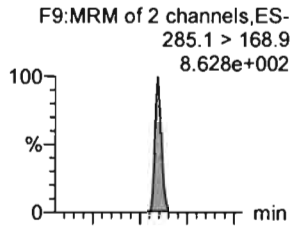


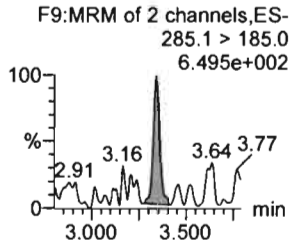
PFPeS



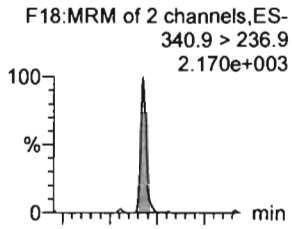


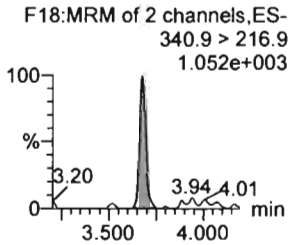
HFPO-DA



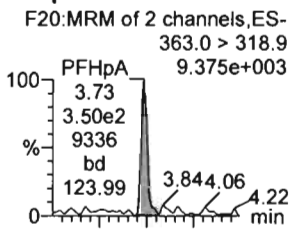


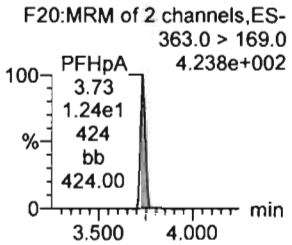
5:3 FTCA



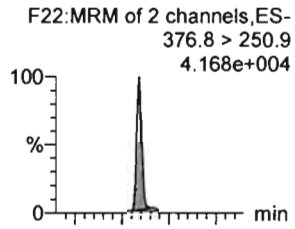


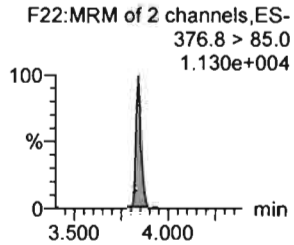
PFHpA



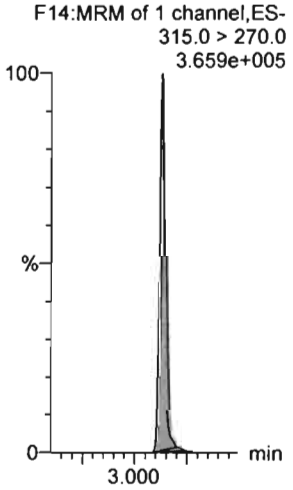


ADONA

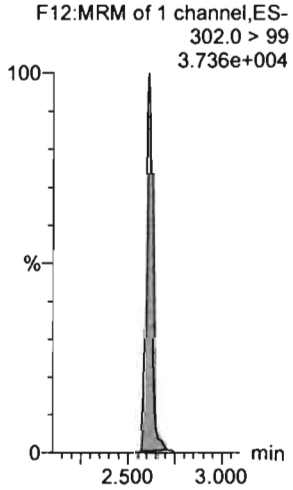




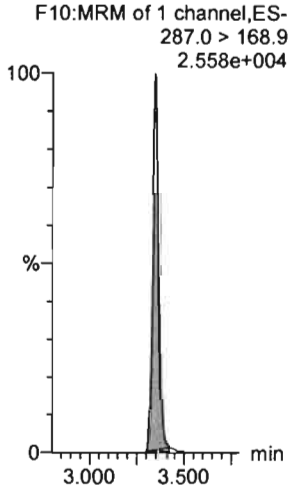
13C2-PFHxA-EIS



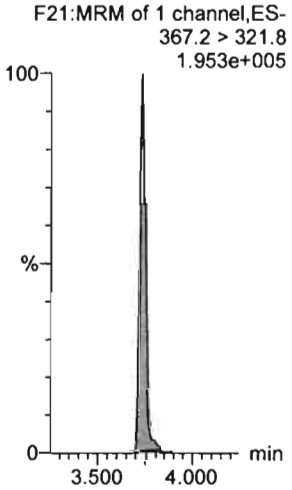
13C3-PFBS-EIS



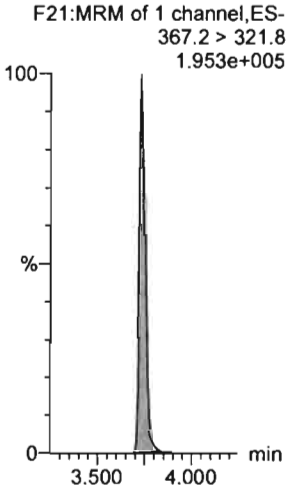
13C3-HFPO-DA-EIS



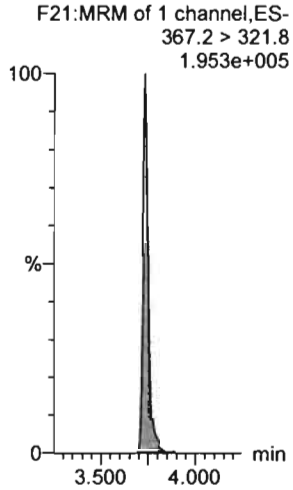
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

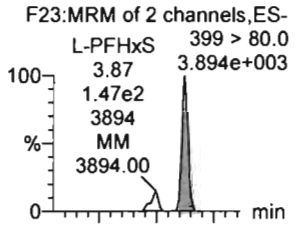


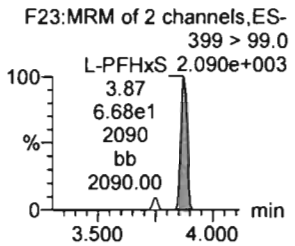
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

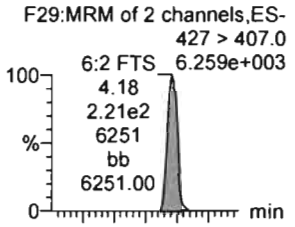
Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

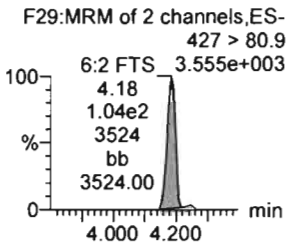
L-PFHxS



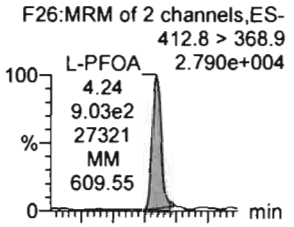


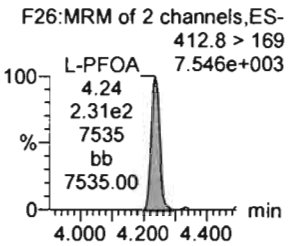
6:2 FTS



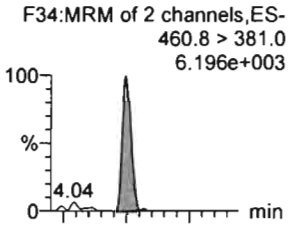


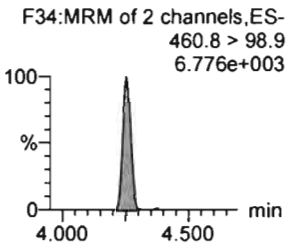
L-PFOA



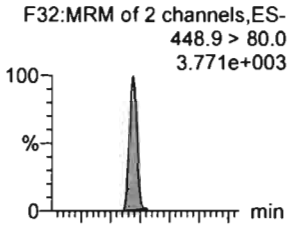


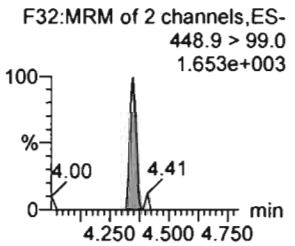
PFEChS



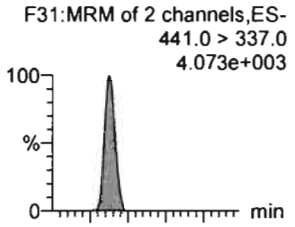


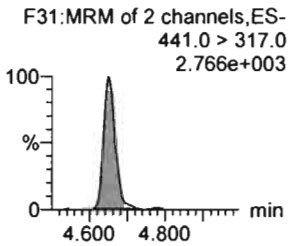
PFHpS



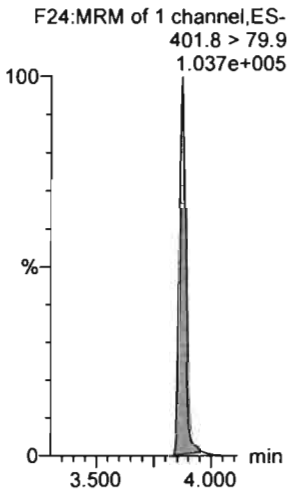


7:3 FTCA

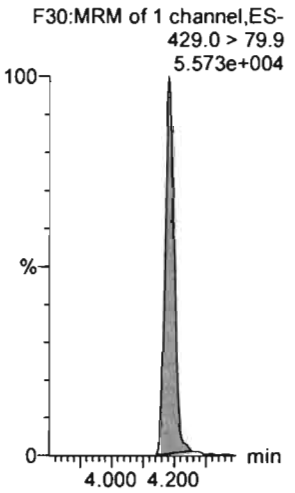




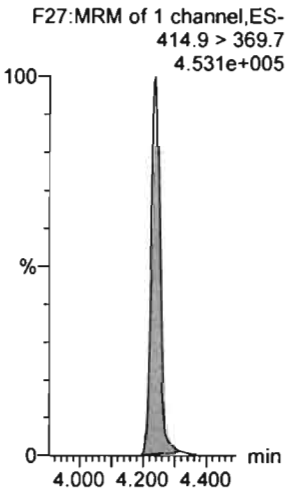
13C3-PFHxS-EIS



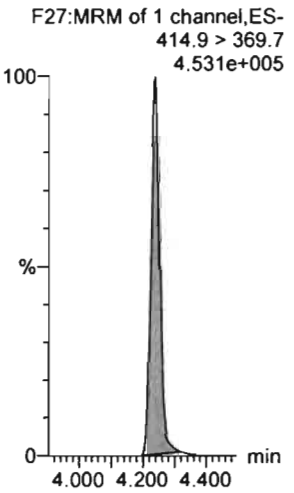
13C2-6:2 FTS-EIS



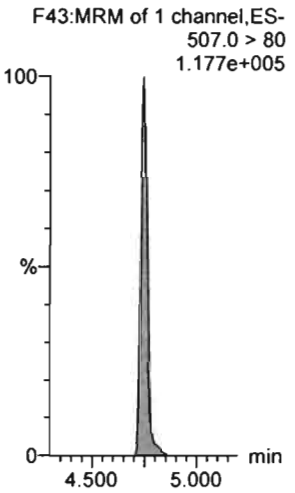
13C2-PFOA-EIS



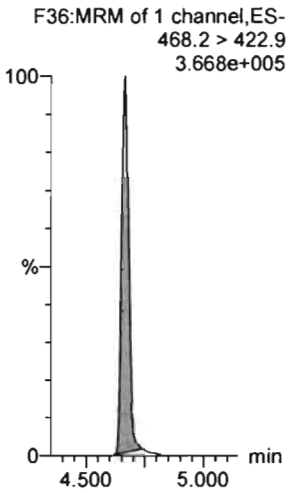
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

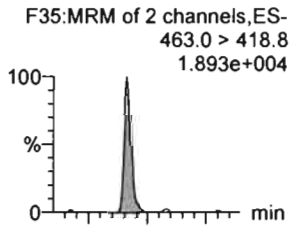


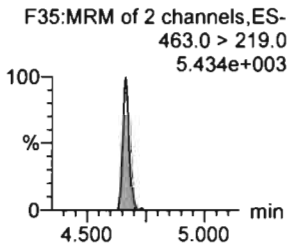
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

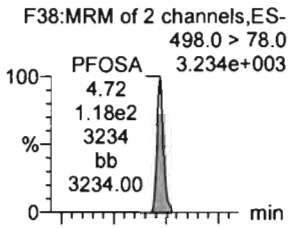
Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

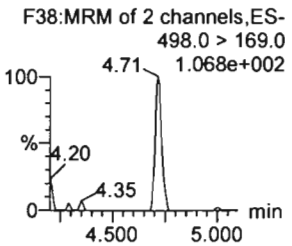
PFNA



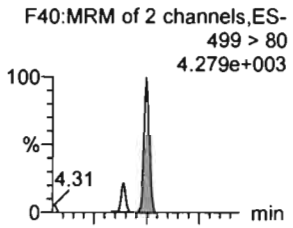


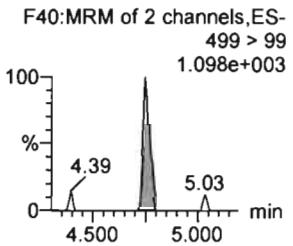
PFOSA



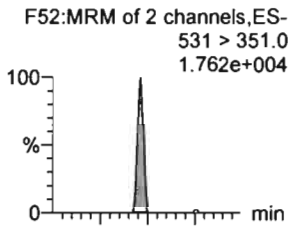


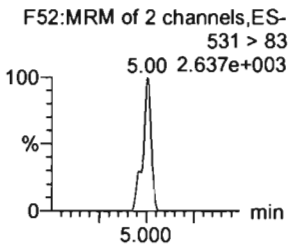
L-PFOS



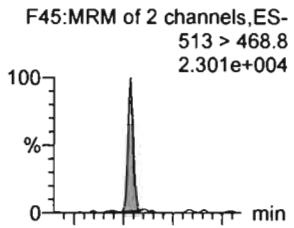


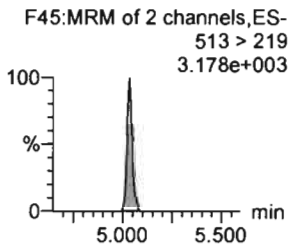
9Cl-PF30NS



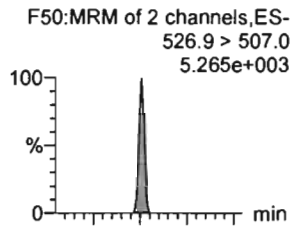


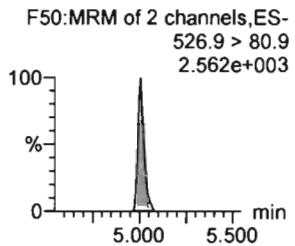
PFDA



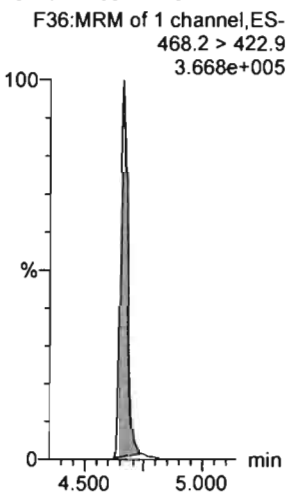


8:2 FTS

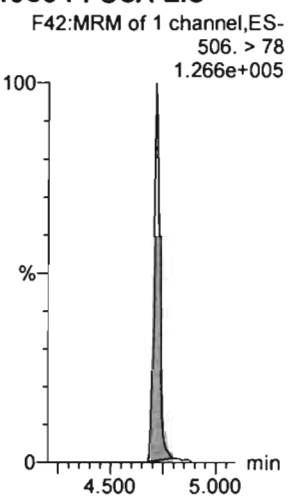




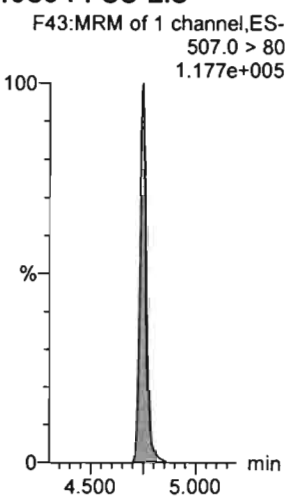
13C5-PFNA-EIS



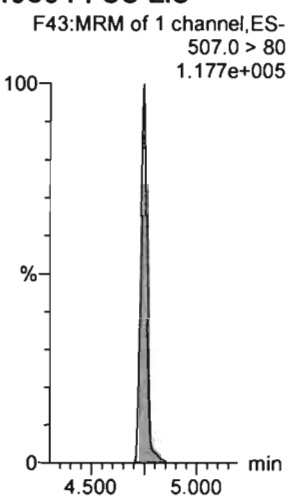
13C8-PFOSA-EIS



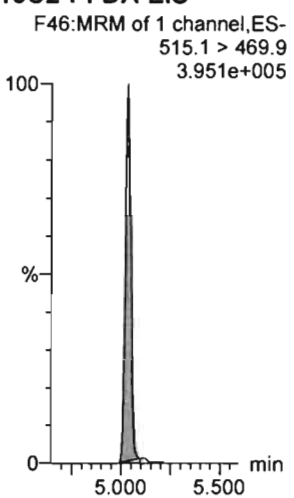
13C8-PFOS-EIS



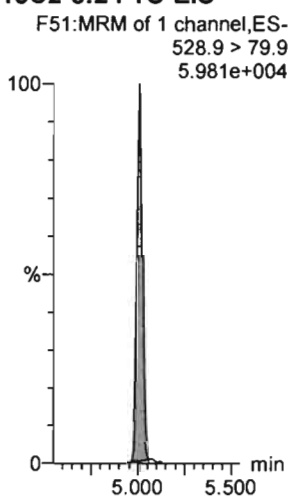
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

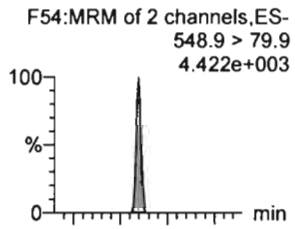


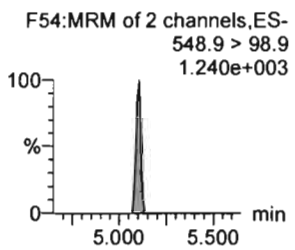
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

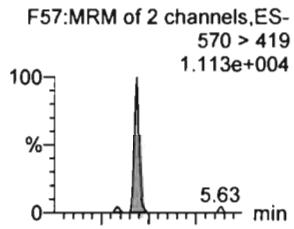
Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

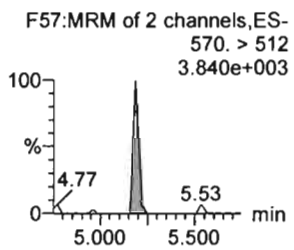
PFNS



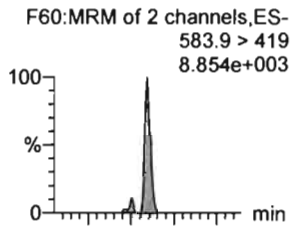


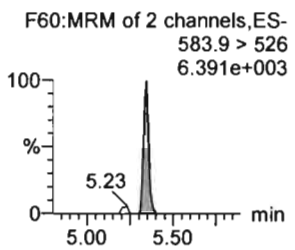
L-MeFOSAA



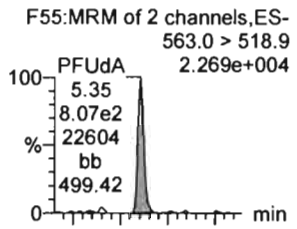


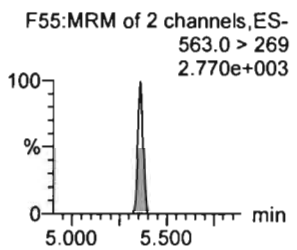
L-EtFOSAA



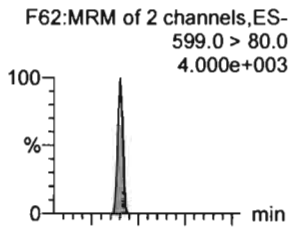


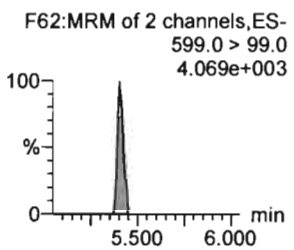
PFUdA



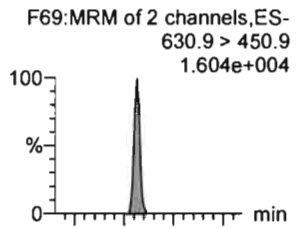


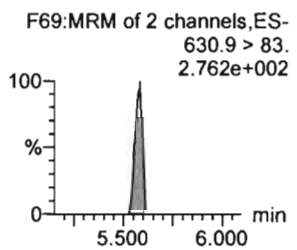
PFDS



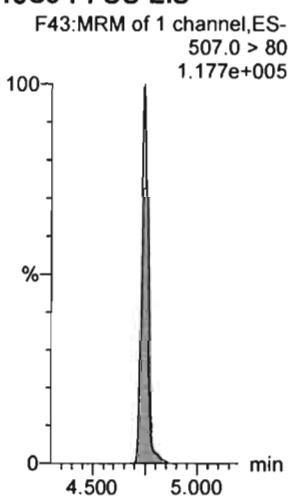


11Cl-PF30UdS

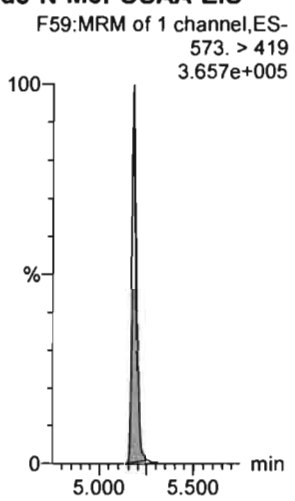




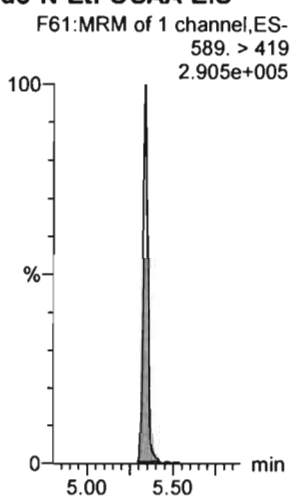
13C8-PFOS-EIS



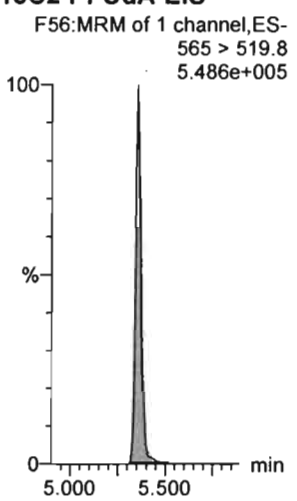
d3-N-MeFOSAA-EIS



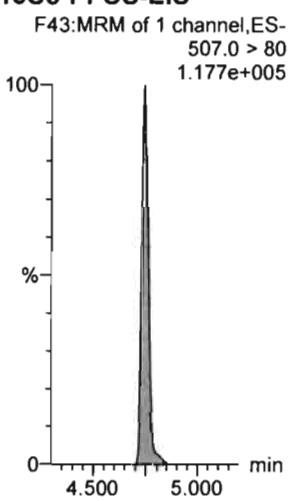
d5-N-EtFOSAA-EIS



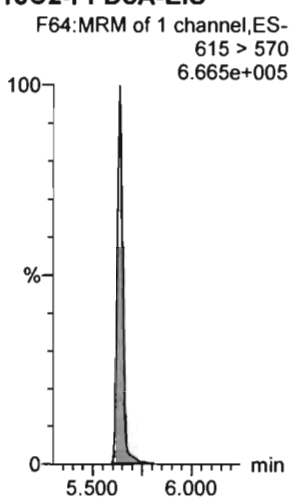
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

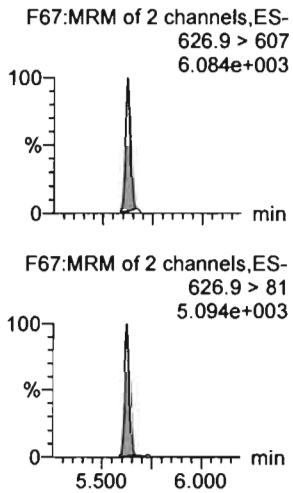


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

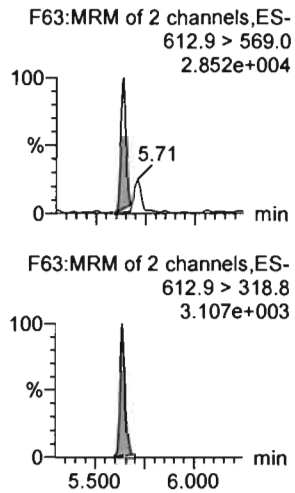
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

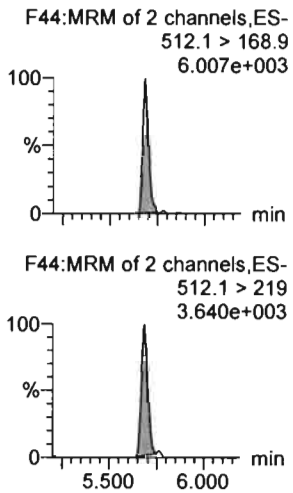
10:2 FTS



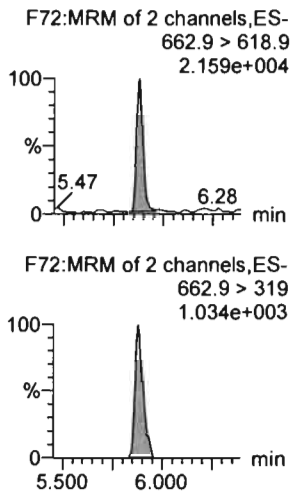
PFDoA



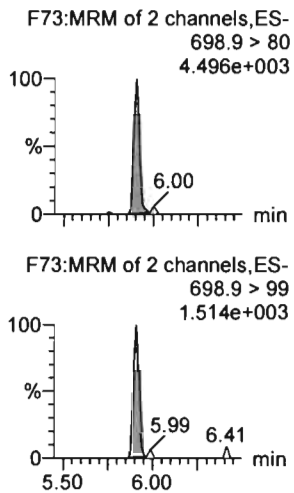
N-MeFOSA



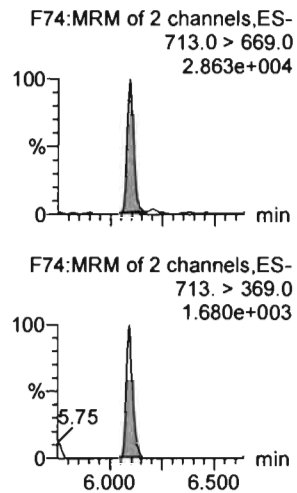
PFTrDA



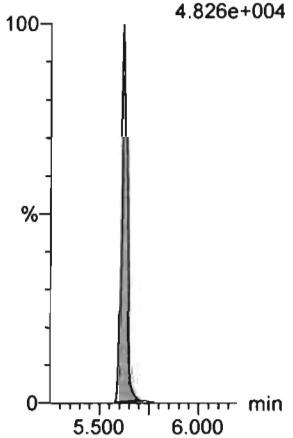
PFDoS



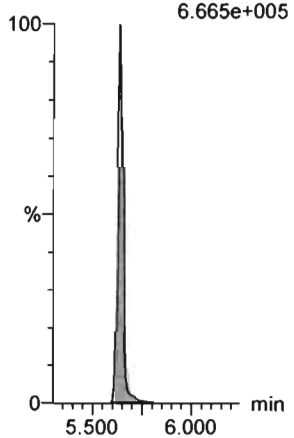
PFTeDA



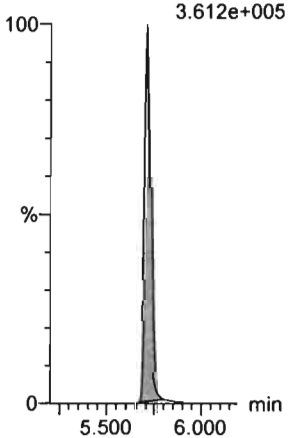
13C2-10:2 FTS-EIS



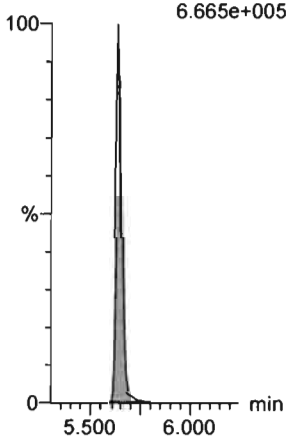
13C2-PFDoA-EIS



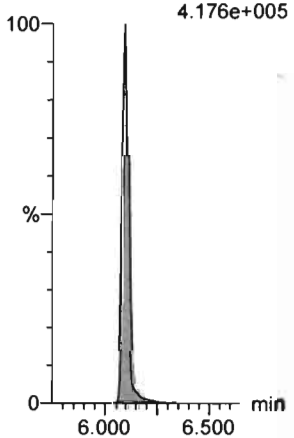
d3-N-MeFOSA-EIS



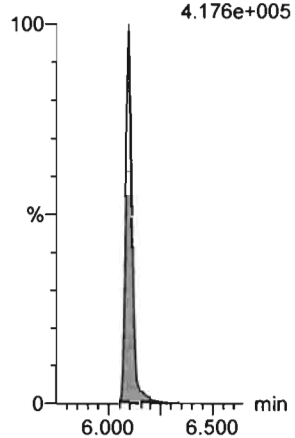
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

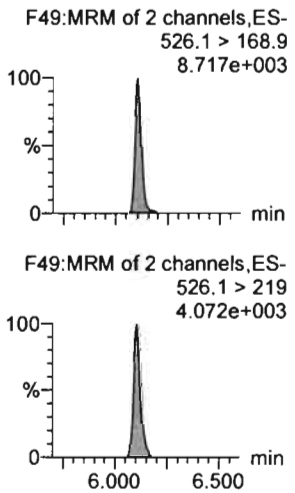


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

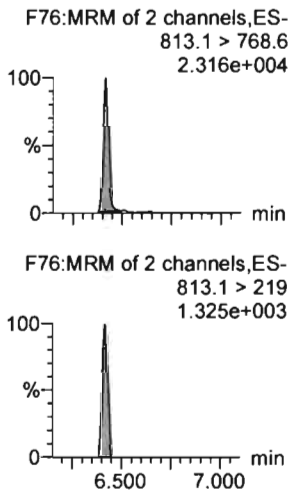
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

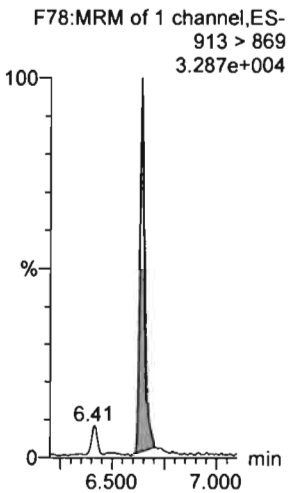
N-EtFOSA



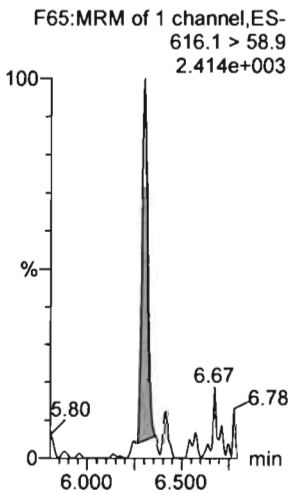
PFHxDA



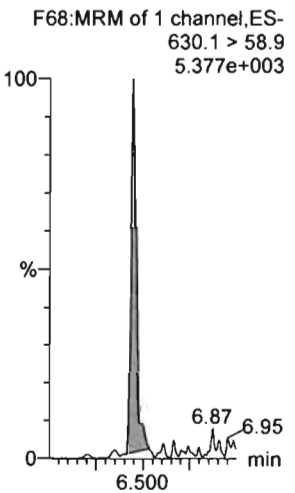
PFODA



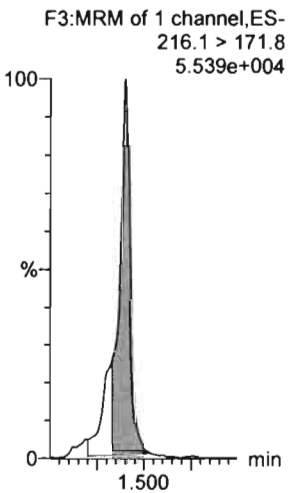
N-MeFOSE



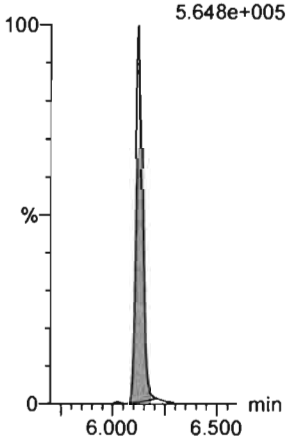
N-EtFOSE



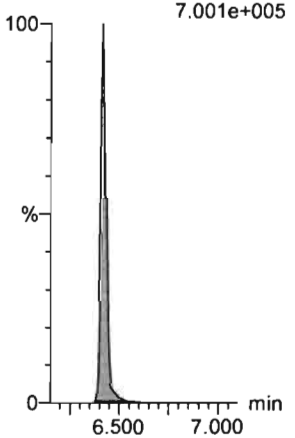
13C3-PFBA-RSD



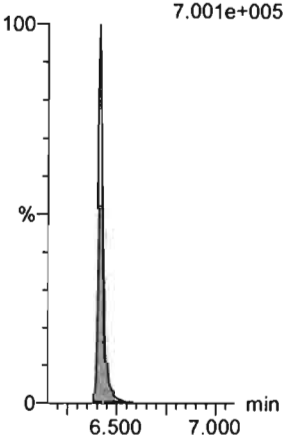
d5-N-ETFOSA-EIS



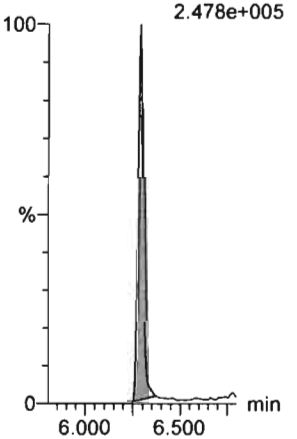
13C2-PFHxDA-EIS



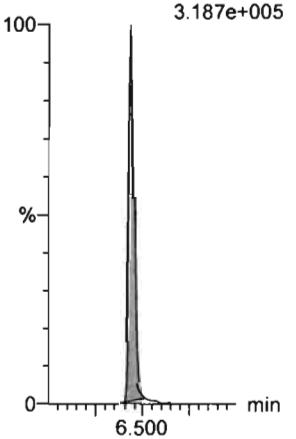
13C2-PFHxDA-EIS



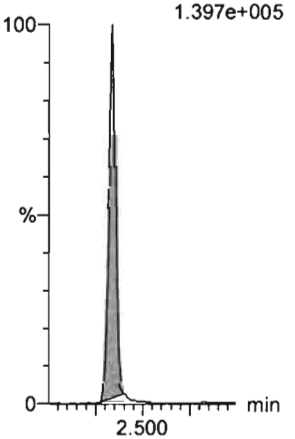
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

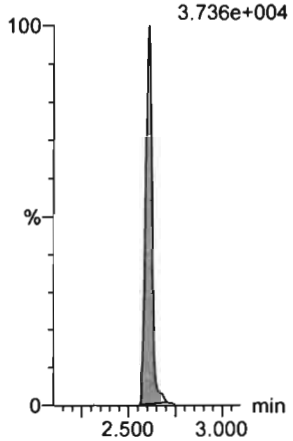


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

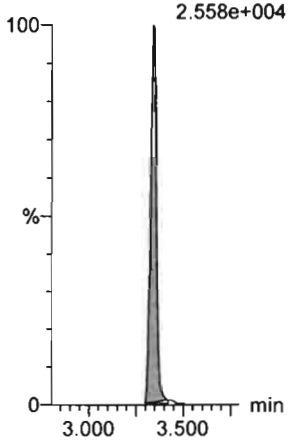
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

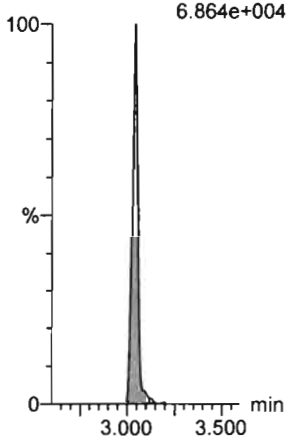
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.736e+004



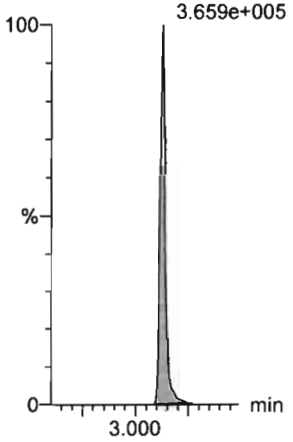
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.558e+004



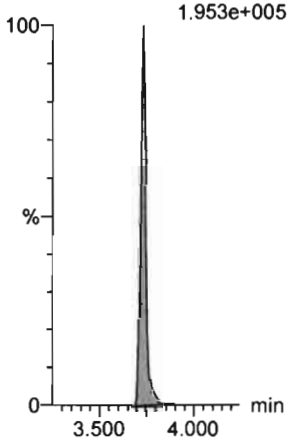
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.864e+004



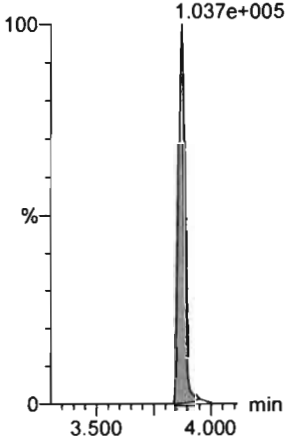
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.659e+005



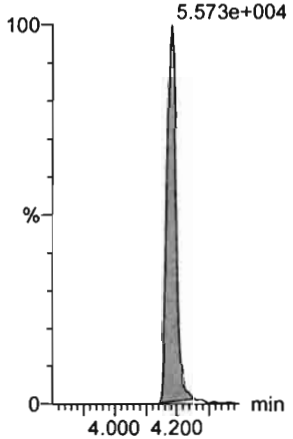
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.953e+005



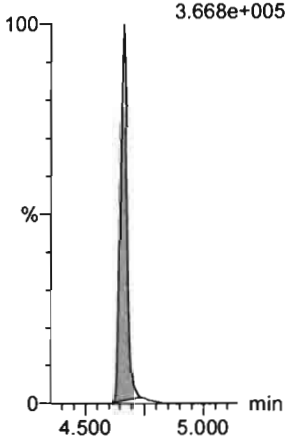
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.037e+005



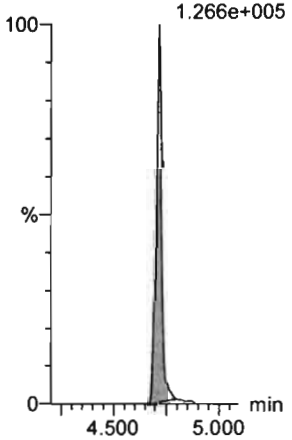
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.573e+004



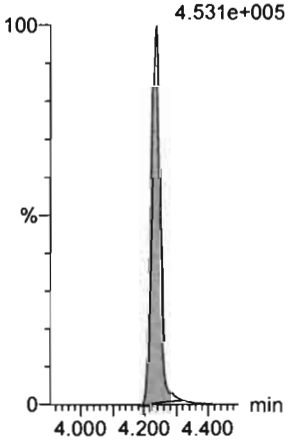
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.668e+005



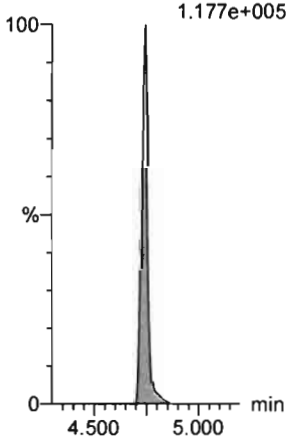
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.266e+005



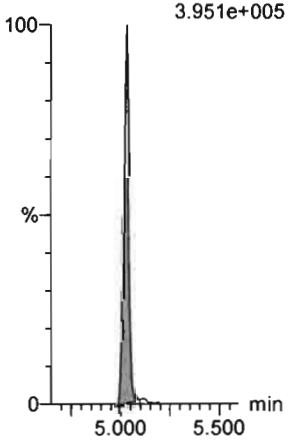
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.531e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.177e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.951e+005

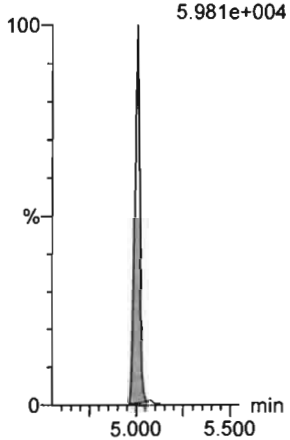


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

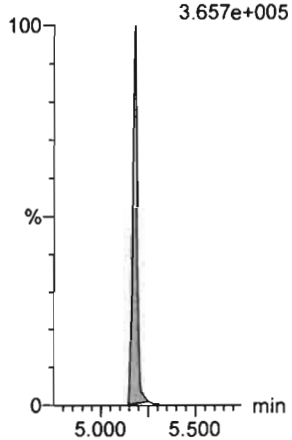
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

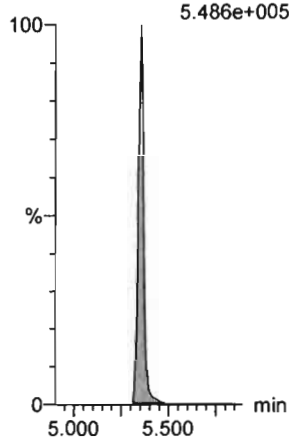
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.981e+004



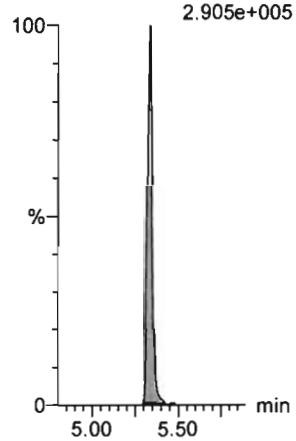
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.657e+005



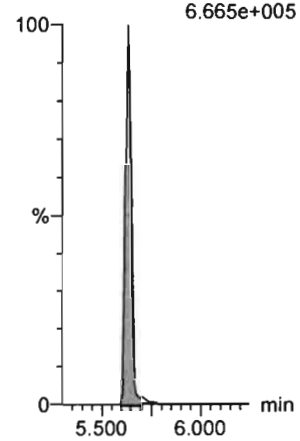
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.486e+005



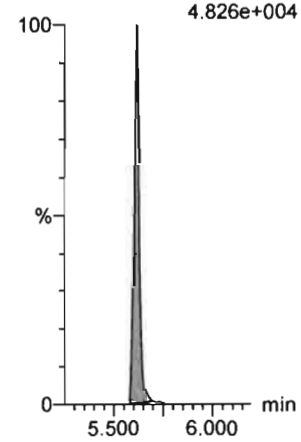
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.905e+005



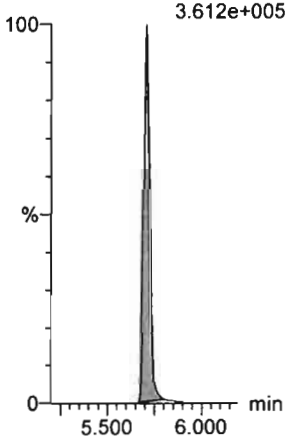
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
6.665e+005



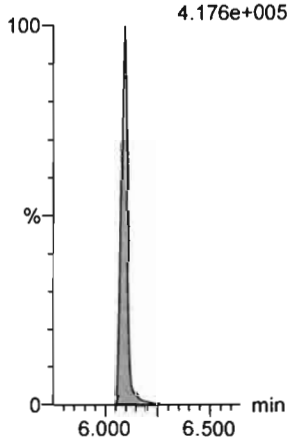
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.826e+004



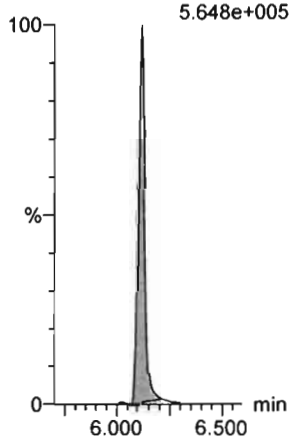
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
3.612e+005



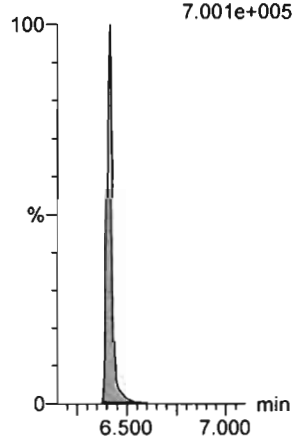
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.176e+005



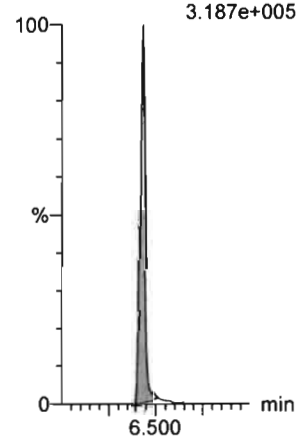
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.648e+005



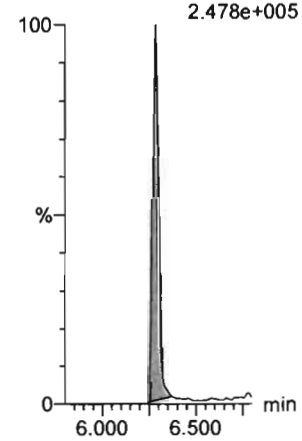
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.001e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.187e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
2.478e+005

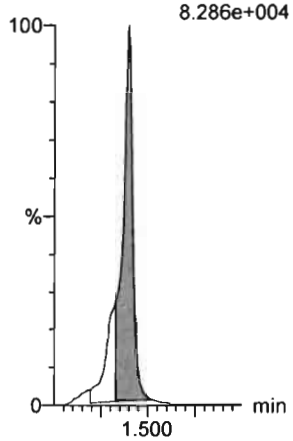


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

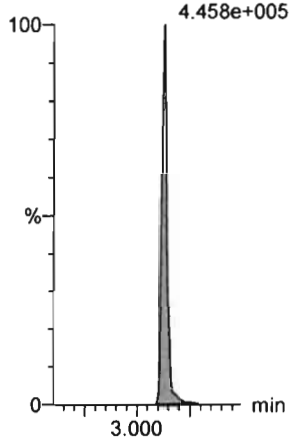
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_4, Date: 13-Jul-2020, Time: 14:25:58, ID: ST200713M1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

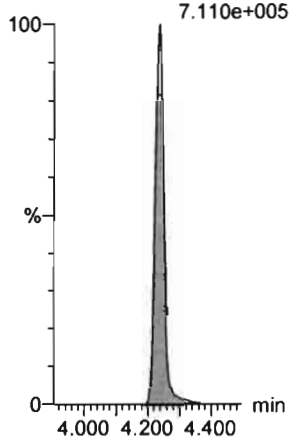
13C4-PFBA



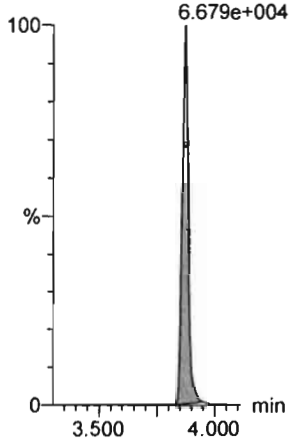
13C5-PFHxA



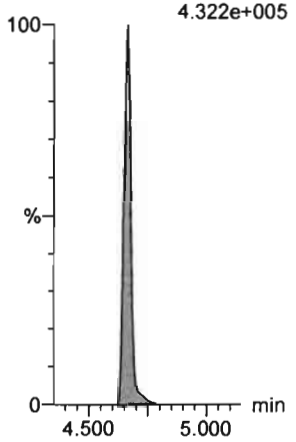
13C8-PFOA



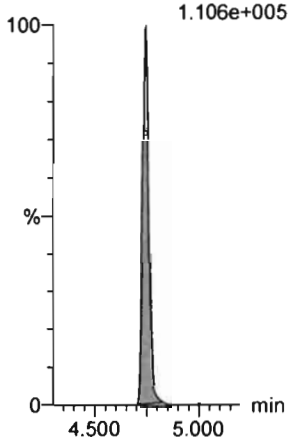
18O2-PFHxS



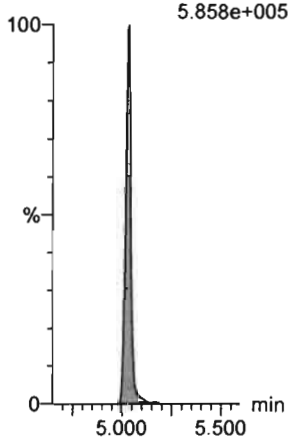
13C9-PFNA



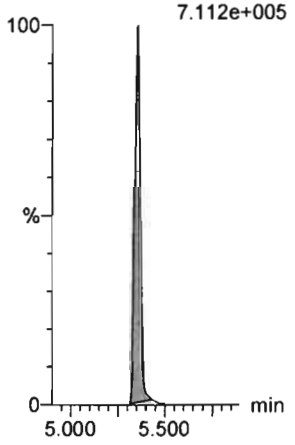
13C4-PFOS



13C6-PFDA



13C7-PFUdA

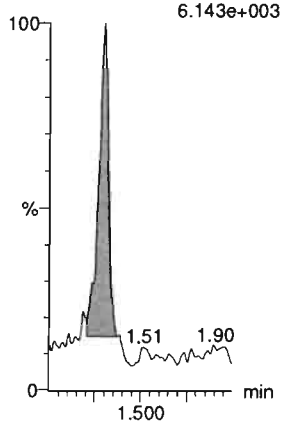


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

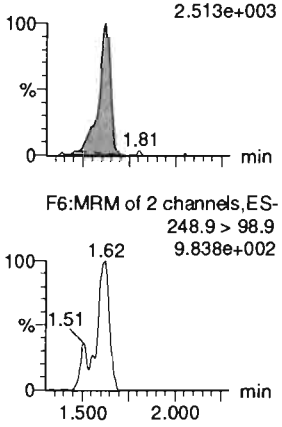
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

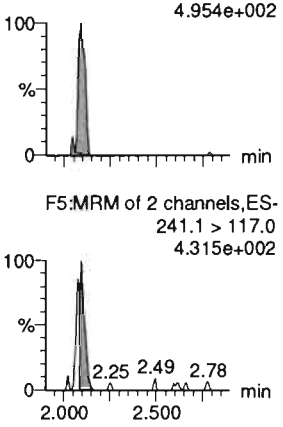
PFBA



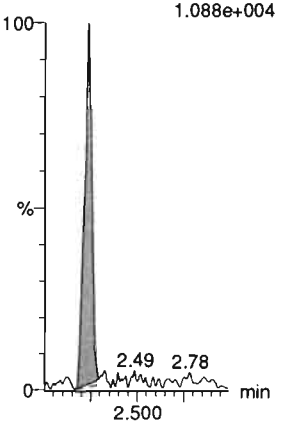
PFPrS



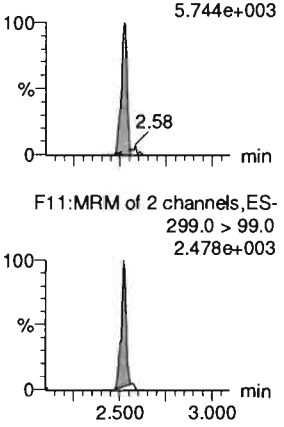
3:3 FTCA



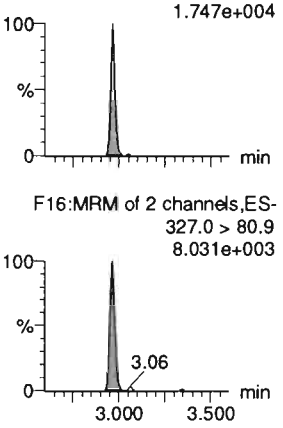
PFPeA



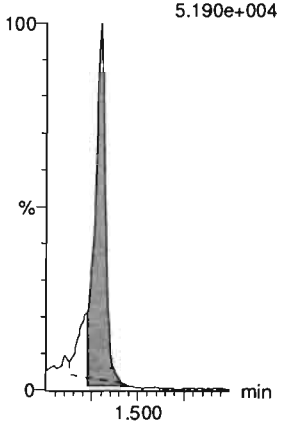
PFBS



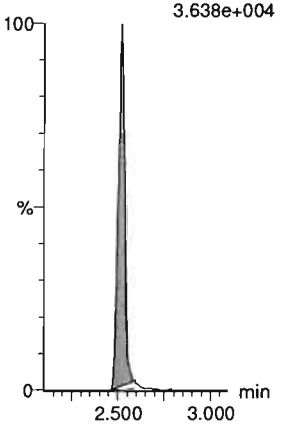
4:2 FTS



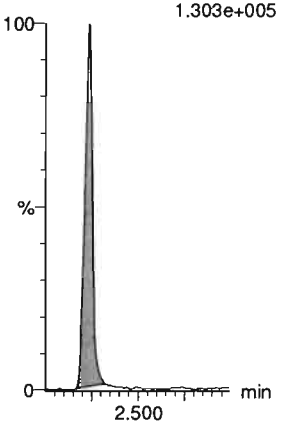
13C3-PFBA-EIS



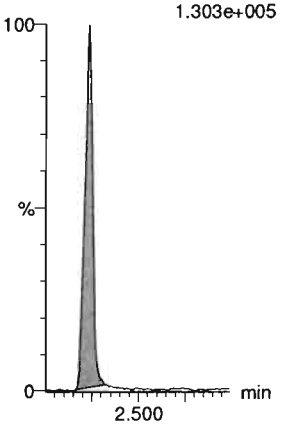
13C3-PFBS-EIS



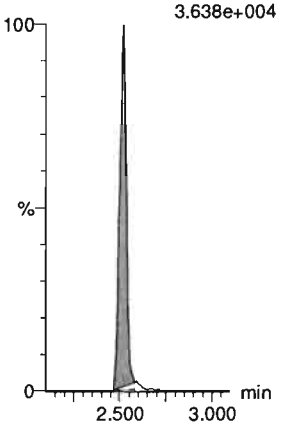
13C3-PFPeA-EIS



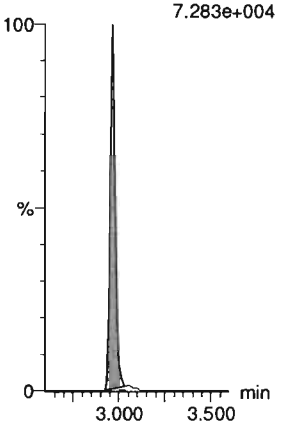
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

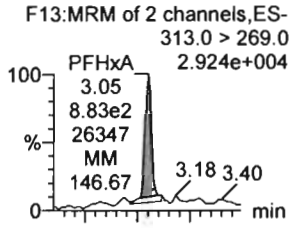


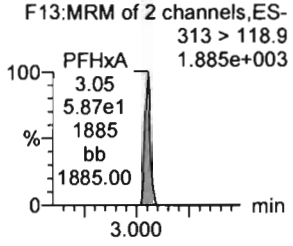
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

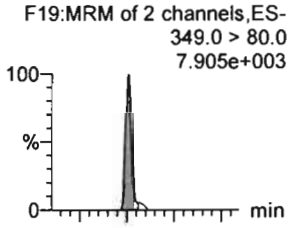
Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

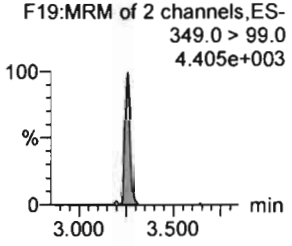
PFHxA



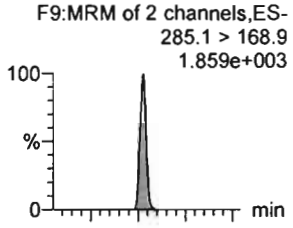


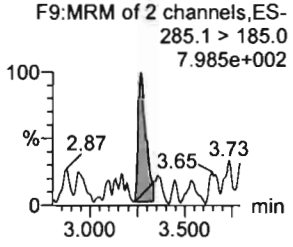
PFPeS



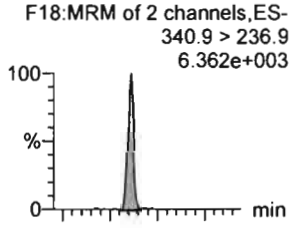


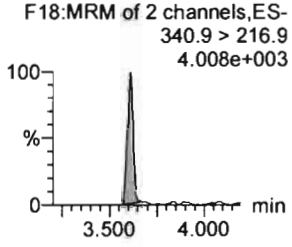
HFPO-DA



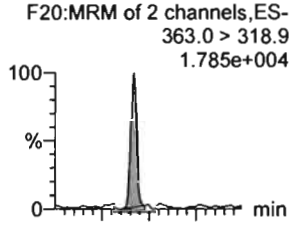


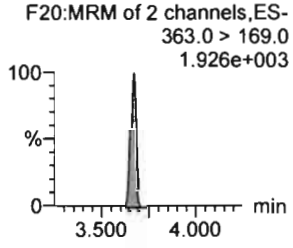
5:3 FTCA



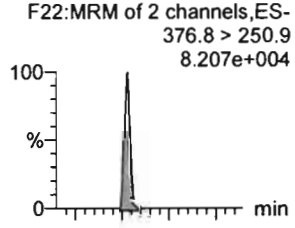


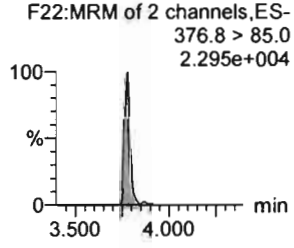
PFHpA



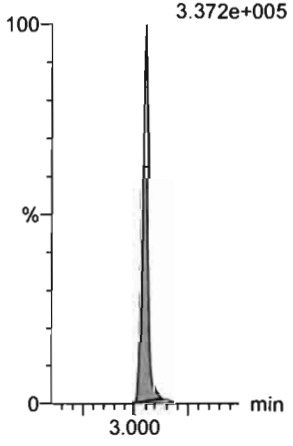


ADONA

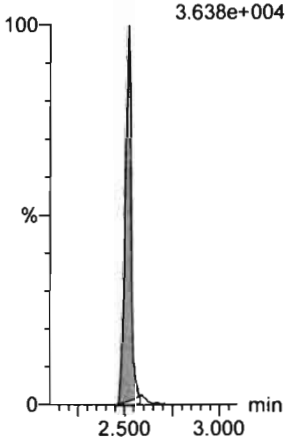




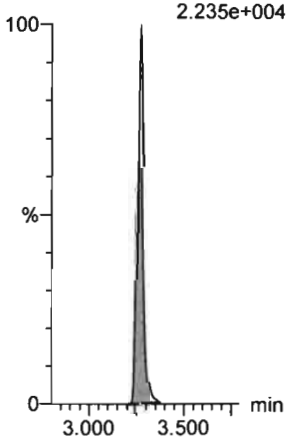
13C2-PFHxA-EIS



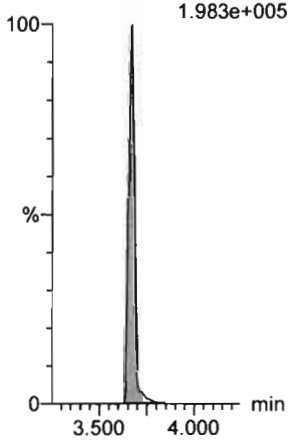
13C3-PFBS-EIS



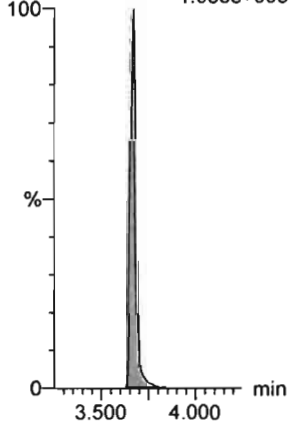
13C3-HFPO-DA-EIS



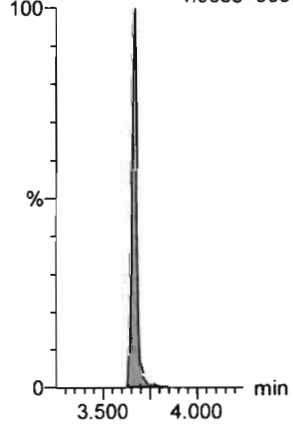
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

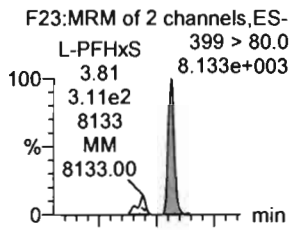


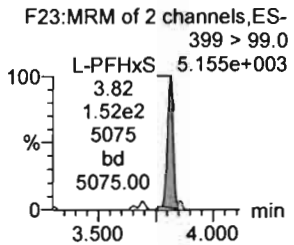
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

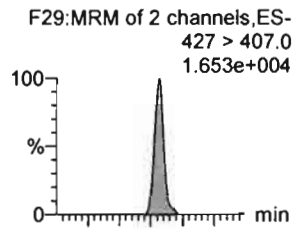
Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

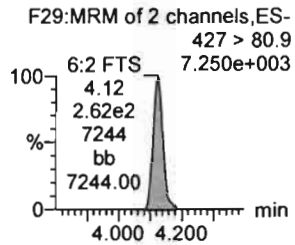
L-PFHxS



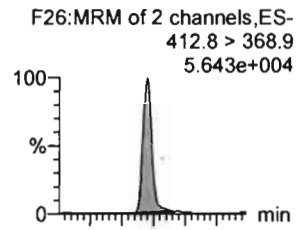


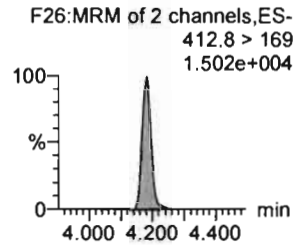
6:2 FTS



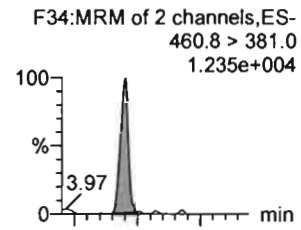


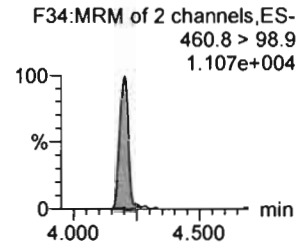
L-PFOA



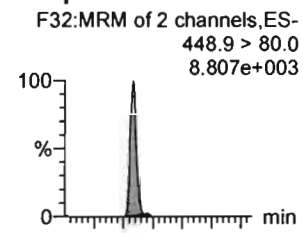


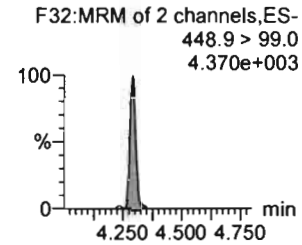
PFEChS



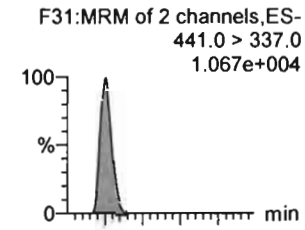


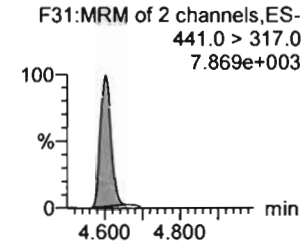
PFHpS



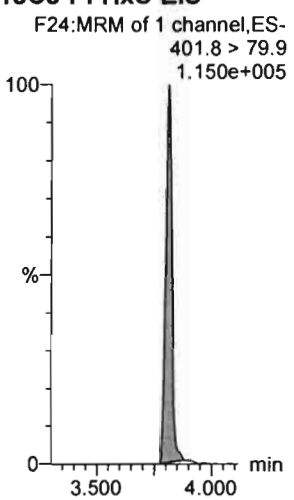


7:3 FTCA

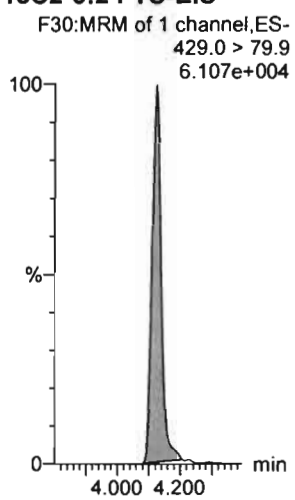




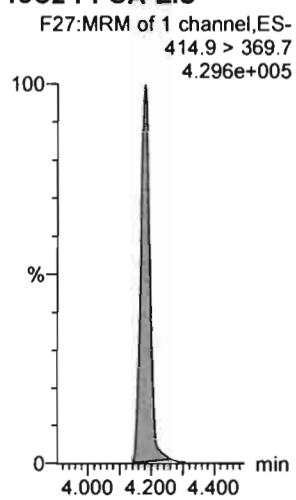
13C3-PFHxS-EIS



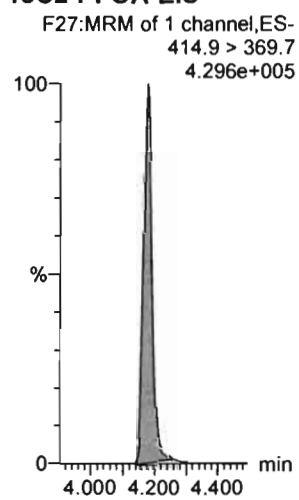
13C2-6:2 FTS-EIS



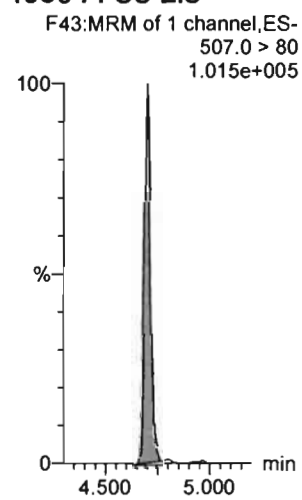
13C2-PFOA-EIS



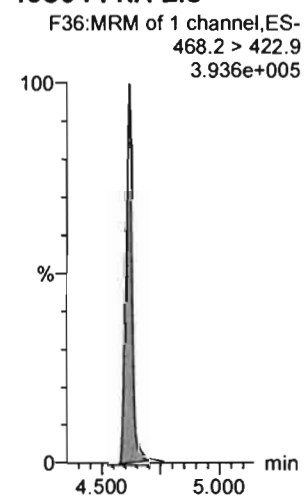
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

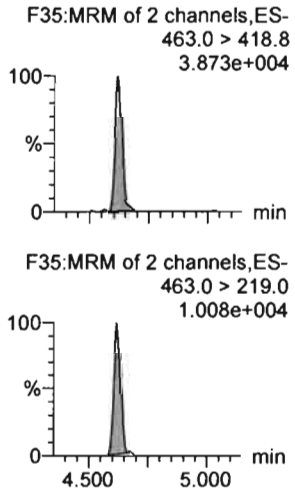


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

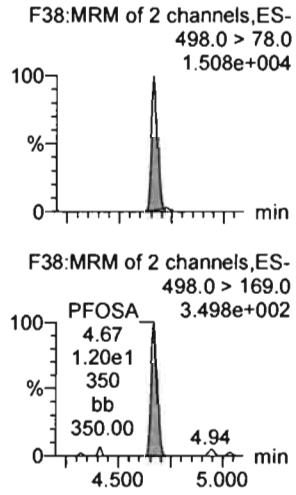
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

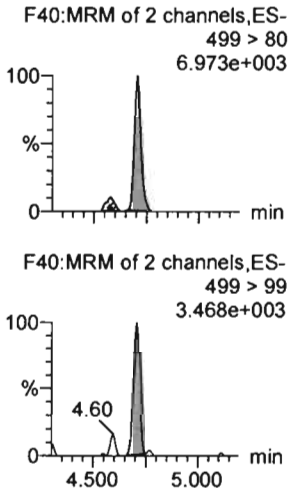
PFNA



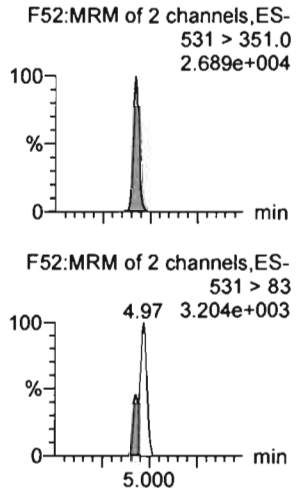
PFOSA



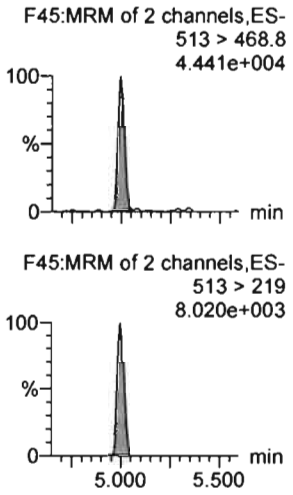
L-PFOS



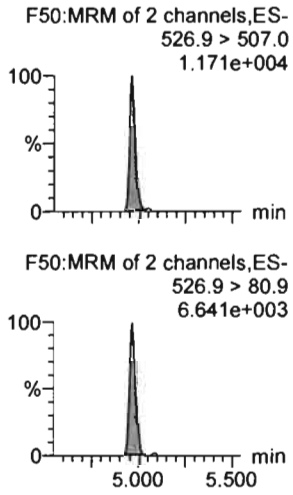
9Cl-PF30NS



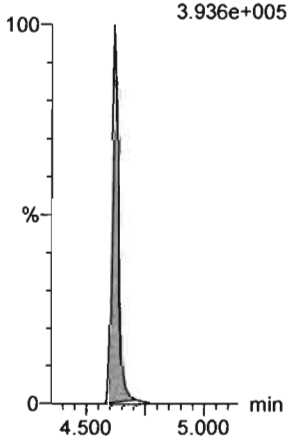
PFDA



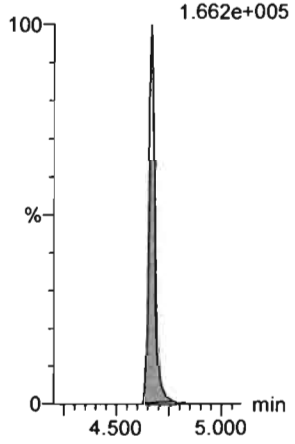
8:2 FTS



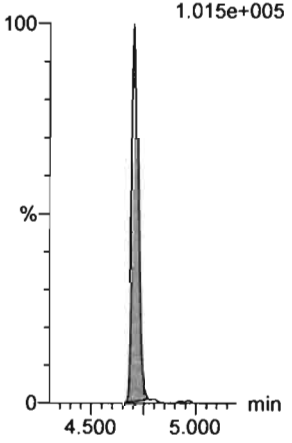
13C5-PFNA-EIS



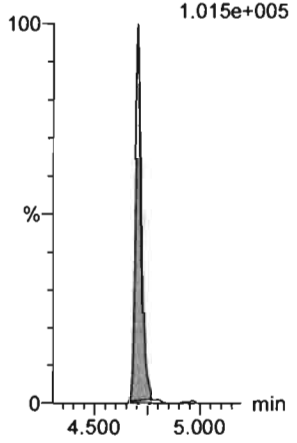
13C8-PFOSA-EIS



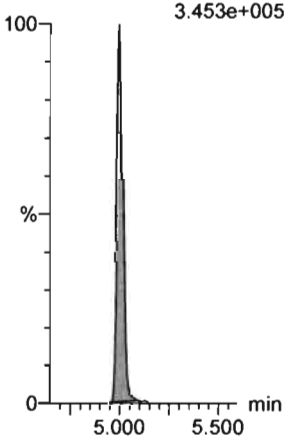
13C8-PFOS-EIS



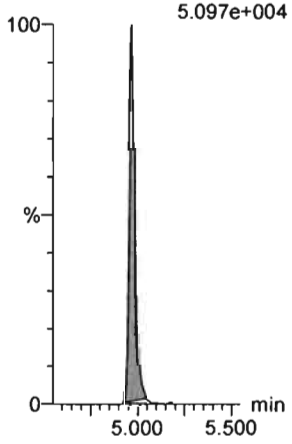
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

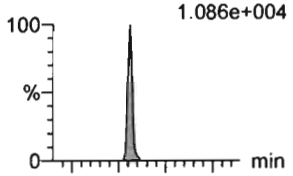


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

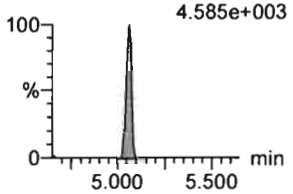
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

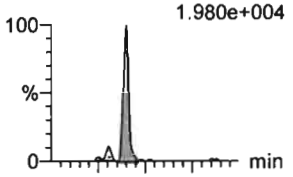
PFNS
F54:MRM of 2 channels,ES-
548.9 > 79.9
1.086e+004



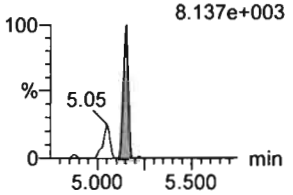
F54:MRM of 2 channels,ES-
548.9 > 98.9
4.585e+003



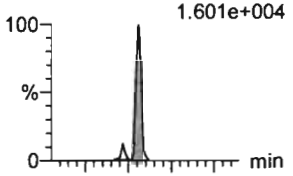
L-MeFOSAA
F57:MRM of 2 channels,ES-
570 > 419
1.980e+004



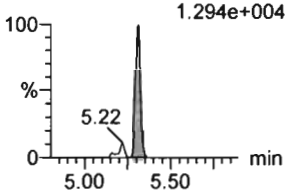
F57:MRM of 2 channels,ES-
570. > 512
8.137e+003



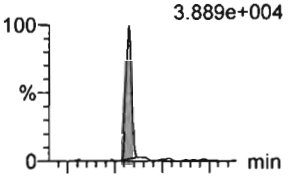
L-EtFOSAA
F60:MRM of 2 channels,ES-
583.9 > 419
1.601e+004



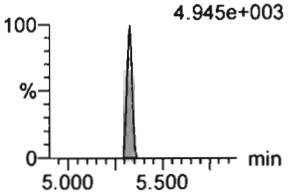
F60:MRM of 2 channels,ES-
583.9 > 526
1.294e+004



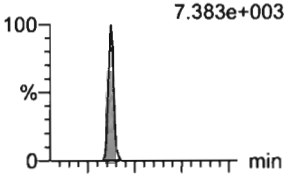
PFUdA
F55:MRM of 2 channels,ES-
563.0 > 518.9
3.889e+004



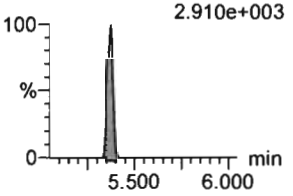
F55:MRM of 2 channels,ES-
563.0 > 269
4.945e+003



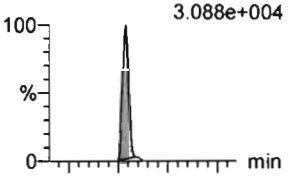
PFDS
F62:MRM of 2 channels,ES-
599.0 > 80.0
7.383e+003



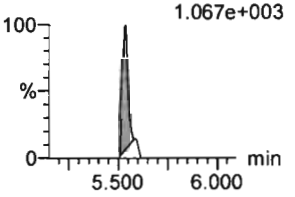
F62:MRM of 2 channels,ES-
599.0 > 99.0
2.910e+003



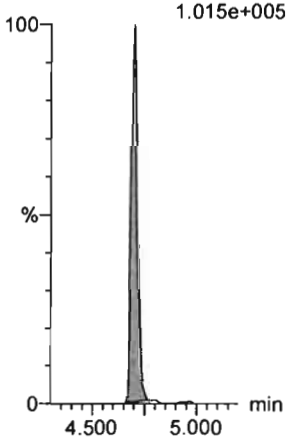
11Cl-PF30UdS
F69:MRM of 2 channels,ES-
630.9 > 450.9
3.088e+004



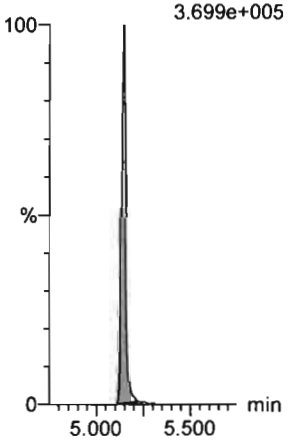
F69:MRM of 2 channels,ES-
630.9 > 83.
1.067e+003



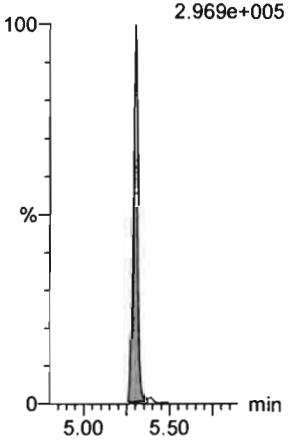
13C8-PFOS-EIS
F43:MRM of 1 channel,ES-
507.0 > 80
1.015e+005



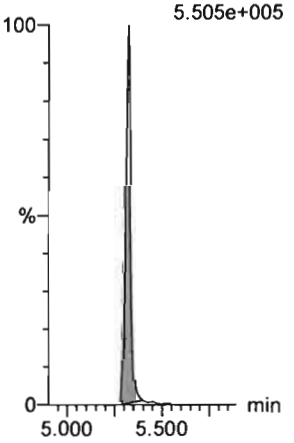
d3-N-MeFOSAA-EIS
F59:MRM of 1 channel,ES-
573. > 419
3.699e+005



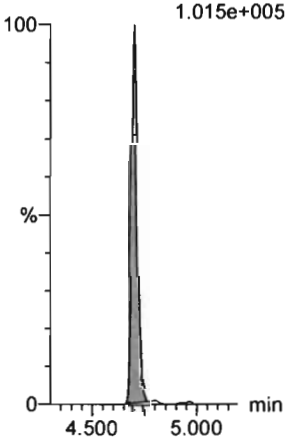
d5-N-EtFOSAA-EIS
F61:MRM of 1 channel,ES-
589. > 419
2.969e+005



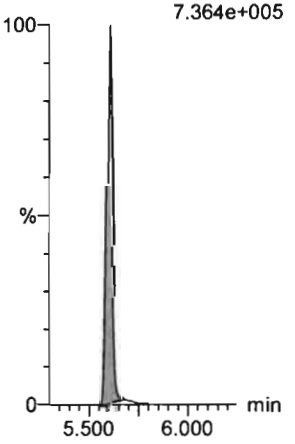
13C2-PFUdA-EIS
F56:MRM of 1 channel,ES-
565 > 519.8
5.505e+005



13C8-PFOS-EIS
F43:MRM of 1 channel,ES-
507.0 > 80
1.015e+005



13C2-PFDoA-EIS
F64:MRM of 1 channel,ES-
615 > 570
7.364e+005

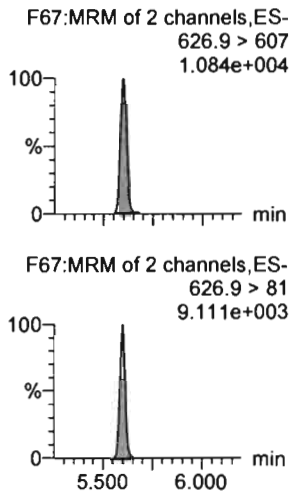


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

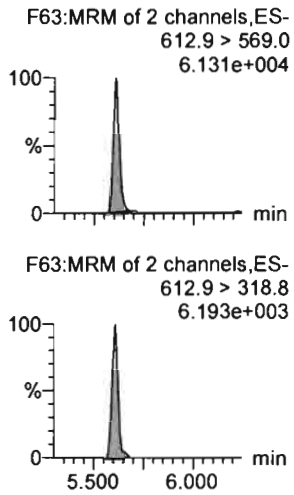
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

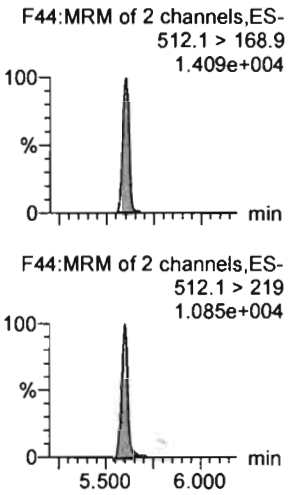
10:2 FTS



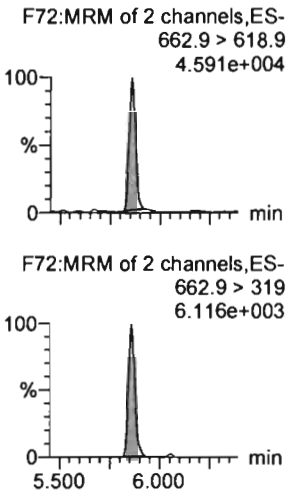
PFDoA



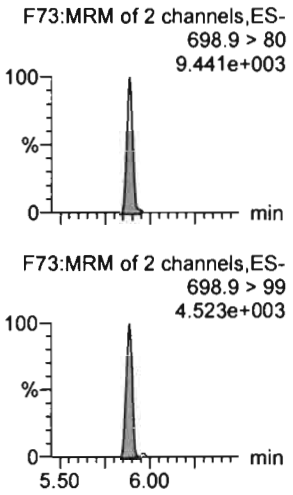
N-MeFOSA



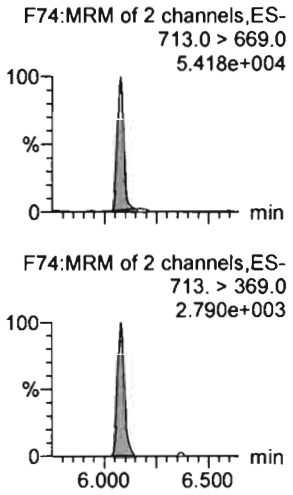
PFTrDA



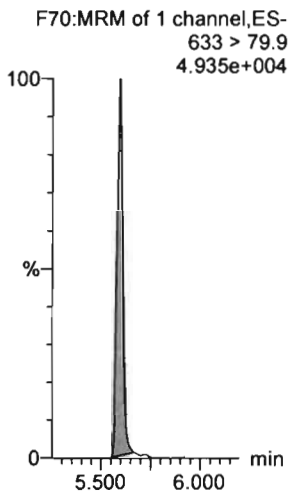
PFDoS



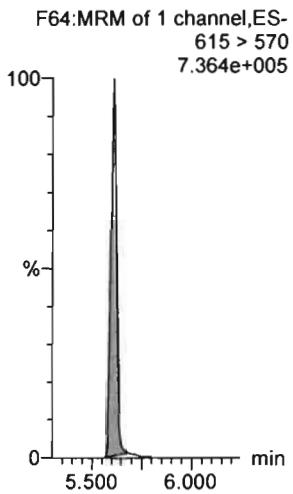
PFTeDA



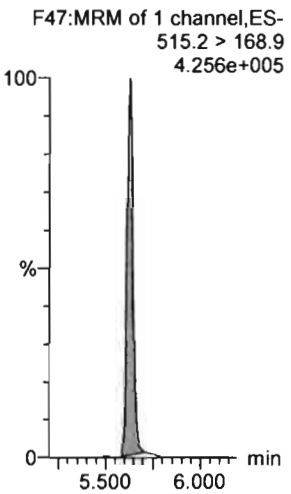
13C2-10:2 FTS-EIS



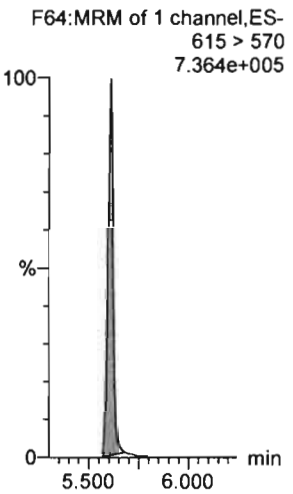
13C2-PFDoA-EIS



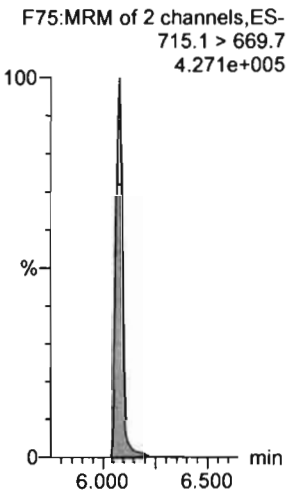
d3-N-MeFOSA-EIS



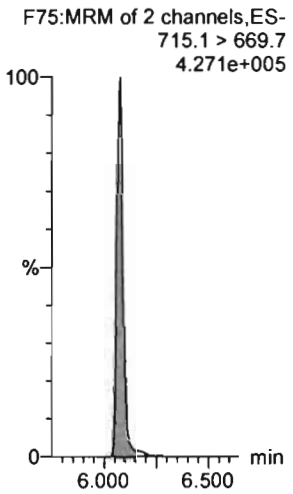
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

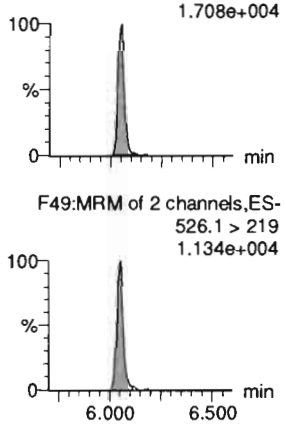


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

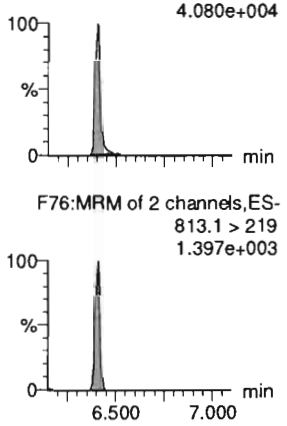
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

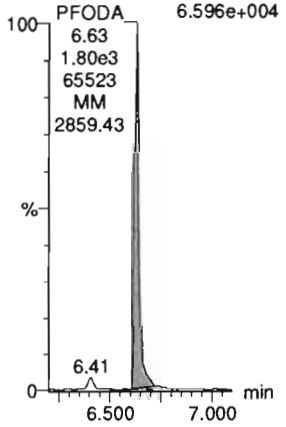
N-EtFOSA



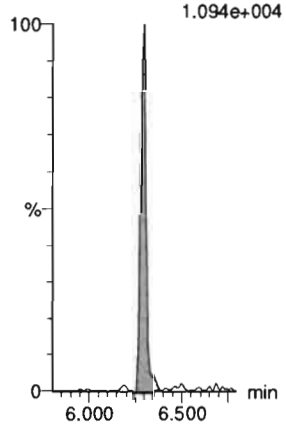
PFHxDA



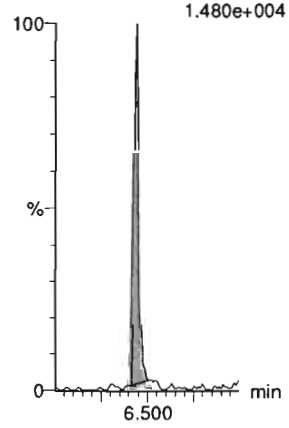
PFODA



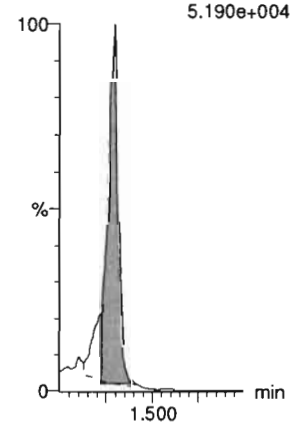
N-MeFOSE



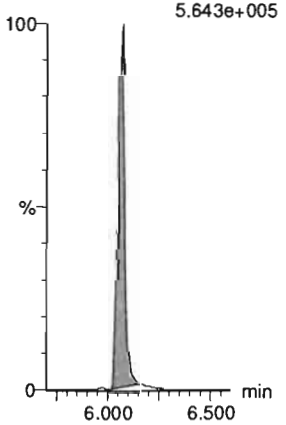
N-EtFOSE



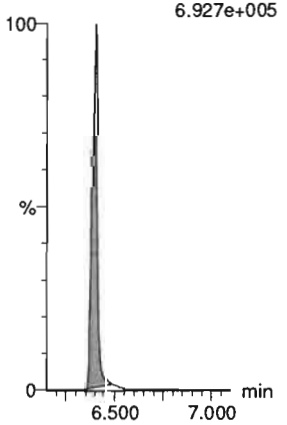
13C3-PFBA-RSD



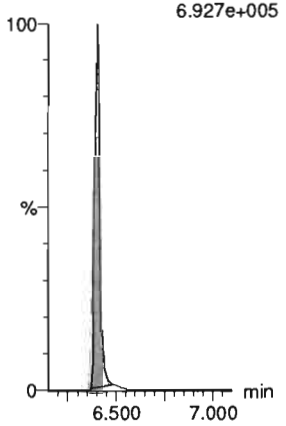
d5-N-ETFOSA-EIS



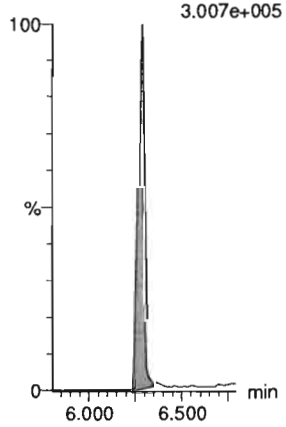
13C2-PFHxDA-EIS



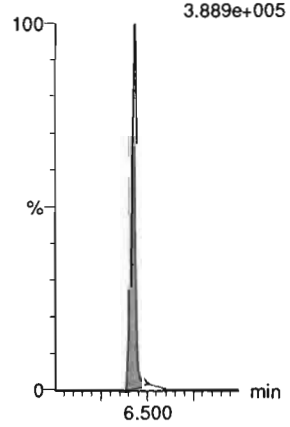
13C2-PFHxDA-EIS



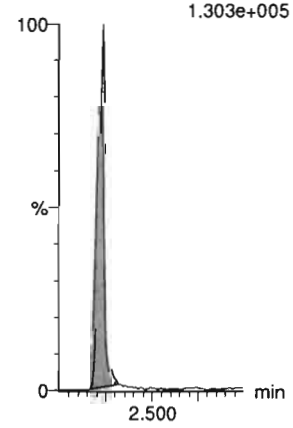
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

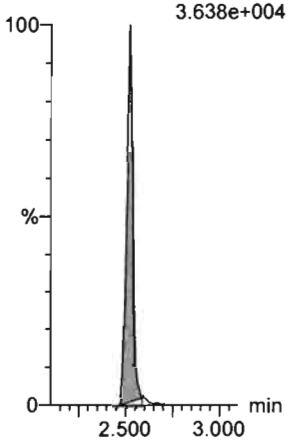


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

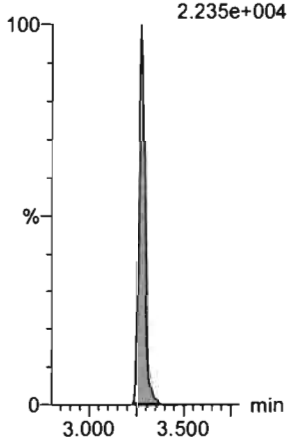
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

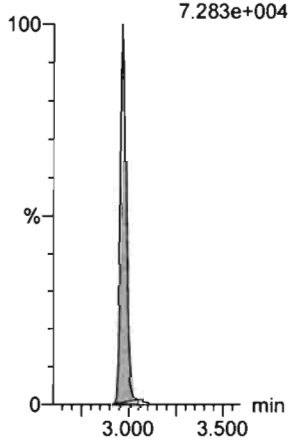
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.638e+004



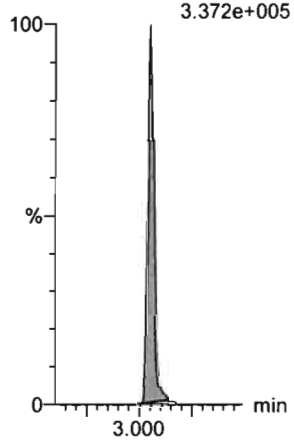
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.235e+004



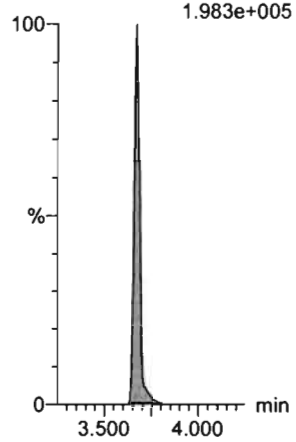
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.283e+004



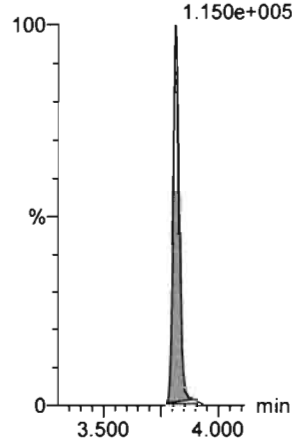
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.372e+005



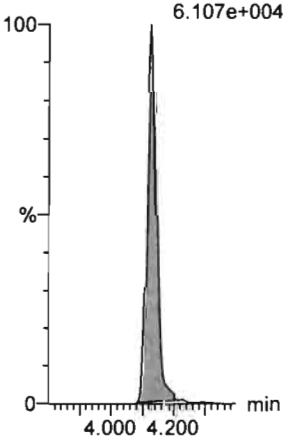
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.983e+005



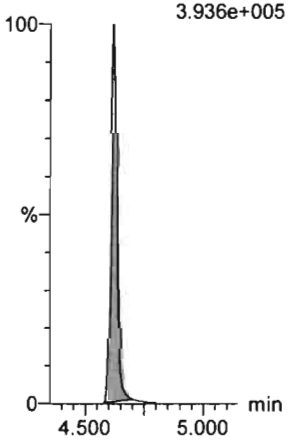
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.150e+005



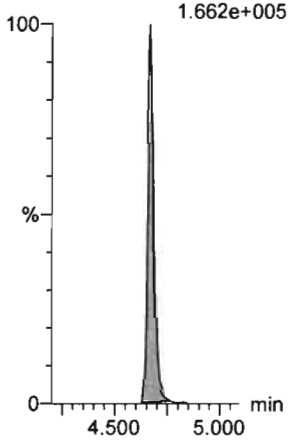
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.107e+004



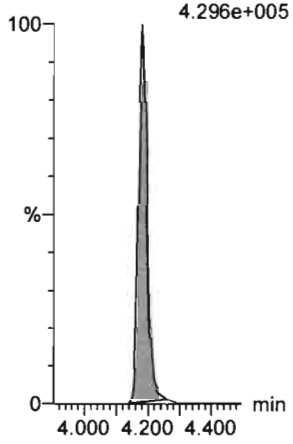
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.936e+005



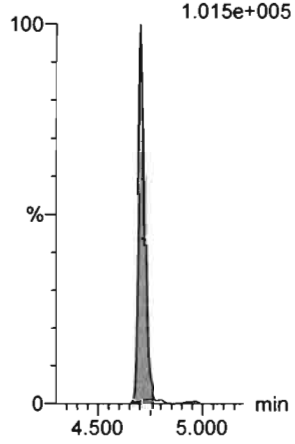
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.662e+005



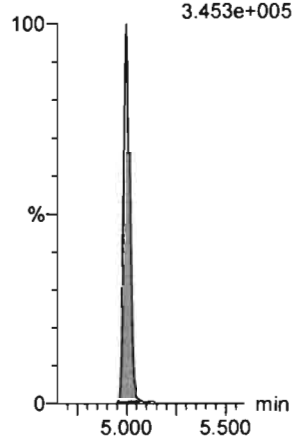
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.296e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.015e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.453e+005

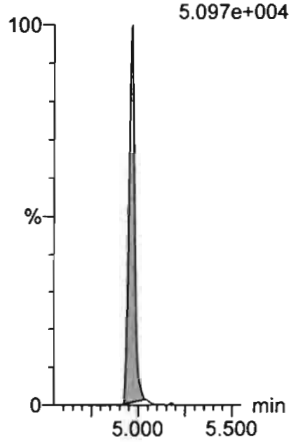


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

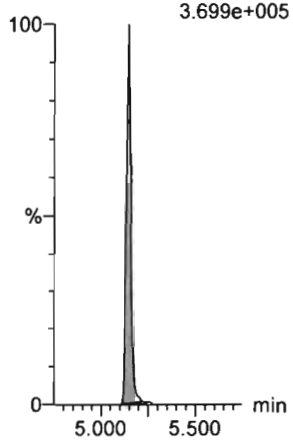
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

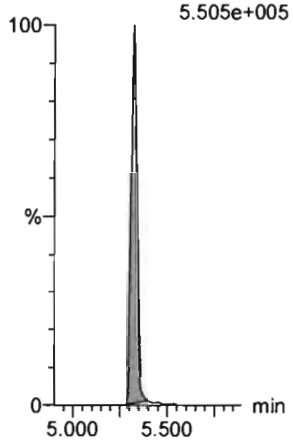
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.097e+004



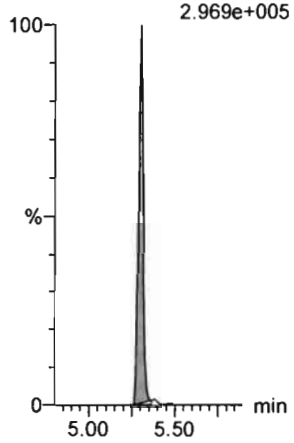
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.699e+005



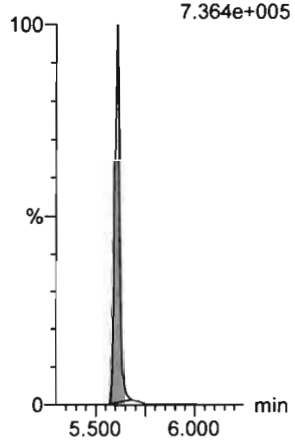
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.505e+005



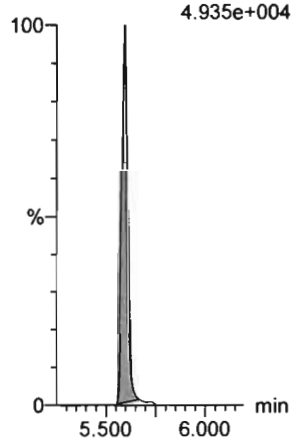
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.969e+005



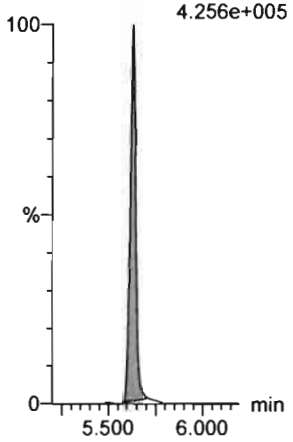
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.364e+005



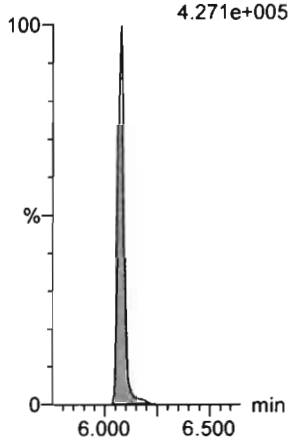
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.935e+004



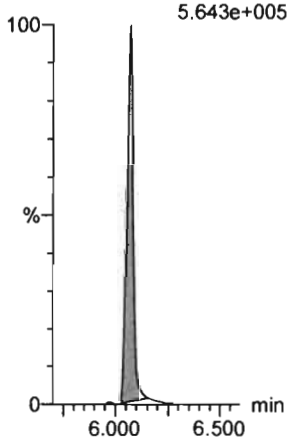
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.256e+005



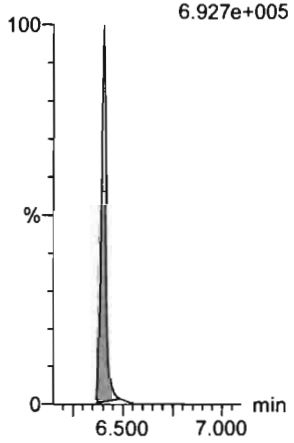
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.271e+005



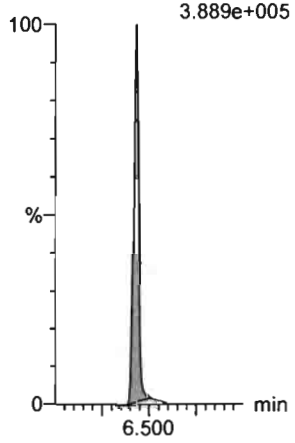
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.643e+005



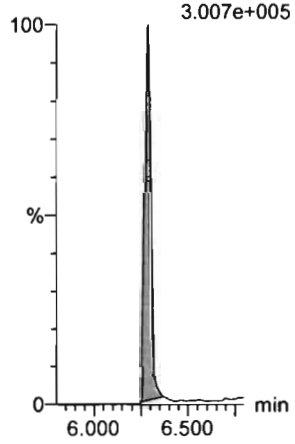
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.927e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.889e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.007e+005

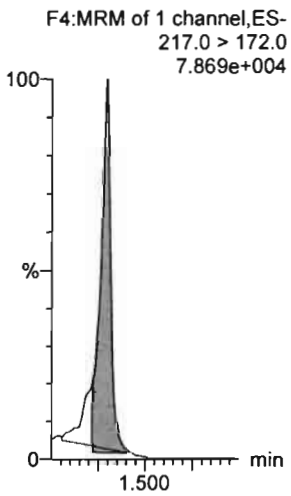


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

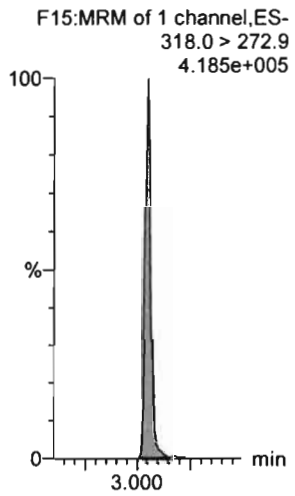
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_5, Date: 13-Jul-2020, Time: 14:36:20, ID: ST200713M1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

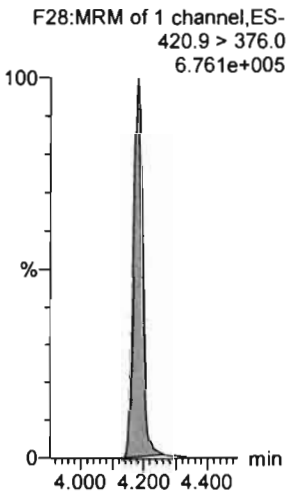
13C4-PFBA



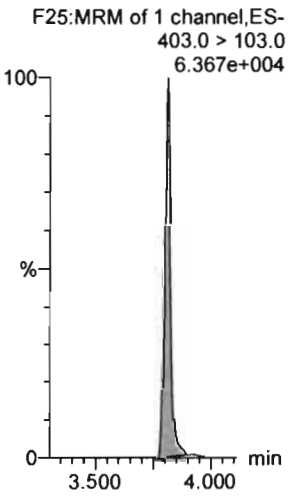
13C5-PFHxA



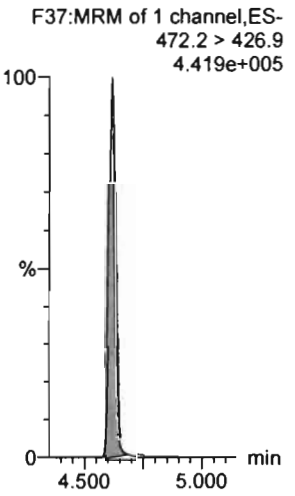
13C8-PFOA



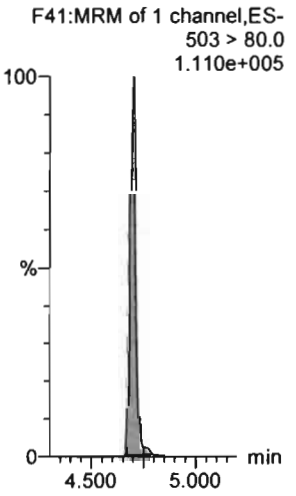
18O2-PFHxS



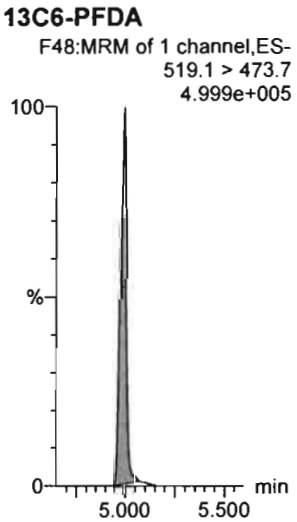
13C9-PFNA



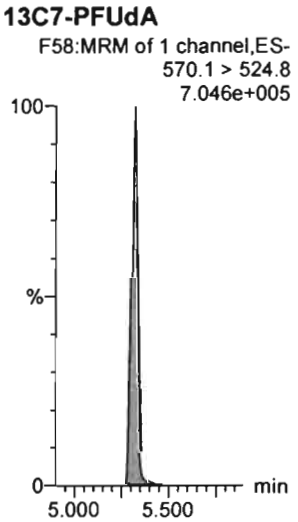
13C4-PFOS



13C6-PFDA



13C7-PFUdA

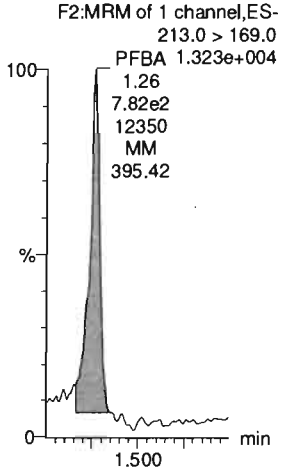


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

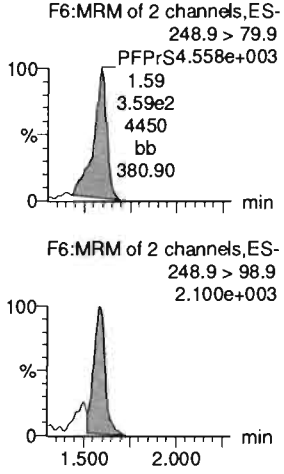
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

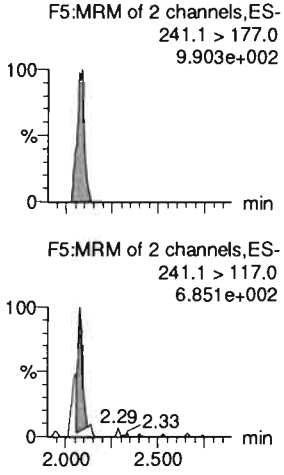
PFBA



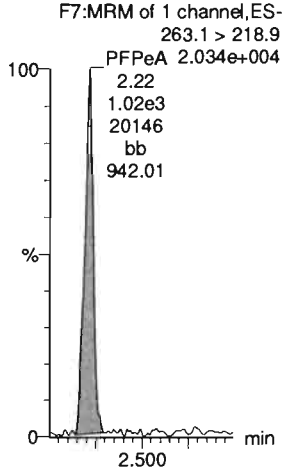
PFPrS



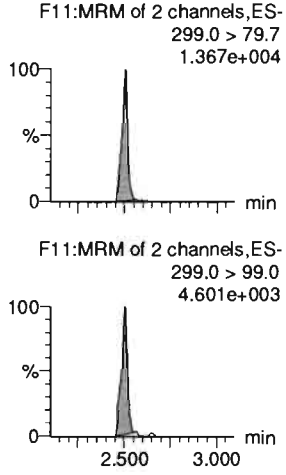
3:3 FTCA



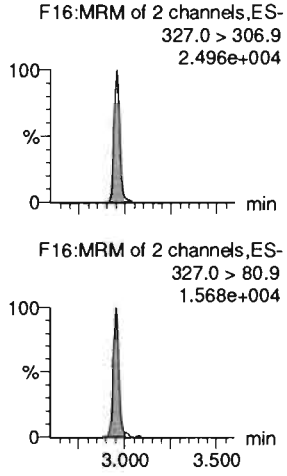
PFPeA



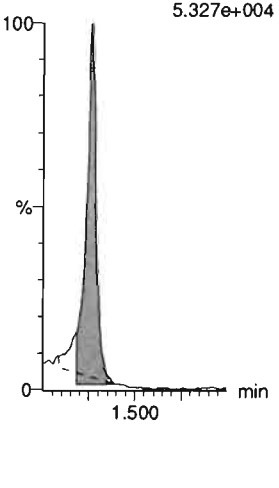
PFBS



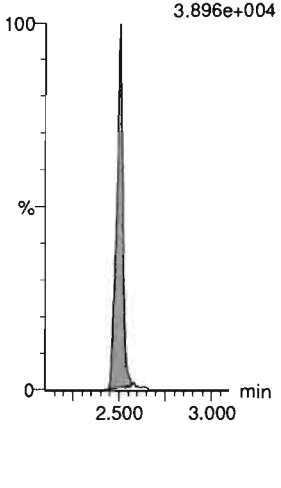
4:2 FTS



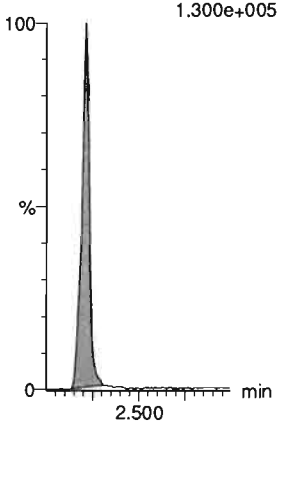
13C3-PFBA-EIS



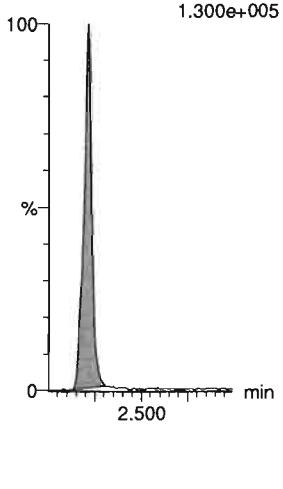
13C3-PFBS-EIS



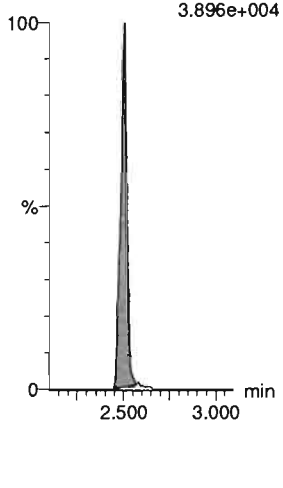
13C3-PFPeA-EIS



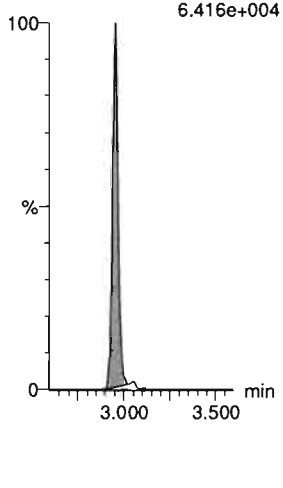
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

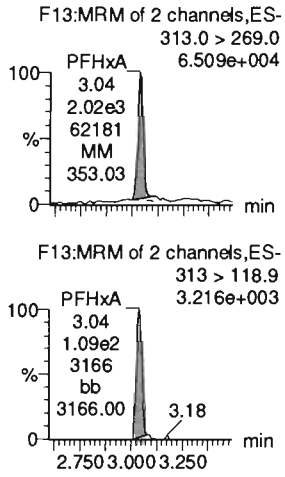


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

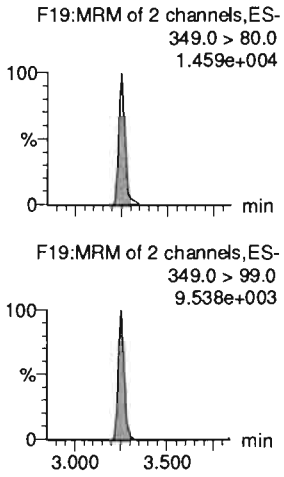
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

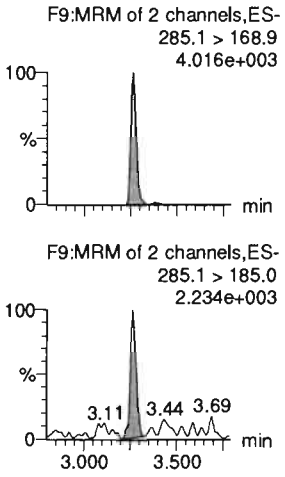
PFHxA



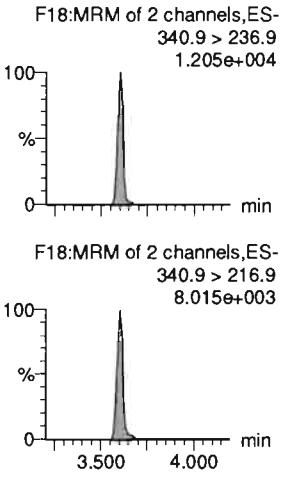
PFPeS



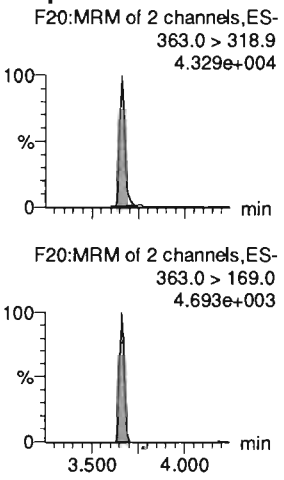
HFPO-DA



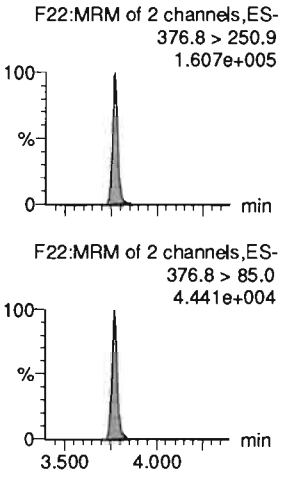
5:3 FTCA



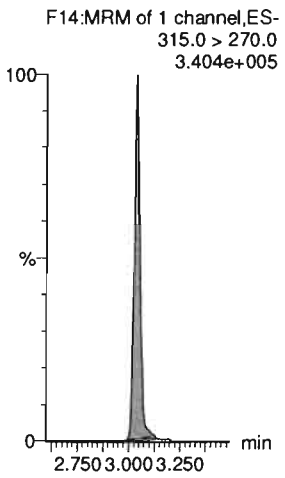
PFHpA



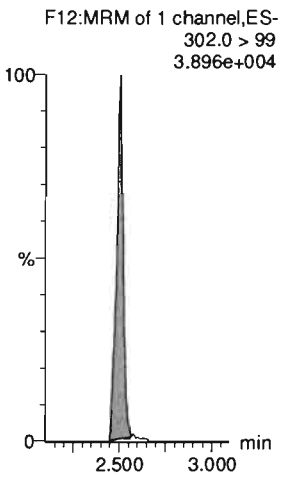
ADONA



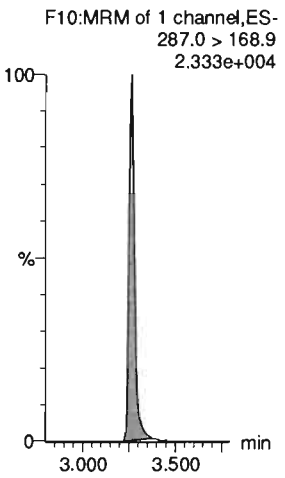
13C2-PFHxA-EIS



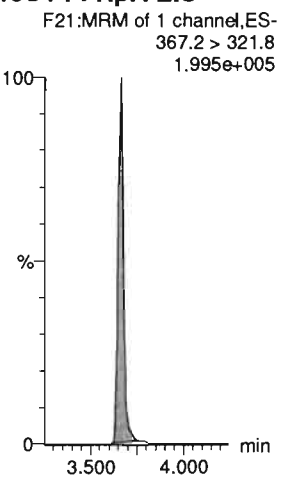
13C3-PFBS-EIS



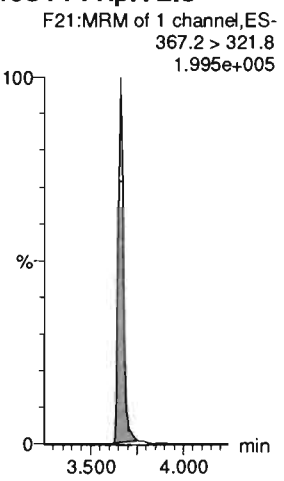
13C3-HFPO-DA-EIS



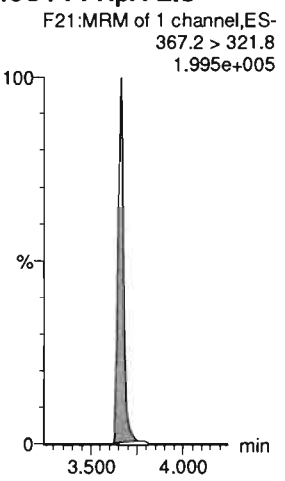
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

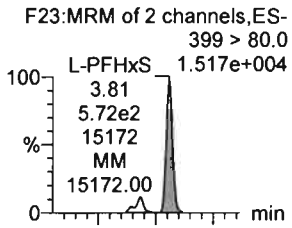


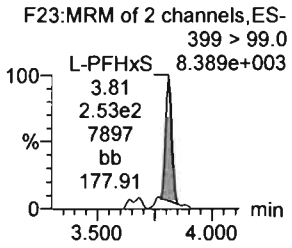
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

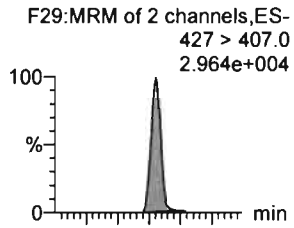
Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

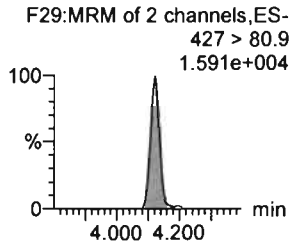
L-PFHxS



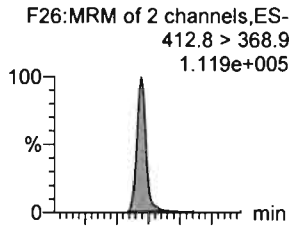


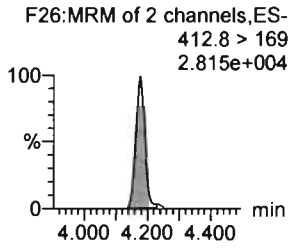
6:2 FTS



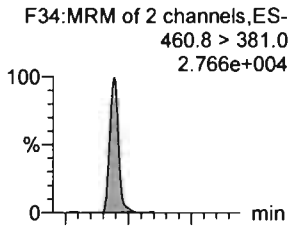


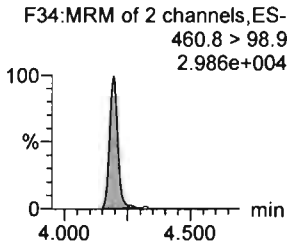
L-PFOA



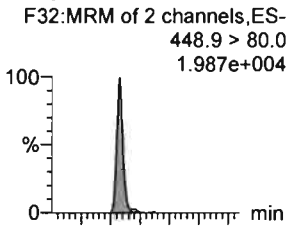


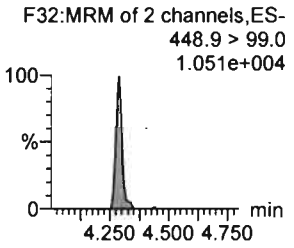
PFEChS



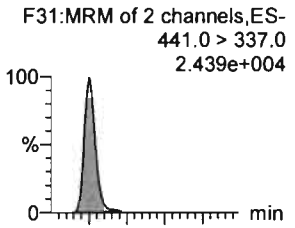


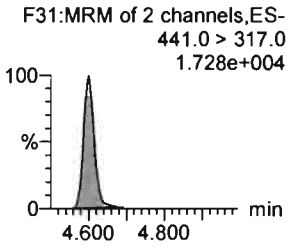
PFHpS



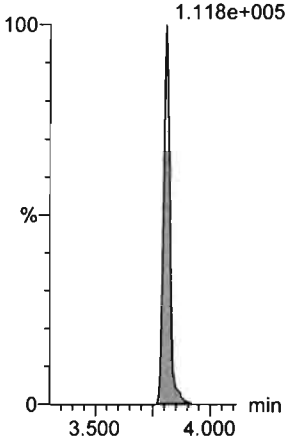


7:3 FTCA

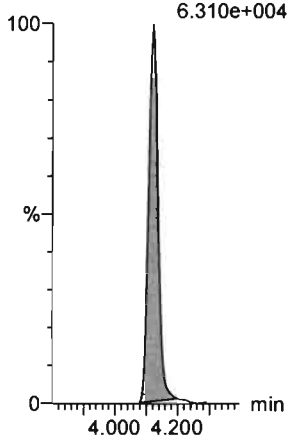




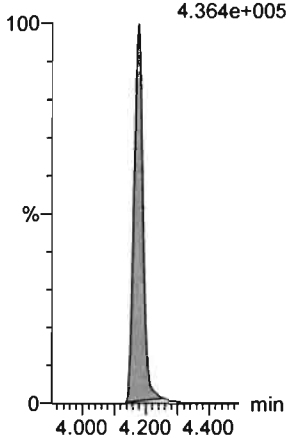
13C3-PFHxS-EIS



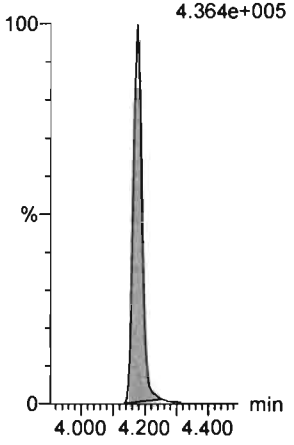
13C2-6:2 FTS-EIS



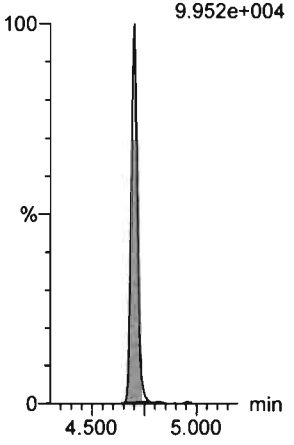
13C2-PFOA-EIS



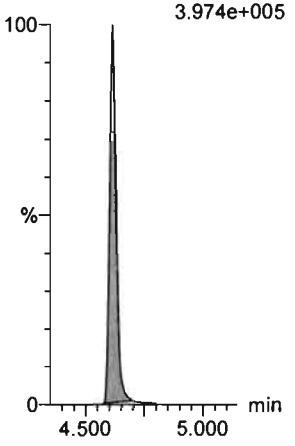
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

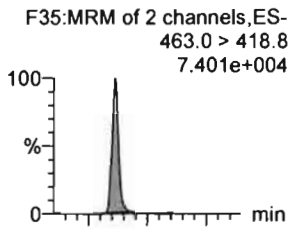


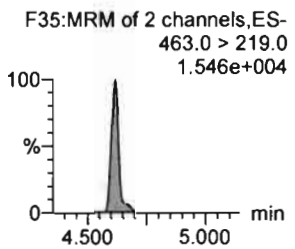
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

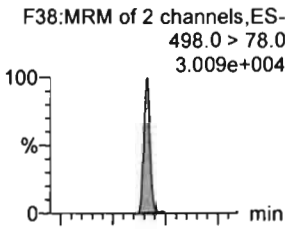
Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

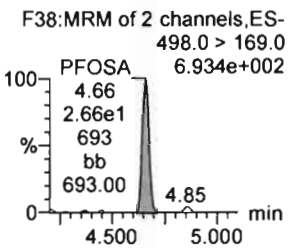
PFNA



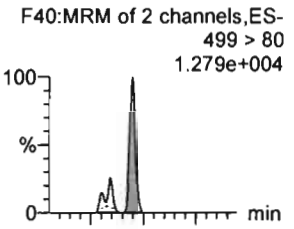


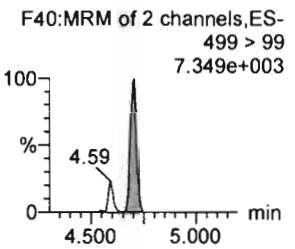
PFOSA



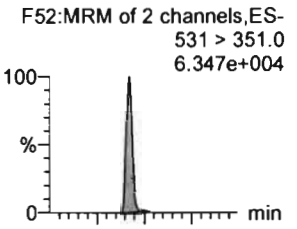


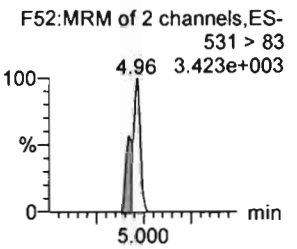
L-PFOS



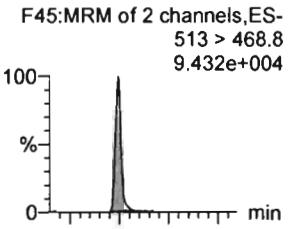


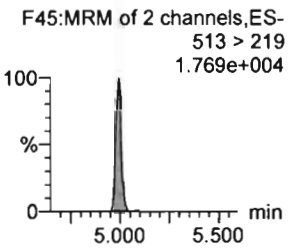
9Cl-PF30NS



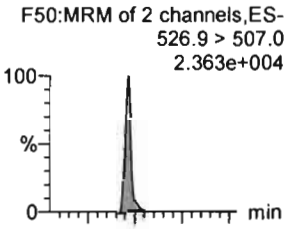


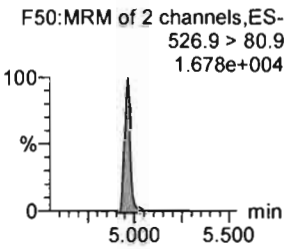
PFDA



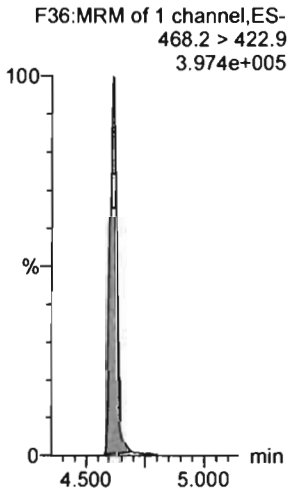


8:2 FTS

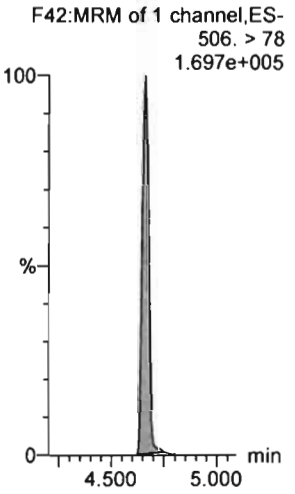




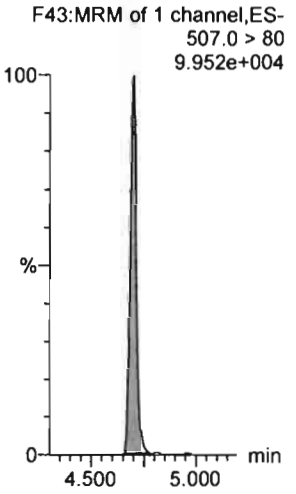
13C5-PFNA-EIS



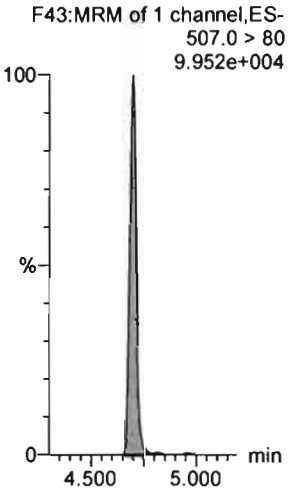
13C8-PFOSA-EIS



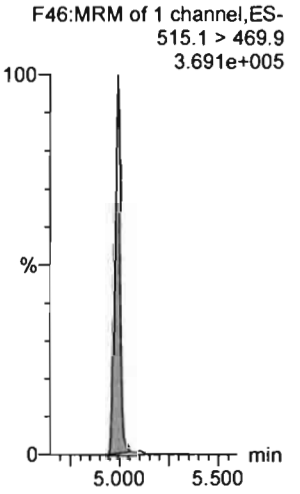
13C8-PFOS-EIS



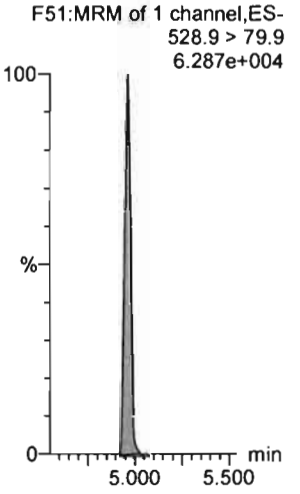
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

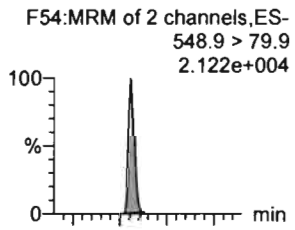


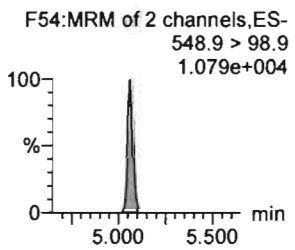
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

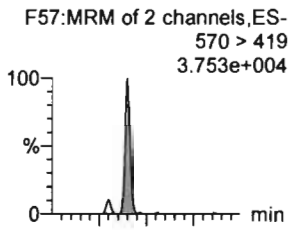
Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

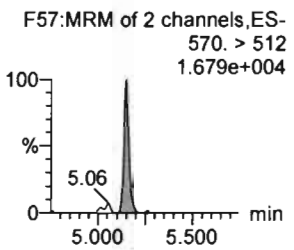
PFNS



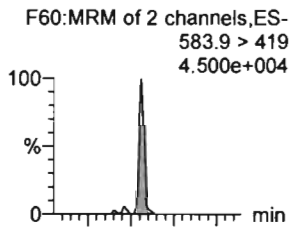


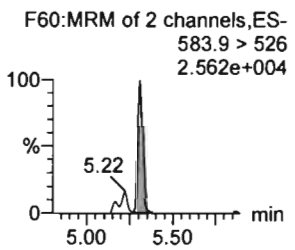
L-MeFOSAA



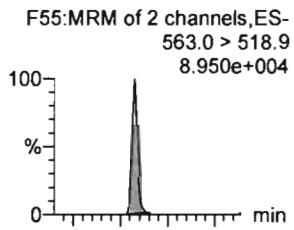


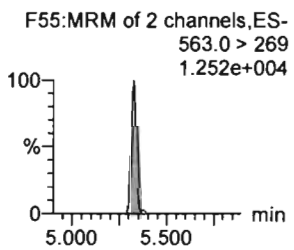
L-EtFOSAA



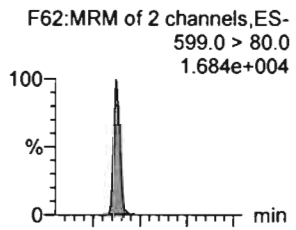


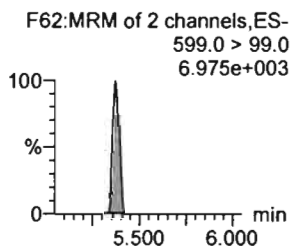
PFUdA



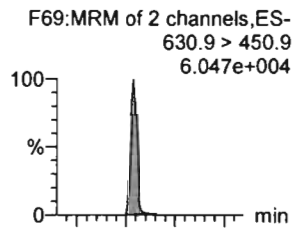


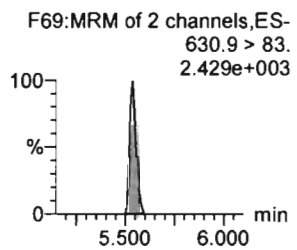
PFDS



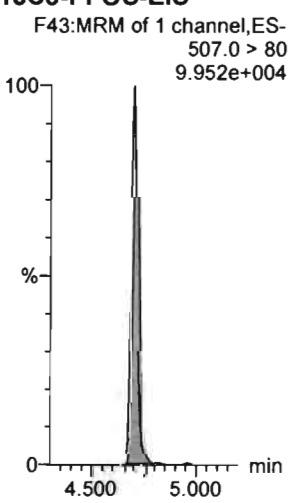


11Cl-PF30UdS

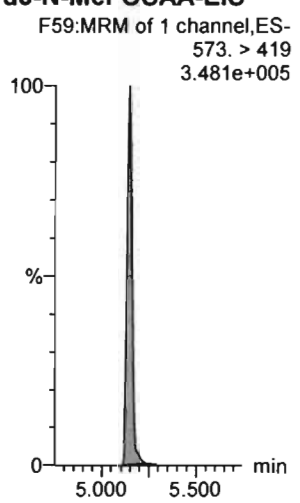




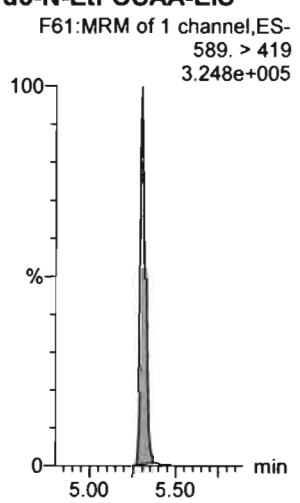
13C8-PFOS-EIS



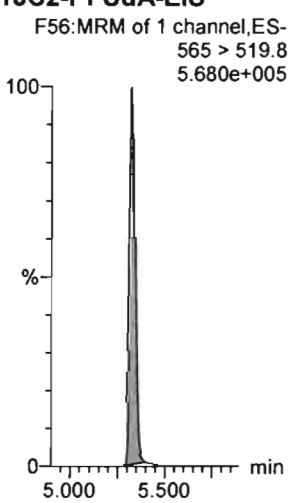
d3-N-MeFOSAA-EIS



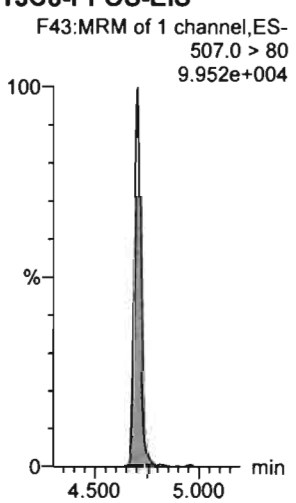
d5-N-EtFOSAA-EIS



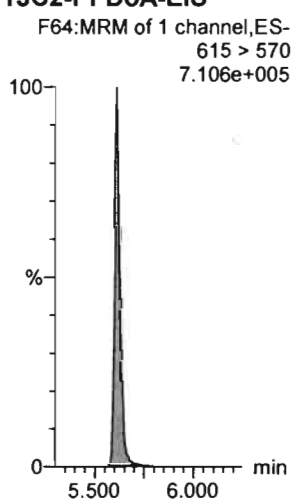
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

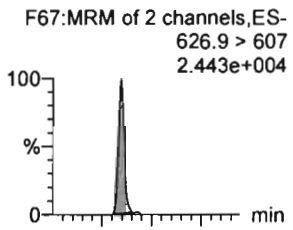


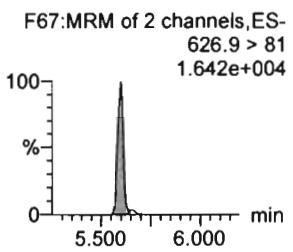
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

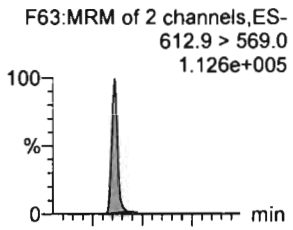
Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

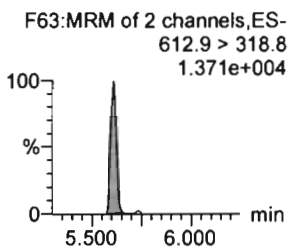
10:2 FTS



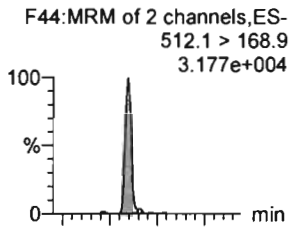


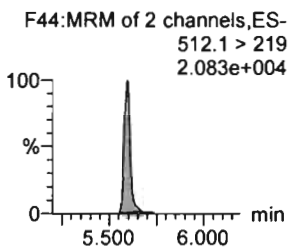
PFDoA



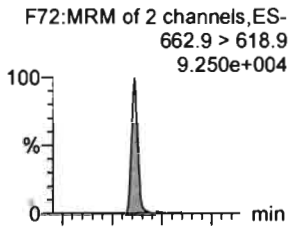


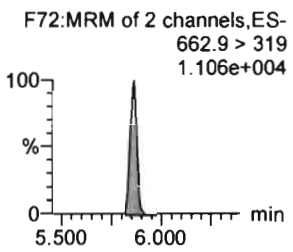
N-MeFOSA



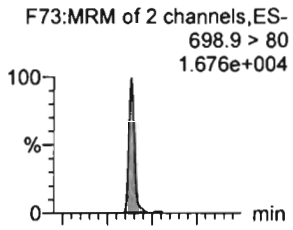


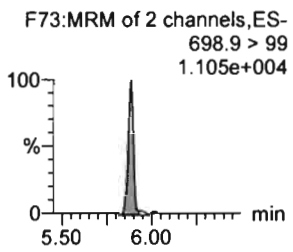
PFTrDA



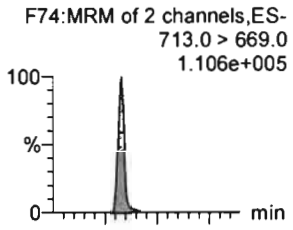


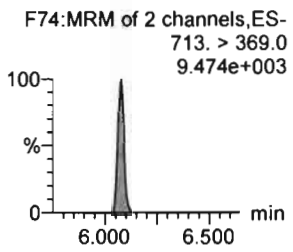
PFDoS



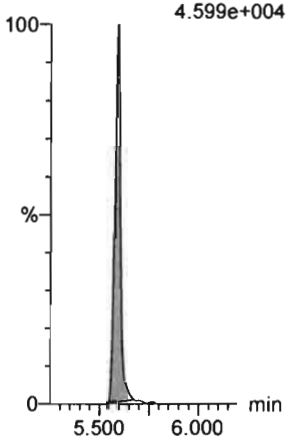


PFTeDA

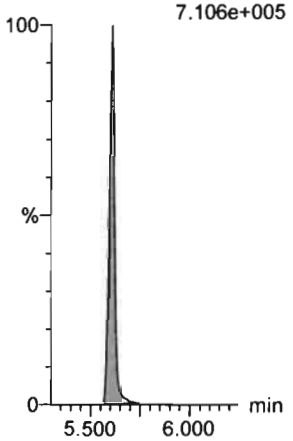




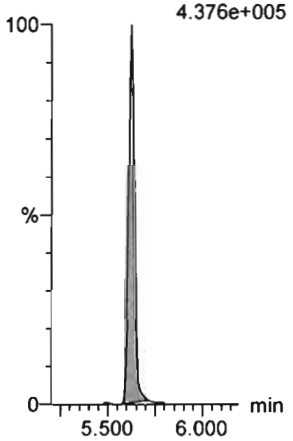
13C2-10:2 FTS-EIS



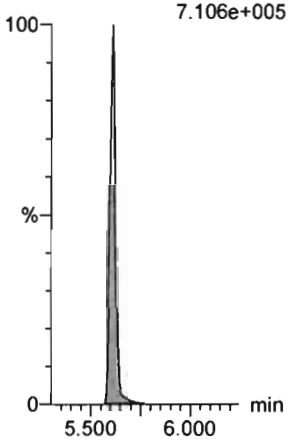
13C2-PFDoA-EIS



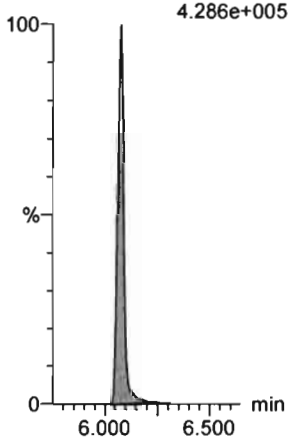
d3-N-MeFOSA-EIS



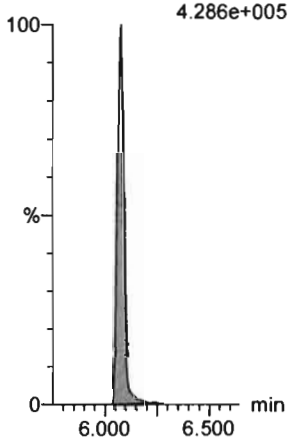
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

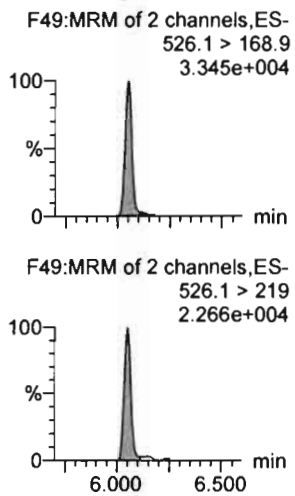


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

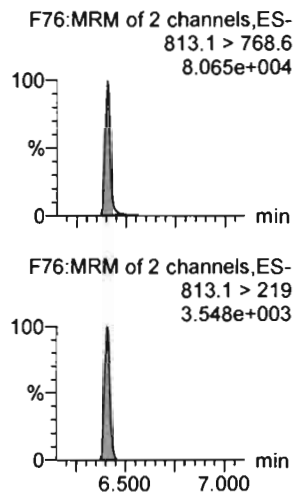
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

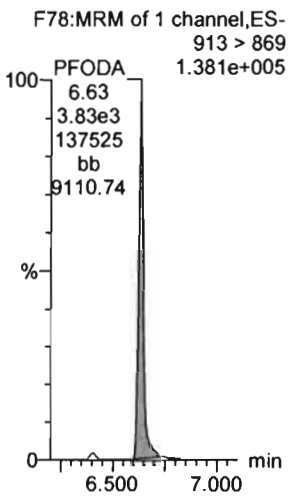
N-EtFOSA



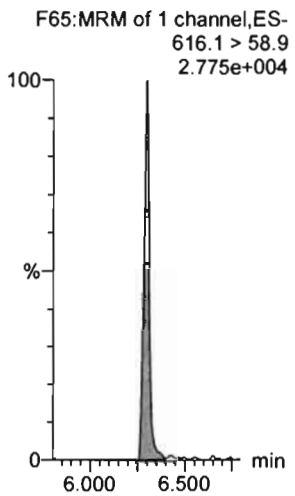
PFHxDA



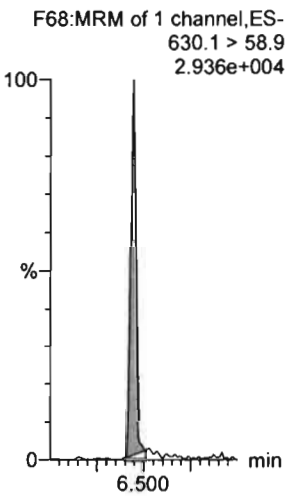
PFODA



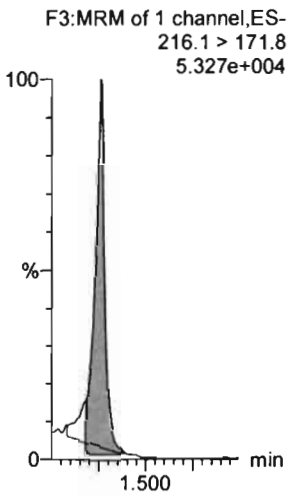
N-MeFOSE



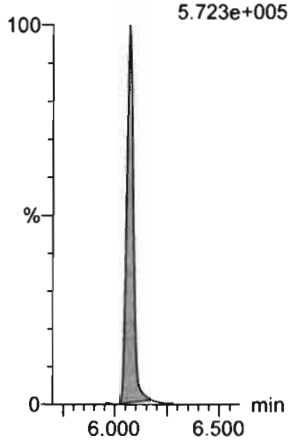
N-EtFOSE



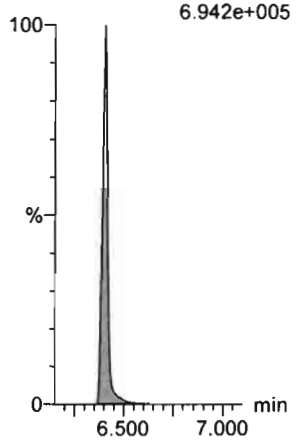
13C3-PFBA-RSD



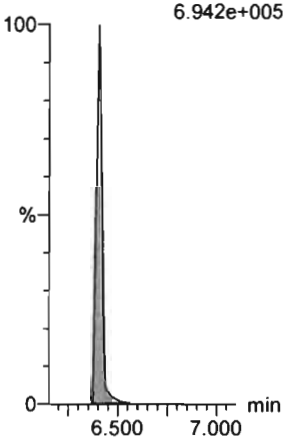
d5-N-ETFOSA-EIS



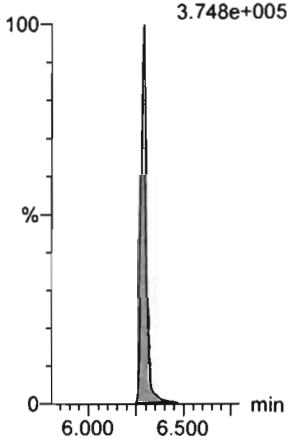
13C2-PFHxDA-EIS



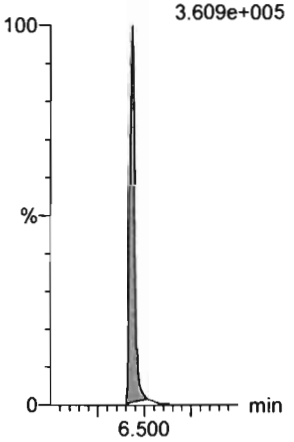
13C2-PFHxDA-EIS



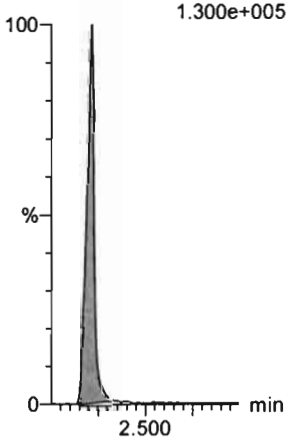
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

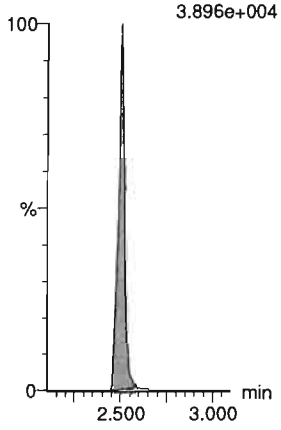


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

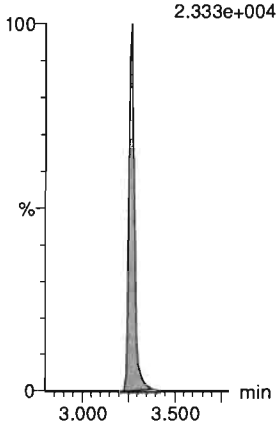
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

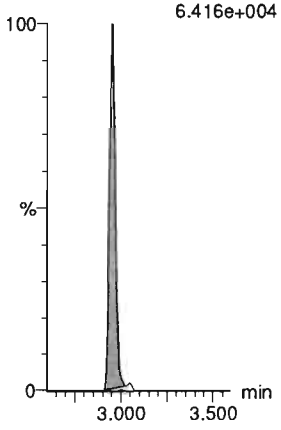
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.896e+004



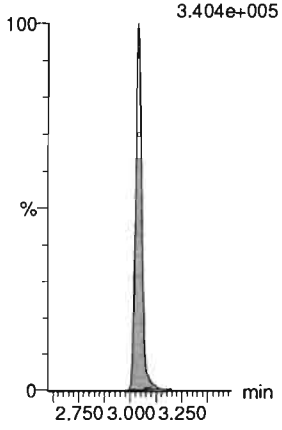
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.333e+004



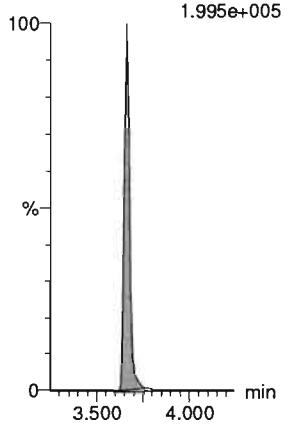
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.416e+004



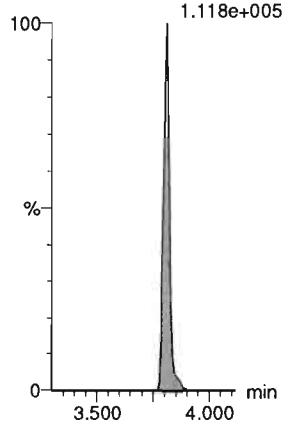
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.404e+005



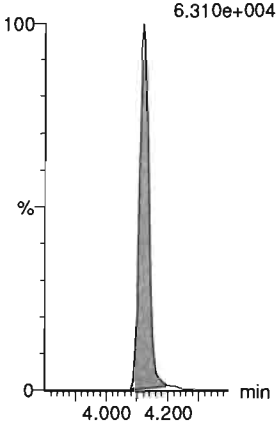
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.995e+005



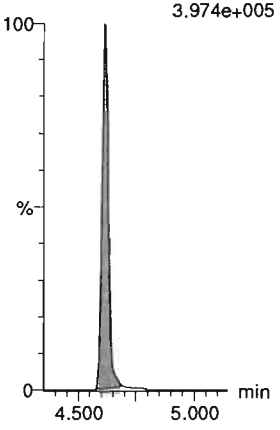
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.118e+005



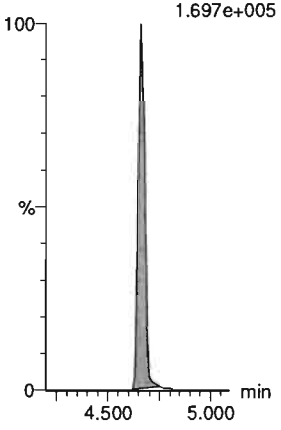
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.310e+004



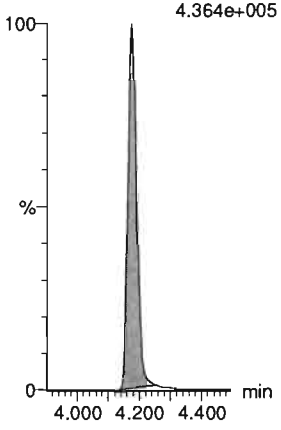
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.974e+005



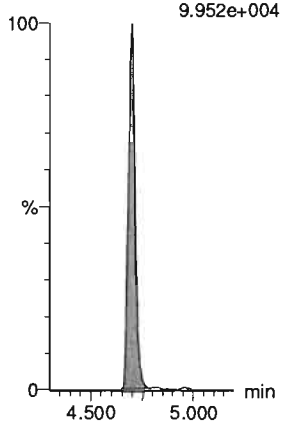
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.697e+005



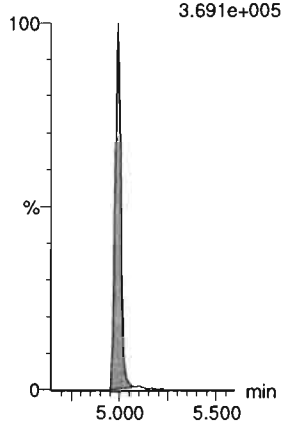
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.364e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
9.952e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.691e+005

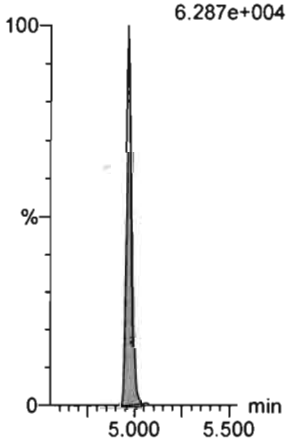


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

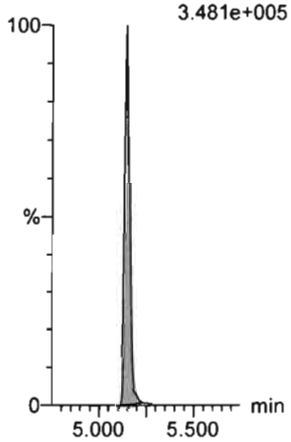
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

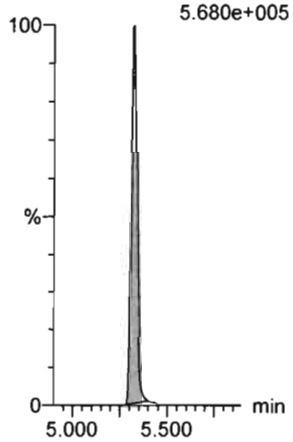
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
6.287e+004



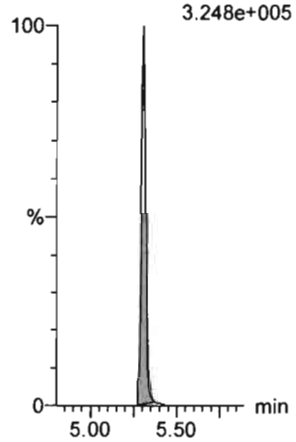
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.481e+005



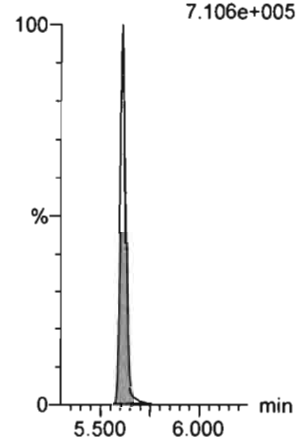
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.680e+005



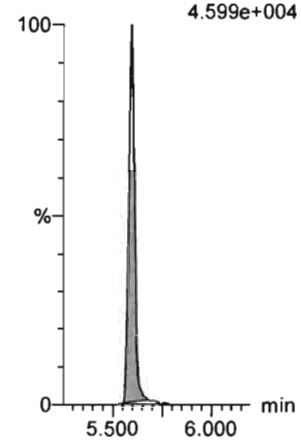
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.248e+005



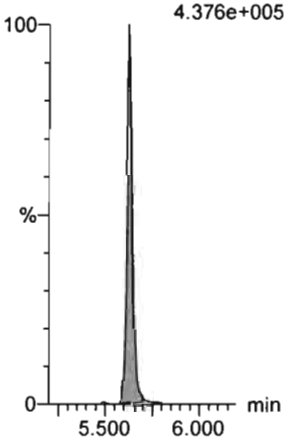
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.106e+005



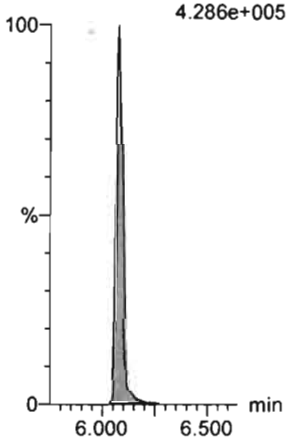
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.599e+004



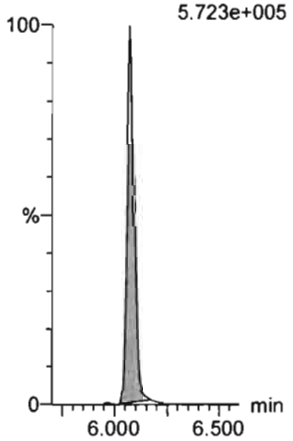
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.376e+005



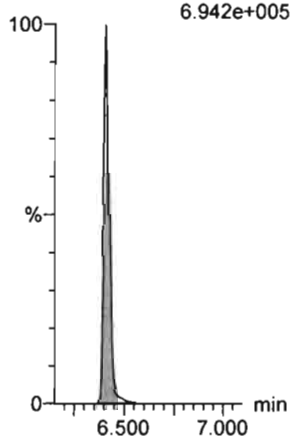
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.286e+005



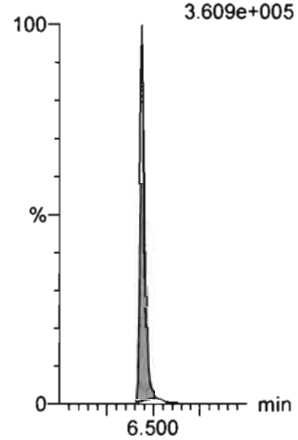
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.723e+005



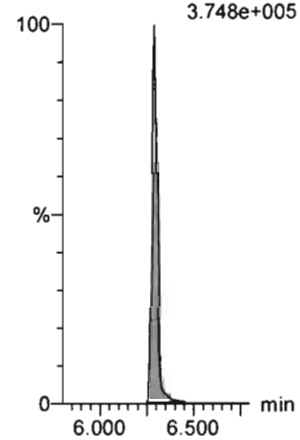
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.942e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.609e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.748e+005

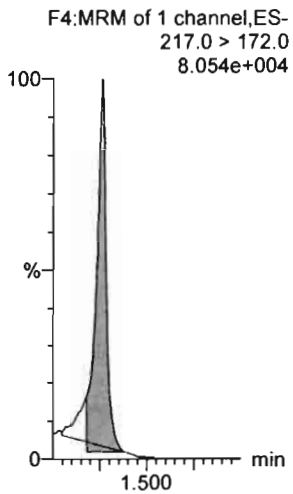


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

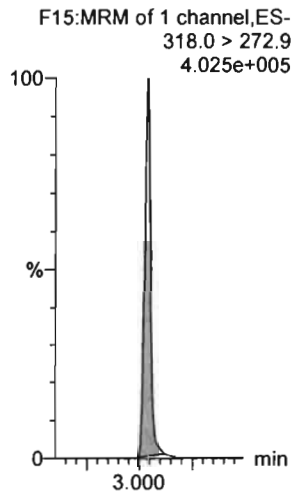
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_6, Date: 13-Jul-2020, Time: 14:46:42, ID: ST200713M1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

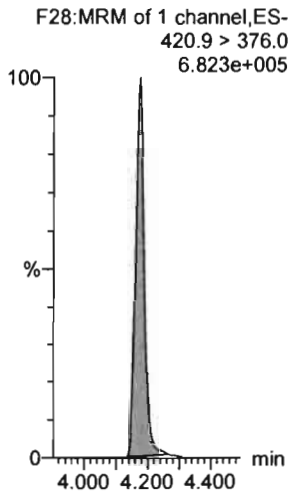
13C4-PFBA



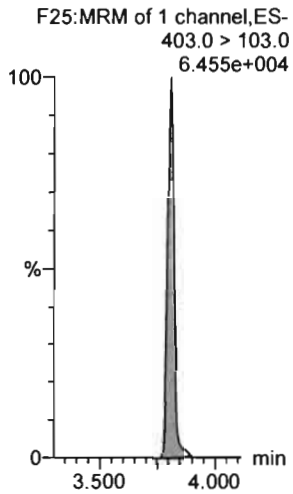
13C5-PFHxA



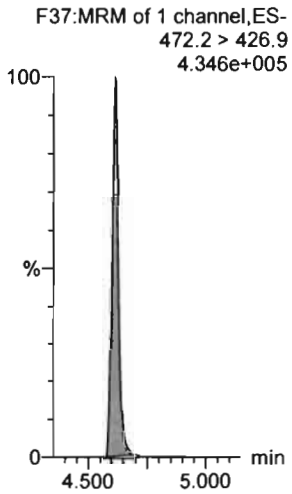
13C8-PFOA



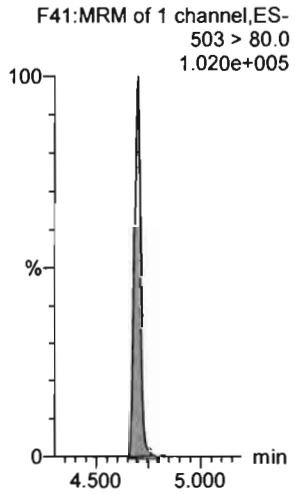
18O2-PFHxS



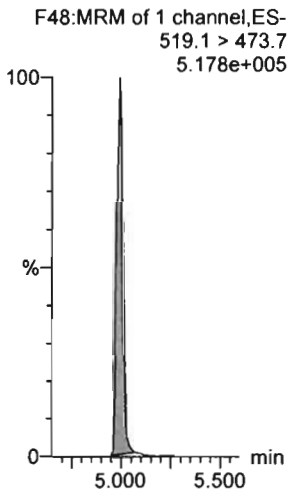
13C9-PFNA



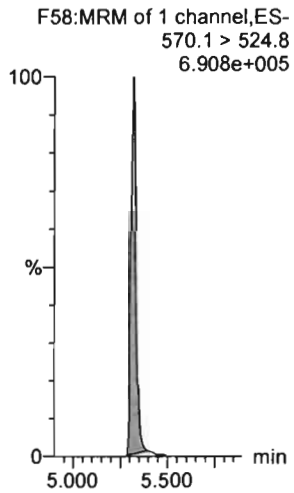
13C4-PFOS



13C6-PFDA



13C7-PFUdA

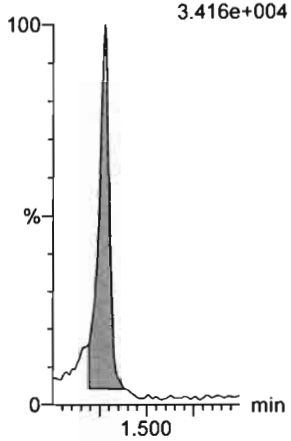


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

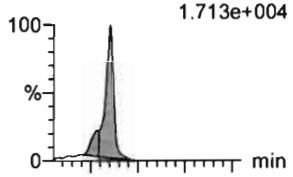
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

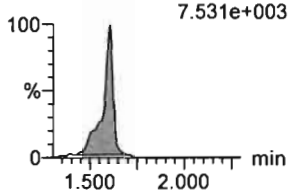
PFBA
F2:MRM of 1 channel,ES-
213.0 > 169.0
3.416e+004



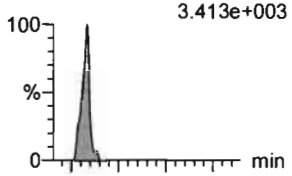
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
1.713e+004



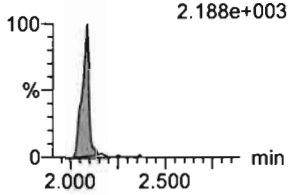
F6:MRM of 2 channels,ES-
248.9 > 98.9
7.531e+003



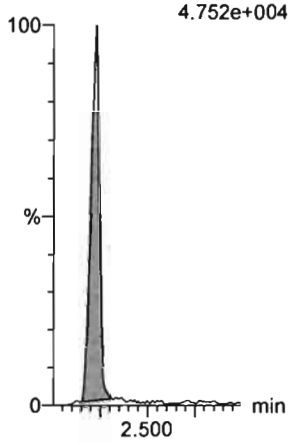
3:3 FTCA
F5:MRM of 2 channels,ES-
241.1 > 177.0
3.413e+003



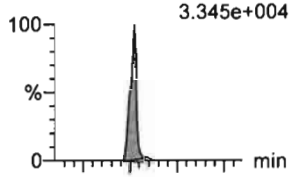
F5:MRM of 2 channels,ES-
241.1 > 117.0
2.188e+003



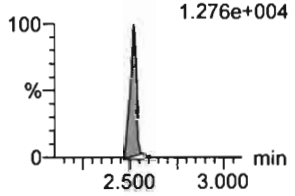
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
4.752e+004



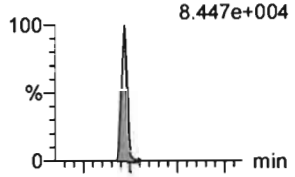
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
3.345e+004



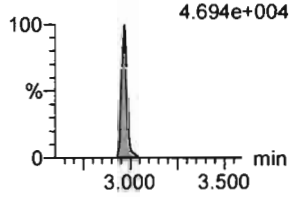
F11:MRM of 2 channels,ES-
299.0 > 99.0
1.276e+004



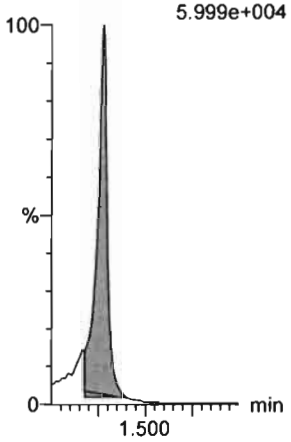
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
8.447e+004



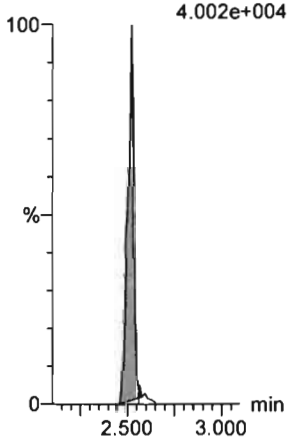
F16:MRM of 2 channels,ES-
327.0 > 80.9
4.694e+004



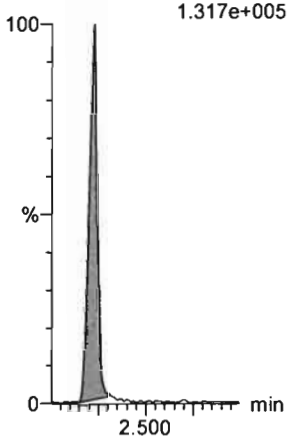
13C3-PFBA-EIS
F3:MRM of 1 channel,ES-
216.1 > 171.8
5.999e+004



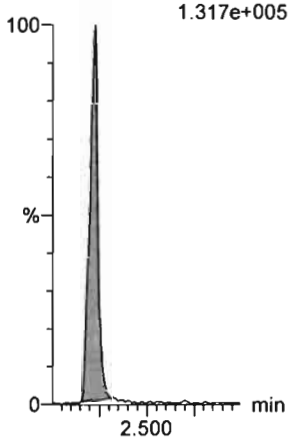
13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.002e+004



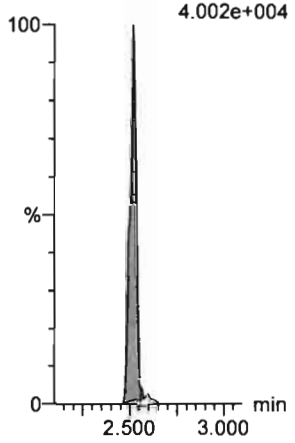
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.317e+005



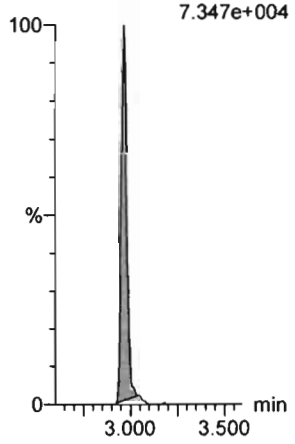
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.317e+005



13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
4.002e+004



13C2-4:2 FTS-EIS
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.347e+004

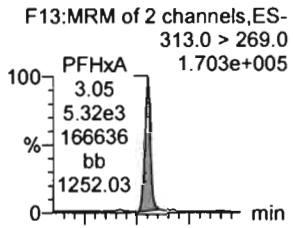


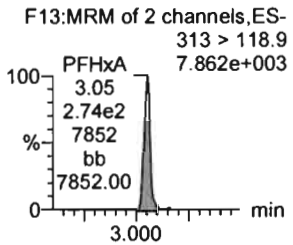
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

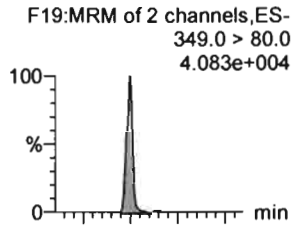
Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

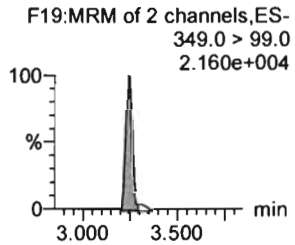
PFHxA



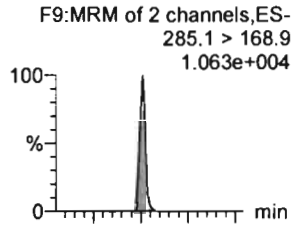


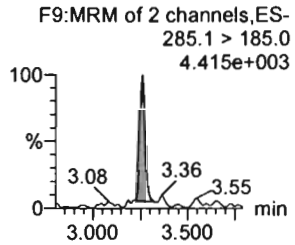
PFPeS



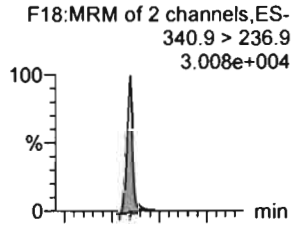


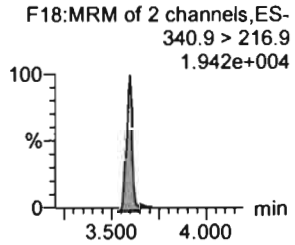
HFPO-DA



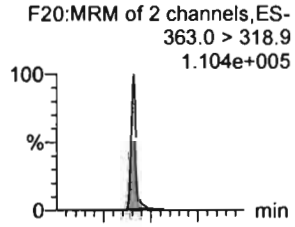


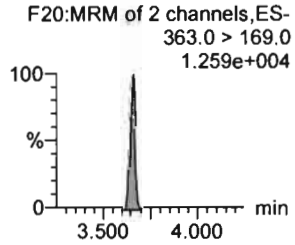
5:3 FTCA



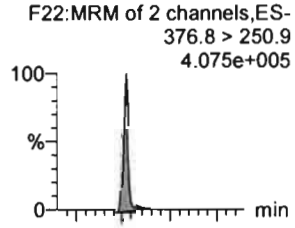


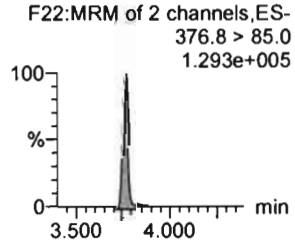
PFHpA



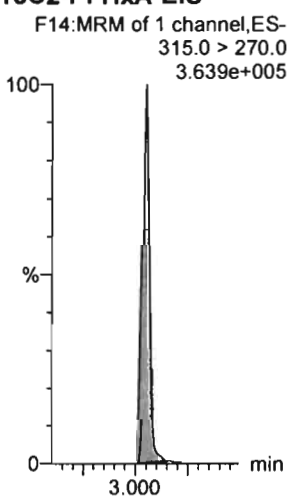


ADONA

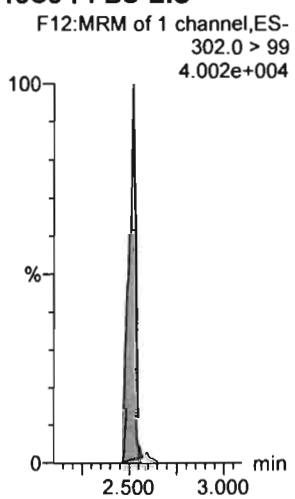




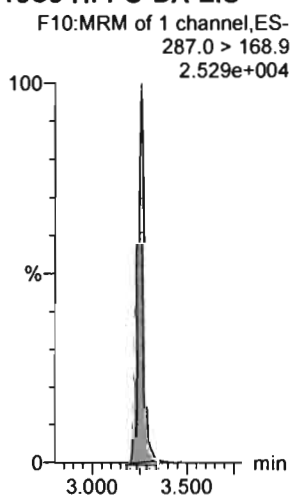
13C2-PFHxA-EIS



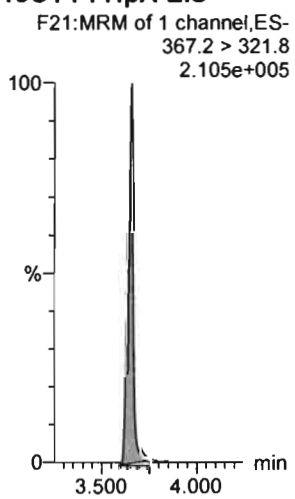
13C3-PFBS-EIS



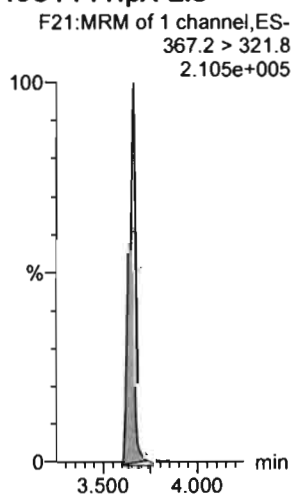
13C3-HFPO-DA-EIS



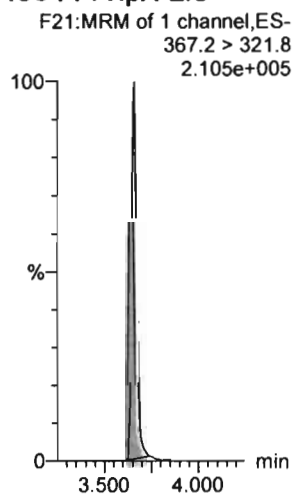
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

