



**Groundwater Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Report, SDG 18-0571**

*Naval Air Station Point Mugu
Point Mugu, California*

July 2019

CTO-4164 Naval Base Ventura County, California

Project No 100110125-01

PFAS by DoD QSM 5.1 Table B-15

SB, SS

Batch 18-0571

Package DP-18-0279

Submitted to:

CH2M

1100 NE Circle Blvd Suite 300

Corvallis, OR 97330 USA

Submitted by:

Battelle Norwell Operations

141 Longwater Drive Suite 202

Norwell, MA 02061

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It can be done

CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15
SB, SS
Batch 18-0571
Package DP-18-0279

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 USA

NELAP Accreditation Number: E87856 (Florida Department of Health)
DoD-ELAP Accreditation Number: 91667

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061

Analyst Approval:		schumitzd@battelle.org 2018.10.02 18:49:55 -04'00'
QC Chemist Approval:		fitche@battelle.org 2018.10.09 10:02:00 -04'00'
Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.10.15 12:40:17 -04'00'

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CTO-4164 Naval Base Ventura County, California

Project No 100110125-01

PFAS by DoD QSM 5.1 Table B-15

SD

Batch 18-0571


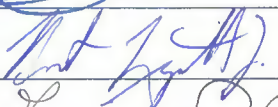
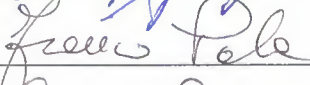





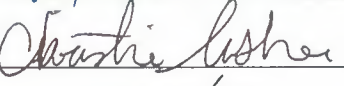

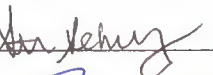

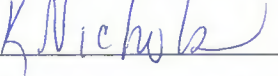



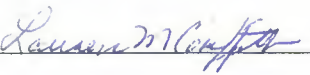
Package DP-18-0279

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Signature Page

Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schumitz		DNS	4/4/18
Carolus Keum Melay		CKM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mena		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matroney		KM	4/4/18
Stephanie Schmitz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimiao H Brown		CB	4/4/18
Matt Schumitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

Sample Summary

Client: CH2M

SDG: 18-0571

Project/Site: Naval Base Ventura County

CTO: 4164

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CR853PB-FS	180507-02: Ottawa Sand	SEDIMENT	9/26/2018	9/26/2018
CR854LCS-FS	180507-02: Ottawa Sand	SEDIMENT	9/26/2018	9/26/2018
J8254-FS	VC-PM365-SS03-000H	SS	9/19/2018	9/21/2018
J8255-FS	VC-PM365-SB03-0102	SB	9/19/2018	9/21/2018
J8256-FS	VC-PM365-SB03-0506	SB	9/19/2018	9/21/2018
J8263-FS	VC-PM553-SS01-000H	SS	9/19/2018	9/21/2018
J8264-FS	VC-PM553-SB01-0102	SB	9/19/2018	9/21/2018
J8265-FS	VC-PM553-SB01-0506	SB	9/19/2018	9/21/2018
J8266-FS	VC-PM553-SS02-000H	SS	9/19/2018	9/21/2018
J8267-FS	VC-PM553-SB02-0102	SB	9/19/2018	9/21/2018
J8268-FS	VC-PM553-SB02-0506	SB	9/19/2018	9/21/2018
J8269-FS	VC-PM553-SS03-000H	SS	9/19/2018	9/21/2018
J8270-FS	VC-PM553-SB03-0102	SB	9/19/2018	9/21/2018
J8271-FS	VC-PM553-SB03-0506	SB	9/19/2018	9/21/2018

Miscellaneous Documentation

QA/QC Summary
Batch 18-0571

Project:	CTO-4164 Naval Base Ventura County, California
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	SS, SB
Data Set:	DP-18-0279
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
9/19/2018	9/21/2018	0.1, 0.9, and 0.3
Corrective Actions	None, however, clarifications were provided via email by the client (included in the final custody records).	
Sample Storage	The samples were stored refrigerated until extraction.	
Related samples	NA	

METHOD SUMMARIES	
Sample Preparation	Solid samples were aliquoted into extraction tubes and spiked with surrogates prior to the addition of solvent. The sediment was serially extracted on the Geno/Grinder with 0.4% NH ₃ in methanol. 1 mL of extract was refined using ENVI-carb SPE cartridges. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Sample VC-PM553-SS02-000H (J8266-FS) was very rocky in consistency.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/g dry concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS.

Holding Times	Extraction Date(s)	Analysis Date(s)
	9/26/2018	9/28/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ	No exceedances noted.
Samples >10x PB	No comments.

QA/QC Summary
Batch 18-0571

Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted. No comments.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery and <30% RPD	NA. This SDG did not include an MS/MSD sample set.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted. No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted. No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted. No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted. No comments.

QA/QC Summary
Batch 18-0571

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project Number: 100110125-01
 Preparation Batch: 18-0571
 Data Set: DP-18-0279
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	NA	NA
Matrix Spike / Matrix Spike Duplicate Precision	NA	NA
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



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**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title: CTO-4164 Naval Base Ventura County, **Data Set Number:** DP-18-0279
Project Number: 100110125-01 **Prep Batch Number:** 18-0571
Entered By: Denise Schumitz **Entered On:** 10/02/2018
Test Code (Matrix Type): Master_369(S)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 10/2/2018

Task Leader Approval:

Supervisor Approval:

Digitally signed by Jonathan
Thorn

PM Approval:

Date: 2018.10.03 12:45:07 -04'00'



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01
 Preparation Batch: 18-0571
 Data Set: DP-18-0279

		CR853PB-FS (180507-02: Ottawa Sand)	CR854LCS-FS (180507-02: Ottawa Sand)	J8254-FS (VC-PM365-SS03-000H)	J8255-FS (VC-PM365-SB03-0102)	J8256-FS (VC-PM365-SB03-0506)	J8263-FS (VC-PM553-SS01-000H)
PFHxA	307-24-4	-	L	-	-	-	L
PFHpA	375-85-9	-	L	-	-	-	-
PFOA	335-67-1	-	L	-	-	-	-
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	-	-	-	-
PFHxS	355-46-4	-	L	-	-	L/Br	-
PFOS	1763-23-1	-	L/Br	-	-	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01
 Preparation Batc
 Data Set: DP-18-1

	J8264-FS (VC-PM553-SB01-0102)	J8265-FS (VC-PM553-SB01-0506)	J8266-FS (VC-PM553-SS02-000H)	J8267-FS (VC-PM553-SB02-0102)	J8268-FS (VC-PM553-SB02-0506)	J8269-FS (VC-PM553-SS03-000H)	J8270-FS (VC-PM553-SB03-0102)	J8271-FS (VC-PM553-SB03-0506)
PFHxA	-	L	-	-	-	-	-	-
PFHpA	L	L	-	-	-	-	-	-
PFOA	-	-	-	-	-	-	-	-
PFNA	-	-	-	-	-	-	-	-
PFDA	-	-	-	-	-	-	-	-
PFUnA	-	-	-	-	-	-	-	-
PFDoA	-	-	-	-	-	-	-	-
PFTTrDA	-	-	-	-	-	-	-	-
PFTeDA	-	-	-	-	-	-	-	-
NMeFOSAA	-	-	-	-	-	-	-	-
NEtFOSAA	-	-	-	-	-	-	-	-
PFBS	-	-	-	-	-	-	-	-
PFHxS	L	-	-	-	-	-	-	L
PFOS	-	L/Br	L/Br	-	-	L/Br	L/Br	-

"L": Linear
 "Br": branched
 "L/Br": Linear/Branched
 "-": Not detected

ACCREDITATIONS

Accrediting Authority	Laboratory ID
U.S. Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP)	91667
State of Florida Department of Health	E87856
State of New York Department of Health	12105
Commonwealth of Pennsylvania Department of Environmental Protection	68-05687
State of Washington Department of Ecology	C1050
State of California	3045
Commonwealth of Massachusetts	E87856

Current certificates and lists of accredited parameters are available upon request.

Custody Records

Sample Receipt Form

Approved: Authorized

Project Number: 695803 **Client:** CH2M
Received by: Schumitz, Matt **Date/Time Received:** Friday, September 21, 2018 10:00 AM
No. of Shipping Containers: 3

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** 7828 5914 8695 (Master)
COC Forms: **Shipped with samples** **No Forms**

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 3	Cooler	7828 5914 8695	Custody Seals	Intact	Intact	Therm_1	0.1	13
2 of 3	Cooler	7828 5914 8700	Custody Seals	Intact	Intact	Therm_1	0.9	27
3 of 3	Cooler	7828 5914 8710	Custody Seals	Intact	Intact	Therm_1	0.3	37

Samples

Sample Labels: Sample labels agree with COC forms
 Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: Tape Custody Seals Other Seals (See sample Log)
 Seals intact for each shipping container
 Seals broken (See sample log for impacted samples)

Condition of Samples: Sample containers intact
 Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 0.9 Temperature Blank used Yes No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: Yes No Unknown

Initial pH 5-9?: Yes No NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: Yes No NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: Yes No NA
Individual sample deviations noted on sample log

Samples Containers:
Samples returned in PC-grade jars: Yes No Unknown /Lot No.: Unknown

Storage Location: Custody: Refrigerator - R0119 (NA) **BDO IDs Assigned:** J8201 - J8277

Samples logged in by: Schumitz, Matt **Date/Time:** 09/21/2018 10:00 AM

Approved By: Fitch, Ellyn **Approved On:** 9/28/2018 10:18:00 AM

Authorized By: _____ **Authorized On:** _____



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8201	VC-PM3009-SS01-000H	09/17/18 14:15	09/20/18 15:38	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8202	VC-PM3009-SB01-0102	09/17/18 14:15	09/20/18 15:38	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8203	VC-PM3009-SB01-0506	09/17/18 14:15	09/20/18 15:39	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8204	VC-PM3009-SS02-000H	09/17/18 15:12	09/20/18 15:39	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8205	VC-PM3009-SB02-0102	09/17/18 15:13	09/20/18 15:39	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8206	VC-PM3009-SB02-0506	09/17/18 15:15	09/20/18 15:40	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8207	VC-PM3009-SS03-000H	09/17/18 16:16	09/20/18 15:40	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8208	VC-PM3009-SB03-0102	09/17/18 16:17	09/20/18 15:40	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8209	VC-PM3009-SB03-0506	09/17/18 16:18	09/20/18 15:41	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8210	VC-PM3009-DW01-0918	09/17/18 15:10	09/20/18 15:54	2	GW	0.3	NA	NA	NA	R0119 (NA)			
J8211	VC-PM3009-DW02-0918	09/17/18 16:23	09/20/18 15:54	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8212	VC-PM3009-DW02P-0918	09/17/18 16:27	09/20/18 15:55	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8213	VC-PM3009-DW03-0918	09/17/18 16:38	09/20/18 15:55	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8214	VC-PM372-DW01-0918	09/18/18 10:07	09/20/18 15:56	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8215	VC-PM372-DW02-0918	09/18/18 9:25	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8216	VC-PM372-DW02P-0918	09/18/18 9:27	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8217	VC-PM372-DW03-0918	09/18/18 11:49	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8218	VC-PM372-SS01-000H	09/18/18 9:36	09/20/18 15:58	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8219	VC-PM372-SB01-0102	09/18/18 9:37	09/20/18 16:00	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8220	VC-PM372-SB01-0506	09/18/18 9:43	09/20/18 16:00	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8221	VC-PM372-SS02-000H	09/18/18 8:57	09/20/18 16:00	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8222	VC-PM372-SB02-0102	09/18/18 9:03	09/20/18 16:01	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8223	VC-PM372-SB02-0506	09/18/18 9:06	09/20/18 16:01	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8224	VC-PM372-SS03-000H	09/18/18 10:46	09/20/18 16:01	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8225	VC-PM372-SB03-0102	09/18/18 10:47	09/20/18 16:02	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8226	VC-PM372-SB03-0506	09/18/18 10:49	09/20/18 16:02	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8227	VC-PM372-SS02-000H-MS	09/18/18 9:06	09/20/18 16:02	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8228	VC-PM372-SS02-000H-SD	09/18/18 9:06	09/20/18 16:03	1	SS	0.9	NA	NA	NA	R0119 (NA)			



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8229	VC-PM649-SS01-000H	09/18/18 11:30	09/20/18 16:04	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8230	VC-PM649-SB01-0102	09/18/18 11:35	09/20/18 16:09	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8231	VC-PM649-SB01-0506	09/18/18 11:40	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8232	VC-PM649-SS02-000H	09/18/18 14:25	09/20/18 16:10	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8233	VC-PM649-SB02-0102	09/18/18 14:29	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8234	VC-PM649-SB02-0506	09/18/18 14:30	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8235	VC-PM649-SS03-000H	09/18/18 13:00	09/20/18 16:11	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8236	VC-PM649-SB03-0102	09/18/18 13:12	09/20/18 16:11	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8237	VC-PM649-SB03-0506	09/18/18 13:20	09/20/18 16:11	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8238	VC-PM649-SS04-000H	09/18/18 13:15	09/20/18 16:11	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8239	VC-PM649-SB04-0102	09/18/18 13:27	09/20/18 16:12	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8240	VC-PM649-SB04-0506	09/18/18 13:40	09/20/18 16:12	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8241	VC-PM649-DW01-0918	09/18/18 12:50	09/20/18 16:13	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8242	VC-PM649-DW01P-0918	09/18/18 12:55	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8243	VC-PM649-DW02-0918	09/18/18 15:35	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8244	VC-PM649-DW03-0918	09/18/18 14:02	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8245	VC-PM649-DW04-0918	09/18/18 14:02	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8246	VC-AQ-FB01-0918	09/18/18 13:30	09/20/18 16:15	2	AQ	0.1	NA	NA	NA	R0119 (NA)			
J8247	VC-AQ-EB01-0918	09/18/18 13:40	09/20/18 16:15	2	AQ	0.1	NA	NA	NA	R0119 (NA)			
J8248	VC-PM365-SS01-000H	09/19/18 10:28	09/20/18 16:16	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8249	VC-PM365-SB01-0102	09/19/18 10:30	09/20/18 16:16	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8250	VC-PM365-SB01-0506	09/19/18 10:37	09/20/18 16:17	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8251	VC-PM365-SS02-000H	09/19/18 11:30	09/20/18 16:17	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8252	VC-PM365-SB02-0102	09/19/18 11:32	09/20/18 16:17	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8253	VC-PM365-SB02-0506	09/19/18 11:40	09/20/18 16:18	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8254	VC-PM365-SS03-000H	09/19/18 10:26	09/20/18 16:18	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8255	VC-PM365-SB03-0102	09/19/18 10:27	09/20/18 16:18	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8256	VC-PM365-SB03-0506	09/19/18 10:32	09/20/18 16:19	1	SB	0.3	NA	NA	NA	R0119 (NA)			



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8257	VC-PM365-SB02-0102-MS	09/19/18 11:32	09/20/18 16:19	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8258	VC-PM365-SB02-0102-MSD	09/19/18 11:32	09/20/18 16:20	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8259	VC-PM365-DW01-0918	09/19/18 11:10	09/20/18 16:20	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8260	VC-PM365-DW02-0918	09/19/18 12:10	09/20/18 16:21	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8261	VC-PM365-DW02P-0918	09/19/18 12:18	09/20/18 16:21	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8262	VC-PM365-DW03-0918	09/19/18 11:10	09/20/18 16:22	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8263	VC-PM553-SS01-000H	09/19/18 13:50	09/20/18 16:22	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8264	VC-PM553-SB01-0102	09/19/18 13:53	09/20/18 16:23	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8265	VC-PM553-SB01-0506	09/19/18 13:59	09/20/18 16:23	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8266	VC-PM553-SS02-000H	09/19/18 14:40	09/20/18 16:23	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8267	VC-PM553-SB02-0102	09/19/18 14:42	09/20/18 16:24	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8268	VC-PM553-SB02-0506	09/19/18 14:50	09/20/18 16:24	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8269	VC-PM553-SS03-000H	09/19/18 11:30	09/20/18 16:24	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8270	VC-PM553-SB03-0102	09/19/18 11:34	09/20/18 16:24	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8271	VC-PM553-SB03-0506	09/19/18 11:42	09/20/18 16:25	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8272	VC-PM553-DW01-0918	09/19/18 14:30	09/20/18 16:26	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8273	VC-PM553-DW01P-0918	09/19/18 14:45	09/20/18 16:26	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8274	VC-PM553-DW02-0918	09/19/18 15:15	09/20/18 16:27	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8275	VC-PM553-DW03-0918	09/19/18 12:06	09/20/18 16:28	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8276	VC-SO-FB02-0919	09/19/18 14:35	09/20/18 16:29	2	AQ	0.9	NA	NA	NA	R0119 (NA)			
J8277	VC-SO-EB02-0918	09/19/18 14:30	09/20/18 16:30	2	AQ	0.9	NA	NA	NA	R0119 (NA)			

Total Samples: 77

MEMORANDUM

CH2MHILL

Corrections to COCs

TO: Jonathan Thorn, Battelle

COPIES: File
Laboratory Package SDG: SHP 180921-01

FROM: Tiffany Hill
Project Chemist


DATE: September 24, 2018

This memo is to document corrections made to entries on the Chains of Custody (COC) and Logins for NB Ventura County, CTO-4164.

The corrections include changes to the sample IDs on the COC and Login:

Sample ID on Login	Correct Sample ID	Date Collected	Time Collected	SDG
FDT-AQ-FB01-0918	VC-AQ-FB01-0918	9/18/18	13:30	SHP-180921
FDT-AQ-EB01-0918	VC-AQ-EB01-0918	9/18/18	13:40	SHP-180921
FDT-SO-FB02-0918	VC-SO-FB02-0918	9/19/18	14:35	SHP-180921
FDT-SO-EB02-0918	VC-SO-EB02-0918	9/19/18	14:30	SHP-180921
VC-PM3009-SS02-000H	VC-PM3009-SS02-000H	9/17/18	15:12	SHP-180921
VC-PM3009-SB02-O102	VC-PM3009-SB02-0102	9/17/18	15:13	SHP-180921
VC-PM3009-SB02-O506	VC-PM3009-SB02-0506	9/17/18	15:15	SHP-180921
VC-PM3009-SS03-000H	VC-PM3009-SS03-000H	9/17/18	16:16	SHP-180921
VC-PM3009-SB03-O102	VC-PM3009-SB03-0102	9/17/18	16:17	SHP-180921
VC-PM3009-SB03-O506	VC-PM3009-SB03-0506	9/17/18	16:18	SHP-180921
VC-PM3009-DW01-0919	VC-PM3009-DW01-0918	9/17/18	15:10	SHP-180921
VC-PM3009-DW02-0919	VC-PM3009-DW02-0918	9/17/18	16:23	SHP-180921
VC-PM3009-DW02P-0919	VC-PM3009-DW02P-0918	9/17/18	16:27	SHP-180921
VC-PM365-DW01-0919	VC-PM365-DW01-0918	9/19/18	11:10	SHP-180921
VC-PM365-DW02-0919	VC-PM365-DW02-0918	9/19/18	12:10	SHP-180921
VC-PM365-DW02P-0919	VC-PM365-DW02P-0918	9/19/18	12:18	SHP-180921

VC-PM365-DW03-0919	VC-PM365-DW03-0918	9/19/18	11:10	SHP-180921
VC-PM553-DW01-0919	VC-PM553-DW01-0918	9/19/18	14:30	SHP-180921
VC-PM553-DW01P-0919	VC-PM553-DW01P-0918	9/19/18	14:45	SHP-180921
VC-PM553-DW02-0919	VC-PM553-DW02-0918	9/19/18	15:15	SHP-180921
VC-PM553-DW03-0919	VC-PM553-DW03-0918	9/19/18	12:06	SHP-180921

		Chain-of-Custody m.g. (u)																	
Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Killbert Phone: (724) 977-3628 Email: Victoria.Killbert@jacobs.com Turnaround Time (TAT) Requested:				Sampling Site: Hecrogen PM 3009				Site Information:									
Project Name: NBVC Basewide SI Project No.: 695803		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>				Preservative: NA				COC # 1									
Sample Identification		Time Zone: PST		Analysis: PFAS by Method 537 Mod				Page# 1 of 12											
Sample ID	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative	Analysis	1	2	3	4	5	6	7	8	9	10	11	12
VC-PM3009-SS01-000H	J8201	09.17.18	14:15	Grab	SS	1	X												
VC-PM3009-SB01-0102	02	09.17.18	14:15	Grab	SB	1	X												
VC-PM3009-SB01-0506	03	09.17.18	14:15	Grab	SB	1	X												
VC-PM3009-SS02-000H	04	09.17.18	15:12	Grab	SS	1	X												
VC-PM3009-SB02-0102	05	09.17.18	15:13	Grab	SB	1	X												
VC-PM3009-SB02-0506	06	09.17.18	15:15	Grab	SB	1	X												
VC-PM3009-SS03-000H	07	09.17.18	16:16	Grab	SS	1	X												
VC-PM3009-SB03-0102	08	09.17.18	16:17	Grab	SB	1	X												
VC-PM3009-SB03-0506	J8209	09.17.18	16:18	Grab	SB	1	X												
VC-PM3009-SD01-000H				Grab	SD		X												
VC-PM3009-SD01-0102				Grab	SD		X												
VC-PM3009-S	MS			Grab			X												
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:									
Relinquished by (Print/Sign): Deandra Pass Deane		Company: JACOBS		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): [Signature]		Company: Battelle		Date/Time: 9-21-18 945									
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:									
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:									
Comments:																			



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): <u>Victoria Gilbert</u> Phone: <u>(724) 977-3628</u> Email: <u>Victoria.Gilbert@jacobs.com</u> Turnaround Time (TAT) Requested:			Sampling Site: <u>Mugu PM 3009</u>		Site Information:														
Project Name: NBVC Basewide SI Project No.: <u>695903</u>		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: <u>PST</u>			Preservative NA		COC # <u>1</u>														
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis	PFAS by Method 517 Mod													Page# <u>2 of 12</u>
VC-PM3009-DW01- <u>0918 J 8210</u>		<u>9/17/18</u>	<u>15:10</u>	Grab	GW	<u>2</u>	X														
VC-PM3009-DW02- <u>0918 J 8211</u>		<u>9/17/18</u>	<u>16:23</u>	Grab	GW	<u>2</u>	X														
VC-PM3009-DW02F <u>0918 J 8212</u>		<u>9/17/18</u>	<u>16:27</u>	Grab	GW	<u>2</u>	X														
VC-PM3009-DW03- <u>0918 J 8213</u>		<u>9/17/18</u>	<u>16:38</u>	Grab	GW	<u>2</u>	X														
EDT AQ FB				Grab	AQ		X														
PDT AQ EB				Grab	AQ		X														
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No					Receipt Comments:											
Relinquished by (Print/Sign): <u>Deandra Cass/Deandra</u>		Company: <u>Jacobs</u>		Date/Time: <u>09/20/2018 07:30</u>		Received by (Print/Sign): <u>MJ</u>		Company: <u>Battelle</u>		Date/Time: <u>9-21-18 9:45</u>											
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:											
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:											
Comments:																					



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): <u>Victoria Kilbert</u> Phone: <u>(724) 977-3628</u> Email: <u>Victoria.kilbert@jacobs.com</u> Turnaround Time (TAT) Requested:			Sampling Site: <u>MUGL PM 372</u>		Site Information:				
Project Name: NBVC Basewide SI Project No.: <u>1595003</u>		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: <u>PST</u>			Preservation: NA		COC # <u>1</u>				
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis	Page# <u>3 of 12</u>			
VC-PM13-GW21				Grab	GW		X				
VC-PM372-DW01- <u>0918 J8214</u>		<u>9/18/18</u>	<u>10:07</u>	Grab	GW	<u>2</u>	X				
VC-PM372-DW02- <u>0918 J8215</u>		<u>9/18/18</u>	<u>09:25</u>	Grab	GW	<u>2</u>	X				
VC-PM372-DW02P- <u>0918 J8216</u>		<u>9/18/18</u>	<u>09:27</u>	Grab	GW	<u>2</u>	X				
VC-PM372-DW03- <u>0918 J8217</u>		<u>9/18/18</u>	<u>11:49</u>	Grab	GW	<u>2</u>	X				
FDE-AQ-FB				Grab	AQ		X				
FDE-AQ-FB				Grab	AQ		X				
								(VLO)			
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:			
Relinquished by (Print/Sign): <u>Deandra Cass / Deandra</u>		Company: <u>Jacobs</u>		Date/Time: <u>9/20/2018 07:30</u>		Received by (Print/Sign): <u>M</u>		Company: <u>Battelle</u>		Date/Time: <u>9-21-18 945</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Comments:											



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: (724) 977-3628 Email: victoria.kilbert@jacobson.com				Sampling Site: MUGH PM 649		Site Information:											
Project Name: NBVC Basewide SI Project No.: 695803		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: PST				Preservative NA		COC # 1											
Sample Identification		Analysis PFAS by Method 517 Mod						Page# 7 of 12											
		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.													
VC-PM649-DW01-0918		J8241	9/18/18 12:50	Grab	GW	2	X												
VC-PM649-DW01P-0918		J8242	9/18/18 12:55	Grab	GW	2	X												
VC-PM649-DW02-0918		J8243	9/18/18 15:35	Grab	GW	2	X												
VC-PM649-DW03-0918		J8244	9/18/18 14:02	Grab	GW	2	X												
VC-PM649-DW04-0918		J8245	9/18/18 14:02	Grab	GW	2	X												
FDT-AQ-FB01-0918		J8246	9/18/18 13:30	Grab	AQ	2	X												
FDT-AQ-EB01-0918		J8247	9/18/18 13:40	Grab	AQ	2	X												
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:									
Relinquished by (Print/Sign): Draucina Cass / Draucina		Company: Jacobs		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): 		Company: Battelle		Date/Time: 9-21-18 945									
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:									
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:									
Comments:																			



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): <u>Victoria Kilbuck</u> Phone: <u>724-977-3628</u> Email: <u>victoria.kilbuck@jacobs.com</u>		Sampling Site: <u>Mygn PM365J</u>		Site Information:			
Project Name: NBVC Basewide SI Project No.: <u>695803</u>		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: <u>PST</u>		Preservative NA		COC # <u>1</u>			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis PFAS by Method 537 Mod	Page# <u>8 of 12</u>	
VC-PM365-SS01-000H	<u>J8248</u>	<u>9/19/18</u>	<u>1028</u>	Grab	SS	1	X		
VC-PM365-SB01-0102	<u>49</u>	<u>9/19/18</u>	<u>1030</u>	Grab	SB	1	X		
VC-PM365-SB01-0506	<u>50</u>	<u>9/19/18</u>	<u>1037</u>	Grab	SB	1	X		
VC-PM365-SS02-000H	<u>51</u>	<u>9/19/18</u>	<u>1130</u>	Grab	SS	1	X		
VC-PM365-SB02-0102	<u>52</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
VC-PM365-SB02-0506	<u>53</u>	<u>9/19/18</u>	<u>1140</u>	Grab	SB	1	X		
VC-PM365-SS03-000H	<u>54</u>	<u>9/19/18</u>	<u>1026</u>	Grab	SS	1	X		
VC-PM365-SB03-0102	<u>55</u>	<u>9/19/18</u>	<u>1027</u>	Grab	SB	1	X		
VC-PM365-SB03-0506	<u>J8256</u>	<u>9/19/18</u>	<u>1032</u>	Grab	SB	1	X		
VC-PM365-SB02-0102-MS	<u>J8257</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
VC-PM365-SB02-0102-MSD	<u>J8258</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
EDT-SQ-FB				Grab	AQ		X		
Receipt Temperature: (°C)		Samples Intact: Yes - No		Samples on Ice: Yes - No		Receipt Comments:			
Relinquished by (Print/Sign): <u>Deandra Giss/Deandra</u>		Company: <u>Jacobs</u>		Date/Time: <u>9/20/2018 07:30</u>		Received by (Print/Sign): <u>ms</u>		Company: <u>Battelle</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:	
Comments:									



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: 724-977-3628 Email: victoria.kilbert@jacobs.com Turnaround Time (TAT) Requested:			Sampling Site: Mugu Pm 305		Site Information:					
Project Name: NBVC Basewide SI Project No.: 695603		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: PST			Preservative NA		COC # 1					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis PFAS by Method 537 Mod	Page# 9 of 12				
VC-PM365-DW01- 0919 J8257		9/19/19	1110	Grab	GW	2	X					
VC-PM365-DW02- 0919 J8260		9/19/19	1210	Grab	GW	2	X					
VC-PM365-DW02P- 0919 J8261		9/19/19	1218	Grab	GW	2	X					
VC-PM365-DW03- 0919 J8262		9/19/19	1110	Grab	GW	2	X					
PDT-AQ-FB				Grab	GW		X					
EDF-AQ-EB				Grab	GW		X					
								(VK)				
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:				
Relinquished by (Print/Sign): Deandra Cass / Deandra		Company: Jacobs		Date/Time: 9/20/2019 07:30		Received by (Print/Sign): [Signature]		Company: Battelle		Date/Time: 9-21-19 945		
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:		
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:		
Comments:												



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: 724-977-3628 Email: victoria.kilbert@batelle.com Turnaround Time (TAT) Requested:			Sampling Site: Mugu Pass				Site Information:								
Project Name: NBVC Basewide SI Project No.: 695803		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: PST			Preservative: NA Analysis: PFA's by Method 517 Mod				COC # 1 Page# 10 of 12								
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.											
VC-PM553-SS01-000H	J8263	9/19/18	1350	Grab	SS	1	X										
VC-PM553-SB01-0102	64	9/19/18	1353	Grab	SB	1	X										
VC-PM553-SB01-0506	65	9/19/18	1359	Grab	SB	1	X										
VC-PM553-SS02-000H	66	9/19/18	1440	Grab	SS	1	X										
VC-PM553-SB02-0102	67	9/19/18	1442	Grab	SB	1	X										
VC-PM553-SB02-0506	68	9/19/18	1450	Grab	SB	1	X										
VC-PM553-SS03-000H	69	9/19/18	1130	Grab	SS	1	X										
VC-PM553-SB03-0102	70	9/19/18	1134	Grab	SB	1	X										
VC-PM553-SB03-0506	J8271	9/19/18	1142	Grab	SB	1	X										
VC-PM553-SS04-000H				Grab	SS		X										
VC-PM553-SB04				Grab	SB		X										
VC-PM553-SB04				Grab	SB		X										
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No				Receipt Comments:								
Relinquished by (Print/Sign): Deandra Cross/Deandra		Company: Jacobs		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): MV		Company: Battelle		Date/Time: 9-21-18 945							
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:							
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:							
Comments:																	



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): <i>Victoria Kilbert</i> Phone: <i>727-977-3628</i> Email: <i>victoria.kilbert@epacobs.com</i>			Sampling Site: <i>M-16 RM 553</i>		Site Information:		
Project Name: NBVC Basewide SI Project No.: <i>695803</i>		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: <i>PST</i>			Preservative: NA		COC # 1		
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis	Page#	
							PFAS by Method 517 Mod	<i>11 of 12</i>	
VC-PM553-GW0601A				Grab	GW		X		
VC-PM553-DW01- <i>0919 J8272</i>		<i>9/19/18</i>	<i>1430</i>	Grab	GW	<i>2</i>	X		
VC-PM553-DW01P- <i>0919 J8273</i>		<i>9/19/18</i>	<i>1445</i>	Grab	GW	<i>2</i>	X		
VC-PM553-DW02- <i>0919 J8277</i>		<i>9/19/18</i>	<i>1515</i>	Grab	GW	<i>2</i>	X		
VC-PM553-DW03- <i>0919 J8275</i>		<i>9/19/18</i>	<i>1206</i>	Grab	GW	<i>2</i>	X		
VC-PM553-DW04				Grab	GW		X		
EDT-AQ-FB				Grab	AQ		X		
EDT-AQ-EB				Grab	AQ		X		
								<i>(V) P</i>	
Receipt Temperature:(°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:	
Relinquished by (Print/Sign): <i>Deandra Cuss/Deandra</i>		Company: <i>JACOBS</i>	Date/Time: <i>9/20/2018 07:30</i>		Received by (Print/Sign): <i>Ma</i>		Company: <i>Battelle</i>	Date/Time: <i>9-21-18 945</i>	
Relinquished by (Print/Sign):		Company:	Date/Time:		Received by (Print/Sign):		Company:	Date/Time:	
Relinquished by (Print/Sign):		Company:	Date/Time:		Received by (Print/Sign):		Company:	Date/Time:	
Comments:									

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450

SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 20SEP18
ACTWGT: 59.30 LB
CAD: 6997666/SSF01904
DIMS: 26x14x15 IN

BILL THIRD PARTY

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450

SAN DIEGO, CA 92101
UNITED STATES US

Page 29 of 46
SHIP DATE: 20SEP18
ACTWGT: 62.50 LB
CAD: 6997666/SSF01904
DIMS: 26x14x14 IN

BILL THIRD PARTY

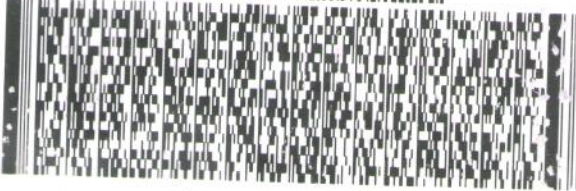
TO JONATHAN THORN

0.1 9:45
9-21-18 MOS
Therm-1

141 LONGWATER DR.
STE 202
NORWELL MA 02061

(781) 681-5565

INVT: PO: DEPT:



FedEx Express



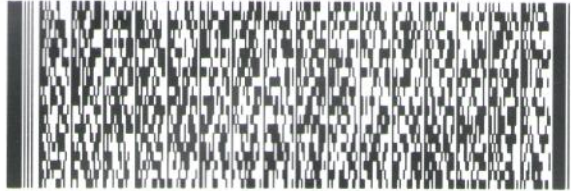
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0.9 9:45
9-21-18 MOS
Therm-1

141 LONGWATER DR.
STE 202
NORWELL MA 02061

(781) 681-5565

INVT: PO: DEPT:



FedEx Express



1 of 3
TRK# 7828 5914 8695
MASTER

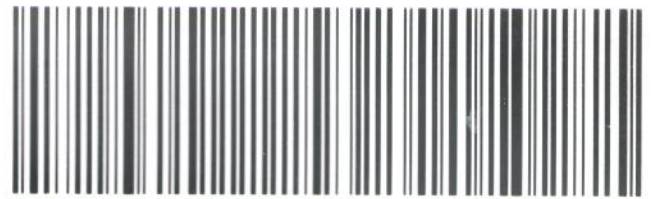
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FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT
DSR
02061
MA-US BOS

2 of 3
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0263 Mstr# 7828 5914 8695

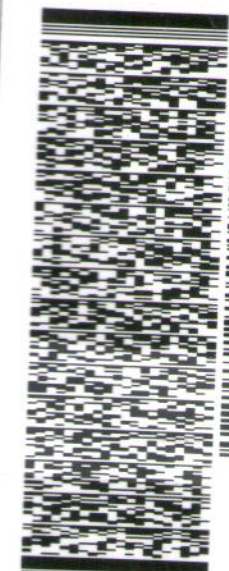
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FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT
DSR
02061
MA-US BOS



3 of 3
MPS# 7828 5914 8710
0263 Mstr# 7828 5914 8695

FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT
DSR
02061
MA-US BOS



TO JONATHAN THORN
141 LONGWATER DR.
STE 202
NORWELL MA 02061
Therm-1

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 20SEP18
ACTWGT: 69.70 LB
CAD: 6997666/SSF01904
DIMS: 26x14x14 IN
BILL THIRD PARTY

Data Tables



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SS03-000H				
Battelle ID	J8254-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.32				
Matrix	SS				
Sample Size	1.87				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.07 U	0.35	1.07	5.35
PFHpA	375-85-9	1.07 U	0.47	1.07	5.35
PFOA	335-67-1	1.07 U	0.53	1.07	5.35
PFNA	375-95-1	1.07 U	0.46	1.07	5.35
PFDA	335-76-2	1.07 U	0.29	1.07	5.35
PFUnA	2058-94-8	1.07 U	0.44	1.07	5.35
PFDaA	307-55-1	0.53 U	0.26	0.53	5.35
PFTeDA	72629-94-8	1.07 U	0.30	1.07	5.35
PFTeDA	376-06-7	2.14 U	0.67	2.14	5.35
NMeFOSAA	2355-31-9	2.67 U	1.20	2.67	5.35
NEtFOSAA	2991-50-6	2.14 U	0.61	2.14	5.35
PFBS	375-73-5	1.07 U	0.39	1.07	5.35
PFHxS	355-46-4	0.53 U	0.24	0.53	5.35
PFOS	1763-23-1	1.07 U	0.29	1.07	5.35

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	105
13C8-PFOA	106
13C9-PFNA	99
13C6-PFDA	111
13C7-PFUnA	125
13C2-PFDaA	116
13C2-PFTeDA	112
d3-MeFOSAA	89
d5-EtFOSAA	114
13C3-PFBS	111
13C3-PFHxS	116
13C8-PFOS	104



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SB03-0102				
Battelle ID	J8255-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.21				
Matrix	SB				
Sample Size	1.93				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.04 U	0.34	1.04	5.18
PFHpA	375-85-9	1.04 U	0.46	1.04	5.18
PFOA	335-67-1	1.04 U	0.52	1.04	5.18
PFNA	375-95-1	1.04 U	0.45	1.04	5.18
PFDA	335-76-2	1.04 U	0.28	1.04	5.18
PFUnA	2058-94-8	1.04 U	0.42	1.04	5.18
PFDaA	307-55-1	0.52 U	0.25	0.52	5.18
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.18
PFTeDA	376-06-7	2.07 U	0.65	2.07	5.18
NMeFOSAA	2355-31-9	2.59 U	1.16	2.59	5.18
NEtFOSAA	2991-50-6	2.07 U	0.59	2.07	5.18
PFBS	375-73-5	1.04 U	0.37	1.04	5.18
PFHxS	355-46-4	0.52 U	0.23	0.52	5.18
PFOS	1763-23-1	1.04 U	0.28	1.04	5.18

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	120
13C8-PFOA	119
13C9-PFNA	111
13C6-PFDA	111
13C7-PFUnA	123
13C2-PFDaA	103
13C2-PFTeDA	107
d3-MeFOSAA	71
d5-EtFOSAA	83
13C3-PFBS	100
13C3-PFHxS	103
13C8-PFOS	89



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SB03-0506				
Battelle ID	J8256-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	11.23				
Matrix	SB				
Sample Size	1.78				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.12 U	0.37	1.12	5.62
PFHpA	375-85-9	1.12 U	0.49	1.12	5.62
PFOA	335-67-1	1.12 U	0.56	1.12	5.62
PFNA	375-95-1	1.12 U	0.48	1.12	5.62
PFDA	335-76-2	1.12 U	0.30	1.12	5.62
PFUnA	2058-94-8	1.12 U	0.46	1.12	5.62
PFDaA	307-55-1	0.56 U	0.27	0.56	5.62
PFTeDA	72629-94-8	1.12 U	0.31	1.12	5.62
PFTeDA	376-06-7	2.25 U	0.71	2.25	5.62
NMeFOSAA	2355-31-9	2.81 U	1.26	2.81	5.62
NEtFOSAA	2991-50-6	2.25 U	0.64	2.25	5.62
PFBS	375-73-5	1.12 U	0.40	1.12	5.62
PFHxS	355-46-4	1.32 J	0.25	0.56	5.62
PFOS	1763-23-1	0.49 J	0.30	1.12	5.62

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	107
13C8-PFOA	113
13C9-PFNA	105
13C6-PFDA	110
13C7-PFUnA	114
13C2-PFDaA	111
13C2-PFTeDA	101
d3-MeFOSAA	116
d5-EtFOSAA	122
13C3-PFBS	118
13C3-PFHxS	121
13C8-PFOS	107



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS01-000H				
Battelle ID	J8263-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.43				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.67 J	0.34	1.03	5.15
PFHpA	375-85-9	3.21 J	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	1.03 U	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDaA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.61 J	0.28	1.03	5.15

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	106
13C8-PFOA	119
13C9-PFNA	106
13C6-PFDA	120
13C7-PFUnA	129
13C2-PFDaA	118
13C2-PFTeDA	115
d3-MeFOSAA	107
d5-EtFOSAA	132
13C3-PFBS	132
13C3-PFHxS	131
13C8-PFOS	110



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID VC-PM553-SB01-0102

Battelle ID J8264-FS
 Sample Type SA
 Collection Date 09/19/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 10.87
 Matrix SB
 Sample Size 1.77
 Size Unit-Basis g
 Units ng/g_Dry MDL LOD LOQ

			MDL	LOD	LOQ
PFHxA	307-24-4	1.13 U	0.37	1.13	5.65
PFHpA	375-85-9	0.53 J	0.50	1.13	5.65
PFOA	335-67-1	1.13 U	0.56	1.13	5.65
PFNA	375-95-1	1.13 U	0.49	1.13	5.65
PFDA	335-76-2	1.13 U	0.31	1.13	5.65
PFUnA	2058-94-8	1.13 U	0.46	1.13	5.65
PFDaA	307-55-1	0.56 U	0.27	0.56	5.65
PFTeDA	72629-94-8	1.13 U	0.32	1.13	5.65
PFTeDA	376-06-7	2.26 U	0.71	2.26	5.65
NMeFOSAA	2355-31-9	2.82 U	1.27	2.82	5.65
NEtFOSAA	2991-50-6	2.26 U	0.64	2.26	5.65
PFBS	375-73-5	1.13 U	0.41	1.13	5.65
PFHxS	355-46-4	0.29 J	0.25	0.56	5.65
PFOS	1763-23-1	1.13 U	0.31	1.13	5.65

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	118
13C8-PFOA	113
13C9-PFNA	111
13C6-PFDA	120
13C7-PFUnA	137
13C2-PFDaA	121
13C2-PFTeDA	121
d3-MeFOSAA	90
d5-EtFOSAA	114
13C3-PFBS	114
13C3-PFHxS	142
13C8-PFOS	111



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB01-0506				
Battelle ID	J8265-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	21.01				
Matrix	SB				
Sample Size	1.63				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.51 J	0.40	1.23	6.13
PFHpA	375-85-9	0.96 J	0.54	1.23	6.13
PFOA	335-67-1	1.23 U	0.61	1.23	6.13
PFNA	375-95-1	1.23 U	0.53	1.23	6.13
PFDA	335-76-2	1.23 U	0.33	1.23	6.13
PFUnA	2058-94-8	1.23 U	0.50	1.23	6.13
PFDaA	307-55-1	0.61 U	0.29	0.61	6.13
PFTeDA	72629-94-8	1.23 U	0.34	1.23	6.13
PFTeDA	376-06-7	2.45 U	0.77	2.45	6.13
NMeFOSAA	2355-31-9	3.07 U	1.37	3.07	6.13
NEtFOSAA	2991-50-6	2.45 U	0.70	2.45	6.13
PFBS	375-73-5	1.23 U	0.44	1.23	6.13
PFHxS	355-46-4	0.61 U	0.27	0.61	6.13
PFOS	1763-23-1	1.01 J	0.33	1.23	6.13

Surrogate Recoveries (%)

13C5-PFHxA	121
13C4-PFHpA	121
13C8-PFOA	131
13C9-PFNA	112
13C6-PFDA	118
13C7-PFUnA	129
13C2-PFDaA	114
13C2-PFTeDA	109
d3-MeFOSAA	127
d5-EtFOSAA	130
13C3-PFBS	125
13C3-PFHxS	114
13C8-PFOS	105



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS02-000H				
Battelle ID	J8266-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	6.10				
Matrix	SS				
Sample Size	1.88				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.06 U	0.35	1.06	5.32
PFHpA	375-85-9	1.06 U	0.47	1.06	5.32
PFOA	335-67-1	1.06 U	0.53	1.06	5.32
PFNA	375-95-1	1.06 U	0.46	1.06	5.32
PFDA	335-76-2	1.06 U	0.29	1.06	5.32
PFUnA	2058-94-8	1.06 U	0.44	1.06	5.32
PFDaA	307-55-1	0.53 U	0.26	0.53	5.32
PFTeDA	72629-94-8	1.06 U	0.30	1.06	5.32
PFTeDA	376-06-7	2.13 U	0.67	2.13	5.32
NMeFOSAA	2355-31-9	2.66 U	1.19	2.66	5.32
NEtFOSAA	2991-50-6	2.13 U	0.61	2.13	5.32
PFBS	375-73-5	1.06 U	0.38	1.06	5.32
PFHxS	355-46-4	0.53 U	0.23	0.53	5.32
PFOS	1763-23-1	0.40 J	0.29	1.06	5.32

Surrogate Recoveries (%)

13C5-PFHxA	122
13C4-PFHpA	112
13C8-PFOA	119
13C9-PFNA	114
13C6-PFDA	113
13C7-PFUnA	120
13C2-PFDaA	108
13C2-PFTeDA	108
d3-MeFOSAA	95
d5-EtFOSAA	99
13C3-PFBS	113
13C3-PFHxS	111
13C8-PFOS	95



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0102				
Battelle ID	J8267-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	16.96				
Matrix	SB				
Sample Size	1.66				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.20 U	0.40	1.20	6.02
PFHpA	375-85-9	1.20 U	0.53	1.20	6.02
PFOA	335-67-1	1.20 U	0.60	1.20	6.02
PFNA	375-95-1	1.20 U	0.52	1.20	6.02
PFDA	335-76-2	1.20 U	0.33	1.20	6.02
PFUnA	2058-94-8	1.20 U	0.49	1.20	6.02
PFDaA	307-55-1	0.60 U	0.29	0.60	6.02
PFTeDA	72629-94-8	1.20 U	0.34	1.20	6.02
PFTeDA	376-06-7	2.41 U	0.76	2.41	6.02
NMeFOSAA	2355-31-9	3.01 U	1.35	3.01	6.02
NEtFOSAA	2991-50-6	2.41 U	0.69	2.41	6.02
PFBS	375-73-5	1.20 U	0.43	1.20	6.02
PFHxS	355-46-4	0.60 U	0.27	0.60	6.02
PFOS	1763-23-1	1.20 U	0.33	1.20	6.02

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	108
13C8-PFOA	109
13C9-PFNA	109
13C6-PFDA	117
13C7-PFUnA	126
13C2-PFDaA	113
13C2-PFTeDA	112
d3-MeFOSAA	95
d5-EtFOSAA	136
13C3-PFBS	109
13C3-PFHxS	112
13C8-PFOS	116



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0506				
Battelle ID	J8268-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	15.64				
Matrix	SB				
Sample Size	1.71				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.17 U	0.39	1.17	5.85
PFHpA	375-85-9	1.17 U	0.51	1.17	5.85
PFOA	335-67-1	1.17 U	0.58	1.17	5.85
PFNA	375-95-1	1.17 U	0.50	1.17	5.85
PFDA	335-76-2	1.17 U	0.32	1.17	5.85
PFUnA	2058-94-8	1.17 U	0.48	1.17	5.85
PFDaA	307-55-1	0.58 U	0.28	0.58	5.85
PFTeDA	72629-94-8	1.17 U	0.33	1.17	5.85
PFTeDA	376-06-7	2.34 U	0.74	2.34	5.85
NMeFOSAA	2355-31-9	2.92 U	1.31	2.92	5.85
NEtFOSAA	2991-50-6	2.34 U	0.67	2.34	5.85
PFBS	375-73-5	1.17 U	0.42	1.17	5.85
PFHxS	355-46-4	0.58 U	0.26	0.58	5.85
PFOS	1763-23-1	1.17 U	0.32	1.17	5.85

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	120
13C8-PFOA	125
13C9-PFNA	115
13C6-PFDA	120
13C7-PFUnA	131
13C2-PFDaA	110
13C2-PFTeDA	114
d3-MeFOSAA	99
d5-EtFOSAA	125
13C3-PFBS	117
13C3-PFHxS	130
13C8-PFOS	116



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS03-000H				
Battelle ID	J8269-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.78				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.03 U	0.34	1.03	5.15
PFHpA	375-85-9	1.03 U	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	0.32 J	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDaA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.41 J	0.28	1.03	5.15

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	124
13C8-PFOA	126
13C9-PFNA	122
13C6-PFDA	112
13C7-PFUnA	130
13C2-PFDaA	111
13C2-PFTeDA	109
d3-MeFOSAA	94
d5-EtFOSAA	110
13C3-PFBS	125
13C3-PFHxS	130
13C8-PFOS	110



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0102				
Battelle ID	J8270-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	2.31				
Matrix	SB				
Sample Size	1.95				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.03 U	0.34	1.03	5.13
PFHpA	375-85-9	1.03 U	0.45	1.03	5.13
PFOA	335-67-1	1.03 U	0.51	1.03	5.13
PFNA	375-95-1	1.03 U	0.44	1.03	5.13
PFDA	335-76-2	1.03 U	0.28	1.03	5.13
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.13
PFDoA	307-55-1	0.51 U	0.25	0.51	5.13
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.13
PFTeDA	376-06-7	2.05 U	0.65	2.05	5.13
NMeFOSAA	2355-31-9	2.56 U	1.15	2.56	5.13
NEtFOSAA	2991-50-6	2.05 U	0.58	2.05	5.13
PFBS	375-73-5	1.03 U	0.37	1.03	5.13
PFHxS	355-46-4	0.51 U	0.23	0.51	5.13
PFOS	1763-23-1	2.04 J	0.28	1.03	5.13

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	108
13C8-PFOA	118
13C9-PFNA	108
13C6-PFDA	112
13C7-PFUnA	126
13C2-PFDoA	111
13C2-PFTeDA	107
d3-MeFOSAA	88
d5-EtFOSAA	110
13C3-PFBS	115
13C3-PFHxS	115
13C8-PFOS	100



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0506				
Battelle ID	J8271-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	4.53				
Matrix	SB				
Sample Size	1.92				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.04 U	0.34	1.04	5.21
PFHpA	375-85-9	1.04 U	0.46	1.04	5.21
PFOA	335-67-1	1.04 U	0.52	1.04	5.21
PFNA	375-95-1	1.04 U	0.45	1.04	5.21
PFDA	335-76-2	1.04 U	0.28	1.04	5.21
PFUnA	2058-94-8	1.04 U	0.43	1.04	5.21
PFDaA	307-55-1	0.52 U	0.25	0.52	5.21
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.21
PFTeDA	376-06-7	2.08 U	0.66	2.08	5.21
NMeFOSAA	2355-31-9	2.60 U	1.17	2.60	5.21
NEtFOSAA	2991-50-6	2.08 U	0.59	2.08	5.21
PFBS	375-73-5	1.04 U	0.38	1.04	5.21
PFHxS	355-46-4	0.33 J	0.23	0.52	5.21
PFOS	1763-23-1	1.04 U	0.28	1.04	5.21

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	106
13C8-PFOA	110
13C9-PFNA	107
13C6-PFDA	121
13C7-PFUnA	121
13C2-PFDaA	110
13C2-PFTeDA	112
d3-MeFOSAA	103
d5-EtFOSAA	102
13C3-PFBS	101
13C3-PFHxS	109
13C8-PFOS	104



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	KB35 IB				
Battelle ID	KB35 IB_09/28/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Solid				
Sample Size	2.00				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.00 U	0.33	1.00	5.00
PFHpA	375-85-9	1.00 U	0.44	1.00	5.00
PFOA	335-67-1	1.00 U	0.50	1.00	5.00
PFNA	375-95-1	1.00 U	0.43	1.00	5.00
PFDA	335-76-2	1.00 U	0.27	1.00	5.00
PFUnA	2058-94-8	1.00 U	0.41	1.00	5.00
PFDaA	307-55-1	0.50 U	0.24	0.50	5.00
PFTrDA	72629-94-8	1.00 U	0.28	1.00	5.00
PFTeDA	376-06-7	2.00 U	0.63	2.00	5.00
NMeFOSAA	2355-31-9	2.50 U	1.12	2.50	5.00
NEtFOSAA	2991-50-6	2.00 U	0.57	2.00	5.00
PFBS	375-73-5	1.00 U	0.36	1.00	5.00
PFHxS	355-46-4	0.50 U	0.22	0.50	5.00
PFOS	1763-23-1	1.00 U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	97
13C8-PFOA	104
13C9-PFNA	101
13C6-PFDA	104
13C7-PFUnA	99
13C2-PFDaA	96
13C2-PFTeDA	97
d3-MeFOSAA	84
d5-EtFOSAA	96
13C3-PFBS	95
13C3-PFHxS	103
13C8-PFOS	102



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID 180507-02: Ottawa Sand

Battelle ID CR853PB-FS
 Sample Type PB
 Collection Date 09/26/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 0.00
 Matrix SEDIMENT
 Sample Size 1.99
 Size Unit-Basis g
 Units ng/g_Dry MDL LOD LOQ

			MDL	LOD	LOQ
PFHxA	307-24-4	1.01 U	0.33	1.01	5.03
PFHpA	375-85-9	1.01 U	0.44	1.01	5.03
PFOA	335-67-1	1.01 U	0.50	1.01	5.03
PFNA	375-95-1	1.01 U	0.43	1.01	5.03
PFDA	335-76-2	1.01 U	0.27	1.01	5.03
PFUnA	2058-94-8	1.01 U	0.41	1.01	5.03
PFDaA	307-55-1	0.50 U	0.24	0.50	5.03
PFTrDA	72629-94-8	1.01 U	0.28	1.01	5.03
PFTeDA	376-06-7	2.01 U	0.63	2.01	5.03
NMeFOSAA	2355-31-9	2.51 U	1.13	2.51	5.03
NEtFOSAA	2991-50-6	2.01 U	0.57	2.01	5.03
PFBS	375-73-5	1.01 U	0.36	1.01	5.03
PFHxS	355-46-4	0.50 U	0.22	0.50	5.03
PFOS	1763-23-1	1.01 U	0.27	1.01	5.03

Surrogate Recoveries (%)

13C5-PFHxA	108
13C4-PFHpA	111
13C8-PFOA	115
13C9-PFNA	105
13C6-PFDA	110
13C7-PFUnA	117
13C2-PFDaA	103
13C2-PFTeDA	102
d3-MeFOSAA	113
d5-EtFOSAA	116
13C3-PFBS	109
13C3-PFHxS	116
13C8-PFOS	101



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID 180507-02: Ottawa Sand

Battelle ID CR854LCS-FS
 Sample Type LCS
 Collection Date 09/26/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 0.00
 Matrix SEDIMENT

Sample Size 1.99
 Size Unit-Basis g
 Units ng/g_Dry

			Control Limits			
	Target	Recovery	Qual	Lower	Upper	

PFHxA	307-24-4	21.53	20.30	106	45	135
PFHpA	375-85-9	18.65	20.10	93	60	128
PFOA	335-67-1	19.14	20.10	95	56	136
PFNA	375-95-1	19.95	20.10	99	54	130
PFDA	335-76-2	17.79	20.10	89	55	141
PFUnA	2058-94-8	18.32	20.10	91	57	137
PFDoA	307-55-1	21.12	20.10	105	62	134
PFTTrDA	72629-94-8	21.84	20.10	109	51	127
PFTeDA	376-06-7	21.34	20.10	106	34	162
NMeFOSAA	2355-31-9	22.72	20.10	113	52	146
NEtFOSAA	2991-50-6	18.62	20.10	93	54	124
PFBS	375-73-5	18.50	20.30	91	57	145
PFHxS	355-46-4	18.71	20.30	92	52	132
PFOS	1763-23-1	20.64	20.10	103	50	130

Surrogate Recoveries (%)

13C5-PFHxA	101
13C4-PFHpA	114
13C8-PFOA	117
13C9-PFNA	107
13C6-PFDA	119
13C7-PFUnA	129
13C2-PFDoA	111
13C2-PFTeDA	111
d3-MeFOSAA	108
d5-EtFOSAA	122
13C3-PFBS	128
13C3-PFHxS	123
13C8-PFOS	110



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Method detection limit (MDL) value, Limit of Detection (LOD) reported

CTO-4164 Naval Base Ventura County, California

Project No 100110125-01

PFAS by DoD QSM 5.1 Table B-15

SB, SS

Batch 18-0571

Package DP-18-0279

Submitted to:

CH2M

1100 NE Circle Blvd Suite 300

Corvallis, OR 97330 USA

Submitted by:

Battelle Norwell Operations

141 Longwater Drive Suite 202

Norwell, MA 02061

BATTELLE

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CTO-4164 Naval Base Ventura County, California
Project No 100110125-01
PFAS by DoD QSM 5.1 Table B-15
SB, SS
Batch 18-0571
Package DP-18-0279

Submitted to:
CH2M
1100 NE Circle Blvd Suite 300
Corvallis, OR 97330 USA

NELAP Accreditation Number: E87856 (Florida Department of Health)
DoD-ELAP Accreditation Number: 91667

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061

Analyst Approval:		schumitzd@battelle.org 2018.10.02 18:49:55 -04'00'
QC Chemist Approval:		fitche@battelle.org 2018.10.09 10:02:00 -04'00'
Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.10.15 12:40:17 -04'00'

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CTO-4164 Naval Base Ventura County, California

Project No 100110125-01

PFAS by DoD QSM 5.1 Table B-15

SB, SS

Batch 18-0571


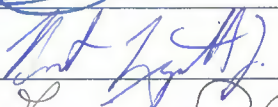
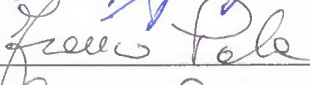





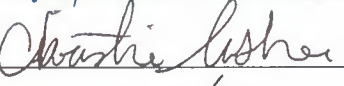

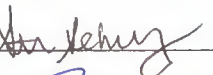

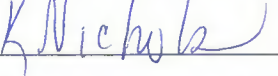



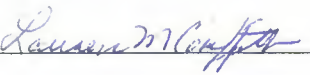
Package DP-18-0279

1	<i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
2	<i>Tables</i> Analytical Data Tables, Qualifier Definitions.	34
3	<i>Miscellaneous Documentation</i> Case Narrative, Miscellaneous Documentation Form, Quality Control Summary, Example Calculations, Internal Standard Recovery Report, Retention Time Window Report.	51
4	<i>Sample Preparation Records</i> Sample Preparation Records, Dilution Worksheets, Standard Preparation Records, Certificates Of Analysis, GPC Check Report.	196
5	<i>Analytical Calibrations</i> Analytical Sequence, Analytical Method, Tune Report, Initial Calibration, Pesticide Degradation Report, RF Summary, Calibration Verifications, Independent Calibration Verification Check.	218
6	<i>Analytical Data</i> Raw Data Quantification Reports.	326
7	<i>Chromatograms</i> Sample And Standard Chromatograms.	402
8	<i>Unused Data</i>	NA

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Signature Page

Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schumitz		DNS	4/4/18
Carolus Peummeay		CPM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mena		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matroney		KM	4/4/18
Stephanie Schmitz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimiao H Brown		CB	4/4/18
Matt Schumitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

Sample Summary

Client: CH2M

SDG: 18-0571

Project/Site: Naval Base Ventura County

CTO: 4164

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
CR853PB-FS	180507-02: Ottawa Sand	SEDIMENT	9/26/2018	9/26/2018
CR854LCS-FS	180507-02: Ottawa Sand	SEDIMENT	9/26/2018	9/26/2018
J8254-FS	VC-PM365-SS03-000H	SS	9/19/2018	9/21/2018
J8255-FS	VC-PM365-SB03-0102	SB	9/19/2018	9/21/2018
J8256-FS	VC-PM365-SB03-0506	SB	9/19/2018	9/21/2018
J8263-FS	VC-PM553-SS01-000H	SS	9/19/2018	9/21/2018
J8264-FS	VC-PM553-SB01-0102	SB	9/19/2018	9/21/2018
J8265-FS	VC-PM553-SB01-0506	SB	9/19/2018	9/21/2018
J8266-FS	VC-PM553-SS02-000H	SS	9/19/2018	9/21/2018
J8267-FS	VC-PM553-SB02-0102	SB	9/19/2018	9/21/2018
J8268-FS	VC-PM553-SB02-0506	SB	9/19/2018	9/21/2018
J8269-FS	VC-PM553-SS03-000H	SS	9/19/2018	9/21/2018
J8270-FS	VC-PM553-SB03-0102	SB	9/19/2018	9/21/2018
J8271-FS	VC-PM553-SB03-0506	SB	9/19/2018	9/21/2018

Work Plan



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WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: CTO-4164: Analysis of Solids
Project Number: 100110125-01
Client: CH2M
 1100 NE Circle Blvd Suite 300
 Corvallis, OR 97330
 USA

Client Contact Information: Tiffany Hill
 Project Chemist
 (541) 768-3109(V)
 NA
 tiffany.hill@jacobs.com

Effective Date of QAPP: 9/17/2018
Version Number: 100110125-01(S)-01
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 10/19/2018

2.0 SCOPE OF WORK

Overview: Analysis of solid samples for PFAS compounds.
Matrix: Soil/Sediment

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

The list of samples for this project plan are presented in Attachment 1.

Storage Directions: Store all samples frozen upon arrival.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: None
Archiving: Samples will be disposed of six months after submission of final data.
 Client will be informed prior to sample disposal.
Disposal: Dispose of samples and extracts in the appropriate waste streams.



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

None

Samples Expected:	Samples Per Batch:	Batches Expected:
212	20	11

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

Type:	Description:	Count:	Rgt:	Reference:	Comment:
PB	Laboratory control reagent blank.	1 per batch	--	180507-02: Ottawa Sand Lot:1DJ0861	
LCS	Laboratory Control Sample	1 per batch	Yes	180507-02: Ottawa Sand Lot:1DJ0861	
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	MS/MSD will be identified on the COC.
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	MS/MSD will be identified on the COC.

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-370-06
SOP Title:	<i>Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices</i>
Sample Size:	2 g
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	<ul style="list-style-type: none"> • no split post ENVI-Carb • PIV changed to 1 mL
Comments:	<ul style="list-style-type: none"> • All solids will be prescreened prior to extraction and analysis.

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	JY27 SIS	~ 2.50 ng	50 uL	NA



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD High Level Second Source LCS/MS Solution	KA84 LCS/MS	~ 20.0 ng	100 uL	LCS sample - vary between 100 µL and 400 µL for each batch.
PFAS - DoD High Level Second Source LCS/MS Solution	KA84 LCS/MS	~ 50 ng	250 uL	MS/MSD only - spike between 250 µL and 800 µL (vary per batch)

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 1000

Table 3: RIS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JY26 RIS	~ 0.250 ng	50 uL	NA

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

- SOP_No-Rev: **5-369-06**

SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*

Deviations: None

Comments: None

2.2. DELIVERABLES

Deliverables Due:	10/19/2018
LIMS Reports:	No
Histograms:	No
Excel Tables:	Yes
EICs:	No



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Chromatograms:	<i>No</i>
EDDs:	<i>Yes</i>
Comments:	<ul style="list-style-type: none"> • Individual data sets will be due 28 days after receipt of each sample set. • Full Level 4 data package (QSM 5.1 Table B-15 compliant) required. • SEDD file required. • weekly updates to client on status required.

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

Staff Member	Role	Comment
Jonathan R. Thorn	Project Manager	NA
Stephanie A. Schultz	Sample Preparation	NA
Denise M. Schumitz	LC-MS/MS Analysis	NA
Matt D. Schumitz	Sample Custody	NA
Carla R. Devine	Quality Control Officer	NA
Zachary J. Willenberg	Quality Assurance Officer	NA

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	09/20/2018	09/20/2018	0	Schedule will vary as samples arrive over time.
Sample Preparation	09/20/2018	09/25/2018	5	NA



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Instrument Analysis	09/25/2018	10/09/2018	14	NA
Quality Control Review	10/09/2018	10/11/2018	2	NA
Quality Assurance Review	10/11/2018	10/12/2018	1	NA

6.0 BUDGET

The labor budget for the analytical task is presented in Table 6.

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	2	10	20	Hours are per batch of 20 samples.
Sample Preparation	8	10	80	NA
Instrument Analysis	8	10	80	NA
Quality Control Review	3	10	30	NA
Quality Assurance Review	1	10	10	NA

7.0 STAFF DEVELOPMENT

None anticipated.



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-180921-01
Status: Pending
Description: NBVC Basewide SI
Range: J8201-J8271
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8201	VC-PM3009-SS01-000H	09/17/2018 2:15 pm	SS	R0119	(NA)		
2	J8202	VC-PM3009-SB01-0102	09/17/2018 2:15 pm	SB	R0119	(NA)		
3	J8203	VC-PM3009-SB01-0506	09/17/2018 2:15 pm	SB	R0119	(NA)		
4	J8204	VC-PM3009-SS02-000H	09/17/2018 3:12 pm	SS	R0119	(NA)		
5	J8205	VC-PM3009-SB02-0102	09/17/2018 3:13 pm	SB	R0119	(NA)		
6	J8206	VC-PM3009-SB02-0506	09/17/2018 3:15 pm	SB	R0119	(NA)		
7	J8207	VC-PM3009-SS03-000H	09/17/2018 4:16 pm	SS	R0119	(NA)		
8	J8208	VC-PM3009-SB03-0102	09/17/2018 4:17 pm	SB	R0119	(NA)		
9	J8209	VC-PM3009-SB03-0506	09/17/2018 4:18 pm	SB	R0119	(NA)		
10	J8218	VC-PM372-SS01-000H	09/18/2018 9:36 am	SS	R0119	(NA)		
11	J8219	VC-PM372-SB01-0102	09/18/2018 9:37 am	SB	R0119	(NA)		
12	J8220	VC-PM372-SB01-0506	09/18/2018 9:43 am	SB	R0119	(NA)		
13	J8221	VC-PM372-SS02-000H	09/18/2018 8:57 am	SS	R0119	(NA)		
14	J8222	VC-PM372-SB02-0102	09/18/2018 9:03 am	SB	R0119	(NA)		
15	J8223	VC-PM372-SB02-0506	09/18/2018 9:06 am	SB	R0119	(NA)		
16	J8224	VC-PM372-SS03-000H	09/18/2018 10:46 am	SS	R0119	(NA)		
17	J8225	VC-PM372-SB03-0102	09/18/2018 10:47 am	SB	R0119	(NA)		
18	J8226	VC-PM372-SB03-0506	09/18/2018 10:49 am	SB	R0119	(NA)		
19	J8229	VC-PM649-SS01-000H	09/18/2018 11:30 am	SS	R0119	(NA)		
20	J8230	VC-PM649-SB01-0102	09/18/2018 11:35 am	SB	R0119	(NA)		
21	J8231	VC-PM649-SB01-0506	09/18/2018 11:40 am	SB	R0119	(NA)		
22	J8232	VC-PM649-SS02-000H	09/18/2018 2:25 pm	SS	R0119	(NA)		
23	J8233	VC-PM649-SB02-0102	09/18/2018 2:29 pm	SB	R0119	(NA)		
24	J8234	VC-PM649-SB02-0506	09/18/2018 2:30 pm	SB	R0119	(NA)		
25	J8235	VC-PM649-SS03-000H	09/18/2018 1:00 pm	SS	R0119	(NA)		
26	J8236	VC-PM649-SB03-0102	09/18/2018 1:12 pm	SB	R0119	(NA)		
27	J8237	VC-PM649-SB03-0506	09/18/2018 1:20 pm	SB	R0119	(NA)		
28	J8238	VC-PM649-SS04-000H	09/18/2018 1:15 pm	SS	R0119	(NA)		
29	J8239	VC-PM649-SB04-0102	09/18/2018 1:27 pm	SB	R0119	(NA)		
30	J8240	VC-PM649-SB04-0506	09/18/2018 1:40 pm	SB	R0119	(NA)		
31	J8248	VC-PM365-SS01-000H	09/19/2018 10:28 am	SS	R0119	(NA)		
32	J8249	VC-PM365-SB01-0102	09/19/2018 10:30 am	SB	R0119	(NA)		
33	J8250	VC-PM365-SB01-0506	09/19/2018 10:37 am	SB	R0119	(NA)		
34	J8251	VC-PM365-SS02-000H	09/19/2018 11:30 am	SS	R0119	(NA)		
35	J8252	VC-PM365-SB02-0102	09/19/2018 11:32 am	SB	R0119	(NA)		
36	J8253	VC-PM365-SB02-0506	09/19/2018 11:40 am	SB	R0119	(NA)		
37	J8254	VC-PM365-SS03-000H	09/19/2018 10:26 am	SS	R0119	(NA)		
38	J8255	VC-PM365-SB03-0102	09/19/2018 10:27 am	SB	R0119	(NA)		
39	J8256	VC-PM365-SB03-0506	09/19/2018 10:32 am	SB	R0119	(NA)		
40	J8263	VC-PM553-SS01-000H	09/19/2018 1:50 pm	SS	R0119	(NA)		
41	J8264	VC-PM553-SB01-0102	09/19/2018 1:53 pm	SS	R0119	(NA)		



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180921-01
Status: Pending
Description: NBVC Basewide SI
Range: J8201-J8271
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
42	J8265	VC-PM553-SB01-0506	09/19/2018 1:59 pm	SB	R0119 (NA)			
43	J8266	VC-PM553-SS02-000H	09/19/2018 2:40 pm	SS	R0119 (NA)			
44	J8267	VC-PM553-SB02-0102	09/19/2018 2:42 pm	SB	R0119 (NA)			
45	J8268	VC-PM553-SB02-0506	09/19/2018 2:50 pm	SB	R0119 (NA)			
46	J8269	VC-PM553-SS03-000H	09/19/2018 11:30 am	SS	R0119 (NA)			
47	J8270	VC-PM553-SB03-0102	09/19/2018 11:34 am	SB	R0119 (NA)			
48	J8271	VC-PM553-SB03-0506	09/19/2018 11:42 am	SB	R0119 (NA)			

Shipment: SHP-180925-02
Status: Pending
Description: NBVC Basewide SI
Range: J8291-J8334
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J8291	VC-CS94-SS01-000H	09/21/2018 10:30 am	SS	R0119 (NA)			
2	J8292	VC-CS94-SB01-0102	09/21/2018 10:33 am	SB	R0119 (NA)			
3	J8293	VC-CS94-SB01-0506	09/21/2018 10:37 am	SB	R0119 (NA)			
4	J8294	VC-CS94-SS02-000H	09/21/2018 11:24 am	SS	R0119 (NA)			
5	J8295	VC-CS94-SB02-0102	09/21/2018 11:25 am	SB	R0119 (NA)			
6	J8296	VC-CS94-SB02-0506	09/21/2018 11:33 am	SB	R0119 (NA)			
7	J8297	VC-CS94-SS03-000H	09/21/2018 10:37 am	SS	R0119 (NA)			
8	J8298	VC-CS94-SB03-0102	09/21/2018 10:38 am	SB	R0119 (NA)			
9	J8299	VC-CS94-SB03-0506	09/21/2018 10:41 am	SB	R0119 (NA)			
10	J8300	VC-CS94-SS04-000H	09/21/2018 11:57 am	SS	R0119 (NA)			
11	J8301	VC-CS94-SB04-0102	09/21/2018 11:58 am	SB	R0119 (NA)			
12	J8302	VC-CS94-SB04-0506	09/21/2018 12:04 pm	SB	R0119 (NA)			
13	J8303	VC-CS94-SS05-000H	09/21/2018 12:04 pm	SS	R0119 (NA)			
14	J8304	VC-CS94-SB05-0102	09/21/2018 12:05 pm	SB	R0119 (NA)			
15	J8305	VC-CS94-SB05-0506	09/21/2018 12:10 pm	SB	R0119 (NA)			
16	J8310	VC-PM323-324-SS01-000H	09/20/2018 1:52 pm	SS	R0119 (NA)			
17	J8311	VC-PM323-324-SB01-0102	09/20/2018 1:55 pm	SB	R0119 (NA)			
18	J8312	VC-PM323-324-SB01-0506	09/20/2018 2:10 pm	SB	R0119 (NA)			
19	J8313	VC-PM323-324-SS02-000H	09/20/2018 11:00 am	SS	R0119 (NA)			
20	J8314	VC-PM323-324-SB02-0102	09/20/2018 11:05 am	SB	R0119 (NA)			
21	J8315	VC-PM323-324-SB02-0506	09/20/2018 11:15 am	SB	R0119 (NA)			
22	J8316	VC-PM323-324-SS03-000H	09/20/2018 10:15 am	SS	R0119 (NA)			



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180925-02
Status: Pending
Description: NBVC Basewide SI
Range: J8291-J8334
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
23	J8317	VC-PM323-324-SB03-0102	09/20/2018 10:17 am	SB	R0119	(NA)		
24	J8318	VC-PM323-324-SB03-0506	09/20/2018 10:22 am	SB	R0119	(NA)		
25	J8327	VC-PM323-SS02-000H	09/20/2018 2:43 pm	SS	R0119	(NA)		
26	J8328	VC-PM323-SB02-0102	09/20/2018 2:44 pm	SB	R0119	(NA)		
27	J8329	VC-PM323-SB02-0506	09/20/2018 2:48 pm	SB	R0119	(NA)		
28	J8332	VC-PM324-SS02-000H	09/20/2018 1:40 pm	SS	R0119	(NA)		
29	J8333	VC-PM324-SB02-0102	09/20/2018 1:45 pm	SB	R0119	(NA)		
30	J8334	VC-PM324-SB02-0506	09/20/2018 1:51 pm	SB	R0119	(NA)		



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name:	Master_369
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.1 Table B-15
Matrix:	S - Solid Samples, like soil or sediment, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting		Holding Times (days)	Data Flags
Result Units:	ng/g	Unit Conversion: (none)	Sample: 14 DL_Flag: U
Weight Basis:	DRY	Result Format: Fixed Digits	Frozen: 14 RL_Flag: J
Standard Basis:	SIS	# of Figures/Digits: 2	Extract: 28 PB_Flag: B
Oil Weight Basis:	No	Oil Weight Source: Oil Weight	DIL_Flag: D
U-Value Substitution:	U-Flag=MD	Histograms: No	HT_Flag: T
ECD_Reporting:	No		

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		d3-MeFOSAA	No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T		d5-EtFOSAA	No	No
12	Perfluoro-1-butanefulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanesulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanesulfonate	PFOS	T		13C8-PFOS	No	No
1	13C5-PFHxA	13C5-PFHxA	SIS	13C2-PFOA		No	No
2	13C4-PFHpA	13C4-PFHpA	SIS	13C2-PFOA		No	No
3	13C8-PFOA	13C8-PFOA	SIS	13C2-PFOA		No	No
4	13C9-PFNA	13C9-PFNA	SIS	13C2-PFOA		No	No



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
5	13C6-PFDA	13C6-PFDA	SIS	13C2-PFDA		No	No
6	13C7-PFUnA	13C7-PFUnA	SIS	13C2-PFDA		No	No
7	13C2-PFDoA	13C2-PFDoA	SIS	13C2-PFDA		No	No
8	13C2-PFTeDA	13C2-PFTeDA	SIS	13C2-PFDA		No	No
9	d3-MeFOSAA	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	d5-EtFOSAA	d5-EtFOSAA	SIS	13C4-PFOS		No	No
11	13C3-PFBS	13C3-PFBS	SIS	13C4-PFOS		No	No
12	13C3-PFHxS	13C3-PFHxS	SIS	13C4-PFOS		No	No
13	13C8-PFOS	13C8-PFOS	SIS	13C4-PFOS		No	No

Total Analytes: 27

Subtract Peaks:

None

Sum Peaks:

None



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369

ICAL Acceptance Criteria:

Curve Fit:	Limit Mean(%):	Mean Qual:	Limit Ind.:	Ind. Qual:	Min Points:	Points Qual:	Comments:
Linear	NA	NA	0.99	N	5	N	y = Bx + C
Quadratic	NA	NA	0.99	N	6	N	y = Ax ² + Bx + C

Continuing Calibration Verification Criteria:

CCV Name: 5-369

Frequency Hrs:	Mean PD(%):	Individual PD(%):	RIS/SIS RT Window (min):	Area Limit Low(%):	Area Limit High(%):	Comment:
12 (N)	30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Independent Calibration Verification:

ICC Name: 5-369

Mean PD Limit(%):	Ind. PD Limit(%):	RIS/SIS Window Limit (Secs):	Area Limit High(%):	Area Limit Low(%):	Comment:
30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Mass Discrimination Criteria:

None

Degradation Check Criteria:

None



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application	<i>Universal_LC</i>		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Procedural Blank	Samples must be greater than five times the blank concentration (>5xPB).	B	Review with Project Manager; re-analyze or justify results in project records.
PB Measurement Quality Objective	Organic results in the Procedural Blank are less than 1/2 times the LOQ (<1/2xLOQ)	N	Review with Project Manager; re-analyze or justify results in project records.
Laboratory Control Sample	Recovery values 70-130%.	N	Review with project manager; re-analyze or justify reporting the results in project records.
Matrix Spike / Matrix Spike Duplicate Recovery	Organics 70-130%. Analyte concentration in MS/MSD must be greater than five times reported background concentration. Organics Results in the Target is less than 5 times the Original	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Matrix Spike/Spike Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration. Organics Results in the Target is less than 5 times the Original	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Standard Reference Material Accuracy	Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL). Organics Results in the Target is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Analytical Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.



It can be done

WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application	<i>Universal_LC</i>		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-6: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-6: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

Sample Receipt Form

Approved: Authorized

Project Number: 695803 **Client:** CH2M
Received by: Schumitz, Matt **Date/Time Received:** Friday, September 21, 2018 10:00 AM
No. of Shipping Containers: 3

SHIPMENT

Method of Delivery: Commercial Carrier **Tracking Number:** 7828 5914 8695 (Master)
COC Forms: **Shipped with samples** **No Forms**

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 3	Cooler	7828 5914 8695	Custody Seals	Intact	Intact	Therm_1	0.1	13
2 of 3	Cooler	7828 5914 8700	Custody Seals	Intact	Intact	Therm_1	0.9	27
3 of 3	Cooler	7828 5914 8710	Custody Seals	Intact	Intact	Therm_1	0.3	37

Samples

Sample Labels: Sample labels agree with COC forms
 Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: Tape Custody Seals Other Seals (See sample Log)
 Seals intact for each shipping container
 Seals broken (See sample log for impacted samples)

Condition of Samples: Sample containers intact
 Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 0.9 Temperature Blank used Yes No
(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified: Yes No Unknown

Initial pH 5-9?: Yes No NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: Yes No NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: Yes No NA
Individual sample deviations noted on sample log

Samples Containers:
Samples returned in PC-grade jars: Yes No Unknown /Lot No.: Unknown

Storage Location: Custody: Refrigerator - R0119 (NA) **BDO IDs Assigned:** J8201 - J8277

Samples logged in by: Schumitz, Matt **Date/Time:** 09/21/2018 10:00 AM

Approved By: Fitch, Ellyn **Approved On:** 9/28/2018 10:18:00 AM

Authorized By: _____ **Authorized On:** _____



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8201	VC-PM3009-SS01-000H	09/17/18 14:15	09/20/18 15:38	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8202	VC-PM3009-SB01-0102	09/17/18 14:15	09/20/18 15:38	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8203	VC-PM3009-SB01-0506	09/17/18 14:15	09/20/18 15:39	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8204	VC-PM3009-SS02-000H	09/17/18 15:12	09/20/18 15:39	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8205	VC-PM3009-SB02-0102	09/17/18 15:13	09/20/18 15:39	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8206	VC-PM3009-SB02-0506	09/17/18 15:15	09/20/18 15:40	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8207	VC-PM3009-SS03-000H	09/17/18 16:16	09/20/18 15:40	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8208	VC-PM3009-SB03-0102	09/17/18 16:17	09/20/18 15:40	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8209	VC-PM3009-SB03-0506	09/17/18 16:18	09/20/18 15:41	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8210	VC-PM3009-DW01-0918	09/17/18 15:10	09/20/18 15:54	2	GW	0.3	NA	NA	NA	R0119 (NA)			
J8211	VC-PM3009-DW02-0918	09/17/18 16:23	09/20/18 15:54	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8212	VC-PM3009-DW02P-0918	09/17/18 16:27	09/20/18 15:55	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8213	VC-PM3009-DW03-0918	09/17/18 16:38	09/20/18 15:55	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8214	VC-PM372-DW01-0918	09/18/18 10:07	09/20/18 15:56	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8215	VC-PM372-DW02-0918	09/18/18 9:25	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8216	VC-PM372-DW02P-0918	09/18/18 9:27	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8217	VC-PM372-DW03-0918	09/18/18 11:49	09/20/18 15:57	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8218	VC-PM372-SS01-000H	09/18/18 9:36	09/20/18 15:58	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8219	VC-PM372-SB01-0102	09/18/18 9:37	09/20/18 16:00	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8220	VC-PM372-SB01-0506	09/18/18 9:43	09/20/18 16:00	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8221	VC-PM372-SS02-000H	09/18/18 8:57	09/20/18 16:00	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8222	VC-PM372-SB02-0102	09/18/18 9:03	09/20/18 16:01	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8223	VC-PM372-SB02-0506	09/18/18 9:06	09/20/18 16:01	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8224	VC-PM372-SS03-000H	09/18/18 10:46	09/20/18 16:01	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8225	VC-PM372-SB03-0102	09/18/18 10:47	09/20/18 16:02	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8226	VC-PM372-SB03-0506	09/18/18 10:49	09/20/18 16:02	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8227	VC-PM372-SS02-000H-MS	09/18/18 9:06	09/20/18 16:02	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8228	VC-PM372-SS02-000H-SD	09/18/18 9:06	09/20/18 16:03	1	SS	0.9	NA	NA	NA	R0119 (NA)			



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8229	VC-PM649-SS01-000H	09/18/18 11:30	09/20/18 16:04	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8230	VC-PM649-SB01-0102	09/18/18 11:35	09/20/18 16:09	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8231	VC-PM649-SB01-0506	09/18/18 11:40	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8232	VC-PM649-SS02-000H	09/18/18 14:25	09/20/18 16:10	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8233	VC-PM649-SB02-0102	09/18/18 14:29	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8234	VC-PM649-SB02-0506	09/18/18 14:30	09/20/18 16:10	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8235	VC-PM649-SS03-000H	09/18/18 13:00	09/20/18 16:11	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8236	VC-PM649-SB03-0102	09/18/18 13:12	09/20/18 16:11	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8237	VC-PM649-SB03-0506	09/18/18 13:20	09/20/18 16:11	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8238	VC-PM649-SS04-000H	09/18/18 13:15	09/20/18 16:11	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8239	VC-PM649-SB04-0102	09/18/18 13:27	09/20/18 16:12	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8240	VC-PM649-SB04-0506	09/18/18 13:40	09/20/18 16:12	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8241	VC-PM649-DW01-0918	09/18/18 12:50	09/20/18 16:13	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8242	VC-PM649-DW01P-0918	09/18/18 12:55	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8243	VC-PM649-DW02-0918	09/18/18 15:35	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8244	VC-PM649-DW03-0918	09/18/18 14:02	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8245	VC-PM649-DW04-0918	09/18/18 14:02	09/20/18 16:14	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8246	VC-AQ-FB01-0918	09/18/18 13:30	09/20/18 16:15	2	AQ	0.1	NA	NA	NA	R0119 (NA)			
J8247	VC-AQ-EB01-0918	09/18/18 13:40	09/20/18 16:15	2	AQ	0.1	NA	NA	NA	R0119 (NA)			
J8248	VC-PM365-SS01-000H	09/19/18 10:28	09/20/18 16:16	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8249	VC-PM365-SB01-0102	09/19/18 10:30	09/20/18 16:16	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8250	VC-PM365-SB01-0506	09/19/18 10:37	09/20/18 16:17	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8251	VC-PM365-SS02-000H	09/19/18 11:30	09/20/18 16:17	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8252	VC-PM365-SB02-0102	09/19/18 11:32	09/20/18 16:17	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8253	VC-PM365-SB02-0506	09/19/18 11:40	09/20/18 16:18	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8254	VC-PM365-SS03-000H	09/19/18 10:26	09/20/18 16:18	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8255	VC-PM365-SB03-0102	09/19/18 10:27	09/20/18 16:18	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8256	VC-PM365-SB03-0506	09/19/18 10:32	09/20/18 16:19	1	SB	0.3	NA	NA	NA	R0119 (NA)			



It can be done

ShpNo SHP-180921-01

Battelle Project No: 0110125-01

Sample Receipt Form Details

Approved: Authorized

Project Number: 695803 Client: CH2M

Received by: Schumitz, Matt Date/Time Received: Friday, September 21, 2018 10:00 AM

No. of Shipping Containers: 3

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J8257	VC-PM365-SB02-0102-MS	09/19/18 11:32	09/20/18 16:19	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8258	VC-PM365-SB02-0102-MSD	09/19/18 11:32	09/20/18 16:20	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8259	VC-PM365-DW01-0918	09/19/18 11:10	09/20/18 16:20	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8260	VC-PM365-DW02-0918	09/19/18 12:10	09/20/18 16:21	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8261	VC-PM365-DW02P-0918	09/19/18 12:18	09/20/18 16:21	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8262	VC-PM365-DW03-0918	09/19/18 11:10	09/20/18 16:22	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8263	VC-PM553-SS01-000H	09/19/18 13:50	09/20/18 16:22	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8264	VC-PM553-SB01-0102	09/19/18 13:53	09/20/18 16:23	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8265	VC-PM553-SB01-0506	09/19/18 13:59	09/20/18 16:23	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8266	VC-PM553-SS02-000H	09/19/18 14:40	09/20/18 16:23	1	SS	0.9	NA	NA	NA	R0119 (NA)			
J8267	VC-PM553-SB02-0102	09/19/18 14:42	09/20/18 16:24	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8268	VC-PM553-SB02-0506	09/19/18 14:50	09/20/18 16:24	1	SB	0.9	NA	NA	NA	R0119 (NA)			
J8269	VC-PM553-SS03-000H	09/19/18 11:30	09/20/18 16:24	1	SS	0.3	NA	NA	NA	R0119 (NA)			
J8270	VC-PM553-SB03-0102	09/19/18 11:34	09/20/18 16:24	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8271	VC-PM553-SB03-0506	09/19/18 11:42	09/20/18 16:25	1	SB	0.3	NA	NA	NA	R0119 (NA)			
J8272	VC-PM553-DW01-0918	09/19/18 14:30	09/20/18 16:26	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8273	VC-PM553-DW01P-0918	09/19/18 14:45	09/20/18 16:26	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8274	VC-PM553-DW02-0918	09/19/18 15:15	09/20/18 16:27	2	GW	0.9	NA	NA	NA	R0119 (NA)			
J8275	VC-PM553-DW03-0918	09/19/18 12:06	09/20/18 16:28	2	GW	0.1	NA	NA	NA	R0119 (NA)			
J8276	VC-SO-FB02-0919	09/19/18 14:35	09/20/18 16:29	2	AQ	0.9	NA	NA	NA	R0119 (NA)			
J8277	VC-SO-EB02-0918	09/19/18 14:30	09/20/18 16:30	2	AQ	0.9	NA	NA	NA	R0119 (NA)			

Total Samples: 77

MEMORANDUM

CH2MHILL

Corrections to COCs

TO: Jonathan Thorn, Battelle

COPIES: File
Laboratory Package SDG: SHP 180921-01

FROM: Tiffany Hill
Project Chemist


DATE: September 24, 2018

This memo is to document corrections made to entries on the Chains of Custody (COC) and Logins for NB Ventura County, CTO-4164.

The corrections include changes to the sample IDs on the COC and Login:

Sample ID on Login	Correct Sample ID	Date Collected	Time Collected	SDG
FDT-AQ-FB01-0918	VC-AQ-FB01-0918	9/18/18	13:30	SHP-180921
FDT-AQ-EB01-0918	VC-AQ-EB01-0918	9/18/18	13:40	SHP-180921
FDT-SO-FB02-0918	VC-SO-FB02-0918	9/19/18	14:35	SHP-180921
FDT-SO-EB02-0918	VC-SO-EB02-0918	9/19/18	14:30	SHP-180921
VC-PM3009-SS02-000H	VC-PM3009-SS02-000H	9/17/18	15:12	SHP-180921
VC-PM3009-SB02-O102	VC-PM3009-SB02-0102	9/17/18	15:13	SHP-180921
VC-PM3009-SB02-O506	VC-PM3009-SB02-0506	9/17/18	15:15	SHP-180921
VC-PM3009-SS03-000H	VC-PM3009-SS03-000H	9/17/18	16:16	SHP-180921
VC-PM3009-SB03-O102	VC-PM3009-SB03-0102	9/17/18	16:17	SHP-180921
VC-PM3009-SB03-O506	VC-PM3009-SB03-0506	9/17/18	16:18	SHP-180921
VC-PM3009-DW01-0919	VC-PM3009-DW01-0918	9/17/18	15:10	SHP-180921
VC-PM3009-DW02-0919	VC-PM3009-DW02-0918	9/17/18	16:23	SHP-180921
VC-PM3009-DW02P-0919	VC-PM3009-DW02P-0918	9/17/18	16:27	SHP-180921
VC-PM365-DW01-0919	VC-PM365-DW01-0918	9/19/18	11:10	SHP-180921
VC-PM365-DW02-0919	VC-PM365-DW02-0918	9/19/18	12:10	SHP-180921
VC-PM365-DW02P-0919	VC-PM365-DW02P-0918	9/19/18	12:18	SHP-180921


VC-PM365-DW03-0919	VC-PM365-DW03-0918	9/19/18	11:10	SHP-180921
VC-PM553-DW01-0919	VC-PM553-DW01-0918	9/19/18	14:30	SHP-180921
VC-PM553-DW01P-0919	VC-PM553-DW01P-0918	9/19/18	14:45	SHP-180921
VC-PM553-DW02-0919	VC-PM553-DW02-0918	9/19/18	15:15	SHP-180921
VC-PM553-DW03-0919	VC-PM553-DW03-0918	9/19/18	12:06	SHP-180921

		Chain-of-Custody m.g. (u)																							
Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Killbert Phone: (724) 977-3628 Email: Victoria.Killbert@jacobs.com Turnaround Time (TAT) Requested:				Sampling Site: Hecro PM 3009				Site Information:															
Project Name: NBVC Basewide SI Project No.: 695803		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>				Preservative: NA				COC # 1															
Sample Identification		Time Zone: PST		Analysis: PFAS by Method 537 Mod				Page# 1 of 12																	
Sample ID	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VC-PM3009-SS01-000H	J8201	09.17.18	14:15	Grab	SS	1	X																		
VC-PM3009-SB01-0102	02	09.17.18	14:15	Grab	SB	1	X																		
VC-PM3009-SB01-0506	03	09.17.18	14:15	Grab	SB	1	X																		
VC-PM3009-SS02-000H	04	09.17.18	15:12	Grab	SS	1	X																		
VC-PM3009-SB02-0102	05	09.17.18	15:13	Grab	SB	1	X																		
VC-PM3009-SB02-0506	06	09.17.18	15:15	Grab	SB	1	X																		
VC-PM3009-SS03-000H	07	09.17.18	16:16	Grab	SS	1	X																		
VC-PM3009-SB03-0102	08	09.17.18	16:17	Grab	SB	1	X																		
VC-PM3009-SB03-0506	J8209	09.17.18	16:18	Grab	SB	1	X																		
VC-PM3009-SD01-000H				Grab	SD		X																		
VC-PM3009-SD01-0102				Grab	SD		X																		
VC-PM3009-S-MS				Grab			X																		
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:															
Relinquished by (Print/Sign): Deandra Pass Deane		Company: JACOBS		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): [Signature]		Company: Battelle		Date/Time: 9-21-18 945															
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:															
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:															
Comments:																									



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis				Sampling Site: MUGH DM 312		Site Information:			
Project Name: NBVC Basewide SI		Sampler Information (print name): Victoria Kilbert Phone: (724) 977-3628 Email: Victoria.Kilbert@jacobs.com				Preservative NA		COC # 1			
Project No.: 695803		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>									
Sample Identification		Time Zone: PST		Analysis PFAS by Method 517 Mod		PFAS by Method 517 Mod		Page# 5 of 12			
		Sample Date	Sample Time	Sample Type	Matrix						
18228 VC-PM372-S 502 - 000 H -SD		9/18/18	09:00	Grab	SS	1	X				
FDT-SO-1B				Grab	AQ		X				
FDT-SO-EB				Grab	AQ		X				
Receipt Temperature:(°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:	
Relinquished by (Print/Sign): Deandra Ross		Company: Jacobs		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): MS		Company: Battelle		Date/Time: 9-21-18 945	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Comments:											

		Chain-of-Custody															
Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: (721) 977-3628 Email: Victoria.kilbert@jacobs.com				Sampling Site: Mygu PM 649			Site Information:								
Project Name: NBVC Basewide SI Project No.: 645803		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>				Preservative NA			COC # 1								
Sample Identification		Time Zone: PST				Analysis PFAS by Method 537 Mod			Page# 6 of 12								
Sample ID	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	1	2	3	4	5	6	7	8	9	10	11	12
VC-PM649-SS01-000H	J8229	9/18/18	11:30	Grab	SS	1	X										
VC-PM649-SB01-0102	30	9/18/18	11:35	Grab	SB	1	X										
VC-PM649-SB01-0506	31	9/18/18	11:40	Grab	SB	1	X										
VC-PM649-SS02-000H	32	9/18/18	14:25	Grab	SS	1	X										
VC-PM649-SB02-0102	33	9/18/18	14:29	Grab	SB	1	X										
VC-PM649-SB02-0506	34	9/18/18	14:30	Grab	SB	1	X										
VC-PM649-SS03-000H	35	9/18/18	13:00	Grab	SS	1	X										
VC-PM649-SB03-0102	36	9/18/18	13:12	Grab	SB	1	X										
VC-PM649-SB03-0506	37	9/18/18	13:20	Grab	SB	1	X										
VC-PM649-SS04-000H	38	9/18/18	13:15	Grab	SS	1	X										
VC-PM649-SB04-0102	39	9/18/18	13:27	Grab	SB	1	X										
VC-PM649-SB04-0506	J8270	9/18/18	13:40	Grab	SB	1	X										
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:							
Relinquished by (Print/Sign): Deandra Cass/Deandra		Company: JACOBS		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): MS		Company: Battelle		Date/Time: 9-21-18 945							
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:							
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:							
Comments:																	



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: (724) 977-3628 Email: victoria.kilbert@jacobson.com				Sampling Site: MUGH PM 649		Site Information: COC # 1										
Project Name: NBVC Basewide SI Project No.: 695803		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: PST				Analysis PFAS by Method 517 Mod		Page# 7 of 12										
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix			Total # of Cont.										
VC-PM649-DW01-0918		J8241	9/18/18 12:50	Grab	GW	2	X											
VC-PM649-DW01P-0918		J8242	9/18/18 12:55	Grab	GW	2	X											
VC-PM649-DW02-0918		J8243	9/18/18 15:35	Grab	GW	2	X											
VC-PM649-DW03-0918		J8244	9/18/18 14:02	Grab	GW	2	X											
VC-PM649-DW04-0918		J8245	9/18/18 14:02	Grab	GW	2	X											
FDT-AQ-FB01-0918		J8246	9/18/18 13:30	Grab	AQ	2	X											
FDT-AQ-EB01-0918		J8247	9/18/18 13:40	Grab	AQ	2	X											
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:								
Relinquished by (Print/Sign): 		Company: Jacobs		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): 		Company: Battelle		Date/Time: 9-21-18 945								
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:								
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:								
Comments:																		



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): <u>Victoria Kilbuck</u> Phone: <u>724-977-3628</u> Email: <u>victoria.kilbuck@jacobs.com</u>		Sampling Site: <u>Mygan PM365J</u>		Site Information:			
Project Name: NBVC Basewide SI Project No.: <u>695803</u>		Turnaround Time (TAT) Requested: Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: <u>PST</u>		Preservative NA		COC # <u>1</u>			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis PFAS by Method 537 Mod	Page# <u>8 of 12</u>	
VC-PM365-SS01-000H	<u>J8248</u>	<u>9/19/18</u>	<u>1028</u>	Grab	SS	1	X		
VC-PM365-SB01-0102	<u>49</u>	<u>9/19/18</u>	<u>1030</u>	Grab	SB	1	X		
VC-PM365-SB01-0506	<u>50</u>	<u>9/19/18</u>	<u>1037</u>	Grab	SB	1	X		
VC-PM365-SS02-000H	<u>51</u>	<u>9/19/18</u>	<u>1130</u>	Grab	SS	1	X		
VC-PM365-SB02-0102	<u>52</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
VC-PM365-SB02-0506	<u>53</u>	<u>9/19/18</u>	<u>1140</u>	Grab	SB	1	X		
VC-PM365-SS03-000H	<u>54</u>	<u>9/19/18</u>	<u>1026</u>	Grab	SS	1	X		
VC-PM365-SB03-0102	<u>55</u>	<u>9/19/18</u>	<u>1027</u>	Grab	SB	1	X		
VC-PM365-SB03-0506	<u>J8256</u>	<u>9/19/18</u>	<u>1032</u>	Grab	SB	1	X		
VC-PM365-SB02-0102-MS	<u>J8257</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
VC-PM365-SB02-0102-MSD	<u>J8258</u>	<u>9/19/18</u>	<u>1132</u>	Grab	SB	1	X		
EDT-SQ-FB				Grab	AQ		X		
Receipt Temperature: (°C)		Samples Intact: Yes - No		Samples on Ice: Yes - No		Receipt Comments:			
Relinquished by (Print/Sign): <u>Deandra Giss/Deandra</u>		Company: <u>Jacobs</u>		Date/Time: <u>9/20/2018 07:30</u>		Received by (Print/Sign): <u>ms</u>		Company: <u>Battelle</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:	
Comments:									



Chain-of-Custody

Client Contact Information Tiffany Hill 1100 NE Circle Blvd, Suite 300 Corvallis, OR 97330		Project Manager: Eric Davis Sampler Information (print name): Victoria Kilbert Phone: 724-977-3628 Email: victoria.kilbert@batelle.com Turnaround Time (TAT) Requested:			Sampling Site: Mugh Pass		Site Information: COC # 1									
Project Name: NBVC Basewide SI Project No.: 695803		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/> Time Zone: PST			Preservation NA		Analysis PFAS by Method 517 Mod					Page# 10 of 12				
Sample Identification		Sample Date	Sample Time	Sample Type								Matrix	Total # of Cont.			
VC-PM553-SS01-000H		9/19/18	1350	Grab	SS	1	X									
VC-PM553-SB01-0102		9/19/18	1353	Grab	SB	1	X									
VC-PM553-SB01-0506		9/19/18	1359	Grab	SB	1	X									
VC-PM553-SS02-000H		9/19/18	1440	Grab	SS	1	X									
VC-PM553-SB02-0102		9/19/18	1442	Grab	SB	1	X									
VC-PM553-SB02-0506		9/19/18	1450	Grab	SB	1	X									
VC-PM553-SS03-000H		9/19/18	1130	Grab	SS	1	X									
VC-PM553-SB03-0102		9/19/18	1134	Grab	SB	1	X									
VC-PM553-SB03-0506		9/19/18	1142	Grab	SB	1	X									
VC-PM553-SS04-000H				Grab	SS		X									
VC-PM553-SB04				Grab	SB		X									
VC-PM553-SB04				Grab	SB		X									
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:								
Relinquished by (Print/Sign): Deandra Cross / Deandra		Company: Jacobs		Date/Time: 9/20/2018 07:30		Received by (Print/Sign): MV		Company: Battelle		Date/Time: 9-21-18 945						
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:						
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:						
Comments:																

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450

SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 20SEP18
ACTWGT: 59.30 LB
CAD: 6997666/SSF01904
DIMS: 26x14x15 IN

BILL THIRD PARTY

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450

SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 20SEP18
ACTWGT: 62.50 LB
CAD: 6997666/SSF01904
DIMS: 26x14x14 IN

BILL THIRD PARTY

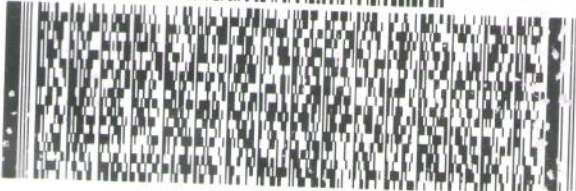
TO JONATHAN THORN

0.1 9:45
9-21-18 MOS
Therm-1

141 LONGWATER DR.
STE 202
NORWELL MA 02061

(781) 681-5565

INU: PO: DEPT:



FedEx Express



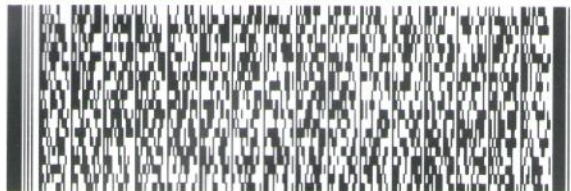
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0.9 9:45
9-21-18 MOS
Therm-1