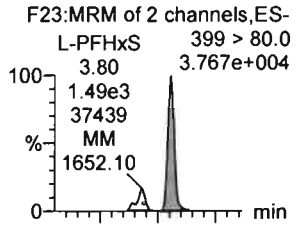


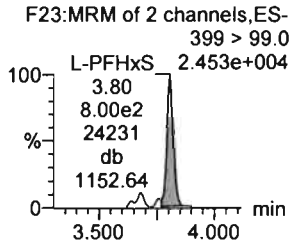
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

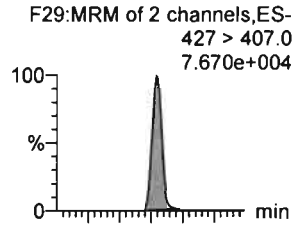
Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

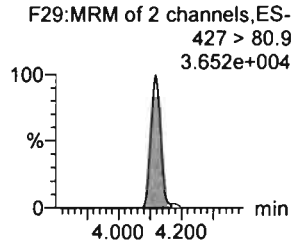
L-PFHxS



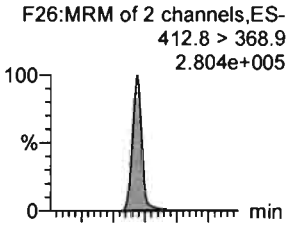


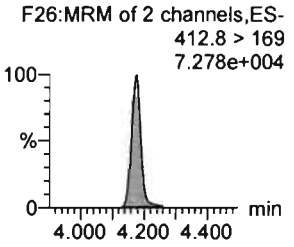
6:2 FTS



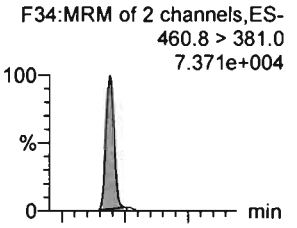


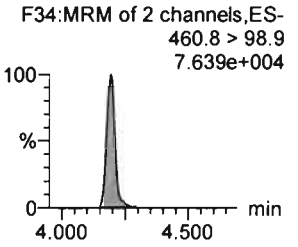
L-PFOA



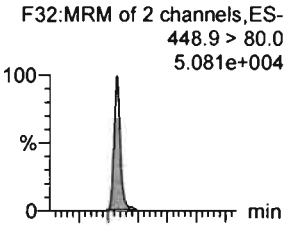


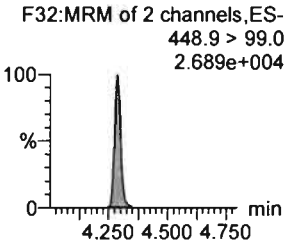
PFEChS



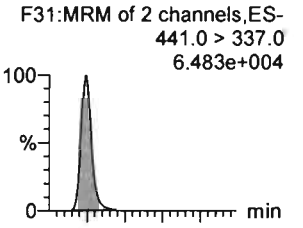


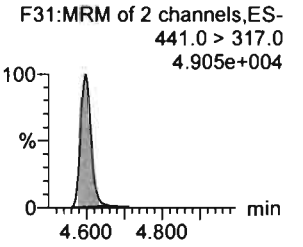
PFHpS



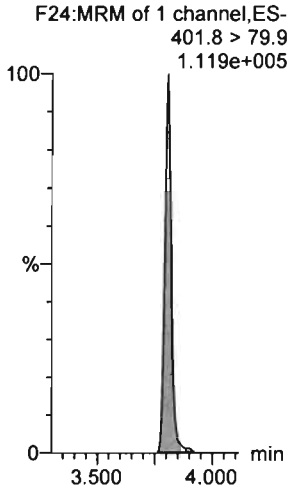


7:3 FTCA

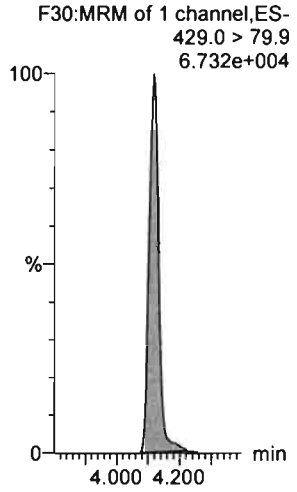




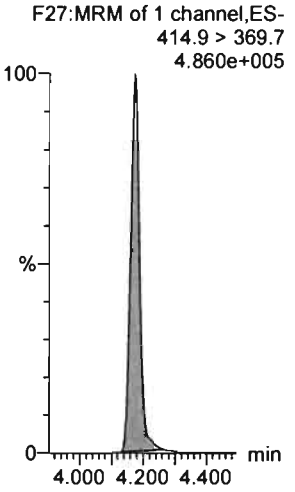
13C3-PFHxS-EIS



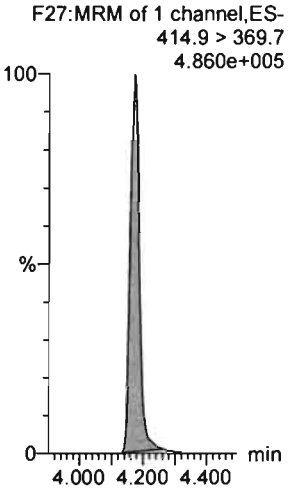
13C2-6:2 FTS-EIS



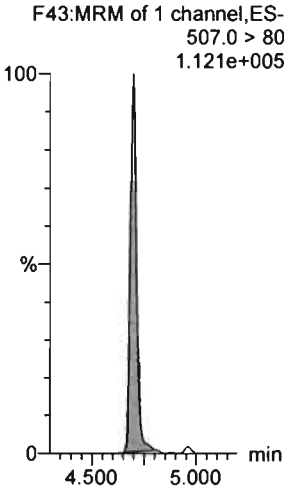
13C2-PFOA-EIS



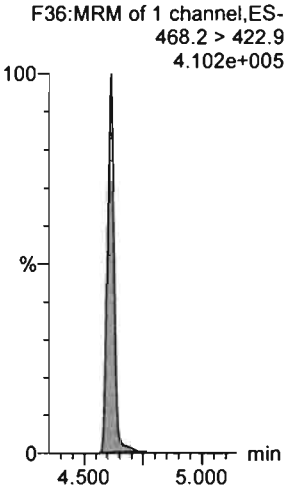
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

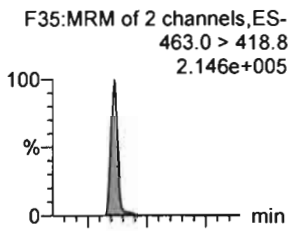


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

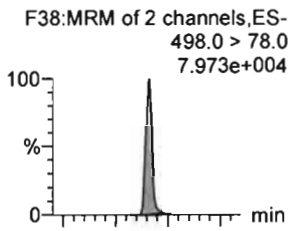
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

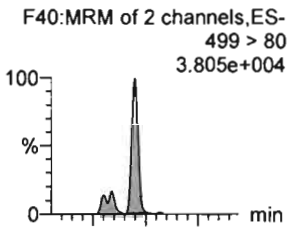
PFNA



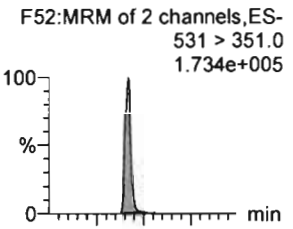
PFOSA



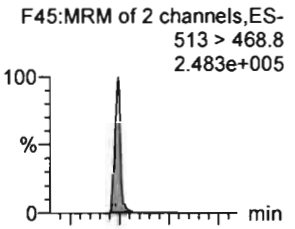
L-PFOS



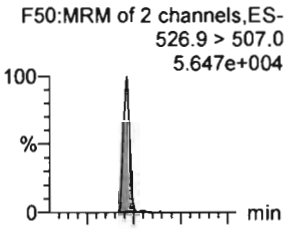
9Cl-PF30NS

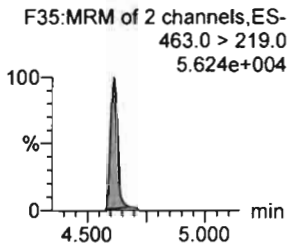


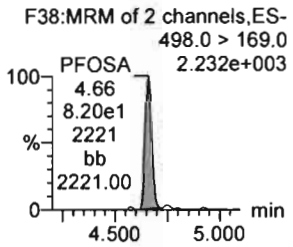
PFDA

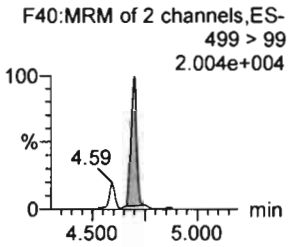


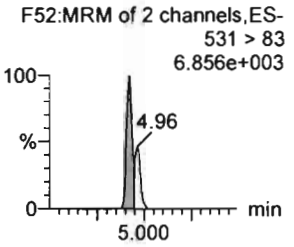
8:2 FTS

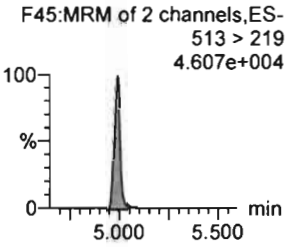


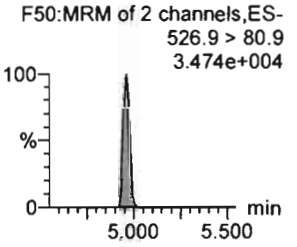




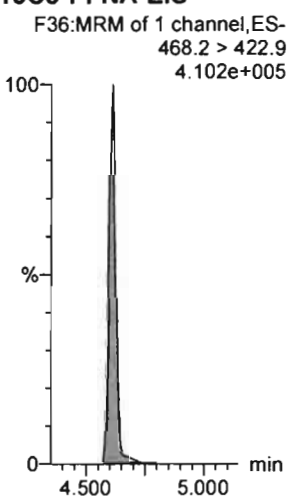




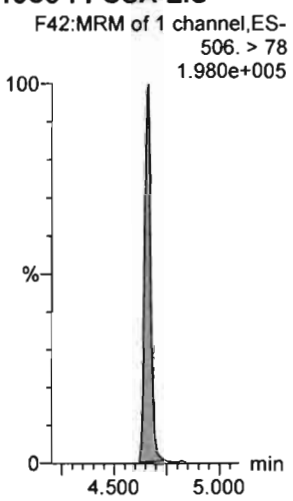




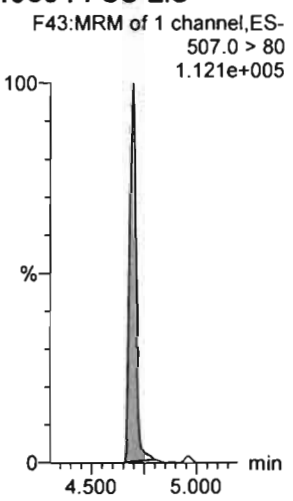
13C5-PFNA-EIS



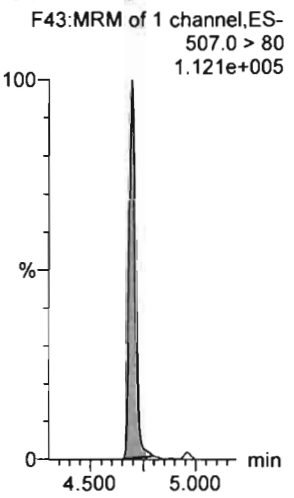
13C8-PFOSA-EIS



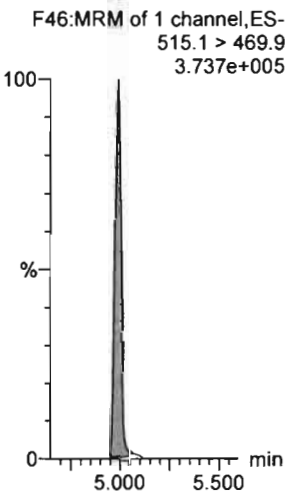
13C8-PFOS-EIS



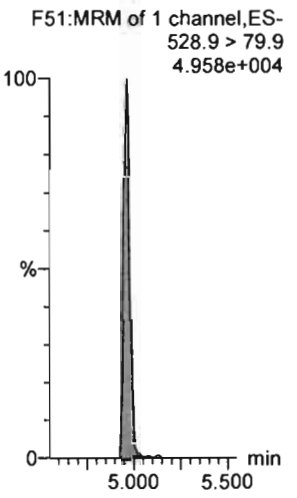
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

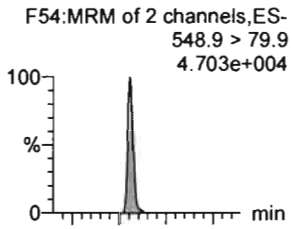


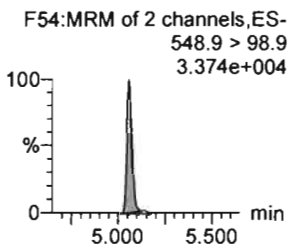
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

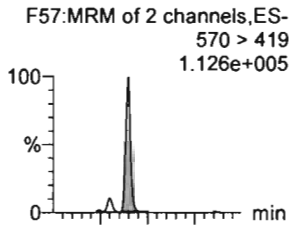
Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

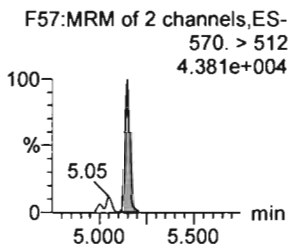
PFNS



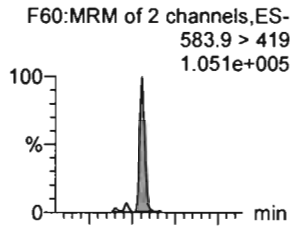


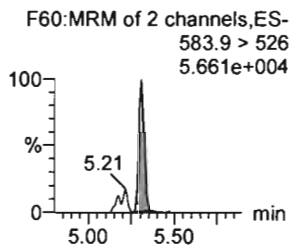
L-MeFOSAA



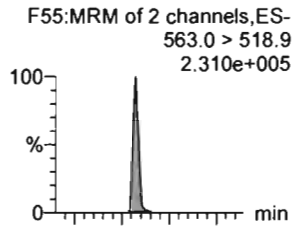


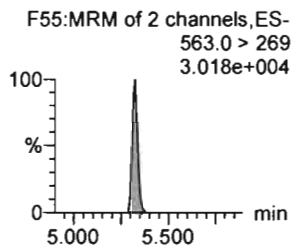
L-EtFOSAA



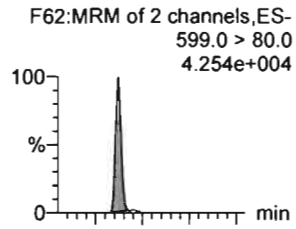


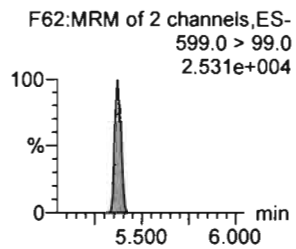
PFUdA



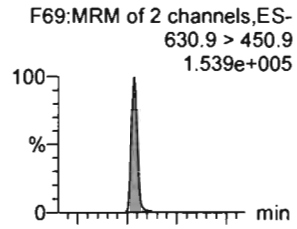


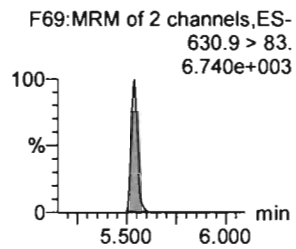
PFDS



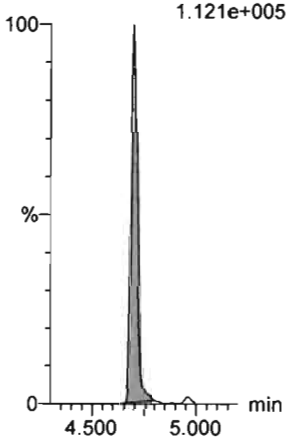


11Cl-PF30UdS

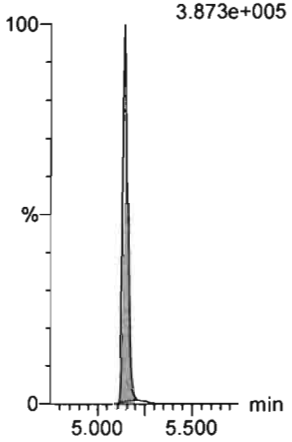




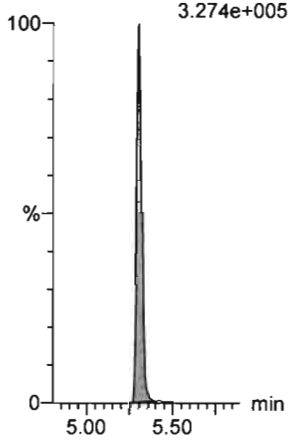
13C8-PFOS-EIS



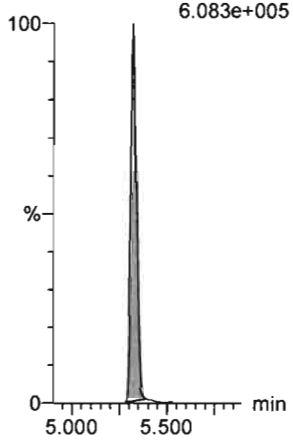
d3-N-MeFOSAA-EIS



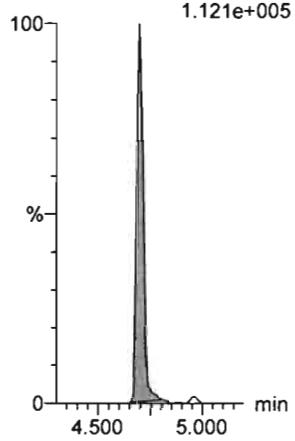
d5-N-EtFOSAA-EIS



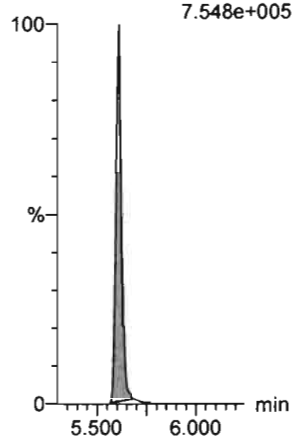
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

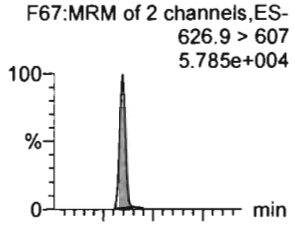


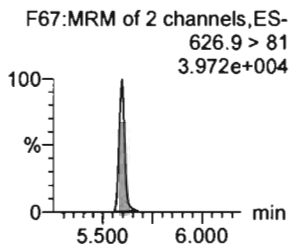
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

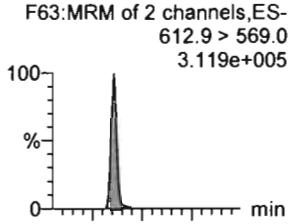
Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

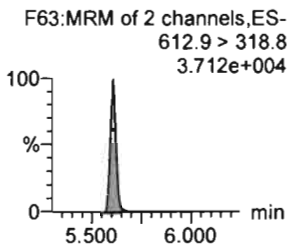
10:2 FTS



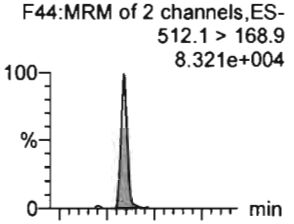


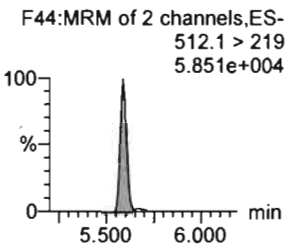
PFDoA



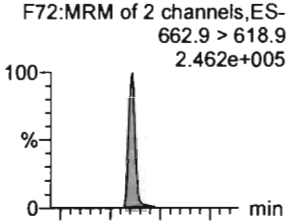


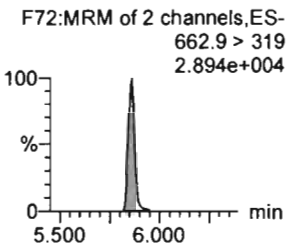
N-MeFOSA



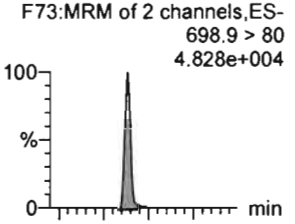


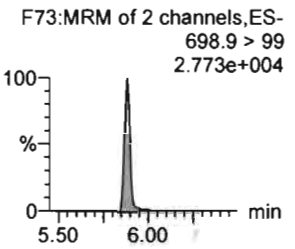
PFTrDA



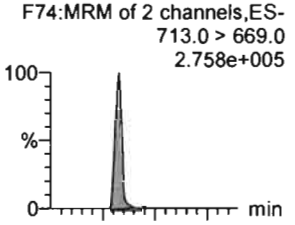


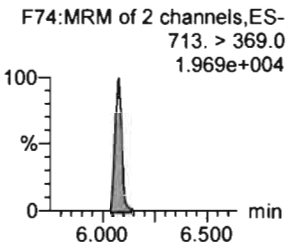
PFDoS



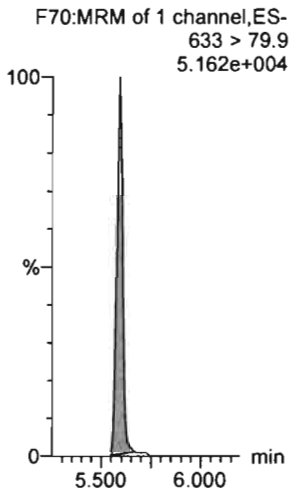


PFTeDA

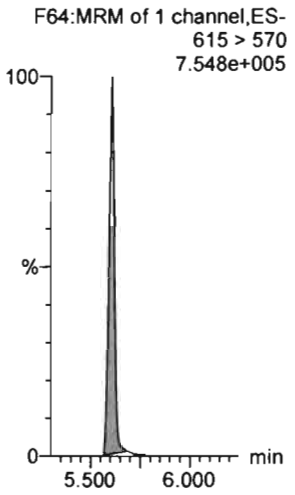




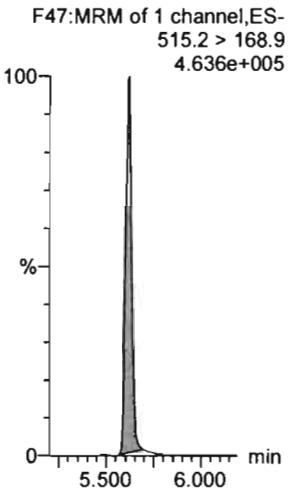
13C2-10:2 FTS-EIS



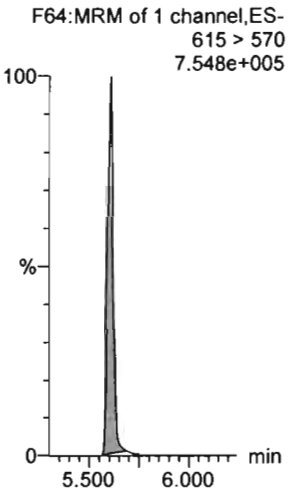
13C2-PFDoA-EIS



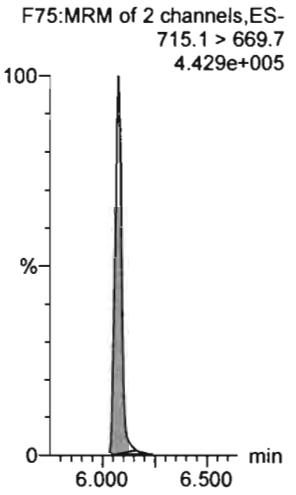
d3-N-MeFOSA-EIS



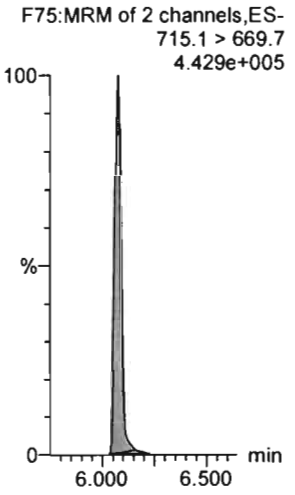
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

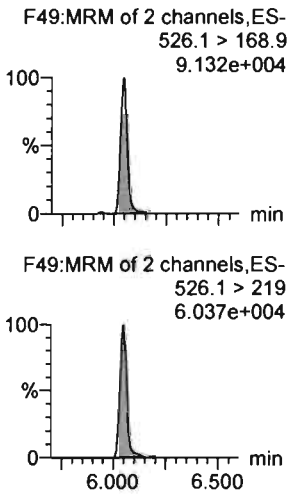


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

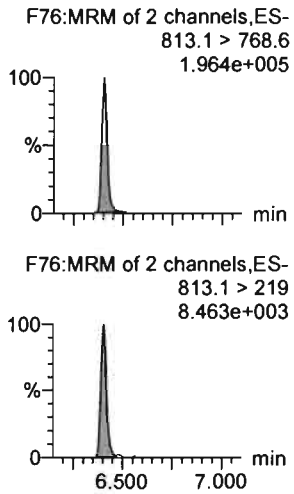
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

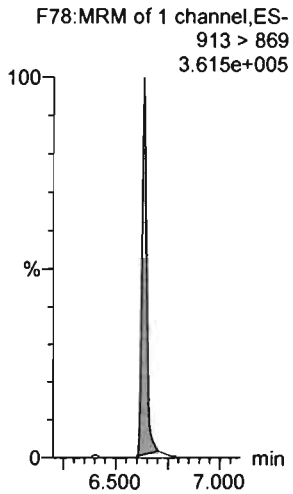
N-EtFOSA



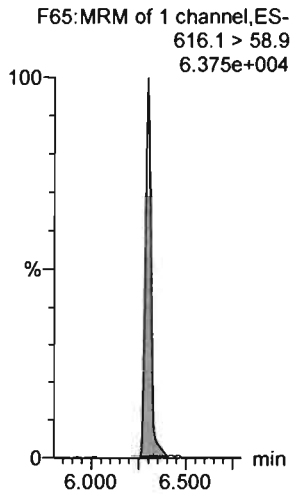
PFHxDA



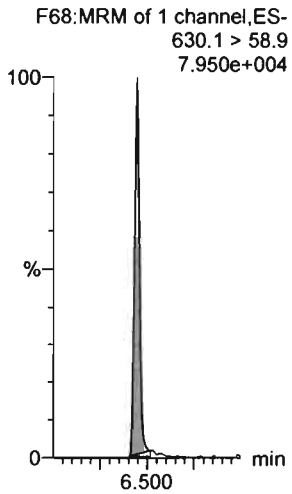
PFODA



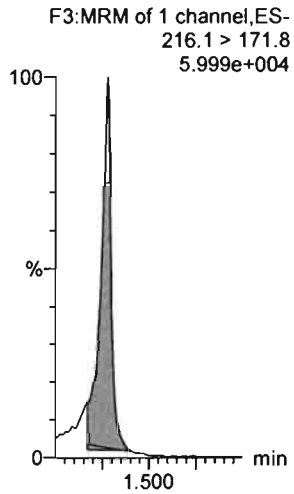
N-MeFOSE



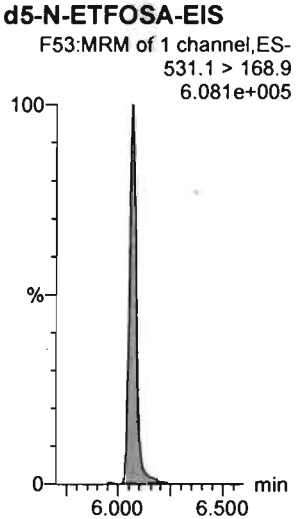
N-EtFOSE



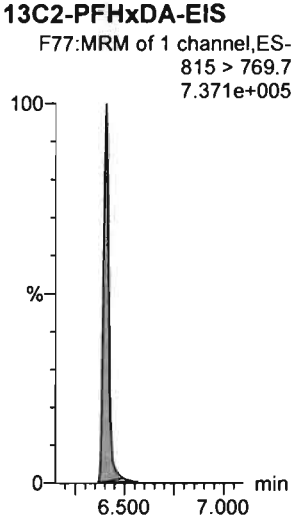
13C3-PFBA-RSD



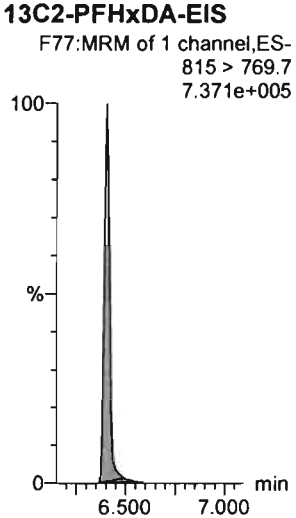
d5-N-ETFOSA-EIS



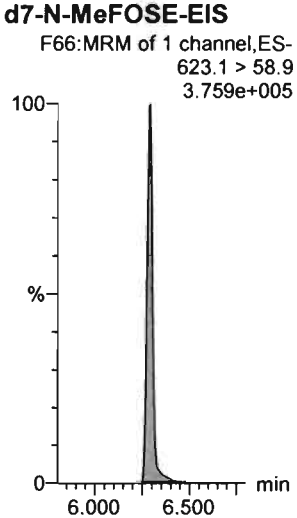
13C2-PFHxDA-EIS



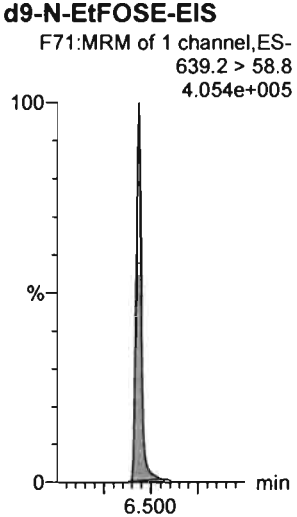
13C2-PFHxDA-EIS



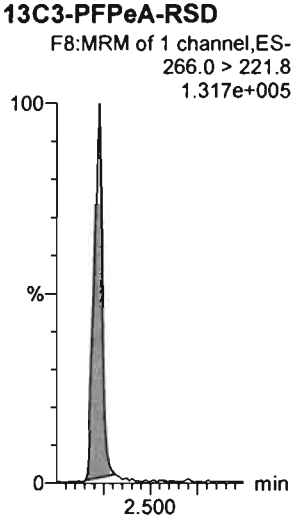
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

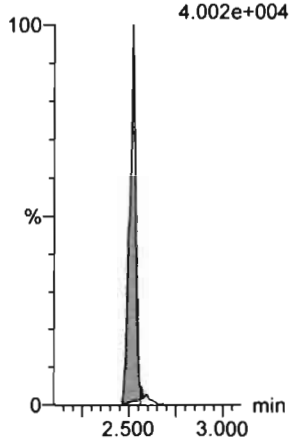


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

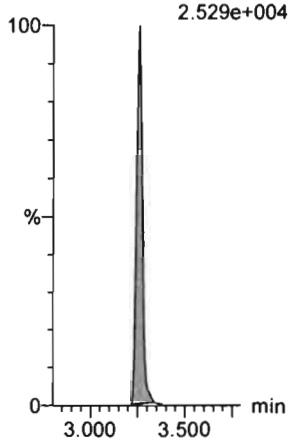
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

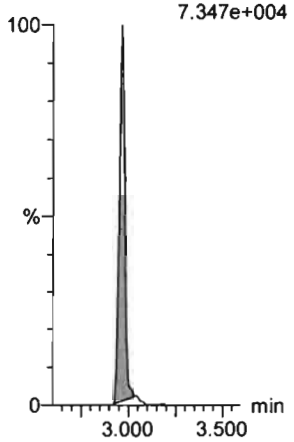
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
4.002e+004



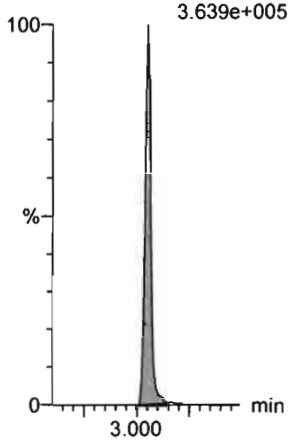
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.529e+004



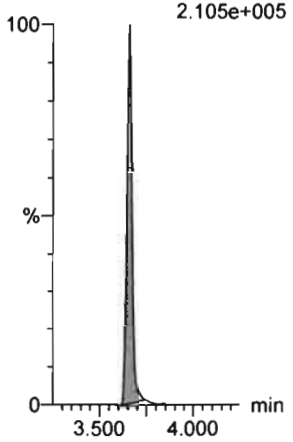
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.347e+004



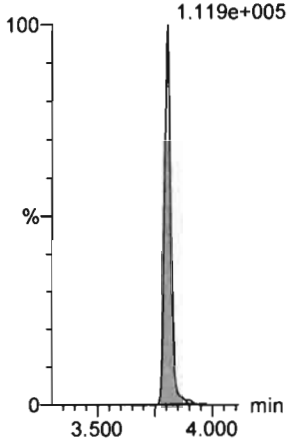
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.639e+005



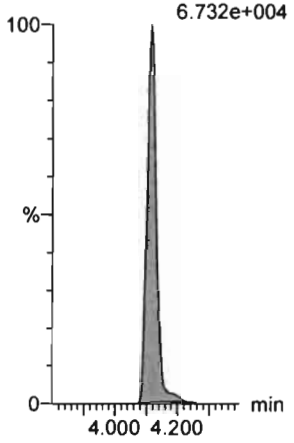
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.105e+005



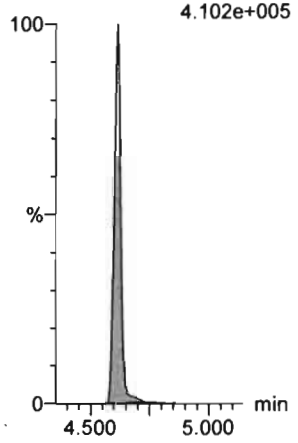
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.119e+005



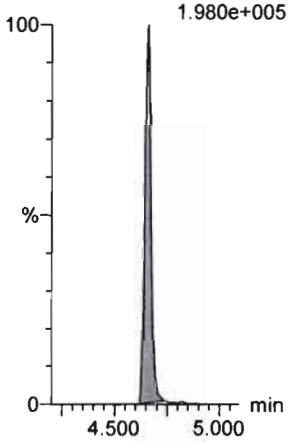
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.732e+004



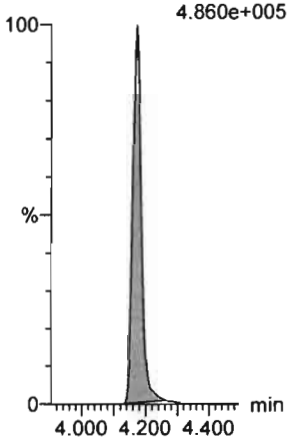
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.102e+005



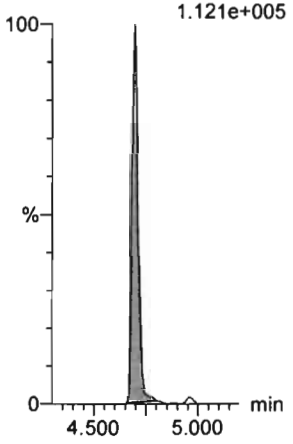
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.980e+005



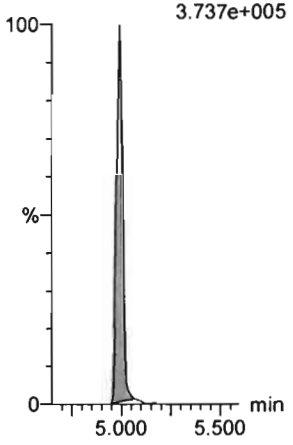
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.860e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.121e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.737e+005

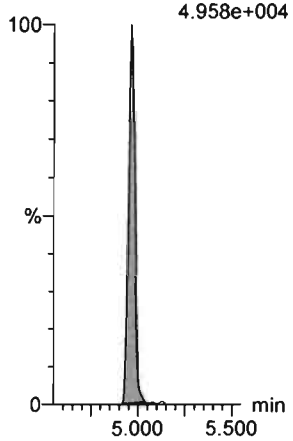


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

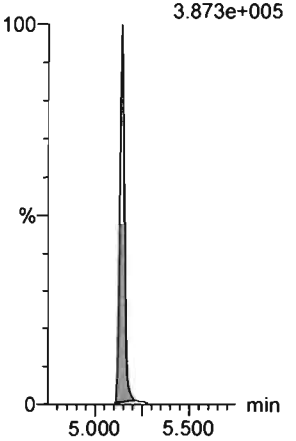
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

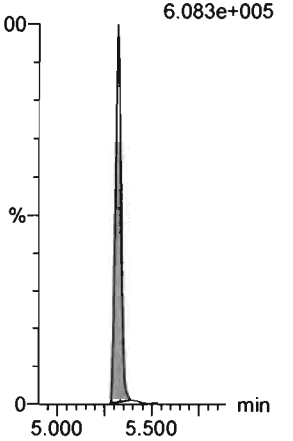
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
4.958e+004



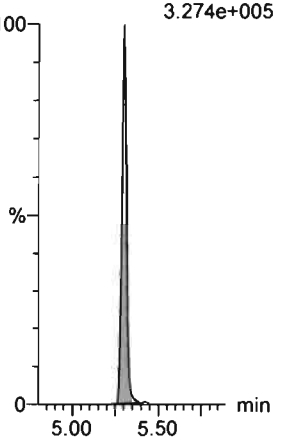
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.873e+005



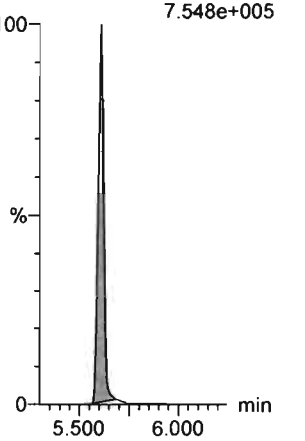
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.083e+005



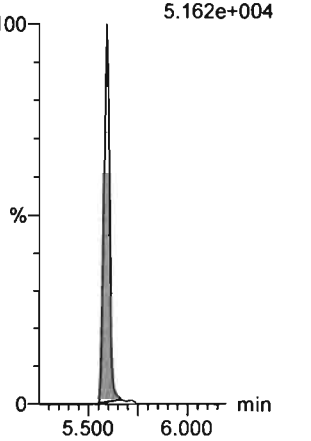
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.274e+005



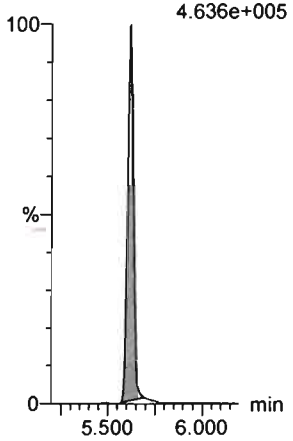
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.548e+005



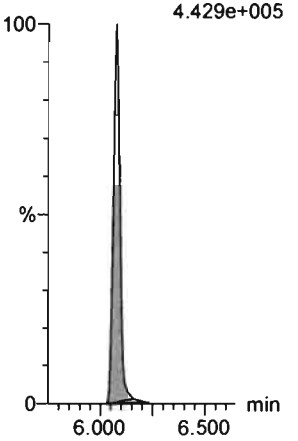
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
5.162e+004



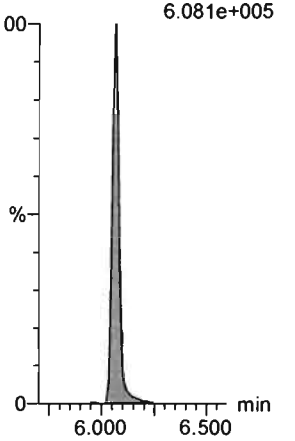
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.636e+005



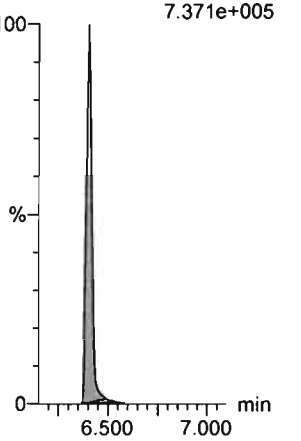
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.429e+005



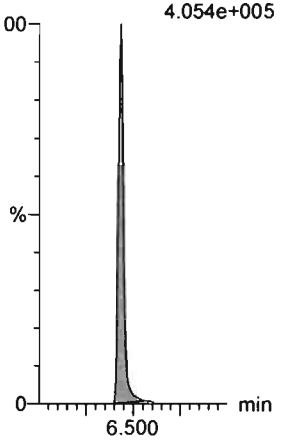
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.081e+005



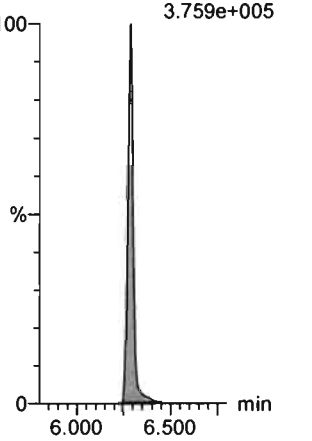
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.371e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.054e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.759e+005

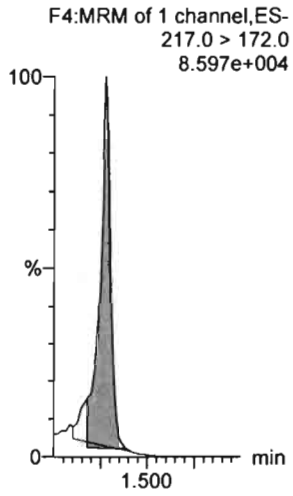


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

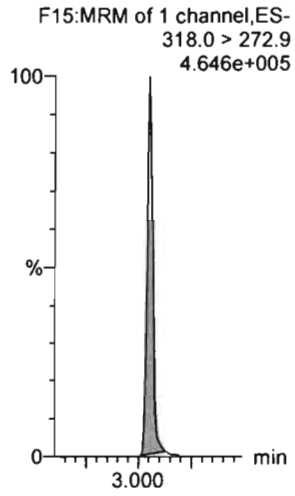
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_7, Date: 13-Jul-2020, Time: 14:58:03, ID: ST200713M1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

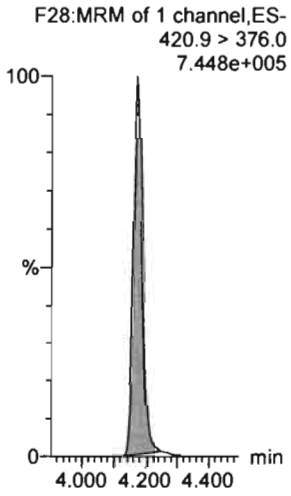
13C4-PFBA



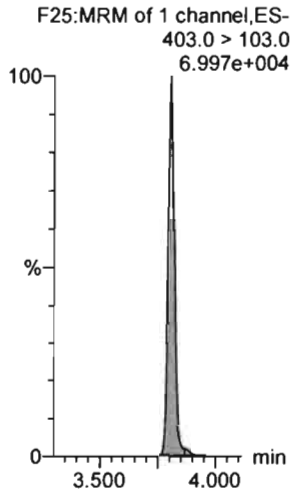
13C5-PFHxA



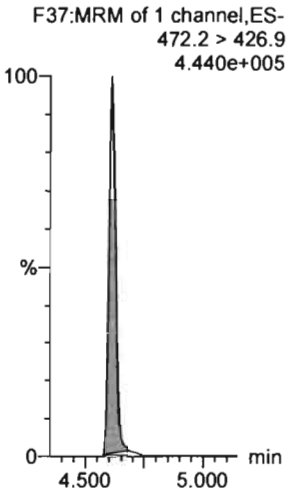
13C8-PFOA



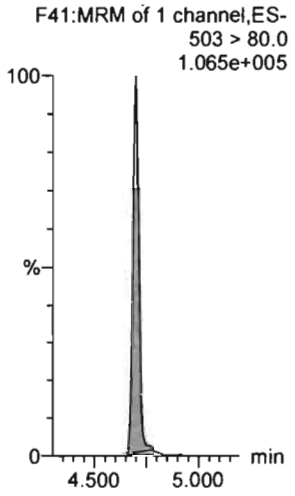
18O2-PFHxS



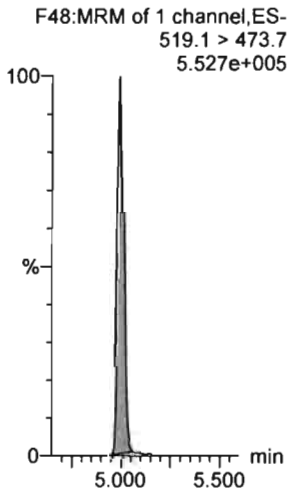
13C9-PFNA



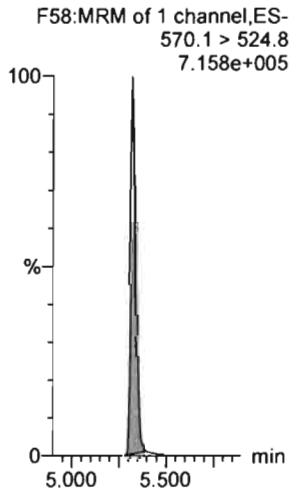
13C4-PFOS



13C6-PFDA



13C7-PFUdA

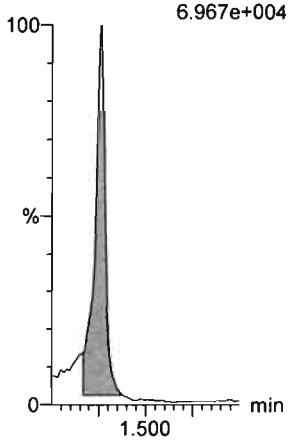


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

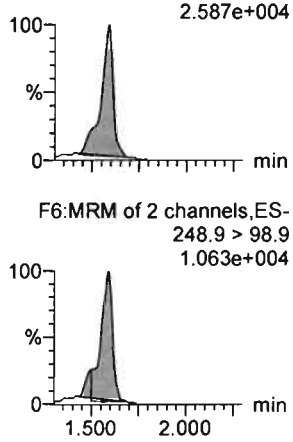
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

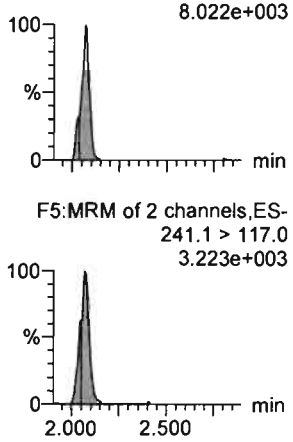
PFBA



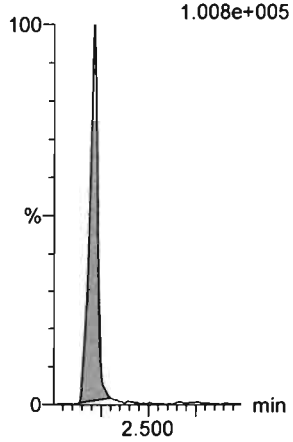
PFPrS



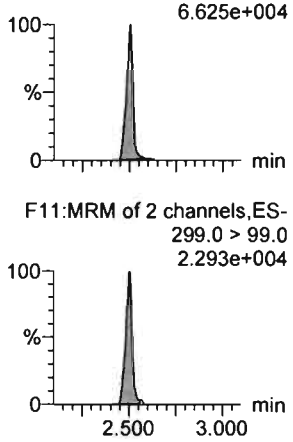
3:3 FTCA



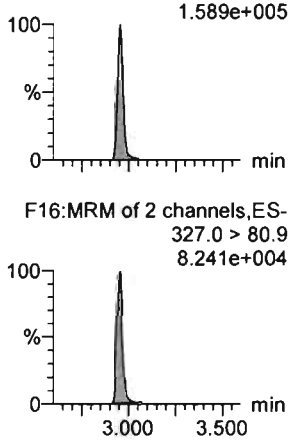
PFPeA



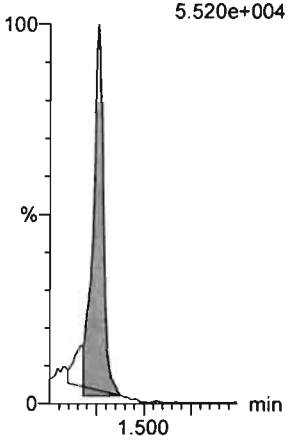
PFBS



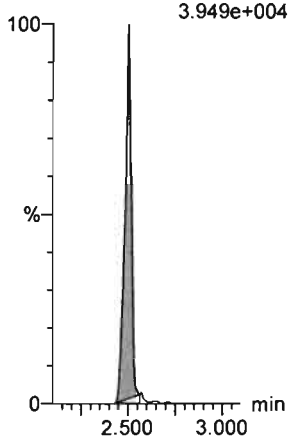
4:2 FTS



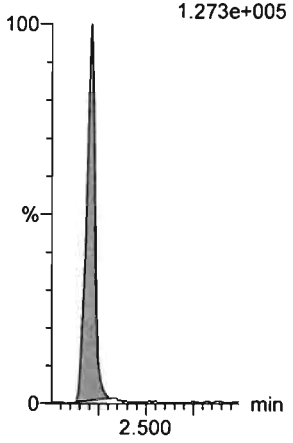
13C3-PFBA-EIS



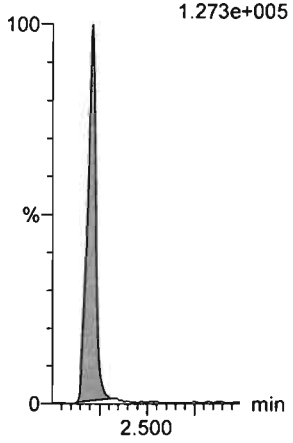
13C3-PFBS-EIS



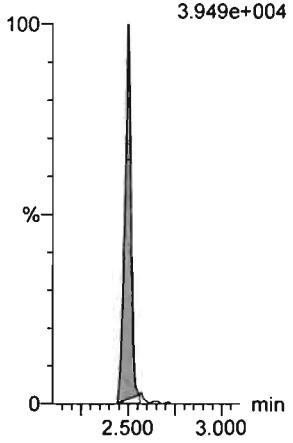
13C3-PFPeA-EIS



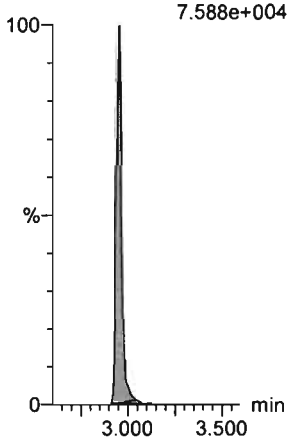
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

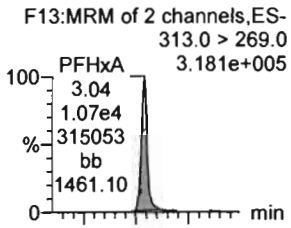


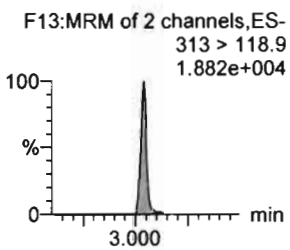
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

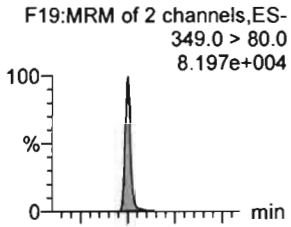
Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

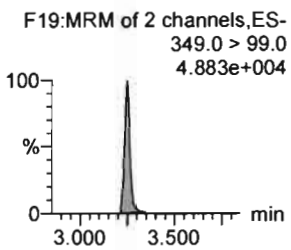
PFHxA



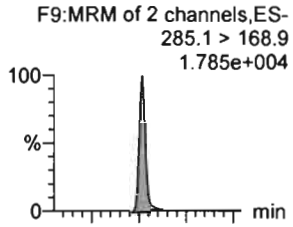


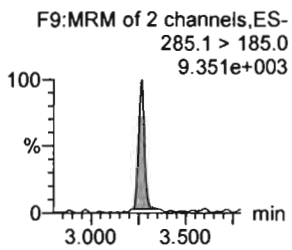
PFPeS



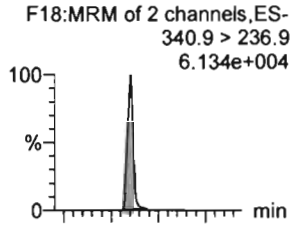


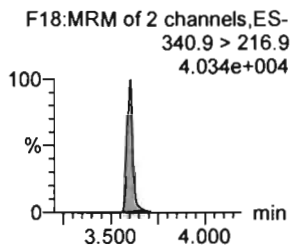
HFPO-DA



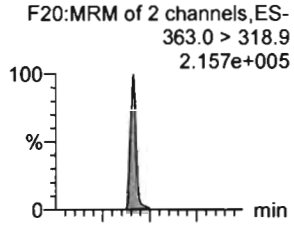


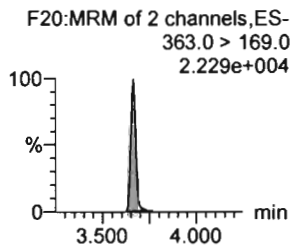
5:3 FTCA



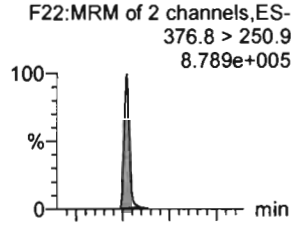


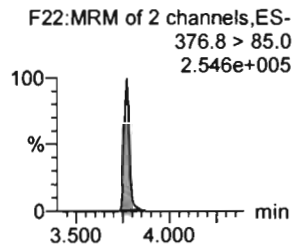
PFHpA



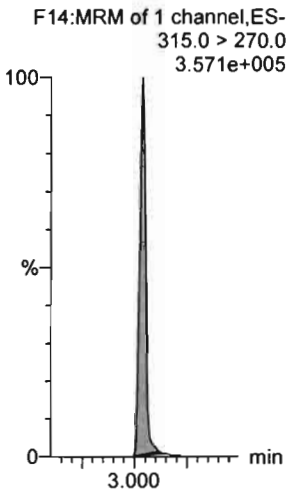


ADONA

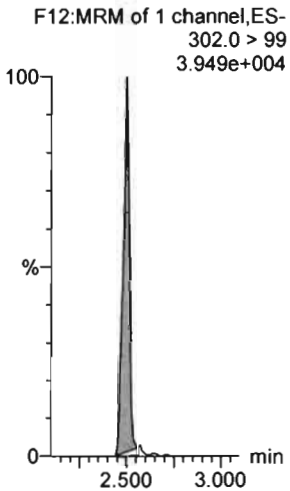




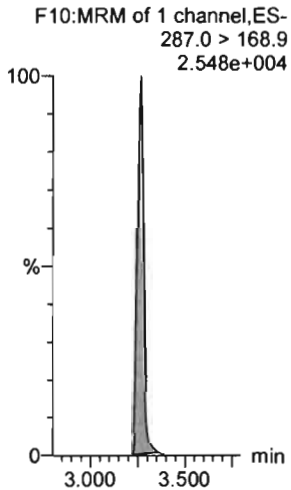
13C2-PFHxA-EIS



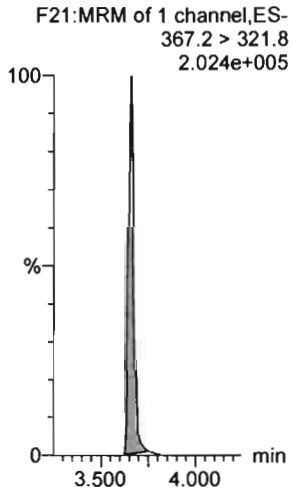
13C3-PFBS-EIS



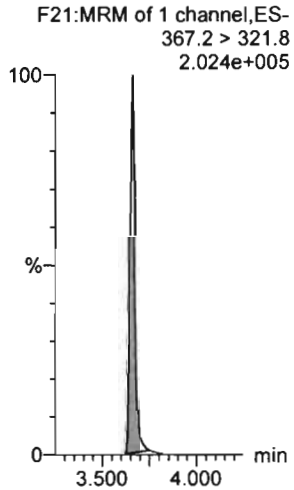
13C3-HFPO-DA-EIS



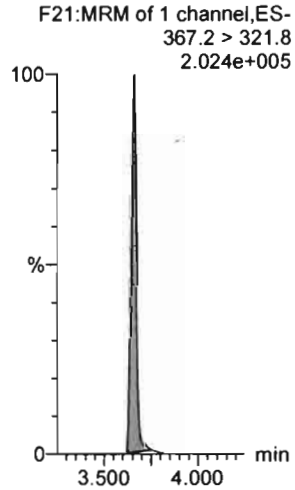
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

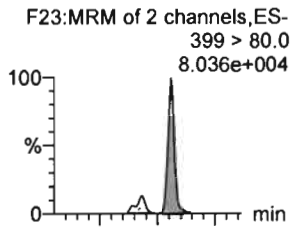


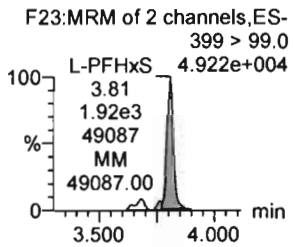
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

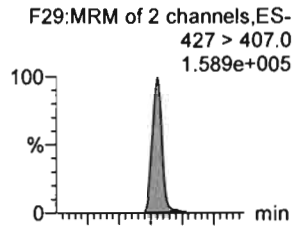
Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

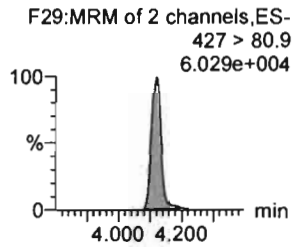
L-PFHxS



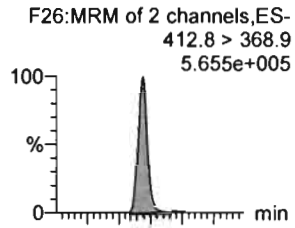


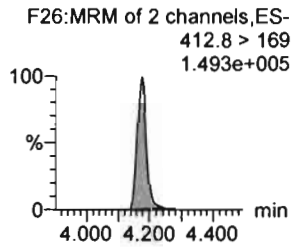
6:2 FTS



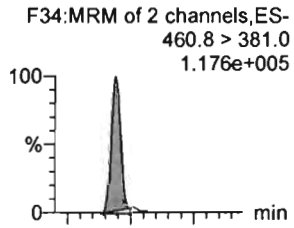


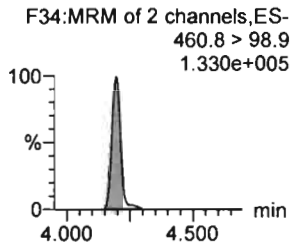
L-PFOA



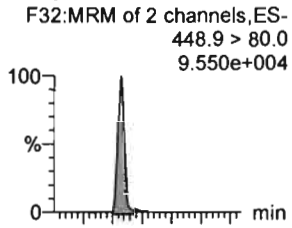


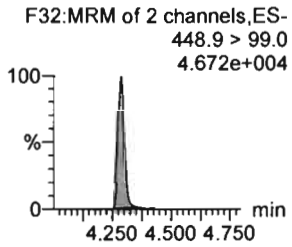
PFEChS



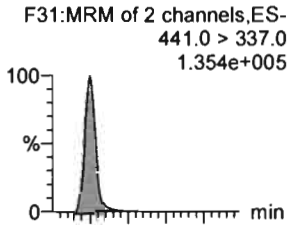


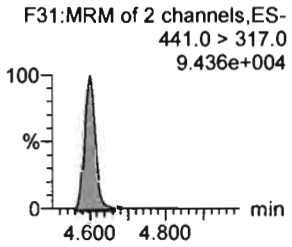
PFHpS



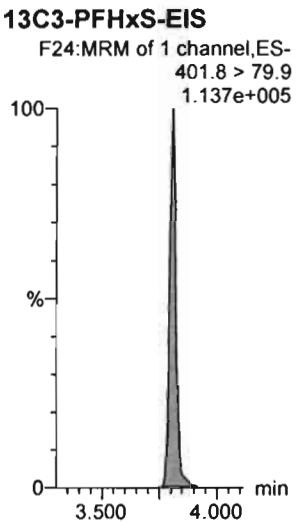


7:3 FTCA

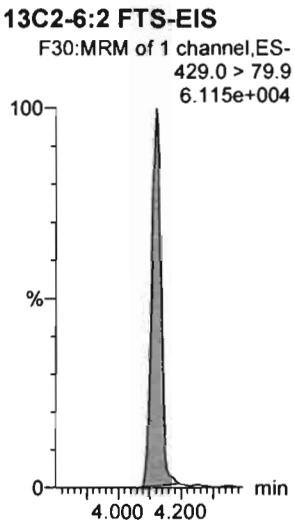




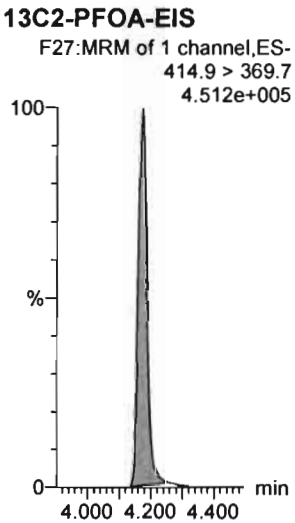
13C3-PFHxS-EIS



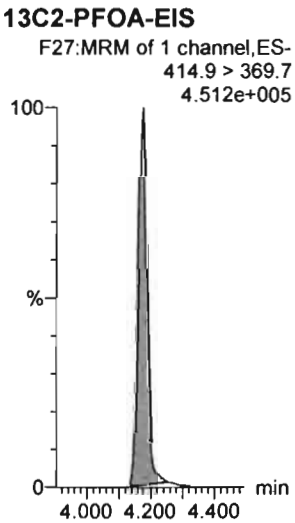
13C2-6:2 FTS-EIS



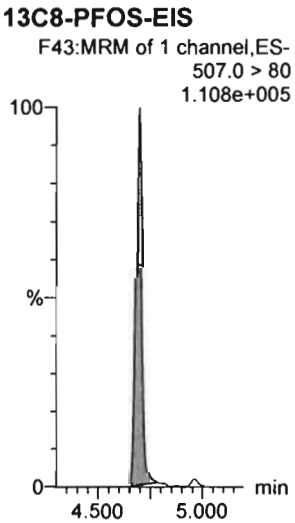
13C2-PFOA-EIS



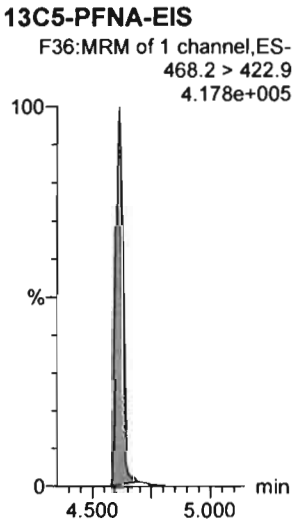
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

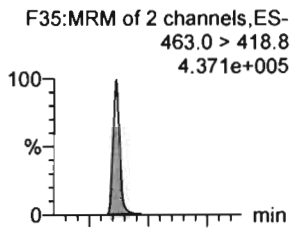


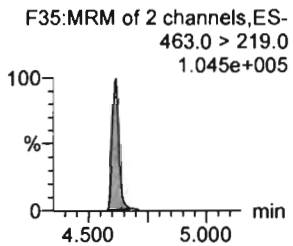
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

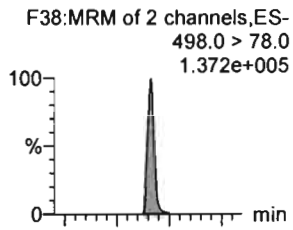
Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

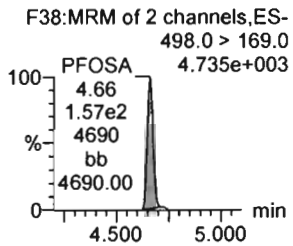
PFNA



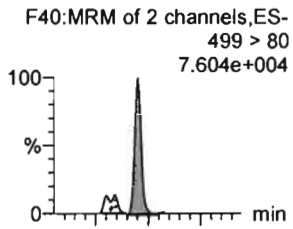


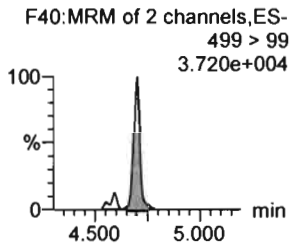
PFOSA



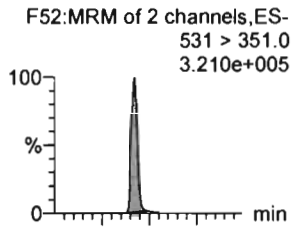


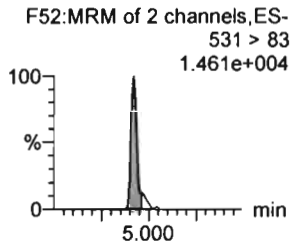
L-PFOS



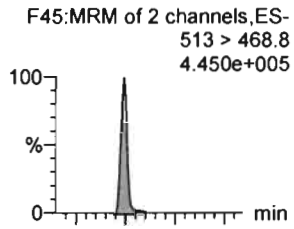


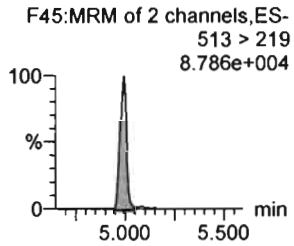
9Cl-PF30NS



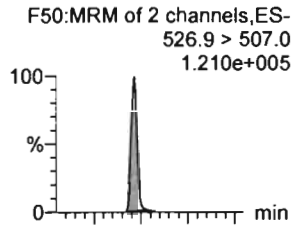


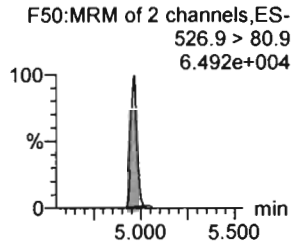
PFDA



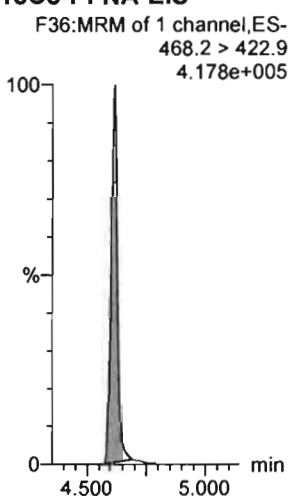


8:2 FTS

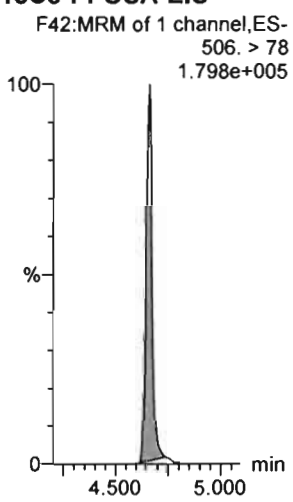




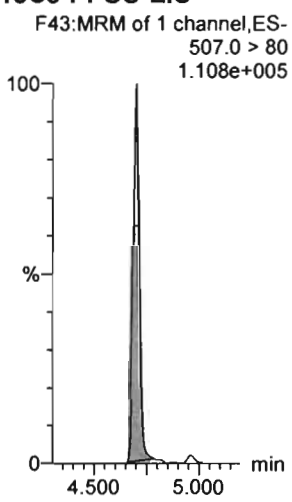
13C5-PFNA-EIS



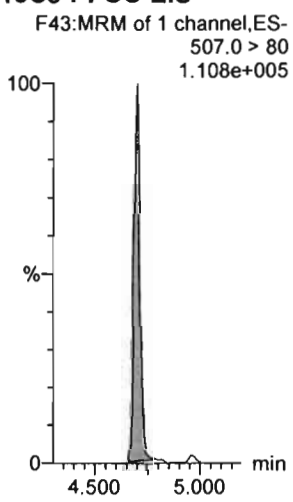
13C8-PFOSA-EIS



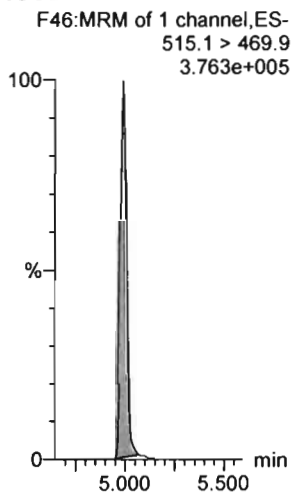
13C8-PFOS-EIS



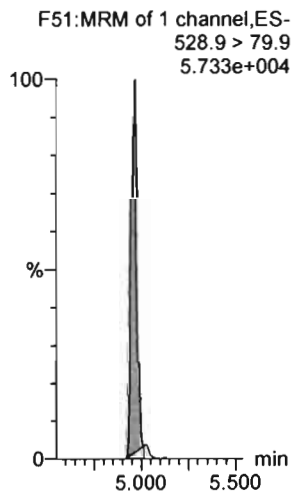
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

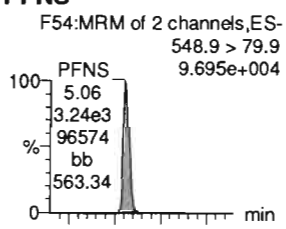


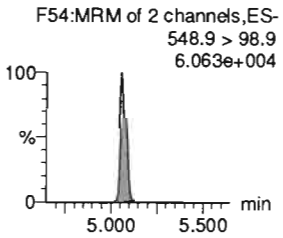
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

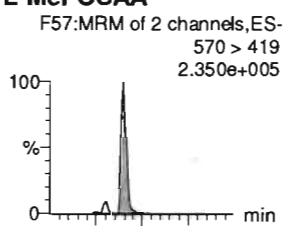
Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

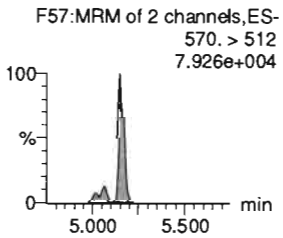
PFNS



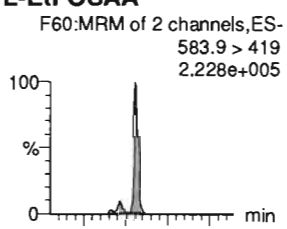


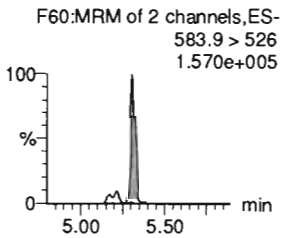
L-MeFOSAA



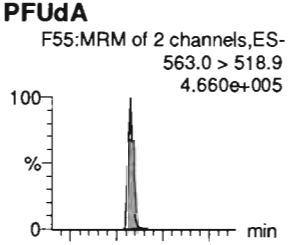


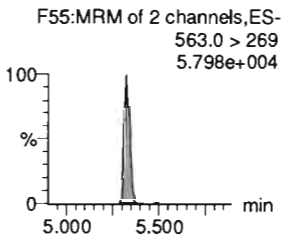
L-EtFOSAA



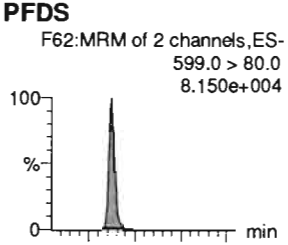


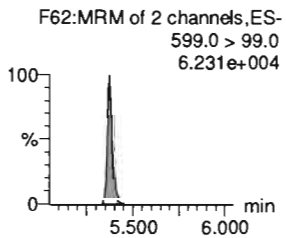
PFUdA



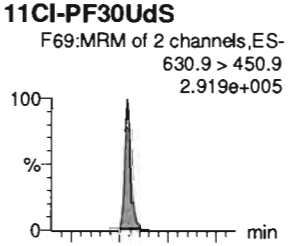


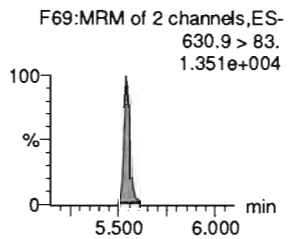
PFDS



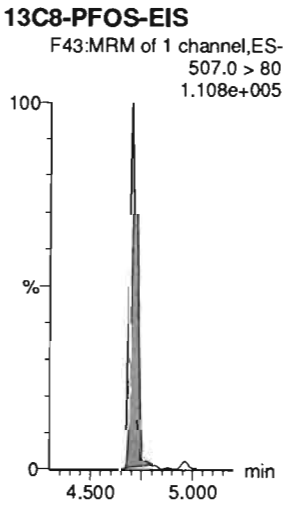


11Cl-PF30UdS

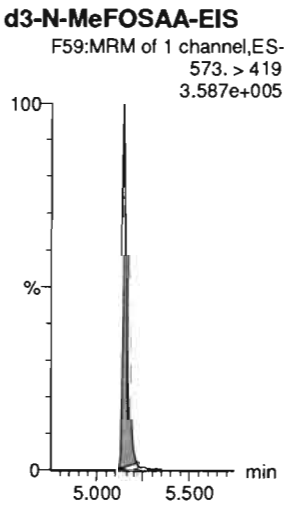




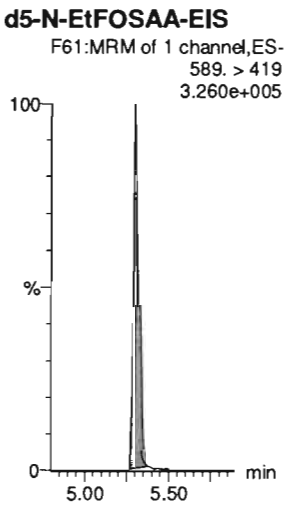
13C8-PFOS-EIS



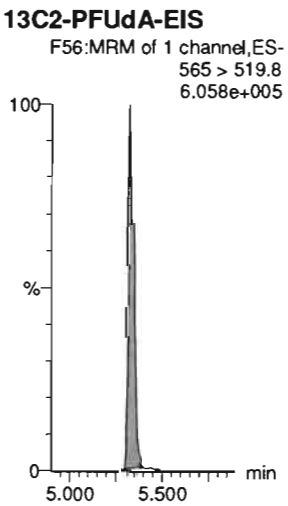
d3-N-MeFOSAA-EIS



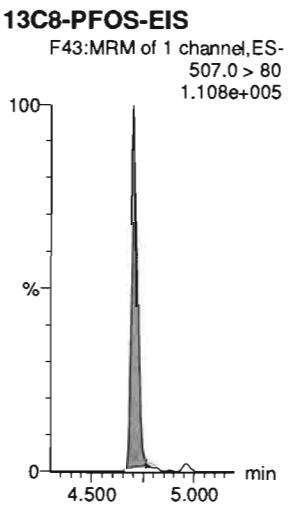
d5-N-EtFOSAA-EIS



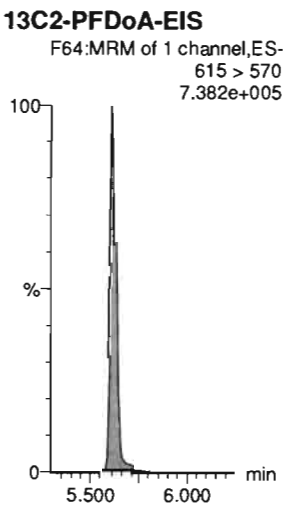
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

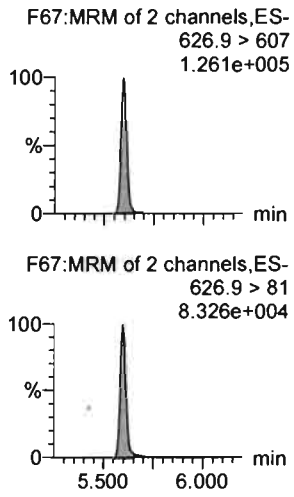


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

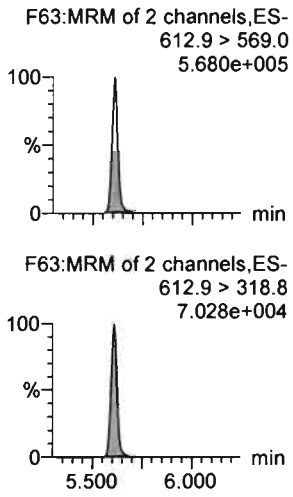
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

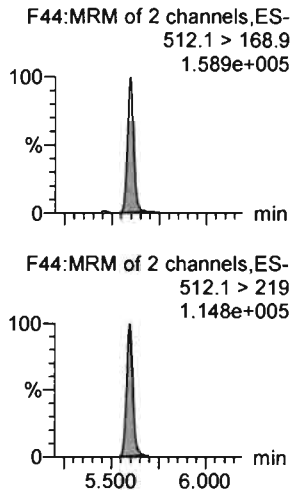
10:2 FTS



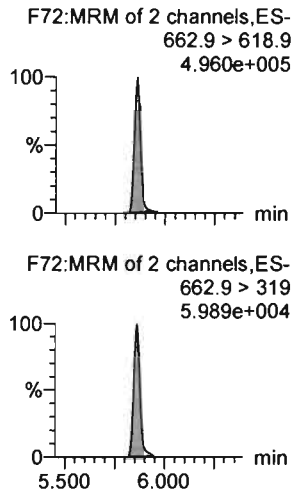
PFDoA



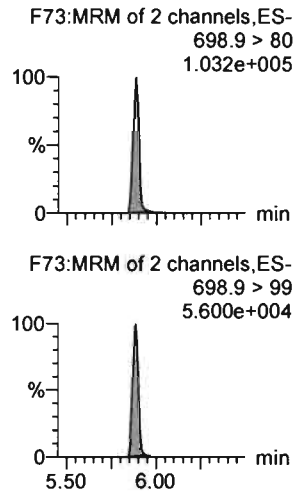
N-MeFOSA



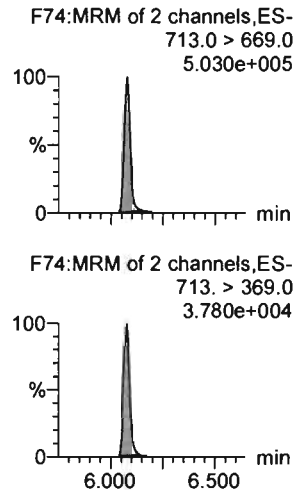
PFTrDA



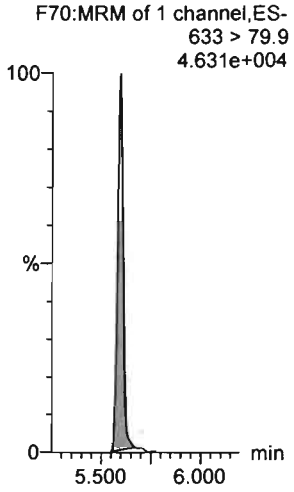
PFDoS



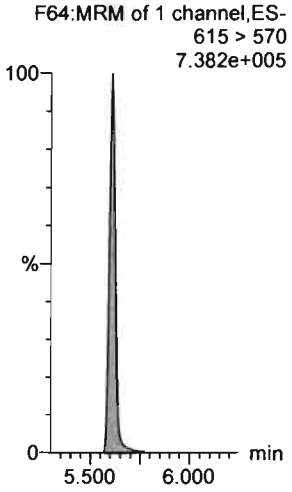
PFTeDA



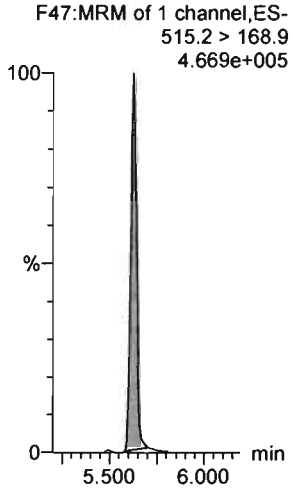
13C2-10:2 FTS-EIS



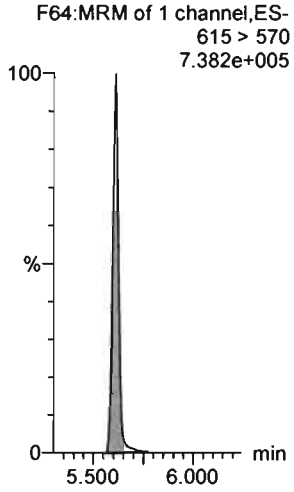
13C2-PFDoA-EIS



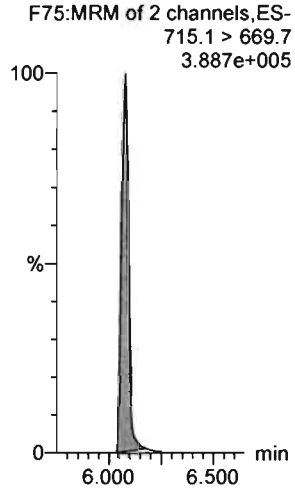
d3-N-MeFOSA-EIS



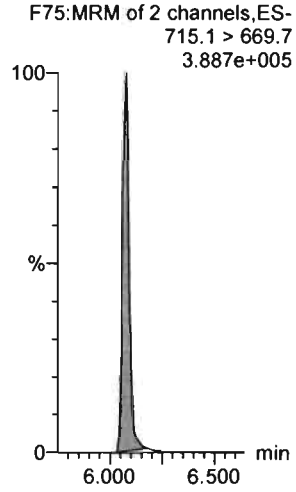
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

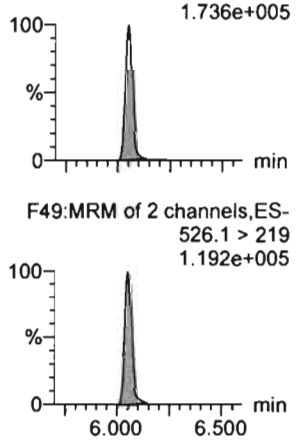


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

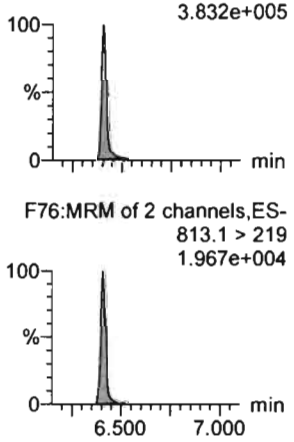
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

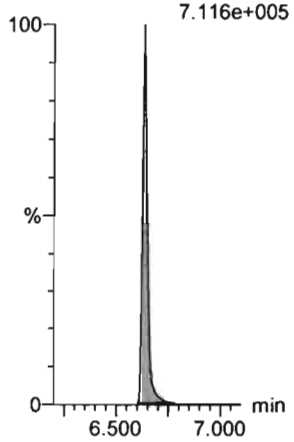
N-EtFOSA



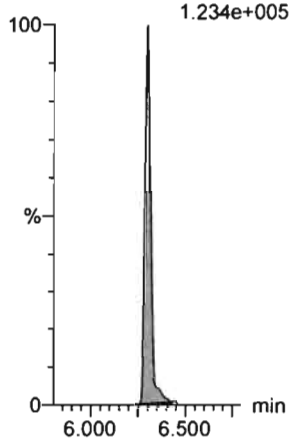
PFHxDA



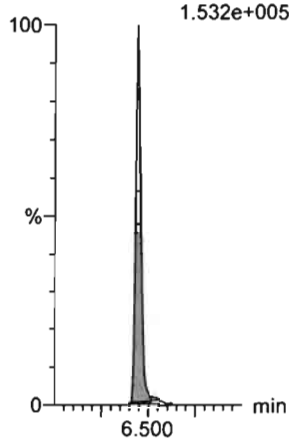
PFODA



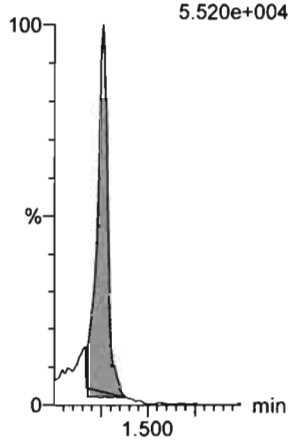
N-MeFOSE



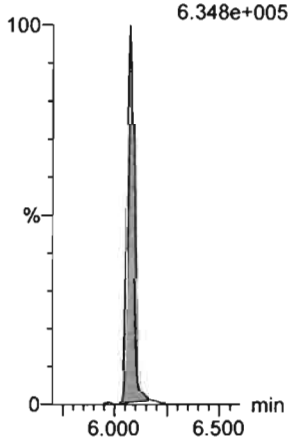
N-EtFOSE



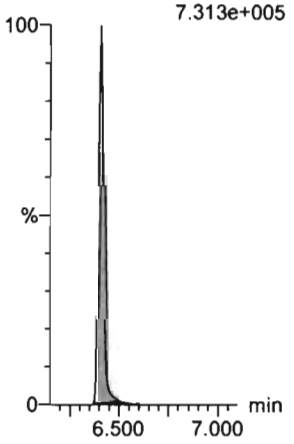
13C3-PFBA-RSD



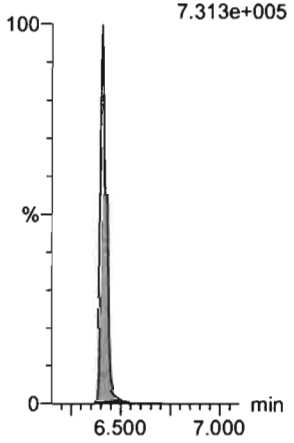
d5-N-ETFOSA-EIS



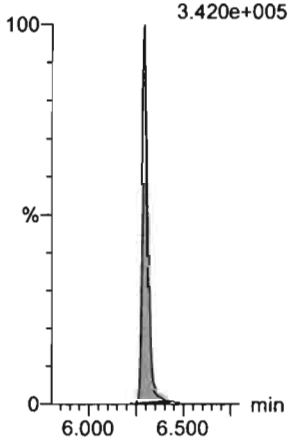
13C2-PFHxDA-EIS



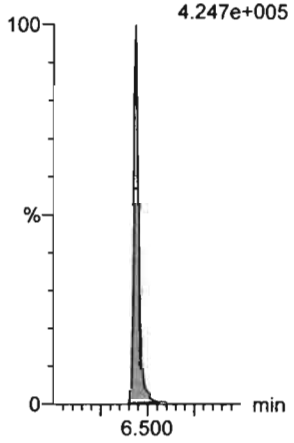
13C2-PFHxDA-EIS



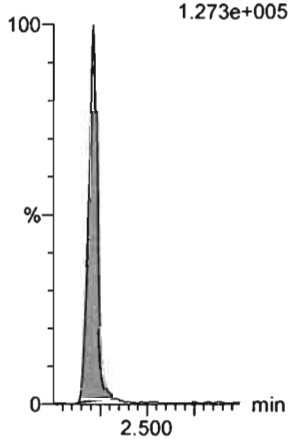
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

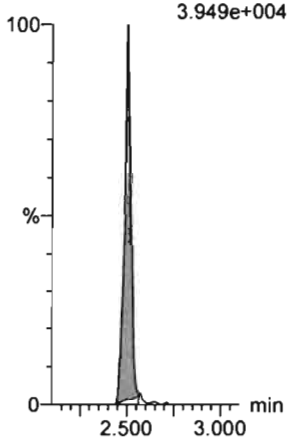


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

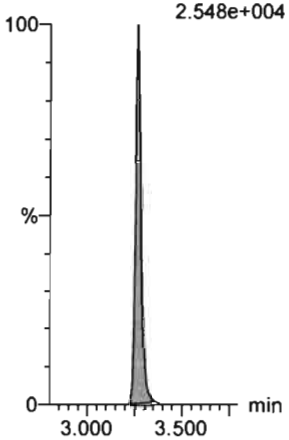
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

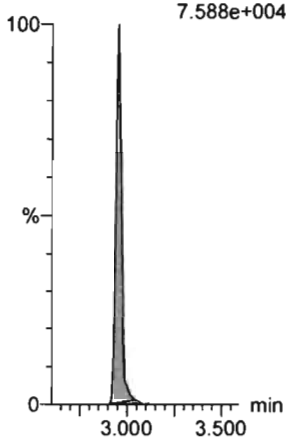
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.949e+004



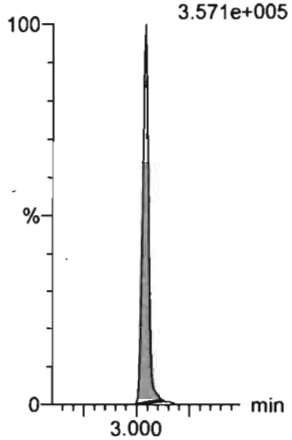
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.548e+004



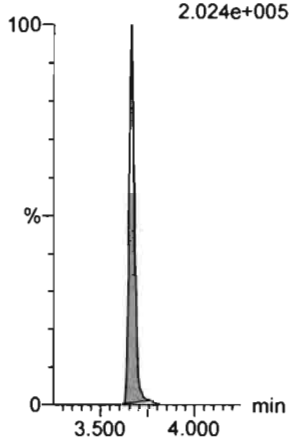
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.588e+004



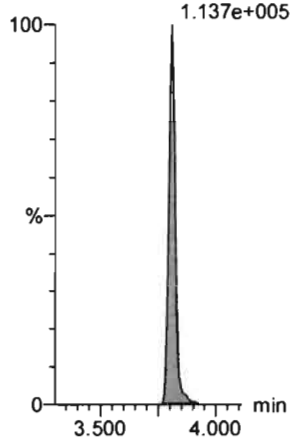
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.571e+005



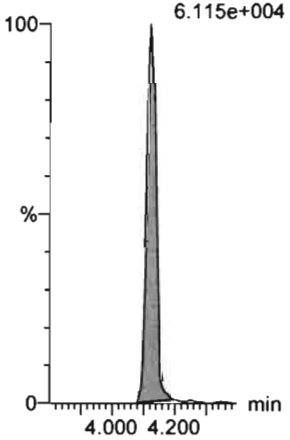
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.024e+005



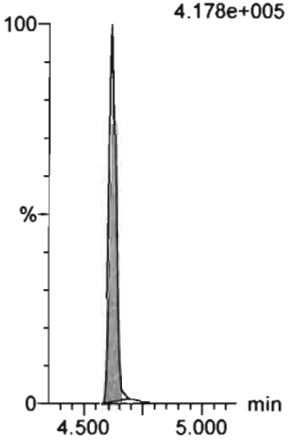
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.137e+005



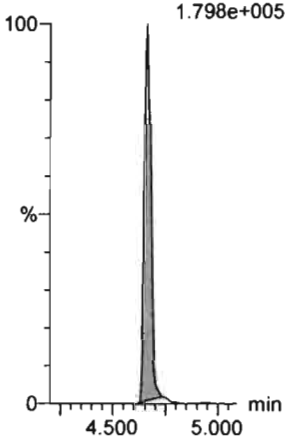
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.115e+004



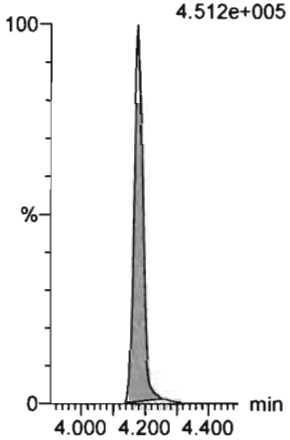
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.178e+005



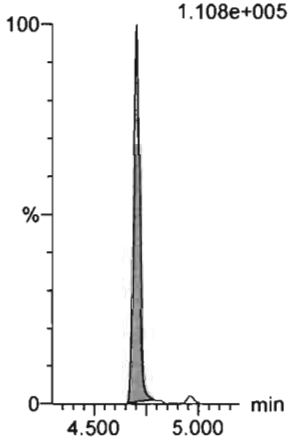
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.798e+005



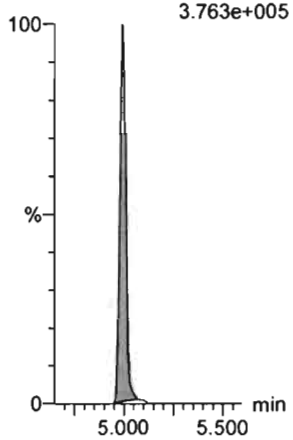
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.512e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.108e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.763e+005

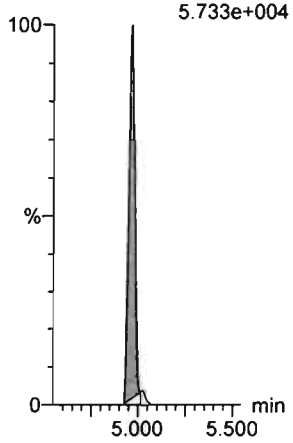


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

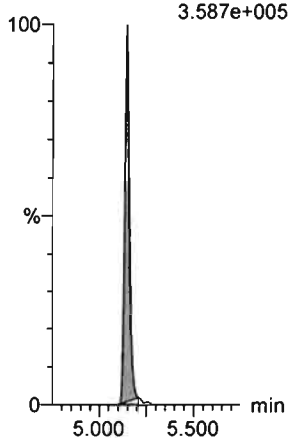
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

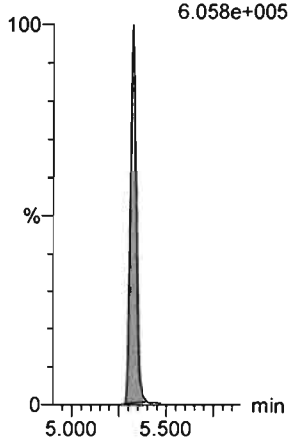
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.733e+004



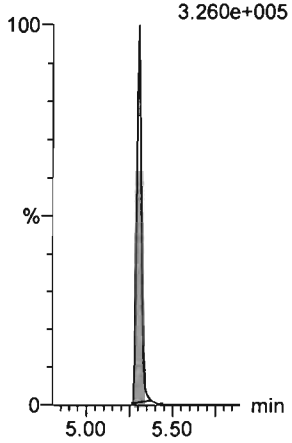
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.587e+005



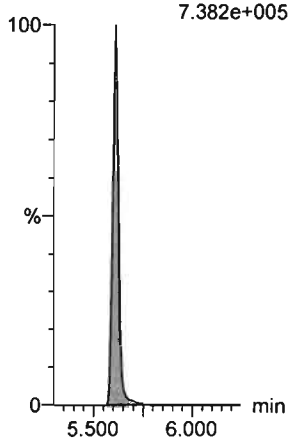
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.058e+005



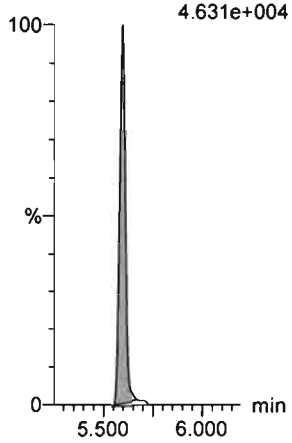
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.260e+005



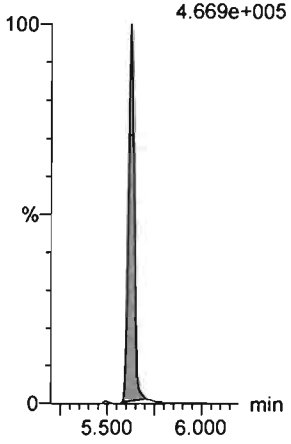
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.382e+005



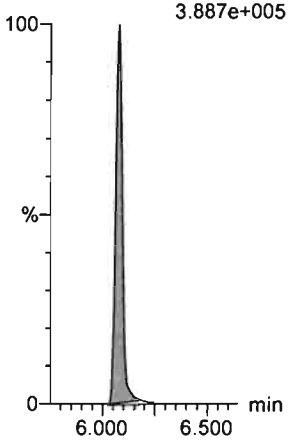
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.631e+004



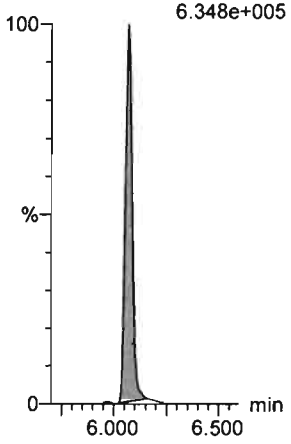
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.669e+005



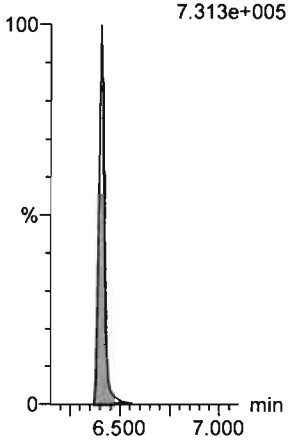
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
3.887e+005



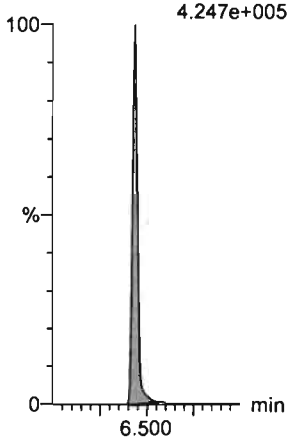
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.348e+005



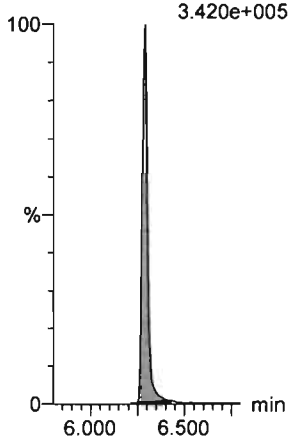
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.313e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.247e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.420e+005

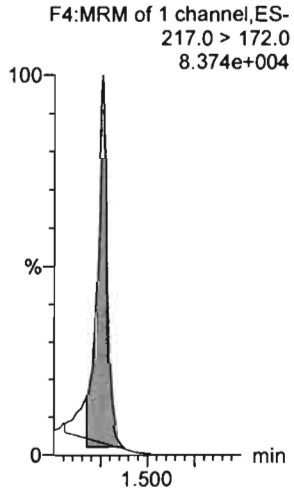


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

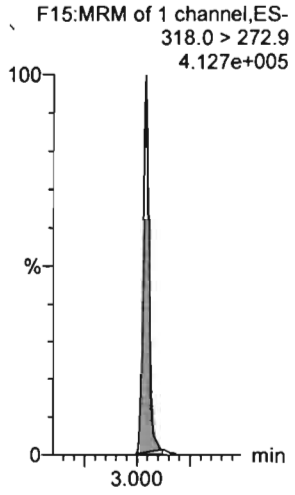
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_8, Date: 13-Jul-2020, Time: 15:08:24, ID: ST200713M1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

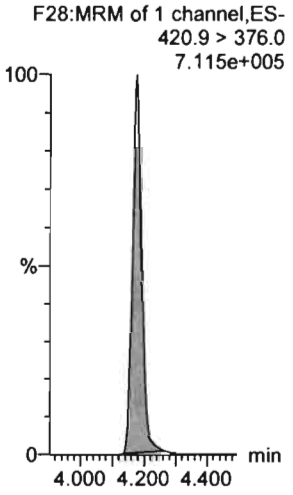
13C4-PFBA



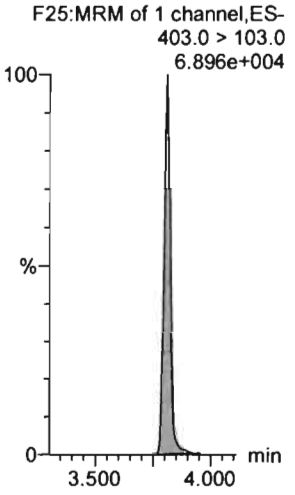
13C5-PFHxA



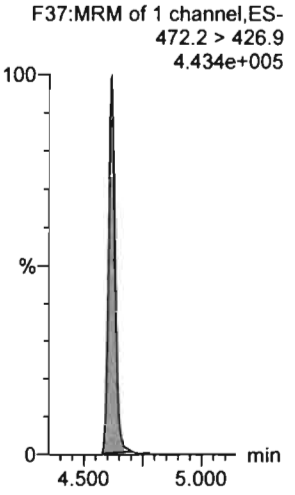
13C8-PFOA



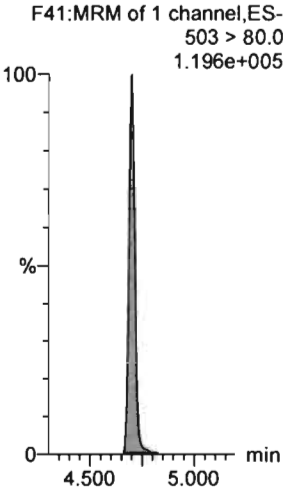
18O2-PFHxS



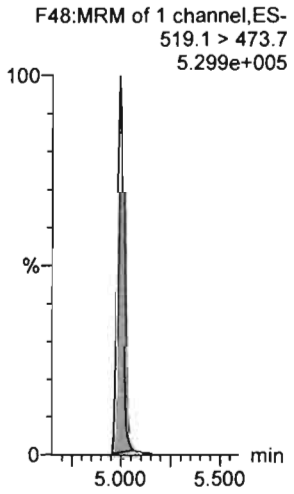
13C9-PFNA



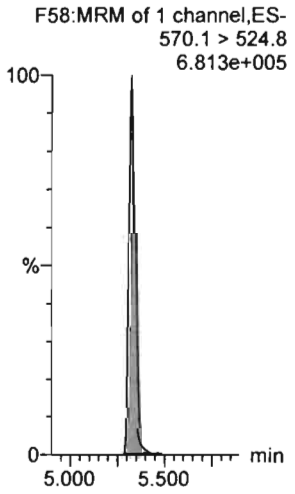
13C4-PFOS



13C6-PFDA



13C7-PFUdA

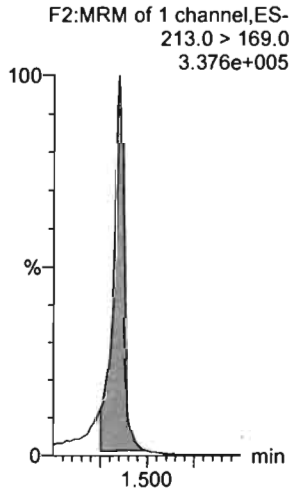


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

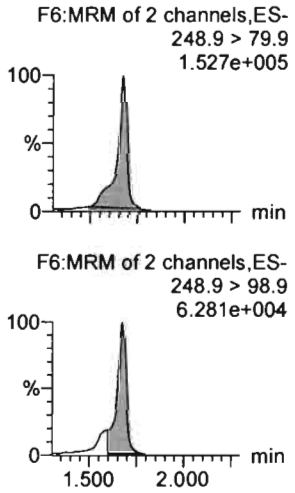
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

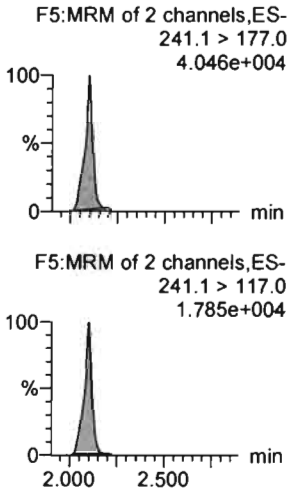
PFBA



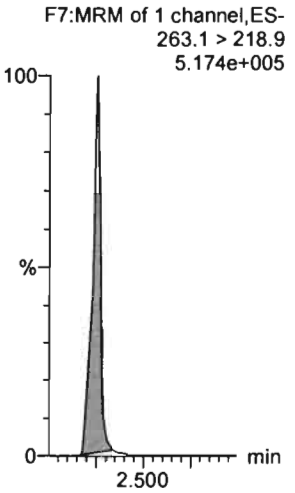
PFPrS



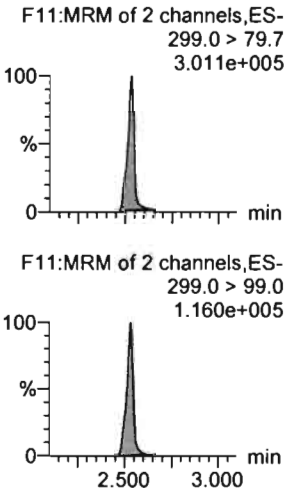
3:3 FTCA



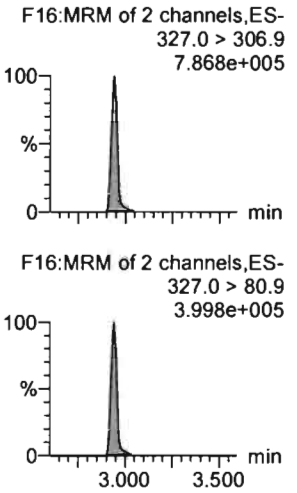
PFPeA



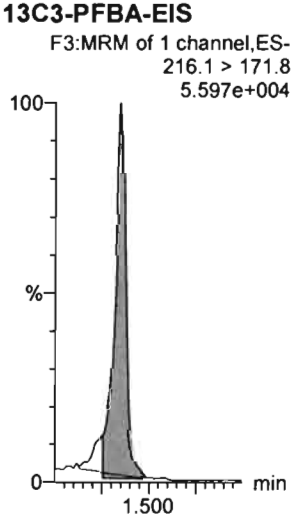
PFBS



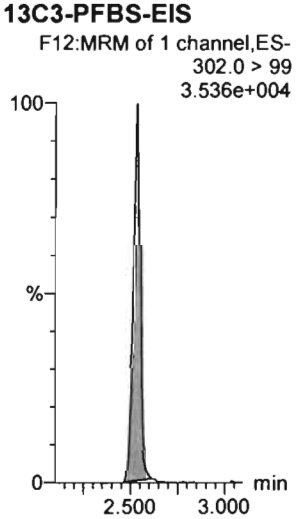
4:2 FTS



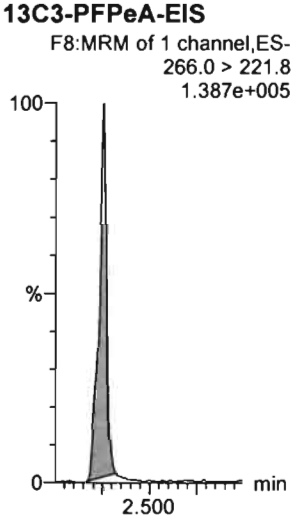
13C3-PFBA-EIS



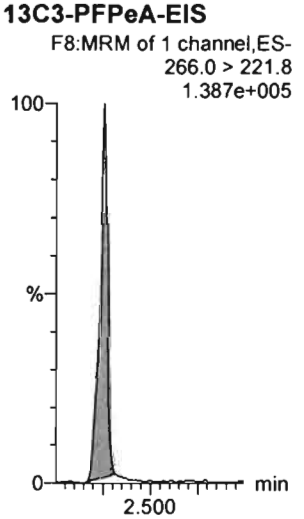
13C3-PFBS-EIS



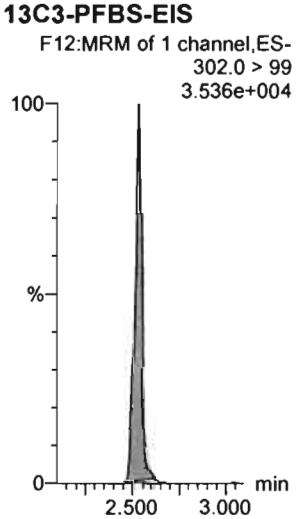
13C3-PFPeA-EIS



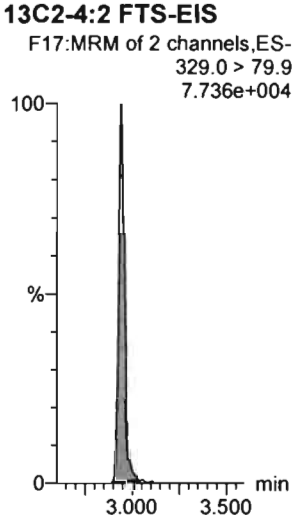
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

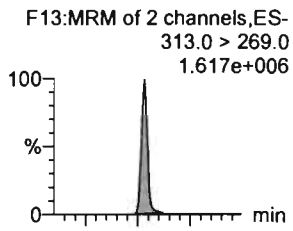


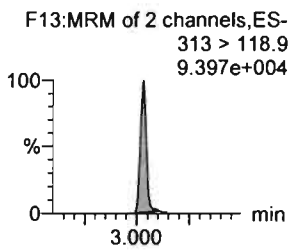
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

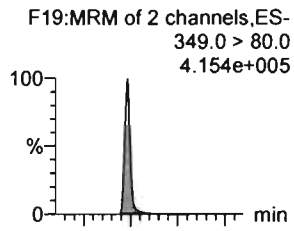
Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

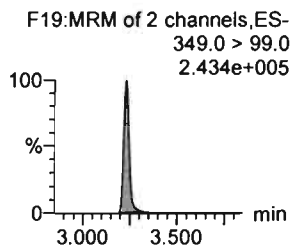
PFHxA



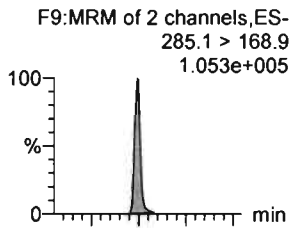


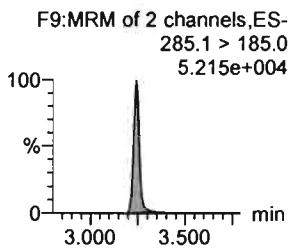
PFPeS



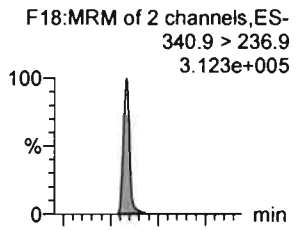


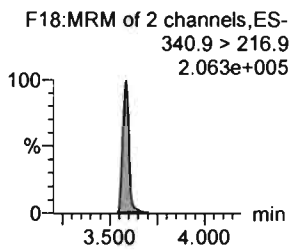
HFPO-DA



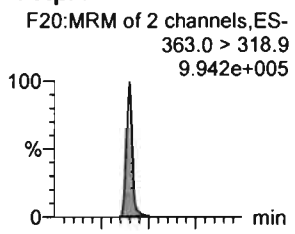


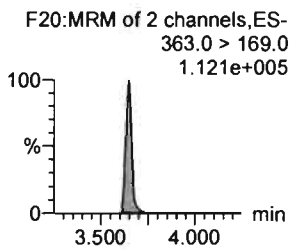
5:3 FTCA



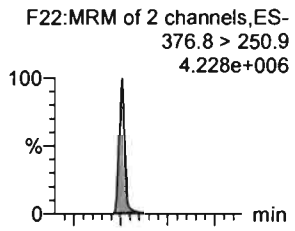


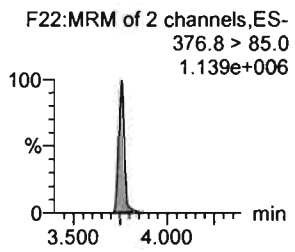
PFHpA



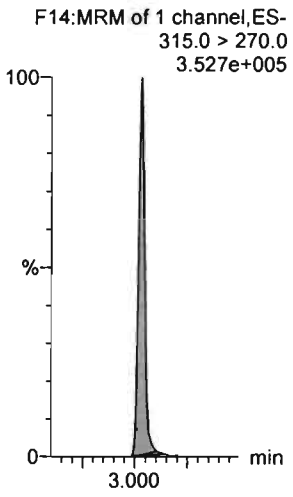


ADONA

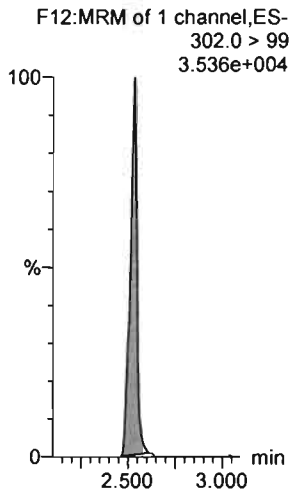




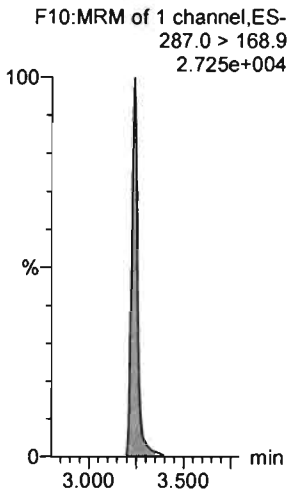
13C2-PFHxA-EIS



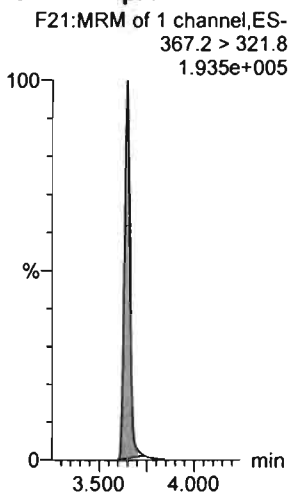
13C3-PFBS-EIS



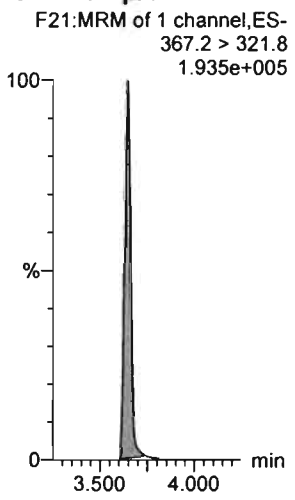
13C3-HFPO-DA-EIS



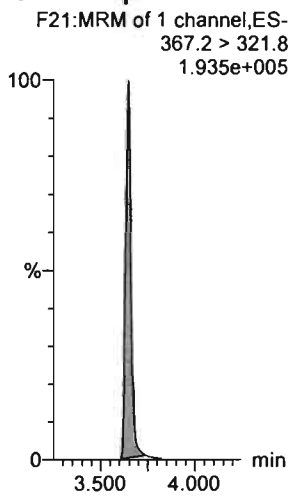
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

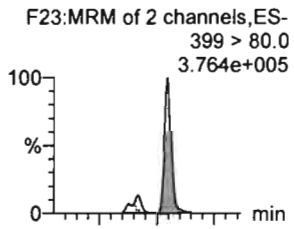


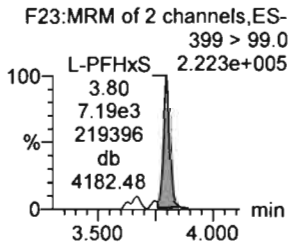
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

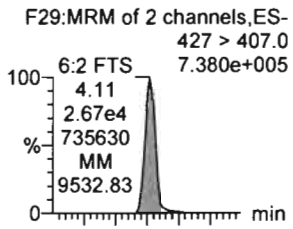
Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

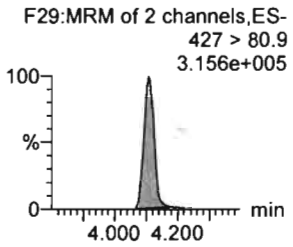
L-PFHxS



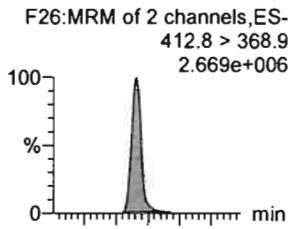


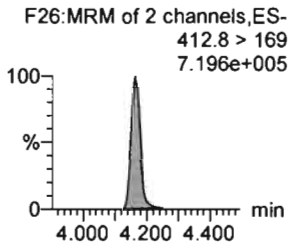
6:2 FTS



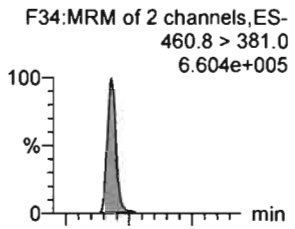


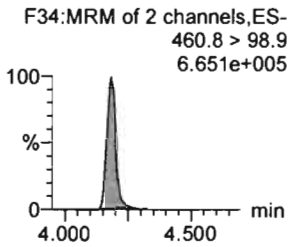
L-PFOA



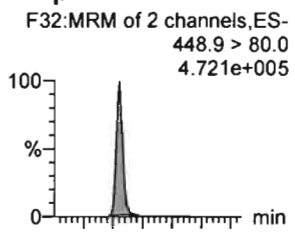


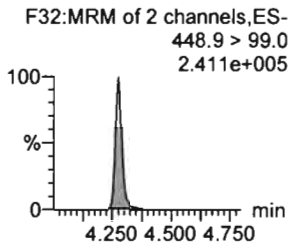
PFEChS



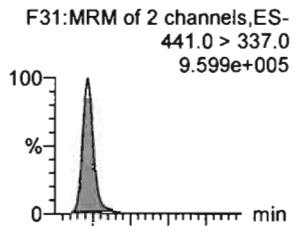


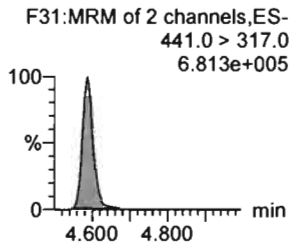
PFHpS



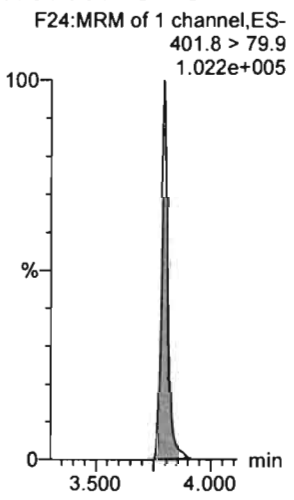


7:3 FTCA

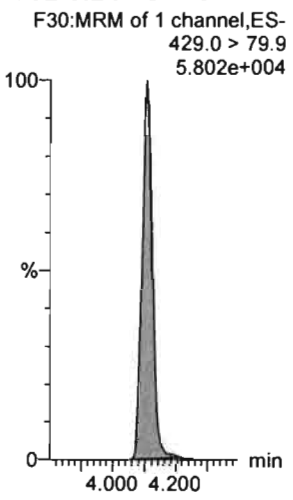




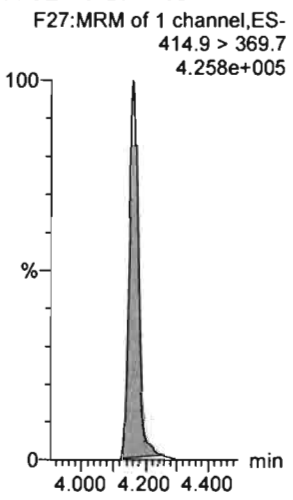
13C3-PFHxS-EIS



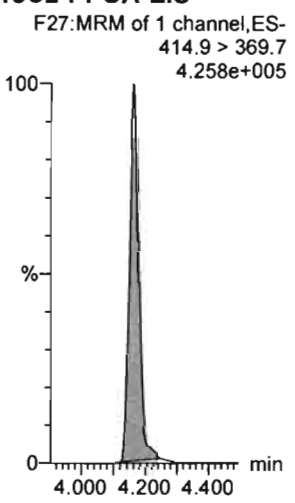
13C2-6:2 FTS-EIS



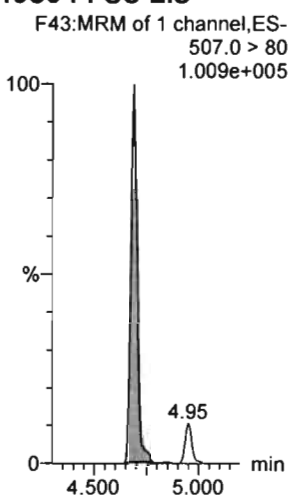
13C2-PFOA-EIS



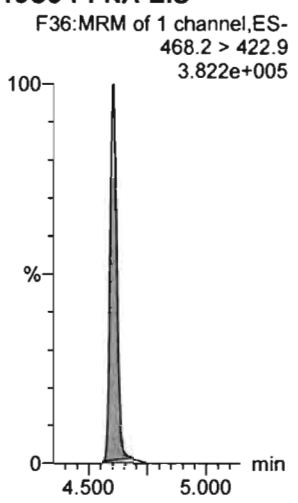
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

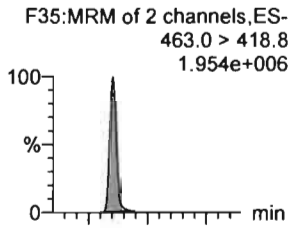


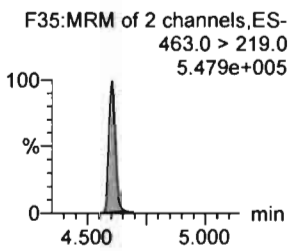
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

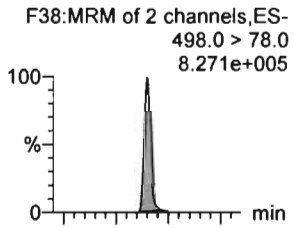
Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

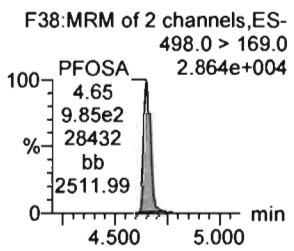
PFNA



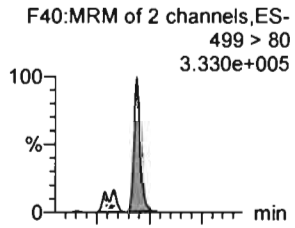


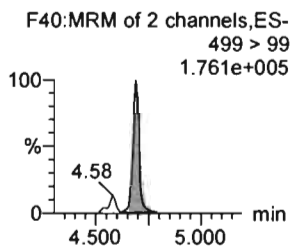
PFOSA



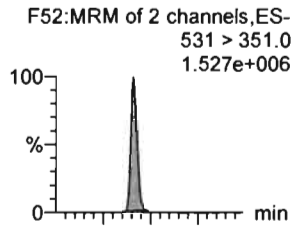


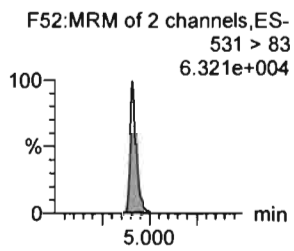
L-PFOS



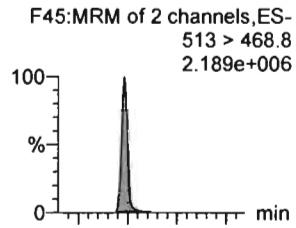


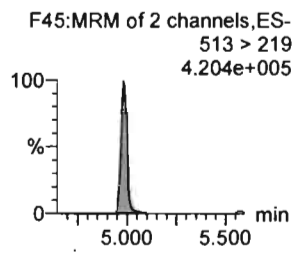
9Cl-PF30NS



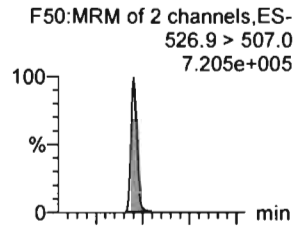


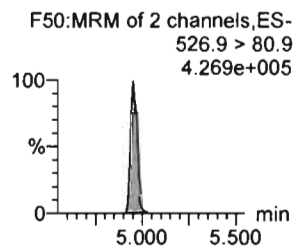
PFDA



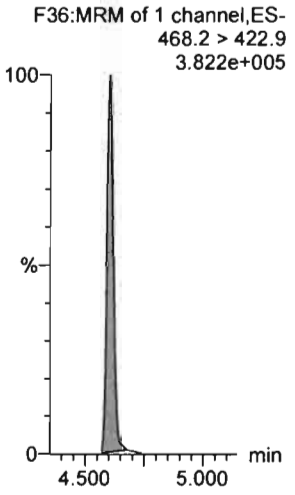


8:2 FTS

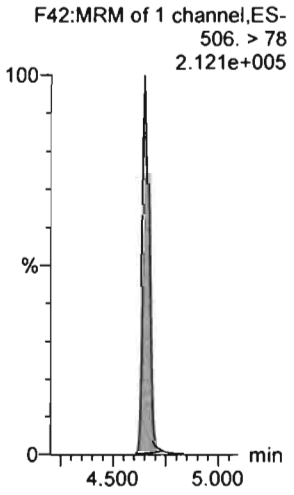




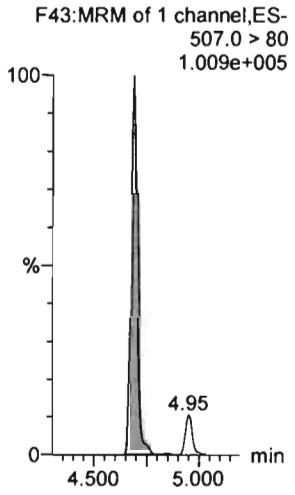
13C5-PFNA-EIS



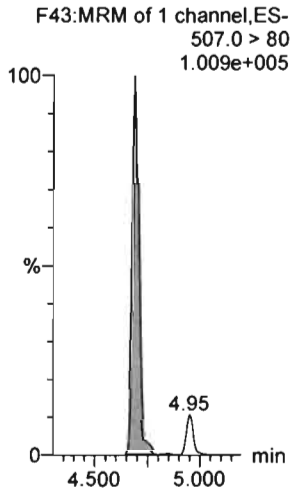
13C8-PFOSA-EIS



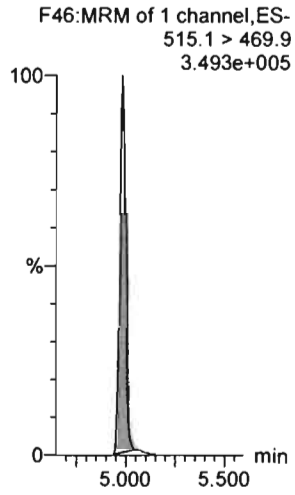
13C8-PFOS-EIS



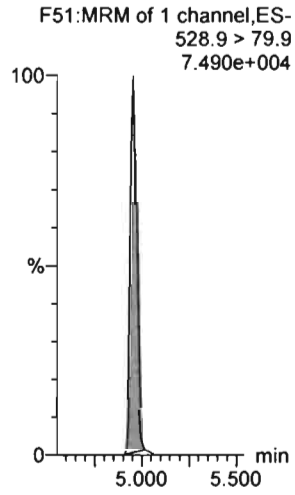
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

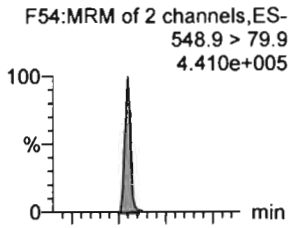


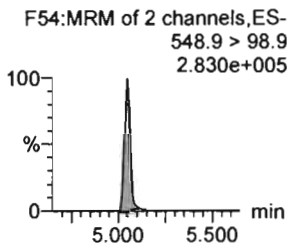
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

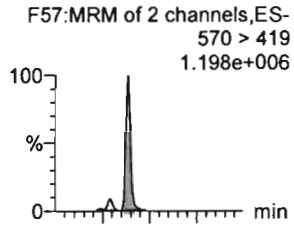
Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

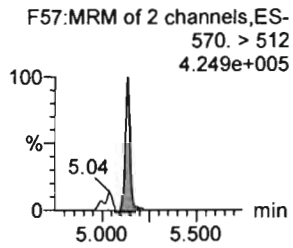
PFNS



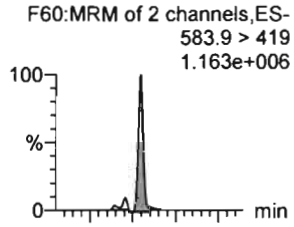


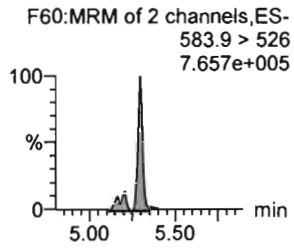
L-MeFOSAA



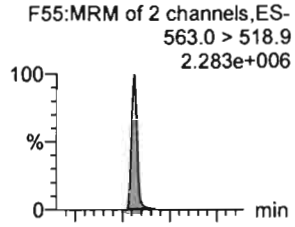


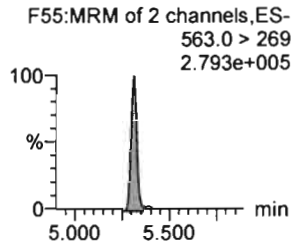
L-EtFOSAA



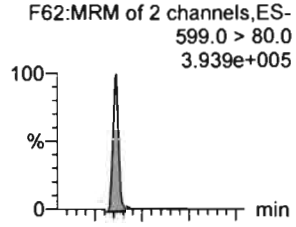


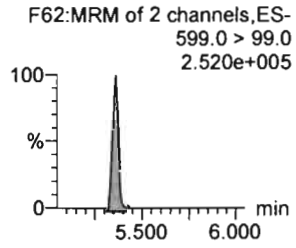
PFUdA



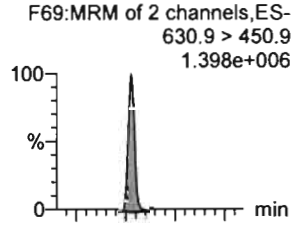


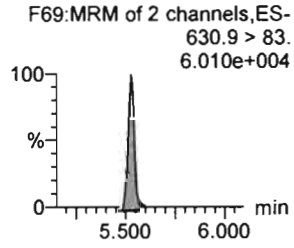
PFDS



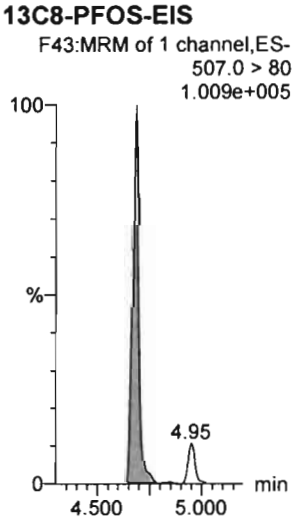


11Cl-PF30UdS

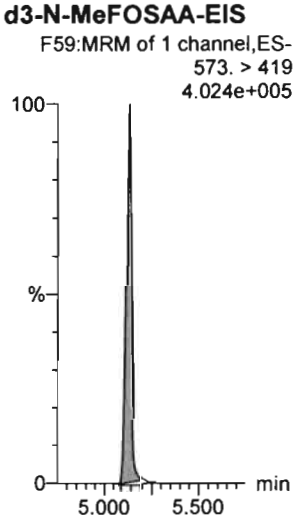




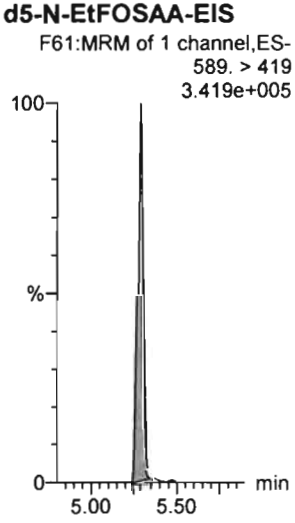
13C8-PFOS-EIS



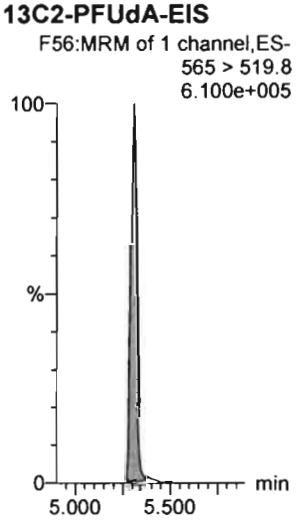
d3-N-MeFOSAA-EIS



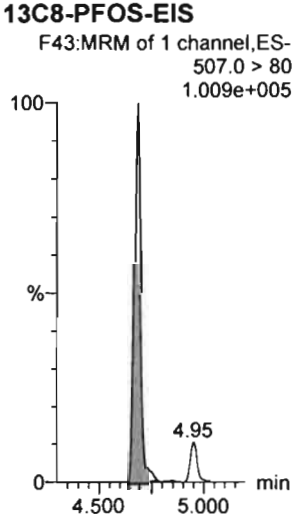
d5-N-EtFOSAA-EIS



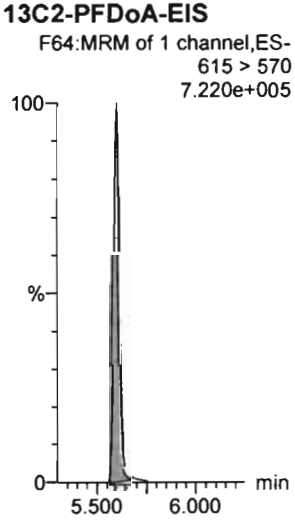
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

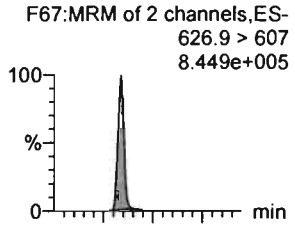


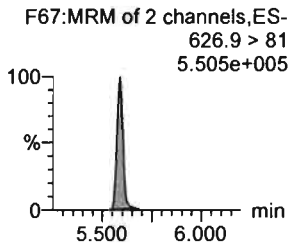
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

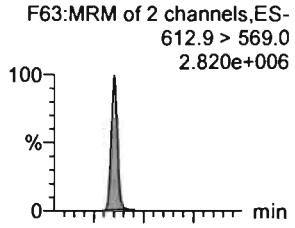
Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

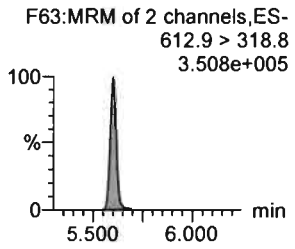
10:2 FTS



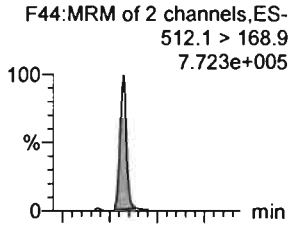


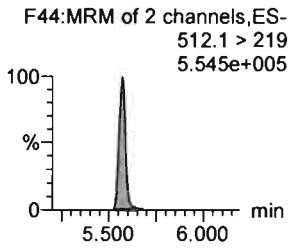
PFDoA



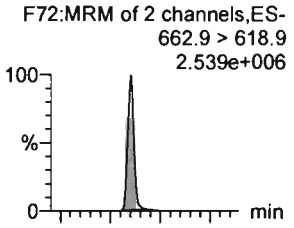


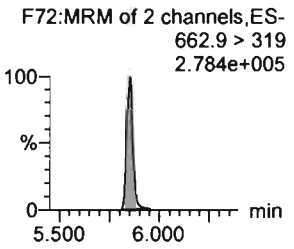
N-MeFOSA



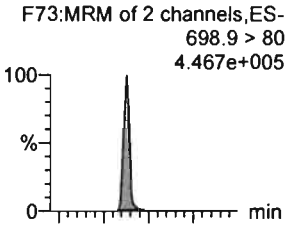


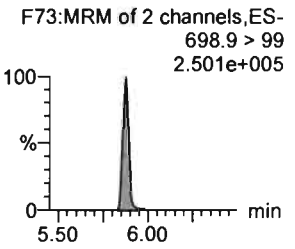
PFTrDA



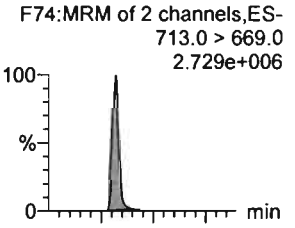


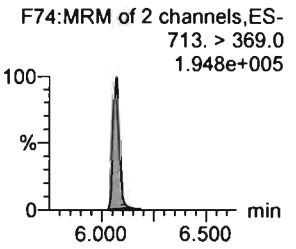
PFDoS



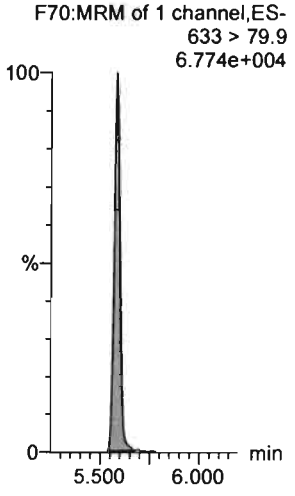


PFTeDA

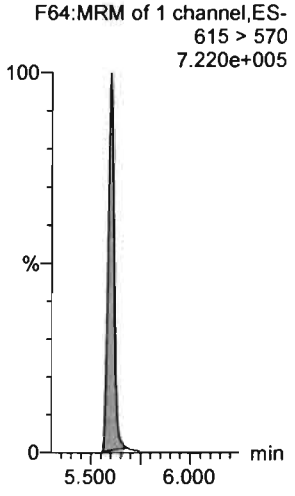




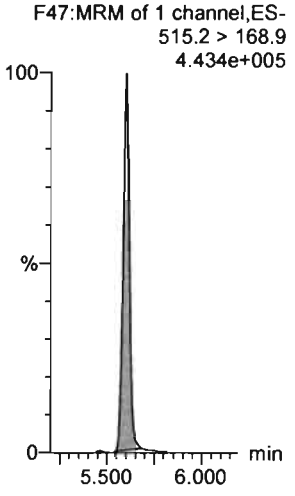
13C2-10:2 FTS-EIS



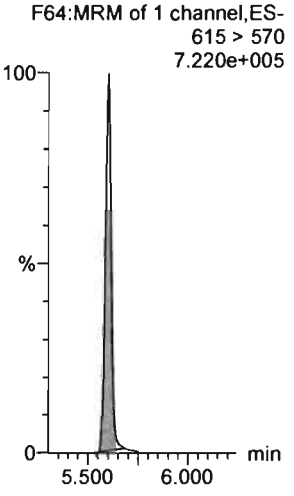
13C2-PFDoA-EIS



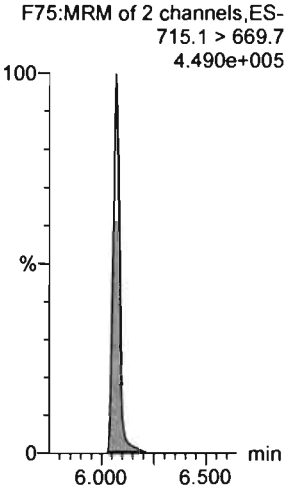
d3-N-MeFOSA-EIS



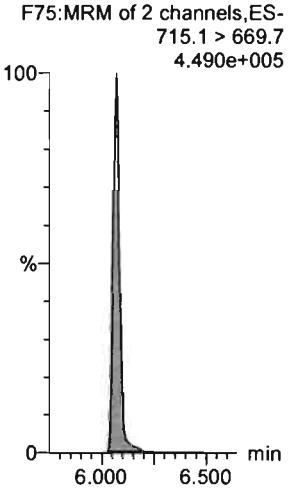
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

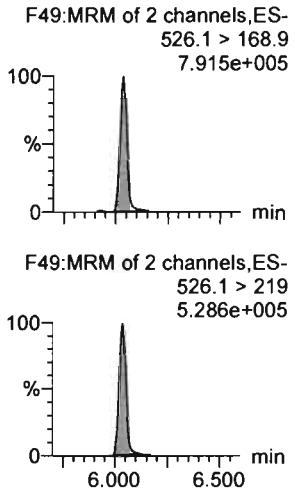


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

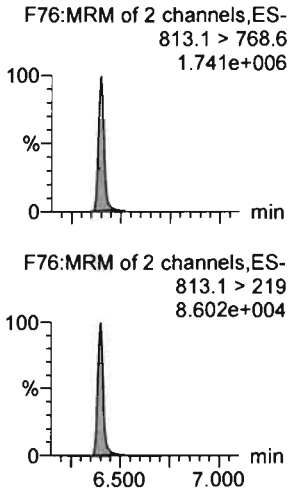
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

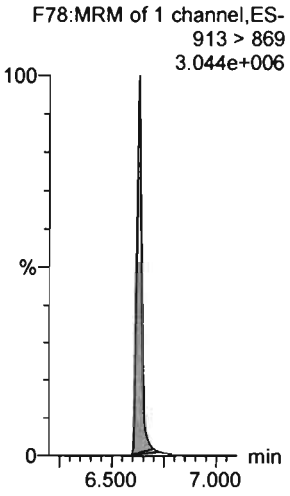
N-EtFOSA



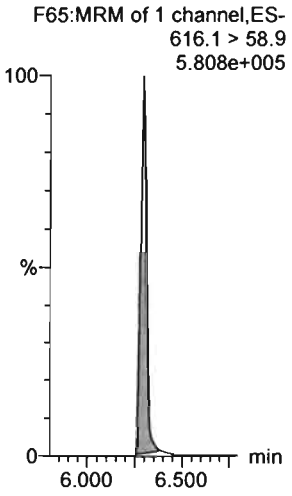
PFHxDA



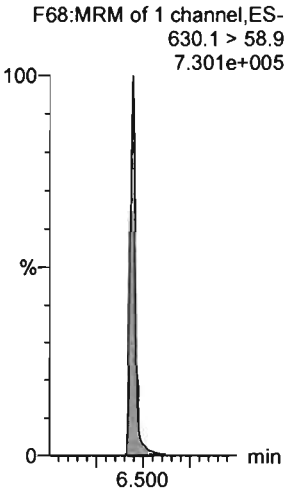
PFODA



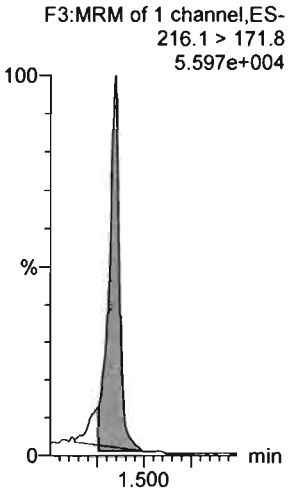
N-MeFOSE



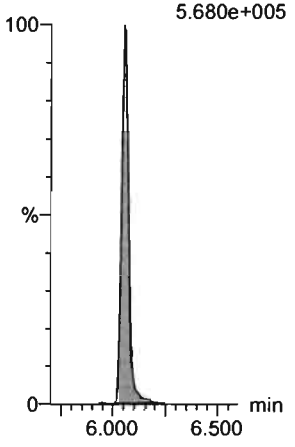
N-EtFOSE



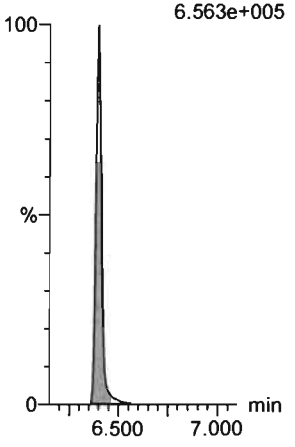
13C3-PFBA-RSD



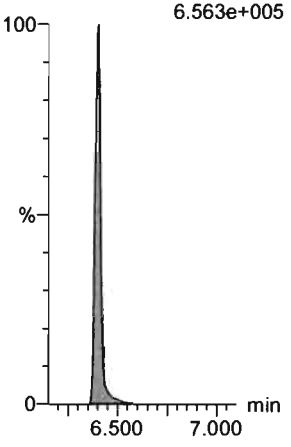
d5-N-ETFOSA-EIS



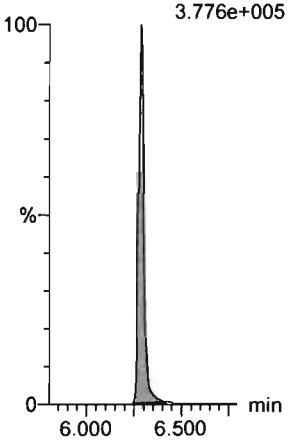
13C2-PFHxDA-EIS



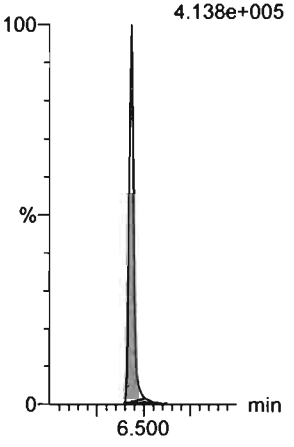
13C2-PFHxDA-EIS



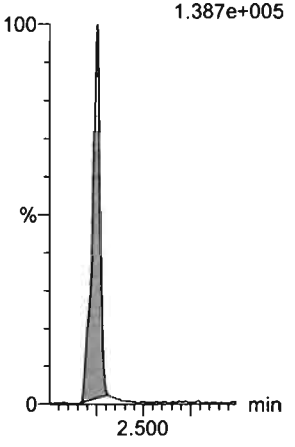
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

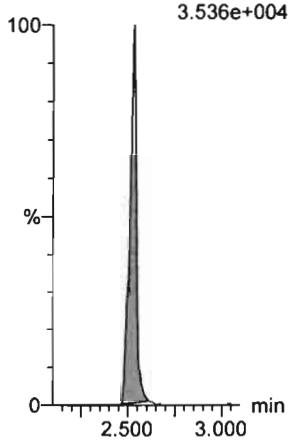


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

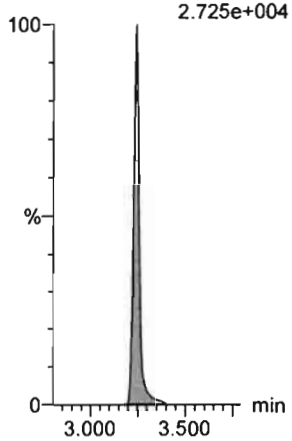
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

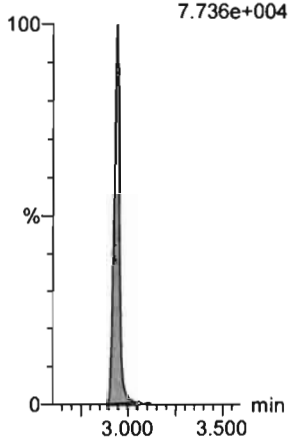
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.536e+004



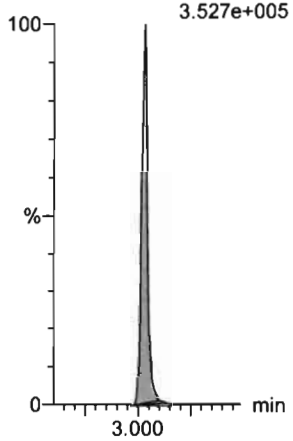
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.725e+004



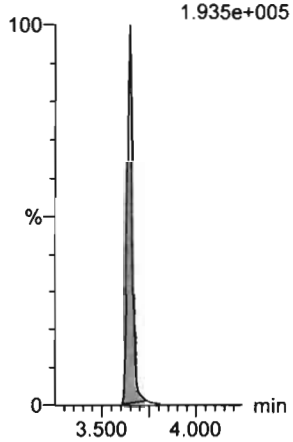
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
7.736e+004



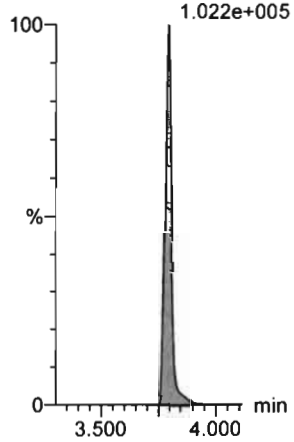
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.527e+005



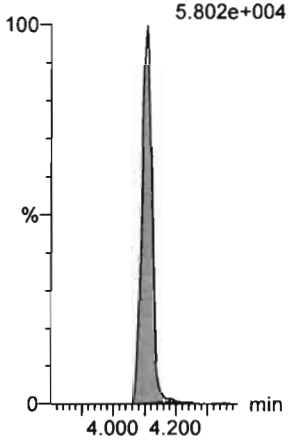
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.935e+005



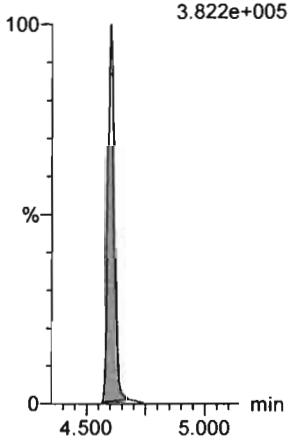
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.022e+005



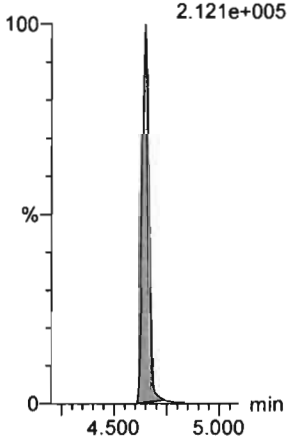
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.802e+004



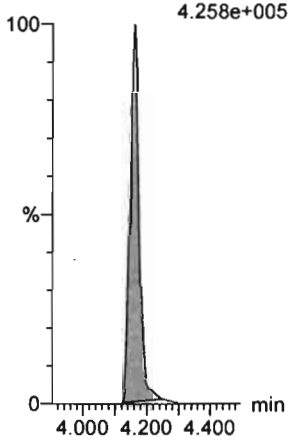
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.822e+005



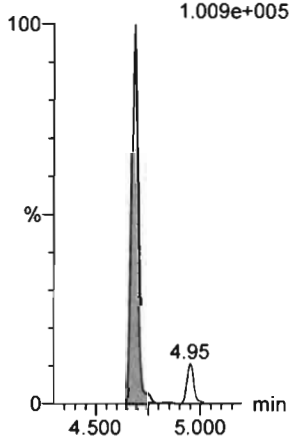
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
2.121e+005



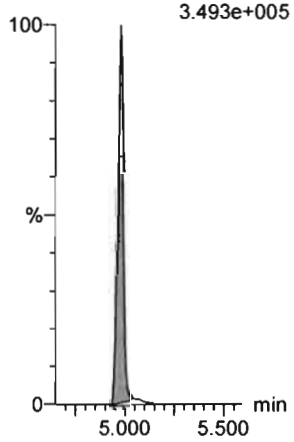
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.258e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.009e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.493e+005

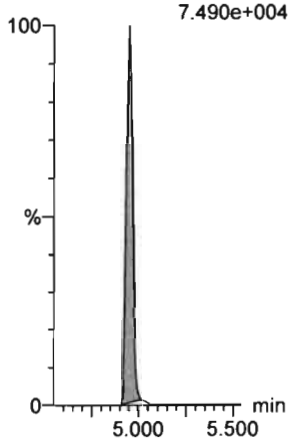


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

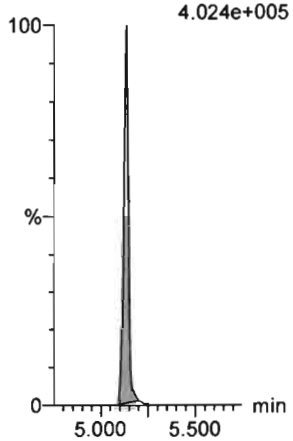
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

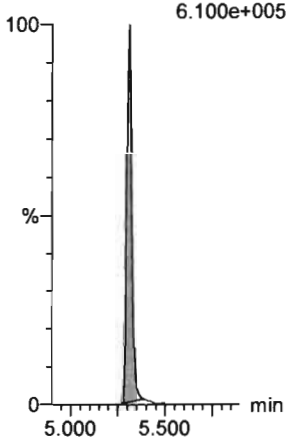
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
7.490e+004



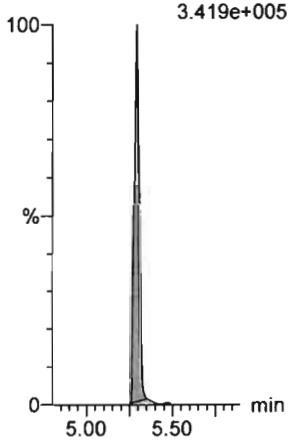
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
4.024e+005



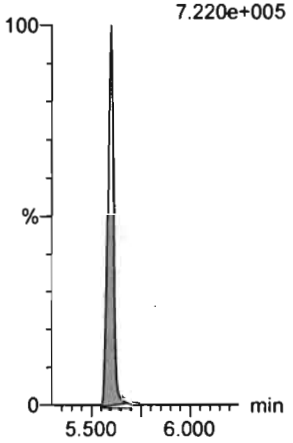
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.100e+005



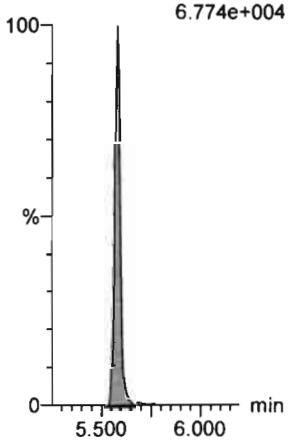
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
3.419e+005



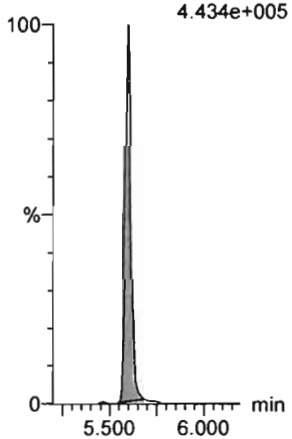
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
7.220e+005



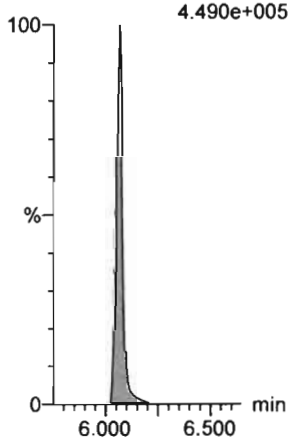
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
6.774e+004



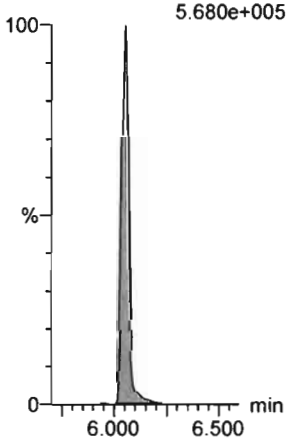
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.434e+005



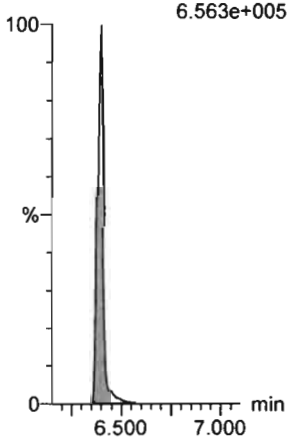
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.490e+005



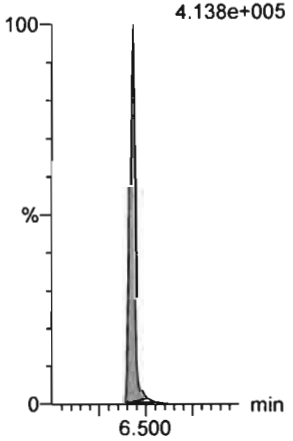
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.680e+005



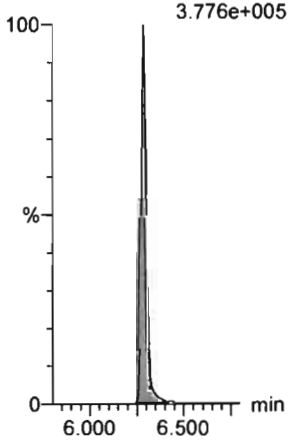
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.563e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.138e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.776e+005

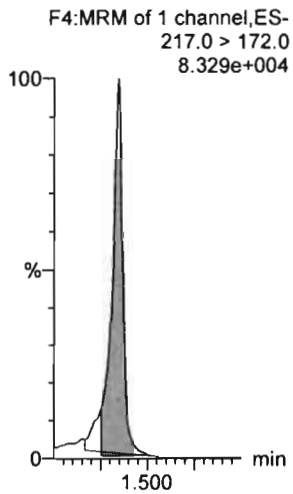


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

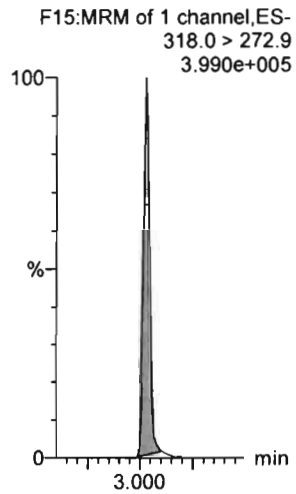
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_9, Date: 13-Jul-2020, Time: 16:11:36, ID: ST200713M1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

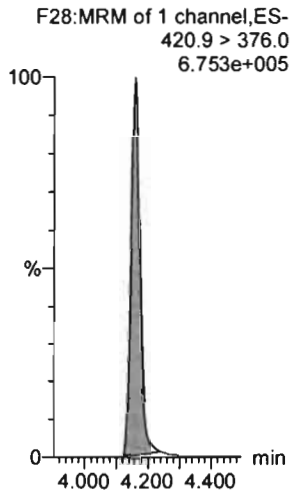
13C4-PFBA



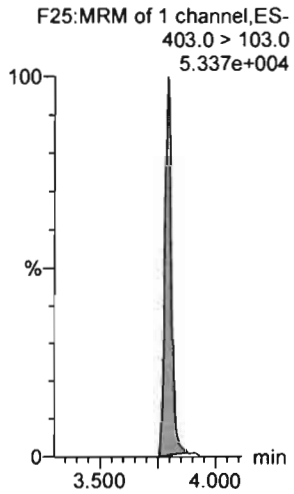
13C5-PFHxA



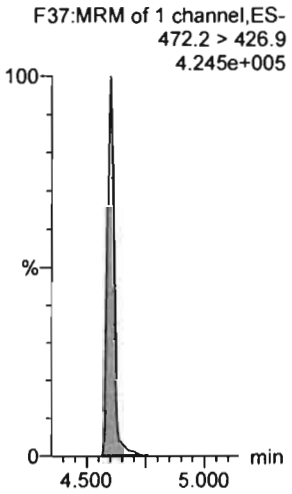
13C8-PFOA



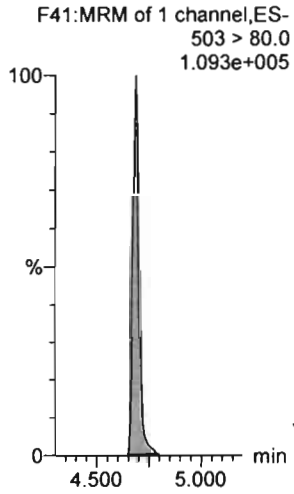
18O2-PFHxS



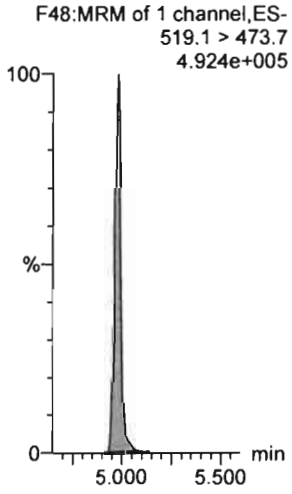
13C9-PFNA



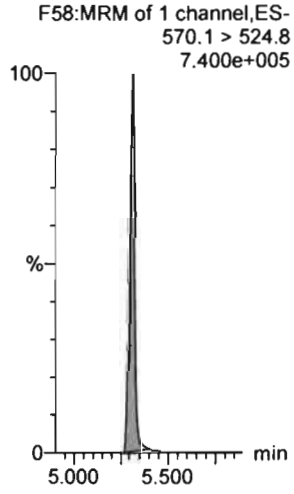
13C4-PFOS



13C6-PFDA



13C7-PFUdA

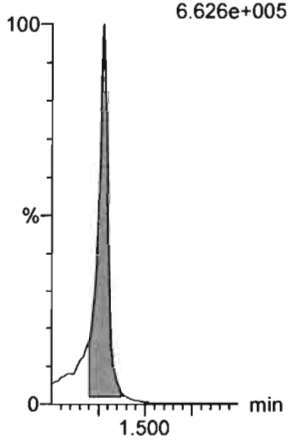


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

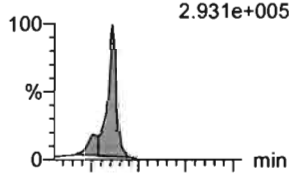
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

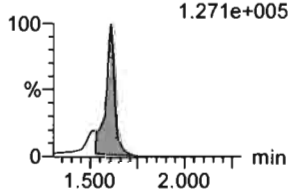
PFBA
F2:MRM of 1 channel,ES-
213.0 > 169.0
6.626e+005



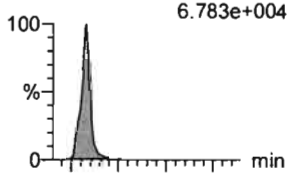
PFPrS
F6:MRM of 2 channels,ES-
248.9 > 79.9
2.931e+005



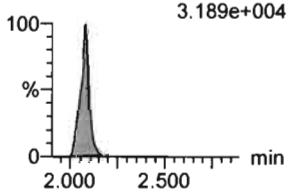
F6:MRM of 2 channels,ES-
248.9 > 98.9
1.271e+005



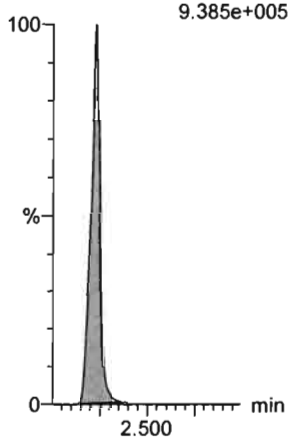
3:3 FTCA
F5:MRM of 2 channels,ES-
241.1 > 177.0
6.783e+004



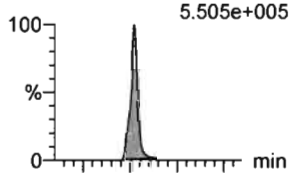
F5:MRM of 2 channels,ES-
241.1 > 117.0
3.189e+004



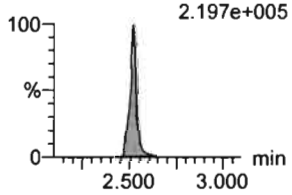
PFPeA
F7:MRM of 1 channel,ES-
263.1 > 218.9
9.385e+005



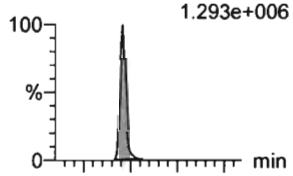
PFBS
F11:MRM of 2 channels,ES-
299.0 > 79.7
5.505e+005



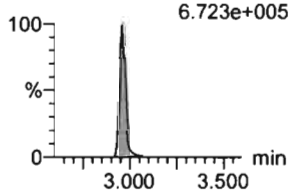
F11:MRM of 2 channels,ES-
299.0 > 99.0
2.197e+005



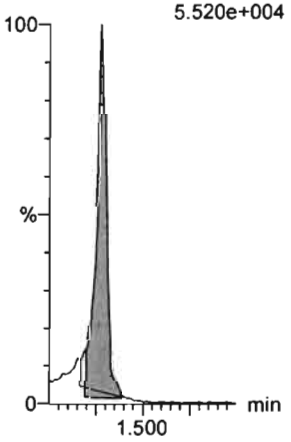
4:2 FTS
F16:MRM of 2 channels,ES-
327.0 > 306.9
1.293e+006



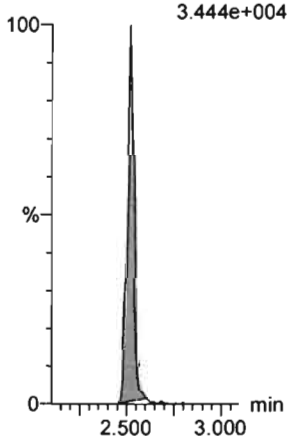
F16:MRM of 2 channels,ES-
327.0 > 80.9
6.723e+005



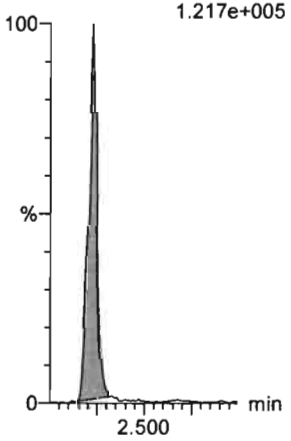
13C3-PFBA-EIS
F3:MRM of 1 channel,ES-
216.1 > 171.8
5.520e+004



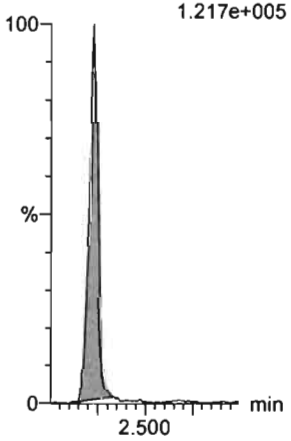
13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
3.444e+004



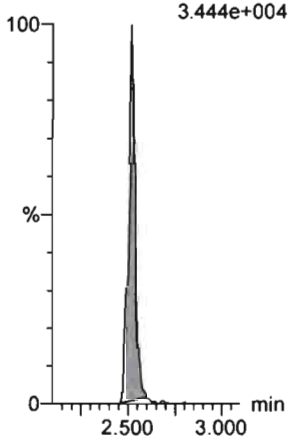
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.217e+005



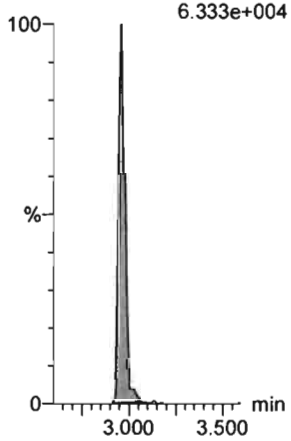
13C3-PFPeA-EIS
F8:MRM of 1 channel,ES-
266.0 > 221.8
1.217e+005



13C3-PFBS-EIS
F12:MRM of 1 channel,ES-
302.0 > 99
3.444e+004



13C2-4:2 FTS-EIS
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.333e+004

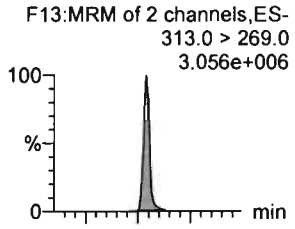


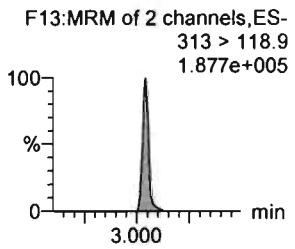
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

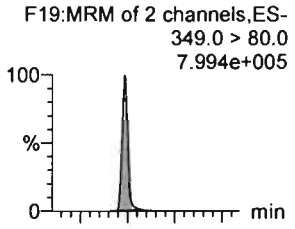
Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

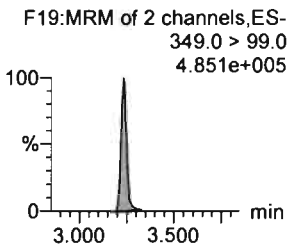
PFHxA



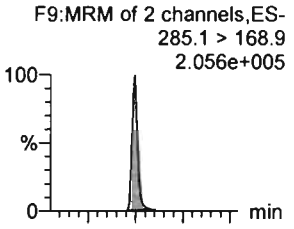


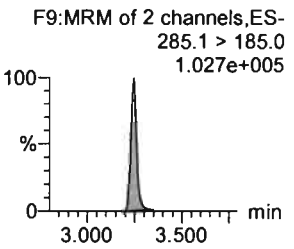
PFPeS



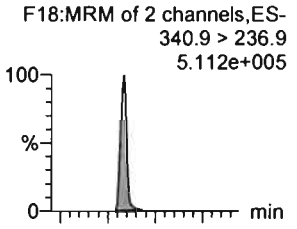


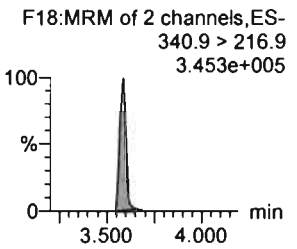
HFPO-DA



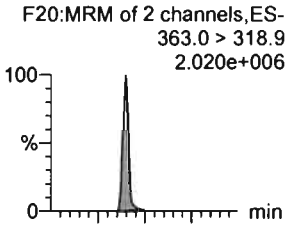


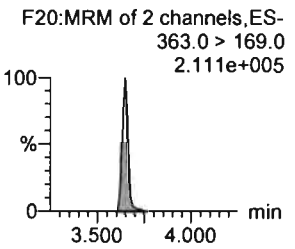
5:3 FTCA



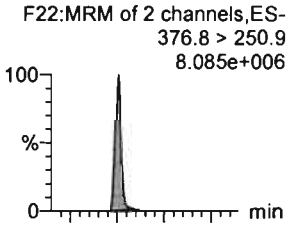


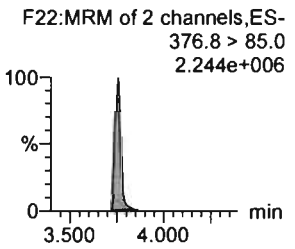
PFHpA



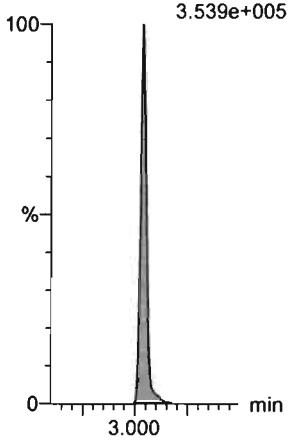


ADONA

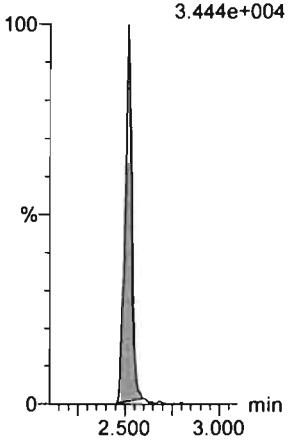




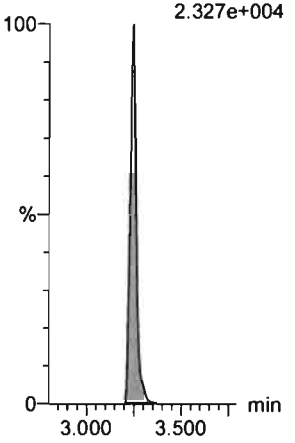
13C2-PFHxA-EIS



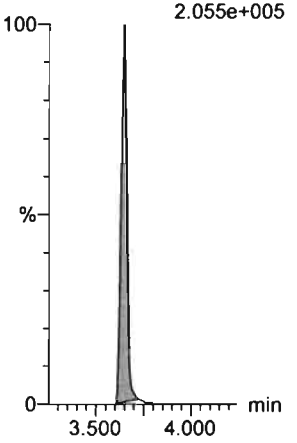
13C3-PFBS-EIS



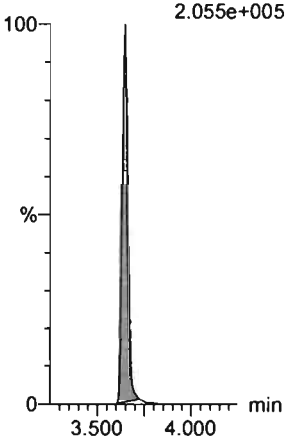
13C3-HFPO-DA-EIS



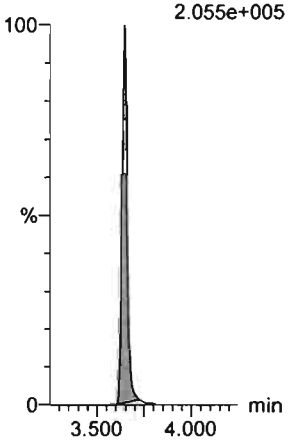
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

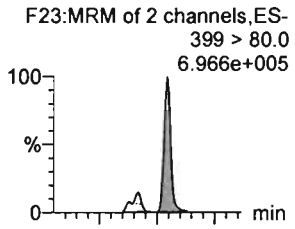


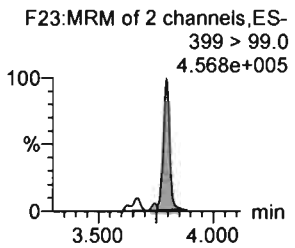
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

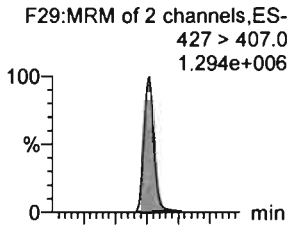
Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

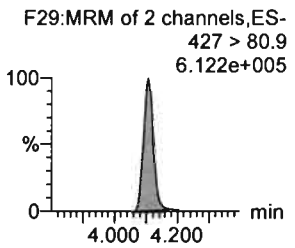
L-PFHxS



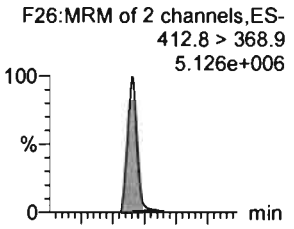


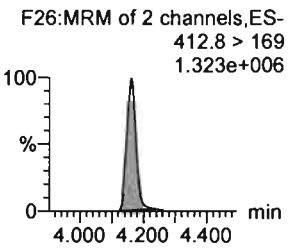
6:2 FTS



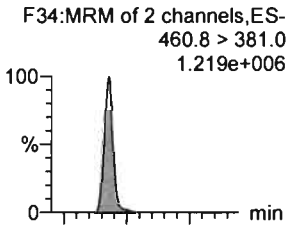


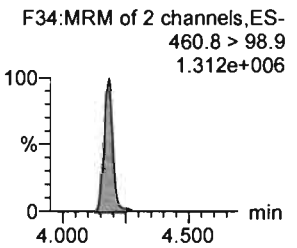
L-PFOA



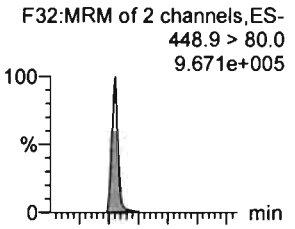


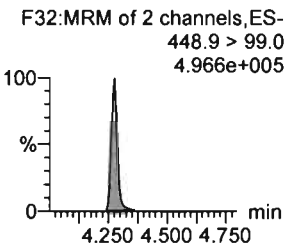
PFEChS



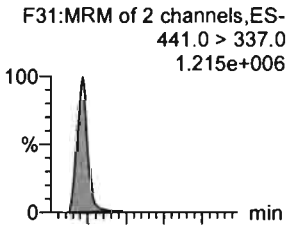


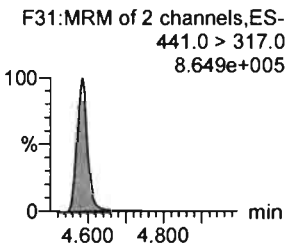
PFHpS



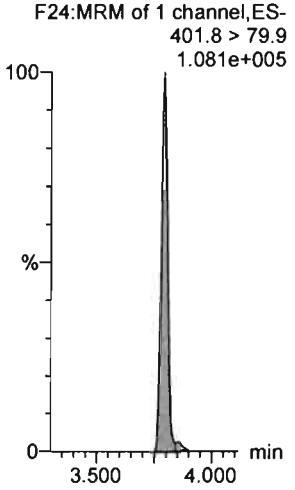


7:3 FTCA

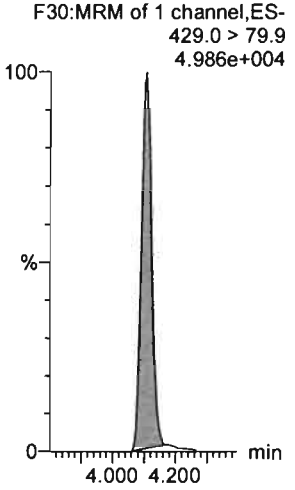




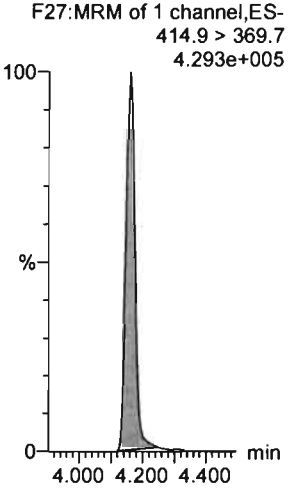
13C3-PFHxS-EIS



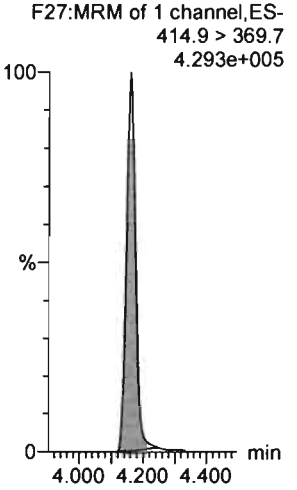
13C2-6:2 FTS-EIS



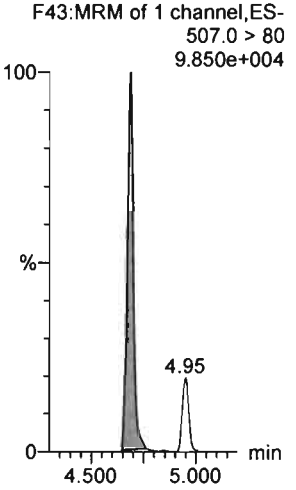
13C2-PFOA-EIS



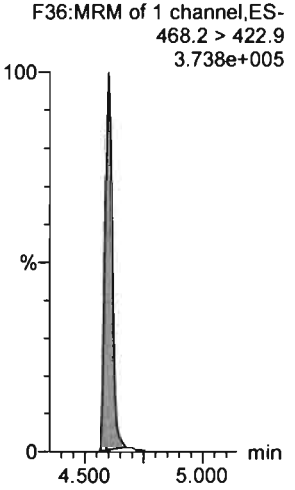
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

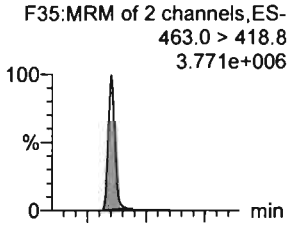


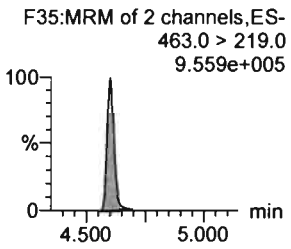
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

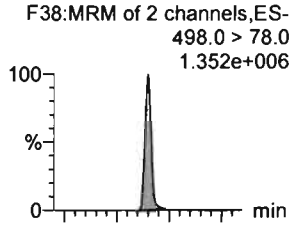
Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

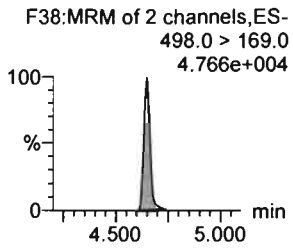
PFNA



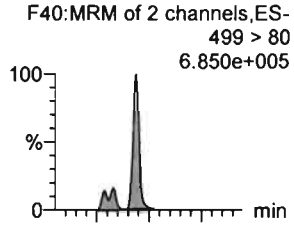


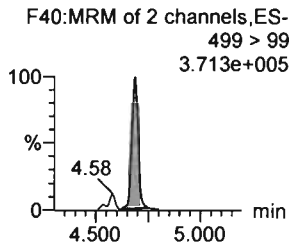
PFOSA



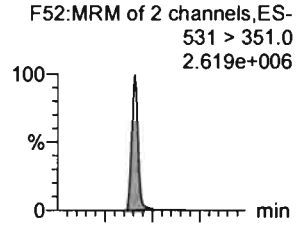


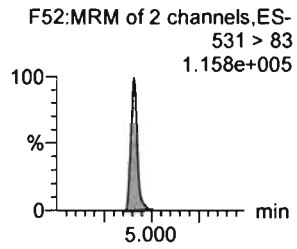
L-PFOS



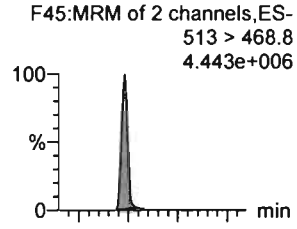


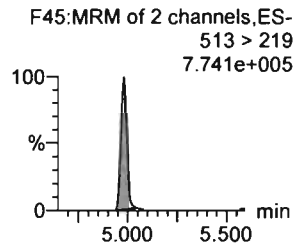
9CI-PF30NS



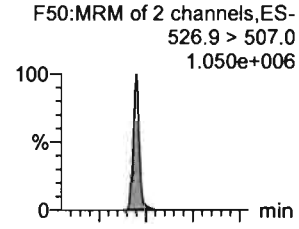


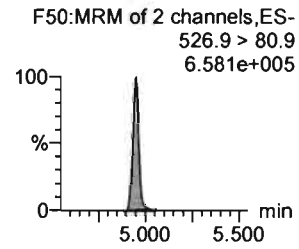
PFDA



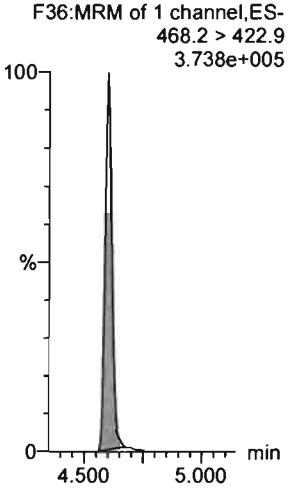


8:2 FTS

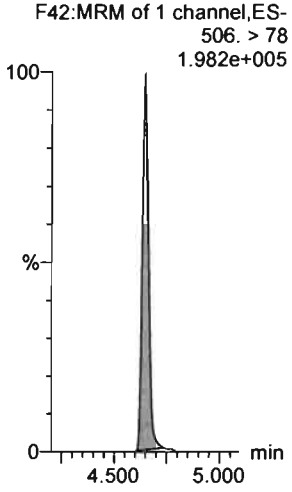




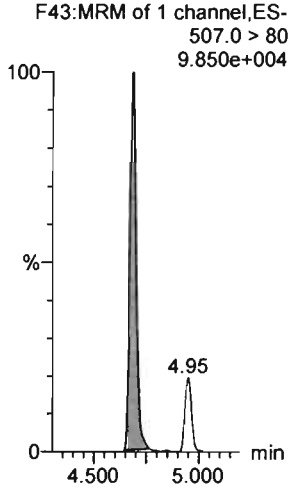
13C5-PFNA-EIS



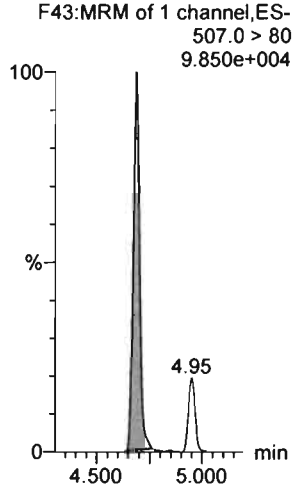
13C8-PFOSA-EIS



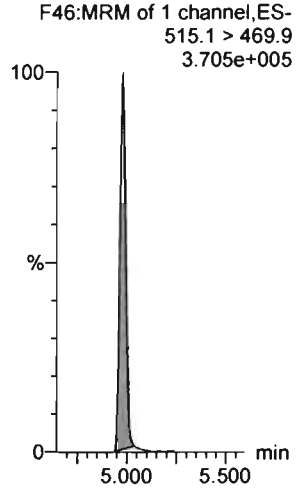
13C8-PFOS-EIS



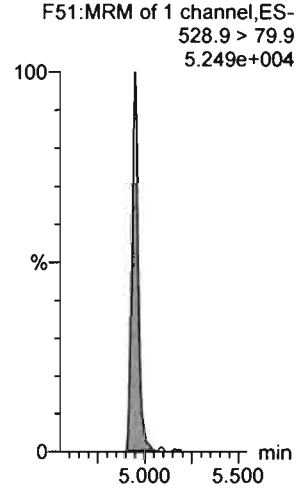
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

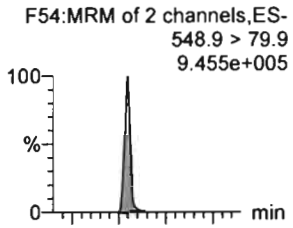


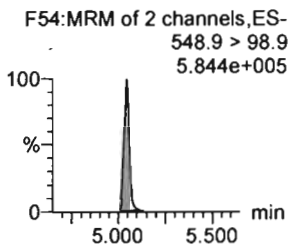
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

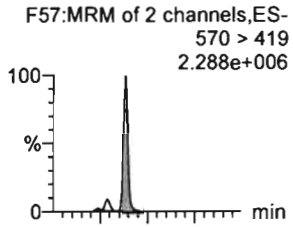
Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

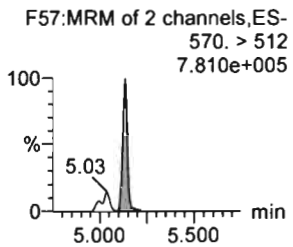
PFNS



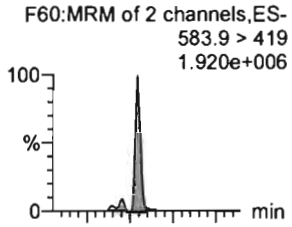


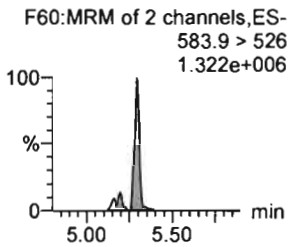
L-MeFOSAA



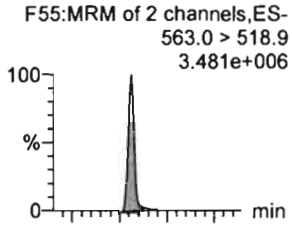


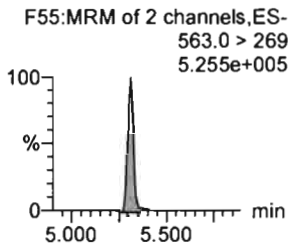
L-EtFOSAA



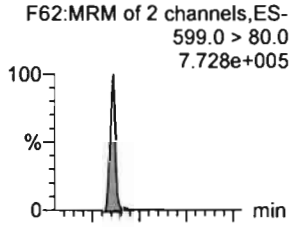


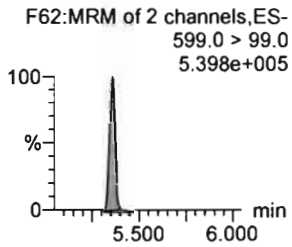
PFUdA



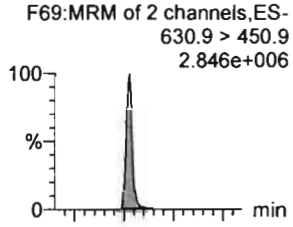


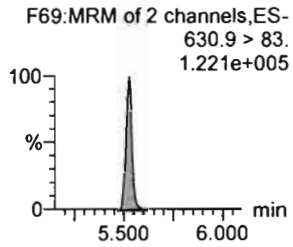
PFDS



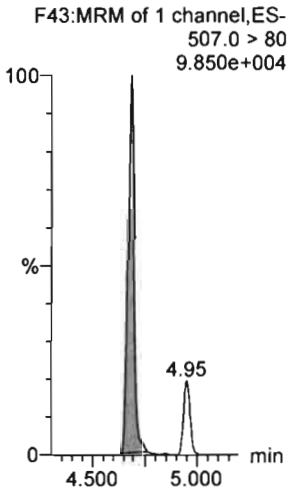


11Cl-PF30UdS

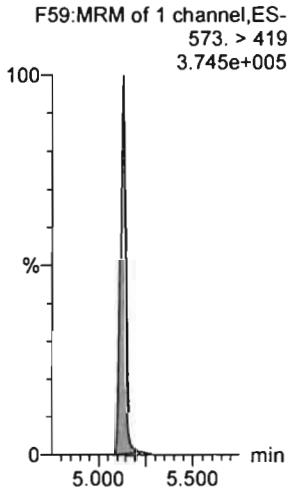




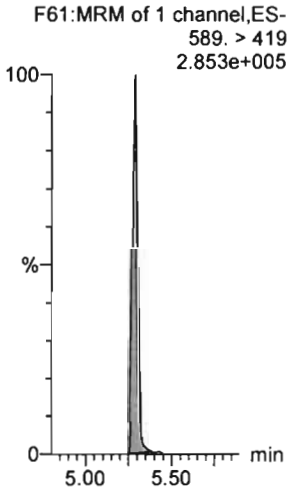
13C8-PFOS-EIS



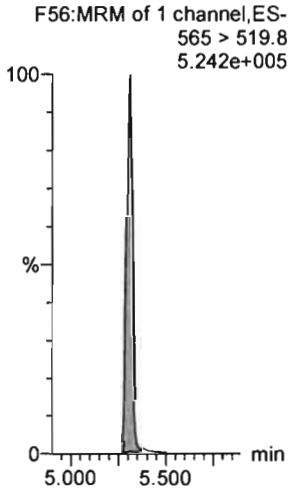
d3-N-MeFOSAA-EIS



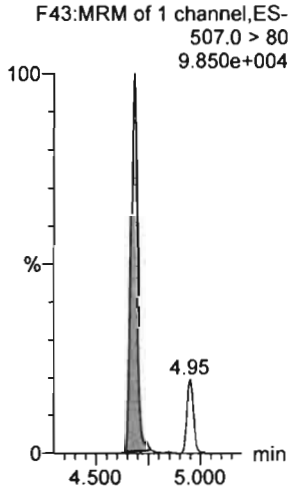
d5-N-EtFOSAA-EIS



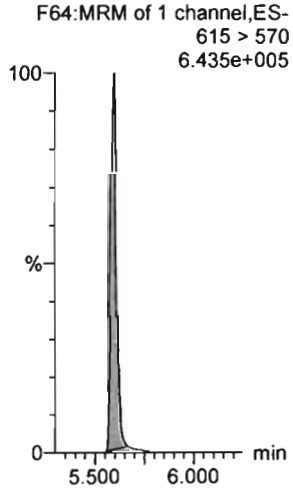
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

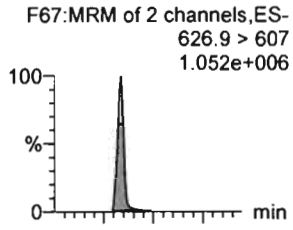


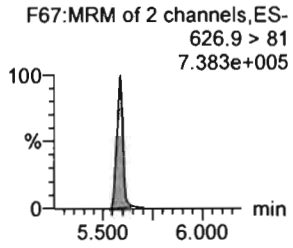
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

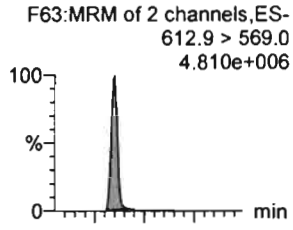
Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

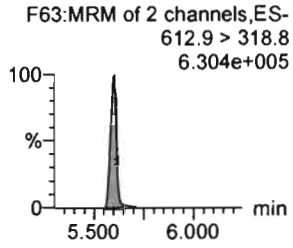
10:2 FTS



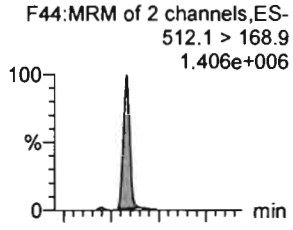


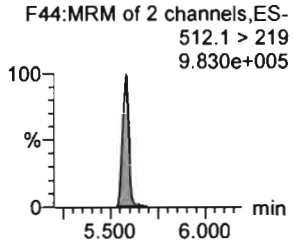
PFDoA



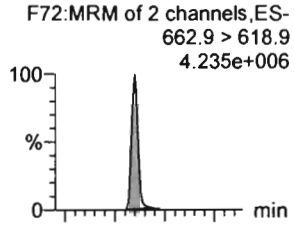


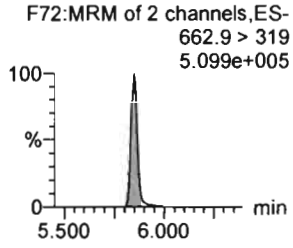
N-MeFOSA



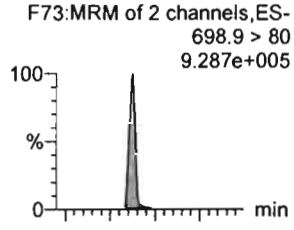


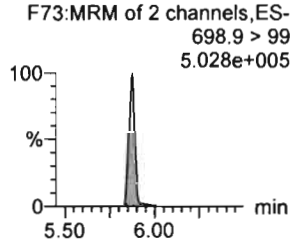
PFTrDA



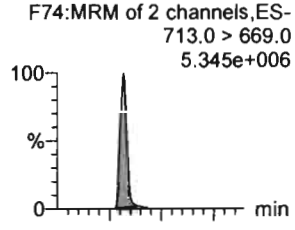


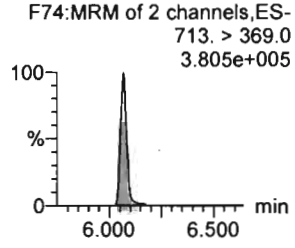
PFDoS



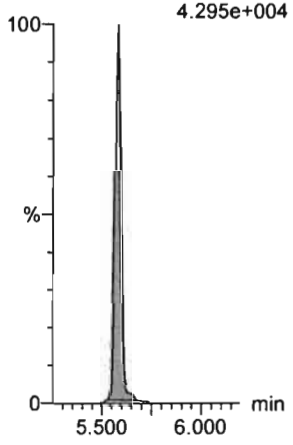


PFTeDA

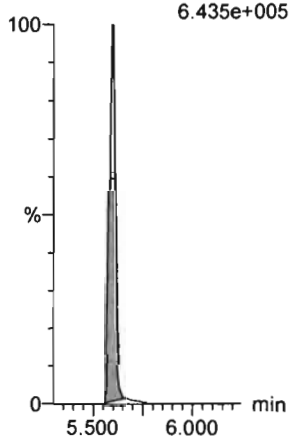




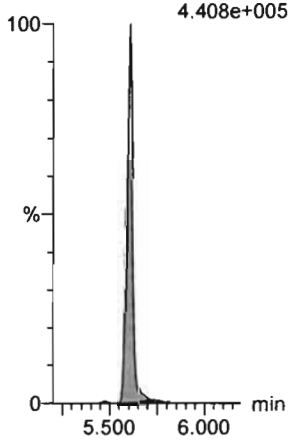
13C2-10:2 FTS-EIS



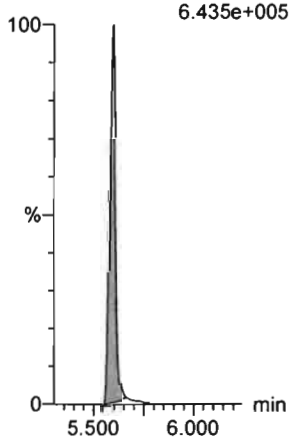
13C2-PFDoA-EIS



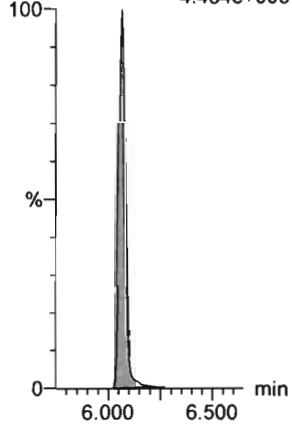
d3-N-MeFOSA-EIS



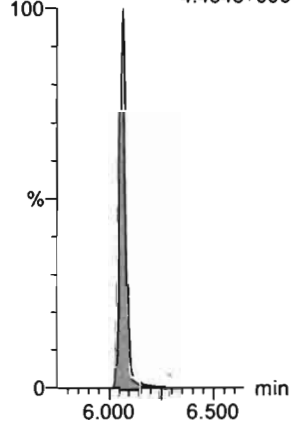
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

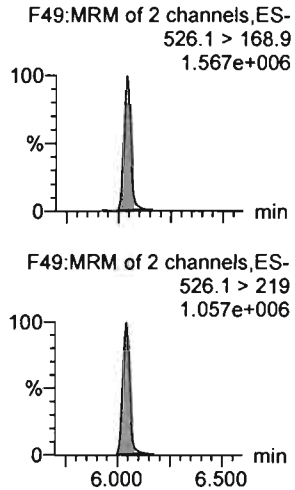


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

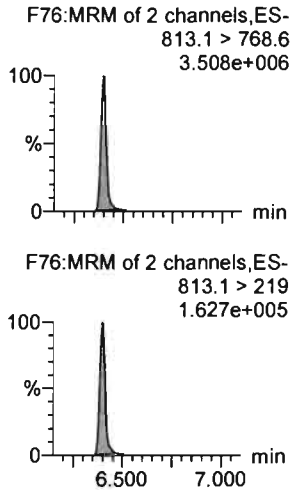
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

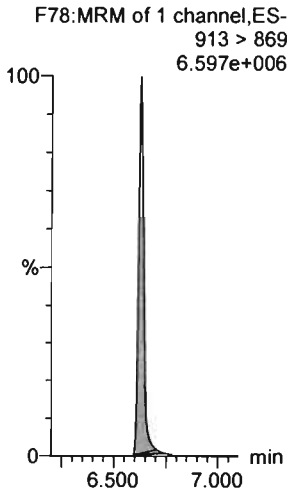
N-EtFOSA



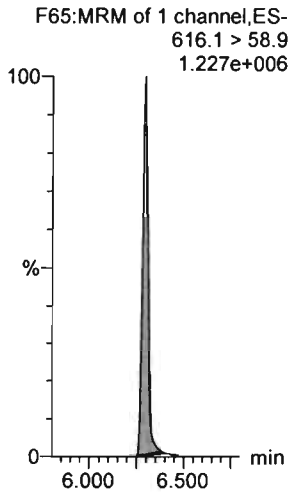
PFHxDA



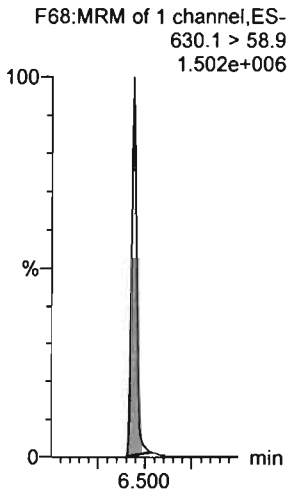
PFODA



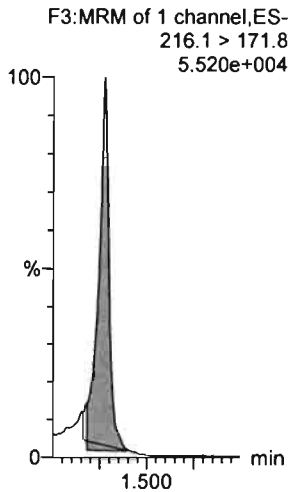
N-MeFOSE



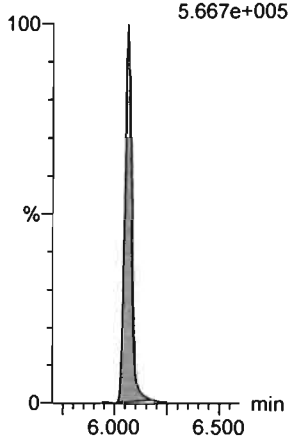
N-EtFOSE



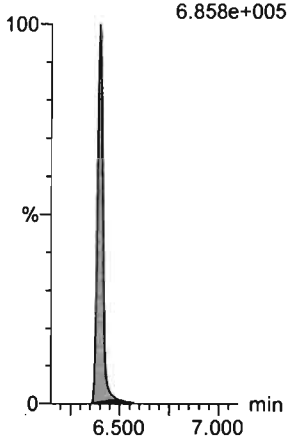
13C3-PFBA-RSD



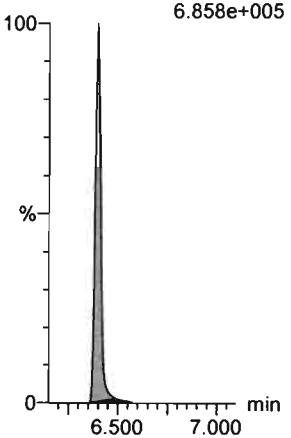
d5-N-ETFOSA-EIS



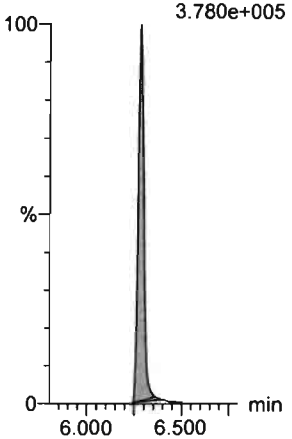
13C2-PFHxDA-EIS



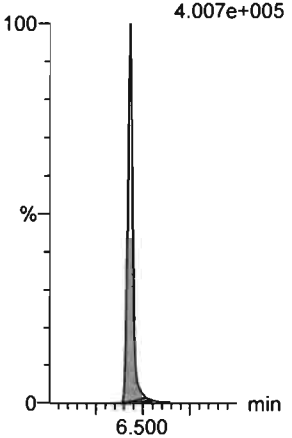
13C2-PFHxDA-EIS



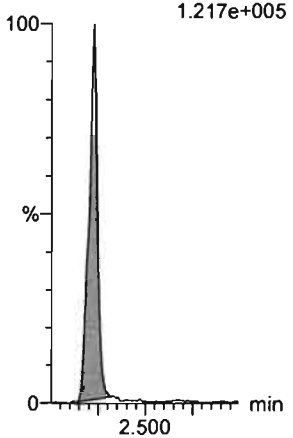
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

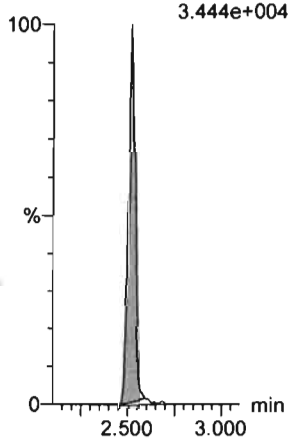


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

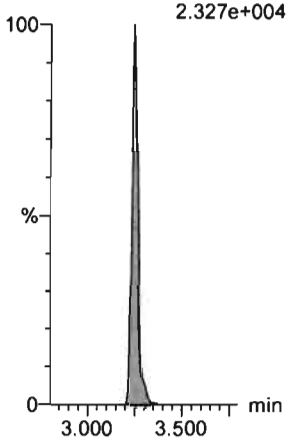
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

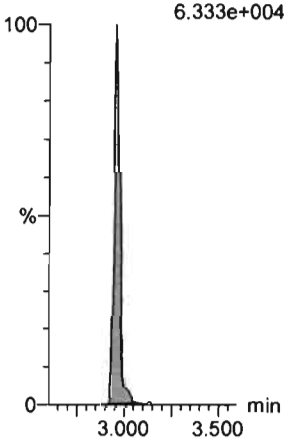
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.444e+004



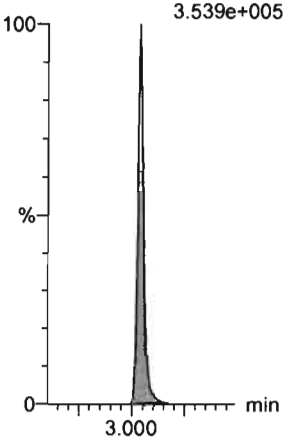
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.327e+004



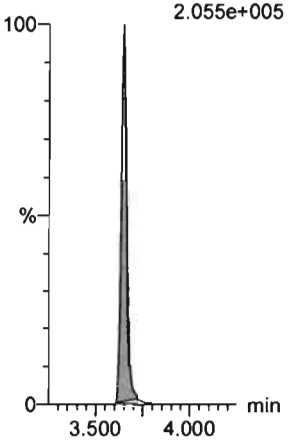
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.333e+004



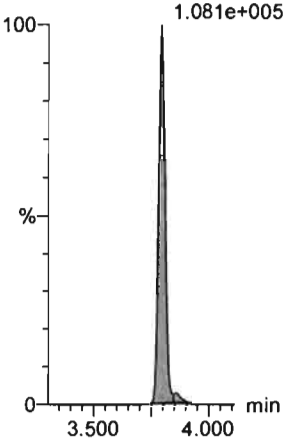
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.539e+005



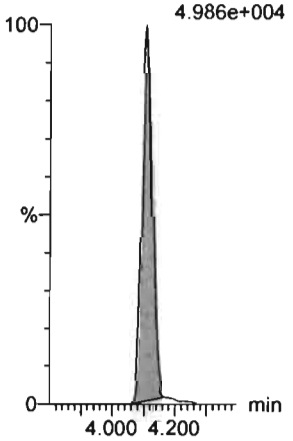
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.055e+005



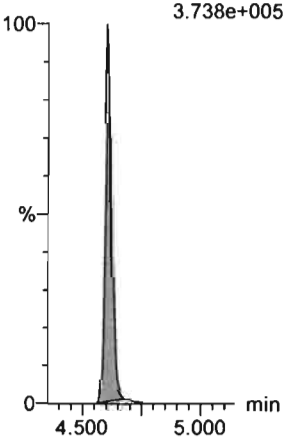
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.081e+005



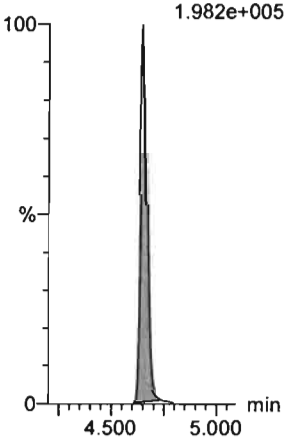
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
4.986e+004



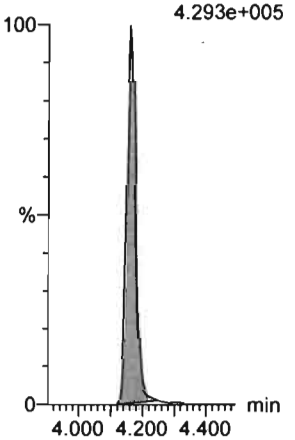
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.738e+005



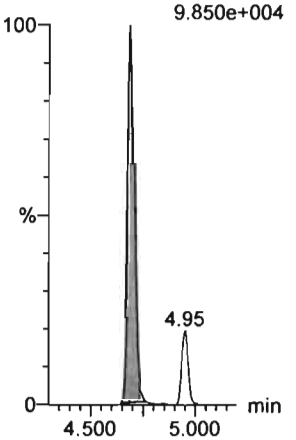
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.982e+005



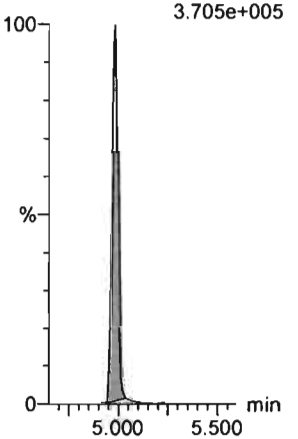
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.293e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
9.850e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.705e+005

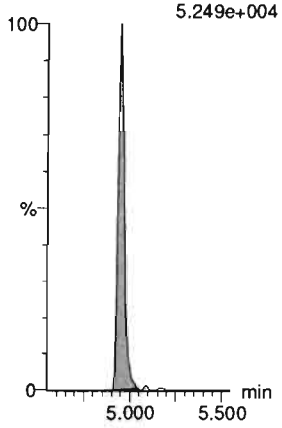


Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

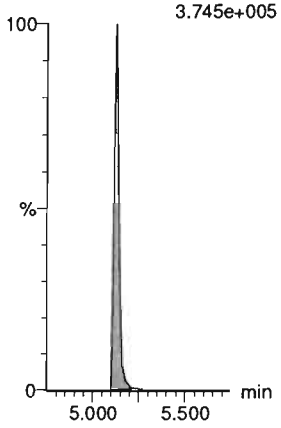
Last Altered: Tuesday, July 14, 2020 07:46:57 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 07:48:15 Pacific Daylight Time

Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

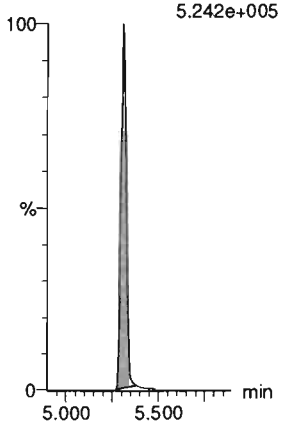
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.249e+004



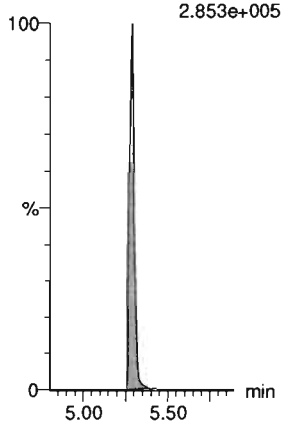
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.745e+005



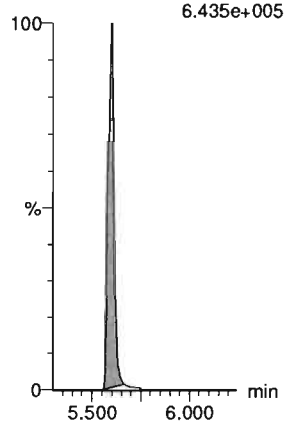
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.242e+005



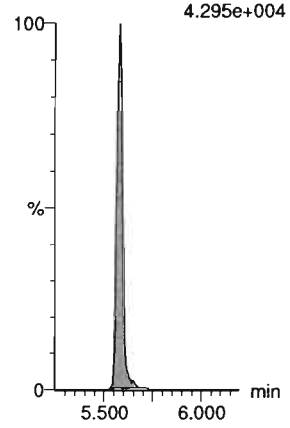
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.853e+005



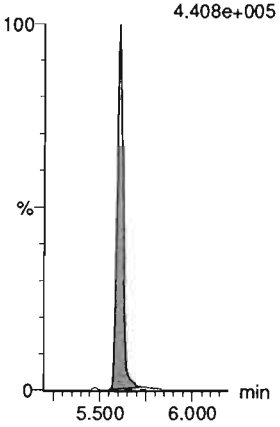
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
6.435e+005



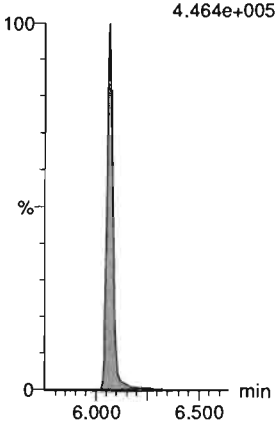
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.295e+004



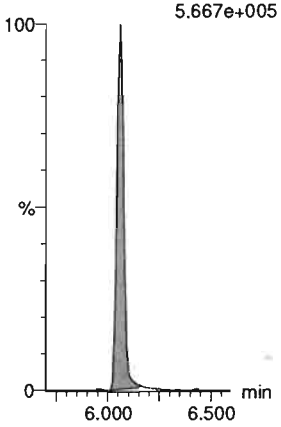
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.408e+005



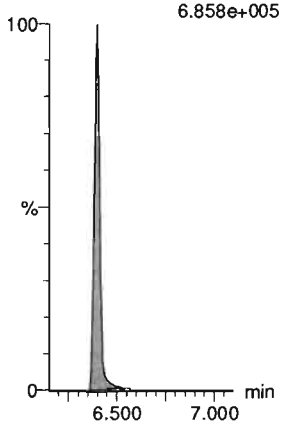
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.464e+005



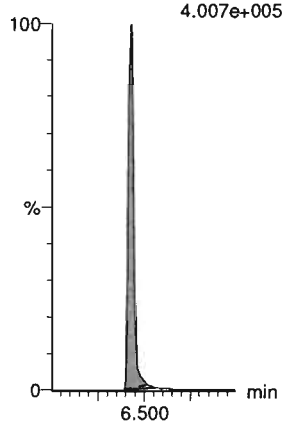
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.667e+005



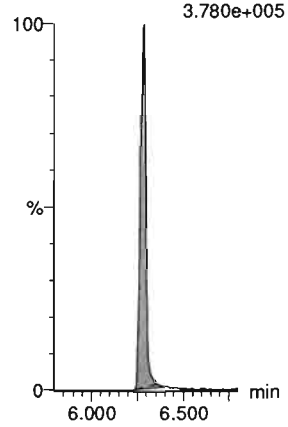
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.858e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.007e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.780e+005

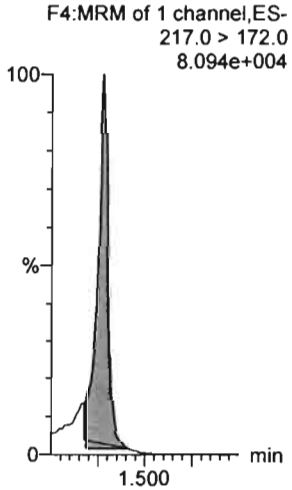


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

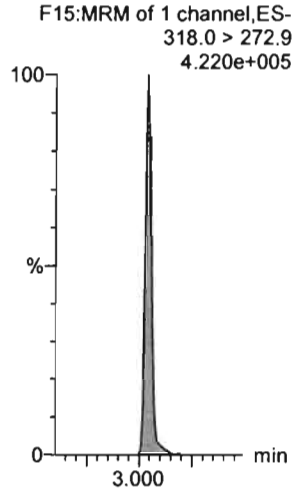
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_10, Date: 13-Jul-2020, Time: 16:23:22, ID: ST200713M1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

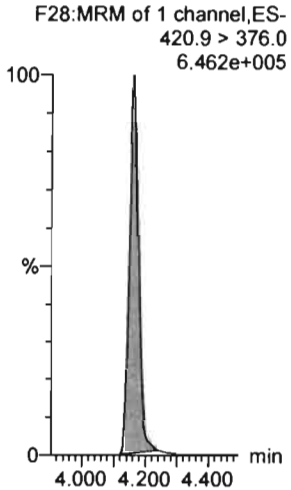
13C4-PFBA



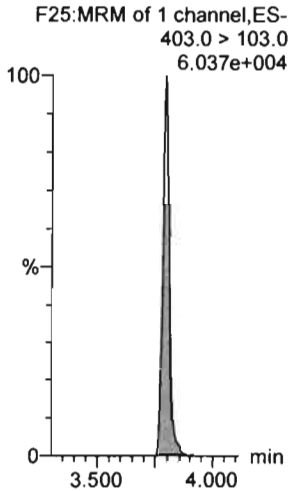
13C5-PFHxA



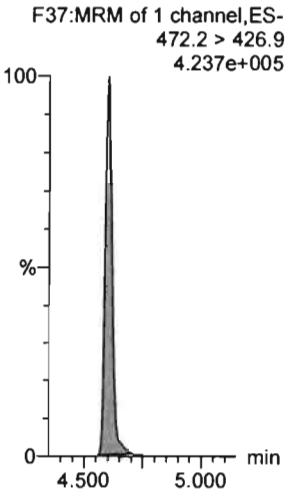
13C8-PFOA



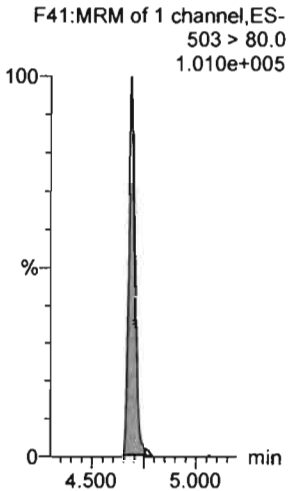
18O2-PFHxS



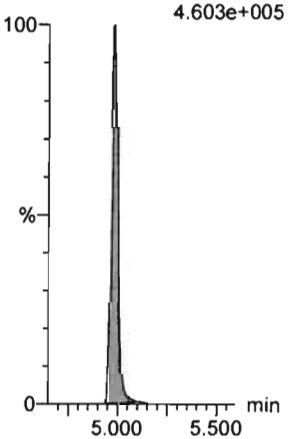
13C9-PFNA



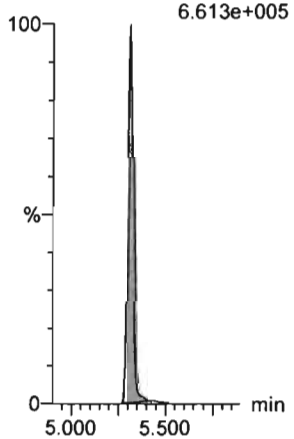
13C4-PFOS



13C6-PFDA



13C7-PFUdA

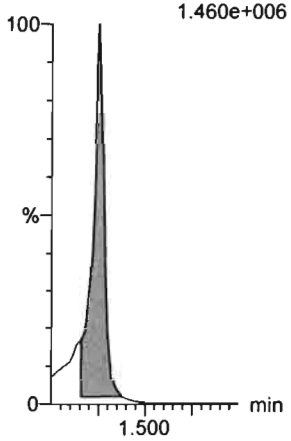


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

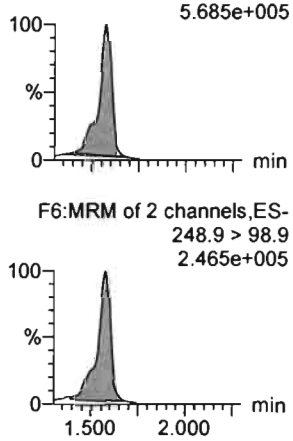
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

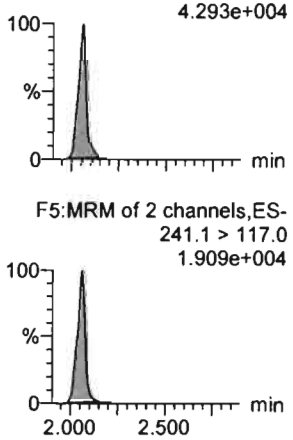
PFBA



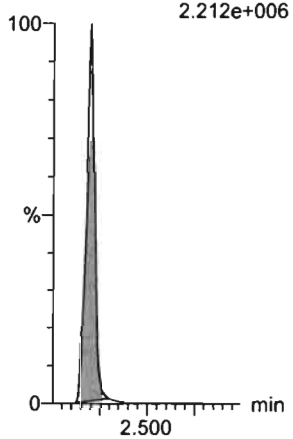
PFPrS



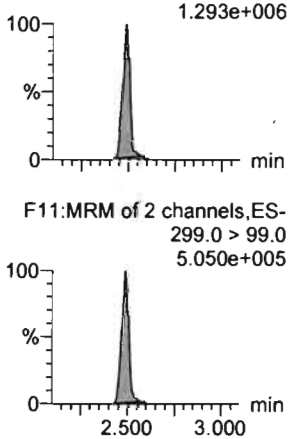
3:3 FTCA



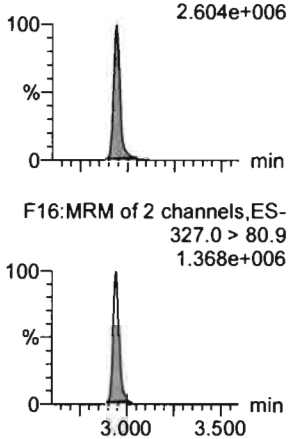
PFPeA



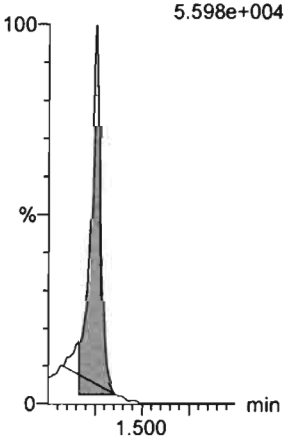
PFBS



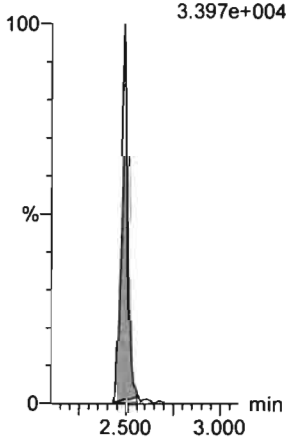
4:2 FTS



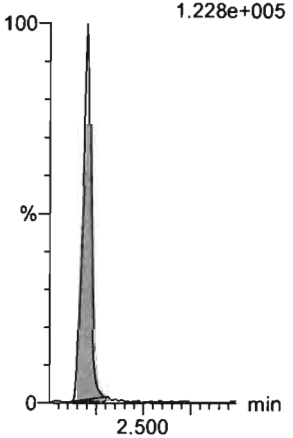
13C3-PFBA-EIS



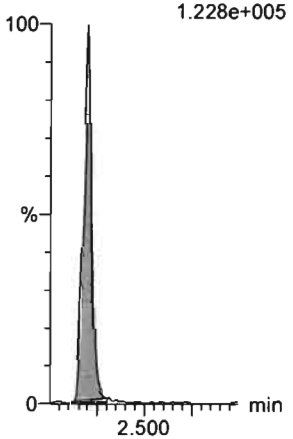
13C3-PFBS-EIS



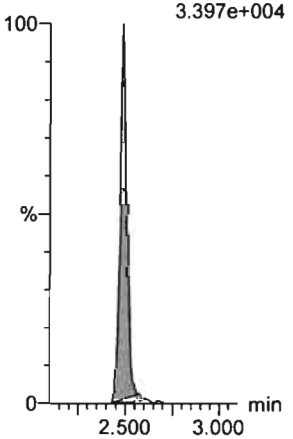
13C3-PFPeA-EIS



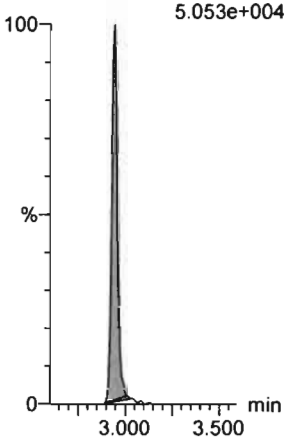
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

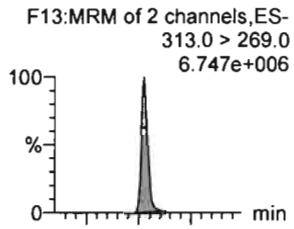


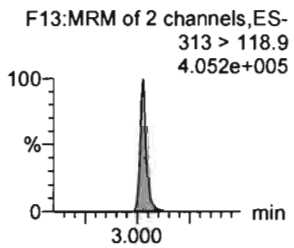
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

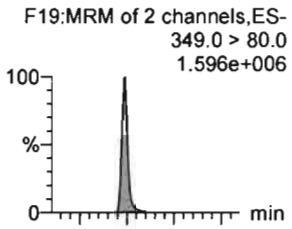
Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

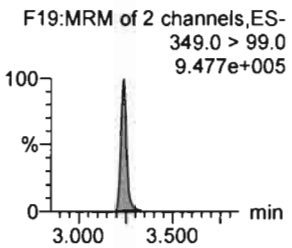
PFHxA



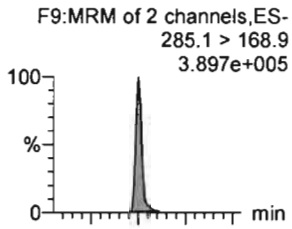


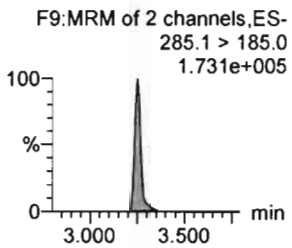
PFPeS



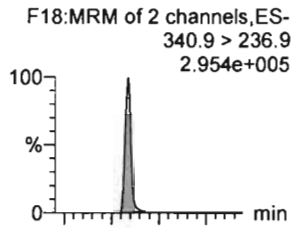


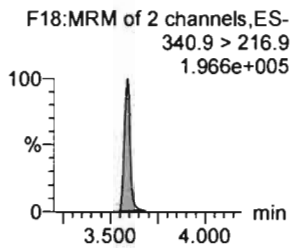
HFPO-DA



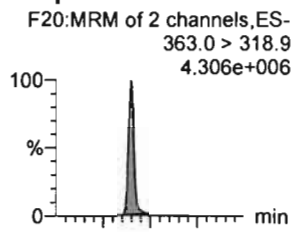


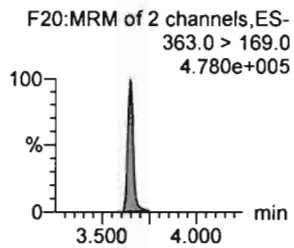
5:3 FTCA



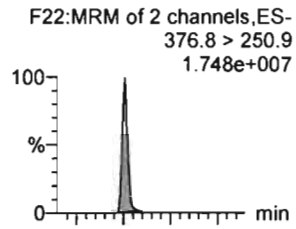


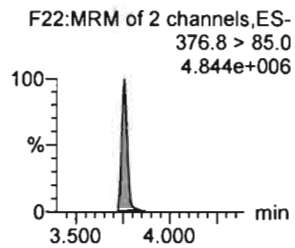
PFHpA



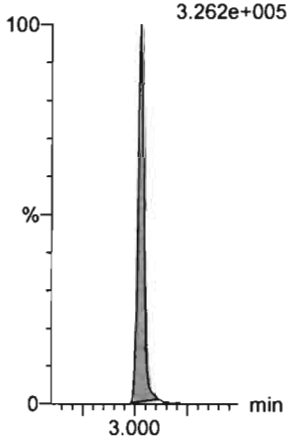


ADONA

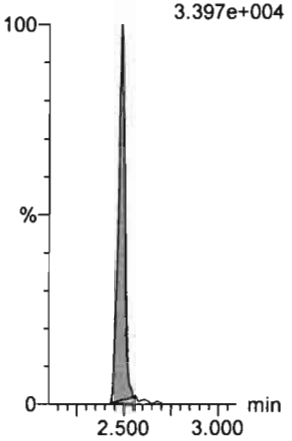




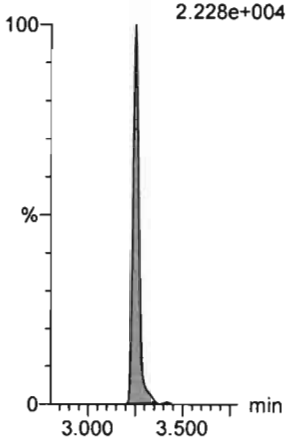
13C2-PFHxA-EIS



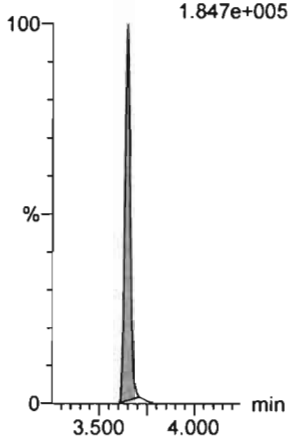
13C3-PFBS-EIS



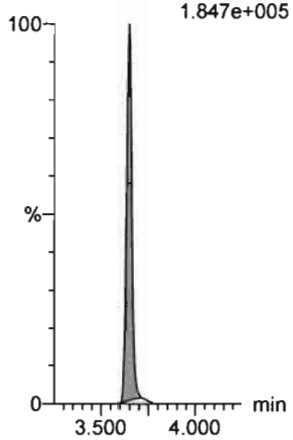
13C3-HFPO-DA-EIS



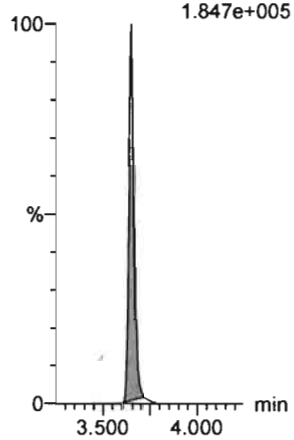
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

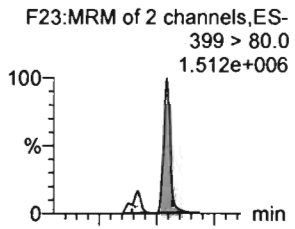


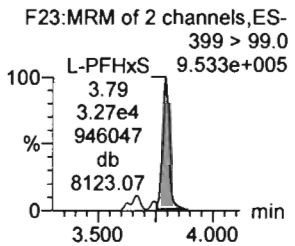
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

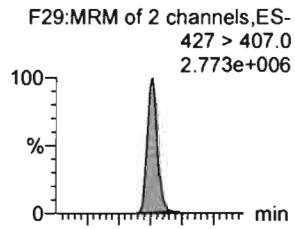
Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

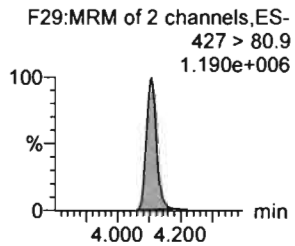
L-PFHxS



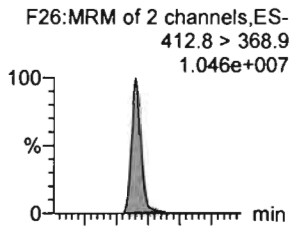


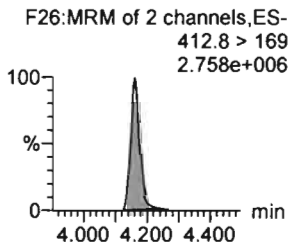
6:2 FTS



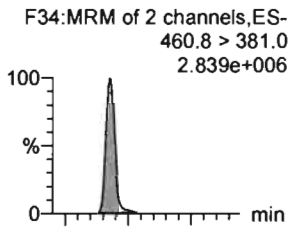


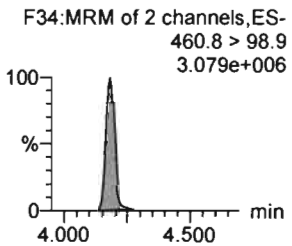
L-PFOA



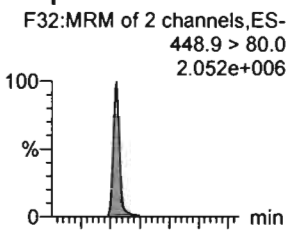


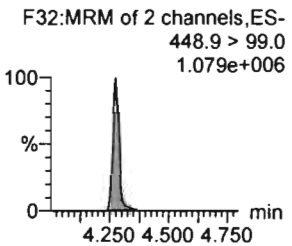
PFEChS



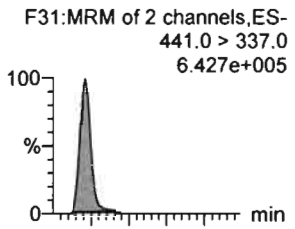


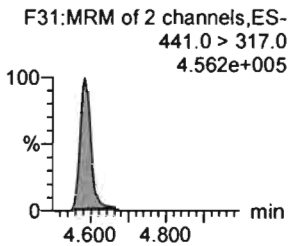
PFHpS



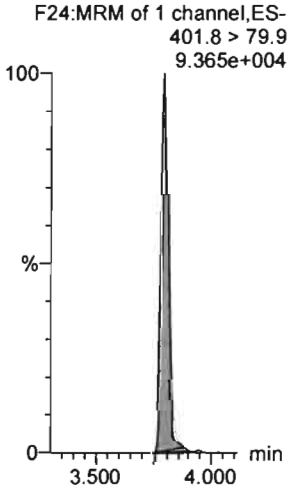


7:3 FTCA

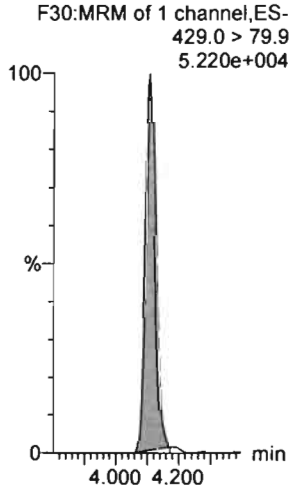




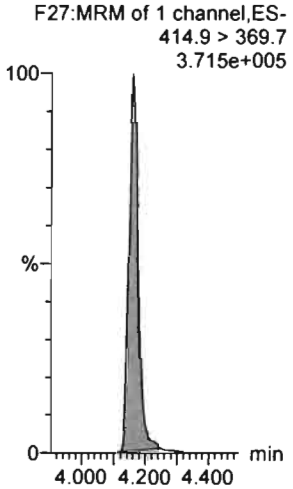
13C3-PFHxS-EIS



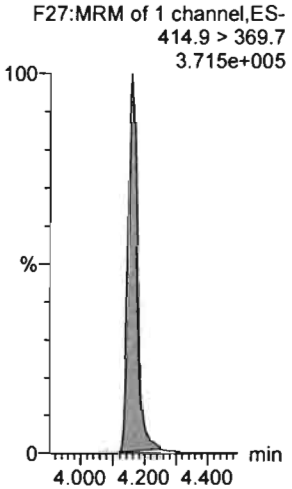
13C2-6:2 FTS-EIS



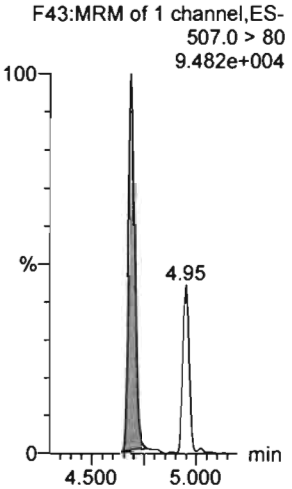
13C2-PFOA-EIS



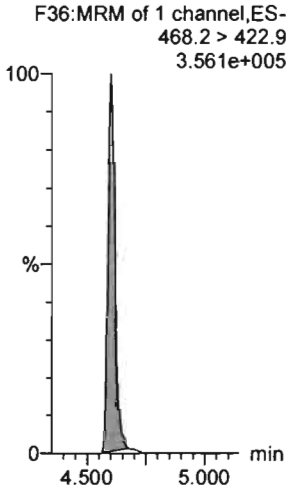
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

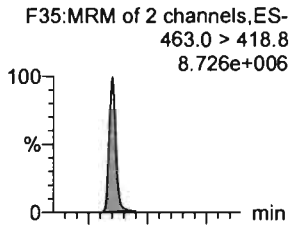


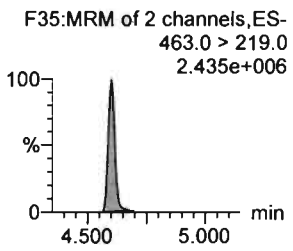
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

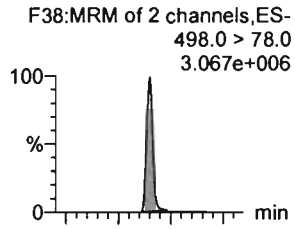
Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

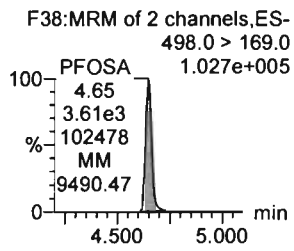
PFNA



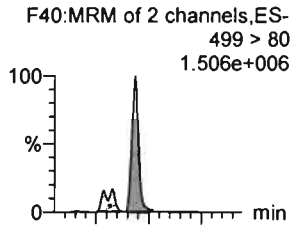


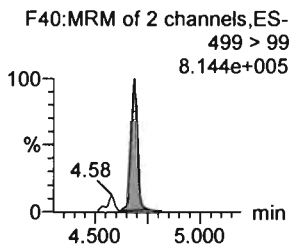
PFOSA



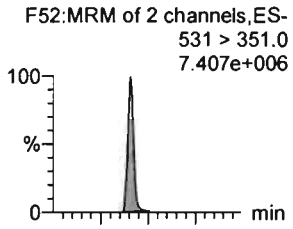


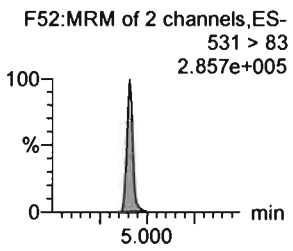
L-PFOS



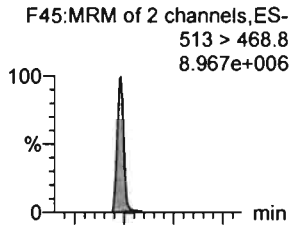


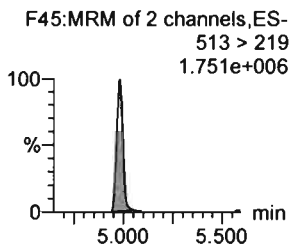
9Cl-PF30NS



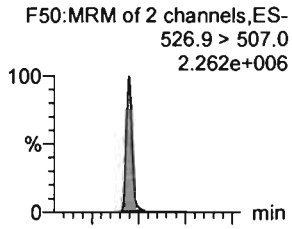


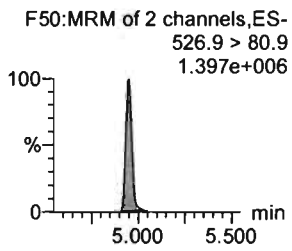
PFDA



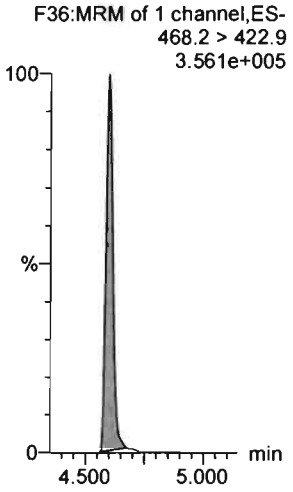


8:2 FTS

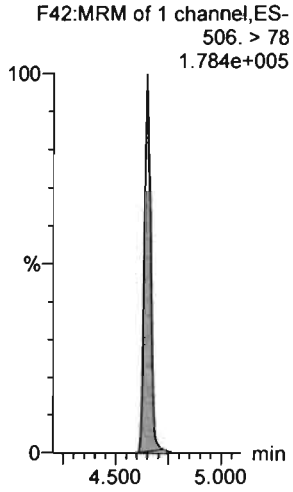




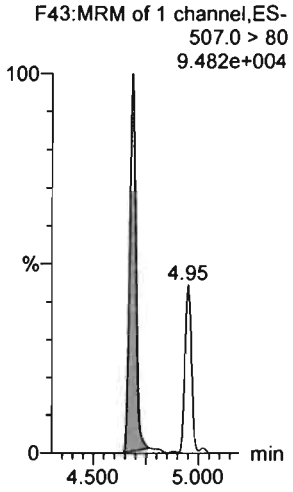
13C5-PFNA-EIS



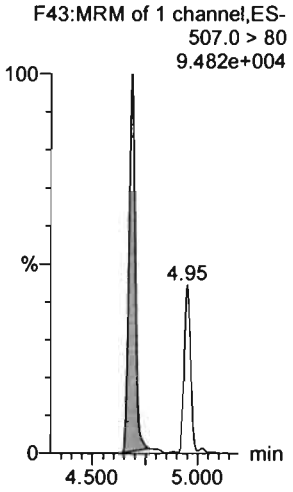
13C8-PFOSA-EIS



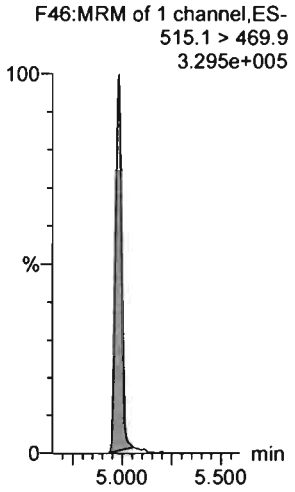
13C8-PFOS-EIS



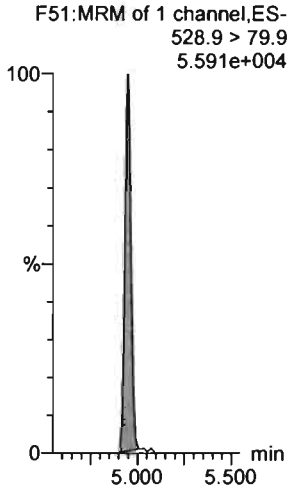
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

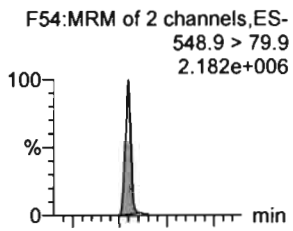


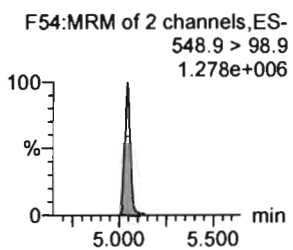
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

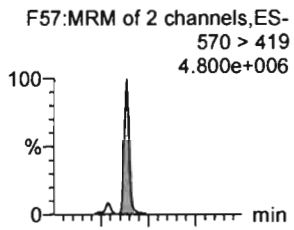
Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

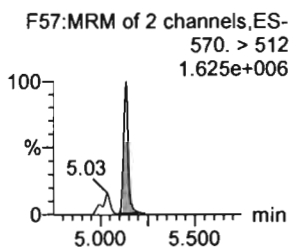
PFNS



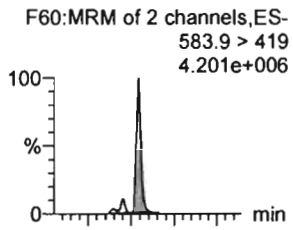


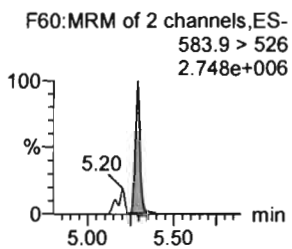
L-MeFOSAA



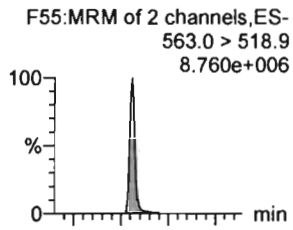


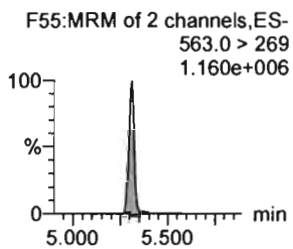
L-EtFOSAA



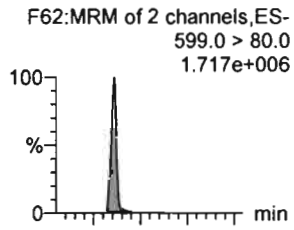


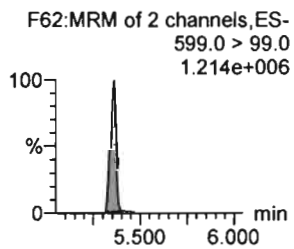
PFUdA



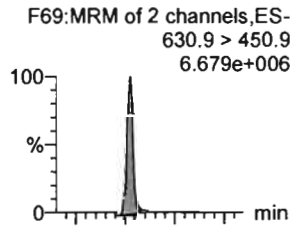


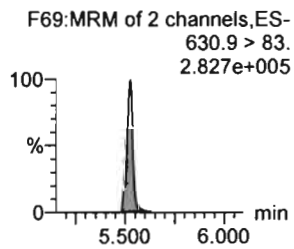
PFDS



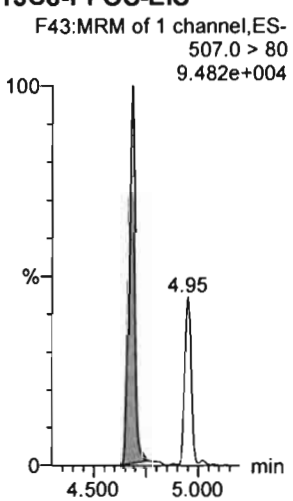


11Cl-PF30UdS

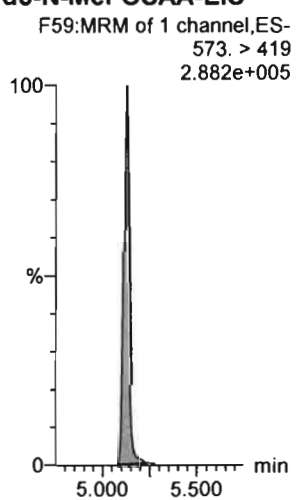




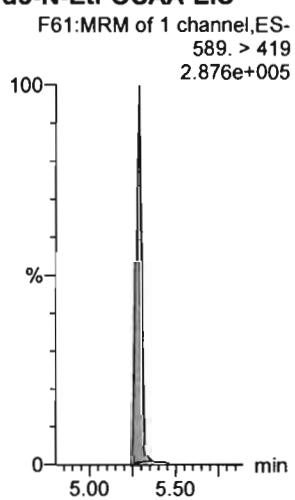
13C8-PFOS-EIS



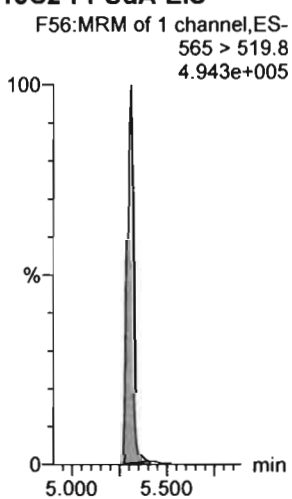
d3-N-MeFOSAA-EIS



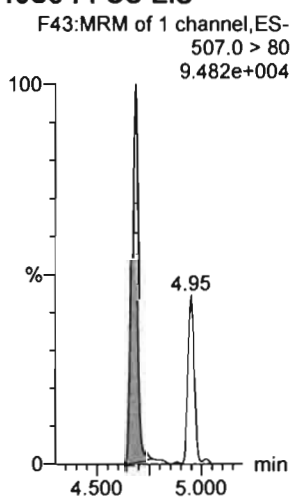
d5-N-EtFOSAA-EIS



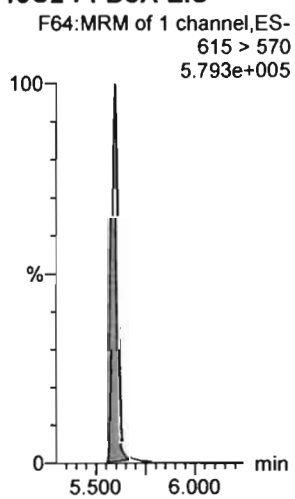
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

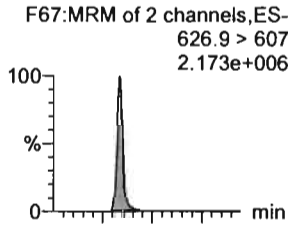


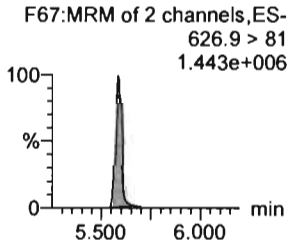
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

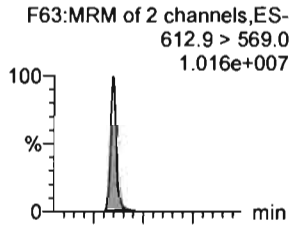
Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

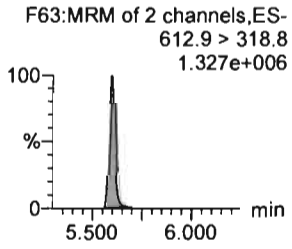
10:2 FTS



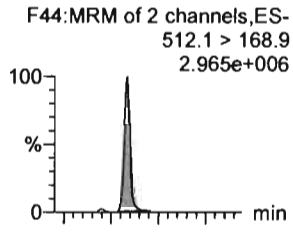


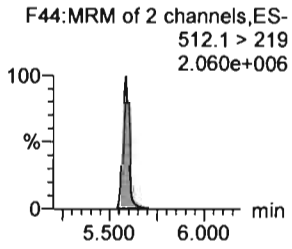
PFDoA



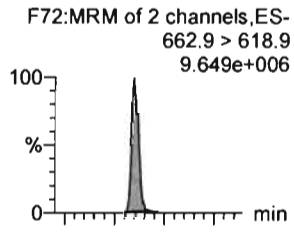


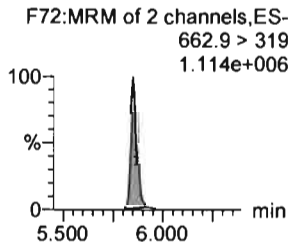
N-MeFOSA



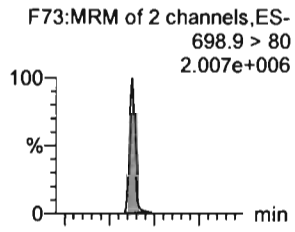


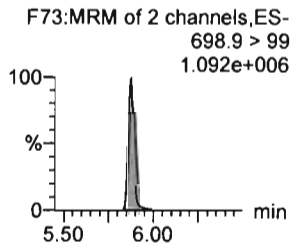
PFTrDA



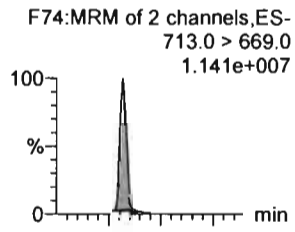


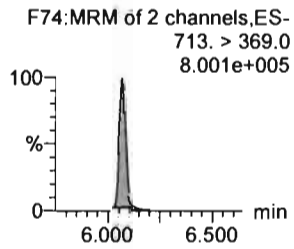
PFDoS



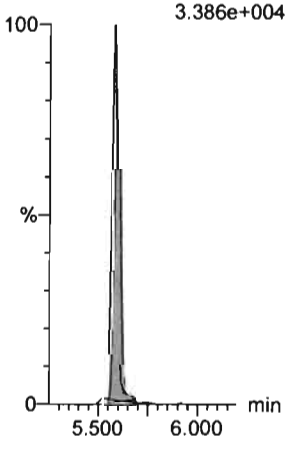


PFTeDA

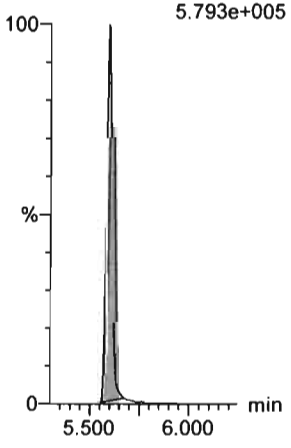




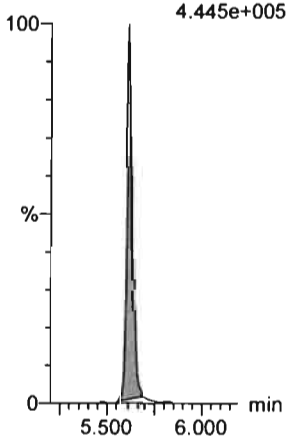
13C2-10:2 FTS-EIS



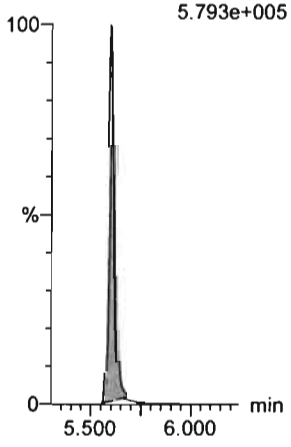
13C2-PFDoA-EIS



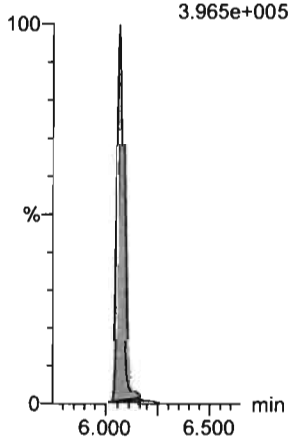
d3-N-MeFOSA-EIS



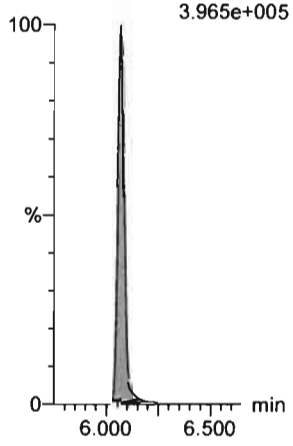
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

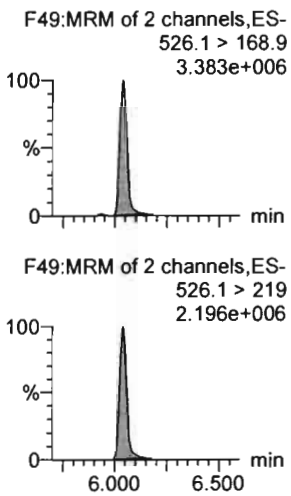


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

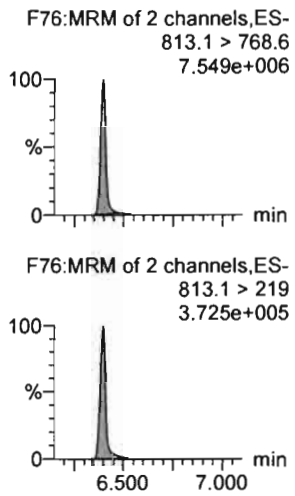
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

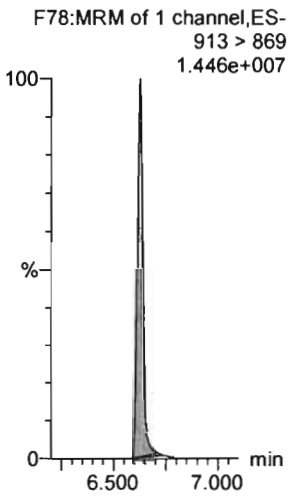
N-EtFOSA



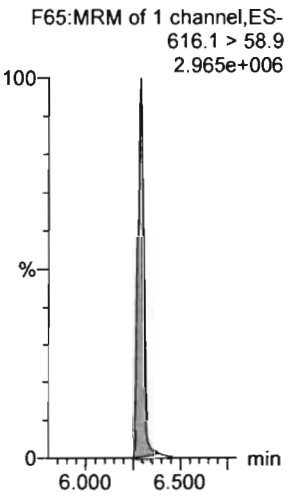
PFHxDA



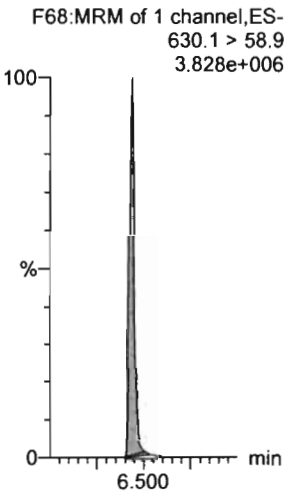
PFODA



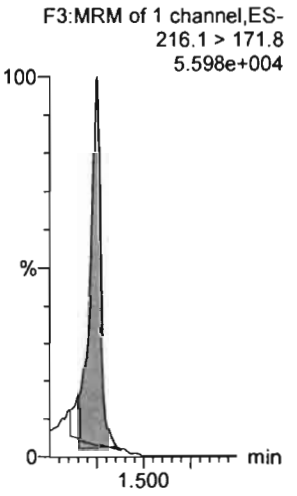
N-MeFOSE



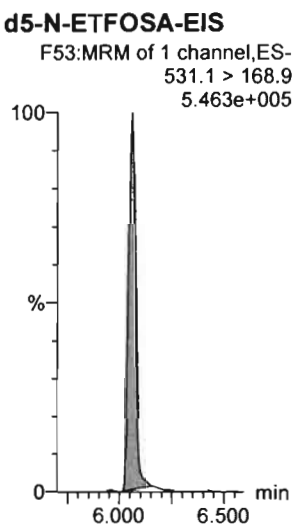
N-EtFOSE



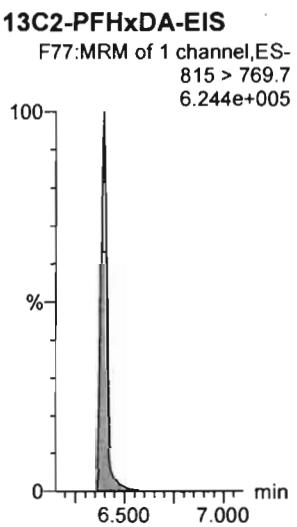
13C3-PFBA-RSD



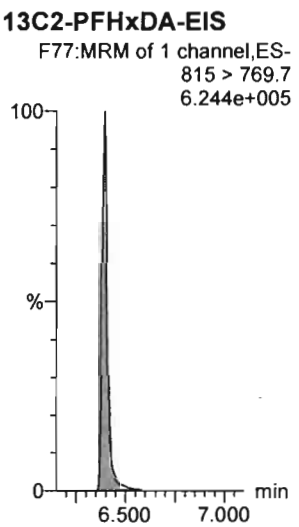
d5-N-ETFOSA-EIS



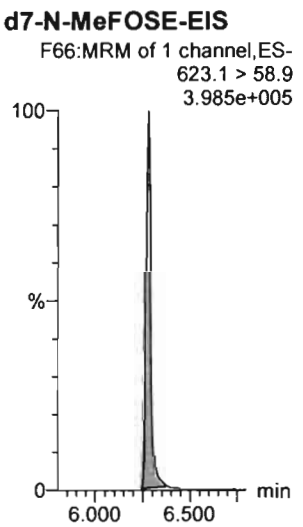
13C2-PFHxDA-EIS



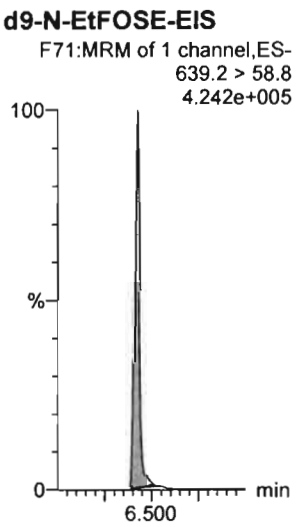
13C2-PFHxDA-EIS



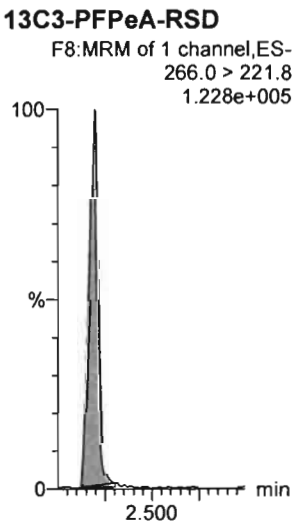
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

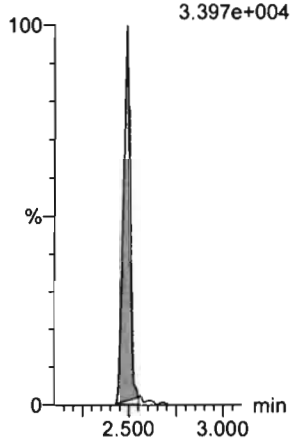


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

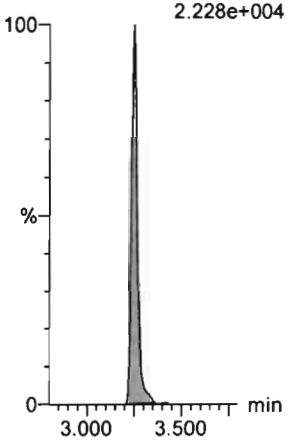
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

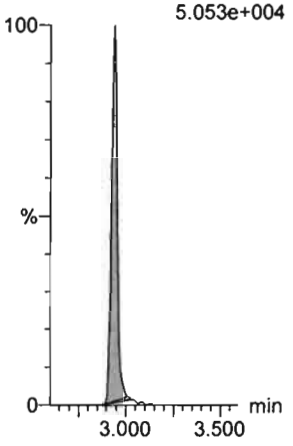
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.397e+004



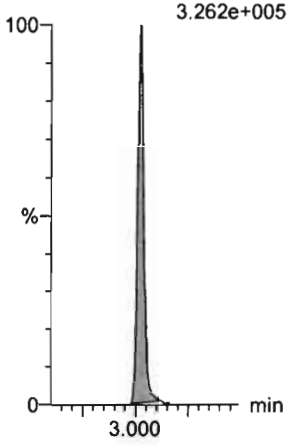
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.228e+004



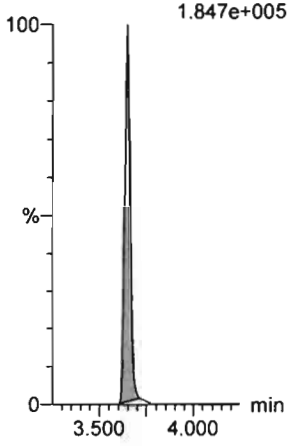
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
5.053e+004



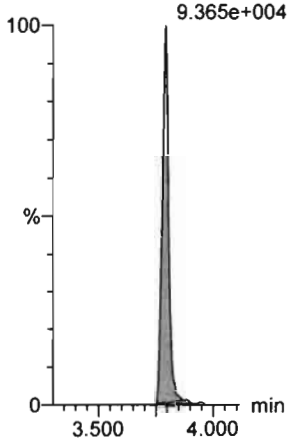
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.262e+005



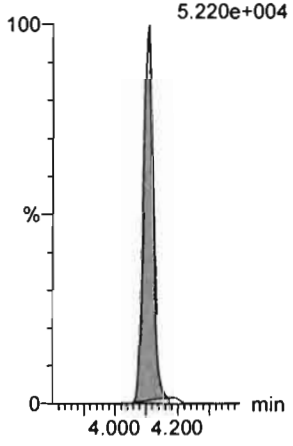
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.847e+005



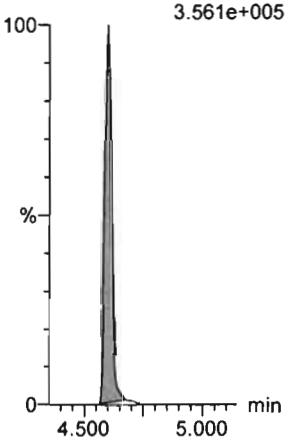
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
9.365e+004



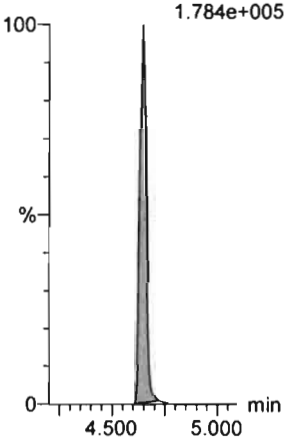
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
5.220e+004



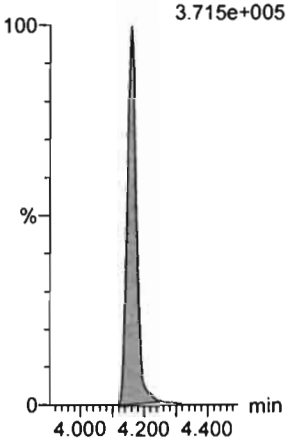
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.561e+005



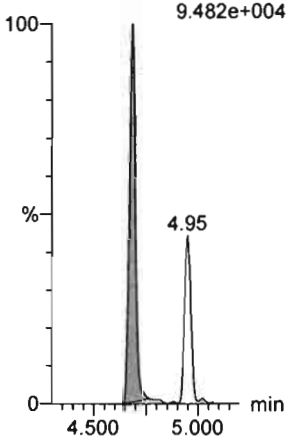
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.784e+005



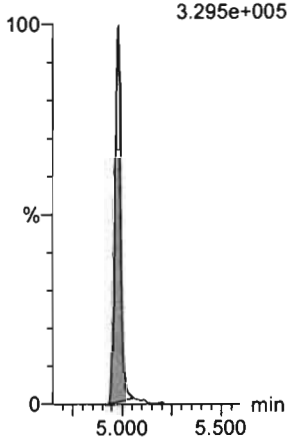
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
3.715e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
9.482e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.295e+005

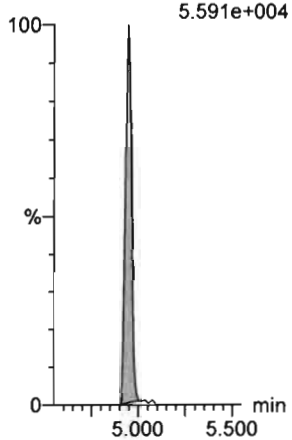


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

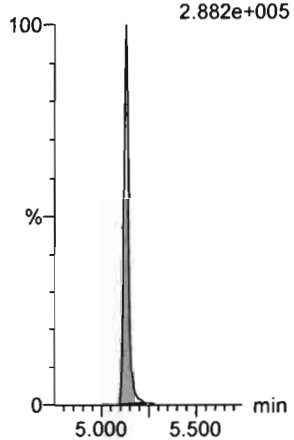
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

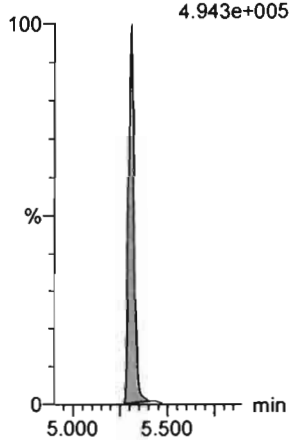
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.591e+004



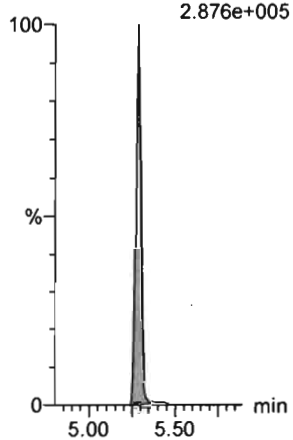
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
2.882e+005



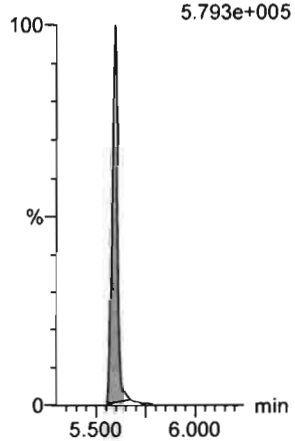
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
4.943e+005



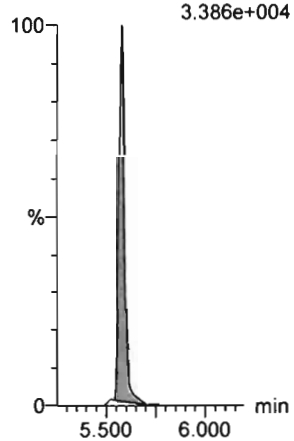
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.876e+005



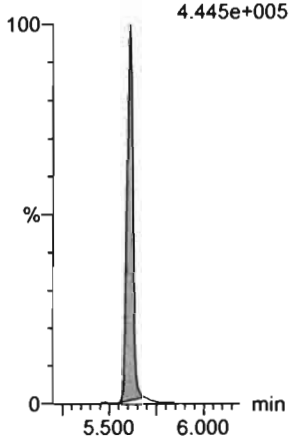
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
5.793e+005



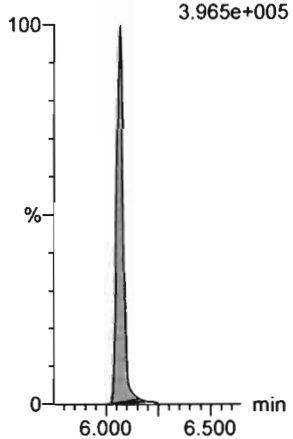
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
3.386e+004



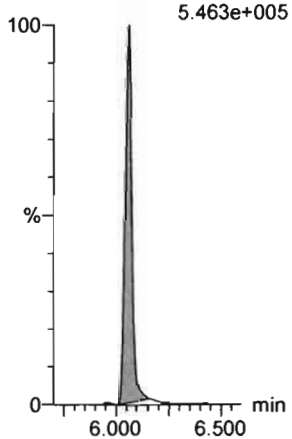
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.445e+005



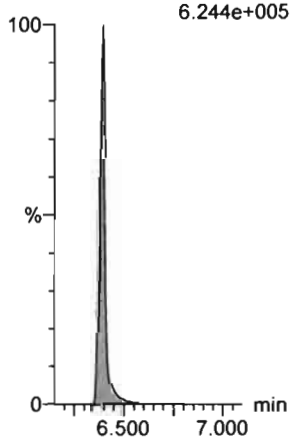
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
3.965e+005



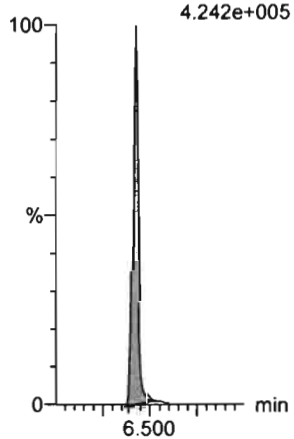
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.463e+005



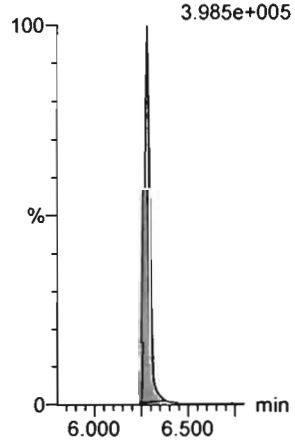
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
6.244e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.242e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.985e+005

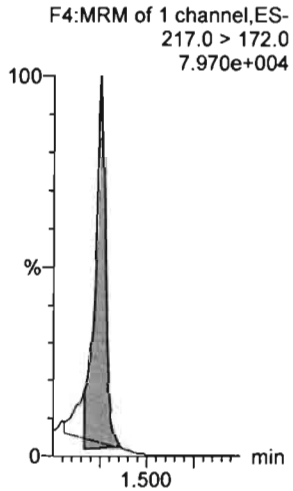


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

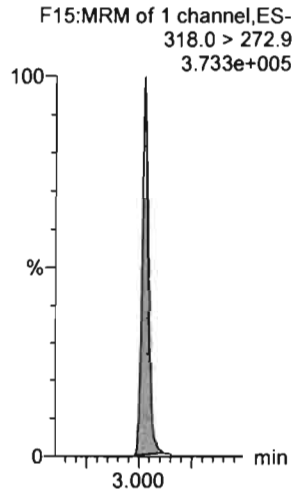
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_11, Date: 13-Jul-2020, Time: 16:33:48, ID: ST200713M1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

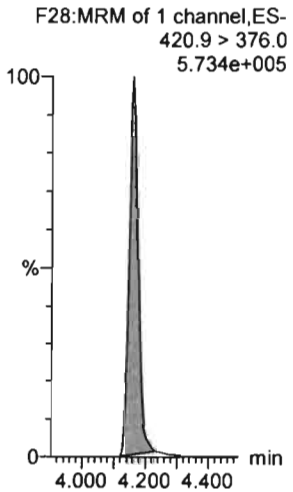
13C4-PFBA



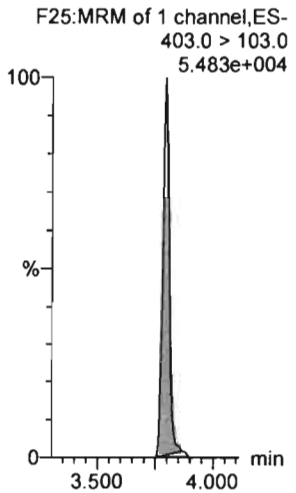
13C5-PFHxA



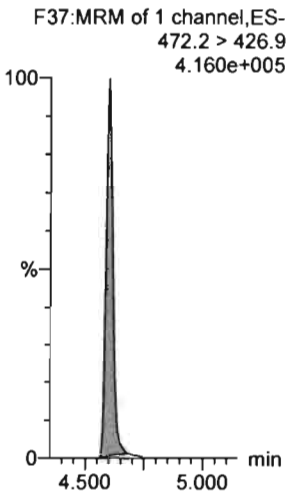
13C8-PFOA



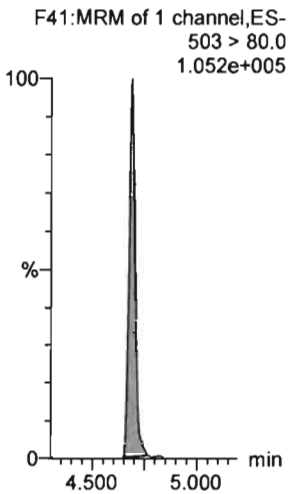
18O2-PFHxS



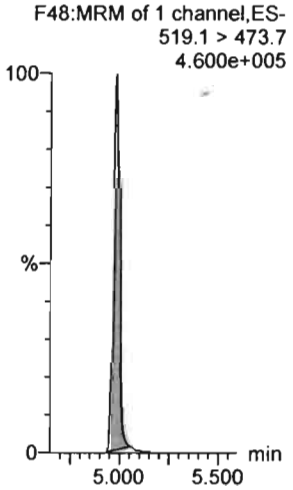
13C9-PFNA



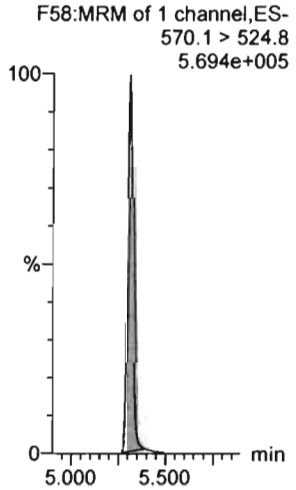
13C4-PFOS



13C6-PFDA



13C7-PFUdA

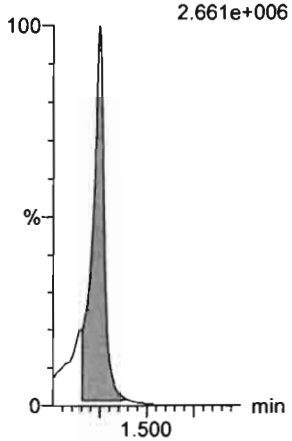


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

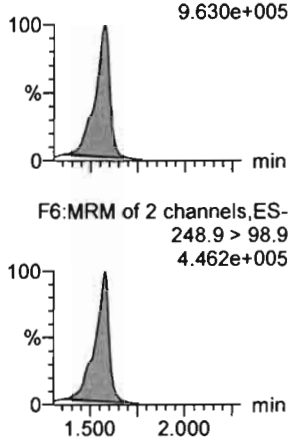
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

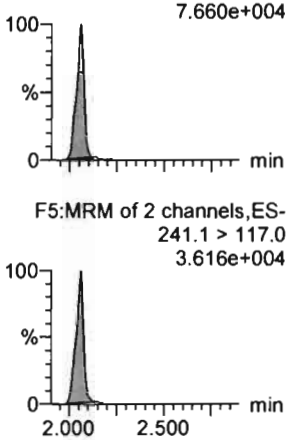
PFBA



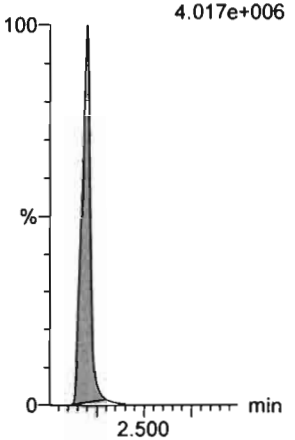
PFPrS



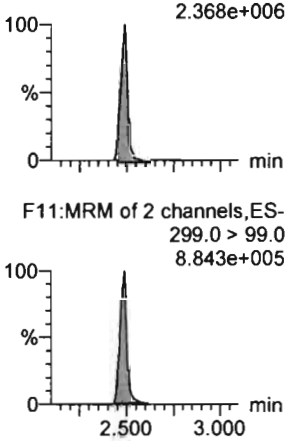
3:3 FTCA



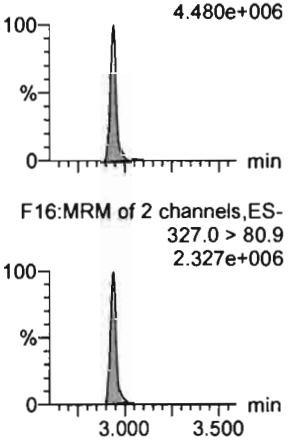
PFPeA



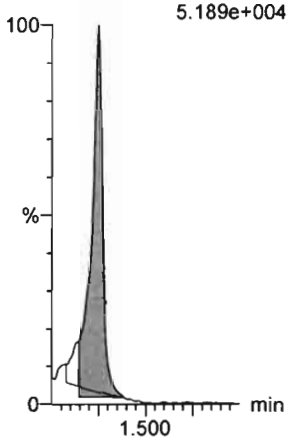
PFBS



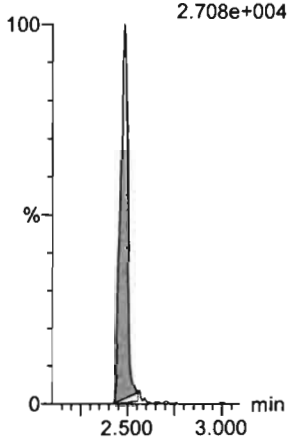
4:2 FTS



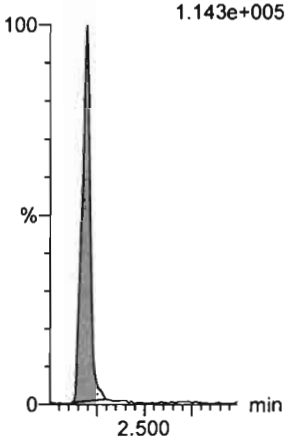
13C3-PFBA-EIS



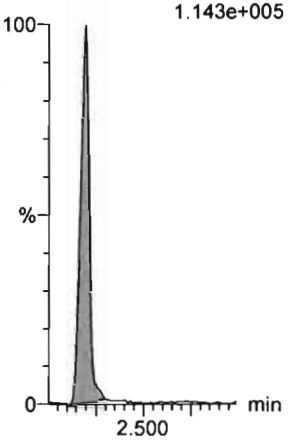
13C3-PFBS-EIS



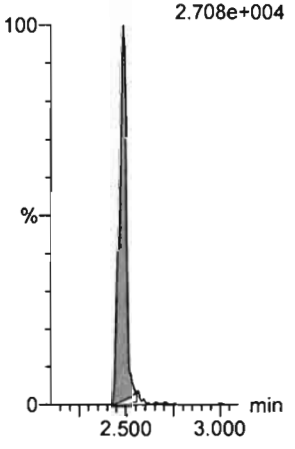
13C3-PFPeA-EIS



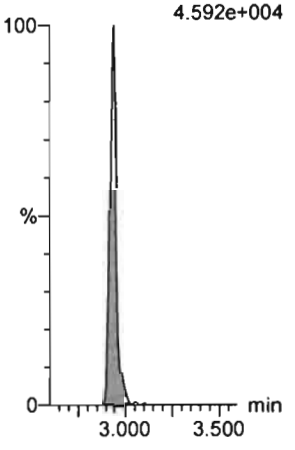
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

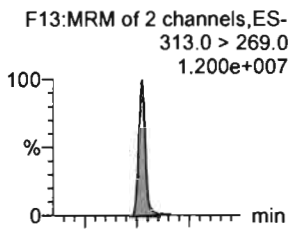


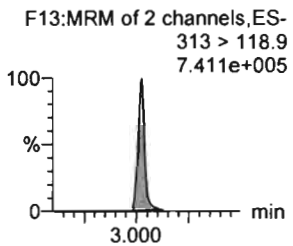
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

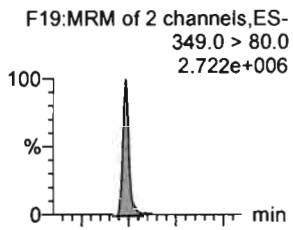
Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

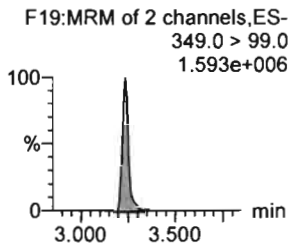
PFHxA



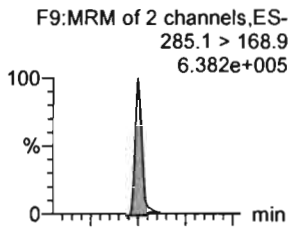


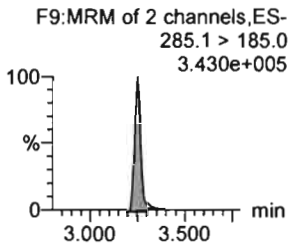
PFPeS



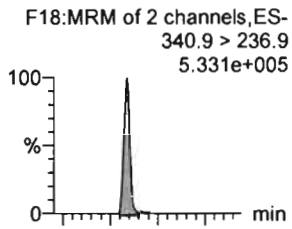


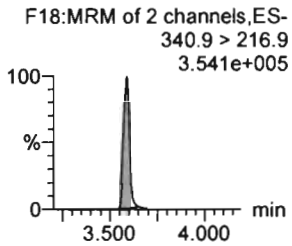
HFPO-DA



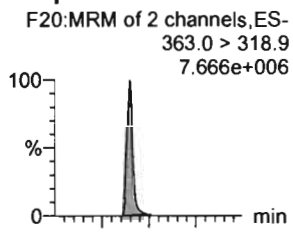


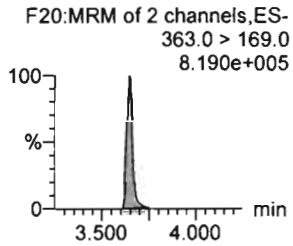
5:3 FTCA



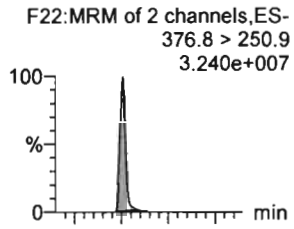


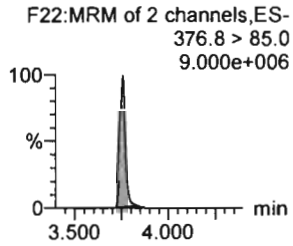
PFHpA



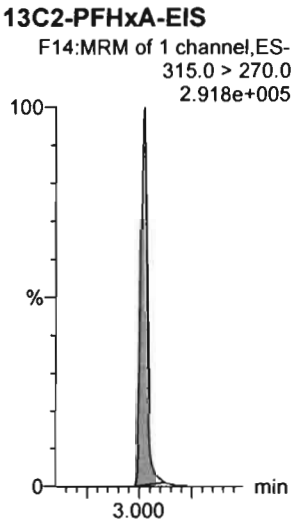


ADONA

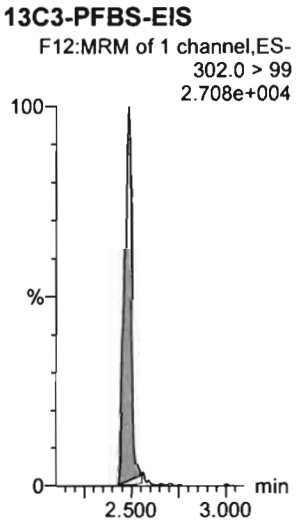




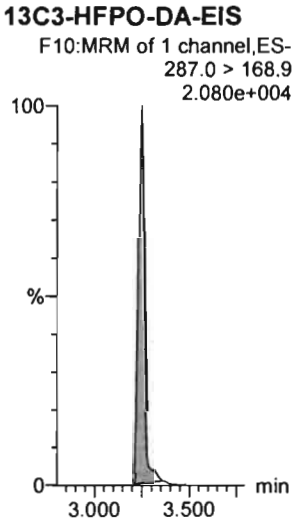
13C2-PFHxA-EIS



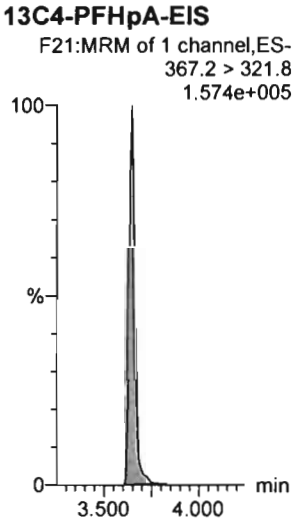
13C3-PFBS-EIS



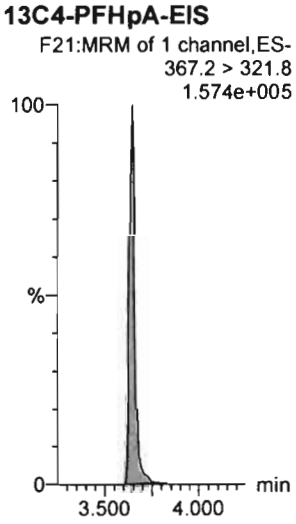
13C3-HFPO-DA-EIS



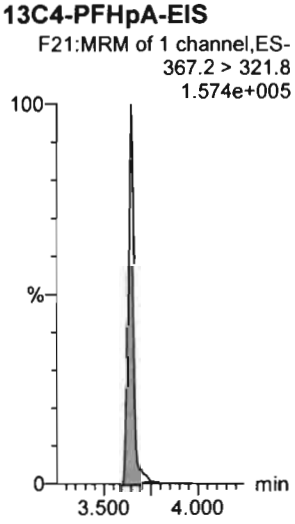
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

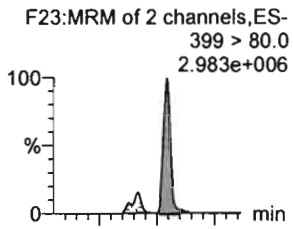


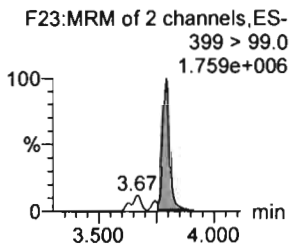
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

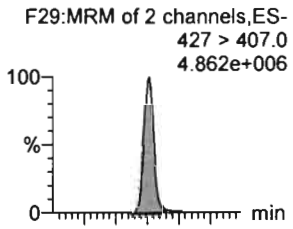
Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

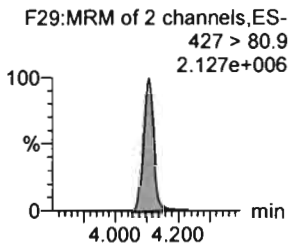
L-PFHxS



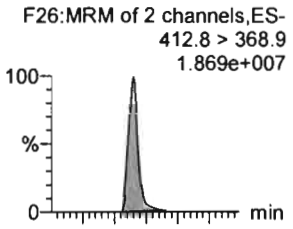


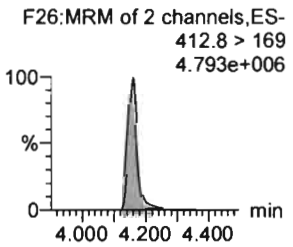
6:2 FTS



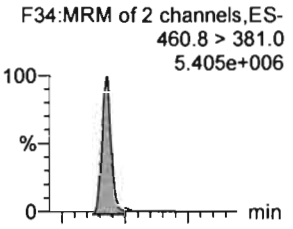


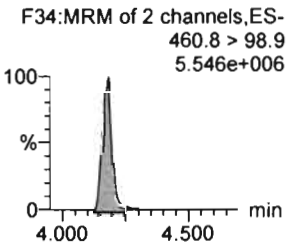
L-PFOA



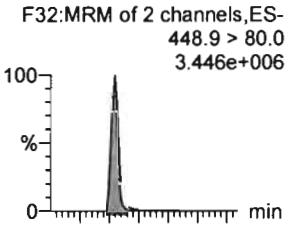


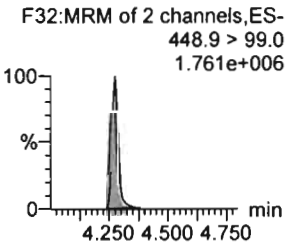
PFEChS



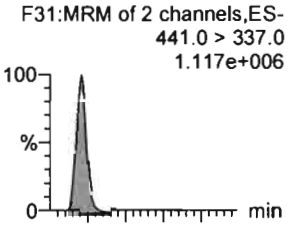


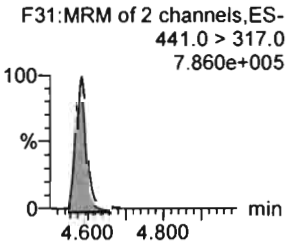
PFHpS



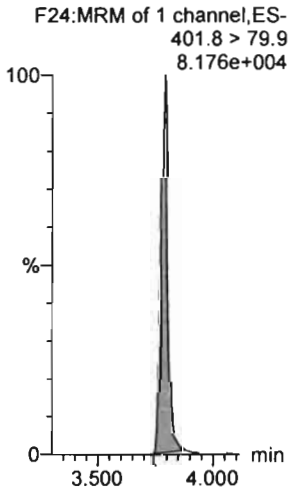


7:3 FTCA

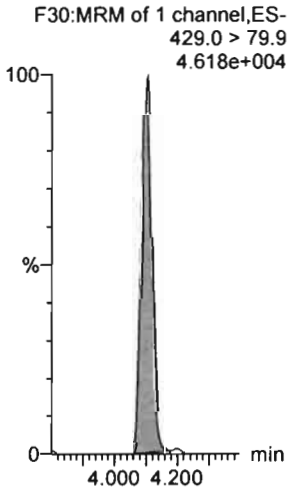




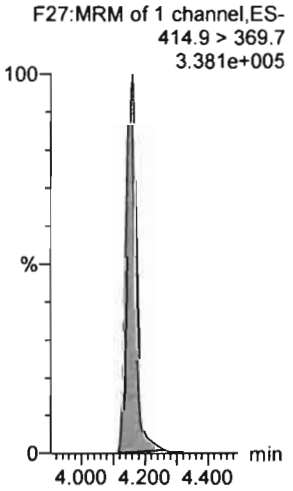
13C3-PFHxS-EIS



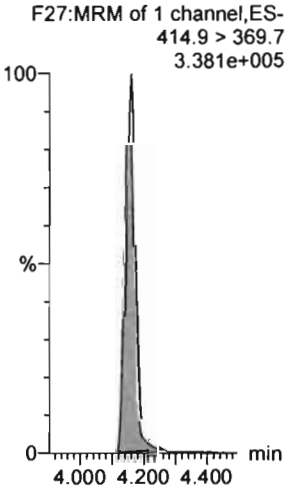
13C2-6:2 FTS-EIS



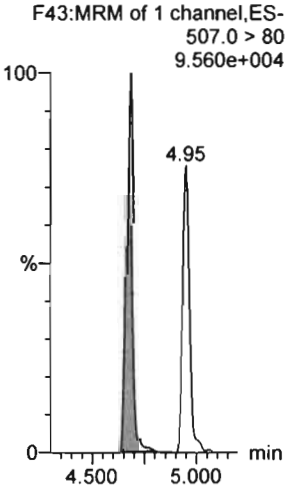
13C2-PFOA-EIS



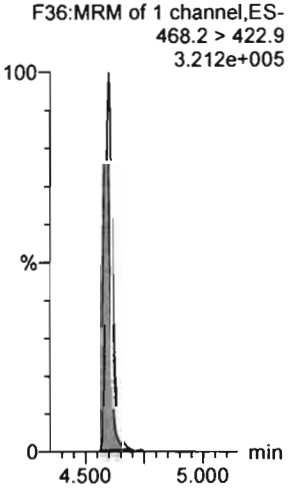
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

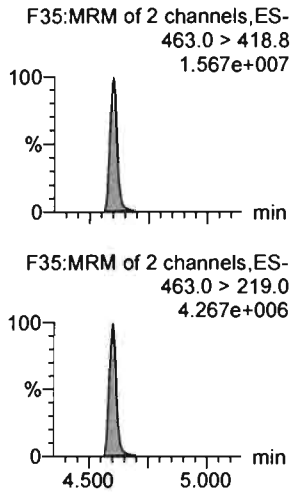


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

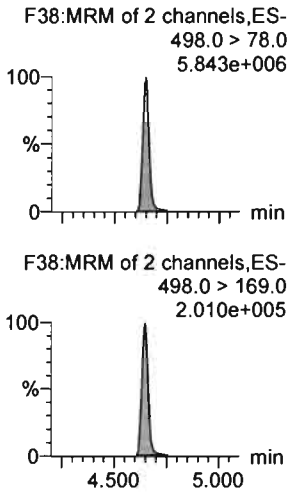
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

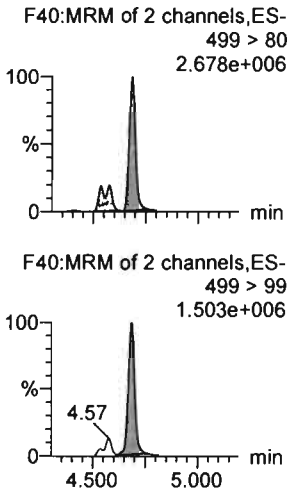
PFNA



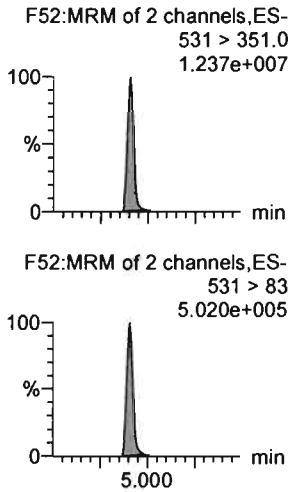
PFOSA



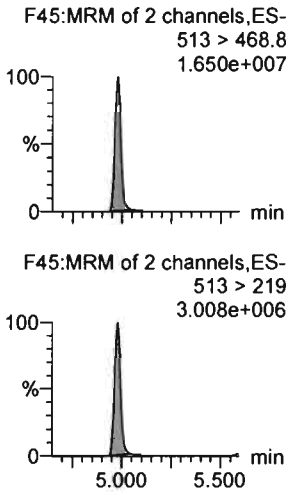
L-PFOS



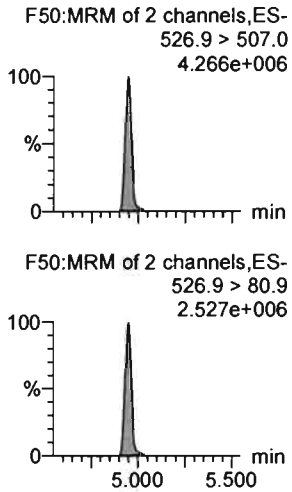
9CI-PF30NS



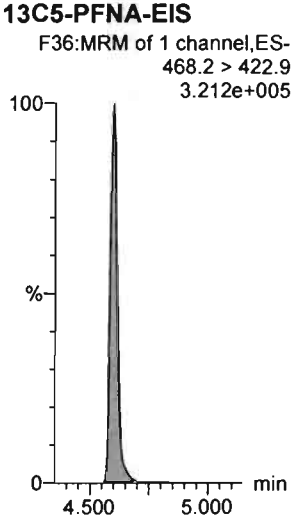
PFDA



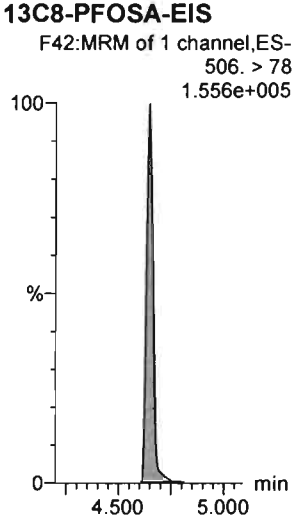
8:2 FTS



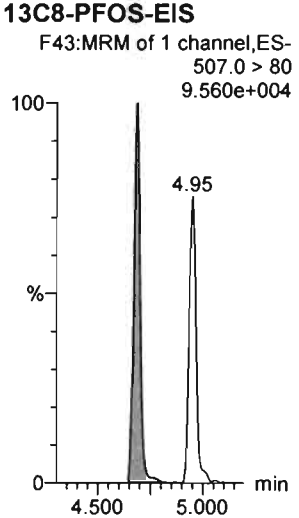
13C5-PFNA-EIS



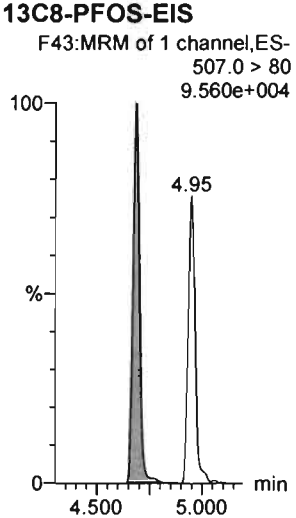
13C8-PFOSA-EIS



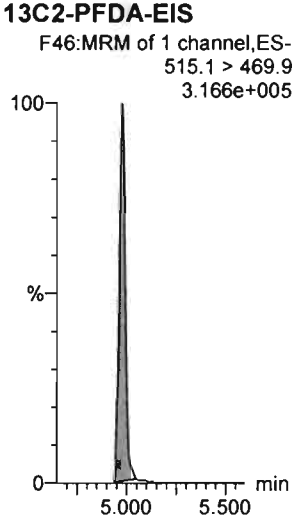
13C8-PFOS-EIS



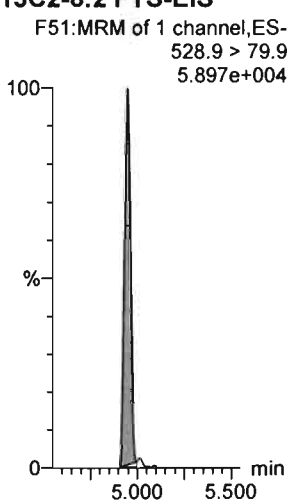
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

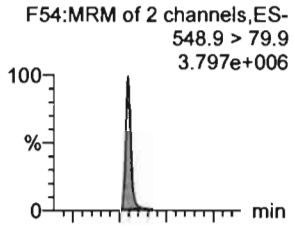


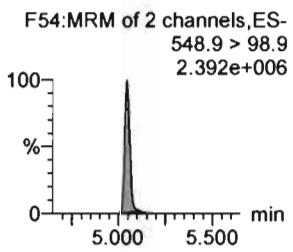
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

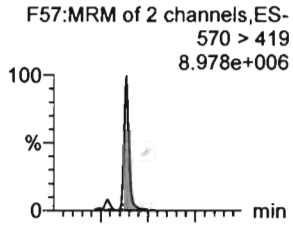
Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

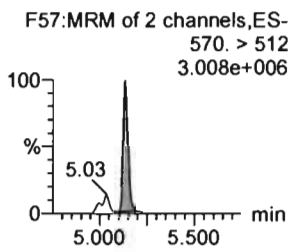
PFNS



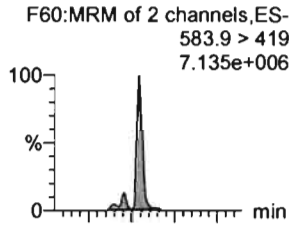


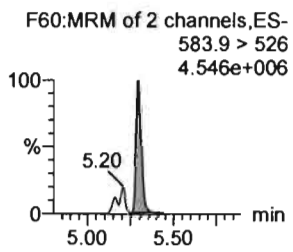
L-MeFOSAA



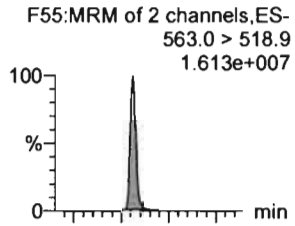


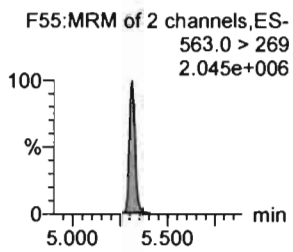
L-EtFOSAA



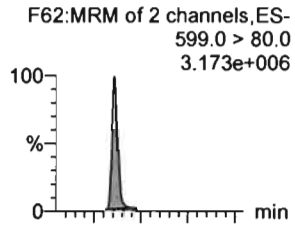


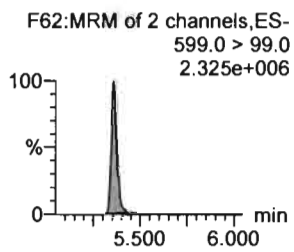
PFUdA



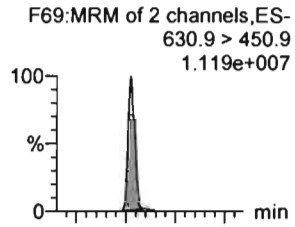


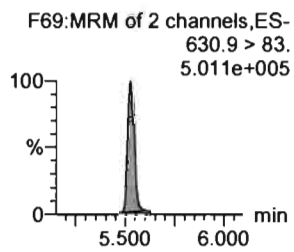
PFDS



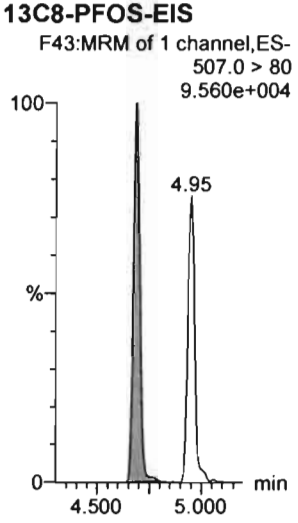


11Cl-PF30UdS

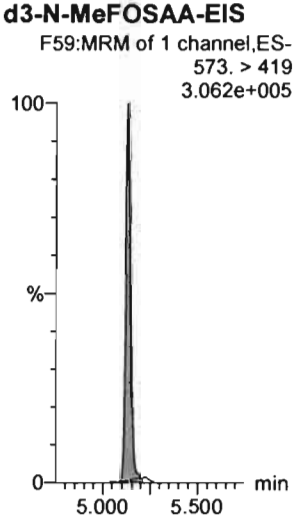




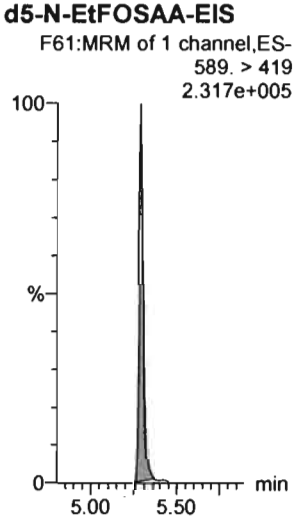
13C8-PFOS-EIS



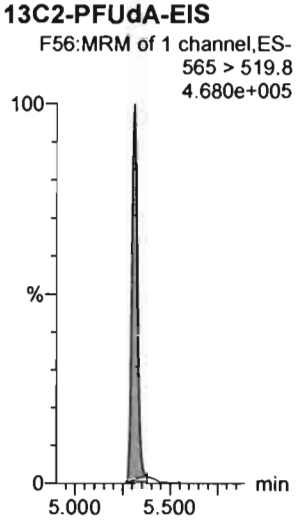
d3-N-MeFOSAA-EIS



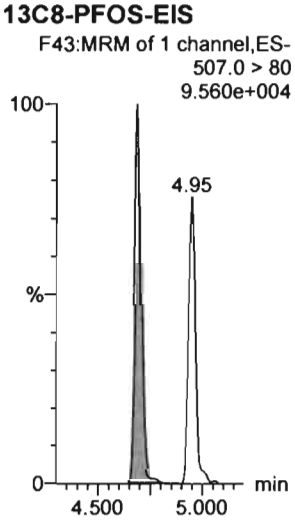
d5-N-EtFOSAA-EIS



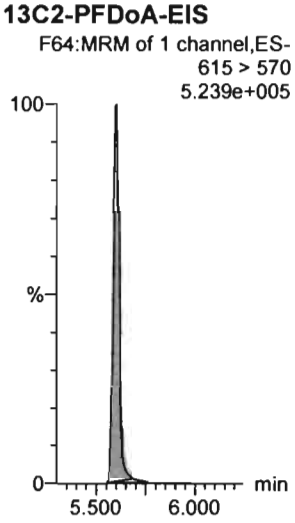
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

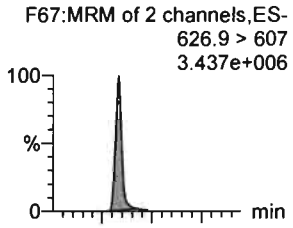


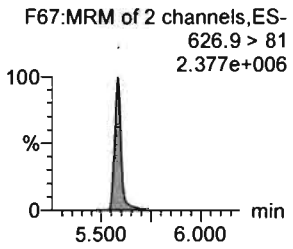
Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

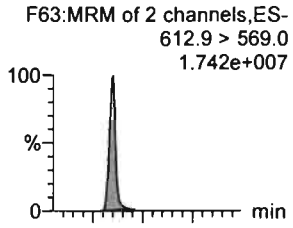
Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

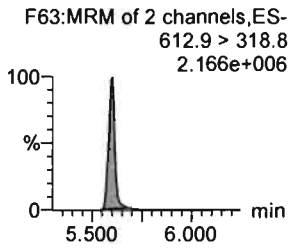
10:2 FTS



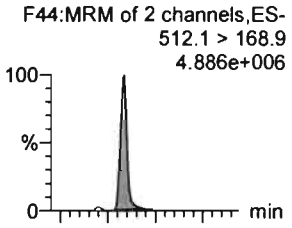


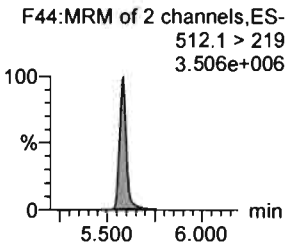
PFDoA



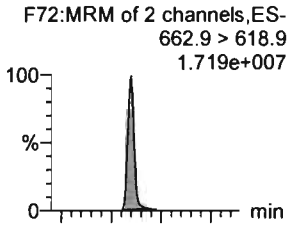


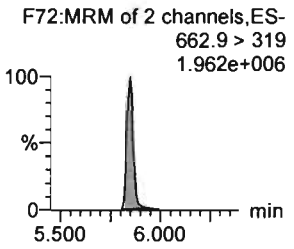
N-MeFOSA



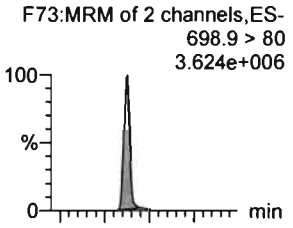


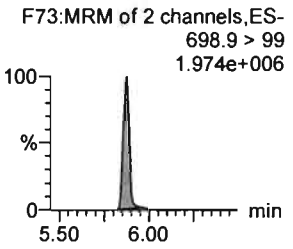
PFTrDA



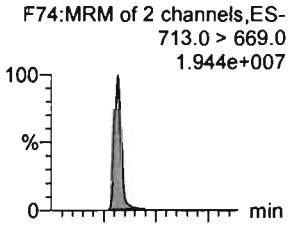


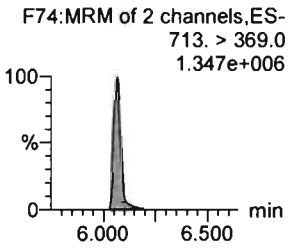
PFDoS



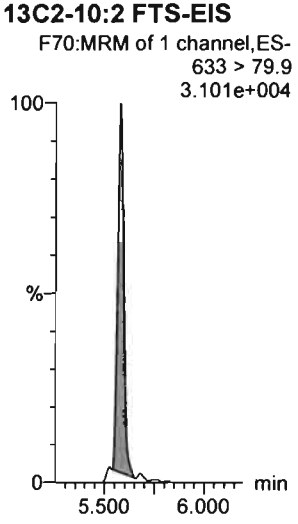


PFTeDA

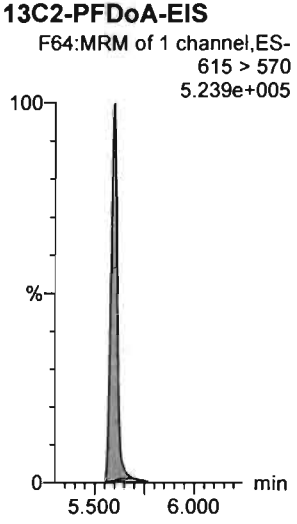




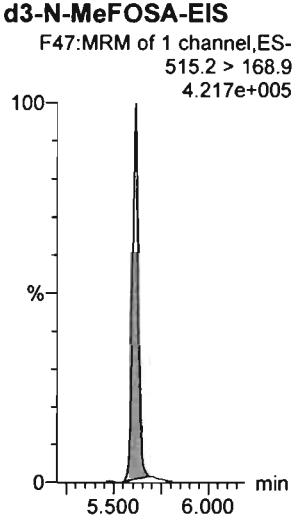
13C2-10:2 FTS-EIS



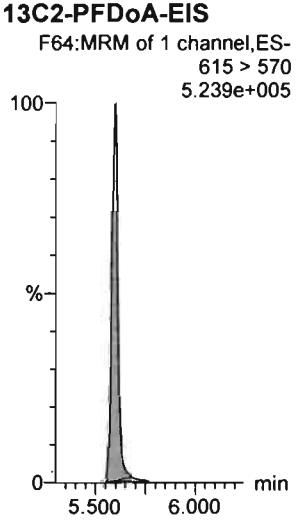
13C2-PFDoA-EIS



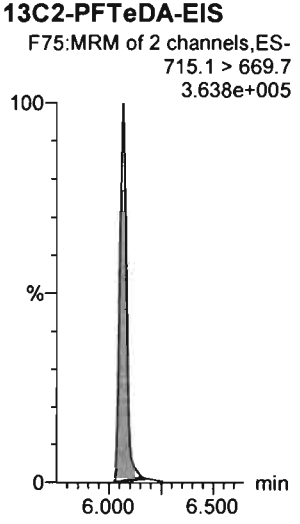
d3-N-MeFOSA-EIS



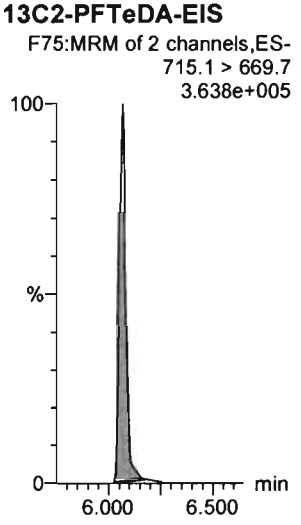
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

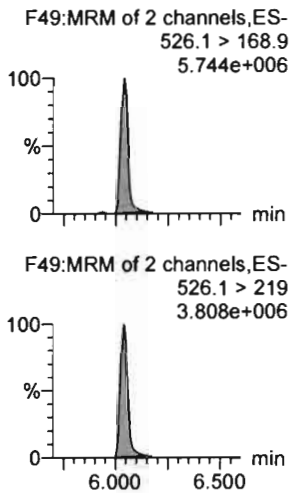


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

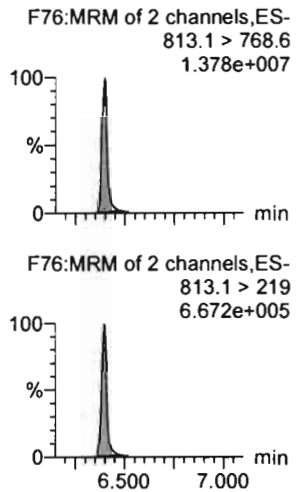
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

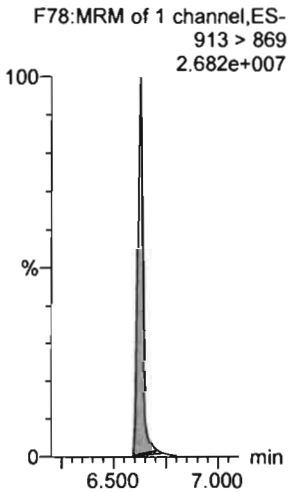
N-EtFOSA



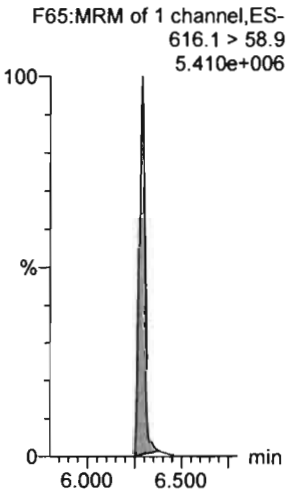
PFHxDA



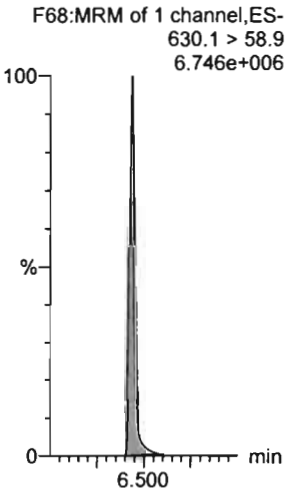
PFODA



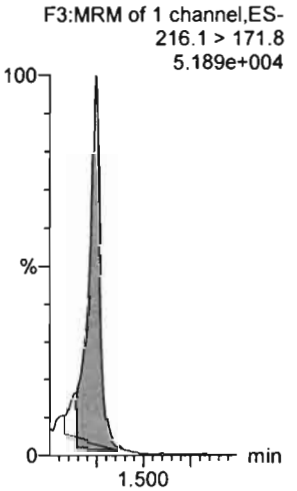
N-MeFOSE



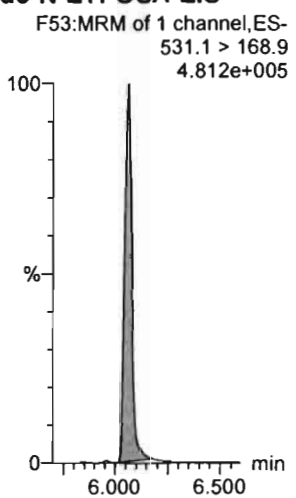
N-EtFOSE



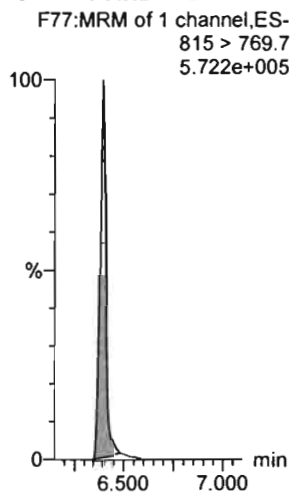
13C3-PFBA-RSD



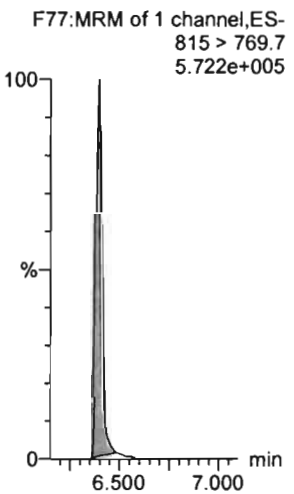
d5-N-ETFOSA-EIS



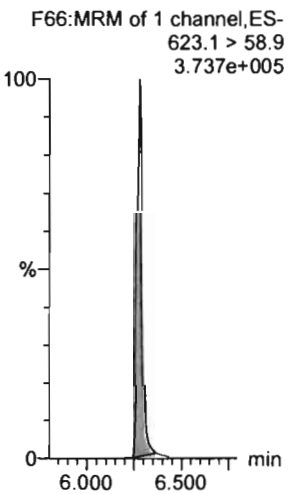
13C2-PFHxDA-EIS



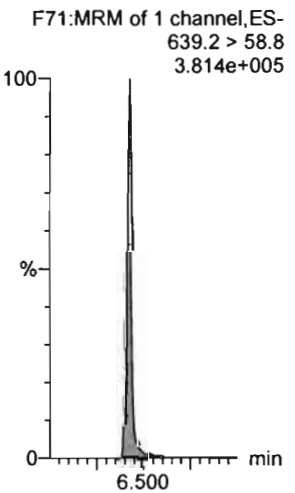
13C2-PFHxDA-EIS



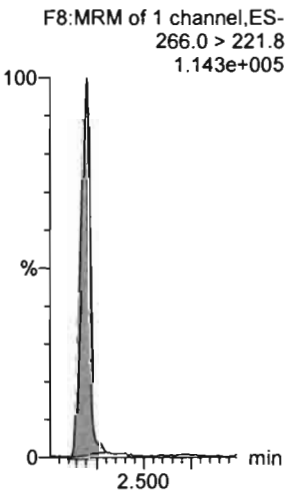
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

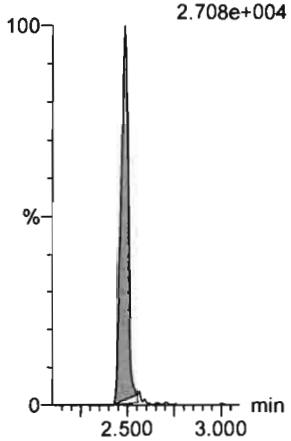


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

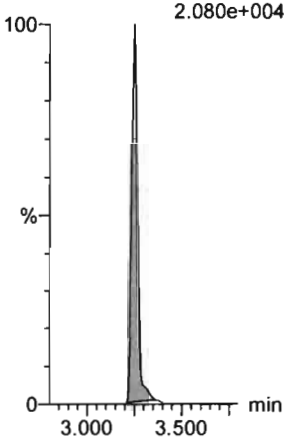
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

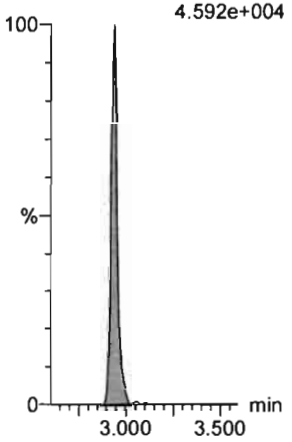
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
2.708e+004



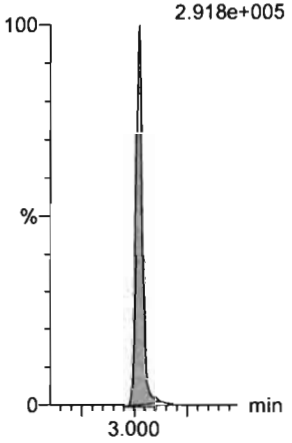
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.080e+004



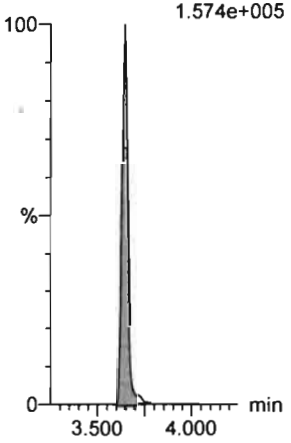
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
4.592e+004



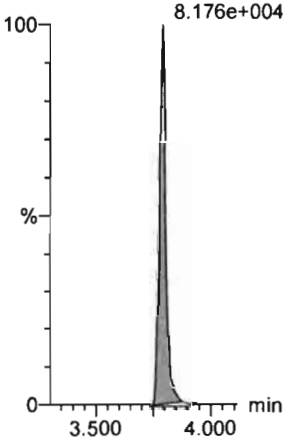
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
2.918e+005



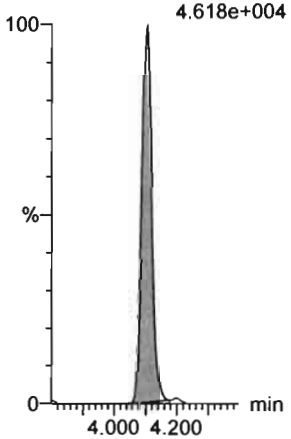
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
1.574e+005



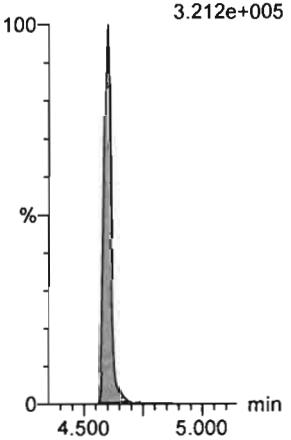
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
8.176e+004



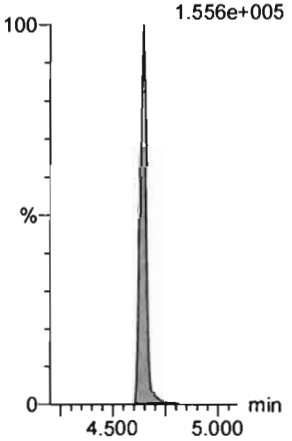
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
4.618e+004



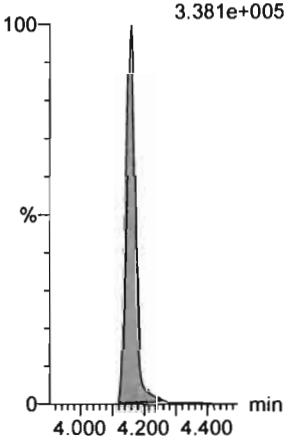
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
3.212e+005



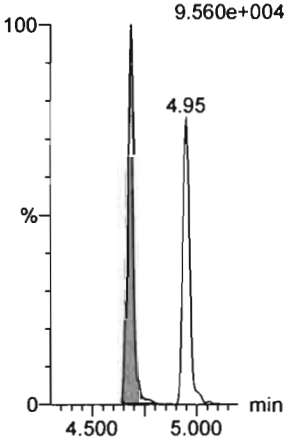
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.556e+005



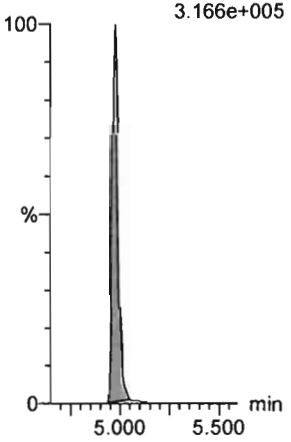
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
3.381e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
9.560e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.166e+005

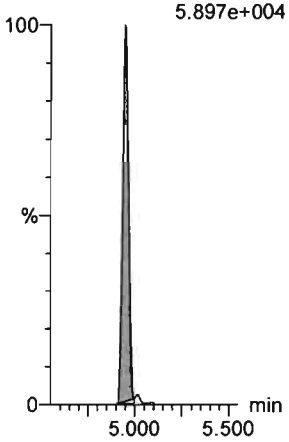


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

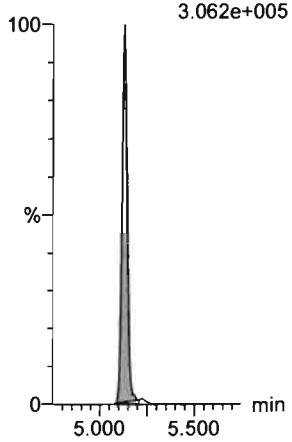
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

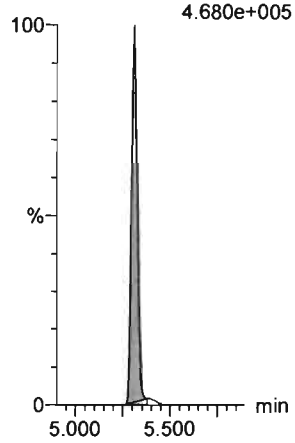
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.897e+004



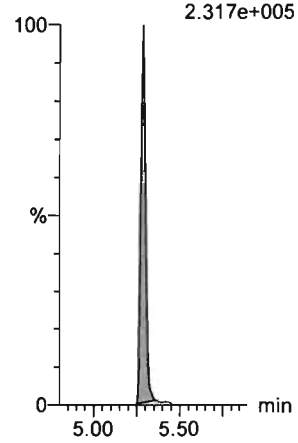
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.062e+005



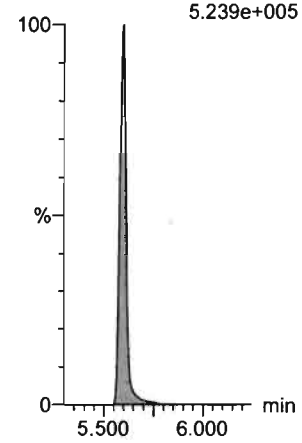
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
4.680e+005



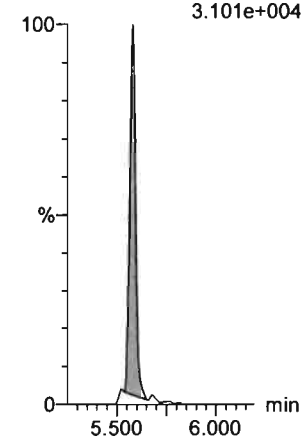
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.317e+005



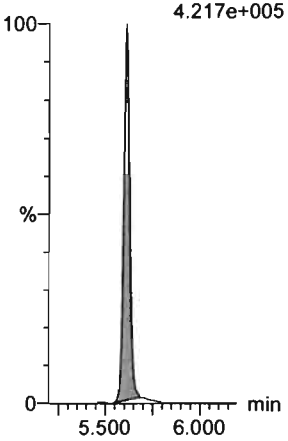
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
5.239e+005



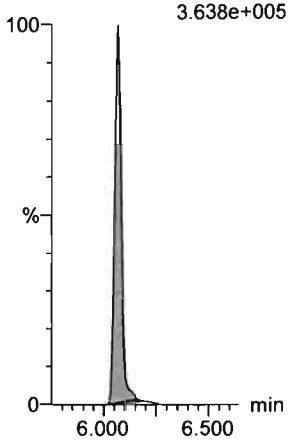
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
3.101e+004



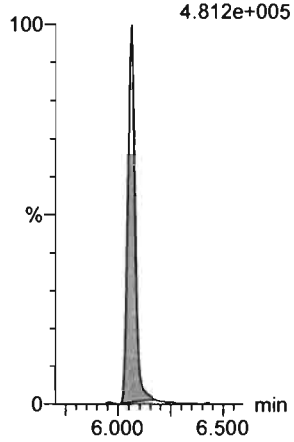
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.217e+005



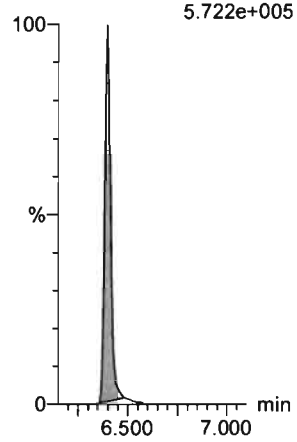
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
3.638e+005



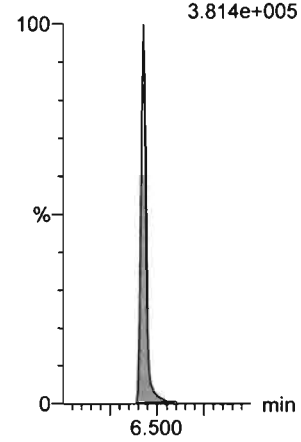
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
4.812e+005



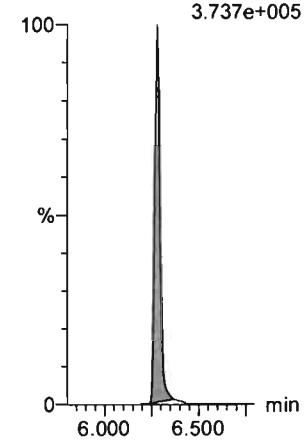
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
5.722e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
3.814e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.737e+005

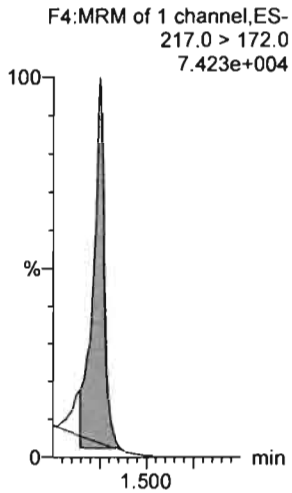


Dataset: M:\Projects\PFAS.PRO\Results\200713M1\200713M1-crv.qld

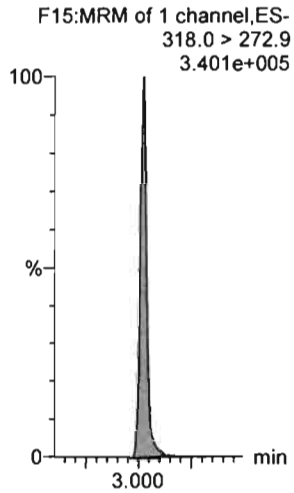
Last Altered: Monday, July 13, 2020 19:25:57 Pacific Daylight Time
Printed: Monday, July 13, 2020 19:26:18 Pacific Daylight Time

Name: 200713M1_12, Date: 13-Jul-2020, Time: 16:44:10, ID: ST200713M1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

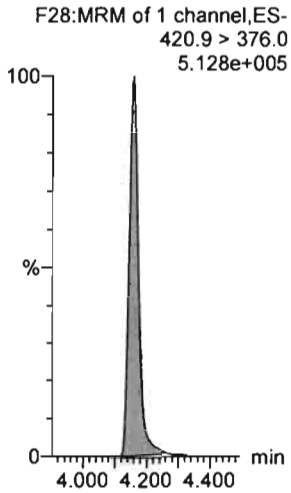
13C4-PFBA



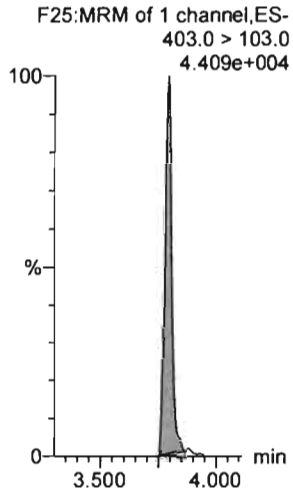
13C5-PFHxA



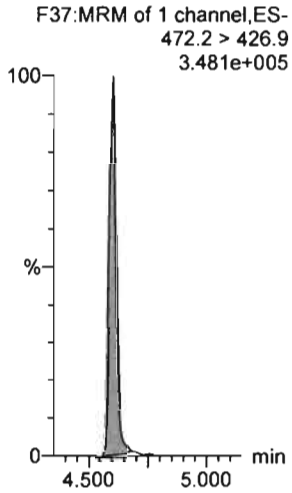
13C8-PFOA



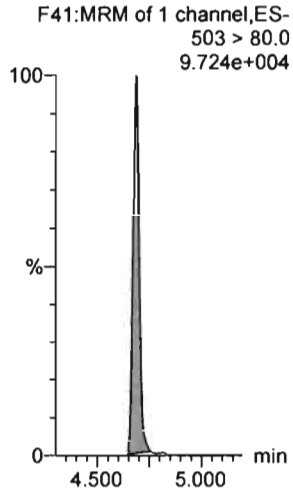
18O2-PFHxS



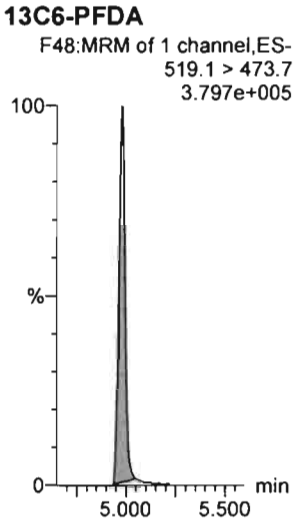
13C9-PFNA



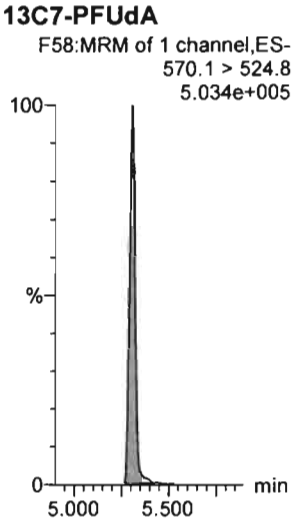
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

JQV 07/14/20

(A) Not in ICV

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	3636.199	3508.515	1.00	1.25	12.955	10.000	8.77	87.7	NO		
2	2	PFPrS	248.9 > 79.9		1546.311	1.00			10.000		(A)	NO		
3	3	3:3 FTCA	241.1 > 177.0		6588.852	1.00			10.000		↓	NO		
4	4	PFPeA	263.1 > 218.9	4966.146	6588.852	1.00	2.20	9.421	10.000	9.73	97.3	NO		
5	5	PFBS	299.0 > 79.7	2120.292	1546.311	1.00	2.49	17.140	8.840	8.44	95.4	NO	2.826	NO
6	6	4:2 FTS	327.0 > 306.9	4884.104	2424.601	1.00	2.94	25.180	9.360	9.47	101.2	NO	1.961	NO
7	47	13C3-PFBA-EIS	216.1 > 171.8	3508.515		1.00	1.25	3508.515	12.500	12.4	99.2	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1546.311		1.00	2.49	1546.311	12.500	13.0	103.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	6588.852		1.00	2.20	6588.852	12.500	12.8	102.1	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	6588.852		1.00	2.20	6588.852	12.500	12.8	102.1	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1546.311		1.00	2.49	1546.311	12.500	13.0	103.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2424.601		1.00	2.94	2424.601	12.500	11.1	88.9	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	10941.182	12065.144	1.00	3.02	11.336	10.000	10.4	103.7	NO	17.133	NO
15	8	PFPeS	349.0 > 80.0	2394.133	1546.311	1.00	3.23	19.354	9.360	8.09	86.4	NO	1.666	NO
16	9	HFPO-DA	285.1 > 168.9	701.152	999.626	1.00	3.25	8.768	10.000	8.95	89.5	NO	2.052	NO
17	10	5:3 FTCA	340.9 > 236.9		7205.517	1.00			10.000		(A)	NO		
18	11	PFHpA	363.0 > 318.9	6944.977	7205.517	1.00	3.65	12.048	10.000	9.70	97.0	NO	12.117	YES
19	12	ADONA	376.8 > 250.9	26713.959	7205.517	1.00	3.75	46.343	9.440	9.35	99.0	NO	3.546	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	12065.144		1.00	3.02	12065.144	12.500	12.6	100.7	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1546.311		1.00	2.49	1546.311	12.500	13.0	103.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	999.626		1.00	3.25	999.626	12.500	13.6	108.5	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	7205.517		1.00	3.65	7205.517	12.500	13.0	103.9	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	7205.517		1.00	3.65	7205.517	12.500	13.0	103.9	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	7205.517		1.00	3.65	7205.517	12.500	13.0	103.9	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0	2798.979	3671.353	1.00	3.79	9.530	9.120	9.75	107.0	NO	1.565	NO
28	15	6:2 FTS	427 > 407.0	5049.378	2230.205	1.00	4.11	28.301	9.480	9.10	96.0	NO	2.089	NO
29	16	L-PFOA	412.8 > 368.9	17047.752	14743.025	1.00	4.16	14.454	10.000	9.64	96.4	NO	3.703	NO
30	18	PFecHS	460.8 > 381.0		14743.025	1.00			10.000		(A)	NO		
31	19	PFHpS	448.9 > 80.0	2736.791	4138.135	1.00	4.27	8.267	9.520	7.88	82.8	NO	1.796	NO
32	20	7:3 FTCA	441.0 > 337.0		14254.758	1.00			10.000		(A)	NO		
33	61	13C3-PFHxS-EIS	401.8 > 79.9	3671.353		1.00	3.79	3671.353	12.500	12.2	97.9	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2230.205		1.00	4.11	2230.205	12.500	13.4	107.0	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	14743.025		1.00	4.16	14743.025	12.500	12.4	99.6	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	14743.025		1.00	4.16	14743.025	12.500	12.4	99.6	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4138.135		1.00	4.68	4138.135	12.500	13.7	109.9	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	14254.758		1.00	4.60	14254.758	12.500	13.0	104.2	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	13386.606	14254.758	1.00	4.60	11.739	10.000	9.36	93.6	NO	3.785	NO
41	22	PFOSA	498.0 > 78.0	4419.904	6280.021	1.00	4.65	8.798	10.000	9.56	95.6	NO	26.872	NO
42	23	L-PFOS	499 > 80	2779.623	4138.135	1.00	4.68	8.396	9.280	7.55	81.3	NO	1.866	NO
43	25	9Cl-PF30NS	531 > 351.0	10121.575	4138.135	1.00	4.91	30.574	9.320	7.81	83.7	NO	17.401	NO
44	26	PFDA	513 > 468.8	15526.156	14146.438	1.00	4.98	13.719	10.000	8.87	88.7	NO	5.496	NO
45	27	8:2 FTS	526.9 > 507.0	4208.507	2189.096	1.00	4.95	24.031	9.600	9.98	104.0	NO	1.601	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	14254.758		1.00	4.60	14254.758	12.500	13.0	104.2	NO		
47	67	13C8-PFOSA-EIS	506. > 78	6280.021		1.00	4.65	6280.021	12.500	12.7	101.6	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4138.135		1.00	4.68	4138.135	12.500	13.7	109.9	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4138.135		1.00	4.68	4138.135	12.500	13.7	109.9	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	14146.438		1.00	4.98	14146.438	12.500	13.2	105.3	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2189.096		1.00	4.95	2189.096	12.500	13.3	106.3	NO		
52	-1													
53	28	PFNS	548.9 > 79.9	2794.951	4138.135	1.00	5.04	8.443	9.600	7.47	77.8	NO	1.421	NO
54	29	L-MeFOSAA	570 > 419	7613.470	11531.405	1.00	5.13	8.253	10.000	9.23	92.3	NO	2.650	NO
55	31	L-EtFOSAA	583.9 > 419	7488.520	9963.033	1.00	5.29	9.395	10.000	10.2	101.9	NO	1.329	NO
56	33	PFUdA	563.0 > 518.9	13000.475	19629.082	1.00	5.31	8.279	10.000	9.13	91.3	NO	6.847	NO
57	34	PFDS	599.0 > 80.0	2643.403	4138.135	1.00	5.36	7.985	9.640	8.39	87.1	NO	1.237	NO
58	35	11Cl-PF30UdS	630.9 > 450.9	10083.290	22901.982	1.00	5.52	5.504	9.440	9.26	98.1	NO	25.671	NO
59	73	13C8-PFOS-EIS	507.0 > 80	4138.135		1.00	4.68	4138.135	12.500	13.7	109.9	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	11531.405		1.00	5.13	11531.405	12.500	13.4	107.4	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	9963.033		1.00	5.29	9963.033	12.500	11.6	92.8	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	19629.082		1.00	5.31	19629.082	12.500	11.7	93.5	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4138.135		1.00	4.68	4138.135	12.500	13.7	109.9	NO		
64	85	13C2-PFDoA-EIS	615 > 570	22901.982		1.00	5.60	22901.982	12.500	11.5	91.8	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607		1623.444	1.00			10.000		(A)	NO		
67	37	PFDoA	612.9 > 569.0	17052.498	22901.982	1.00	5.59	9.307	10.000	9.59	95.9	NO	7.636	NO
68	38	N-MeFOSA	512.1 > 168.9		16542.527	1.00			9.600		(A)	NO		
69	39	PFTrDA	662.9 > 618.9	15878.608	22901.982	1.00	5.85	8.667	10.000	9.18	91.8	NO	8.464	NO
70	40	PFDoS	698.9 > 80		15464.164	1.00			10.000		(A)	NO		
71	41	PFTeDA	713.0 > 669.0	18567.881	15464.164	1.00	6.07	15.009	10.000	10.1	101.0	NO	13.947	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1623.444		1.00	5.58	1623.444	12.500	12.7	101.6	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	22901.982		1.00	5.60	22901.982	12.500	11.5	91.8	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	16542.527		1.00	5.61	16542.527	149.200	150	100.3	NO		
75	85	13C2-PFDoA-EIS	615 > 570	22901.982		1.00	5.60	22901.982	12.500	11.5	91.8	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	15464.164		1.00	6.06	15464.164	12.500	13.5	108.3	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	15464.164		1.00	6.06	15464.164	12.500	13.5	108.3	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9		23218.523	1.00			9.600			NO		
80	43	PFHxDA	813.1 > 768.6		23697.410	1.00			10.000			NO		
81	44	PFODA	913 > 869		23697.410	1.00			10.000			NO		
82	45	N-MeFOSE	616.1 > 58.9		11596.405	1.00			9.600			NO		
83	46	N-EtFOSE	630.1 > 58.9		13326.451	1.00			9.600			NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	3350.612	4974.501	1.00	1.25	8.419	12.500	12.4	99.2	NO		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	23218.523		1.00	6.06	23218.523	149.200	146	97.9	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	23697.410		1.00	6.40	23697.410	12.500	12.5	100.0	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	23697.410		1.00	6.40	23697.410	12.500	12.5	100.0	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	11596.405		1.00	6.28	11596.405	149.200	143	96.2	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	13326.451		1.00	6.43	13326.451	149.200	145	97.2	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	6574.766	13688.985	1.00	2.20	6.004	12.500	13.1	105.1	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99	1546.080	2099.894	1.00	2.49	9.203	12.500	12.6	100.8	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	989.948	13688.985	1.00	3.25	0.904	12.500	13.8	110.2	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9	2420.609	2099.894	1.00	2.94	14.409	12.500	12.1	96.5	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	11713.813	13688.985	1.00	3.02	10.696	12.500	12.4	99.6	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	7238.916	13688.985	1.00	3.65	6.610	12.500	13.4	107.3	NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9	3650.900	2099.894	1.00	3.79	21.733	12.500	12.3	98.5	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2243.157	3915.199	1.00	4.11	7.162	12.500	13.4	107.0	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	14228.940	14770.929	1.00	4.60	12.041	12.500	13.3	106.5	NO		
100	68	13C8-PFOSA-RSD	506. > 78	6256.588	24306.525	1.00	4.65	3.218	12.500	12.3	98.7	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	14344.765	22037.174	1.00	4.16	8.137	12.500	12.6	100.4	NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4005.212	3915.199	1.00	4.68	12.787	12.500	13.0	103.6	NO		
103	76	13C2-PFDA-RSD	515.1 > 469.9	14071.227	20325.301	1.00	4.98	8.654	12.500	12.1	96.9	NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2175.858	3915.199	1.00	4.95	6.947	12.500	12.6	100.4	NO		
106	80	d3-N-MeFOSAA-RSD	573. > 419	11270.821	24306.525	1.00	5.13	5.796	12.500	12.0	95.7	NO		
107	82	13C2-PFUdA-RSD	565 > 519.8	19516.990	24306.525	1.00	5.31	10.037	12.500	12.0	95.7	NO		
108	84	d5-N-EtFOSAA-RSD	589. > 419	9570.923	24306.525	1.00	5.29	4.922	12.500	11.1	88.9	NO		

FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	22038.605	20325.301	1.00	5.60	13.554	12.500	10.5	84.0	NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1606.166	3915.199	1.00	5.58	5.128	12.500	12.0	95.8	NO		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	16542.527	24306.525	1.00	5.61	8.507	149.200	150	100.2	NO		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	15434.875	24306.525	1.00	6.06	7.938	12.500	11.6	92.7	NO		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	23218.523	24306.525	1.00	6.06	11.940	149.200	150	100.4	NO		
114	96	13C2-PFHxDA-RSD	815 > 769.7	23886.514	24306.525	1.00	6.40	12.284	12.500	12.3	98.5	NO		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	11596.405	24306.525	1.00	6.28	5.964	149.200	132	88.7	NO		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	13326.451	24306.525	1.00	6.43	6.853	149.200	150	100.3	NO		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	4974.501	4974.501	1.00	1.25	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	13688.985	13688.985	1.00	3.02	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	22037.174	22037.174	1.00	4.16	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103.0	2099.894	2099.894	1.00	3.79	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	14770.929	14770.929	1.00	4.60	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 80.0	3915.199	3915.199	1.00	4.68	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	20325.301	20325.301	1.00	4.98	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	24306.525	24306.525	1.00	5.31	12.500	12.500	12.5	100.0	NO		

FBR 7/14/2020

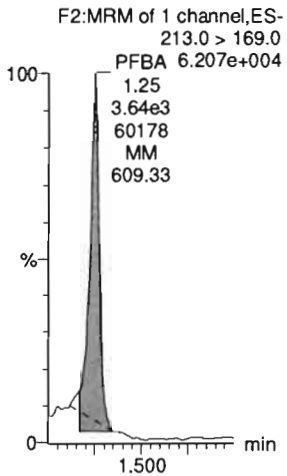
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

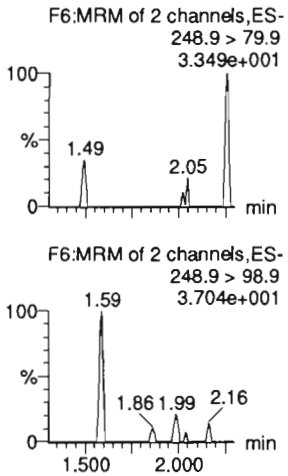
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_070720_ICV.mdb 08 Jul 2020 09:41:02
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 09:22:28

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

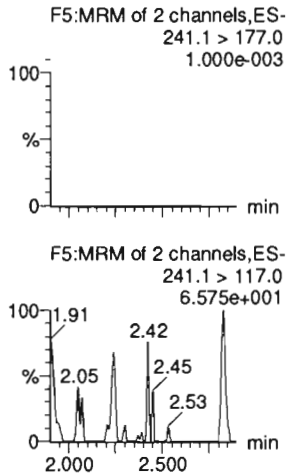
PFBA



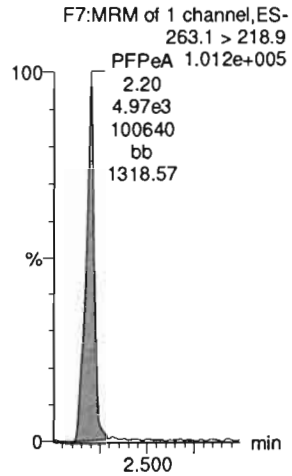
PFPrS



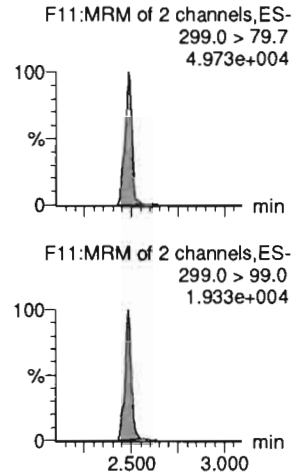
3:3 FTCA



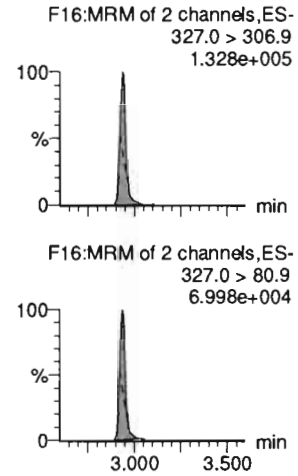
PFPeA



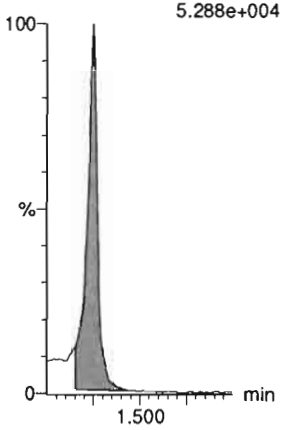
PFBS



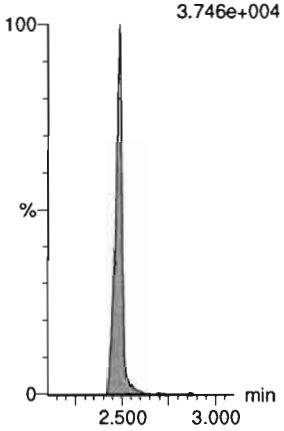
4:2 FTS



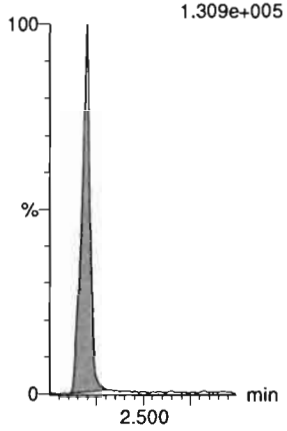
13C3-PFBA-EIS



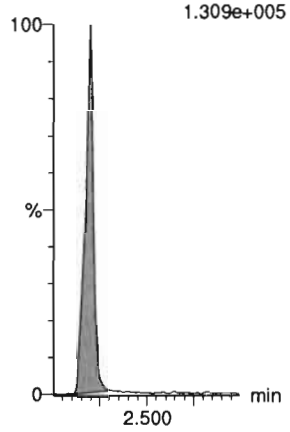
13C3-PFBS-EIS



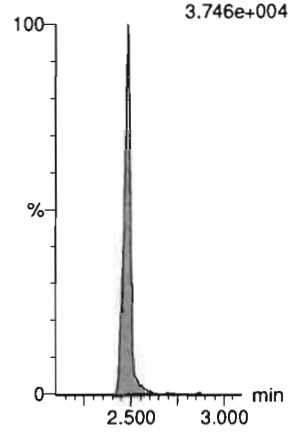
13C3-PFPeA-EIS



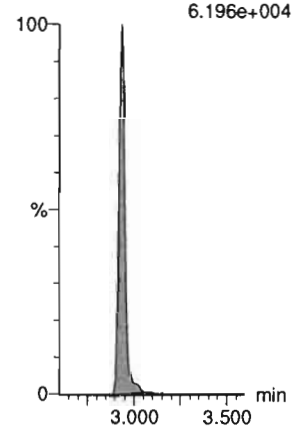
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



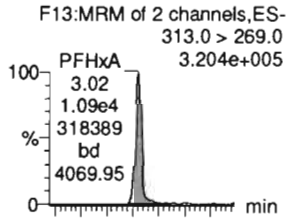
FBR 7/14/2020

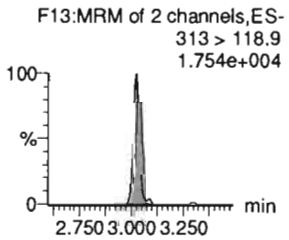
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

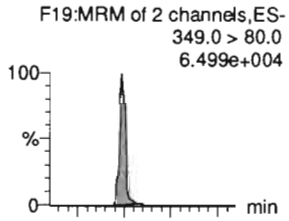
Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

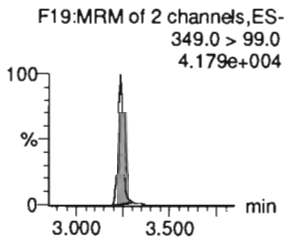
PFHxA



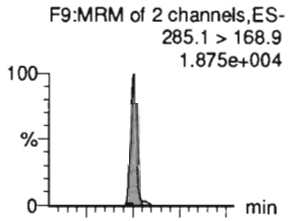


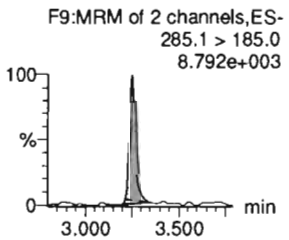
PFPeS



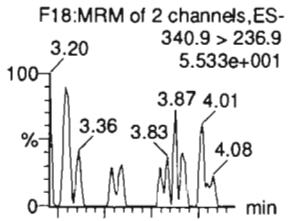


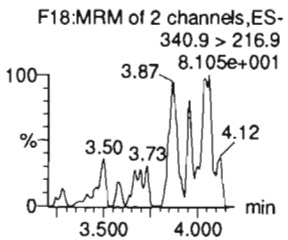
HFPO-DA



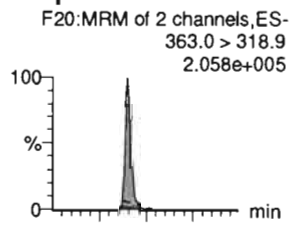


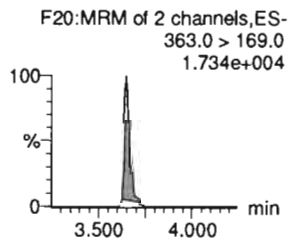
5:3 FTCA



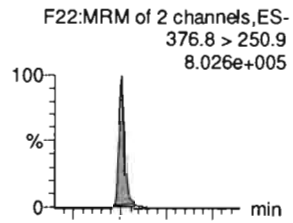


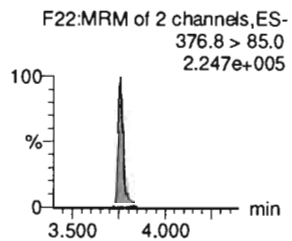
PFHpA



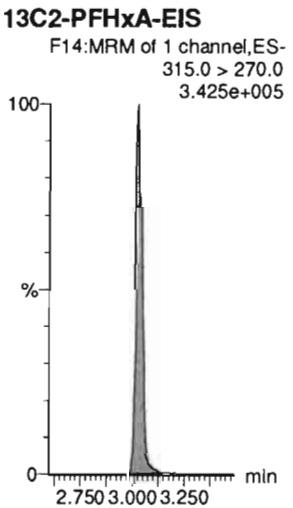


ADONA

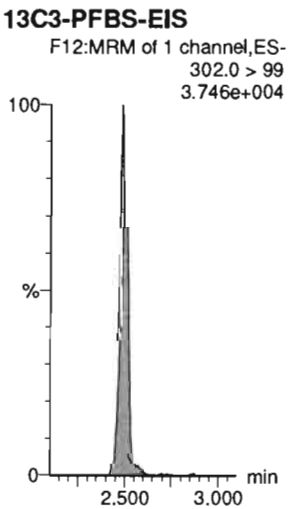




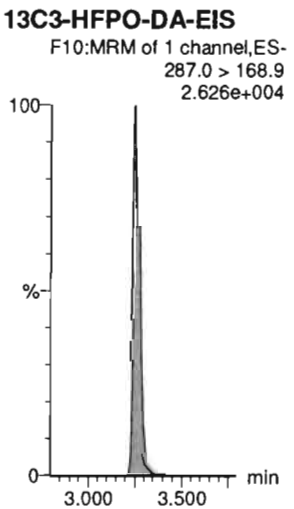
13C2-PFHxA-EIS



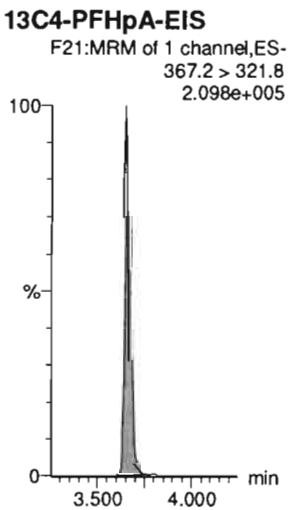
13C3-PFBS-EIS



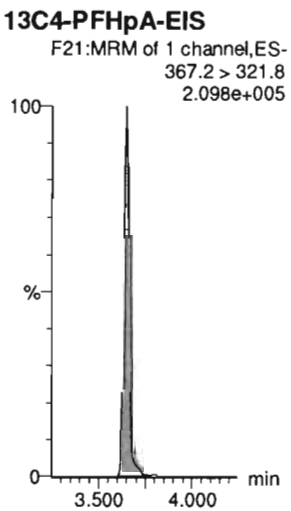
13C3-HFPO-DA-EIS



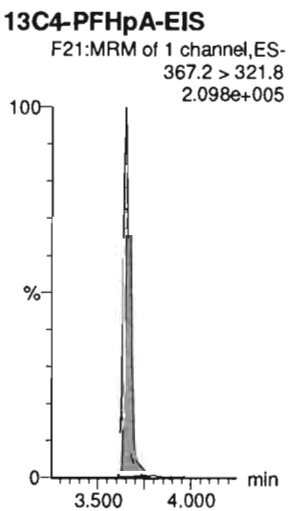
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



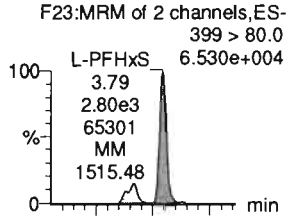
FBR 7/14/2020

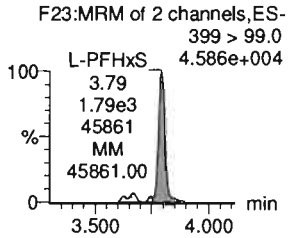
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

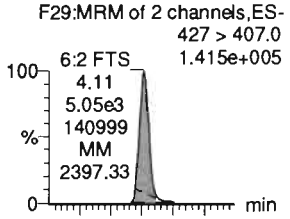
Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

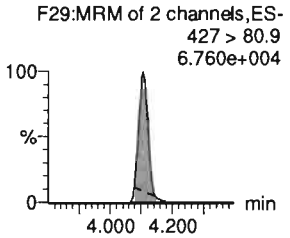
L-PFHxS



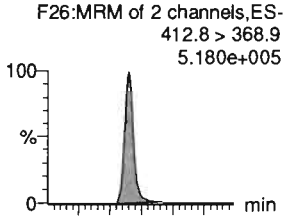


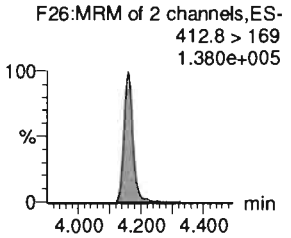
6:2 FTS



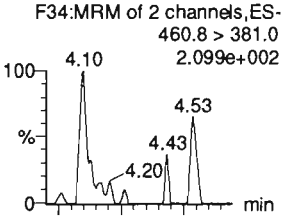


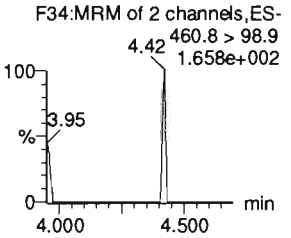
L-PFOA



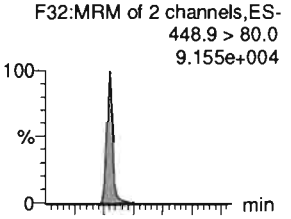


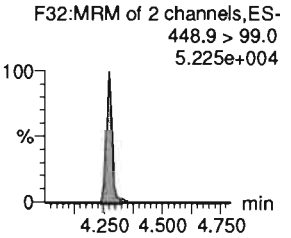
PFEChS



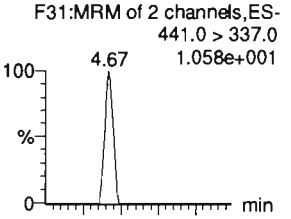


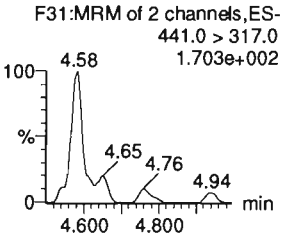
PFHpS



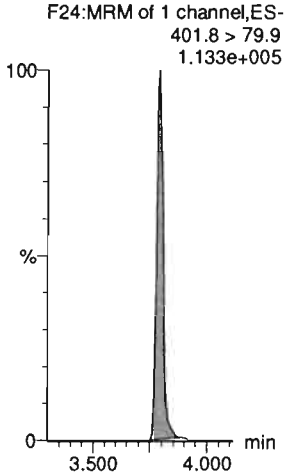


7:3 FTCA

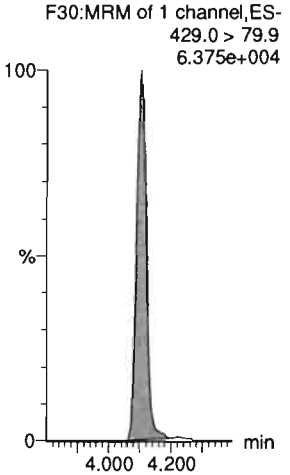




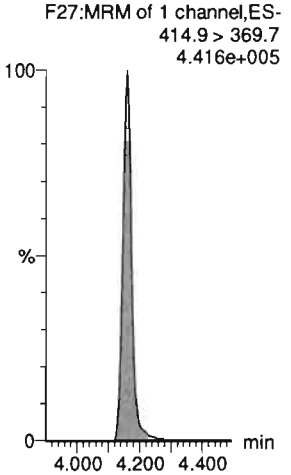
13C3-PFHxS-EIS



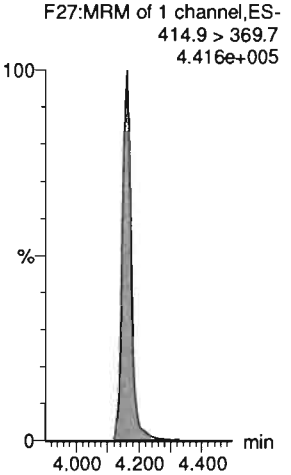
13C2-6:2 FTS-EIS



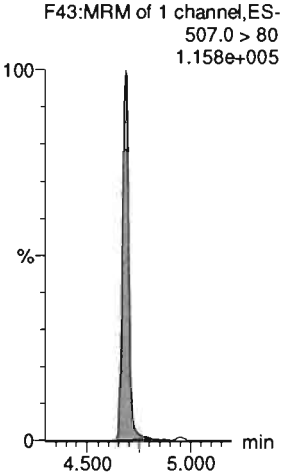
13C2-PFOA-EIS



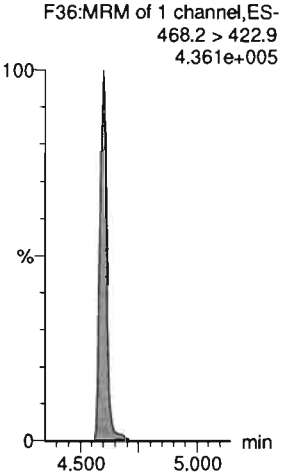
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



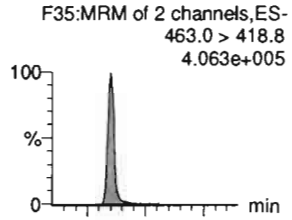
FBR 7/14/2020

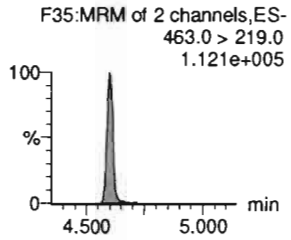
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

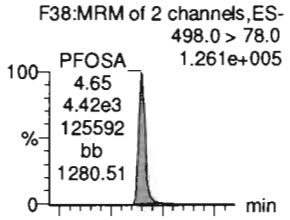
Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

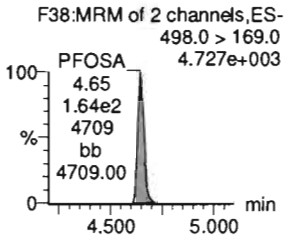
PFNA



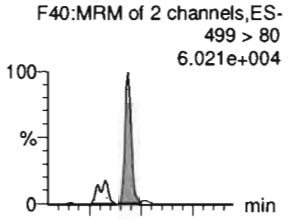


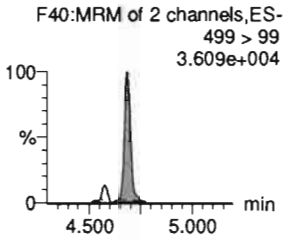
PFOSA



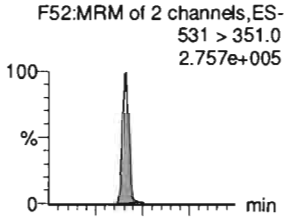


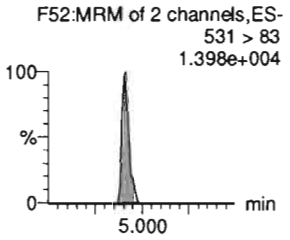
L-PFOS



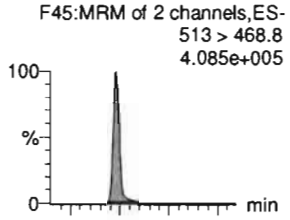


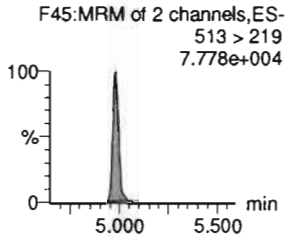
9Cl-PF30NS



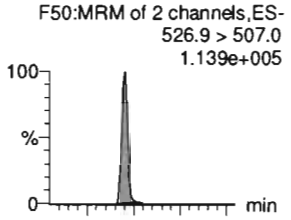


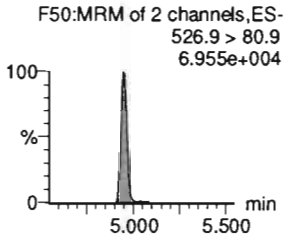
PFDA



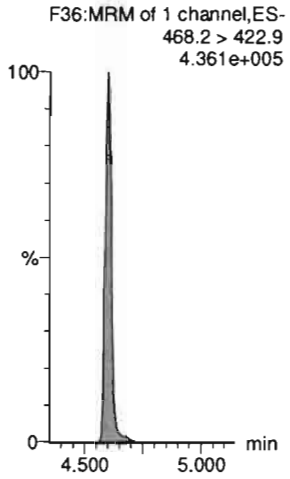


8:2 FTS

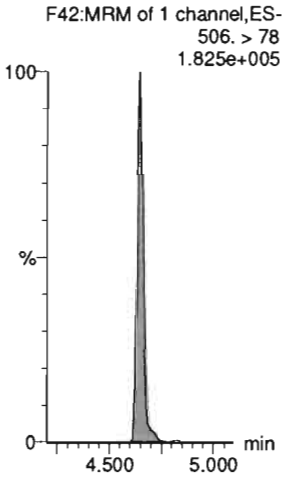




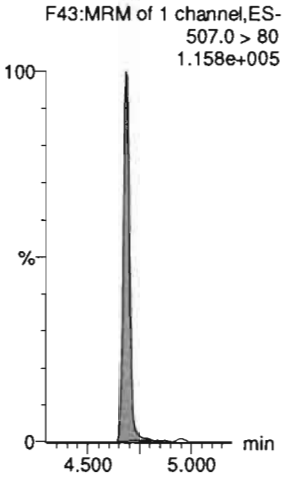
13C5-PFNA-EIS



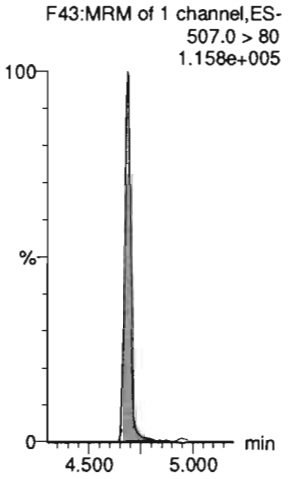
13C8-PFOSA-EIS



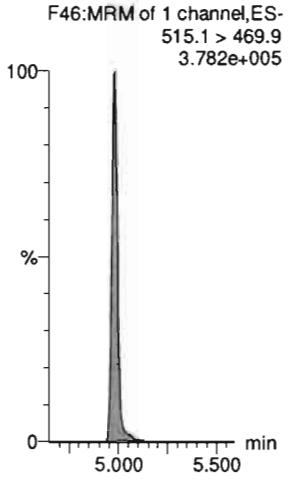
13C8-PFOS-EIS



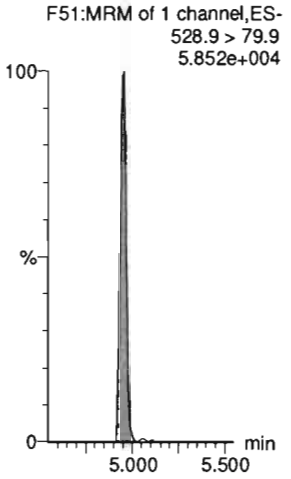
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



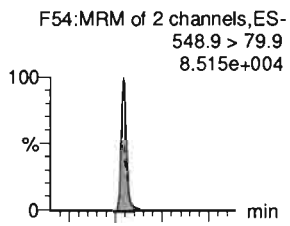
FBR 7/14/2020

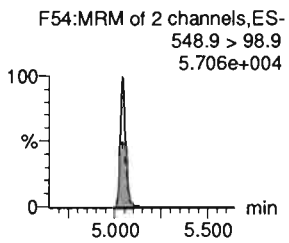
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

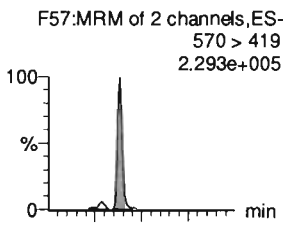
Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

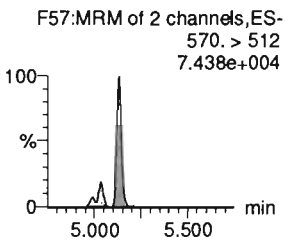
PFNS



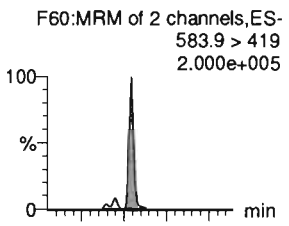


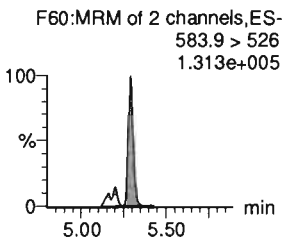
L-MeFOSAA



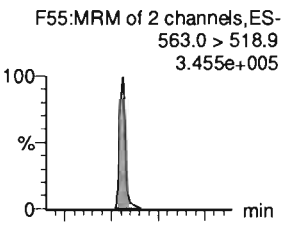


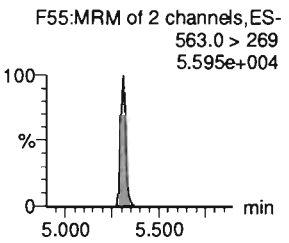
L-EtFOSAA



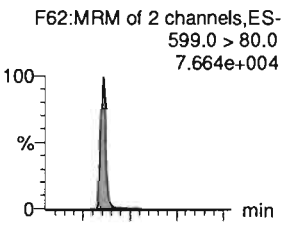


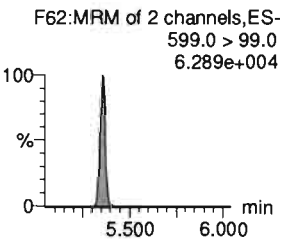
PFUdA



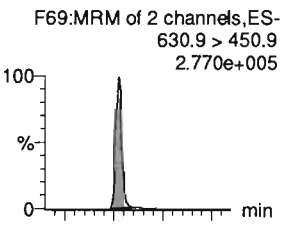


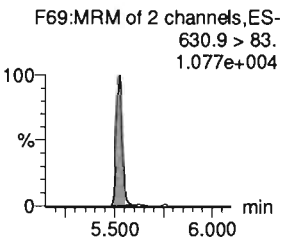
PFDS



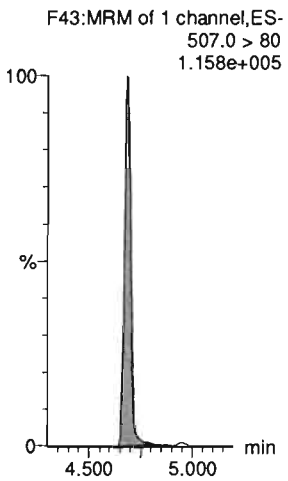


11Cl-PF30UdS

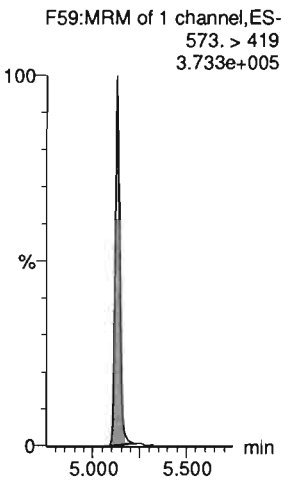




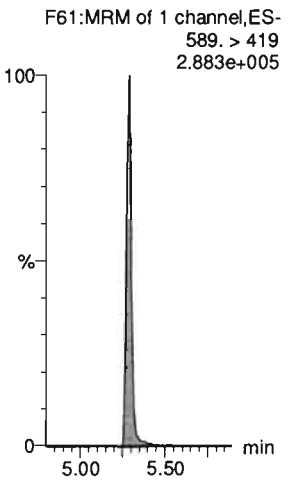
13C8-PFOS-EIS



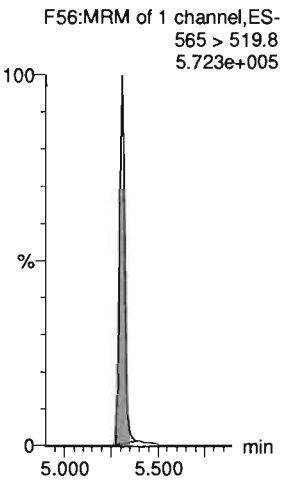
d3-N-MeFOSAA-EIS



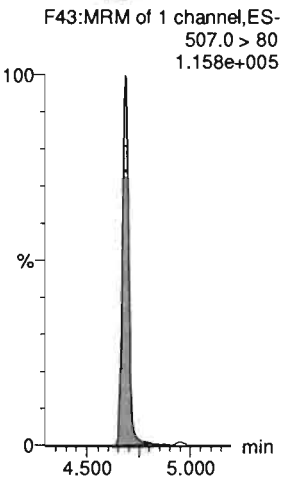
d5-N-EtFOSAA-EIS



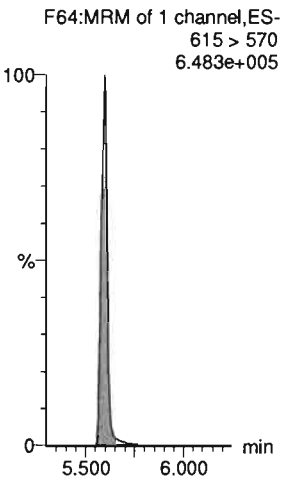
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



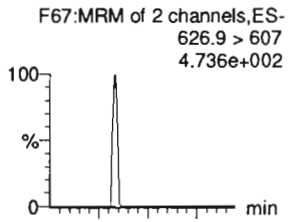
FBR 7/14/2020

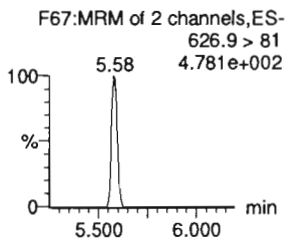
Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

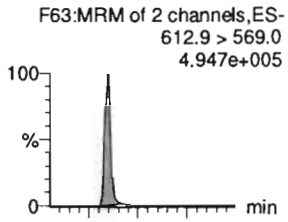
Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

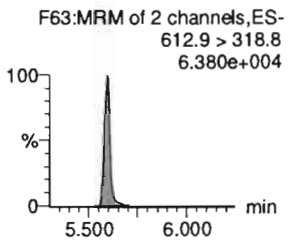
10:2 FTS



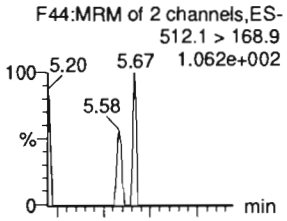


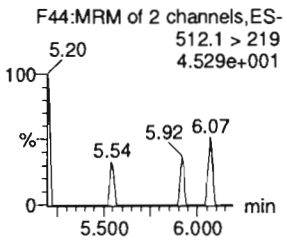
PFDoA



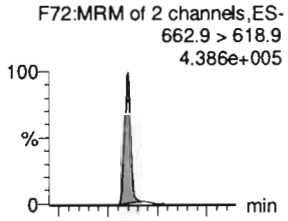


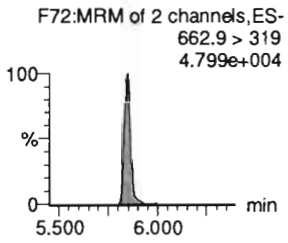
N-MeFOSA



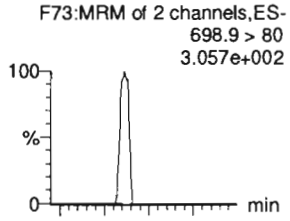


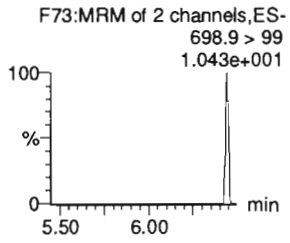
PFTrDA



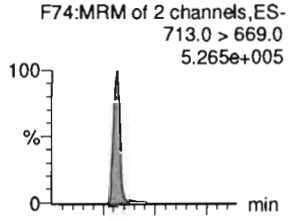


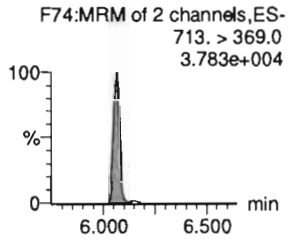
PFDoS



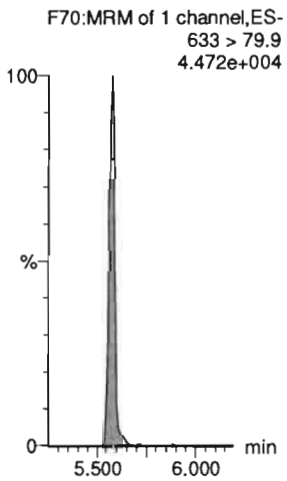


PFTeDA

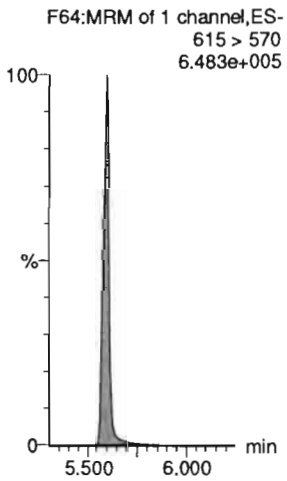




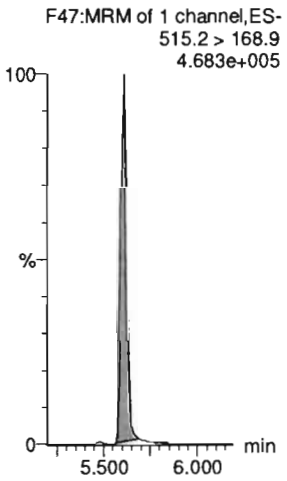
13C2-10:2 FTS-EIS



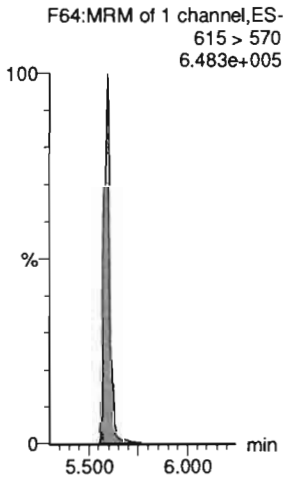
13C2-PFDoA-EIS



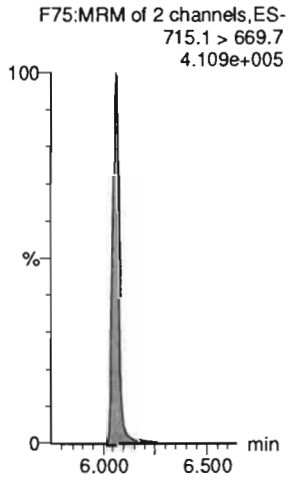
d3-N-MeFOSA-EIS



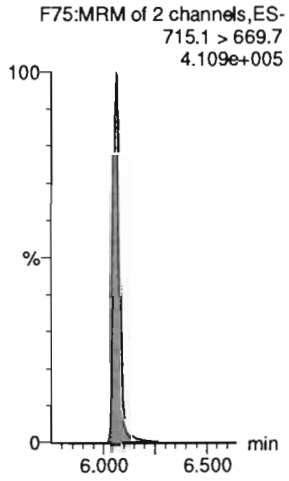
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



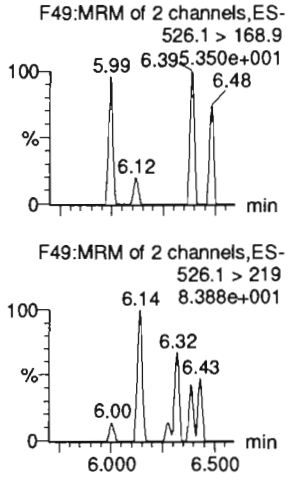
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

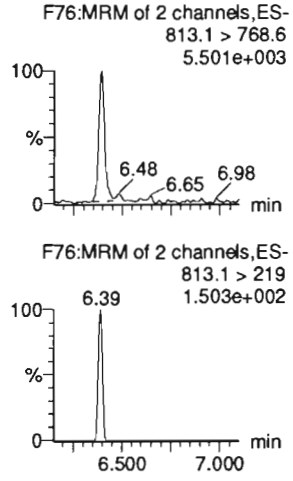
Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

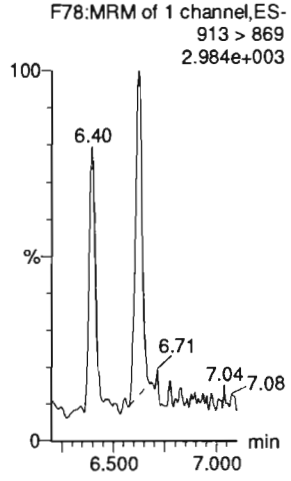
N-EtFOSA



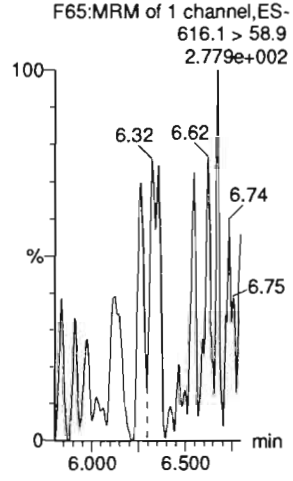
PFHxDA



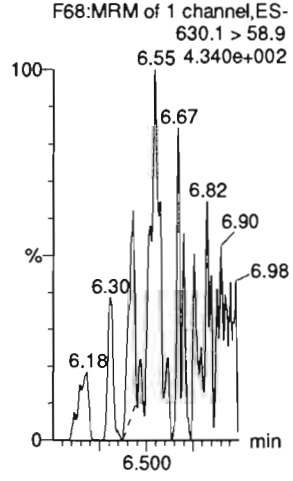
PFODA



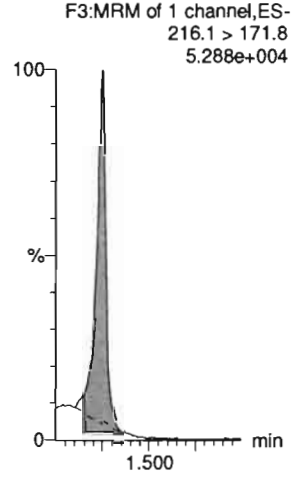
N-MeFOSE



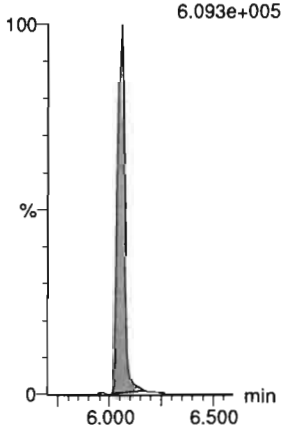
N-EtFOSE



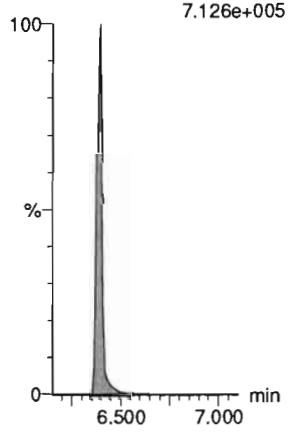
13C3-PFBA-RSD



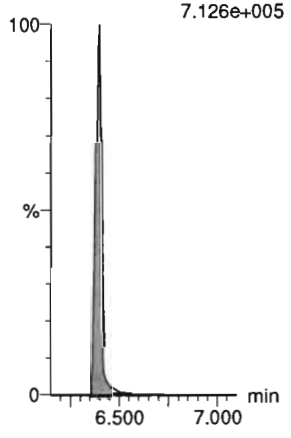
d5-N-ETFOSA-EIS



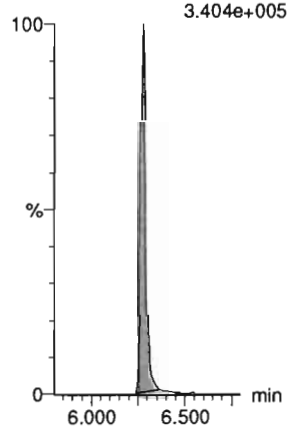
13C2-PFHxDA-EIS



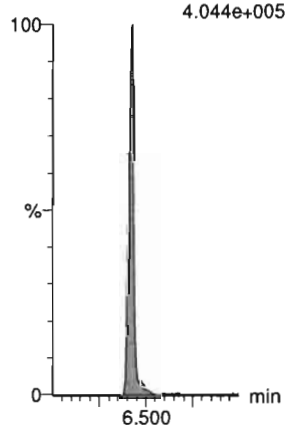
13C2-PFHxDA-EIS



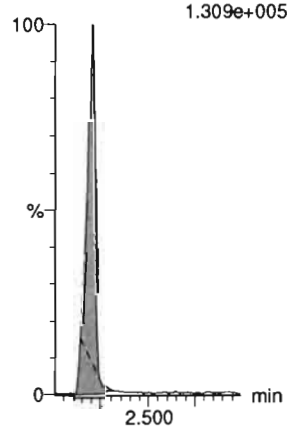
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



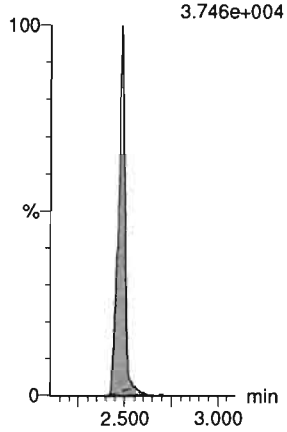
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

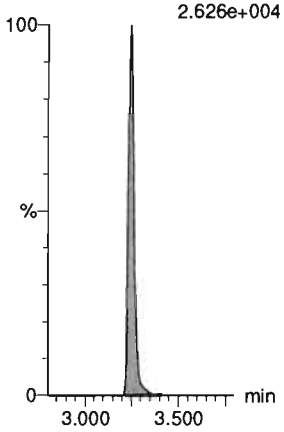
Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

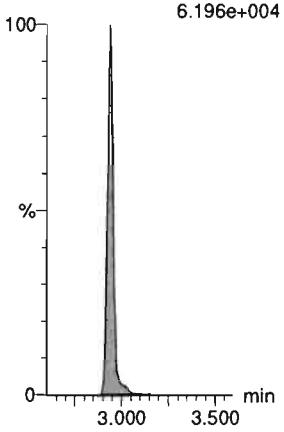
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 99
3.746e+004



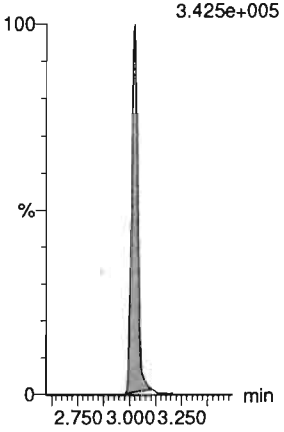
13C3-HFPO-DA-RSD
F10:MRM of 1 channel,ES-
287.0 > 168.9
2.626e+004



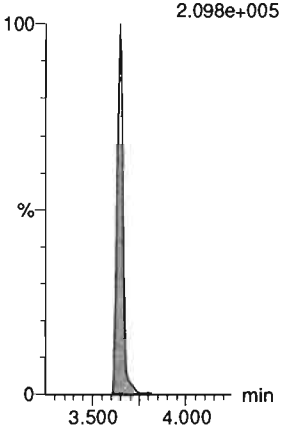
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 79.9
6.196e+004



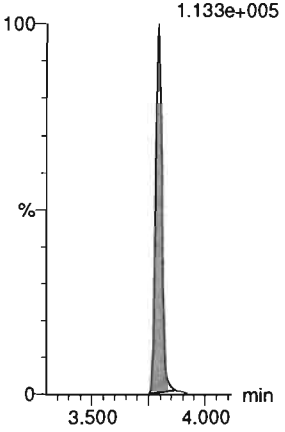
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.425e+005



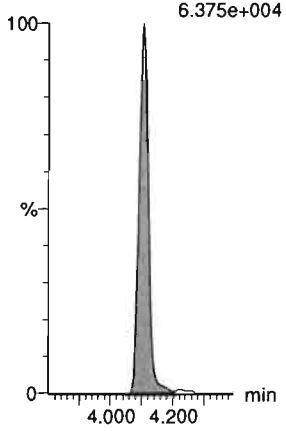
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
2.098e+005



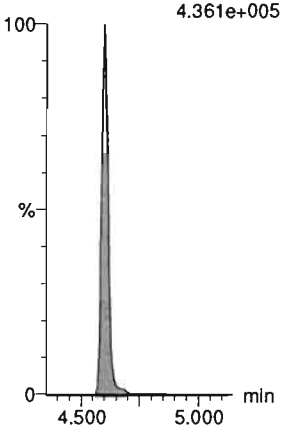
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
401.8 > 79.9
1.133e+005



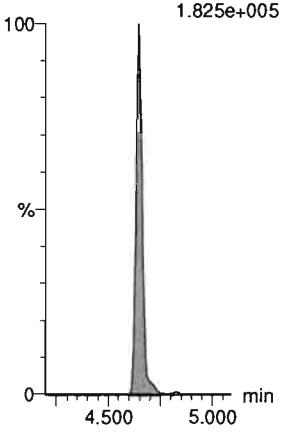
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.9
6.375e+004



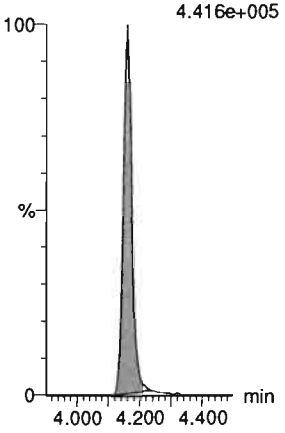
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.361e+005



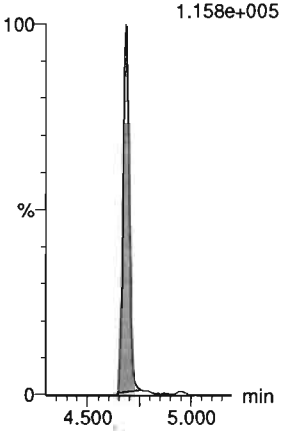
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506. > 78
1.825e+005



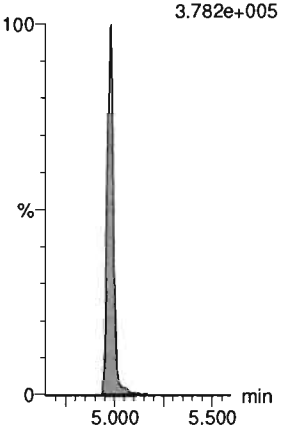
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.416e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.0 > 80
1.158e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
3.782e+005



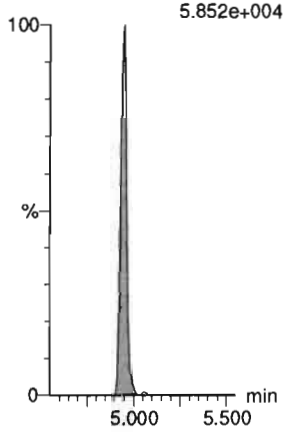
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

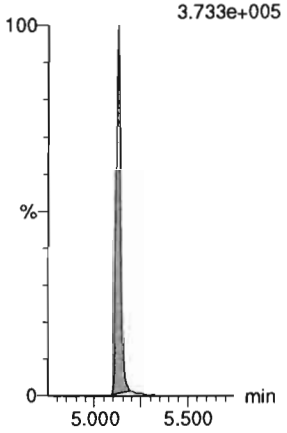
Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

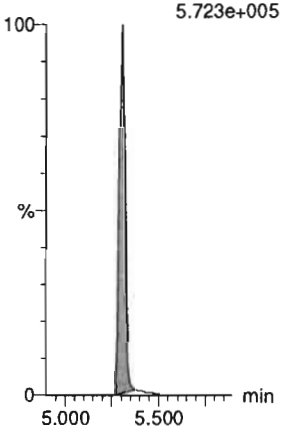
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
528.9 > 79.9
5.852e+004



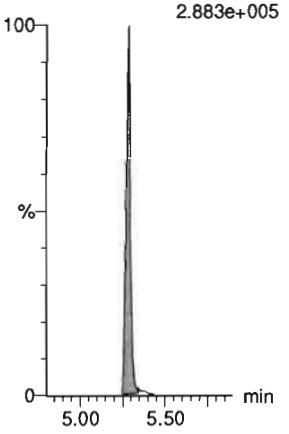
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573. > 419
3.733e+005



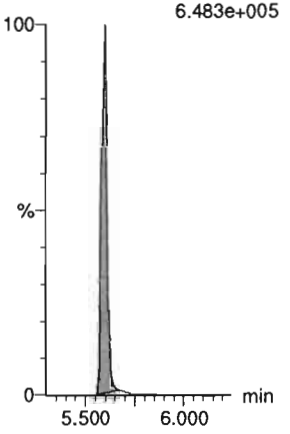
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.723e+005



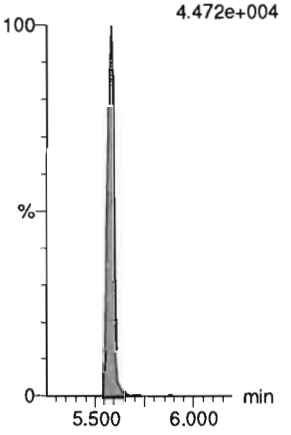
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589. > 419
2.883e+005



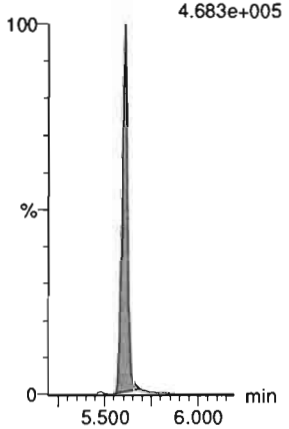
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
615 > 570
6.483e+005



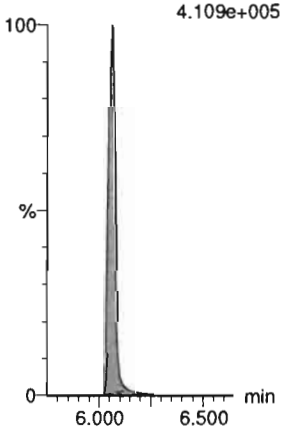
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
633 > 79.9
4.472e+004



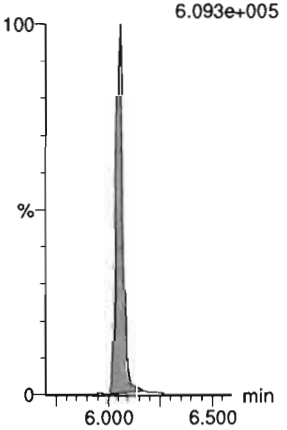
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
4.683e+005



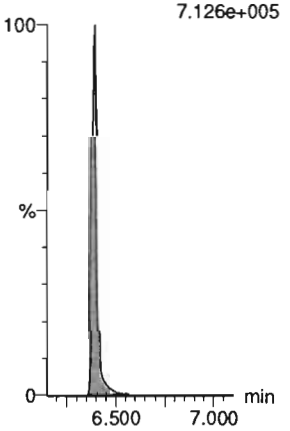
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
4.109e+005



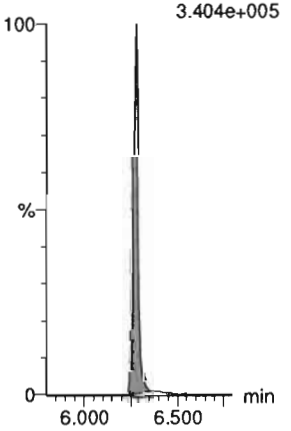
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.093e+005



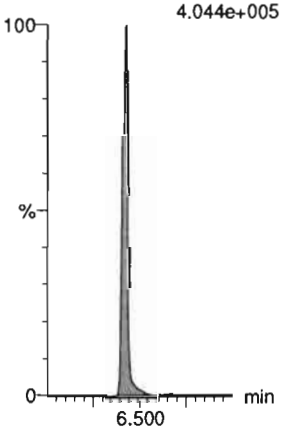
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.126e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
3.404e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
4.044e+005



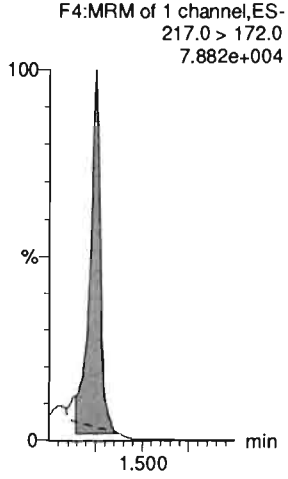
FBR 7/14/2020

Dataset: F:\Projects\PFAS.PRO\Results\200713M1\200713M1-ICV.qld

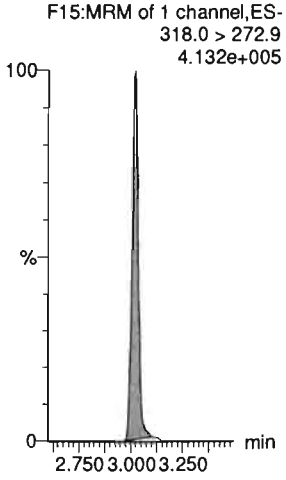
Last Altered: Tuesday, July 14, 2020 09:41:09 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:41:31 Pacific Daylight Time

Name: 200713M1_14, Date: 13-Jul-2020, Time: 17:04:54, ID: ICV200713M1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

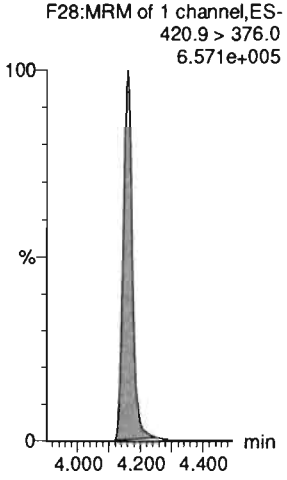
13C4-PFBA



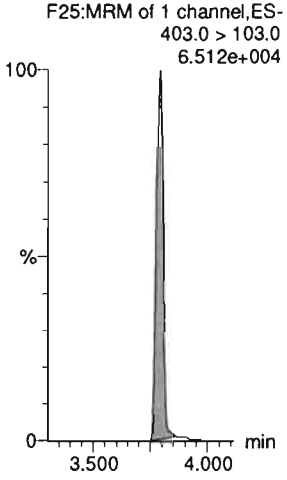
13C5-PFHxA



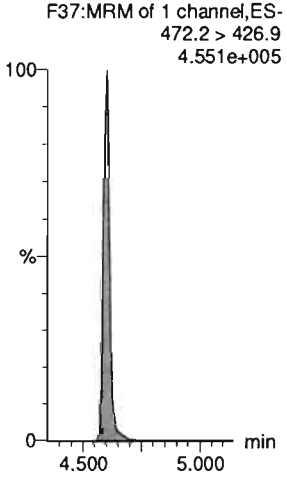
13C8-PFOA



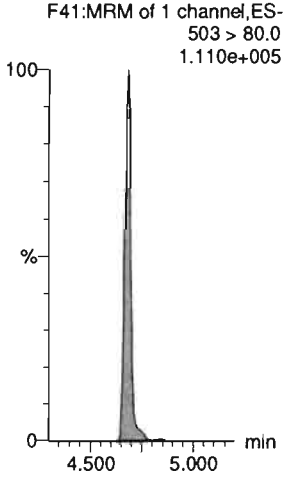
18O2-PFHxS



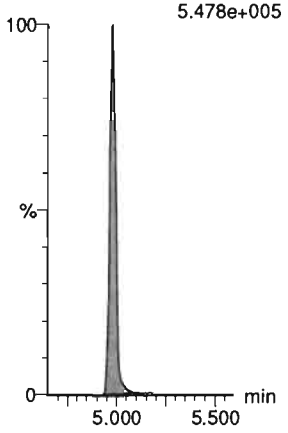
13C9-PFNA



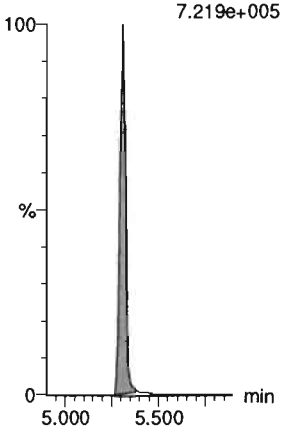
13C4-PFOS



13C6-PFDA



13C7-PFUdA



FBR 7/14/2020

Vista Analytical Laboratory

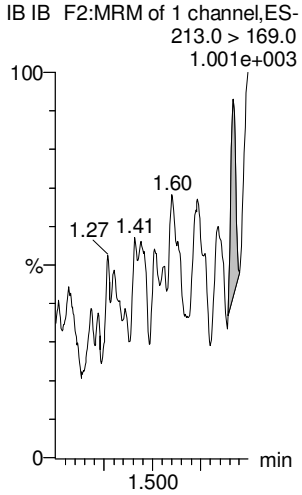
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

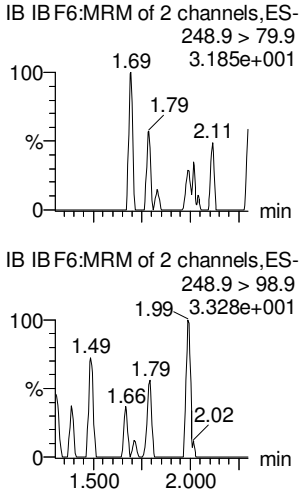
Method: F:\Projects\PFAS.PRO\MethDB\PFAS_FULL_80C_071320.mdb 14 Jul 2020 07:46:55
Calibration: F:\Projects\PFAS.PRO\CurveDB\C18_VAL-PFAS_Q4_07-13-20.cdb 14 Jul 2020 08:18:00

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

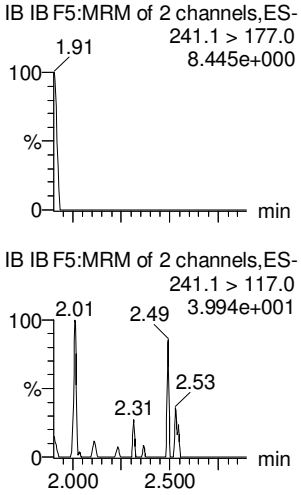
PFBA



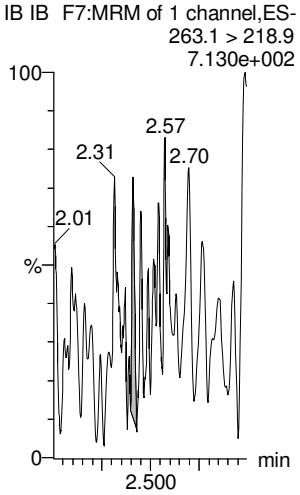
PFPrS



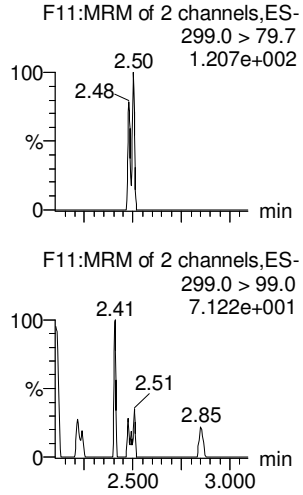
3:3 FTCA



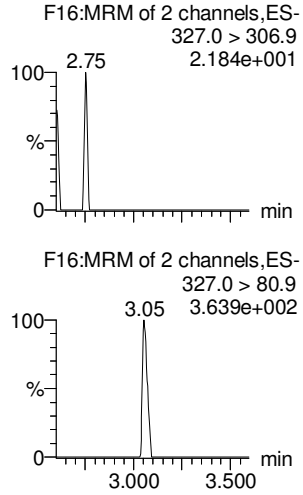
PFPeA



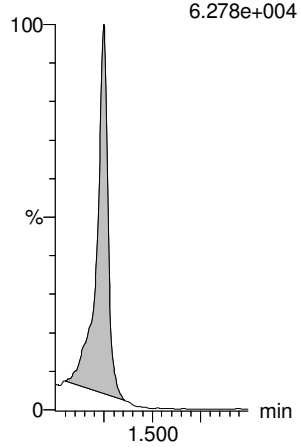
PFBS



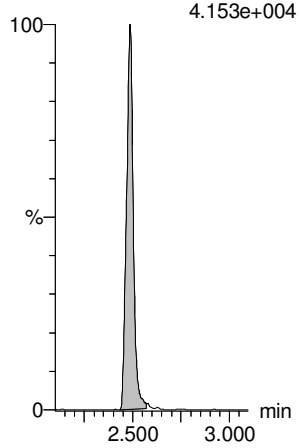
4:2 FTS



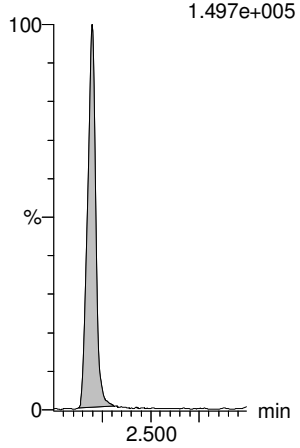
13C3-PFBA-EIS



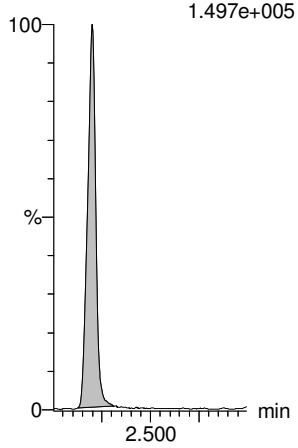
13C3-PFBS-EIS



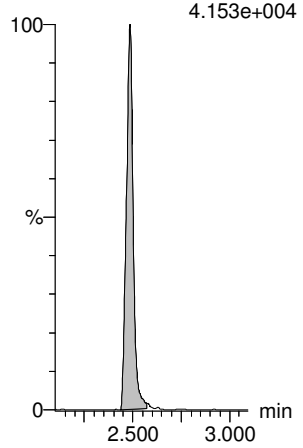
13C3-PFPeA-EIS



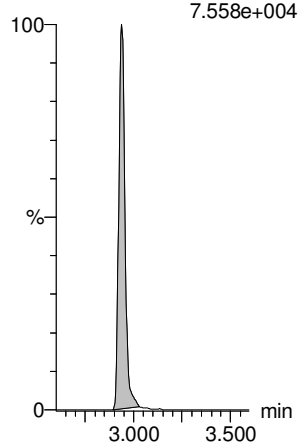
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

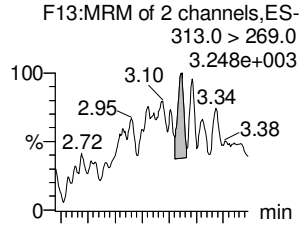


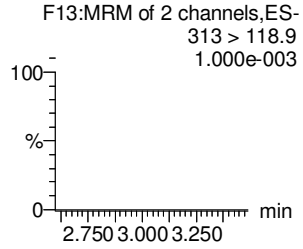
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

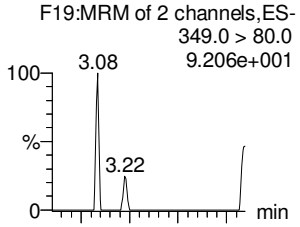
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

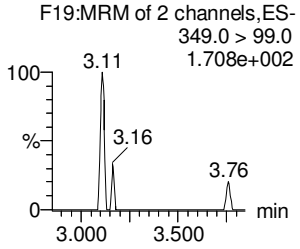
PFHxA



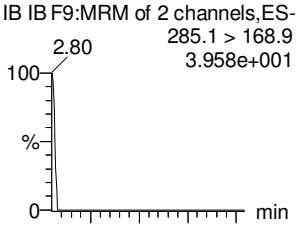


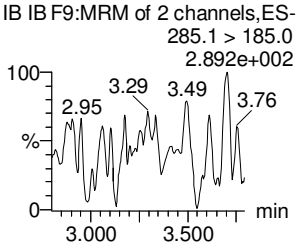
PFPeS



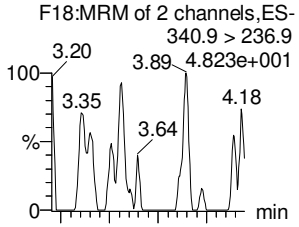


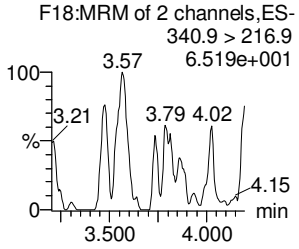
HFPO-DA



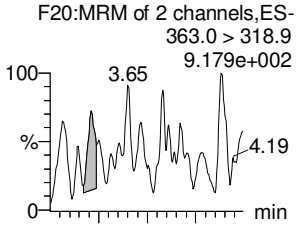


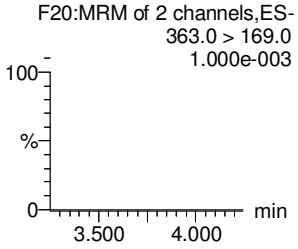
5:3 FTCA



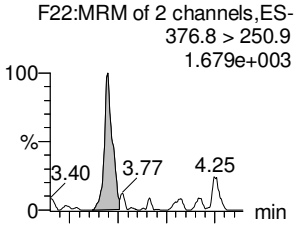


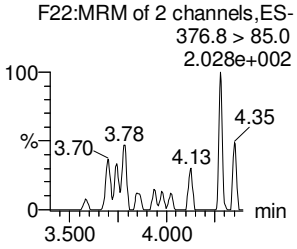
PFHpA



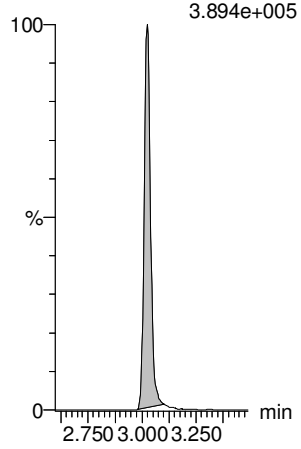


ADONA

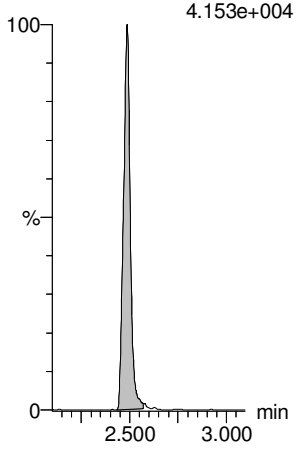




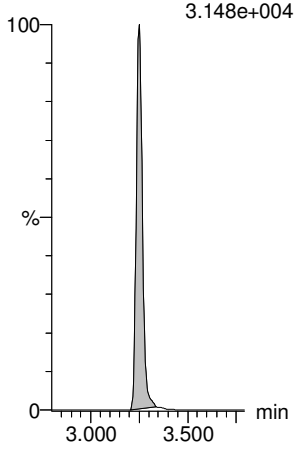
13C2-PFHxA-EIS



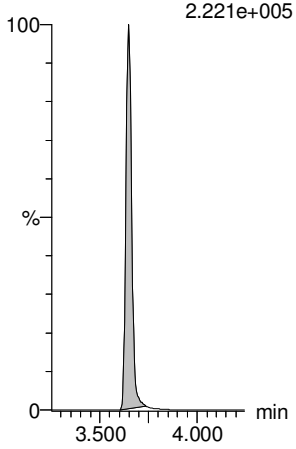
13C3-PFBS-EIS



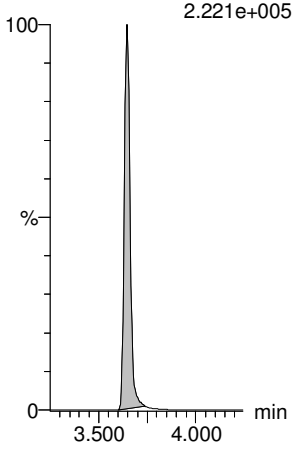
13C3-HFPO-DA-EIS



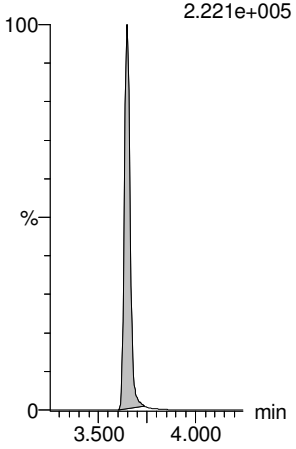
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

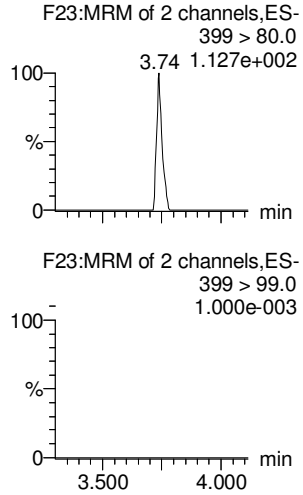


Dataset: Untitled

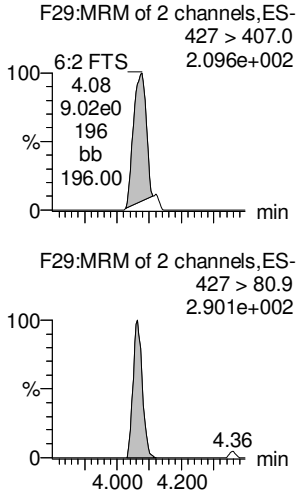
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

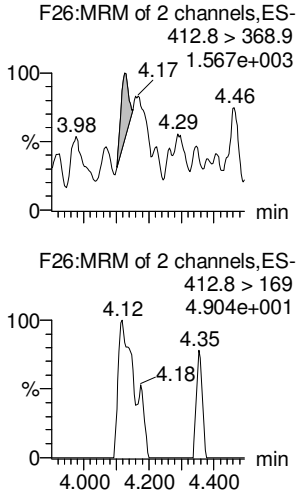
L-PFHxS



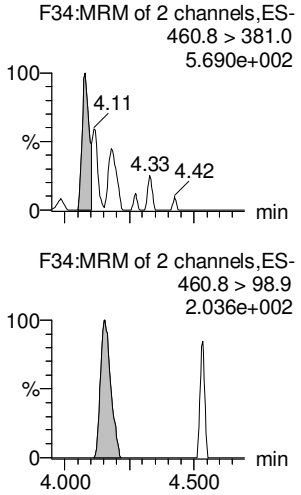
6:2 FTS



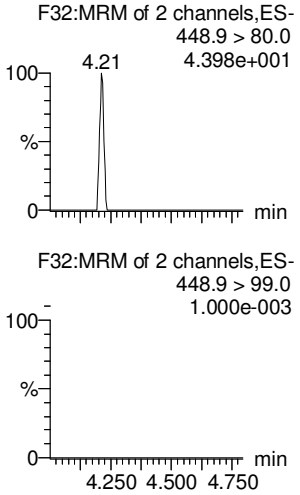
L-PFOA



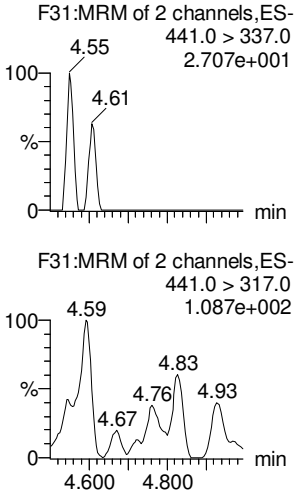
PFEChS



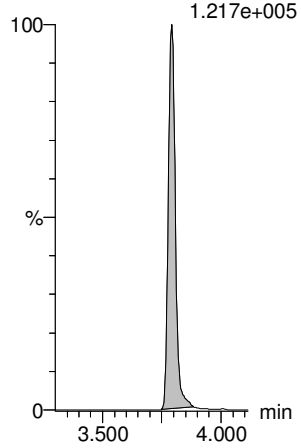
PFHpS



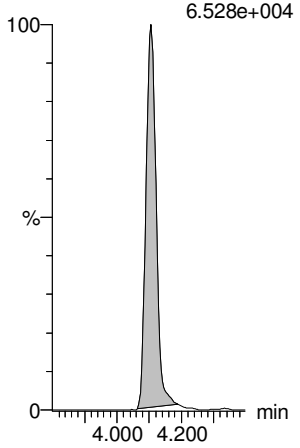
7:3 FTCA



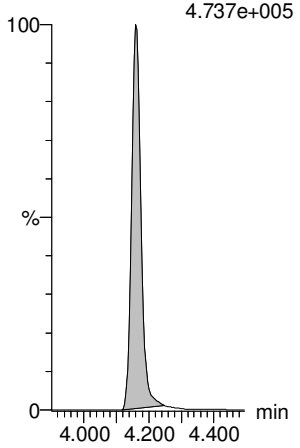
13C3-PFHxS-EIS



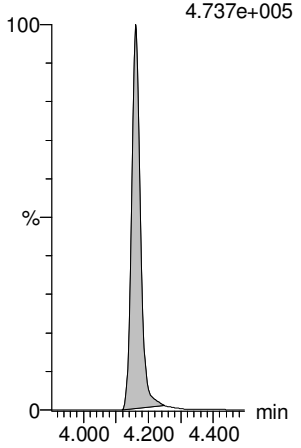
13C2-6:2 FTS-EIS



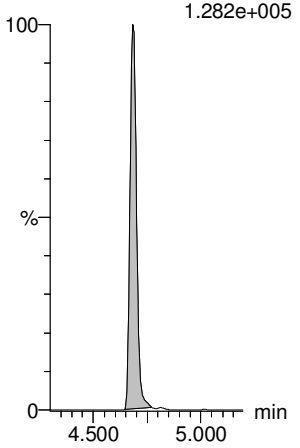
13C2-PFOA-EIS



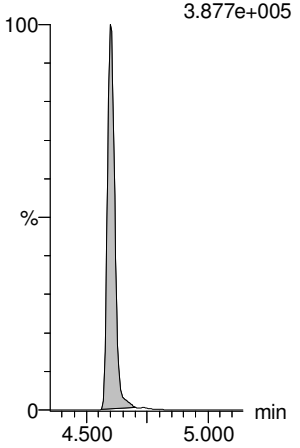
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

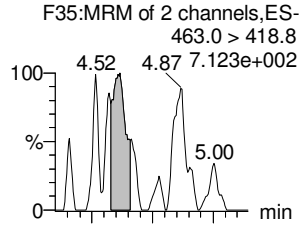


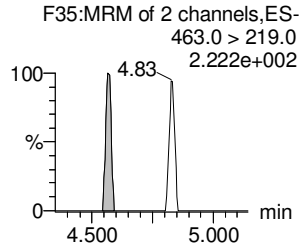
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

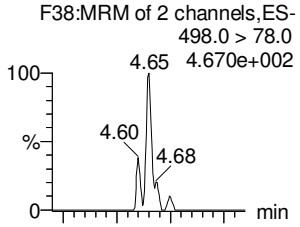
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

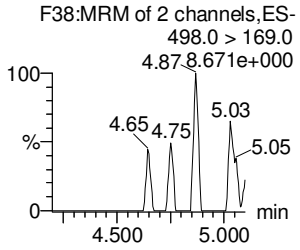
PFNA



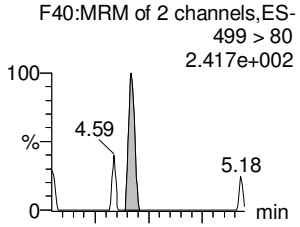


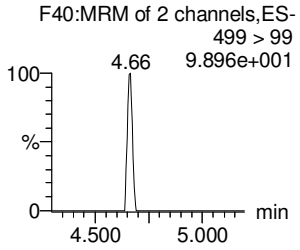
PFOSA



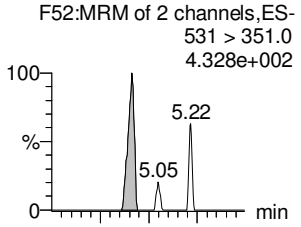


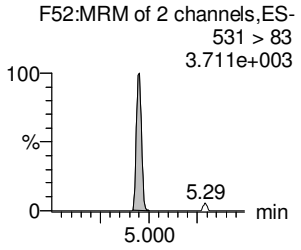
L-PFOS



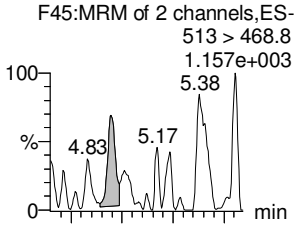


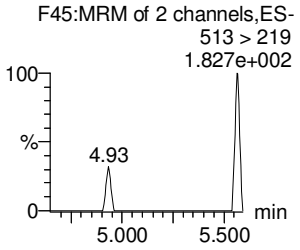
9Cl-PF30NS



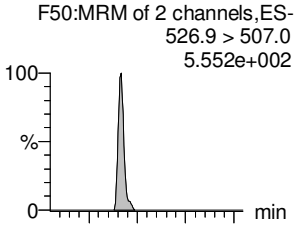


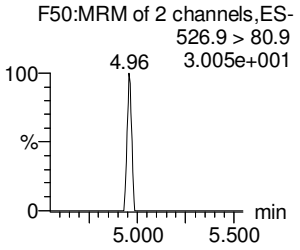
PFDA



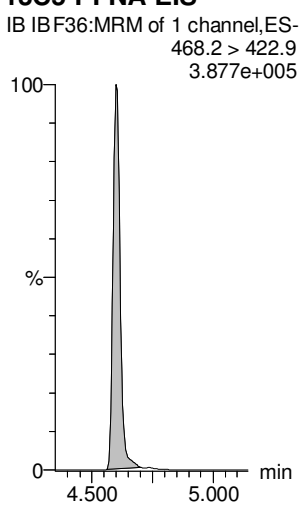


8:2 FTS

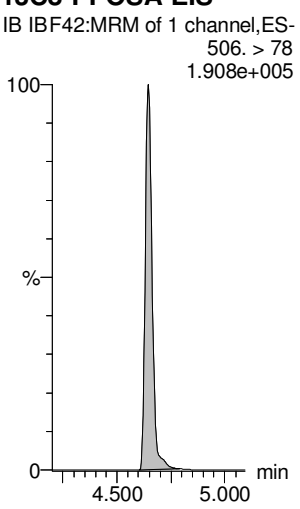




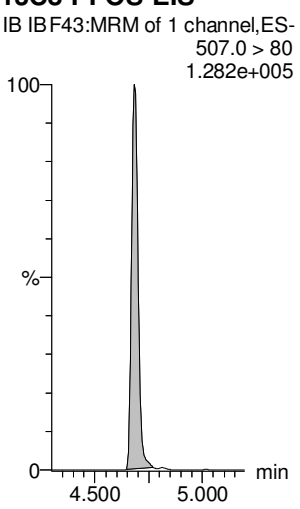
13C5-PFNA-EIS



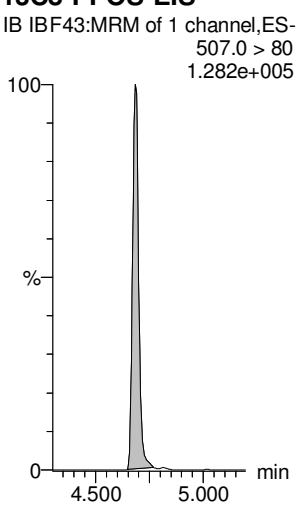
13C8-PFOSA-EIS



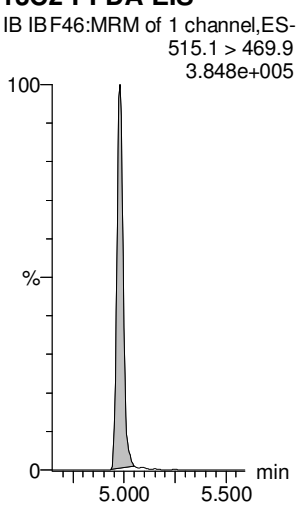
13C8-PFOS-EIS



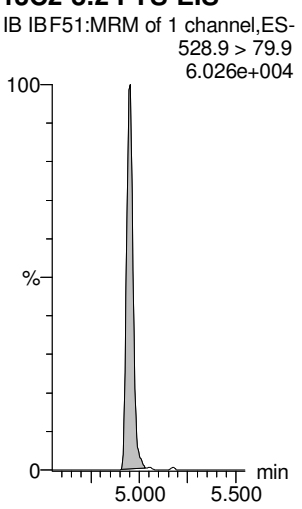
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

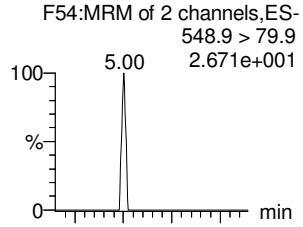


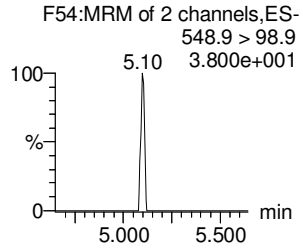
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

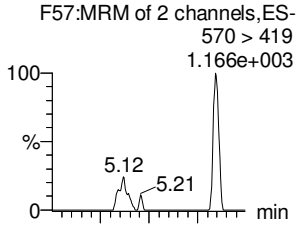
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

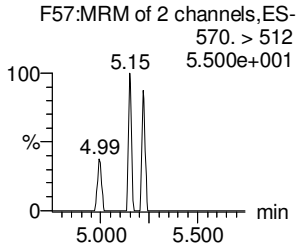
PFNS



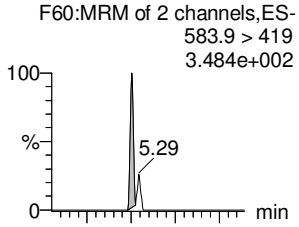


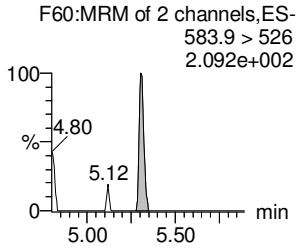
L-MeFOSAA



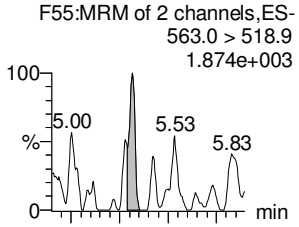


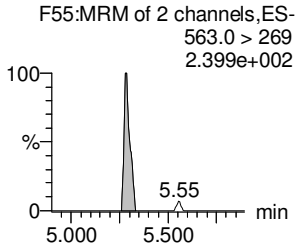
L-EtFOSAA



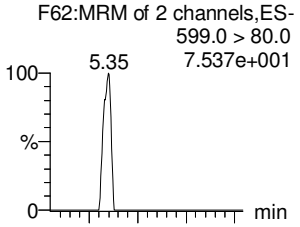


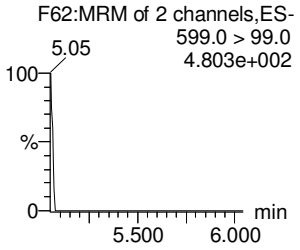
PFUdA



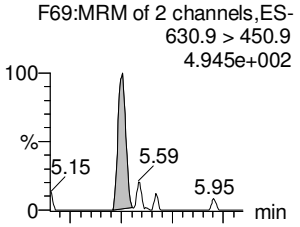


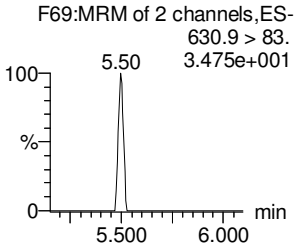
PFDS



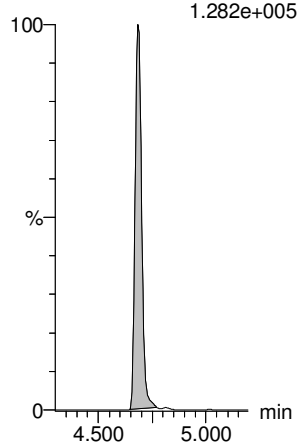


11Cl-PF30UdS

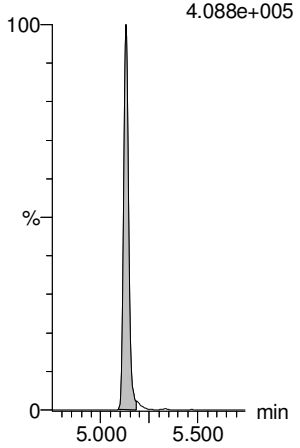




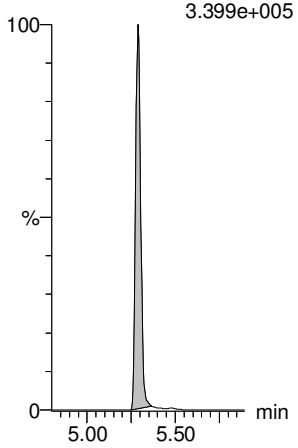
13C8-PFOS-EIS



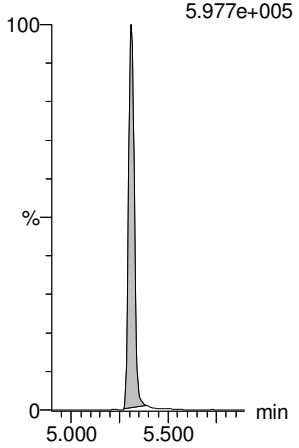
d3-N-MeFOSAA-EIS



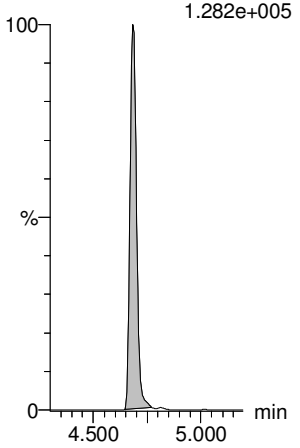
d5-N-EtFOSAA-EIS



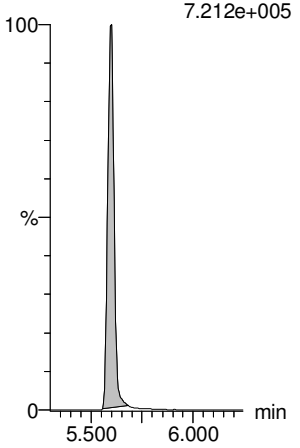
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

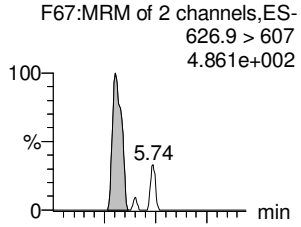


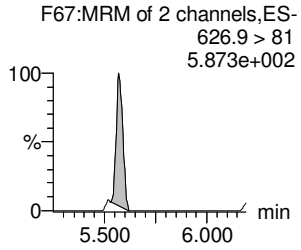
Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

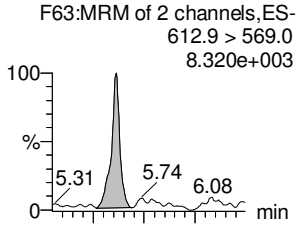
Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

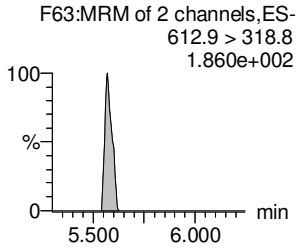
10:2 FTS



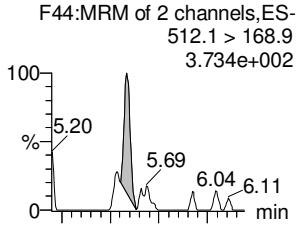


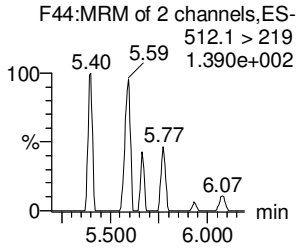
PFDoA



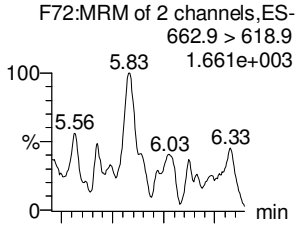


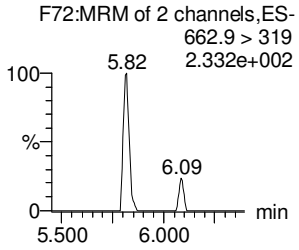
N-MeFOSA



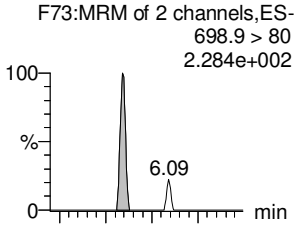


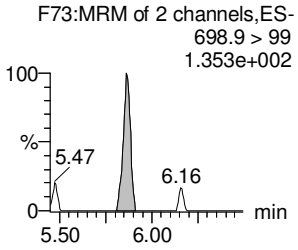
PFTrDA



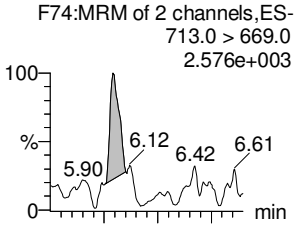


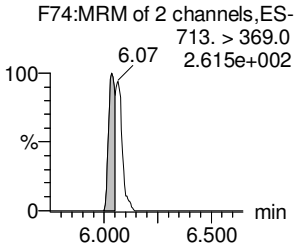
PFDoS



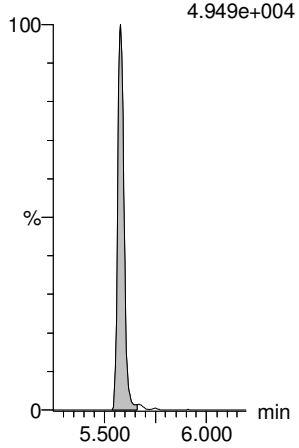


PFTeDA

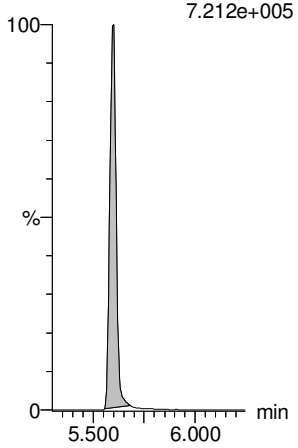




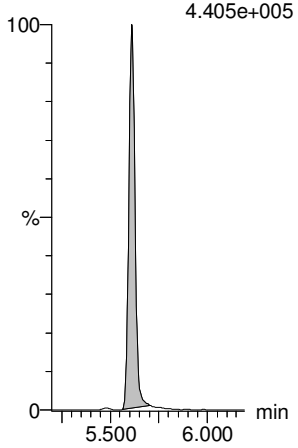
13C2-10:2 FTS-EIS



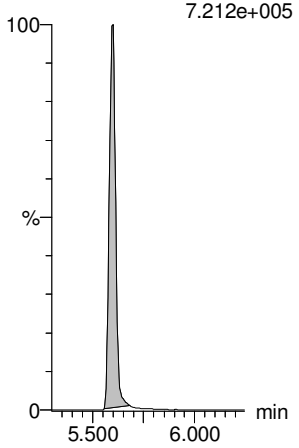
13C2-PFDoA-EIS



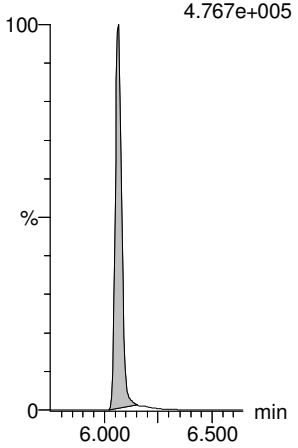
d3-N-MeFOSA-EIS



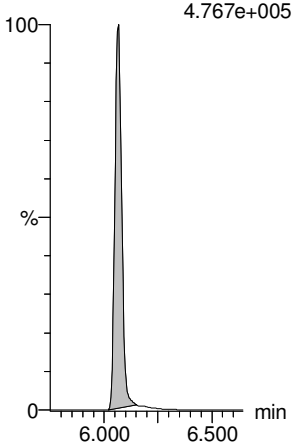
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

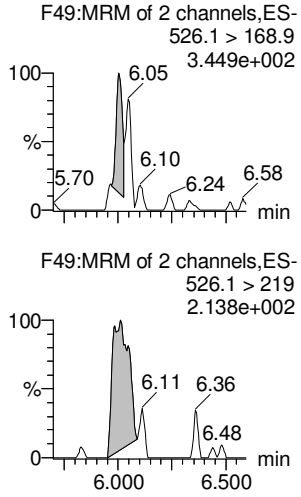


Dataset: Untitled

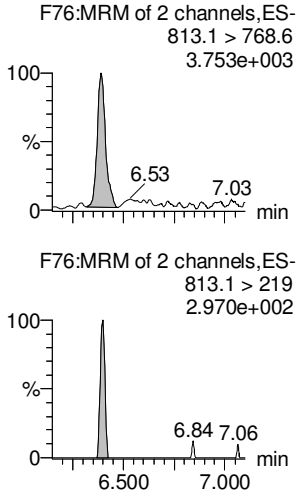
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

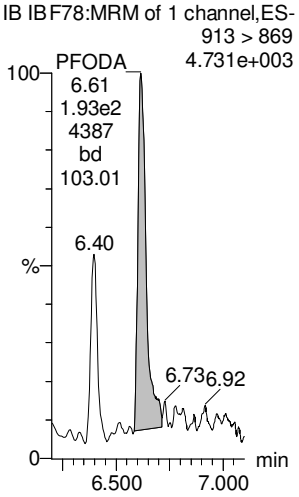
N-EtFOSA



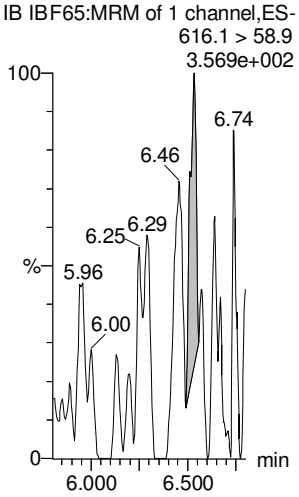
PFHxDA



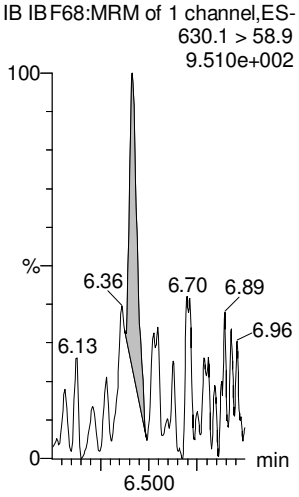
PFODA



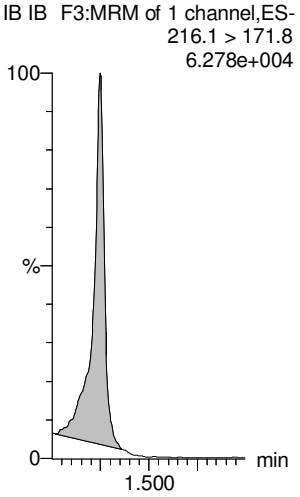
N-MeFOSE



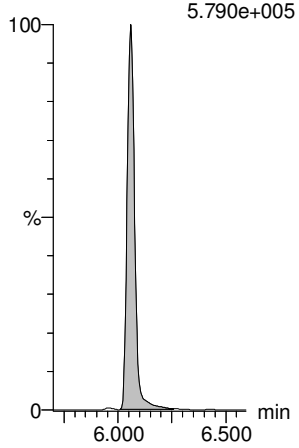
N-EtFOSE



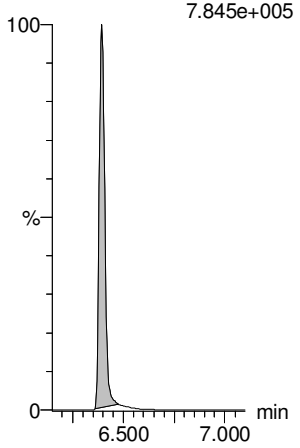
13C3-PFBA-RSD



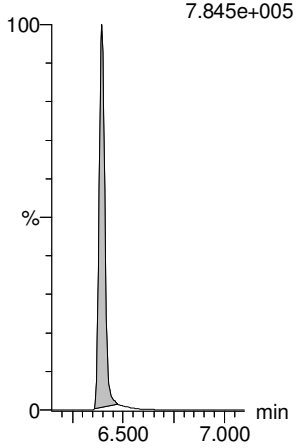
d5-N-ETFOSA-EIS



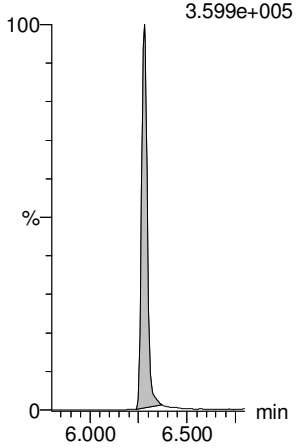
13C2-PFHxDA-EIS



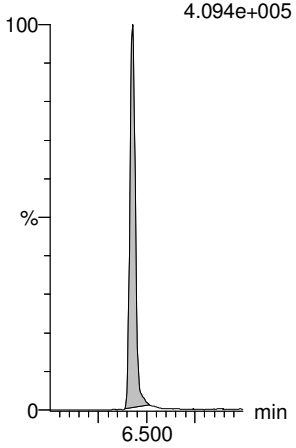
13C2-PFHxDA-EIS



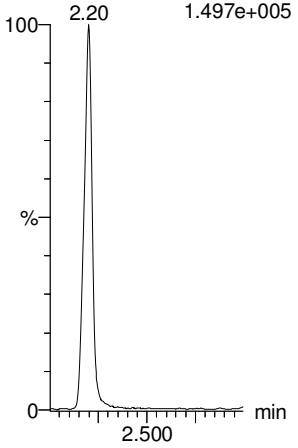
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

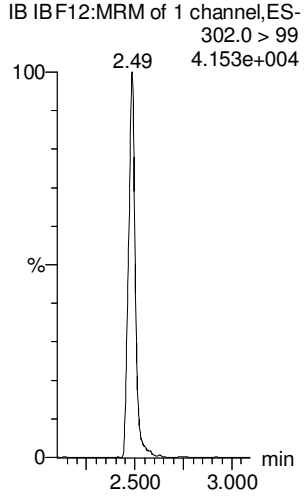


Dataset: Untitled

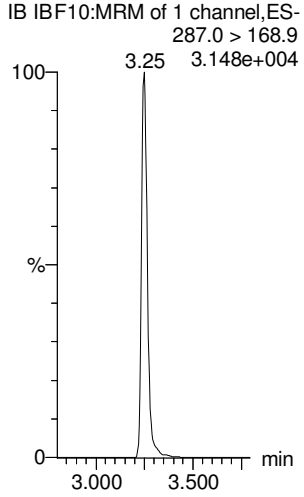
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

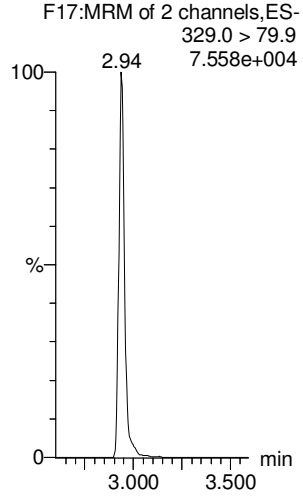
13C3-PFBS-RSD



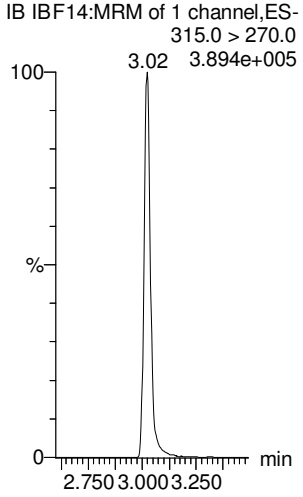
13C3-HFPO-DA-RSD



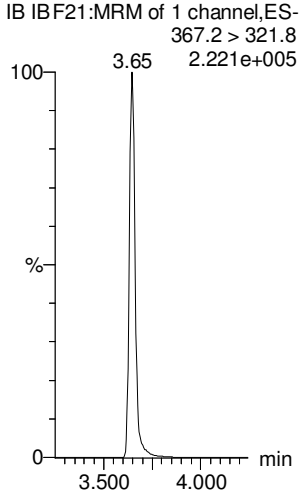
13C2-4:2 FTS-RSD



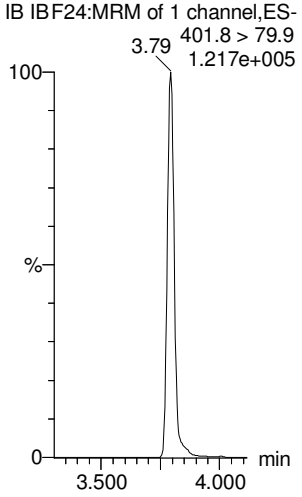
13C2-PFHxA-RSD



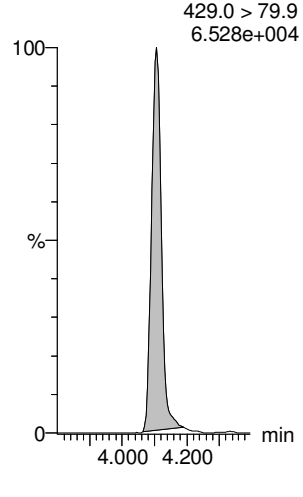
13C4-PFHpA-RSD



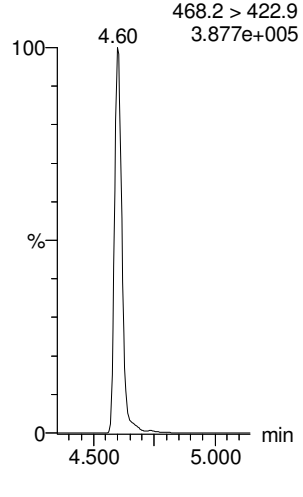
13C3-PFHxS-RSD



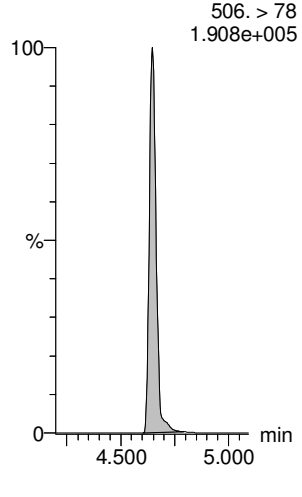
13C2-6:2 FTS-RSD



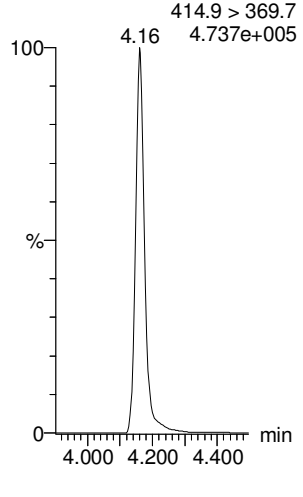
13C5-PFNA-RSD



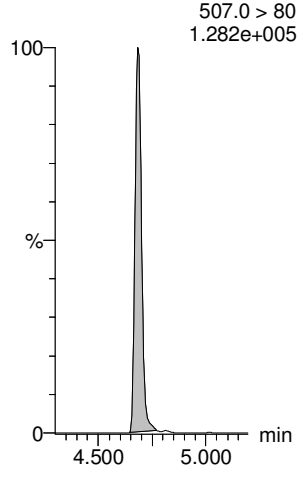
13C8-PFOSA-RSD



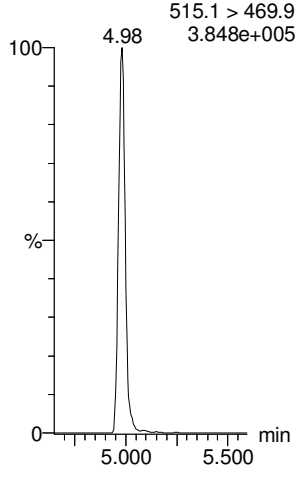
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

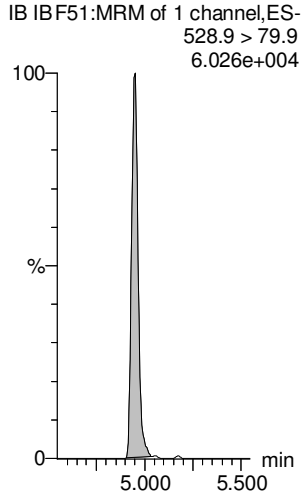


Dataset: Untitled

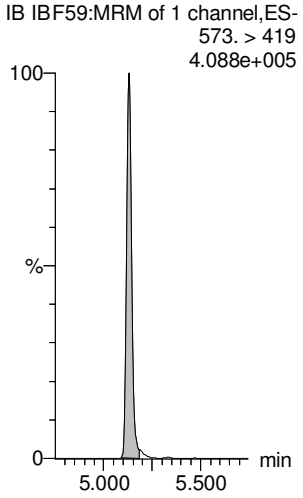
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

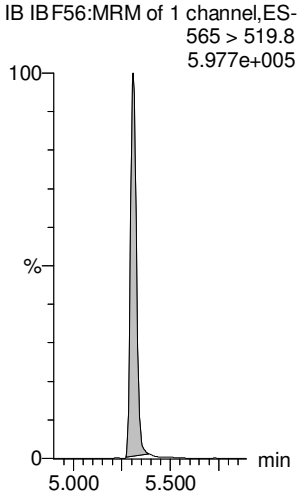
13C2-8:2 FTS-RSD



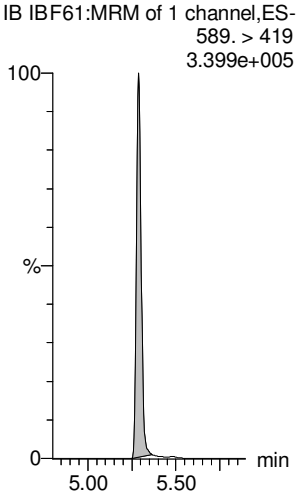
d3-N-MeFOSAA-RSD



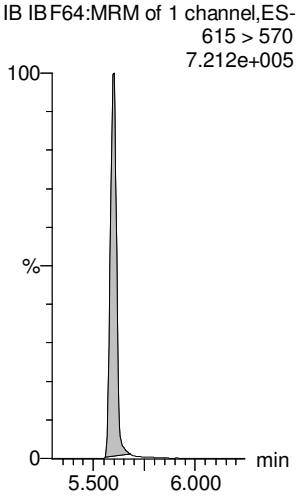
13C2-PFUdA-RSD



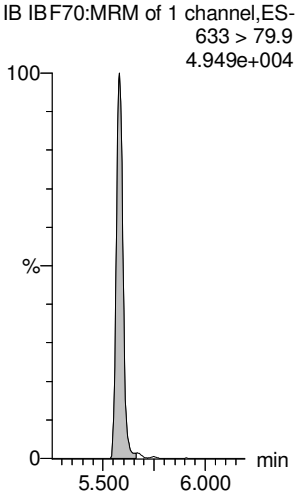
d5-N-EtFOSAA-RSD



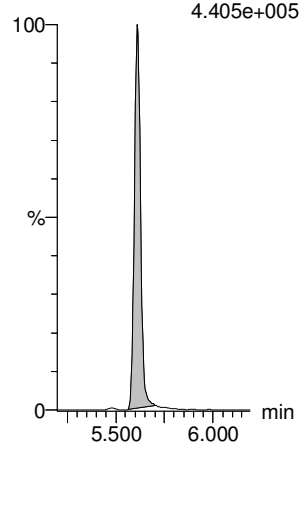
13C2-PFDoA-RSD



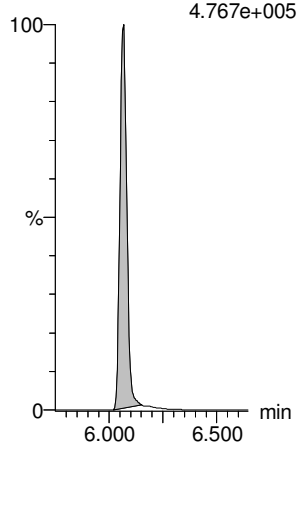
13C2-10:2 FTS-RSD



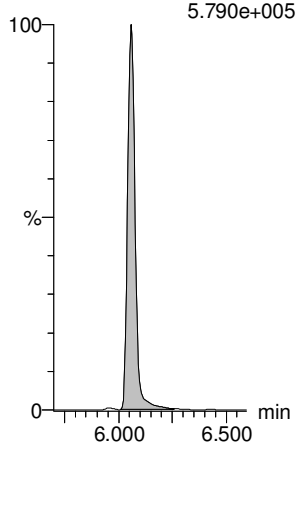
d3-N-MeFOSA-RSD



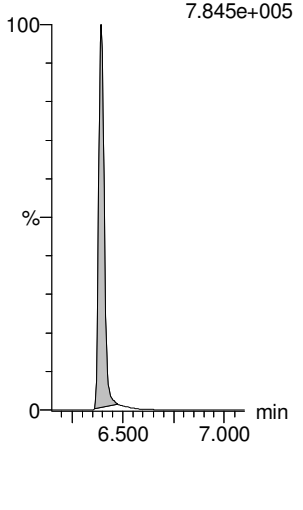
13C2-PFTeDA-RSD



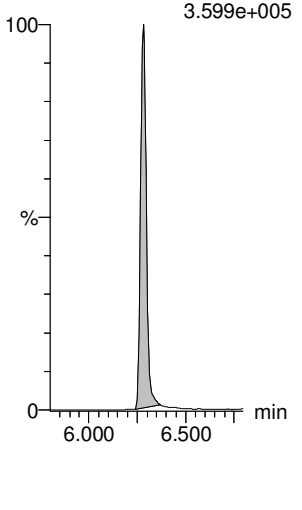
d5-N-ETFOSA-RSD



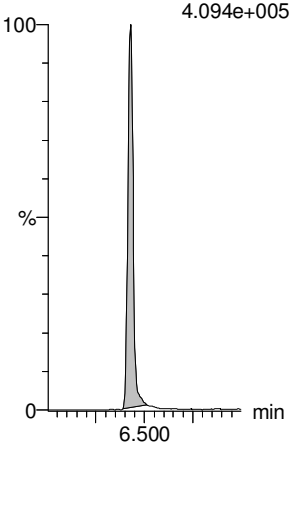
13C2-PFHxDA-RSD



d7-N-MeFOSE-RSD



d9-N-EtFOSE-RSD

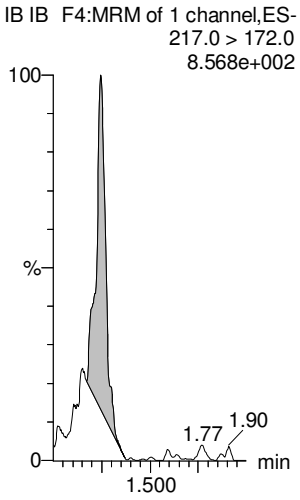


Dataset: Untitled

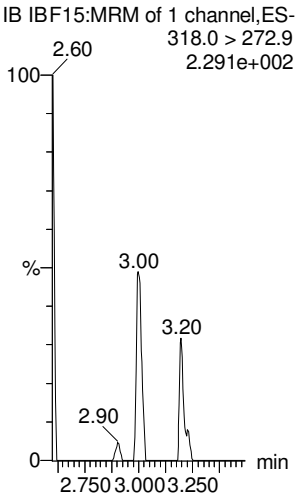
Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

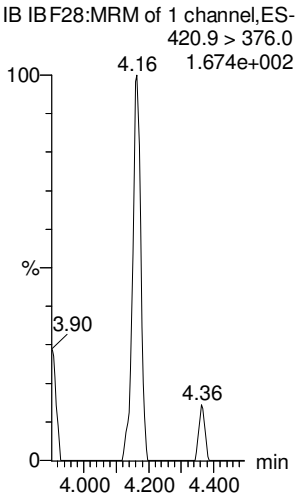
13C4-PFBA



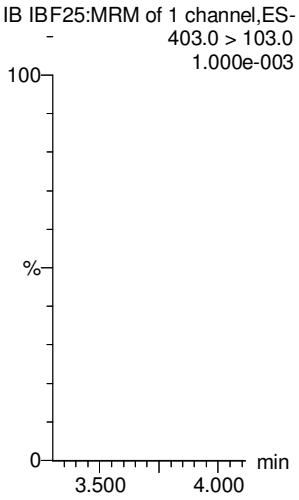
13C5-PFHxA



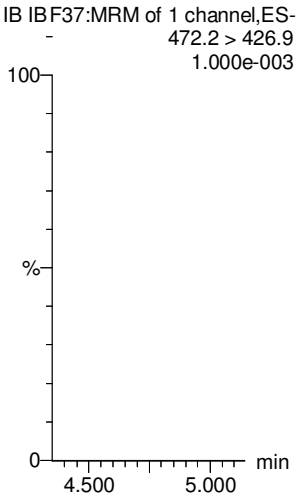
13C8-PFOA



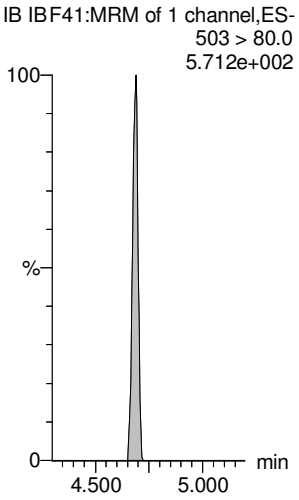
18O2-PFHxS



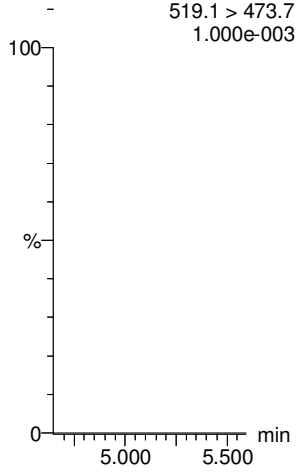
13C9-PFNA



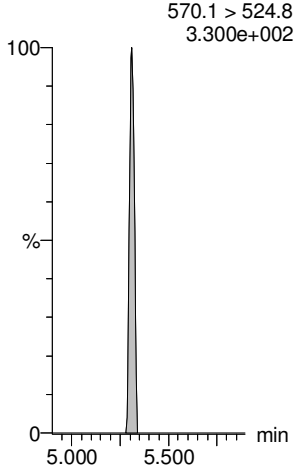
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 169.0	15.695	3991.360	1.00	1.92	0.049		0.0148		NO		
2	2	PFPrS	248.9 > 79.9		1635.998	1.00						NO		
3	3	3:3 FTCA	241.1 > 177.0		6991.409	1.00						NO		
4	4	PFPeA	263.1 > 218.9	6.487	6991.409	1.00	2.41	0.012		0.0103		NO		
5	5	PFBS	299.0 > 79.7		1635.998	1.00						NO		
6	6	4:2 FTS	327.0 > 306.9		2712.067	1.00						NO		
7	47	13C3-PFBA-EIS	216.1 > 171.8	3991.360		1.00	1.25	3991.360	12.500	14.1	112.8	NO		
8	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	6991.409		1.00	2.20	6991.409	12.500	13.5	108.3	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	6991.409		1.00	2.20	6991.409	12.500	13.5	108.3	NO		
11	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >79.9	2712.067		1.00	2.94	2712.067	12.500	12.4	99.4	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	65.246	12766.795	1.00	3.18	0.064		0.0452		NO		
15	8	PFPeS	349.0 > 80.0		1635.998	1.00						NO		
16	9	HFPO-DA	285.1 > 168.9		1119.857	1.00						NO		
17	10	5:3 FTCA	340.9 > 236.9		7423.614	1.00						NO		
18	11	PFHpA	363.0 > 318.9	21.454	7423.614	1.00	3.46	0.036				NO		
19	12	ADONA	376.8 > 250.9	78.453	7423.614	1.00	3.70	0.132		0.0186		NO		
20	57	13C2-PFHxA-EIS	315.0 > 270.0	12766.795		1.00	3.02	12766.795	12.500	13.3	106.5	NO		
21	51	13C3-PFBS-EIS	302.0 > 99	1635.998		1.00	2.49	1635.998	12.500	13.7	109.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1119.857		1.00	3.25	1119.857	12.500	15.2	121.6	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	7423.614		1.00	3.65	7423.614	12.500	13.4	107.1	NO		
26	-1													
27	13	L-PFHxS	399 > 80.0		4015.268	1.00						NO		
28	15	6:2 FTS	427 > 407.0	9.021	2286.202	1.00	4.08	0.049		0.00935		NO	0.917	YES
29	16	L-PFOA	412.8 > 368.9	18.288	15655.589	1.00	4.13	0.015				NO		
30	18	PFecHS	460.8 > 381.0	17.303	15655.589	1.00	4.08	0.014		0.103		NO	1.872	YES
31	19	PFHpS	448.9 > 80.0		4378.122	1.00						NO		
32	20	7:3 FTCA	441.0 > 337.0		13312.106	1.00						NO		
33	61	13C3-PFHxS-EIS	401.8 > 79.9	4015.268		1.00	3.79	4015.268	12.500	13.4	107.1	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.9	2286.202		1.00	4.11	2286.202	12.500	13.7	109.7	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	15655.589		1.00	4.16	15655.589	12.500	13.2	105.7	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	15655.589		1.00	4.16	15655.589	12.500	13.2	105.7	NO		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	13312.106		1.00	4.60	13312.106	12.500	12.2	97.3	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	45.797	13312.106	1.00	4.62	0.043		0.0691		NO	8.089	YES
41	22	PFOSA	498.0 > 78.0		6863.483	1.00						NO		
42	23	L-PFOS	499 > 80	7.631	4378.122	1.00	4.67	0.022		0.0976		NO		
43	25	9Cl-PF30NS	531 > 351.0	15.835	4378.122	1.00	4.91	0.045		0.123		NO	0.137	YES
44	26	PFDA	513 > 468.8	34.027	14083.672	1.00	4.95	0.030		0.0103		NO		
45	27	8:2 FTS	526.9 > 507.0	18.684	2265.313	1.00	4.92	0.103		0.0121		NO		
46	65	13C5-PFNA-EIS	468.2 > 422.9	13312.106		1.00	4.60	13312.106	12.500	12.2	97.3	NO		
47	67	13C8-PFOSA-EIS	506. > 78	6863.483		1.00	4.65	6863.483	12.500	13.9	111.0	NO		
48	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
49	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
50	75	13C2-PFDA-EIS	515.1 > 469.9	14083.672		1.00	4.98	14083.672	12.500	13.1	104.9	NO		
51	77	13C2-8:2 FTS-EIS	528.9 > 79.9	2265.313		1.00	4.95	2265.313	12.500	13.7	110.0	NO		
52	-1													
53	28	PFNS	548.9 > 79.9		4378.122	1.00						NO		
54	29	L-MeFOSAA	570 > 419		12337.550	1.00						NO		
55	31	L-EtFOSAA	583.9 > 419	7.089	11056.373	1.00	5.25	0.008		0.0143		NO	1.124	NO
56	33	PFUdA	563.0 > 518.9	64.518	20445.463	1.00	5.31	0.039				NO	8.111	NO
57	34	PFDS	599.0 > 80.0		4378.122	1.00						NO		
58	35	11Cl-PF30UdS	630.9 > 450.9	20.879	24809.785	1.00	5.51	0.011		0.0544		NO		
59	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
60	79	d3-N-MeFOSAA-EIS	573. > 419	12337.550		1.00	5.13	12337.550	12.500	14.4	114.9	NO		
61	83	d5-N-EtFOSAA-EIS	589. > 419	11056.373		1.00	5.29	11056.373	12.500	12.9	103.0	NO		
62	81	13C2-PFUdA-EIS	565 > 519.8	20445.463		1.00	5.31	20445.463	12.500	12.2	97.4	NO		
63	73	13C8-PFOS-EIS	507.0 > 80	4378.122		1.00	4.68	4378.122	12.500	14.5	116.3	NO		
64	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	25.640	1800.397	1.00	5.55	0.178		0.0749		NO	1.176	NO
67	37	PFDoA	612.9 > 569.0	383.803	24809.785	1.00	5.61	0.193		0.169		NO	52.641	YES
68	38	N-MeFOSA	512.1 > 168.9	11.598	15787.488	1.00	5.58	0.110		0.0819		NO		
69	39	PFTrDA	662.9 > 618.9		24809.785	1.00						NO		
70	40	PFDoS	698.9 > 80	7.307	16917.061	1.00	5.84	0.005				NO	1.253	NO
71	41	PFTeDA	713.0 > 669.0	94.428	16917.061	1.00	6.04	0.070		0.00167		NO	11.518	NO
72	87	13C2-10:2 FTS-EIS	633 > 79.9	1800.397		1.00	5.58	1800.397	12.500	14.1	112.7	NO		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
74	89	d3-N-MeFOSA-EIS	515.2 > 168.9	15787.488		1.00	5.61	15787.488	149.200	143	95.7	NO		
75	85	13C2-PFDoA-EIS	615 > 570	24809.785		1.00	5.60	24809.785	12.500	12.7	101.9	NO		
76	91	13C2-PFTeDA-EIS	715.1 > 669.7	16917.061		1.00	6.07	16917.061	12.500	14.8	118.5	NO		
77	91	13C2-PFTeDA-EIS	715.1 > 669.7	16917.061		1.00	6.07	16917.061	12.500	14.8	118.5	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	10.291	22820.334	1.00	6.00	0.067				NO	0.578	YES
80	43	PFHxDA	813.1 > 768.6	176.827	24762.742	1.00	6.39	0.089				NO	22.908	NO
81	44	PFODA	913 > 869	193.257	24762.742	1.00	6.61	0.098		0.0557		NO		
82	45	N-MeFOSE	616.1 > 58.9	9.844	12033.841	1.00	6.53	0.122				NO		
83	46	N-EtFOSE	630.1 > 58.9	32.562	13012.792	1.00	6.41	0.373		0.211		NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	4154.545	40.276	1.00	1.25	1289.398	12.500	1900	15189.5	YES		
85	93	d5-N-ETFOSA-EIS	531.1 > 168.9	22820.334		1.00	6.06	22820.334	149.200	144	96.2	NO		
86	95	13C2-PFHxDA-EIS	815 > 769.7	24762.742		1.00	6.40	24762.742	12.500	13.1	104.5	NO		
87	95	13C2-PFHxDA-EIS	815 > 769.7	24762.742		1.00	6.40	24762.742	12.500	13.1	104.5	NO		
88	97	d7-N-MeFOSE-EIS	623.1 > 58.9	12033.841		1.00	6.28	12033.841	149.200	149	99.8	NO		
89	99	d9-N-EtFOSE-EIS	639.2 > 58.8	13012.792		1.00	6.43	13012.792	149.200	142	94.9	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 99			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >79.9			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	401.8 > 79.9			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.9	2286.202	18.030	1.00	4.11	1584.999	12.500	2960	23678.5	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9			1.00			12.500			NO		
100	68	13C8-PFOSA-RSD	506. > 78	6863.483	9.627	1.00	4.65	8911.762	12.500	34200	27326...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	74	13C8-PFOS-RSD	507.0 > 80	4378.122	18.030	1.00	4.68	3035.304	12.500	3070	24591.7	YES		
103	76	13C2-PFDA-RSD	515.1 > 469.9			1.00			12.500			NO		
104	-1													
105	78	13C2-8:2 FTS-RSD	528.9 > 79.9	2265.313	18.030	1.00	4.95	1570.517	12.500	2840	22708.3	YES		
106	80	d3-N-MeFOSAA-RSD	573. > 419	12337.550	9.627	1.00	5.13	16019.463	12.500	33100	26450...	YES		
107	82	13C2-PFUdA-RSD	565 > 519.8	20445.463	9.627	1.00	5.31	26547.033	12.500	31600	25299...	YES		
108	84	d5-N-EtFOSAA-RSD	589. > 419	11056.373	9.627	1.00	5.29	14355.943	12.500	32400	25929...	YES		

Dataset: Untitled

Last Altered: Tuesday, July 14, 2020 09:02:59 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 09:03:04 Pacific Daylight Time

Name: 200713M1_13, Date: 13-Jul-2020, Time: 16:54:32, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	86	13C2-PFDoA-RSD	615 > 570	24809.785		1.00	5.60		12.500			NO		
110	88	13C2-10:2 FTS-RSD	633 > 79.9	1800.397	18.030	1.00	5.58	1248.195	12.500	2910	23307.1	YES		
111	90	d3-N-MeFOSA-RSD	515.2 > 168.9	15787.488	9.627	1.00	5.61	20498.972	149.200	360000	24148...	YES		
112	92	13C2-PFTeDA-RSD	715.1 > 669.7	16917.061	9.627	1.00	6.07	21965.645	12.500	32100	25651...	YES		
113	94	d5-N-ETFOSA-RSD	531.1 > 168.9	22820.334	9.627	1.00	6.06	29630.640	149.200	372000	24914...	YES		
114	96	13C2-PFHxDA-RSD	815 > 769.7	24762.742	9.627	1.00	6.40	32152.724	12.500	32200	25777...	YES		
115	98	d7-N-MeFOSE-RSD	623.1 > 58.9	12033.841	9.627	1.00	6.28	15625.118	149.200	347000	23243...	YES		
116	1...	d9-N-EtFOSE-RSD	639.2 > 58.8	13012.792	9.627	1.00	6.43	16896.219	149.200	369000	24731...	YES		
117	-1													
118	1...	13C4-PFBA	217.0 > 172.0	40.276	40.276	1.00	1.24	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103.0			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9			1.00			12.500			NO		
123	1...	13C4-PFOS	503 > 80.0	18.030	18.030	1.00	4.69	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7			1.00			12.500			NO		
125	1...	13C7-PFUdA	570.1 > 524.8	9.627	9.627	1.00	5.31	12.500	12.500	12.5	100.0	NO		

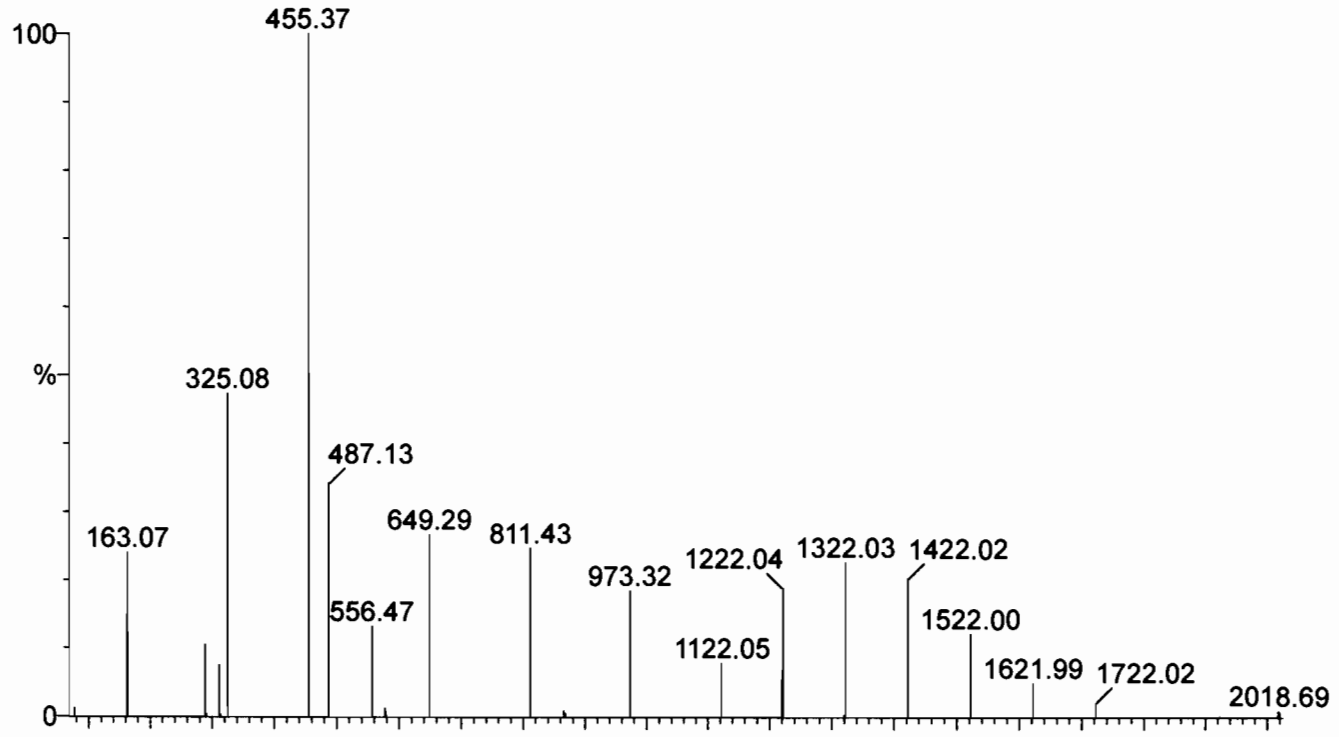
TUNE CHECKS

Calibration Verification Report - MS1 Static

Printed: **Fri Jul 10 07:29:00 2020**

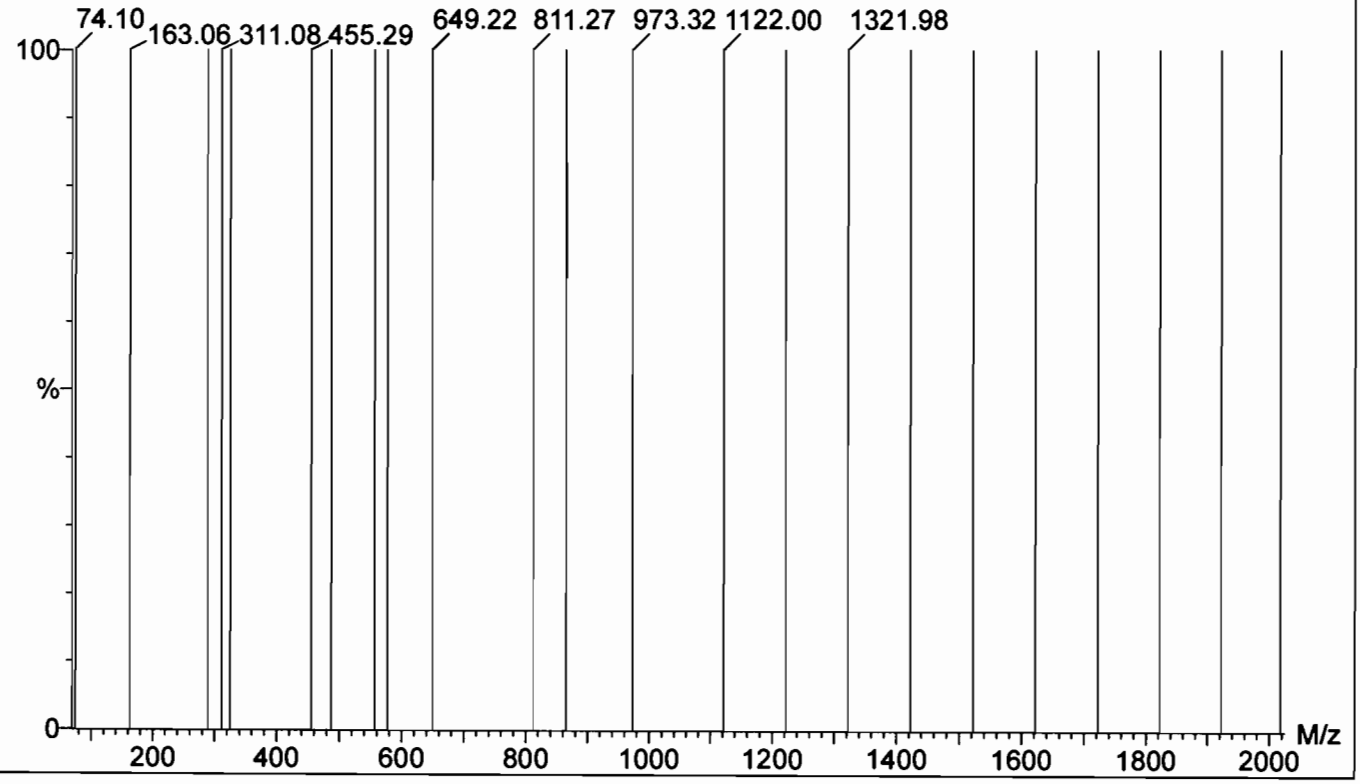
Data file: STATMS1V - Calibrated

22 matches of 23 tested references

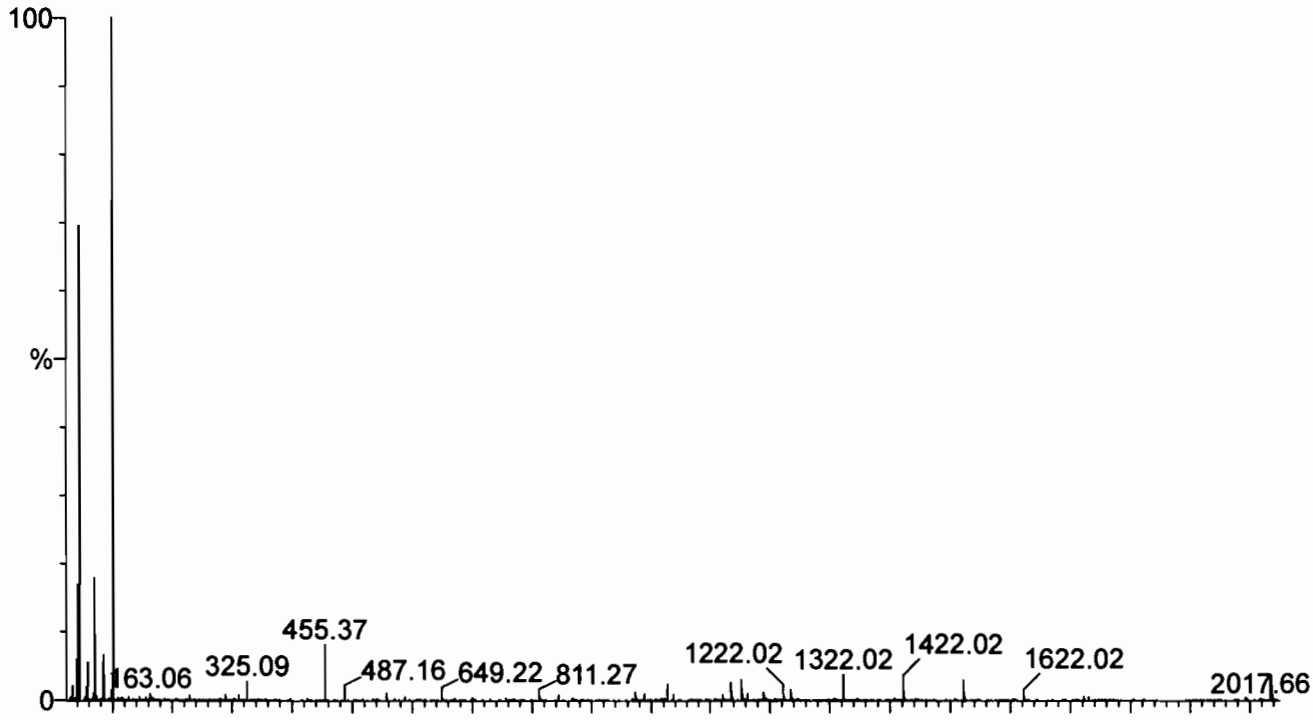


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

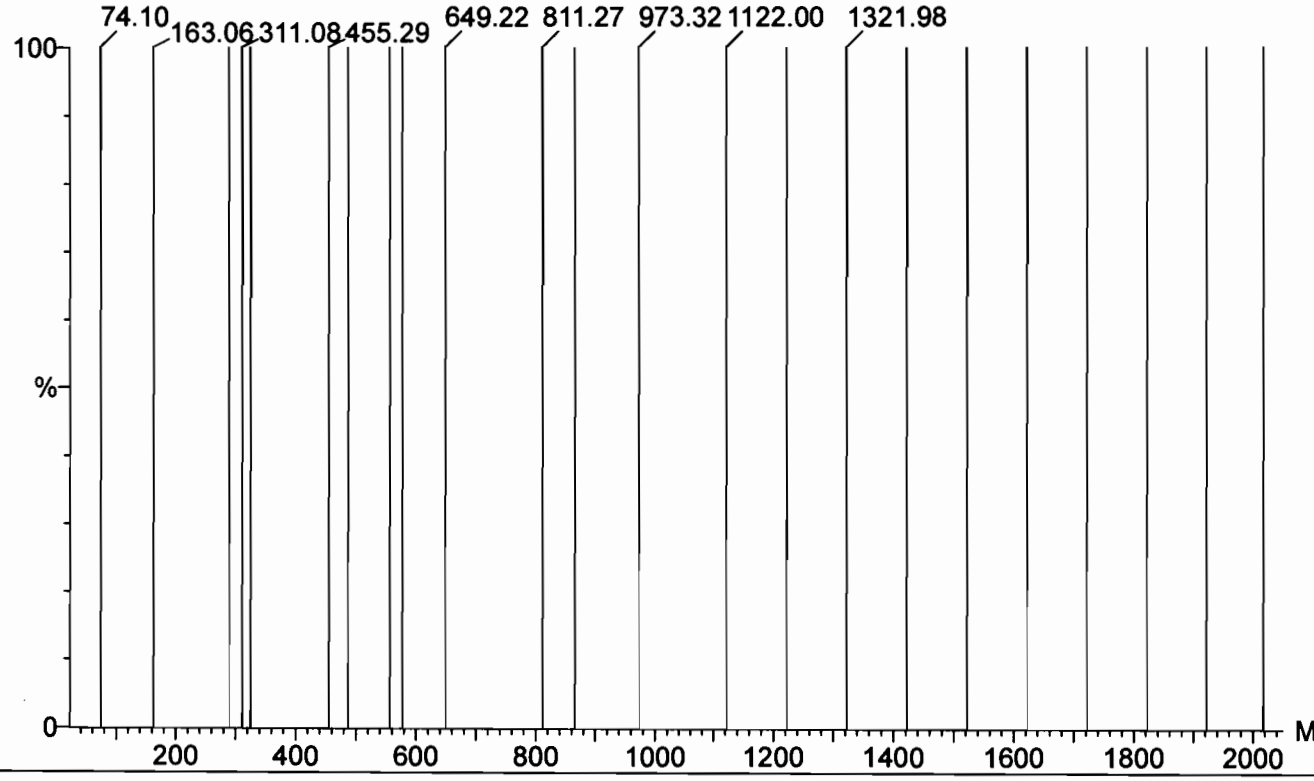
Mean residual = 0.126 amu



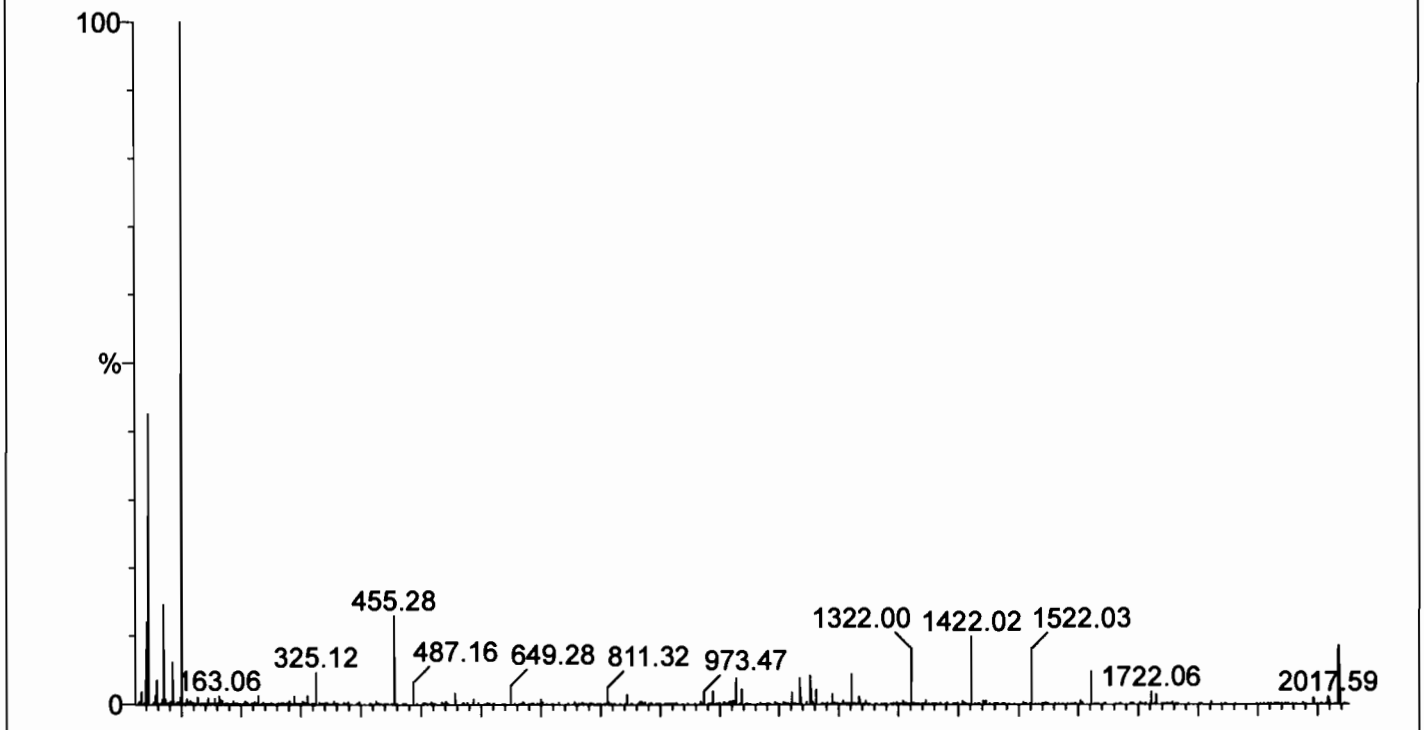
Data file: SCNMS1V - Calibrated 22 matches of 23 tested references



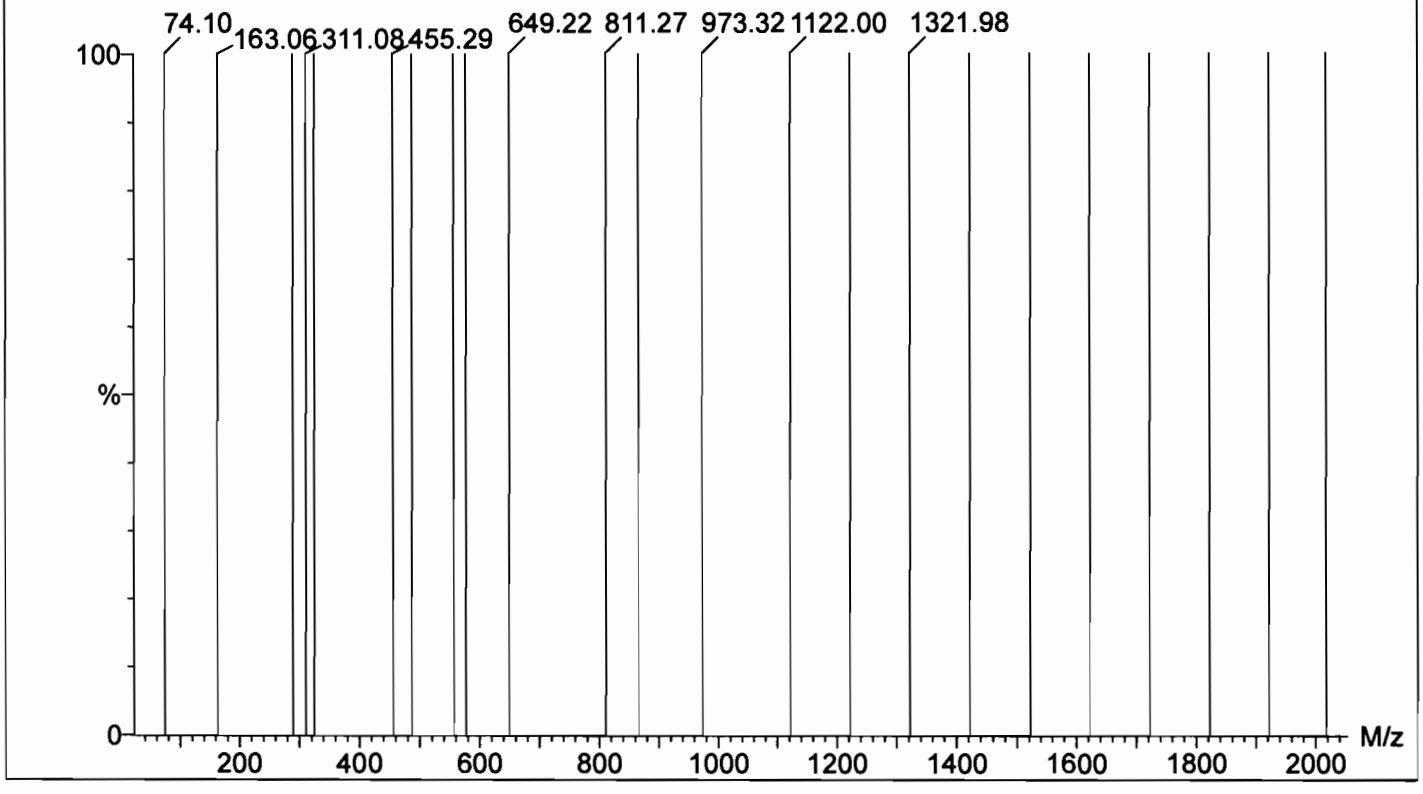
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0334 amu



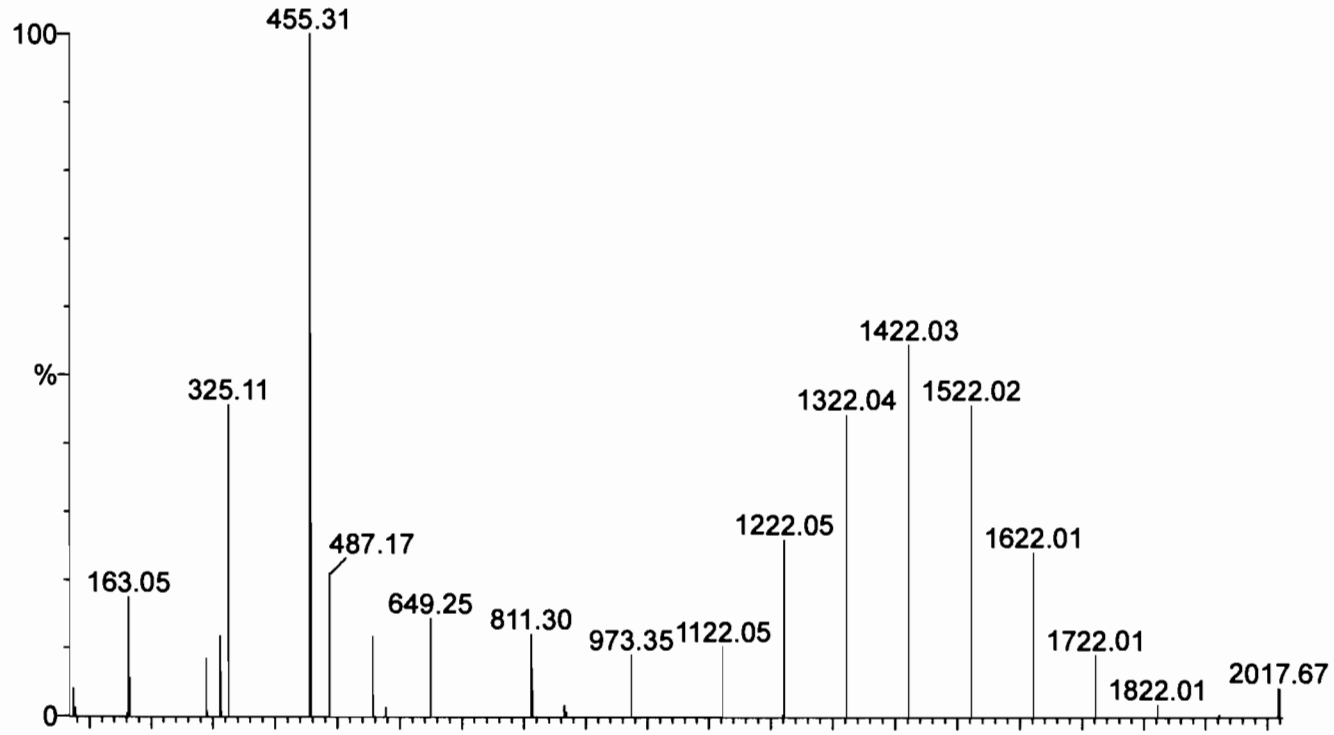
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



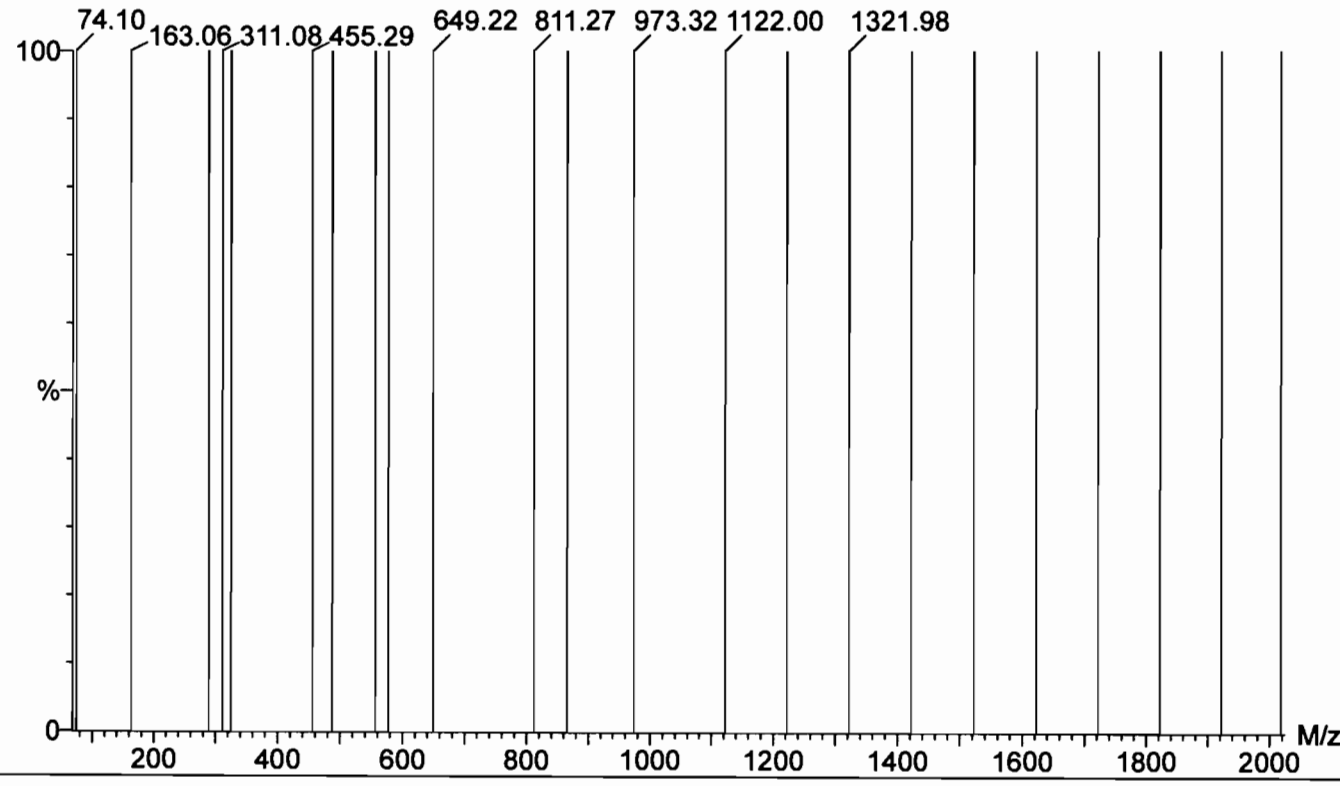
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.106 amu



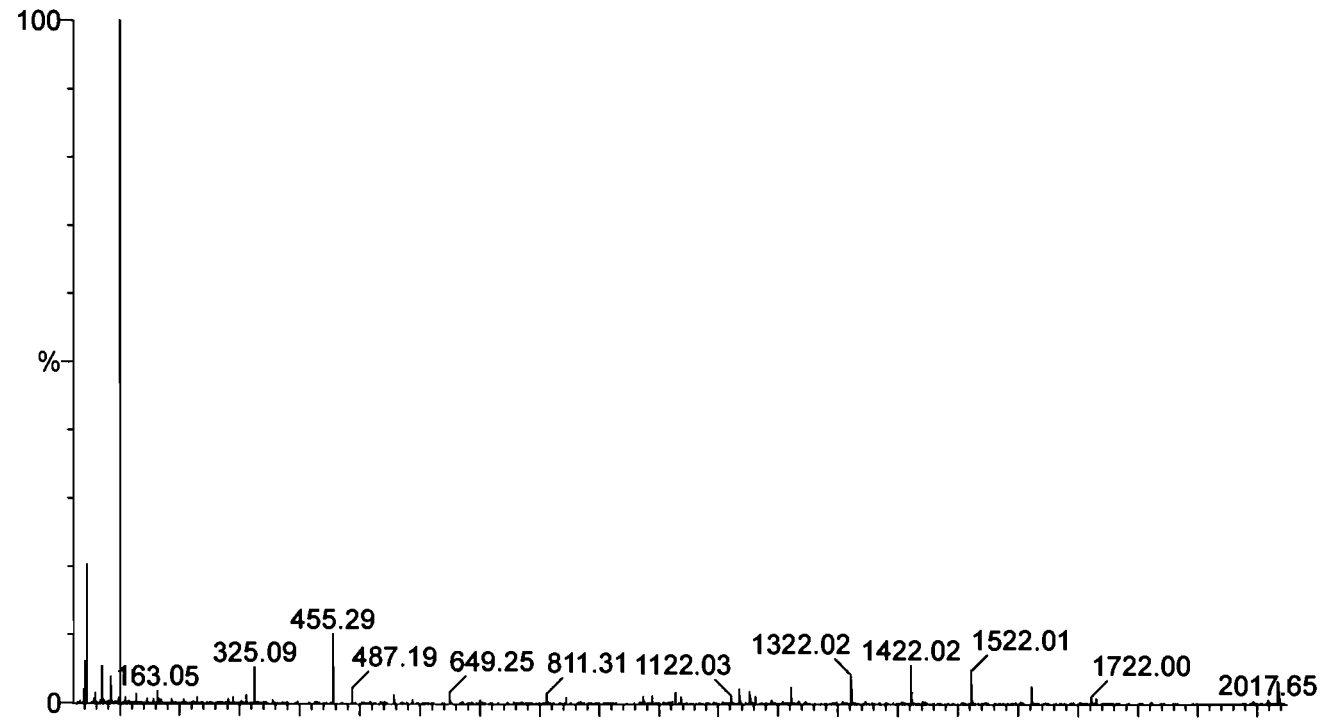
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



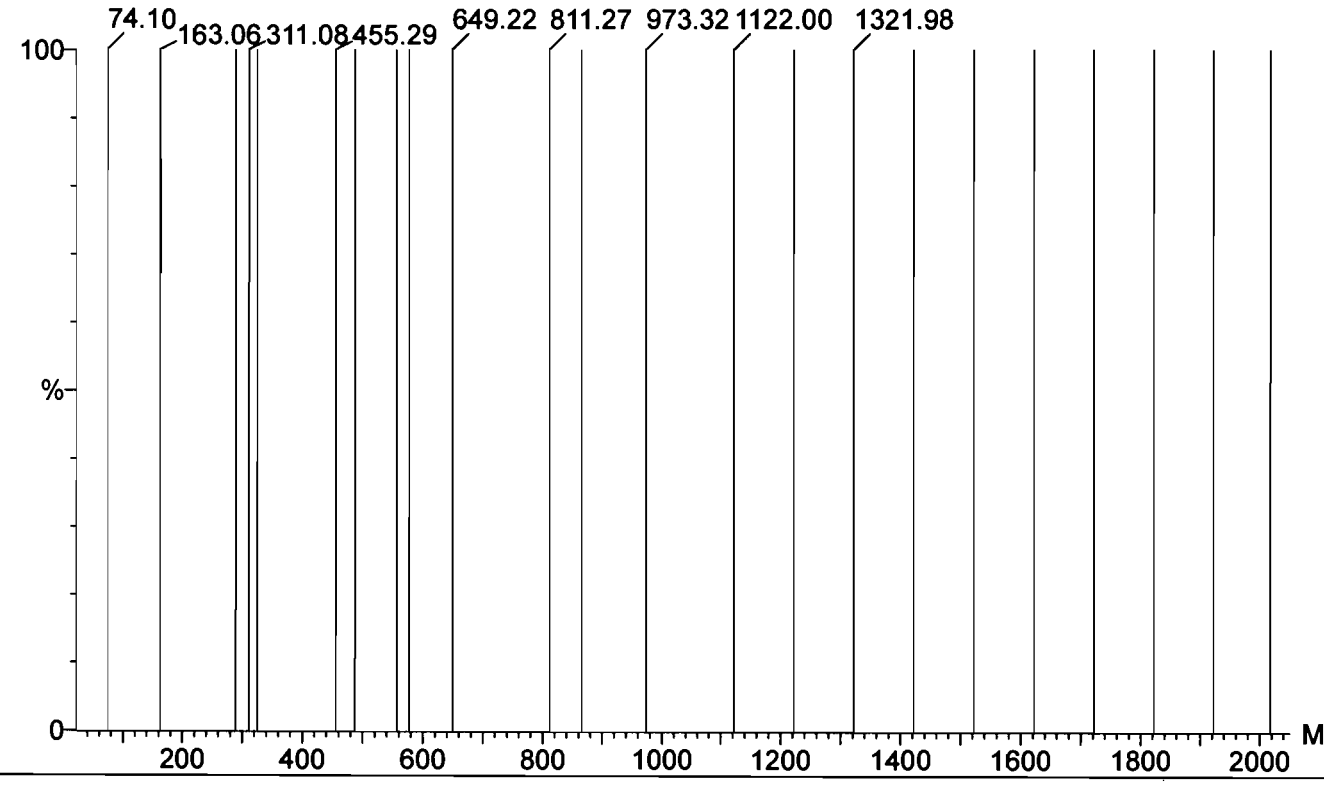
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0345 amu



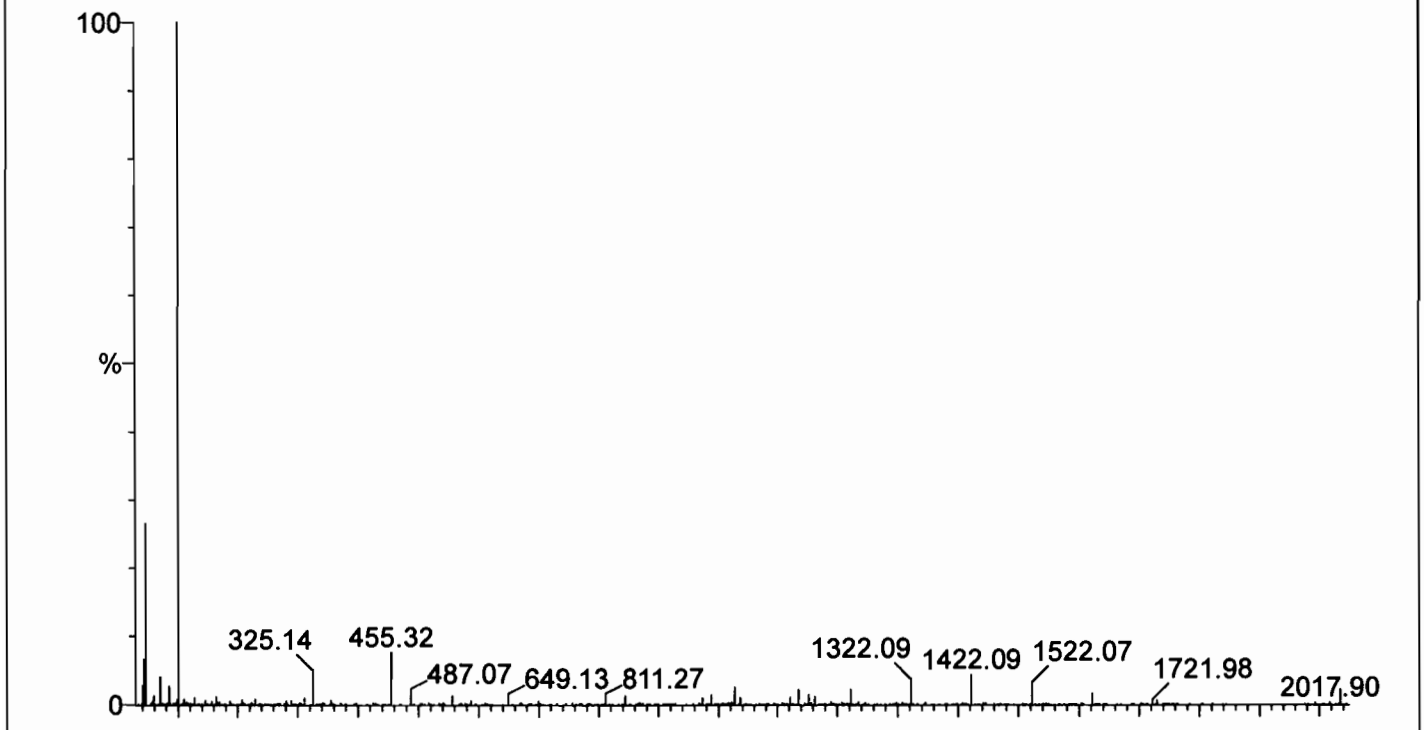
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



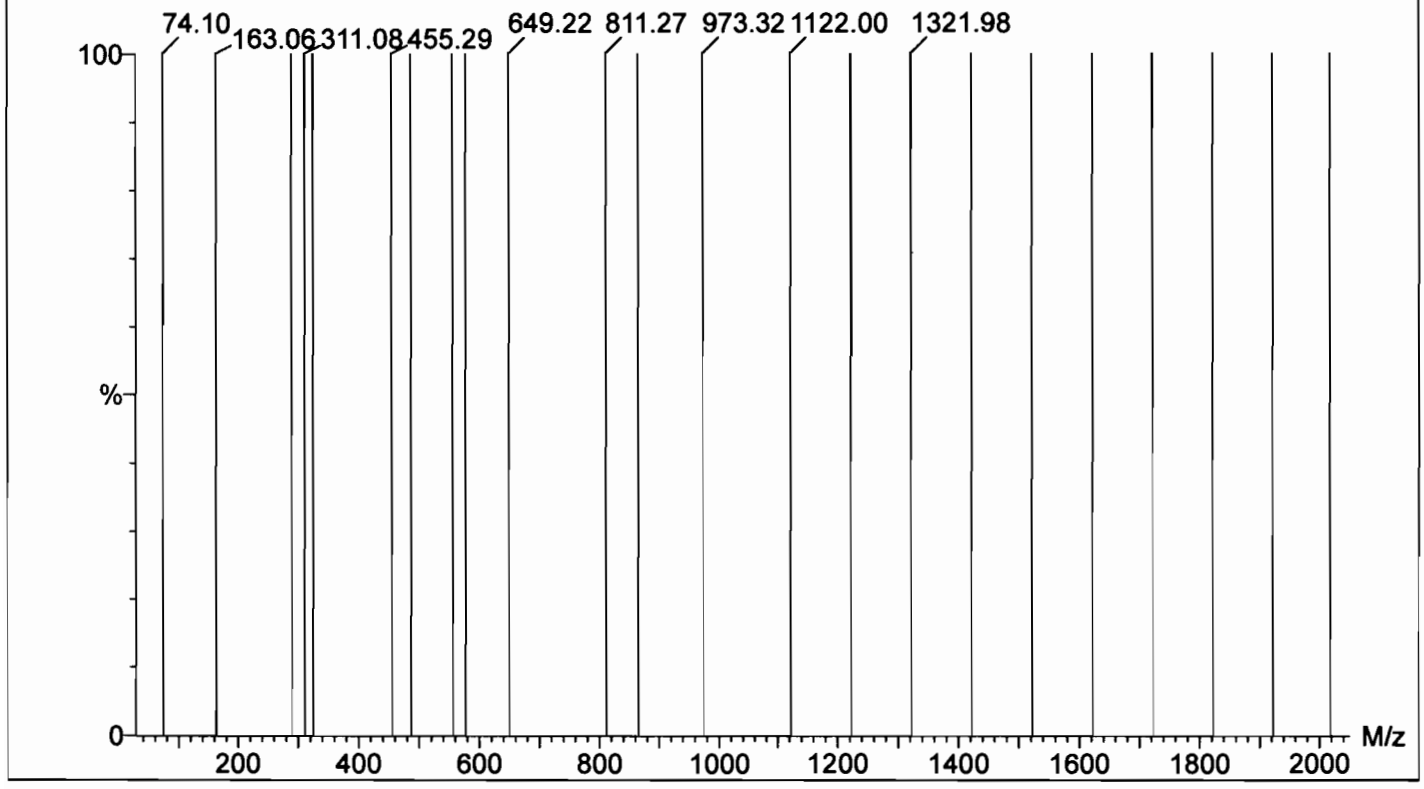
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.054 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.108 amu