141 LONGWATER DR.
STE 202
NORWELL MA 02061

(781) 681-5565

INU: PO: DEPT:



FedEx Express



1 of 3
TRK# 7828 5914 8695
0201
MASTER

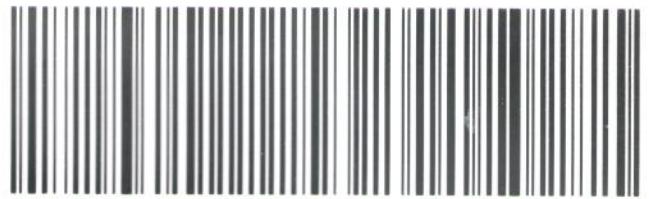
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PRIORITY OVERNIGHT
DSR
02061
MA-US BOS

XE XPUA

2 of 3
MPS# 7828 5914 8700
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Mstr# 7828 5914 8695

FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT
DSR
02061
MA-US BOS

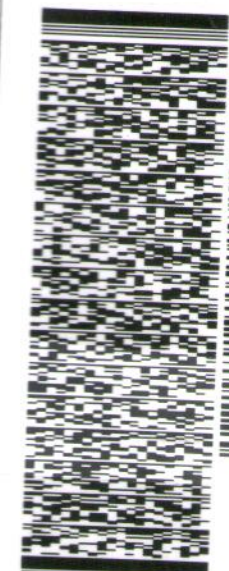
XE XPUA



3 of 3
MPS# 7828 5914 8710
0263
Mstr# 7828 5914 8695

FRI - 21 SEP 10:30A
PRIORITY OVERNIGHT
DSR
02061
MA-US BOS

XE XPUA



FedEx Express

TO JONATHAN THORN
141 LONGWATER DR.
STE 202
NORWELL MA 02061

0.3 9:45
9-21-18 MOS
Therm-1

ORIGIN ID:OXRA (724) 977-3628
VICTORIA KILBERT
PROJECT #695803
402 W BROADWAY STE 1450
SAN DIEGO, CA 92101
UNITED STATES US

SHIP DATE: 20SEP18
ACTWGT: 69.70 LB
CAD: 6997666/SSF01904
DIMS: 26x14x14 IN
BILL THIRD PARTY

(781) 681-5565

INU: PO: DEPT:

REF:

DEPT:

Data Tables



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SS03-000H				
Battelle ID	J8254-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.32				
Matrix	SS				
Sample Size	1.87				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.07 U	0.35	1.07	5.35
PFHpA	375-85-9	1.07 U	0.47	1.07	5.35
PFOA	335-67-1	1.07 U	0.53	1.07	5.35
PFNA	375-95-1	1.07 U	0.46	1.07	5.35
PFDA	335-76-2	1.07 U	0.29	1.07	5.35
PFUnA	2058-94-8	1.07 U	0.44	1.07	5.35
PFDaA	307-55-1	0.53 U	0.26	0.53	5.35
PFTeDA	72629-94-8	1.07 U	0.30	1.07	5.35
PFTeDA	376-06-7	2.14 U	0.67	2.14	5.35
NMeFOSAA	2355-31-9	2.67 U	1.20	2.67	5.35
NEtFOSAA	2991-50-6	2.14 U	0.61	2.14	5.35
PFBS	375-73-5	1.07 U	0.39	1.07	5.35
PFHxS	355-46-4	0.53 U	0.24	0.53	5.35
PFOS	1763-23-1	1.07 U	0.29	1.07	5.35

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	105
13C8-PFOA	106
13C9-PFNA	99
13C6-PFDA	111
13C7-PFUnA	125
13C2-PFDaA	116
13C2-PFTeDA	112
d3-MeFOSAA	89
d5-EtFOSAA	114
13C3-PFBS	111
13C3-PFHxS	116
13C8-PFOS	104



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SB03-0102				
Battelle ID	J8255-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.21				
Matrix	SB				
Sample Size	1.93				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.04 U	0.34	1.04	5.18
PFHpA	375-85-9	1.04 U	0.46	1.04	5.18
PFOA	335-67-1	1.04 U	0.52	1.04	5.18
PFNA	375-95-1	1.04 U	0.45	1.04	5.18
PFDA	335-76-2	1.04 U	0.28	1.04	5.18
PFUnA	2058-94-8	1.04 U	0.42	1.04	5.18
PFDaA	307-55-1	0.52 U	0.25	0.52	5.18
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.18
PFTeDA	376-06-7	2.07 U	0.65	2.07	5.18
NMeFOSAA	2355-31-9	2.59 U	1.16	2.59	5.18
NEtFOSAA	2991-50-6	2.07 U	0.59	2.07	5.18
PFBS	375-73-5	1.04 U	0.37	1.04	5.18
PFHxS	355-46-4	0.52 U	0.23	0.52	5.18
PFOS	1763-23-1	1.04 U	0.28	1.04	5.18

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	120
13C8-PFOA	119
13C9-PFNA	111
13C6-PFDA	111
13C7-PFUnA	123
13C2-PFDaA	103
13C2-PFTeDA	107
d3-MeFOSAA	71
d5-EtFOSAA	83
13C3-PFBS	100
13C3-PFHxS	103
13C8-PFOS	89



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SB03-0506				
Battelle ID	J8256-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	11.23				
Matrix	SB				
Sample Size	1.78				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.12 U	0.37	1.12	5.62
PFHpA	375-85-9	1.12 U	0.49	1.12	5.62
PFOA	335-67-1	1.12 U	0.56	1.12	5.62
PFNA	375-95-1	1.12 U	0.48	1.12	5.62
PFDA	335-76-2	1.12 U	0.30	1.12	5.62
PFUnA	2058-94-8	1.12 U	0.46	1.12	5.62
PFDaA	307-55-1	0.56 U	0.27	0.56	5.62
PFTeDA	72629-94-8	1.12 U	0.31	1.12	5.62
PFTeDA	376-06-7	2.25 U	0.71	2.25	5.62
NMeFOSAA	2355-31-9	2.81 U	1.26	2.81	5.62
NEtFOSAA	2991-50-6	2.25 U	0.64	2.25	5.62
PFBS	375-73-5	1.12 U	0.40	1.12	5.62
PFHxS	355-46-4	1.32 J	0.25	0.56	5.62
PFOS	1763-23-1	0.49 J	0.30	1.12	5.62

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	107
13C8-PFOA	113
13C9-PFNA	105
13C6-PFDA	110
13C7-PFUnA	114
13C2-PFDaA	111
13C2-PFTeDA	101
d3-MeFOSAA	116
d5-EtFOSAA	122
13C3-PFBS	118
13C3-PFHxS	121
13C8-PFOS	107



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS01-000H				
Battelle ID	J8263-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.43				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.67 J	0.34	1.03	5.15
PFHpA	375-85-9	3.21 J	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	1.03 U	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDaA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.61 J	0.28	1.03	5.15

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	106
13C8-PFOA	119
13C9-PFNA	106
13C6-PFDA	120
13C7-PFUnA	129
13C2-PFDaA	118
13C2-PFTeDA	115
d3-MeFOSAA	107
d5-EtFOSAA	132
13C3-PFBS	132
13C3-PFHxS	131
13C8-PFOS	110



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB01-0102				
Battelle ID	J8264-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	10.87				
Matrix	SB				
Sample Size	1.77				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.13 U	0.37	1.13	5.65
PFHpA	375-85-9	0.53 J	0.50	1.13	5.65
PFOA	335-67-1	1.13 U	0.56	1.13	5.65
PFNA	375-95-1	1.13 U	0.49	1.13	5.65
PFDA	335-76-2	1.13 U	0.31	1.13	5.65
PFUnA	2058-94-8	1.13 U	0.46	1.13	5.65
PFDaA	307-55-1	0.56 U	0.27	0.56	5.65
PFTeDA	72629-94-8	1.13 U	0.32	1.13	5.65
PFTeDA	376-06-7	2.26 U	0.71	2.26	5.65
NMeFOSAA	2355-31-9	2.82 U	1.27	2.82	5.65
NEtFOSAA	2991-50-6	2.26 U	0.64	2.26	5.65
PFBS	375-73-5	1.13 U	0.41	1.13	5.65
PFHxS	355-46-4	0.29 J	0.25	0.56	5.65
PFOS	1763-23-1	1.13 U	0.31	1.13	5.65

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	118
13C8-PFOA	113
13C9-PFNA	111
13C6-PFDA	120
13C7-PFUnA	137
13C2-PFDaA	121
13C2-PFTeDA	121
d3-MeFOSAA	90
d5-EtFOSAA	114
13C3-PFBS	114
13C3-PFHxS	142
13C8-PFOS	111



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB01-0506				
Battelle ID	J8265-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	21.01				
Matrix	SB				
Sample Size	1.63				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.51 J	0.40	1.23	6.13
PFHpA	375-85-9	0.96 J	0.54	1.23	6.13
PFOA	335-67-1	1.23 U	0.61	1.23	6.13
PFNA	375-95-1	1.23 U	0.53	1.23	6.13
PFDA	335-76-2	1.23 U	0.33	1.23	6.13
PFUnA	2058-94-8	1.23 U	0.50	1.23	6.13
PFDaA	307-55-1	0.61 U	0.29	0.61	6.13
PFTeDA	72629-94-8	1.23 U	0.34	1.23	6.13
PFTeDA	376-06-7	2.45 U	0.77	2.45	6.13
NMeFOSAA	2355-31-9	3.07 U	1.37	3.07	6.13
NEtFOSAA	2991-50-6	2.45 U	0.70	2.45	6.13
PFBS	375-73-5	1.23 U	0.44	1.23	6.13
PFHxS	355-46-4	0.61 U	0.27	0.61	6.13
PFOS	1763-23-1	1.01 J	0.33	1.23	6.13

Surrogate Recoveries (%)

13C5-PFHxA	121
13C4-PFHpA	121
13C8-PFOA	131
13C9-PFNA	112
13C6-PFDA	118
13C7-PFUnA	129
13C2-PFDaA	114
13C2-PFTeDA	109
d3-MeFOSAA	127
d5-EtFOSAA	130
13C3-PFBS	125
13C3-PFHxS	114
13C8-PFOS	105



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS02-000H				
Battelle ID	J8266-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	6.10				
Matrix	SS				
Sample Size	1.88				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.06 U	0.35	1.06	5.32
PFHpA	375-85-9	1.06 U	0.47	1.06	5.32
PFOA	335-67-1	1.06 U	0.53	1.06	5.32
PFNA	375-95-1	1.06 U	0.46	1.06	5.32
PFDA	335-76-2	1.06 U	0.29	1.06	5.32
PFUnA	2058-94-8	1.06 U	0.44	1.06	5.32
PFDaA	307-55-1	0.53 U	0.26	0.53	5.32
PFTeDA	72629-94-8	1.06 U	0.30	1.06	5.32
PFTeDA	376-06-7	2.13 U	0.67	2.13	5.32
NMeFOSAA	2355-31-9	2.66 U	1.19	2.66	5.32
NEtFOSAA	2991-50-6	2.13 U	0.61	2.13	5.32
PFBS	375-73-5	1.06 U	0.38	1.06	5.32
PFHxS	355-46-4	0.53 U	0.23	0.53	5.32
PFOS	1763-23-1	0.40 J	0.29	1.06	5.32

Surrogate Recoveries (%)

13C5-PFHxA	122
13C4-PFHpA	112
13C8-PFOA	119
13C9-PFNA	114
13C6-PFDA	113
13C7-PFUnA	120
13C2-PFDaA	108
13C2-PFTeDA	108
d3-MeFOSAA	95
d5-EtFOSAA	99
13C3-PFBS	113
13C3-PFHxS	111
13C8-PFOS	95



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0102				
Battelle ID	J8267-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	16.96				
Matrix	SB				
Sample Size	1.66				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.20 U	0.40	1.20	6.02
PFHpA	375-85-9	1.20 U	0.53	1.20	6.02
PFOA	335-67-1	1.20 U	0.60	1.20	6.02
PFNA	375-95-1	1.20 U	0.52	1.20	6.02
PFDA	335-76-2	1.20 U	0.33	1.20	6.02
PFUnA	2058-94-8	1.20 U	0.49	1.20	6.02
PFDaA	307-55-1	0.60 U	0.29	0.60	6.02
PFTeDA	72629-94-8	1.20 U	0.34	1.20	6.02
PFTeDA	376-06-7	2.41 U	0.76	2.41	6.02
NMeFOSAA	2355-31-9	3.01 U	1.35	3.01	6.02
NEtFOSAA	2991-50-6	2.41 U	0.69	2.41	6.02
PFBS	375-73-5	1.20 U	0.43	1.20	6.02
PFHxS	355-46-4	0.60 U	0.27	0.60	6.02
PFOS	1763-23-1	1.20 U	0.33	1.20	6.02

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	108
13C8-PFOA	109
13C9-PFNA	109
13C6-PFDA	117
13C7-PFUnA	126
13C2-PFDaA	113
13C2-PFTeDA	112
d3-MeFOSAA	95
d5-EtFOSAA	136
13C3-PFBS	109
13C3-PFHxS	112
13C8-PFOS	116



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0506				
Battelle ID	J8268-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	15.64				
Matrix	SB				
Sample Size	1.71				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.17 U	0.39	1.17	5.85
PFHpA	375-85-9	1.17 U	0.51	1.17	5.85
PFOA	335-67-1	1.17 U	0.58	1.17	5.85
PFNA	375-95-1	1.17 U	0.50	1.17	5.85
PFDA	335-76-2	1.17 U	0.32	1.17	5.85
PFUnA	2058-94-8	1.17 U	0.48	1.17	5.85
PFDaA	307-55-1	0.58 U	0.28	0.58	5.85
PFTeDA	72629-94-8	1.17 U	0.33	1.17	5.85
PFTeDA	376-06-7	2.34 U	0.74	2.34	5.85
NMeFOSAA	2355-31-9	2.92 U	1.31	2.92	5.85
NEtFOSAA	2991-50-6	2.34 U	0.67	2.34	5.85
PFBS	375-73-5	1.17 U	0.42	1.17	5.85
PFHxS	355-46-4	0.58 U	0.26	0.58	5.85
PFOS	1763-23-1	1.17 U	0.32	1.17	5.85

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	120
13C8-PFOA	125
13C9-PFNA	115
13C6-PFDA	120
13C7-PFUnA	131
13C2-PFDaA	110
13C2-PFTeDA	114
d3-MeFOSAA	99
d5-EtFOSAA	125
13C3-PFBS	117
13C3-PFHxS	130
13C8-PFOS	116



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS03-000H				
Battelle ID	J8269-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.78				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.03 U	0.34	1.03	5.15
PFHpA	375-85-9	1.03 U	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	0.32 J	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDaA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.41 J	0.28	1.03	5.15

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	124
13C8-PFOA	126
13C9-PFNA	122
13C6-PFDA	112
13C7-PFUnA	130
13C2-PFDaA	111
13C2-PFTeDA	109
d3-MeFOSAA	94
d5-EtFOSAA	110
13C3-PFBS	125
13C3-PFHxS	130
13C8-PFOS	110



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0102				
Battelle ID	J8270-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	2.31				
Matrix	SB				
Sample Size	1.95				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.03 U	0.34	1.03	5.13
PFHpA	375-85-9	1.03 U	0.45	1.03	5.13
PFOA	335-67-1	1.03 U	0.51	1.03	5.13
PFNA	375-95-1	1.03 U	0.44	1.03	5.13
PFDA	335-76-2	1.03 U	0.28	1.03	5.13
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.13
PFDoA	307-55-1	0.51 U	0.25	0.51	5.13
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.13
PFTeDA	376-06-7	2.05 U	0.65	2.05	5.13
NMeFOSAA	2355-31-9	2.56 U	1.15	2.56	5.13
NEtFOSAA	2991-50-6	2.05 U	0.58	2.05	5.13
PFBS	375-73-5	1.03 U	0.37	1.03	5.13
PFHxS	355-46-4	0.51 U	0.23	0.51	5.13
PFOS	1763-23-1	2.04 J	0.28	1.03	5.13

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	108
13C8-PFOA	118
13C9-PFNA	108
13C6-PFDA	112
13C7-PFUnA	126
13C2-PFDoA	111
13C2-PFTeDA	107
d3-MeFOSAA	88
d5-EtFOSAA	110
13C3-PFBS	115
13C3-PFHxS	115
13C8-PFOS	100



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0506				
Battelle ID	J8271-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	4.53				
Matrix	SB				
Sample Size	1.92				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.04 U	0.34	1.04	5.21
PFHpA	375-85-9	1.04 U	0.46	1.04	5.21
PFOA	335-67-1	1.04 U	0.52	1.04	5.21
PFNA	375-95-1	1.04 U	0.45	1.04	5.21
PFDA	335-76-2	1.04 U	0.28	1.04	5.21
PFUnA	2058-94-8	1.04 U	0.43	1.04	5.21
PFDaA	307-55-1	0.52 U	0.25	0.52	5.21
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.21
PFTeDA	376-06-7	2.08 U	0.66	2.08	5.21
NMeFOSAA	2355-31-9	2.60 U	1.17	2.60	5.21
NEtFOSAA	2991-50-6	2.08 U	0.59	2.08	5.21
PFBS	375-73-5	1.04 U	0.38	1.04	5.21
PFHxS	355-46-4	0.33 J	0.23	0.52	5.21
PFOS	1763-23-1	1.04 U	0.28	1.04	5.21

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	106
13C8-PFOA	110
13C9-PFNA	107
13C6-PFDA	121
13C7-PFUnA	121
13C2-PFDaA	110
13C2-PFTeDA	112
d3-MeFOSAA	103
d5-EtFOSAA	102
13C3-PFBS	101
13C3-PFHxS	109
13C8-PFOS	104



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	KB35 IB				
Battelle ID	KB35 IB_09/28/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Solid				
Sample Size	2.00				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.00 U	0.33	1.00	5.00
PFHpA	375-85-9	1.00 U	0.44	1.00	5.00
PFOA	335-67-1	1.00 U	0.50	1.00	5.00
PFNA	375-95-1	1.00 U	0.43	1.00	5.00
PFDA	335-76-2	1.00 U	0.27	1.00	5.00
PFUnA	2058-94-8	1.00 U	0.41	1.00	5.00
PFDaA	307-55-1	0.50 U	0.24	0.50	5.00
PFTrDA	72629-94-8	1.00 U	0.28	1.00	5.00
PFTeDA	376-06-7	2.00 U	0.63	2.00	5.00
NMeFOSAA	2355-31-9	2.50 U	1.12	2.50	5.00
NEtFOSAA	2991-50-6	2.00 U	0.57	2.00	5.00
PFBS	375-73-5	1.00 U	0.36	1.00	5.00
PFHxS	355-46-4	0.50 U	0.22	0.50	5.00
PFOS	1763-23-1	1.00 U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	99
13C4-PFHpA	97
13C8-PFOA	104
13C9-PFNA	101
13C6-PFDA	104
13C7-PFUnA	99
13C2-PFDaA	96
13C2-PFTeDA	97
d3-MeFOSAA	84
d5-EtFOSAA	96
13C3-PFBS	95
13C3-PFHxS	103
13C8-PFOS	102



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID 180507-02: Ottawa Sand

Battelle ID CR853PB-FS
 Sample Type PB
 Collection Date 09/26/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 0.00
 Matrix SEDIMENT
 Sample Size 1.99
 Size Unit-Basis g
 Units ng/g_Dry MDL LOD LOQ

			MDL	LOD	LOQ
PFHxA	307-24-4	1.01 U	0.33	1.01	5.03
PFHpA	375-85-9	1.01 U	0.44	1.01	5.03
PFOA	335-67-1	1.01 U	0.50	1.01	5.03
PFNA	375-95-1	1.01 U	0.43	1.01	5.03
PFDA	335-76-2	1.01 U	0.27	1.01	5.03
PFUnA	2058-94-8	1.01 U	0.41	1.01	5.03
PFDoA	307-55-1	0.50 U	0.24	0.50	5.03
PFTeDA	72629-94-8	1.01 U	0.28	1.01	5.03
PFTeDA	376-06-7	2.01 U	0.63	2.01	5.03
NMeFOSAA	2355-31-9	2.51 U	1.13	2.51	5.03
NEtFOSAA	2991-50-6	2.01 U	0.57	2.01	5.03
PFBS	375-73-5	1.01 U	0.36	1.01	5.03
PFHxS	355-46-4	0.50 U	0.22	0.50	5.03
PFOS	1763-23-1	1.01 U	0.27	1.01	5.03

Surrogate Recoveries (%)

13C5-PFHxA	108
13C4-PFHpA	111
13C8-PFOA	115
13C9-PFNA	105
13C6-PFDA	110
13C7-PFUnA	117
13C2-PFDoA	103
13C2-PFTeDA	102
d3-MeFOSAA	113
d5-EtFOSAA	116
13C3-PFBS	109
13C3-PFHxS	116
13C8-PFOS	101



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID 180507-02: Ottawa Sand

Battelle ID CR854LCS-FS
 Sample Type LCS
 Collection Date 09/26/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 0.00
 Matrix SEDIMENT

Sample Size 1.99
 Size Unit-Basis g
 Units ng/g_Dry

		Target	Recovery	Qual	Control Limits	
					Lower	Upper

PFHxA	307-24-4	21.53	20.30	106	45	135
PFHpA	375-85-9	18.65	20.10	93	60	128
PFOA	335-67-1	19.14	20.10	95	56	136
PFNA	375-95-1	19.95	20.10	99	54	130
PFDA	335-76-2	17.79	20.10	89	55	141
PFUnA	2058-94-8	18.32	20.10	91	57	137
PFDoA	307-55-1	21.12	20.10	105	62	134
PFTTrDA	72629-94-8	21.84	20.10	109	51	127
PFTeDA	376-06-7	21.34	20.10	106	34	162
NMeFOSAA	2355-31-9	22.72	20.10	113	52	146
NEtFOSAA	2991-50-6	18.62	20.10	93	54	124
PFBS	375-73-5	18.50	20.30	91	57	145
PFHxS	355-46-4	18.71	20.30	92	52	132
PFOS	1763-23-1	20.64	20.10	103	50	130

Surrogate Recoveries (%)

13C5-PFHxA	101
13C4-PFHpA	114
13C8-PFOA	117
13C9-PFNA	107
13C6-PFDA	119
13C7-PFUnA	129
13C2-PFDoA	111
13C2-PFTeDA	111
d3-MeFOSAA	108
d5-EtFOSAA	122
13C3-PFBS	128
13C3-PFHxS	123
13C8-PFOS	110



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Method detection limit (MDL) value, Limit of Detection (LOD) reported

Miscellaneous Documentation

**QA/QC Summary
Batch 18-0571**

Project:	CTO-4164 Naval Base Ventura County, California
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	SS, SB
Data Set:	DP-18-0279
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
9/19/2018	9/21/2018	0.1, 0.9, and 0.3
Corrective Actions	None, however, clarifications were provided via email by the client (included in the final custody records).	
Sample Storage	The samples were stored refrigerated until extraction.	
Related samples	NA	

METHOD SUMMARIES	
Sample Preparation	Solid samples were aliquoted into extraction tubes and spiked with surrogates prior to the addition of solvent. The sediment was serially extracted on the Geno/Grinder with 0.4% NH ₃ in methanol. 1 mL of extract was refined using ENVI-carb SPE cartridges. Extracts were concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Sample VC-PM553-SS02-000H (J8266-FS) was very rocky in consistency.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/g dry concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS.

Holding Times	Extraction Date(s)	Analysis Date(s)
	9/26/2018	9/28/2018

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ	No exceedances noted.
Samples >10x PB	No comments.

QA/QC Summary Batch 18-0571

Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted. No comments.
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery and <30% RPD	NA. This SDG did not include an MS/MSD sample set.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted. No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted. No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted. No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted. No comments.

QA/QC Summary
Batch 18-0571

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project Number: 100110125-01
 Preparation Batch: 18-0571
 Data Set: DP-18-0279
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	NA	NA
Matrix Spike / Matrix Spike Duplicate Precision	NA	NA
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title: CTO-4164 Naval Base Ventura County, **Data Set Number:** DP-18-0279
Project Number: 100110125-01 **Prep Batch Number:** 18-0571
Entered By: Denise Schumitz **Entered On:** 10/02/2018
Test Code (Matrix Type): Master_369(S)

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 10/2/2018

Task Leader Approval:

Supervisor Approval:

Digitally signed by Jonathan
Thorn

PM Approval:

Date: 2018.10.03 12:45:07 -04'00'



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

PA = Area of target / area of internal standard
 b = y intercept from calibration curve
 CIS = concentration of internal standard (ng/L)
 m = slope of calibration
 DF = dilution factor
 S = Sample Size
 PIV = Pre-injection volume (L)

Sample ID: J8264-FS(3)
 Client Sample ID: VC-PM553-SB01-0102
 Sample Size: 1.77
 Units: g
 Dilution Factor: 10.000
 PIV (L): 0.001
 Target Analyte: PFHpA
 MRM Transition: 363.0 / 319.0
 Data file: 18-0571.wiff
 Result table: 18-0569_18-0571_BASE
 Area: 35,637.53
 IS Name: 13C8-PFOA
 IS Area: 119,003.20
 IS Amount (ng/L): 250
 y-intercept: 0.00943
 slope: 0.77311

$$\text{Concentration} = \frac{[(35637.53/119003.2) - 0.00943]}{0.77311} * 250 * 0.001 * 10 / 1.77$$

$$\text{ng/g} = 0.53$$



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01
 Preparation Batch: 18-0571
 Data Set: DP-18-0279

		CR853PB-FS (180507-02: Ottawa Sand)	CR854LCS-FS (180507-02: Ottawa Sand)	J8254-FS (VC-PM365-SS03-000H)	J8255-FS (VC-PM365-SB03-0102)	J8256-FS (VC-PM365-SB03-0506)	J8263-FS (VC-PM553-SS01-000H)
PFHxA	307-24-4	-	L	-	-	-	L
PFHpA	375-85-9	-	L	-	-	-	-
PFOA	335-67-1	-	L	-	-	-	-
PFNA	375-95-1	-	L	-	-	-	-
PFDA	335-76-2	-	L	-	-	-	-
PFUnA	2058-94-8	-	L	-	-	-	-
PFDoA	307-55-1	-	L	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-
NMeFOSAA	2355-31-9	-	L	-	-	-	-
NEtFOSAA	2991-50-6	-	L	-	-	-	-
PFBS	375-73-5	-	L	-	-	-	-
PFHxS	355-46-4	-	L	-	-	L/Br	-
PFOS	1763-23-1	-	L/Br	-	-	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01
 Preparation Batch:
 Data Set: DP-18-1

	J8264-FS (VC-PM553-SB01-0102)	J8265-FS (VC-PM553-SB01-0506)	J8266-FS (VC-PM553-SS02-000H)	J8267-FS (VC-PM553-SB02-0102)	J8268-FS (VC-PM553-SB02-0506)	J8269-FS (VC-PM553-SS03-000H)	J8270-FS (VC-PM553-SB03-0102)	J8271-FS (VC-PM553-SB03-0506)
PFHxA	-	L	-	-	-	-	-	-
PFHpA	L	L	-	-	-	-	-	-
PFOA	-	-	-	-	-	-	-	-
PFNA	-	-	-	-	-	-	-	-
PFDA	-	-	-	-	-	-	-	-
PFUnA	-	-	-	-	-	-	-	-
PFDoA	-	-	-	-	-	-	-	-
PFTTrDA	-	-	-	-	-	-	-	-
PFTeDA	-	-	-	-	-	-	-	-
NMeFOSAA	-	-	-	-	-	-	-	-
NEtFOSAA	-	-	-	-	-	-	-	-
PFBS	-	-	-	-	-	-	-	-
PFHxS	L	-	-	-	-	-	-	L
PFOS	-	L/Br	L/Br	-	-	L/Br	L/Br	-

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/28/18 15:34	13C2-PFOA	103,610.26	51,805.13	155,415.39

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/28/18 14:50	13C2-PFOA	87,057.14	51,805.13	155,415.39	
KA87	L2	9/28/18 15:01	13C2-PFOA	98,243.77	51,805.13	155,415.39	
KA88	L3	9/28/18 15:12	13C2-PFOA	92,636.33	51,805.13	155,415.39	
KA89	L4	9/28/18 15:23	13C2-PFOA	100,679.55	51,805.13	155,415.39	
KA90	L5	9/28/18 15:34	13C2-PFOA	103,610.26	51,805.13	155,415.39	
KB64	L6	9/28/18 15:44	13C2-PFOA	89,161.30	51,805.13	155,415.39	
KB65	L7	9/28/18 15:55	13C2-PFOA	101,085.07	51,805.13	155,415.39	
KB35 IB	Instrument Blank	9/28/18 16:06	13C2-PFOA	102,021.41	51,805.13	155,415.39	
KB36 ICC	ICC	9/28/18 16:17	13C2-PFOA	92,787.77	51,805.13	155,415.39	
KA89 CCV	CCV	9/28/18 17:33	13C2-PFOA	102,677.85	51,805.13	155,415.39	
CR853PB-FS(3)	Procedural Blank	9/28/18 17:55	13C2-PFOA	89,988.36	51,805.13	155,415.39	
CR854LCS-FS(3)	Laboratory Control Sample	9/28/18 18:06	13C2-PFOA	76,149.68	51,805.13	155,415.39	
J8254-FS(3)	VC-PM365-SS03-000H	9/28/18 18:17	13C2-PFOA	100,863.73	51,805.13	155,415.39	
J8255-FS(3)	VC-PM365-SB03-0102	9/28/18 18:27	13C2-PFOA	84,989.44	51,805.13	155,415.39	
J8256-FS(3)	VC-PM365-SB03-0506	9/28/18 18:38	13C2-PFOA	99,285.94	51,805.13	155,415.39	
J8263-FS(3)	VC-PM553-SS01-000H	9/28/18 18:49	13C2-PFOA	97,149.80	51,805.13	155,415.39	
J8264-FS(3)	VC-PM553-SB01-0102	9/28/18 19:00	13C2-PFOA	96,243.04	51,805.13	155,415.39	
J8265-FS(3)	VC-PM553-SB01-0506	9/28/18 19:11	13C2-PFOA	74,614.16	51,805.13	155,415.39	
KA90 CCV	CCV	9/28/18 19:22	13C2-PFOA	94,887.89	51,805.13	155,415.39	
J8266-FS(3)	VC-PM553-SS02-000H	9/28/18 19:43	13C2-PFOA	86,369.41	51,805.13	155,415.39	
J8267-FS(3)	VC-PM553-SB02-0102	9/28/18 19:54	13C2-PFOA	88,080.55	51,805.13	155,415.39	
J8268-FS(3)	VC-PM553-SB02-0506	9/28/18 20:05	13C2-PFOA	85,509.07	51,805.13	155,415.39	
J8269-FS(3)	VC-PM553-SS03-000H	9/28/18 20:16	13C2-PFOA	84,147.91	51,805.13	155,415.39	
J8270-FS(3)	VC-PM553-SB03-0102	9/28/18 20:27	13C2-PFOA	92,843.79	51,805.13	155,415.39	
J8271-FS(3)	VC-PM553-SB03-0506	9/28/18 20:38	13C2-PFOA	93,280.17	51,805.13	155,415.39	
KA89 CCV	CCV	9/28/18 20:49	13C2-PFOA	91,839.20	51,805.13	155,415.39	

Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/28/18 15:34	13C2-PFDA	104,139.21	52,069.61	156,208.82

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/28/18 14:50	13C2-PFDA	94,102.14	52,069.61	156,208.82	
KA87	L2	9/28/18 15:01	13C2-PFDA	92,955.61	52,069.61	156,208.82	
KA88	L3	9/28/18 15:12	13C2-PFDA	102,230.58	52,069.61	156,208.82	
KA89	L4	9/28/18 15:23	13C2-PFDA	108,147.37	52,069.61	156,208.82	
KA90	L5	9/28/18 15:34	13C2-PFDA	104,139.21	52,069.61	156,208.82	
KB64	L6	9/28/18 15:44	13C2-PFDA	100,143.92	52,069.61	156,208.82	
KB65	L7	9/28/18 15:55	13C2-PFDA	107,623.75	52,069.61	156,208.82	
KB35 IB	Instrument Blank	9/28/18 16:06	13C2-PFDA	104,440.37	52,069.61	156,208.82	
KB36 ICC	ICC	9/28/18 16:17	13C2-PFDA	106,570.43	52,069.61	156,208.82	
KA89 CCV	CCV	9/28/18 17:33	13C2-PFDA	117,294.85	52,069.61	156,208.82	
CR853PB-FS(3)	Procedural Blank	9/28/18 17:55	13C2-PFDA	99,017.12	52,069.61	156,208.82	
CR854LCS-FS(3)	Laboratory Control Sample	9/28/18 18:06	13C2-PFDA	81,281.00	52,069.61	156,208.82	
J8254-FS(3)	VC-PM365-SS03-000H	9/28/18 18:17	13C2-PFDA	101,043.48	52,069.61	156,208.82	
J8255-FS(3)	VC-PM365-SB03-0102	9/28/18 18:27	13C2-PFDA	94,551.37	52,069.61	156,208.82	
J8256-FS(3)	VC-PM365-SB03-0506	9/28/18 18:38	13C2-PFDA	105,540.55	52,069.61	156,208.82	
J8263-FS(3)	VC-PM553-SS01-000H	9/28/18 18:49	13C2-PFDA	98,543.36	52,069.61	156,208.82	
J8264-FS(3)	VC-PM553-SB01-0102	9/28/18 19:00	13C2-PFDA	96,641.49	52,069.61	156,208.82	
J8265-FS(3)	VC-PM553-SB01-0506	9/28/18 19:11	13C2-PFDA	81,443.29	52,069.61	156,208.82	
KA90 CCV	CCV	9/28/18 19:22	13C2-PFDA	101,123.69	52,069.61	156,208.82	
J8266-FS(3)	VC-PM553-SS02-000H	9/28/18 19:43	13C2-PFDA	95,266.24	52,069.61	156,208.82	
J8267-FS(3)	VC-PM553-SB02-0102	9/28/18 19:54	13C2-PFDA	87,003.82	52,069.61	156,208.82	
J8268-FS(3)	VC-PM553-SB02-0506	9/28/18 20:05	13C2-PFDA	92,553.39	52,069.61	156,208.82	
J8269-FS(3)	VC-PM553-SS03-000H	9/28/18 20:16	13C2-PFDA	98,315.05	52,069.61	156,208.82	
J8270-FS(3)	VC-PM553-SB03-0102	9/28/18 20:27	13C2-PFDA	98,147.19	52,069.61	156,208.82	
J8271-FS(3)	VC-PM553-SB03-0506	9/28/18 20:38	13C2-PFDA	92,317.19	52,069.61	156,208.82	
KA89 CCV	CCV	9/28/18 20:49	13C2-PFDA	92,919.94	52,069.61	156,208.82	

Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01



Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
KA90	L5	9/28/18 15:34	13C4-PFOS	32,854.70	16,427.35	49,282.05

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
KA86	L1	9/28/18 14:50	13C4-PFOS	28,187.18	16,427.35	49,282.05	
KA87	L2	9/28/18 15:01	13C4-PFOS	27,512.23	16,427.35	49,282.05	
KA88	L3	9/28/18 15:12	13C4-PFOS	34,018.77	16,427.35	49,282.05	
KA89	L4	9/28/18 15:23	13C4-PFOS	31,168.47	16,427.35	49,282.05	
KA90	L5	9/28/18 15:34	13C4-PFOS	32,854.70	16,427.35	49,282.05	
KB64	L6	9/28/18 15:44	13C4-PFOS	27,538.74	16,427.35	49,282.05	
KB65	L7	9/28/18 15:55	13C4-PFOS	32,021.18	16,427.35	49,282.05	
KB35 IB	Instrument Blank	9/28/18 16:06	13C4-PFOS	33,646.69	16,427.35	49,282.05	
KB36 ICC	ICC	9/28/18 16:17	13C4-PFOS	33,772.50	16,427.35	49,282.05	
KA89 CCV	CCV	9/28/18 17:33	13C4-PFOS	31,593.80	16,427.35	49,282.05	
CR853PB-FS(3)	Procedural Blank	9/28/18 17:55	13C4-PFOS	28,217.07	16,427.35	49,282.05	
CR854LCS-FS(3)	Laboratory Control Sample	9/28/18 18:06	13C4-PFOS	22,964.75	16,427.35	49,282.05	
J8254-FS(3)	VC-PM365-SS03-000H	9/28/18 18:17	13C4-PFOS	29,653.03	16,427.35	49,282.05	
J8255-FS(3)	VC-PM365-SB03-0102	9/28/18 18:27	13C4-PFOS	32,213.92	16,427.35	49,282.05	
J8256-FS(3)	VC-PM365-SB03-0506	9/28/18 18:38	13C4-PFOS	27,921.57	16,427.35	49,282.05	
J8263-FS(3)	VC-PM553-SS01-000H	9/28/18 18:49	13C4-PFOS	28,099.58	16,427.35	49,282.05	
J8264-FS(3)	VC-PM553-SB01-0102	9/28/18 19:00	13C4-PFOS	30,036.78	16,427.35	49,282.05	
J8265-FS(3)	VC-PM553-SB01-0506	9/28/18 19:11	13C4-PFOS	22,921.88	16,427.35	49,282.05	
KA90 CCV	CCV	9/28/18 19:22	13C4-PFOS	30,031.82	16,427.35	49,282.05	
J8266-FS(3)	VC-PM553-SS02-000H	9/28/18 19:43	13C4-PFOS	29,820.98	16,427.35	49,282.05	
J8267-FS(3)	VC-PM553-SB02-0102	9/28/18 19:54	13C4-PFOS	26,600.63	16,427.35	49,282.05	
J8268-FS(3)	VC-PM553-SB02-0506	9/28/18 20:05	13C4-PFOS	26,927.01	16,427.35	49,282.05	
J8269-FS(3)	VC-PM553-SS03-000H	9/28/18 20:16	13C4-PFOS	28,827.45	16,427.35	49,282.05	
J8270-FS(3)	VC-PM553-SB03-0102	9/28/18 20:27	13C4-PFOS	29,271.14	16,427.35	49,282.05	
J8271-FS(3)	VC-PM553-SB03-0506	9/28/18 20:38	13C4-PFOS	29,784.54	16,427.35	49,282.05	
KA89 CCV	CCV	9/28/18 20:49	13C4-PFOS	28,822.45	16,427.35	49,282.05	

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 3:55:45 PM	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS 1	298.9 / 80.0	1.55	22	>10
PFBS 2	298.9 / 99.0	1.55	23	>10
PFHxA 1	313.0 / 269.0	1.87	24	>10
PFHxA 2	313.0 / 119.0	1.87	24	>10
PFHpA 1	363.0 / 319.0	2.28	31	>10
PFHpA 2	363.0 / 169.0	2.28	35	>10
PFHxS 1	399.0 / 80.0	2.30	38	>10
PFHxS 2	399.0 / 99.0	2.30	56	>10
PFOA 1	413.0 / 369.0	2.69	36	>10
PFOA 2	413.0 / 169.0	2.69	43	>10
PFNA 1	463.0 / 419.0	3.09	30	>10
PFNA 2	463.0 / 219.0	3.09	30	>10
PFOS 1	499.0 / 80.0	3.09	40	>10
PFOS 2	499.0 / 99.0	3.09	36	>10
PFDA 1	513.0 / 469.0	3.45	44	>10
PFDA 2	513.0 / 219.0	3.45	51	>10
PFUnA 1	563.0 / 519.0	3.77	57	>10
PFUnA 2	563.0 / 269.0	3.77	66	>10
PFDoA 1	613.0 / 569.0	4.05	71	>10
PFDoA 2	613.0 / 319.0	4.05	68	>10
PFTTrDA 1	663.0 / 619.0	4.30	74	>10
PFTTrDA 2	663.0 / 169.0	4.30	51	>10
PFTeDA 1	713.0 / 669.0	4.52	61	>10
PFTeDA 2	713.0 / 169.0	4.52	58	>10
NMeFOSAA 1	570.0 / 419.0	3.60	47	>10
NMeFOSAA 2	570.0 / 512.0	3.60	48	>10
NEtFOSAA 1	584.0 / 419.0	3.76	45	>10
NEtFOSAA 2	584.0 / 483.0	3.76	27	>10

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 3:55:45 PM	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	4.04	46	>10
d3-MeFOSAA	573.0 / 419.0	3.59	23	>10
d5-EtFOSAA	589.0 / 419.0	3.76	33	>10
13C5-PFHxA	318.0 / 273.0	1.86	43	>10
13C4-PFHpA	367.0 / 322.0	2.27	29	>10
13C8-PFOA	421.0 / 376.0	2.68	30	>10
13C9-PFNA	472.0 / 427.0	3.08	38	>10
13C6-PFDA	519.0 / 474.0	3.43	48	>10
13C7-PFUnA	570.0 / 525.0	3.75	37	>10
13C2-PFTeDA	715.0 / 670.0	4.51	47	>10
13C3-PFBS	302.0 / 99.0	1.53	28	>10
13C3-PFHxS	402.0 / 99.0	2.29	23	>10
13C8-PFOS	507.0 / 99.0	3.07	26	>10



Precision and Bias at the LOQ for PFAS in Solids

Analyte	CAS No.	Average (ng/g)	ST DEV	2 Sigma	n
PFBA	375-22-4	11.08	1.57	3.14	20
PFPeA	2706-90-3	10.94	1.44	2.88	20
PFHxA	307-24-4	11.15	2.17	4.34	24
PFHpA	375-85-9	11.15	1.9	3.8	24
PFOA	335-67-1	11.27	1.9	3.8	24
PFNA	375-95-1	10.99	1.68	3.36	24
PFDA	335-76-2	11.72	2.13	4.26	24
PFUnA	2058-94-8	11.5	1.88	3.76	24
PFDoA	307-55-1	11.61	1.58	3.16	24
PFTTrDA	72629-94-8	10.87	1.32	2.64	24
PFTeDA	376-06-7	11.92	2.25	4.5	24
NMeFOSAA	2355-31-9	11.65	1.6	3.2	24
NEtFOSAA	2991-50-6	10.73	1.5	3	24
PFOSA	754-91-6	10.75	1.63	3.26	4
PFBS	375-73-5	11.63	1.75	3.5	24
PFPeS	BDO-2114	11.67	1.22	2.44	4
PFHxS	355-46-4	11.24	1.78	3.56	24
PFHpS	375-99-6	11.05	1.68	3.36	20
PFOS	1763-23-1	10.99	1.61	3.22	24
PFNS	98789-57-2	10.67	1.01	2.02	4
PFDS	2806-15-7	11.84	2.23	4.46	20
4:2FTS	BDO-2205	12.03	1.86	3.72	20
6:2FTS	27619-97-2	12.48	1.33	2.66	12
8:2FTS	39108-34-4	12.08	2.01	4.02	20

BATTELLE DETECTION LIMITS FOR PFAS IN SOLIDS (SEDIMENT/SOIL)

Analytical SOP 5-369

Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Table B-15

Analyte	CAS No.	MDL (ng/g)	LOD (ng/g)	LOQ (ng/g)
PFBA	375-22-4	0.36	1.0	5.0
PFPeA	2706-90-3	0.39	1.0	5.0
PFHxA	307-24-4	0.33	1.0	5.0
PFHpA	375-85-9	0.44	1.0	5.0
PFOA	335-67-1	0.50	1.0	5.0
PFNA	375-95-1	0.43	1.0	5.0
PFDA	335-76-2	0.27	1.0	5.0
PFUnA	2058-94-8	0.41	1.0	5.0
PFDoA	307-55-1	0.24	0.5	5.0
PFTTrDA	72629-94-8	0.28	1.0	5.0
PFTeDA	376-06-7	0.63	2.0	5.0
NMeFOSAA	2355-31-9	1.12	2.5	5.0
NEtFOSAA	2991-50-6	0.57	2.0	5.0
PFOSA	754-91-6	0.39	1.0	5.0
PFBS	375-73-5	0.36	1.0	5.0
PFPeS	BDO-2114	0.57	2.0	5.0
PFHxS	355-46-4	0.22	0.5	5.0
PFHpS	375-99-6	0.34	1.0	5.0
PFOS	1763-23-1	0.27	1.0	5.0
PFNS	98789-57-2	0.74	2.0	5.0
PFDS	2806-15-7	0.19	0.5	5.0
4:2FTS	BDO-2205	0.29	1.0	5.0
6:2FTS	27619-97-2	2.31	2.5	5.0
8:2FTS	39108-34-4	0.59	2.0	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

Analytical Transitions for PFAS in non-potable water, solid, and tissue

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDaA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFH _p A	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFH _x S	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Solids Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (g)	Sample Equivalent (ng/g) ²
25	1	10	2.0	0.1
50	1	10	2.0	0.3
100	1	10	2.0	0.5
250	1	10	2.0	1.3
500	1	10	2.0	2.5
1,000	1	10	2.0	5.0
2,500	1	10	2.0	12.5
10,000	1	10	2.0	50.0
20,000	1	10	2.0	100.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

- Consult Customer concerning the unit overall performance.
- Check Logbook for Services recently performed.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.6	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop
- Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification
 - No degradation or Sensitivity drop

Pre PM PPG Test: Perform each of the following tests. Optimize ion source position only. The specifications listed for these Pre PM tests are guidelines only, not required to be met.

- Perform Q1 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	4.01 e6	Read Only	0.6998	Read Only
Q1 500.380	2.81 e7	Read Only	0.7038	Read Only
Q1 906.673	4.21 e7	Read Only	0.7071	Read Only

- Perform Q3 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	5.45 e6	Read Only	0.6873	Read Only
Q3 500.380	2.69 e7	Read Only	0.7591	Read Only
Q3 906.673	4.50 e7	Read Only	0.7843	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 28.87% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	4.26 e7	Read Only	0.7011	Read Only
MS/MS 195.1	1.23 e7	Read Only	0.7069	Read Only

Perform Q1 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.42 e7	Read Only	0.7686	Read Only

Perform Q3 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.24 e7	Read Only	0.7243	Read Only

Perform Product Ion scan using NEG PPG 3e-5M. Record 10 mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.31 e6	Read Only	0.6746	Read Only

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: _____(200-240VAC).
If Out-of-Range, notify customer.

- Clean Interface
 - Curtain Plate
 - Orifice Plate
 - QJet
 - Q0 Rods.

- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable. N/A
- Clean and inspect built-in divert valve if used. N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.

- Pump down overnight if possible. N/A

- Perform Maintenance on Turbo V source.

- Replace Electrode, if necessary. N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed. N/A

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

- Set-up Sample for Infusion.
- Check spray and adjust sprayer's position of the TIS source.
- Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.7	0.4 to 1.1 x10 ⁻⁵ Torr
<input checked="" type="checkbox"/> CAD Low	1.3	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.7	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

- Perform Q1 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.04 e6	≥1.2 ^{e6}	0.6737	0.6 to 0.8
Q1 500.380	1.60 e7	≥9.0 ^{e6}	0.6961	0.6 to 0.8
Q1 906.673	2.84 e7	≥1.4 ^{e7}	0.7179	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 ^{e7}	0.7465	0.6 to 0.8

- Perform Q3 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	5.02 e6	≥1.2 ^{e6}	0.6719	0.6 to 0.8
Q3 500.380	1.72 e7	≥9.0 ^{e6}	0.7443	0.6 to 0.8
Q3 906.673	3.00 e7	≥1.4 ^{e7}	0.7504	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.46 e8	≥6.8 ^{e7}	0.7202	0.6 to 0.8

- Perform "Product of 609.3" POS and record product ion 195.1 using Reserpine 0.167pmol/uL. Record 10 mca. Calculate Transmission efficiency comparing Q1POS 609 intensity.

Transmission Efficiency: 21.10% (≥ 10.0%)

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3	5.78 e7	N/A	0.6888	Read Only
MS/MS 195.1	1.22 e7	N/A	0.7003	Read Only

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform Q1 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.35 e7	$\geq 1.0^{e7}$	0.7486	0.6 to 0.8
Q1 933.636	1000	50	7.52 e7	$\geq 4.0^{e7}$	0.7206	0.6 to 0.8

- Perform Q3 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	2.15 e7	$\geq 8.0^{e6}$	0.7492	0.6 to 0.8
Q3 933.636	1000	50	8.33 e7	$\geq 4.0^{e7}$	0.7299	0.6 to 0.8

- Perform Product Ion scan using NEG PPG 3e-5M.

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

- Perform ER POS 118.087 and 922.01 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.54 e6	$\geq 7.2^{e6}$	0.1473	<0.35
ER 922.010	0.05	4.96 e7	$\geq 2.8^{e6}$	0.2434	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		$\geq 2.4^{e7}$		<0.65
ER 922.010	0.05		$\geq 6.8^{e7}$		<0.65

- Perform ER NEG 431.982 and 601.978 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.81 e8	$\geq 4.4^{e7}$	0.1862	<0.35
ER 601.978	0.05	1.70 e8	$\geq 5.6^{e7}$	0.1809	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	5.72 e8	$\geq 1.2^{e8}$	0.5102	<0.65
ER 601.978	0.05	4.52 e8	$\geq 1.6^{e8}$	0.6187	<0.65

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QTRAP 5500**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

- Perform EPI POS 397.2 using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.0 e6	≥2.0 e6	> 7.0 e6	≥6.4 e6

- Perform MS3 POS full scan Fragmentation ON & OFF using Reserpine 0.167pmol/uL. Record 20 mca.