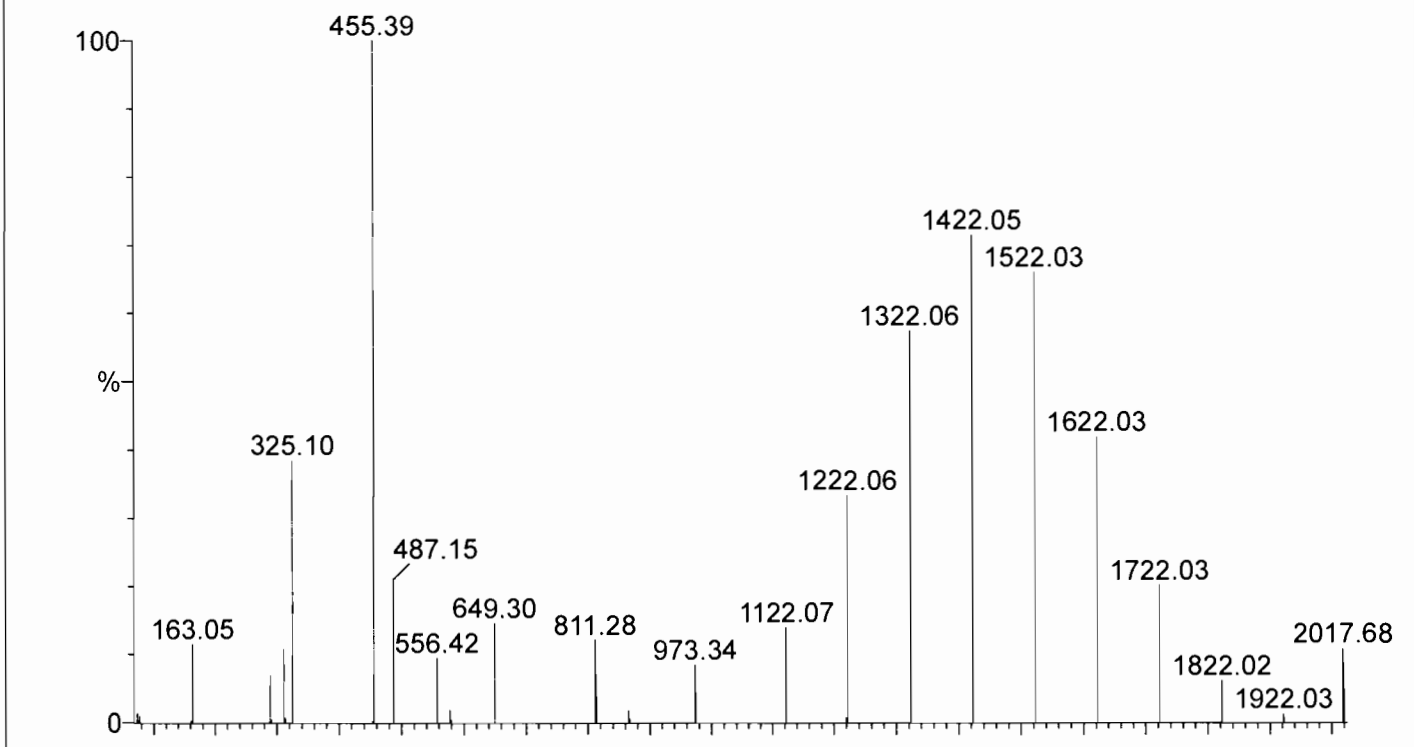


Calibration Verification Report - MS1 Static

Printed: **Mon Jul 13 12:49:02 2020**

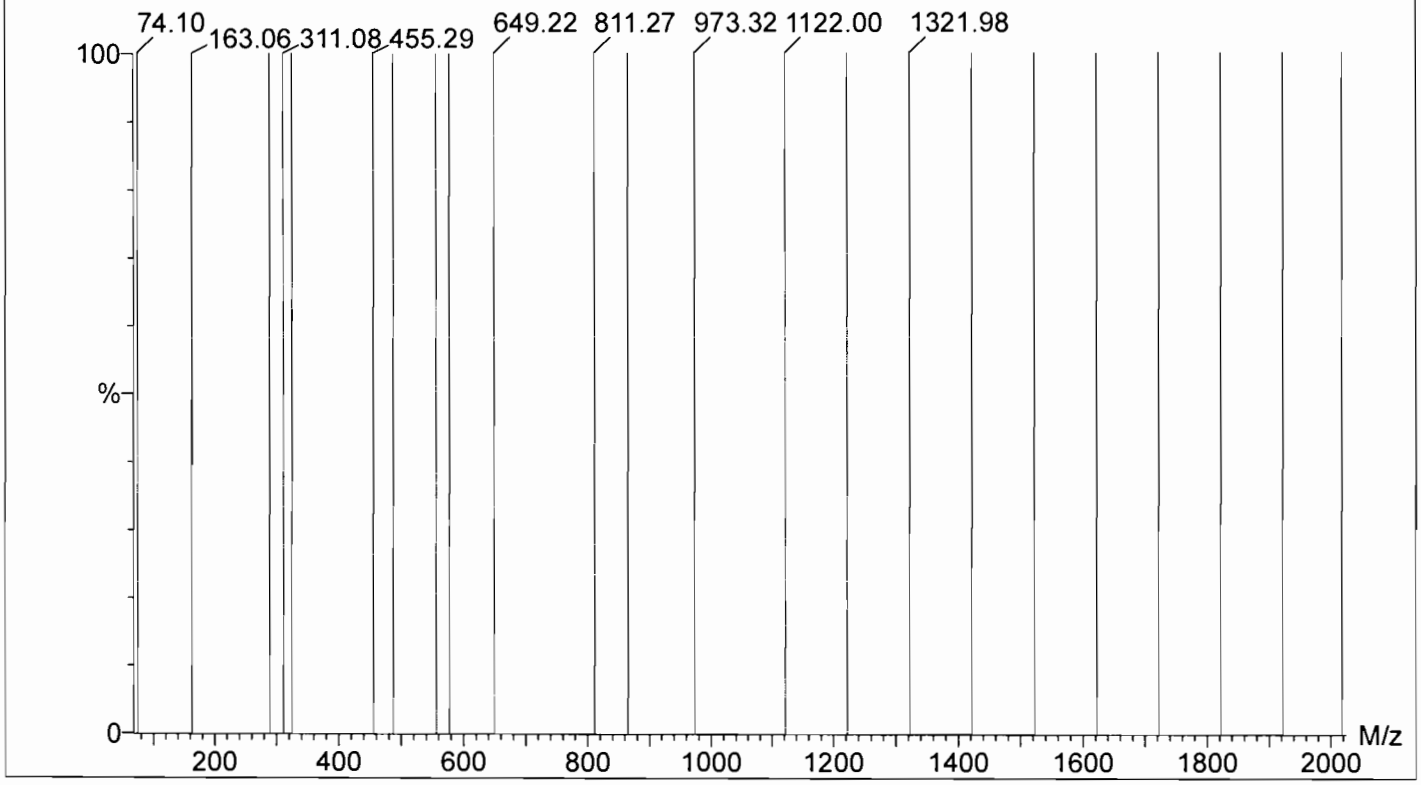
Data file: STATMS1V - Calibrated

22 matches of 23 tested references

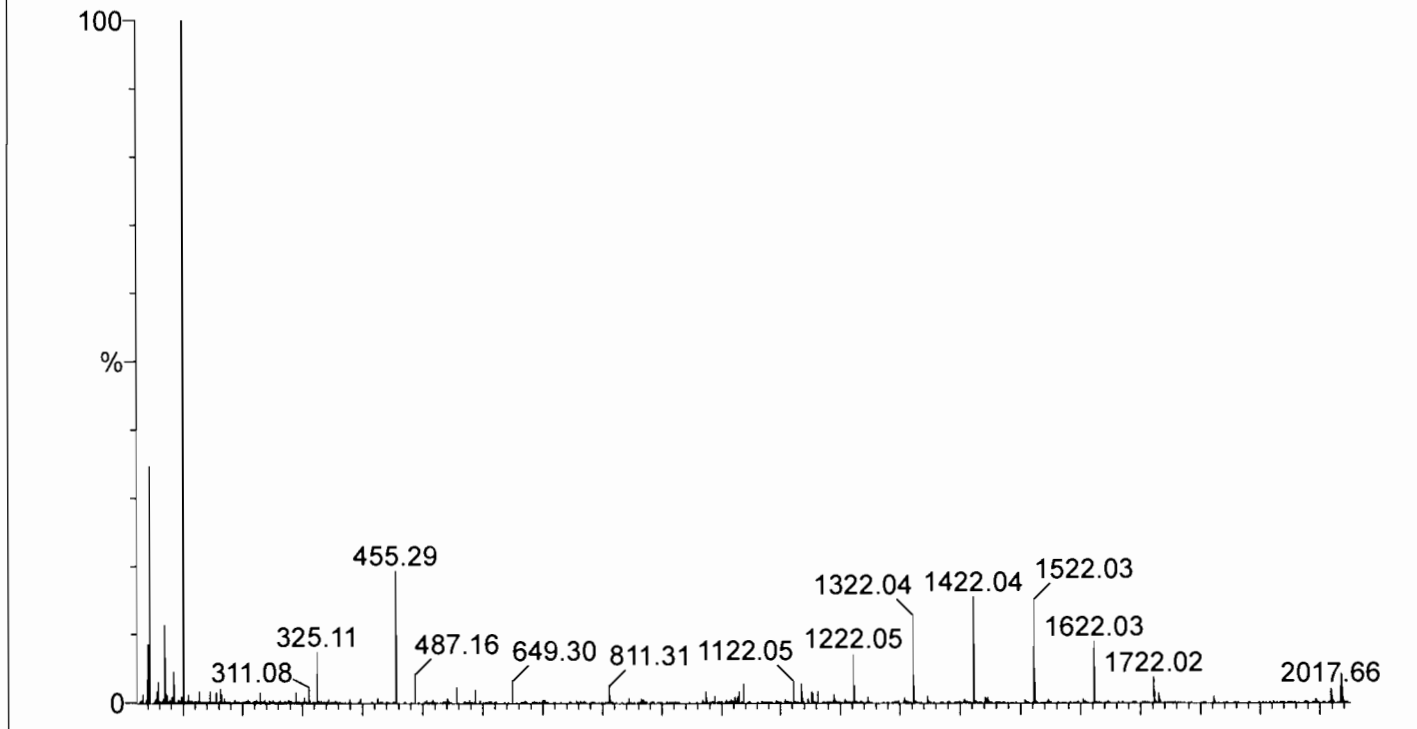


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

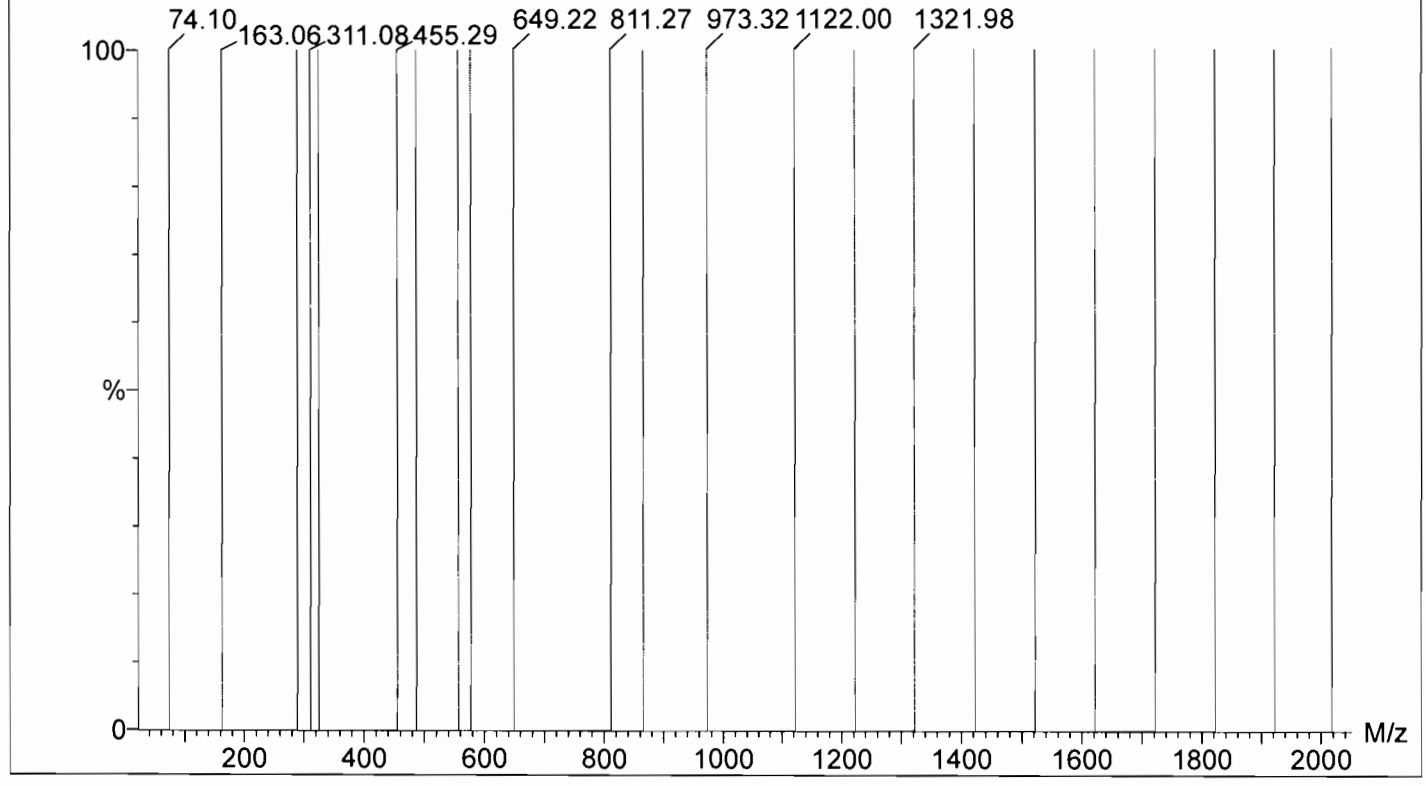
Mean residual = 0.0522 amu



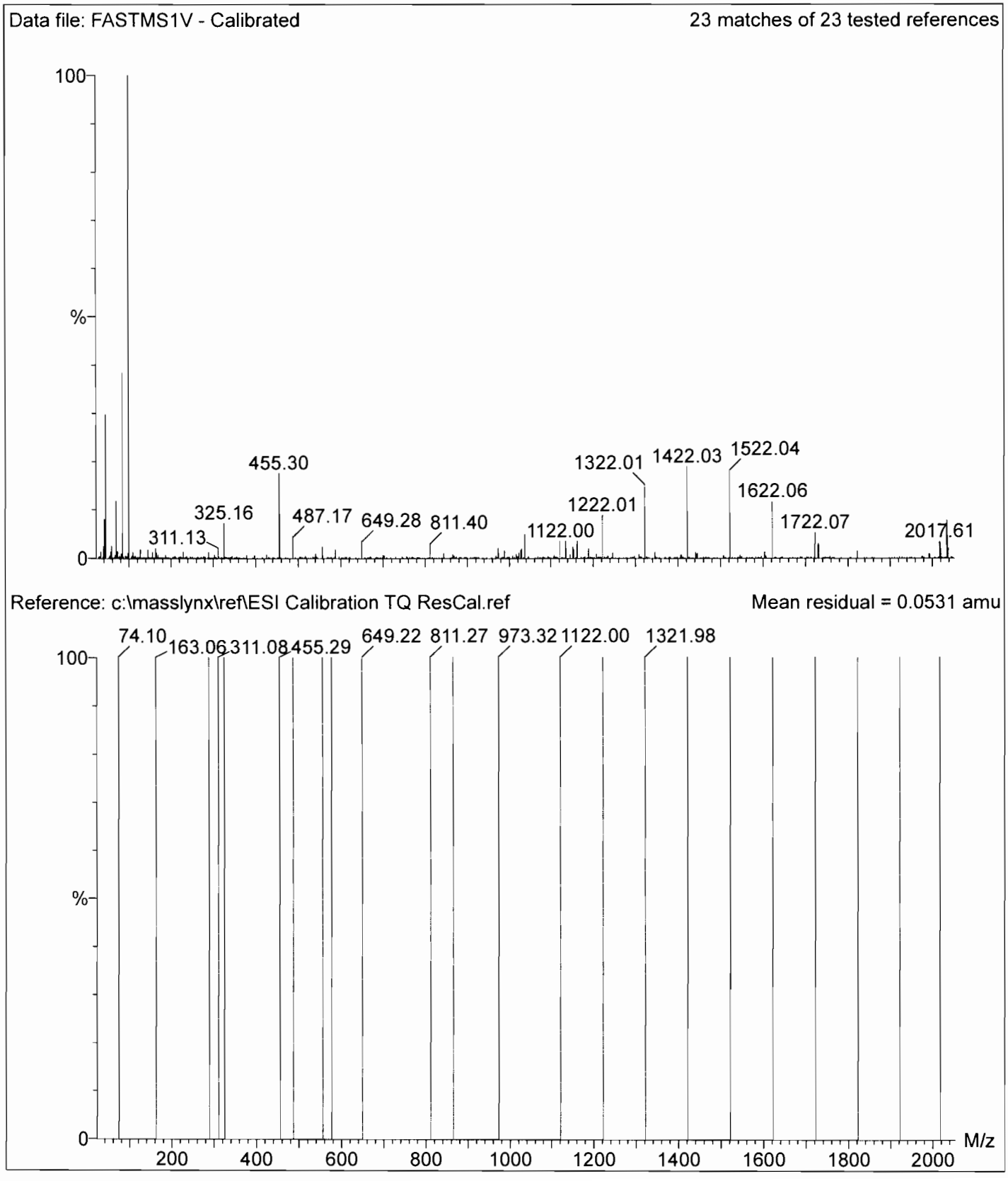
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



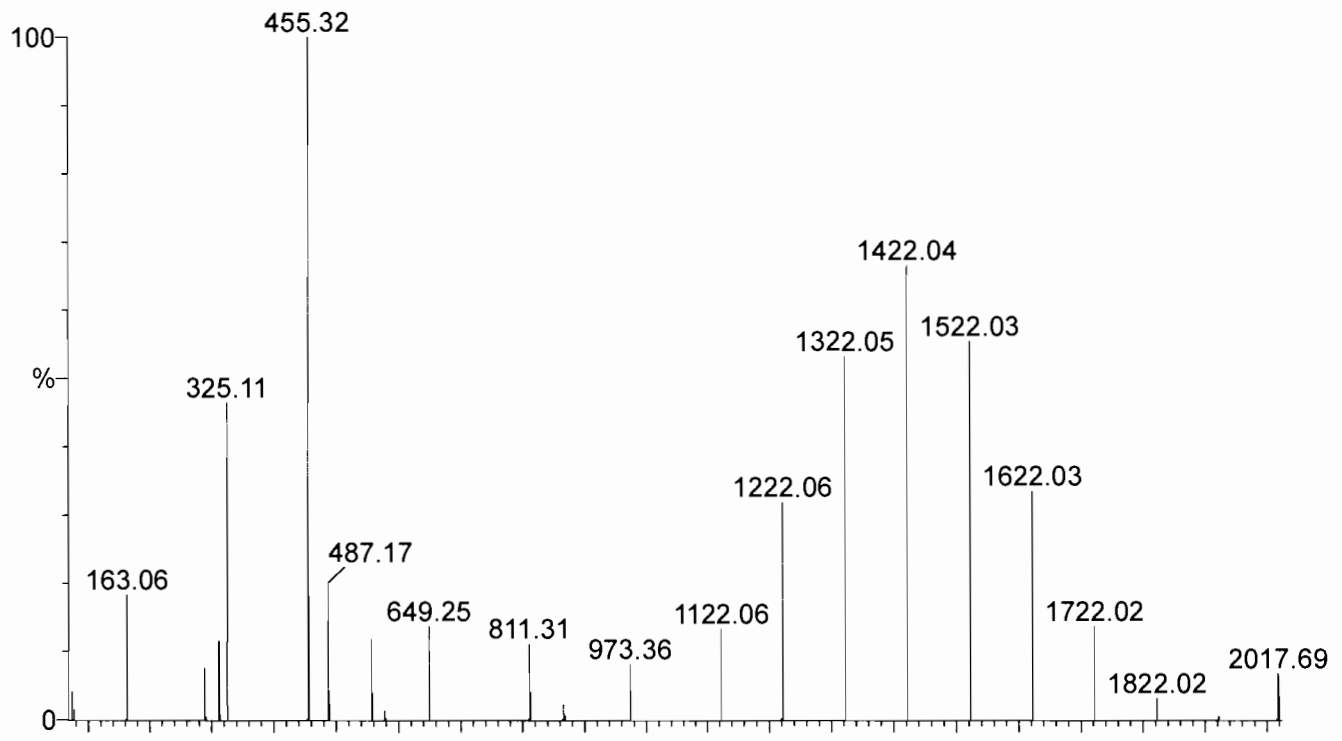
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0381 amu



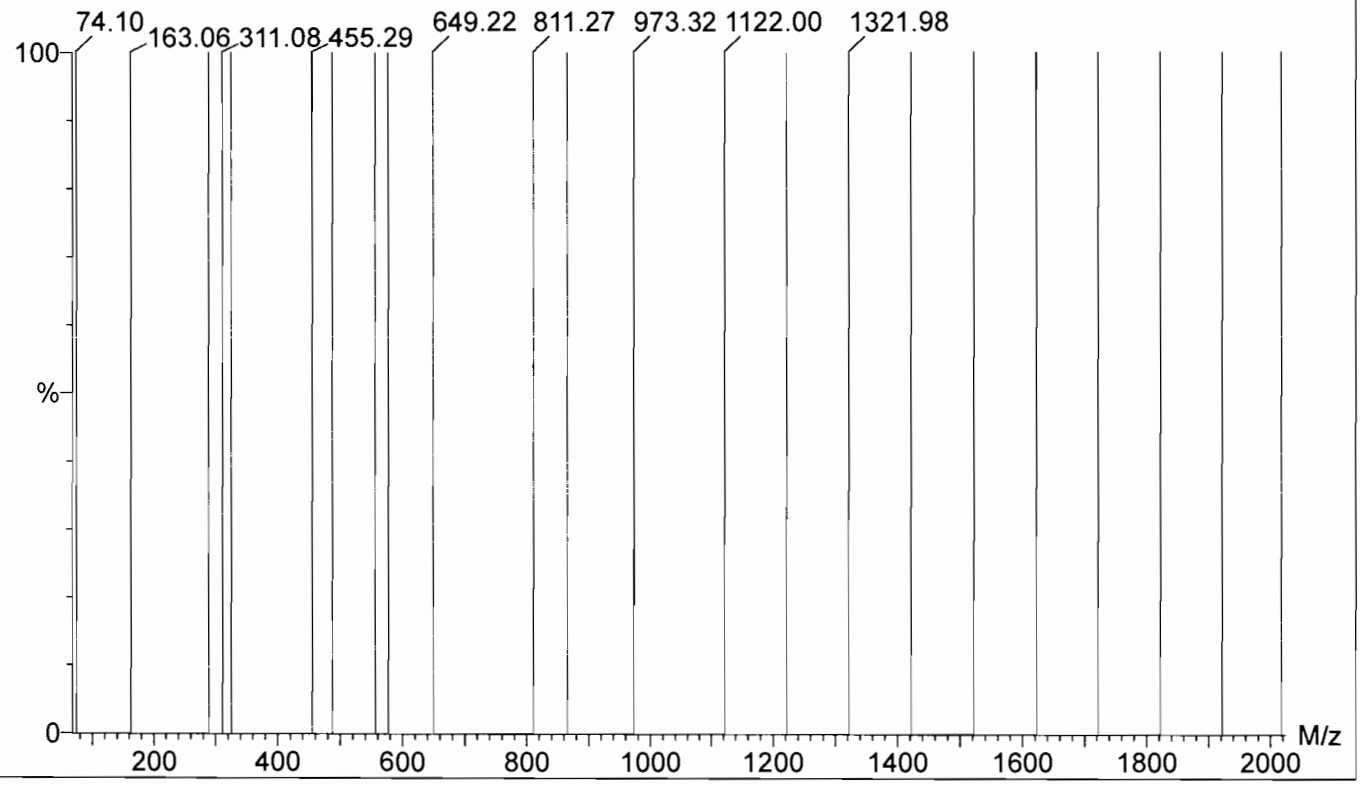
Printed: **Mon Jul 13 12:51:22 2020**



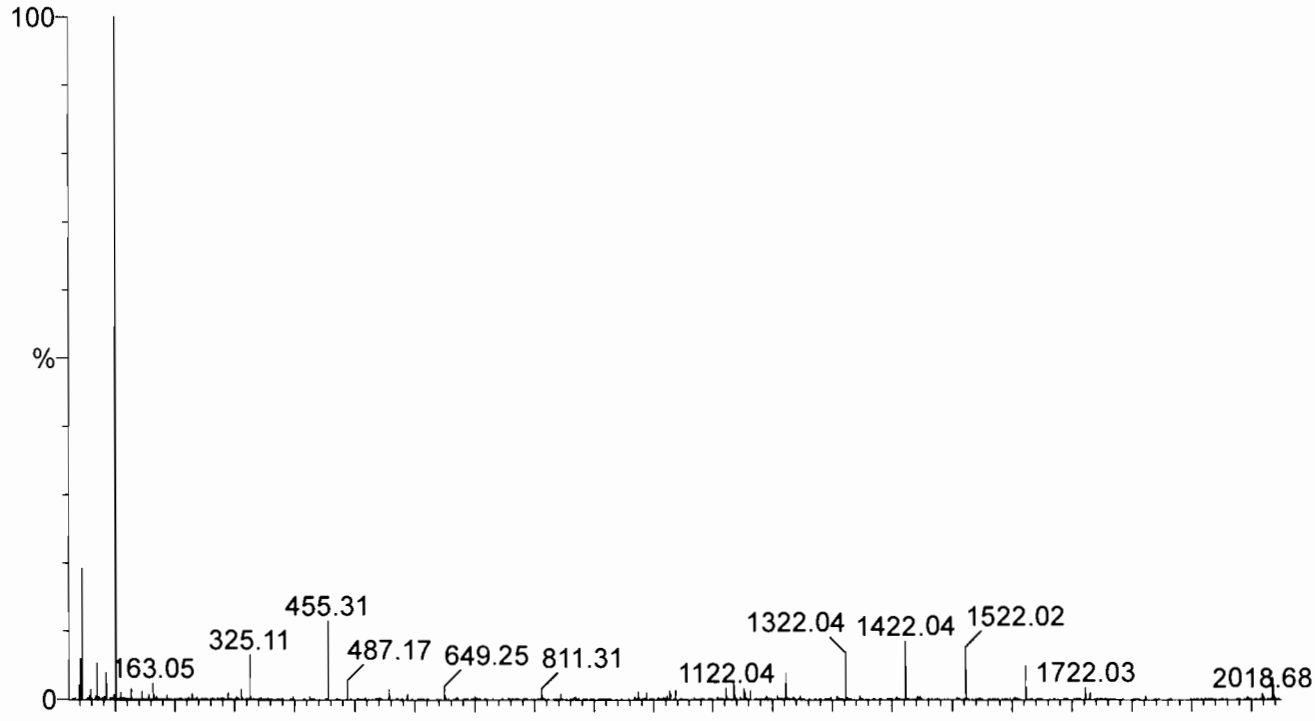
Data file: STATMS2V - Calibrated 22 matches of 23 tested references



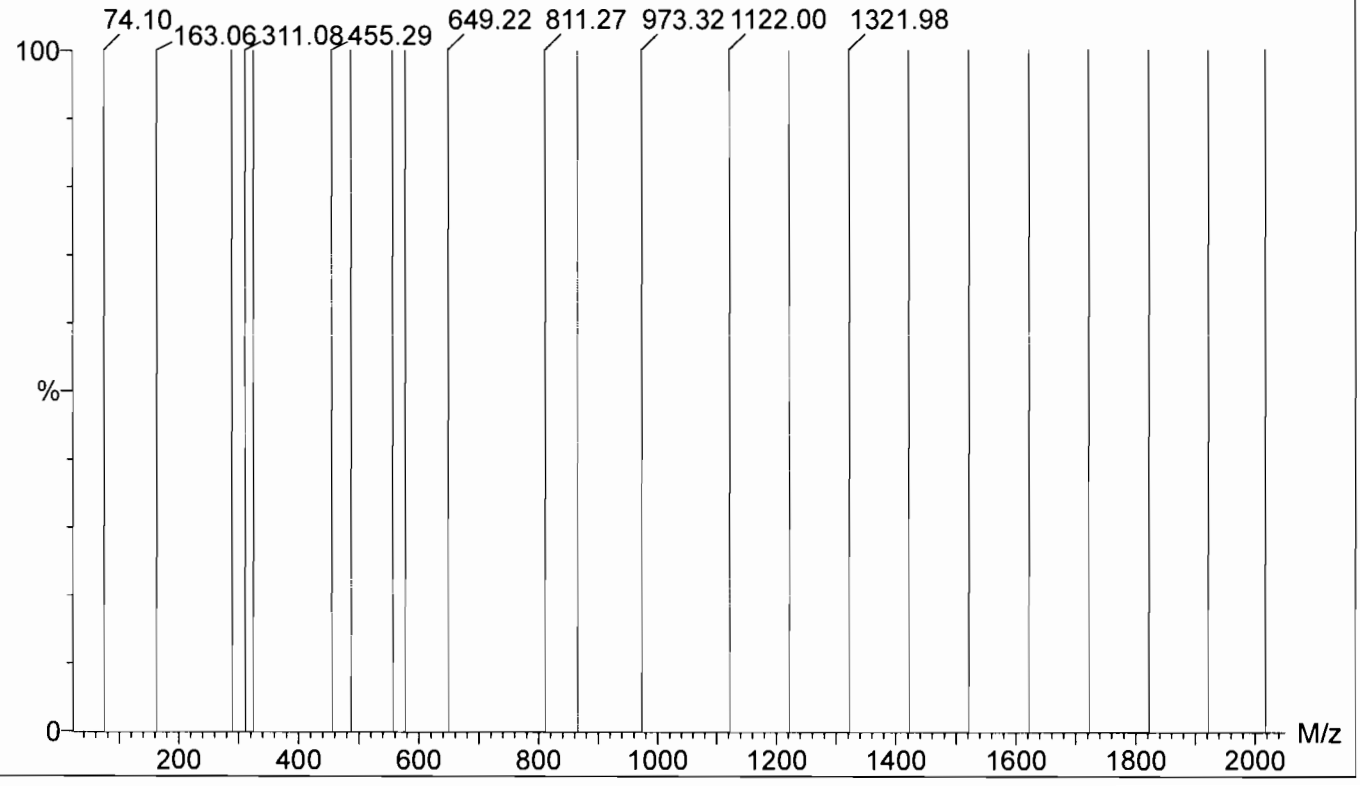
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0431 amu



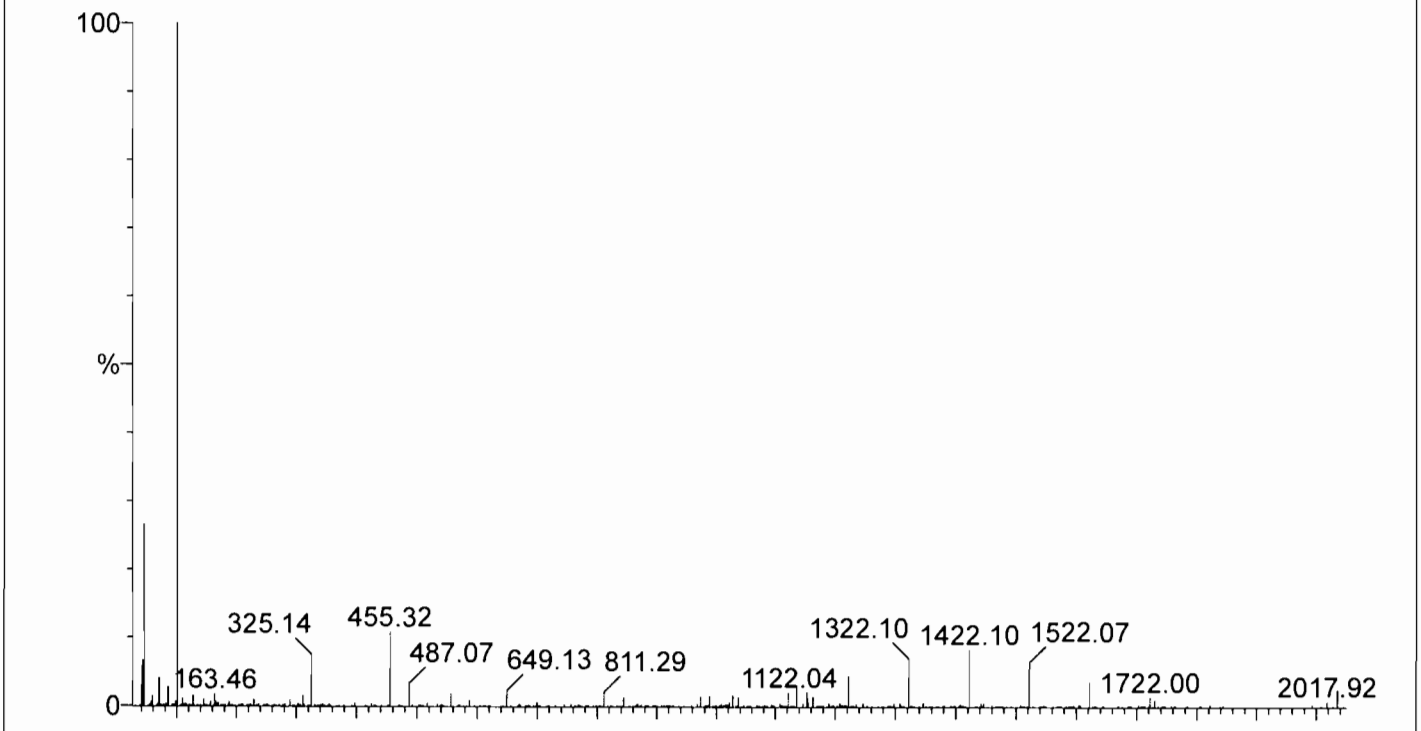
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



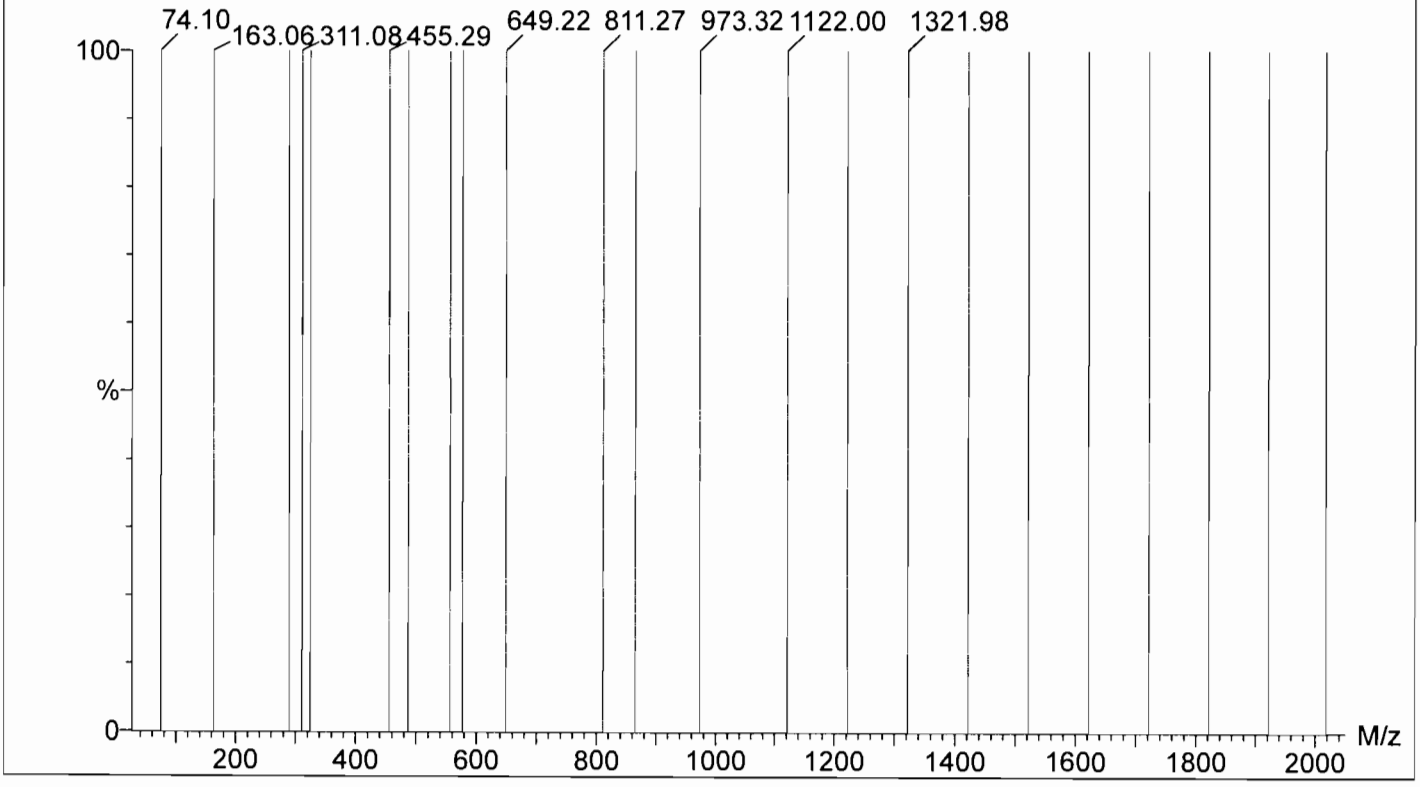
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0847 amu



Data file: FASTMS2V - Calibrated 22 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.101 amu



STANDARDS

Analytical Standard Record

Vista Analytical Laboratory

20E1201

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
19H2706	13C2-10:2 FTS	21-Aug-19	** Vendor **	21-Aug-24	1
19L0601	13C2-4:2 FTS	06-Dec-19	** Vendor **	29-Oct-24	1.07
19L0602	13C2-6:2 FTS	06-Dec-19	** Vendor **	21-Nov-24	1.05
19L0603	13C2-8:2 FTS	06-Dec-19	** Vendor **	11-Oct-24	1.04
19L0604	13C3-PFBA	06-Dec-19	** Vendor **	14-Dec-22	1
19L0605	13C2-PFDA	06-Dec-19	** Vendor **	05-Sep-24	1
19L0606	13C2-PFUdA	06-Dec-19	** Vendor **	04-Jul-24	1
19L0607	13C2-PFTeDA	06-Dec-19	** Vendor **	11-Dec-23	1
19L0608	13C5-PFNA	06-Dec-19	** Vendor **	05-Dec-23	1
19L0609	13C2-PFDoA	06-Dec-19	** Vendor **	11-Dec-23	1
19L0610	13C4-PFHpA	06-Dec-19	** Vendor **	06-May-24	1
19L0611	13C2-PFOA	06-Dec-19	** Vendor **	21-Jun-24	1
19L0612	13C3-PFPeA	06-Dec-19	** Vendor **	08-Mar-24	1
19L0613	13C8-FOSA-I	06-Dec-19	** Vendor **	19-Jun-24	1
19L0614	d3-N-Me-FOSAA	06-Dec-19	** Vendor **	24-Jul-24	1
19L0615	d5-N-EtFOSAA	06-Dec-19	** Vendor **	25-Jul-24	1
19L0616	13C3-PFBS	06-Dec-19	** Vendor **	29-Oct-24	1.075
19L0617	13C8-PFOS	06-Dec-19	** Vendor **	06-May-24	1.045
19L0618	13C3-PFHxS	06-Dec-19	** Vendor **	15-Oct-24	1.06
19L0619	13C2-PFHxA	06-Dec-19	** Vendor **	11-Oct-24	1
19L0620	13C2-PFHxDA	06-Dec-19	** Vendor **	11-Oct-24	1
19L0621	13C3-HFPO-DA	06-Dec-19	** Vendor **	20-Sep-22	1

Description:	PFC - IS	Expires:	12-May-21
Standard Type:	Reagent	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

10:2 added
10 uL spike

Analyte	CAS Number	Concentration	Units
13C3-HFPO-DA		1.25	ug/mL
13C2-4:2 FTS		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		1.25	ug/mL
13C2-PFHxDA		1.25	ug/mL
13C2-PFOA		1.25	ug/mL
13C2-10:2 FTS		1.25	ug/mL
13C2-PFUnA		1.25	ug/mL
d5-EtFOSAA		1.25	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

20E1201

Description:	PFC - IS	Expires:	12-May-21
Standard Type:	Reagent	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

10:2 added
10 uL spike

Analyte	CAS Number	Concentration	Units
13C3-PFBA		1.25	ug/mL
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-PFTeDA		1.25	ug/mL

19H27016

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Product Name:
(Isotopic Label & Enrichment Specification)
1H,1H,2H,2H-PERFLUORODODECANE SULFONATE(10:2 FTS), SODIUM SALT (13C2, 99%; D4, 98%) 50 UG/ML IN MEOH

Lot Number: SDIJ-019A

Catalog Number: CDLM-10750-S

Product Information

Chemical Purity Specification:	≥ 98%
MW*: * *For isotopically labeled compounds, MW listed is for the fully enriched product.*	656.19
Labeled CAS Number:	NA
Unlabeled CAS Number:	108026-35-3
Chemical Formula:	C10*C2D4F21NaO3S
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated. CIL Certificates of Analysis are occasionally updated with new data following recertification. We recommend checking the website for the latest version.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number . Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

Approved by: Sashi Sivendran-Basak

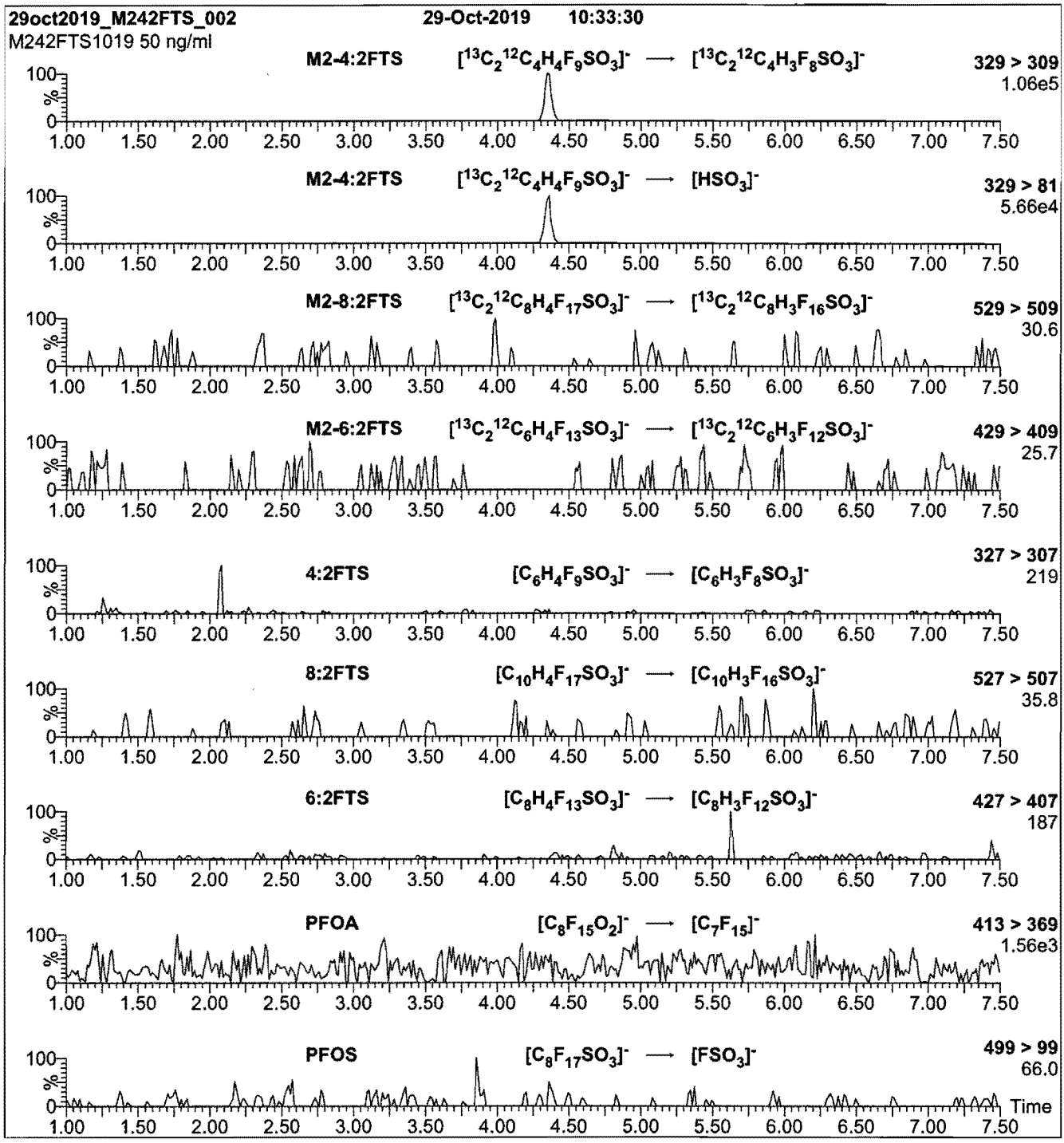
Sashi Sivendran-Basak, Ph.D., Quality Review

Quality Control Tests and Results

QC Release Date	8/21/2019
Expiration Date	8/21/2024
Concentration Based on Gravimetry	50.0 ± 0.5 µg/mL (k=2)
Chemical Purity of Neat Material(s)	100.0%

CIL subscribes to the following standards for different products: ISO Guide 34, ISO/IEC 17025, ISO 13485 and cGMP as appropriate.

Figure 2: **M2-4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-4:2FTS)

Mobile phase: Same as Figure 1

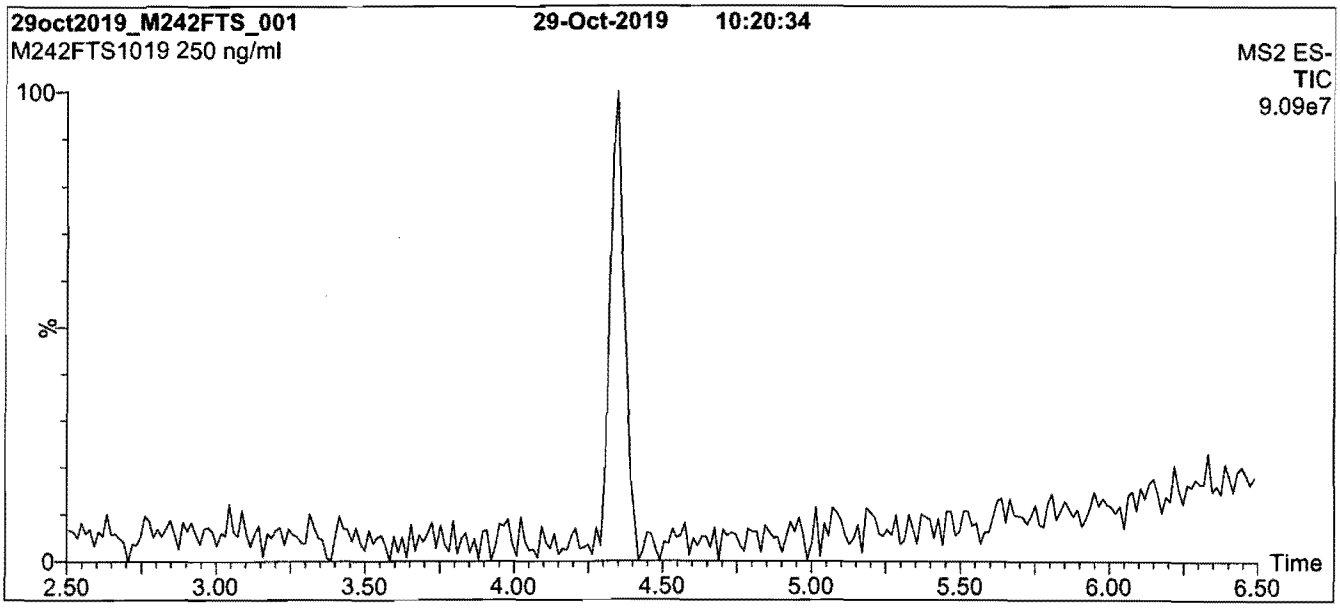
Flow: 300 µl/min

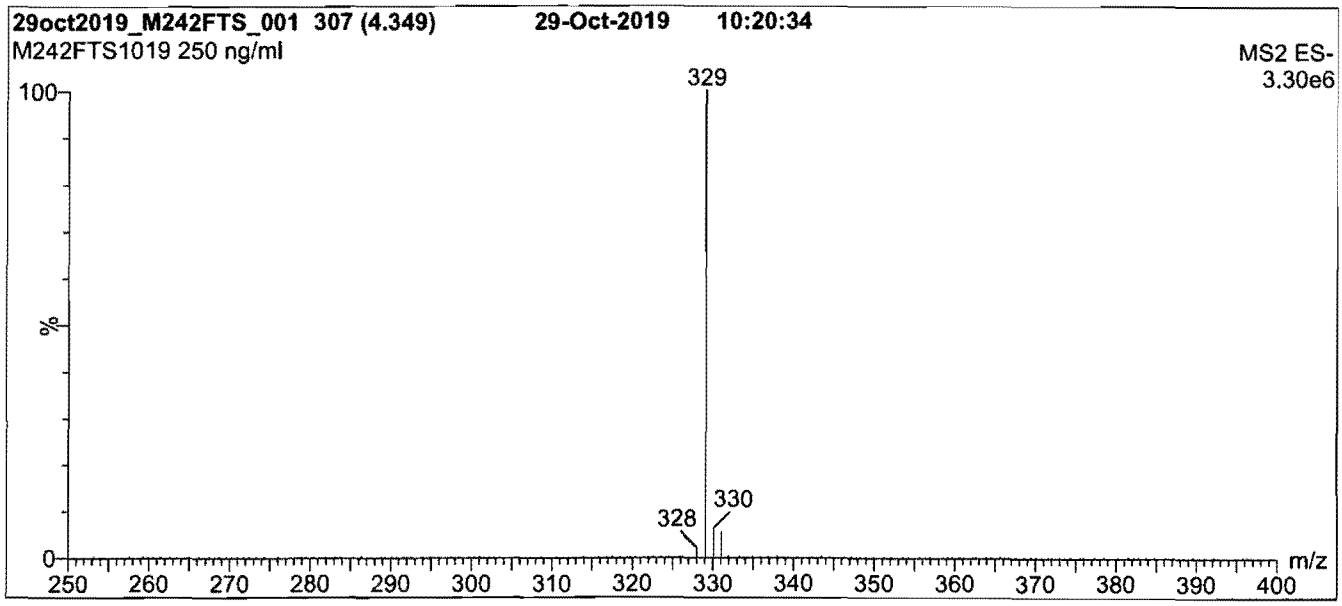
MS Parameters

Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 18

19L0601

Figure 1: **M2-4:2FTS; 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: 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 (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) = 1000

19L0601

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 REFERENCE MATERIAL PRODUCER

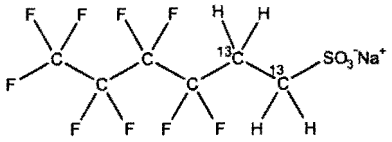
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0601

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2-4:2FTS	**LOT NUMBER:**	M242FTS1019
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)	10/29/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2024		
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).

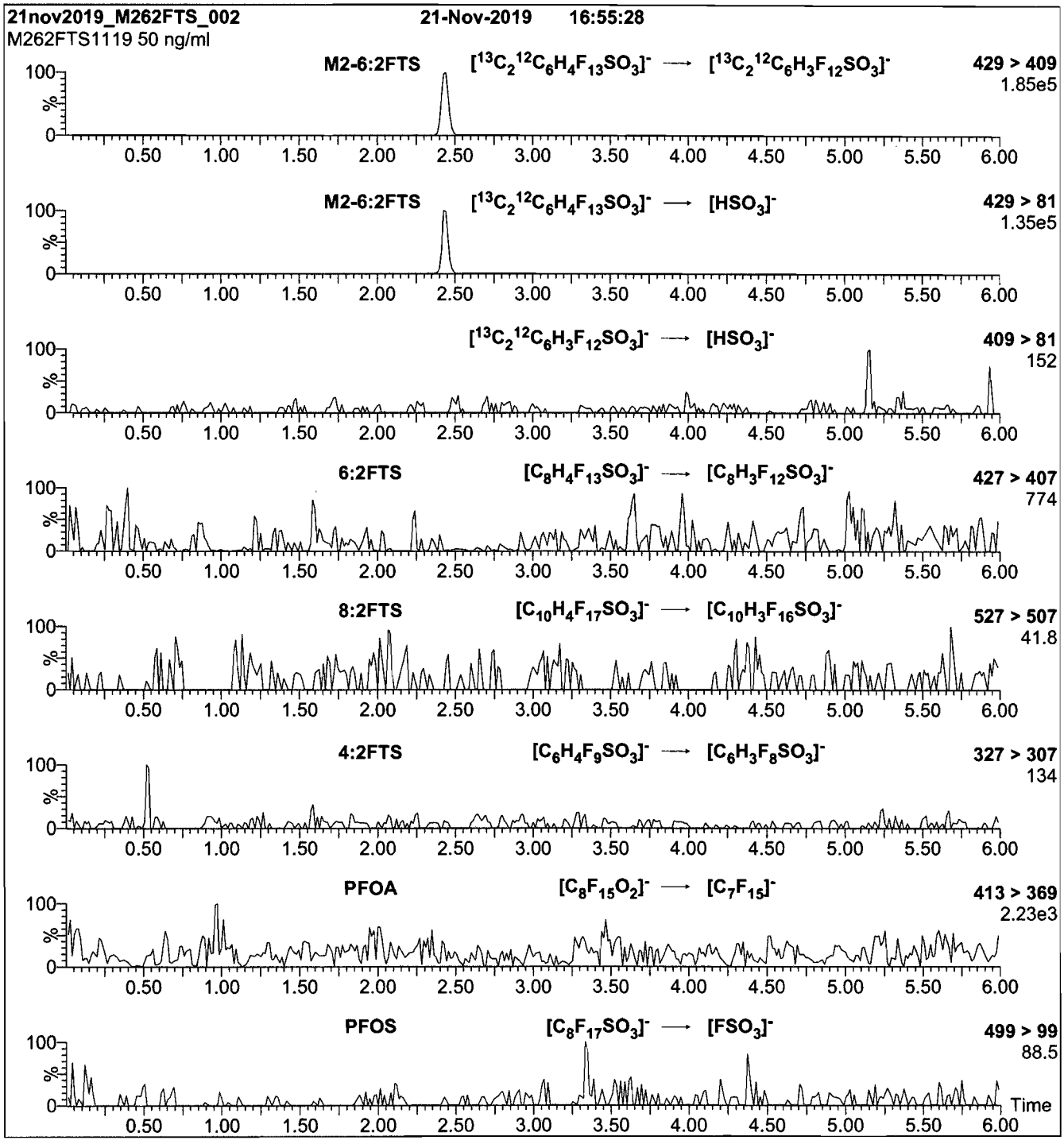
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/05/2019 (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

19L0602

Figure 2: **M2-6:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-6:2FTS)

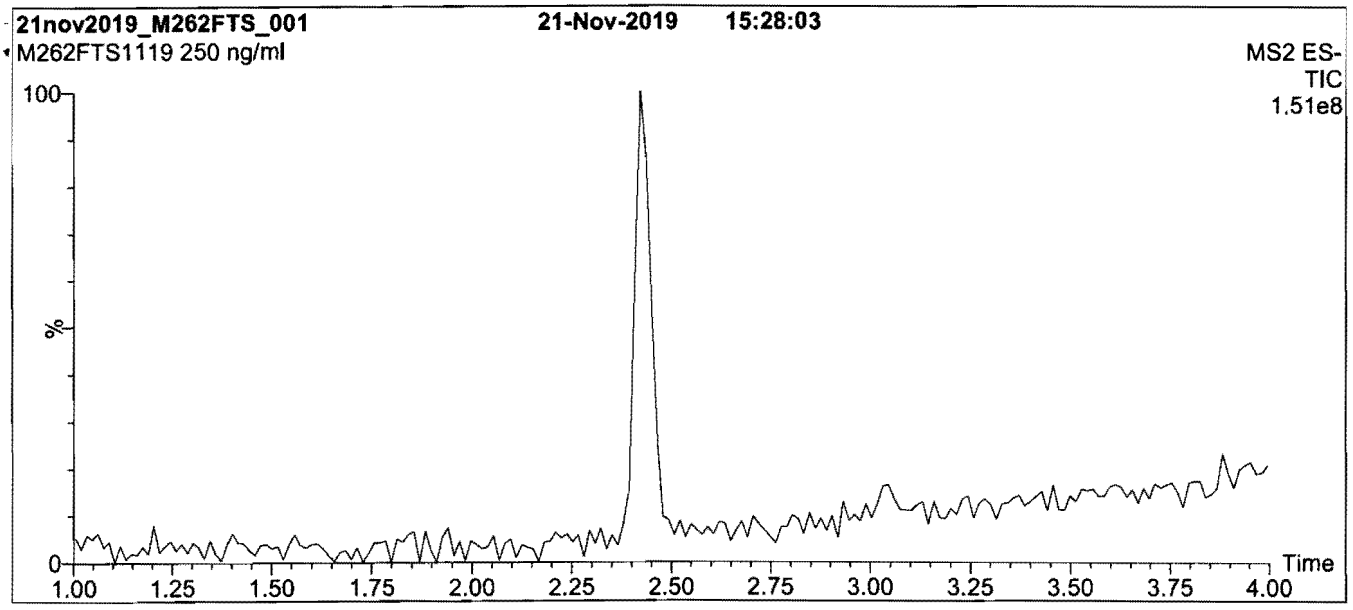
Mobile phase: Same as Figure 1

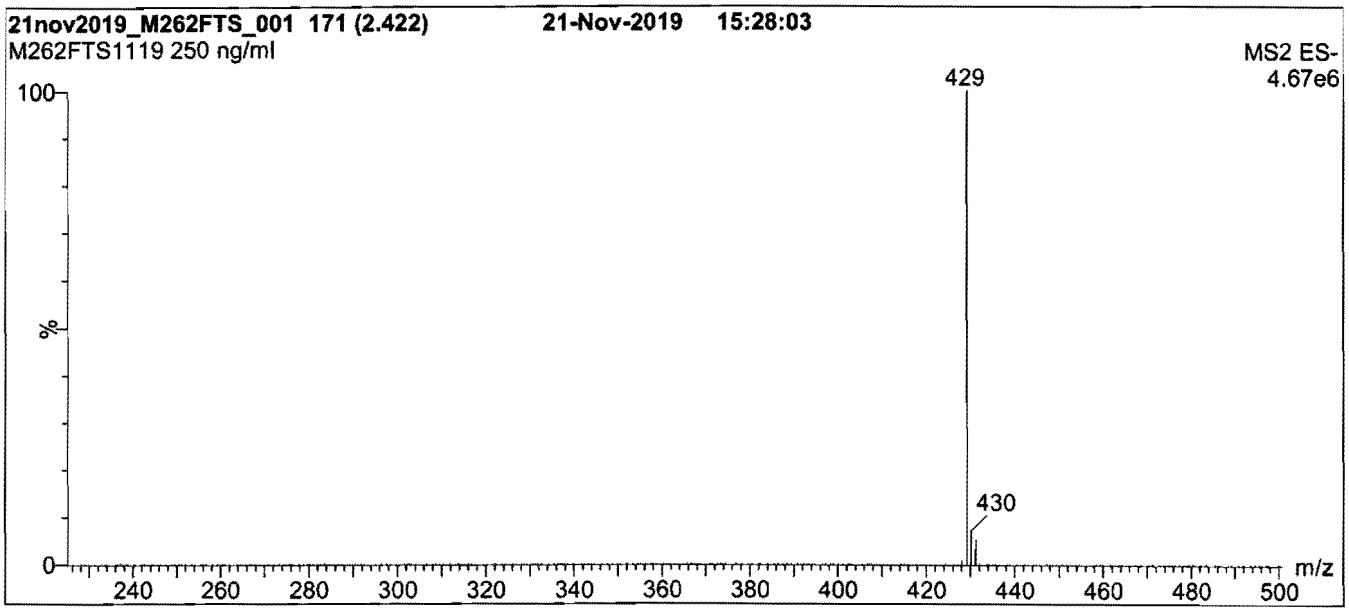
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 20

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: 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) = 1000

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 ISO 17034 REFERENCE MATERIAL PRODUCER

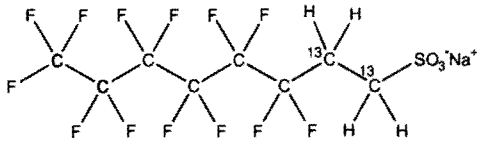
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0602

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2-6:2FTS	**LOT NUMBER:**	M262FTS1119
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) 47.5 ± 2.4 µg/ml (M2-6:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	11/21/2019		
EXPIRY DATE: (mm/dd/yyyy)	11/21/2024		
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:

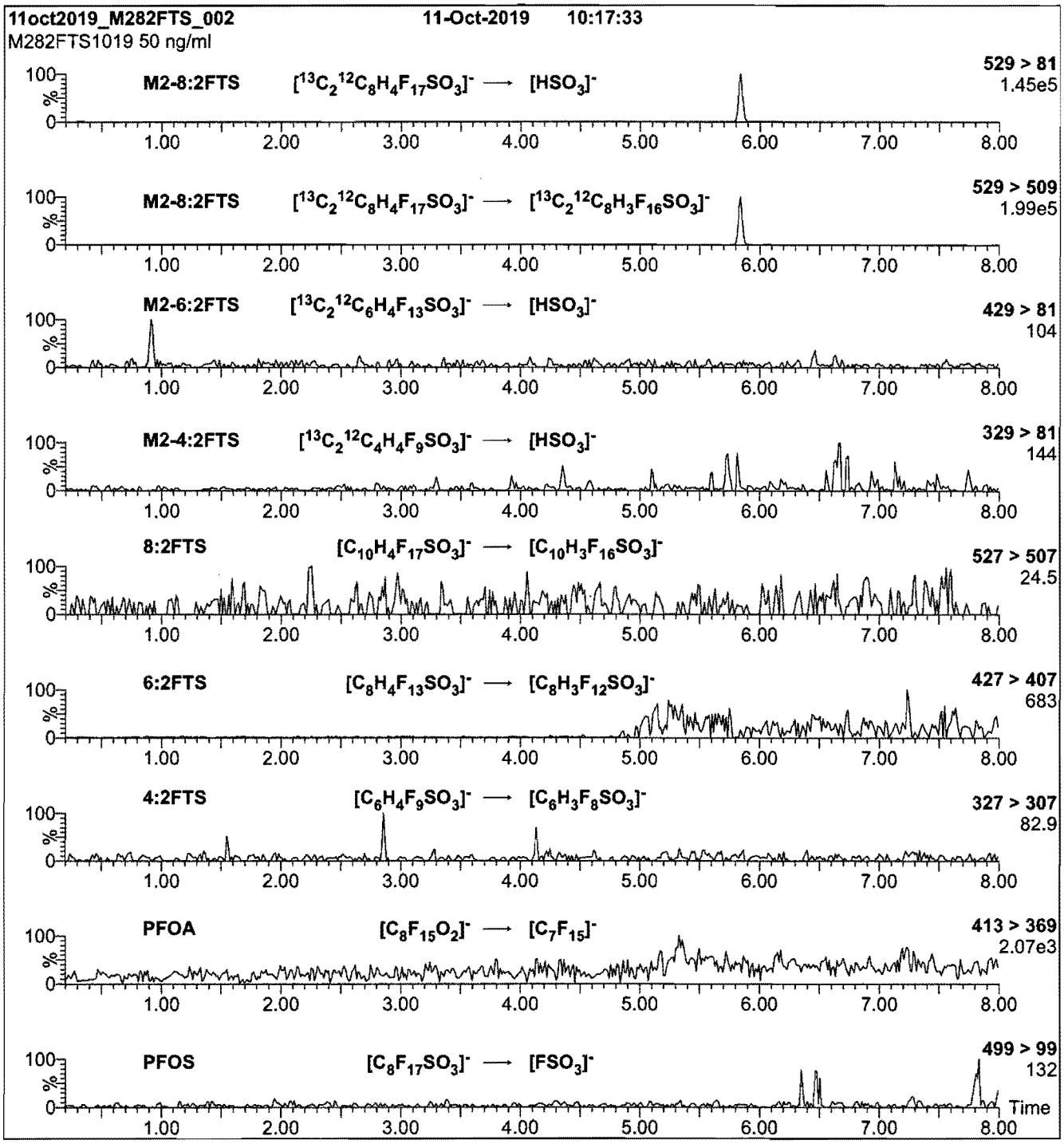
- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for 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:** 11/25/2019 (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

Figure 2: **M2-8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-8:2FTS)

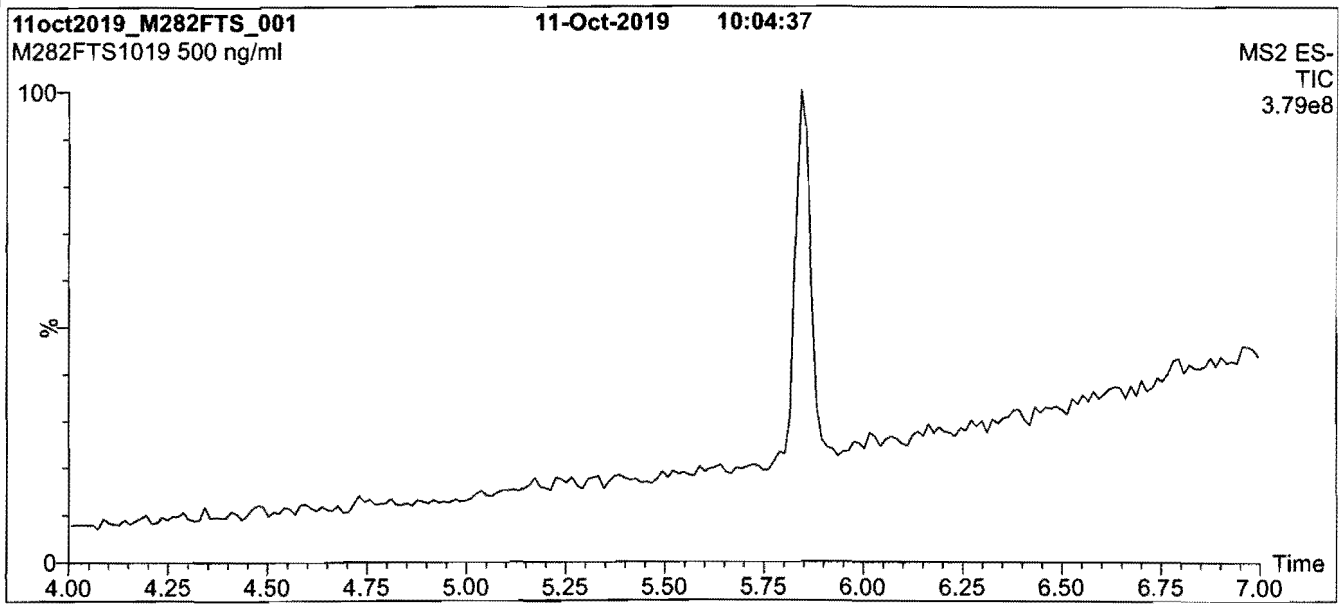
Mobile phase: Same as Figure 1

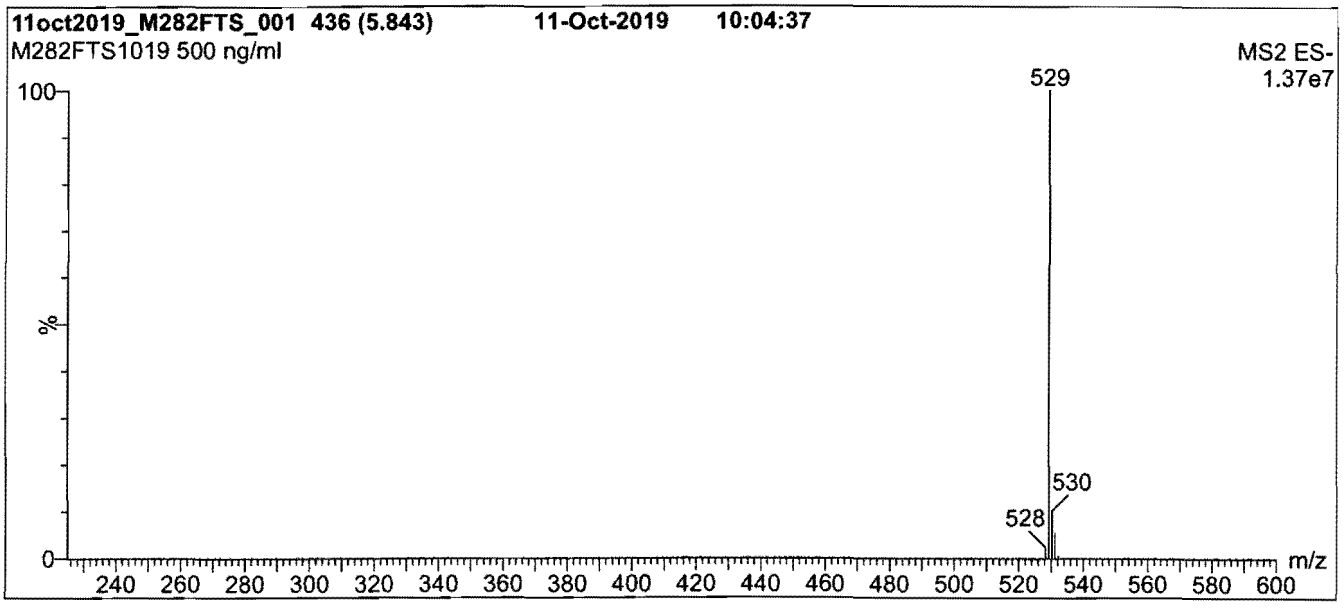
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.87e-3
Collision Energy (eV) = 26

Figure 1: **M2-8:2FTS; 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) = 1000

19L0603

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 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

19L0603

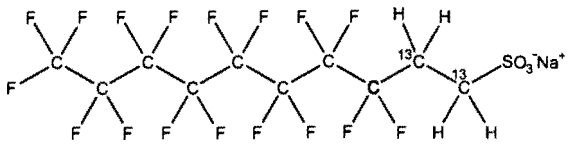
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS1019

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) 47.9 ± 2.4 µg/ml (M2-8:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2024		
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:

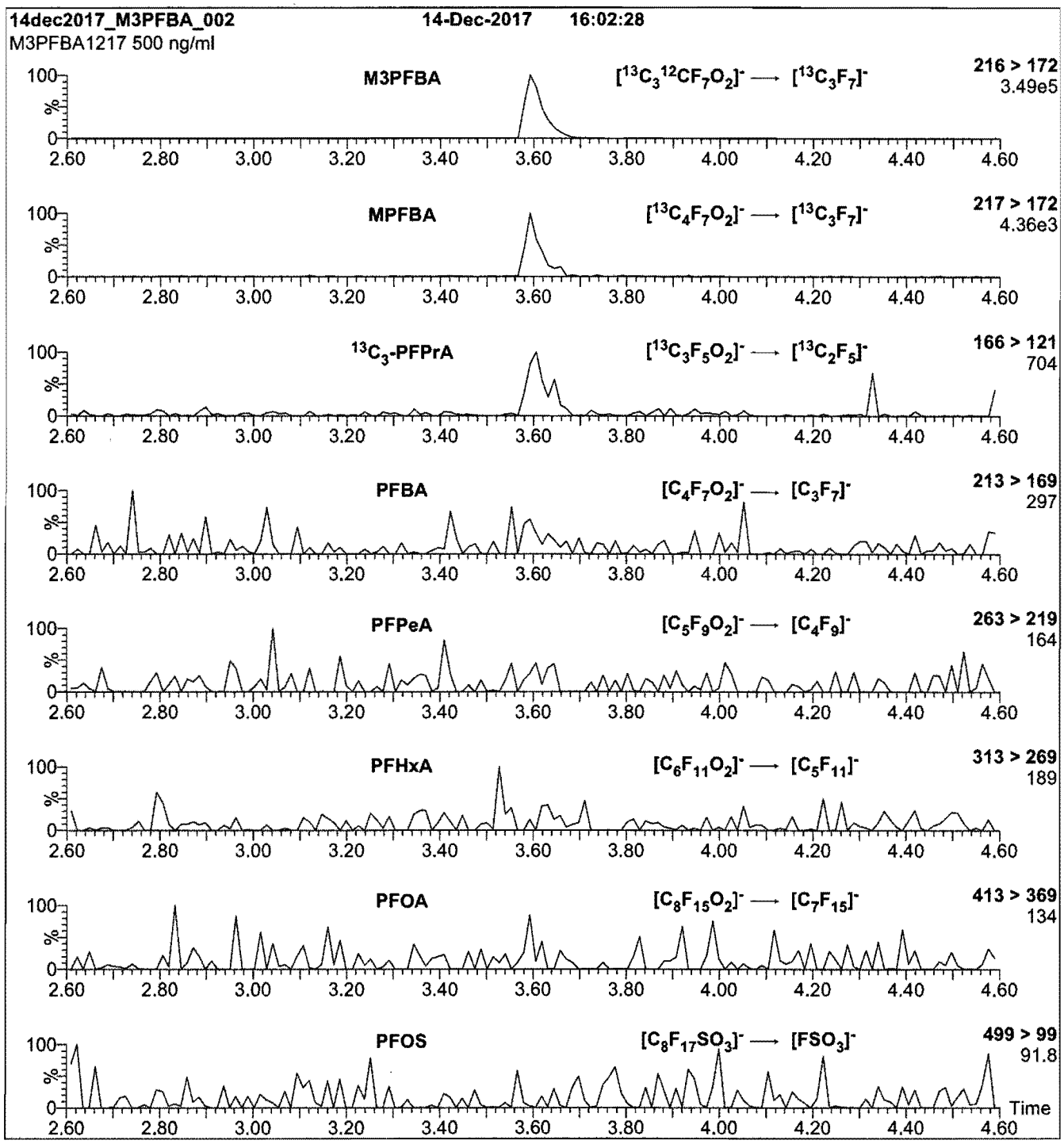
- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for 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:** 10/15/2019 (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

Figure 2: **M3PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFBA)

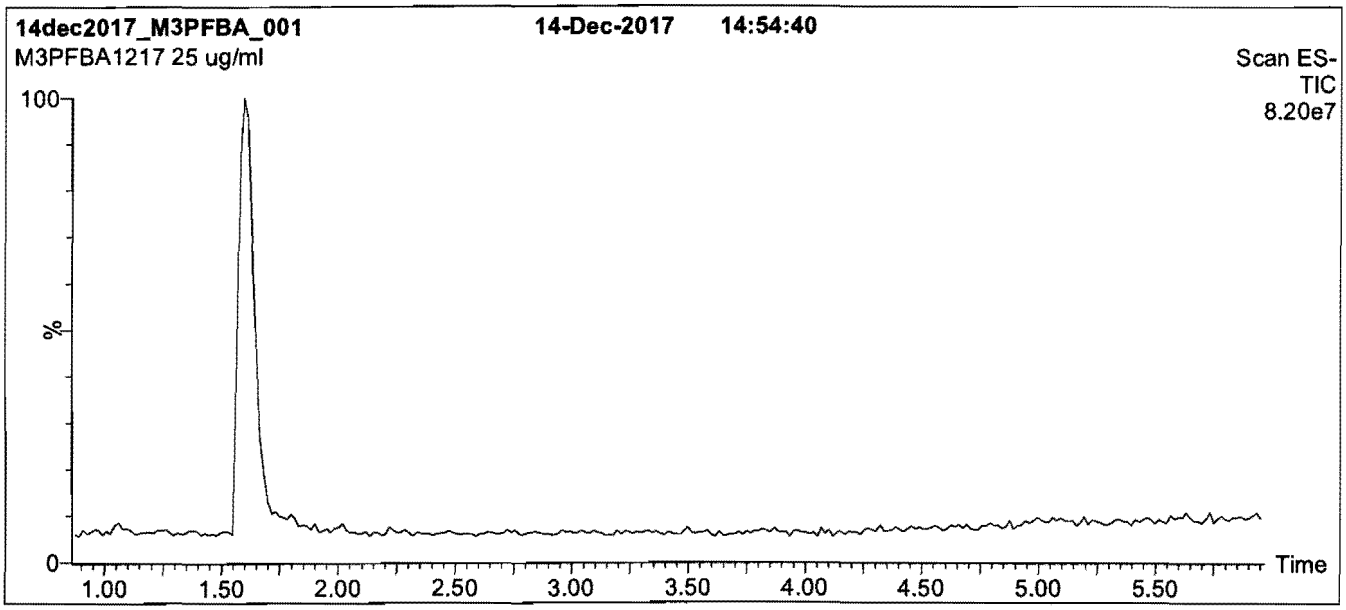
Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

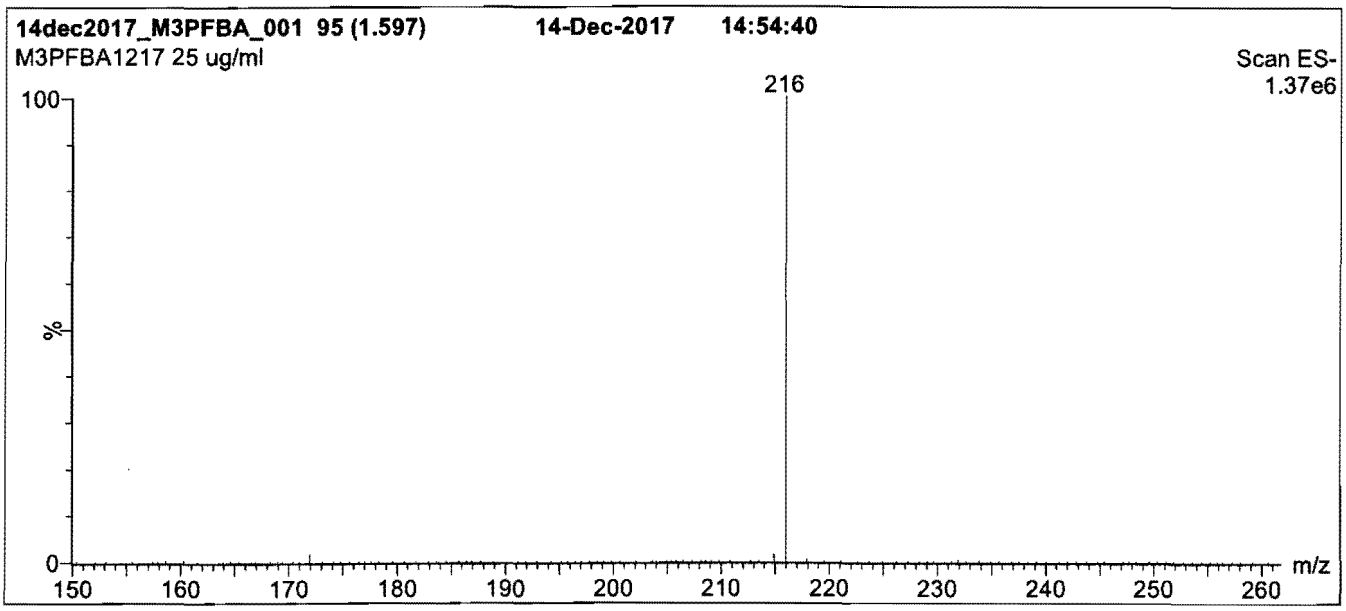
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

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

19L0604

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

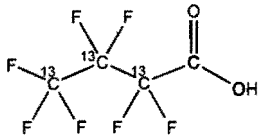
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0604

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:

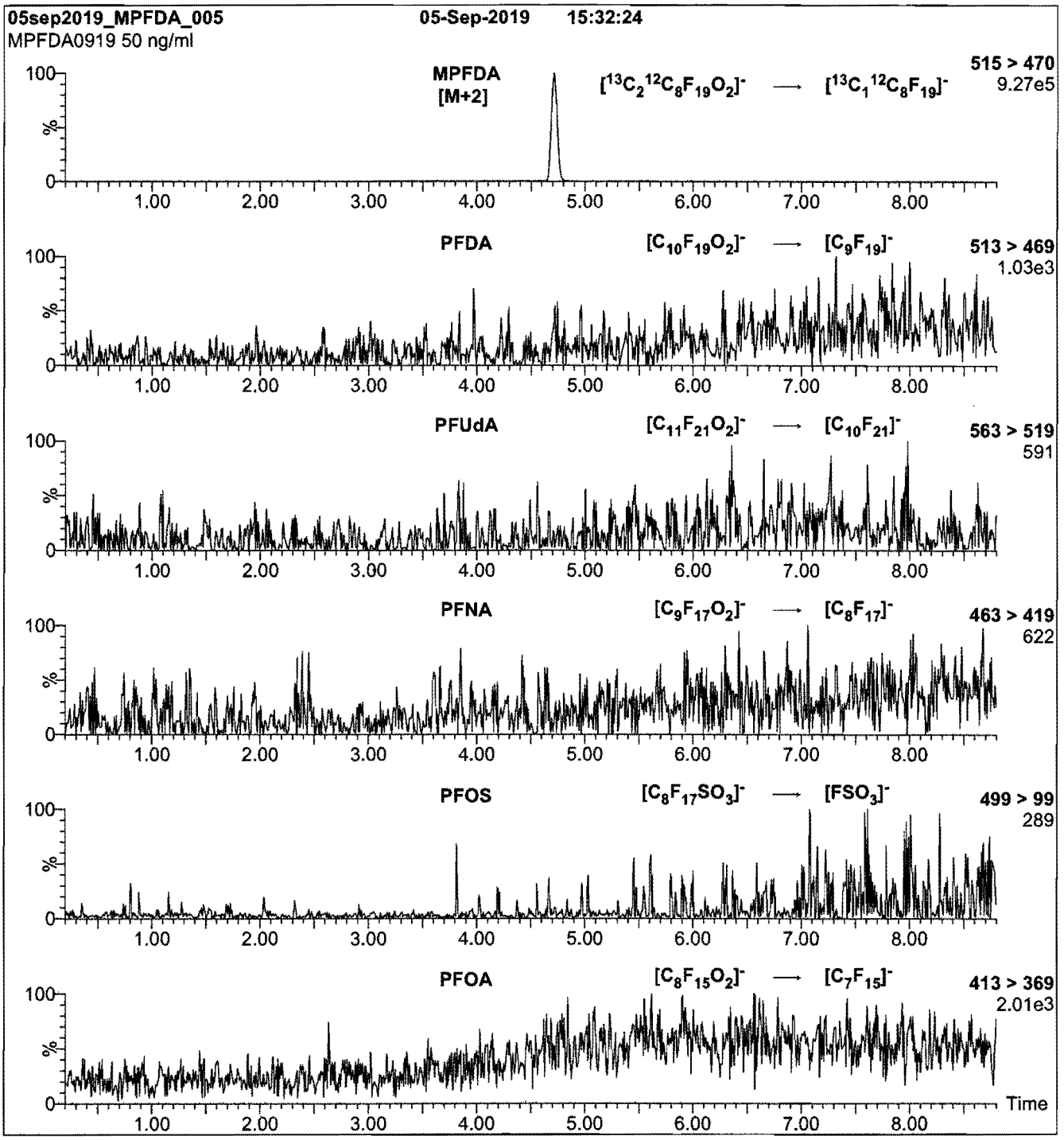
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[$^{13}C_3$]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid due to the naturally occurring isotopic 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

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDA)

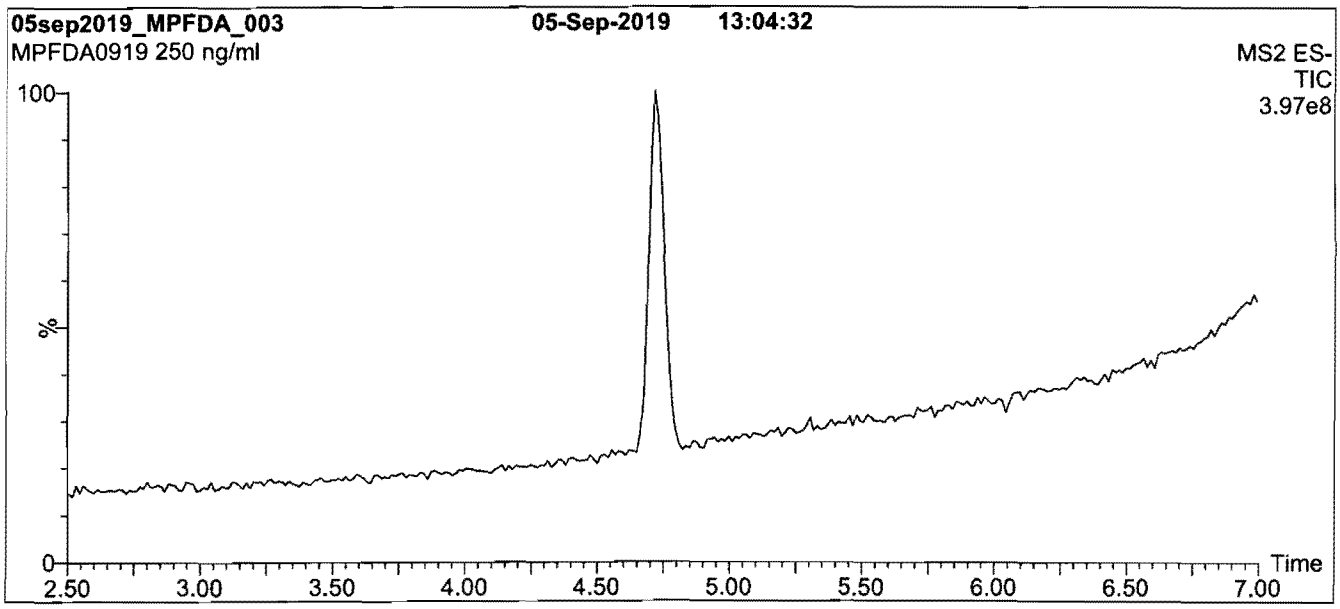
Mobile phase: Same as Figure 1

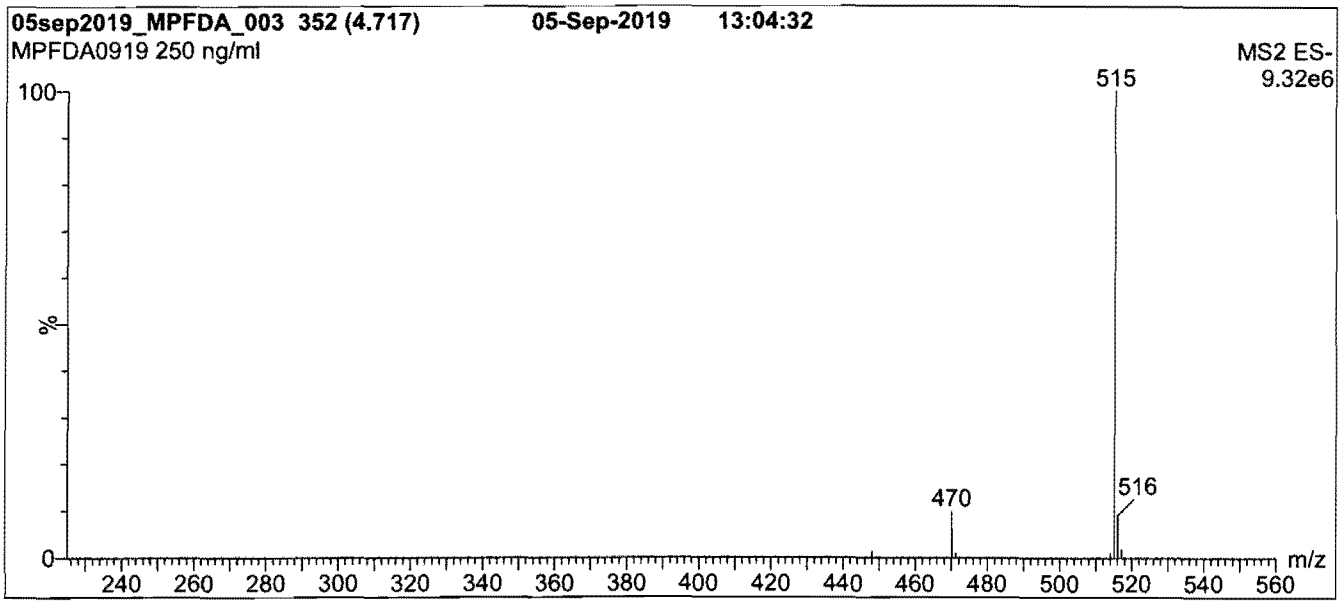
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 10

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: 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0605

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 REFERENCE MATERIAL PRODUCER

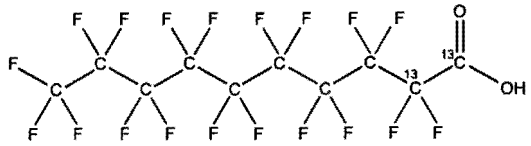
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0605

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFDA	**LOT NUMBER:**	MPFDA0919
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 ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	09/05/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/05/2024		
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.

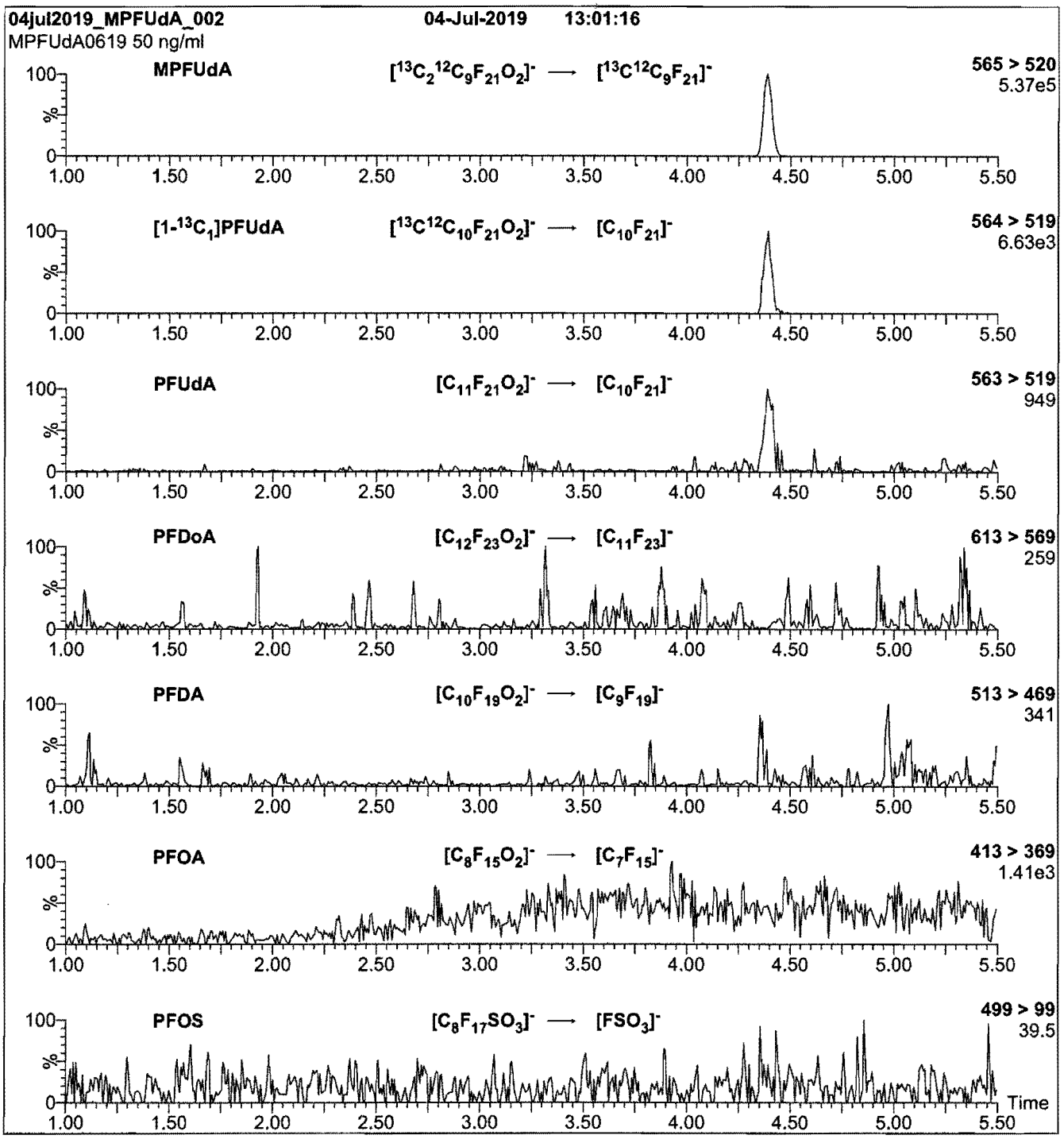
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (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

19L06006

Figure 2: **MPFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFUdA)

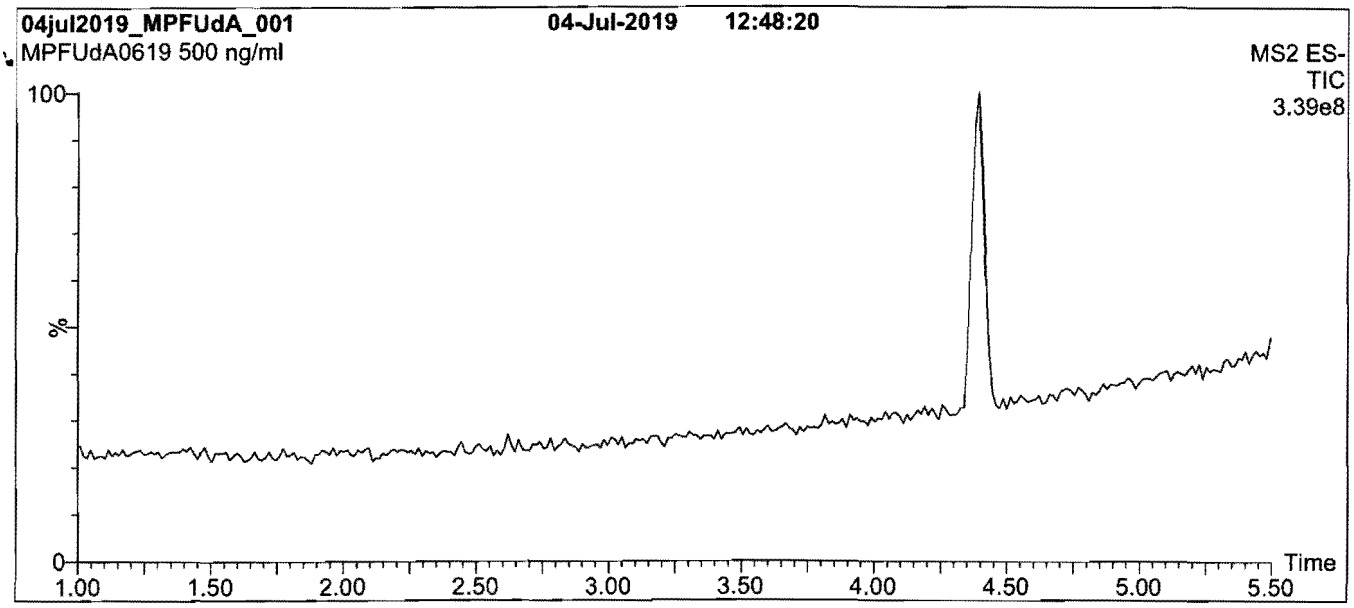
Mobile phase: Same as Figure 1

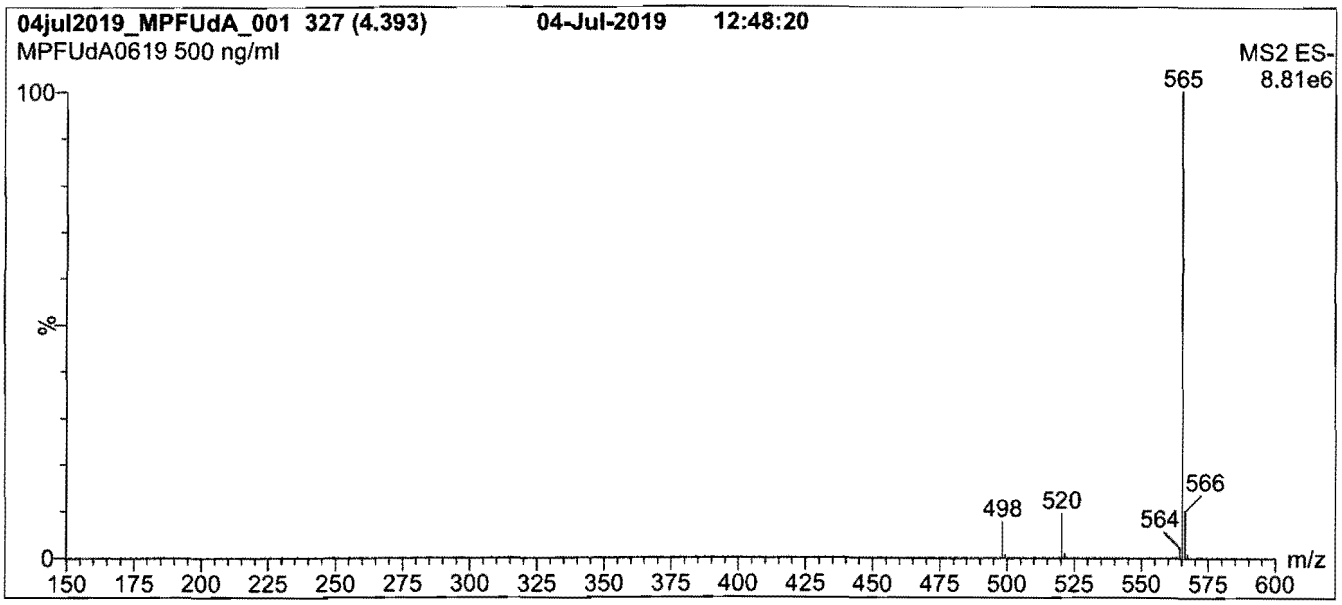
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 12

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: 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 (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

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 REFERENCE MATERIAL PRODUCER

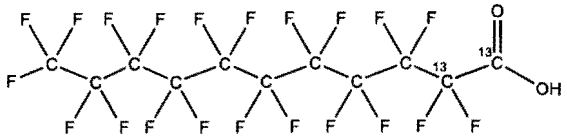
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0606

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFUdA	**LOT NUMBER:**	MPFUdA0619
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)	07/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/04/2024		
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:

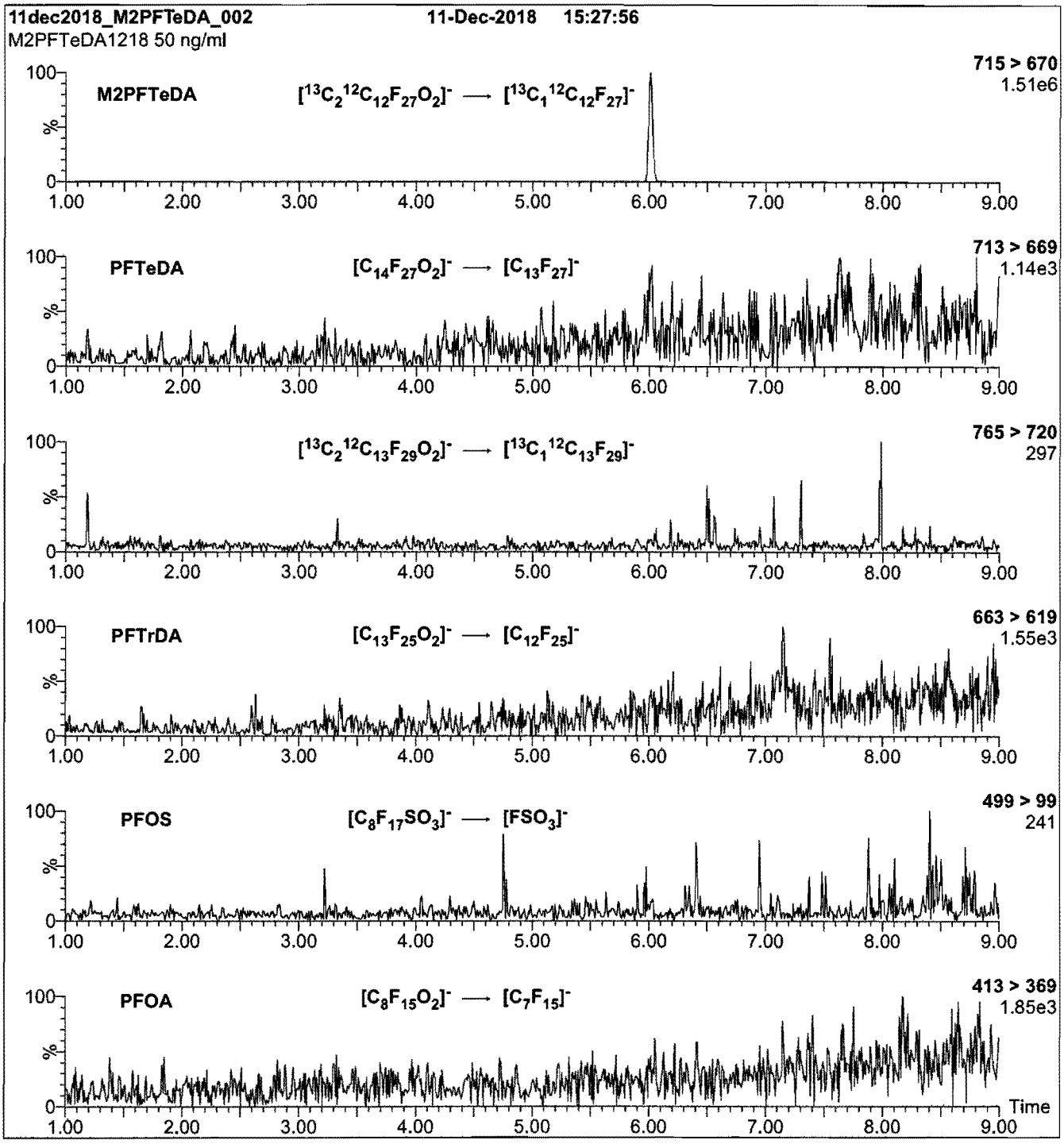
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Presence of 1-$^{13}C_1$-PFUdA (~1%; see Figure 2), 2-$^{13}C_1$-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the ^{13}C-precursor.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/05/2019 (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

Figure 2: **M2PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFTeDA)

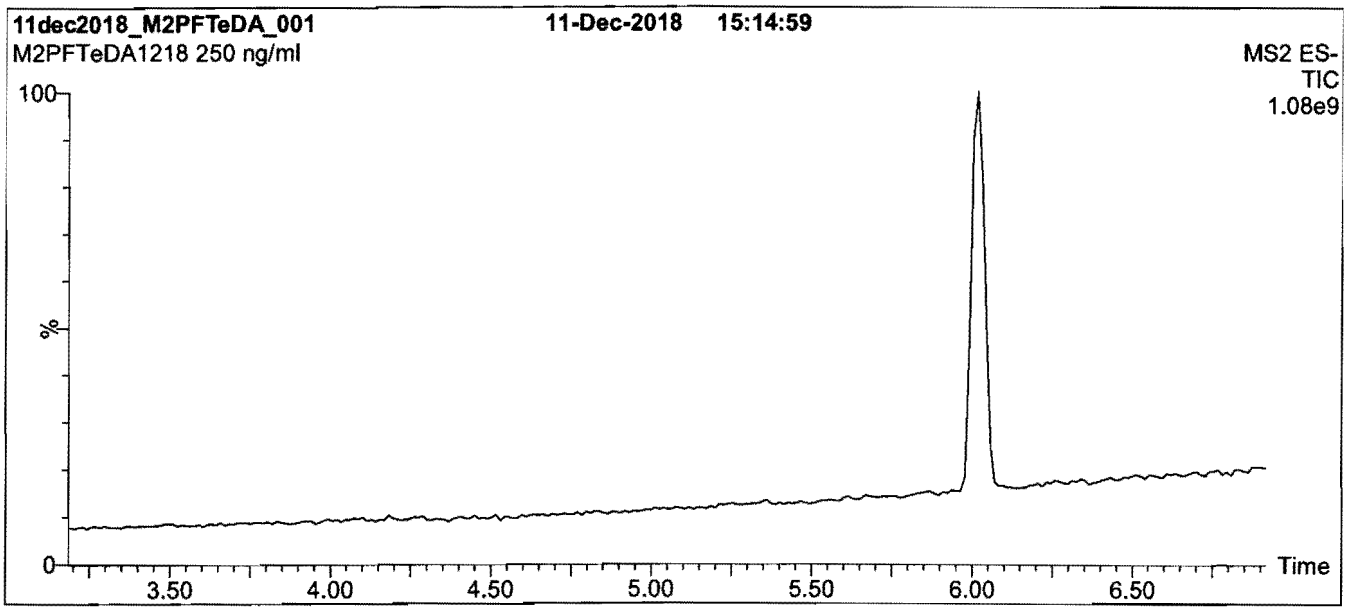
Mobile phase: Same as Figure 1

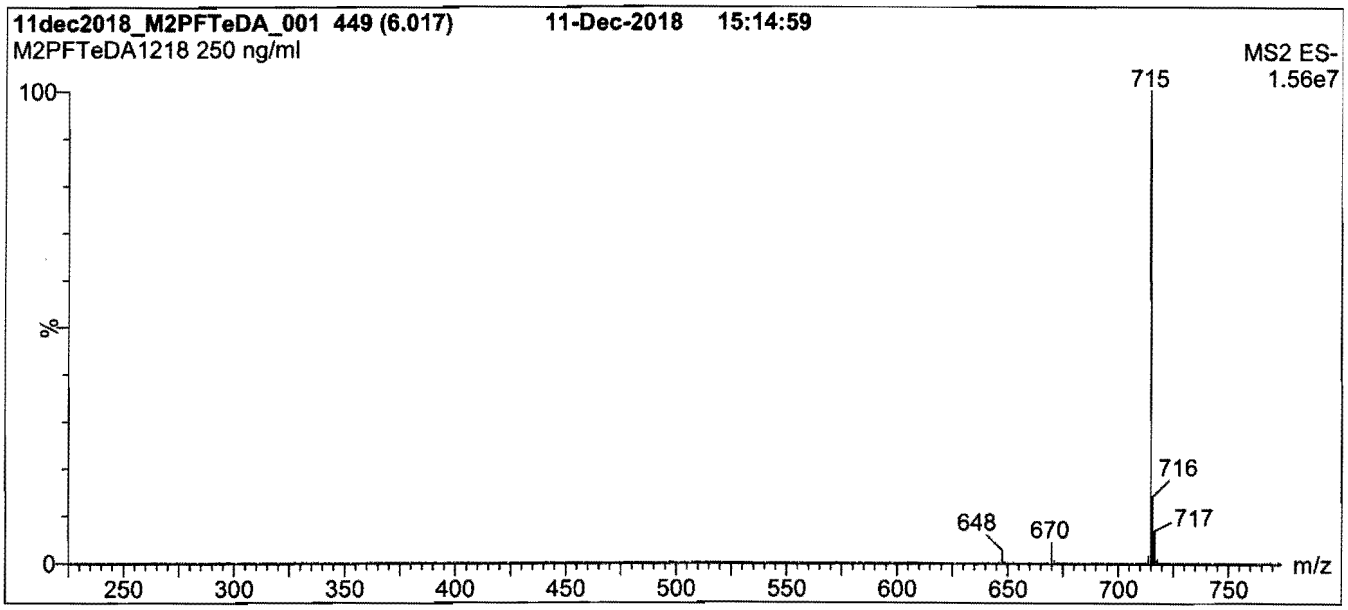
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 14

Figure 1: **M2PFTeDA; 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) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

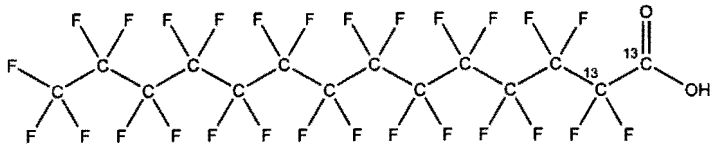
19L0607

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2PFTeDA
LOT NUMBER: M2PFTeDA1218
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)	12/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/11/2023		
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.

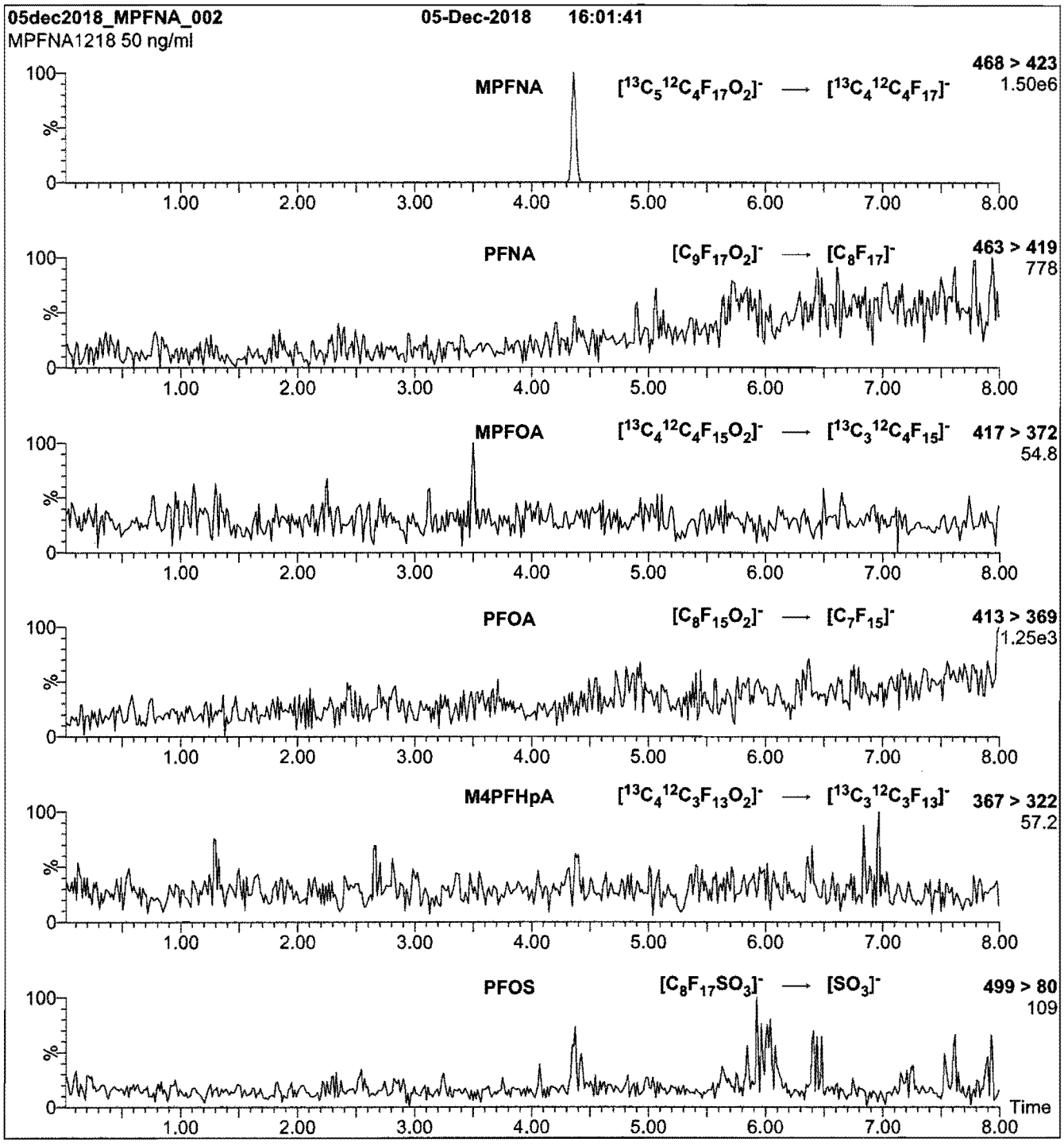
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2018 (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

19L0608

Figure 2: **MPFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFNA)

Mobile phase: Same as Figure 1

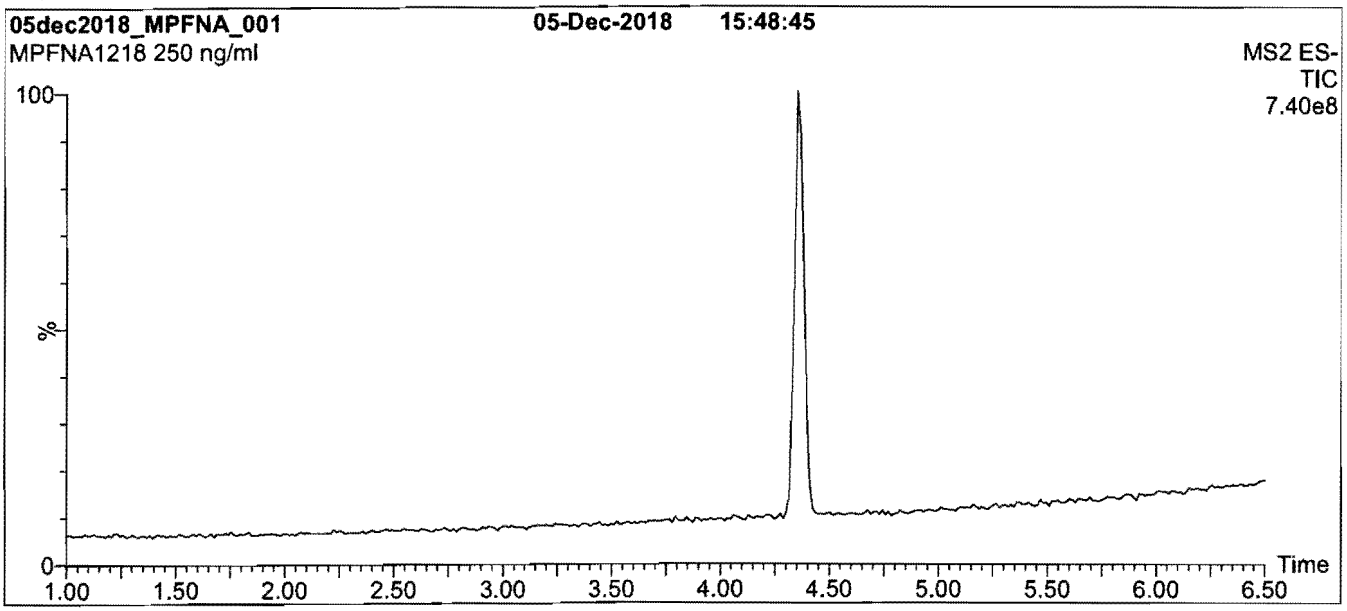
Flow: 300 µl/min

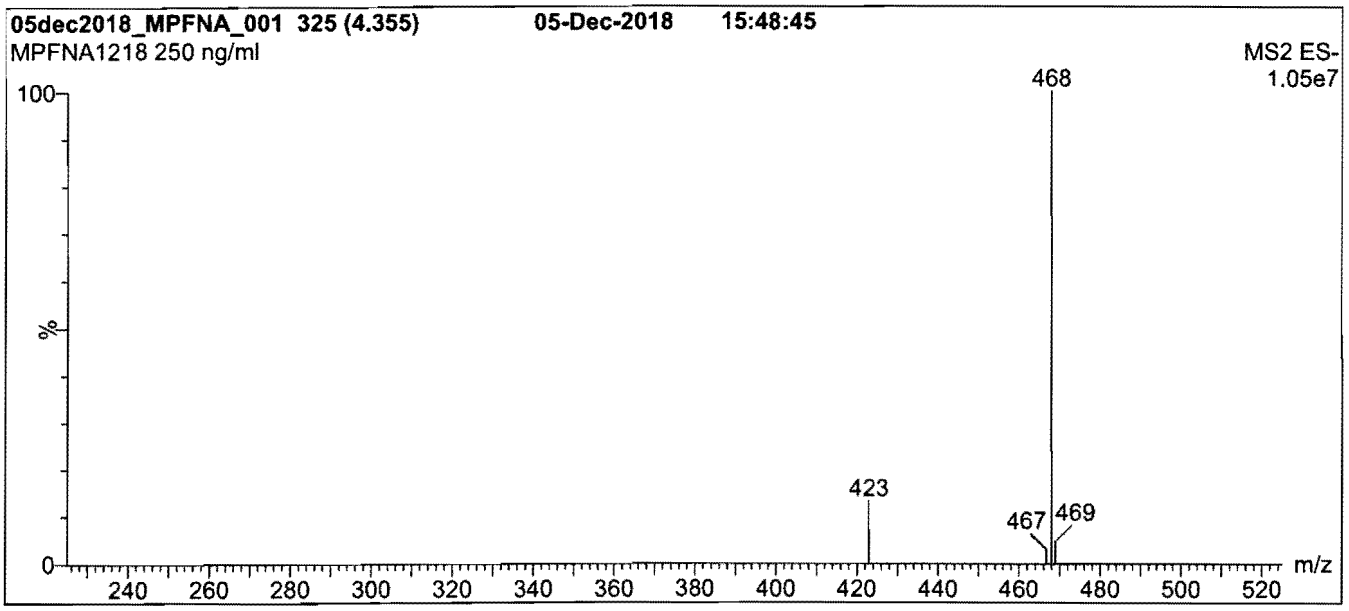
MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 10

19L0608

Figure 1: **MPFNA; 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

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

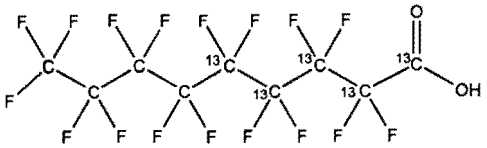
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0608

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA1218
COMPOUND:	Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid		
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)	12/05/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/05/2023		
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 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

19L0609

WELLINGTON LABORATORIES

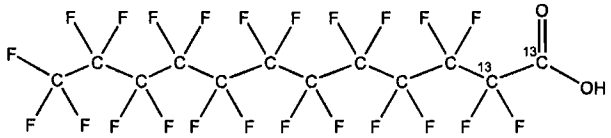
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDoA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid

LOT NUMBER: MPFDoA1218

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)	12/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/11/2023		
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/18/2018 (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

19L0609

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:

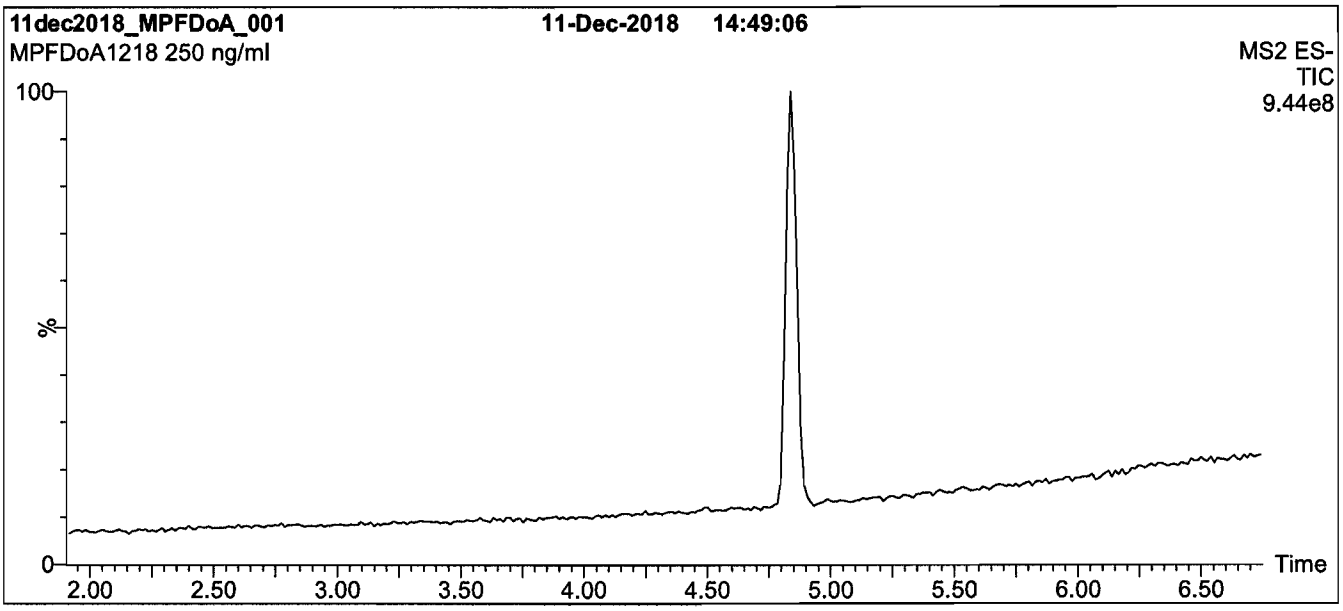
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

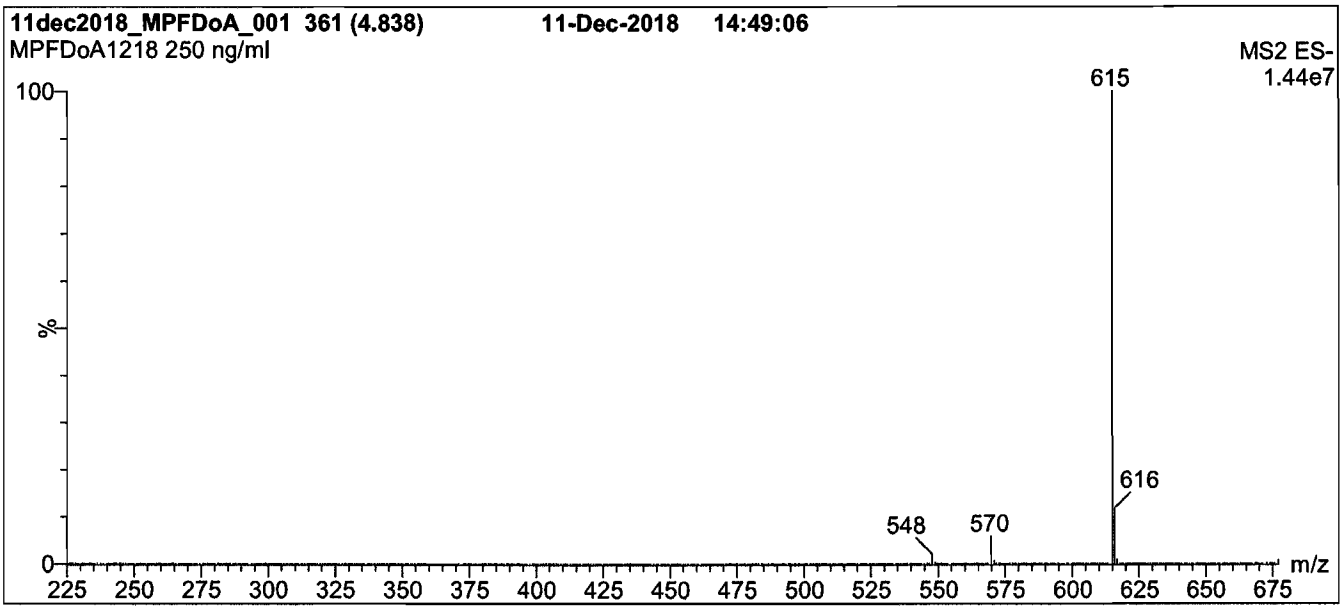
CALA Testing Accreditation No. A1226

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

Figure 1: **MPFDoA; 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

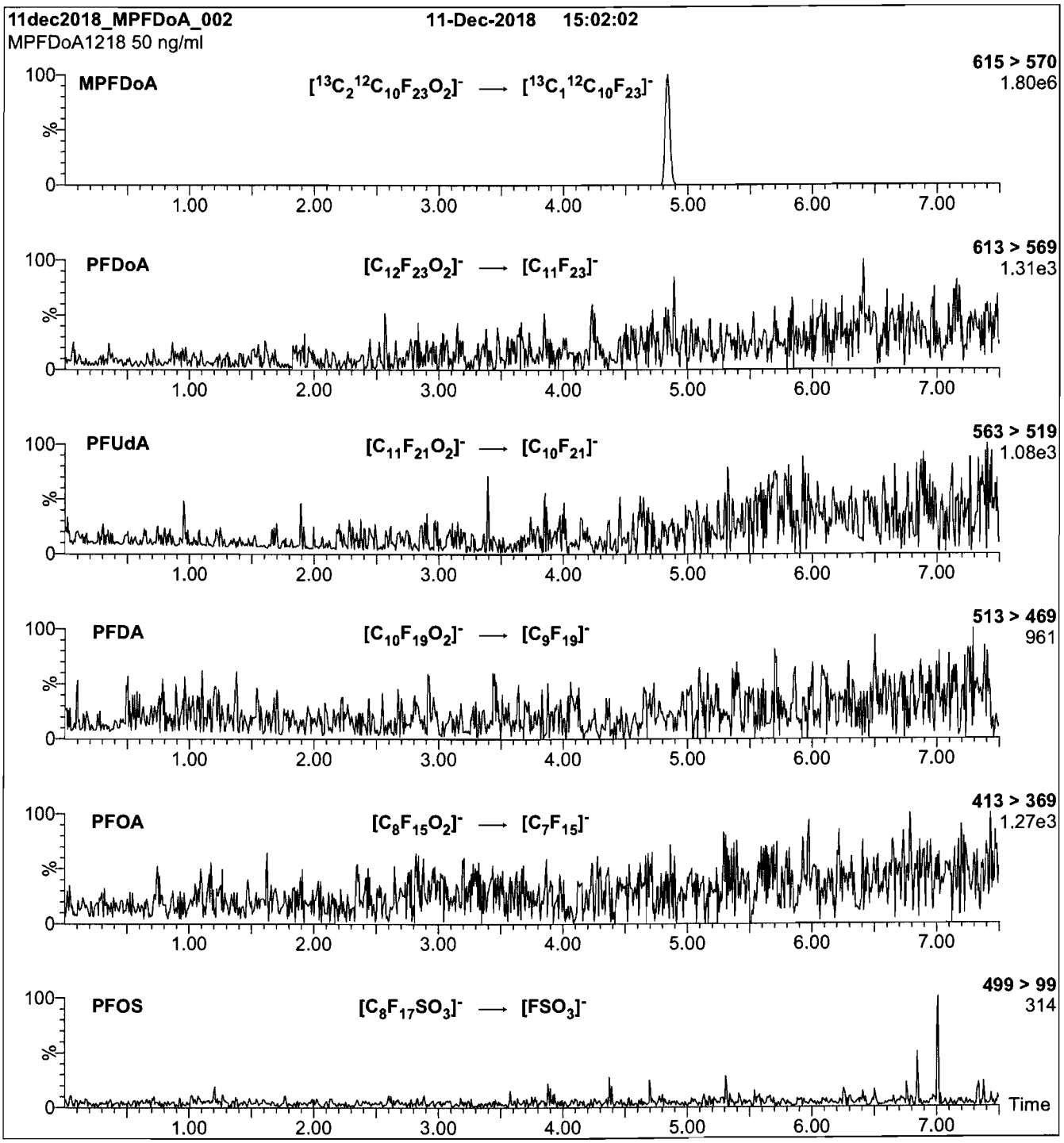
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 2: **MPFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDoA)

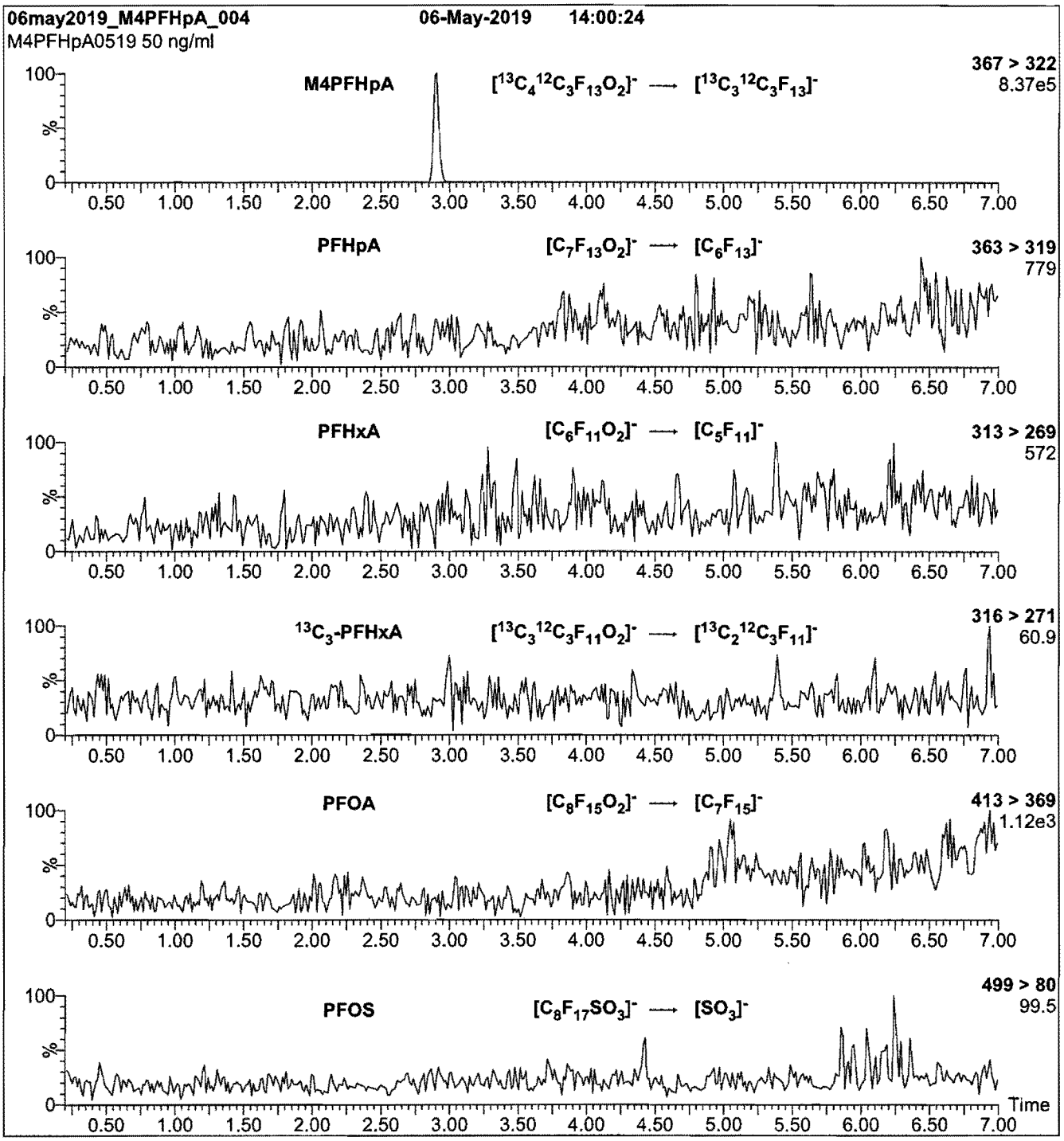
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 12

Figure 2: **M4PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M4PFHpA)

Mobile phase: Same as Figure 1

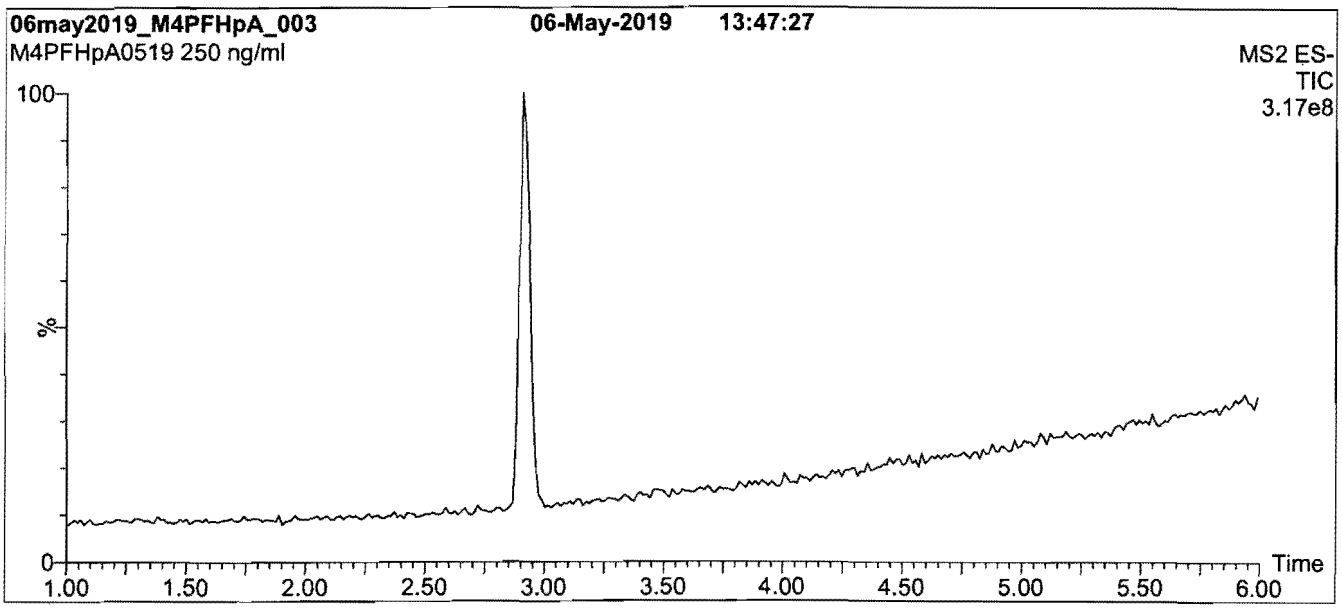
Flow: 300 µl/min

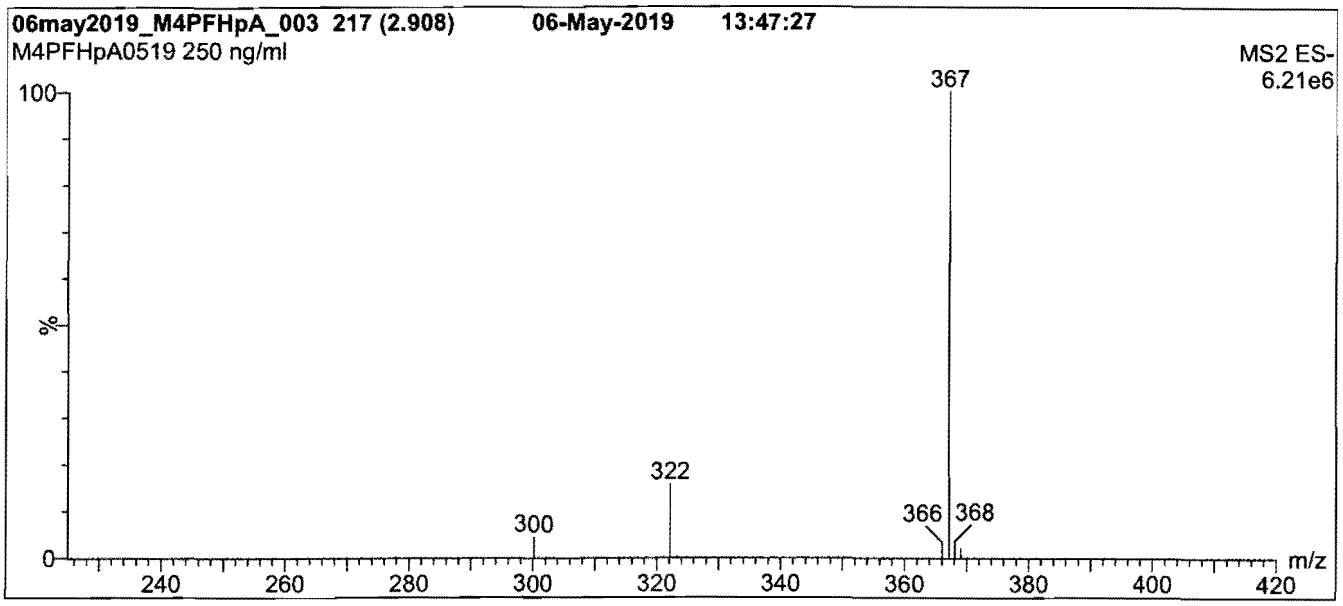
MS Parameters

Collision Gas (mbar) = 2.87e-3
Collision Energy (eV) = 8

19L0610

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 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 11 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

19L0610

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

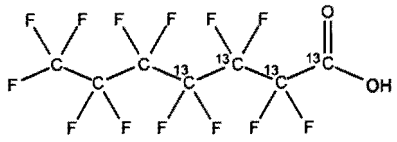
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0610

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M4PFHpA	**LOT NUMBER:**	M4PFHpA0519
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)	05/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/06/2024		
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.

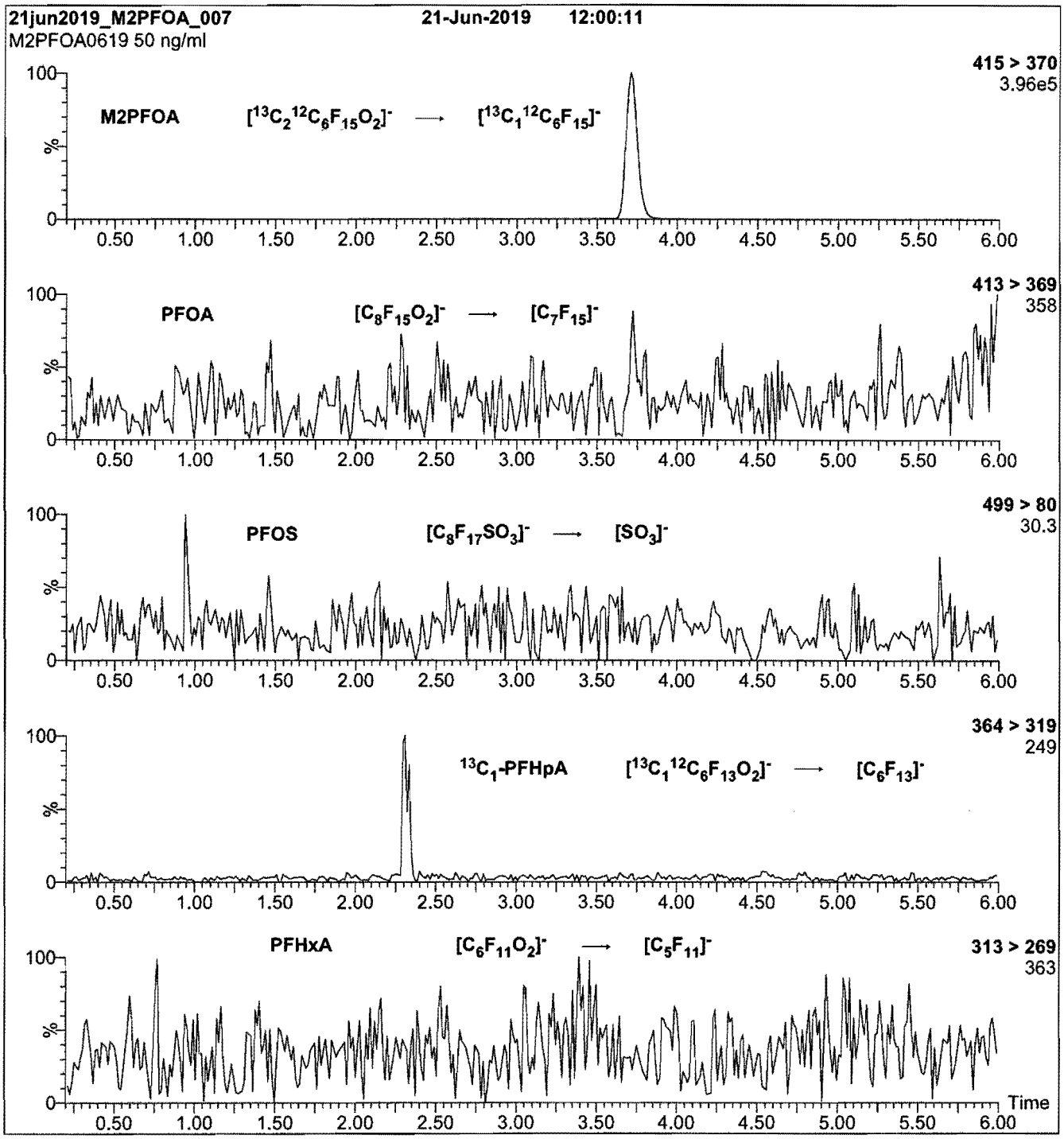
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/17/2019 (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

19L0611

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFOA)

Mobile phase: Same as Figure 1

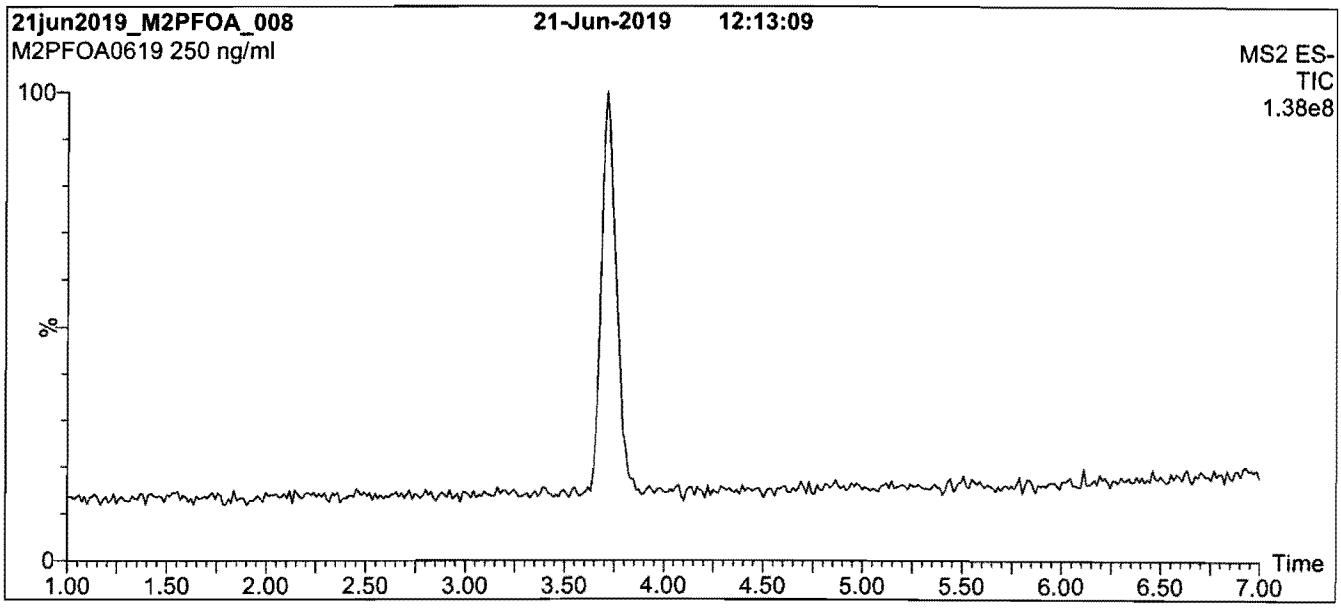
Flow: 300 µl/min

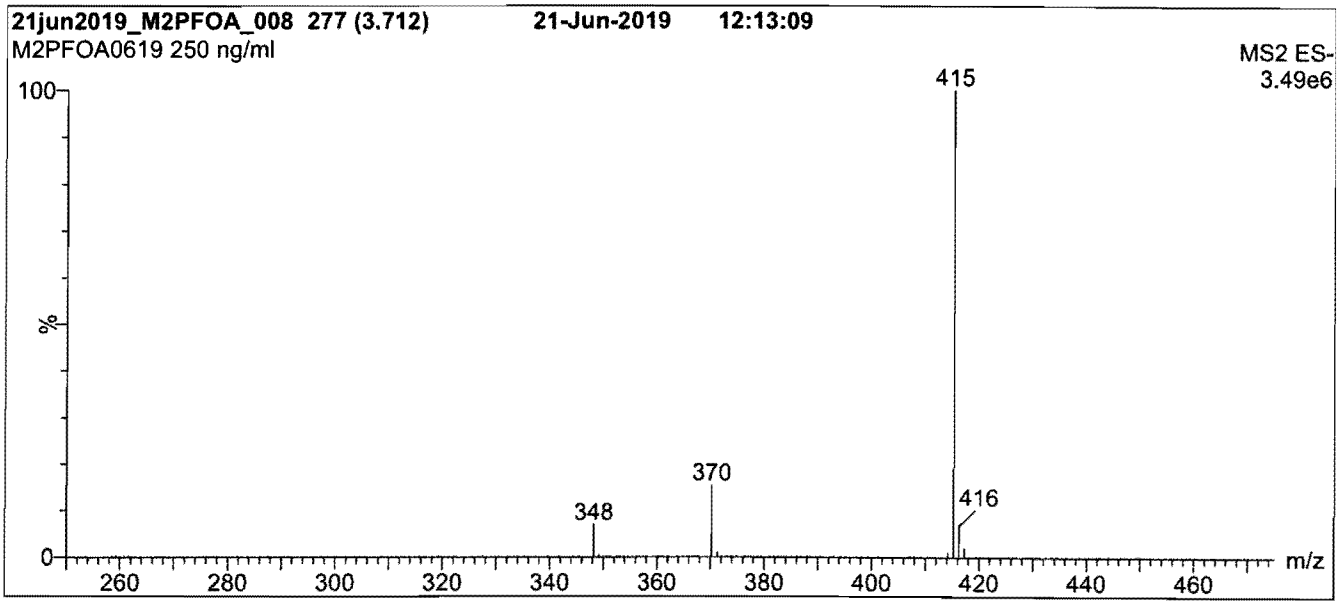
MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 8

19L0611

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: 55% (80:20 MeOH:ACN) / 45% 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 (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

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

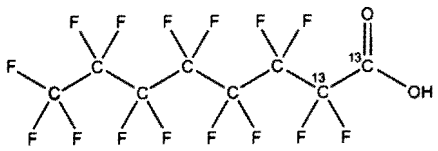
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L 0611

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFOA	**LOT NUMBER:**	M2PFOA0619
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	06/21/2019		
EXPIRY DATE: (mm/dd/yyyy)	06/21/2024		
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:

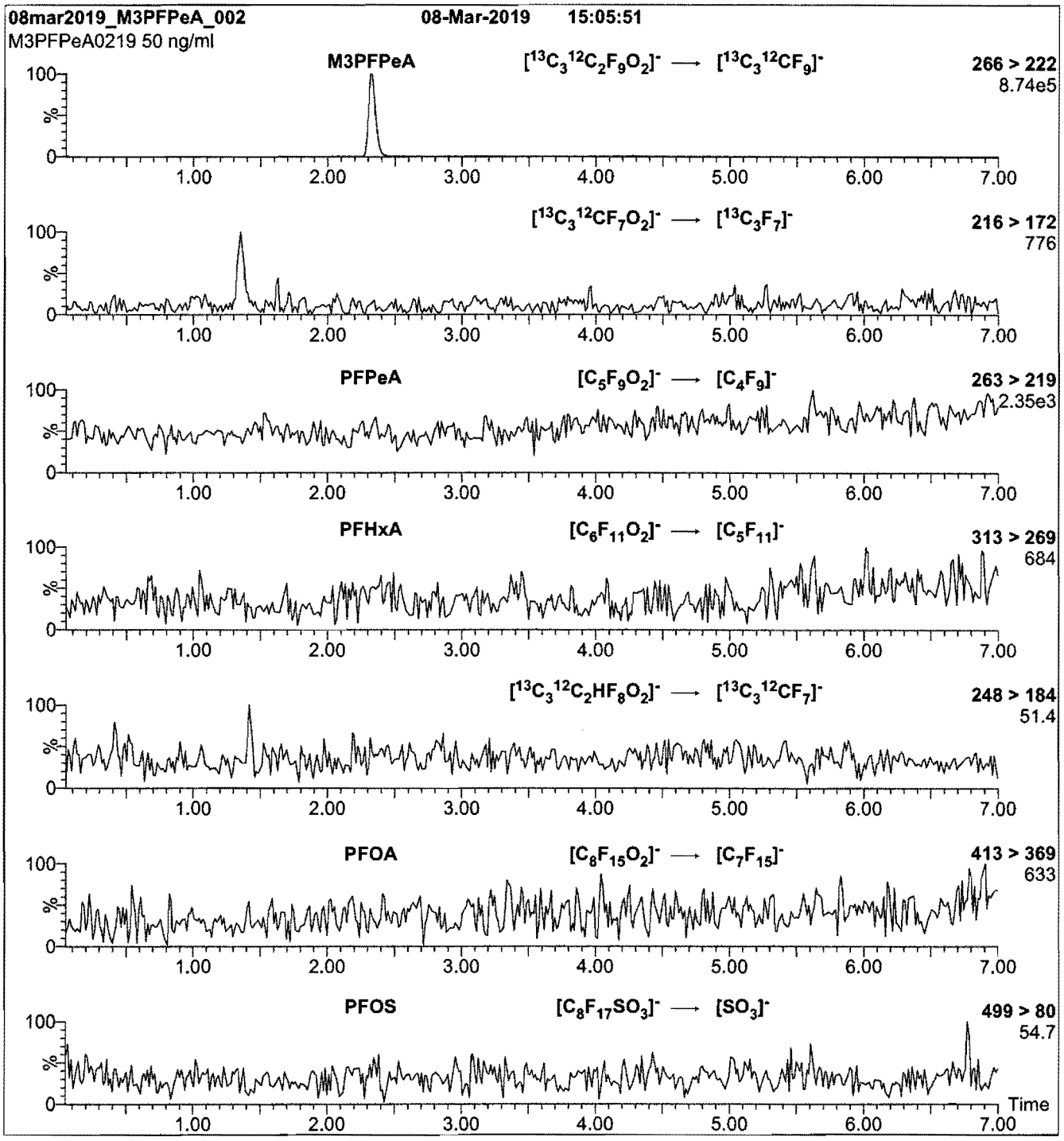
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-[$^{13}C_1$]heptanoic acid ($^{13}C_1$-PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/21/2019 (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

Figure 2: **M3PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFPeA)

Mobile phase: Same as Figure 1

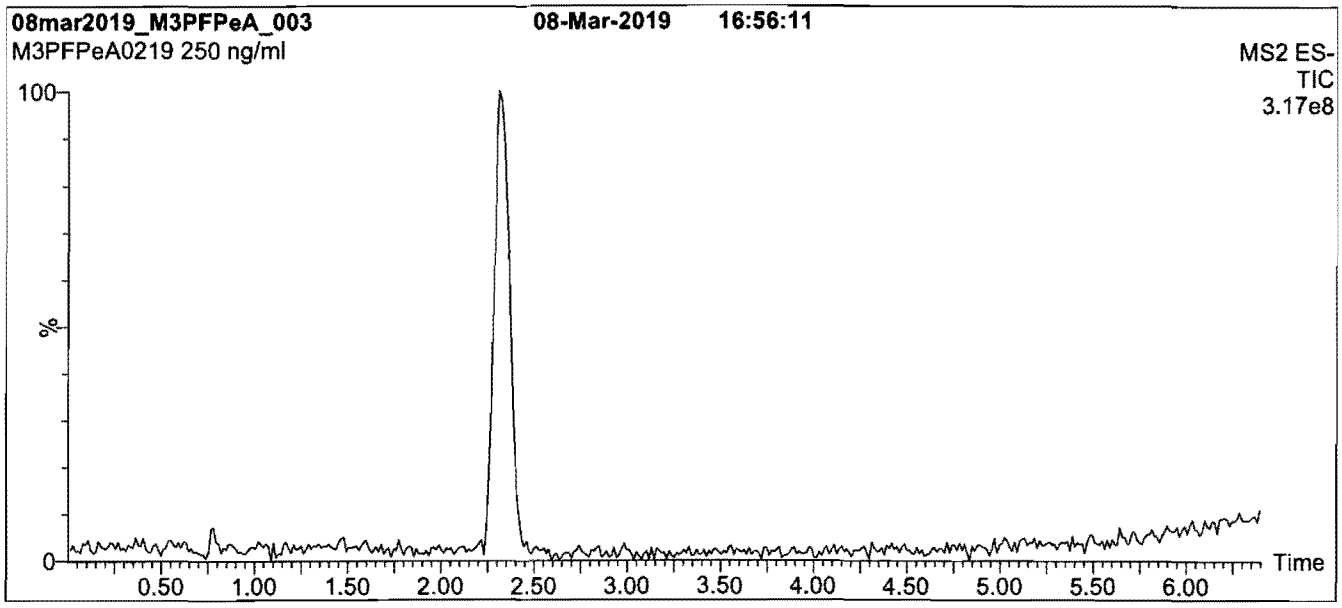
Flow: 300 µl/min

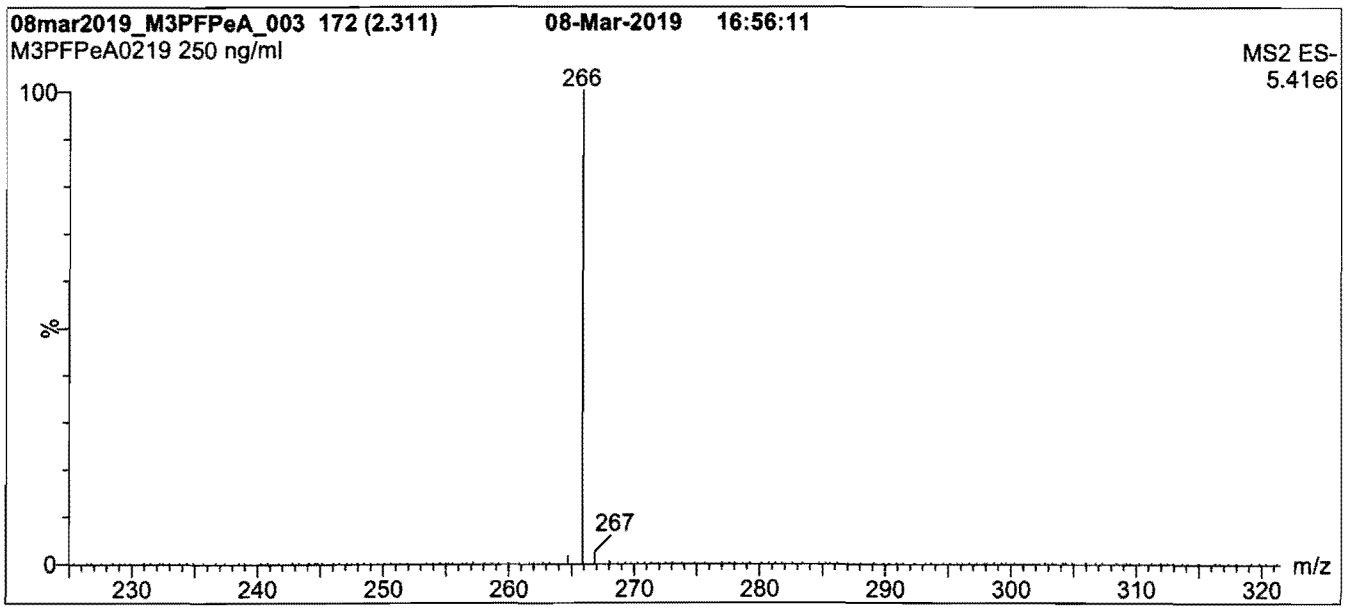
MS Parameters

Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 8

19L0612

Figure 1: **M3PFPeA; 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

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

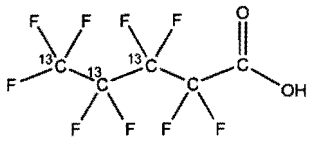
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0612

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFPeA	**LOT NUMBER:**	M3PFPeA0219
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)	03/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/08/2024		
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:

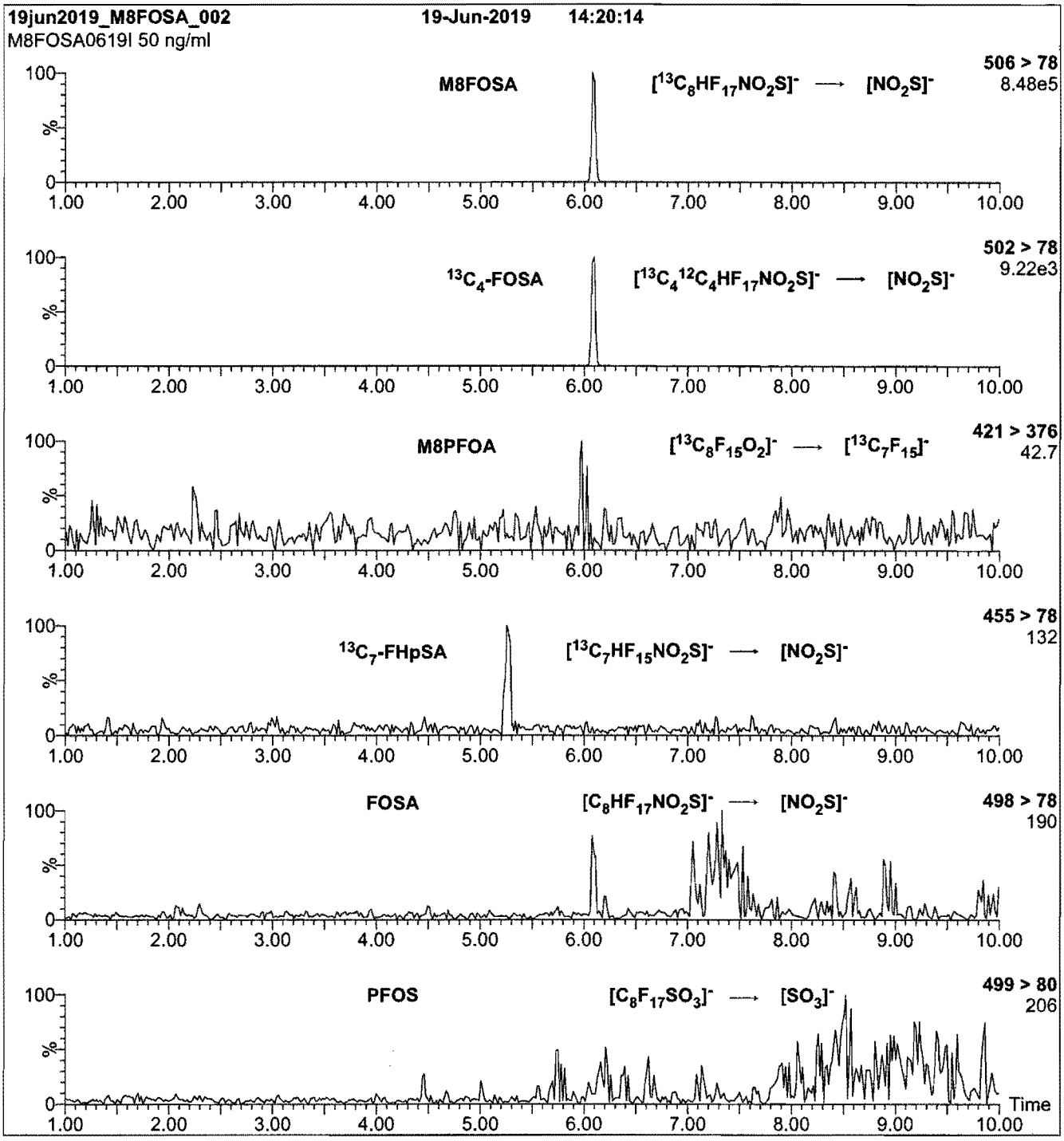
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/19/2019 (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

Figure 2: **M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8FOSA-I)

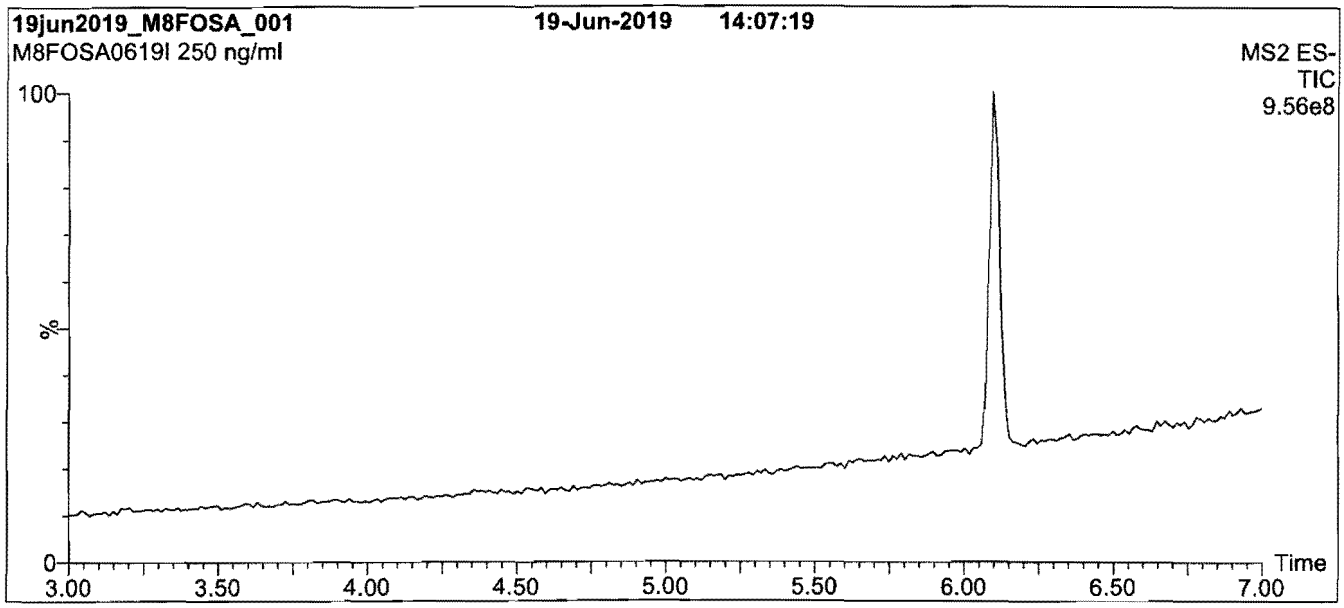
Mobile phase: Same as Figure 1

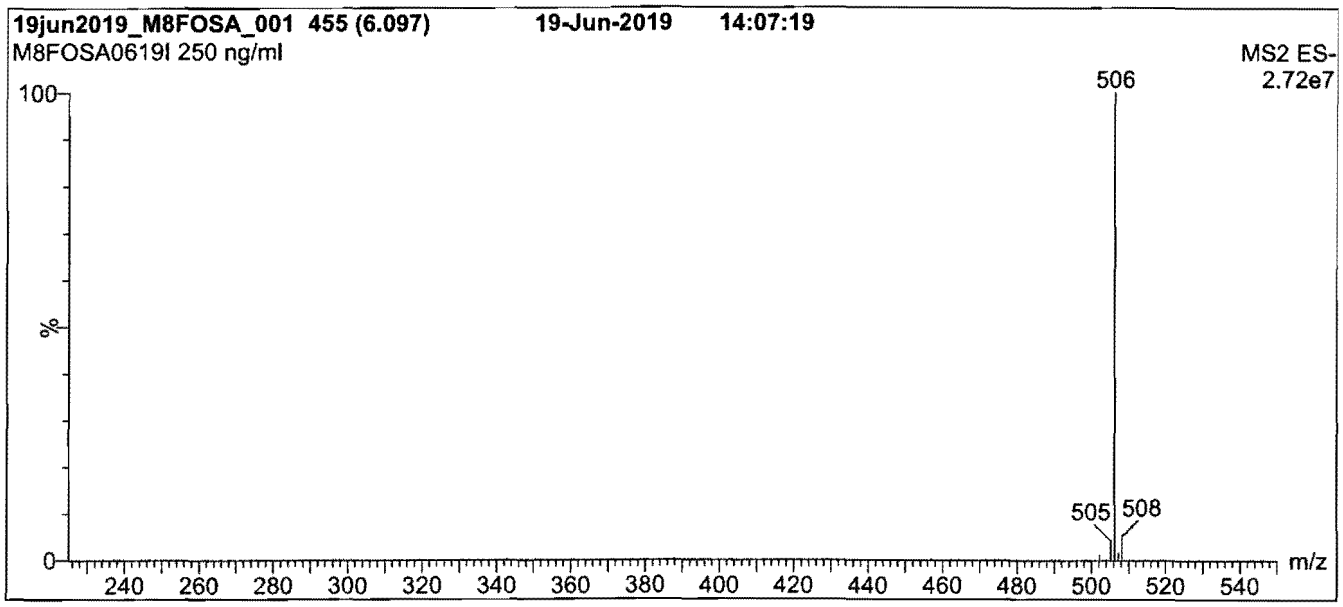
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.94e-3
Collision Energy (eV) = 30

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

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

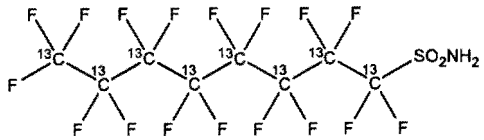
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0613

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8FOSA-I	**LOT NUMBER:**	M8FOSA0619I
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)	06/19/2019		
EXPIRY DATE: (mm/dd/yyyy)	06/19/2024		
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 ~ 1.2% of perfluoro-1-[$^{13}C_4$]octanesulfonamide and ~ 0.02% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/21/2019 (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

1910614

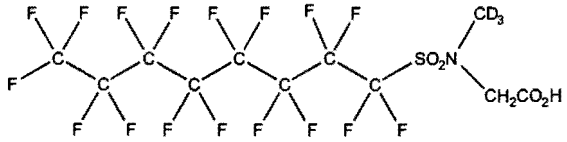
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA0719

COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 1400690-70-1



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)	07/24/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/24/2024		
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:** 07/26/2019 (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

19LC06H

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

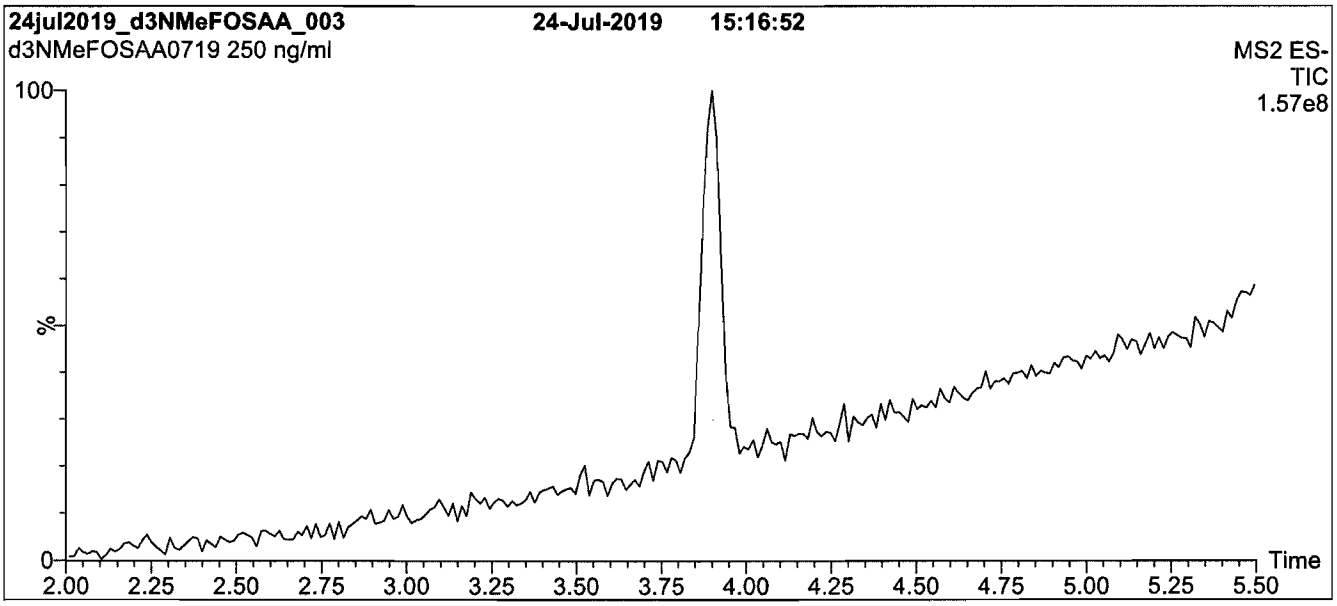
CALA Testing Accreditation No. A1226

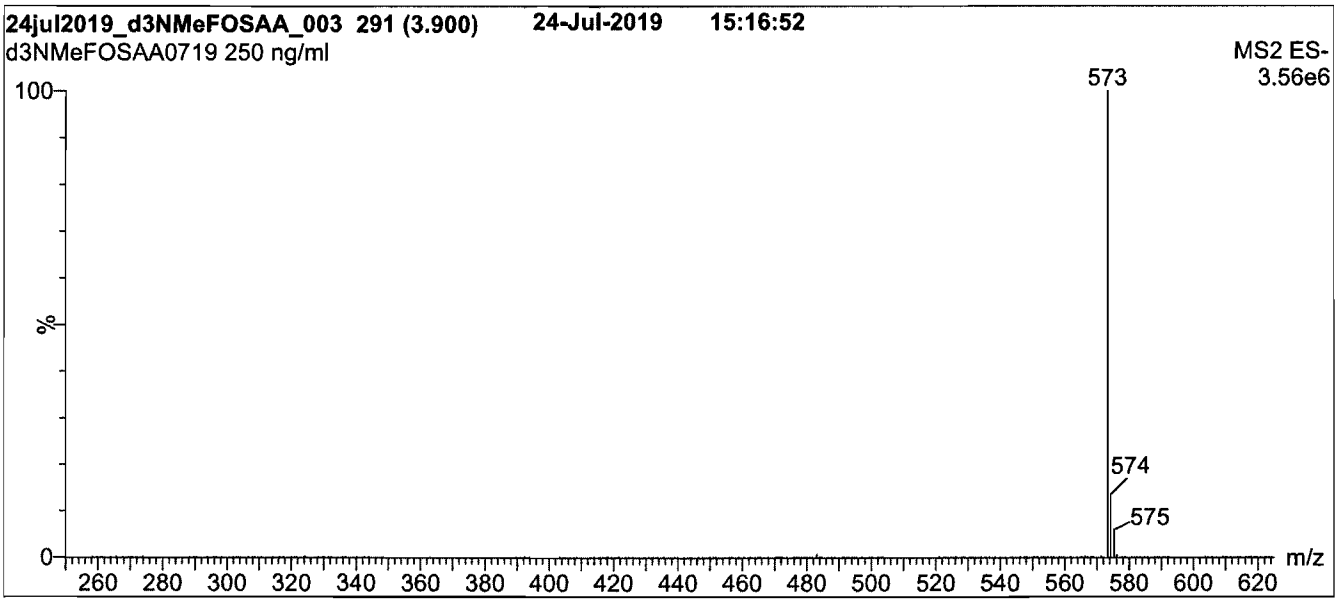
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

19L0614

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: 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

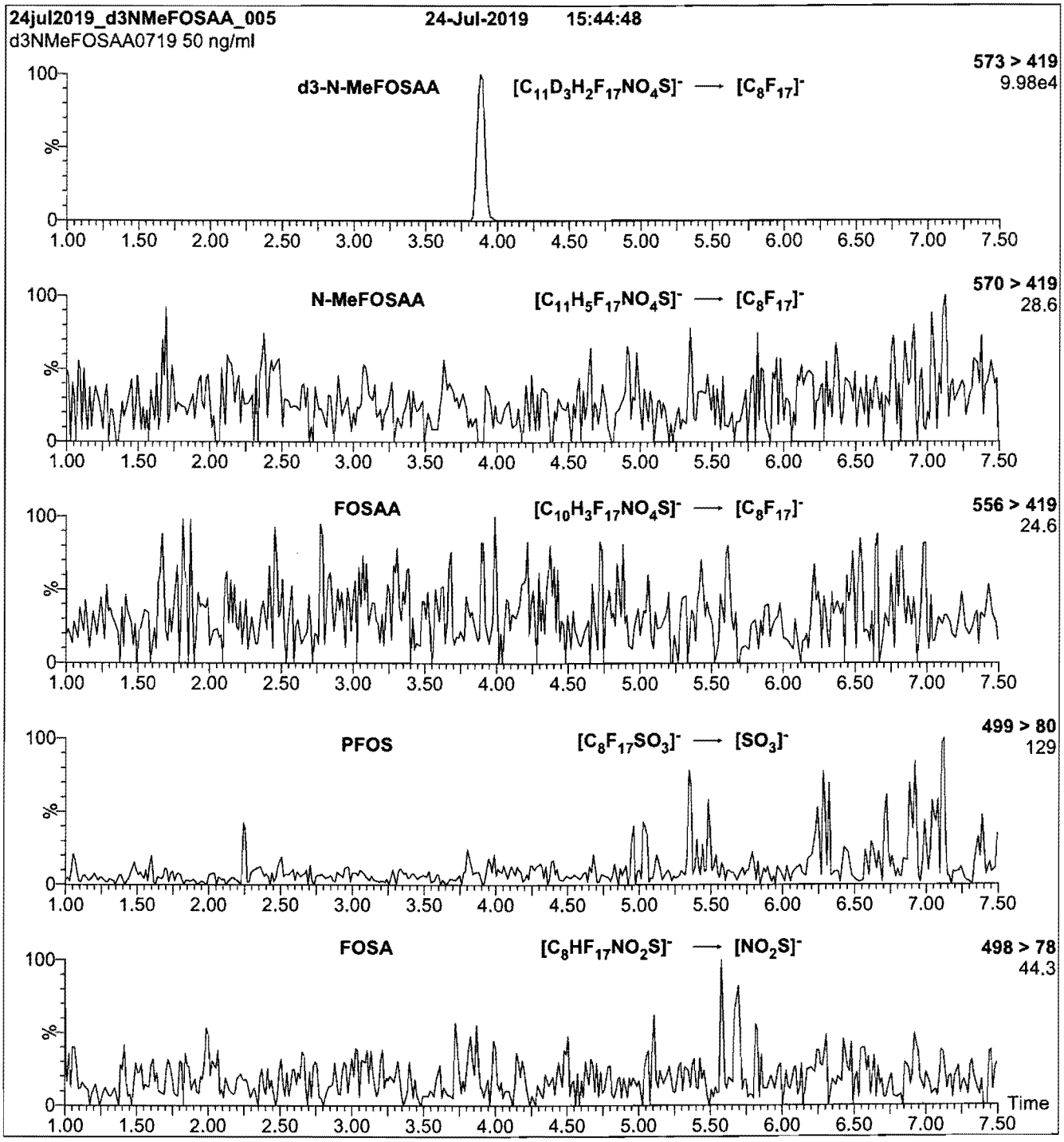
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

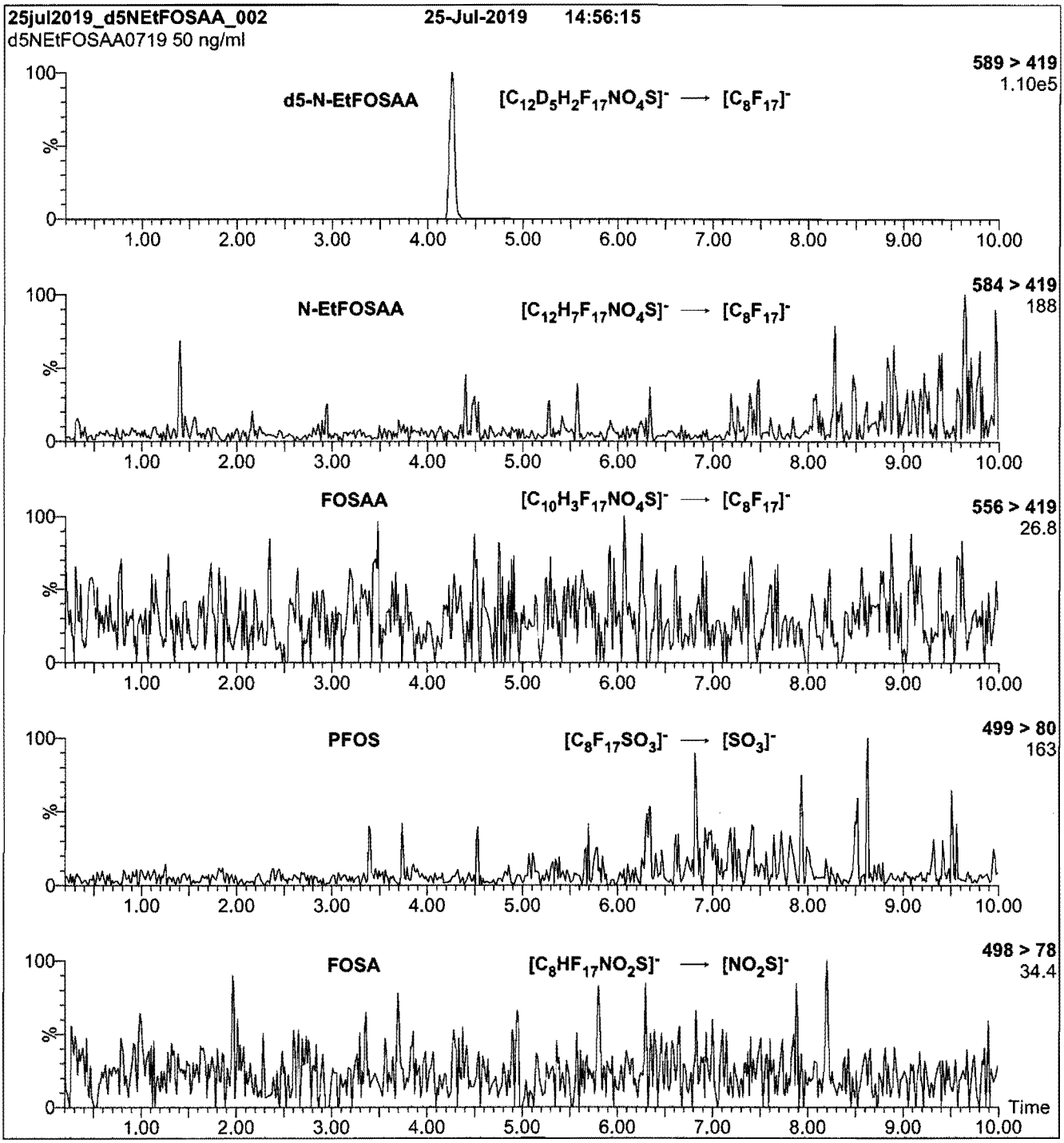
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 18

19L0615

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

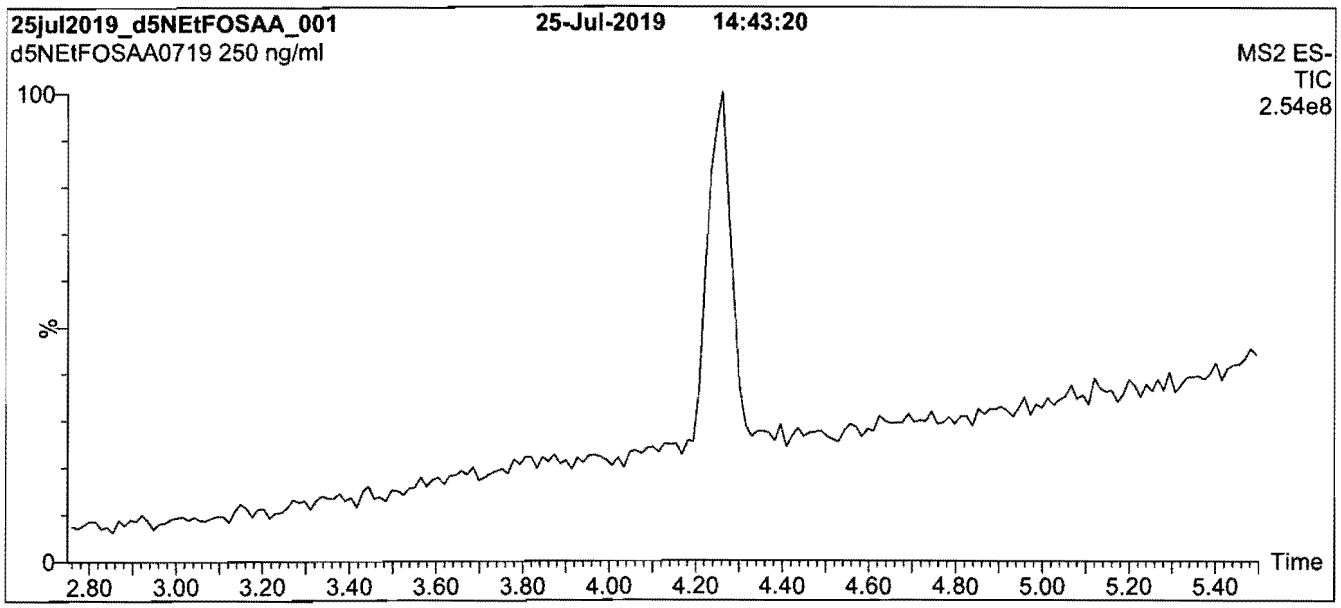
Flow: 300 µl/min

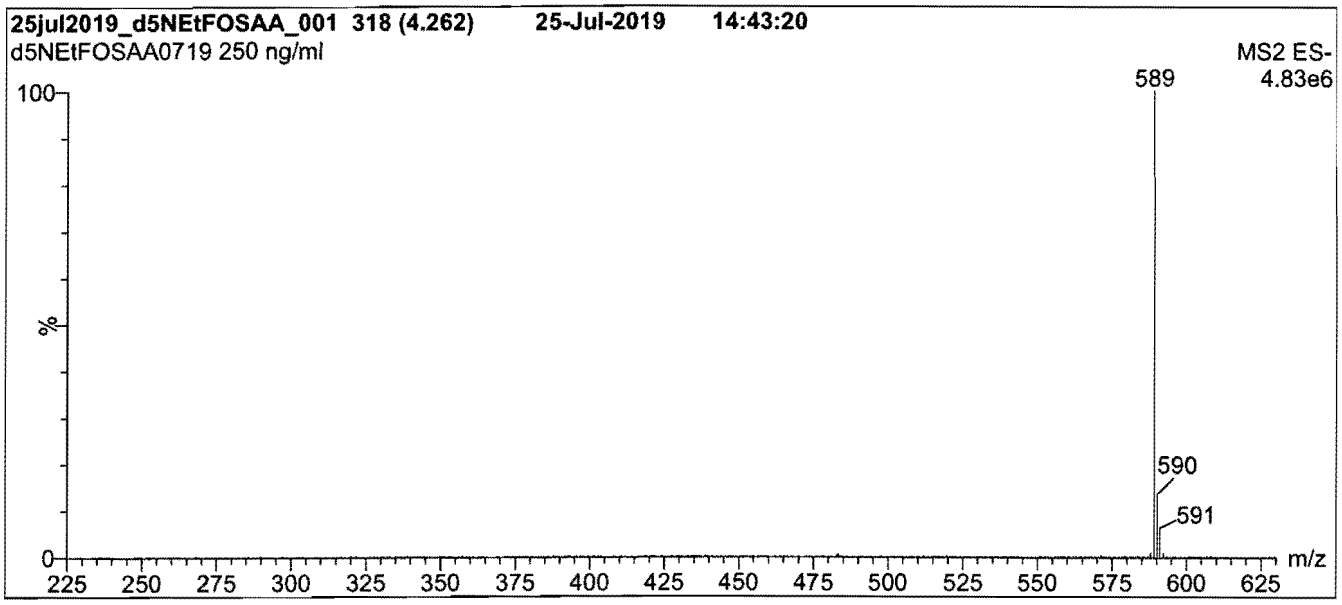
MS Parameters

Collision Gas (mbar) = 3.29e-3
Collision Energy (eV) = 18

19L0615

Figure 1: **d5-N-EtFOSAA; 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) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0615

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

1910615

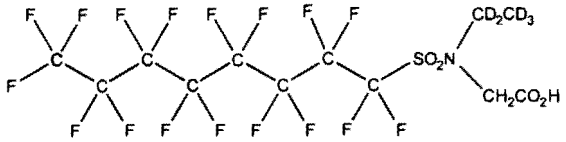
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA0719

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)	07/25/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/25/2024		
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:

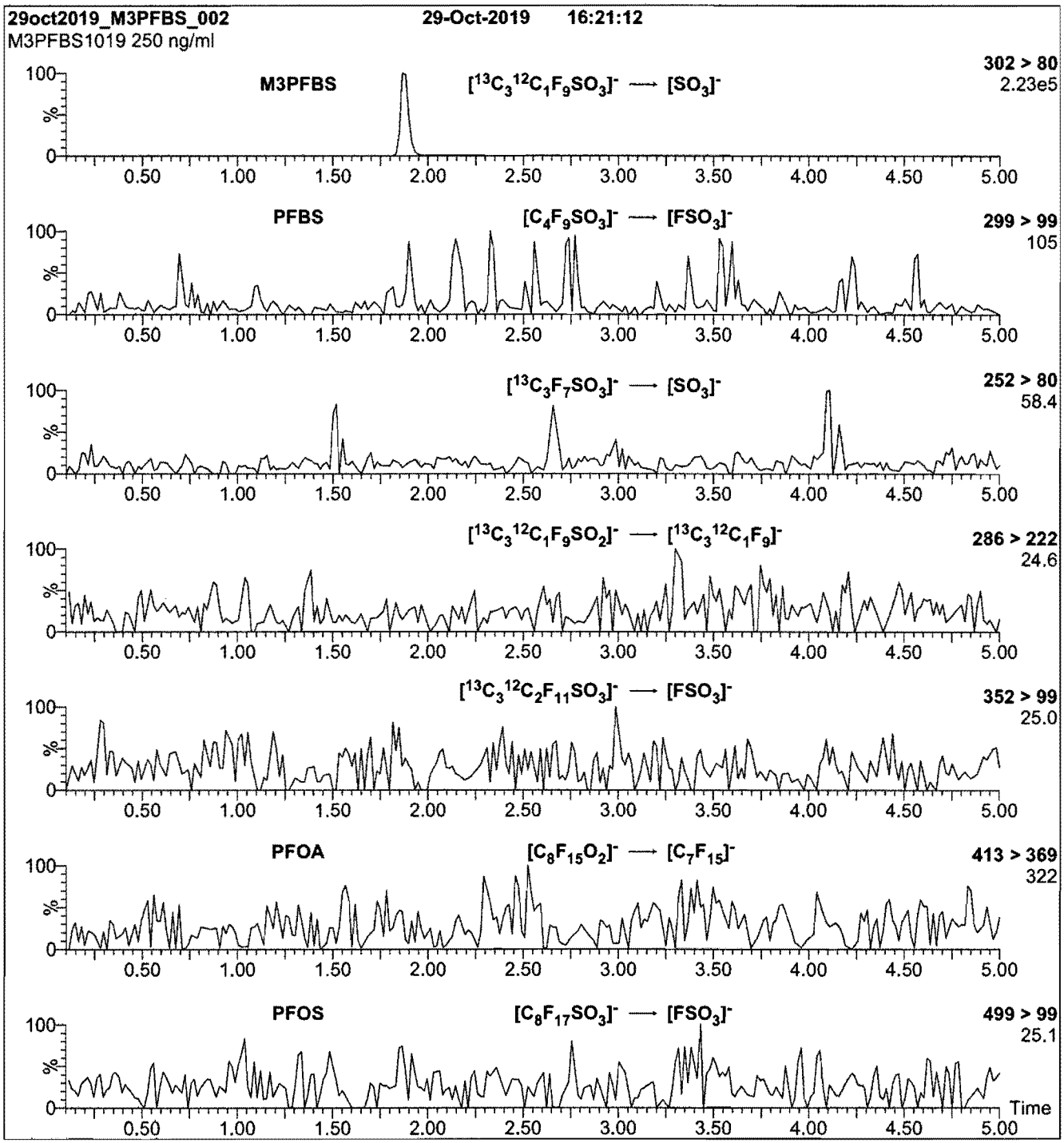
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/26/2019 (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

Figure 2: **M3PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFBS)

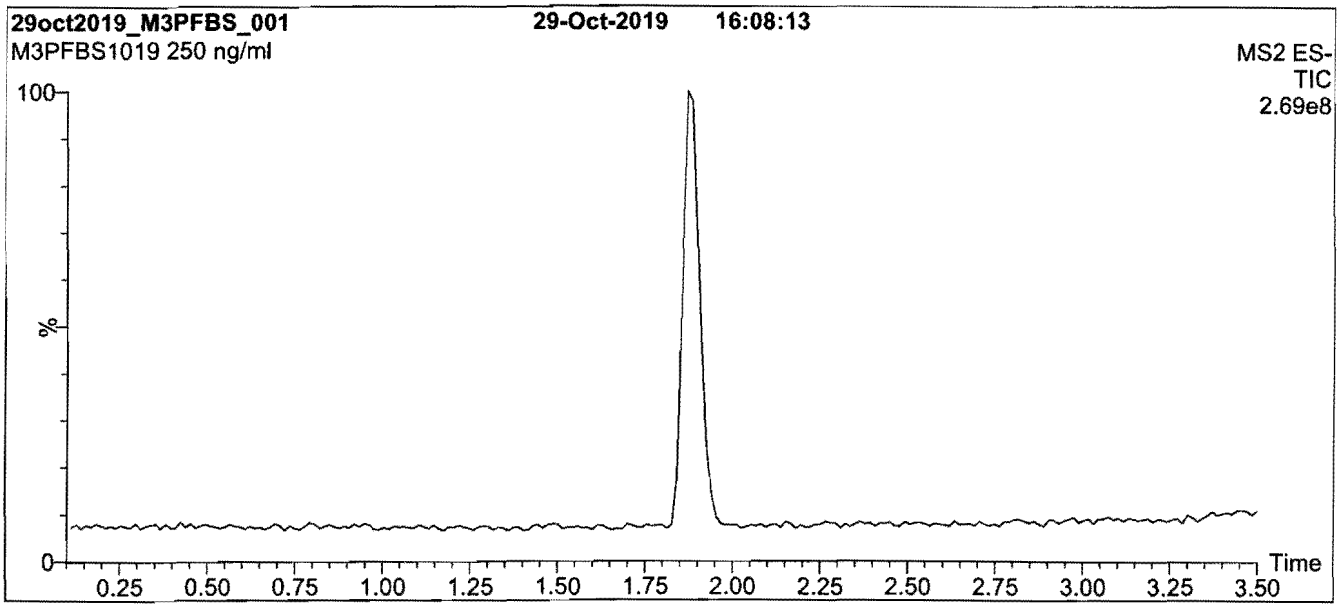
Mobile phase: Same as Figure 1

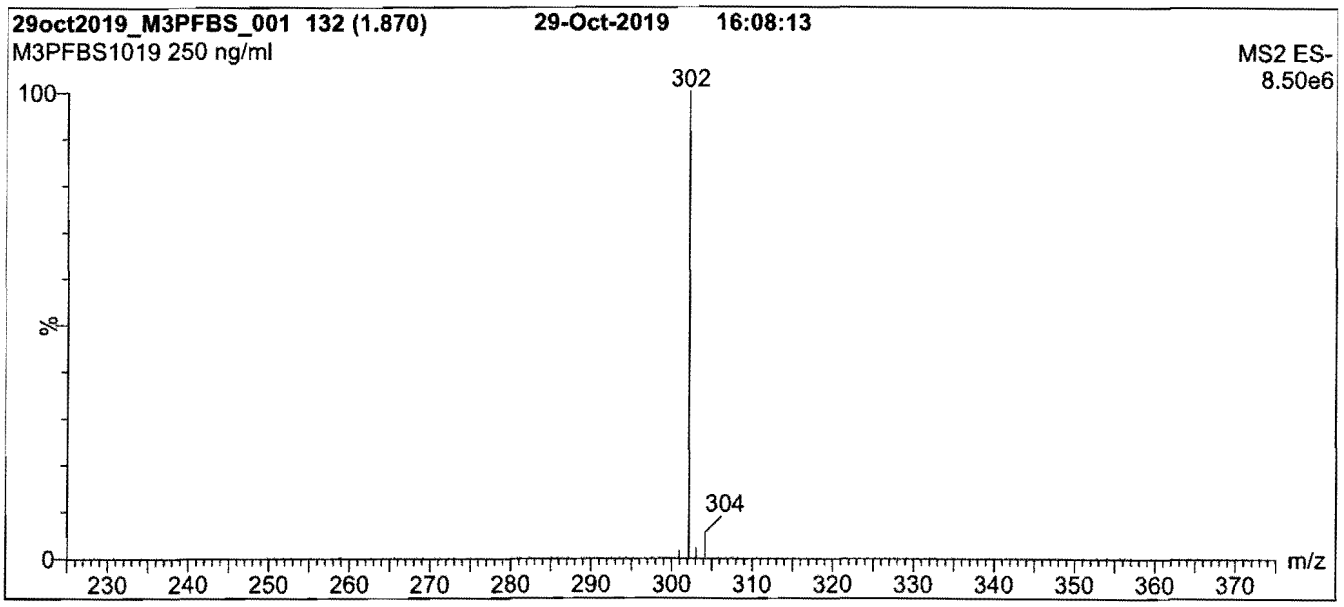
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.57e-3
Collision Energy (eV) = 30

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: 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

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

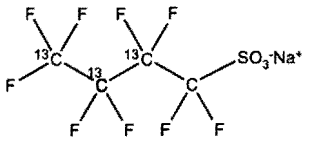
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0616

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFBS	**LOT NUMBER:**	M3PFBS1019
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)	10/29/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2024		
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% of perfluoro-1-butanesulfonate.

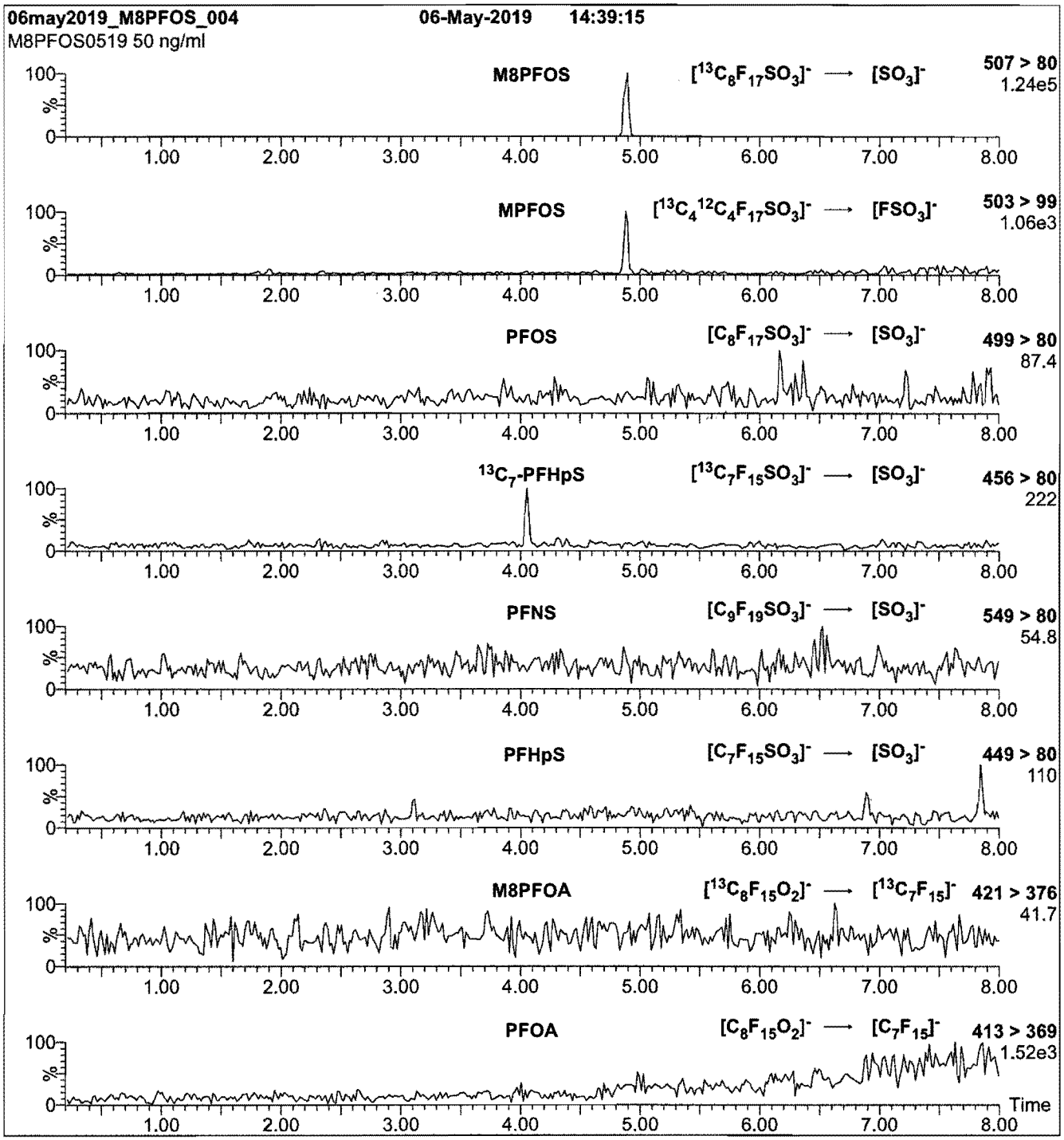
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/08/2019 (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

19L0617

Figure 2: **M8PFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8PFOS)

Mobile phase: Same as Figure 1

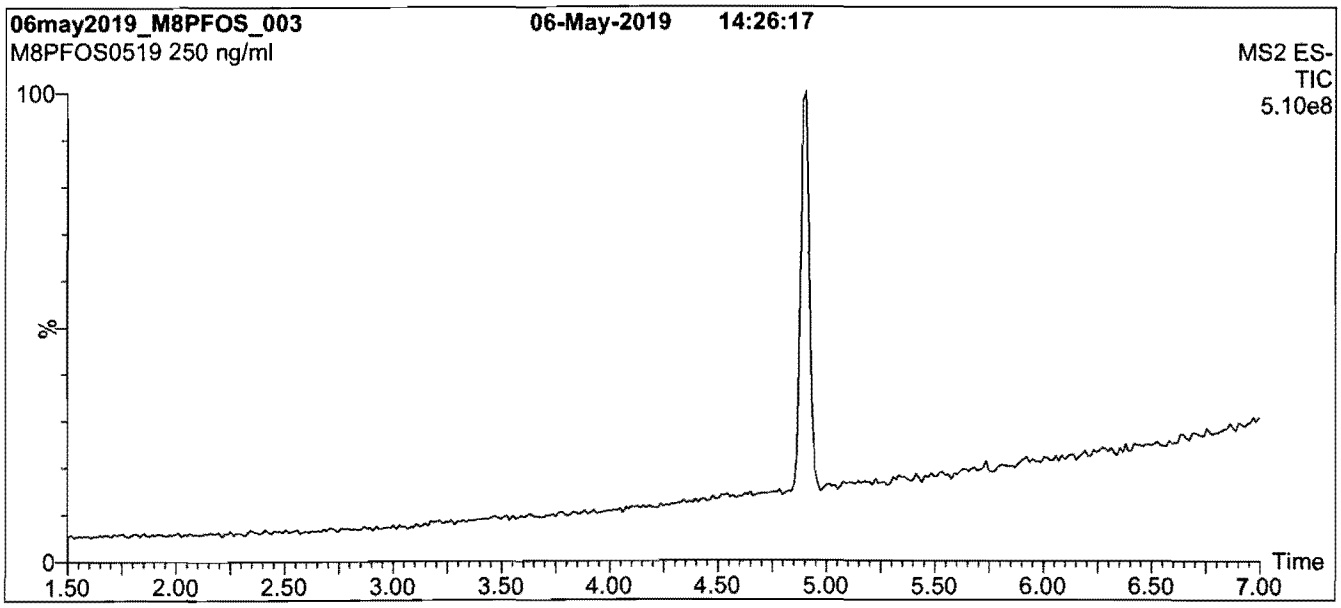
Flow: 300 µl/min

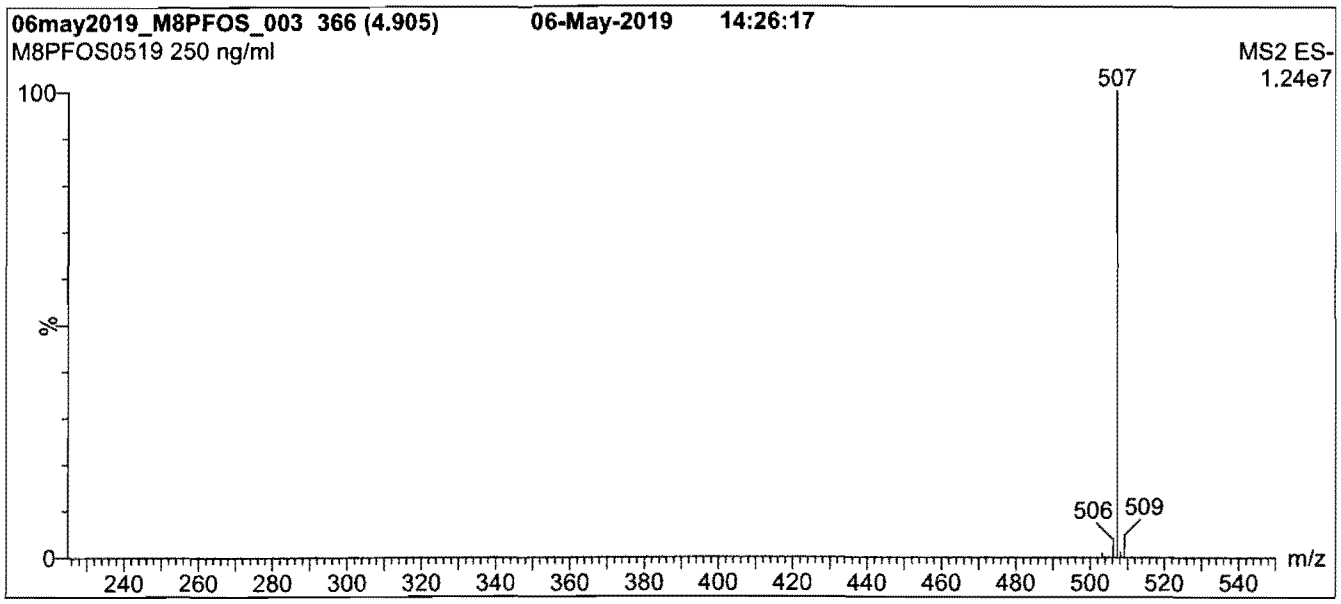
MS Parameters

Collision Gas (mbar) = 2.85e-3
Collision Energy (eV) = 42

19L0617

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: 11 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

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 REFERENCE MATERIAL PRODUCER

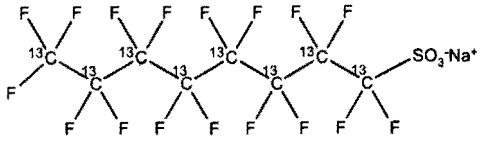
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0617

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8PFOS	**LOT NUMBER:**	M8PFOS0519
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)	05/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/06/2024		
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).

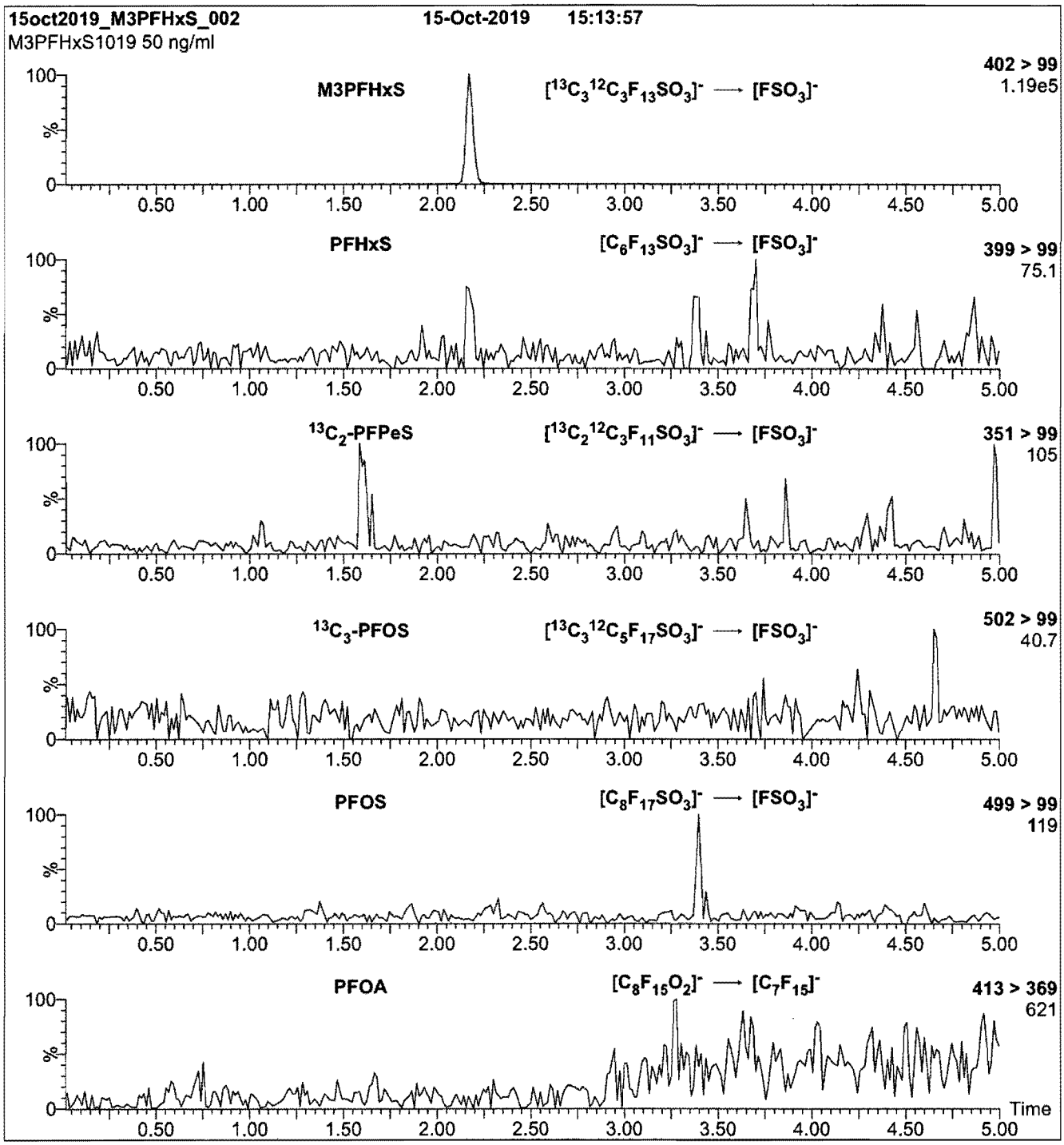
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/23/2019 (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

19L0618

Figure 2: **M3PFHxS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFHxS)

Mobile phase: Same as Figure 1

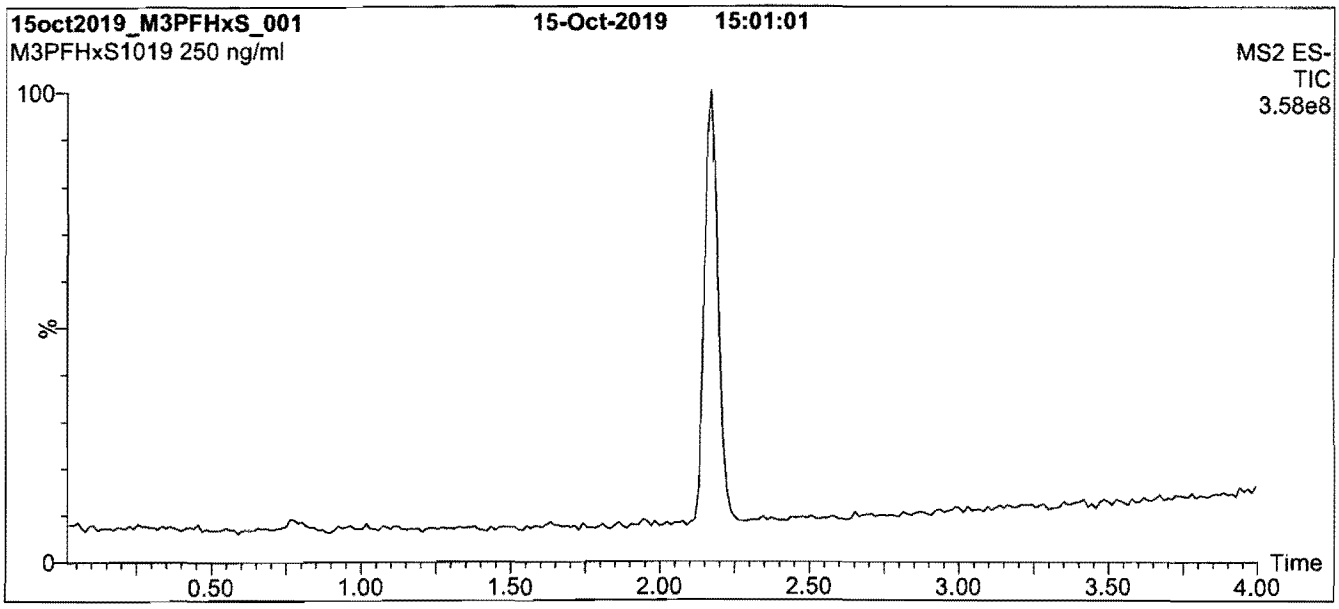
Flow: 300 µl/min

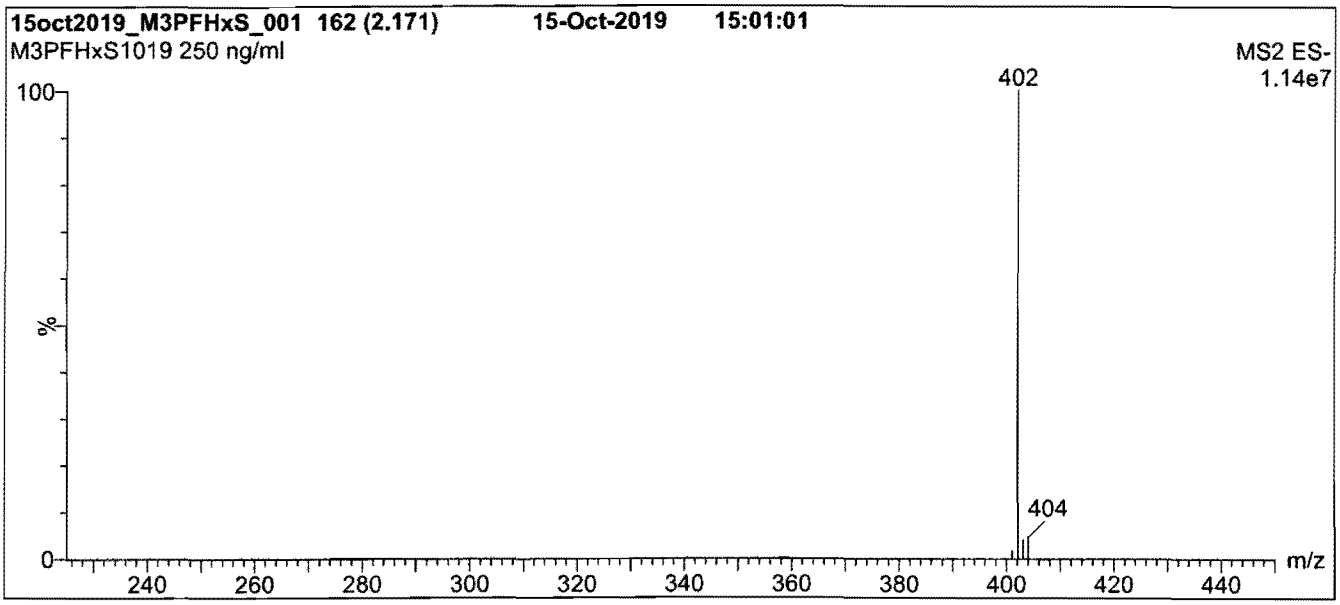
MS Parameters

Collision Gas (mbar) = 3.91e-3
Collision Energy (eV) = 32

19L0618

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: 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

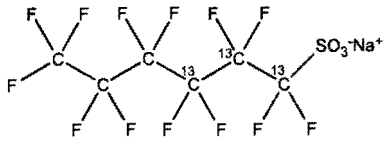
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0618

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M3PFHxS	**LOT NUMBER:**	M3PFHxS1019
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)	10/15/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/15/2024		
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.

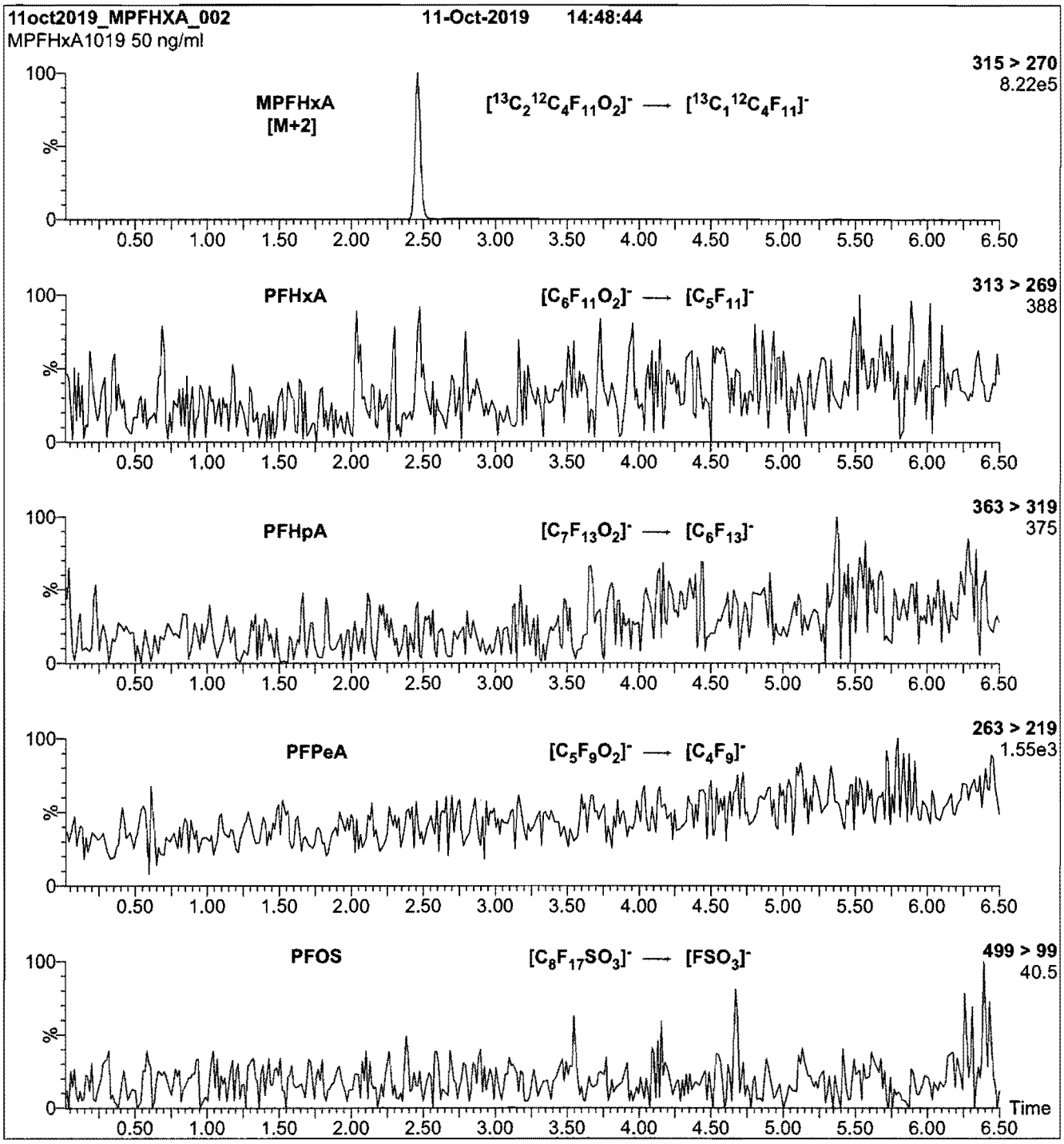
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/16/2019 (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

19L0619

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

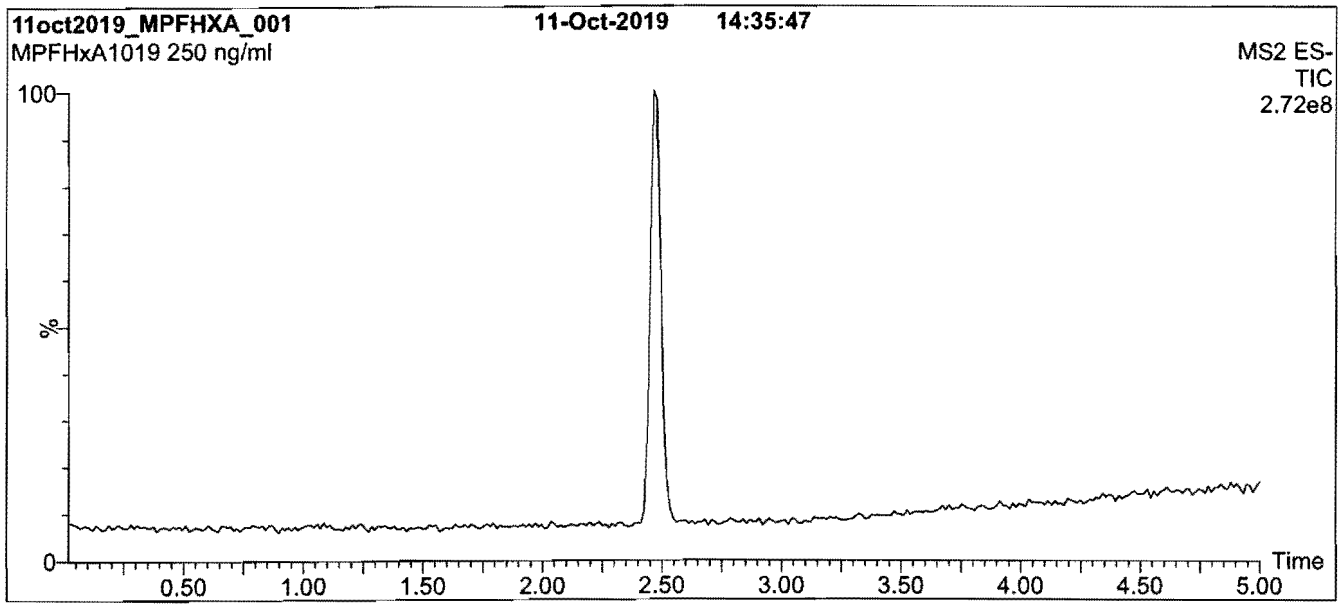
Flow: 300 µl/min

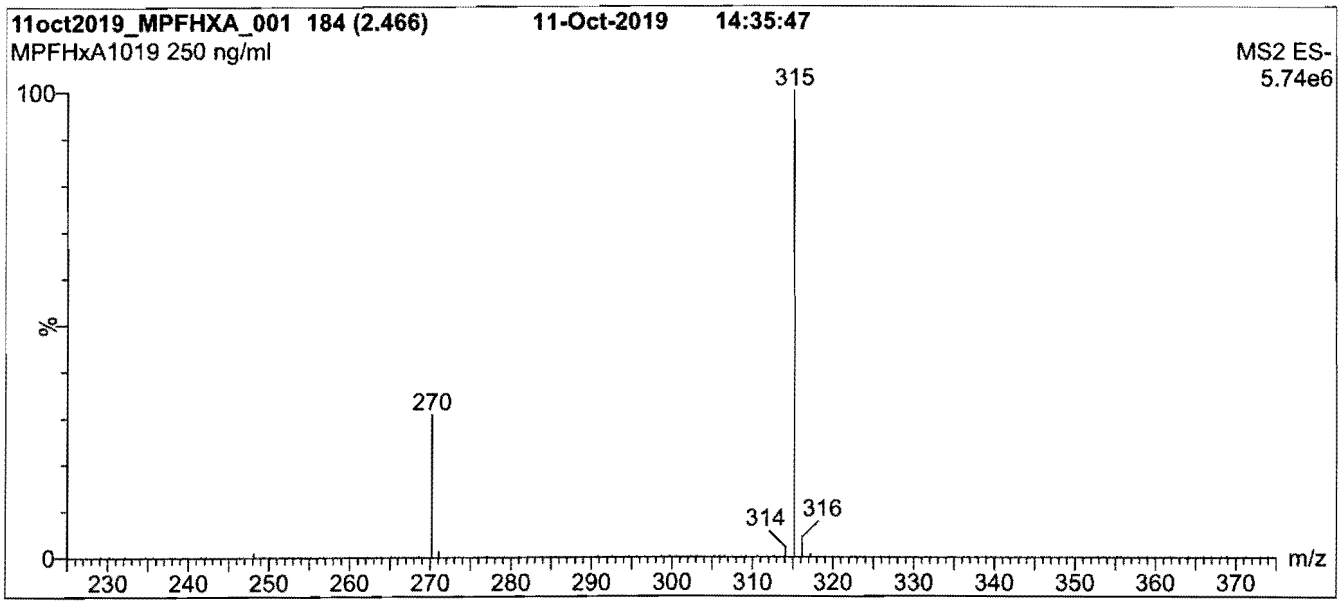
MS Parameters

Collision Gas (mbar) = 3.80e-3
Collision Energy (eV) = 8

19L0619

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 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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 REFERENCE MATERIAL PRODUCER

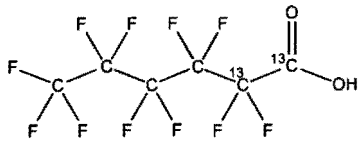
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA1019
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2024		
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

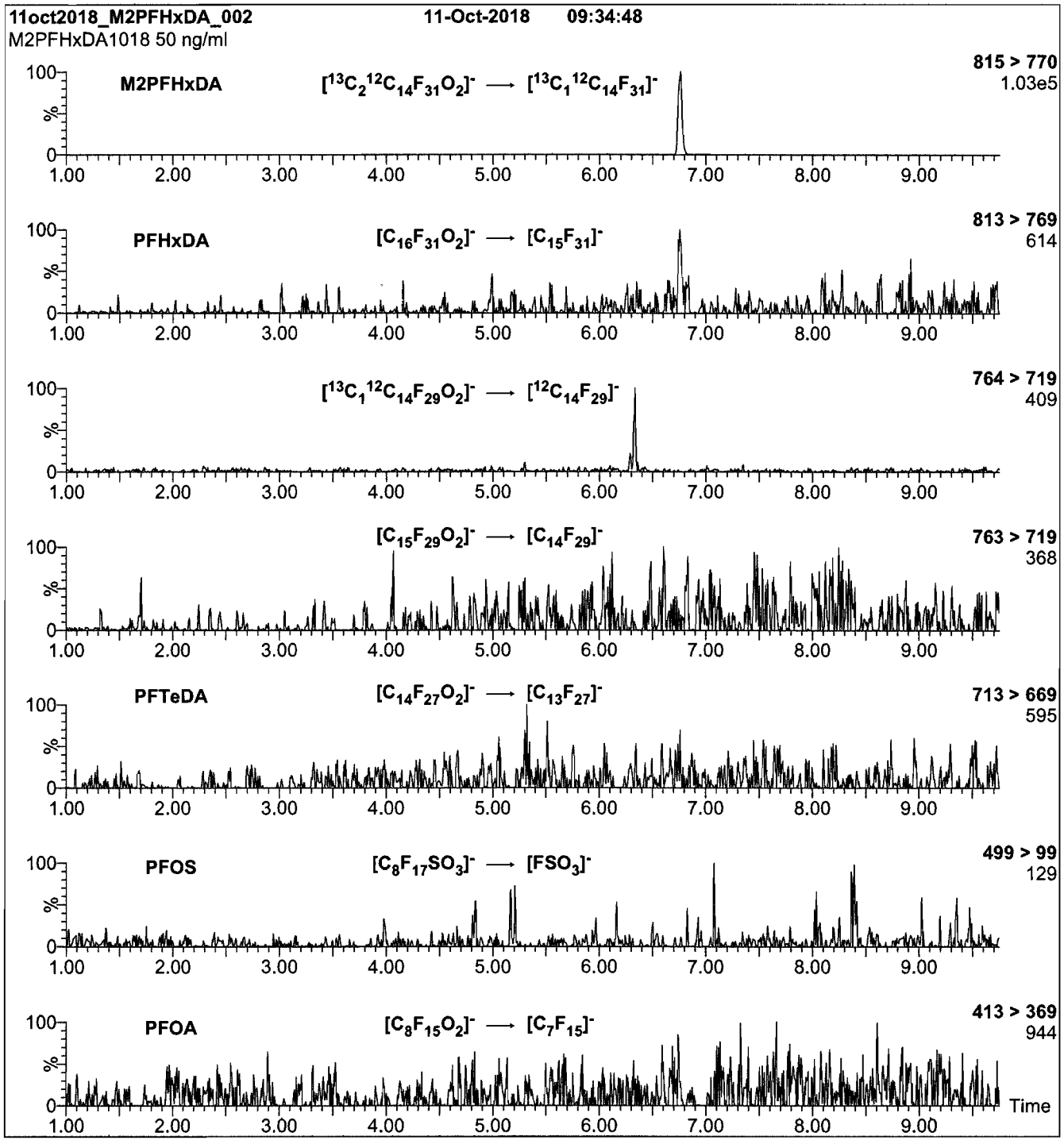
Certified By: _____ **Date:** 10/22/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

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#:6, Revised 2018-08-14

19L0620

Figure 2: **M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFHxDA)

Mobile phase: Same as Figure 1

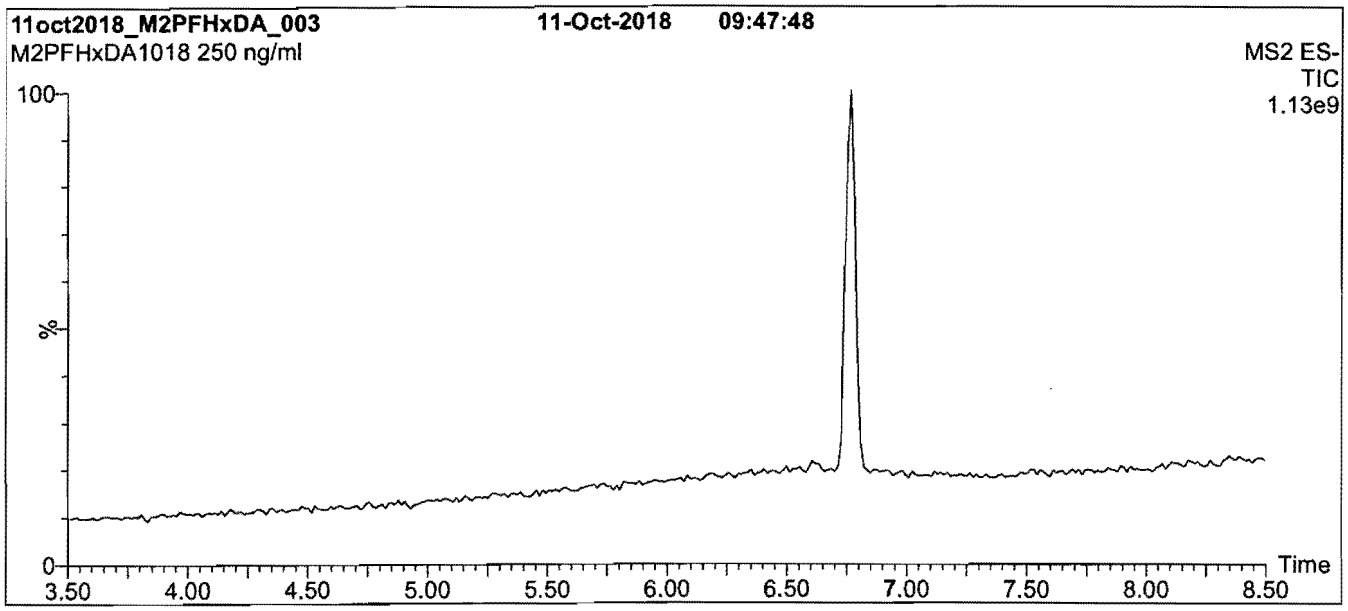
Flow: 300 µl/min

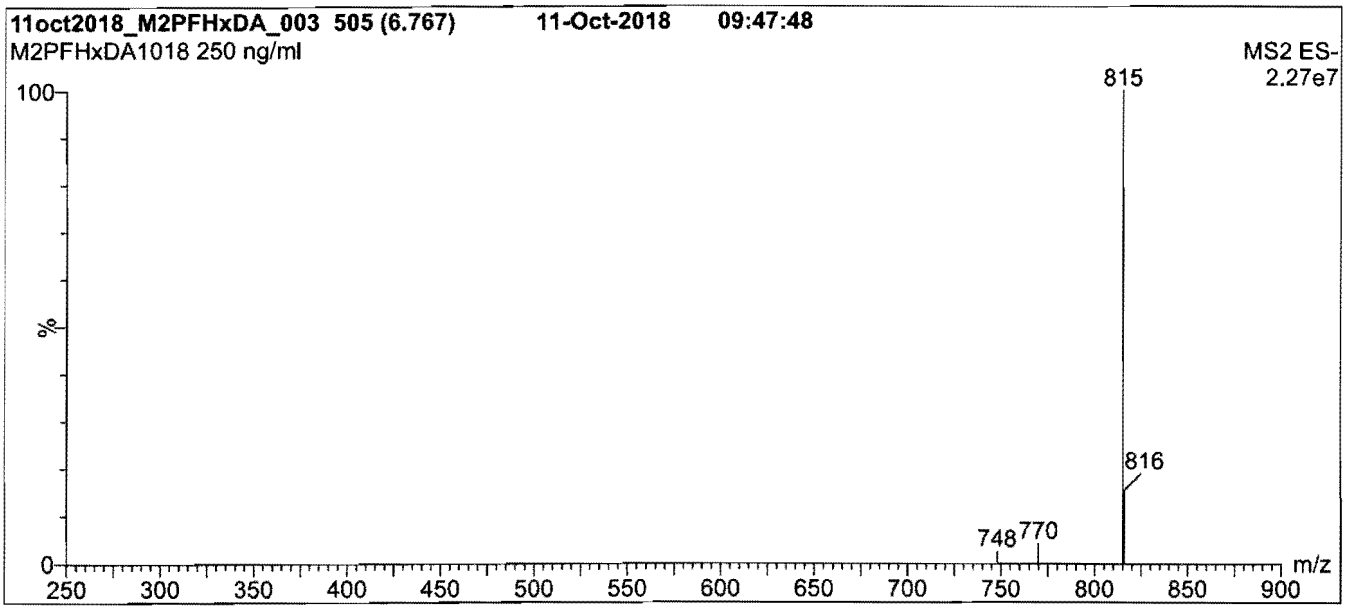
MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 15

19L0620

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

19L0620

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 REFERENCE MATERIAL PRODUCER

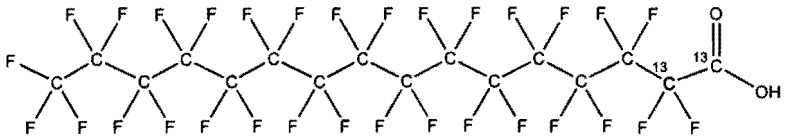
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0620

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.

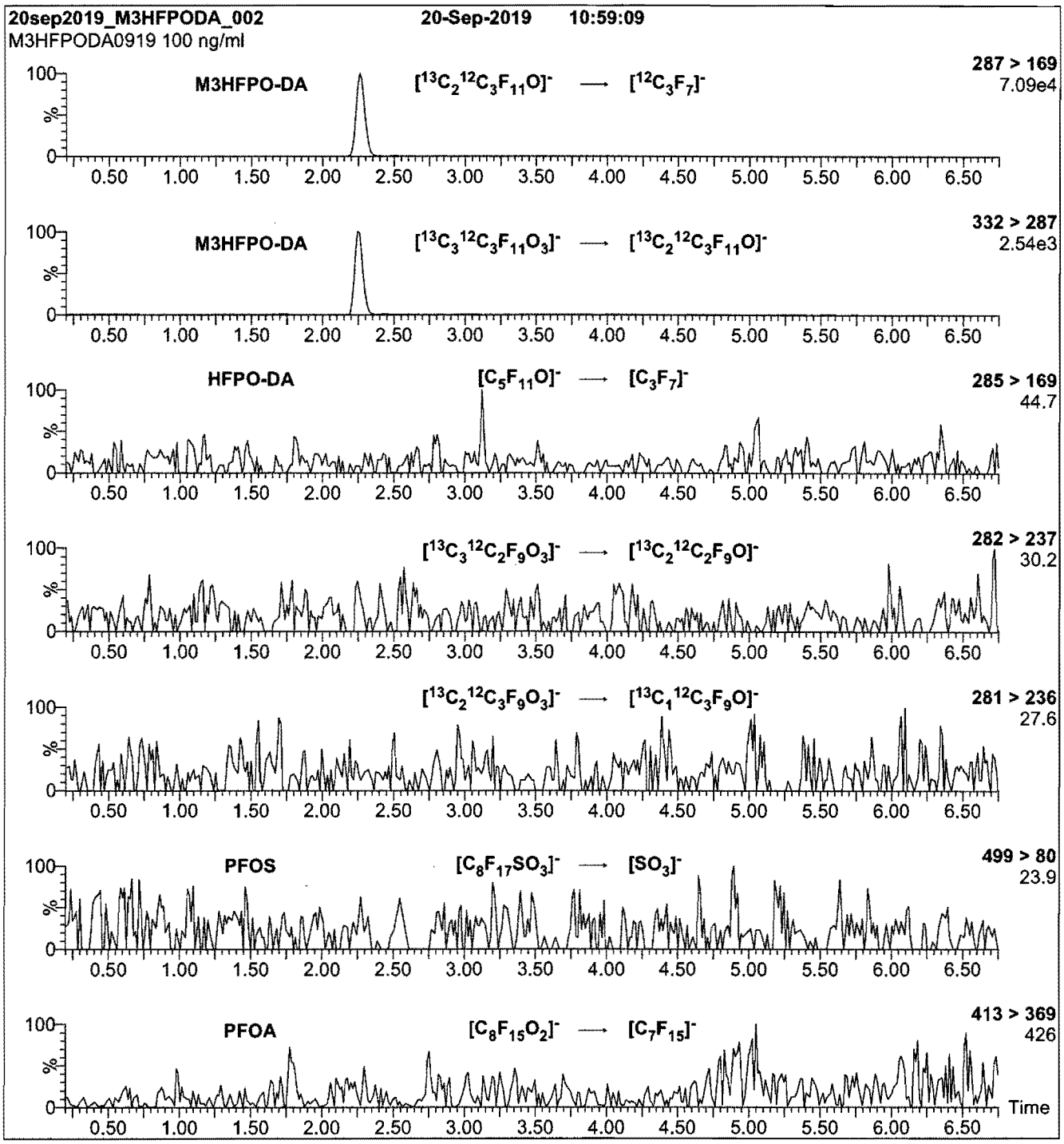
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

19L0621

Figure 2: **M3HFPO-DA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3HFPO-DA)

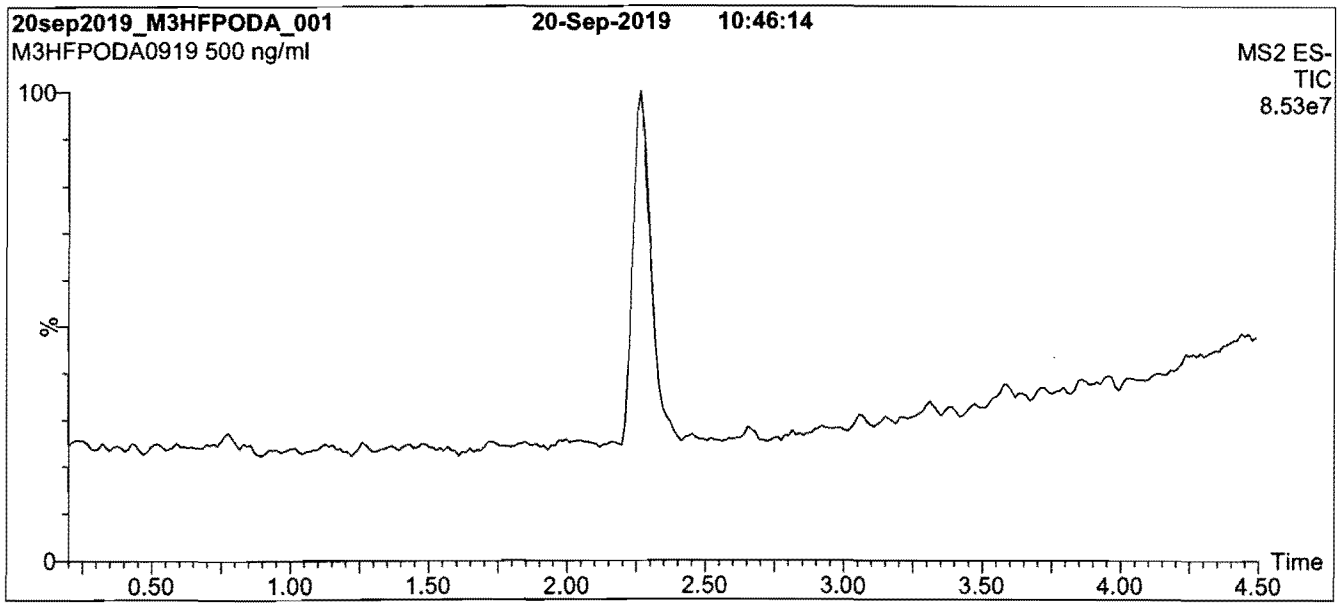
Mobile phase: Same as Figure 1

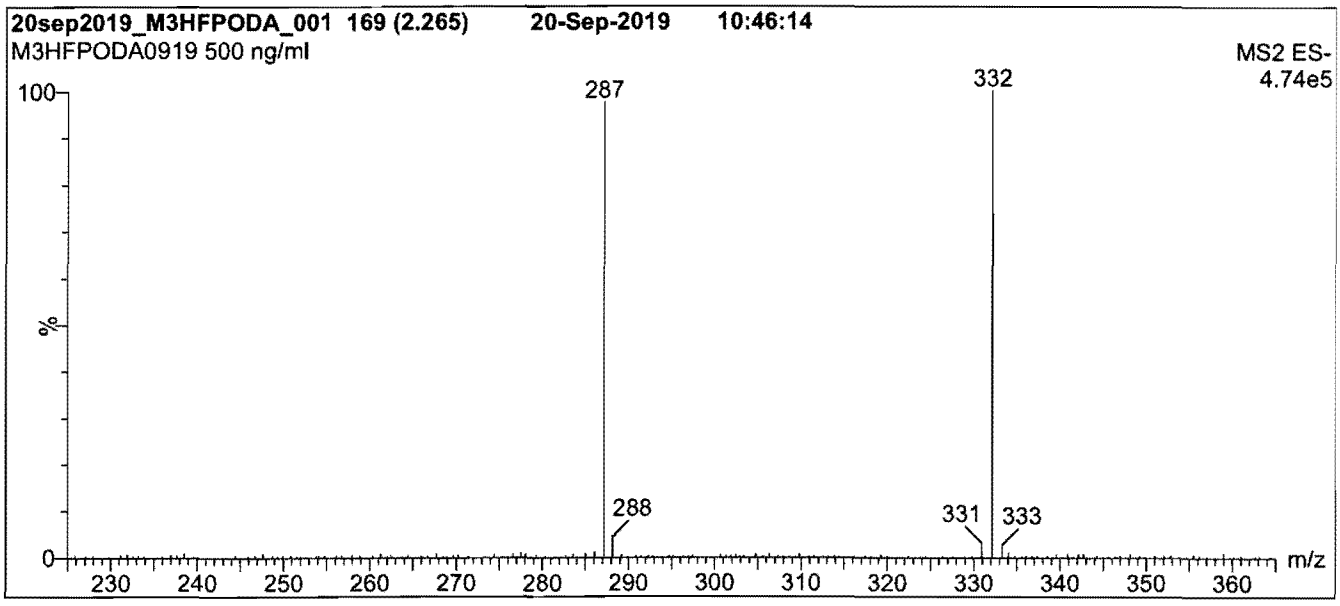
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.60e-3
Collision Energy (eV) = 8

Figure 1: **M3HFPO-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: 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) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

19L0621

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

19L0621

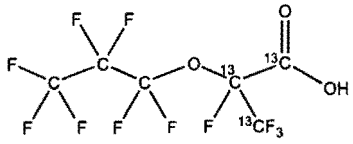
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3HFPO-DA **LOT NUMBER:** M3HFPODA0919

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)	09/20/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2022		
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.
- 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:** 09/30/2019 (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

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
19L0635	PFDoA	06-Dec-19	** Vendor **	23-Jan-24	0.4
19L0636	PFBA	06-Dec-19	** Vendor **	10-Jul-24	0.4
19L0637	PFPeA	06-Dec-19	** Vendor **	04-Sep-24	0.4
19L0638	PFHxA	06-Dec-19	** Vendor **	08-Aug-24	0.4
19L0639	PFDA	06-Dec-19	** Vendor **	01-May-24	0.4
19L0640	PFUdA	06-Dec-19	** Vendor **	19-Mar-24	0.4
19L0641	PFTrDA	06-Dec-19	** Vendor **	26-Sep-24	0.4
19L0642	PFHpA	06-Dec-19	** Vendor **	05-Mar-24	0.4
19L0643	PFOA	06-Dec-19	** Vendor **	06-Sep-24	0.4
19L0644	PFNA	06-Dec-19	** Vendor **	08-Jul-24	0.4
19L0645	PFTeDA	06-Dec-19	** Vendor **	11-Mar-24	0.4
19L0646	PFHxDA	06-Dec-19	** Vendor **	03-Nov-24	0.4
19L0647	PFODA	06-Dec-19	** Vendor **	02-May-24	0.4
19L0648	L-PFBS	06-Dec-19	** Vendor **	10-Jul-24	0.454
19L0649	L-PFPeS	06-Dec-19	** Vendor **	08-Jul-24	0.428
19L0650	L-PFHpS	06-Dec-19	** Vendor **	16-Aug-24	0.42
19L0651	L-PFNS	06-Dec-19	** Vendor **	06-Aug-24	0.418
19L0652	L-PFDS	06-Dec-19	** Vendor **	04-Apr-24	0.415
19L0653	br-PFHxSK	06-Dec-19	** Vendor **	02-Oct-23	0.44
19L0654	br-PFOSK anion	06-Dec-19	** Vendor **	07-Jun-24	0.431
19L0655	4:2 FTS	06-Dec-19	** Vendor **	08-May-24	0.43
19L0656	6:2FTS	06-Dec-19	** Vendor **	09-Sep-24	0.422
19L0657	8:2FTS	06-Dec-19	** Vendor **	11-Sep-24	0.418
19L0658	FOSA-I	06-Dec-19	** Vendor **	12-Sep-24	0.4
19L0659	br-NMeFOSAA	06-Dec-19	** Vendor **	08-Jan-24	0.4
19L0660	br-NEtFOSAA	06-Dec-19	** Vendor **	20-Aug-24	0.4
19L0661	N-MeFOSA-M	06-Dec-19	** Vendor **	07-May-24	2
19L0662	N-EtFOSA-M	06-Dec-19	** Vendor **	07-May-24	2
19L0663	N-MeFOSE-M	06-Dec-19	** Vendor **	08-Apr-24	2
19L0664	N-EtFOSE-M	06-Dec-19	** Vendor **	08-Apr-24	2
19L0665	10:2FTS	06-Dec-19	** Vendor **	11-Jun-22	0.415
19L0666	HFPO-DA	06-Dec-19	** Vendor **	20-Sep-22	0.4
19L0667	11Cl-PF3OUdS	06-Dec-19	** Vendor **	23-Nov-24	0.425
19L0668	9Cl-PF3ONS	06-Dec-19	** Vendor **	30-Oct-24	0.43
19L0669	NaDONA	06-Dec-19	** Vendor **	15-Jul-24	0.425
19L0670	PFECHS	06-Dec-19	** Vendor **	04-Apr-24	0.435
19L0671	L-PFPrS	06-Dec-19	** Vendor **	14-Dec-24	0.438
19L1707	L-PFDoS	17-Dec-19	** Vendor **	06-Dec-23	0.415

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

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
cis-PFECHS		0.668	ug/mL
11Cl-PF3OUdS	763051-92-9	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
9Cl-PF3ONS	756426-58-1	1	ug/mL
ADONA	919005-14-4	1	ug/mL
Br-EtFOSAA		0.224	ug/mL
Br-MeFOSAA		0.24	ug/mL
L-EtFOSE	1691-99-2	5	ug/mL
Br-PFOS	2795-39-3	0.211	ug/mL
L-PFPeA		1	ug/mL
EtFOSA	4151-50-2	5	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

Analyte	CAS Number	Concentration	Units
EtFOSAA	2991-50-6	1	ug/mL
EtFOSE	1691-99-2	5	ug/mL
F-53B Total		2	ug/mL
HFPO-DA	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
Br-PFHxS	3871-99-6	0.189	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

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

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

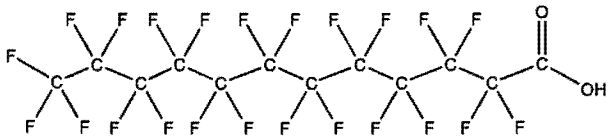
19L0635

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDoA
COMPOUND: Perfluoro-n-dodecanoic acid
LOT NUMBER: PFDoA0119

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) 01/23/2019
EXPIRY DATE: (mm/dd/yyyy) 01/23/2024
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:** 01/30/2019 (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

19L0635

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).

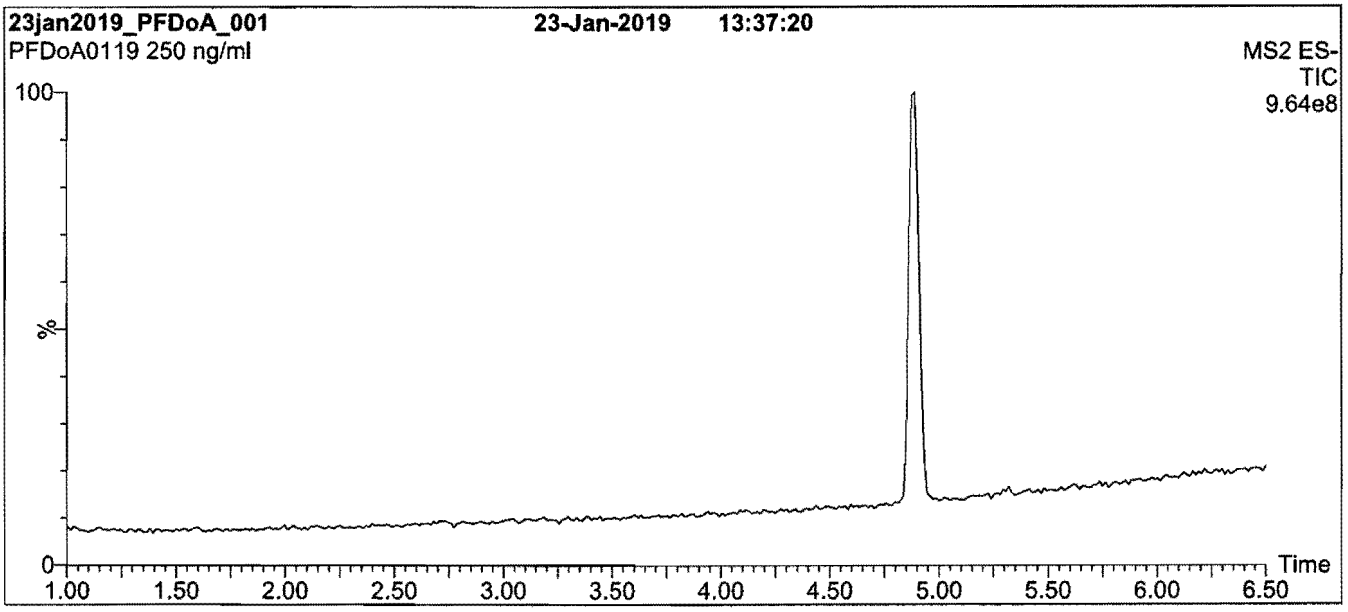
CALA Testing Accreditation No. A 1326

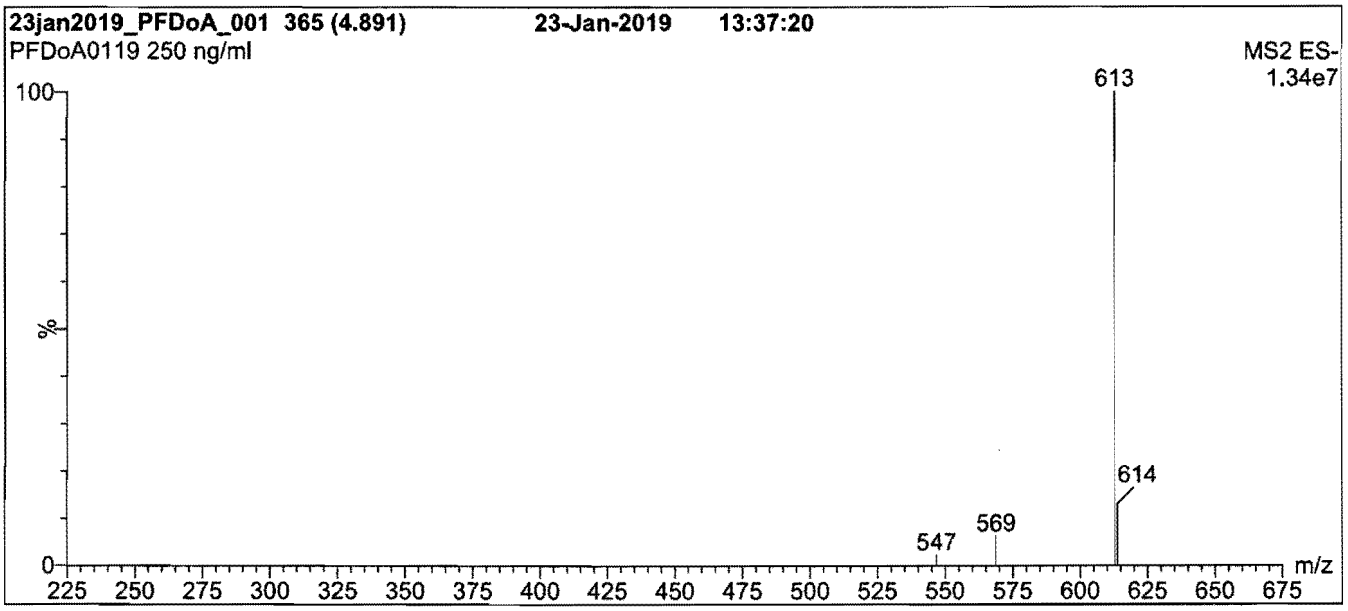
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

19L0635

- **Figure 1:** **PFDoA; 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

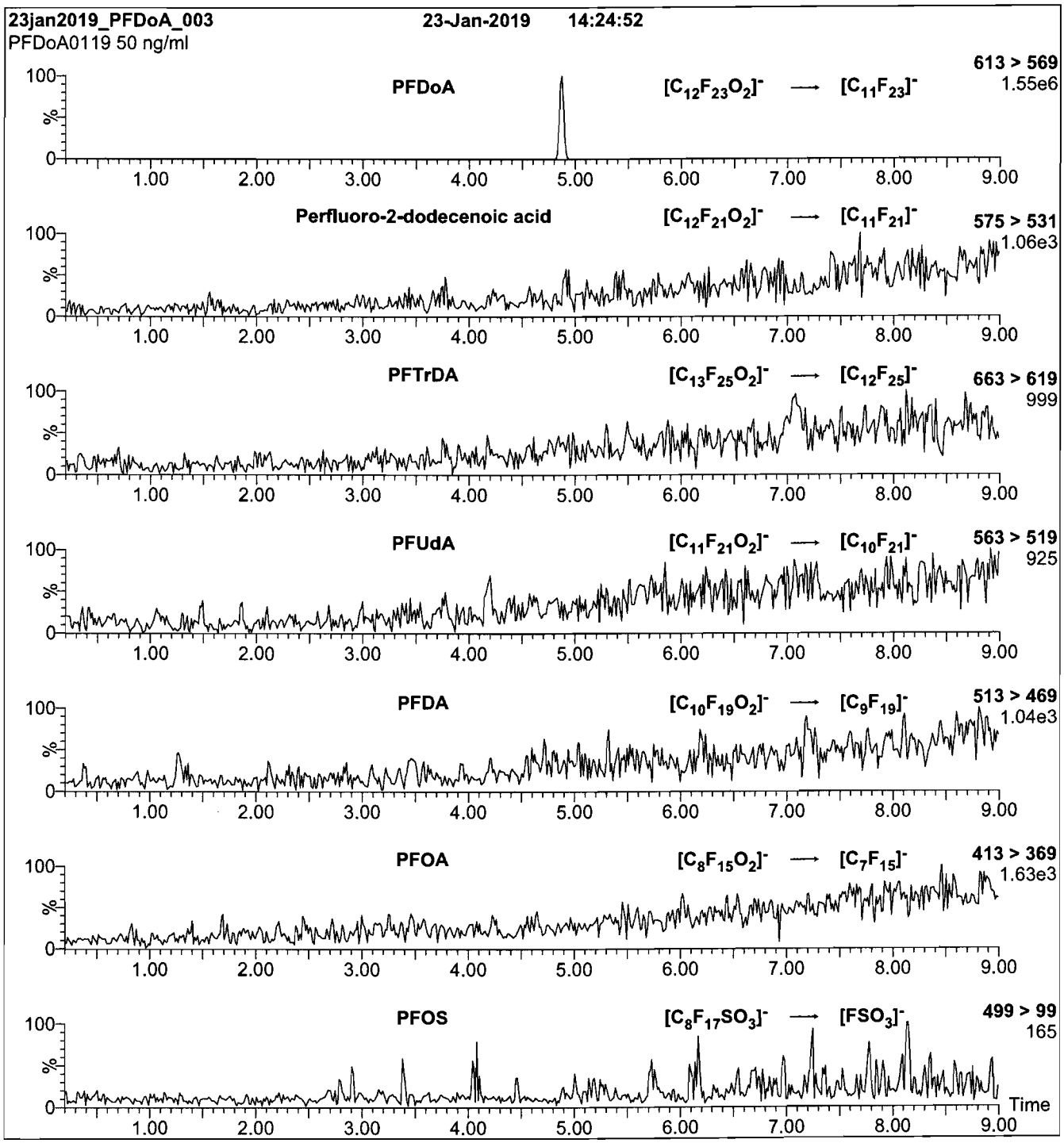
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 500
Desolvation Gas Flow (l/hr) = 1000

191L0635

Figure 2: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFDoA)

Mobile phase: Same as Figure 1

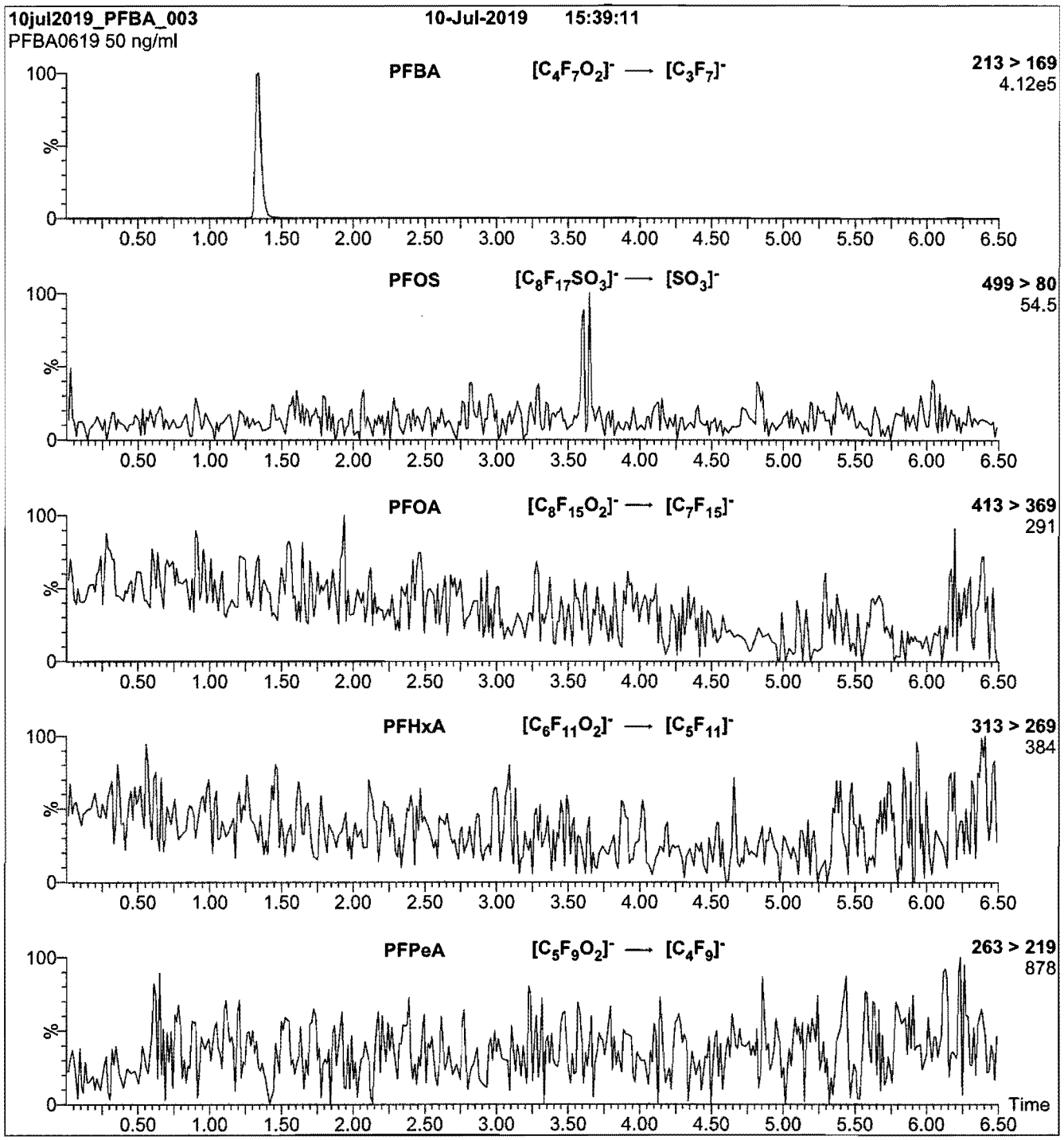
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.72e-3
Collision Energy (eV) = 12

19L0636

Figure 2: **PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFBA)

Mobile phase: Same as Figure 1

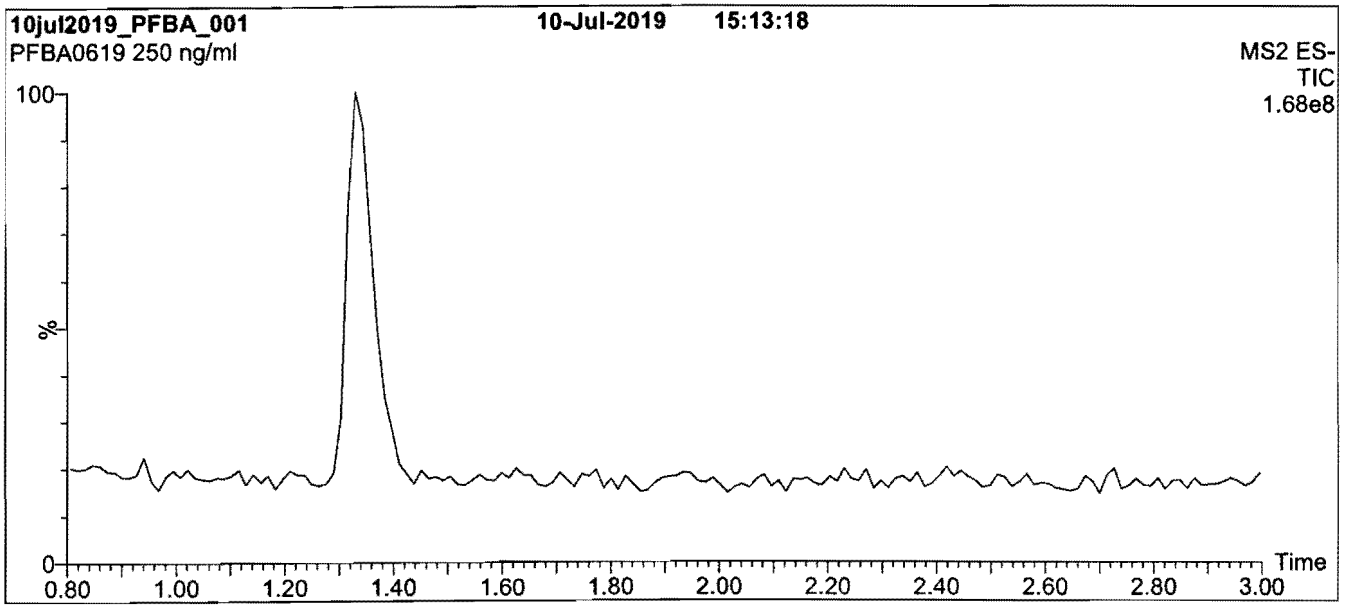
Flow: 300 µl/min

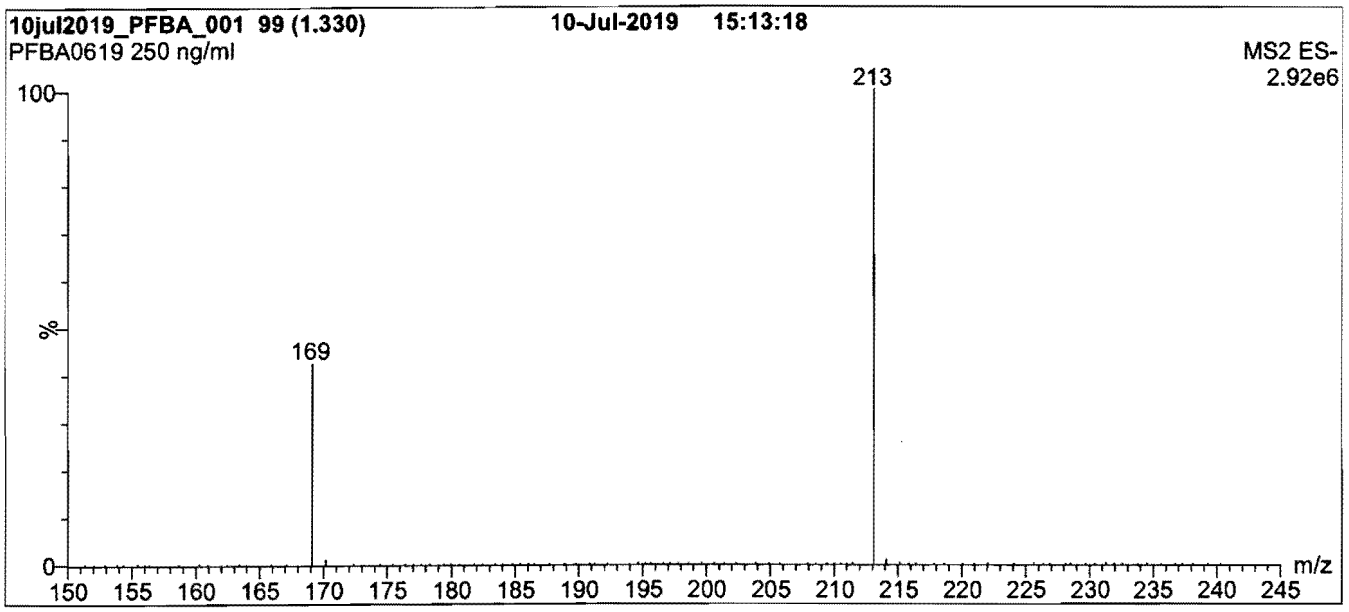
MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 8

1910636

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 70% organic over 7 min.
Ramp to 90% organic over 2 min and hold for
1.5 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0636

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

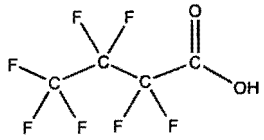
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0636

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA0619
COMPOUND:	Perfluoro-n-butanoic acid		
STRUCTURE:		**CAS #:**	375-22-4



MOLECULAR FORMULA:	$C_4HF_7O_2$	**MOLECULAR WEIGHT:**	214.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/10/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/10/2024		
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.

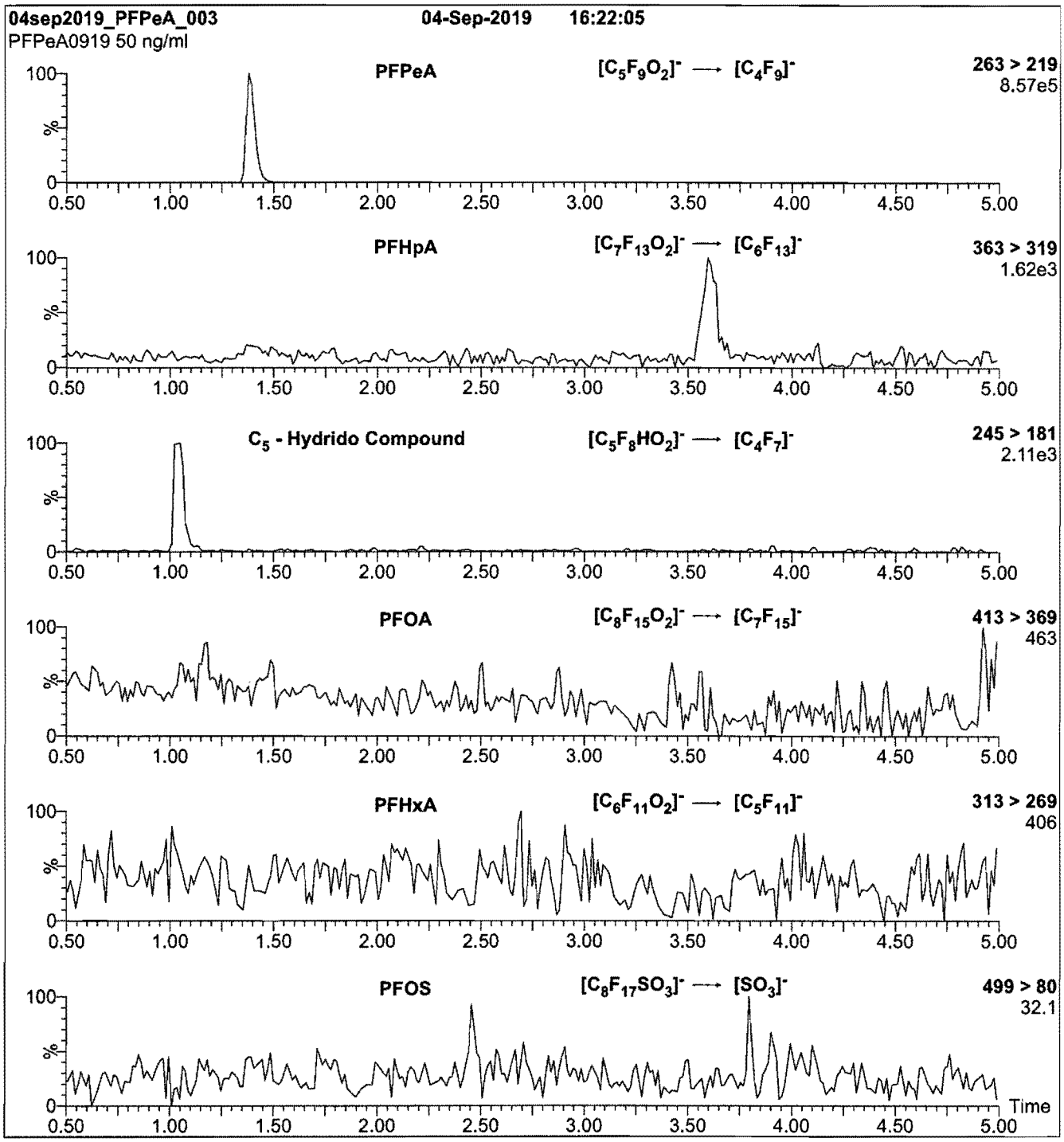
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/22/2019 (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

1920637

Figure 2: **PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFPeA)

Mobile phase: Same as Figure 1

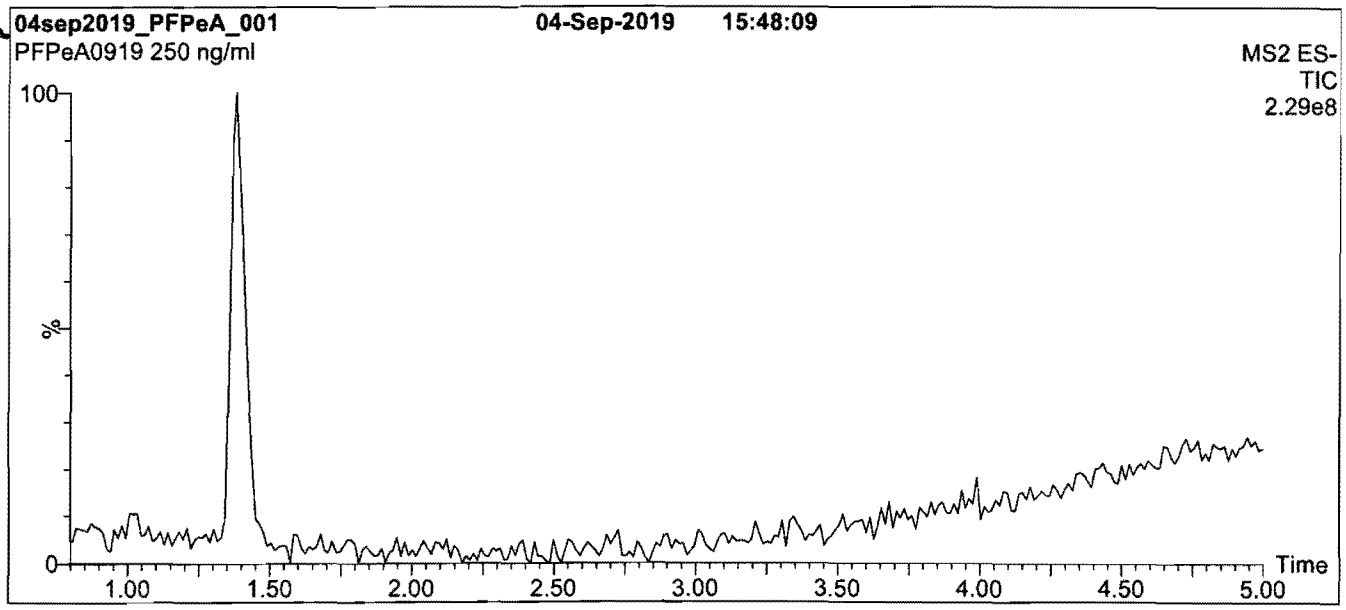
Flow: 300 µl/min

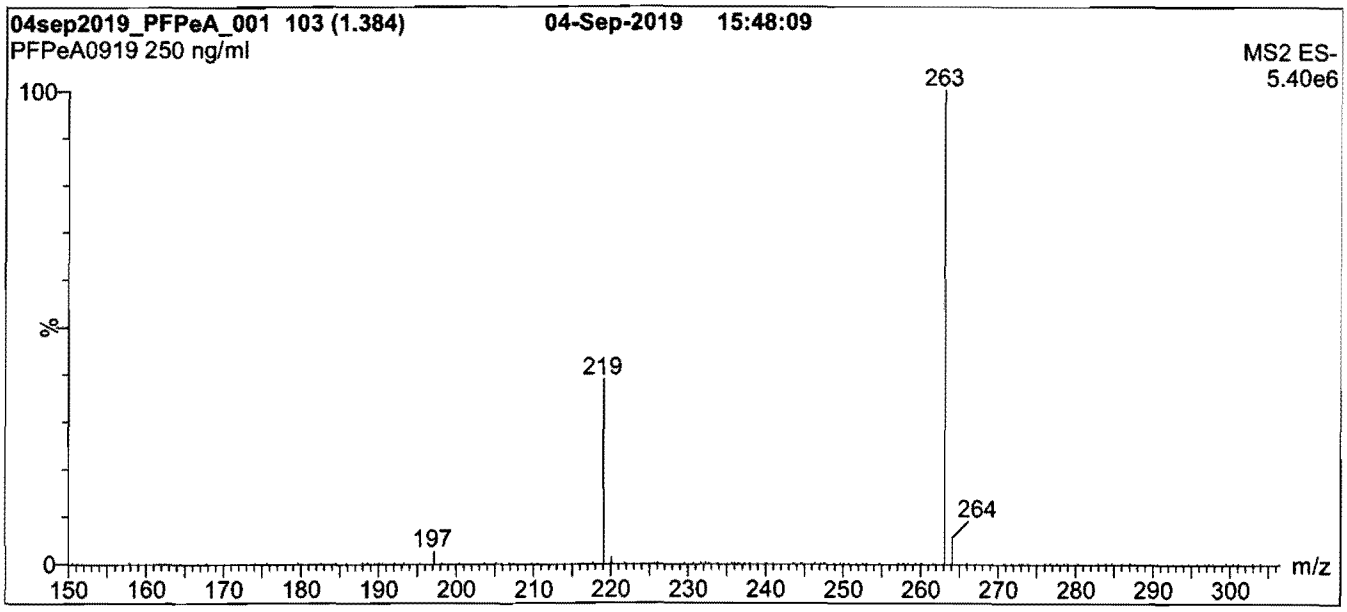
MS Parameters

Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 8

1920637

Figure 1: **PFPeA; 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 (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1926637

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

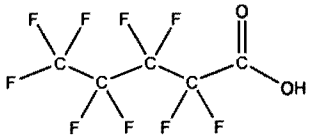
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0637

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFPeA	**LOT NUMBER:**	PFPeA0919
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)	09/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/04/2024		
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:

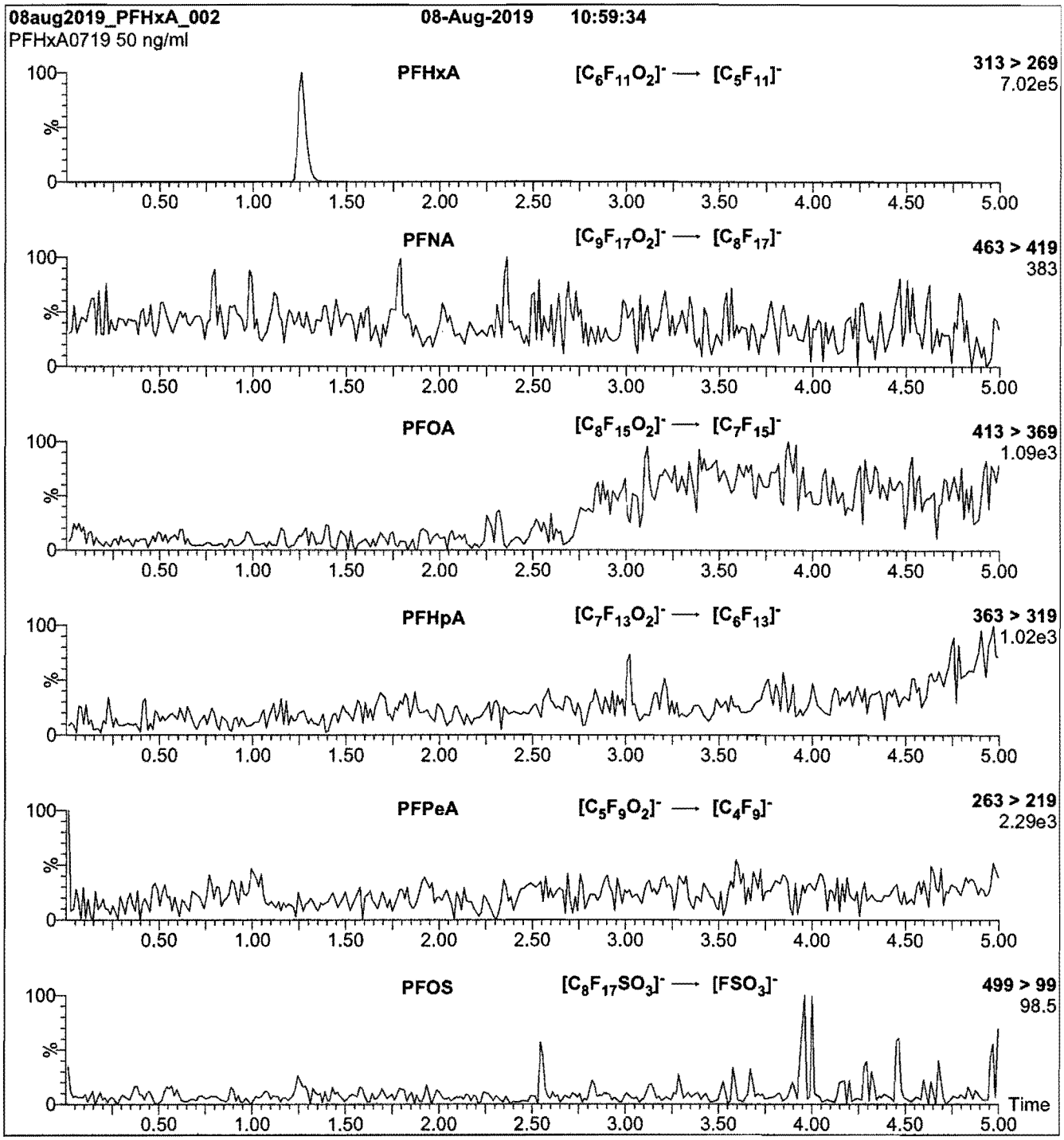
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of $C_5H_2F_8O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/05/2019 (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

Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxA)

Mobile phase: Same as Figure 1

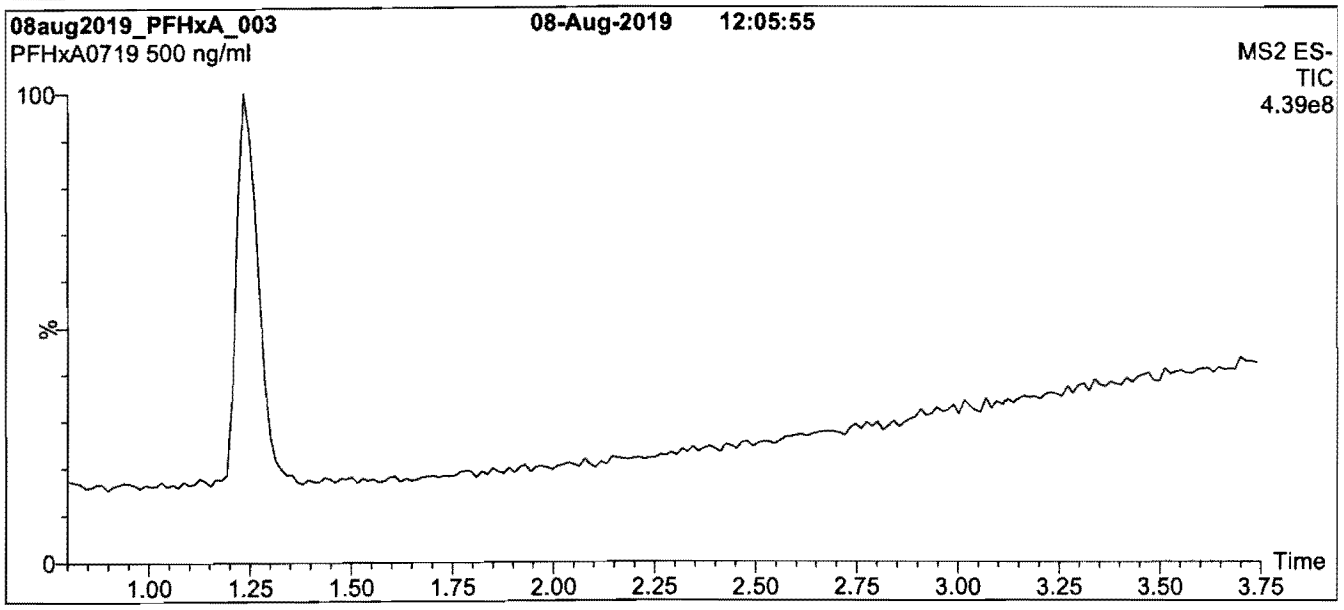
Flow: 300 µl/min

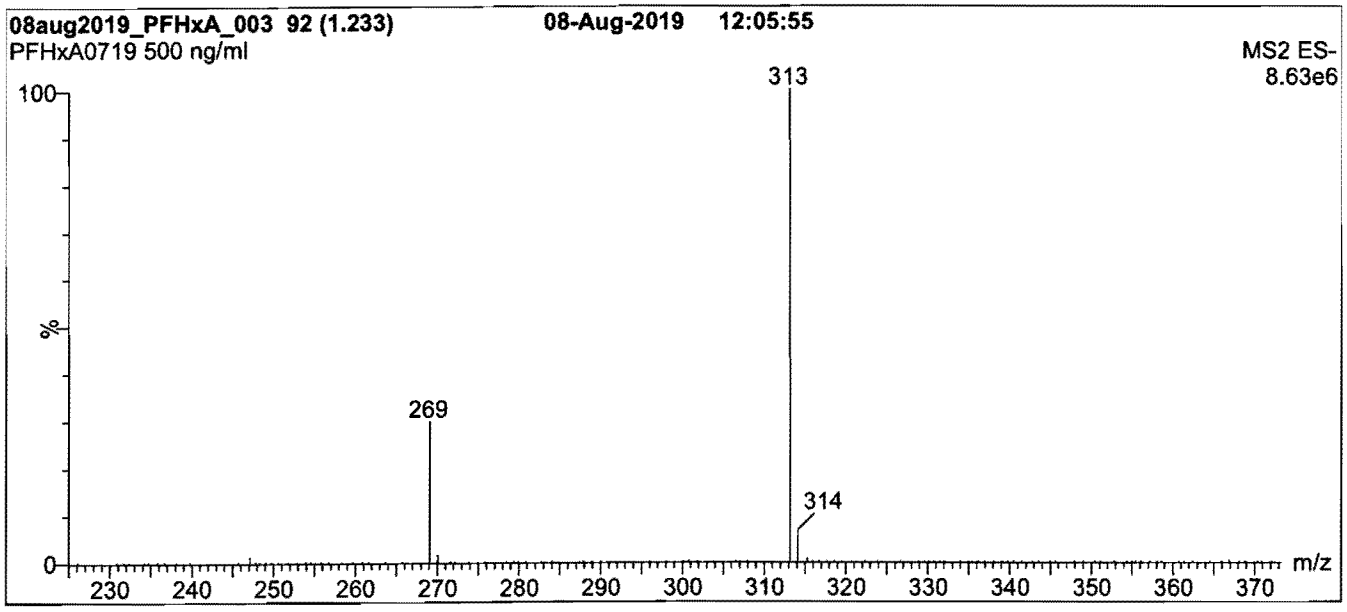
MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 8

19L0638

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: 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

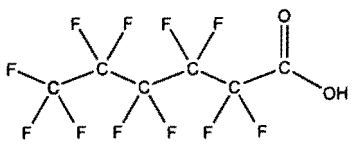
19L0638

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHxA
LOT NUMBER: PFHxA0719
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) 08/08/2019
EXPIRY DATE: (mm/dd/yyyy) 08/08/2024
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:** 08/15/2019 (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

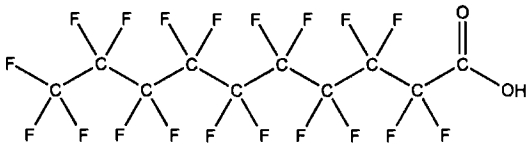
19L0639

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDA
COMPOUND: Perfluoro-n-decanoic acid
LOT NUMBER: PFDA0419

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) 05/01/2019
EXPIRY DATE: (mm/dd/yyyy) 05/01/2024
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:** 05/02/2019 (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

19L0639

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).

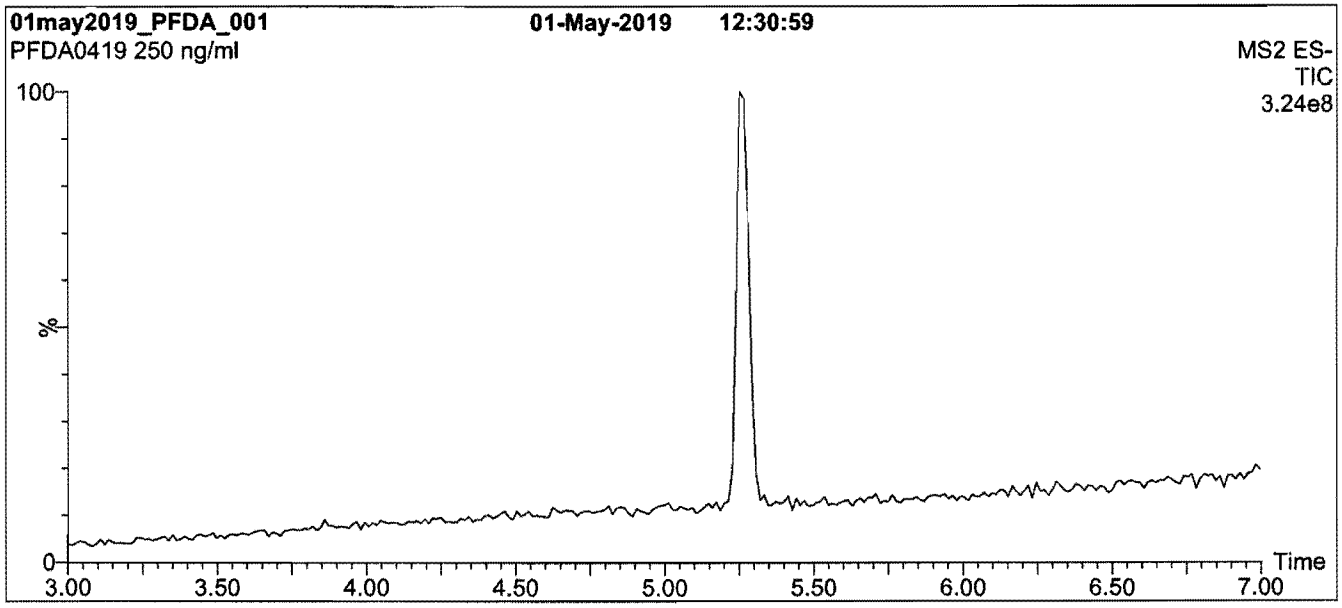
CALA Testing Accreditation No. A 1226

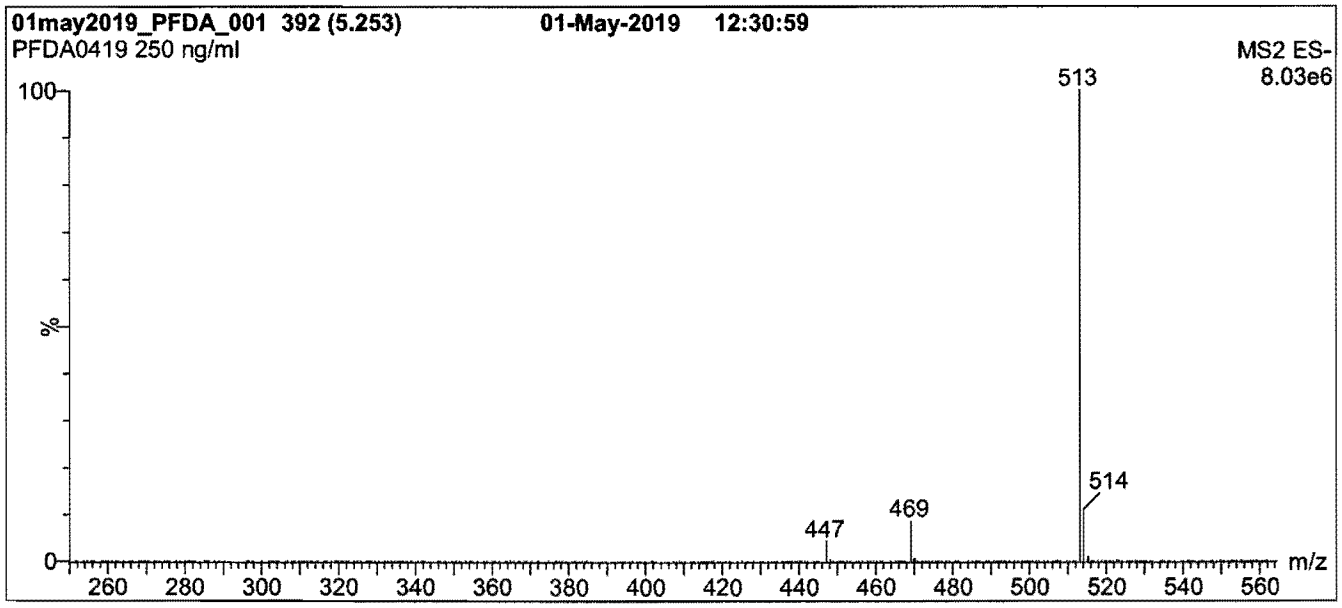
ANAB ACCREDITED 17034 REFERENCE MATERIAL PRODUCER

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

19L0639

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: 11 min

Flow: 300 µl/min

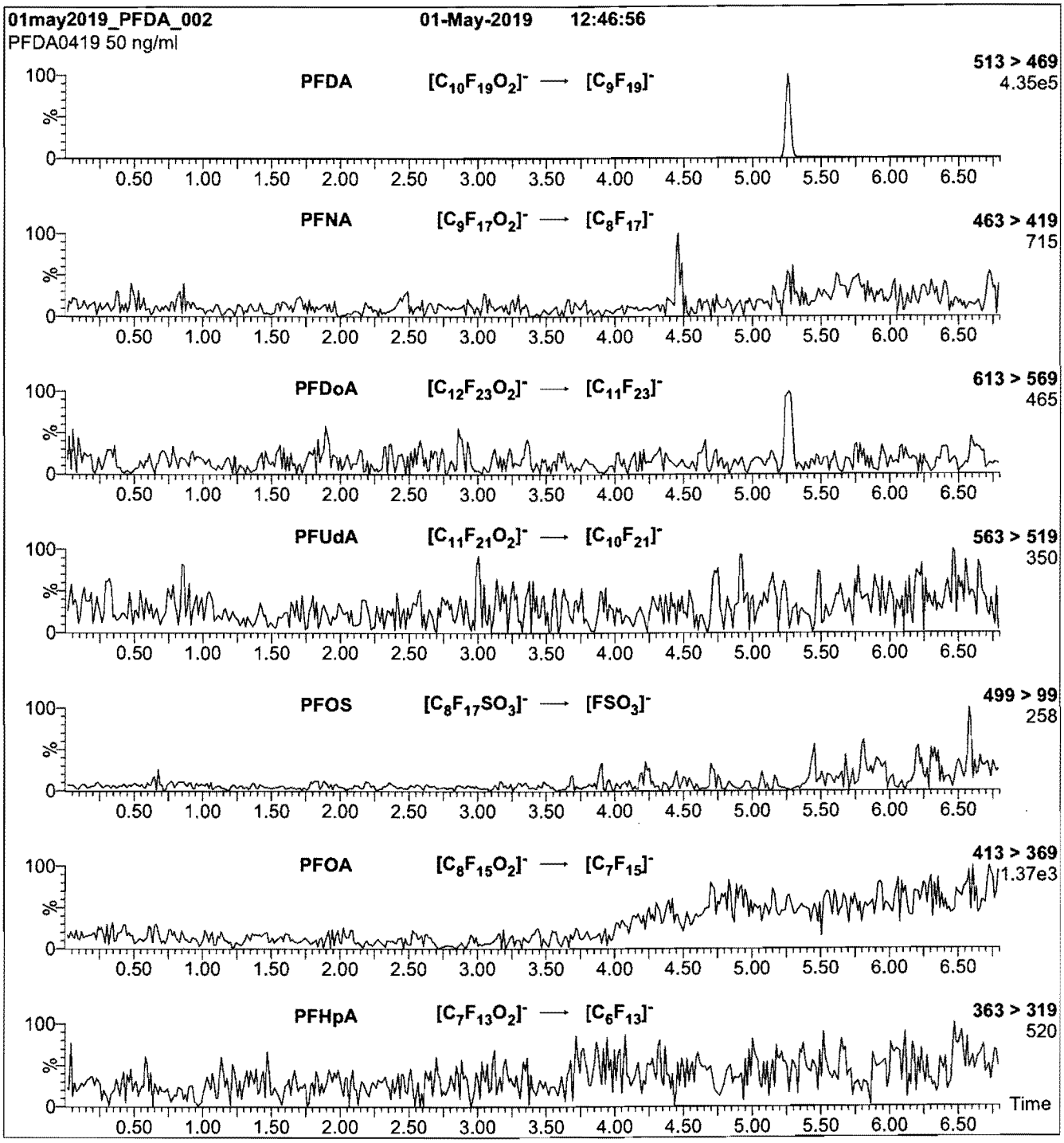
MS Parameters

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

19L0639

Figure 2: **PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFDA)

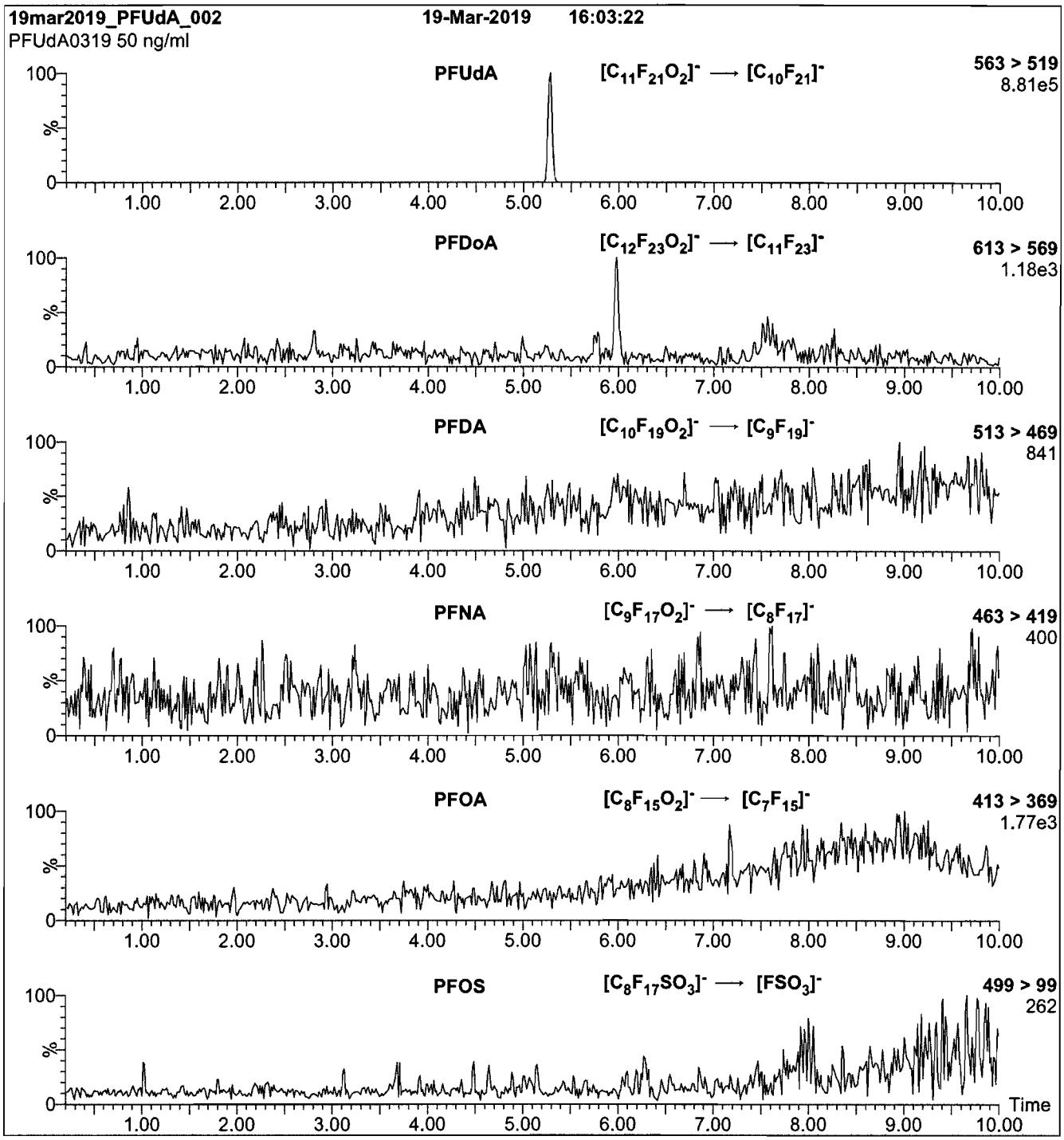
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 10

Figure 2: **PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFUdA)

Mobile phase: Same as Figure 1

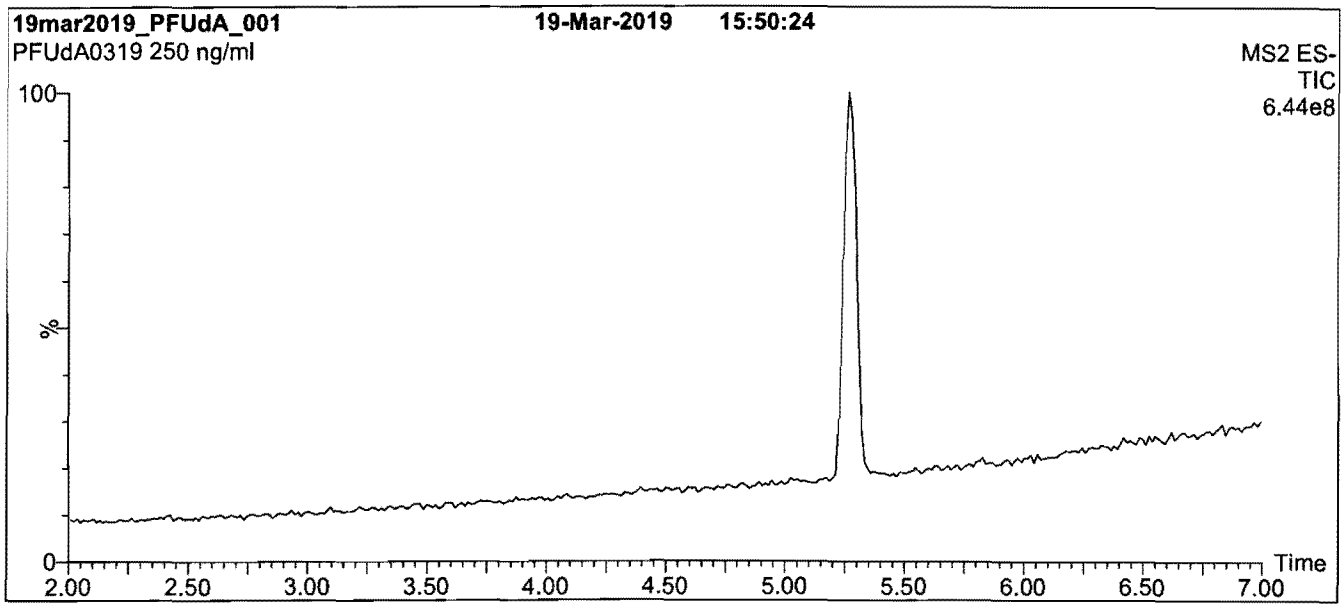
Flow: 300 µl/min

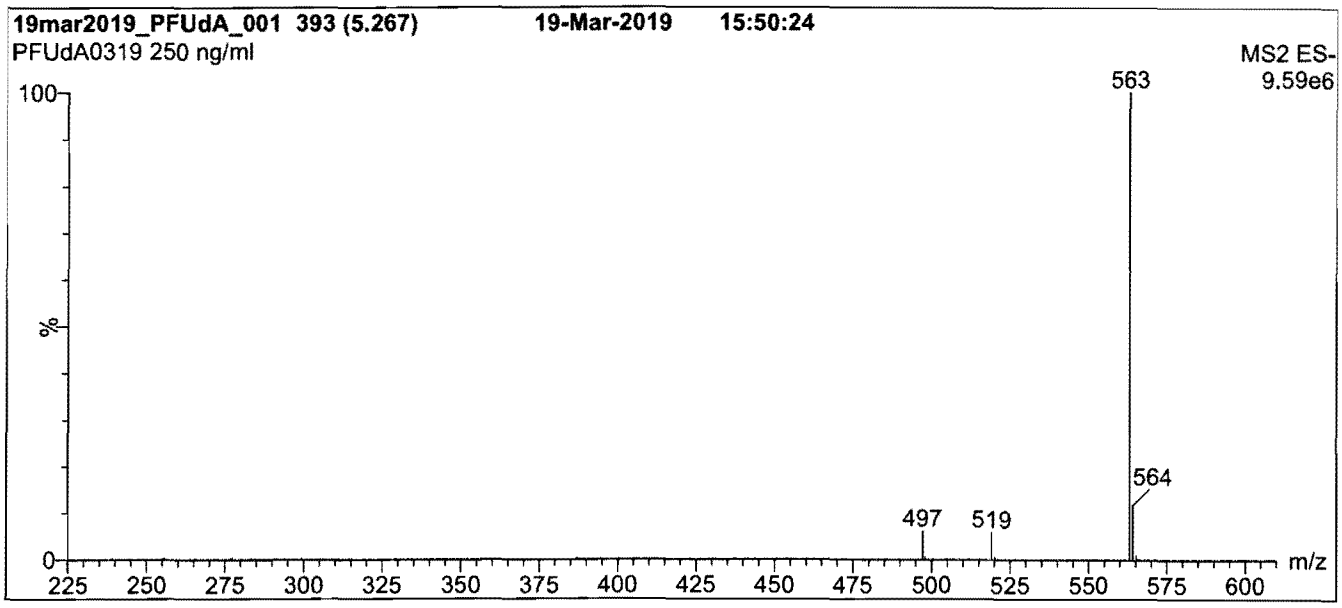
MS Parameters

Collision Gas (mbar) = 3.04e-3
Collision Energy (eV) = 12

19L0690

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: 55% (80:20 MeOH:ACN) / 45% 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

19L0640

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

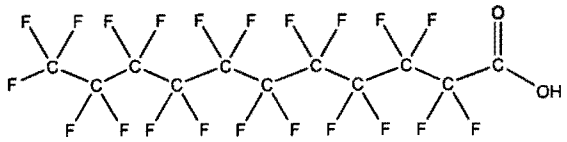
19L0640

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid
LOT NUMBER: PFUdA0319

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) 03/19/2019
EXPIRY DATE: (mm/dd/yyyy) 03/19/2024
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 pefluoro-n-dodecanoic acid (PFDoA).

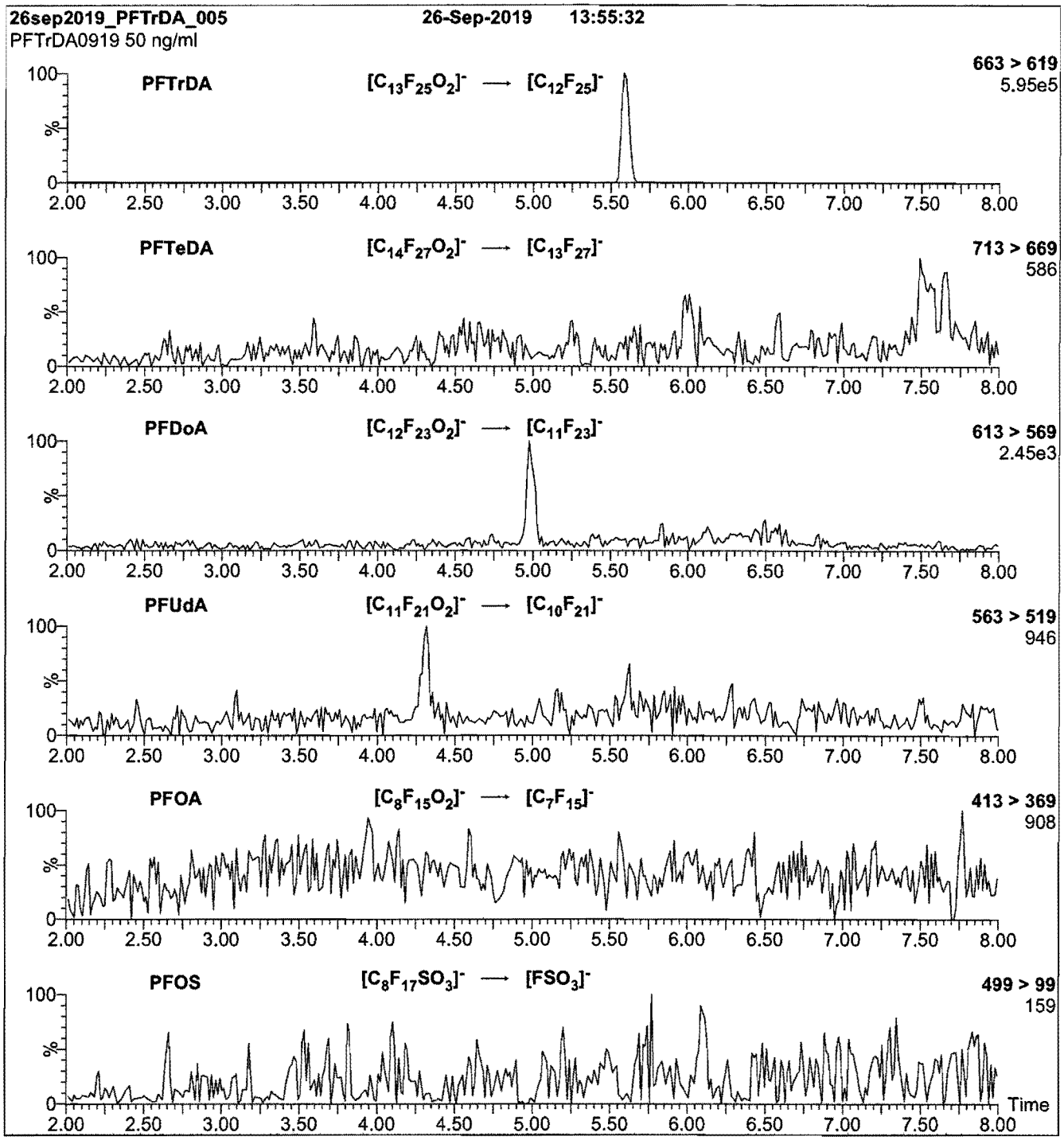
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/21/2019 (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

19L0641

Figure 2: **PFTrDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFTrDA)

Mobile phase: Same as Figure 1

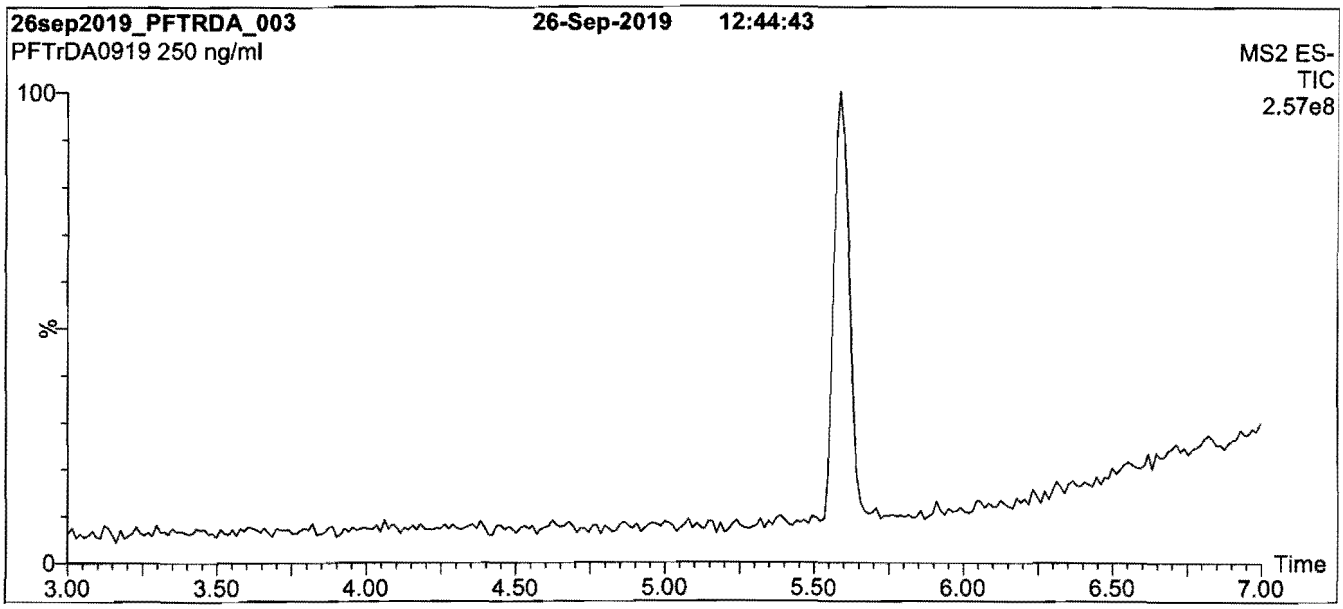
Flow: 300 µl/min

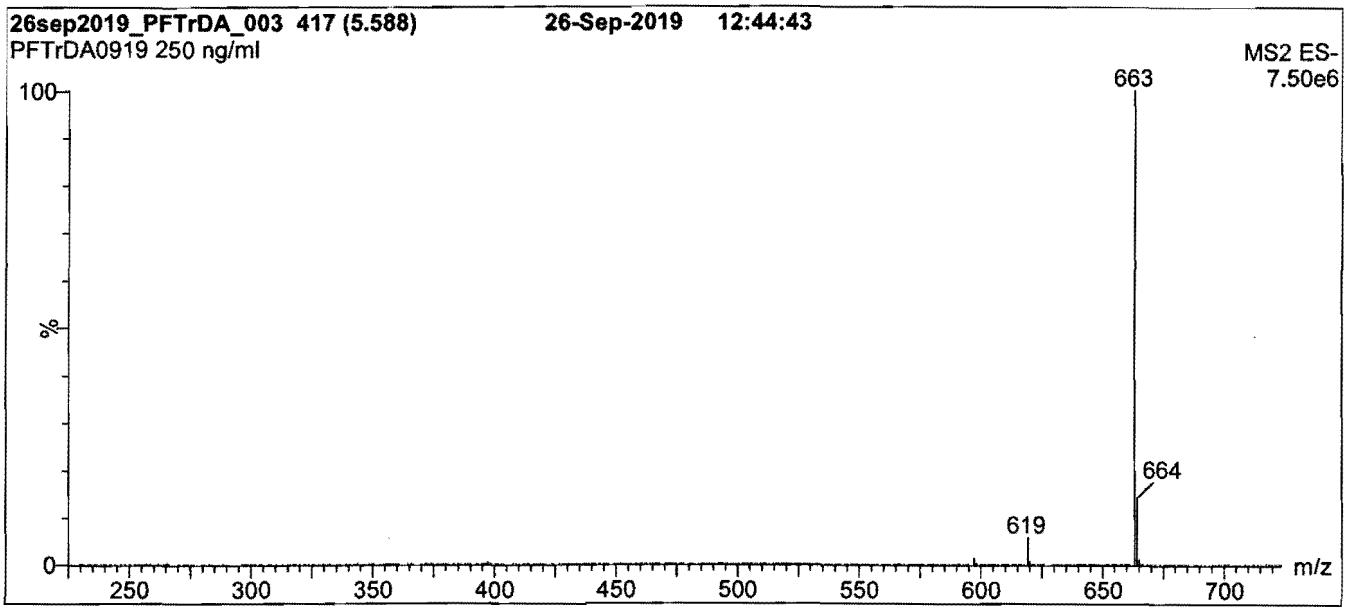
MS Parameters

Collision Gas (mbar) = 3.73e-3
Collision Energy (eV) = 12

1920641

Figure 1: **PFTrDA; 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0641

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

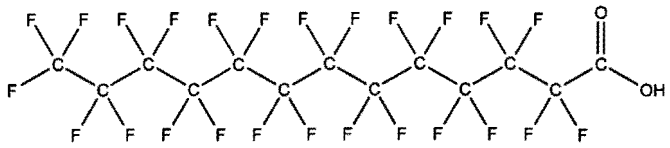
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0691

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0919
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/26/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/26/2024		
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 ($C_{14}HF_{27}O_2$).

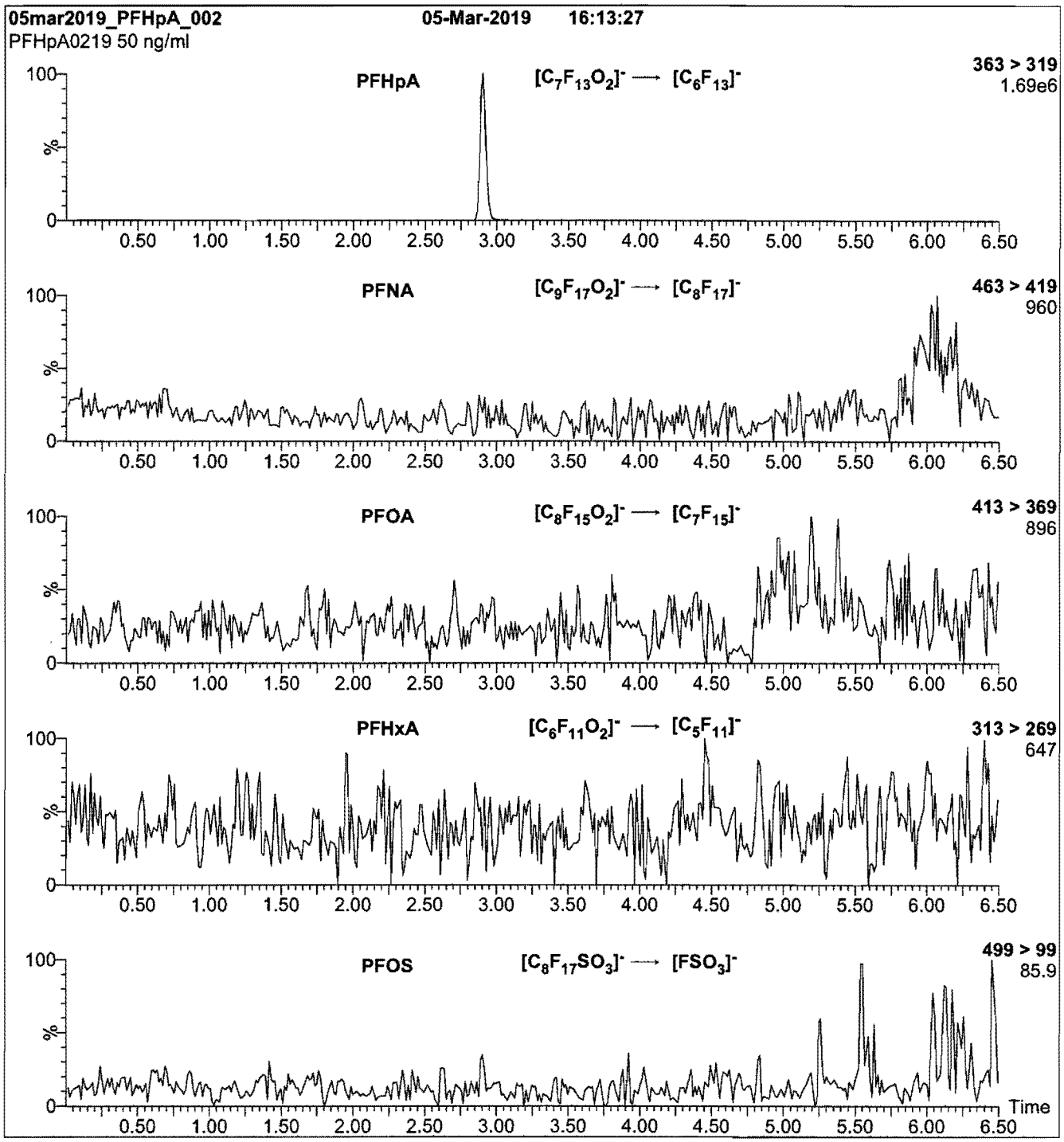
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/03/2019 (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

19L0642

Figure 2: **PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHpA)

Mobile phase: Same as Figure 1

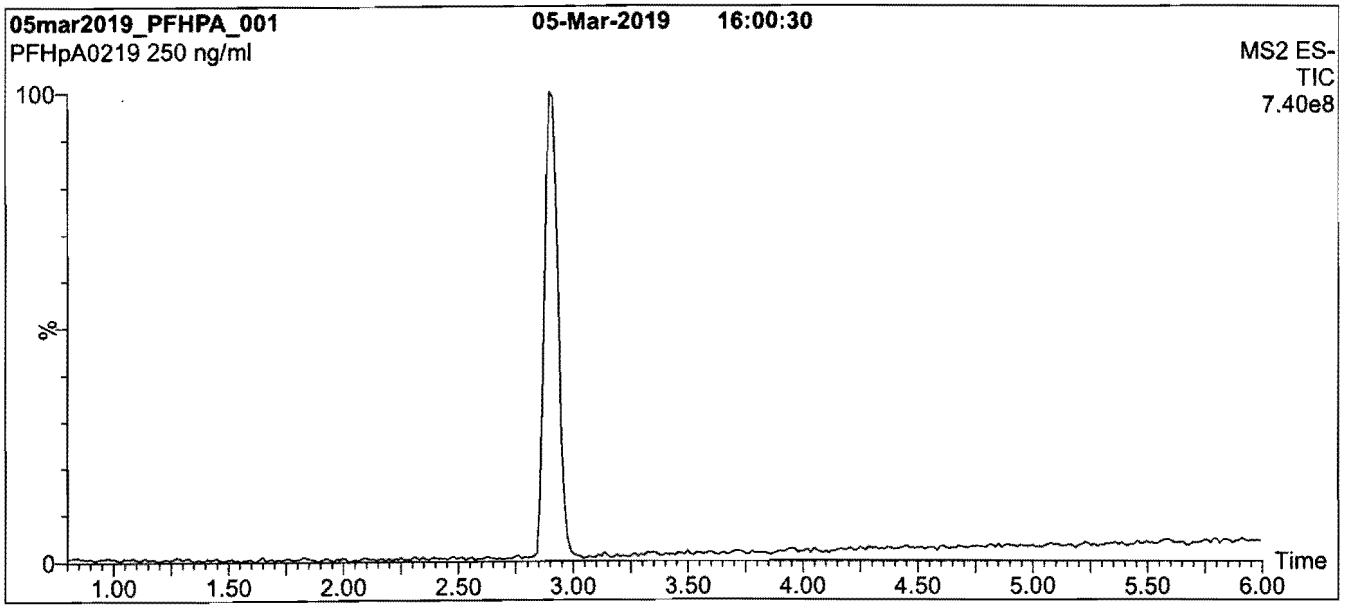
Flow: 300 µl/min

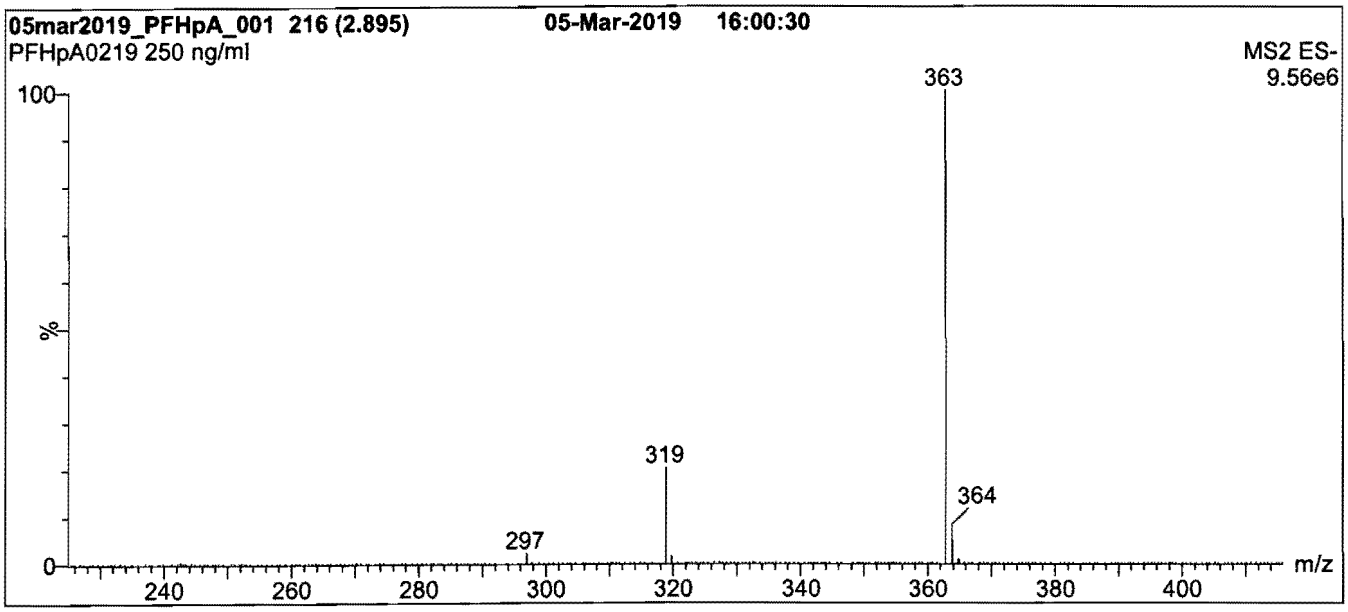
MS Parameters

Collision Gas (mbar) = 2.74e-3
Collision Energy (eV) = 8

19L0642

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 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

19L0642

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 REFERENCE MATERIAL PRODUCER

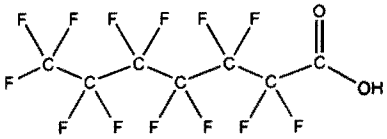
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0642

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFHpA	**LOT NUMBER:**	PFHpA0219
COMPOUND:	Perfluoro-n-heptanoic acid		
STRUCTURE:		**CAS #:**	375-85-9



MOLECULAR FORMULA:	$C_7HF_{13}O_2$	**MOLECULAR WEIGHT:**	364.06
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/05/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/05/2024		
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.

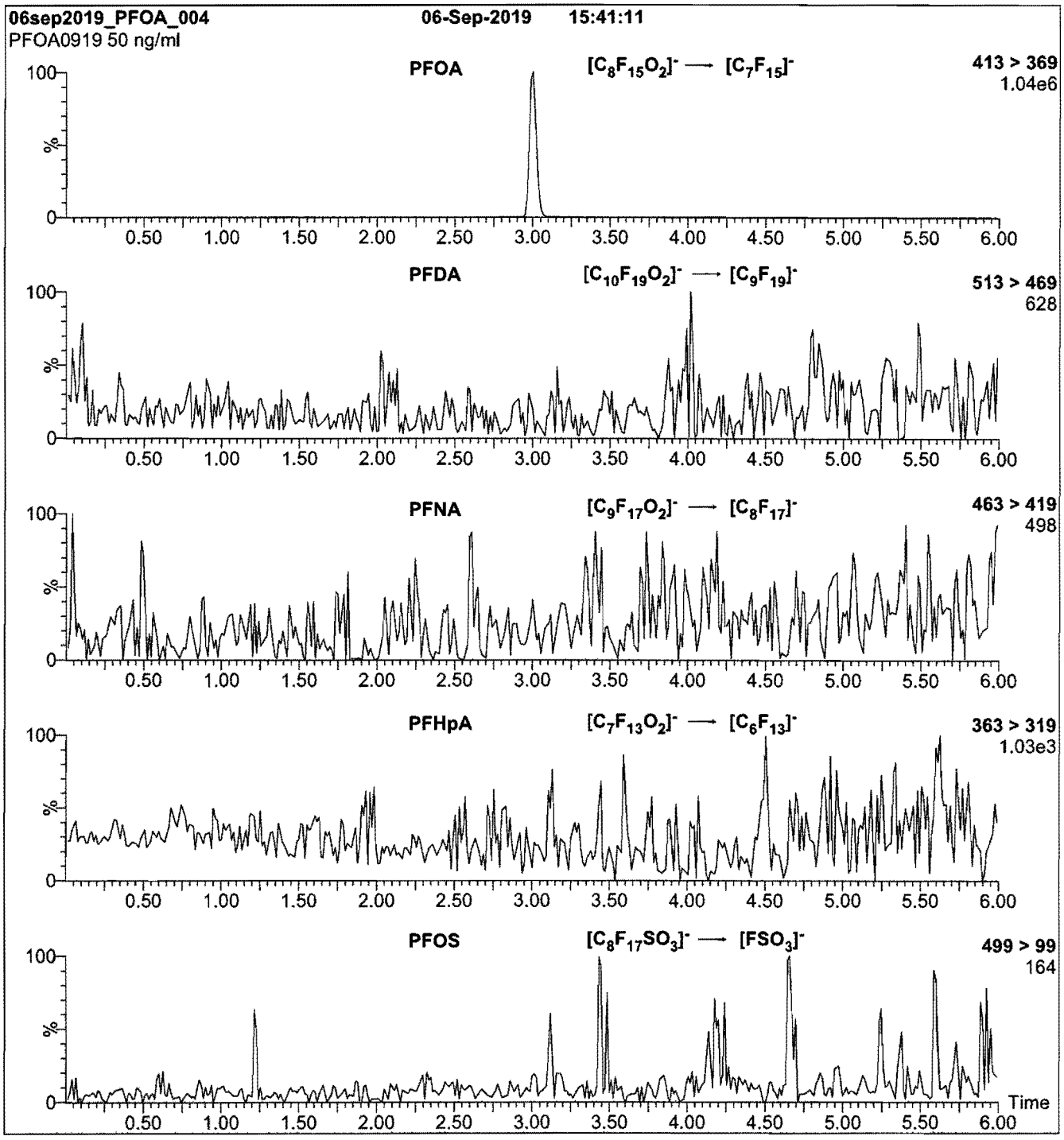
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/18/2019 (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

Figure 2: **PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFOA)

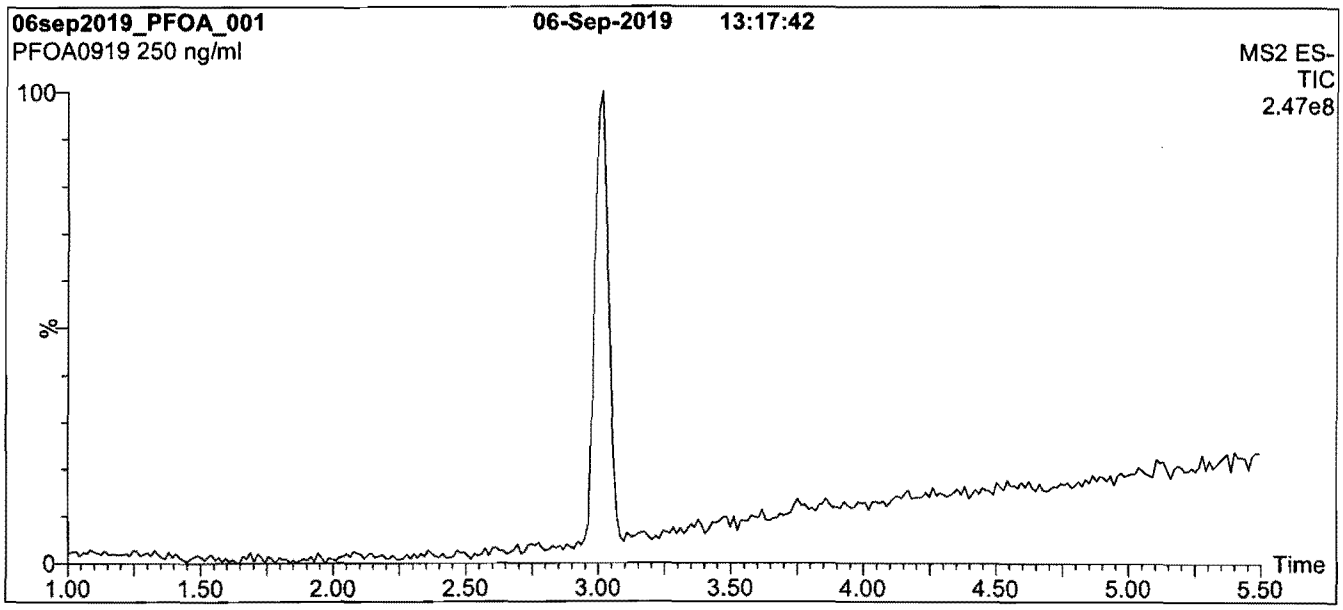
Mobile phase: Same as Figure 1

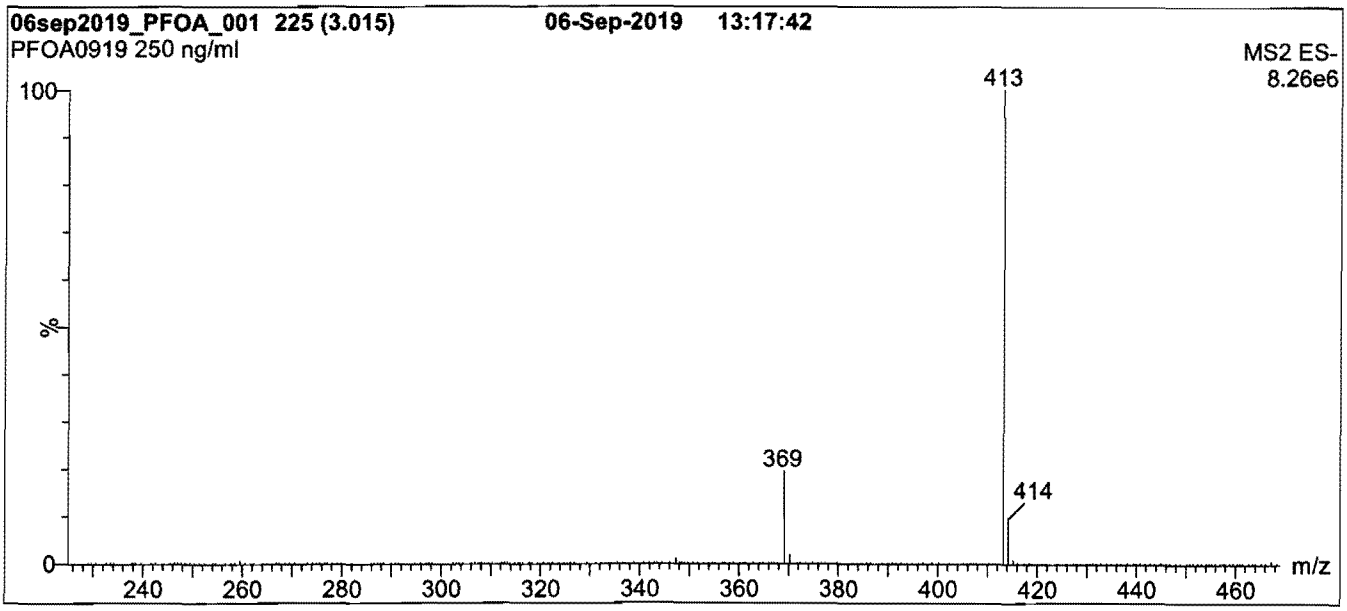
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 8

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: 55% (80:20 MeOH:ACN) / 45% 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0643

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

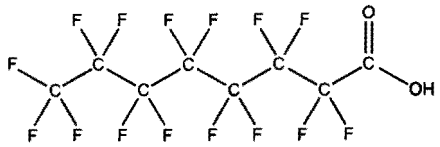
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0643

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFOA	**LOT NUMBER:**	PFOA0919
COMPOUND:	Perfluoro-n-octanoic acid		
STRUCTURE:		**CAS #:**	335-67-1



MOLECULAR FORMULA:	$C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	414.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/06/2024		
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.

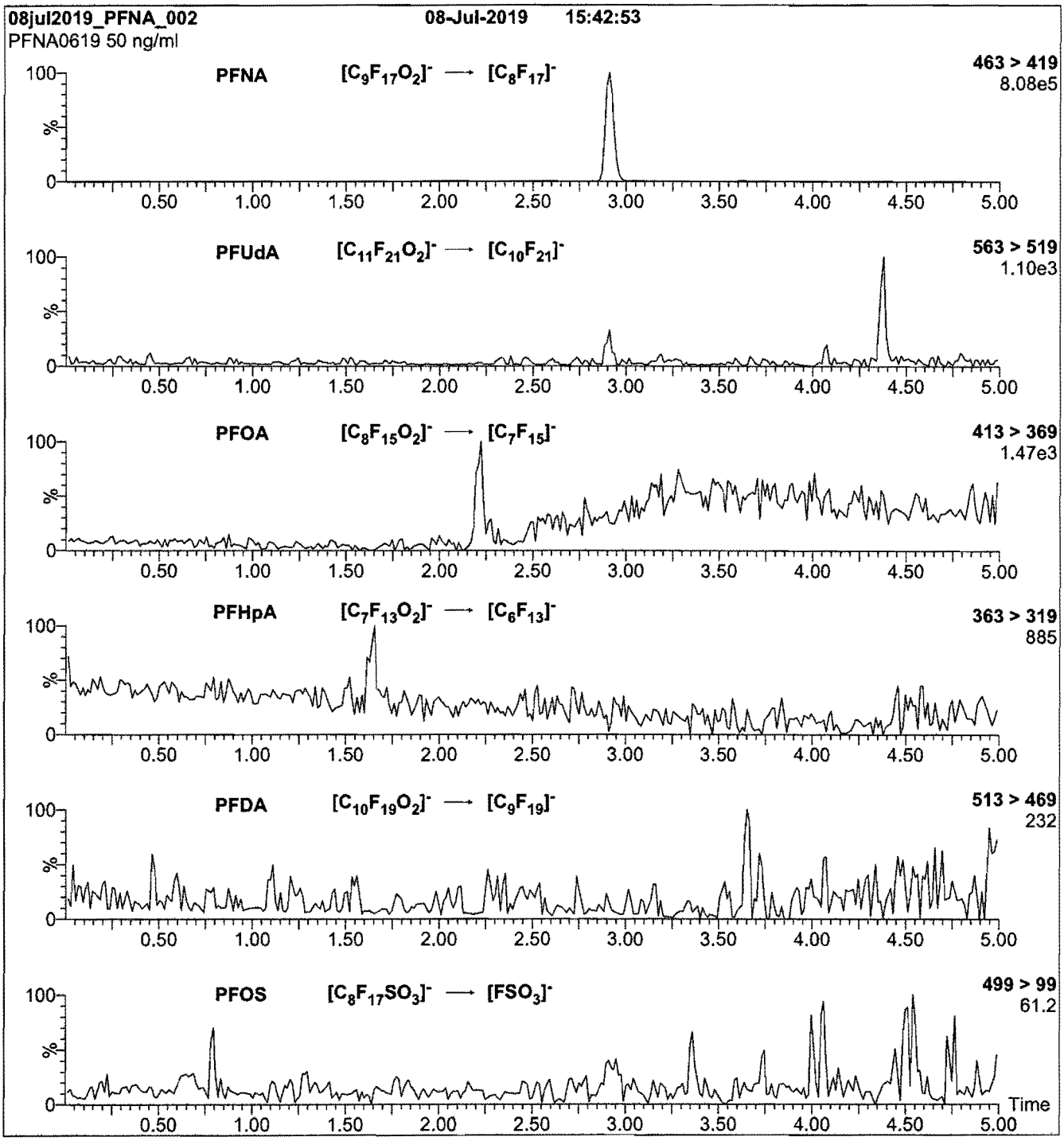
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (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

19L0644

Figure 2: **PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFNA)

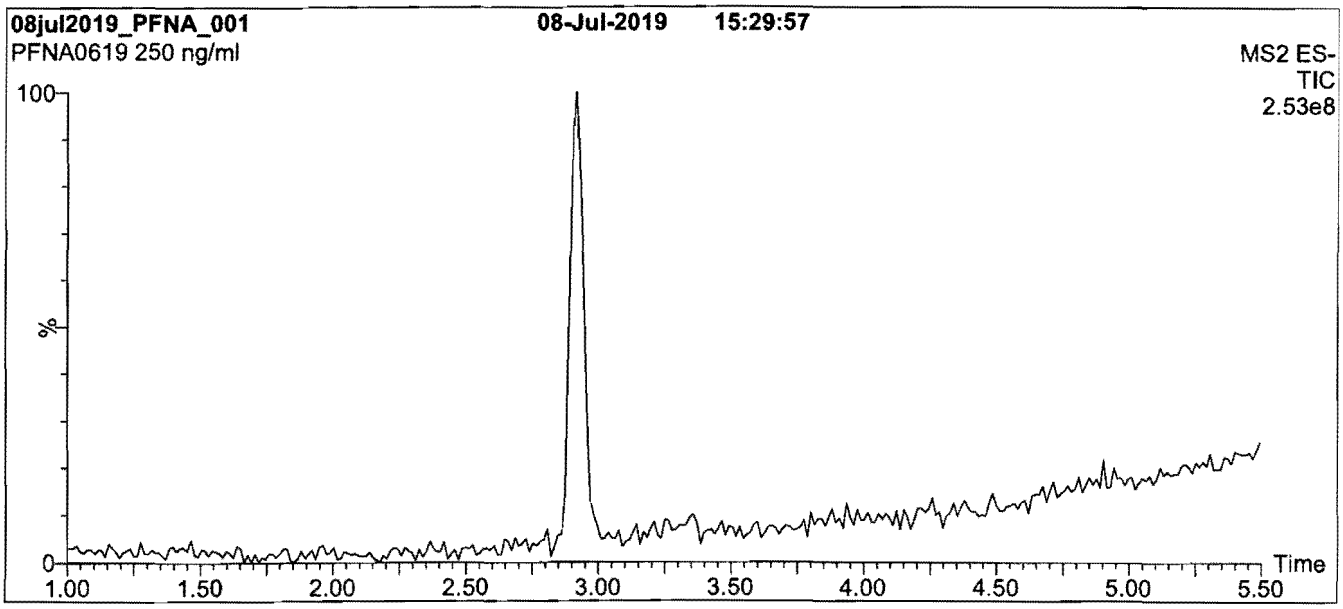
Mobile phase: Same as Figure 1

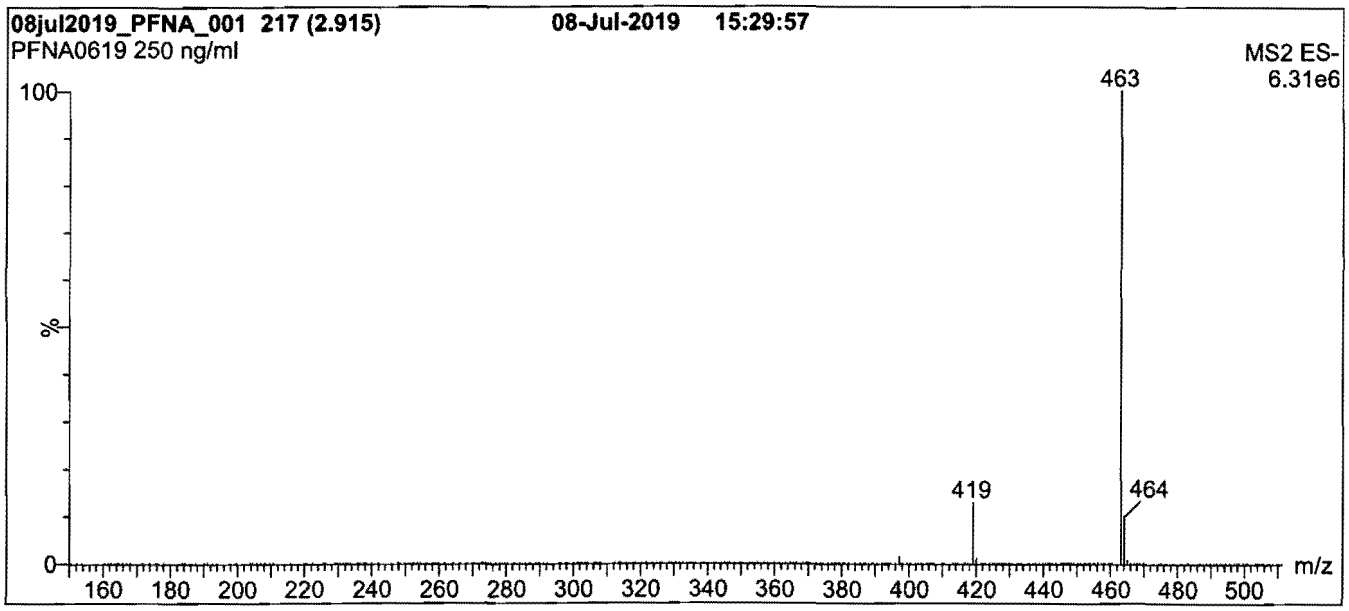
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 10

Figure 1: **PFNA; 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 (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0644

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

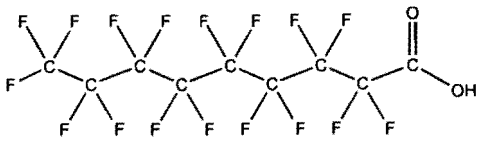
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0644

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFNA
LOT NUMBER: PFNA0619
COMPOUND: Perfluoro-n-nonanoic acid
STRUCTURE:
CAS #: 375-95-1



MOLECULAR FORMULA: $C_9HF_{17}O_2$
MOLECULAR WEIGHT: 464.08
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/08/2019
EXPIRY DATE: (mm/dd/yyyy) 07/08/2024
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).