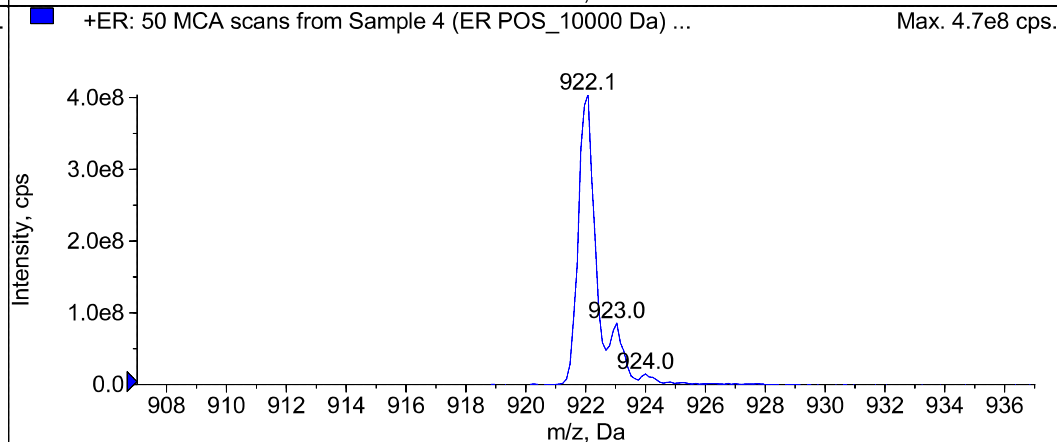
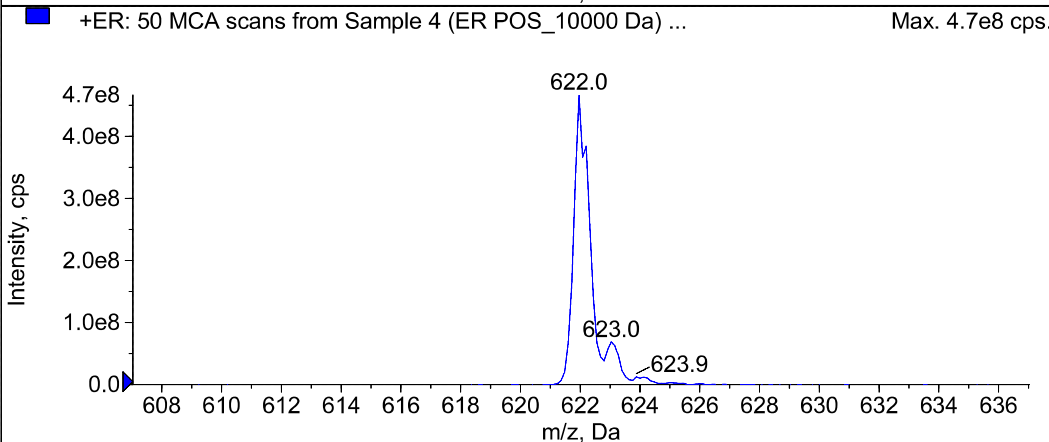
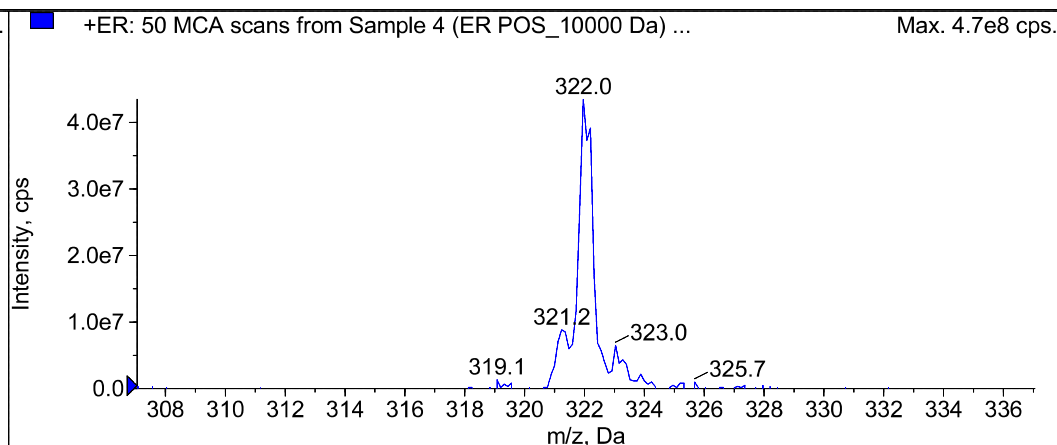
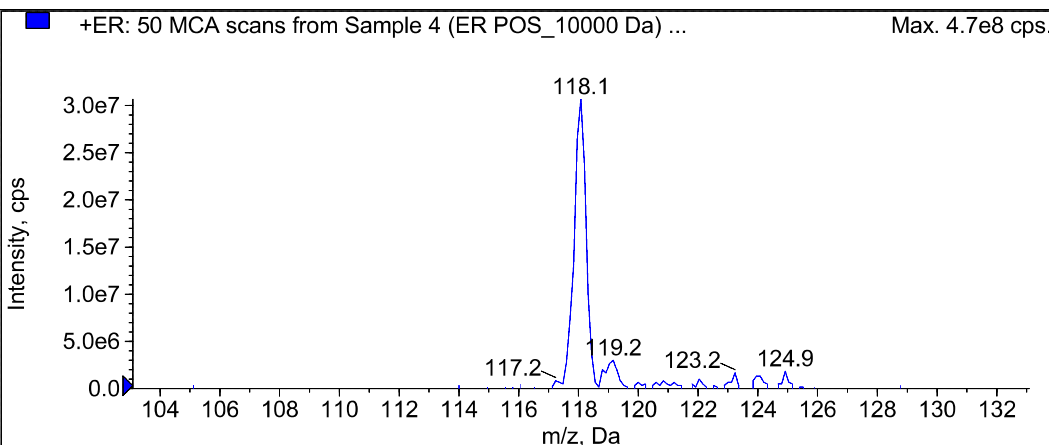
Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	Yes	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	Yes	Fragment Intensity	> 2.0 e6	≥1.6x 10 ^{e6}

REVIEW:

- Attach all spectrums printouts to this procedure.
- If any parameter setting access modes were changed during the PM, ensure they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- Empty tuning cache folder, if necessary. N/A
- Update Service Work Order status
- Fill and replace PM Label.

END OF PREVENTIVE MAINTENANCE CHECKLIST**Document history:**

06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.



Peak List for "+ER: 50 MCA scans from Sample 4 (ER POS_10000 Da) of TRAP ER with NEW Pulse Manifold.wiff (Turbo Spray)"

	Target Mass (Da)	Found At (Da)	Intensity (cps)	Width (Da)	Mass Shift (Da)
1	118.0870	118.0702	3.0667e7	0.4146	0.0168
2	322.0490	322.0509	4.3500e7	0.4945	-1.9159e-3
3	622.0290	622.0370	4.6717e8	0.5757	-8.0044e-3
4	922.0100	922.0101	4.0400e8	0.5732	-1.4148e-4

Battelle Standard ID	Description	Intermediate Solutions	Battelle Reagent ID (purchased solutions)
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	-	180726-05
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-02
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-03
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-04
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-06
KA29	PFAS Branched Solution (~5,000 ng/L)	JX28	180618-07
KA84	PFAS - DoD High Level Second Source LCS/MS Solution	-	170724-01
KA86	PFAS - DoD Calibration L1	JY23	180705-02
KA86	PFAS - DoD Calibration L1	JY25	180726-04
KA86	PFAS - DoD Calibration L1	JY27	180726-05
KA87	PFAS - DoD Calibration L2	JY27	180726-05
KA87	PFAS - DoD Calibration L2	JY25	180726-04
KA87	PFAS - DoD Calibration L2	JY23	180705-02
KA88	PFAS - DoD Calibration L3	JY25	180726-04
KA88	PFAS - DoD Calibration L3	JY27	180726-05
KA88	PFAS - DoD Calibration L3	KA85	180705-02
KA89	PFAS - DoD Calibration L4	KA85	180705-02
KA89	PFAS - DoD Calibration L4	JY27	180726-05
KA89	PFAS - DoD Calibration L4	JY25	180726-04
KA90	PFAS - DoD Calibration L5	JY25	180726-04
KA90	PFAS - DoD Calibration L5	JY27	180726-05
KA90	PFAS - DoD Calibration L5	KA85	180705-02
KB34	PFAS - DoD Internal Standard Spiking Solution	JY25	180726-04
KB35	PFAS - DoD Instrument Blank	JY25	180726-04
KB35	PFAS - DoD Instrument Blank	JY27	180726-05
KB36	PFAS - DoD ICC	JY27	180726-05
KB36	PFAS - DoD ICC	JZ88	170724-01
KB36	PFAS - DoD ICC	JY25	180726-04
KB64	PFAS - DoD Calibration L6	JY25	180726-04
KB64	PFAS - DoD Calibration L6	KA85	180705-02
KB64	PFAS - DoD Calibration L6	JY27	180726-05
KB65	PFAS - DoD Calibration L7	JY27	180726-05
KB65	PFAS - DoD Calibration L7	KA85	180705-02
KB65	PFAS - DoD Calibration L7	JY25	180726-04
KB85	PFAS - DoD Calibration L4	JY27	180726-05
KB85	PFAS - DoD Calibration L4	JY25	180726-04
KB85	PFAS - DoD Calibration L4	KA85	180705-02

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JX28

Description: PFAS Branched Standard Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180618-02	Branched NEtFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-03	Branched NMeFOSAA Standard (50 µg/mL)	Neat	~50.0000 00	01/17/23	---	---	100 uL	1	10	~0.5000
180618-04	PFOA - Technical Mix	Neat	~50.0000 00	02/16/22	---	---	100 uL	1	10	~0.5000
180618-06	Branched PFHxS Standard (50 µg/mL)	Neat	~50.0000 00	01/04/22	---	---	100 uL	1	10	~0.5000
180618-07	Branched PFOS Standard (50 µg/mL)	Neat	~50.0000 00	01/12/22	---	---	100 uL	1	10	~0.5000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 6/18/2018	Expiration Date: 6/18/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID:	Solvent:	Lot:
Comment:	Methanol (HPLC)	179315

Approved By: Thorn, Jonathan Date: 7/3/2018 8:10:00 AM

It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JX28

Description: PFAS Branched Standard Stock

Stock Id: 180618-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-n-octanoic Acid	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-hexanesulfonate	100	50.00	1	100.000	1	10	0.50000

Stock Id: 180618-07

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-octanesulfonate	100	50.00	1	100.000	1	10	0.50000

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.50000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.50000
Perfluoro-1-hexanesulfonate	.50000
Perfluoro-1-octanesulfonate	.50000
Perfluoro-n-octanoic Acid	.50000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180618-02	Pipette	I0793912B
180618-03	Pipette	I0793912B
180618-04	Pipette	I0793912B
180618-06	Pipette	I0793912B
180618-07	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 6/18/2018 **Expiration Date:** 6/18/2019

Solution Volume 25 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment:

Approved By: Thorn, Jonathan **Date:** 7/3/2018 8:10:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	100	~0.0050

Solution Prepared By: Schultz, Stephanie

Date Prepared: 7/16/2018

Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID:

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	100	0.00505
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	100	0.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-butanedisulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluorononanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	100	0.00500
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	100	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00500
(Na) Perfluoro-1-decanesulfonate	.00505
(NA) Perfluoro-1-heptanesulfonate	.00500
(Na) Perfluoro-1-nonanesulfonate	.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanedisulfonate	.00505

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY23

Description: PFAS - DoD Low ICAL Stock

Perfluoro-1-hexanesulfonate	.00505
Perfluoro-1-octanesulfonamide	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-butanoic Acid	.00500
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00505
Perfluoro-n-octanoic Acid	.00500
Perfluorononanoic Acid	.00500
Perfluoro-n-pentanoic acid	.00505
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500
Sodium perfluoro-1-pentanesulfonate	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		

Comment: 96/4 Methanol/milli-q water

Approved By: Thorn, Jonathan Date: 8/29/2018 10:10:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JY25**

Description: PFAS - DoD Internal Standard Stock Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-04	Mass-labelled PFAS injection standards	Neat	~2.00000 0	05/02/22	---	---	625 uL	1	25	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/16/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY25

Description: PFAS - DoD Internal Standard Stock Solution

Stock Id: 180726-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	625	2.00	1	100.000	1	25	0.05000
13C2-PFOA	625	2.00	1	100.000	1	25	0.05000
13C3-PFBA	625	2.00	1	100.000	1	25	0.05000
13C4-PFOS	625	1.91	1	100.000	1	25	0.04785

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.05000
13C2-PFOA	.05000
13C3-PFBA	.05000
13C4-PFOS	.04785

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-04	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Thorn, Jonathan Date: 8/29/2018 10:09:00 AM

It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JY27**

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180726-05	Mass-labelled PFAS Extraction Standard Solution	Neat	~1.00000 0	02/07/23	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie

Date Prepared: 7/16/2018

Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: 180726-05

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	1000	0.94	1	100.000	1	20	0.04675
13C2-6:2FTS	1000	0.95	1	100.000	1	20	0.04745
13C2-8:2FTS	1000	0.96	1	100.000	1	20	0.04790
13C2-PFDoA	1000	1.00	1	100.000	1	20	0.05000
13C2-PFTeDA	1000	1.00	1	100.000	1	20	0.05000
13C3-PFBS	1000	0.93	1	100.000	1	20	0.04645
13C3-PFHxS	1000	0.95	1	100.000	1	20	0.04730
13C4-PFBA	1000	1.00	1	100.000	1	20	0.05000
13C4-PFHpA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFHxA	1000	1.00	1	100.000	1	20	0.05000
13C5-PFPeA	1000	1.00	1	100.000	1	20	0.05000
13C6-PFDA	1000	1.00	1	100.000	1	20	0.05000
13C7-PFUnA	1000	1.00	1	100.000	1	20	0.05000
13C8-FOSA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOA	1000	1.00	1	100.000	1	20	0.05000
13C8-PFOS	1000	0.96	1	100.000	1	20	0.04785
13C9-PFNA	1000	1.00	1	100.000	1	20	0.05000
d3-MeFOSAA	1000	1.00	1	100.000	1	20	0.05000
d5-EtFOSAA	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.04675
13C2-6:2FTS	.04745
13C2-8:2FTS	.04790
13C2-PFDoA	.05000
13C2-PFTeDA	.05000
13C3-PFBS	.04645
13C3-PFHxS	.04730
13C4-PFBA	.05000
13C4-PFHpA	.05000
13C5-PFHxA	.05000
13C5-PFPeA	.05000
13C6-PFDA	.05000
13C7-PFUnA	.05000
13C8-FOSA	.05000

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: JY27

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

13C8-PFOA	.05000
13C8-PFOS	.04785
13C9-PFNA	.05000
d3-MeFOSAA	.05000
d5-EtFOSAA	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180726-05	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/16/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/Milli-q water (RP-180803-1)

Approved By: Schumitz, Denise Date: 8/8/2018 9:17:00 AM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170724-01	PFOA- 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 8/20/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ88**

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: **170724-01**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanefulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonate	.05050

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 8/20/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 8/21/2018 7:17:00 AM



It can be done

Standard Solution Concentrations Approved:

Standard Laboratory ID Number: JZ88

Description: PFAS - DoD Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
170724-01	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 8/20/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 Methanol/Milli-q water		

Approved By: Thorn, Jonathan **Date:** 8/21/2018 7:17:00 AM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA29

Description: PFAS Branched Solution (~5,000 ng/L)

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JX28	PFAS Branched Standard Stock	Solution	~0	06/18/19	---	---	100 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	8/31/2018	Expiration Date	6/18/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KA29**

Description: PFAS Branched Solution (~5,000 ng/L)

Stock Id: **JX28**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.50	---	---	1	10	0.00500
Perfluoro-1-hexanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-1-octanesulfonate	100	0.50	---	---	1	10	0.00500
Perfluoro-n-octanoic Acid	100	0.50	---	---	1	10	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-hexanesulfonate	.00500
Perfluoro-1-octanesulfonate	.00500
Perfluoro-n-octanoic Acid	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JX28	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/31/2018 Expiration Date: 6/18/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/6/2018 2:49:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA84

Description: PFAS - DoD High Level Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170724-01	PFOA- 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	5	~0.2000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/12/2018	Expiration Date	9/12/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA84

Description: PFAS - DoD High Level Second Source LCS/MS Solution

Stock Id: 170724-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	5	0.20200
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	5	0.20000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	5	0.20000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	5	0.20200
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	5	0.20000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	5	0.20200
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	5	0.20000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-1-butanefulfonate	1000	1.01	1	100.000	1	5	0.20200
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	5	0.20200
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	5	0.20200
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	5	0.20000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	5	0.20000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	5	0.20000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	5	0.20000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.20200
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.20000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.20000
(Na) Perfluoro-1-decanesulfonate	.20200
(NA) Perfluoro-1-heptanesulfonate	.20000
(Na) Perfluoro-1-nonanesulfonate	.20200
N-ethylperfluoro-octanesulfonamidoacetic acid	.20000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.20000
Perfluoro-1-butanefulfonate	.20200

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/12/2018	Expiration Date: 9/12/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA84

Description: PFAS - DoD High Level Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonate	.20200
Perfluoro-1-octanesulfonamide	.20000
Perfluoro-1-octanesulfonate	.20000
Perfluoro-n-butanoic Acid	.20000
Perfluoro-n-decanoic Acid	.20000
Perfluoro-n-dodecanoic acid	.20000
Perfluoro-n-heptanoic Acid	.20000
Perfluoro-n-hexanoic acid	.20200
Perfluoro-n-octanoic Acid	.20000
Perfluorononanoic Acid	.20000
Perfluoro-n-pentanoic acid	.20000
Perfluoro-n-tetradecanoic acid	.20000
Perfluoro-n-tridecanoic acid	.20000
Perfluoro-n-undecanoic acid	.20000

Syringes/Pipettes:

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/12/2018	Expiration Date: 9/12/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80/20 methanol/milli-q water		

Approved By: Schumitz, Denise **Date:** 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
180705-02	PFOA - DOD	Neat	~1.00000 0	06/19/23	---	---	500 uL	1	10	~0.0500

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	9/13/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Stock Id: 180705-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	10	0.05050
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	10	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-butanefulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluorononanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-pentanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	10	0.05000
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	10	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonate	.05050

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 9/13/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA85

Description: PFAS - DoD High ICAL Stock

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05050
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-02	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date: 9/13/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 96/4 methanol/milli-q water		

Approved By: Schumitz, Denise **Date:** 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-decanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-heptanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-nonanesulfonate	200	0.01	---	---	1	10	0.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-1-butanedisulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanoic acid	200	0.01	---	---	1	10	0.00010
Sodium perfluoro-1-pentanesulfonate	200	0.01	---	---	1	10	0.00010

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00010
(Na) Perfluoro-1-decanesulfonate	.00010
(NA) Perfluoro-1-heptanesulfonate	.00010
(Na) Perfluoro-1-nonanesulfonate	.00010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA86

Description: PFAS - DoD Calibration L1

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanefulfonate	.00010
Perfluoro-1-hexanesulfonate	.00010
Perfluoro-1-octanesulfonamide	.00010
Perfluoro-1-octanesulfonate	.00010
Perfluoro-n-butanoic Acid	.00010
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluorononanoic Acid	.00010
Perfluoro-n-pentanoic acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010
Sodium perfluoro-1-pentanesulfonate	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B814657482
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY23	PFAS - DoD Low ICAL Stock	Solution	~0	07/16/19	---	---	500 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/13/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

Stock Id: JY23

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-nonanesulfonate	500	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-1-butanedisulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic acid	500	0.01	---	---	1	10	0.00025
Sodium perfluoro-1-pentanesulfonate	500	0.01	---	---	1	10	0.00025

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
(Na) Perfluoro-1-decanesulfonate	.00025
(NA) Perfluoro-1-heptanesulfonate	.00025
(Na) Perfluoro-1-nonanesulfonate	.00025
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA87

Description: PFAS - DoD Calibration L2

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanefulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butanefulfonate	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
Perfluoro-n-octanoic Acid	.00025
Perfluorononanoic Acid	.00025
Perfluoro-n-pentanoic acid	.00025
Perfluoro-n-tetradecanoic acid	.00025
Perfluoro-n-tridecanoic acid	.00025
Perfluoro-n-undecanoic acid	.00025
Sodium perfluoro-1-pentanesulfonate	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY23	Pipette	B820865811
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	100 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-decanesulfonate	100	0.05	---	---	1	10	0.00051
(NA) Perfluoro-1-heptanesulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-nonanesulfonate	100	0.05	---	---	1	10	0.00051

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-1-butanedisulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	100	0.05	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	100	0.05	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluorononanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-tetradecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	100	0.05	---	---	1	10	0.00050
Sodium perfluoro-1-pentanesulfonate	100	0.05	---	---	1	10	0.00050

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
(Na) Perfluoro-1-decanedisulfonate	.00051
(NA) Perfluoro-1-heptadisulfonate	.00050
(Na) Perfluoro-1-nonadisulfonate	.00051
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA88

Description: PFAS - DoD Calibration L3

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanefulfonate	.00051
Perfluoro-1-hexanesulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanesulfonate	.00050
Perfluoro-n-butyanoic Acid	.00050
Perfluoro-n-decanoic Acid	.00050
Perfluoro-n-dodecanoic acid	.00050
Perfluoro-n-heptanoic Acid	.00050
Perfluoro-n-hexanoic acid	.00051
Perfluoro-n-octanoic Acid	.00050
Perfluorononanoic Acid	.00050
Perfluoro-n-pentanoic acid	.00051
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050
Sodium perfluoro-1-pentanesulfonate	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	200 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KA89**

Description: PFAS - DoD Calibration L4

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanedisulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:27:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA89

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanefulfonic Acid	.00100
Perfluoro-n-decanefulfonic Acid	.00100
Perfluoro-n-dodecanefulfonic acid	.00100
Perfluoro-n-heptanefulfonic Acid	.00100
Perfluoro-n-hexanefulfonic acid	.00101
Perfluoro-n-octanefulfonic Acid	.00100
Perfluorononanefulfonic Acid	.00100
Perfluoro-n-pentanefulfonic acid	.00101
Perfluoro-n-tetradecanefulfonic acid	.00100
Perfluoro-n-tridecanefulfonic acid	.00100
Perfluoro-n-undecanefulfonic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 9/13/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise **Date:** 9/14/2018 2:27:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	500 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/13/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-decanesulfonate	500	0.05	---	---	1	10	0.00253
(NA) Perfluoro-1-heptanesulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-nonanesulfonate	500	0.05	---	---	1	10	0.00253

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-1-butanefluoride	500	0.05	---	---	1	10	0.00253
Perfluoro-1-hexanesulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-octanesulfonamide	500	0.05	---	---	1	10	0.00250
Perfluoro-1-octanesulfonate	500	0.05	---	---	1	10	0.00250
Perfluoro-n-butanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluorononanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-tetradecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	500	0.05	---	---	1	10	0.00250
Sodium perfluoro-1-pentanesulfonate	500	0.05	---	---	1	10	0.00250

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
(Na) Perfluoro-1-decanesulfonate	.00253
(NA) Perfluoro-1-heptanesulfonate	.00250
(Na) Perfluoro-1-nonanesulfonate	.00253
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KA90

Description: PFAS - DoD Calibration L5

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butyanoic Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00253
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250
Sodium perfluoro-1-pentanesulfonate	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/13/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/14/2018 2:28:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB34**

Description: PFAS - DoD Internal Standard Spiking Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	2500 uL	1	25	~0.0000

Solution Prepared By	Schultz, Stephanie	Date Prepared:	9/24/2018	Expiration Date	7/16/2019
Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No:	LC Laboratory: Refrigerator - R0107		

Balance ID: _____

 Comment:

96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB34**

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: **JY25**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2500	0.05	---	---	1	25	0.00500
13C2-PFOA	2500	0.05	---	---	1	25	0.00500
13C3-PFBA	2500	0.05	---	---	1	25	0.00500
13C4-PFOS	2500	0.05	---	---	1	25	0.00479

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00500
13C2-PFOA	.00500
13C3-PFBA	.00500
13C4-PFOS	.00479

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	OU16914

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date: 7/16/2019
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Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment: 96/4 Methanol/Milli-q water

Approved By: Thorn, Jonathan Date: 9/24/2018 3:46:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB35**

Description: PFAS - DoD Instrument Blank

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB35**

Description: PFAS - DoD Instrument Blank

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025

Solution Prepared By: Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date: 7/16/2019
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Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment: 80/20 Methanol/Milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KB35

Description: PFAS - DoD Instrument Blank

13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025
13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 9/24/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JZ88	PFAS - DoD Second Source LCS/MS Solution	Solution	~0	08/20/19	---	---	200 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 9/24/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: JZ88

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanefluoride	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB36**

Description: PFAS - DoD ICC

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butyric Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
JZ88	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie Date Prepared: 9/24/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/26/2018 10:24:00 AM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB64**

Description: PFAS - DoD Calibration L6

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	1000 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 9/28/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB64**

Description: PFAS - DoD Calibration L6

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023
13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	5	0.01010
(NA) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	5	0.01010

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB64**

Description: PFAS - DoD Calibration L6

N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-butanedisulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluorononanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	5	0.01000
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	5	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
(Na) Perfluoro-1-decanedisulfonate	.01010
(NA) Perfluoro-1-heptanedisulfonate	.01000
(Na) Perfluoro-1-nonanedisulfonate	.01010
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB64**

Description: PFAS - DoD Calibration L6

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefulfonate	.01010
Perfluoro-1-hexanesulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanesulfonate	.01000
Perfluoro-n-butyric Acid	.01000
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01010
Perfluoro-n-octanoic Acid	.01000
Perfluorononanoic Acid	.01000
Perfluoro-n-pentanoic acid	.01010
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000
Sodium perfluoro-1-pentanesulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B820865811

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB65**

Description: PFAS - DoD Calibration L7

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	2000 uL	1	5	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	25 uL	1	5	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 9/28/2018	Expiration Date: 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB65**

Description: PFAS - DoD Calibration L7

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.05	---	---	1	5	0.00025
13C2-PFOA	25	0.05	---	---	1	5	0.00025
13C3-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFOS	25	0.05	---	---	1	5	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.05	---	---	1	5	0.00023
13C2-6:2FTS	25	0.05	---	---	1	5	0.00024
13C2-8:2FTS	25	0.05	---	---	1	5	0.00024
13C2-PFDoA	25	0.05	---	---	1	5	0.00025
13C2-PFTeDA	25	0.05	---	---	1	5	0.00025
13C3-PFBS	25	0.05	---	---	1	5	0.00023
13C3-PFHxS	25	0.05	---	---	1	5	0.00024
13C4-PFBA	25	0.05	---	---	1	5	0.00025
13C4-PFHpA	25	0.05	---	---	1	5	0.00025
13C5-PFHxA	25	0.05	---	---	1	5	0.00025
13C5-PFPeA	25	0.05	---	---	1	5	0.00025
13C6-PFDA	25	0.05	---	---	1	5	0.00025
13C7-PFUnA	25	0.05	---	---	1	5	0.00025
13C8-FOSA	25	0.05	---	---	1	5	0.00025
13C8-PFOA	25	0.05	---	---	1	5	0.00025
13C8-PFOS	25	0.05	---	---	1	5	0.00024
13C9-PFNA	25	0.05	---	---	1	5	0.00025
d3-MeFOSAA	25	0.05	---	---	1	5	0.00025
d5-EtFOSAA	25	0.05	---	---	1	5	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-decanesulfonate	2000	0.05	---	---	1	5	0.02020
(NA) Perfluoro-1-heptanesulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-nonanesulfonate	2000	0.05	---	---	1	5	0.02020

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB65**

Description: PFAS - DoD Calibration L7

N-ethylperfluoro-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-butanedisulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-hexanesulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-octanesulfonamide	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-octanesulfonate	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-butanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-decanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-dodecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-heptanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-hexanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-octanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluorononanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-pentanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-tetradecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tridecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-undecanoic acid	2000	0.05	---	---	1	5	0.02000
Sodium perfluoro-1-pentanesulfonate	2000	0.05	---	---	1	5	0.02000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.02000
(Na) Perfluoro-1-decanedisulfonate	.02020
(NA) Perfluoro-1-heptanedisulfonate	.02000
(Na) Perfluoro-1-nonanedisulfonate	.02020
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB65**

Description: PFAS - DoD Calibration L7

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-butanefulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butyric Acid	.02000
Perfluoro-n-decanoic Acid	.02000
Perfluoro-n-dodecanoic acid	.02000
Perfluoro-n-heptanoic Acid	.02000
Perfluoro-n-hexanoic acid	.02020
Perfluoro-n-octanoic Acid	.02000
Perfluorononanoic Acid	.02000
Perfluoro-n-pentanoic acid	.02020
Perfluoro-n-tetradecanoic acid	.02000
Perfluoro-n-tridecanoic acid	.02000
Perfluoro-n-undecanoic acid	.02000
Sodium perfluoro-1-pentanesulfonate	.02000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814658143

Solution Prepared By: Griffith, Lauren Date Prepared: 9/28/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 9/28/2018 2:46:00 PM



It can be done

Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **KB85**

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
KA85	PFAS - DoD High ICAL Stock	Solution	~0	09/13/19	---	---	200 uL	1	10	~0.0000
JY27	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000
JY25	PFAS - DoD Internal Standard Stock Solution	Solution	~0	07/16/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By Schultz, Stephanie	Date Prepared: 10/2/2018	Expiration Date 7/16/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 10/3/2018 8:53:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB85**

Description: PFAS - DoD Calibration L4

Stock Id: JY25

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.05	---	---	1	10	0.00025
13C2-PFOA	50	0.05	---	---	1	10	0.00025
13C3-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFOS	50	0.05	---	---	1	10	0.00024

Stock Id: JY27

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.05	---	---	1	10	0.00023
13C2-6:2FTS	50	0.05	---	---	1	10	0.00024
13C2-8:2FTS	50	0.05	---	---	1	10	0.00024
13C2-PFDoA	50	0.05	---	---	1	10	0.00025
13C2-PFTeDA	50	0.05	---	---	1	10	0.00025
13C3-PFBS	50	0.05	---	---	1	10	0.00023
13C3-PFHxS	50	0.05	---	---	1	10	0.00024
13C4-PFBA	50	0.05	---	---	1	10	0.00025
13C4-PFHpA	50	0.05	---	---	1	10	0.00025
13C5-PFHxA	50	0.05	---	---	1	10	0.00025
13C5-PFPeA	50	0.05	---	---	1	10	0.00025
13C6-PFDA	50	0.05	---	---	1	10	0.00025
13C7-PFUnA	50	0.05	---	---	1	10	0.00025
13C8-FOSA	50	0.05	---	---	1	10	0.00025
13C8-PFOA	50	0.05	---	---	1	10	0.00025
13C8-PFOS	50	0.05	---	---	1	10	0.00024
13C9-PFNA	50	0.05	---	---	1	10	0.00025
d3-MeFOSAA	50	0.05	---	---	1	10	0.00025
d5-EtFOSAA	50	0.05	---	---	1	10	0.00025

Stock Id: KA85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Schultz, Stephanie Date Prepared: 10/2/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 10/3/2018 8:53:00 AM



It can be done

Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **KB85**

Description: PFAS - DoD Calibration L4

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanefluoride	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00023
13C2-6:2FTS	.00024
13C2-8:2FTS	.00024
13C2-PFDA	.00025
13C2-PFDoA	.00025
13C2-PFOA	.00025
13C2-PFTeDA	.00025
13C3-PFBA	.00025
13C3-PFBS	.00023
13C3-PFHxS	.00024
13C4-PFBA	.00025
13C4-PFHpA	.00025

Solution Prepared By: Schultz, Stephanie Date Prepared: 10/2/2018 Expiration Date: 7/16/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 10/3/2018 8:53:00 AM



It can be done

Standard Solution Concentrations

Approved:

Standard Laboratory ID Number: KB85

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00024
13C5-PFHxA	.00025
13C5-PFPeA	.00025
13C6-PFDA	.00025
13C7-PFUnA	.00025
13C8-FOSA	.00025
13C8-PFOA	.00025
13C8-PFOS	.00024
13C9-PFNA	.00025
d3-MeFOSAA	.00025
d5-EtFOSAA	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butyric Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00101
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JY25	Pipette	B814659662
JY27	Pipette	B814659662
KA85	Pipette	B814657482

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 10/2/2018 **Expiration Date:** 7/16/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 Methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 10/3/2018 8:53:00 AM



It can be done

BDO Id: 170724-01

Reagent Receipt Report

 Approved: Authorized:

Name: <u>PFOA- 2nd Source</u> Vendor: <u>ABSOLUTE STANDARDS</u> Catalogue No: <u>99207</u> Type: <u>Solution</u> Lot No: <u>032217</u> Quantity: <u>5 ea</u> mL % Moisture: _____ Description: <u>PFOA - 2nd Source</u>	Received: <u>7/24/2017</u> Custodian: <u>Schumitz, Matt</u> Expires: <u>3/22/2022</u> Consumed: _____ Stored In: <u>LC Laboratory - F0111</u>
---	--

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorohexane s	414911-30-1	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--	<input type="checkbox"/>			
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>			
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--	<input type="checkbox"/>			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-butanedisulfonate	375-73-5	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonate	1763-23-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Sodium perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 24

Notes:

Approved by: _____	Approved on: _____
Authorized by: _____	Authorized on: _____



CERTIFIED WEIGHT REPORT

170784-01

Part Number: 99207
Lot Number: 032217
Description: PFOA - DOD
24 components
Expiration Date: 032222
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 822-275872-11

Solvent(s): Methanol (1 mM KOH)
2-Propanol
Lot# 031317 (98%)
23214 (2%)

<i>Paul Barron</i>		032217
Formulated By:	Paul Barron	DATE
<i>Pedro L. Rentas</i>		032217
Reviewed By:	Pedro L. Rentas	DATE

Volume(s) shown below were combined and diluted to (mL):

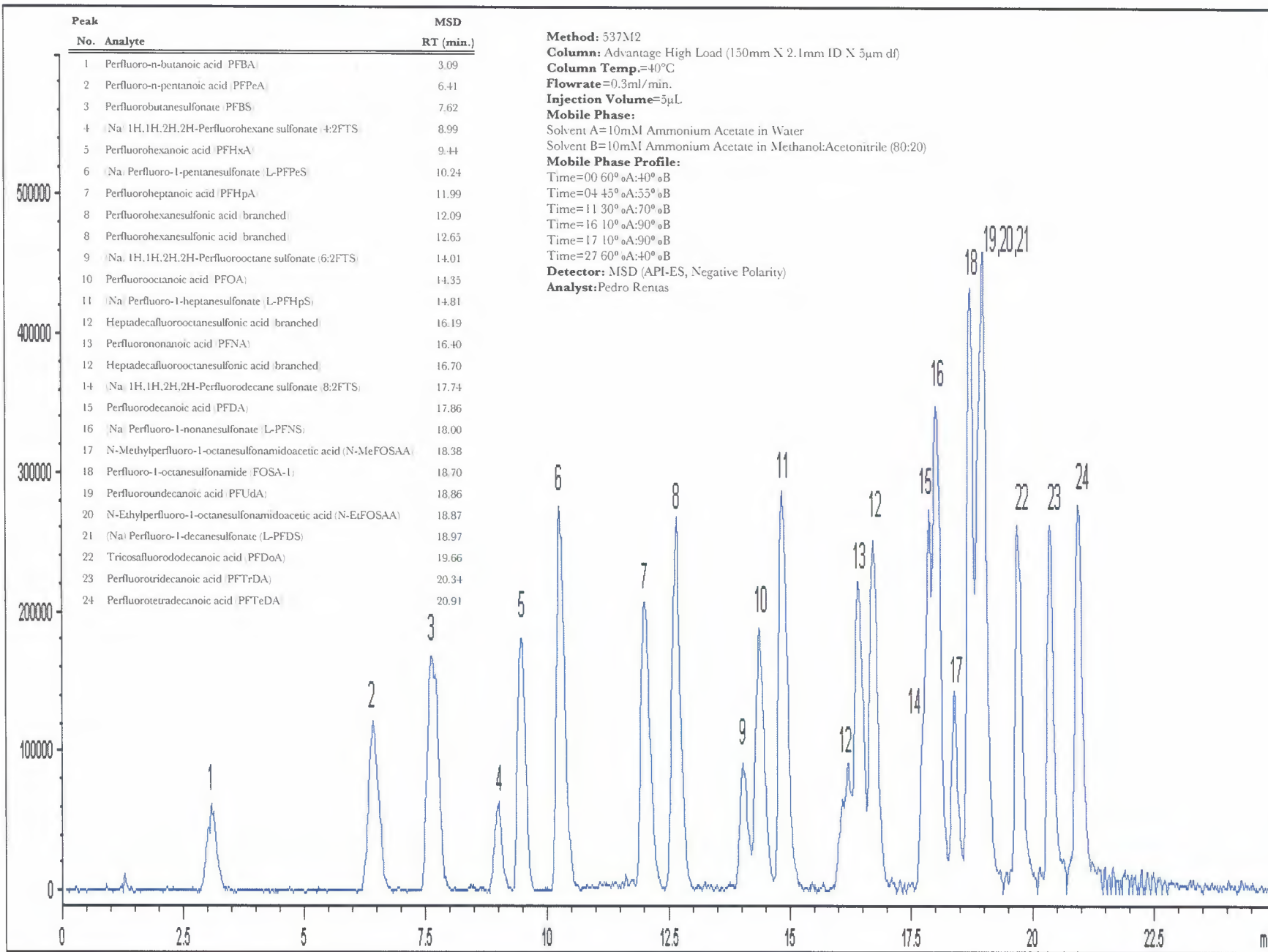
50.0 5E-05 Balance Uncertainty
0.007 Flask Uncertainty

Note: All assigned values are anion concentrations.

Expanded SDS Information
(Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafluorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LFPFeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



BATTELLE

It can be done

BDO Id: 180618-02**Reagent Receipt Report**Approved: Authorized

Name: Branched NEtFOSAA Standard (50 μ Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: br-NEtFOSAAA Expires: 1/17/2023
 Type: Solution Consumed: _____
 Lot No: brNEtFOSAA0118 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched NEtFOSAA Standard (50 μ g/mL)

Analyte:	CAS No:	Concentration (μ g/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-02



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

**N-Ethylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-NEtFOSAA
LOT NUMBER: brNEtFOSAA0118
CONCENTRATION: 50.0 ± 2.5 µg/ml
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2018
LAST TESTED: (mm/dd/yyyy) 01/17/2018
EXPIRY DATE: (mm/dd/yyyy) 01/17/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-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 ¹⁹F-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

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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:

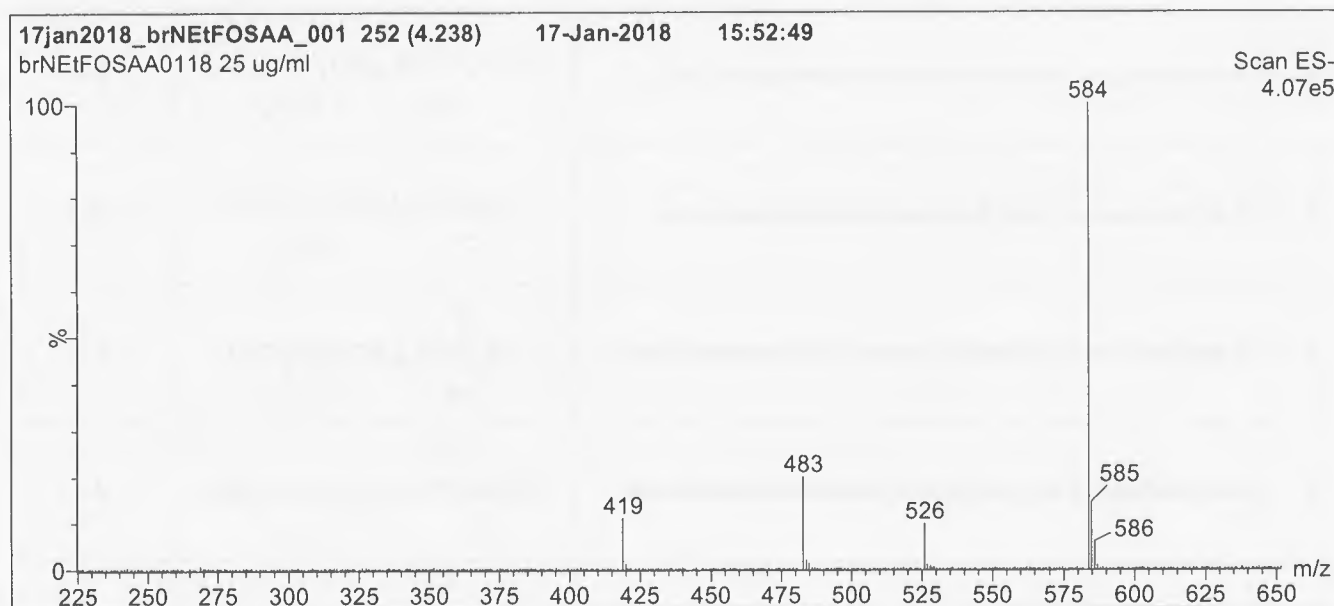
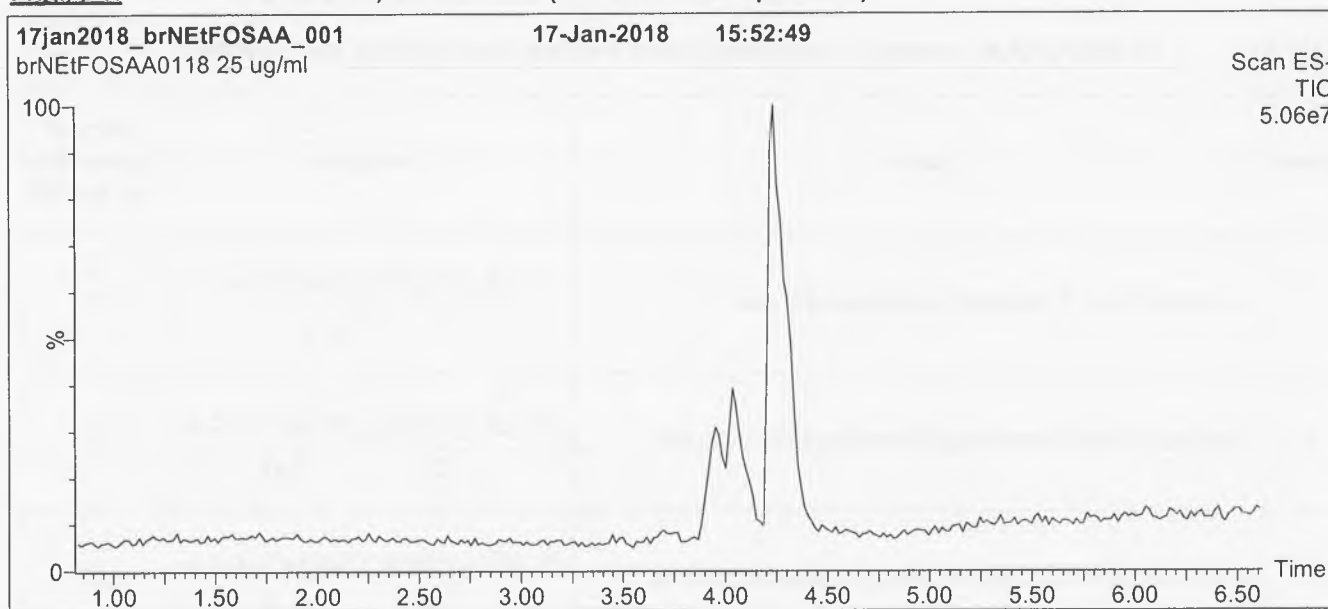
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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).



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: br-NEtFOSAA; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

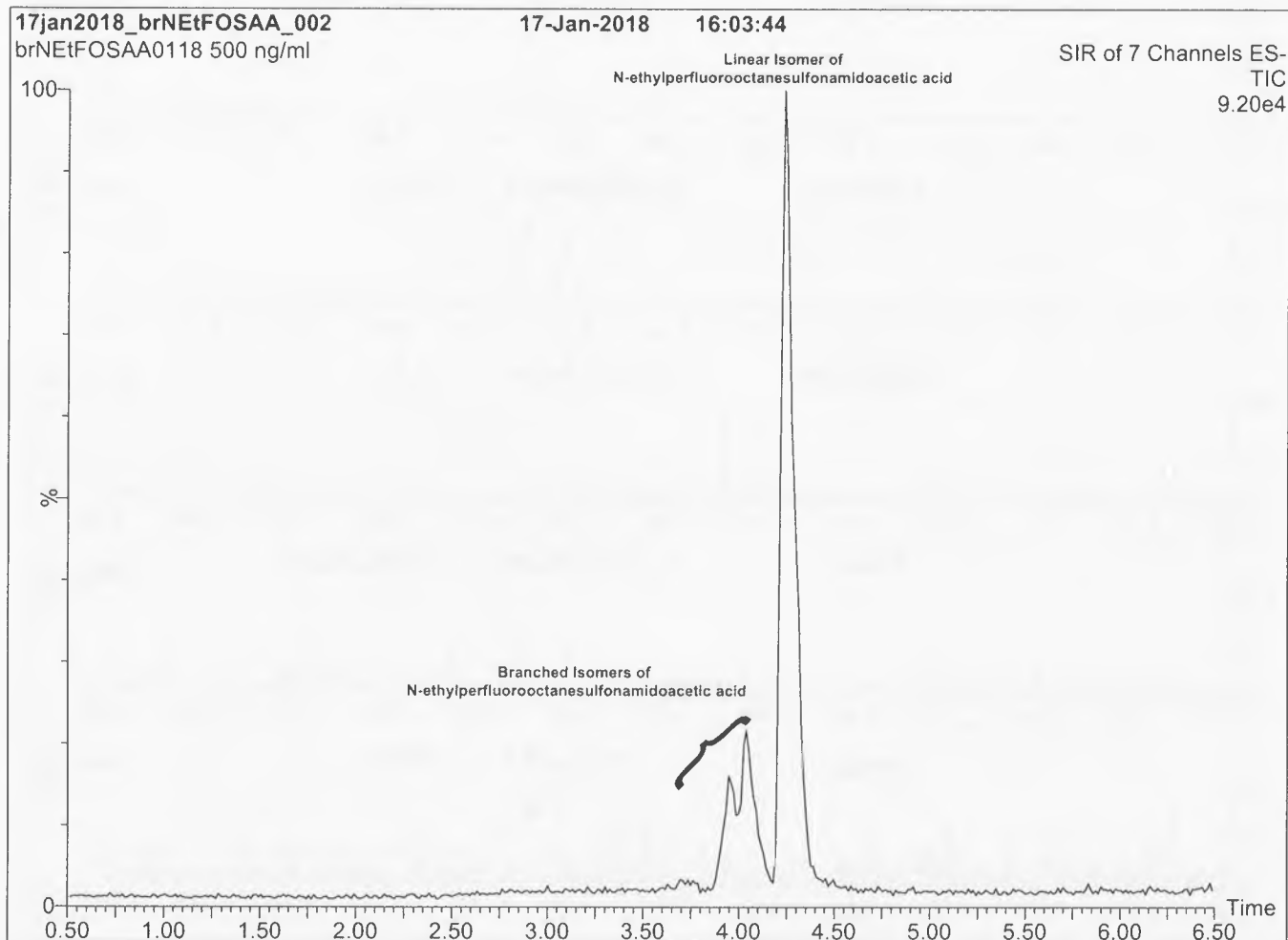
Time: 10 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

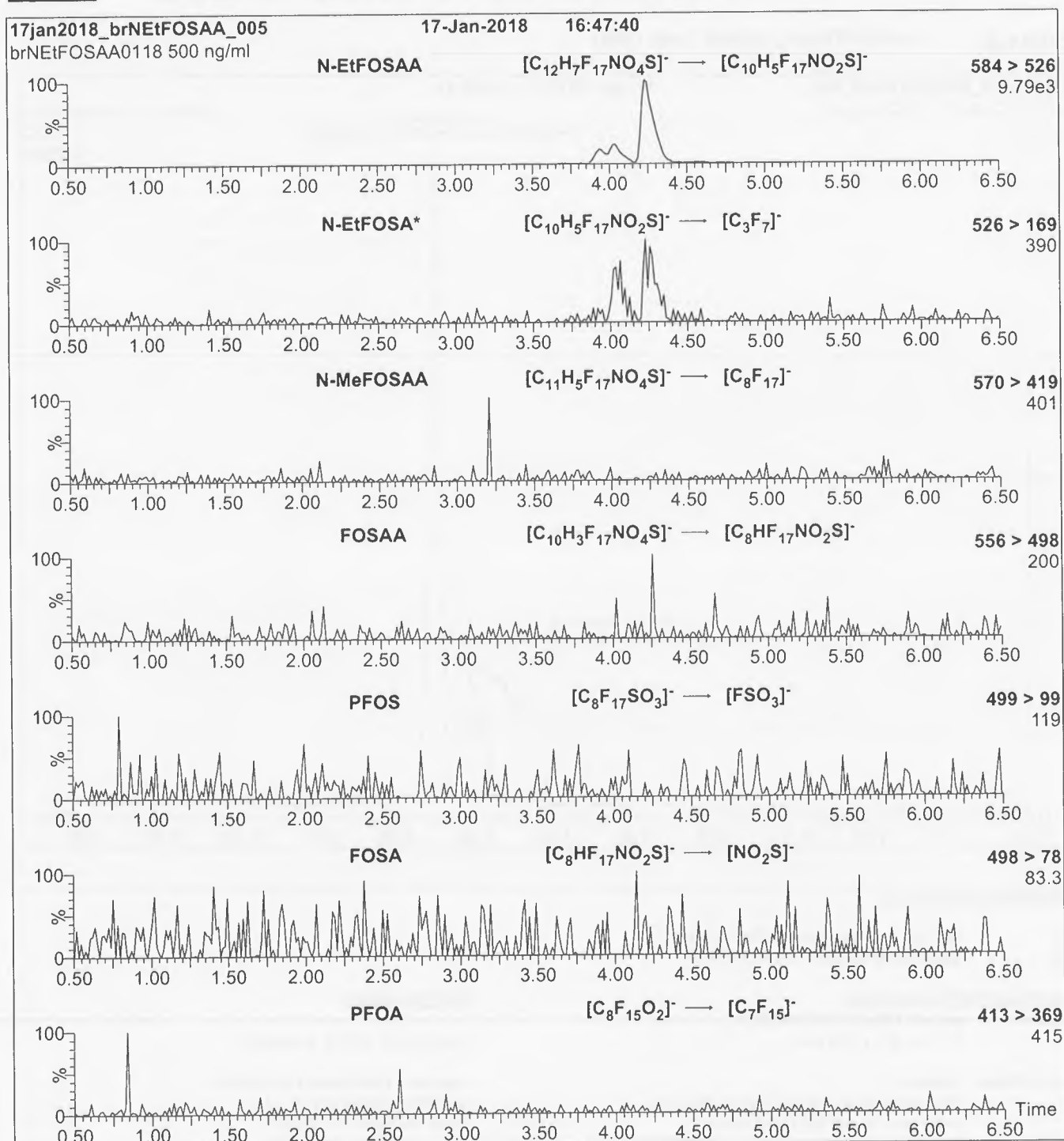
Figure 2: br-NEtFOSAA; LC/MS Data (SIR)**Conditions for Figure 2:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mmMobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

Time: 10 min

Flow: 300 μ l/min**MS Parameters**

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

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

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min



It can be done

BDO Id: 180618-03

Reagent Receipt Report

 Approved: Authorized:

Name:	<u>Branched NMeFOSAA Standard (50</u>	Received:	<u>6/18/2018</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Thorn, Jonathan</u>
Catalogue No:	<u>brNMeFOSAA</u>	Expires:	<u>1/17/2023</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>brNMeFOSAA0118</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea</u> mL	% Moisture:	<u>0</u>
Description:	<u>Branched NMeFOSAA Standard (50 µg/mL)</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>

180618-03



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

**N-Methylperfluorooctanesulfonamidoacetic
Acid Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-NMeFOSAA
LOT NUMBER: brNMeFOSAA0118
CONCENTRATION: 50.0 ± 2.5 µg/ml
SOLVENT(S): Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 01/10/2018
LAST TESTED: (mm/dd/yyyy) 01/17/2018
EXPIRY DATE: (mm/dd/yyyy) 01/17/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-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

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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).