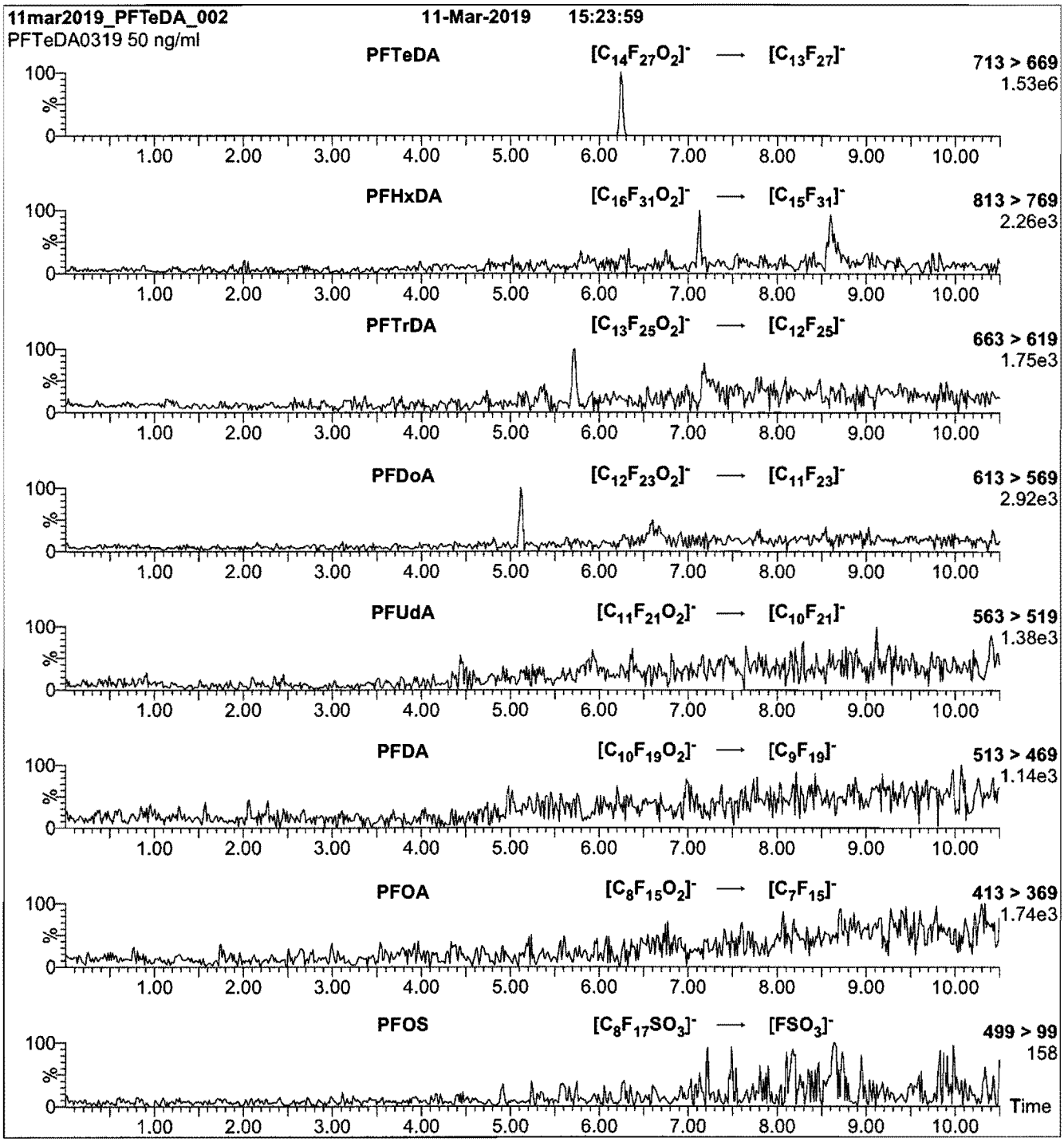
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/11/2019 (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

1920645

Figure 2: **PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFTeDA)

Mobile phase: Same as Figure 1

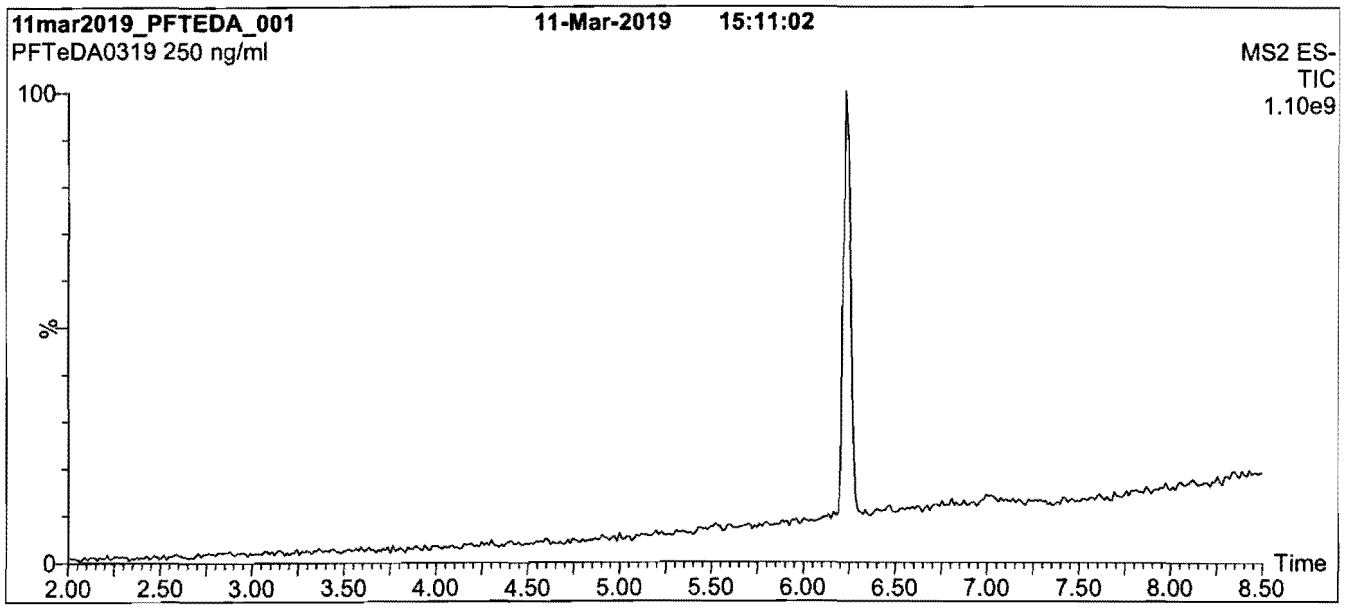
Flow: 300 µl/min

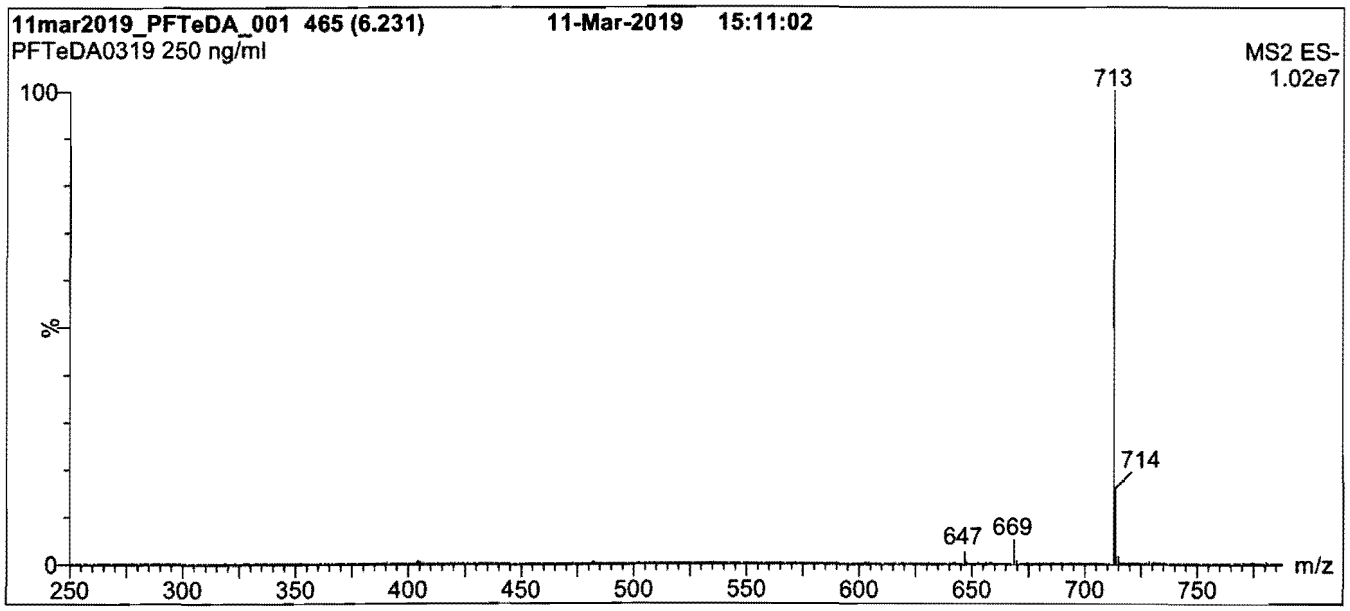
MS Parameters

Collision Gas (mbar) = 3.03e-3
Collision Energy (eV) = 14

1910645

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: 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

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

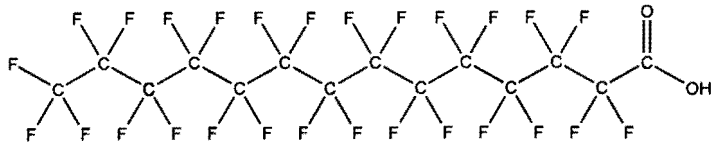
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0645

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTeDA	**LOT NUMBER:**	PFTeDA0319
COMPOUND:	Perfluoro-n-tetradecanoic acid		
STRUCTURE:		**CAS #:**	376-06-7



MOLECULAR FORMULA:	$C_{14}HF_{27}O_2$	**MOLECULAR WEIGHT:**	714.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/11/2024		
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 PFHxDA ($C_{16}HF_{31}O_2$).

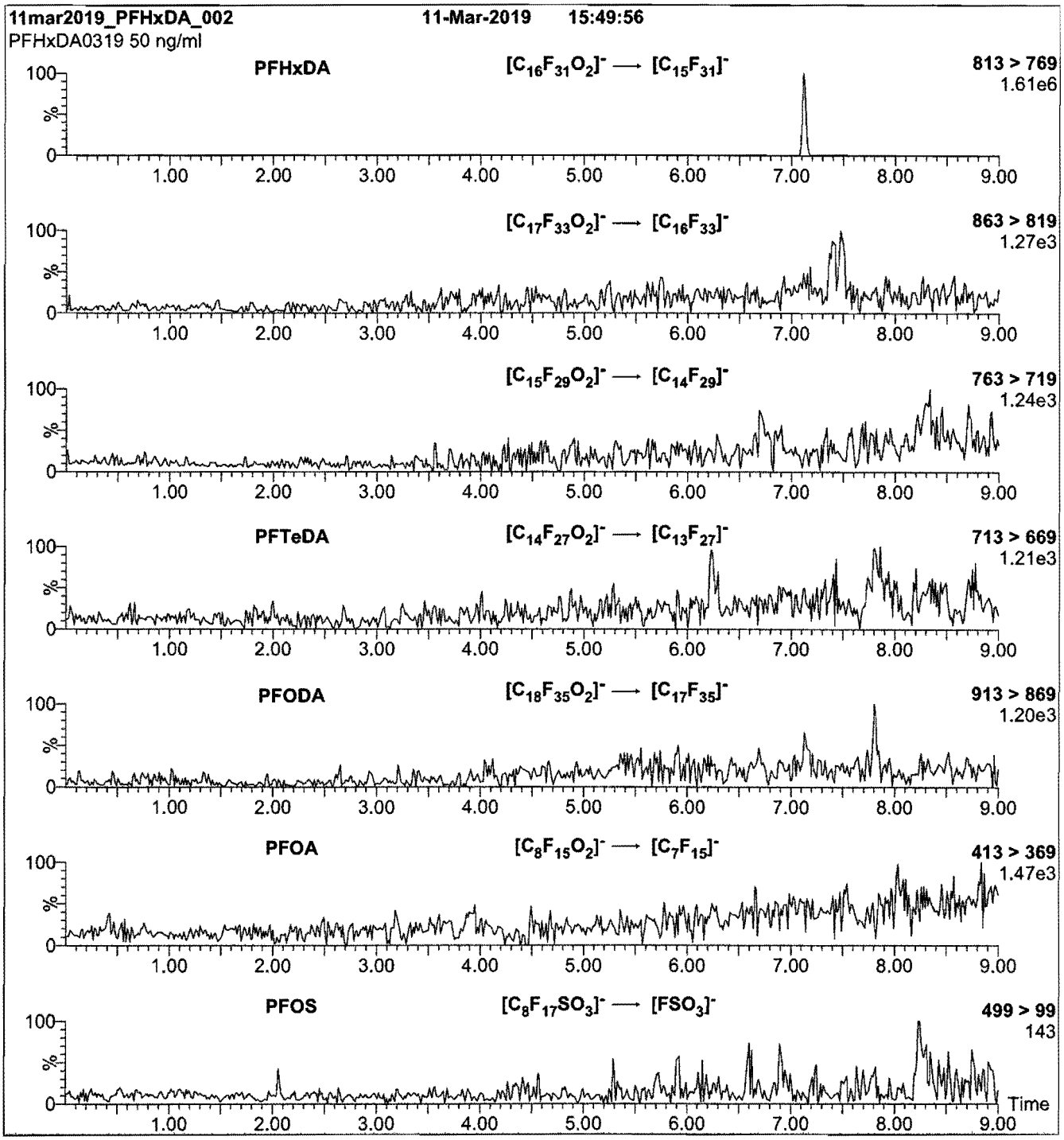
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/28/2019 (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

19L0646

Figure 2: **PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxDA)

Mobile phase: Same as Figure 1

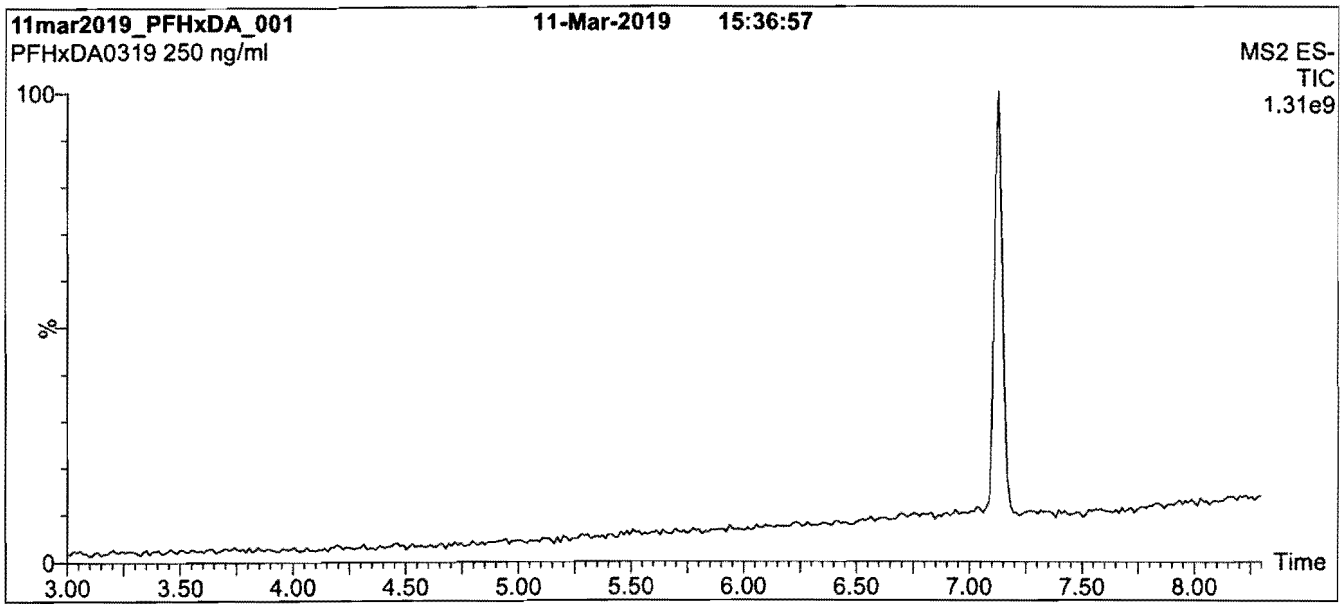
Flow: 300 µl/min

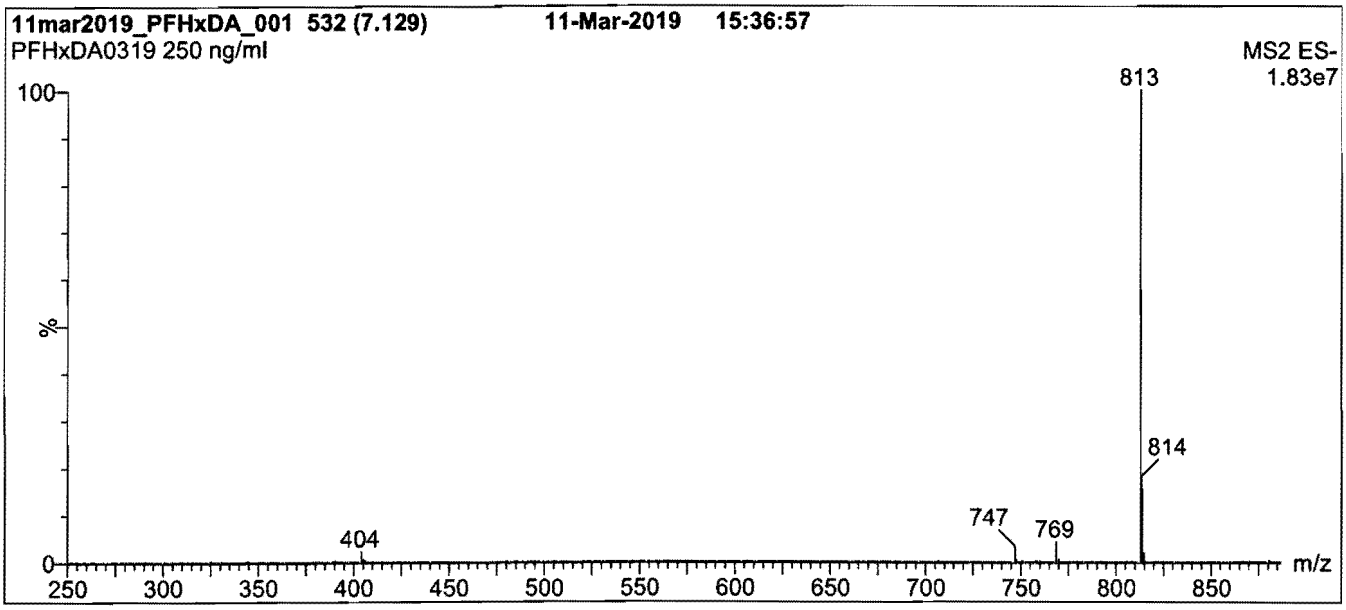
MS Parameters

Collision Gas (mbar) = 3.03e-3
Collision Energy (eV) = 15

19L0646

Figure 1: **PFHxDA; 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

19L0646

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

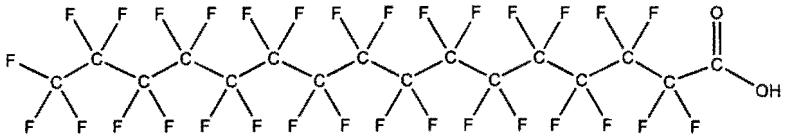
19L0646

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHxDA
LOT NUMBER: PFHxDA0319
COMPOUND: Perfluoro-n-hexadecanoic acid

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) 03/11/2019
EXPIRY DATE: (mm/dd/yyyy) 03/11/2024
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.

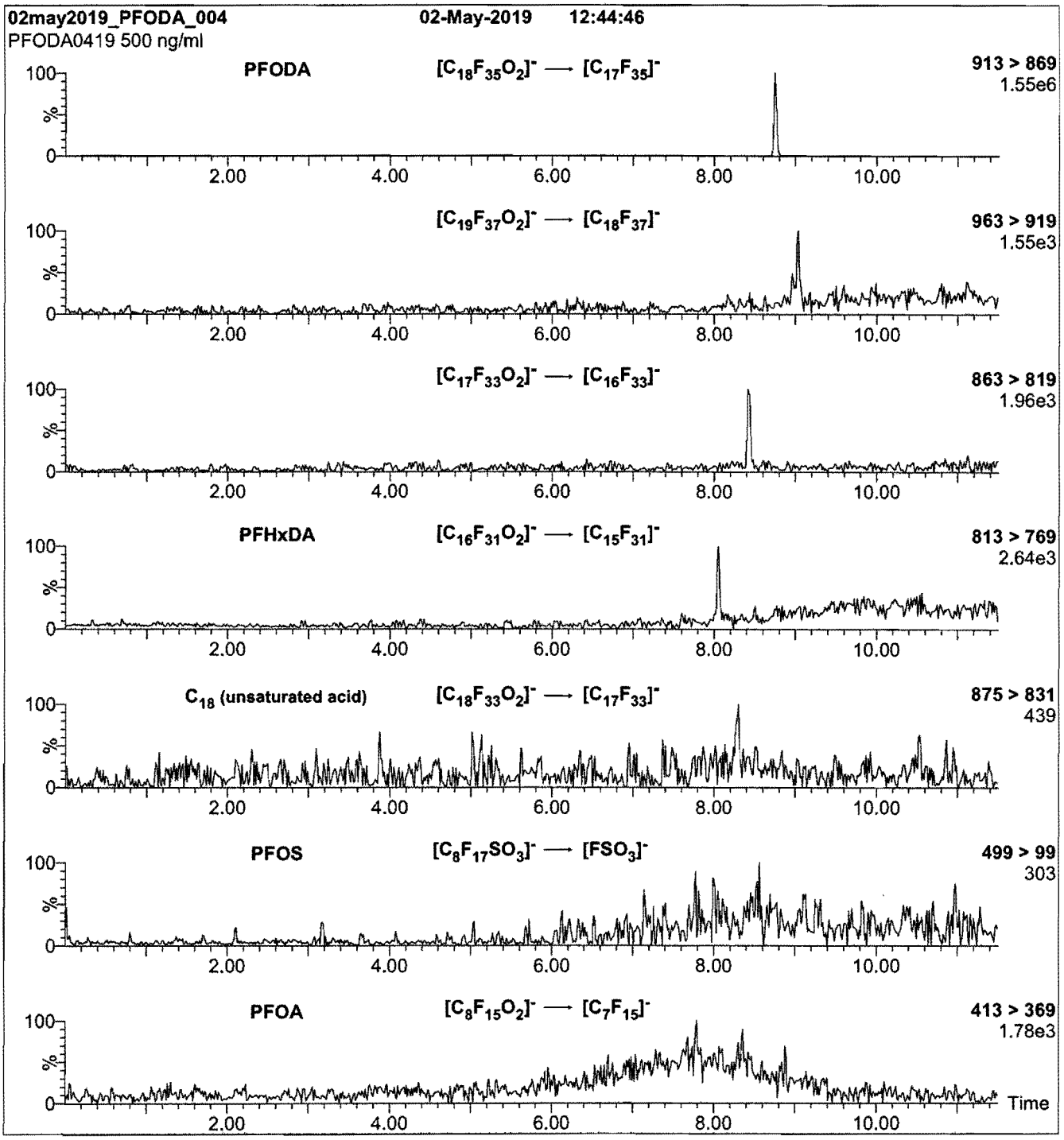
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/28/2019 (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

19L0647

Figure 2: **PFODA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFODA)

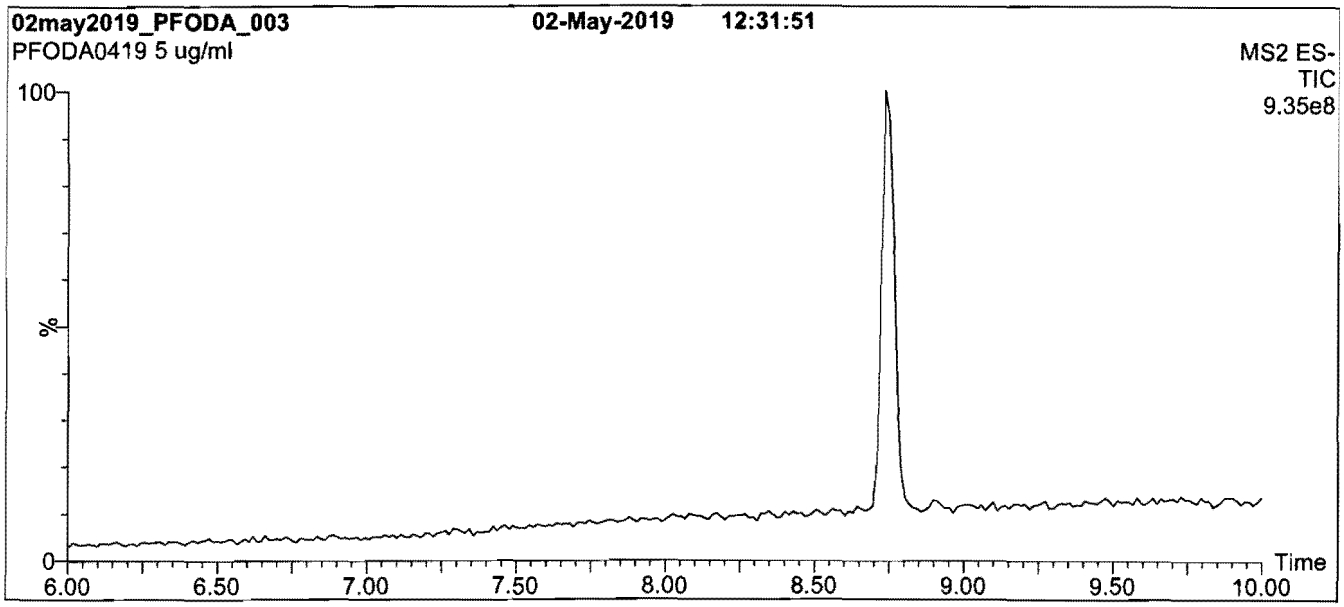
Mobile phase: Same as Figure 1

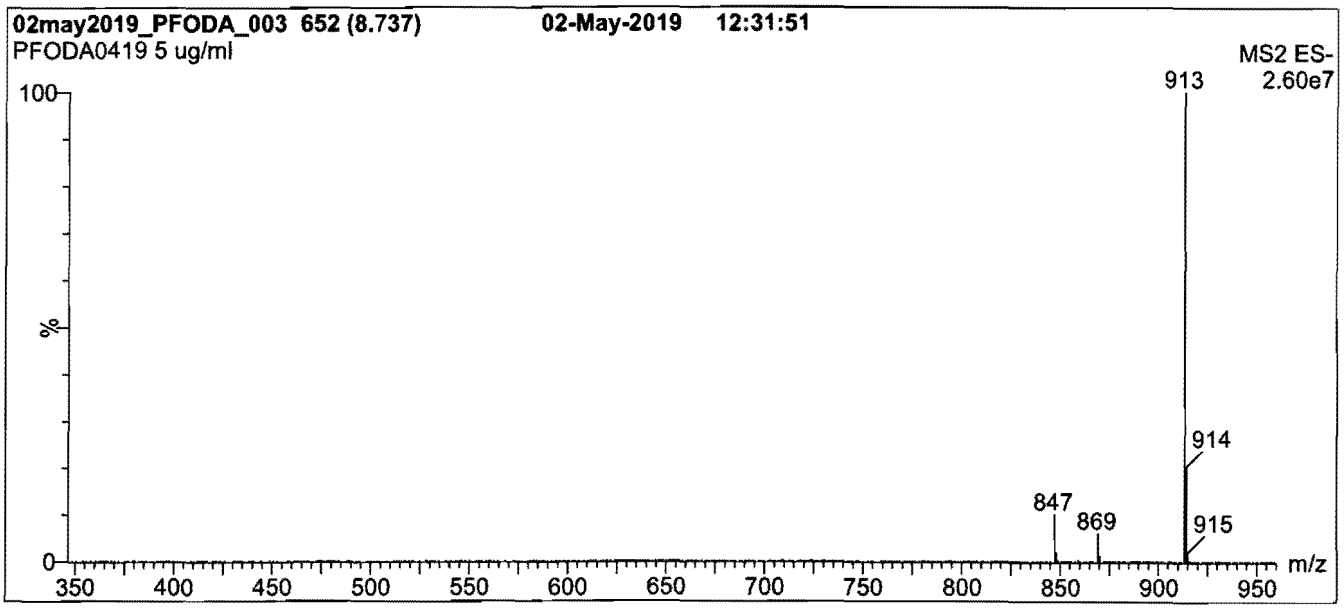
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.92e-3
Collision Energy (eV) = 15

Figure 1: **PFODA; 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: 55% (80:20 MeOH:ACN) / 45% 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: 11 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

19L0647

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

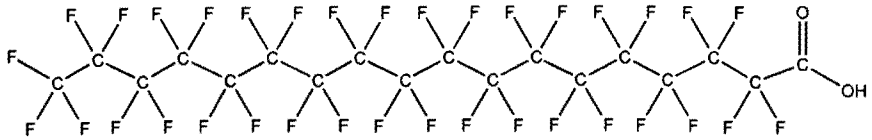
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0647

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFODA	**LOT NUMBER:**	PFODA0419
COMPOUND:	Perfluoro-n-octadecanoic acid		
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)	05/02/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/02/2024		
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 PFHxDA ($C_{16}HF_{31}O_2$) and ~ 0.1% of PFHpDA ($C_{17}HF_{33}O_2$)

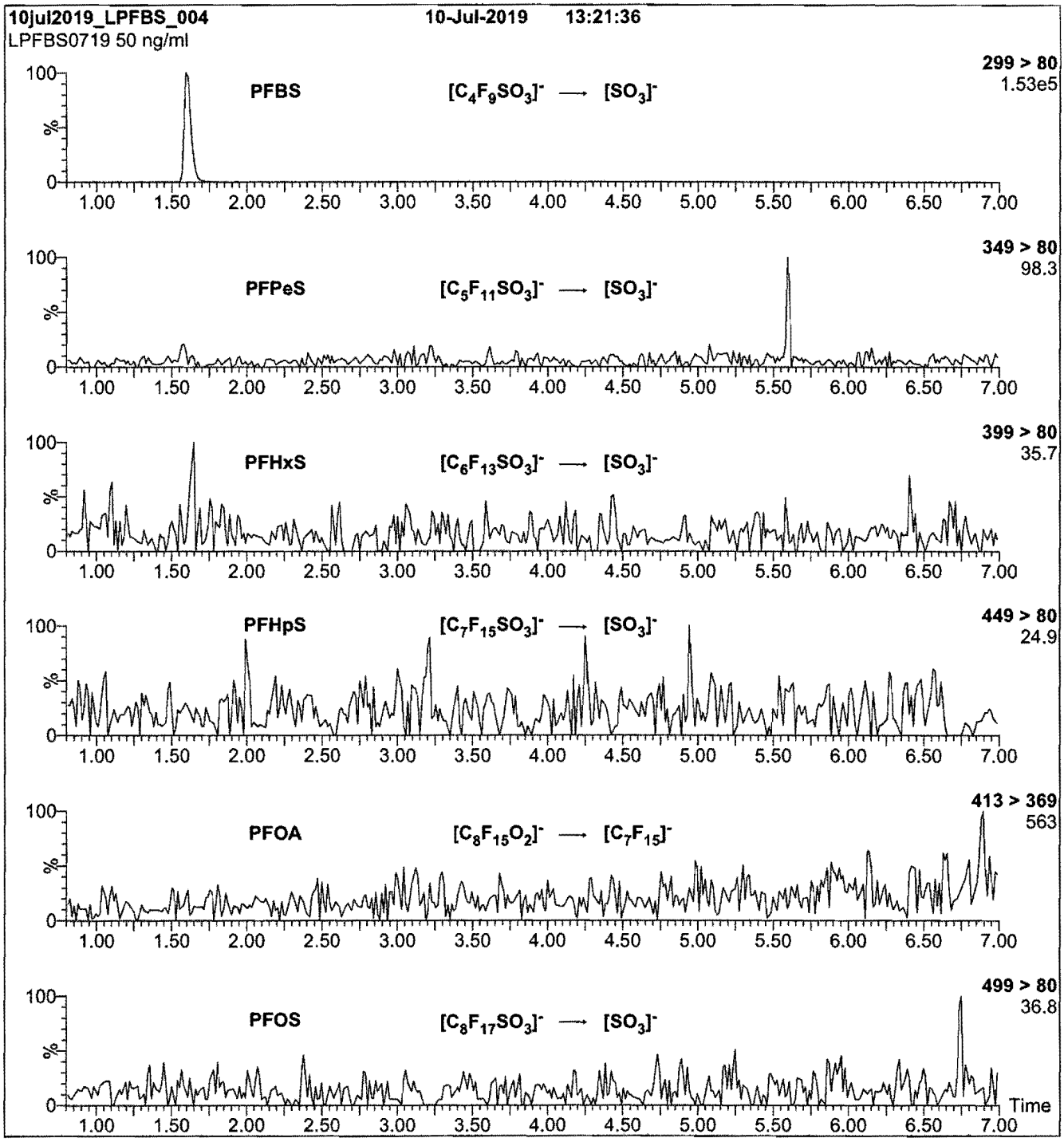
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/16/2019 (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

19L0648

Figure 2: **L-PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFBS)

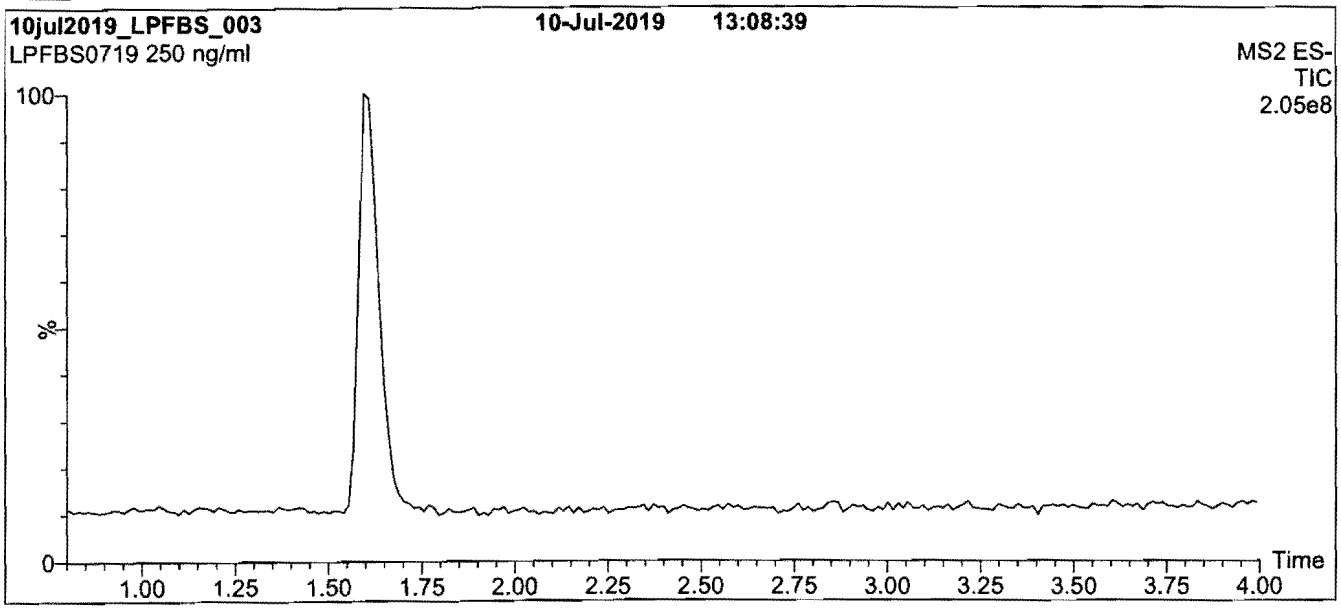
Mobile phase: Same as Figure 1

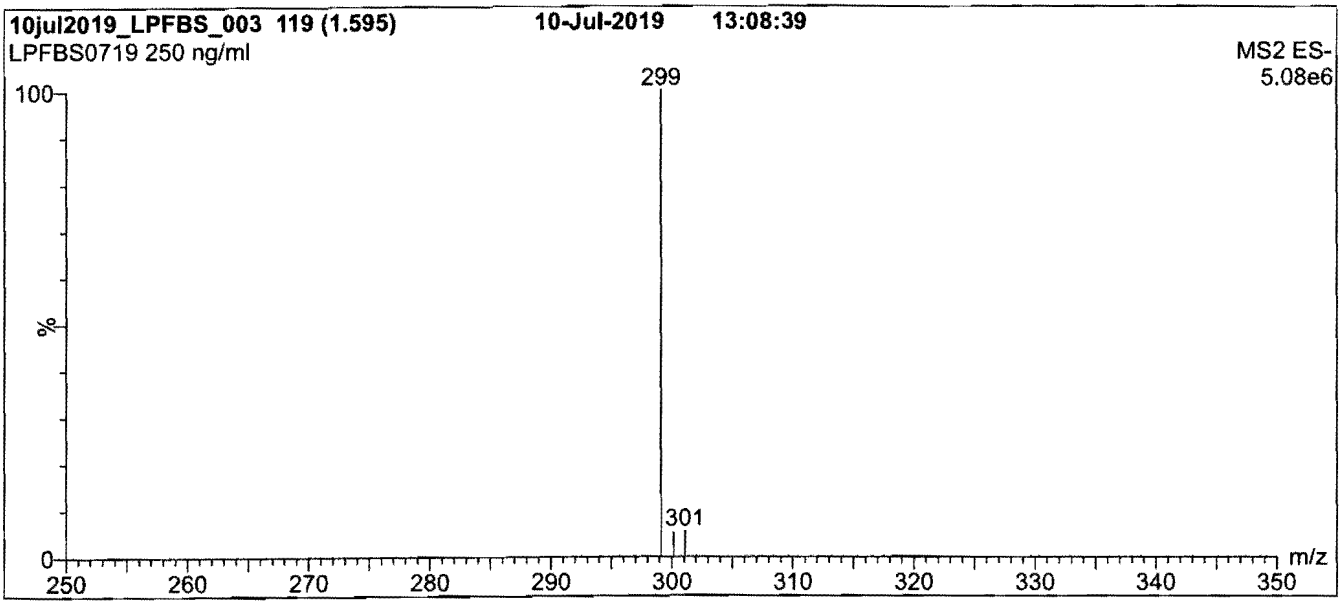
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.25e-3
Collision Energy (eV) = 30

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 70% organic over 7 min, then ramp to 90% organic over 2 min and hold for 1.5 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0648

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

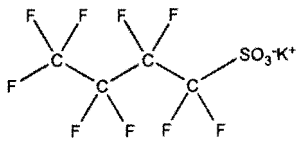
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0648

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFBS	**LOT NUMBER:**	LPFBS0719
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)	07/10/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/10/2024		
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-nonanesulfonate (L-PFNS).

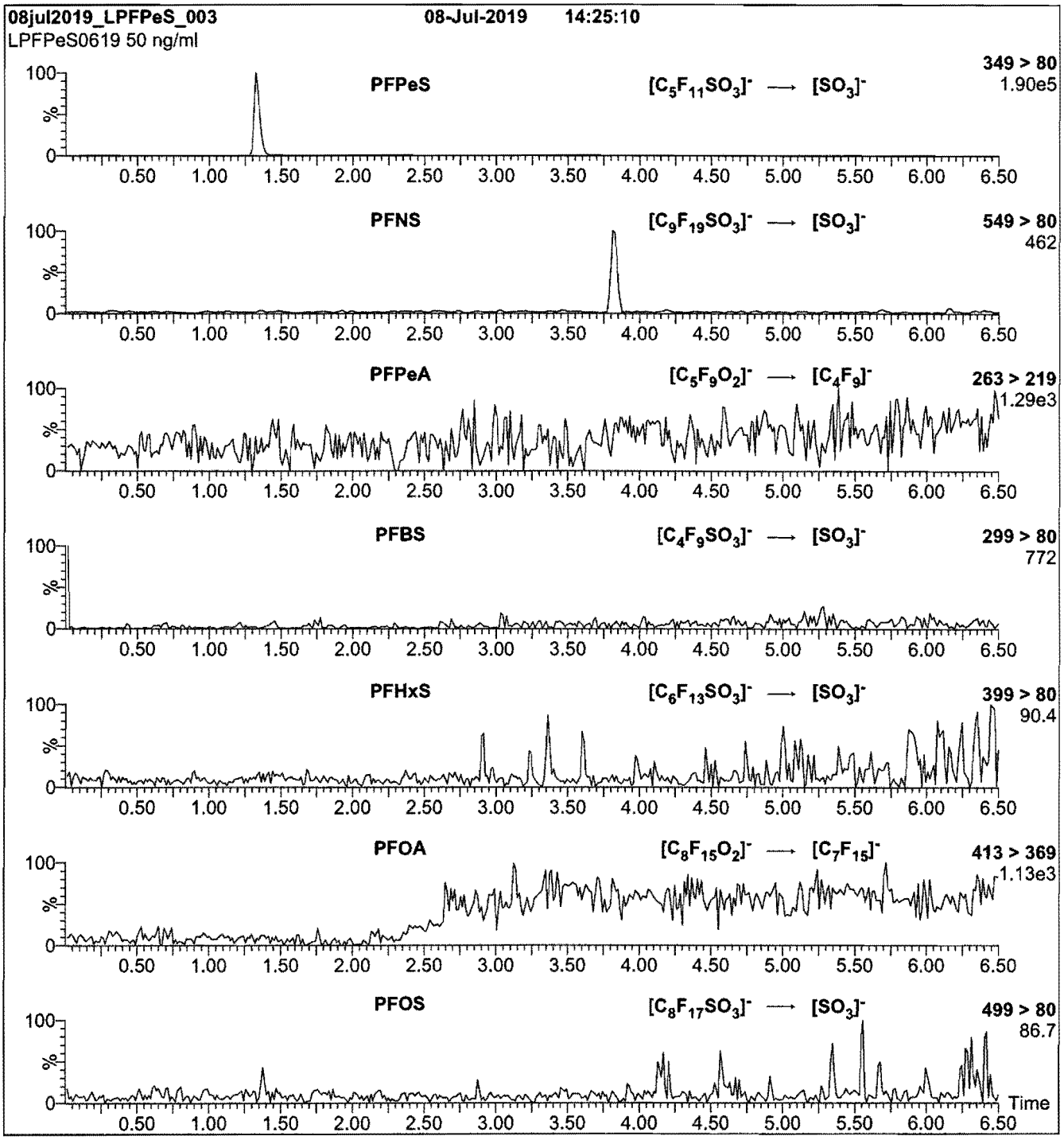
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/06/2019 (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

19L0649

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

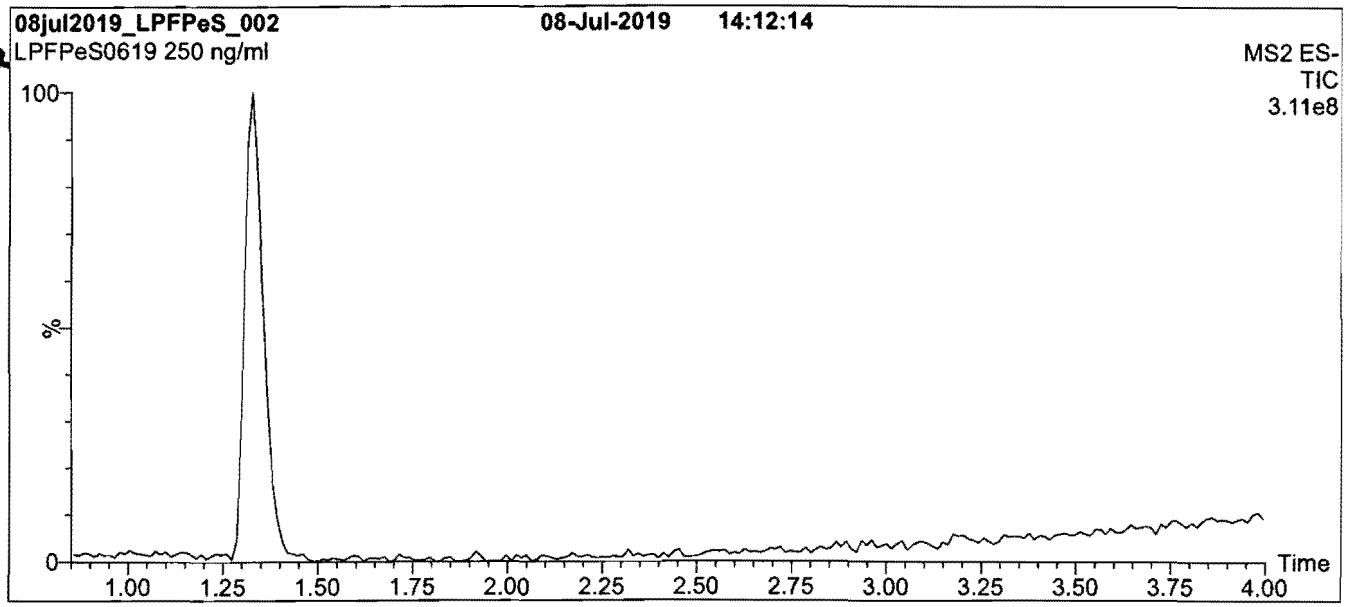
Flow: 300 µl/min

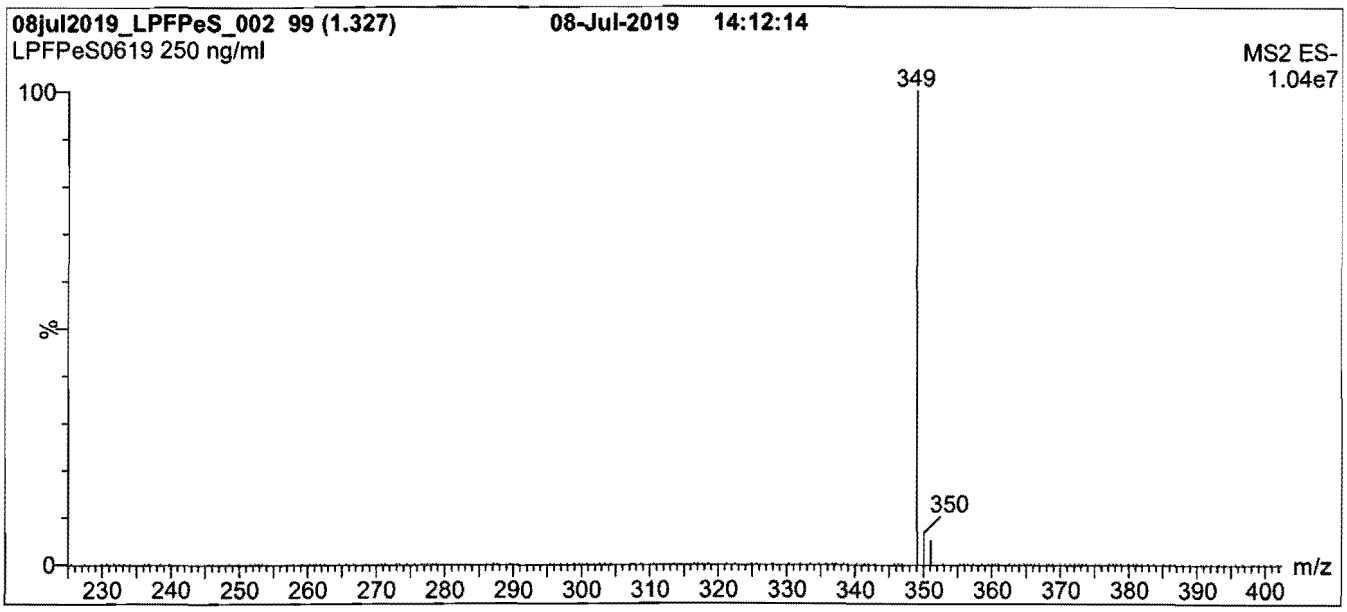
MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 32

19L0649

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: 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0649

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

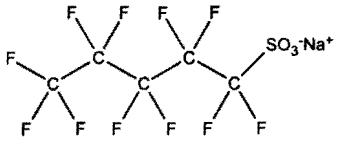
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFPeS	**LOT NUMBER:**	LPFPeS0619
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)	07/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/08/2024		
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:

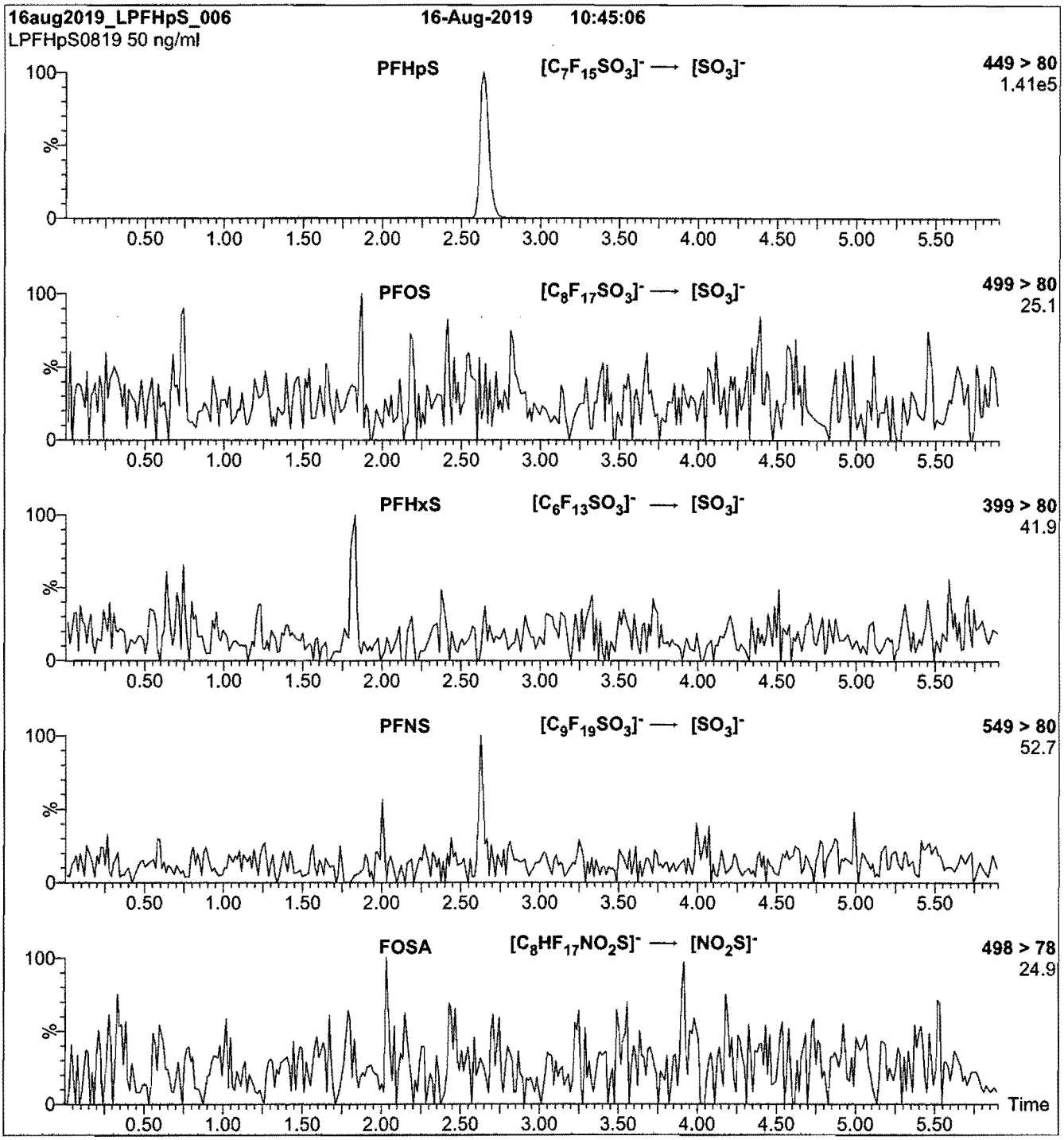
- See page 2 for further details.
- Contains ~ 0.3% of sodium perfluoro-1-nonanesulfonate (L-PFNS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/11/2019 (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

Figure 2: **L-PFHpS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFHpS)

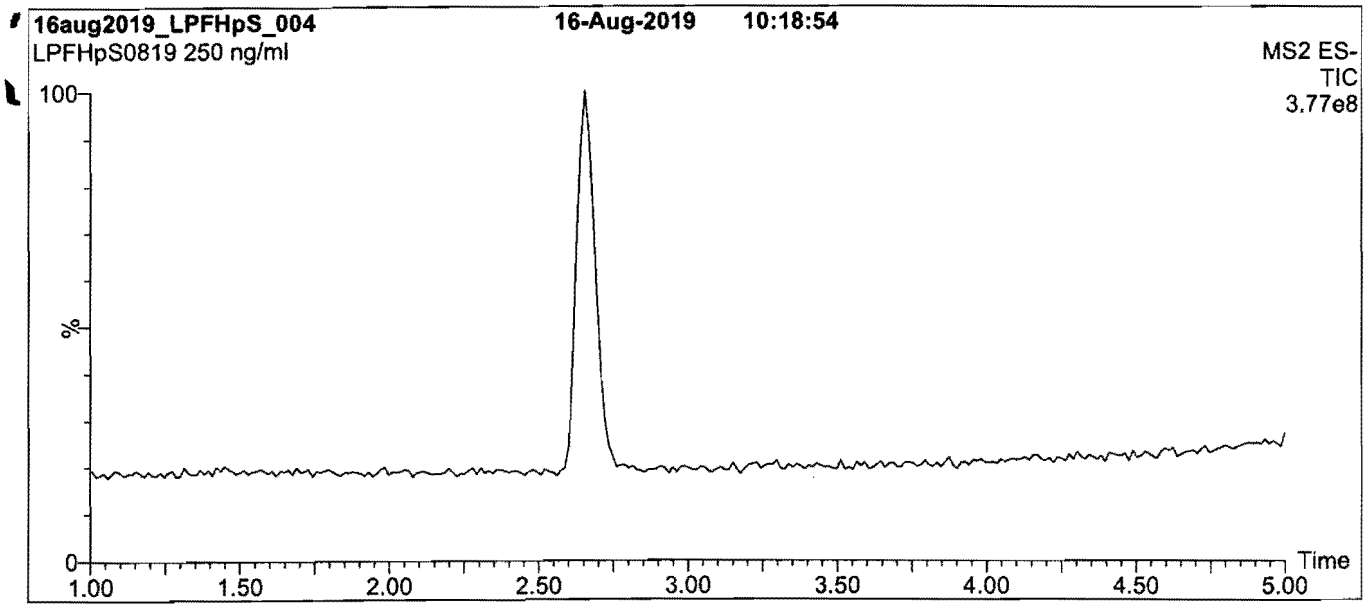
Mobile phase: Same as Figure 1

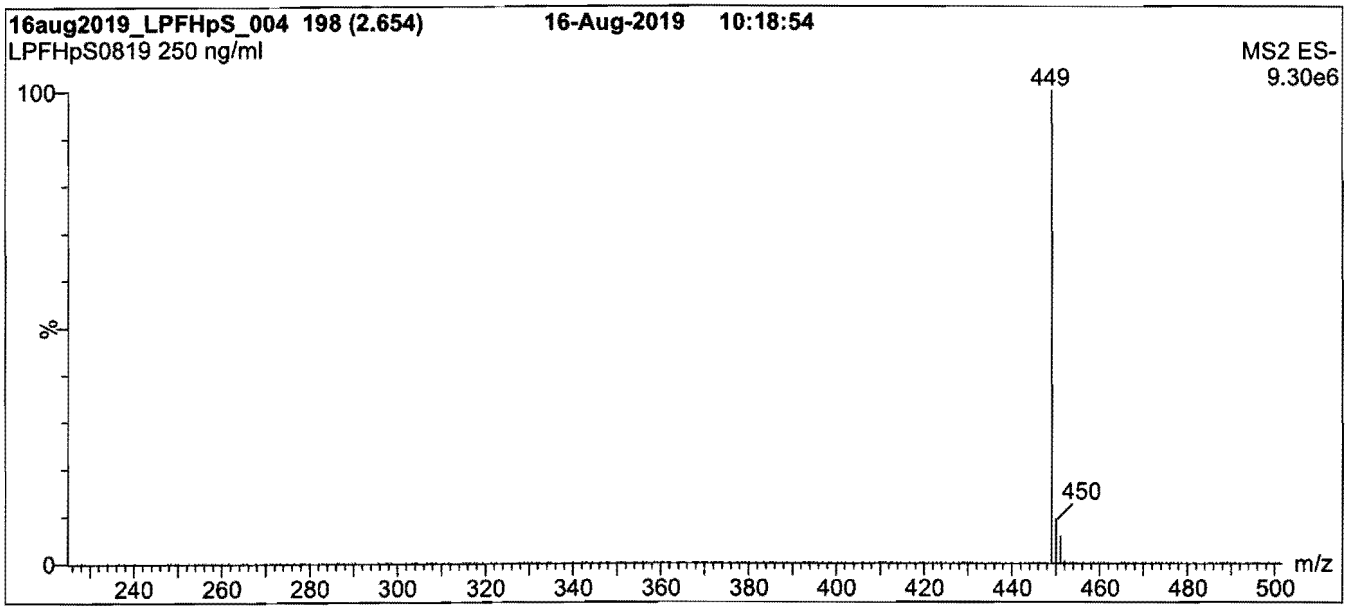
Flow: 300 µl/min

MS Parameters
Collision Gas (mbar) = 3.61e-3
Collision Energy (eV) = 42

191650

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: 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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 REFERENCE MATERIAL PRODUCER

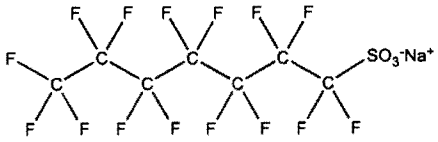
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0650

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFHpS	**LOT NUMBER:**	LPFHpS0819
COMPOUND:	Sodium perfluoro-1-heptanesulfonate		
STRUCTURE:		**CAS #:**	21934-50-9



MOLECULAR FORMULA:	$C_7F_{15}SO_3Na$	**MOLECULAR WEIGHT:**	472.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.6 ± 2.4 µg/ml (PFHpS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/16/2019		
EXPIRY DATE: (mm/dd/yyyy)	08/16/2024		
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.

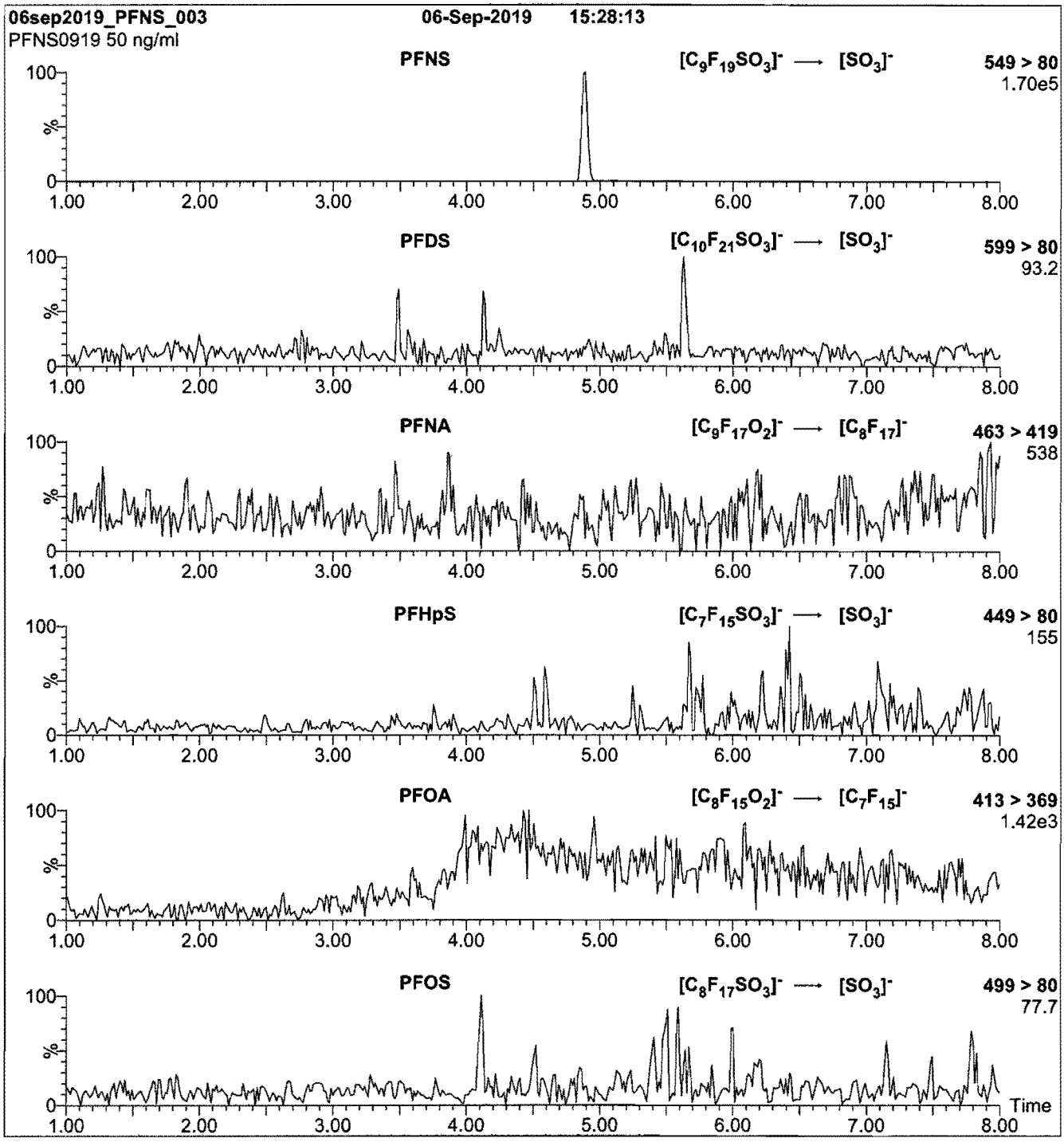
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/29/2019 (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

1912651

Figure 2: **L-PFNS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFNS)

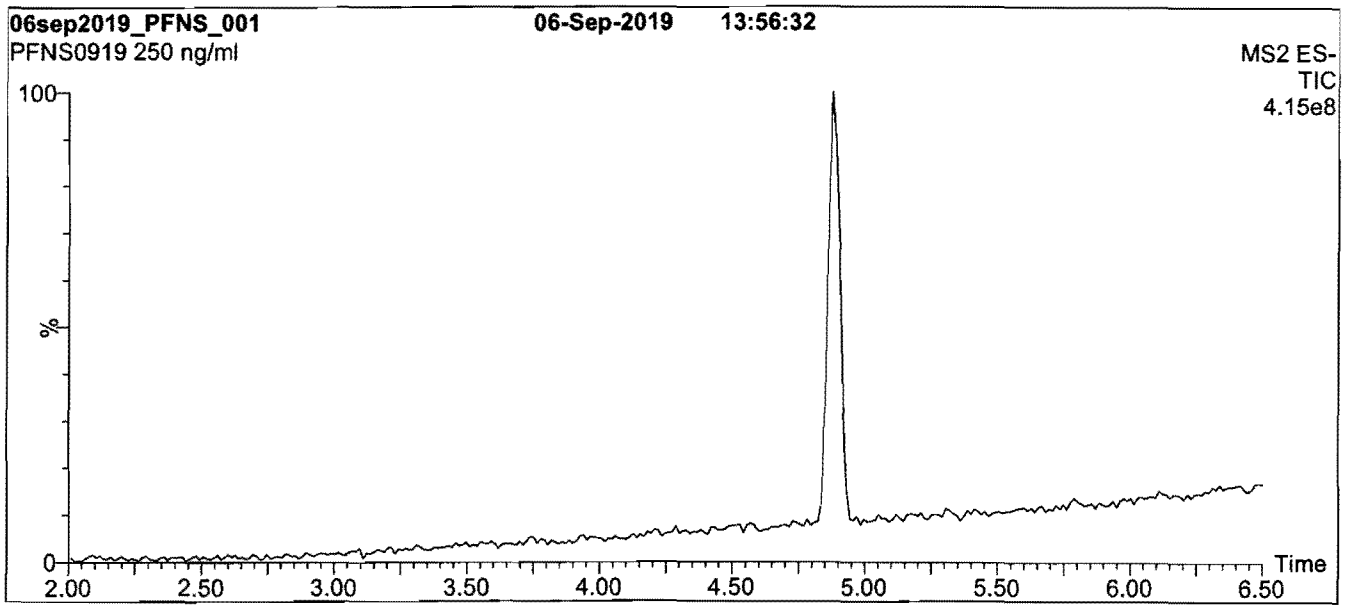
Mobile phase: Same as Figure 1

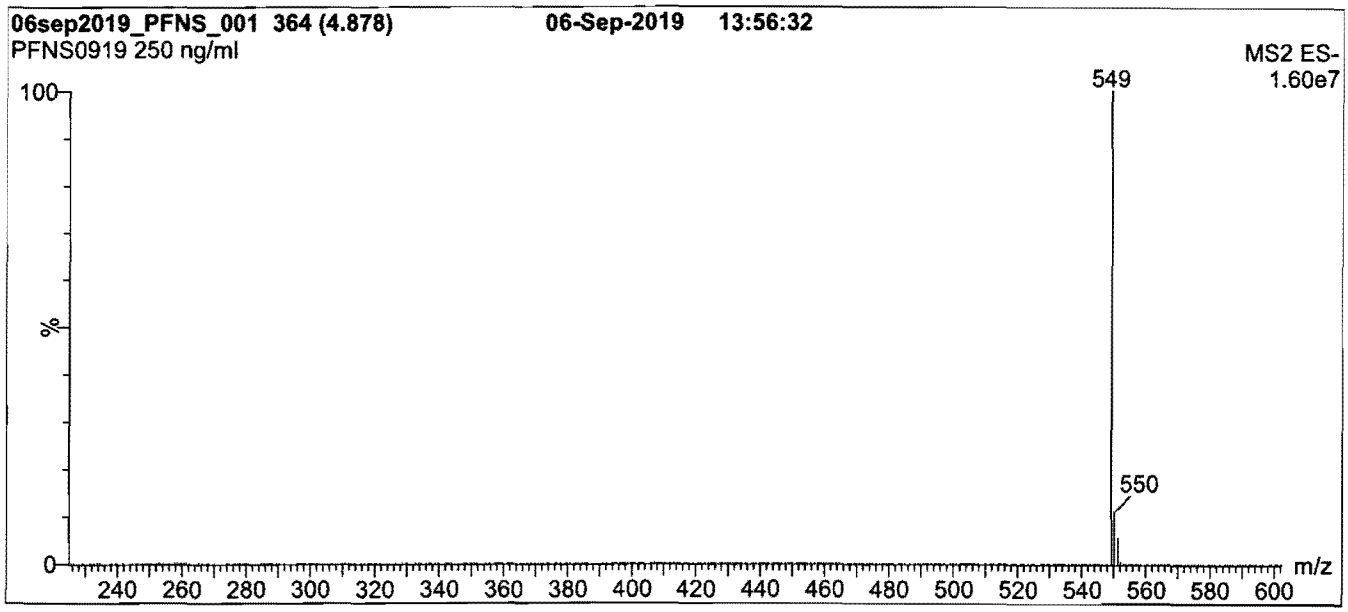
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 64

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: 55% (80:20 MeOH:ACN) / 45% 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) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

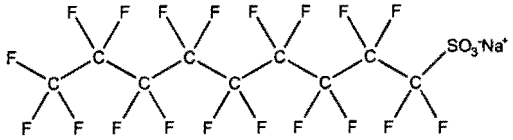
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFNS	**LOT NUMBER:**	LPFNS0919
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)	09/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/06/2024		
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.

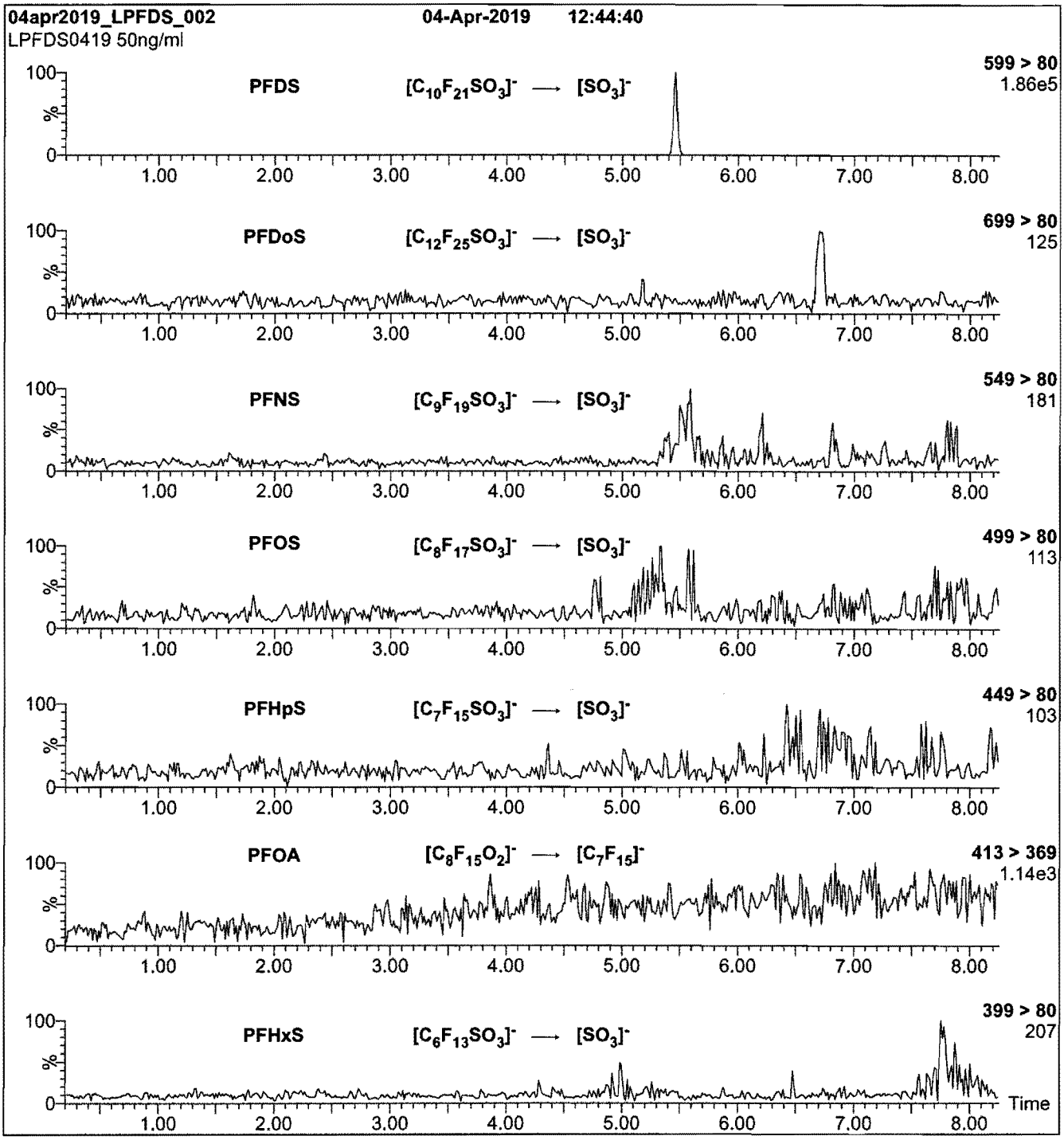
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (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

19L0652

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

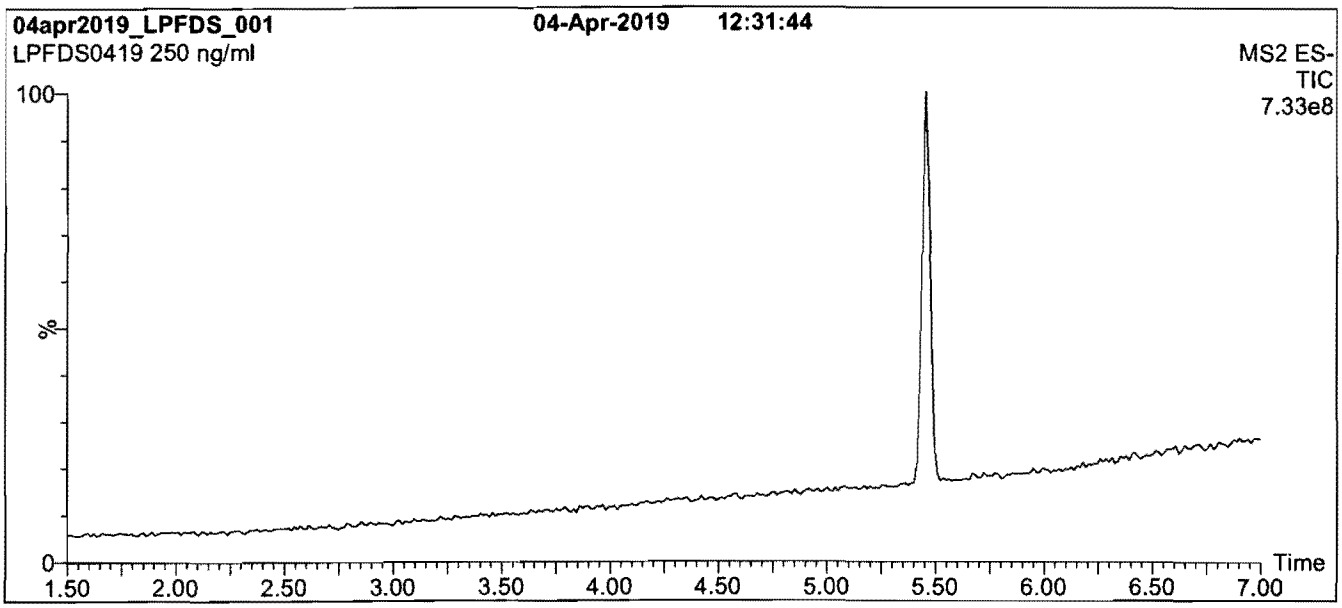
Flow: 300 µl/min

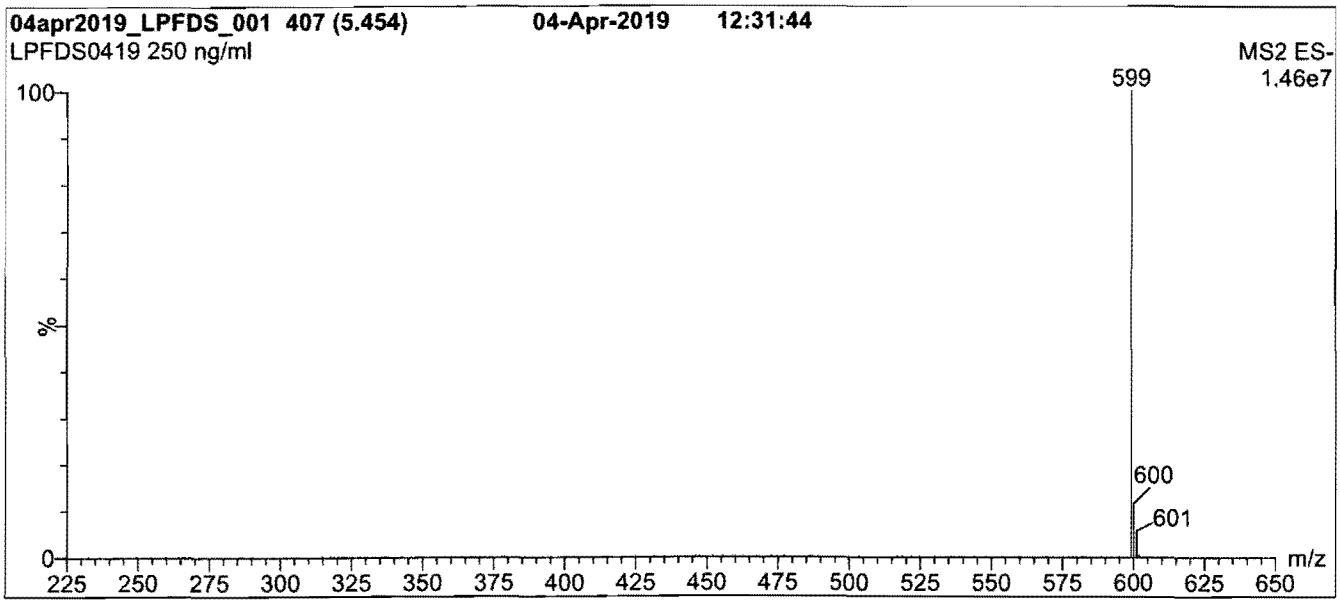
MS Parameters

Collision Gas (mbar) = 2.99e-3
Collision Energy (eV) = 56

19L0652

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: 55% (80:20 MeOH:ACN) / 45% 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

19L0652

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

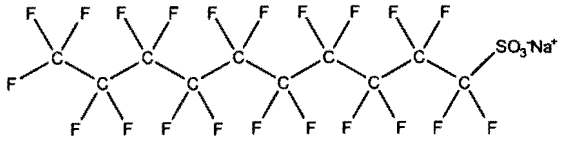
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0652

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFDS	**LOT NUMBER:**	LPFDS0419
COMPOUND:	Sodium perfluoro-1-decanesulfonate		
STRUCTURE:		**CAS #:**	2806-15-7



MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	04/04/2024		
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).

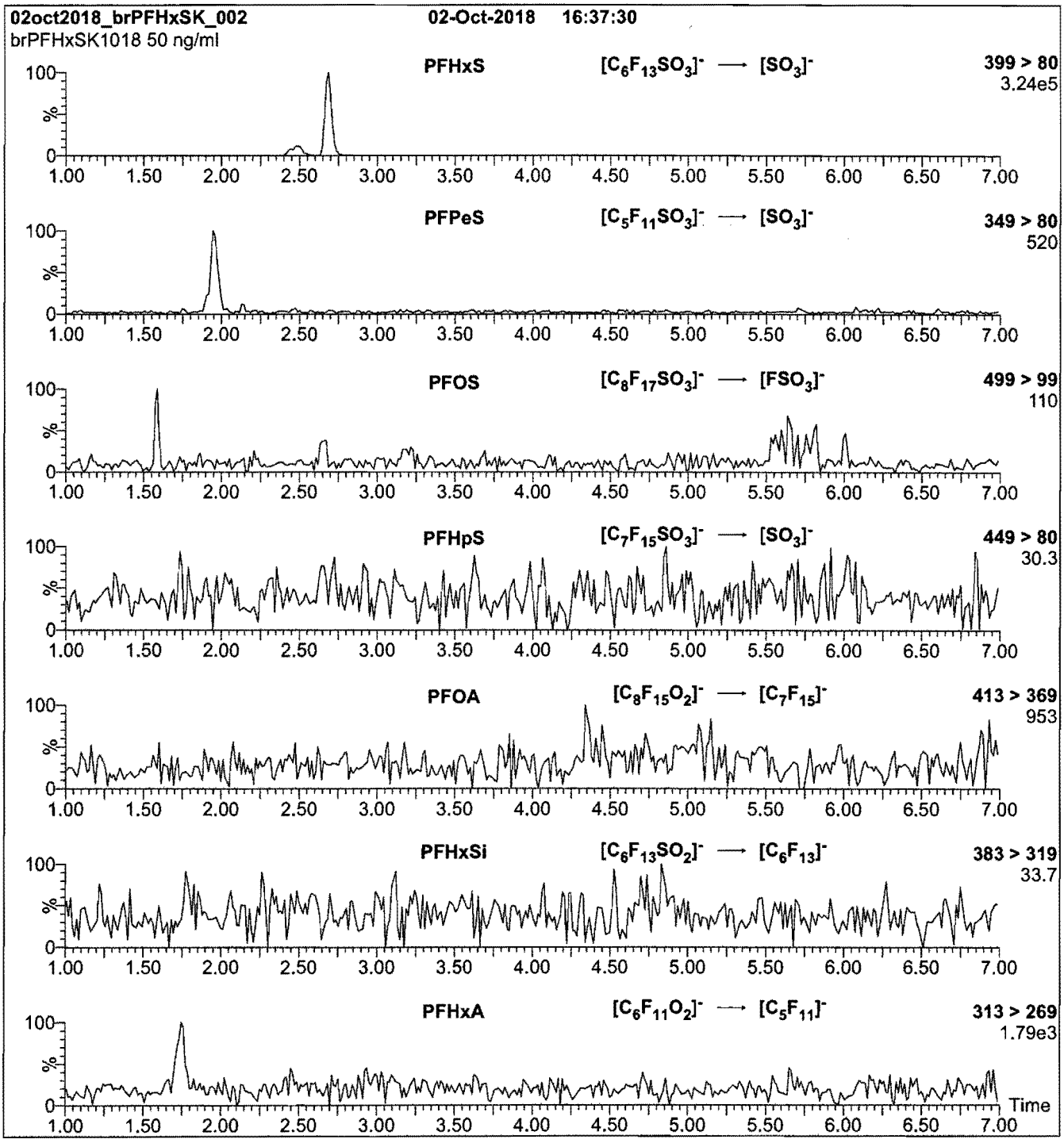
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/30/2019 (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

19L0653

Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFHxSK)

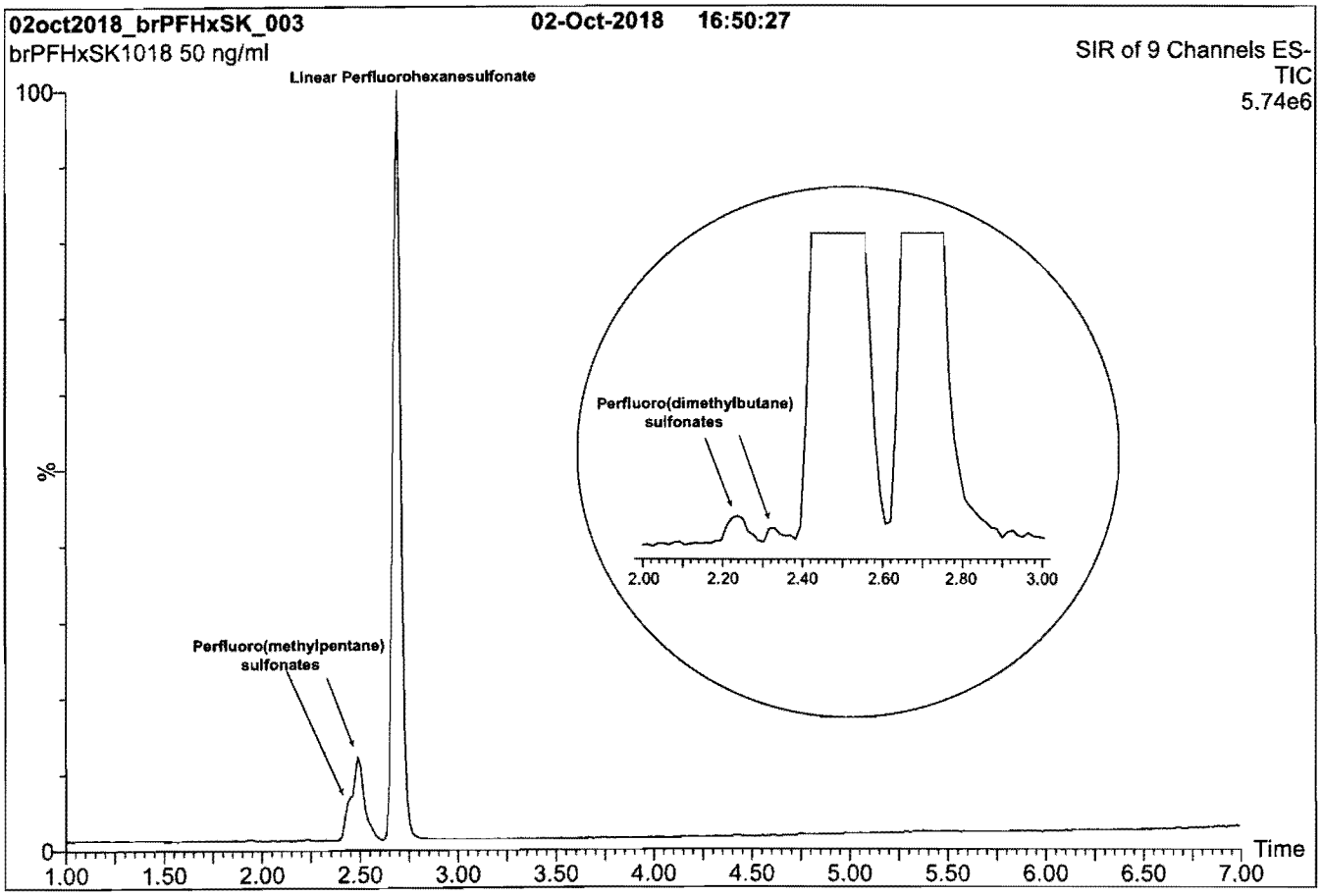
Mobile phase: Same as Figures 1 and 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.87e-3
Collision Energy (eV) = 42

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

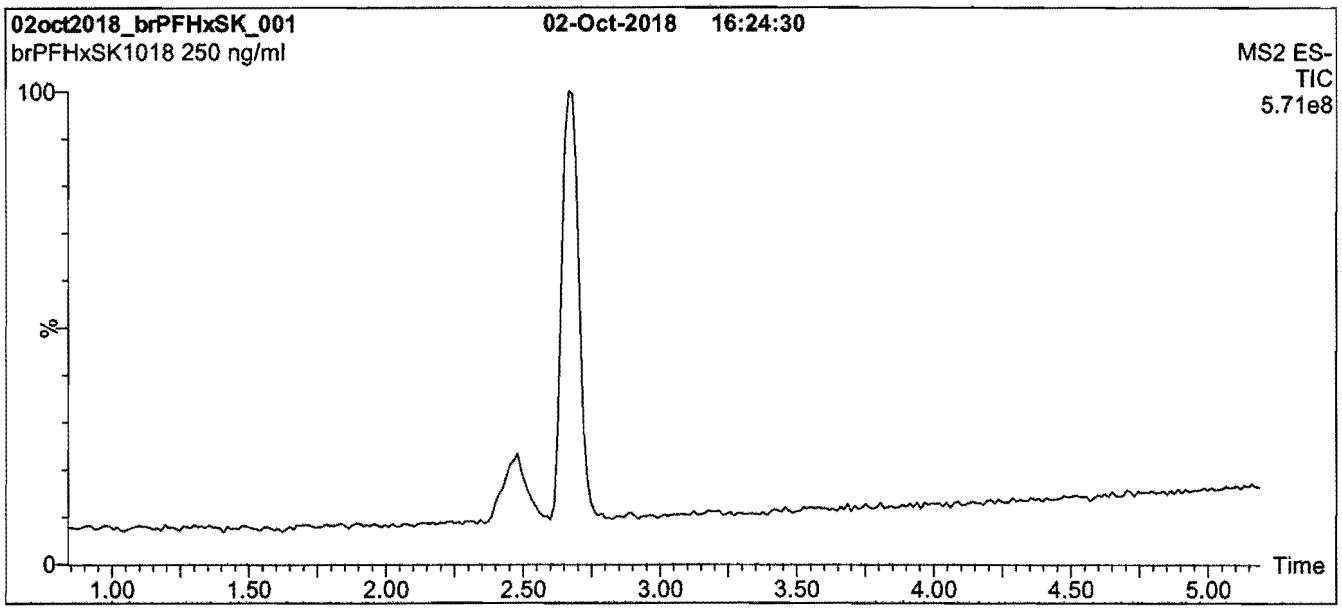
MS Parameters

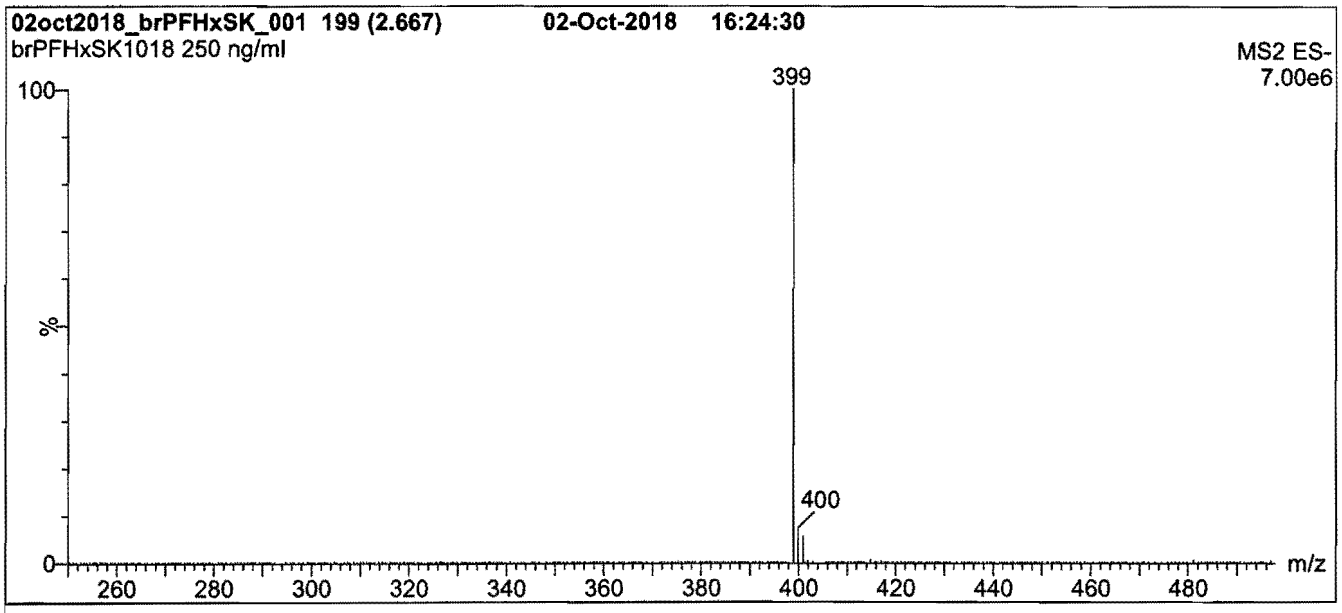
Experiment: SIR (9 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2 - 6)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0653

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

19L0653

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

19L0653

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. 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

19L0653

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:

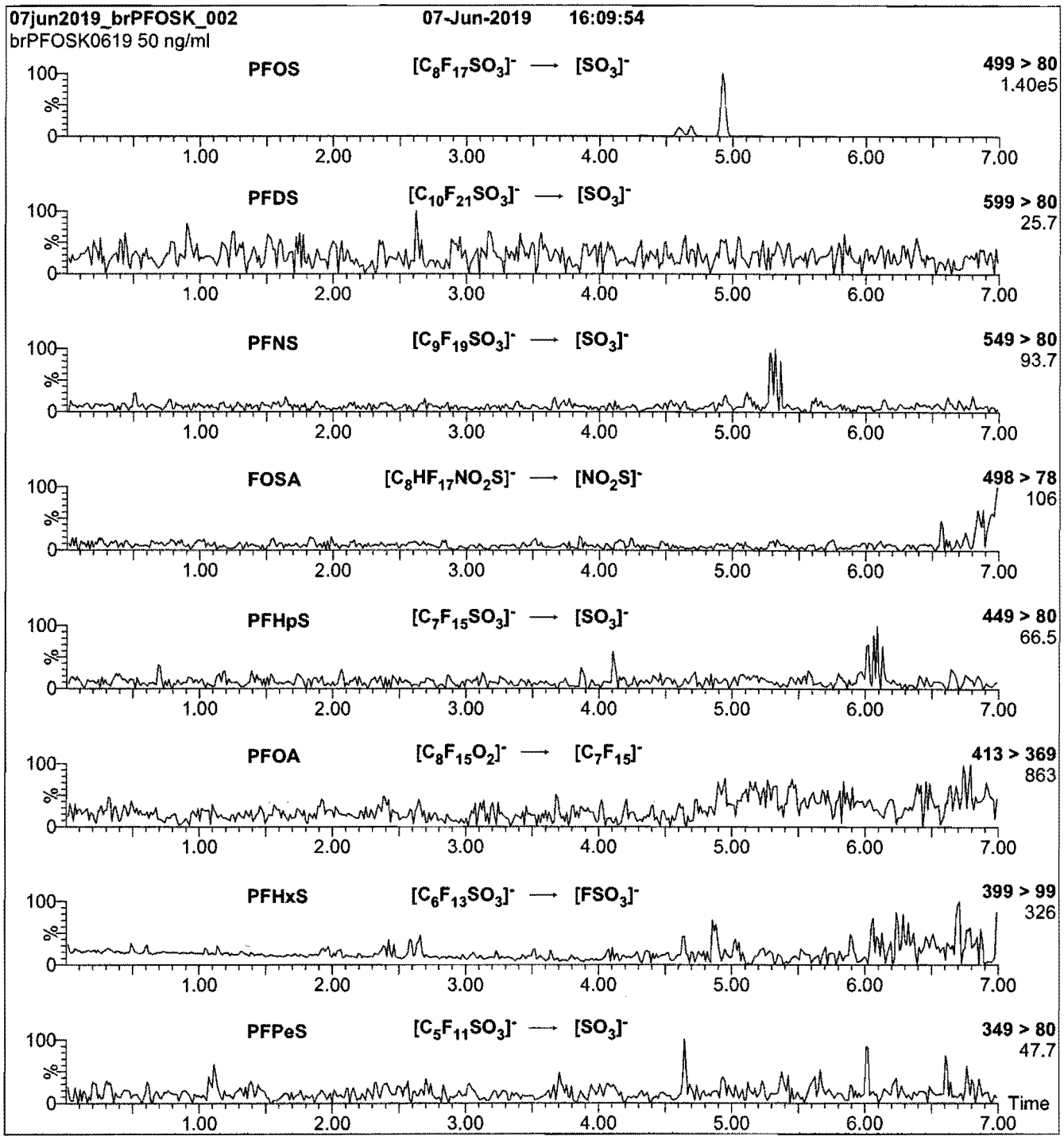
- See page 2 for further details.
- Contains ~ 0.3% of perfluoro-n-hexanoic acid and ~ 0.15% of perfluoro-1-pentanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0654

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFOSK)

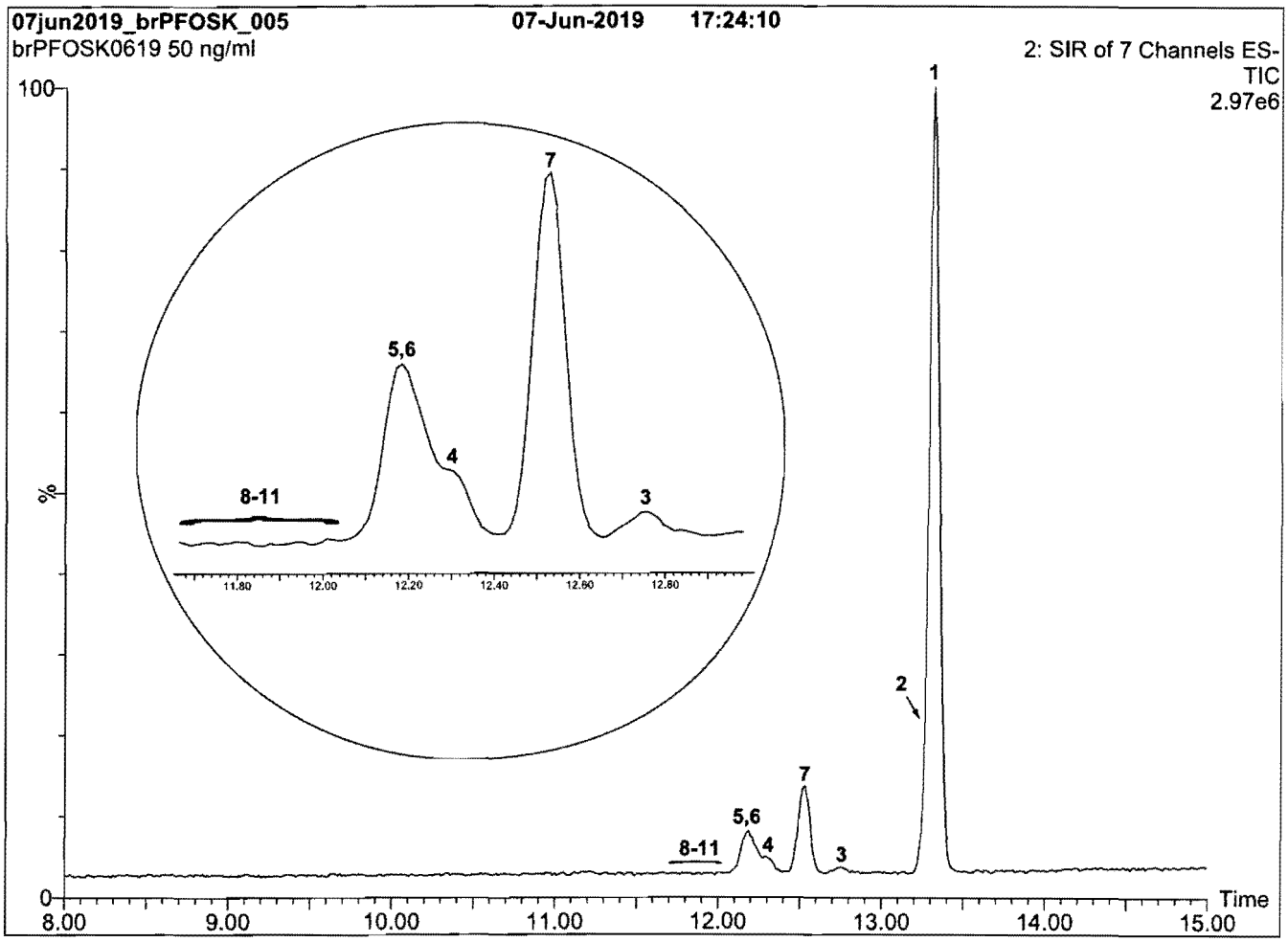
Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 64

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
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.
Return to initial conditions over 0.75 min.
Time: 12 min

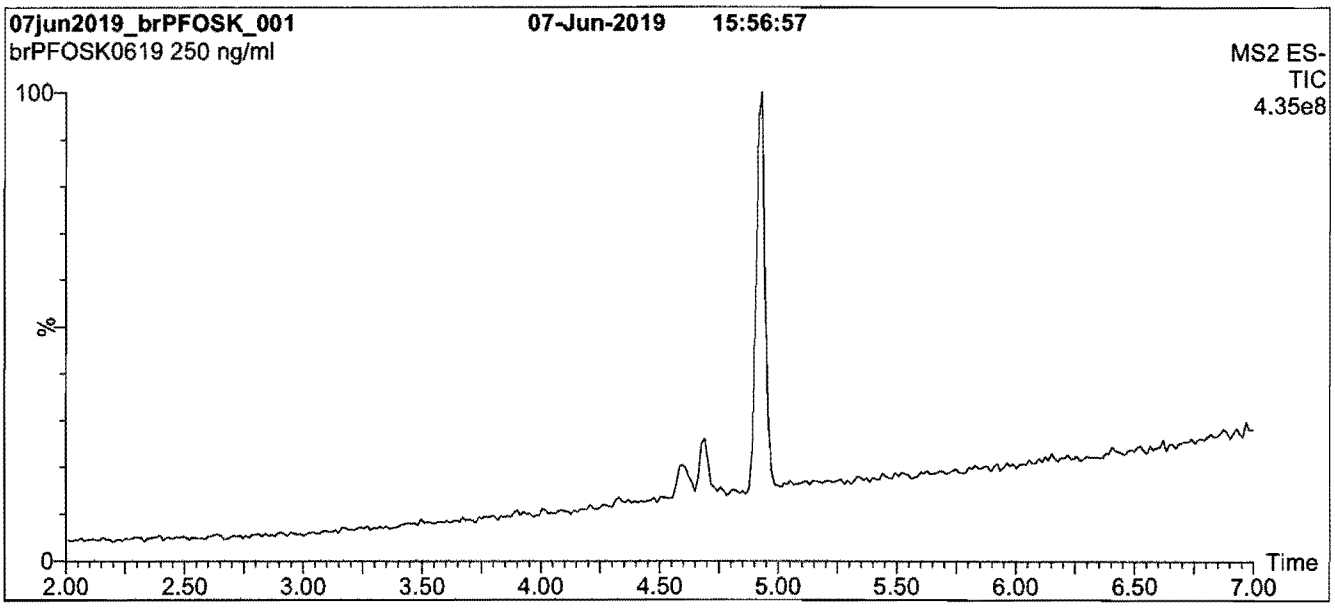
Flow: 300 µl/min

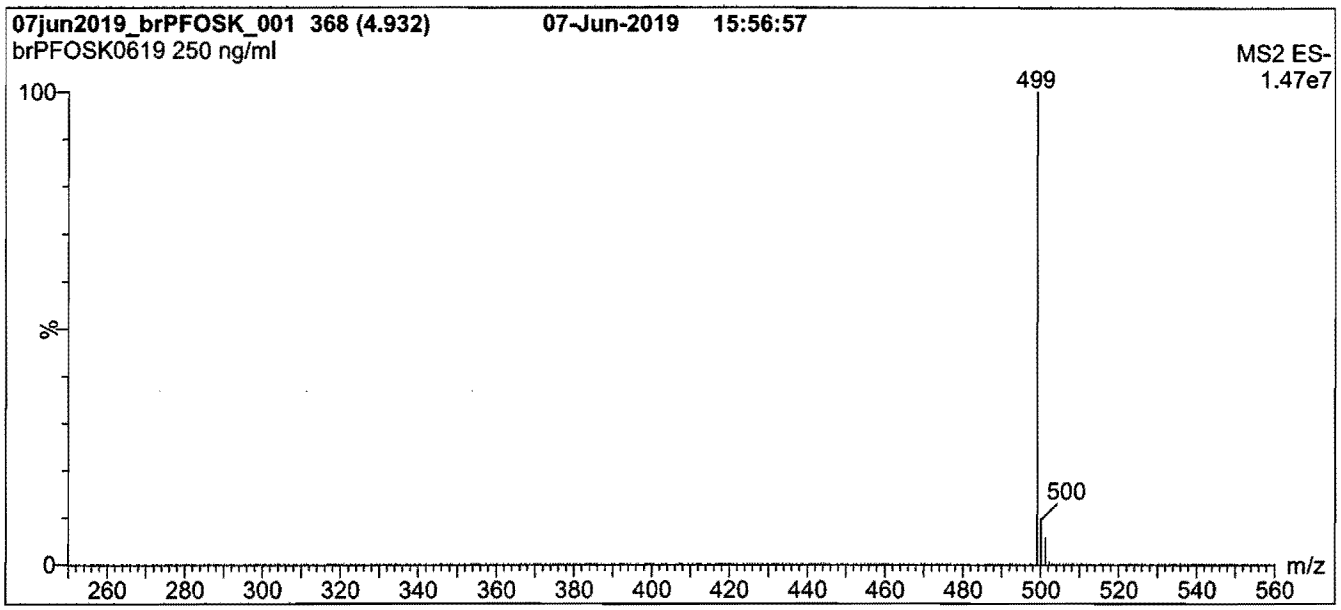
MS Conditions:

SIR (ES^-)
Source = 120 °C
Desolvation = 500 °C
Cone Voltage = 2.00V

1910654

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: 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.
Return to initial conditions over 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

19L0654

Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)_2CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	0.07

* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: _____ **Date:** 06/17/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

19L0654

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. 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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0619
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)	06/03/2019
LAST TESTED: (mm/dd/yyyy)	06/07/2019
EXPIRY DATE: (mm/dd/yyyy)	06/07/2024
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)

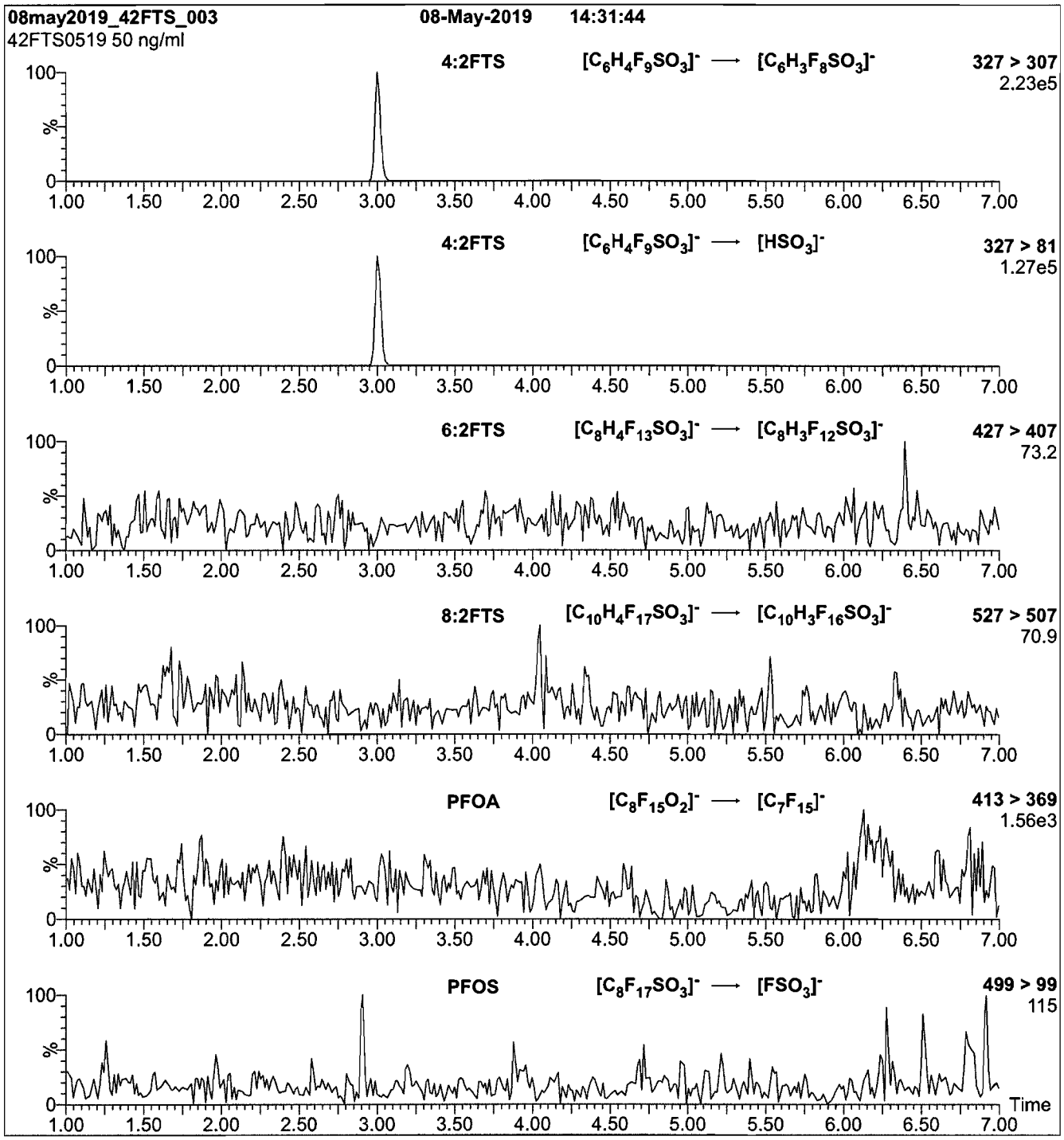
ADDITIONAL INFORMATION:

- 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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (4:2FTS)

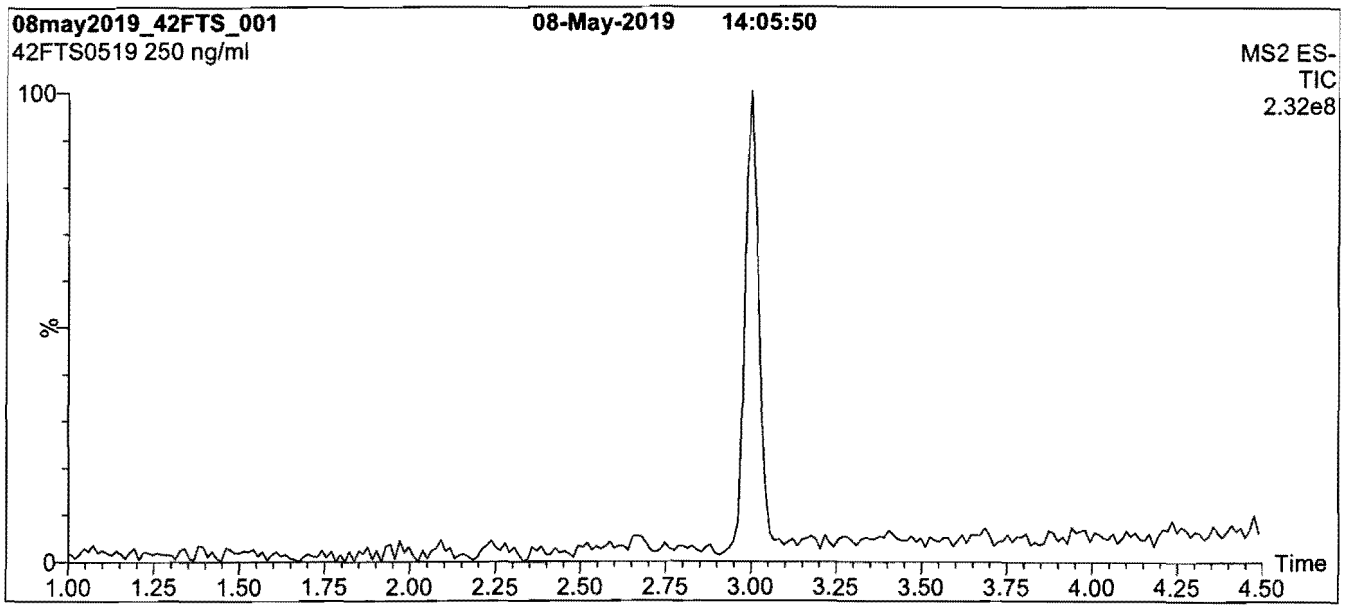
Mobile phase: Same as Figure 1

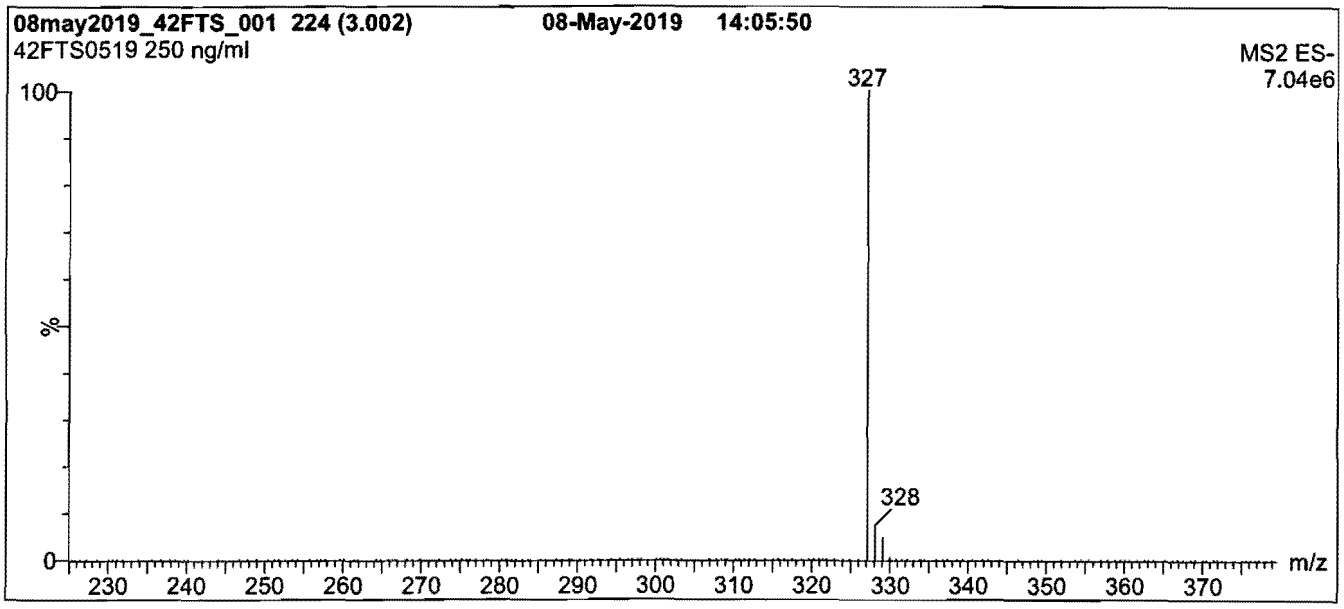
Flow: 300 µl/min

MS Parameters
Collision Gas (mbar) = 3.07e-3
Collision Energy (eV) = 18

19L0655

Figure 1: 4:2FTS; 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: 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: 11 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) = 1000

19L0655

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 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

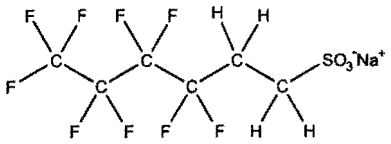
19L0655

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 4:2FTS **LOT NUMBER:** 42FTS0519
COMPOUND: Sodium 1H,1H,2H,2H-perfluorohexane sulfonate

STRUCTURE: **CAS #:** 27619-93-8



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)	05/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/08/2024		
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.

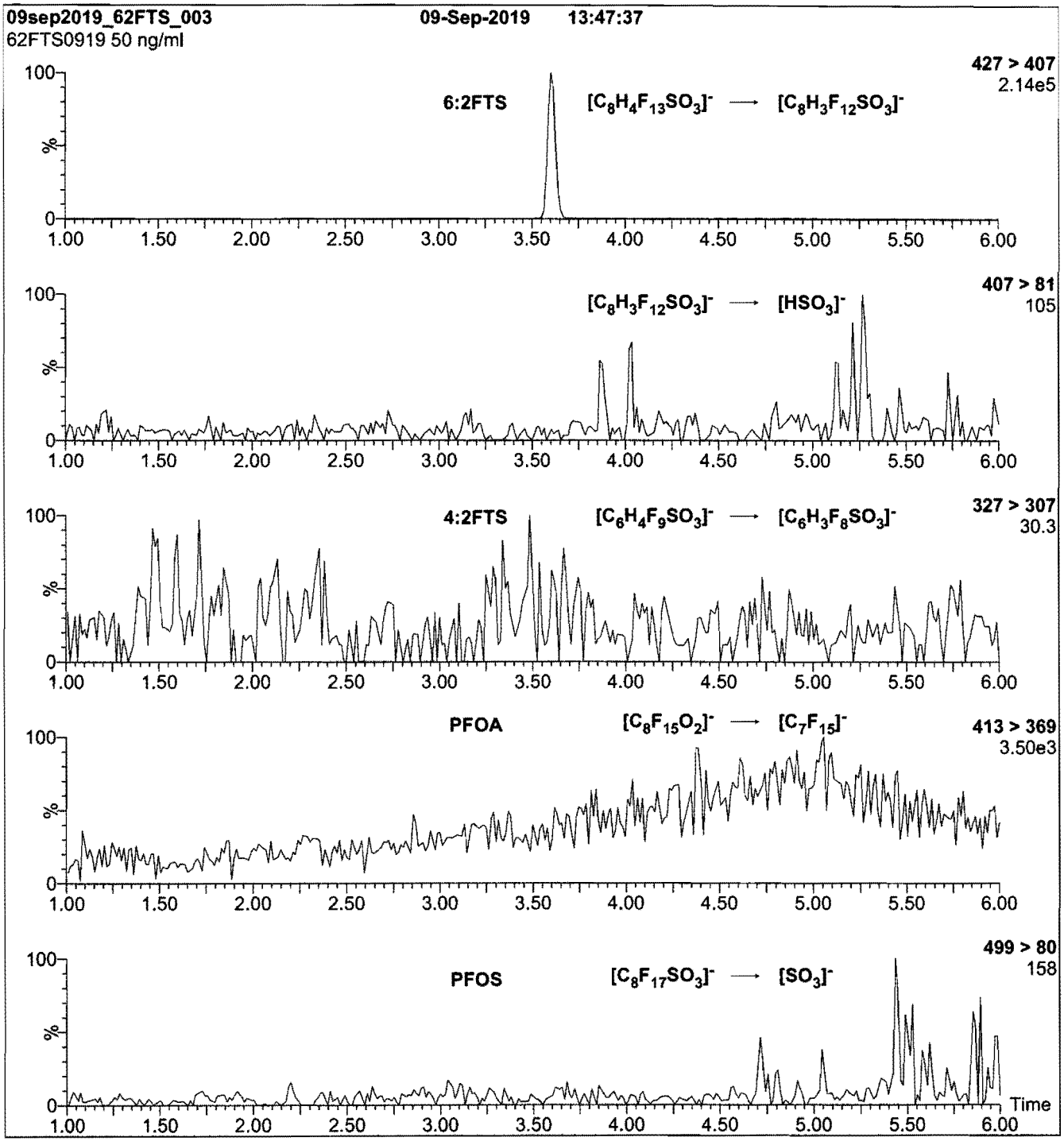
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/09/2019 (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

19L0656

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

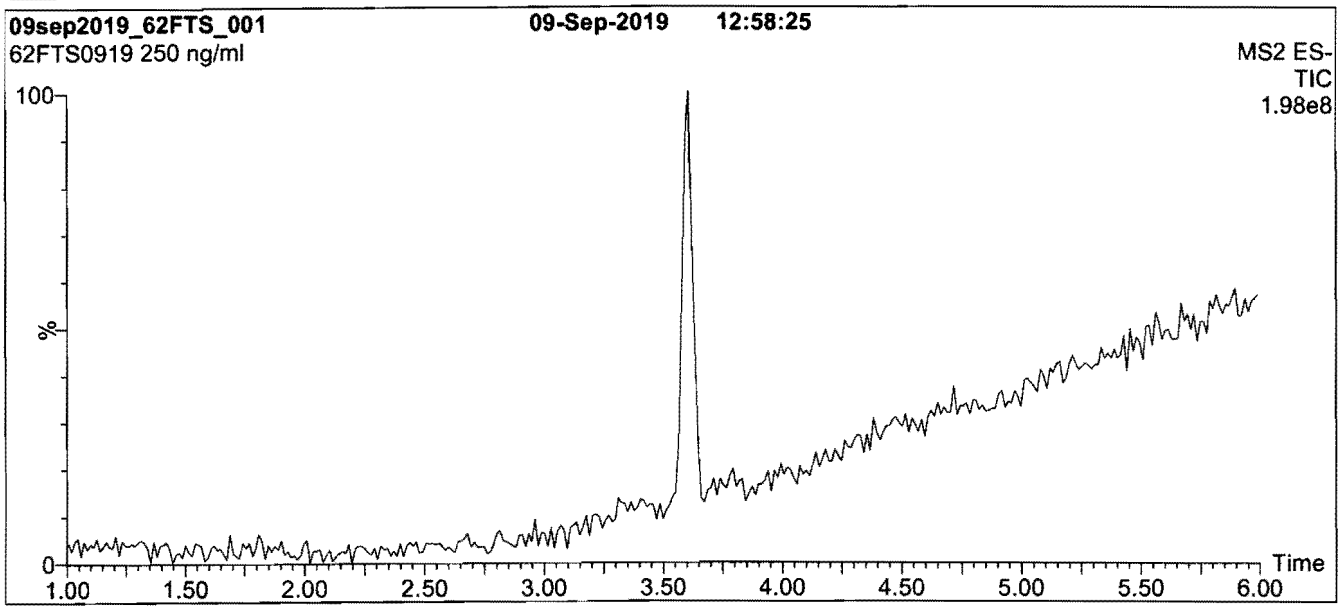
Flow: 300 µl/min

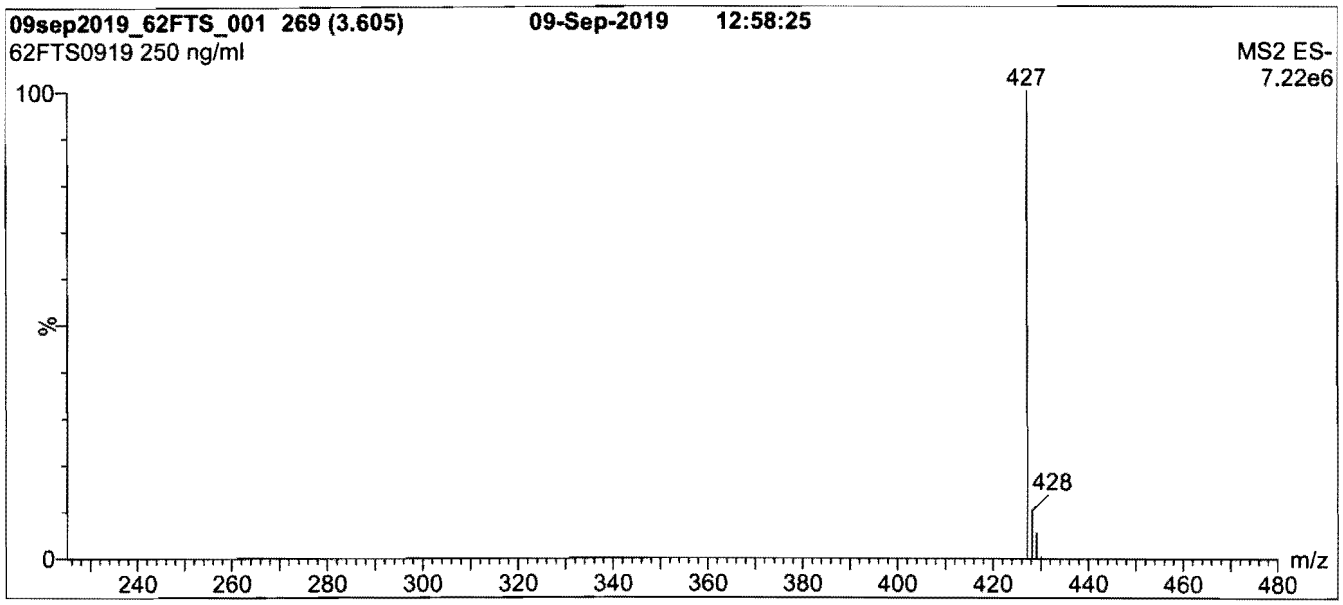
MS Parameters

Collision Gas (mbar) = 3.61e-3
Collision Energy (eV) = 20

19L0656

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 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) = 1000

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 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

19L0656

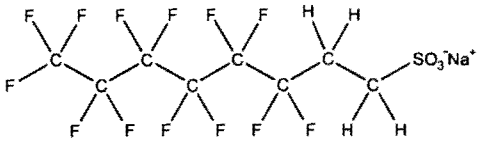
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0919

COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE: **CAS #:** 27619-94-9



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)	09/09/2019			
EXPIRY DATE: (mm/dd/yyyy)	09/09/2024			
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:

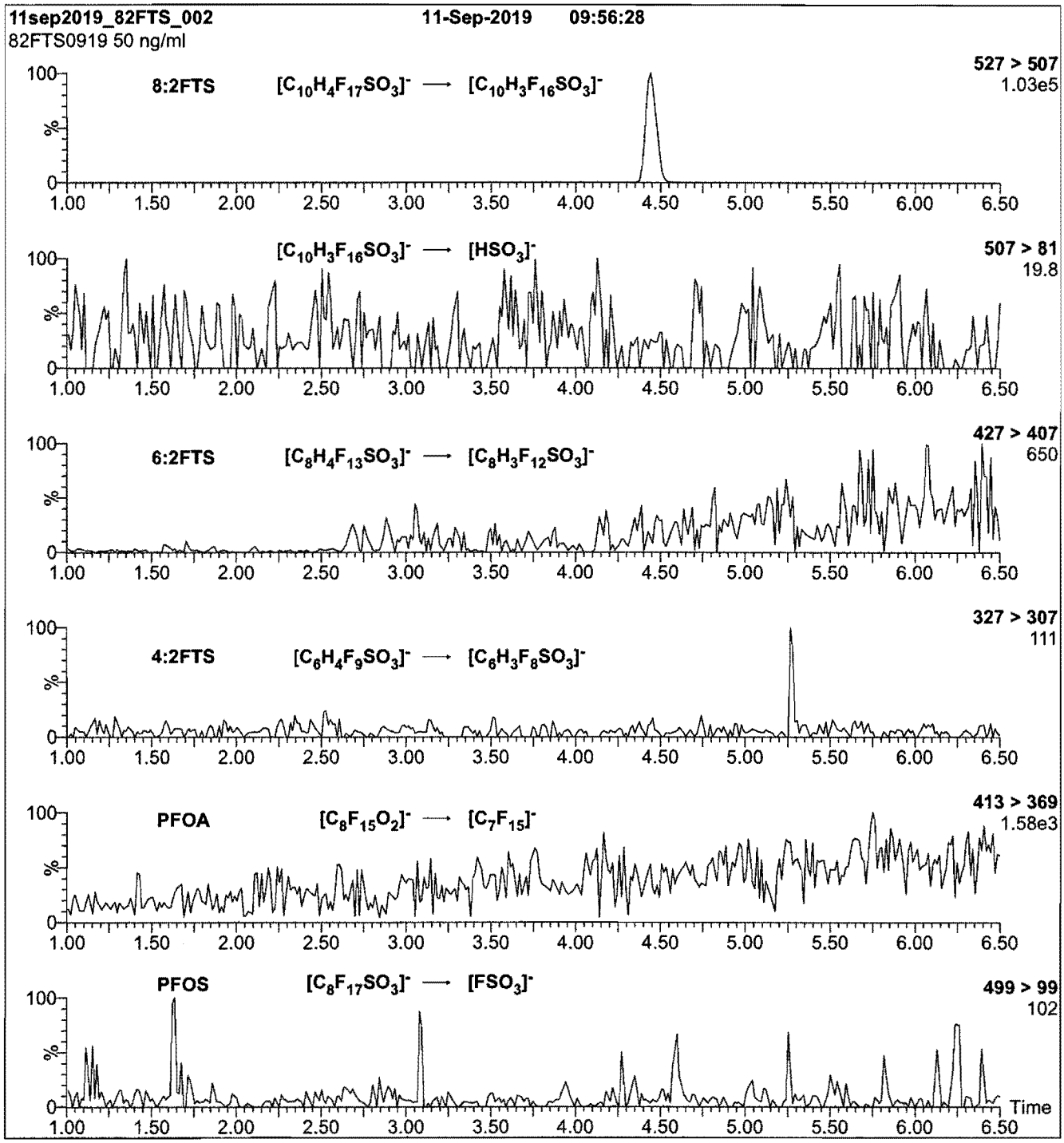
- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (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

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

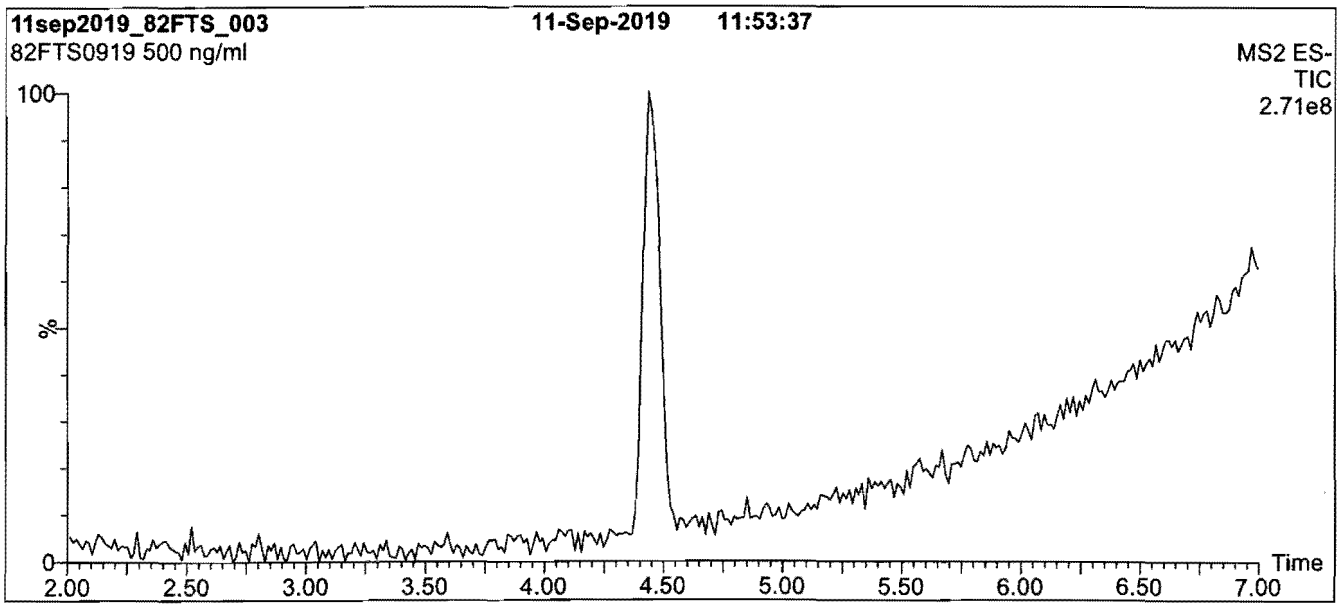
Flow: 300 µl/min

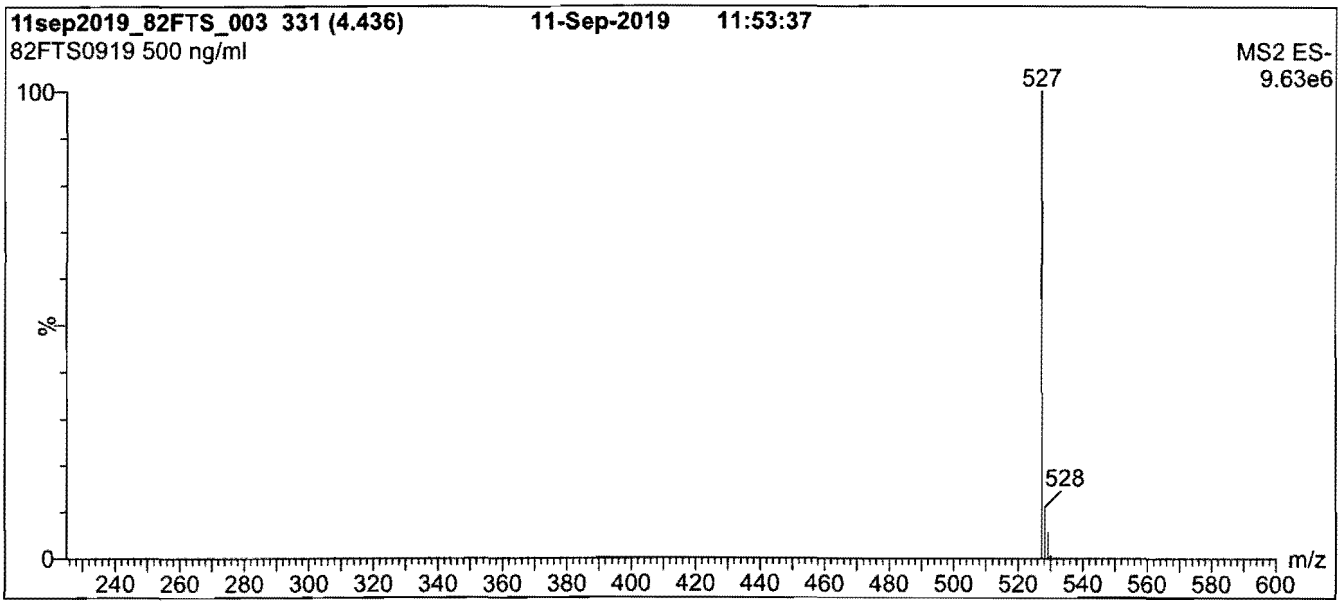
MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 26

19L0657

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: 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) = 1000

19L0657

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 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

19L0657

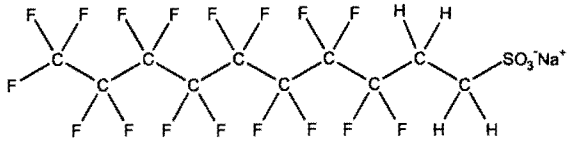
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS0919

COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** 27619-96-1



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)	09/11/2019			
EXPIRY DATE: (mm/dd/yyyy)	09/11/2024			
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.

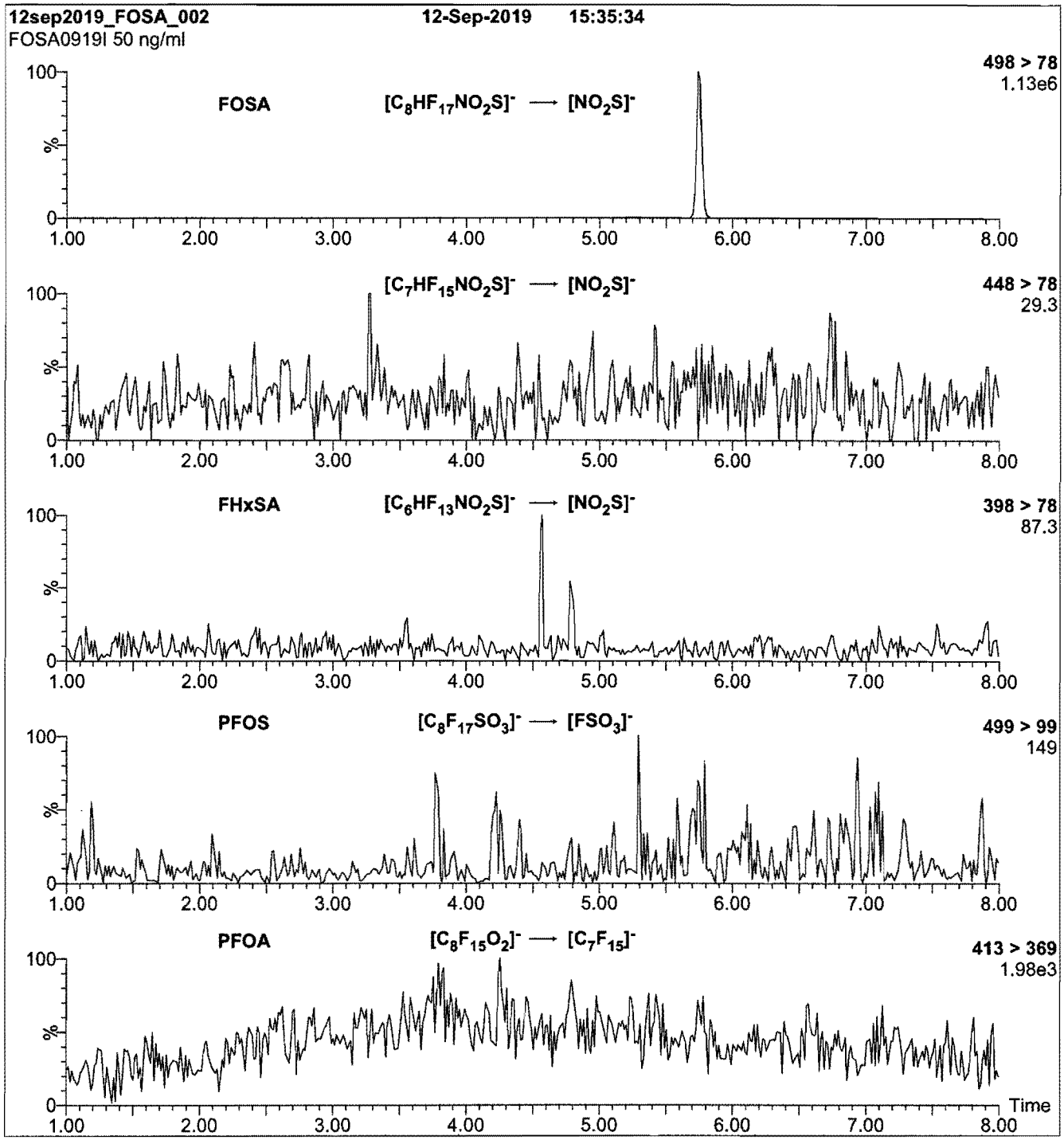
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/11/2019 (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

19L0658

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

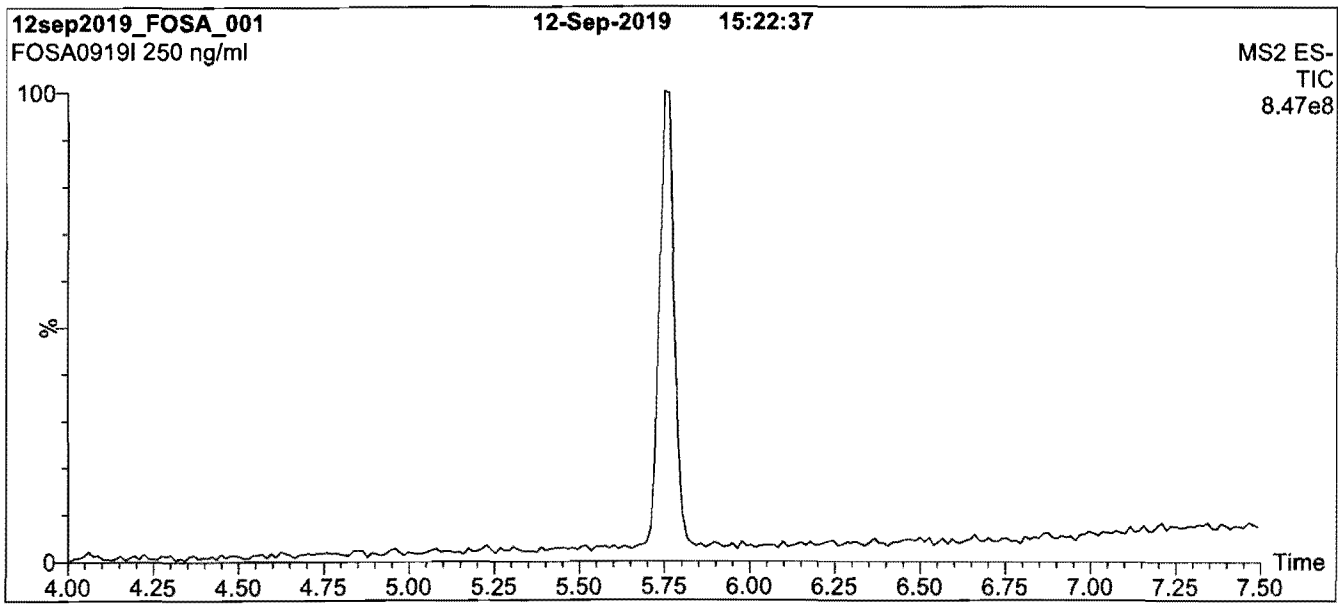
MS Parameters

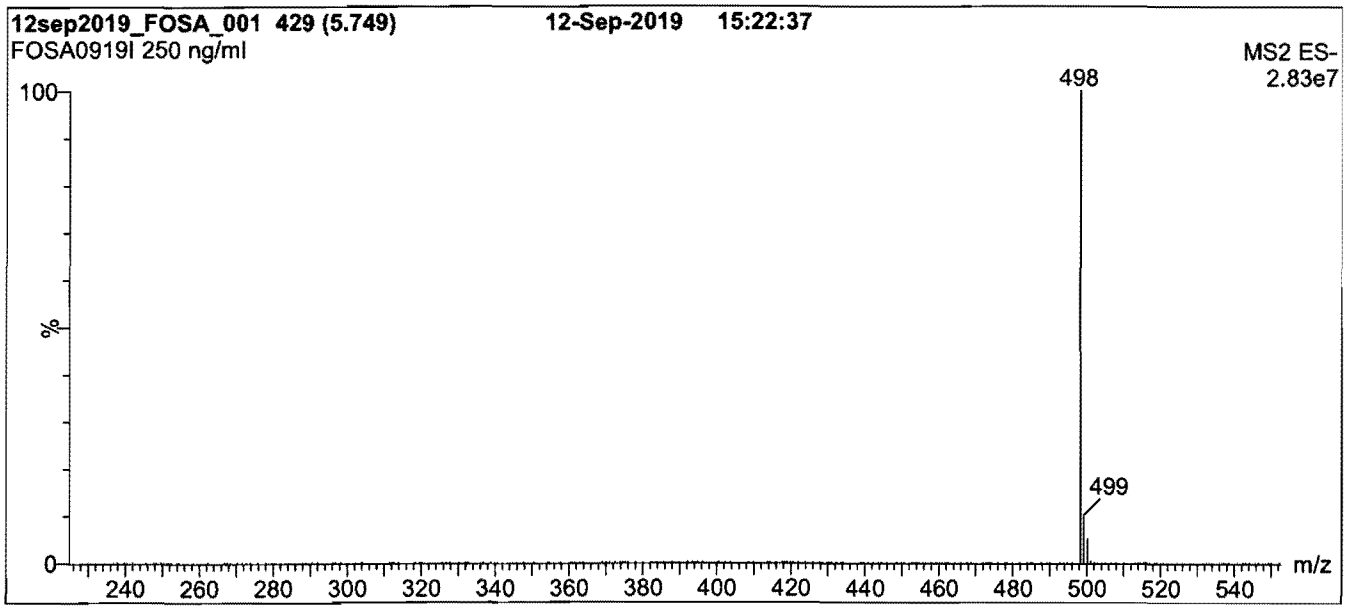
Collision Gas (mbar) = 3.57e-3

Collision Energy (eV) = 30

19L0658

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: 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) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

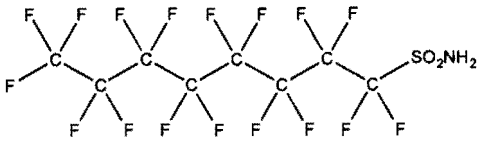
19L0658

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FOSA-I
COMPOUND: Perfluoro-1-octanesulfonamide
LOT NUMBER: FOSA0919I

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)	09/12/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/12/2024		
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:

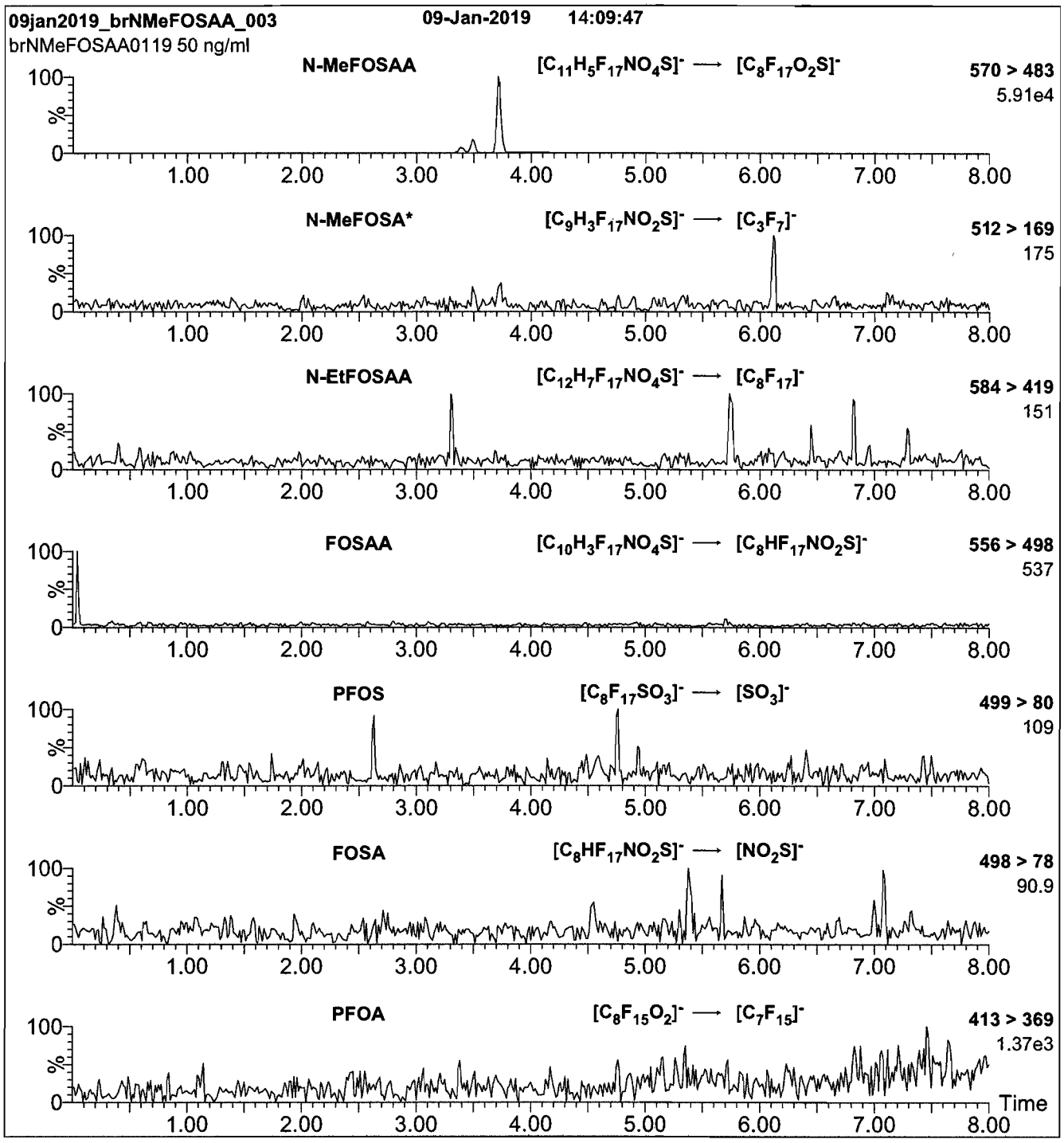
- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/13/2019 (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

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 (br-NMeFOSAA)

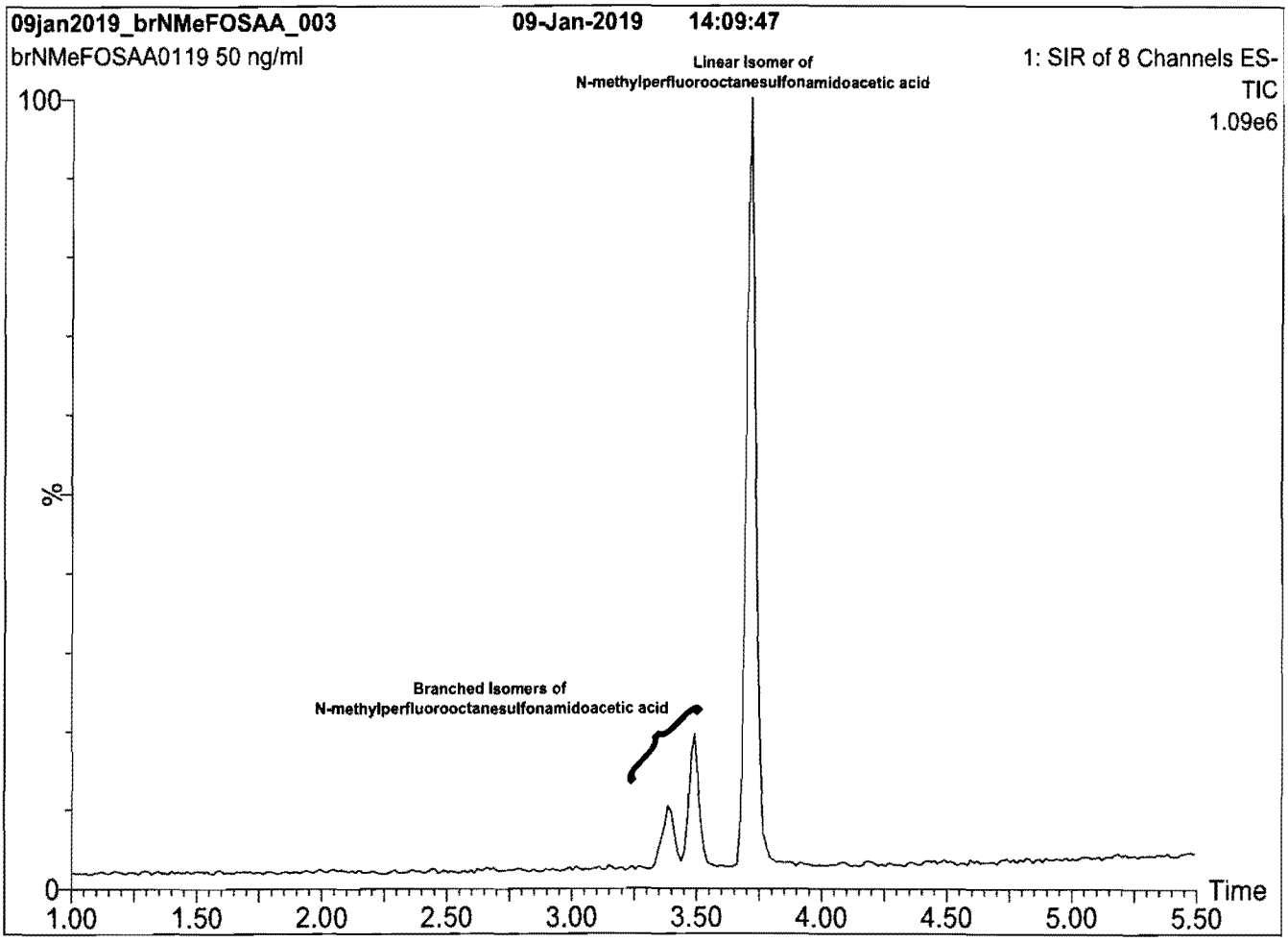
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.79e-3
Collision Energy (eV) = 16

Figure 2: **br-NMeFOSAA; 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

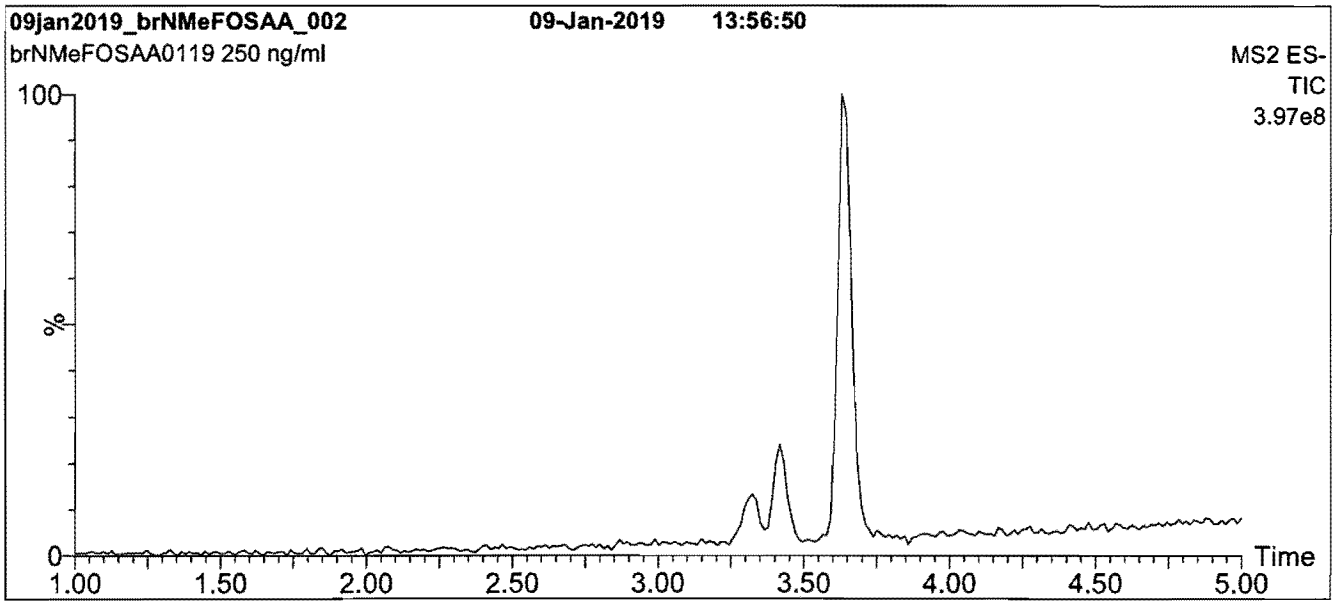
Flow: 300 µl/min

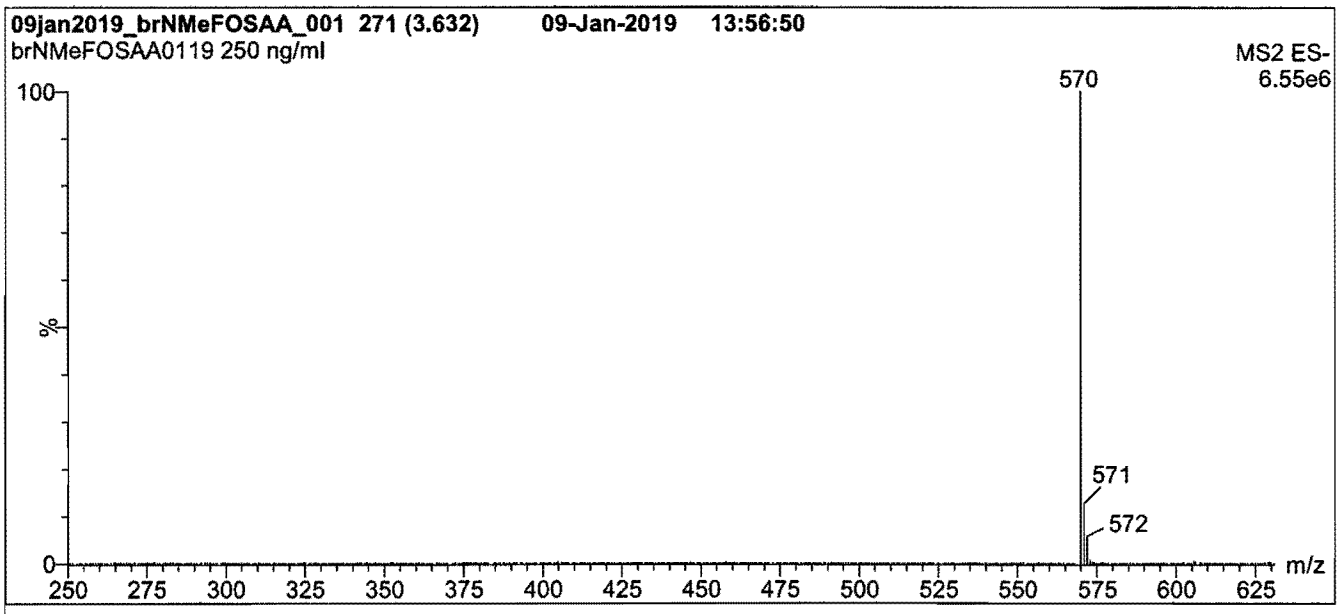
MS Parameters

Experiment: SIR (8 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 2-64
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 1: **br-NMeFOSAA; 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) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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:** 01/16/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

19L0659

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:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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 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

19L0659

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

N-Methylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NMeFOSAA
LOT NUMBER:	brNMeFOSAA0119
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	01/02/2019
LAST TESTED: (mm/dd/yyyy)	01/09/2019
EXPIRY DATE: (mm/dd/yyyy)	01/09/2024
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)

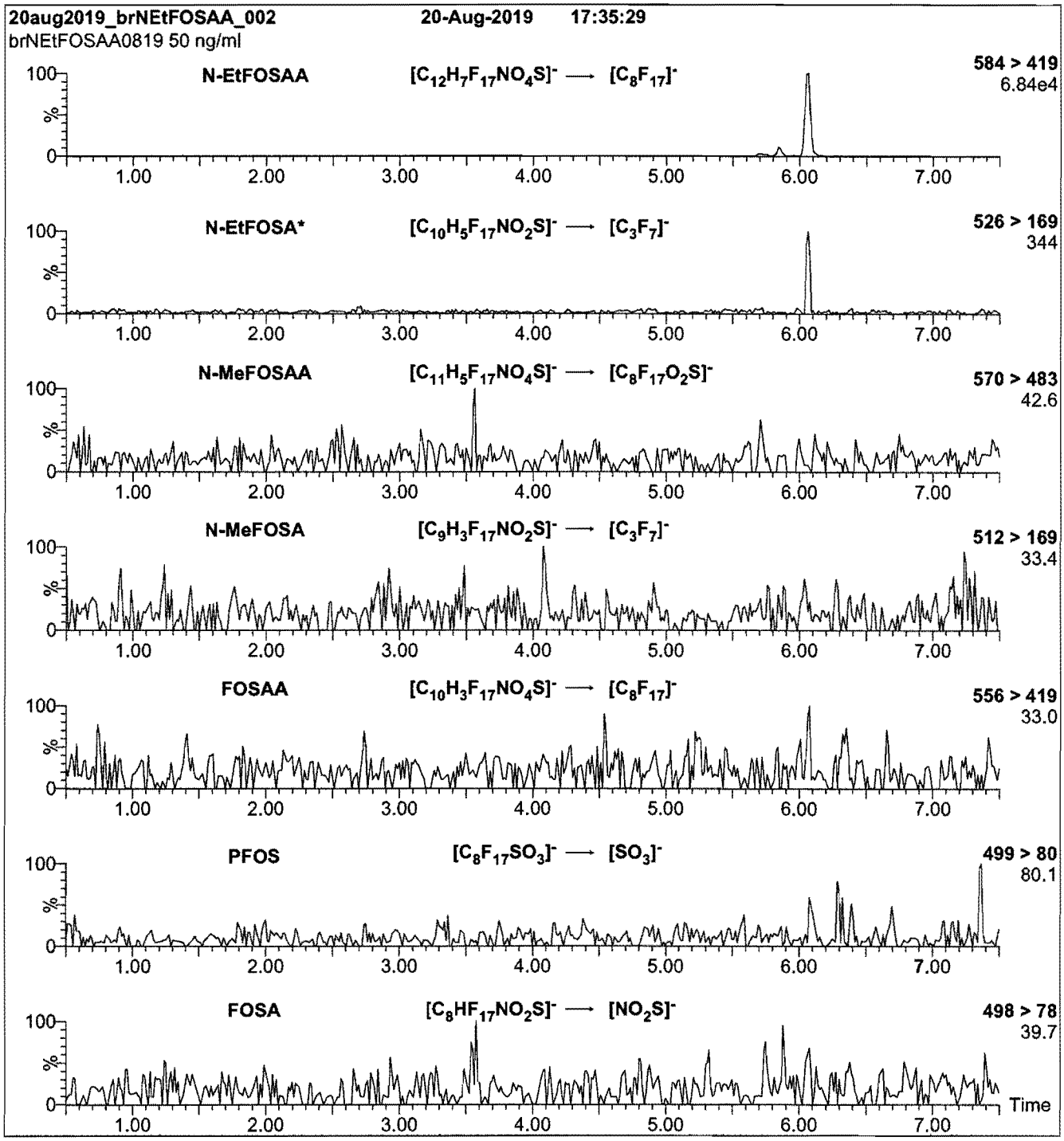
ADDITIONAL INFORMATION:

- 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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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)

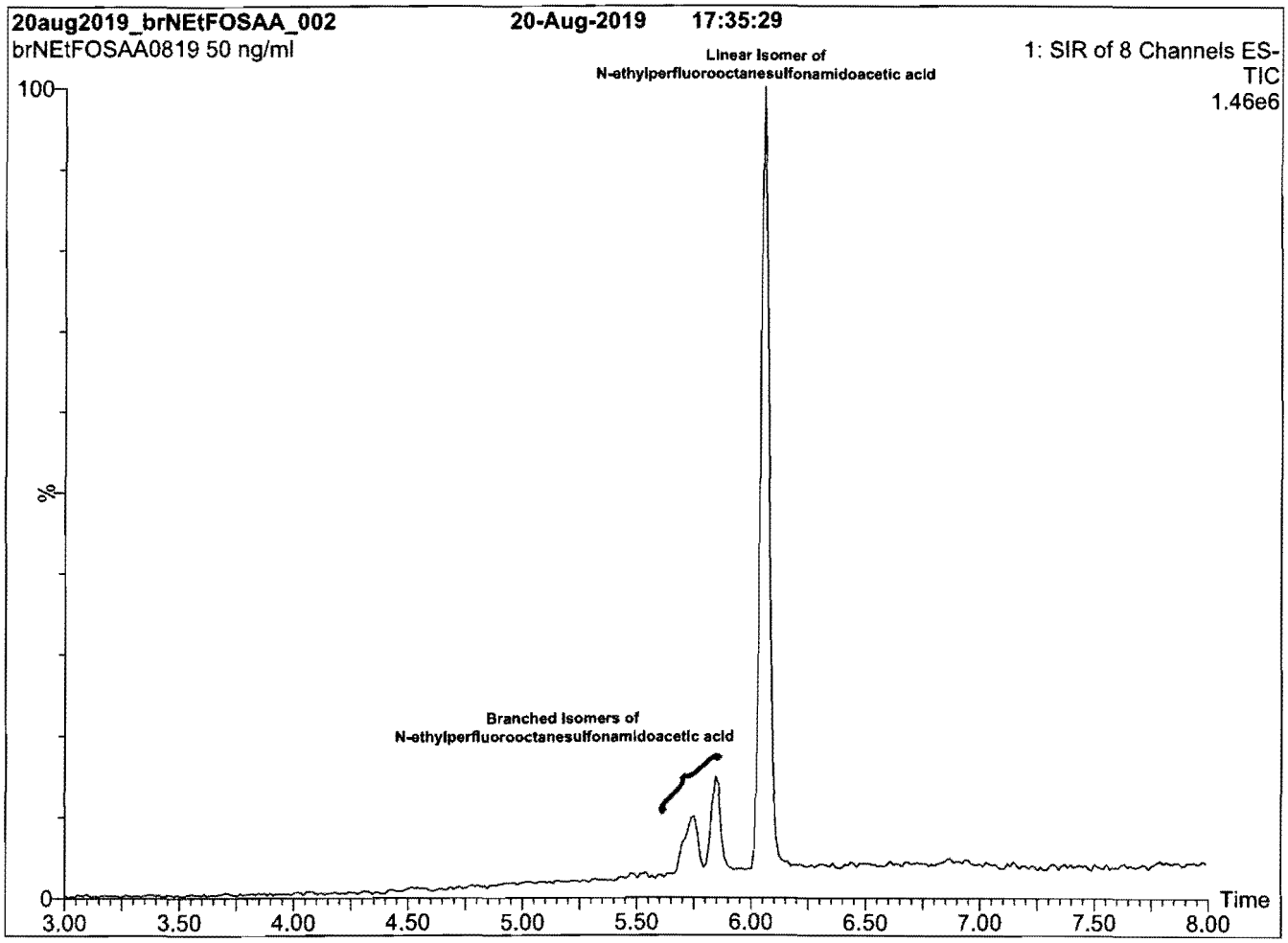
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.53e-3
Collision Energy (eV) = 18

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: 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

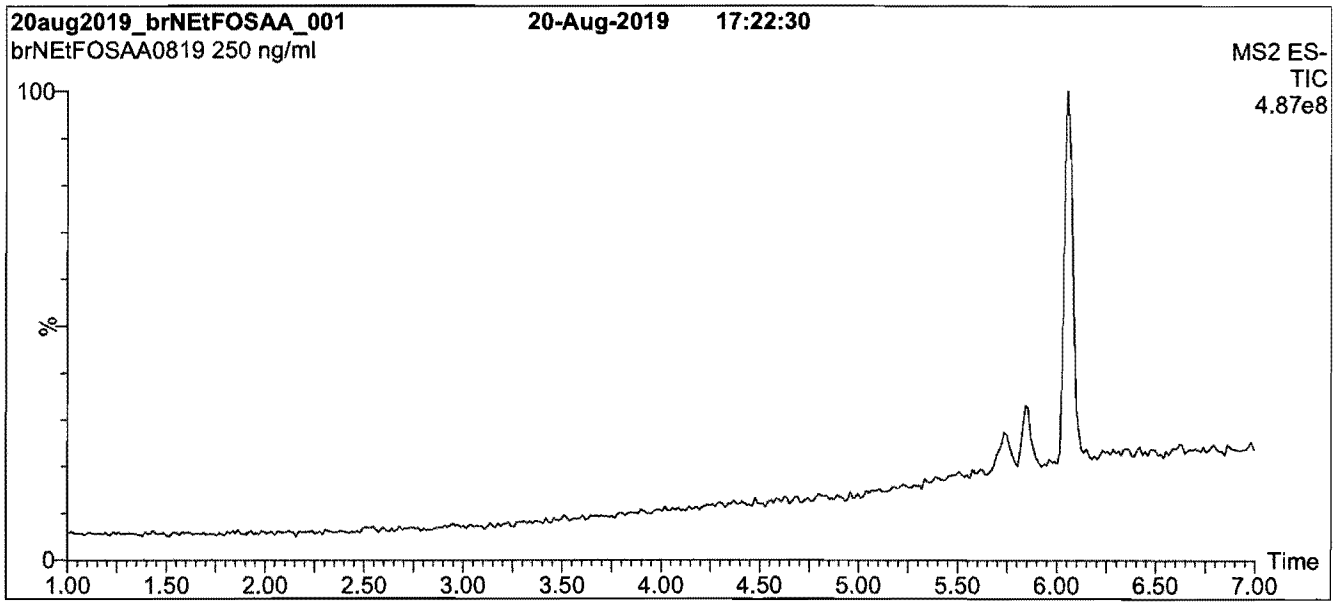
MS Parameters

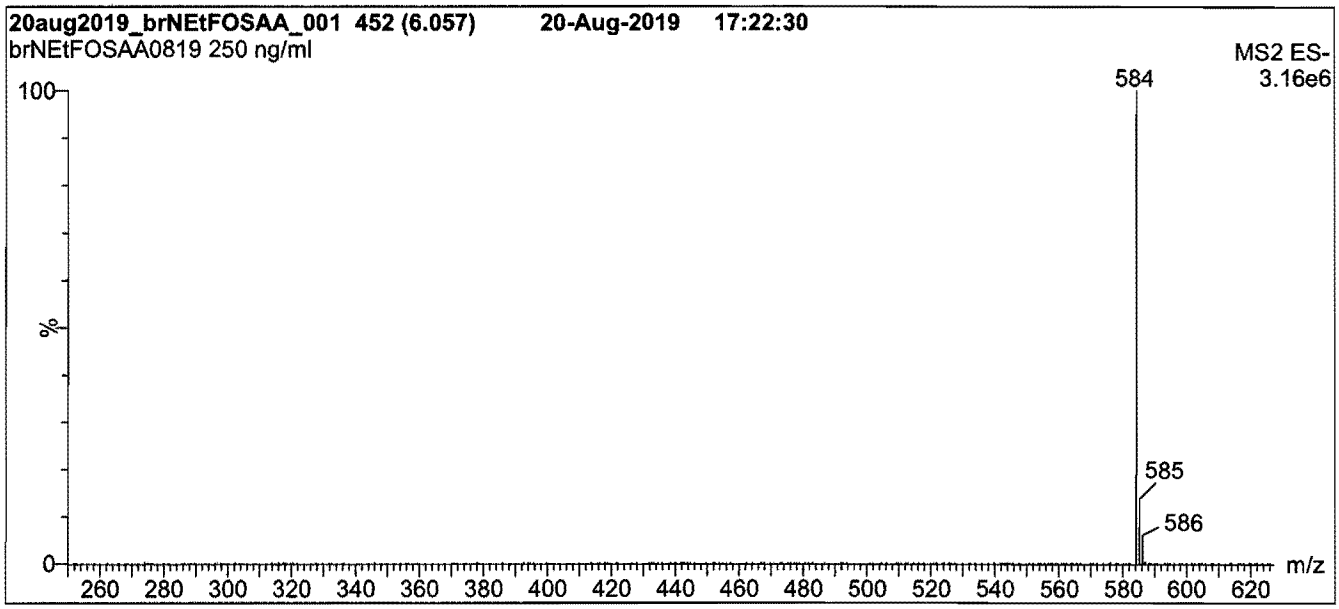
Experiment: SIR (8 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2-64)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0660

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: 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
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0660

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	$CF_3CF(CF_3)CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3
9	Other Unidentified Isomers		1.3

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: _____ **Date:** 08/29/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

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. 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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

N-Ethylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NEtFOSAA
LOT NUMBER:	brNEtFOSAA0819
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	08/20/2019
LAST TESTED: (mm/dd/yyyy)	08/20/2019
EXPIRY DATE: (mm/dd/yyyy)	08/20/2024
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)

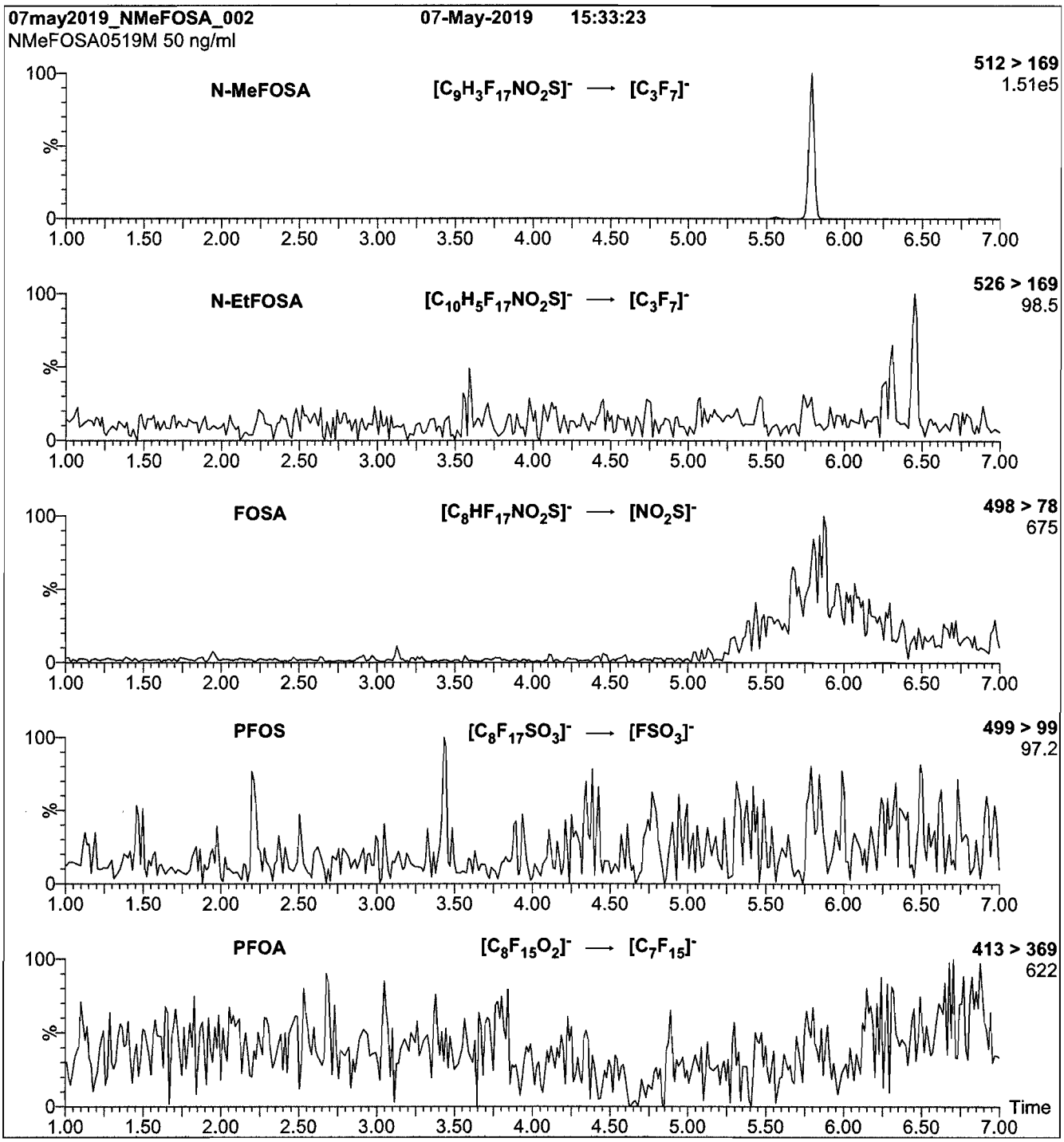
ADDITIONAL INFORMATION:

- 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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

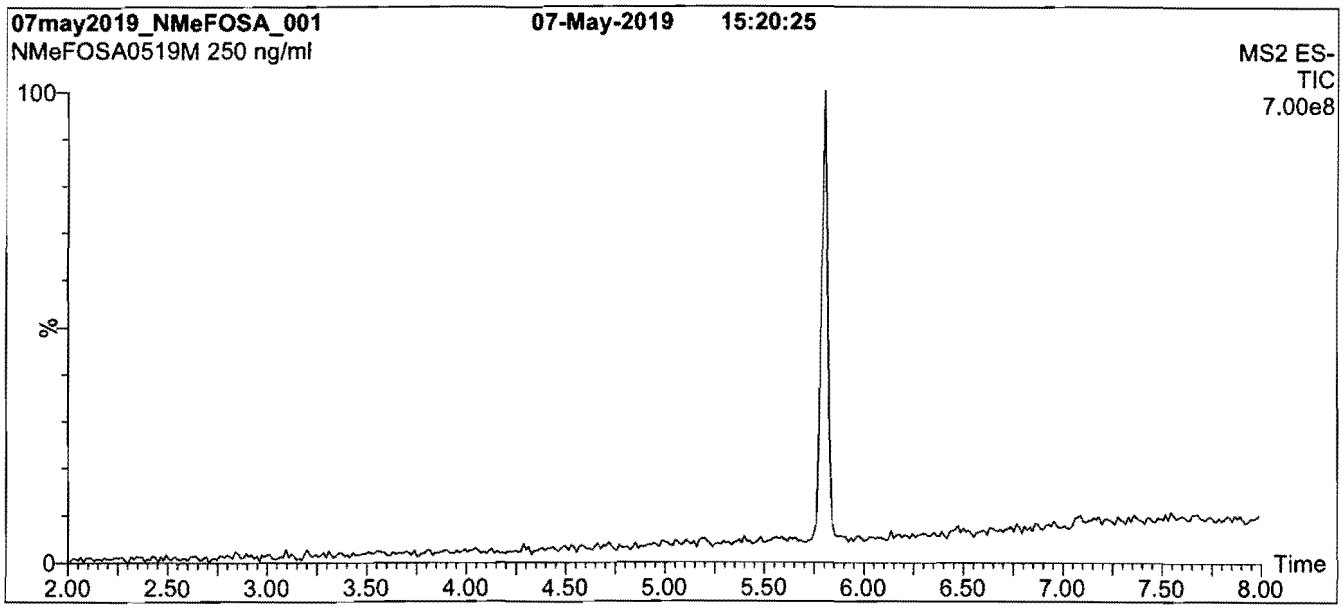
Flow: 300 µl/min

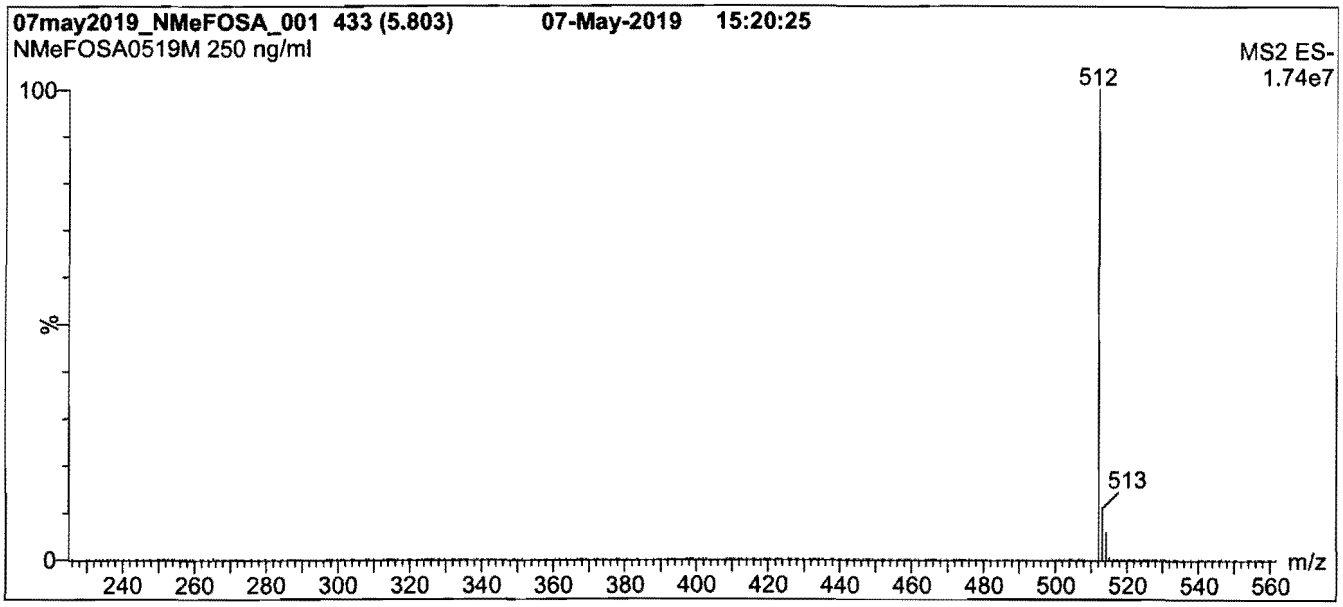
MS Parameters

Collision Gas (mbar) = 2.99e-3
Collision Energy (eV) = 24

19L0661

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 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: 11 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

19L0661

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

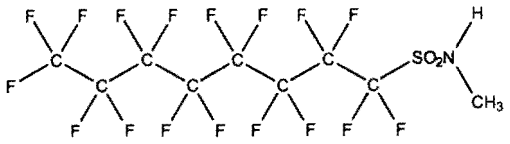
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0661

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0519M
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)	05/07/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/07/2024		
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.

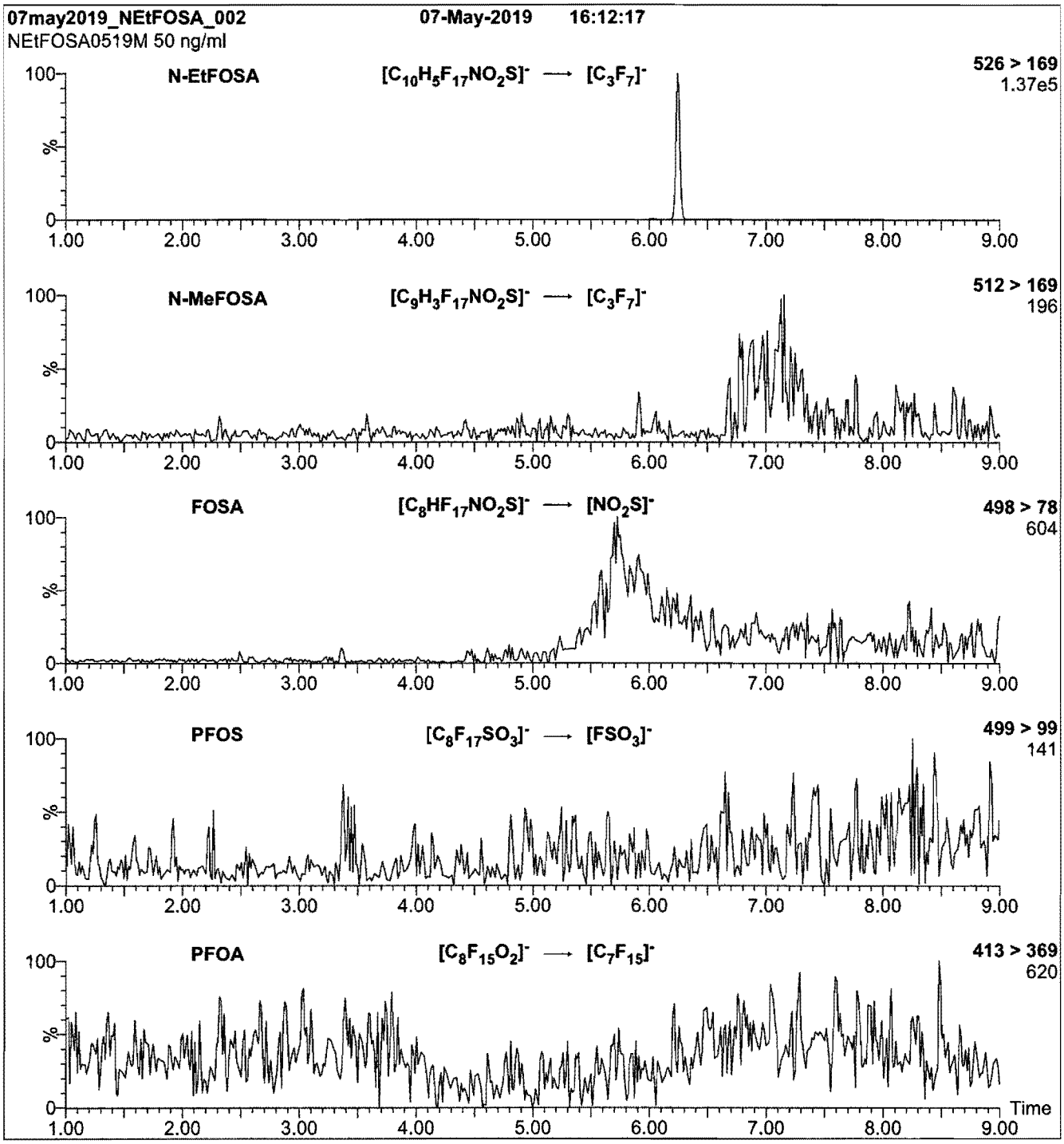
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/09/2019 (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

19L0662

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

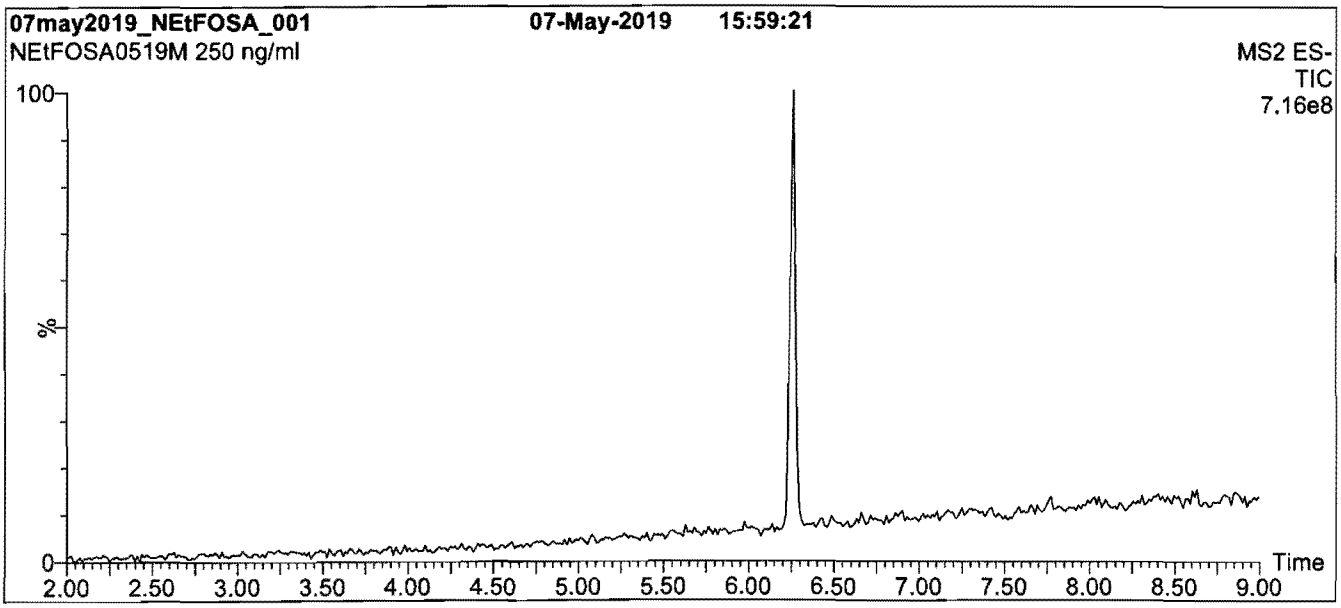
Flow: 300 µl/min

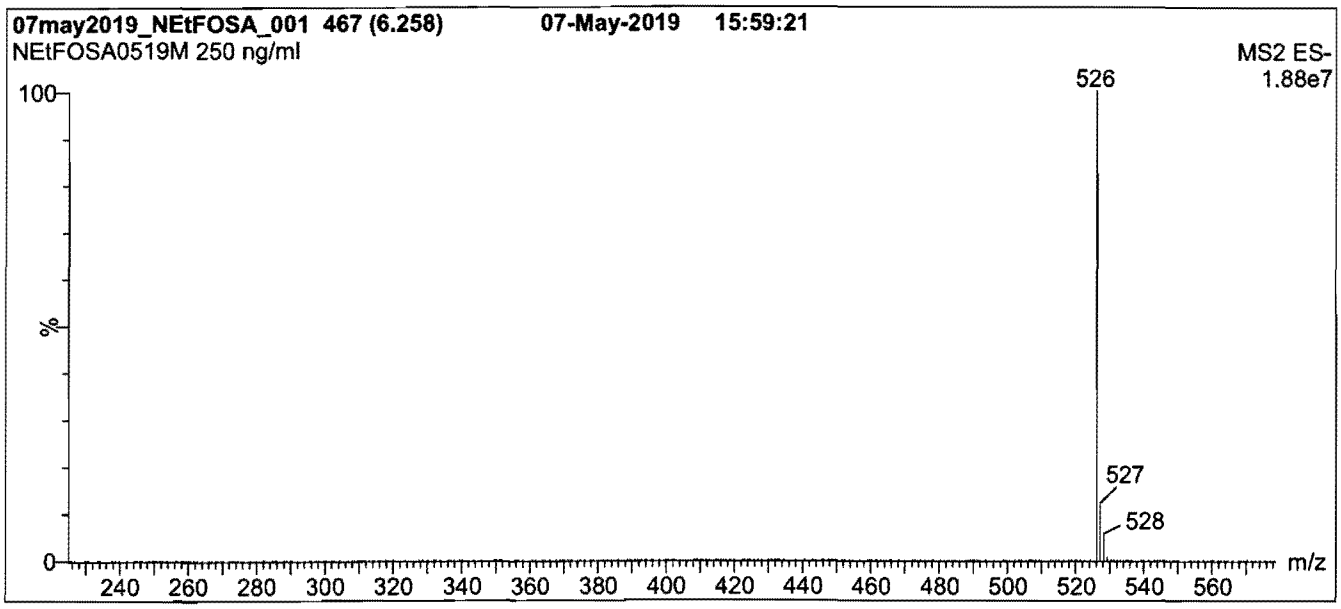
MS Parameters

Collision Gas (mbar) = 3.00e-3
Collision Energy (eV) = 24

19L0662

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 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: 11 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

19L0662

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

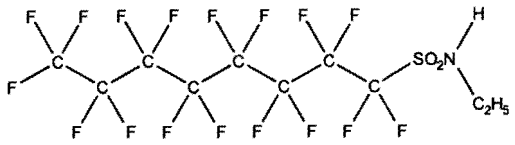
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	**LOT NUMBER:**	NEtFOSA0519M
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)	05/07/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/07/2024		
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:

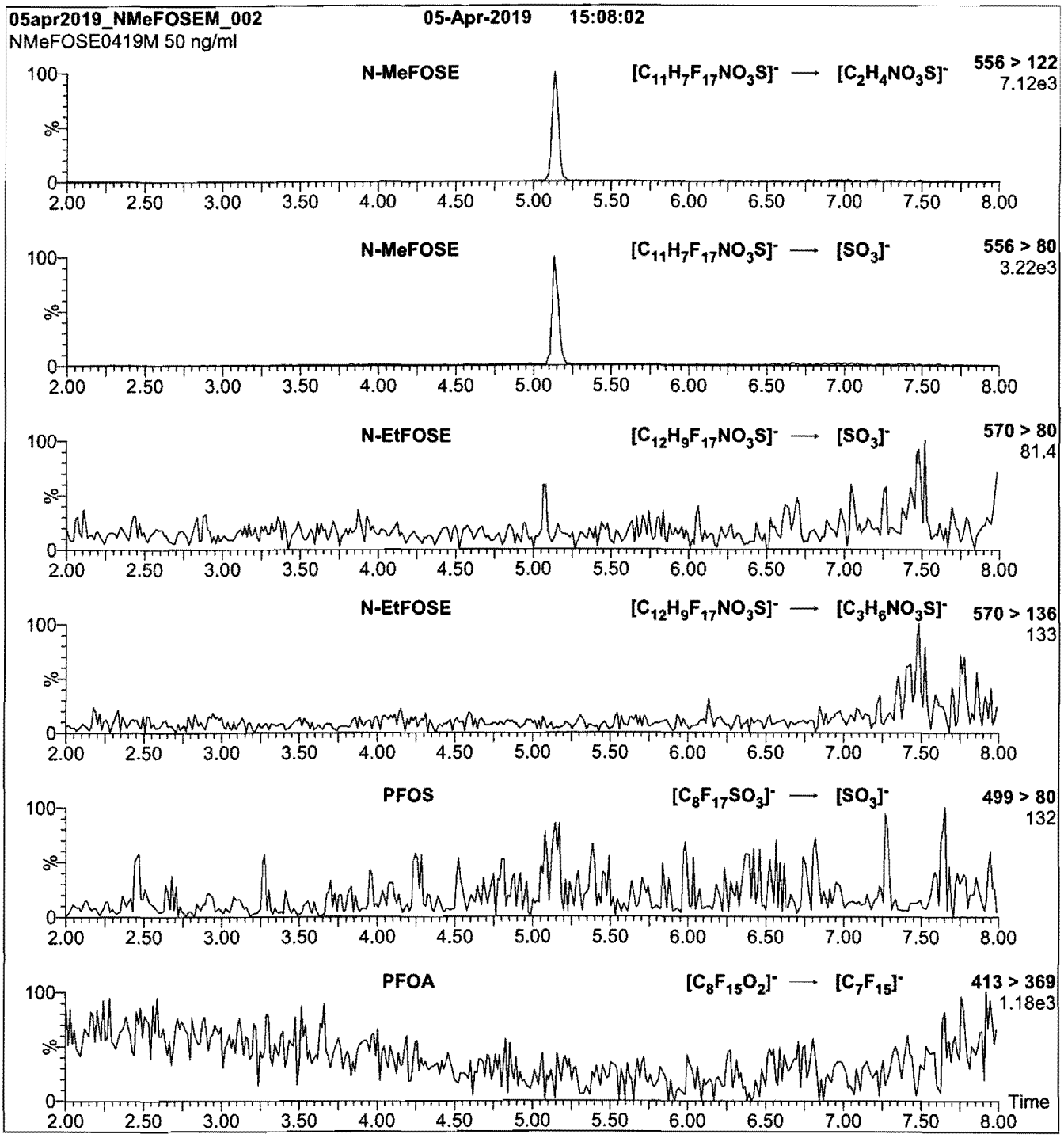
- See page 2 for further details.
- Contains ~ 0.5% branched isomers of N-ethylperfluorooctanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/09/2019 (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

Figure 3: **N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-MeFOSE-M)

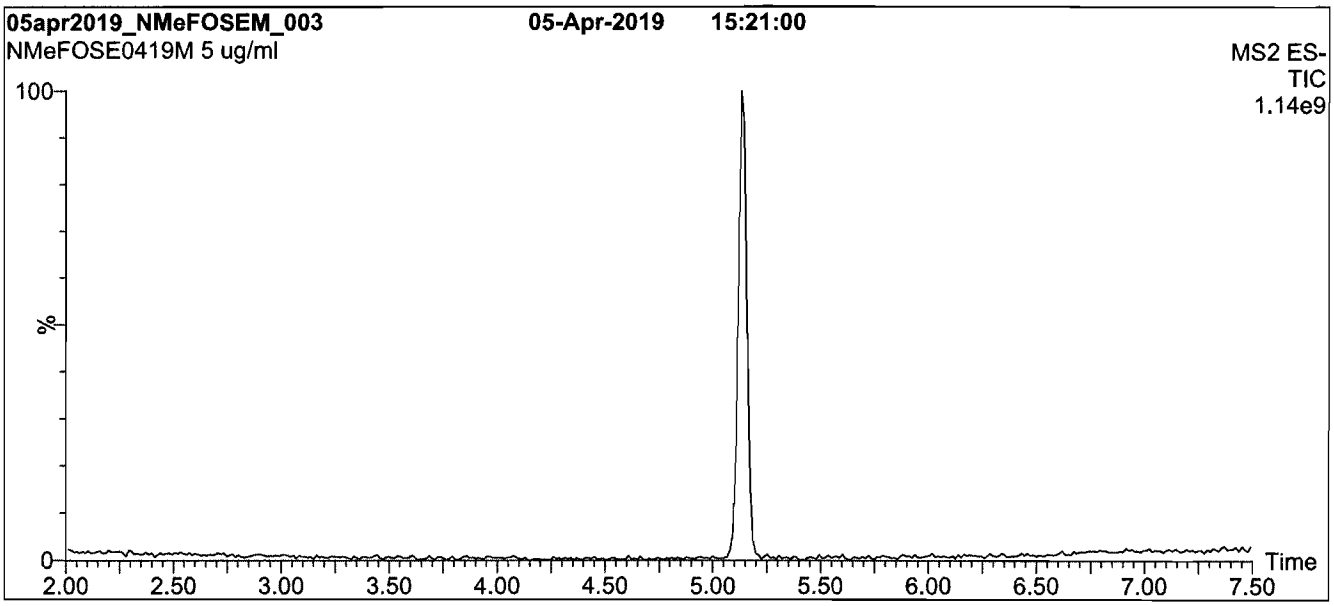
Mobile phase: Same as Figure 2

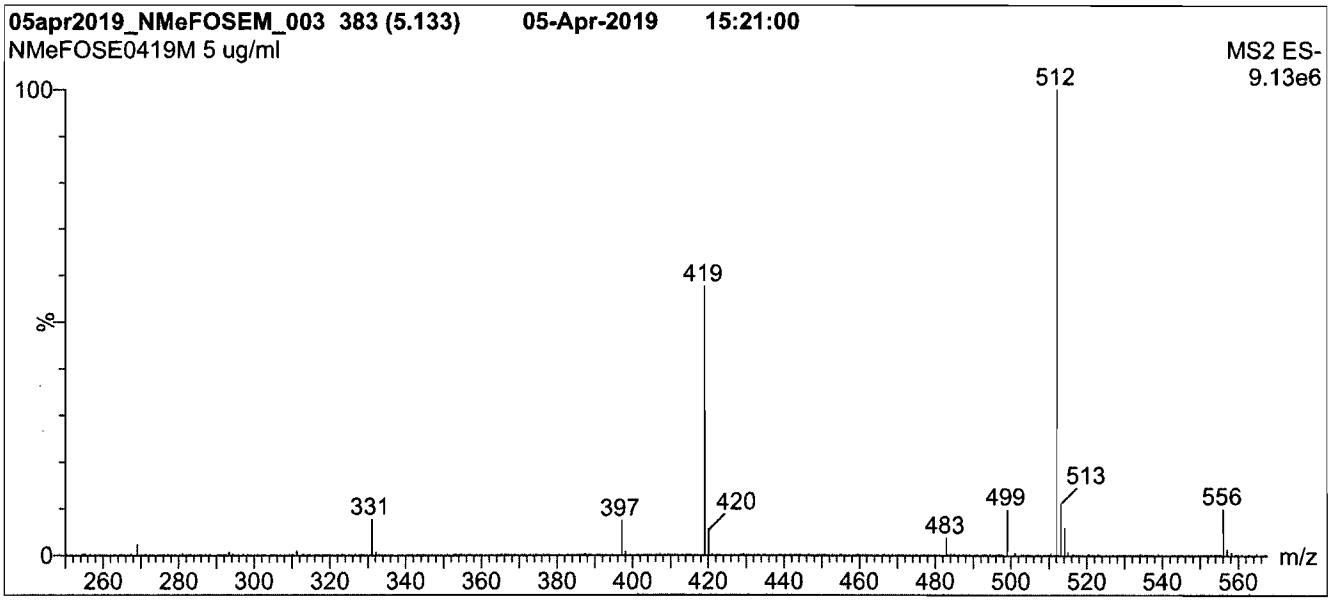
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.94e-3
Collision Energy (eV) = 36

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 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

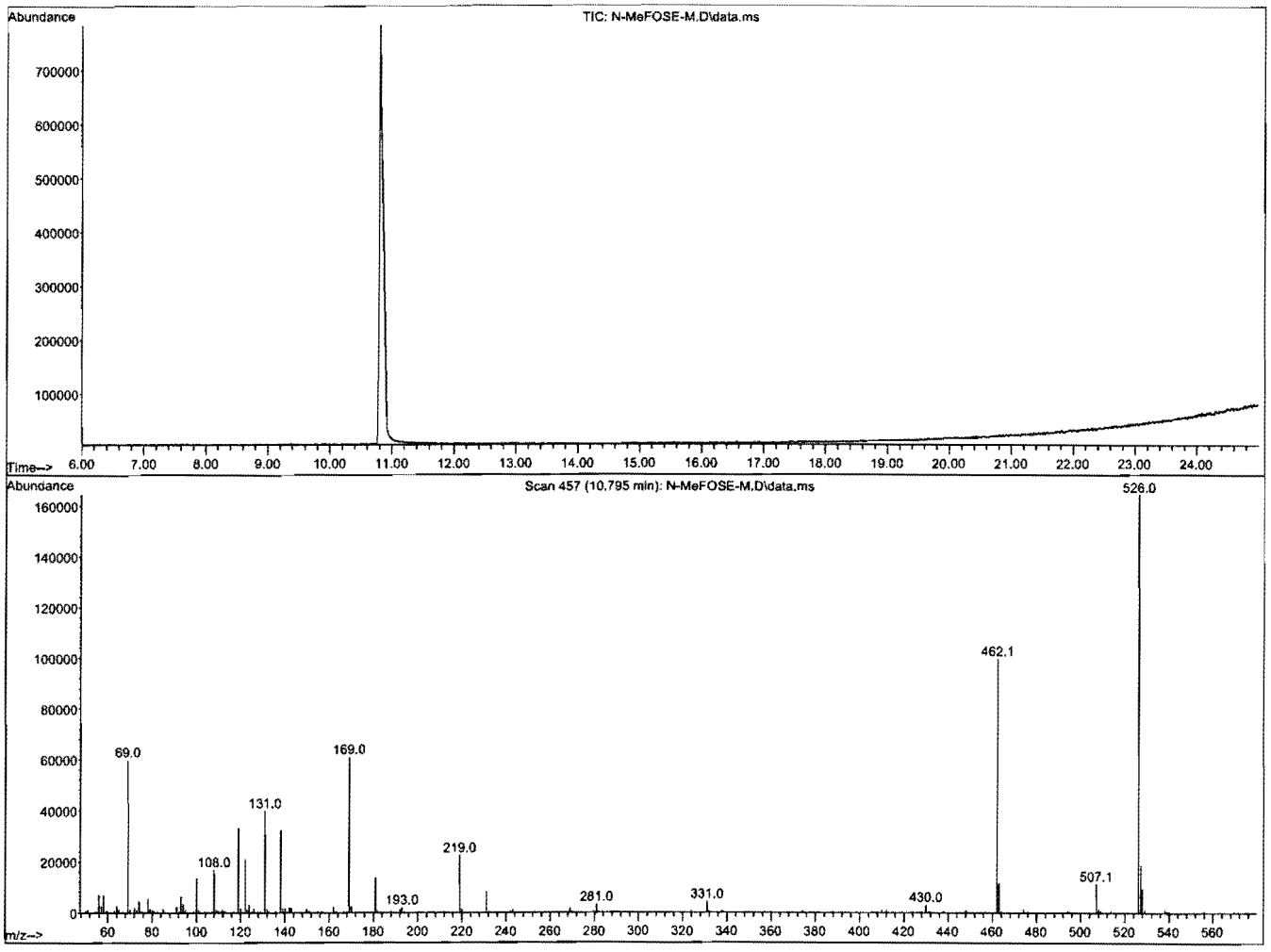
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 1000

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)

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

1910663

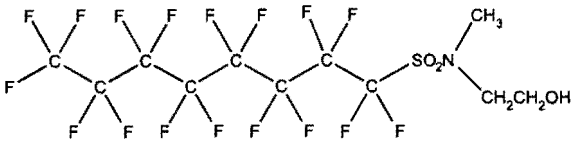
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0419M

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)	04/08/2019 (HRGC/LRMS) 04/05/2019 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2024		
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:

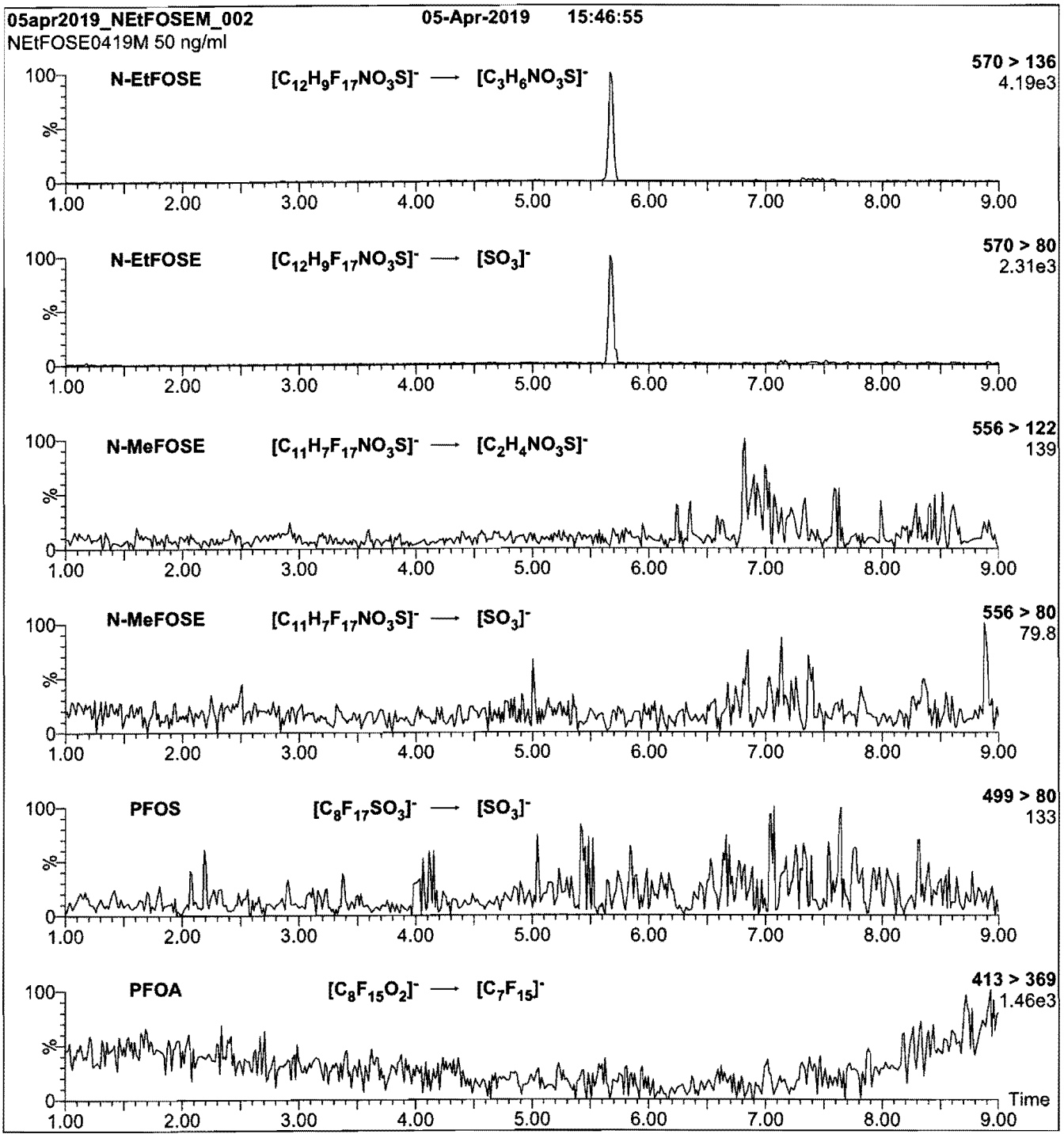
- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/12/2019 (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

Figure 3: **N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-EtFOSE-M)

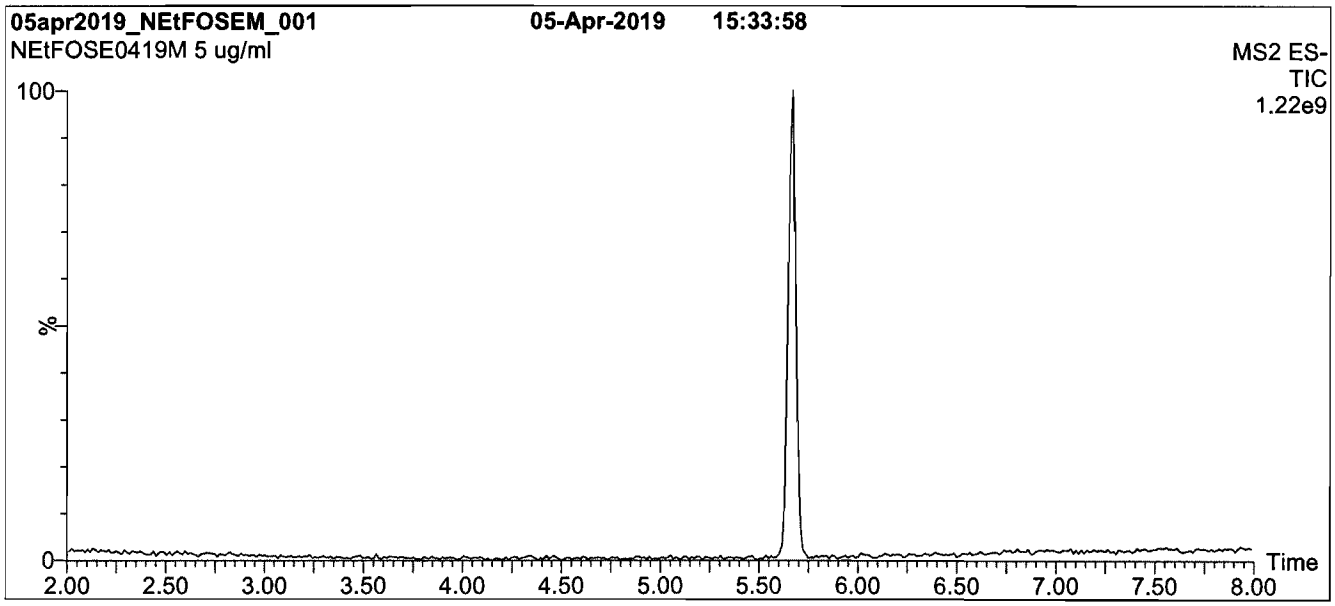
Mobile phase: Same as Figure 2

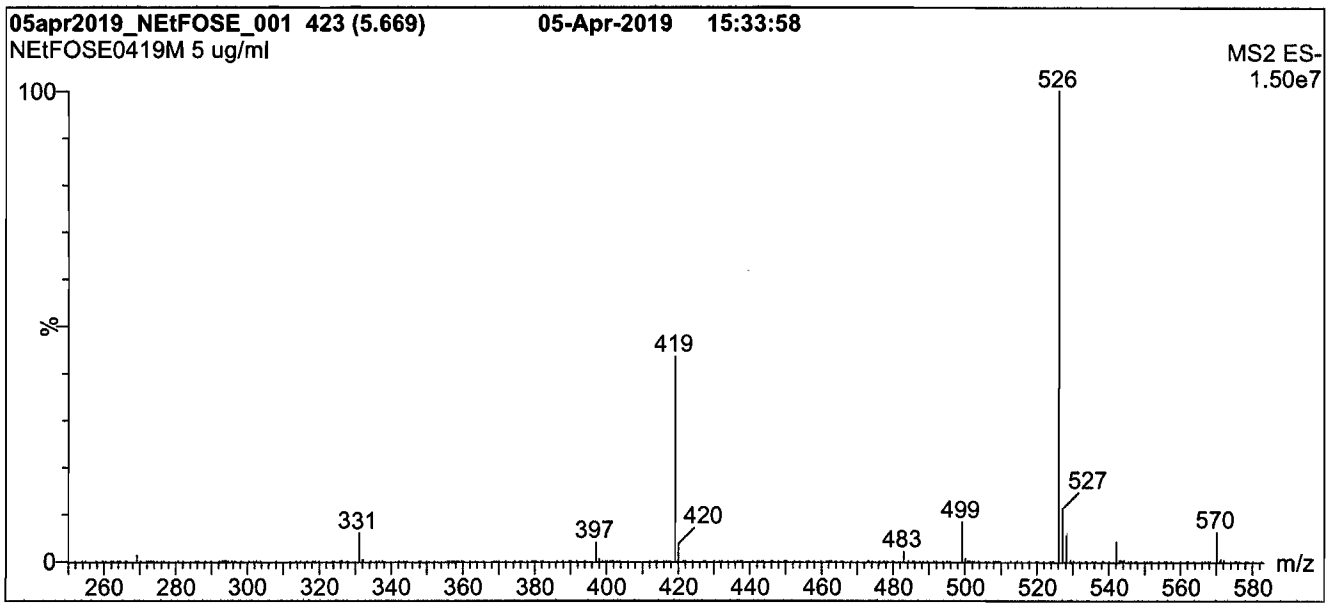
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.76e-3
Collision Energy (eV) = 32

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 Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% MeOH / 35% H_2O
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

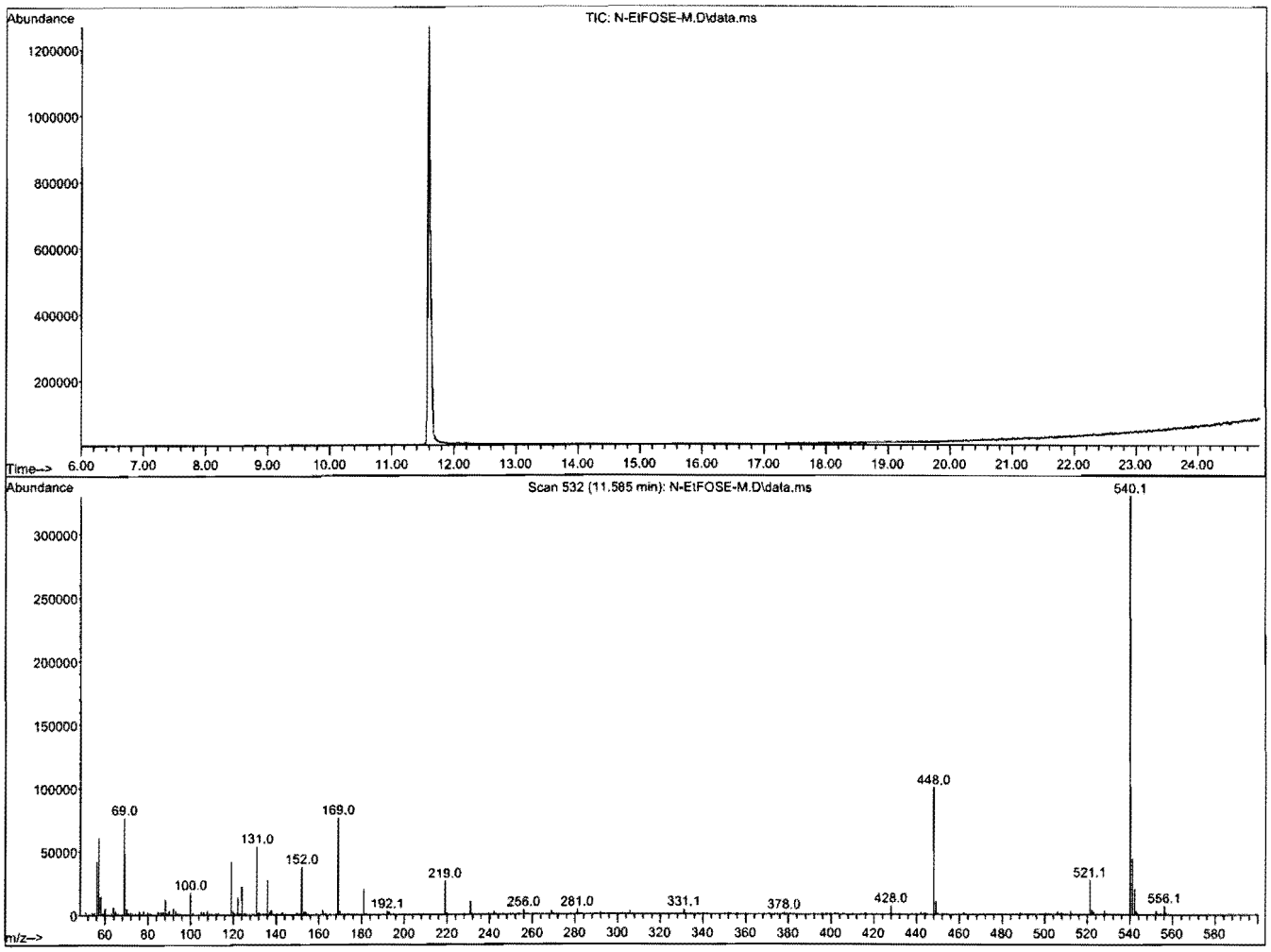
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 1000

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)

19L0564

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

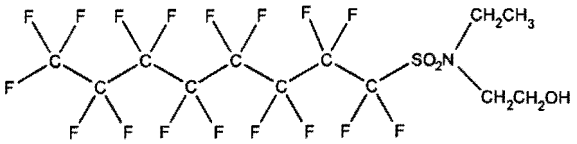
19L 0664

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0419M
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)	04/08/2019 (HRGC/LRMS) 04/05/2019 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2024		
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:

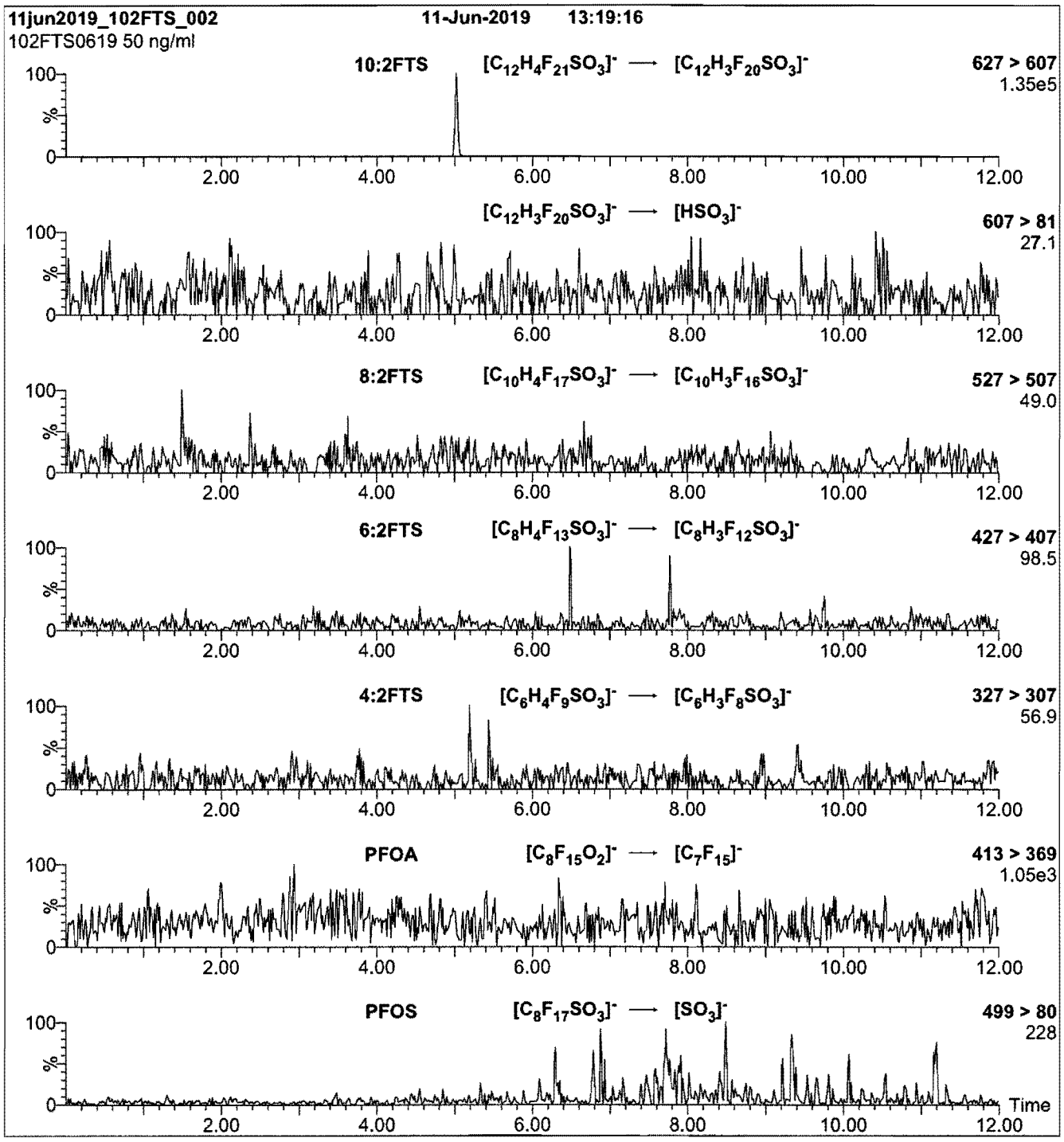
- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/15/2019 (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

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

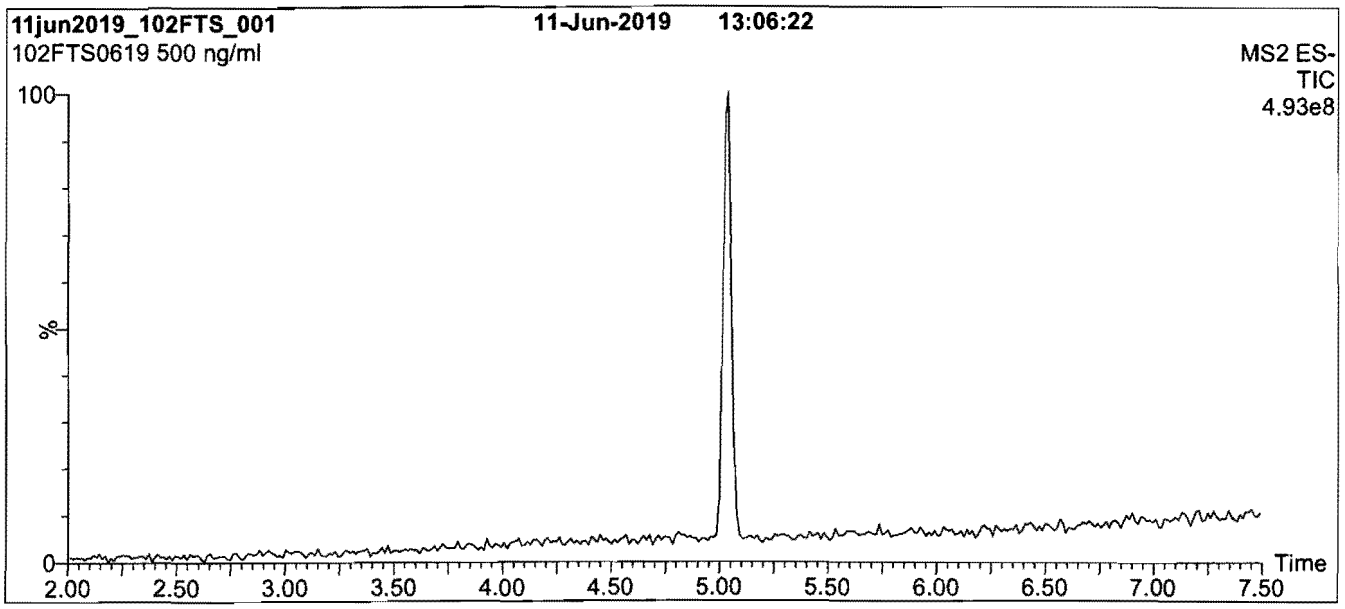
Flow: 300 µl/min

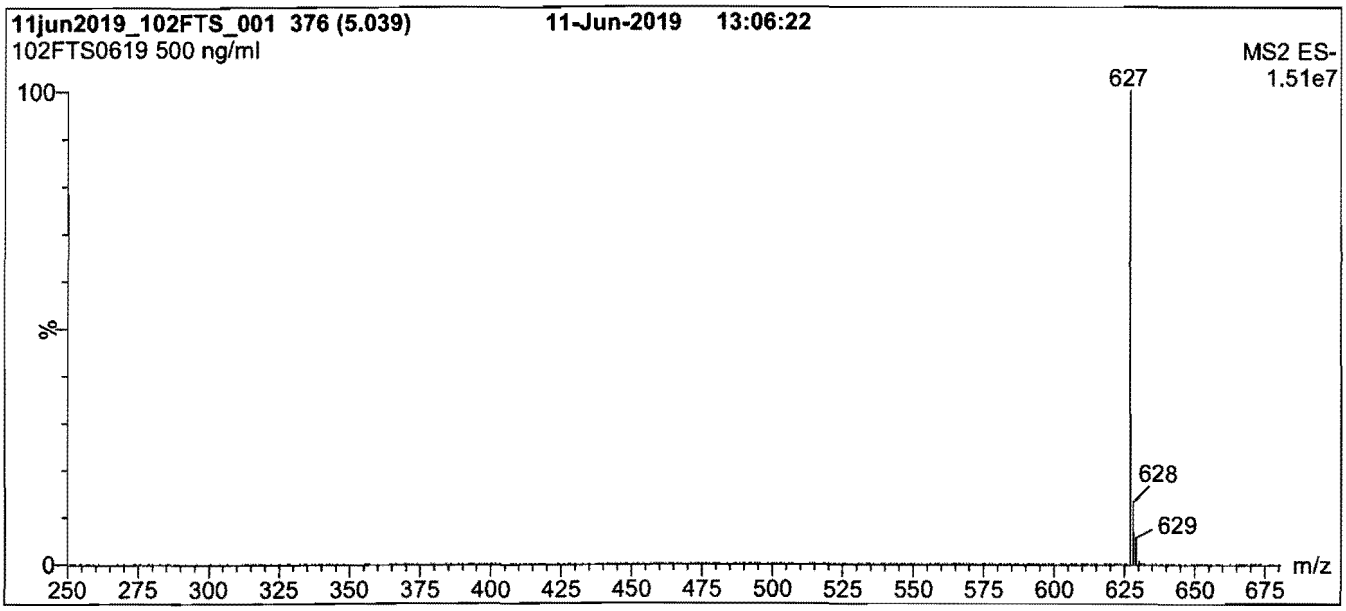
MS Parameters

Collision Gas (mbar) = 2.92e-3
Collision Energy (eV) = 25

19L0665

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 (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) = 1000

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 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

19L0665

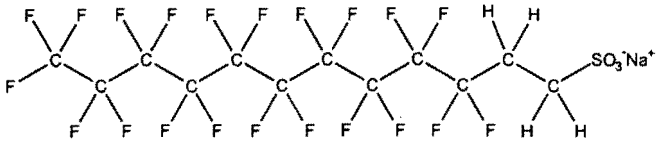
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS0619

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)	06/11/2019			
EXPIRY DATE: (mm/dd/yyyy)	06/11/2022			
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

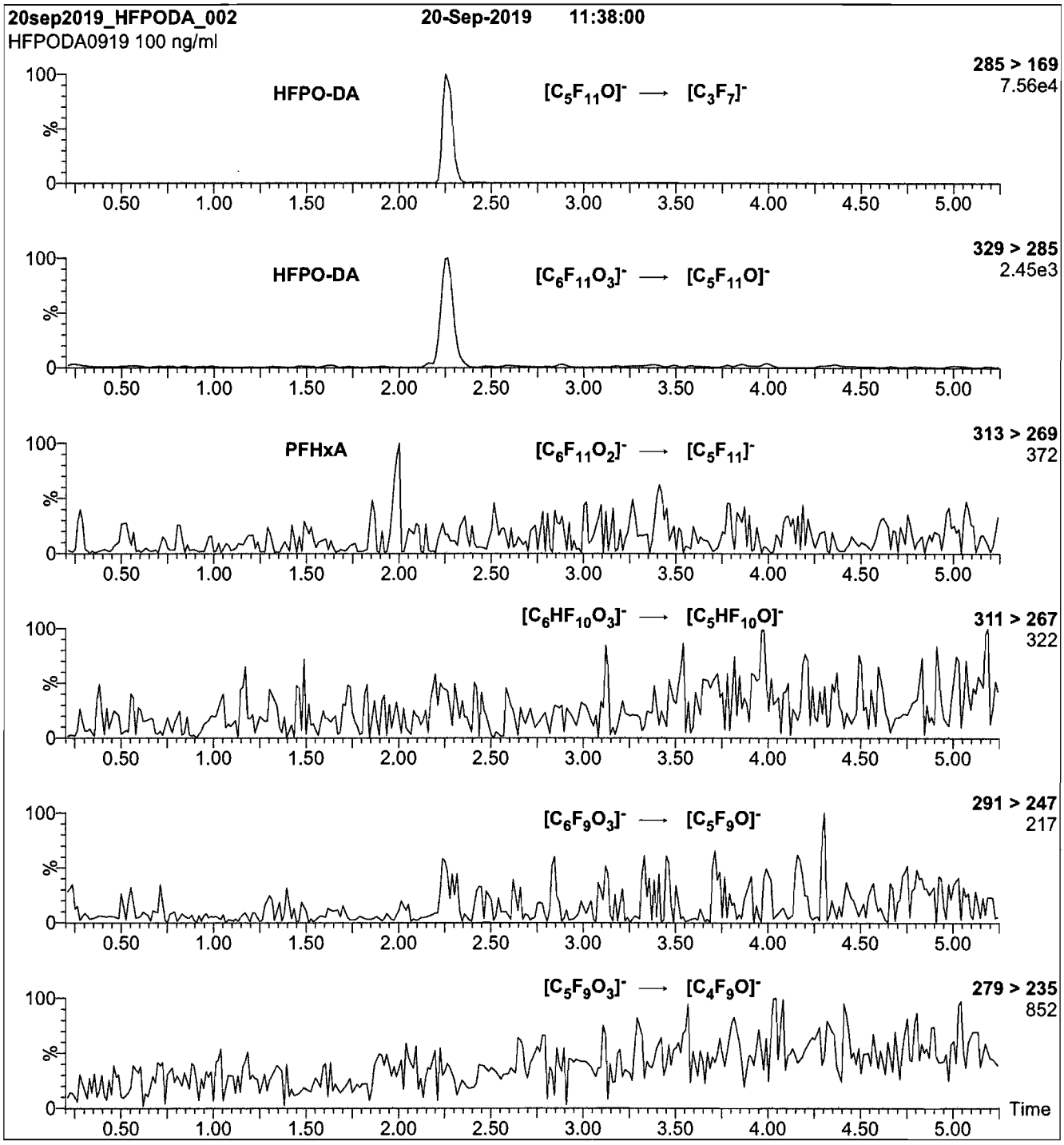
Certified By: _____ **Date:** 06/18/2019 (mm/dd/yyyy)

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

1910666

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

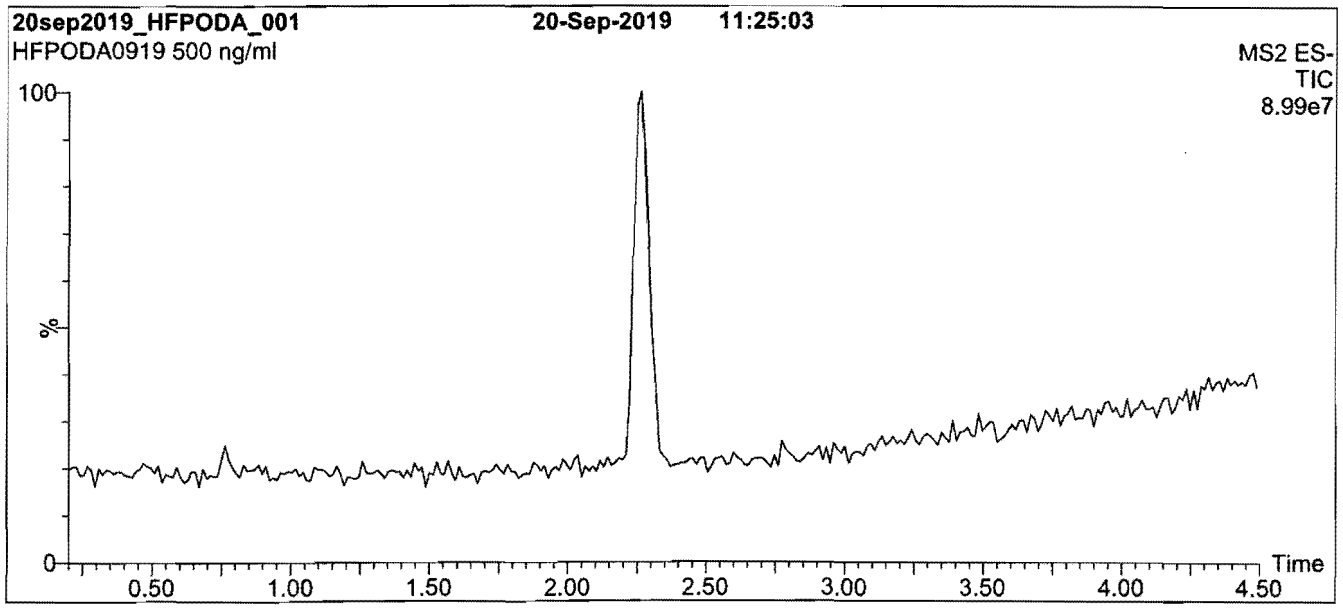
Flow: 300 µl/min

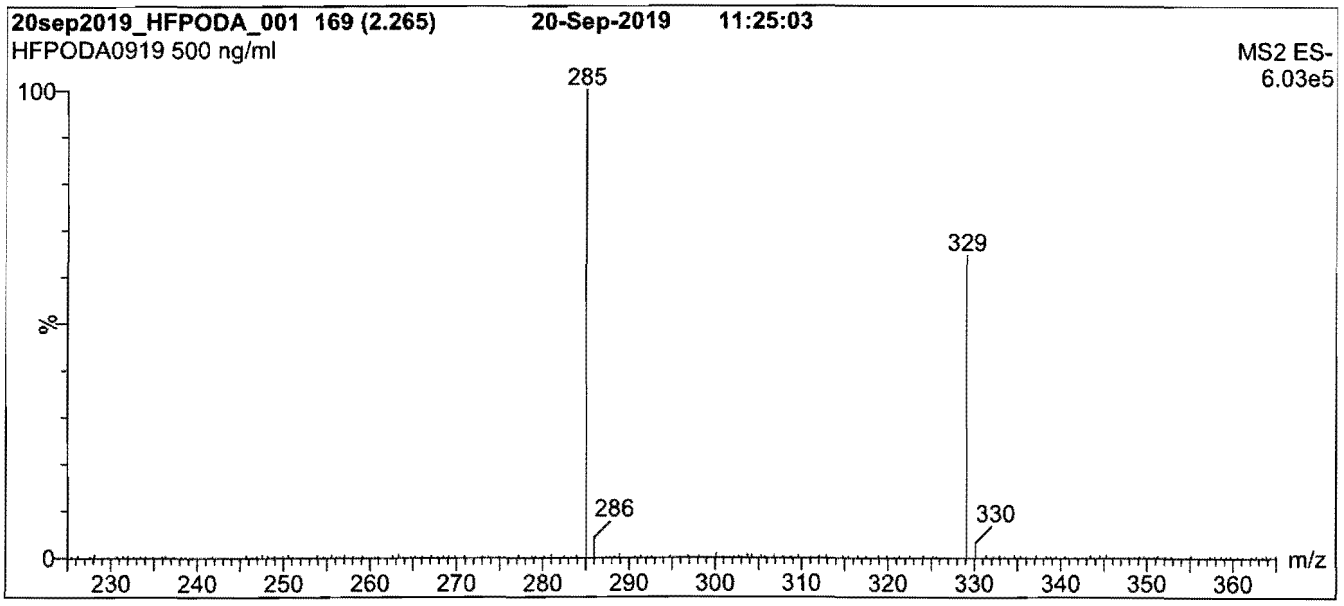
MS Parameters

Collision Gas (mbar) = 3.60e-3
Collision Energy (eV) = 8

1910666

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: 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) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

19L 0666

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 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

19L0666

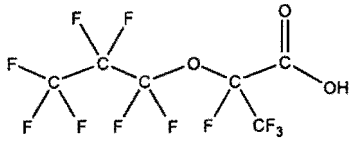
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: HFPO-DA **LOT NUMBER:** HFPODA0919

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)	09/20/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2022		
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:

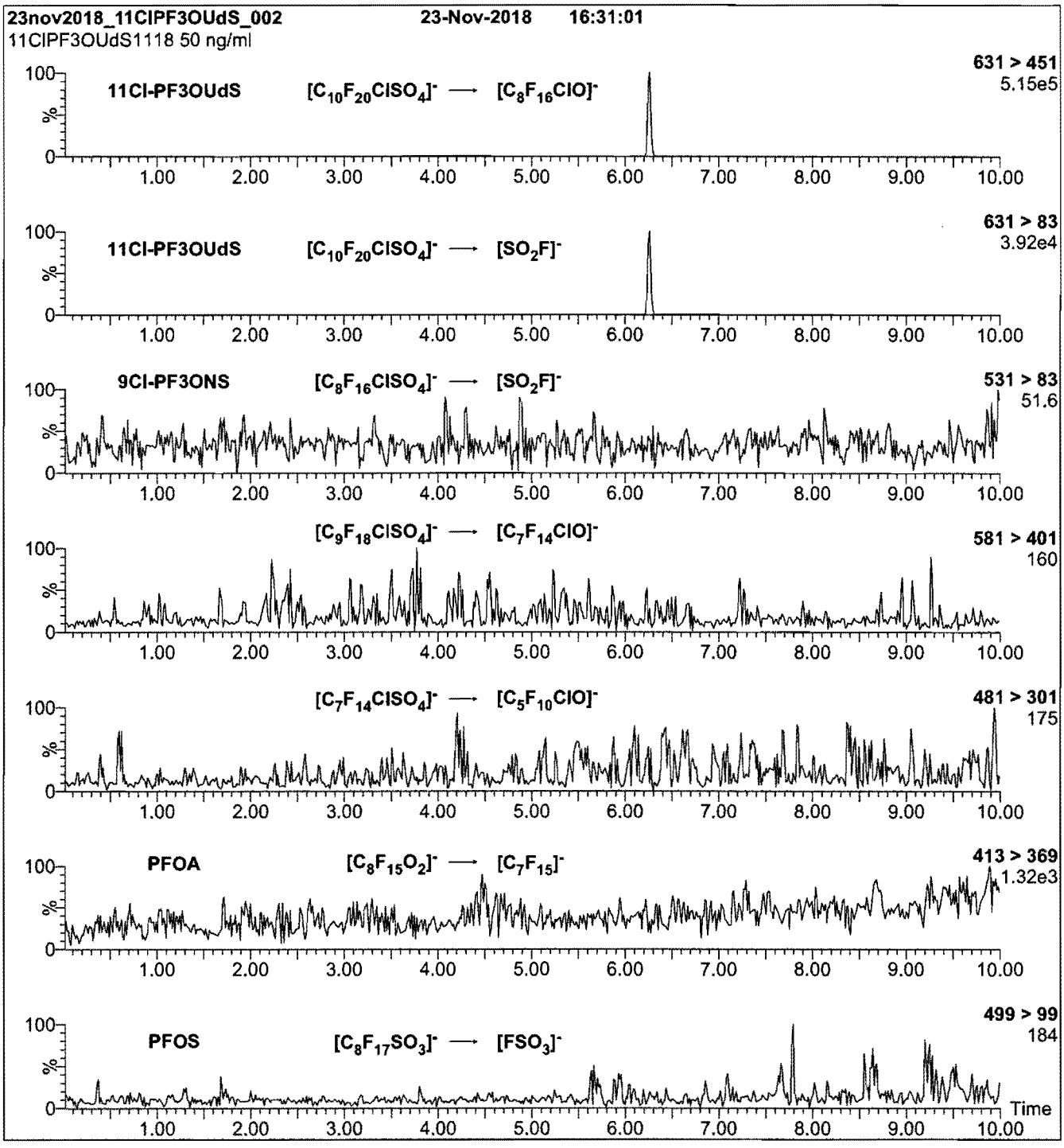
- See page 2 for further details.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/30/2019 (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

Figure 2: **11Cl-PF3OUdS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (11Cl-PF3OUdS)

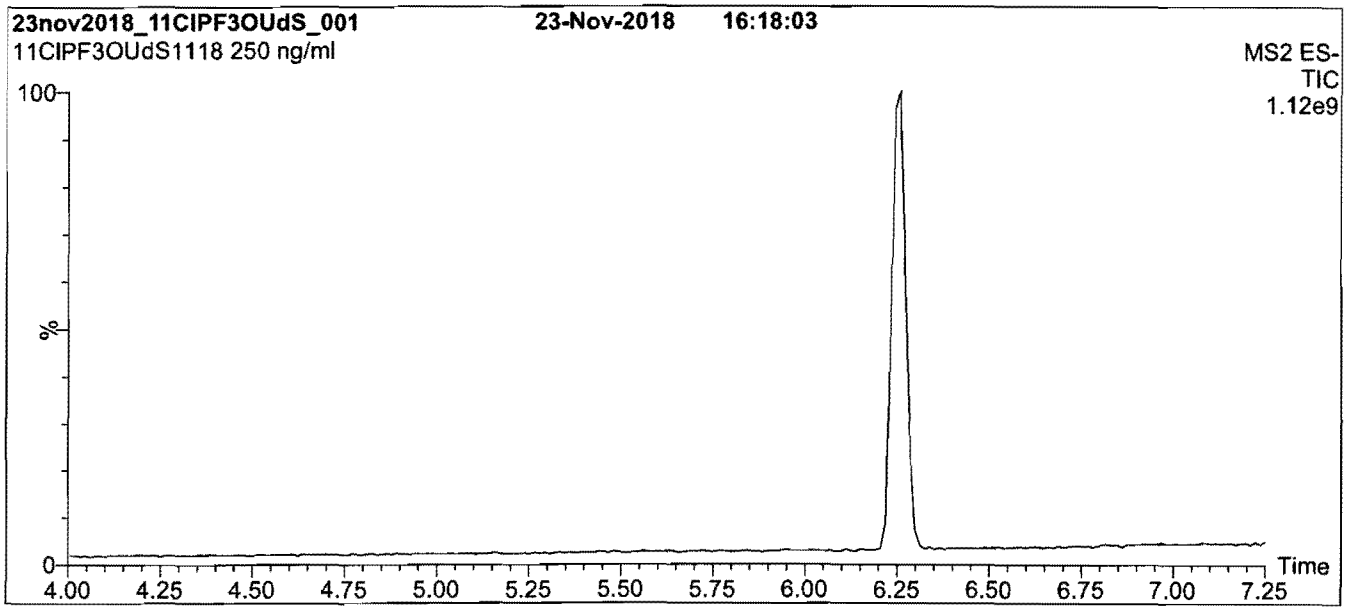
Mobile phase: Same as Figure 1

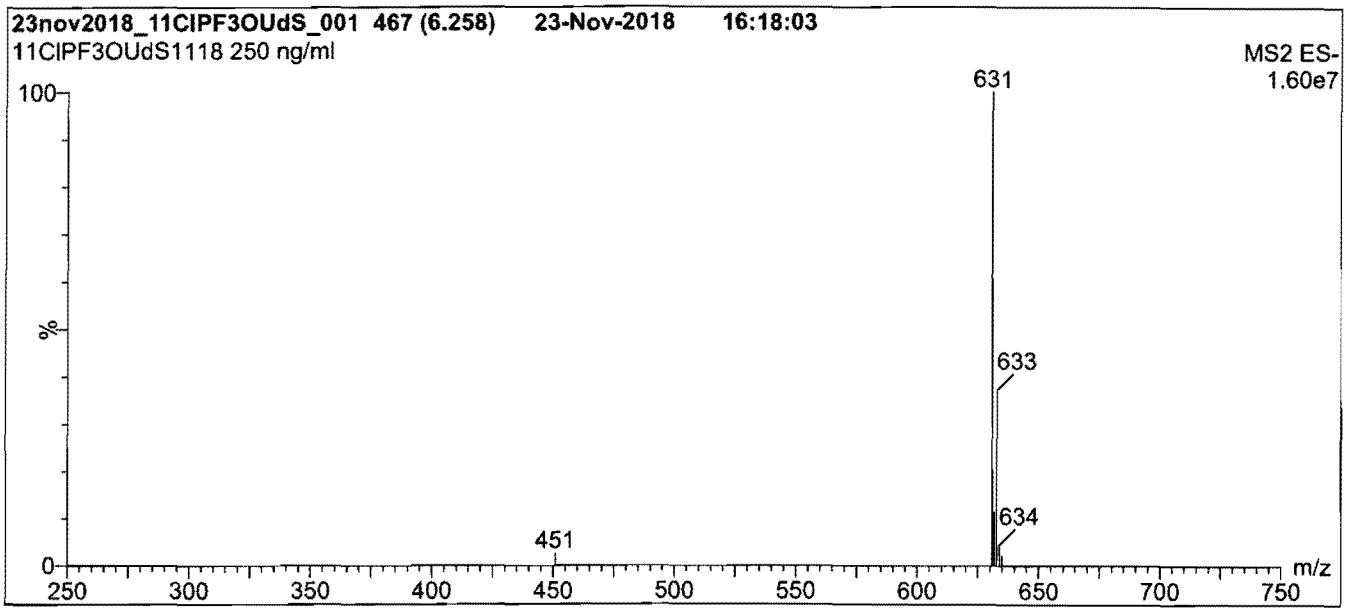
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 24

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

19L0667

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

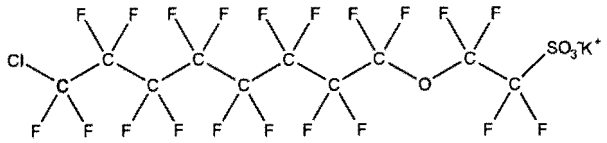
19L0667

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.

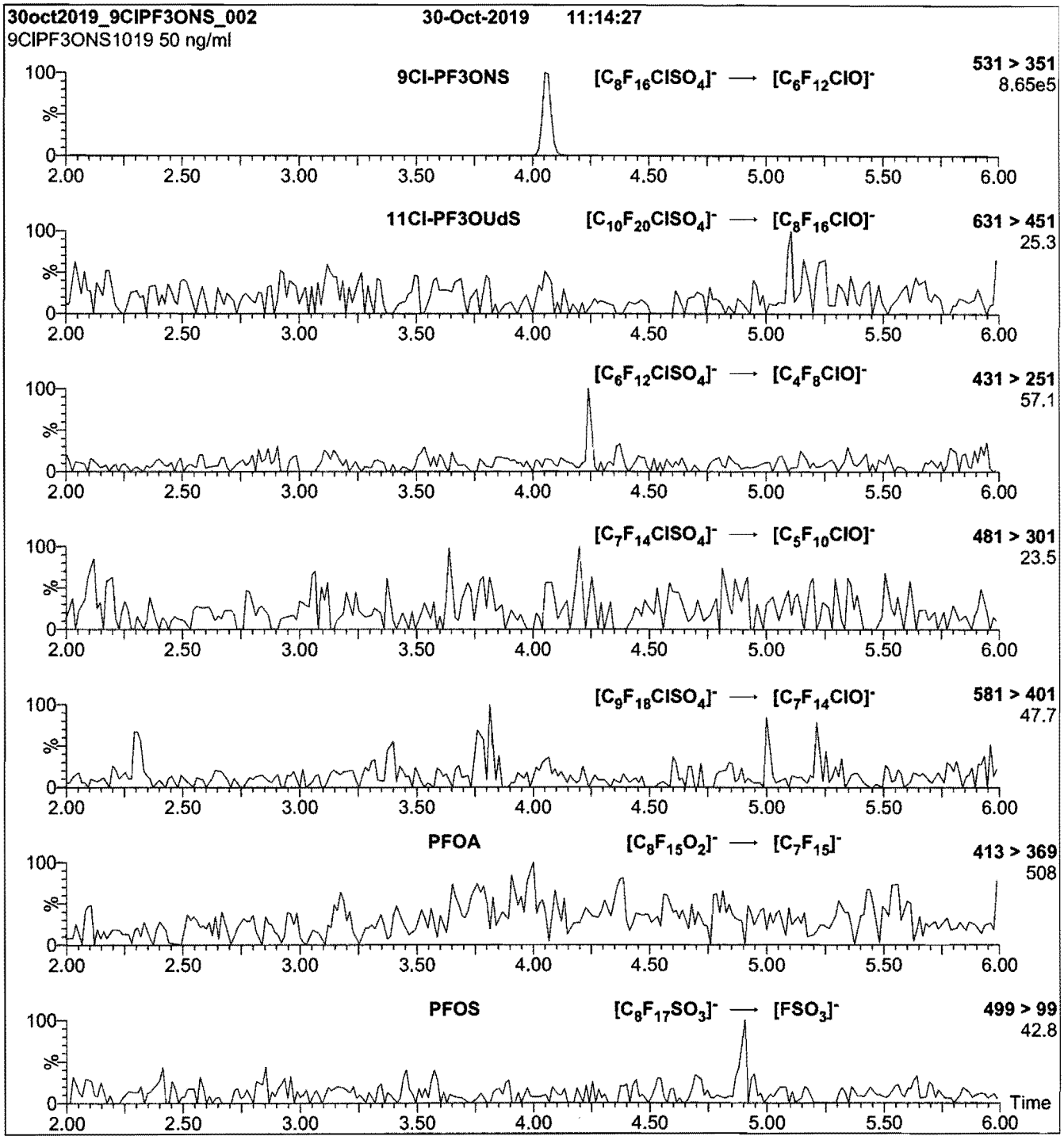
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

1910668

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

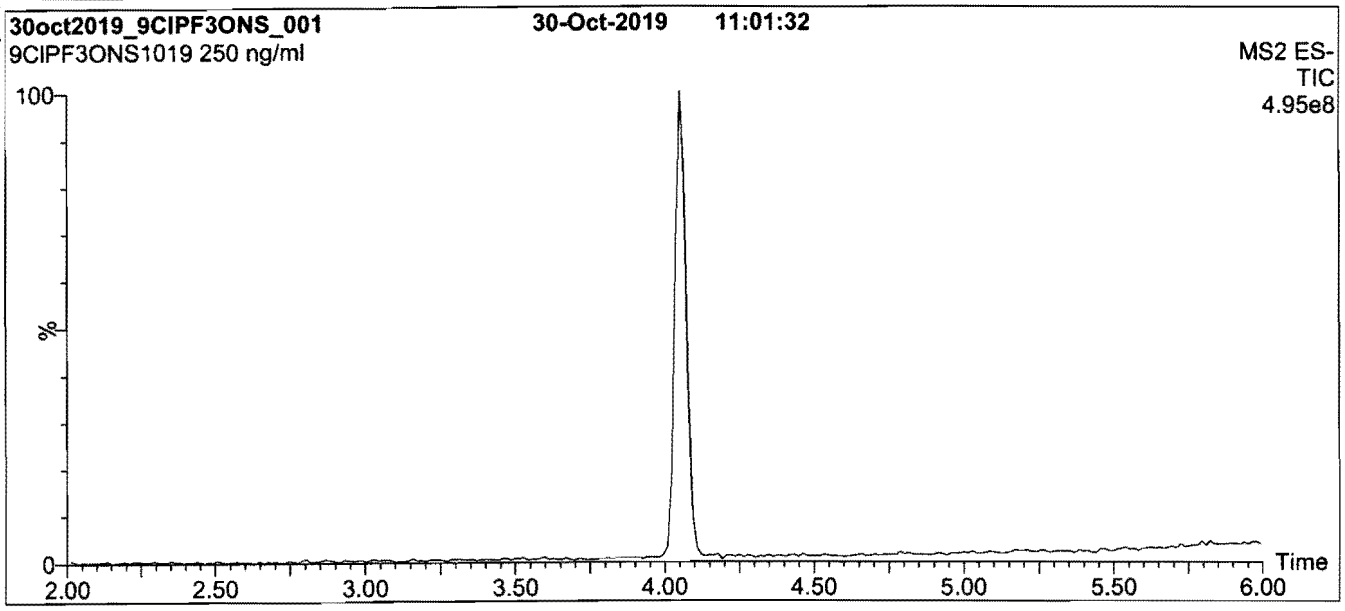
Flow: 300 µl/min

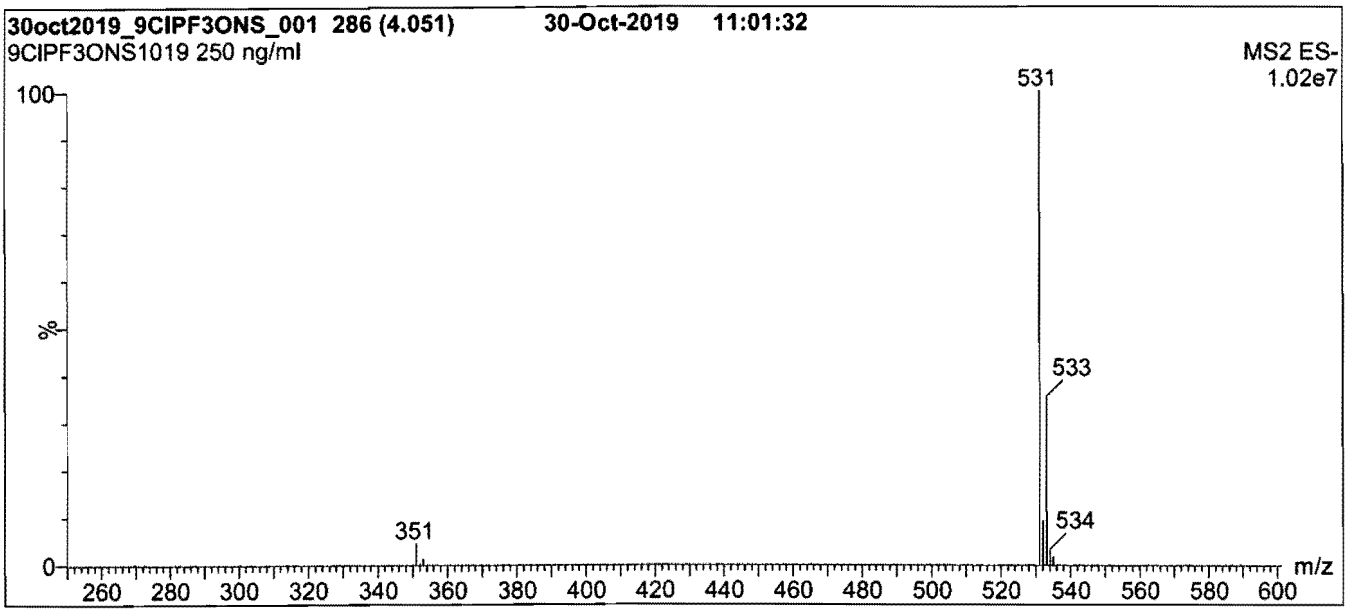
MS Parameters

Collision Gas (mbar) = 3.25e-3
Collision Energy (eV) = 20

19L0668

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: 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) = 70.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

19L0668

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 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

19L0668

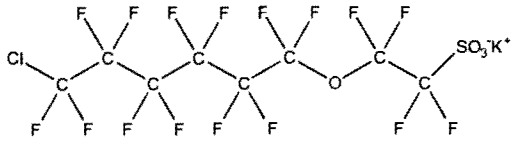
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 9Cl-PF3ONS **LOT NUMBER:** 9ClPF3ONS1019

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) 46.6 ± 2.3 µg/ml (9Cl-PF3ONS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/30/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/30/2024		
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

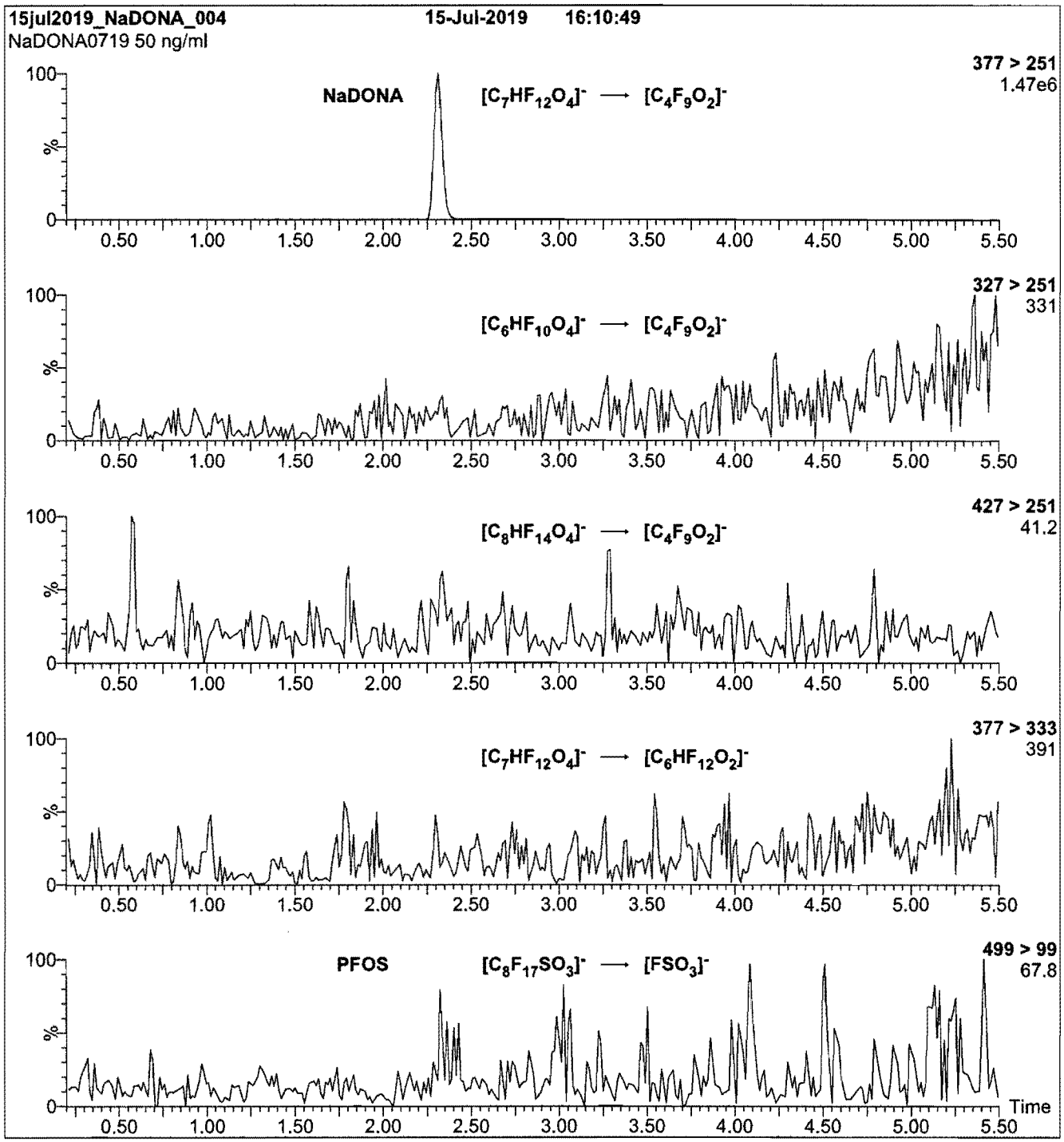
Certified By: _____ **Date:** 11/04/2019 (mm/dd/yyyy)

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

19L0669

Figure 2: **NaDONA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (NaDONA)

Mobile phase: Same as Figure 1

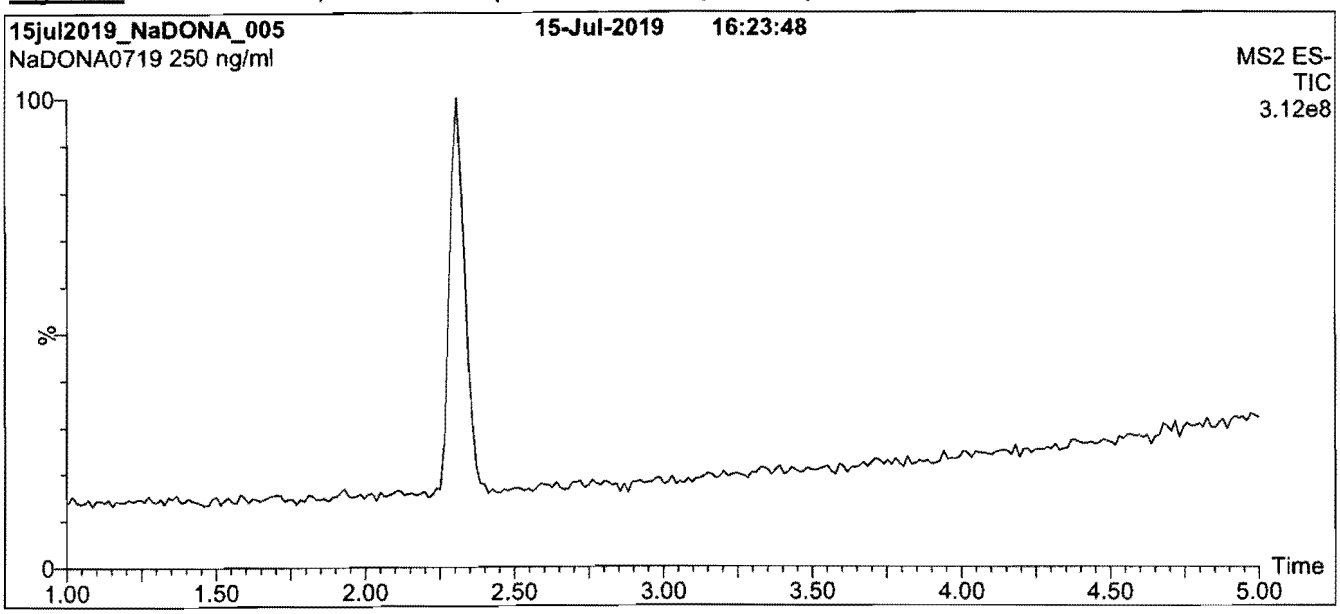
Flow: 300 µl/min

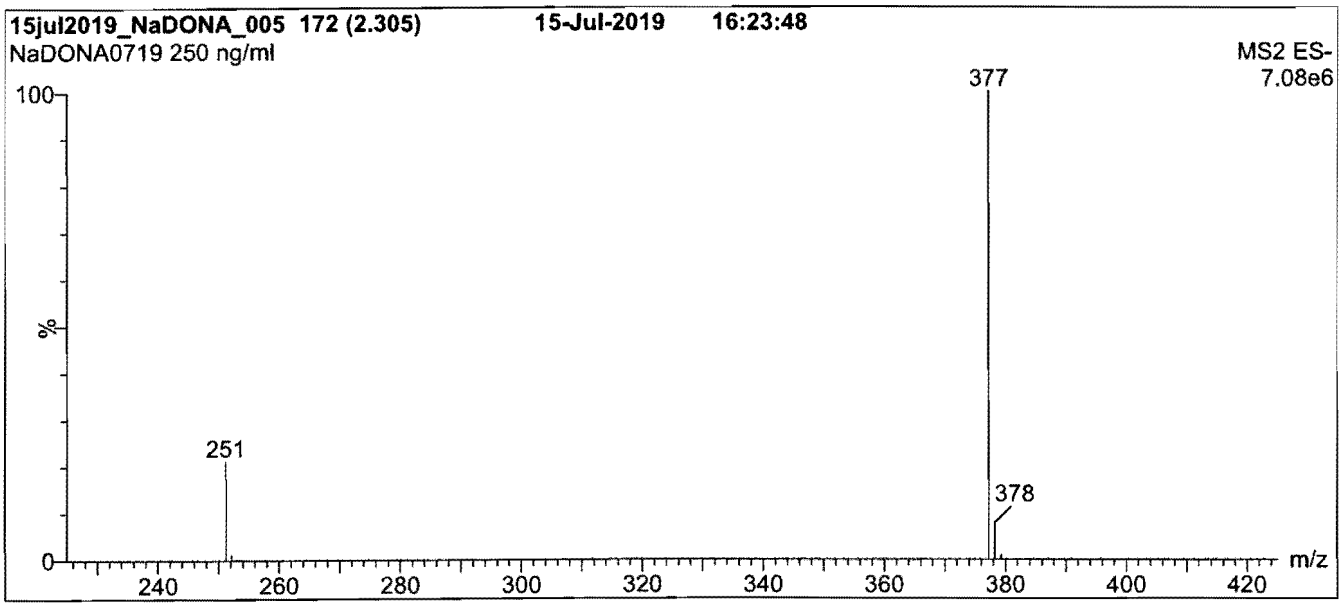
MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 10

19L0669

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: 55% (80:20 MeOH:ACN) / 45% 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) = 2.70
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0669

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

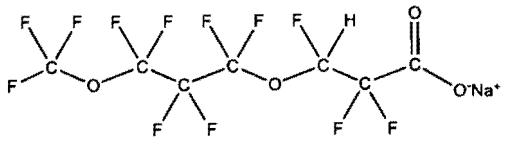
19L0669

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: NaDONA
LOT NUMBER: NaDONA0719
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
	47.1 ± 2.4 µg/ml (NaDONA anion)		Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/15/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/15/2024		
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.

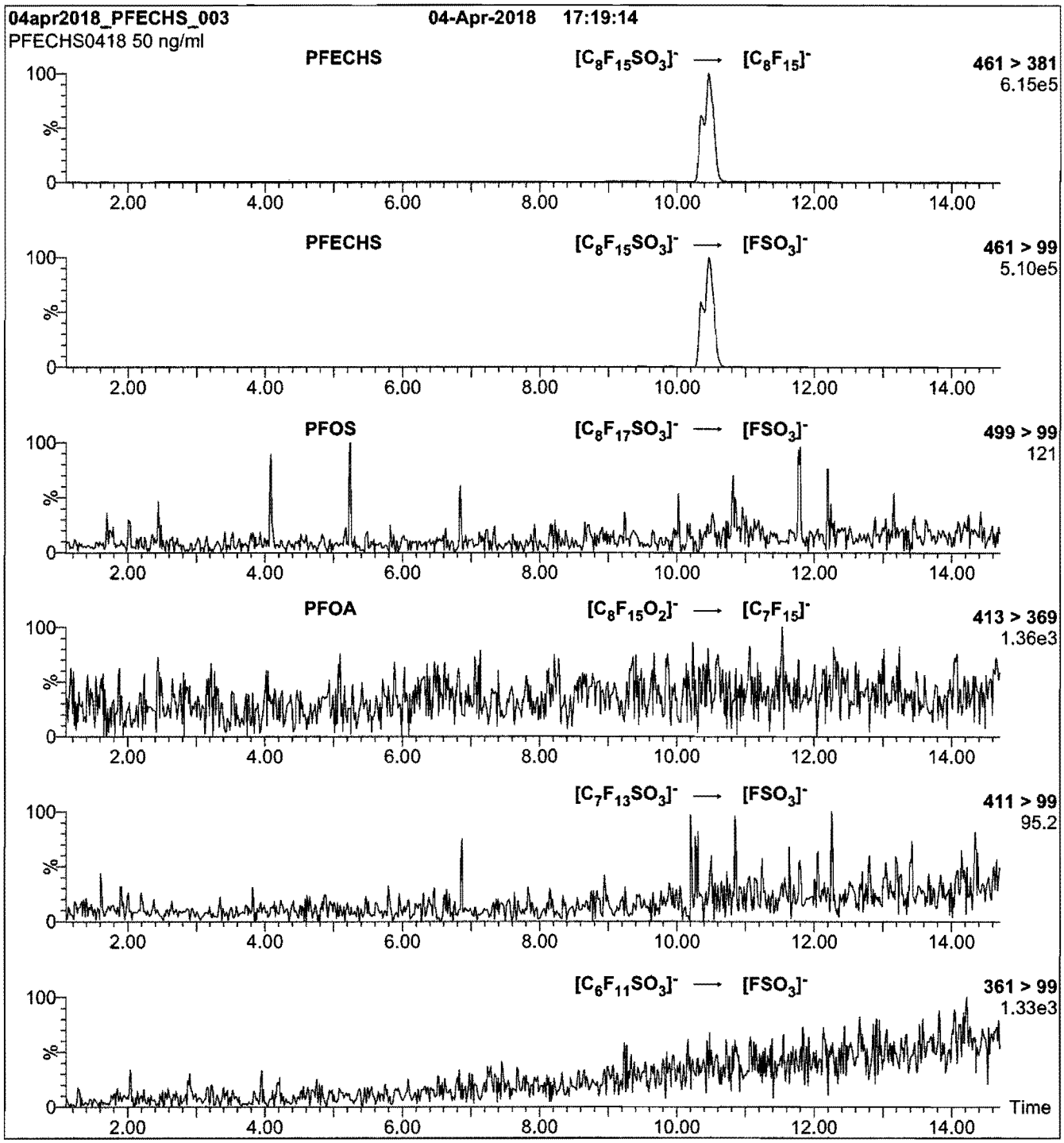
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/25/2019 (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

1910670

Figure 2: **PFECHS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFECHS)

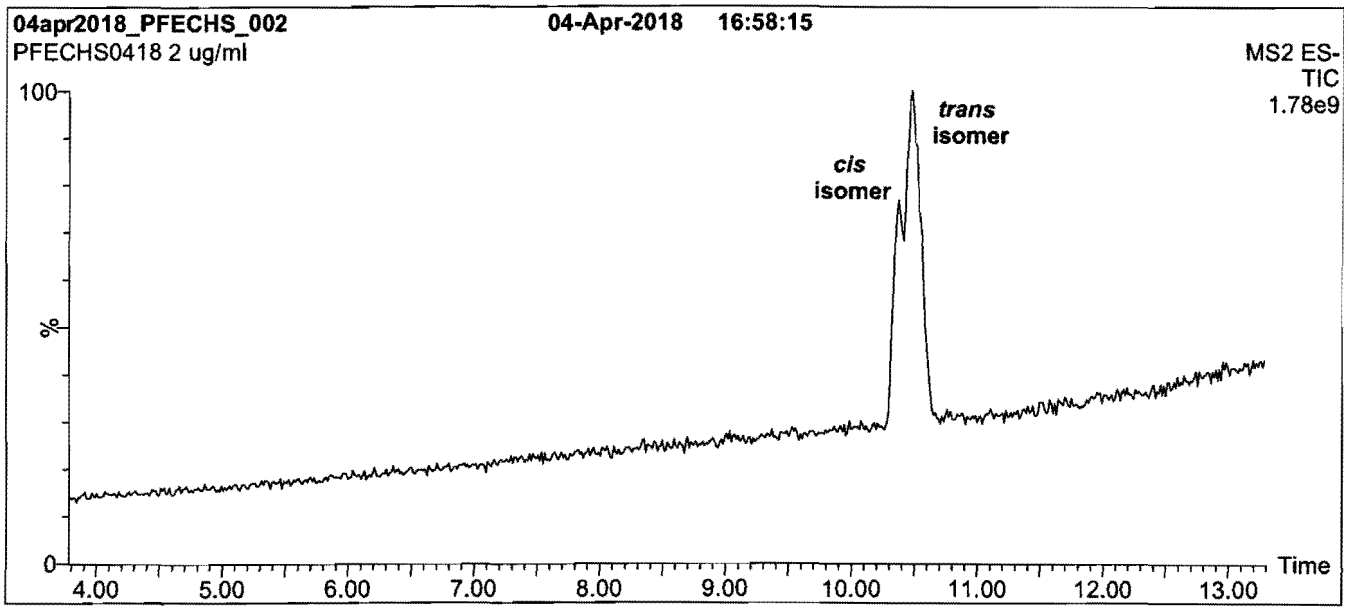
Mobile phase: Same as Figure 1

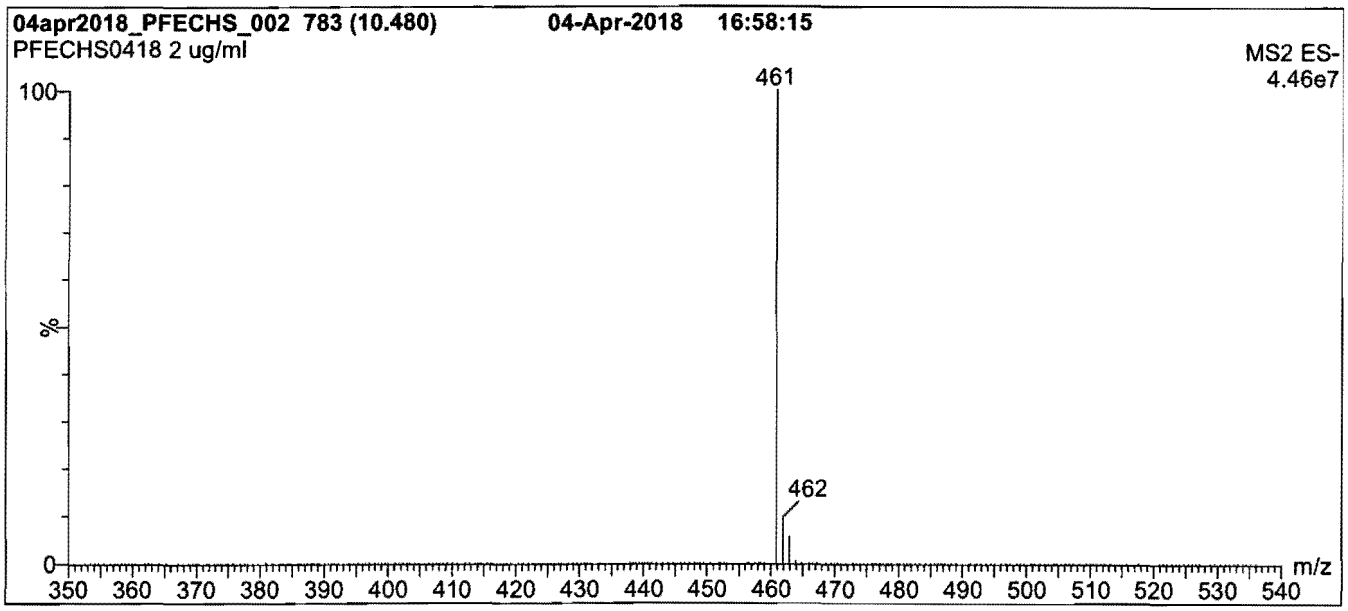
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 24

Figure 1: **PFECHS; 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 CSH Fluoro-Phenyl
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 25% (80:20 MeOH:ACN) / 75% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 60% organic over 13 min.
Ramp to 80% organic over 2 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 20 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (350 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 45.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED 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

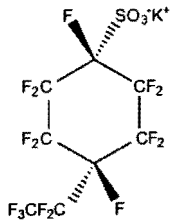
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

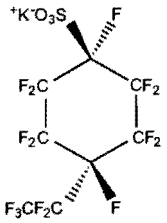
PRODUCT CODE: PFECHS **LOT NUMBER:** PFECHS0418

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) 04/04/2018

EXPIRY DATE: (mm/dd/yyyy) 04/04/2023

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:

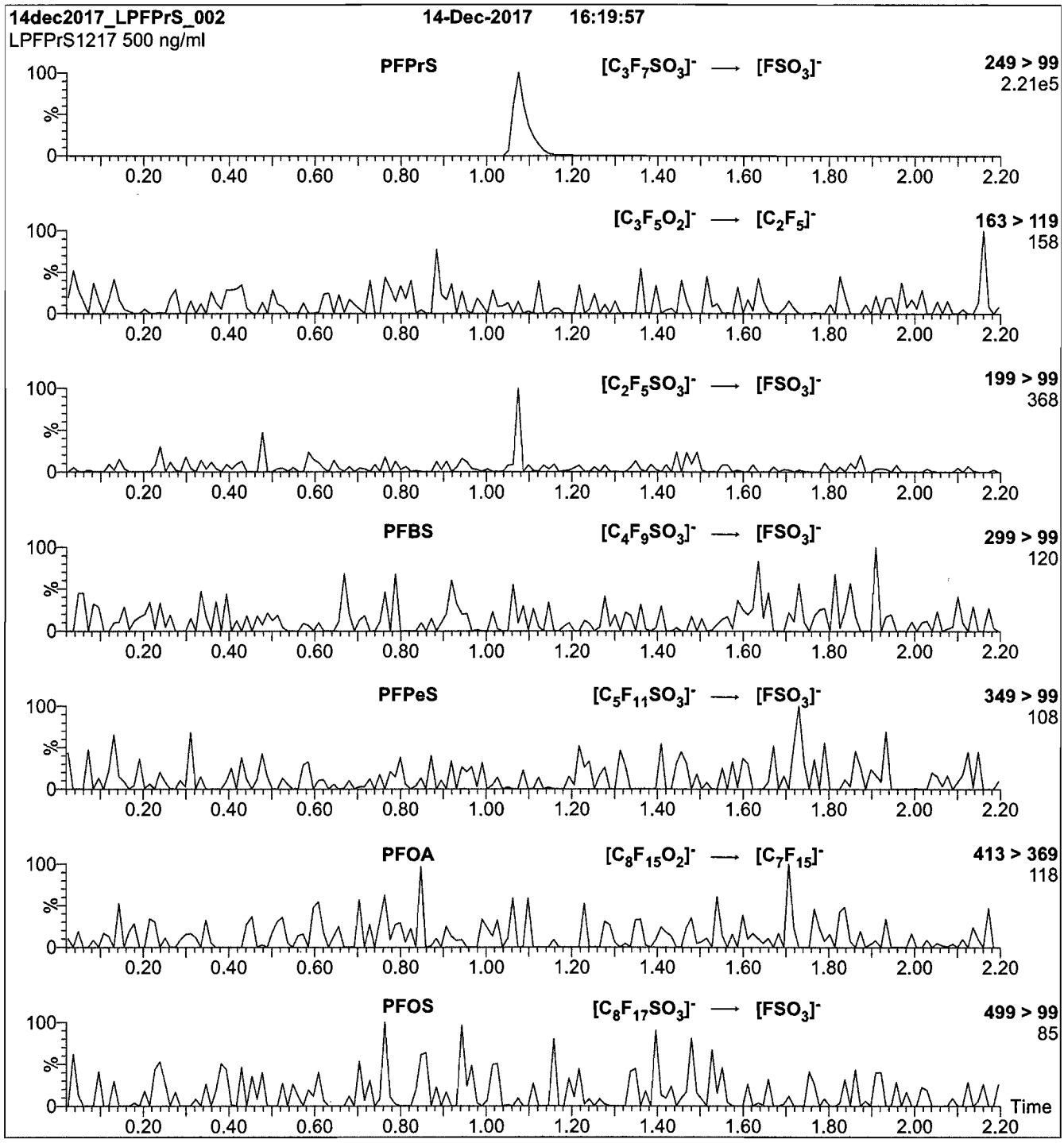
- See page 2 for further details.
- Contains a mixture of the *cis*/*trans* isomers of PFECHS at a ratio of 2:3 (*cis*:*trans*).
- Contains ~ 1.5% of other isomeric impurities.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 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

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)

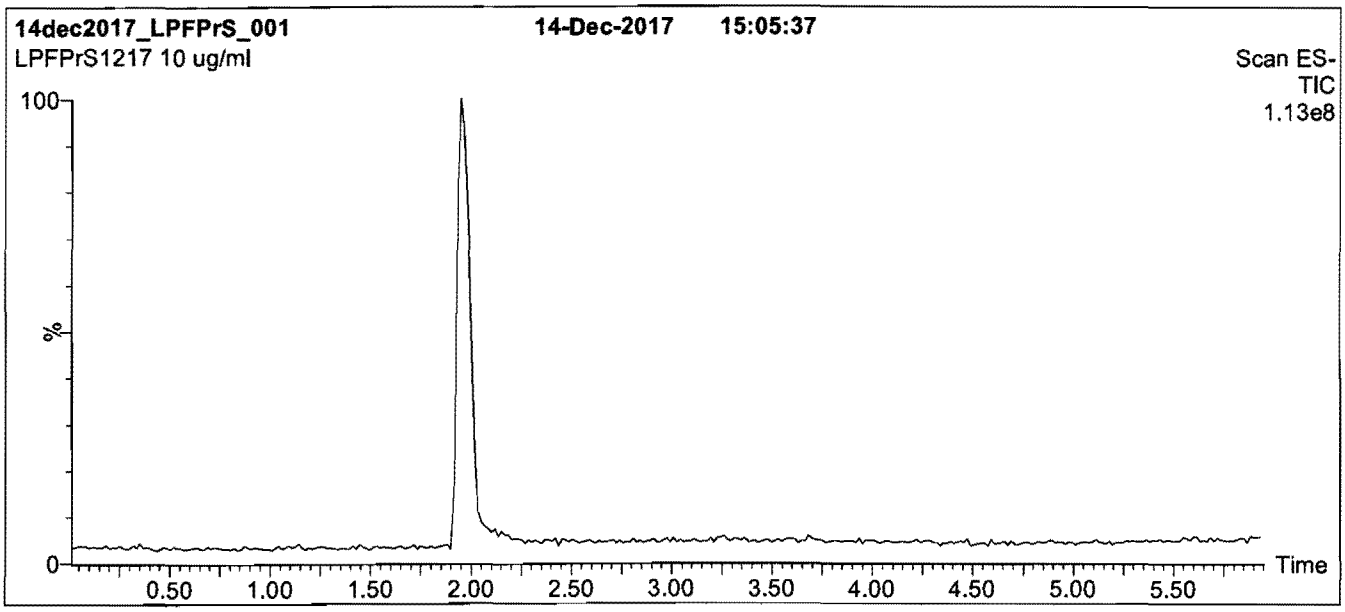
Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

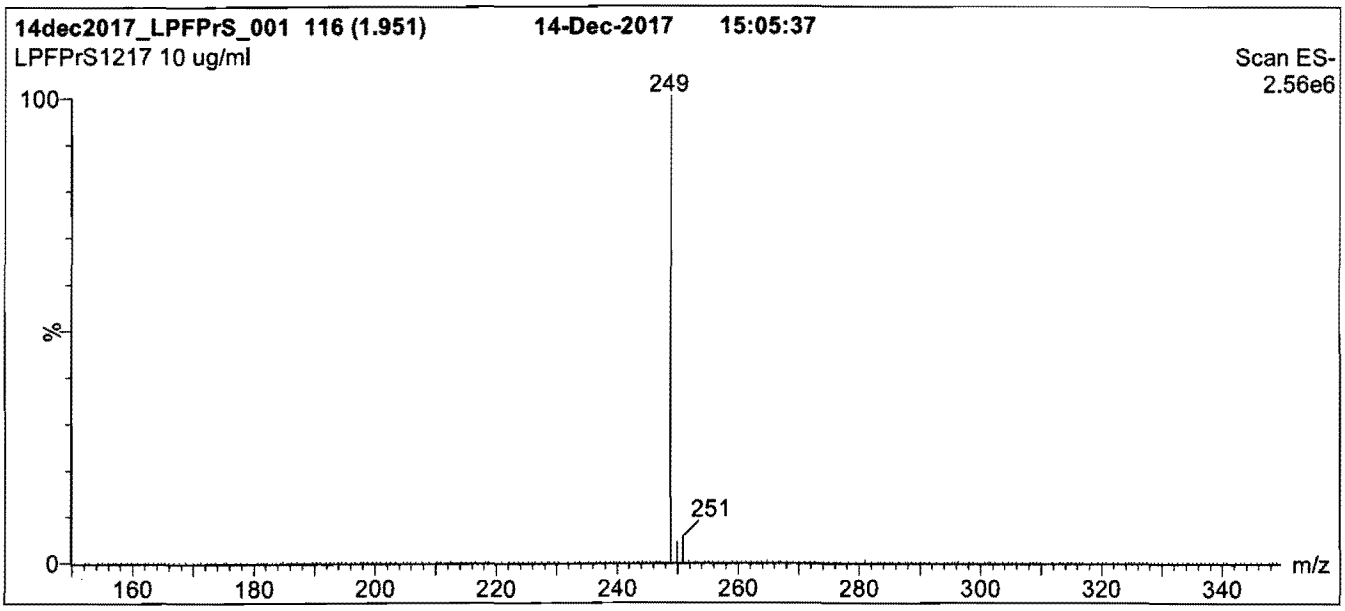
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 25

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

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

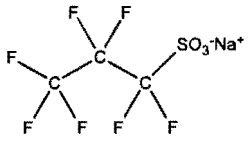
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1910671

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

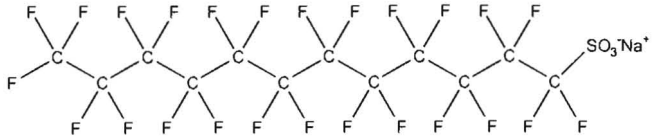
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L1707

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFDoS	**LOT NUMBER:**	LPFDoS1218
COMPOUND:	Sodium perfluoro-1-dodecanesulfonate		
STRUCTURE:		**CAS #:**	1260224-54-1



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)	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:

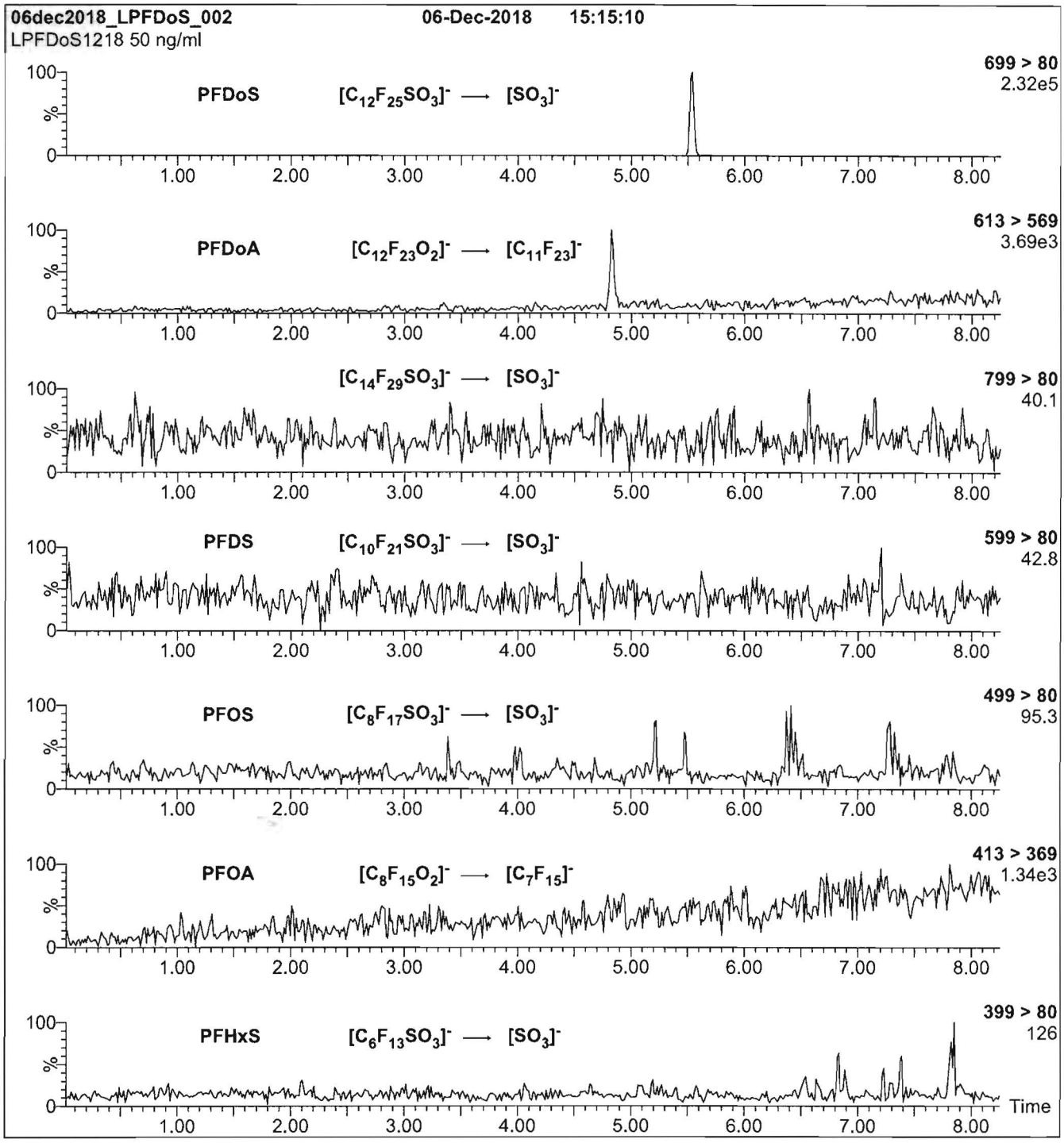
- See page 2 for further details.
- Contains ~ 0.2% of perfluoro-n-dodecanoic acid (PFDoA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2018 (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

Figure 2: **L-PFDoS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFDoS)

Mobile phase: Same as Figure 1

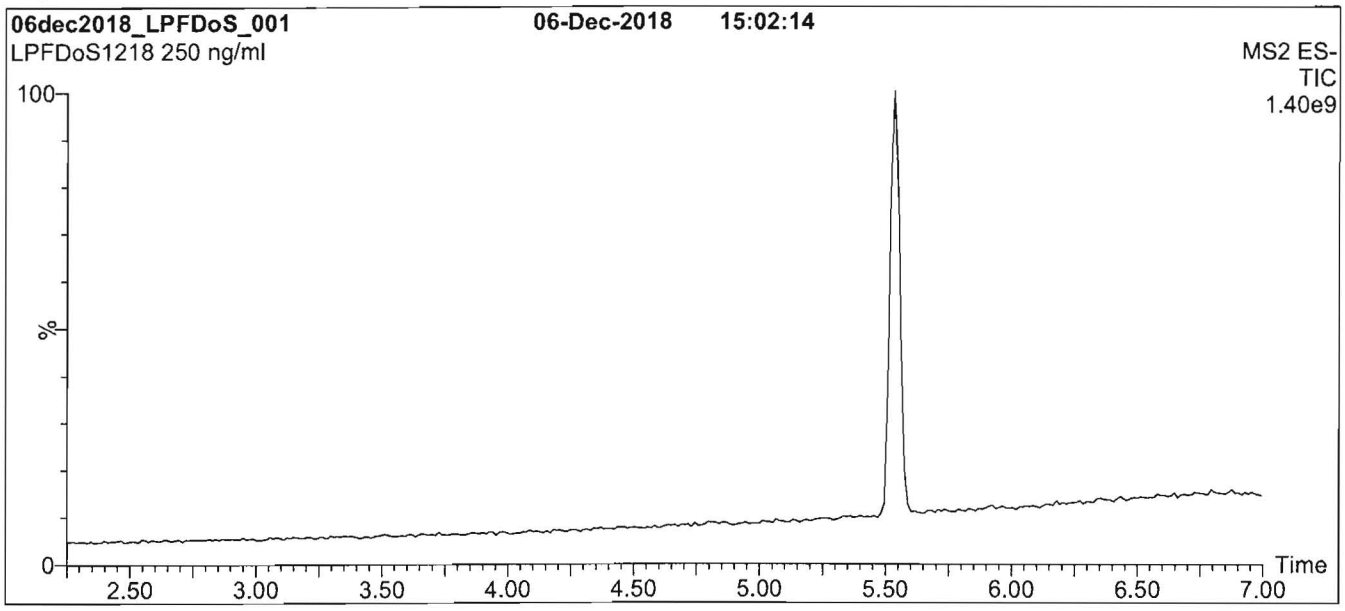
Flow: 300 µl/min

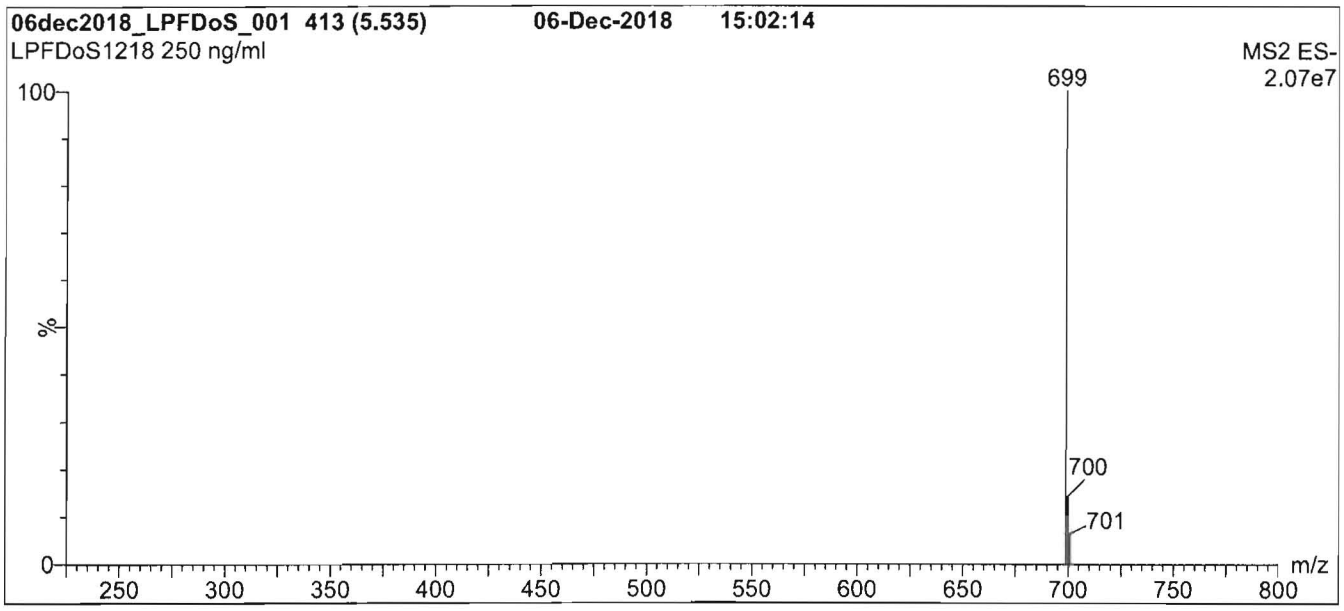
MS Parameters

Collision Gas (mbar) = 3.27e-3
Collision Energy (eV) = 60

19L1707

Figure 1: **L-PFDoS; 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) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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

"sys_sample_code","lab_anl_method_name","analysis_date","analysis_time","total_or_dissolved","column_number","test_type","cas_rn","chemical_name","result_value","result_error_delta","result_type_code","reportable_result","detect_flag","lab_qualifiers","organic_yn","method_detection_limit","reporting_detection_limit","quantatation_limit","result_unit","detection_limit_unit","tic_retention_time","result_comment","qc_original_conc","qc_spike_added","qc_spike_measured","qc_spike_recovery","qc_dup_original_conc","qc_dup_spike_added","qc_dup_spike_measured","qc_dup_spike_recovery","qc_rpd","qc_spike_lcl","qc_spike_ucl","qc_rpd_cl","qc_spike_status","qc_dup_spike_status","qc_rpd_status"
"EB04-20200706","537_MOD","07/13/20","19:30","N","NA","000","375-73-5","PFBS","","","TRG","Yes","N","U","Y","0.00139","0.00203","0.00406","UG_L","UG_L","","","

(PFUNA)","","","TRG","Yes","N","U","Y","0.00139","0.00203","0.00406","UG_L","UG_L","","","

"EB04-20200706","537_MOD","07/13/20","19:30","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","19.9","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","19.9","19.9","","","","","","50","150","","*","",""
"TW06D-20200706","537_MOD","07/11/20","04:59","N","NA","000","375-73-5","PFBS","","","TRG","Yes","N","U","Y","0.00131","0.00191","0.00382","UG_L","UG_L","","","","","","

"","","","","","","","","","
"TW06D-20200706","537_MOD","07/11/20","04:59","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","0.00286","","TRG","Yes","Y","J","Y","0.00131","0.00191","0.00382","UG_L","UG_L","","","","","","","","","

5","PFBS","0.0259","","TRG","Yes","Y","","Y","0.00132","0.00193","0.00387","UG_L","UG_L","","","

","","","","","","","","","
"TW25D-20200706","537_MOD","07/11/20","05:09","N","NA","000","72629-94-8","PFTrDA","","","TRG","Yes","N","U","Y","0.00132","0.00193","0.00387","UG_L","UG_L","","","","","","","","","

,"","","","

"TW26D-20200706","537_MOD","07/11/20","05:20","N","NA","000","376-06-7","PFTeDA","","","TRG","Yes","N","U","Y","0.00122","0.00179","0.00358","UG_L","UG_L","","","

","","","","","","","
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.00616","","TRG","Yes","Y","","Y","0.00133","0.00194","0.00388","UG_L","UG_L","","","","","","","

PFBS","91.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","91.3","91.3","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C3-HFPO-DA","13C3-HFPO-DA","85.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","85.8","85.8","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFHxA","13C2-PFHxA","83.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","83.2","83.2","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C4-PFHpA","13C4-PFHpA","91.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","91.4","91.4","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C3-PFHxS","13C3-PFHxS","92.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","92.6","92.6","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C5-PFNA","13C5-PFNA","101","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","101","101","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFOA","13C2-PFOA","89.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","89.6","89.6","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C8-PFOS","13C8-PFOS","88.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","88.8","88.8","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFDA","13C2-PFDA","93.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","93.6","93.6","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","84.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","84.1","84.1","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFUnA","13C2-PFUnA","72.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","72.3","72.3","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","76.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","76.5","76.5","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFDoA","13C2-PFDoA","70.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","70.5","70.5","","","","","","50","150","","","","",""
"TW08D-20200706","537_MOD","07/11/20","05:30","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","63.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.9","63.9","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","375-73-5","PFBS","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","

"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","

"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFHxA","13C2-PFHxA","77.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","77.5","77.5","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C4-PFHpA","13C4-PFHpA","82.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","82.2","82.2","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C3-PFHxS","13C3-PFHxS","76.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","76.5","76.5","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C5-PFNA","13C5-PFNA","90.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","90.5","90.5","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFOA","13C2-PFOA","78.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","78.5","78.5","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C8-PFOS","13C8-PFOS","84.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","84.0","84.0","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFDA","13C2-PFDA","80.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","80.3","80.3","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","62.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","62.7","62.7","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFUnA","13C2-PFUnA","69.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","69.1","69.1","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","59.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.6","59.6","","","","","","50","150","","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFDoA","13C2-PFDoA","66.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.3","66.3","","","","","","50","150","","","","",""
"B0G0039-BLK1","537_MOD","07/11/20","03:57","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","53.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","53.0","53.0","","","","","","50","150","","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","375-73-5","PFBS","0.0362","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0362","90.5","","","","","","","72","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.0409","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0409","102","","","","","","","72","129","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","0.0389","","TRG","Yes","Y","","Y","0.00241","0.00300","0.00400","UG_L","UG_L","","","","0.0400","0.0389","97.4","","","","","","","70","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.0427","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0427","107","","","","","","","72","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","0.0396","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0396","98.9","","","","","","","70","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC

ACID
(PFHXS)","0.0393","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0393","98.3","","","","","","","68","131","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","0.0431","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0431","108","","","","","","","71","133","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","0.0358","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0358","89.6","","","","","","","69","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","0.0397","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0397","99.1","","","","","","","65","140","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","756426-58-1","9-
CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-
PF3ONS)","0.0425","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0425","106","","","","","","","70","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","0.0421","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0421","105","","","","","","","71","129","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","2355-31-
9","MeFOSAA","0.0399","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0399","99.7","","","","","","","65","136","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","2991-50-
6","EtFOSAA","0.0410","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0410","103","","","","","","","61","135","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID
(PFUNA)","0.0412","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0412","103","","","","","","","69","133","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-3-
OXAUNDECANE-1-SULFONIC ACID (11Cl-
PF3OUdS)","0.0396","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0396","99.1","","","","","","","70","130","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","0.0411","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0411","103","","","","","","","72","134","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","72629-94-
8","PFTrDA","0.0365","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0365","91.4","","","","","","","65","144","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","376-06-
7","PFTeDA","0.0510","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0510","128","","","","","","","71","132","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C3-PFBS","13C3-
PFBS","81.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","81.8","81.8","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C3-HFPO-DA","13C3-HFPO-
DA","80.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","80.6","80.6","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFHxA","13C2-
PFHxA","76.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","76.1","76.1","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C4-PFHpA","13C4-
PFHpA","79.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","79.7","79.7","","","","","","50","150","","","","",""

"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C3-PFHxS","13C3-PFHxS","78.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","78.3","78.3","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C5-PFNA","13C5-PFNA","89.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","89.8","89.8","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFOA","13C2-PFOA","77.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","77.7","77.7","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C8-PFOS","13C8-PFOS","69.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","69.9","69.9","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFDA","13C2-PFDA","79.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","79.0","79.0","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","67.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","67.6","67.6","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFUnA","13C2-PFUnA","64.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","64.9","64.9","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","59.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.8","59.8","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFDoA","13C2-PFDoA","69.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","69.2","69.2","","","","","","50","150","","","","",""
"B0G0039-BS1","537_MOD","07/11/20","04:07","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","44.1","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","44.1","44.1","","","","","","50","150","","+","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","375-73-5","PFBS","0.0396","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0396","99.0","","","","","8.95","72","130","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.0394","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0394","98.6","","","","","3.75","72","129","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","0.0360","","TRG","Yes","Y","","Y","0.00241","0.00300","0.00400","UG_L","UG_L","","","","0.0400","0.0360","90.0","","","","","7.86","70","130","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.0405","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0405","101","","","","","5.43","72","130","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","0.0409","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0409","102","","","","","3.32","70","130","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.0360","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0360","90.0","","","","","8.79","68","131","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.0411","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0411","103","","","","","4.76","71","133","","","","",""

"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.0393","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0393","98.3","","","","","9.25","69","130","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.0398","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0398","99.4","","","","","","0.260","65","140","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","756426-58-1","9-CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-PF3ONS)","0.0403","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0403","101","","","","","5.45","70","130","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.0442","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0442","110","","","","","4.77","71","129","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","2355-31-9","MeFOSAA","0.0424","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0424","106","","","","","6.22","65","136","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","2991-50-6","EtFOSAA","0.0374","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0374","93.4","","","","","","9.31","61","135","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","0.0404","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0404","101","","","","","1.98","69","133","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-PF3OUdS)","0.0422","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0422","105","","","","","6.22","70","130","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","0.0415","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0415","104","","","","","0.842","72","134","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","72629-94-8","PFTrDA","0.0370","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0370","92.5","","","","","1.22","65","144","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","376-06-7","PFTeDA","0.0356","","TRG","Yes","Y","H","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0356","88.9","","","","","35.7","71","132","","+","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C3-PFBS","13C3-PFBS","84.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","84.7","84.7","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C3-HFPO-DA","13C3-HFPO-DA","83.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","83.9","83.9","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFHxA","13C2-PFHxA","81.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","81.9","81.9","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C4-PFHpA","13C4-PFHpA","79.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","79.5","79.5","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C3-PFHxS","13C3-PFHxS","88.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","88.5","88.5","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C5-PFNA","13C5-PFNA","96.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","96.8","96.8","","","","","","50","150",""

,"","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFOA","13C2-PFOA","81.4","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","81.4","81.4","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C8-PFOS","13C8-PFOS","71.7","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","71.7","71.7","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFDA","13C2-PFDA","83.8","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","83.8","83.8","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","65.2","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","65.2","65.2","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFUnA","13C2-PFUnA","69.7","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","69.7","69.7","","","","","","50","150","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","65.6","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","65.6","65.6","","","","","","50","150","","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFDoA","13C2-PFDoA","61.5","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","61.5","61.5","","","","","","50","150","","","","","",""
"B0G0039-BSD1","537_MOD","07/11/20","04:18","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","40.8","","IS","Yes","Y","H","Y","","","","","PCT_REC","","","","","100","40.8","40.8","","","","","","50","150","","","+","","",""

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Wood Environment & Infrastructure Solutions, Inc.
7376 SW Durham Road
Portland, OR 97224
Attn: Ms. Kimberly Shiroodi
Kimberly.Shiroodi@woodplc.com

September 3, 2020

SUBJECT: Revised MCAS El Toro & Tustin PFAs, Data Validation

Dear Ms. Shiroodi,

Enclosed are the revised validation reports for the fraction listed below. These SDGs were received on August 4th and 19th, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #48792_RV2:

SDG #	Fraction
2001357, 2001409, 2001417 2001436, 2001444, 2001472	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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2,5,6 and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1; February 2020
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.3, 2019
- DoD General Validation Guidelines, February 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Pgeng@lab-data.com
Project Manager/Senior Chemist

167 pages-ADV (100% Stage 4 for this job) (RV-F added) Attachment 1

Stage 2B/4 - do not validate QC samples **LDC #48792 (Wood/KMEA - National City, CA / MCAS El Toro & Tustin PFAs)** **PO001184**

LDC	SDG#	DATE REC'D	(2) DATE DUE	PFAs (537M/ QSM 5.3)																															
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
A	2001357	08/04/20	08/18/20	2	0																														
B	2001409	08/04/20	08/18/20	12	0																														
C	2001417	08/04/20	08/18/20	4	0																														
D	2001436	08/04/20	08/18/20	6	0																														
E	2001444	08/04/20	08/18/20	7	0																														
F	2001472	08/19/20	09/02/20	4	0																														
Total	J/PG			35	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	35

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

L:\Wood Environmental\El Toro\48792ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001357

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I006MW06S-20200624	2001357-03	Water	06/24/20
DUP01-20200624	2001357-04	Water	06/24/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB01-20200624 was identified as an equipment blank. No contaminants were found.

Sample SB01-20200624 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

Samples I006MW06S-20200624 and DUP01-20200624 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFBS	0.0819	0.0824	1 (≤30)	-	-	-
PFHxA	0.6050	0.5880	3 (≤30)	-	-	-
PFHpA	0.3370	0.339	1 (≤30)	-	-	-
PFHxS	0.5150	0.5350	4 (≤30)	-	-	-
PFOA	0.2680	0.3150	16 (≤30)	-	-	-
PFNA	0.0044	0.0049	-	0.00049 (≤0.00394)	-	-
PFOS	0.0906	0.1060	16 (≤30)	-	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria.

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 methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

LDC #: 48792A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001357 Stage 4 Page: 1 of 1

Laboratory: Vista Analytical Laboratory Reviewer:

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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	r ≥ 0.99 |%D| ≤ 30
IV.	Continuing calibration/ISC	A / A	%D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	SB01-20200624 EB01-20200624
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	SW	D= 1+2
X.	Labeled Compounds	A	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	I006MW06S-20200624	2001357-03	Water	06/24/20
2	DUP01-20200624	2001357-04	Water	06/24/20
3				
4				
5				
6				
7				
8				
9				
10				

Notes:

	BDF0257						

LDC #: 48792A90

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of $\geq$ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) $\leq$30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification $\leq$ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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 $\leq$ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
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 $\leq$ 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?		✓		

LDC #: 48792A96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. 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?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF3ØNS		
R. 11Cl-PF3ØUdS		

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	1	2				
A	0.0819	0.0824	1			
B	0.6050	0.5880	3			
C	0.3370	0.339	1			
D	0.5150	0.5350	4			
E	0.2680	0.3150	16			
F	0.0044	0.0049		0.00049	0.00394	
G	0.0906	0.1060	16			

LDC # 48792A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/6/2020	SCN977	PFOA	1	0.0283	0.02	0.00040
			2	0.0513	0.04	0.0016
			3	0.0937	0.08	0.0064
			4	0.1952	0.16	0.0256
			5	0.4739	0.40	0.1600
			6	0.8828	0.80	0.6400
			7	4.5622	4.00	16.0000
			8	9.3191	8.00	64.0000
			9	20.7411	20.00	400.0000
			10	41.4806	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.09230	c	0.0543225
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.09128	-0.0014190	1.13013	-0.000202972
Std Err of Coef.				
Correlation Coefficient		0.999825		
Coefficient of Determination (r^2)		0.999651		0.999173

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/6/2020	SCN977	PFOS	1	0.0184	0.02	0.00040
			2	0.0397	0.04	0.0016
			3	0.0806	0.08	0.0064
			4	0.1980	0.16	0.0256
			5	0.4633	0.40	0.1600
			6	1.0057	0.80	0.6400
			7	4.8637	4.00	16.0000
			8	10.3716	8.00	64.0000
			9	24.6679	20.00	400.0000
			10	47.3616	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03049	c	-0.0944633
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.28839	-0.0026132	1.27905	-0.0001870130
Std Err of Coef.				
Correlation Coefficient		0.999980		
Coefficient of Determination (r^2)		0.999959		0.999703

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200706P1_48	6/30/2020	PFOA (13C2-PFOA)	10.0	9.81	9.81	98.1	98.1
			PFOS (13C8-PFOS)	10.0	9.91	9.89	99.1	98.9
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0F0257-BS/D1

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0391	0.0393	97.7	97.8	98.2	98.3	0.463	0.510
PFOS	0.0400	0.0400	0.0386	0.0384	96.5	96.5	96.1	96.0	0.435	0.519

LDC #: 47924B6

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	5.670E+03	2.408E+03	12.5	1	curve	1	255.63	0.0906	0.0906	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001409

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
IS72MW16DR-20200701	2001409-02	Water	07/01/20
IS72MW15D-20200701	2001409-03	Water	07/01/20
222MW09D-20200701	2001409-04	Water	07/01/20
DUP02-20200701	2001409-05	Water	07/01/20
IS72MW17D-20200701	2001409-06	Water	07/01/20
DUP03-20200701	2001409-07	Water	07/01/20
I003MW01D-20200701	2001409-08	Water	07/01/20
I003MW02D-20200701	2001409-09	Water	07/01/20
DUP04-20200701	2001409-10	Water	07/01/20
I003MW05D-20200701	2001409-11	Water	07/01/20
TW07D-20200702	2001409-13	Water	07/02/20
TW05D-20200702	2001409-14	Water	07/02/20
IS72MW16DR-20200701MS	2001409-02MS	Water	07/01/20
IS72MW16DR-20200701MSD	2001409-02MSD	Water	07/01/20
I003MW01D-20200701MS	2001409-08MS	Water	07/01/20
I003MW01D-20200701MSD	2001409-08MSD	Water	07/01/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB02-20200701 and EB03-20200702 were identified as equipment blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
I003MW01D-20200701MS/MSD (I003MW01D-20200701)	PFNA	133 (69-130)	-	J (all detects)	A

For I003MW01D-20200701MS/MSD, no data were qualified for PFBS and PFHpA percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

PFHxA, PFHxS, PFOA, and PFOS percent recoveries (%R) and PFHxA, PFHxS, and PFOS relative percent differences (RPD) were not within the QC limits for I003MW01D-20200701MS/MSD. No data were qualified for MS/MSD samples analyzed greater than or equal to a 5X dilution.

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples 222MW09D-20200701 and DUP02-20200701, samples IS72MW17D-20200701 and DUP03-20200701, and samples I003MW02D-20200701 and DUP04-20200701 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFBS	0.0105	0.0105	-	0 (≤0.00405)	-	-
PFHxA	0.0207	0.0226	9 (≤30)	-	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFHpA	0.00555	0.00521	-	0.0003 (≤0.00405)	-	-
PFHxS	0.0702	0.0610	14 (≤30)	-	-	-
PFOA	0.0839	0.0822	2 (≤30)	-	-	-
PFOS	0.0150	0.0154	-	0.0004 (≤0.00405)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	IS72MW17D-20200701	DUP03-20200701				
PFBS	0.0262	0.0285	8 (≤30)	-	-	-
PFHxA	0.185	0.189	2 (≤30)	-	-	-
PFHpA	0.0980	0.0945	4 (≤30)	-	-	-
PFHxS	0.0788	0.0737	7 (≤30)	-	-	-
PFOA	0.781	0.755	3 (≤30)	-	-	-
PFNA	0.00477	0.00546	-	0.00069 (≤0.00409)	-	-
PFOS	0.0432	0.0418	3 (≤30)	-	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	I003MW02D-20200701	DUP04-20200701				
PFBS	0.364	0.397	9 (≤30)	-	-	-
PFHxA	2.59	2.57	1 (≤30)	-	-	-
PFHpA	0.537	0.529	2 (≤30)	-	-	-
PFHxS	2.49	2.59	4 (≤30)	-	-	-
PFOA	11.1	11.0	1 (≤30)	-	-	-
PFNA	0.00392	0.00425	-	0.00033 (≤0.00400)	-	-
PFOS	0.879	0.972	10 (≤30)	-	-	-

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
TW07D-20200702	13C2-PFDoA 13C2-PFTeDA	46.2 (50-150) 12.6 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW05D-20200702	13C2-PFTeDA	28.0 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria with the following exceptions:

Sample	Compound	Ion Abundance Ratio (Limits)	Flag	A or P
222MW09D-20200701	PFOS	3.506 (1.003-3.008)	J (all detects)	P
DUP02-20200701	PFOS	3.255 (1.003-3.008)	J (all detects)	P

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to MS/MSD %R and ion abundance ratio, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001409

Sample	Compound	Flag	A or P	Reason
I003MW01D-20200701	PFNA	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
222MW09D-20200701 DUP02-20200701	PFOS	J (all detects)	P	Target compound identification (ion abundance ratio)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001409

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001409

No Sample Data Qualified in this SDG

LDC #: 48792B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001409 Stage 4 Page: 1 of 2

Laboratory: Vista Analytical Laboratory Reviewer: M

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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	%D TV/ICV ≤ 30
IV.	Continuing calibration/ISC	A/A	%D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB02-20200701, EB03-20200702
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 3+4, 5+6, 8+9
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	SW	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	IS72MW16DR-20200701	2001409-02	Water	07/01/20
2	IS72MW15D-20200701	2001409-03	Water	07/01/20
3	222MW09D-20200701	2001409-04	Water	07/01/20
4	DUP02-20200701	2001409-05	Water	07/01/20
5	IS72MW17D-20200701	2001409-06	Water	07/01/20
6	DUP03-20200701	2001409-07	Water	07/01/20
7	I003MW01D-20200701	2001409-08	Water	07/01/20
8	I003MW02D-20200701	2001409-09	Water	07/01/20
9	DUP04-20200701	2001409-10	Water	07/01/20
10	I003MW05D-20200701	2001409-11	Water	07/01/20
11	TW07D-20200702	2001409-13	Water	07/02/20
12	TW05D-20200702	2001409-14	Water	07/02/20
13	IS72MW16DR-20200701MS	2001409-02MS	Water	07/01/20
14	IS72MW16DR-20200701MSD	2001409-02MSD	Water	07/01/20
15	I003MW01D-20200701MS	2001409-08MS	Water	07/01/20

LDC #: 48792B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001409 Stage 4 Page: 2 of 2

Laboratory: Vista Analytical Laboratory Reviewer:

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

16	I003MW01D-20200701MSD	2001409-08MSD	Water	07/01/20
17				
18				
19				

Notes:

	BOGD034						

LDC #: 48795B96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of $\geq$ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) $\leq$30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification $\leq$ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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 $\leq$ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
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 $\leq$ 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?		✓		

LDC #: 46792B96

VALIDATION FINDINGS CHECKLIST

Reviewer: IV
2nd Reviewer: IV

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. 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?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?		✓		
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 49792B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DOD QSM 5.1
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		15/16	A		48.3 (72-130)		7 (dets)	No qual. >4x
			C	250 (72-130)	265 ↓			↓
			F	133 (69-130				J dets/A
		15/16 (10x)	B, D, E, G	%RS out			7 (dets)	No qual. >4x
			B			32 (≤30)		
			D			39 ↓		
			G			31		

Reported RPDs based on %RS. RPDs evaluated using conc.

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: SC
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.1

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	1	2				
A	0.0105	0.0105		0	0.00405	
B	0.0207	0.0226	9			
C	0.00555	0.00521		0.0003	0.00405	
D	0.0702	0.0610	14			
E	0.0839	0.0822	2			
G	0.0150	0.0154		0.0004	0.00405	

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	5	6				
A	0.0262	0.0285	8			
B	0.185	0.189	2			
C	0.0980	0.0945	4			
D	0.0788	0.0737	7			
E	0.781	0.755	3			
F	0.00477	0.00546		0.00069	0.00409	
G	0.0432	0.0418	3			

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	8	9				
A	0.364	0.397	9			
B	2.59	2.57	1			
C	0.537	0.529	2			
D	2.49	2.59	4			
E	11.1	11.0	1			
F	0.00392	0.00425		0.00033	0.00400	
G	0.879	0.972	10			

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: π
2nd Reviewer: T

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		11TB4 (ND)	DDA	46.2 (50-150)	Jdet/P (L, M, R)
			TDA	12.6	(N)
		12TB4		28.0	(N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Target Compound Identification

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was the signal to noise (S/N) ratio for all compounds within the validation criteria?
Y (N) N/A Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?
Y (N) N/A Were ion ratios within QC limits and between 50-150%?

#	Date	Sample ID	Associated Compound	Ion ratio (~~%D≤50~~ limit)	Qualifications
		3	G	3.506 (1.003-3.008)	J (det)/P
		↓	↓	↓	↓
		4	↓	3.255	↓

LDC # 48792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN945/960	PFOA	1	0.0391	0.02	0.00040
			2	0.0607	0.04	0.0016
			3	0.1111	0.08	0.0064
			4	0.2362	0.16	0.0256
			5	0.6220	0.40	0.1600
			6	1.1520	0.80	0.6400
			7	6.2166	4.00	16.0000
			8	11.3946	8.00	64.0000
			9	26.3657	20.00	400.0000
			10	53.5565	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.15850	c	0.1102520
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.36351	-0.0006947	1.42944	-0.000207503
Std Err of Coef.				
Correlation Coefficient		0.999826		
Coefficient of Determination (r^2)		0.999652		0.99882

LDC #: 18792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN945/960	PFOS	1	0.0227	0.02	0.00040
			2	0.0317	0.04	0.0016
			3	0.0814	0.08	0.0064
			4	0.1498	0.16	0.0256
			5	0.4309	0.40	0.1600
			6	0.7906	0.80	0.6400
			7	4.2751	4.00	16.0000
			8	8.1452	8.00	64.0000
			9	19.0425	20.00	400.0000
			10	38.9489	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.08248	c	-0.0037090
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.970908	0.0000222	1.008000	-0.0000832828
Std Err of Coef.				
Correlation Coefficient		0.999885		
Coefficient of Determination (r^2)		0.999771		0.998246

LDC # 47862 B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN945/960	PFOA	1	0.0339	0.02	0.00040
			2	0.0701	0.04	0.0016
			3	0.1254	0.08	0.0064
			4	0.2383	0.16	0.0256
			5	0.6010	0.40	0.1600
			6	1.2023	0.80	0.6400
			7	6.0452	4.00	16.0000
			8	11.7530	8.00	64.0000
			9	27.7324	20.00	400.0000
			10	51.9259	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.03546	c	0.0669438
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.49055	-0.0048287	1.50337	-0.000416136
Std Err of Coef.				
Correlation Coefficient		0.999991		
Coefficient of Determination (r^2)		0.999981		0.999939

LDC #: 48972B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN945/960	PFOS	1	0.0161	0.02	0.00040
			2	0.0303	0.04	0.0016
			3	0.0746	0.08	0.0064
			4	0.1589	0.16	0.0256
			5	0.4236	0.40	0.1600
			6	0.8187	0.80	0.6400
			7	4.1694	4.00	16.0000
			8	7.9315	8.00	64.0000
			9	20.4718	20.00	400.0000
			10	38.8811	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03613	c	-0.0860112
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.051162	-0.0019514	1.03891	-0.0001274520
Std Err of Coef.				
Correlation Coefficient		0.999955		
Coefficient of Determination (r^2)		0.999911		0.999761

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOA	1	0.0305	0.02	0.00040
			2	0.0521	0.04	0.0016
			3	0.1192	0.08	0.0064
			4	0.2380	0.16	0.0256
			5	0.5742	0.40	0.1600
			6	1.1541	0.80	0.6400
			7	5.8217	4.00	16.0000
			8	11.3244	8.00	64.0000
			9	26.9039	20.00	400.0000
			10	49.4671	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00837	c	-0.0054419
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.45774	-0.0055315	1.46173	-0.000451650
Std Err of Coef.				
Correlation Coefficient		0.999999		
Coefficient of Determination (r^2)		0.999998		0.999976

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOS	1	0.0152	0.02	0.00040
			2	0.0407	0.04	0.0016
			3	0.0966	0.08	0.0064
			4	0.1510	0.16	0.0256
			5	0.4276	0.40	0.1600
			6	0.7511	0.80	0.6400
			7	4.2366	4.00	16.0000
			8	7.8487	8.00	64.0000
			9	18.9035	20.00	400.0000
			10	38.4993	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.06995	c	0.0058948
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.95629	0.0001198	0.98734	-0.0000616685
Std Err of Coef.				
Correlation Coefficient		0.999926		
Coefficient of Determination (r^2)		0.999853		0.999295

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200714M1_63	7/15/2020	PFOA (13C2-PFOA)	1.00	0.997	0.997	99.4	99.7
			PFOS (13C8-PFOS)	1.00	1.160	1.159	115.9	115.9
2	200714M1_83	7/15/2020	PFOA (13C2-PFOA)	10.00	9.23	9.23	92.3	92.3
			PFOS (13C8-PFOS)	10.00	11.6	11.6	116.3	116.2
3	200716M1_27	7/16/2020	PFOA (13C2-PFOA)	10.00	10.50	10.49	104.9	104.9
			PFOS (13C8-PFOS)	10.00	10.20	10.20	102.1	102.0
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 45792B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration; SA = Spike added; SC = Sample concentration

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery; MSD = Matrix spike duplicate recovery

MS/MSD ID: 13/14

Compound	SA (ug/L)		SC (ug/L)	SSC (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0414	0.0409	0.1670	0.2120	0.2060	109	109	95.0	95.4	13.7	2.87
PFOS	0.0414	0.0409	0.0650	0.1150	0.1070	121	121	102	103	17.0	7.21

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0034-BS1

Compound	SA (ng/L)		SSC (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400		0.0414		104	104				
PFOS	0.0400		0.0355		88.7	88.8				

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SG
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	6.129E+04	1.362E+04	12.5	1	curve	1	236.45	0.167	0.167	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001417

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW06D-20200706	2001417-02	Water	07/06/20
TW25D-20200706	2001417-03	Water	07/06/20
TW26D-20200706	2001417-04	Water	07/06/20
TW08D-20200706	2001417-05	Water	07/06/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB04-20200706 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
BOG0039-BS1/BSD1 (All samples in SDG 2001417)	PFTeDA	35.7 (≤30)	NA	-

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
TW06D-20200706	13C2-PFTeDA	27.0 (50-150)	PFTeDA	NA	-
TW25D-20200706	d5-EtFOSAA 13C2-PFDoA 13C2-PFTeDA	46.4 (50-150) 42.7 (50-150) 17.3 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW26D-20200706	13C2-PFTeDA	24.3 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

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 methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

LDC #: 48792C96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001417 Stage 4 Page: 1 of 1

Laboratory: Vista Analytical Laboratory Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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 ≥0.99 ≤30
IV.	Continuing calibration/ISC	A/A	D ≤30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB04-20200706
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; SB=Source blank
N = Not provided/applicable; R = Rinsate; TB = Trip blank; OTHER:
SW = See worksheet; FB = Field blank; EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TW06D-20200706	2001417-02	Water	07/06/20
2	TW25D-20200706	2001417-03	Water	07/06/20
3	TW26D-20200706	2001417-04	Water	07/06/20
4	TW08D-20200706	2001417-05	Water	07/06/20
5				
6				
7				
8				
9				
10				

Notes:

	B0G0039						

LDC #: 48792Q96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
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 coefficient of determination (r^2) 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?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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%?	✓			
Were all the retention times within the acceptance windows?	✓			
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?		✓		

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. 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?		✓		
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	•	✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DOD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	BQG0039-BS1/BSD1	N			35.7 (≤30)	All (ND)	J (all det.) / P

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		1 (ND)	TDA	27.0 (50-150)	Jdets/P (N)
		2	EFOS	46.4	(J)
			DDA	42.7	(L, M, R)
			TDA	17.3	(N)
		3 (ND)	TDA	24.3	

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792096

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/10/2020	SCN982	PFOA	1	0.0371	0.02	0.00040
			2	0.0615	0.04	0.0016
			3	0.1197	0.08	0.0064
			4	0.2327	0.16	0.0256
			5	0.6277	0.40	0.1600
			6	1.1434	0.80	0.6400
			7	5.5884	4.00	16.0000
			8	11.6240	8.00	64.0000
			9	26.4062	20.00	400.0000
			10	51.9666	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.08117	c	0.1077220
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.38891	-0.0022976	1.42034	-0.000256585
Std Err of Coef.				
Correlation Coefficient		0.999908		
Coefficient of Determination (r^2)		0.999815		0.999514

LDC #: 48192096

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/10/2020	SCN982	PFOS	1	0.0181	0.02	0.00040
			2	0.0367	0.04	0.0016
			3	0.0751	0.08	0.0064
			4	0.1287	0.16	0.0256
			5	0.4089	0.40	0.1600
			6	0.8490	0.80	0.6400
			7	4.3716	4.00	16.0000
			8	8.7038	8.00	64.0000
			9	21.4254	20.00	400.0000
			10	38.6788	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.06963	c	-0.0940027
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.153191	-0.0046289	1.126310	-0.0003080400
Std Err of Coef.				
Correlation Coefficient		0.999967		
Coefficient of Determination (r^2)		0.999933		0.999556

LDC #: 48792 c96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200710M1_109	7/11/2020	PFOA (13C2-PFOA)	10.00	10.7	10.7	106.5	106.5
			PFOS (13C8-PFOS)	10.00	8.57	8.55	85.7	85.5
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOA	1	0.0307	0.02	0.00040
			2	0.0628	0.04	0.0016
			3	0.1341	0.08	0.0064
			4	0.2594	0.16	0.0256
			5	0.5827	0.40	0.1600
			6	1.2264	0.80	0.6400
			7	6.2227	4.00	16.0000
			8	11.8314	8.00	64.0000
			9	27.9818	20.00	400.0000
			10	55.1083	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.09022	c	0.0619264
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.45746	-0.0020386	1.49503	-0.000249651
Std Err of Coef.				
Correlation Coefficient		0.999949		
Coefficient of Determination (r^2)		0.999898		0.99964

LDC #: 48792C9v

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN982	PFOS	1	0.0183	0.02	0.00040
			2	0.0368	0.04	0.0016
			3	0.0855	0.08	0.0064
			4	0.1639	0.16	0.0256
			5	0.4212	0.40	0.1600
			6	0.8879	0.80	0.6400
			7	4.2126	4.00	16.0000
			8	8.8898	8.00	64.0000
			9	20.8350	20.00	400.0000
			10	37.5574	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03856	c	-0.0882230
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.14010	-0.0050221	1.12687	-0.0003708350
Std Err of Coef.				
Correlation Coefficient		0.999978		
Coefficient of Determination (r^2)		0.999957		0.999734

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer: CJ

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0039-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0431	0.0411	108	108	103	103	4.76	4.75
PFOS	0.0400	0.0400	0.0397	0.0398	99.1	99.3	99.4	99.5	0.260	0.252

LDC #: 48792096

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer: 9

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	4.907E+02	3.402E+03	12.5	1	curve	1	261.96	0.00643	0.00643	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001436

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW21D-20200707	2001436-02	Water	07/07/20
TW09D-20200707	2001436-03	Water	07/07/20
TW22D-20200707	2001436-04	Water	07/07/20
TW23D-20200708	2001436-06	Water	07/08/20
TW24D-20200708	2001436-07	Water	07/08/20
TW17D-20200708	2001436-08	Water	07/08/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB05-20200707 and EB06-20200708 were identified as equipment blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW21D-20200707	13C2-PFTeDA	32.1 (50-150)	PFTeDA	NA	-
TW09D-20200707	d5-EtFOSAA 13C2-PFDoA 13C2-PFTeDA	42.0 (50-150) 38.5 (50-150) 11.4 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW22D-20200707	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	30.9 (50-150) 35.7 (50-150) 23.3 (50-150) 13.5 (50-150)	MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW22D-20200707	13C2-PFTeDA	6.30 (50-150)	PFTeDA	X	P
TW23D-20200708	d5-EtFOSAA 13C2-PFDoA	48.0 (50-150) 35.0 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW23D-20200708	13C2-PFTeDA	5.40 (50-150)	PFTeDA	X	P

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW24D-20200708	13C2-PFDoA	45.9 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW24D-20200708	13C2-PFTeDA	7.80 (50-150)	PFTeDA	X	P
TW17D-20200708	13C3-PFBS 13C2-PFHxA 13C4-PFHpA 13C3-PFHxS 13C5-PFNA 13C8-PFOS	44.4 (50-150) 42.2 (50-150) 45.2 (50-150) 44.2 (50-150) 41.9 (50-150) 45.5 (50-150)	PFBS PFHxA PFHpA PFHxS PFNA PFOS	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	P
TW17D-20200708	13C3-HFPO-DA 13C4-PFHpA 13C8-PFOS 13C2-PFDA D3-MeFOSAA 13C2-PFUnA D5-EtFOSAA 13C2-PFDoA	39.6 (50-150) 45.2 (50-150) 45.5 (50-150) 39.0 (50-150) 27.8 (50-150) 28.3 (50-150) 22.3 (50-150) 15.3 (50-150)	HFPO-DA ADONA 9Cl-PF30NS PFDA MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW17D-20200708	13C2-PFTeDA	3.30 (50-150)	PFTeDA	X	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

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 methods. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified for recommended exclusion in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001436

Sample	Compound	Flag	A or P	Reason
TW22D-20200707 TW23D-20200708 TW24D-20200708 TW17D-20200708	PFTeDA	X	P	Labeled compounds (%R)
TW17D-20200708	PFBS PFHxA PFHpA PFHxS PFNA PFOS	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	P	Labeled compounds (%R)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001436

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001436

No Sample Data Qualified in this SDG

LDC #: 48792D96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001436 Stage 4 Page: 1 of 1

Laboratory: Vista Analytical Laboratory Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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	%r TV/ICV ≤ 30
IV.	Continuing calibration/ISC	A/A	D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB05-20200707, EB06-20200708
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCSD
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TW21D-20200707	2001436-02	Water	07/07/20
2	TW09D-20200707	2001436-03	Water	07/07/20
3	TW22D-20200707	2001436-04	Water	07/07/20
4	TW23D-20200708	2001436-06	Water	07/08/20
5	TW24D-20200708	2001436-07	Water	07/08/20
6	TW17D-20200708	2001436-08	Water	07/08/20
7				
8				
9				
10				

Notes:

	B0G0058						

LDC #: 48192D96

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
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 coefficient of determination (r^2) 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?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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%?	✓			
Were all the retention times within the acceptance windows?	✓			
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?		✓		

LDC #: 48792D96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. 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?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48793D96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		1 (ND)	TDA	32.1 (50-150)	J (all ts/p) (N)
		2	EFOS	42.0	(J)
			DDA	38.5	(L, M, R)
			TDA	11.4	
		3 (ND)	MFOS	30.9	(I)
			UDA	35.7	(k)
			EFOS	23.3	
			DDA	13.5	
			TDA	6.30	J (all ts/p) x/p
		4 (ND)	EFOS	48.0	J (all ts/p)
			DDA	35.0	
			TDA	5.40	J (all ts/p) x/p
		5 (ND)	DDA	45.9	J (all ts/p)
			TDA	7.80	J (all ts/p) x/p

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		6 (dets/ND)	BS	44.4 (50-150)	Jdets/P (A)
		(ND)	13C3-HFPO-DA	39.6	(O)
		(dets)	HXA	42.2	(B)
		(dets)	HPA	45.2	(C, P)
		(dets)	HXS	44.2	(D)
			NA	41.9	(F)
			OA	47.8	No qual, SX (E)
		(dets)	OS	45.5	Jdets/P (G, Q)
		(ND)	DA	39.0	(H)
			MFOS	27.8	(I)
			UDA	28.3	(K)
			EFOS	22.3	(J)
			DDA	15.3	(L, M, R)
		(ND)	TDA	3.30	~~FSP~~ ~~TD~~ V ~~XP~~ (N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN977	PFOA	1	0.0152	0.02	0.00040
			2	0.0354	0.04	0.0016
			3	0.0774	0.08	0.0064
			4	0.1611	0.16	0.0256
			5	0.3921	0.40	0.1600
			6	0.7570	0.80	0.6400
			7	3.7452	4.00	16.0000
			8	7.3709	8.00	64.0000
			9	18.0513	20.00	400.0000
			10	35.0945	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.01292	c	-0.0058451
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.93049	-0.0013317	0.93654	-0.000120375
Std Err of Coef.				
Correlation Coefficient		0.999999		
Coefficient of Determination (r^2)		0.999998		0.999948

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN977	PFOS	1	0.0189	0.02	0.00040
			2	0.0436	0.04	0.0016
			3	0.0960	0.08	0.0064
			4	0.2164	0.16	0.0256
			5	0.4446	0.40	0.1600
			6	1.0272	0.80	0.6400
			7	5.1463	4.00	16.0000
			8	9.7792	8.00	64.0000
			9	23.9122	20.00	400.0000
			10	52.3992	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.11969	c	-0.0060877
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.132454	0.0043764	1.186310	0.0002266170
Std Err of Coef.				
Correlation Coefficient		0.999890		
Coefficient of Determination (r^2)		0.999781		0.999166

LDC # 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: 4

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN977	PFOA	1	0.0206	0.02	0.00040
			2	0.0425	0.04	0.0016
			3	0.0812	0.08	0.0064
			4	0.1617	0.16	0.0256
			5	0.3638	0.40	0.1600
			6	0.7654	0.80	0.6400
			7	3.8409	4.00	16.0000
			8	7.7159	8.00	64.0000
			9	18.3778	20.00	400.0000
			10	33.7891	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01377	c	0.0065121
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.99146	-0.0036659	0.98500	-0.000278493
Std Err of Coef.				
Correlation Coefficient		0.999998		
Coefficient of Determination (r^2)		0.999996		0.999925

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN977	PFOS	1	0.0194	0.02	0.00040
			2	0.0507	0.04	0.0016
			3	0.0999	0.08	0.0064
			4	0.2036	0.16	0.0256
			5	0.5553	0.40	0.1600
			6	1.0030	0.80	0.6400
			7	5.2162	4.00	16.0000
			8	10.0225	8.00	64.0000
			9	22.5872	20.00	400.0000
			10	48.0572	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.17286	c	0.0162657
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.138001	0.0014902	1.214650	-0.0000566898
Std Err of Coef.				
Correlation Coefficient		0.999708		
Coefficient of Determination (r^2)		0.999416		0.998321

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200714P1_42	7/15/2020	PFOA	(13C2-PFOA)	10.00	9.99	9.99	99.9	99.9
			PFOS	(13C8-PFOS)	10.00	10.70	10.75	107.2	107.5
2			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
3			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
4			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
5			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
6			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0058-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0380	0.0422	95.1	95.0	105	106	10.4	10.5
PFOS	0.0400	0.0400	0.0365	0.0485	91.2	91.3	121.0	121	28.4	28.2

LDC #: 48792B9C

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	4.611E+03	1.596E+04	12.5	1	curve	1	246.85	0.0157	0.0157	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001444

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW27S-20200709	2001444-02	Water	07/09/20
TW22S-20200709	2001444-03	Water	07/09/20
TW10D-20200709	2001444-04	Water	07/09/20
TW11D-20200709	2001444-05	Water	07/09/20
TW12D-20200709	2001444-06	Water	07/09/20
TW13D-20200709	2001444-07	Water	07/09/20
TW14D-20200709	2001444-08	Water	07/09/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB07-20200709 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW10D-20200709	13C2-PFTeDA	14.5 (50-150)	PFTeDA	NA	-
TW11D-20200709	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	40.0 (50-150) 43.6 (50-150) 42.9 (50-150) 27.5 (50-150)	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW11D-20200709	13C2-PFTeDA	6.00 (50-150)	PFTeDA	X	P
TW12D-20200709	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	44.9 (50-150) 42.9 (50-150) 41.2 (50-150) 24.1 (50-150)	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW12D-20200709	13C2-PFTeDA	5.20 (50-150)	PFTeDA	X	P
TW13D-20200709	13C2-PFTeDA	10.8 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria with the following exceptions:

Sample	Compound	Ion Abundance Ratio (Limits)	Flag	A or P
TW13D-20200709	PFNA	26.223 (6.217-18.651)	J (all detects)	P

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified for recommended exclusion in two samples.

Due to labeled compounds %R and ion abundance ratio, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001444

Sample	Compound	Flag	A or P	Reason
TW11D-20200709 TW12D-20200709	PFTeDA	X	P	Labeled compounds (%R)
TW13D-20200709	PFNA	J (all detects)	P	Target compound identification (ion abundance ratio)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001444

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001444

No Sample Data Qualified in this SDG

LDC #: 48792E96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20
SDG #: 2001444 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer:
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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 TV/CV ≤ 30
IV.	Continuing calibration/ISC	A / A	≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB07-20200709
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	SW	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TW27S-20200709	2001444-02	Water	07/09/20
2	TW22S-20200709	2001444-03	Water	07/09/20
3	TW10D-20200709	2001444-04	Water	07/09/20
4	TW11D-20200709	2001444-05	Water	07/09/20
5	TW12D-20200709	2001444-06	Water	07/09/20
6	TW13D-20200709	2001444-07	Water	07/09/20
7	TW14D-20200709	2001444-08	Water	07/09/20
8				
9				
10				

Notes:

	BOG0090						

LDC #: 48792E96

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of $\geq$ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) $\leq$30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification $\leq$ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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 $\leq$ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
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 $\leq$ 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?		✓		

LDC #: 48792E96

VALIDATION FINDINGS CHECKLIST

Reviewer: MK
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. 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?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?		✓		
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: M
2nd Reviewer: A

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		3 (NB)	TDA	14.5 (50-150)	Jdets/P (N)
		4 (NB)	MFOS	40.0	(I)
			UDA	43.6	(K)
			EFOS	42.9	(J)
			DDA	27.5	(L, M, R)
			TDA	6.00	~~J-det/P~~ ~~J-det/P~~
		5 (NB)	MFOS	44.9	Jdets/P
			UDA	42.9	
			EFOS	41.2	
			DDA	24.1	
			TDA	5.20	~~J-det/P~~ ~~J-det/P~~
		6 (NB)	TDA	10.8	Jdets/P

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Target Compound Identification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

M N N/A Was the signal to noise (S/N) ratio for all compounds within the validation criteria?
Y N N/A Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?
Y N N/A Were ion ratios within QC limits and between 50-150%?

#	Date	Sample ID	Associated Compound	Ion ratio (%D≤50) limit	Qualifications
		6	F	26.223 (6.217-8.651)	Jdets/A

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOA	1	0.0278	0.02	0.00040
			2	0.0469	0.04	0.0016
			3	0.0823	0.08	0.0064
			4	0.1593	0.16	0.0256
			5	0.3971	0.40	0.1600
			6	0.7486	0.80	0.6400
			7	3.7233	4.00	16.0000
			8	7.8135	8.00	64.0000
			9	18.9803	20.00	400.0000
			10	36.5156	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01706	c	0.0565111
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.98243	-0.0017341	0.972216	-0.000115660
Std Err of Coef.				
Correlation Coefficient		0.999989		
Coefficient of Determination (r^2)		0.999978		0.999818

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOS	1	0.0210	0.02	0.00040
			2	0.0340	0.04	0.0016
			3	0.1120	0.08	0.0064
			4	0.1911	0.16	0.0256
			5	0.5292	0.40	0.1600
			6	0.9517	0.80	0.6400
			7	5.0005	4.00	16.0000
			8	10.7860	8.00	64.0000
			9	25.6408	20.00	400.0000
			10	52.0437	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00376	c	-0.0631930
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.287640	0.0003101	1.292200	0.0000147461
Std Err of Coef.				
Correlation Coefficient		0.999957		
Coefficient of Determination (r^2)		0.999913		0.99958

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOA	1	0.0232	0.02	0.00040
			2	0.0463	0.04	0.0016
			3	0.0863	0.08	0.0064
			4	0.1615	0.16	0.0256
			5	0.3900	0.40	0.1600
			6	0.7723	0.80	0.6400
			7	3.8020	4.00	16.0000
			8	7.3944	8.00	64.0000
			9	19.1260	20.00	400.0000
			10	36.7968	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.02577	c	0.0499833
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97078	-0.0012466	0.956964	-0.0000683589
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999795

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOS	1	0.0175	0.02	0.00040
			2	0.0388	0.04	0.0016
			3	0.1035	0.08	0.0064
			4	0.2072	0.16	0.0256
			5	0.5466	0.40	0.1600
			6	0.8809	0.80	0.6400
			7	5.1093	4.00	16.0000
			8	9.5918	8.00	64.0000
			9	25.5339	20.00	400.0000
			10	60.0403	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.10878	c	0.0102665
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.089828	0.0102330	1.138060	0.0007079480
Std Err of Coef.				
Correlation Coefficient		0.999939		
Coefficient of Determination (r^2)		0.999877		0.999249

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/24/2020	SCN977	PFOA	1	0.0257	0.02	0.00040
			2	0.0357	0.04	0.0016
			3	0.0821	0.08	0.0064
			4	0.1614	0.16	0.0256
			5	0.4081	0.40	0.1600
			6	0.7089	0.80	0.6400
			7	3.6827	4.00	16.0000
			8	7.6180	8.00	64.0000
			9	19.7474	20.00	400.0000
			10	38.9385	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.04915	c	0.0306828
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97842	-0.0000964	0.955014	0.0000457658
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999663

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/24/2020	SCN977	PFOS	1	0.0154	0.02	0.00040
			2	0.0500	0.04	0.0016
			3	0.0828	0.08	0.0064
			4	0.2236	0.16	0.0256
			5	0.4951	0.40	0.1600
			6	0.9308	0.80	0.6400
			7	4.7375	4.00	16.0000
			8	9.4045	8.00	64.0000
			9	27.8957	20.00	400.0000
			10	50.8200	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.24946	c	-0.0790602
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.386808	-0.0027533	1.278740	0.0000281280
Std Err of Coef.				
Correlation Coefficient		0.999343		
Coefficient of Determination (r^2)		0.998686		0.996689

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200721P1_38	7/21/2020	PFOA	(13C2-PFOA)	10.00	9.17	9.17	91.7	91.7
			PFOS	(13C8-PFOS)	10.00	9.15	9.16	91.5	91.6
2	200724P1_48	7/24/2020	PFOA	(13C2-PFOA)	10.00	9.37	9.35	93.7	93.5
			PFOS	(13C8-PFOS)	10.00	9.19	9.19	91.9	91.9
3			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
4			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
5			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
6			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0090-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0381	0.0380	95.3	95.3	94.9	95.0	0.339	0.263
PFOS	0.0400	0.0400	0.0417	0.0357	104	104	89.2	89.3	15.6	15.5

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	5.300E+04	1.611E+02	12.5	15	curve	1	247.75	12.2	12.2	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001472

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW23S-20200710	2001472-02	Water	07/10/20
TW24S-20200710	2001472-03	Water	07/10/20
TW15D-20200710	2001472-04	Water	07/10/20
TW16D-20200710	2001472-05	Water	07/10/20

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 for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). 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 methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

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 methods.

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.

Retention time windows were established as required by the methods.

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 and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample 08-2020710 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW24S-20200710	13C2-PFTeDA	36.1 (50-150)	PFTeDA	NA	-
TW15D-20200710	13C2-PFDoA	46.9 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW15D-20200710	13C2-PFTeDA	6.90 (50-150)	PFTeDA	X	P
TW16D-20200710	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	49.9 (50-150) 44.2 (50-150) 46.5 (50-150) 28.8 (50-150)	MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW16D-20200710	13C2-PFTeDA	5.50 (50-150)	PFTeDA	X	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

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 methods. No results were rejected in this SDG.

Due to labeled compounds %R, data were qualified for recommended exclusion in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001472

Sample	Compound	Flag	A or P	Reason
TW15D-20200710 TW16D-20200710	PFTeDA	X	P	Labeled compounds (%R)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001472

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001472

No Sample Data Qualified in this SDG

LDC #: 48792F96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/30/20
SDG #: 2001472 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: M
2nd Reviewer: G

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

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	r TN/10/≤30
IV.	Continuing calibration/ISC	A/A	D≤30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB08-20200710
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	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	TW23S-20200710	2001472-02	Water	07/10/20
2	TW24S-20200710	2001472-03	Water	07/10/20
3	TW15D-20200710	2001472-04	Water	07/10/20
4	TW16D-20200710	2001472-05	Water	07/10/20
5				
6				
7				
8				
9				
10				

Notes:

	BoG0090						

LDC #: 48792F9C

VALIDATION FINDINGS CHECKLIST

Reviewer: N
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
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 coefficient of determination (r^2) 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?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
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%?	✓			
Were all the retention times within the acceptance windows?	✓			
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?		✓		

LDC #: 48792F96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. 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?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
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 retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		2 (ND)	TDA	36.1 (50-150)	J (all samples) (N)
		3	DDA	46.9	
			TDA	6.90	J (all samples)
		4	MFOS	49.9	(I)
			UDA	44.2	(K)
			EFOS	46.5	(J)
			DDA	28.8	(L, M, R)
			TDA	5.50	J (all samples) (N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOA	1	0.0278	0.02	0.00040
			2	0.0469	0.04	0.0016
			3	0.0823	0.08	0.0064
			4	0.1593	0.16	0.0256
			5	0.3971	0.40	0.1600
			6	0.7486	0.80	0.6400
			7	3.7233	4.00	16.0000
			8	7.8135	8.00	64.0000
			9	18.9803	20.00	400.0000
			10	36.5156	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01706	c	0.0565111
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.98243	-0.0017341	0.972216	-0.000115660
Std Err of Coef.				
Correlation Coefficient		0.999989		
Coefficient of Determination (r^2)		0.999978		0.999818

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOS	1	0.0210	0.02	0.00040
			2	0.0340	0.04	0.0016
			3	0.1120	0.08	0.0064
			4	0.1911	0.16	0.0256
			5	0.5292	0.40	0.1600
			6	0.9517	0.80	0.6400
			7	5.0005	4.00	16.0000
			8	10.7860	8.00	64.0000
			9	25.6408	20.00	400.0000
			10	52.0437	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00376	c	-0.0631930
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.287640	0.0003101	1.292200	0.0000147461
Std Err of Coef.				
Correlation Coefficient		0.999957		
Coefficient of Determination (r^2)		0.999913		0.99958

LDC # 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOA	1	0.0232	0.02	0.00040
			2	0.0463	0.04	0.0016
			3	0.0863	0.08	0.0064
			4	0.1615	0.16	0.0256
			5	0.3900	0.40	0.1600
			6	0.7723	0.80	0.6400
			7	3.8020	4.00	16.0000
			8	7.3944	8.00	64.0000
			9	19.1260	20.00	400.0000
			10	36.7968	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.02577	c	0.0499833
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97078	-0.0012466	0.956964	-0.0000683589
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999795

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOS	1	0.0175	0.02	0.00040
			2	0.0388	0.04	0.0016
			3	0.1035	0.08	0.0064
			4	0.2072	0.16	0.0256
			5	0.5466	0.40	0.1600
			6	0.8809	0.80	0.6400
			7	5.1093	4.00	16.0000
			8	9.5918	8.00	64.0000
			9	25.5339	20.00	400.0000
			10	60.0403	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.10878	c	0.0102665
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.089828	0.0102330	1.138060	0.0007079480
Std Err of Coef.				
Correlation Coefficient		0.999939		
Coefficient of Determination (r^2)		0.999877		0.999249

LDC #: 48792F9b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

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 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib 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 Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200721P1_38	7/21/2020	PFOA (13C2-PFOA)	10.00	9.17	9.17	91.7	91.7
			PFOS (13C8-PFOS)	10.00	9.15	9.16	91.5	91.6
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 4792F96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0090-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0381	0.0380	95.3	95.3	94.9	95.0	0.339	0.263
PFOS	0.0400	0.0400	0.0417	0.0357	104	104	89.2	89.3	15.6	15.5

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	3.013E+05	1.304E+03	12.5	10	curve	1	241.84	18.2	18.2	0

INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	SAMPLE_NAME	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417

INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	SAMPLE_NAME	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW25D	Temporary well point	6083939.219	2202538.942	TW25D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	OU 0000001A	TW08D	Temporary well point	6080922.498	2206724.341	TW08D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00005 SOUTH-A	TW26D	Temporary well point	6083961.889	2202134.66	TW26D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417
TUSTIN_MCAS	SITE 00006	TW06D	Temporary well point	6082855.595	2200878.663	TW06D-20200706	Ground water	6-Jul-20	Perfluoroalkyl Compounds	2001417