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

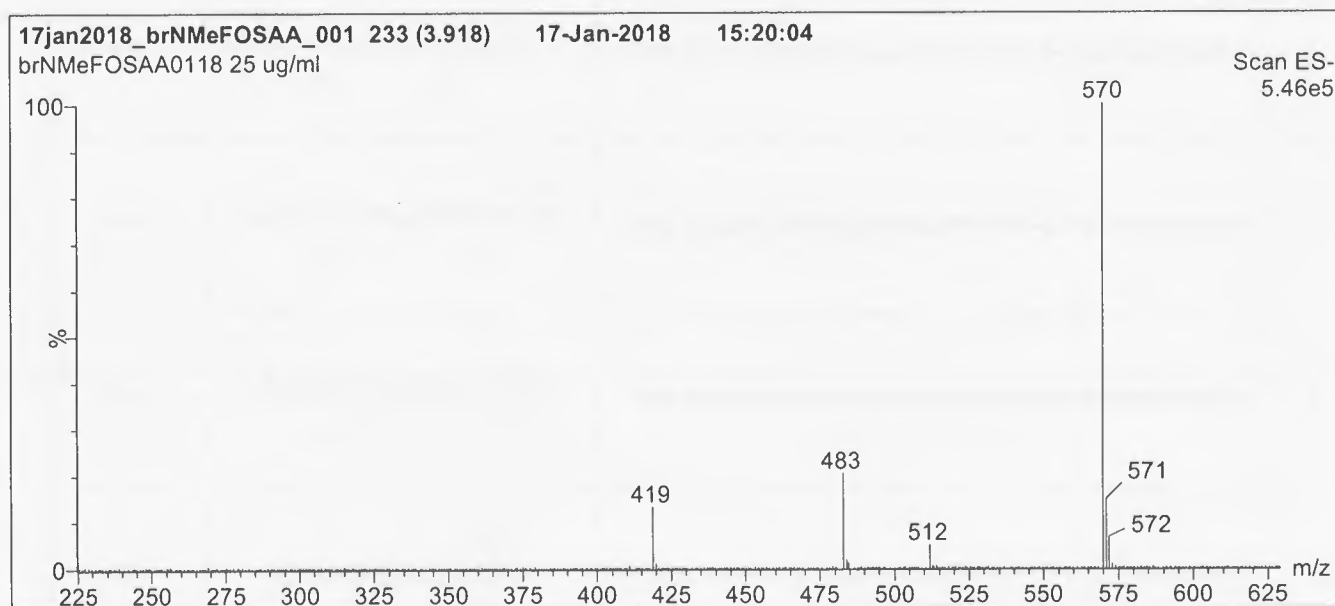
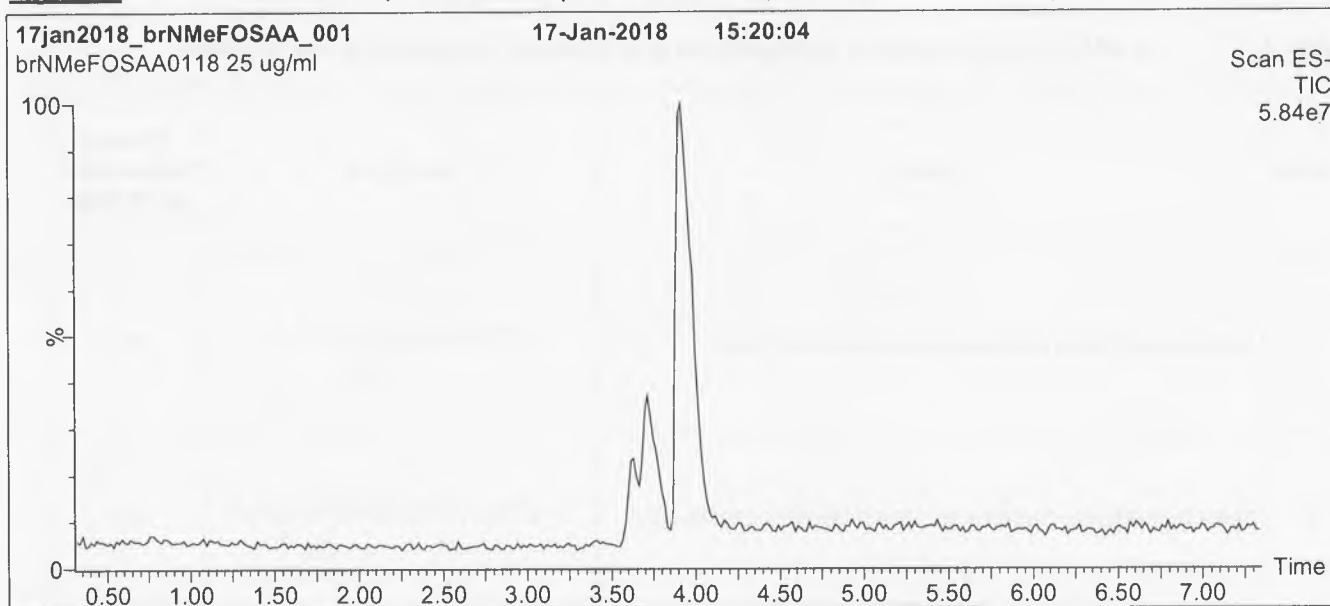
Table A: br-NMeFOSAA; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad $ $\quad \quad \quad \text{CH}_3$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\quad \quad \quad \text{CF}_3$ $\quad \quad \quad $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad \quad \quad \quad $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.2
7	Other Unidentified Isomers		1.1

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: 
B.G. Chittim, General Manager

Date: 03/22/2018
(mm/dd/yyyy)

Figure 1: br-NMeFOSAA; LC/MS Data (TIC and Mass Spectrum)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

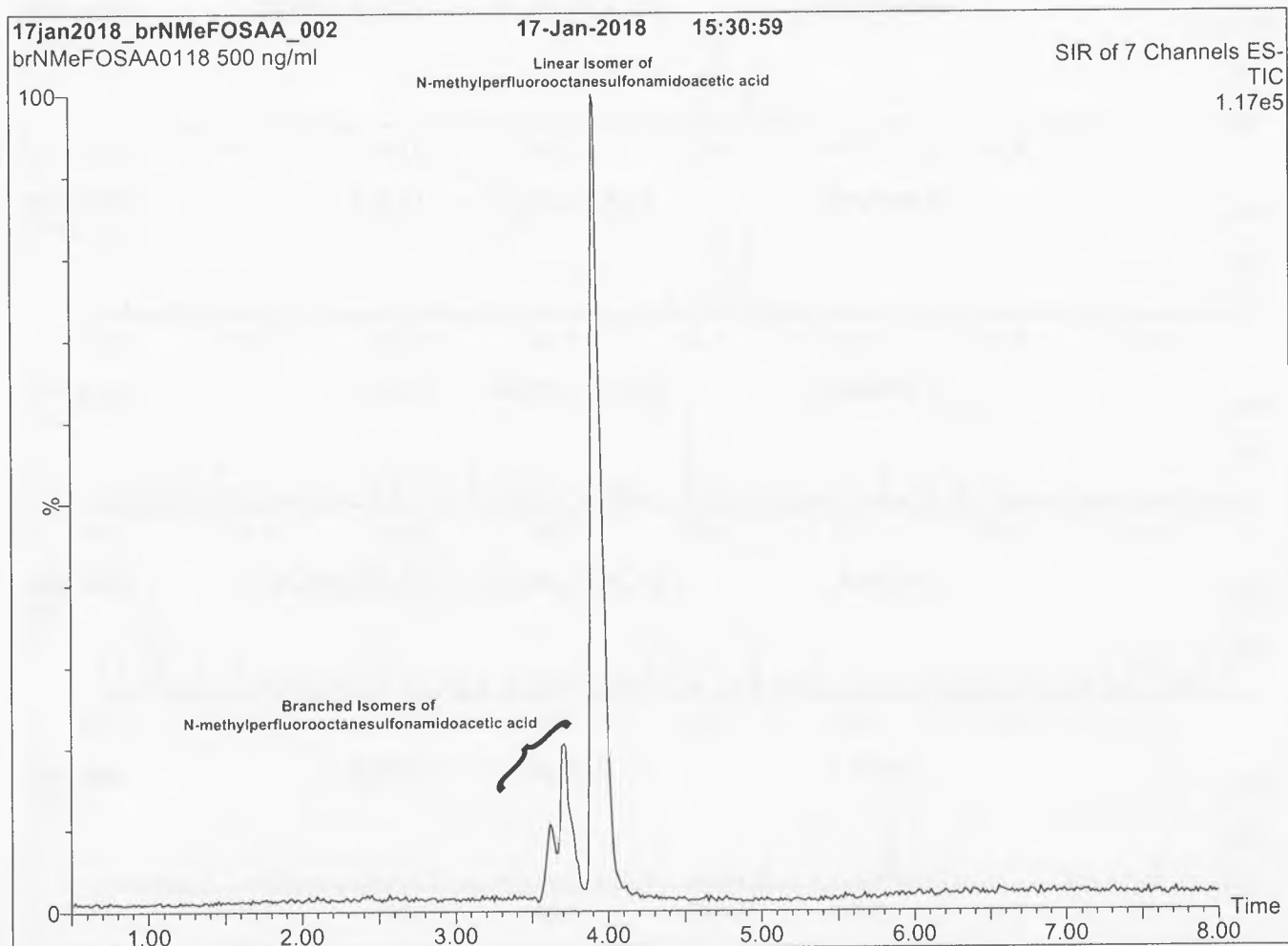
Time: 10 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-NMeFOSAA; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.

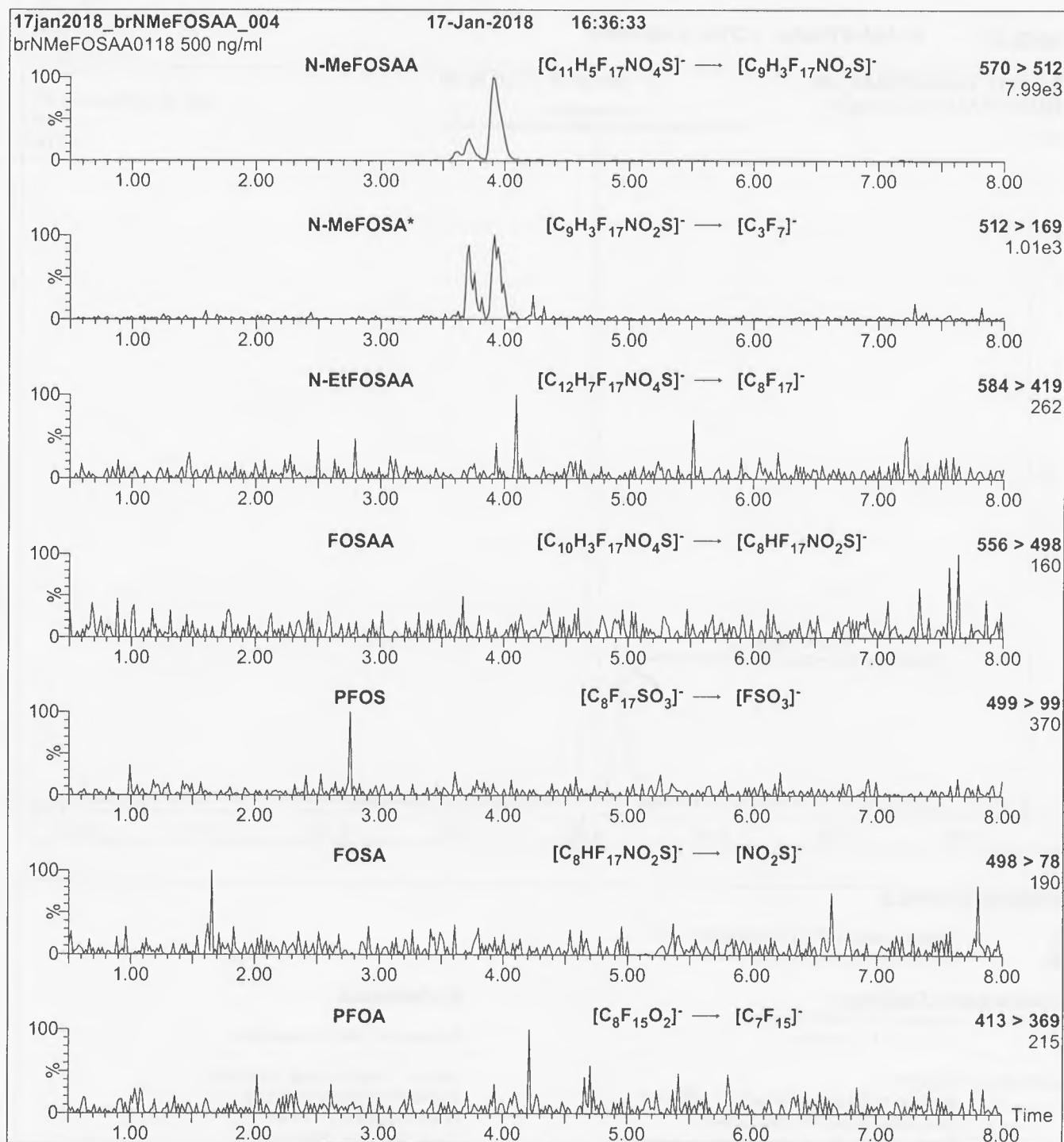
MS Parameters

Experiment: SIR (7 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15-60
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Time: 10 min

Flow: 300 μ l/min

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

MS Parameters

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11-40 (variable)

Flow: 300 μ l/min



It can be done

BDO Id: 180618-04

Reagent Receipt Report

Approved: Authorized

Name: PFOA - Technical Mix Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: T-PFOA Expires: 2/16/2022
 Type: Solution Consumed: _____
 Lot No: TPFOA0217 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: PFOA - Technical Mix

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used for the identification and/or semi-quantitative determination of the specific chemical compound(s) 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.

CHARACTERIZATION / HOMOGENEITY:

This product is a technical mixture obtained from an industrial manufacturer. It has been characterized as to its content and components 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. Testing of samples in solution has shown it to be homogeneous. As this product is a technical mixture, it should not be used to quantitate any of the listed components.

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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 NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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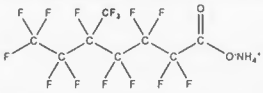
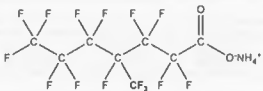
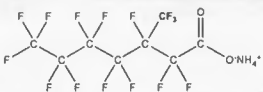

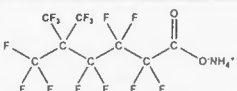
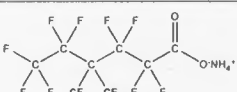
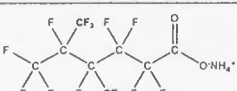
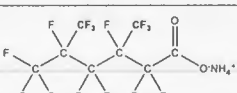
QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



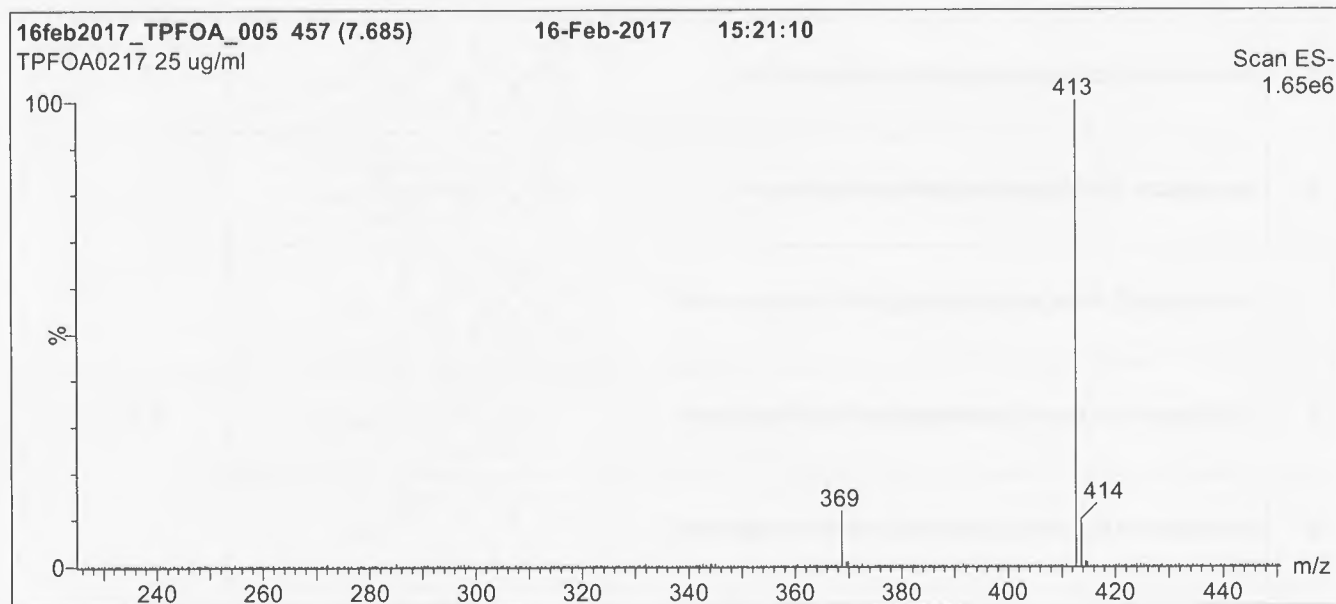
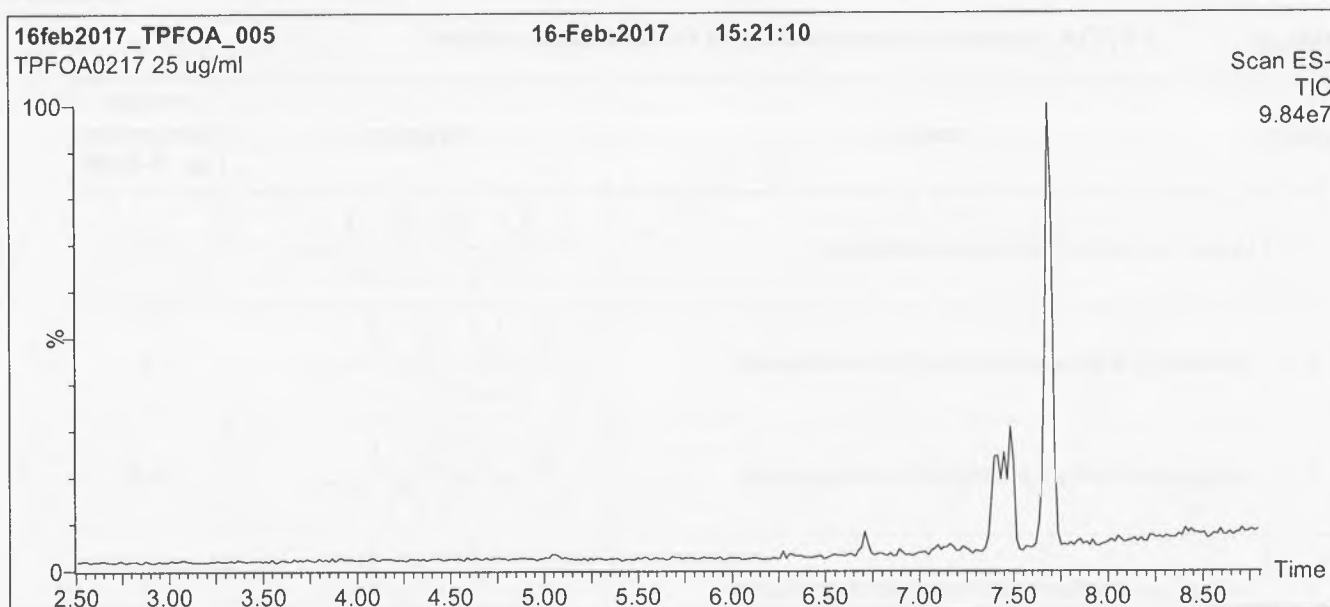
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: T-PFOA; Isomeric Components and Percent Composition*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Linear ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3
6 ^a	Ammonium 2-trifluoromethylperfluoroheptanoate		0.5
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9 ^a	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ¹⁹F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

^a Presence of this isomer could not be verified by LC/MS due to co-elution.

Figure 1: T-PFOA; 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: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

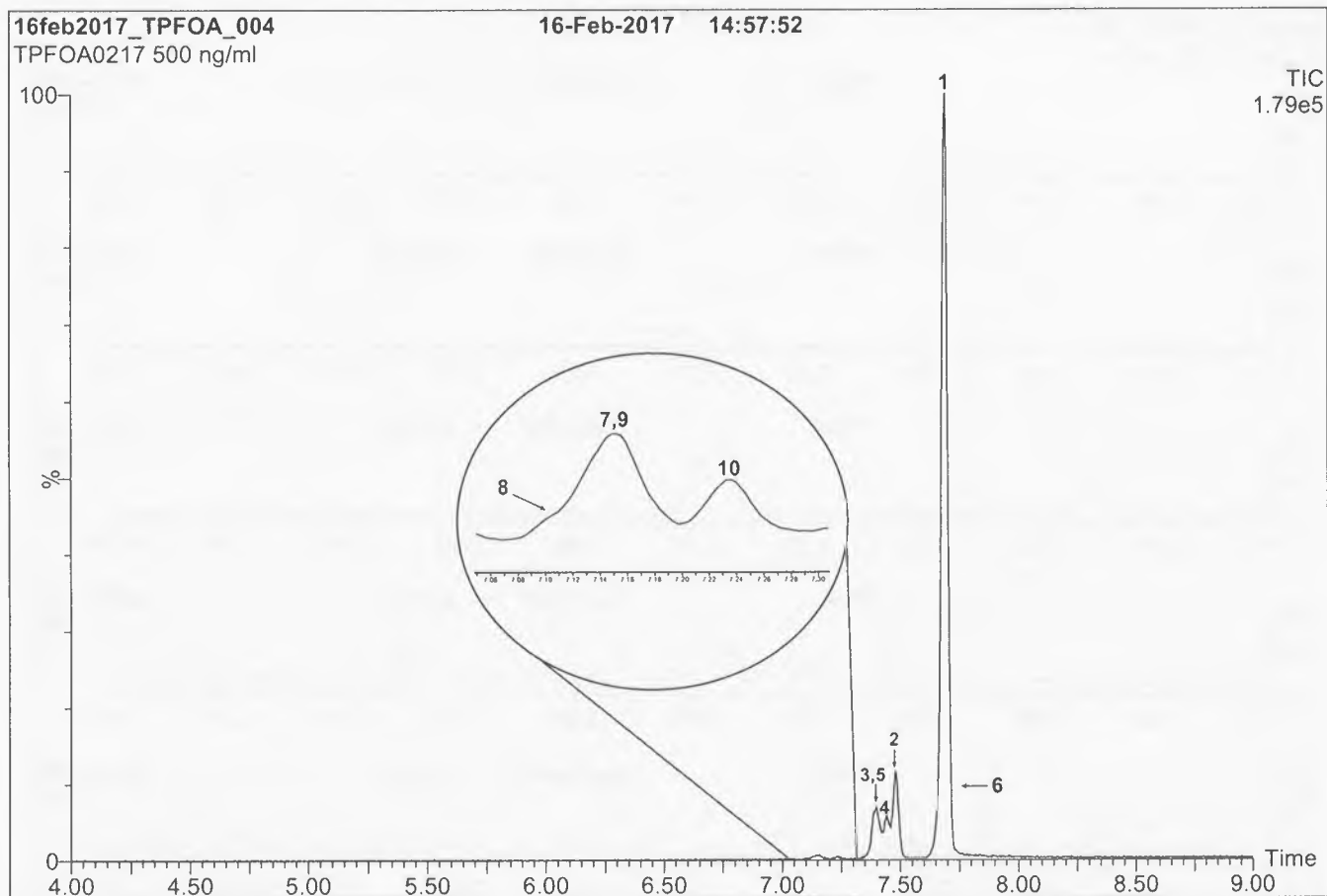
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: T-PFOA; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Kinetex PFP
2.6 μ m, 4.6 x 100 mm

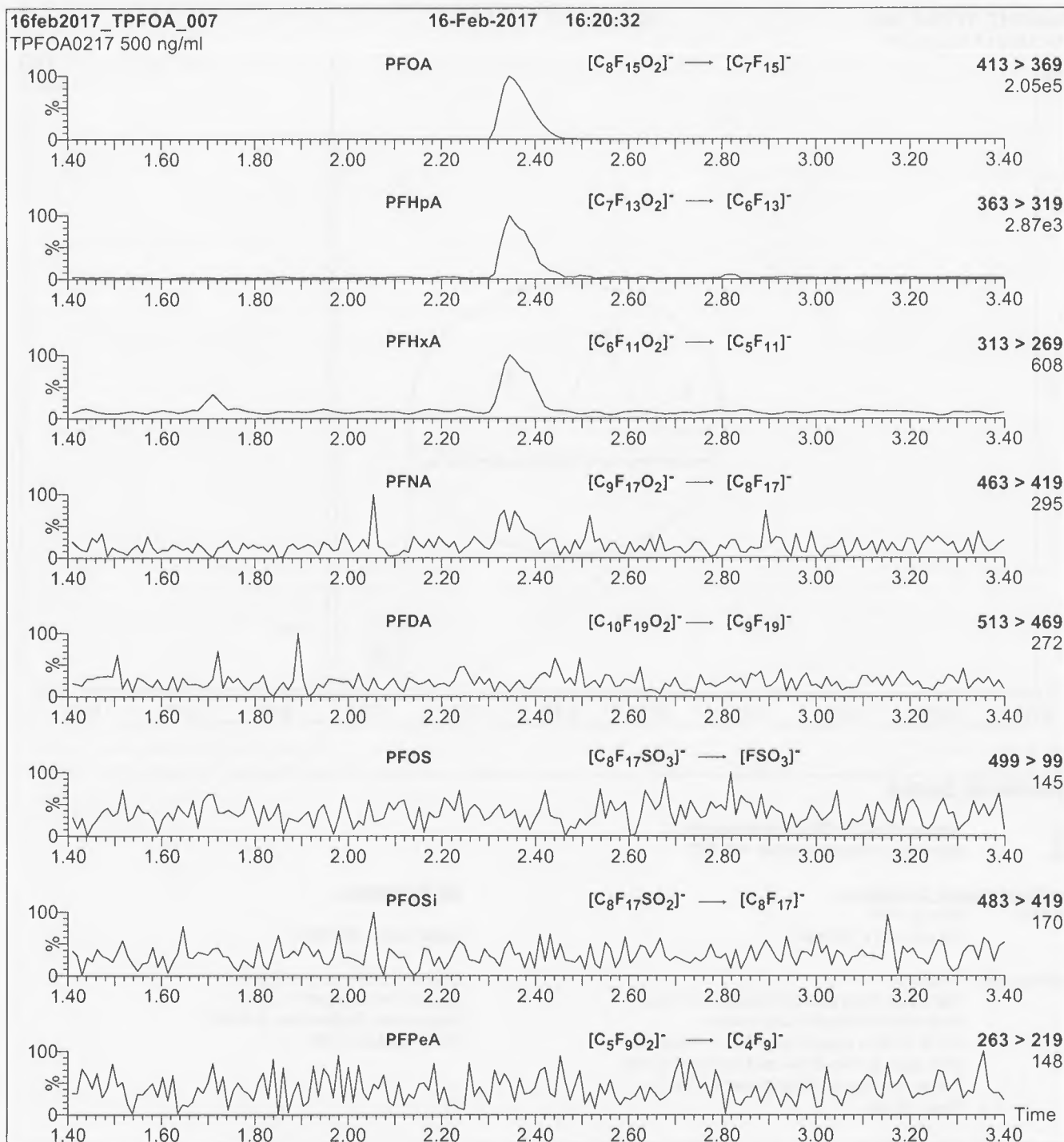
Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 5 min. Ramp to
90% organic over 5 min and hold for 1.5 min.
Return to initial conditions over 0.5 min.
Time: 13 min

Flow: 1.0 ml/min

MS Parameters:

Experiment: SIR (ES)

Source conditions: see Figure 1
Source Temperature = 110 °C
Desolvation Temperature = 325 °C
Cone Voltage = 15V

Figure 3: T-PFOA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

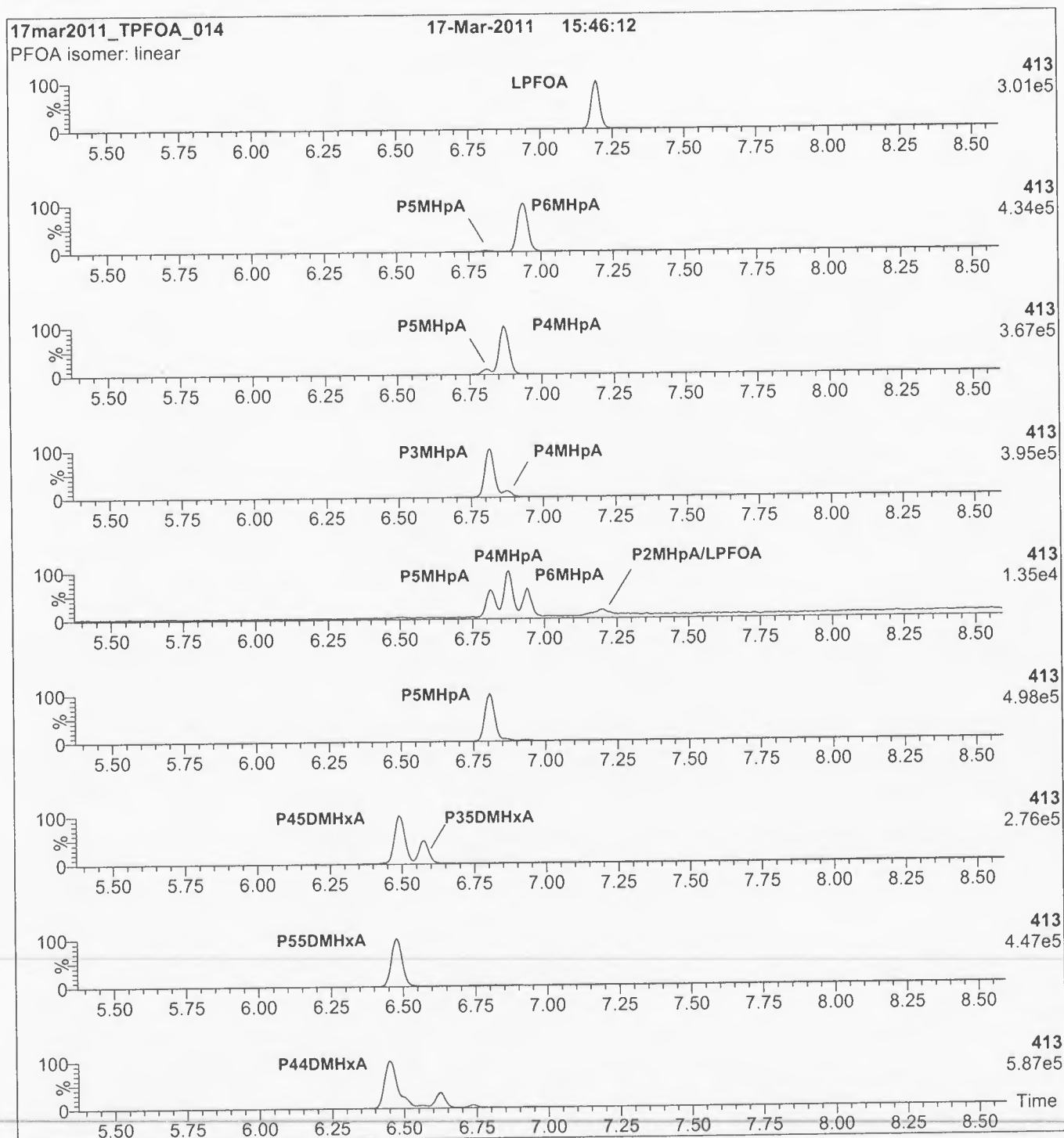
Injection: Direct loop injection
10 μ l (500 ng/ml T-PFOA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = variable (9-40)

Figure 4: T-PFOA; LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers**Conditions for Figure 4:**

Same as Figure 2.

BATTELLE

It can be done

BDO Id: 180618-06**Reagent Receipt Report**Approved: Authorized:

Name: Branched PFHxS Standard (50 µg/m Received: 6/18/2018

Vendor: Wellington Laboratories Custodian: Thorn, Jonathan

Catalogue No: br-PFHxSK Expires: 1/4/2022

Type: Solution Consumed: _____

Lot No: brPFHxSK0117 Stored In: Sample Preparation - C0103

Quantity: 1 ea mL % Moisture: 0

Description: Branched PFHxS Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

180618-06



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFHxSK

**Potassium Perfluorohexanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-PFHxSK
LOT NUMBER: brPFHxSK0117
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) 01/03/2017
LAST TESTED: (mm/dd/yyyy) 01/04/2017
EXPIRY DATE: (mm/dd/yyyy) 01/04/2022
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 ¹⁹F-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 ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- 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

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.

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.

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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).



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

Table A: br-PFHxSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-hexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CFSO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{CC}(\text{CF}_3)_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\ \\ \text{CF}_3 \end{array}$	0.2
7	Other Unidentified Isomers		0.5

* Percent of total perfluorohexanesulfonate isomers only.

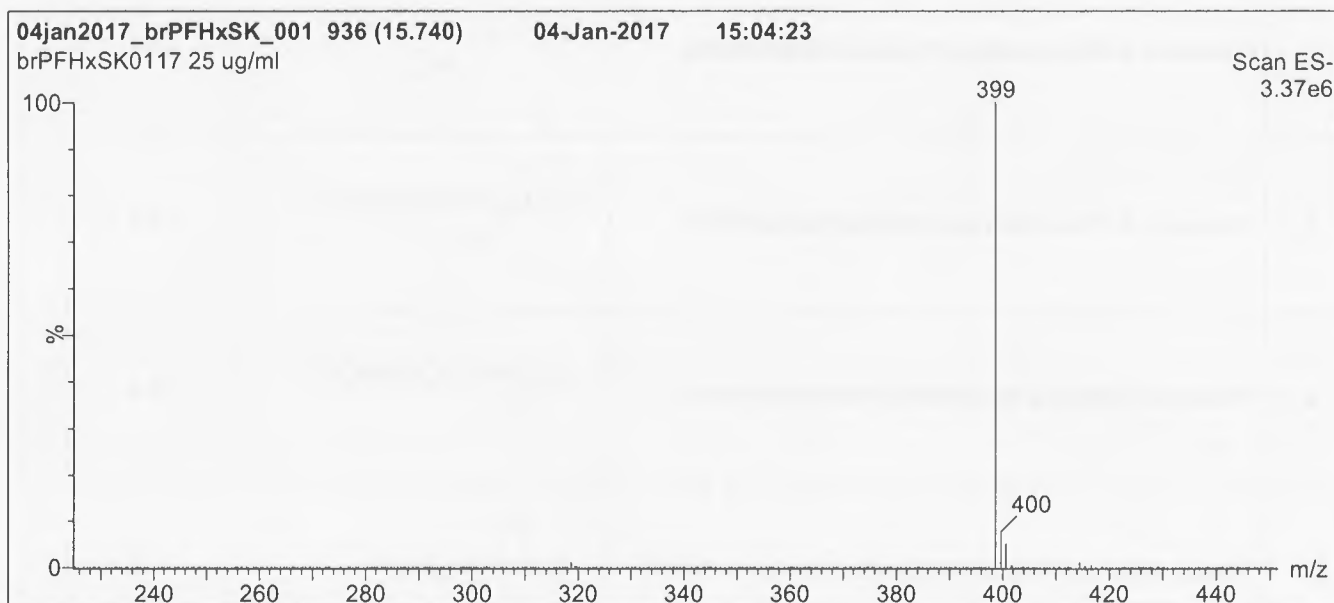
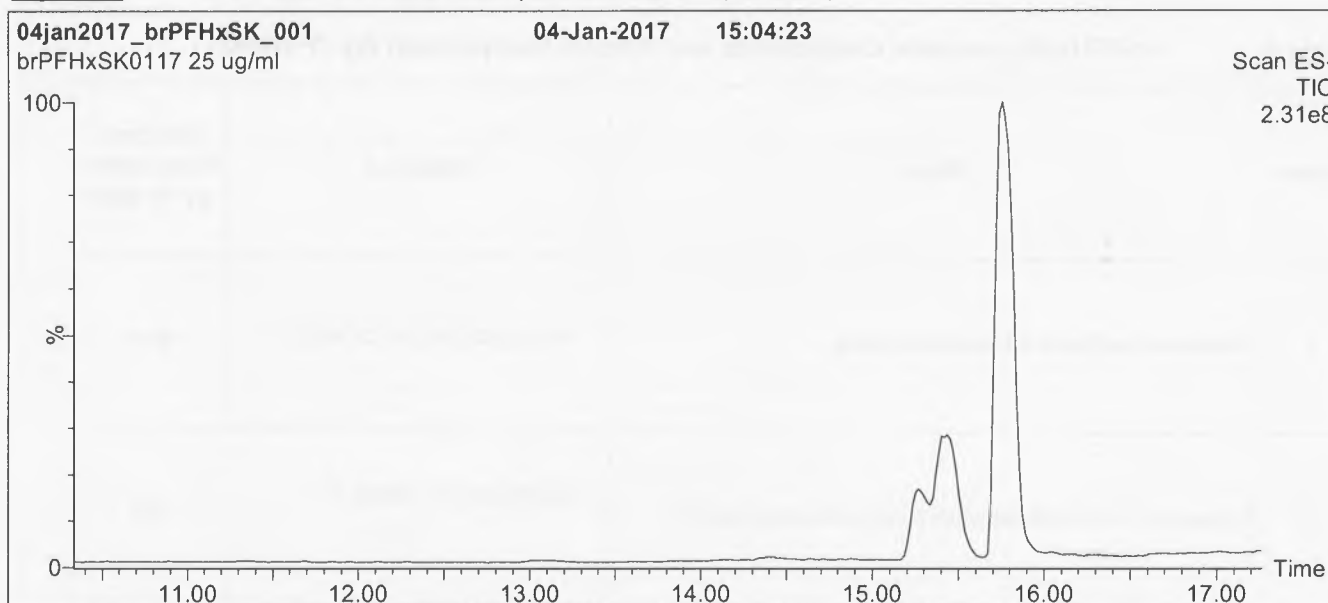
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By:


 B.G. Chittim

Date: 01/20/2017

(mm/dd/yyyy)

Figure 1: br-PFHxSK; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

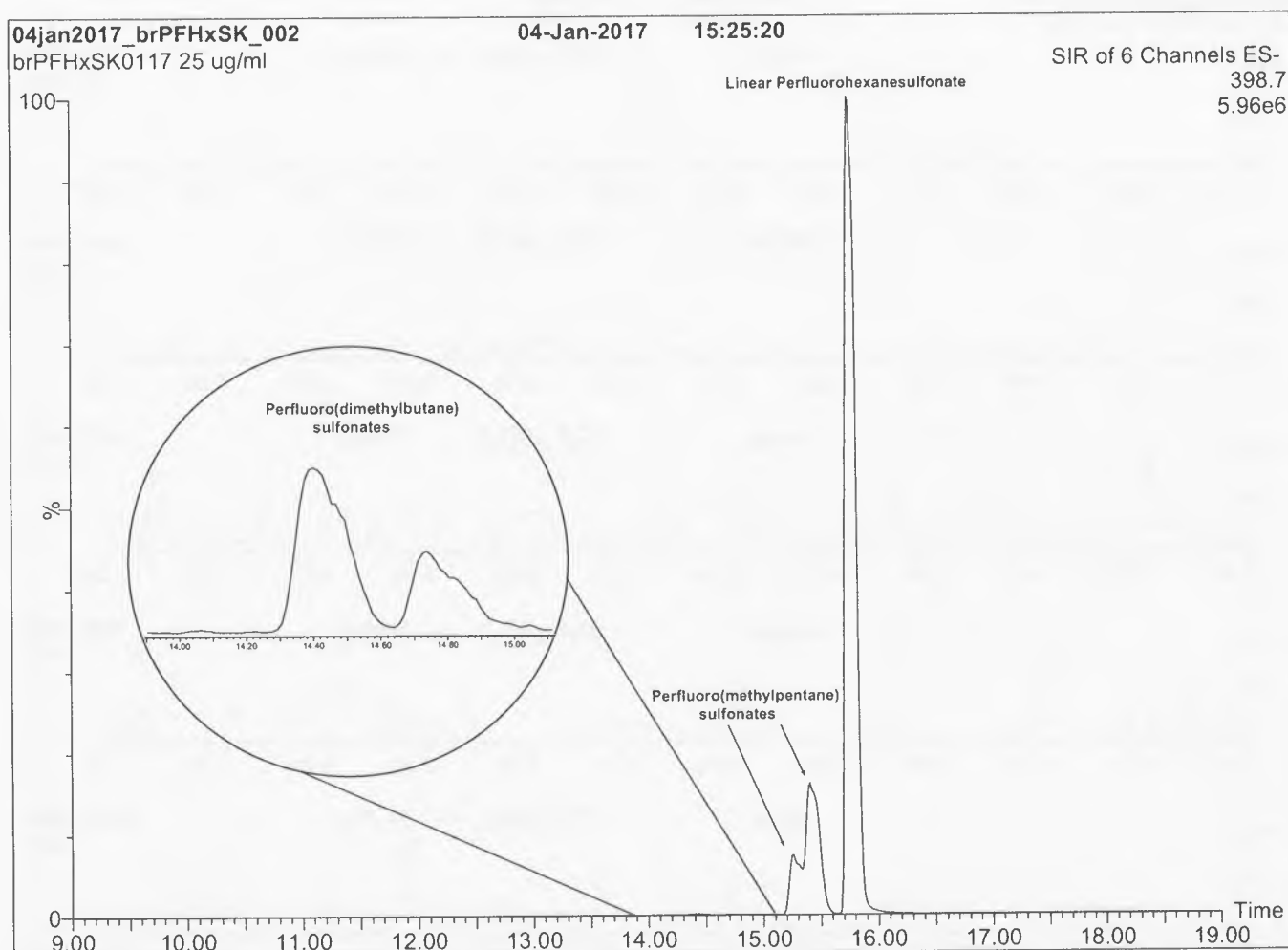
Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 14 min. Ramp to
90% organic over 3 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 20 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-PFHxSK; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

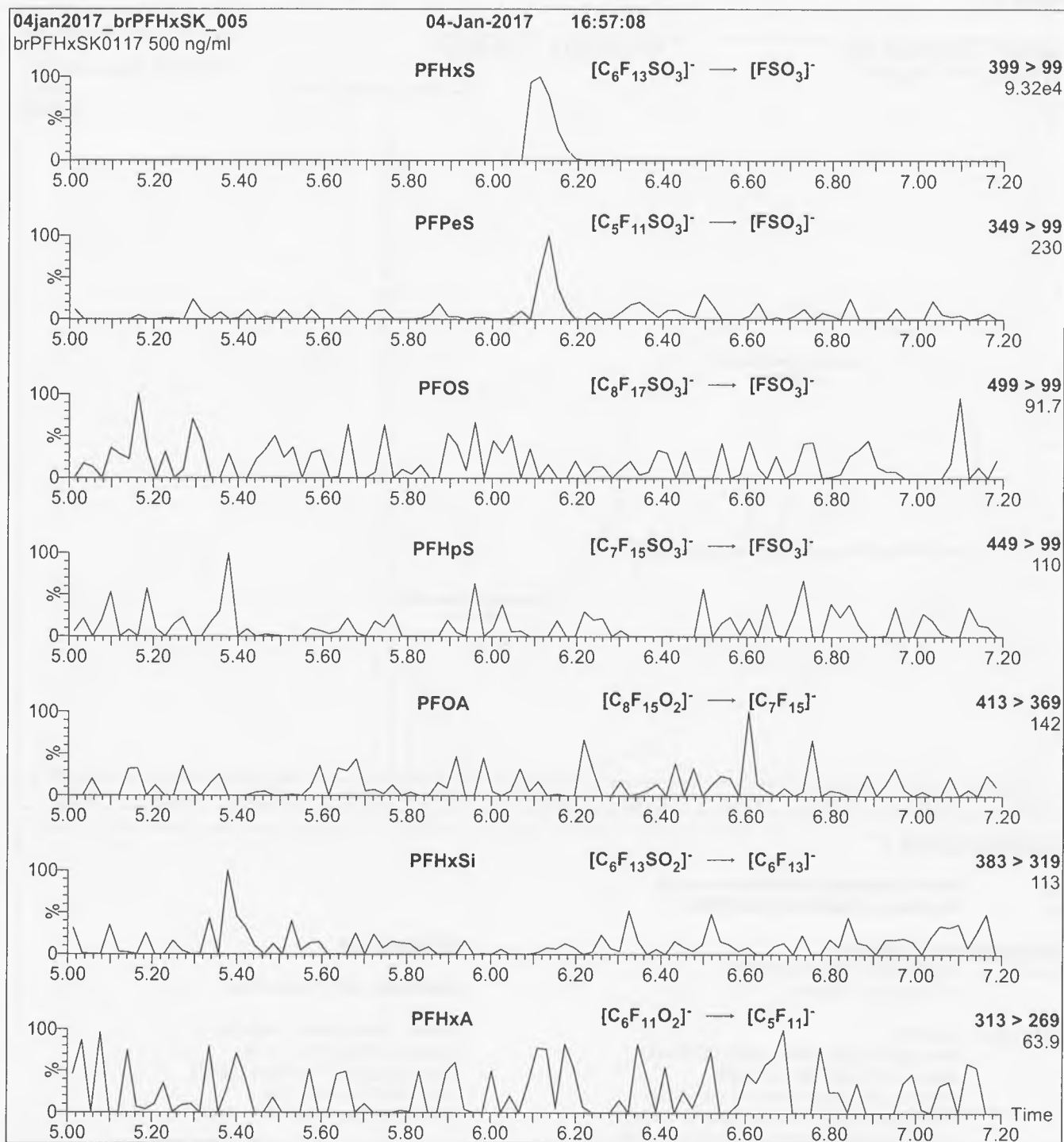
Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 50% organic over 14 min. Ramp to
90% organic over 3 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 20 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR (6 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = variable (15-62)
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 3: br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: Direct loop injection
10 μ l (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O
(both with 10 mM NH₄OAc buffer)

Flow: 300 μ l/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30



It can be done

BDO Id: 180618-07

Reagent Receipt Report

Approved: Authorized

Name: Branched PFOS Standard (50 µg/mL) Received: 6/18/2018
 Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
 Catalogue No: br-PFOSK Expires: 1/12/2022
 Type: Solution Consumed: _____
 Lot No: brPFOSK0117 Stored In: Sample Preparation - C0103
 Quantity: 1 ea mL % Moisture: 0
 Description: Branched PFOS Standard (50 µg/mL)

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
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Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

180618-07



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

**Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-PFOSK
LOT NUMBER: brPFOSK0117
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) 01/09/2017
LAST TESTED: (mm/dd/yyyy) 01/12/2017
EXPIRY DATE: (mm/dd/yyyy) 01/12/2022
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 ¹⁹F-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

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.

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.

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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 NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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).



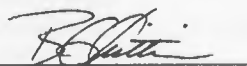
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: br-PFOSK; Isomeric Components and Percent Composition (by ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-octanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ ⁻ K ⁺ CF ₃ CF ₃	0.07

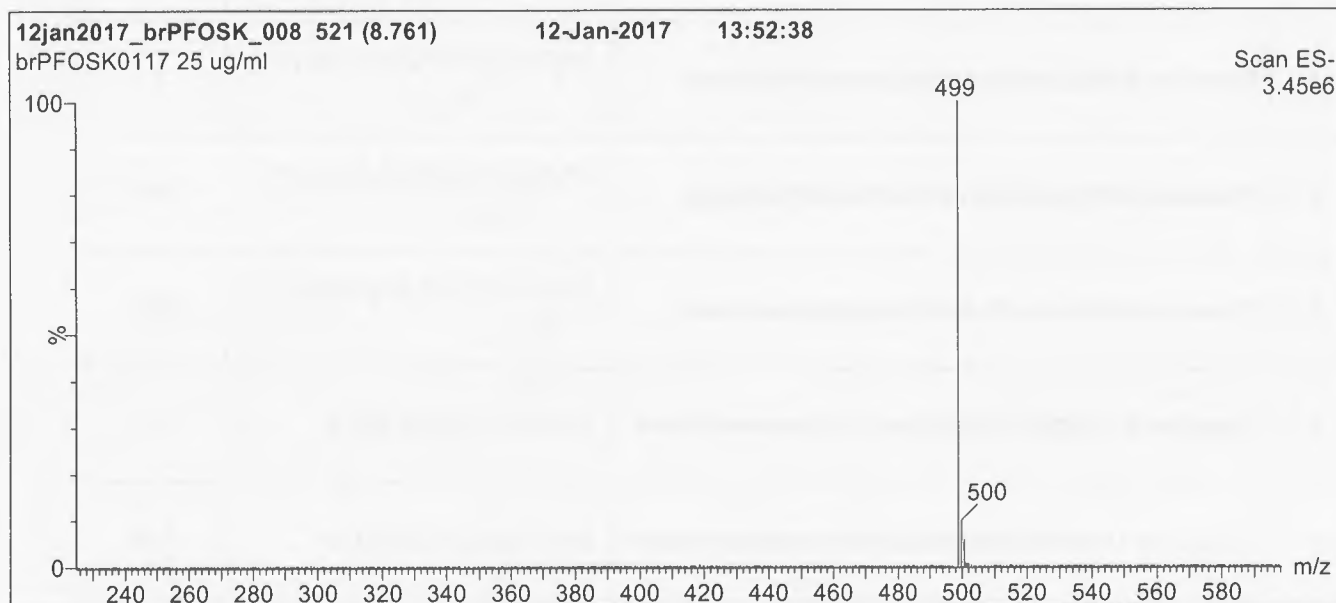
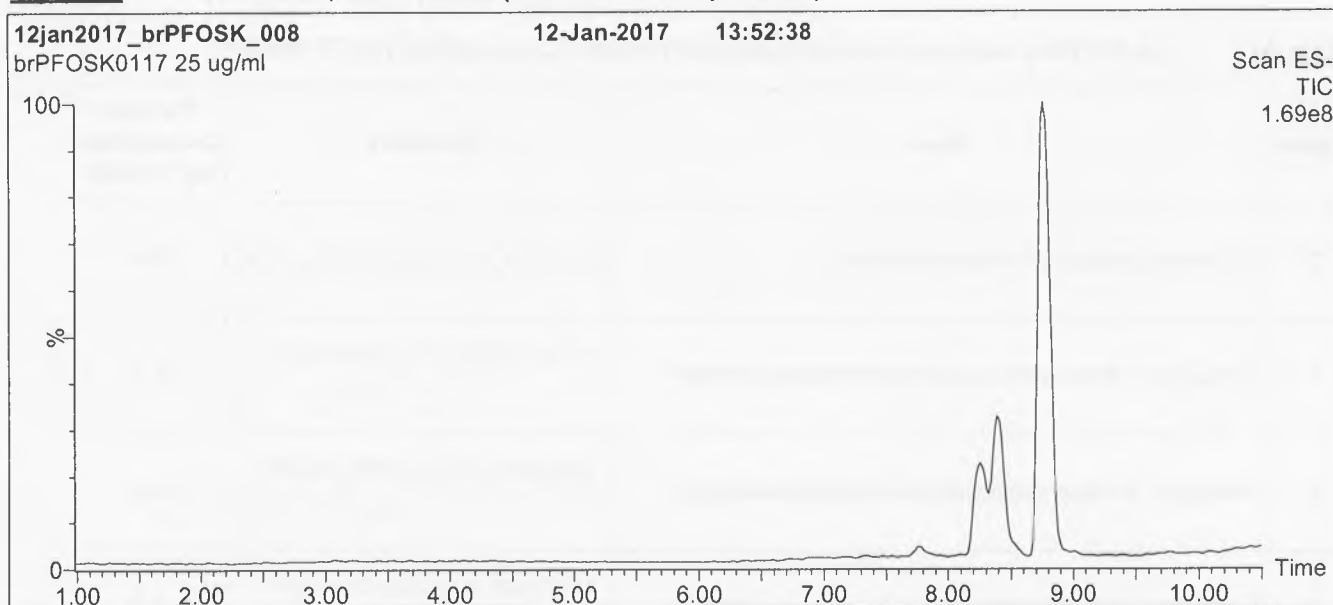
* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
 ** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By:


 B.G. Chittim

Date: 01/20/2017

(mm/dd/yyyy)

Figure 1: br-PFOSK; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

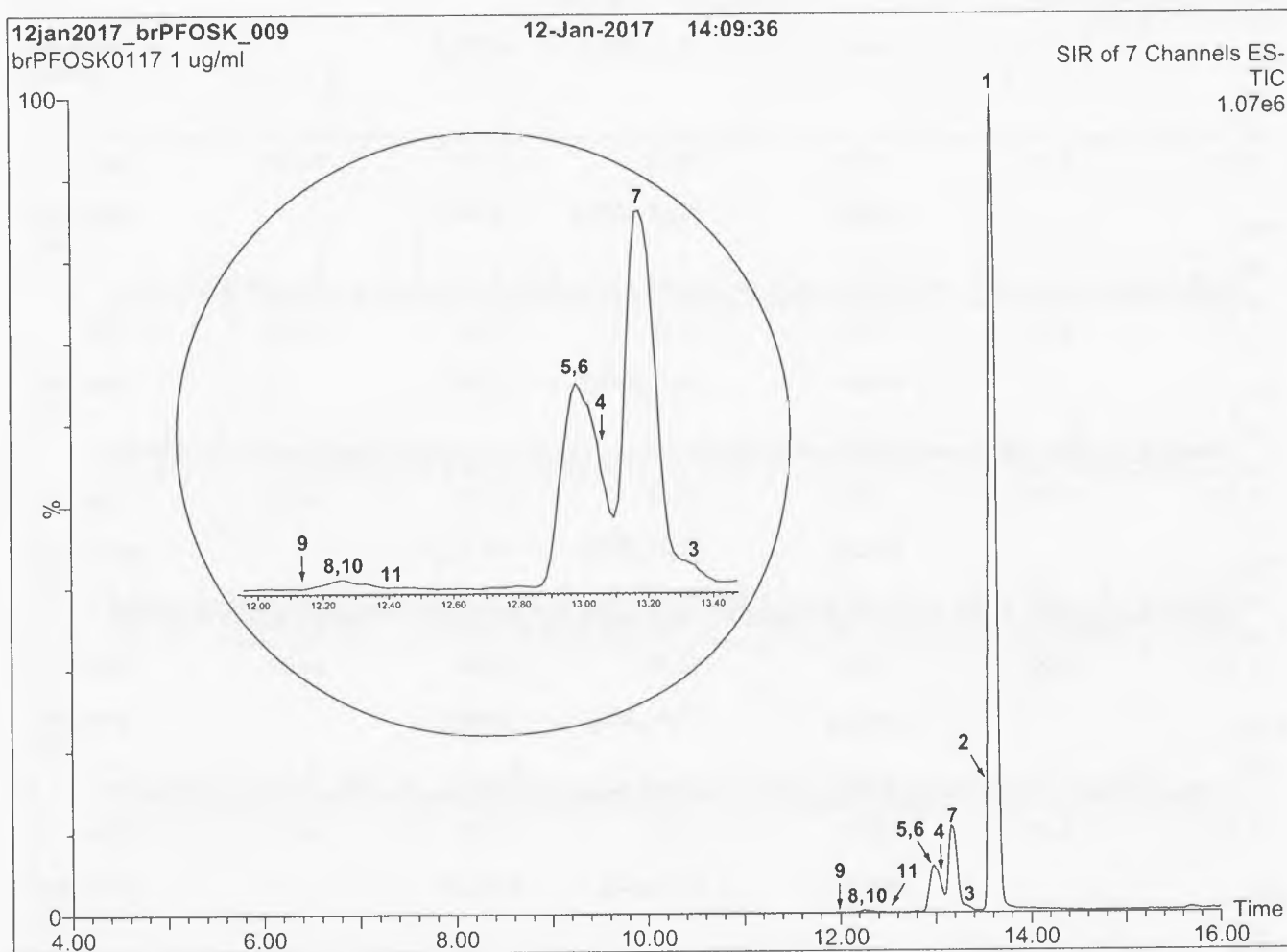
Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H₂O
(both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

Flow: 300 μ l/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-PFOSK; LC/MS Data (SIR)**Conditions for Figure 2:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈ (1.7 μ m, 2.1 x 100 mm)

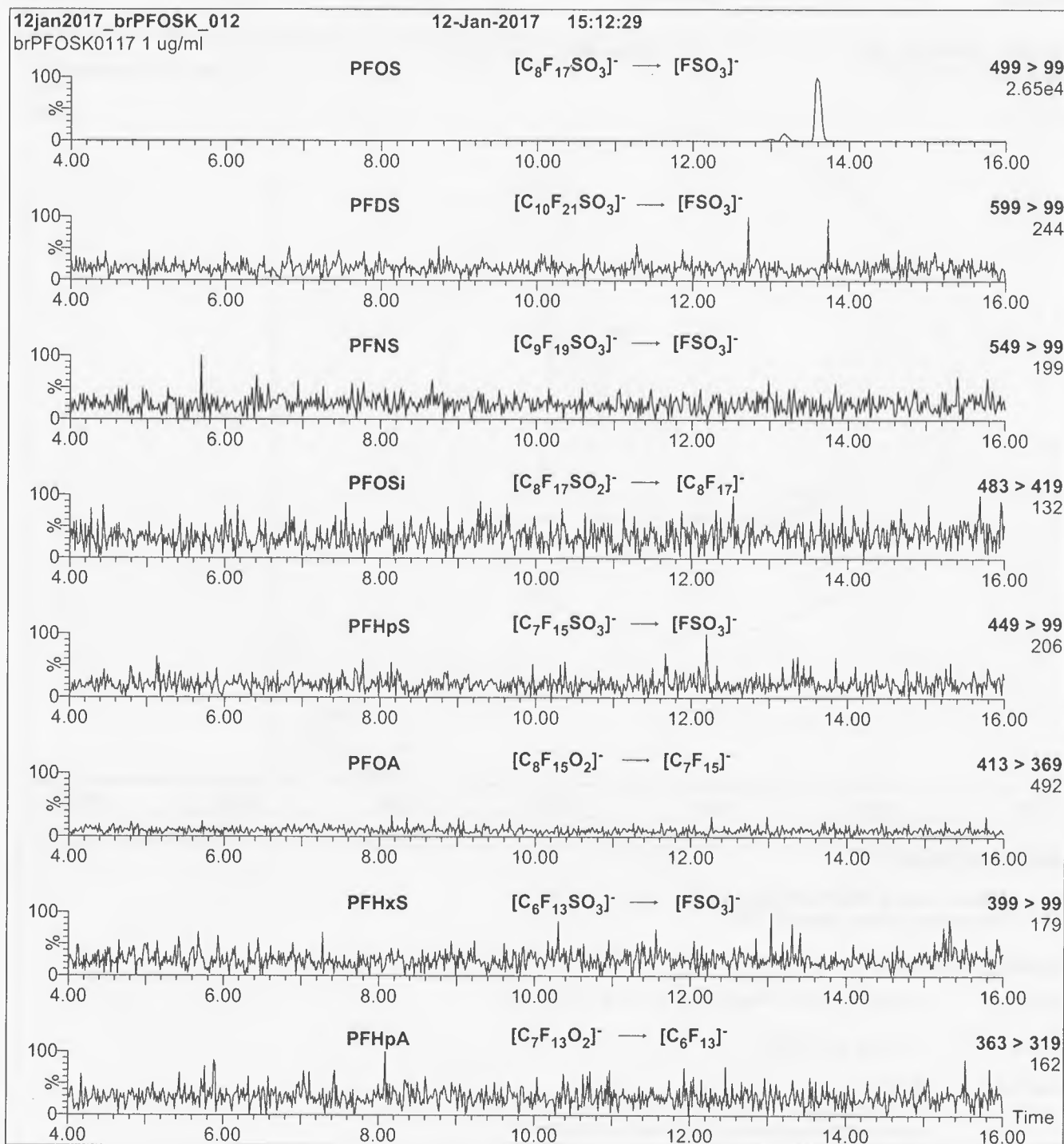
Injection: 1.0 μ g/ml of br-PFOSK

Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H₂O (both with 10 mM NH₄OAc buffer)
Ramp to 90% organic over 15 min and hold for 3 min.
Return to initial conditions over 1 min.
Time: 20 min

Flow: 300 μ l/min

MS Conditions:

SIR (ES)
Source = 110 °C
Desolvation = 325 °C
Cone Voltage = 60V

Figure 3: br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 11-50 (variable)



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 061918
Description: PFOA - DOD
24 components
Expiration Date: 061923
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 2684186

Solvent(s): Methanol (1 mM KOH) 061918 (98%)
2-Propanol 23214 (2%)

		061918
Formulated By:	Mario Luis	DATE
		061918
Reviewed By:	Pedro L. Rentas	DATE

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

50.0 5E-05 Balance Uncertainty
0.007 Flask Uncertainty

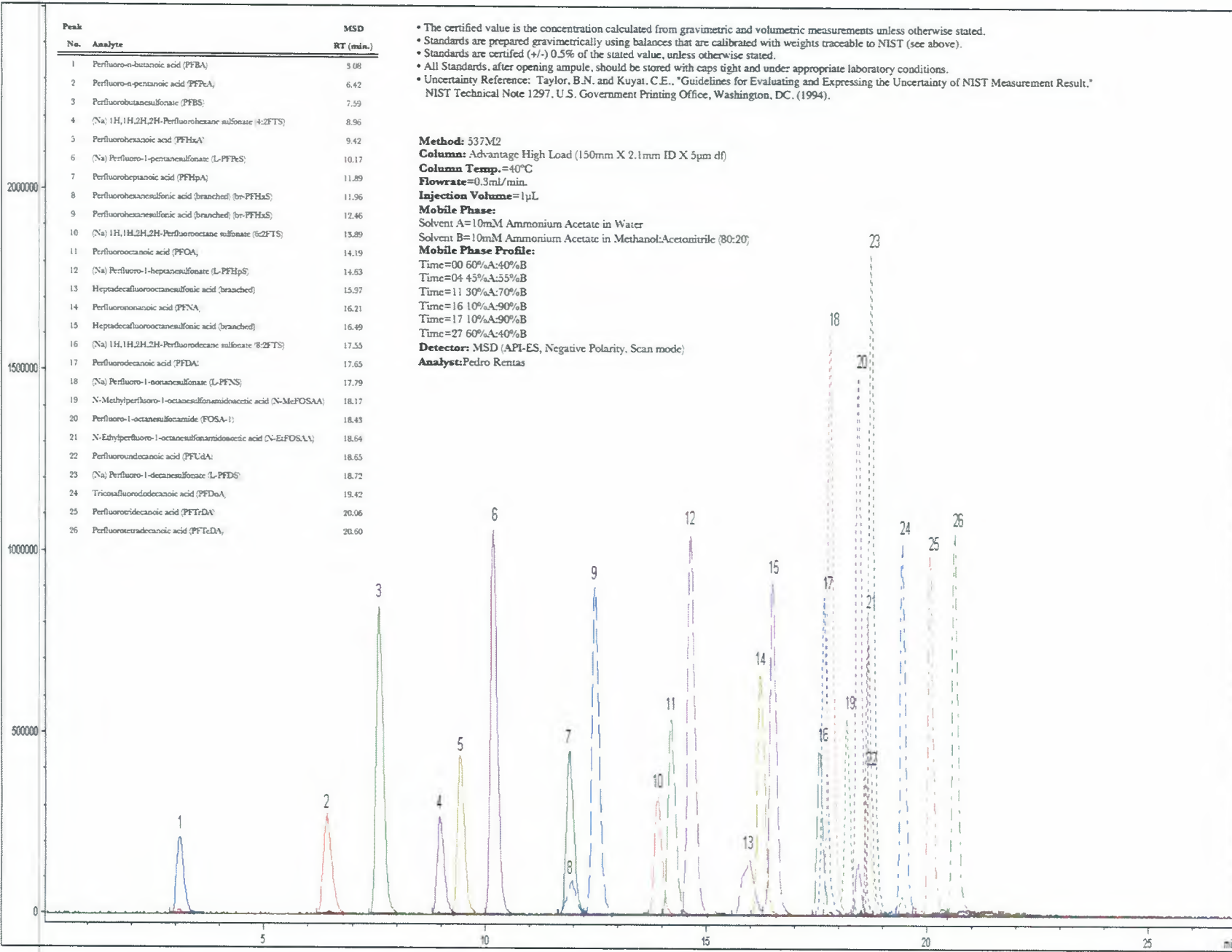
Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid (linear) -	99542	110317	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid -	99543	110317	0.02	1.00	0.004	50.7	1.01	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid -	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid -	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid -	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid -	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid -	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ort-rat 57mg/kg
8. Perfluoroundecanoic acid -	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid -	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid -	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid -	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide -	3677	FOSA0817I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid -	3667	NMeFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid -	3664	NEtFOSAA0118	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid -	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonate -	99544	111017	0.02	0.98	0.004	51.3	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched) -	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid -	3672	LPFHpS0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched) -	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid -	3957	LPFNS0917	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid -	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid -	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid -	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Method: 537M2
Column: Advantage High Load (150mm X 2.1mm ID X 5µm df)
Column Temp. = 40°C
Flowrate = 0.3ml/min.
Injection Volume = 1µL
Mobile Phase:
 Solvent A = 10mM Ammonium Acetate in Water
 Solvent B = 10mM Ammonium Acetate in Methanol:Acetonitrile (80:20)
Mobile Phase Profile:
 Time = 00 60%A:40%B
 Time = 04 45%A:55%B
 Time = 11 30%A:70%B
 Time = 16 10%A:90%B
 Time = 17 10%A:90%B
 Time = 27 60%A:40%B
Detector: MSD (API-ES, Negative Polarity, Scan mode)
Analyst: Pedro Rentas

Peak No.	Analyte	MSD RT (min.)
1	Perfluoro-n-butanoic acid (PFBA)	3.08
2	Perfluoro-n-pentanoic acid (PFPeA)	6.42
3	Perfluorobutanesulfonate (PFBS)	7.59
4	(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate (4:2FTS)	8.96
5	Perfluorohexanoic acid (PFHxA)	9.42
6	(Na) Perfluoro-1-pentanesulfonate (L-PFPeS)	10.17
7	Perfluorooheptanoic acid (PFHpA)	11.89
8	Perfluorohexanesulfonic acid (branched) (br-PFHxS)	11.96
9	Perfluorohexanesulfonic acid (branched) (br-PFHxS)	12.46
10	(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate (6:2FTS)	13.89
11	Perfluorooctanoic acid (PFOA)	14.19
12	(Na) Perfluoro-1-heptanesulfonate (L-PFHpS)	14.63
13	Heptadecafluorooctanesulfonic acid (branched)	15.97
14	Perfluorononanoic acid (PFNA)	16.21
15	Heptadecafluorooctanesulfonic acid (branched)	16.49
16	(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2FTS)	17.55
17	Perfluorodecanoic acid (PFDA)	17.65
18	(Na) Perfluoro-1-nonanesulfonate (L-PFNs)	17.79
19	N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)	18.17
20	Perfluoro-1-octanesulfonamide (FOSA-1)	18.43
21	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)	18.64
22	Perfluoroundecanoic acid (PFUDA)	18.65
23	(Na) Perfluoro-1-decenesulfonate (L-PFDS)	18.72
24	Tricosafluorododecanoic acid (PFDoA)	19.42
25	Perfluorotridecanoic acid (PFTrDA)	20.06
26	Perfluorotetradecanoic acid (PFTeDA)	20.60



It can be done

BDO Id: 180726-04

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS injection standar Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-C-IS Expires: 5/2/2022
Type: Solution Consumed: _____
Lot No: MPFACCIS0516 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS injection standards

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	2.0000	100.00	--	--	<input type="checkbox"/>		
13C2-PFOA	BDO-2107	2.0000	100.00	--	--	<input type="checkbox"/>		
13C3-PFBA	BDO-2231	2.0000	100.00	--	--	<input type="checkbox"/>		
13C4-PFOS	BDO-2121	1.9140	100.00	--	--	<input type="checkbox"/>		

Total Analytes: 4

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIESCERTIFICATE OF ANALYSIS
DOCUMENTATION**MPFAC-C-IS****Mass-Labelled Perfluorinated
Compound Injection Standards Solution**

PRODUCT CODE: MPFAC-C-IS
LOT NUMBER: MPFACCIS0516
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 05/24/2016
LAST TESTED: (mm/dd/yyyy) 05/02/2017
EXPIRY DATE: (mm/dd/yyyy) 05/02/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-C-IS is a solution/mixture of mass-labelled (¹³C) perfluoroalkylcarboxylic acids and a mass-labelled (¹³C) perfluoroalkylsulfonate. The components and their concentrations are given in Table A.

MPFAC-C-IS was designed for, and prepared to be used with, PFC-CVS-C.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkylsulfonate all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The mass-labelled perfluoroalkylsulfonate compound concentration is reported as the salt.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

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.

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, as well as mixtures and calibration solutions, are compared to older lots in a similar 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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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).

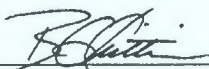


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

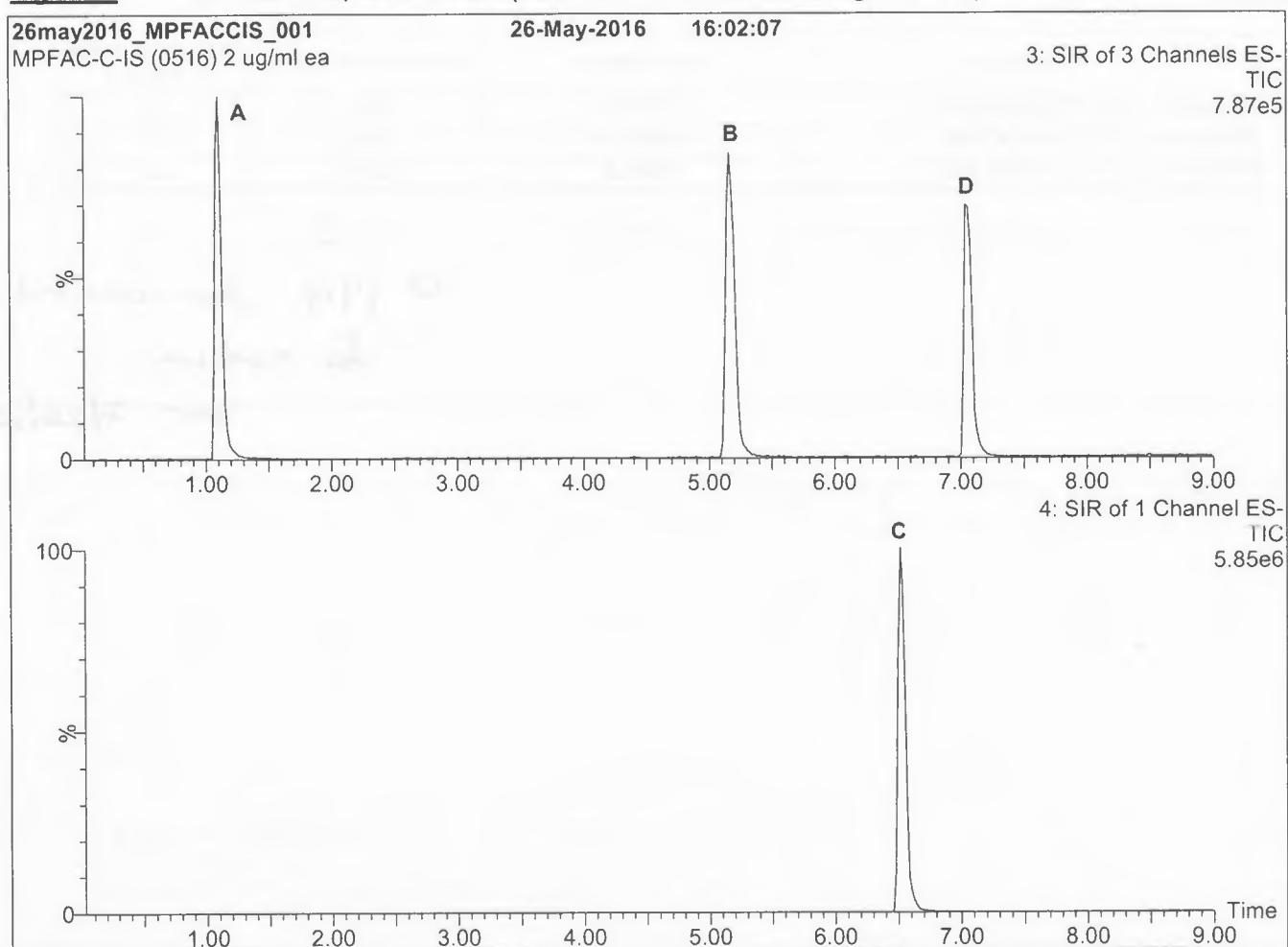
Table A: MPFAC-C-IS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[2,3,4- ¹³ C ₃]butanoic acid	M3PFBA	2000	A
Perfluoro-n-[1,2- ¹³ C ₂]octanoic acid	M2PFOA	2000	B
Perfluoro-n-[1,2- ¹³ C ₂]decanoic acid	MPFDA	2000	D
Sodium perfluoro-1-[1,2,3,4- ¹³ C ₄]octanesulfonate	MPFOS	2000 [Ⓢ]	C

Ⓢ 1914 when corrected
for sodium
JMS 7/26/2017

Certified By: 
B.G. Chittim, General Manager

Date: 05/04/2017
(mm/dd/yyyy)

Figure 1: MPFAC-C-IS; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

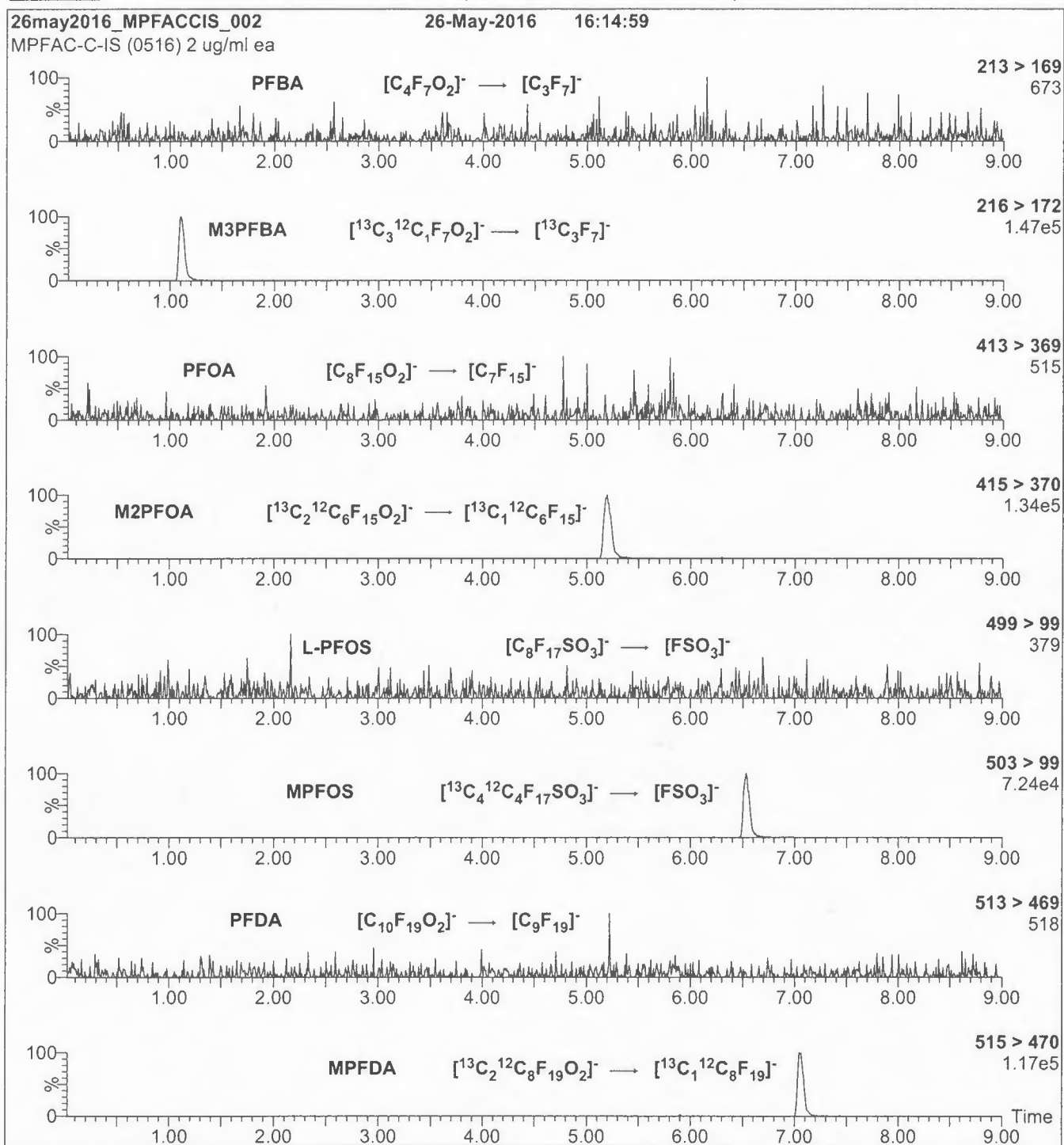
Mobile phase: Gradient
 Start: 50% (80:20 MeOH:ACN) / 50% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 8 min
 and hold for 2 min before returning
 to initial conditions in 1 min.
 Time: 12 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
 Capillary Voltage (kV) = 2.00
 Cone Voltage (V) = variable (10-80)
 Cone Gas Flow (l/hr) = 50
 Desolvation Gas Flow (l/hr) = 750

Figure 2: MPFAC-C-IS; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-C-IS)

Mobile phase: Same as Figure 1

Flow: 300 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.50e-3

Collision Energy (eV) = 8-50 (variable)

It can be done

BDO Id: 180726-05

Reagent Receipt Report

Approved: Authorized

Name: Mass-labelled PFAS Extraction Stand Received: 7/26/2018
Vendor: Wellington Laboratories Custodian: Thorn, Jonathan
Catalogue No: MPFAC-24ES Expires: 2/7/2023
Type: Solution Consumed: _____
Lot No: MPFAC24ES0218 Stored In: LC Laboratory - R0107
Quantity: 2 ea 1.2 mL % Moisture: 0
Description: Mass-labelled PFAS Extraction Standard Solution

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	0.9350	100.00	--	--	<input type="checkbox"/>			
13C2-6:2FTS	BDO-2230	0.9490	100.00	--	--	<input type="checkbox"/>			
13C2-8:2FTS	BDO-2220	0.9580	100.00	--	--	<input type="checkbox"/>			
13C2-PFDoA	BDO-2112	1.0000	100.00	--	--	<input type="checkbox"/>			
13C2-PFTeDA	BDO-2224	1.0000	100.00	--	--	<input type="checkbox"/>			
13C3-PFBS	BDO-2226	0.9290	100.00	--	--	<input type="checkbox"/>			
13C3-PFHxS	BDO-2227	0.9460	100.00	--	--	<input type="checkbox"/>			
13C4-PFBA	BDO-2105	1.0000	100.00	--	--	<input type="checkbox"/>			
13C4-PFHpA	BDO-2218	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFHxA	BDO-2217	1.0000	100.00	--	--	<input type="checkbox"/>			
13C5-PFPeA	BDO-2216	1.0000	100.00	--	--	<input type="checkbox"/>			
13C6-PFDA	BDO-2222	1.0000	100.00	--	--	<input type="checkbox"/>			
13C7-PFUnA	BDO-2223	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-FOSA	BDO-2225	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOA	BDO-2219	1.0000	100.00	--	--	<input type="checkbox"/>			
13C8-PFOS	BDO-2228	0.9570	100.00	--	--	<input type="checkbox"/>			
13C9-PFNA	BDO-2221	1.0000	100.00	--	--	<input type="checkbox"/>			
d3-MeFOSAA	BDO-1838	1.0000	100.00	--	--	<input type="checkbox"/>			
d5-EtFOSAA	BDO-1839	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 19

Notes:

Approved by: Lizotte Jr, Robert Approved on: 7/27/2018 11:10:00 AM
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**MPFAC-24ES****Mass-Labelled Per- and Poly-fluoroalkyl Substance
Extraction Standard Solution**

PRODUCT CODE: MPFAC-24ES
LOT NUMBER: MPFAC24ES0218
SOLVENT(S): Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 02/07/2018
LAST TESTED: (mm/dd/yyyy) 02/07/2018
EXPIRY DATE: (mm/dd/yyyy) 02/07/2023
RECOMMENDED STORAGE: Refrigerate ampoule

DESCRIPTION:

MPFAC-24ES is a solution/mixture of ten mass-labelled (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂ and C₁₄), three mass-labelled (¹³C) perfluoroalkylsulfonates (C₄, C₆, and C₈), three mass-labelled (¹³C) telomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, and perfluoro-1-[¹³C₈]octanesulfonamide. The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkylsulfonates, mass-labelled telomer sulfonates, and perfluoro-1-[¹³C₈]octanesulfonamide all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
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 acids to their respective methyl esters.

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

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, \dots, x_n on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

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 $\pm 5\%$ (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).



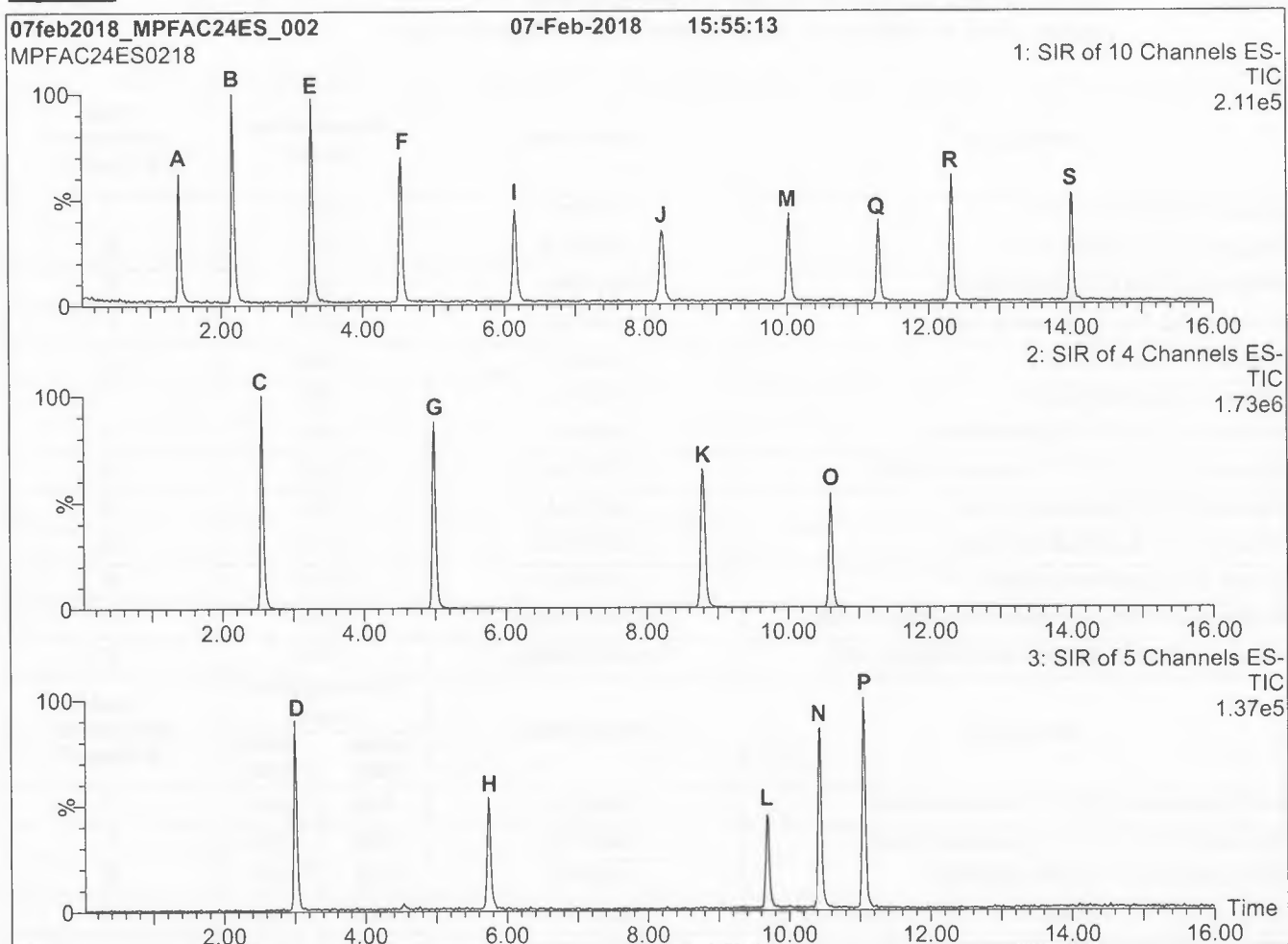
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: MPFAC-24ES; Components and Concentrations
(ng/ml, \pm 5% in Methanol / Isopropanol (2%) / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-[¹³ C ₄]butanoic acid	MPFBA	1000		A
Perfluoro-n-[¹³ C ₅]pentanoic acid	M5PFPeA	1000		B
Perfluoro-n-[1,2,3,4,6- ¹³ C ₅]hexanoic acid	M5PFHxA	1000		E
Perfluoro-n-[1,2,3,4- ¹³ C ₄]heptanoic acid	M4PFHpA	1000		F
Perfluoro-n-[¹³ C ₆]octanoic acid	M8PFOA	1000		I
Perfluoro-n-[¹³ C ₇]nonanoic acid	M9PFNA	1000		J
Perfluoro-n-[1,2,3,4,5,6- ¹³ C ₆]decanoic acid	M6PFDA	1000		M
Perfluoro-n-[1,2,3,4,5,6,7- ¹³ C ₇]undecanoic acid	M7PFUdA	1000		Q
Perfluoro-n-[1,2- ¹³ C ₂]dodecanoic acid	MPFDoA	1000		R
Perfluoro-n-[1,2- ¹³ C ₂]tetradecanoic acid	M2PFTeDA	1000		S
Perfluoro-1-[¹³ C ₈]octanesulfonamide	M8FOSA	1000		O
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000		N
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000		P
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[2,3,4- ¹³ C ₃]butanesulfonate	M3PFBS	1000	929	C
Sodium perfluoro-1-[1,2,3- ¹³ C ₃]hexanesulfonate	M3PFHxS	1000	946	G
Sodium perfluoro-1-[¹³ C ₈]octanesulfonate	M8PFOS	1000	957	K
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]hexanesulfonate	M2-4:2FTS	1000	935	D
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]octanesulfonate	M2-6:2FTS	1000	949	H
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]decanesulfonate	M2-8:2FTS	1000	958	L

Certified By: 
B.G. Chittim, General Manager

Date: 02/09/2018
(mm/dd/yyyy)

Figure 1: MPFAC-24ES; LC/MS Data (Total Ion Current Chromatogram; SIR)**Conditions for Figure 1:**

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
 Start: 40% (80:20 MeOH:ACN) / 60% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 55% organic over 3.5 min.
 Ramp to 70% organic over 6.5 min.
 Ramp to 85% organic over 5 min and hold for
 1 min before returning to initial conditions in 0.5 min.
 Time: 17 min

Flow: 300 μ l/min

MS Parameters

Experiment: SIR

Source: Electrospray (negative)
 Capillary Voltage (kV) = 3.00
 Cone Voltage (V) = variable (10-60)
 Cone Gas Flow (l/hr) = 100
 Desolvation Gas Flow (l/hr) = 750

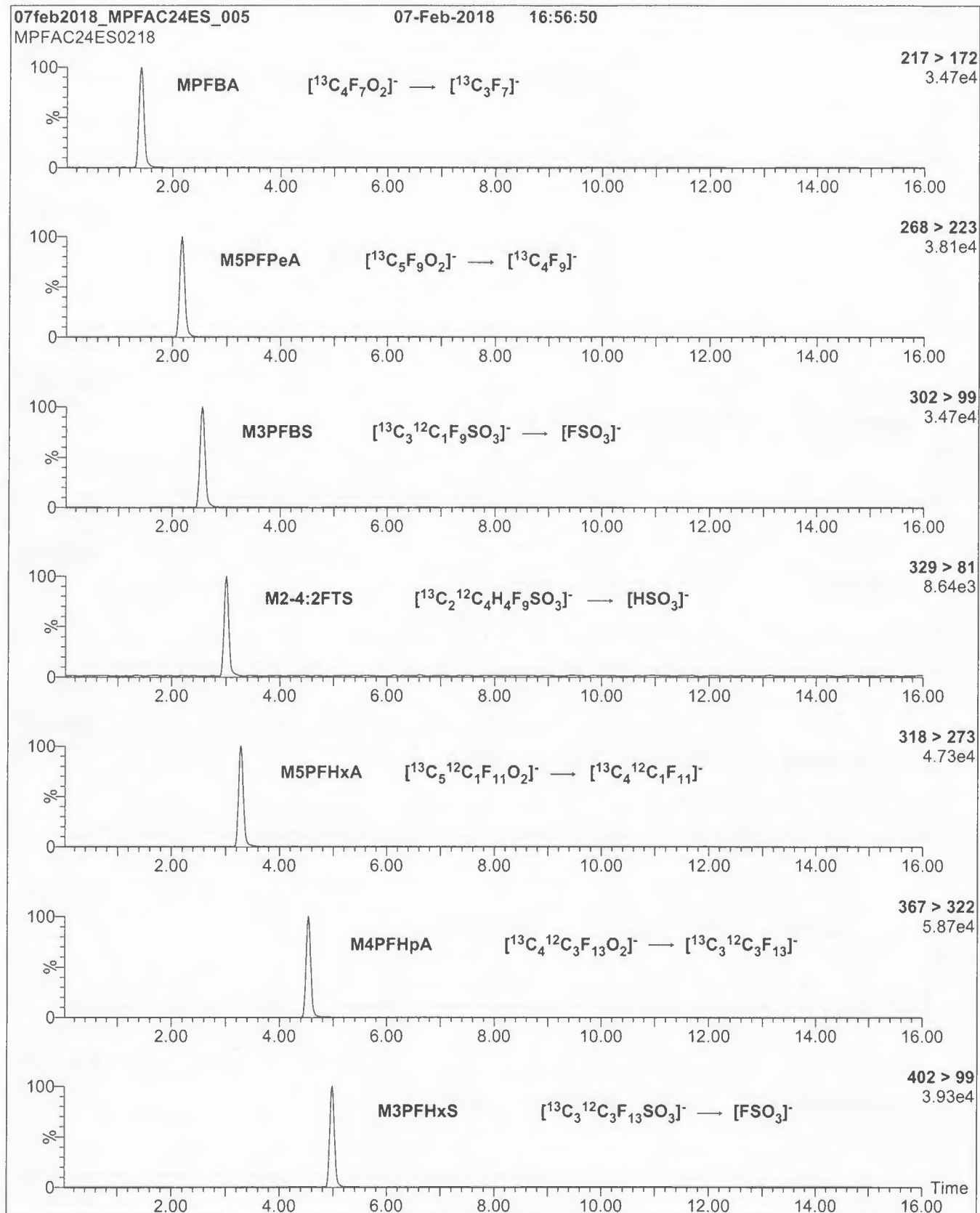
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

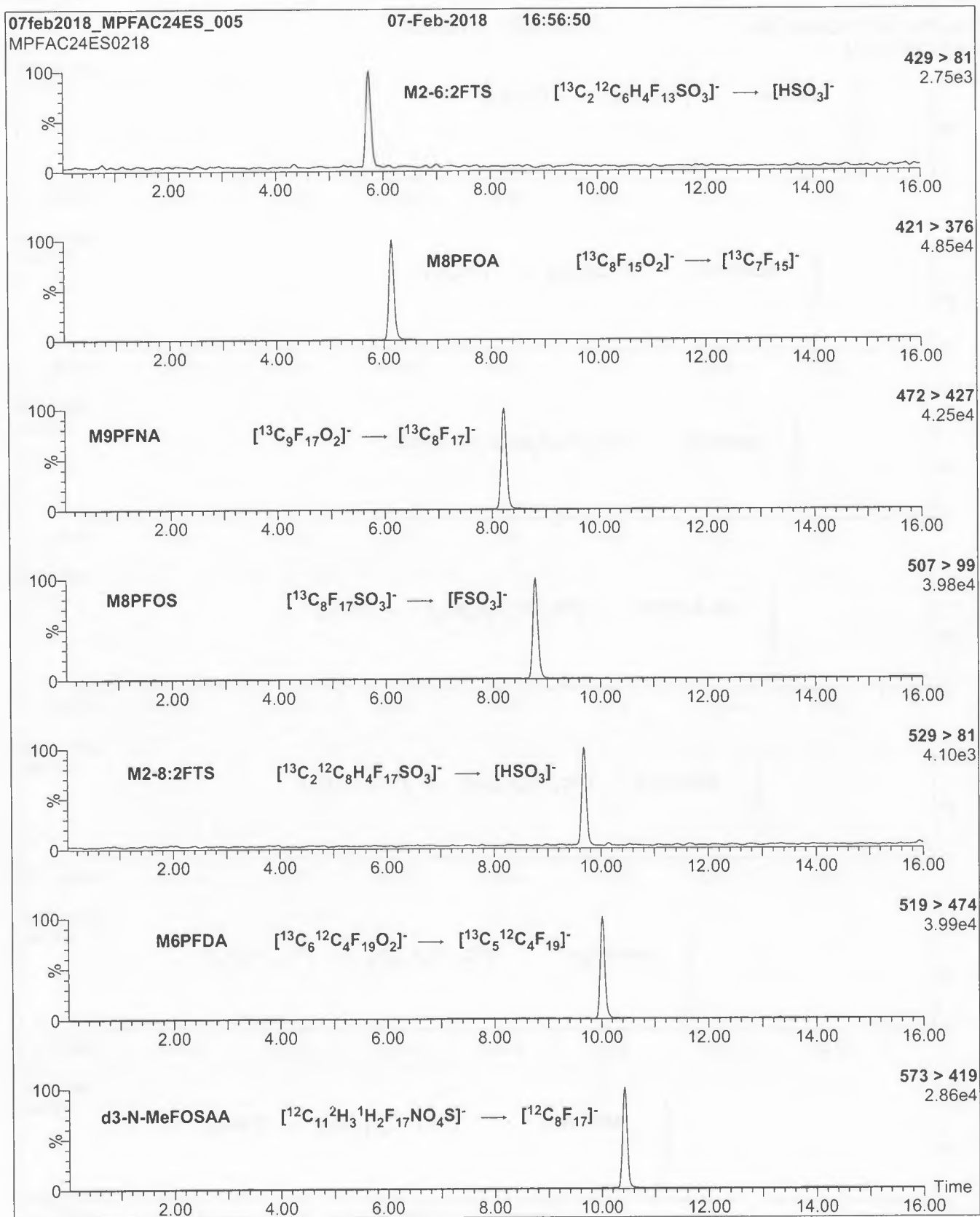
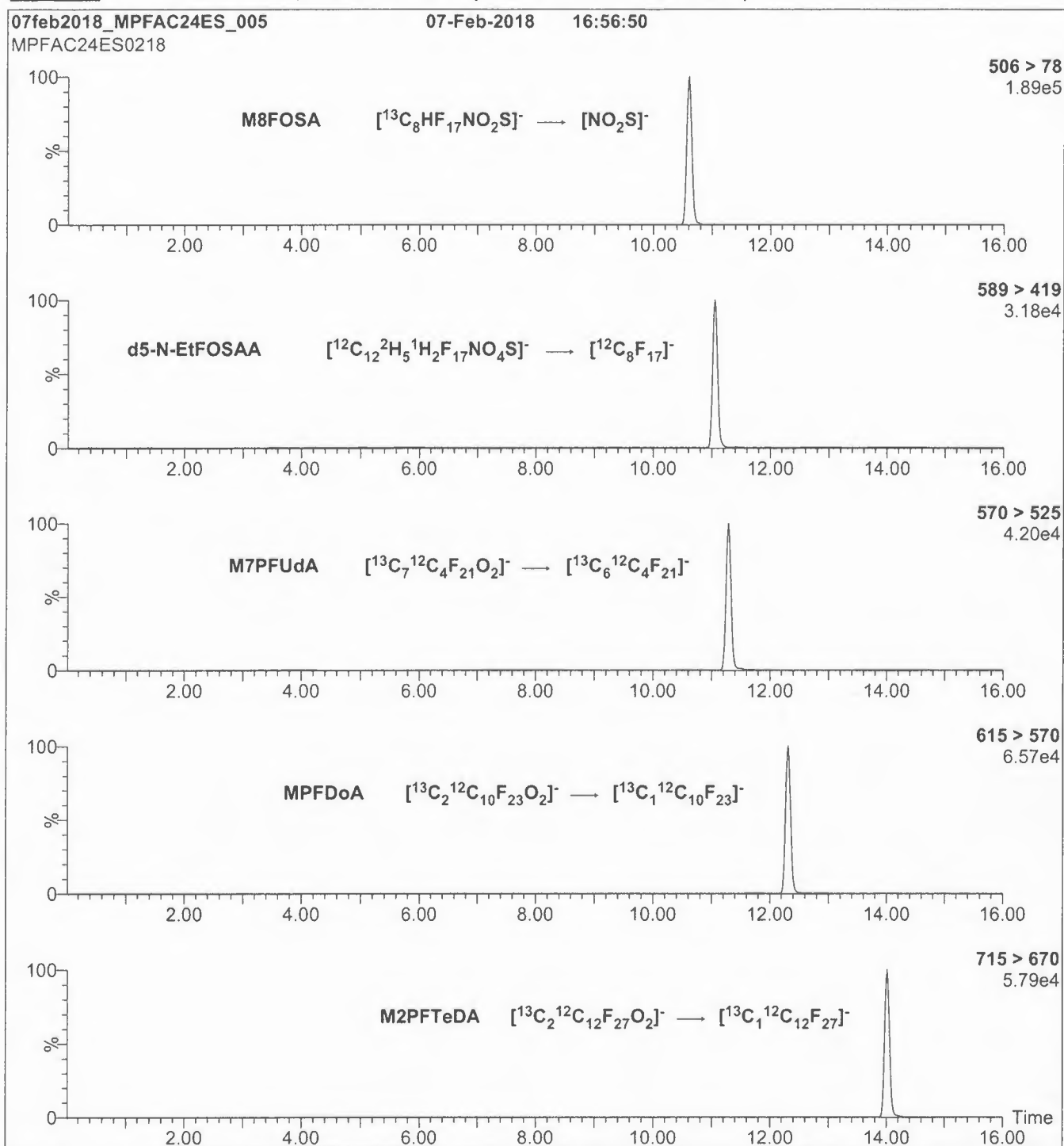
Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)

Figure 2: MPFAC-24ES; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (MPFAC-24ES)

Mobile phase: Same as Figure 1

Flow: 300 $\mu\text{l}/\text{min}$ **MS Parameters**

Collision Gas (mbar) = 3.28e-3

Collision Energy (eV) = 8-40 (variable)

Sample Preparation



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS**

<u>Project Title(s)</u>	<u>Project No.(s)</u>
CTO-4164 Naval Base Ventura County, California	100110125-01
18-0571	
CTO-4164: Analysis of Solids	
SB, SS	
SOP Numbers (see workplan for modifications)	
ExtractionSOP No.	5-370

This Batch Contains The Following Samples:		
CR853PB-FS	J8264-FS	J8270-FS
CR854LCS-FS	J8265-FS	J8271-FS
J8254-FS	J8266-FS	
J8255-FS	J8267-FS	
J8256-FS	J8268-FS	
J8263-FS	J8269-FS	

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Jonathan Thorn

Approved By:	Date	Initials
Denise Schumitz	10/02/2018	DMS



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Sample ID	Description
CR853PB-FS	Procedural Blank - Ottawa Sand (180507-02)
CR854LCS-FS	Laboratory Control Sample - Ottawa Sand (180507-02)
J8254-FS	VC-PM365-SS03-000H
J8255-FS	VC-PM365-SB03-0102
J8256-FS	VC-PM365-SB03-0506
J8263-FS	VC-PM553-SS01-000H
J8264-FS	VC-PM553-SB01-0102
J8265-FS	VC-PM553-SB01-0506
J8266-FS	VC-PM553-SS02-000H
J8267-FS	VC-PM553-SB02-0102
J8268-FS	VC-PM553-SB02-0506
J8269-FS	VC-PM553-SS03-000H
J8270-FS	VC-PM553-SB03-0102
J8271-FS	VC-PM553-SB03-0506

Samples Assigned By:

Jonathan Thorn

Date : September 21, 2018

Comments:



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Requested On/By: 09/25/2018 SAS	Purpose: Sample Preparation
Relinquished On/By: 09/25/2018 MDS	Last Activity: Return
Accepted On/By: 09/25/2018 SAS	Returned On/To: 09/25/2018 MDS
Stored In Facility: Sample Preparation	Returned To Facility: Custody: NA
Stored Until: 09/25/2018	
Stored Comment: NA	Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J8254	1	--	Intact	NA
2	J8255	1	--	Intact	NA
3	J8256	1	--	Intact	NA
4	J8263	1	--	Intact	NA
5	J8264	1	--	Intact	NA
6	J8265	1	--	Intact	NA
7	J8266	1	--	Intact	NA
8	J8267	1	--	Intact	NA
9	J8268	1	--	Intact	NA
10	J8269	1	--	Intact	NA
11	J8270	1	--	Intact	NA
12	J8271	1	--	Intact	NA
Total Samples		12		* "C" = Consumed Container	



It can be done

BATTELLE - NORWELL OPERATIONS ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
CR853PB-FS	NA	--	NA	NA	NA	1.99	100.00	0.00	1.99
CR854LCS-FS	NA	--	NA	NA	NA	1.99	100.00	0.00	1.99
J8254-FS	1	--	1.06	5.76	5.51	1.98	94.68	5.32	1.87
J8255-FS	1	--	1.06	5.42	5.28	1.99	96.79	3.21	1.93
J8256-FS	1	--	1.09	5.63	5.12	2.01	88.77	11.23	1.78
J8263-FS	1	--	1.11	8.11	7.73	2.05	94.57	5.43	1.94
J8264-FS	1	--	1.05	7.86	7.12	1.99	89.13	10.87	1.77
J8265-FS	1	--	1.08	7.41	6.08	2.06	78.99	21.01	1.63
J8266-FS	1	--	1.09	5.68	5.40	2.00	93.90	6.10	1.88
J8267-FS	1	--	1.05	6.65	5.70	2.00	83.04	16.96	1.66
J8268-FS	1	--	1.07	7.91	6.84	2.03	84.36	15.64	1.71
J8269-FS	1	--	1.06	6.88	6.66	2.02	96.22	3.78	1.94
J8270-FS	1	--	1.04	5.81	5.70	2.00	97.69	2.31	1.95
J8271-FS	1	--	1.07	6.15	5.92	2.01	95.47	4.53	1.92

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "C" = Sample Container Is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
------------	-------	---	--------------	-----------------	-------------	--------------------	-----------	------------	--------------------

Task: **Wet Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
CR853PB-FS	09/26/2018 SAS	BAL-015
CR854LCS-FS	09/26/2018 SAS	BAL-015
J8254-FS	09/25/2018 SAS	BAL-015
J8255-FS	09/25/2018 SAS	BAL-015
J8256-FS	09/25/2018 SAS	BAL-015
J8263-FS	09/25/2018 SAS	BAL-015
J8264-FS	09/25/2018 SAS	BAL-015
J8265-FS	09/25/2018 SAS	BAL-015
J8266-FS	09/25/2018 SAS	BAL-015
J8267-FS	09/25/2018 SAS	BAL-015
J8268-FS	09/25/2018 SAS	BAL-015
J8269-FS	09/25/2018 SAS	BAL-015
J8270-FS	09/25/2018 SAS	BAL-015
J8271-FS	09/25/2018 SAS	BAL-015

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "C" = Sample Container Is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
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Task: **Tare Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
CR853PB-FS	--	--
CR854LCS-FS	--	--
J8254-FS	09/25/2018 SAS	BAL-015
J8255-FS	09/25/2018 SAS	BAL-015
J8256-FS	09/25/2018 SAS	BAL-015
J8263-FS	09/25/2018 SAS	BAL-015
J8264-FS	09/25/2018 SAS	BAL-015
J8265-FS	09/25/2018 SAS	BAL-015
J8266-FS	09/25/2018 SAS	BAL-015
J8267-FS	09/25/2018 SAS	BAL-015
J8268-FS	09/25/2018 SAS	BAL-015
J8269-FS	09/25/2018 SAS	BAL-015
J8270-FS	09/25/2018 SAS	BAL-015
J8271-FS	09/25/2018 SAS	BAL-015

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "C" = Sample Container Is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
------------	-------	---	--------------	-----------------	-------------	--------------------	-----------	------------	--------------------

Task: **Aliquot Wet Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
CR853PB-FS	--	--
CR854LCS-FS	--	--
J8254-FS	09/25/2018 SAS	BAL-015
J8255-FS	09/25/2018 SAS	BAL-015
J8256-FS	09/25/2018 SAS	BAL-015
J8263-FS	09/25/2018 SAS	BAL-015
J8264-FS	09/25/2018 SAS	BAL-015
J8265-FS	09/25/2018 SAS	BAL-015
J8266-FS	09/25/2018 SAS	BAL-015
J8267-FS	09/25/2018 SAS	BAL-015
J8268-FS	09/25/2018 SAS	BAL-015
J8269-FS	09/25/2018 SAS	BAL-015
J8270-FS	09/25/2018 SAS	BAL-015
J8271-FS	09/25/2018 SAS	BAL-015

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "C" = Sample Container Is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
------------	-------	---	--------------	-----------------	-------------	--------------------	-----------	------------	--------------------

Task: **Aliquot Dry Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
CR853PB-FS	--	--
CR854LCS-FS	--	--
J8254-FS	09/26/2018 SAS	BAL-015
J8255-FS	09/26/2018 SAS	BAL-015
J8256-FS	09/26/2018 SAS	BAL-015
J8263-FS	09/26/2018 SAS	BAL-015
J8264-FS	09/26/2018 SAS	BAL-015
J8265-FS	09/26/2018 SAS	BAL-015
J8266-FS	09/26/2018 SAS	BAL-015
J8267-FS	09/26/2018 SAS	BAL-015
J8268-FS	09/26/2018 SAS	BAL-015
J8269-FS	09/26/2018 SAS	BAL-015
J8270-FS	09/26/2018 SAS	BAL-015
J8271-FS	09/26/2018 SAS	BAL-015

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "C" = Sample Container Is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR853PB-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
CR854LCS-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
CR854LCS-FS	KA84	LCS/MS	1	200	09/26/18 SAS	LMG	NA
J8254-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8255-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8256-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8263-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8264-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8265-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8266-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8267-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8268-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8269-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8270-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA
J8271-FS	JY27	SIS	1	50	09/26/18 SAS	LMG	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JY27	Pipette	B814659662
KA84	Pipette	B814657482



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CR853PB-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
CR854LCS-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8254-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8255-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8256-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8263-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8264-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8265-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8266-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8267-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8268-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8269-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8270-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA
J8271-FS	09/26/18 SAS	09/26/18 SAS	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH ₃ in Methanol	RP-180926-1	09/26/18	SHBJ0412	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	
0.4% NH ₃ in Methanol	RP-180926-1	09/26/18	182674	Per 100 mL, 3.5 mL ammonia solution brought to 100 mL with methanol	

Solvents/Reagents:



It can be done

**BATTELLE - NORWELL OPERATIONS
COLUMN FRACTIONATION FORM**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Extract Id	Date	Init.	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comments
CR853PB-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
CR854LCS-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8254-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8255-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8256-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8263-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8264-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8265-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8266-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8267-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8268-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8269-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8270-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA
J8271-FS(3)	09/27/18	EMF	NA	NA	NA	NA	NA



It can be done

BATTELLE - NORWELL OPERATIONS COLUMN FRACTIONATION FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Extract Id	Date	Init.	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comments
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Column Diameter: 13 mm **Procedure Comment:****Elution Volume:** 10 mL**Solvents****Reagents**

Reagent Prep	Weight g	Name	Expires	Lot No	Procedure
RP-180927-1	Not Measured	0.4% NH3 in Methanol	09/27/18	SHBJ0412	Per 100 mL, 3.5 mL are brought to 100 mL with
RP-180927-1	Not Measured	0.4% NH3 in Methanol	09/27/18	182674	Per 100 mL, 3.5 mL are brought to 100 mL with
RP-180927-6	0.50	ENVI-CARB SPE	09/27/18	93374303	Rinse SPE cartridge w

Fractions



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS****(N/A Fraction)**

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm . (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution*	Date Spiked/ Spiked By	Witn'd By
CR853PB-FS(3)	950	50	KB34	50	1	1000	10.000	10/02/18 SAS	LMG
CR854LCS-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8254-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8255-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8256-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8263-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8264-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8265-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8266-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8267-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8268-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8269-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8270-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG
J8271-FS(3)	950	50	KB34	50	1	1000	10.000	09/28/18 SAS	LMG

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
KB34	Pipette	B814659662

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Sep 28 2018 1:31PM SAS		Received On/By: Sep 28 2018 5:24PM DMS	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR853PB-FS(3)	1000	10	Intact	NA
2	CR854LCS-FS(3)	1000	10	Intact	NA
3	J8254-FS(3)	1000	10	Intact	NA
4	J8255-FS(3)	1000	10	Intact	NA
5	J8256-FS(3)	1000	10	Intact	NA
6	J8263-FS(3)	1000	10	Intact	NA
7	J8264-FS(3)	1000	10	Intact	NA
8	J8265-FS(3)	1000	10	Intact	NA
9	J8266-FS(3)	1000	10	Intact	NA
10	J8267-FS(3)	1000	10	Intact	NA
11	J8268-FS(3)	1000	10	Intact	NA
12	J8269-FS(3)	1000	10	Intact	NA
13	J8270-FS(3)	1000	10	Intact	NA
14	J8271-FS(3)	1000	10	Intact	NA

Total Extracts: 14



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR853PB-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
CR853PB-FS	2	--	9/27/2018 10:56:00 AM	CR853PB-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
CR853PB-FS	3	--	9/27/2018 10:56:00 AM	CR853PB-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
CR854LCS-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
CR854LCS-FS	2	--	9/27/2018 10:56:00 AM	CR854LCS-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
CR854LCS-FS	3	--	9/27/2018 10:56:00 AM	CR854LCS-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8254-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8254-FS	2	--	9/27/2018 10:56:00 AM	J8254-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8254-FS	3	--	9/27/2018 10:56:00 AM	J8254-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8255-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8255-FS	2	--	9/27/2018 10:56:00 AM	J8255-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8255-FS	3	--	9/27/2018 10:56:00 AM	J8255-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8256-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8256-FS	2	--	9/27/2018 10:56:00 AM	J8256-FS	0	10000	9000	1.111	1.111	09/27/18 EMF

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J8256-FS	3	--	9/27/2018 10:56:00 AM	J8256-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8263-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8263-FS	2	--	9/27/2018 10:56:00 AM	J8263-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8263-FS	3	--	9/27/2018 10:56:00 AM	J8263-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8264-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8264-FS	2	--	9/27/2018 10:56:00 AM	J8264-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8264-FS	3	--	9/27/2018 10:56:00 AM	J8264-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8265-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8265-FS	2	--	9/27/2018 10:56:00 AM	J8265-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8265-FS	3	--	9/27/2018 10:56:00 AM	J8265-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8266-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8266-FS	2	--	9/27/2018 10:56:00 AM	J8266-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8266-FS	3	--	9/27/2018 10:56:00 AM	J8266-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8267-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571**CTO-4164: Analysis of Solids****SB, SS**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J8267-FS	2	--	9/27/2018 10:56:00 AM	J8267-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8267-FS	3	--	9/27/2018 10:56:00 AM	J8267-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8268-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8268-FS	2	--	9/27/2018 10:56:00 AM	J8268-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8268-FS	3	--	9/27/2018 10:56:00 AM	J8268-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8269-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8269-FS	2	--	9/27/2018 10:56:00 AM	J8269-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8269-FS	3	--	9/27/2018 10:56:00 AM	J8269-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8270-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8270-FS	2	--	9/27/2018 10:56:00 AM	J8270-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8270-FS	3	--	9/27/2018 10:56:00 AM	J8270-FS	0	10000	1000	10.000	10.000	09/27/18 EMF
J8271-FS	0	C	9/26/2018 11:24:00 AM	NA		NA	NA	1.000	1.000	09/26/18 SAS
J8271-FS	2	--	9/27/2018 10:56:00 AM	J8271-FS	0	10000	9000	1.111	1.111	09/27/18 EMF
J8271-FS	3	--	9/27/2018 10:56:00 AM	J8271-FS	0	10000	1000	10.000	10.000	09/27/18 EMF

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE SPECIFIC COMMENTS**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Sample ID:	Comment:	Date/Initials:
CR853PB-FS	NA	NA
CR854LCS-FS	NA	NA
J8254-FS	NA	NA
J8255-FS	NA	NA
J8256-FS	NA	NA
J8263-FS	NA	NA
J8264-FS	NA	NA
J8265-FS	NA	NA
J8266-FS	Sample consisted of many rocks.	09/25/18 SAS
J8267-FS	NA	NA
J8268-FS	NA	NA
J8269-FS	NA	NA
J8270-FS	NA	NA
J8271-FS	NA	NA



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Entered By:

On:

Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-4164 Naval Base Ventura County, California

Project No.(s)

100110125-01

18-0571

CTO-4164: Analysis of Solids

SB, SS

Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:

Analytical Calibrations

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		9/28/2018 2:39:40 PM	5-0369.dam	18-0571.wiff
2	KA86	L1	9/28/2018 2:50:32 PM	5-0369.dam	18-0571.wiff
3	KA87	L2	9/28/2018 3:01:25 PM	5-0369.dam	18-0571.wiff
4	KA88	L3	9/28/2018 3:12:17 PM	5-0369.dam	18-0571.wiff
5	KA89	L4	9/28/2018 3:23:09 PM	5-0369.dam	18-0571.wiff
6	KA90	L5	9/28/2018 3:34:02 PM	5-0369.dam	18-0571.wiff
7	KB64	L6	9/28/2018 3:44:53 PM	5-0369.dam	18-0571.wiff
8	KB65	L7	9/28/2018 3:55:45 PM	5-0369.dam	18-0571.wiff
9	KB35 IB	Instrument Blank	9/28/2018 4:06:37 PM	5-0369.dam	18-0571.wiff
10	KB36 ICC	ICC	9/28/2018 4:17:28 PM	5-0369.dam	18-0571.wiff
11	KA29 Branch	Branch Standard	9/28/2018 4:28:21 PM	5-0369.dam	18-0571.wiff
1	MeOH		9/28/2018 4:39:13 PM	5-0369.dam	18-0571.wiff
16	KA89 CCV		9/28/2018 5:33:32 PM	5-0369.dam	18-0571.wiff
17	MeOH	CCV	9/28/2018 5:44:23 PM	5-0369.dam	18-0571.wiff
18	CR853PB-FS(3)	Procedural Blank	9/28/2018 5:55:16 PM	5-0369.dam	18-0571.wiff
19	CR854LCS-FS(3)	Laboratory Control Sample	9/28/2018 6:06:07 PM	5-0369.dam	18-0571.wiff
20	J8254-FS(3)	VC-PM365-SS03-000H	9/28/2018 6:17:00 PM	5-0369.dam	18-0571.wiff
21	J8255-FS(3)	VC-PM365-SB03-0102	9/28/2018 6:27:52 PM	5-0369.dam	18-0571.wiff
22	J8256-FS(3)	VC-PM365-SB03-0506	9/28/2018 6:38:44 PM	5-0369.dam	18-0571.wiff
23	J8263-FS(3)	VC-PM553-SS01-000H	9/28/2018 6:49:36 PM	5-0369.dam	18-0571.wiff
24	J8264-FS(3)	VC-PM553-SB01-0102	9/28/2018 7:00:30 PM	5-0369.dam	18-0571.wiff
25	J8265-FS(3)	VC-PM553-SB01-0506	9/28/2018 7:11:22 PM	5-0369.dam	18-0571.wiff
26	KA90 CCV	CCV	9/28/2018 7:22:14 PM	5-0369.dam	18-0571.wiff
27	MeOH		9/28/2018 7:33:05 PM	5-0369.dam	18-0571.wiff
28	J8266-FS(3)	VC-PM553-SS02-000H	9/28/2018 7:43:57 PM	5-0369.dam	18-0571.wiff
29	J8267-FS(3)	VC-PM553-SB02-0102	9/28/2018 7:54:50 PM	5-0369.dam	18-0571.wiff
30	J8268-FS(3)	VC-PM553-SB02-	9/28/2018 8:05:42	5-0369.dam	18-0571.wiff

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
		0506	PM		
31	J8269-FS(3)	VC-PM553-SS03-000H	9/28/2018 8:16:34 PM	5-0369.dam	18-0571.wiff
32	J8270-FS(3)	VC-PM553-SB03-0102	9/28/2018 8:27:24 PM	5-0369.dam	18-0571.wiff
33	J8271-FS(3)	VC-PM553-SB03-0506	9/28/2018 8:38:16 PM	5-0369.dam	18-0571.wiff
34	KA89 CCV	CCV	9/28/2018 8:49:08 PM	5-0369.dam	18-0571.wiff



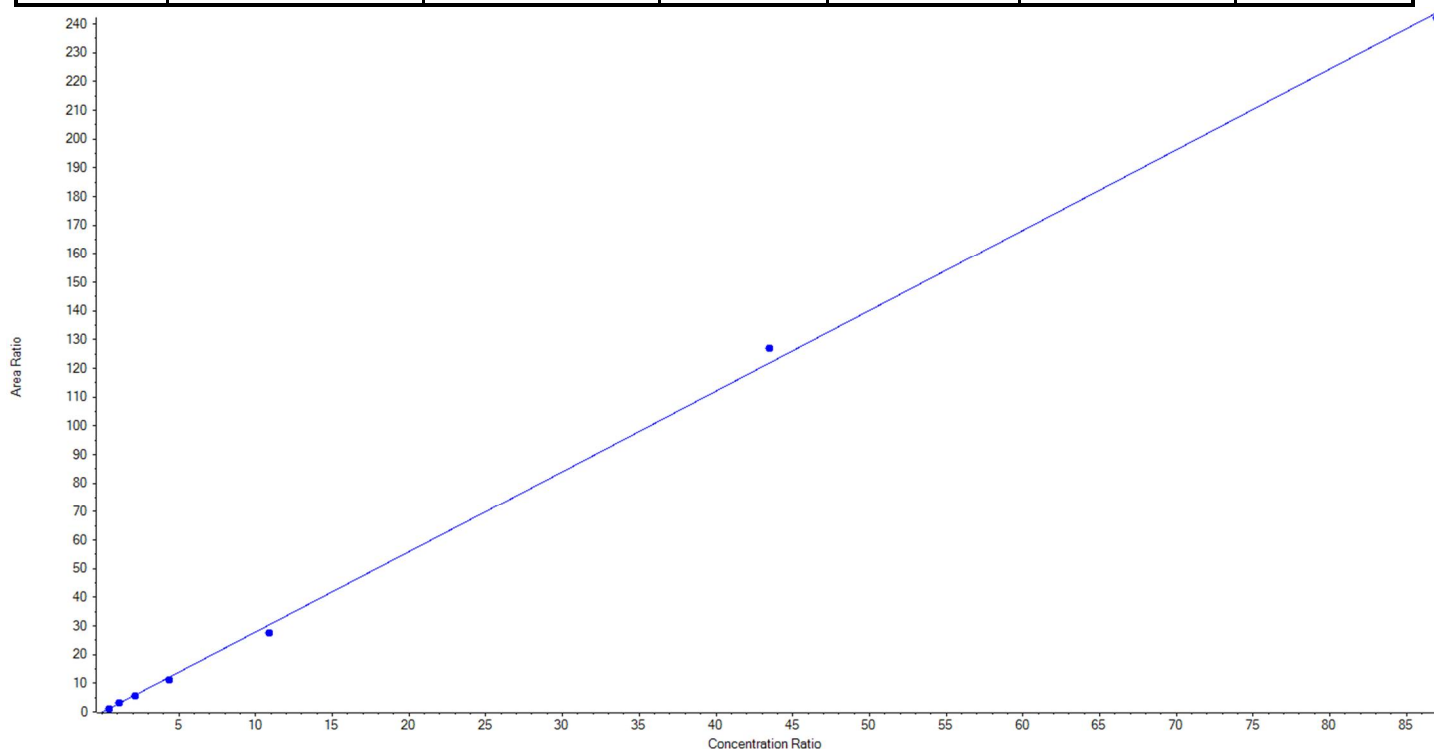
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFBS_1	Data File	18-0571.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.80608x + -0.16980$ ($r = 0.99928$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	111.126549	110.0
3	KA87	L2	True	252.50	271.244650	107.4
4	KA88	L3	True	505.00	471.739279	93.4
5	KA89	L4	True	1010.00	951.523668	94.2
6	KA90	L5	True	2525.00	2308.355918	91.4
7	KB64	L6	True	10100.00	10528.716461	104.2
8	KB65	L7	True	20200.00	20050.793476	99.3





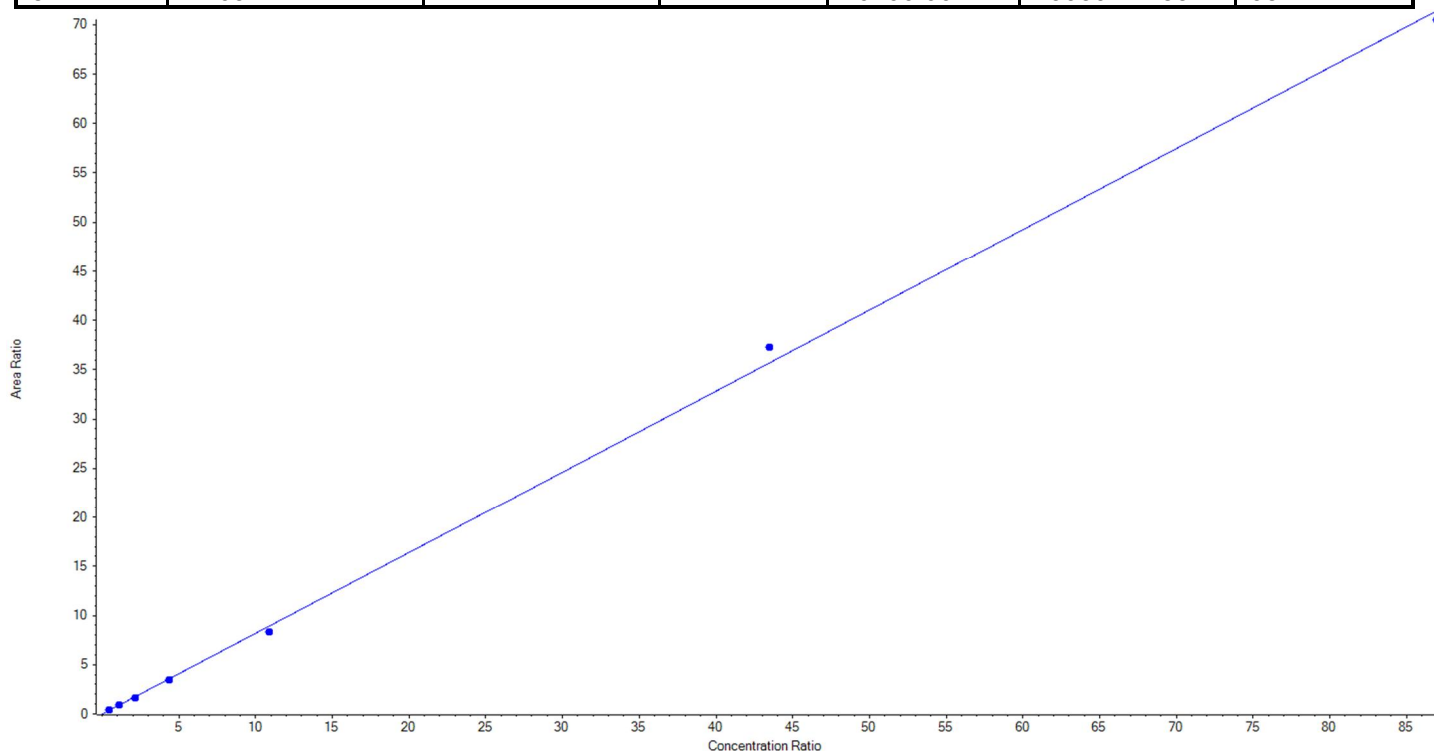
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFBS_2	Data File	18-0571.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.82121x + -0.02040$ ($r = 0.99942$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	107.644305	106.6
3	KA87	L2	True	252.50	265.804635	105.3
4	KA88	L3	True	505.00	478.997677	94.9
5	KA89	L4	True	1010.00	969.790196	96.0
6	KA90	L5	True	2525.00	2374.618112	94.0
7	KB64	L6	True	10100.00	10557.467223	104.5
8	KB65	L7	True	20200.00	19939.177852	98.7





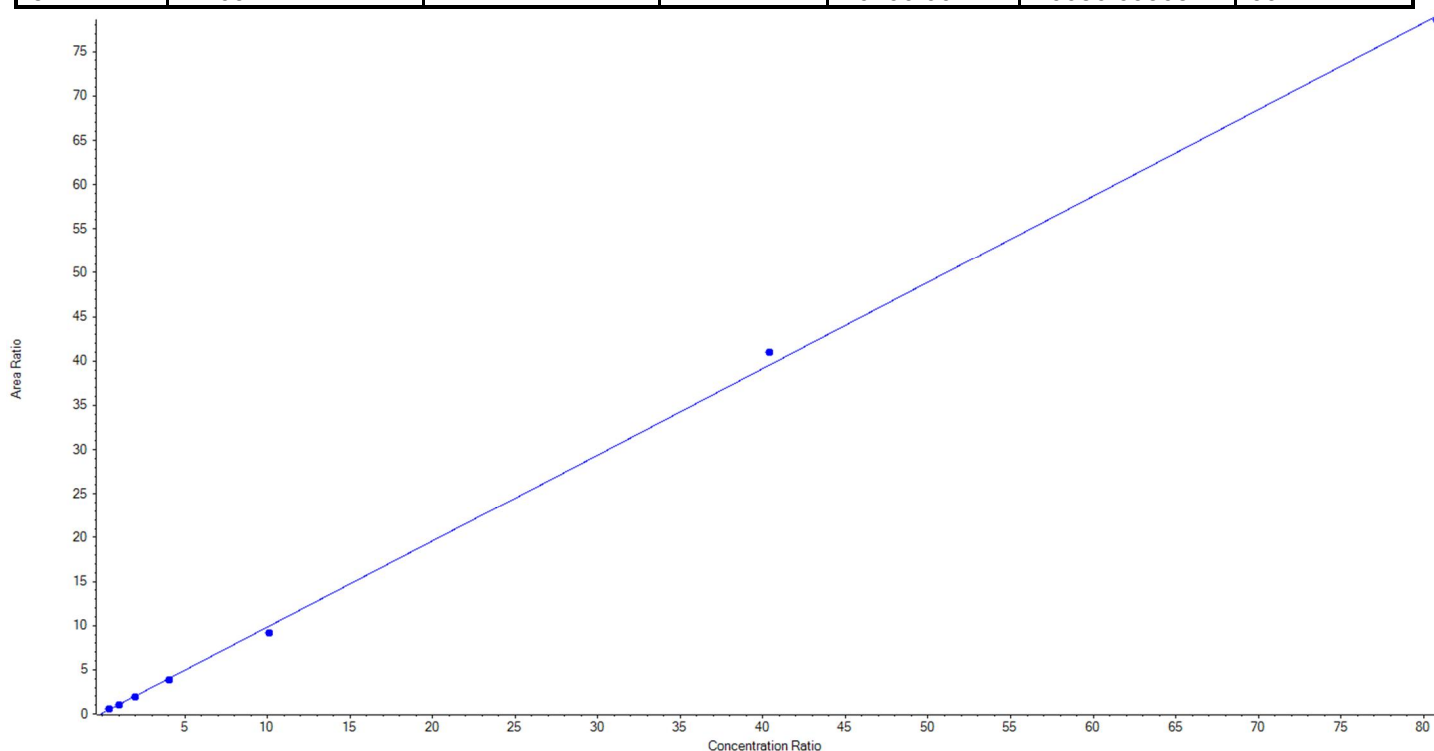
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFHxA_1	Data File	18-0571.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97722x + 0.06071$ ($r = 0.99941$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	117.603693	116.4
3	KA87	L2	True	252.50	251.345688	99.5
4	KA88	L3	True	505.00	469.220108	92.9
5	KA89	L4	True	1010.00	968.366728	95.9
6	KA90	L5	True	2525.00	2324.705931	92.1
7	KB64	L6	True	10100.00	10475.562168	103.7
8	KB65	L7	True	20200.00	20086.695684	99.4





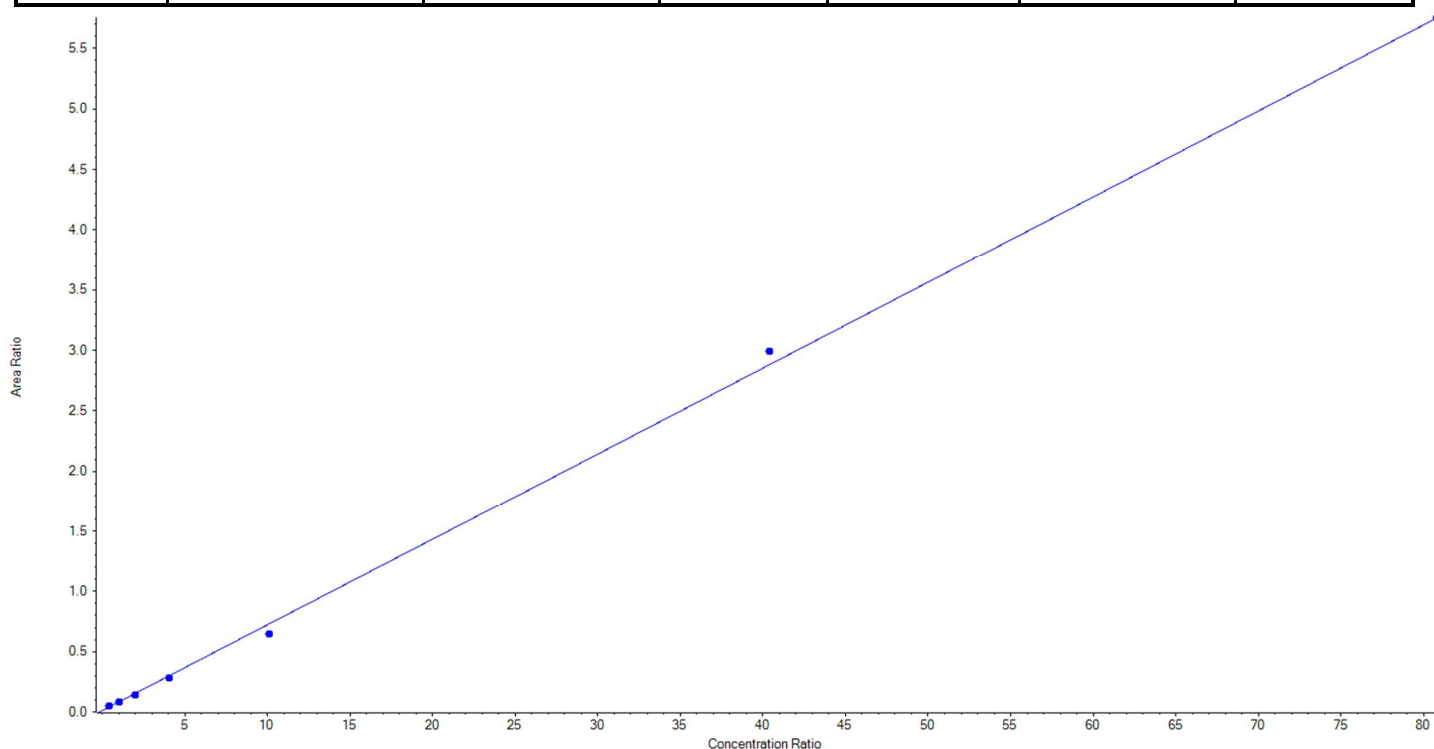
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFHxA_2	Data File	18-0571.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07102x + 0.01170$ ($r = 0.99897$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	131.015829	129.7
3	KA87	L2	True	252.50	237.464036	94.1
4	KA88	L3	True	505.00	459.123362	90.9
5	KA89	L4	True	1010.00	936.657126	92.7
6	KA90	L5	True	2525.00	2241.184637	88.8
7	KB64	L6	True	10100.00	10484.102235	103.8
8	KB65	L7	True	20200.00	20203.952775	100.0





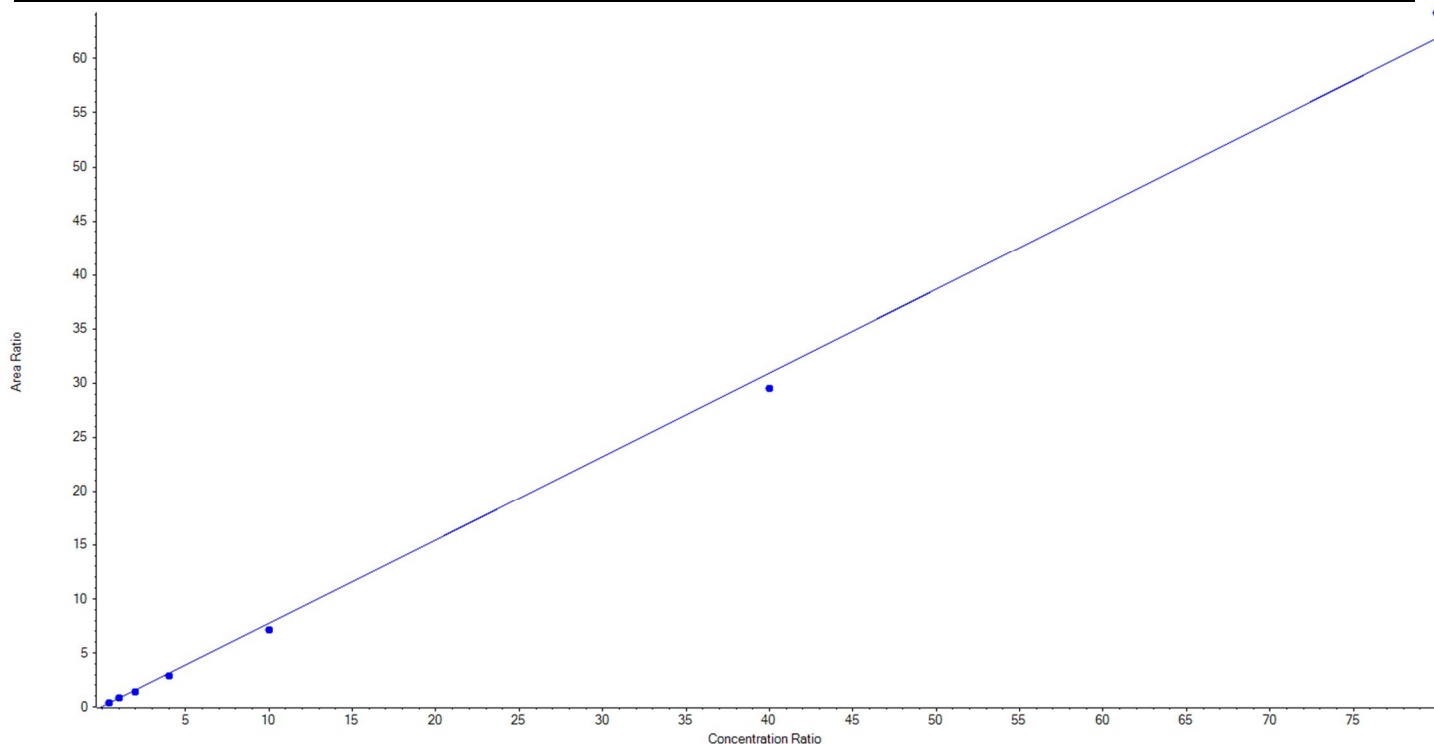
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Analyte Name	PFHpA_1	Data File	18-0571.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.77311x + 0.00943$ ($r = 0.99871$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	123.022671	123.0
3	KA87	L2	True	250.00	254.107233	101.6
4	KA88	L3	True	500.00	458.906747	91.8
5	KA89	L4	True	1000.00	926.409703	92.6
6	KA90	L5	True	2500.00	2294.295443	91.8
7	KB64	L6	True	10000.00	9534.801462	95.4
8	KB65	L7	True	20000.00	20758.456741	103.8





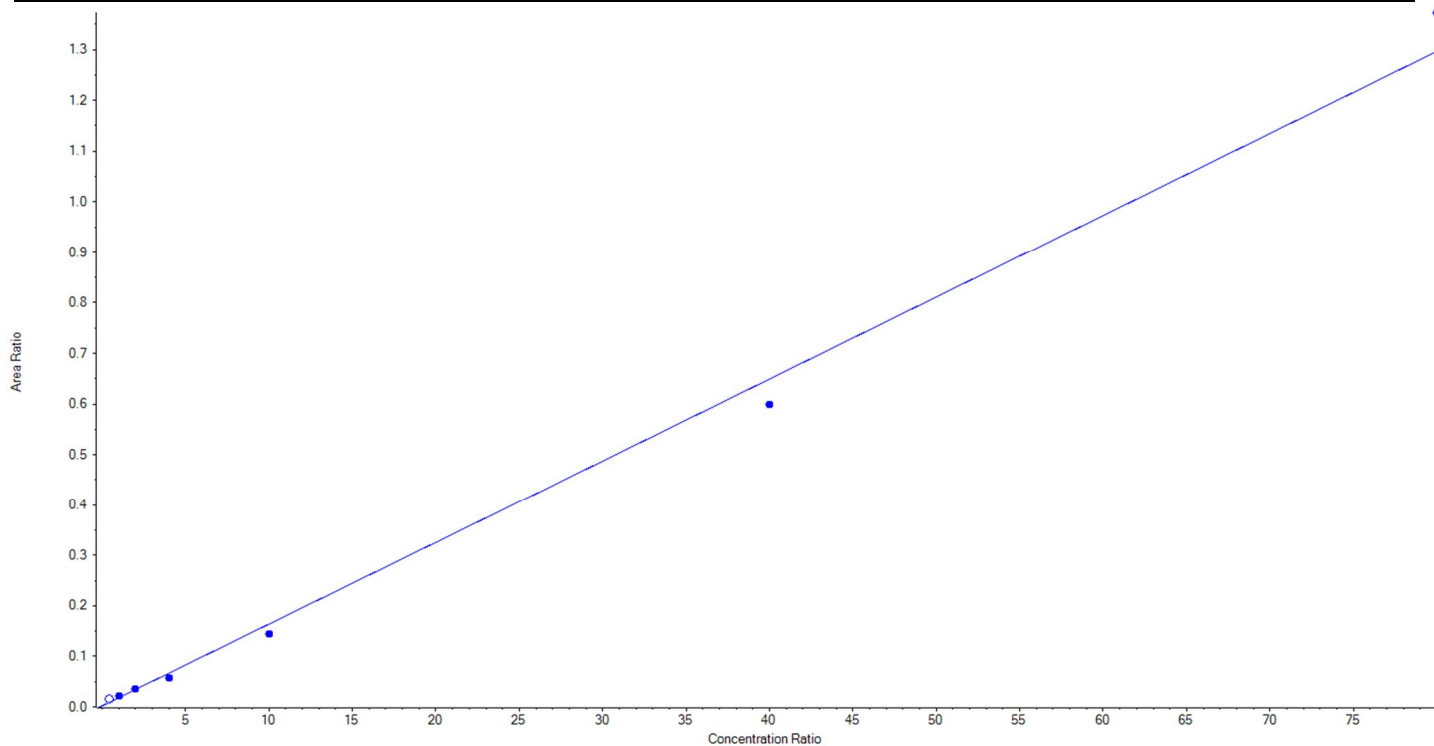
Calibration Summary Report

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Analyte Name	PFHpA_2	Data File	18-0571.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01618x + 0.00203$ ($r = 0.99644$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	False	100.00	213.652921	213.7
3	KA87	L2	True	250.00	317.650858	127.1
4	KA88	L3	True	500.00	513.220163	102.6
5	KA89	L4	True	1000.00	846.256560	84.6
6	KA90	L5	True	2500.00	2192.970548	87.7
7	KB64	L6	True	10000.00	9210.327366	92.1
8	KB65	L7	True	20000.00	21169.574505	105.9





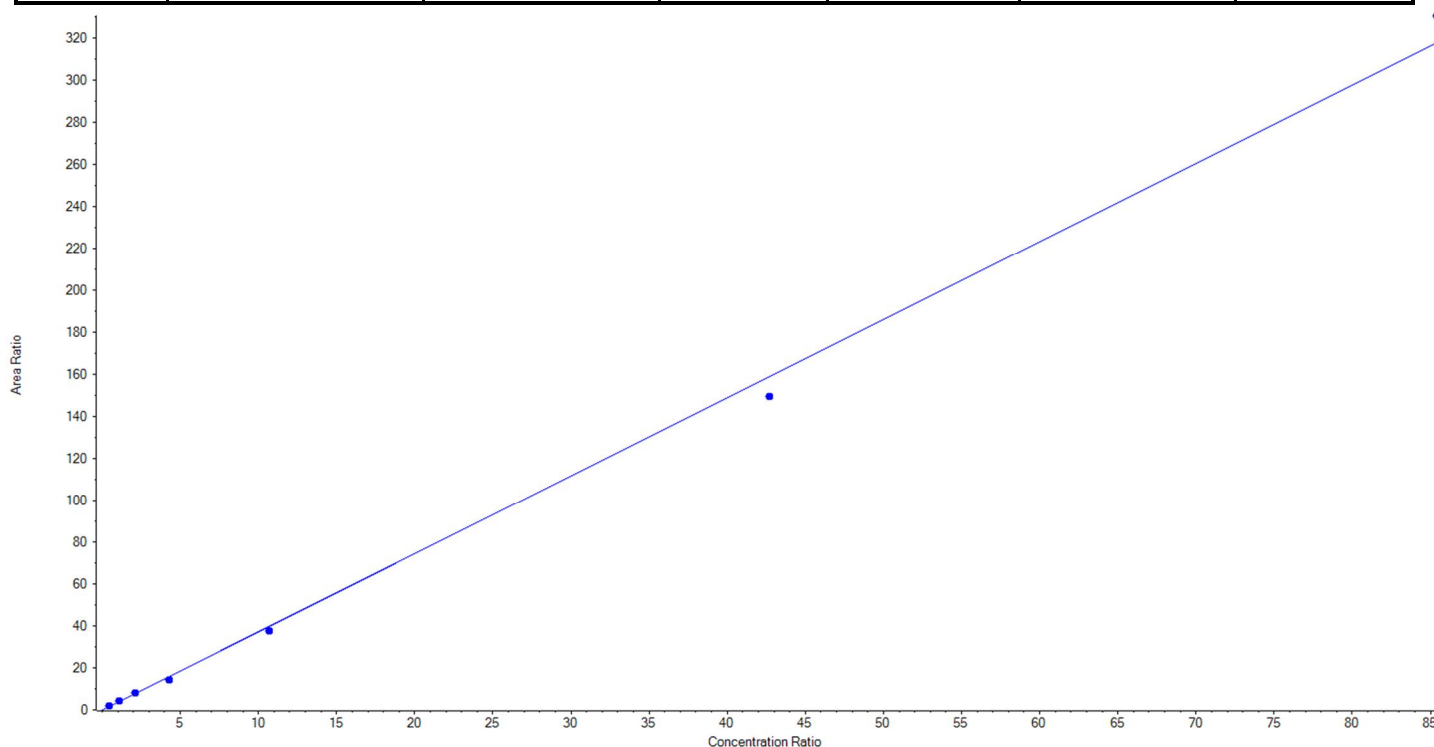
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Analyte Name	PFHxS_1	Data File	18-0571.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.72156 x + -0.02196$ ($r = 0.99867$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	113.607101	112.5
3	KA87	L2	True	252.50	259.546378	102.8
4	KA88	L3	True	505.00	507.831007	100.6
5	KA89	L4	True	1010.00	923.301756	91.4
6	KA90	L5	True	2525.00	2393.530209	94.8
7	KB64	L6	True	10100.00	9491.668992	94.0
8	KB65	L7	True	20200.00	21004.014558	104.0





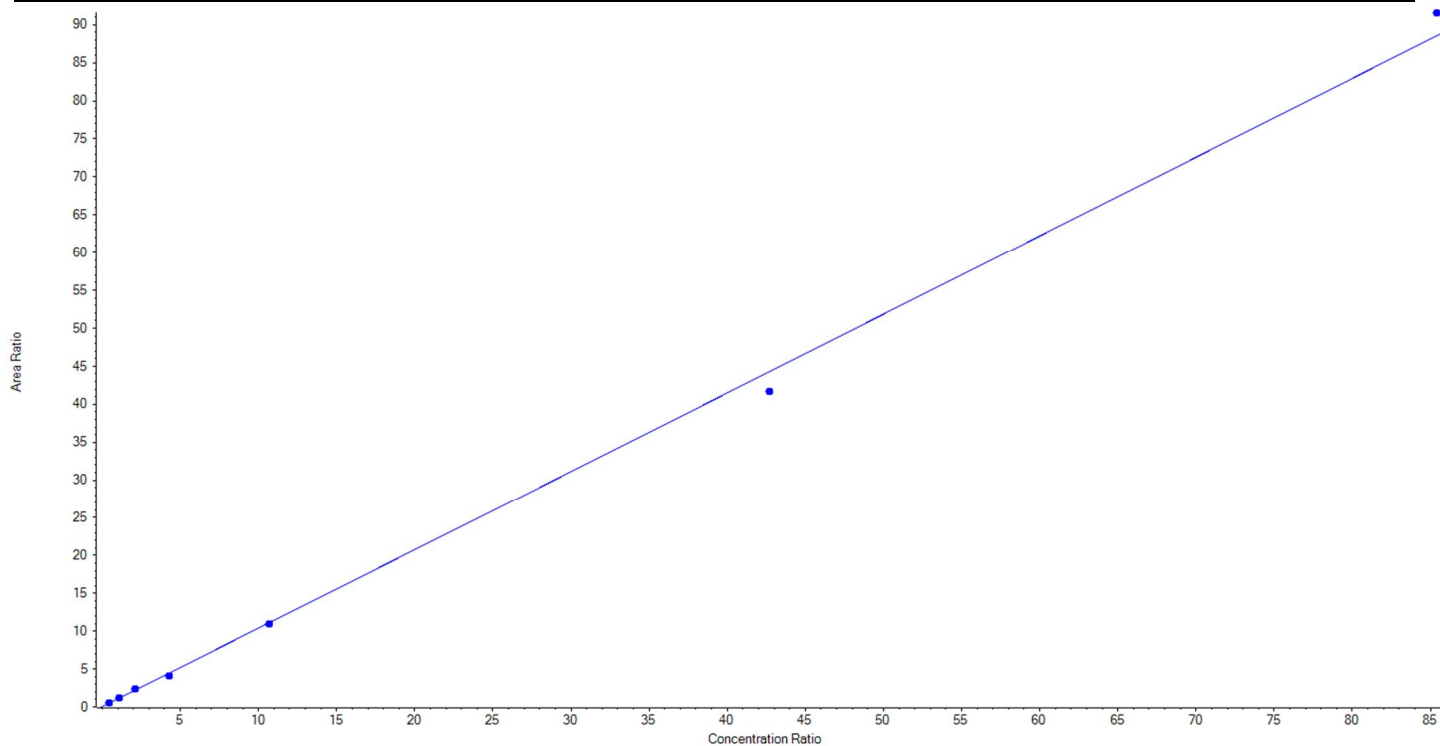
Calibration Summary Report

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Analyte Name	PFHxS_2	Data File	18-0571.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.03654 x + 0.01933$ ($r = 0.99892$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	101.00	103.176220	102.2
3	KA87	L2	True	252.50	270.862965	107.3
4	KA88	L3	True	505.00	525.023020	104.0
5	KA89	L4	True	1010.00	916.878220	90.8
6	KA90	L5	True	2525.00	2481.088704	98.3
7	KB64	L6	True	10100.00	9512.053167	94.2
8	KB65	L7	True	20200.00	20884.417704	103.4





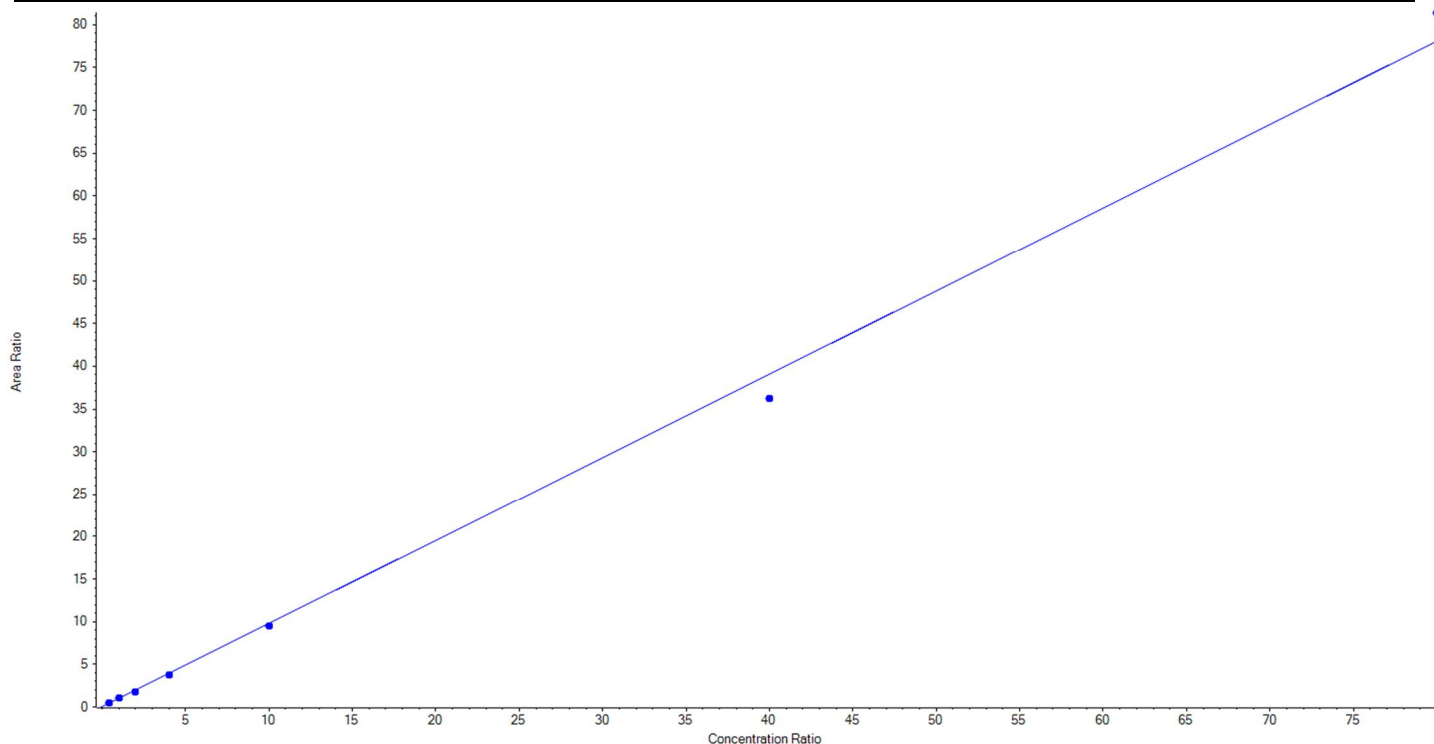
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFOA_1	Data File	18-0571.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97567 x + 0.03459$ ($r = 0.99845$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	111.874648	111.9
3	KA87	L2	True	250.00	268.631396	107.5
4	KA88	L3	True	500.00	451.934346	90.4
5	KA89	L4	True	1000.00	959.434348	95.9
6	KA90	L5	True	2500.00	2432.500528	97.3
7	KB64	L6	True	10000.00	9282.868926	92.8
8	KB65	L7	True	20000.00	20842.755808	104.2





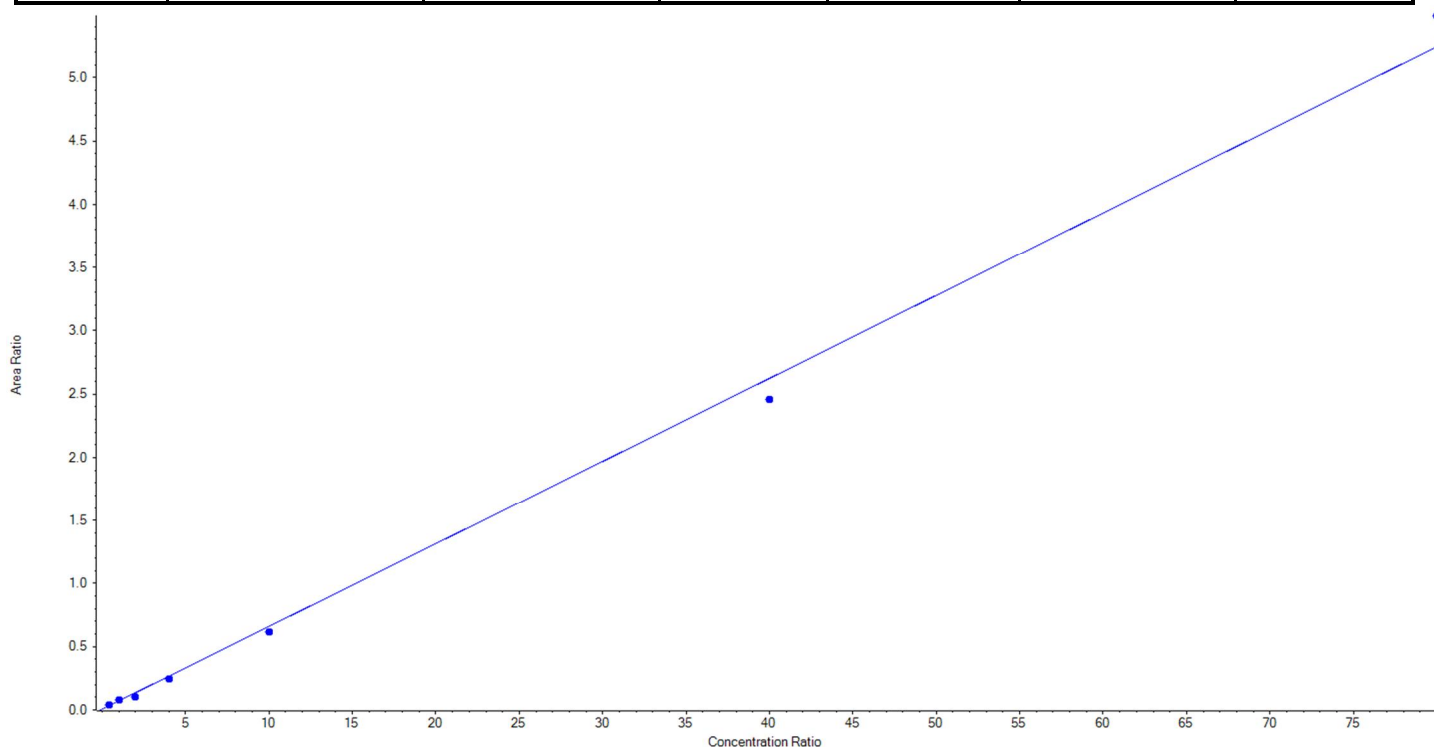
Calibration Summary Report

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Analyte Name	PFOA_2	Data File	18-0571.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06548x + 0.00522$ ($r = 0.99775$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	124.278075	124.3
3	KA87	L2	True	250.00	293.428807	117.4
4	KA88	L3	True	500.00	379.451627	75.9
5	KA89	L4	True	1000.00	900.967211	90.1
6	KA90	L5	True	2500.00	2348.789728	94.0
7	KB64	L6	True	10000.00	9379.268669	93.8
8	KB65	L7	True	20000.00	20923.815882	104.6





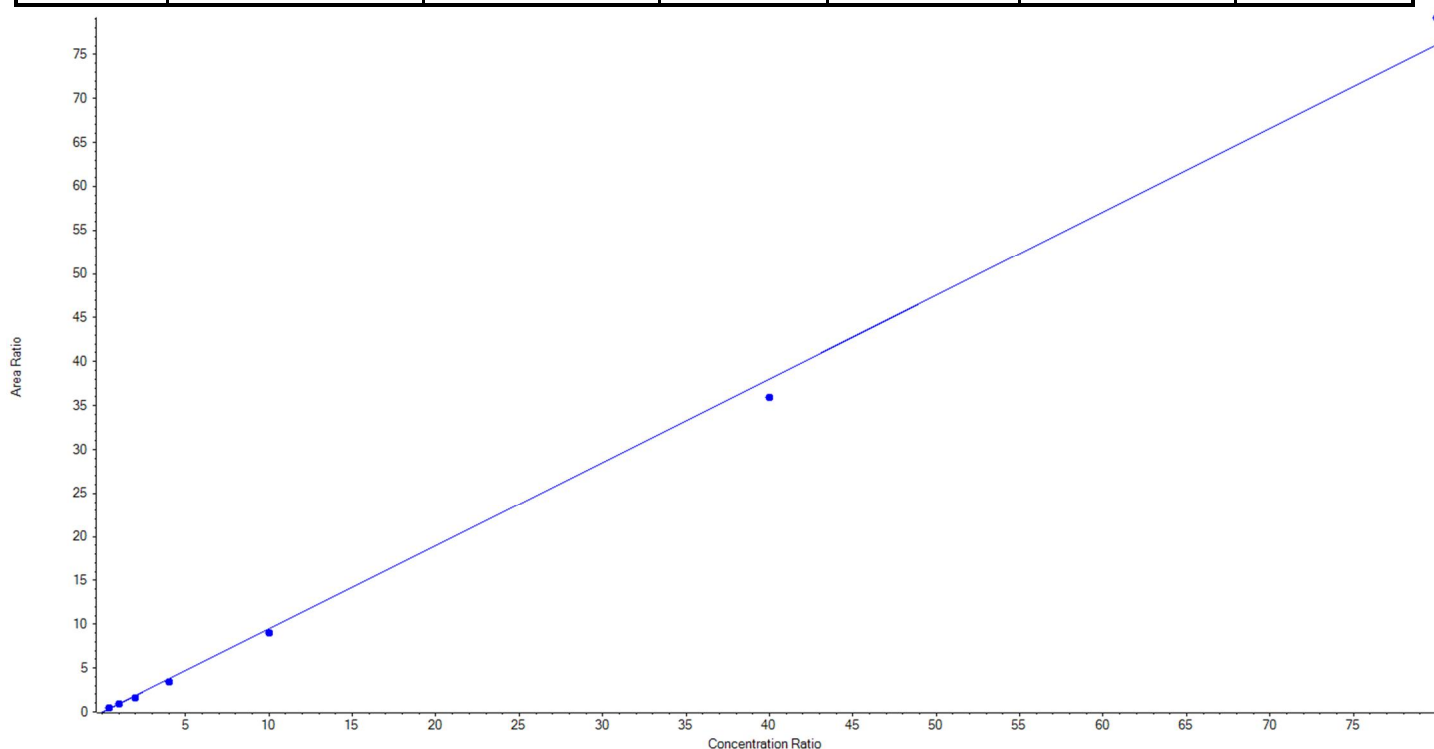
Calibration Summary Report

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Analyte Name	PFNA_1	Data File	18-0571.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.95203x + -0.05340$ ($r = 0.99855$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	128.694613	128.7
3	KA87	L2	True	250.00	247.461832	99.0
4	KA88	L3	True	500.00	434.733542	87.0
5	KA89	L4	True	1000.00	916.592054	91.7
6	KA90	L5	True	2500.00	2382.423409	95.3
7	KB64	L6	True	10000.00	9443.466309	94.4
8	KB65	L7	True	20000.00	20796.628242	104.0





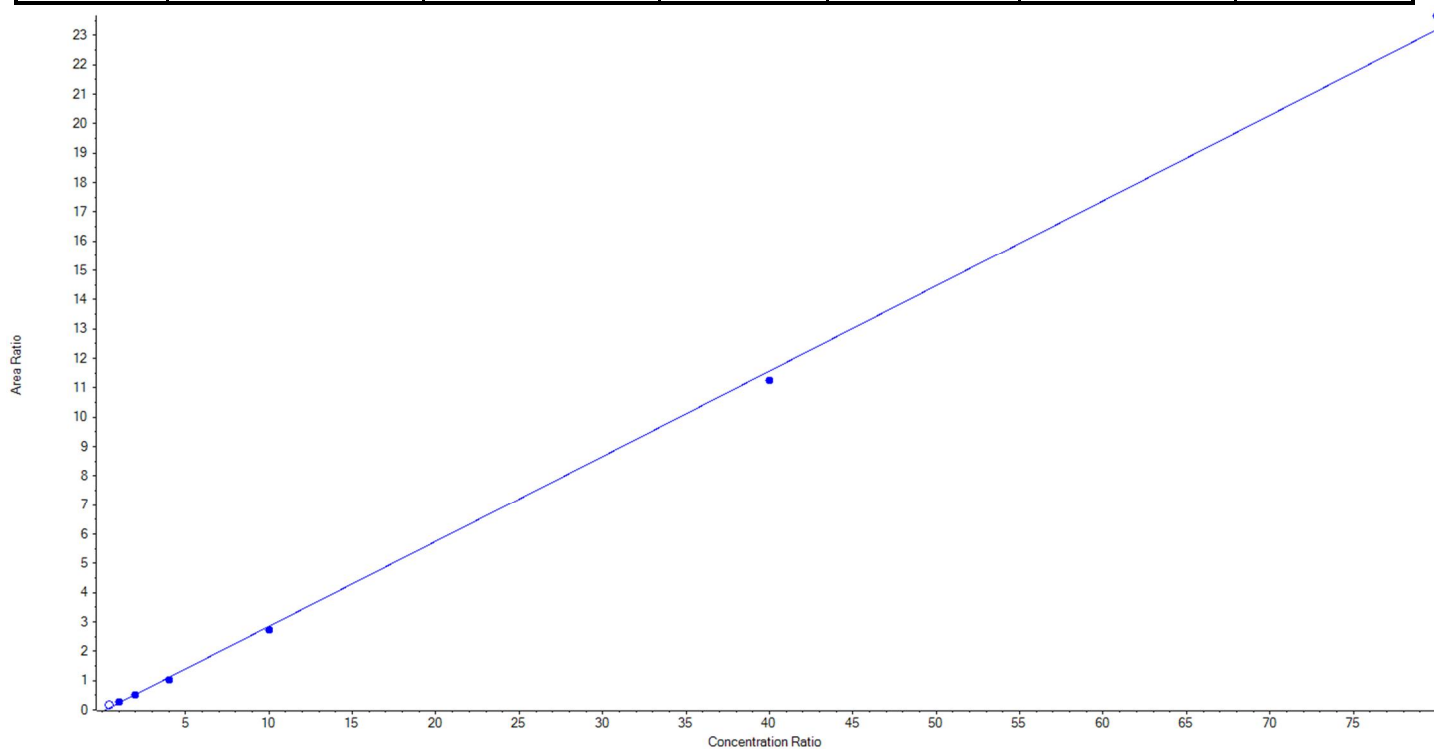
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFNA_2	Data File	18-0571.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.29059x + -0.05706$ ($r = 0.99955$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	False	100.00	192.812655	192.8
3	KA87	L2	True	250.00	278.384087	111.4
4	KA88	L3	True	500.00	498.878543	99.8
5	KA89	L4	True	1000.00	935.062838	93.5
6	KA90	L5	True	2500.00	2399.973473	96.0
7	KB64	L6	True	10000.00	9735.385728	97.4
8	KB65	L7	True	20000.00	20402.315331	102.0





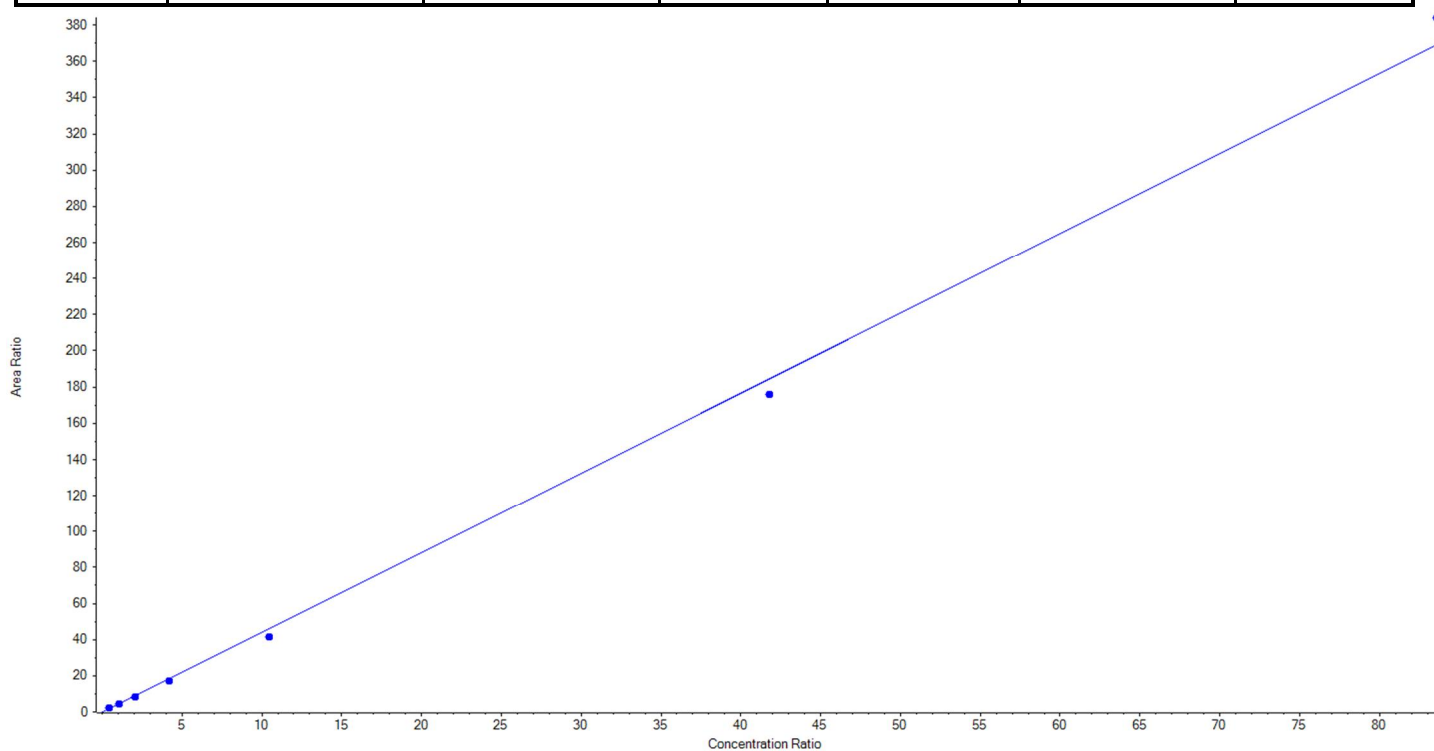
Calibration Summary Report

Created with Analyst Reporter
Printed: 02/10/2018 7:24:11 PM

Analyte Name	PFOS_1	Data File	18-0571.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.41773 x + -0.14101$ ($r = 0.99855$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	118.819032	118.8
3	KA87	L2	True	250.00	261.149790	104.5
4	KA88	L3	True	500.00	471.153177	94.2
5	KA89	L4	True	1000.00	936.746040	93.7
6	KA90	L5	True	2500.00	2239.754676	89.6
7	KB64	L6	True	10000.00	9522.747770	95.2
8	KB65	L7	True	20000.00	20799.629515	104.0





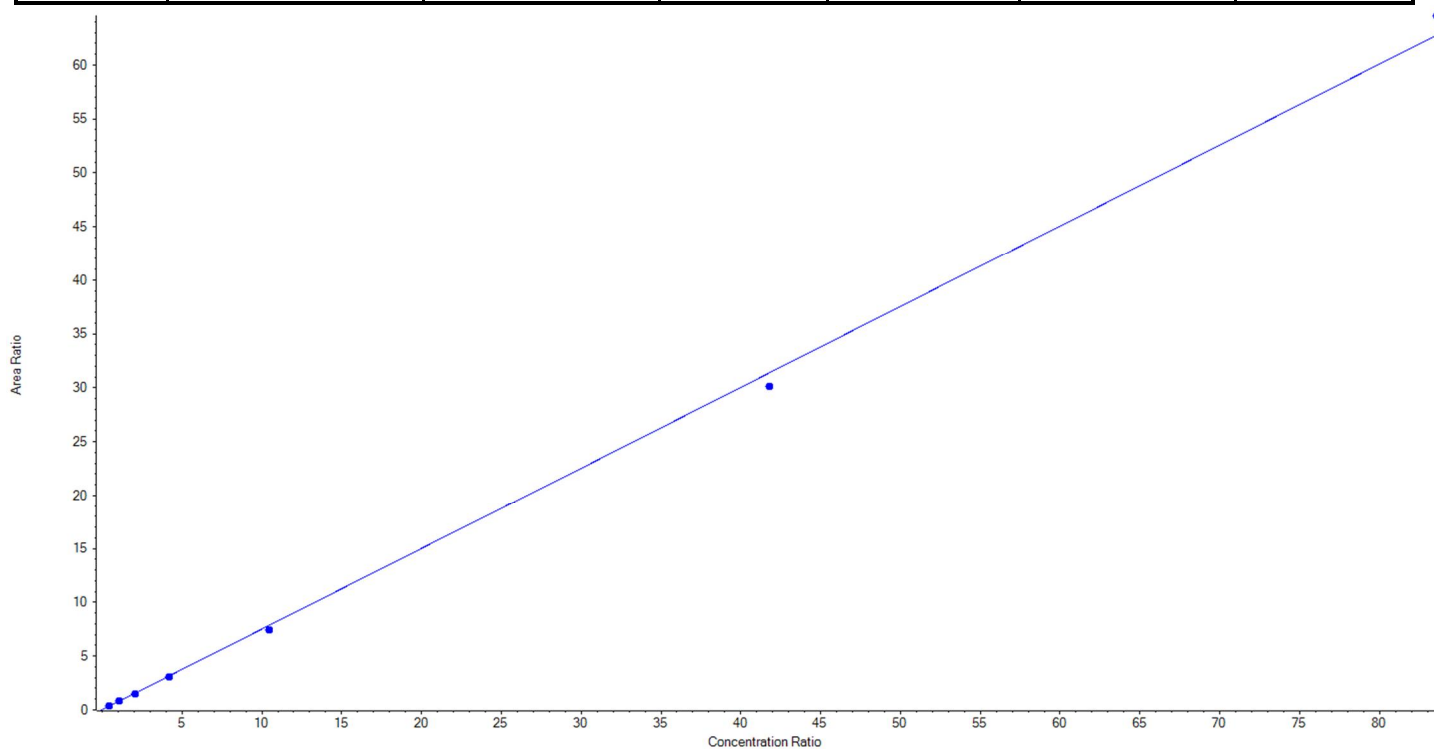
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Analyte Name	PFOS_2	Data File	18-0571.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.75093x + 0.01056$ ($r = 0.99930$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	108.555572	108.6
3	KA87	L2	True	250.00	267.614185	107.1
4	KA88	L3	True	500.00	466.128535	93.2
5	KA89	L4	True	1000.00	979.486993	98.0
6	KA90	L5	True	2500.00	2358.521181	94.3
7	KB64	L6	True	10000.00	9607.006573	96.1
8	KB65	L7	True	20000.00	20562.686961	102.8





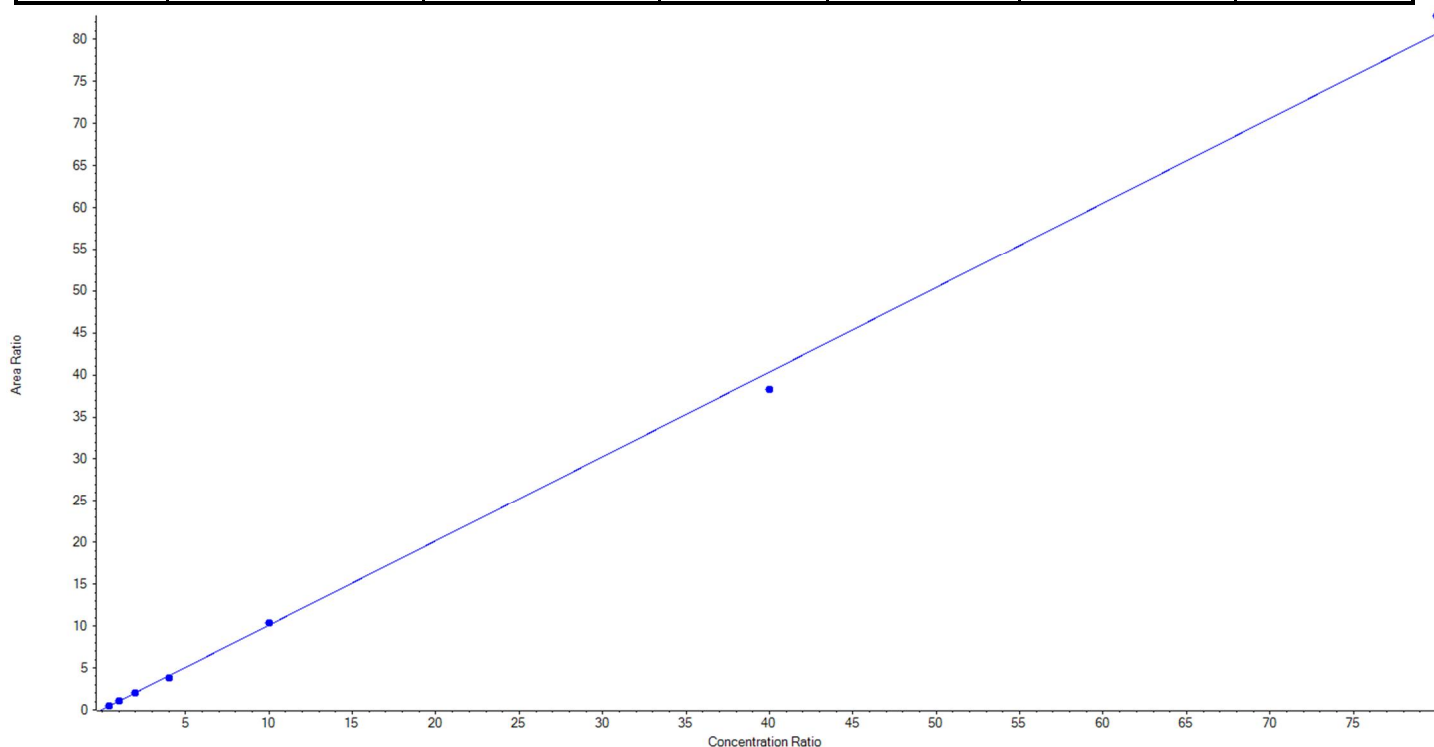
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFDA_1	Data File	18-0571.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.00798x + 0.03488$ ($r = 0.99927$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	107.877157	107.9
3	KA87	L2	True	250.00	257.135950	102.9
4	KA88	L3	True	500.00	481.482317	96.3
5	KA89	L4	True	1000.00	932.305645	93.2
6	KA90	L5	True	2500.00	2554.527388	102.2
7	KB64	L6	True	10000.00	9495.396391	95.0
8	KB65	L7	True	20000.00	20521.275152	102.6





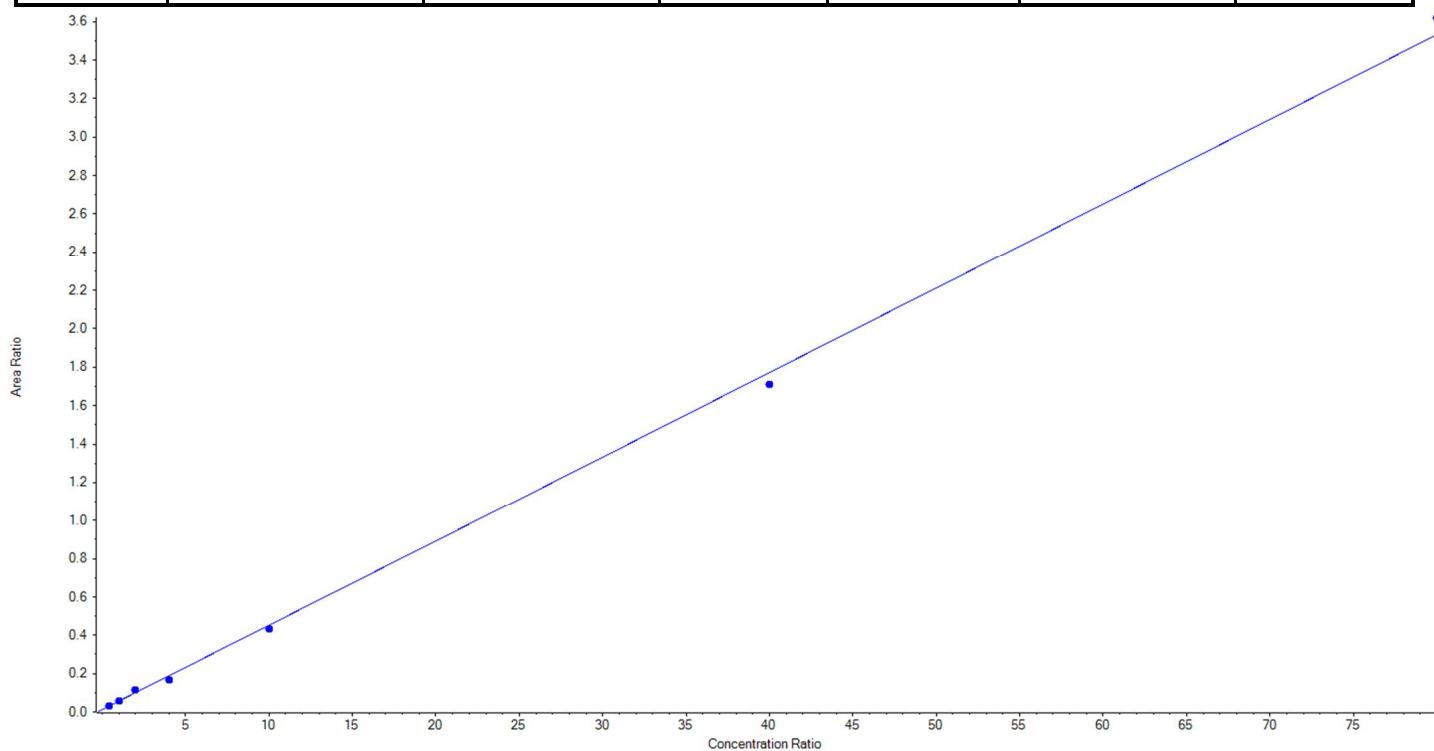
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Analyte Name	PFDA_2	Data File	18-0571.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04399x + 0.01247$ ($r = 0.99906$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	97.188675	97.2
3	KA87	L2	True	250.00	257.260344	102.9
4	KA88	L3	True	500.00	586.550584	117.3
5	KA89	L4	True	1000.00	878.902539	87.9
6	KA90	L5	True	2500.00	2396.071384	95.8
7	KB64	L6	True	10000.00	9638.765823	96.4
8	KB65	L7	True	20000.00	20495.260650	102.5





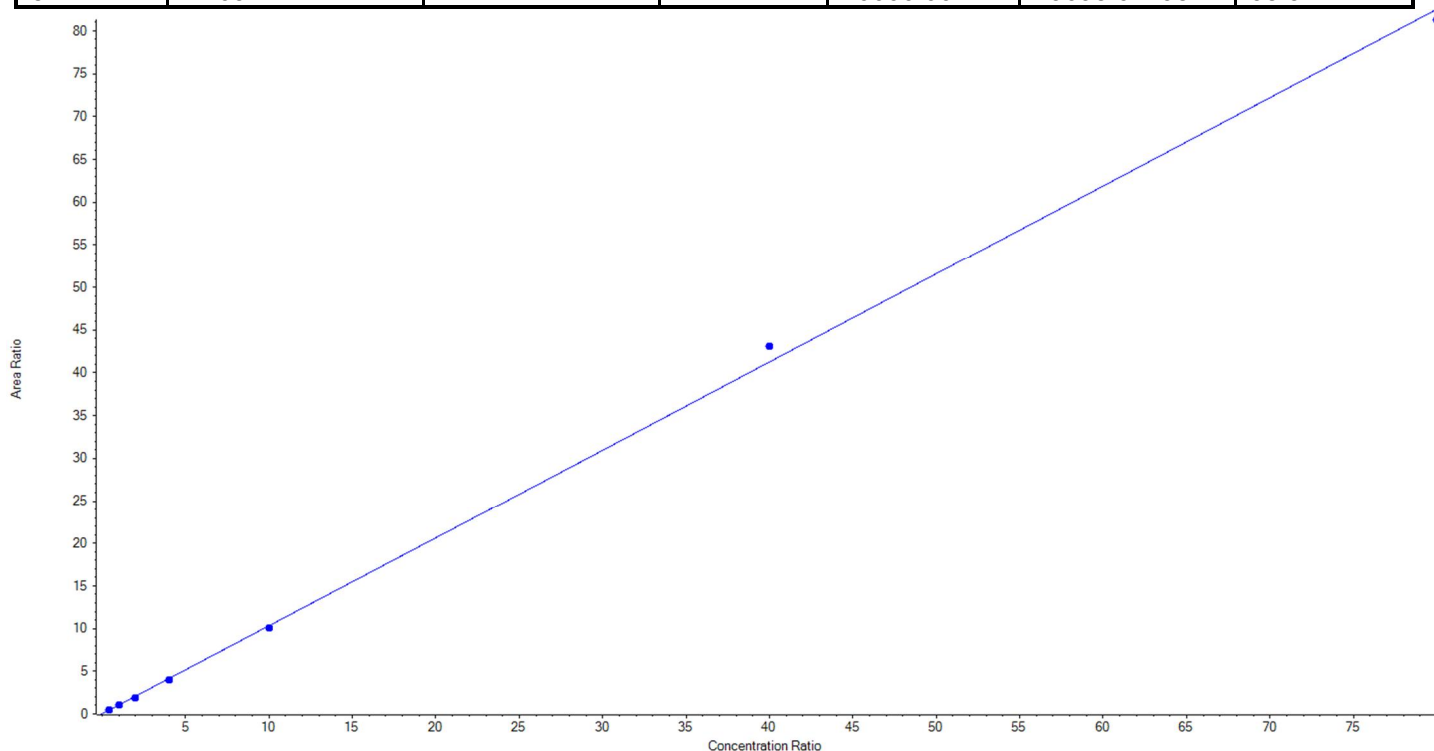
Calibration Summary Report

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Analyte Name	PFUnA_1	Data File	18-0571.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.03138x + 0.01469$ ($r = 0.99939$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	114.953003	115.0
3	KA87	L2	True	250.00	253.005592	101.2
4	KA88	L3	True	500.00	436.588763	87.3
5	KA89	L4	True	1000.00	961.956893	96.2
6	KA90	L5	True	2500.00	2432.986188	97.3
7	KB64	L6	True	10000.00	10451.864579	104.5
8	KB65	L7	True	20000.00	19698.644982	98.5





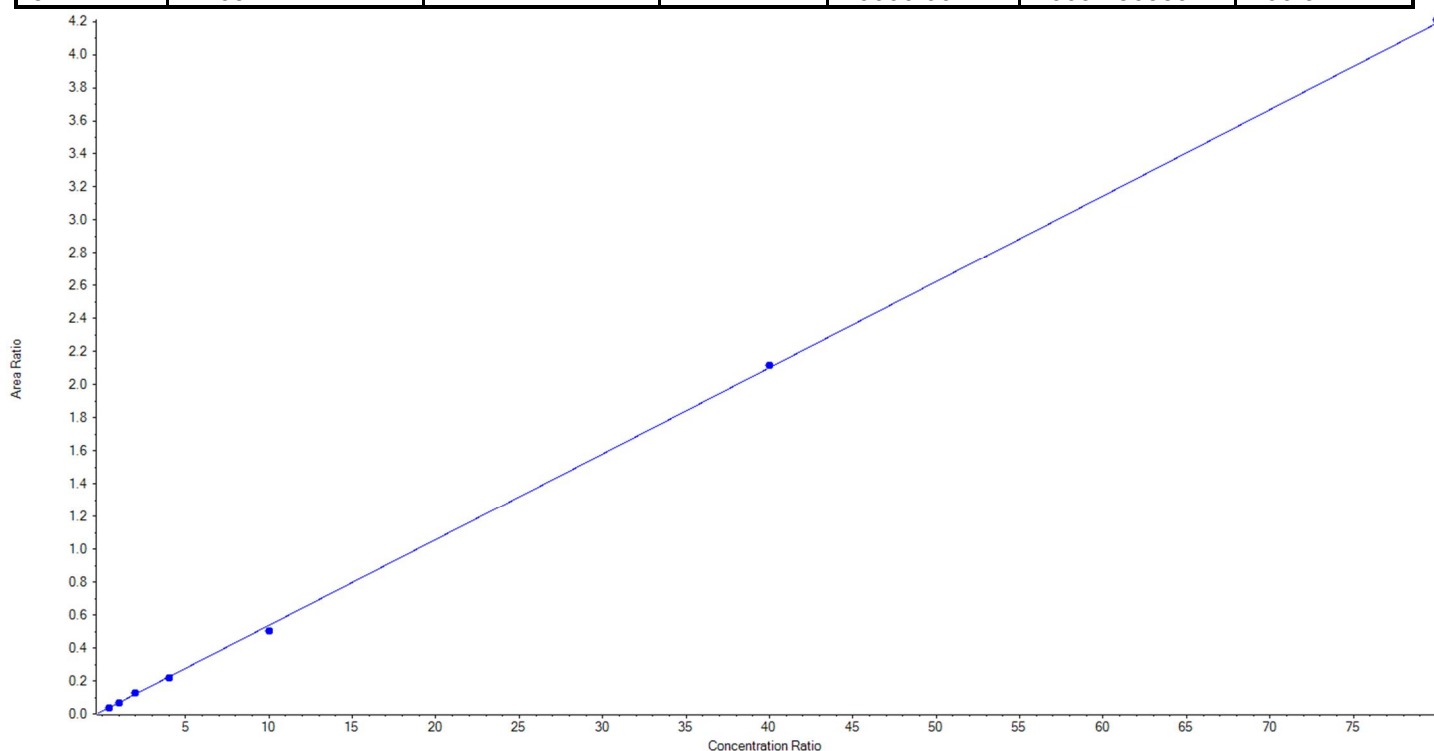
Calibration Summary Report

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Analyte Name	PFUnA_2	Data File	18-0571.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05217 x + 0.01578$ (r = 0.99978) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	99.946908	100.0
3	KA87	L2	True	250.00	256.295450	102.5
4	KA88	L3	True	500.00	525.145269	105.0
5	KA89	L4	True	1000.00	981.112848	98.1
6	KA90	L5	True	2500.00	2333.630240	93.4
7	KB64	L6	True	10000.00	10056.003393	100.6
8	KB65	L7	True	20000.00	20097.865891	100.5





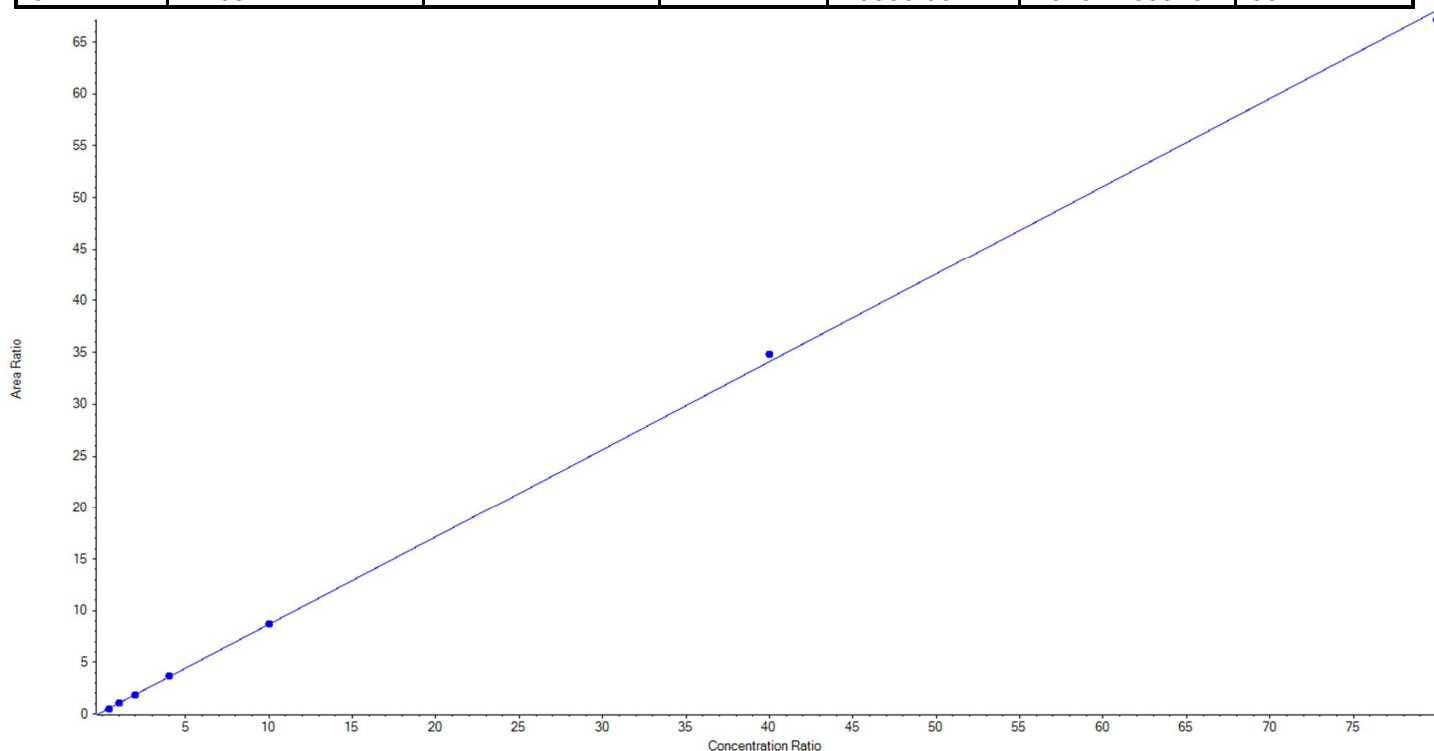
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Analyte Name	PFD _o A_1	Data File	18-0571.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFD _o A	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.84808x + 0.18798$ ($r = 0.99981$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	92.175205	92.2
3	KA87	L2	True	250.00	263.851630	105.5
4	KA88	L3	True	500.00	483.735294	96.8
5	KA89	L4	True	1000.00	1037.376917	103.7
6	KA90	L5	True	2500.00	2524.270442	101.0
7	KB64	L6	True	10000.00	10217.124570	102.2
8	KB65	L7	True	20000.00	19731.465943	98.7





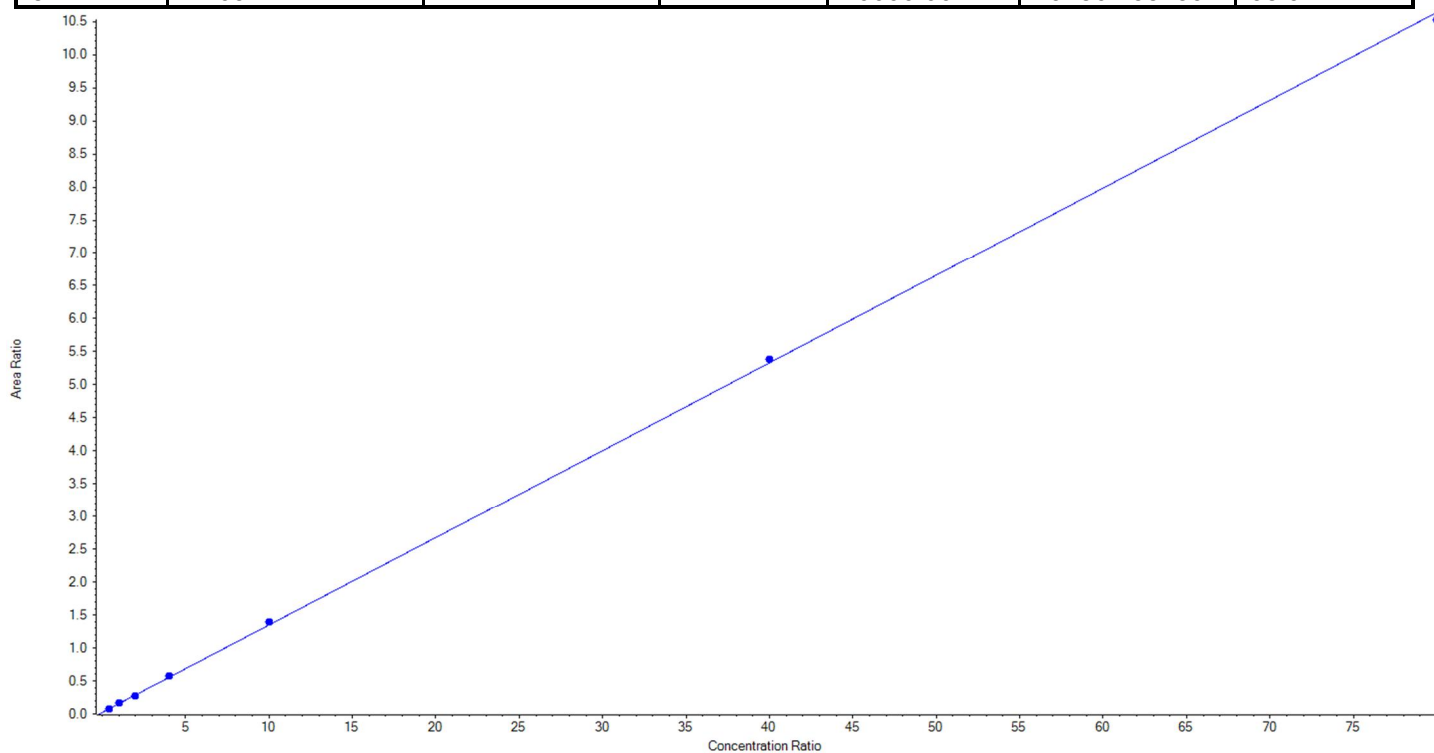
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Analyte Name	PFDoA_2	Data File	18-0571.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFDoA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.13271 x + 0.02249$ ($r = 0.99981$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	89.793101	89.8
3	KA87	L2	True	250.00	268.003425	107.2
4	KA88	L3	True	500.00	476.827216	95.4
5	KA89	L4	True	1000.00	1037.943848	103.8
6	KA90	L5	True	2500.00	2600.085694	104.0
7	KB64	L6	True	10000.00	10091.107958	100.9
8	KB65	L7	True	20000.00	19786.238759	98.9





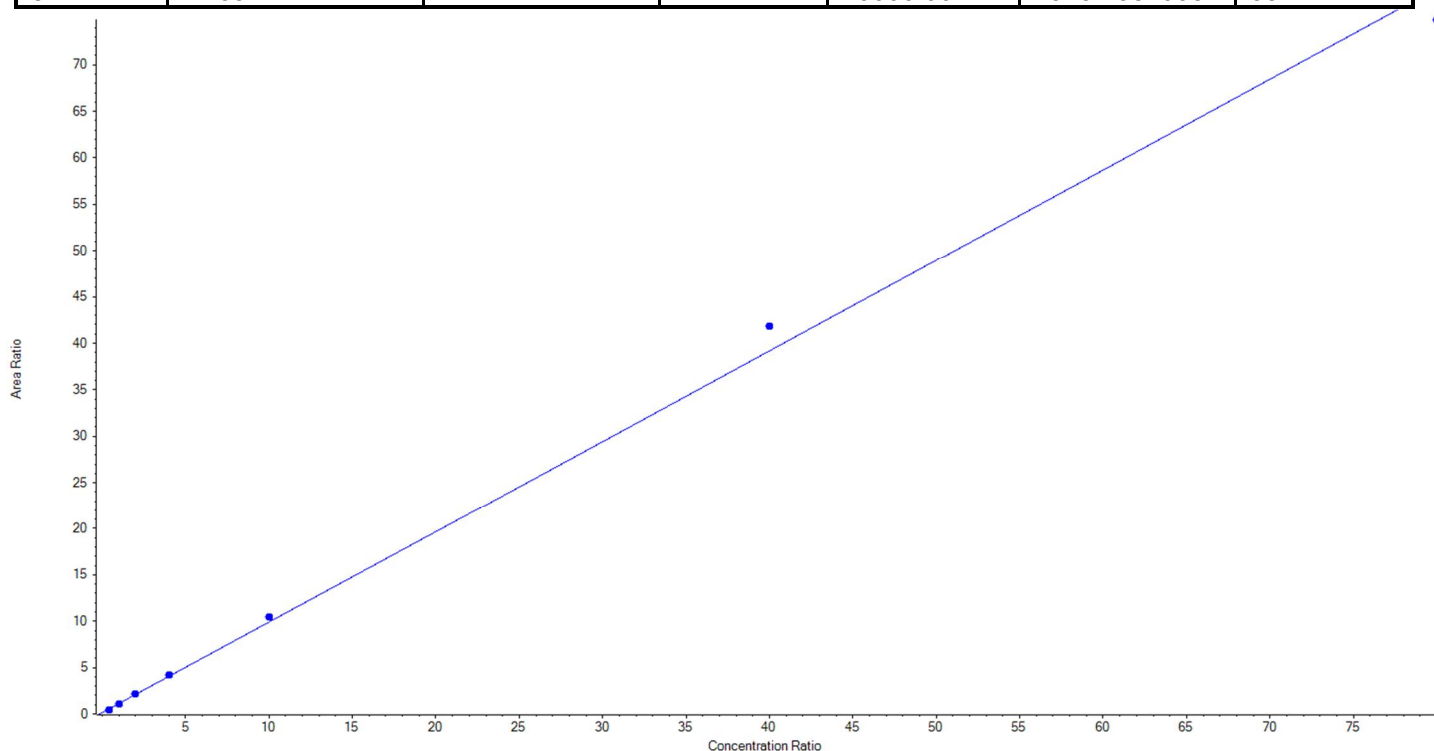
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTrDA_1	Data File	18-0571.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97573x + 0.14874$ ($r = 0.99846$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	84.438059	84.4
3	KA87	L2	True	250.00	251.005204	100.4
4	KA88	L3	True	500.00	516.635132	103.3
5	KA89	L4	True	1000.00	1031.899970	103.2
6	KA90	L5	True	2500.00	2654.818489	106.2
7	KB64	L6	True	10000.00	10678.816138	106.8
8	KB65	L7	True	20000.00	19132.387008	95.7





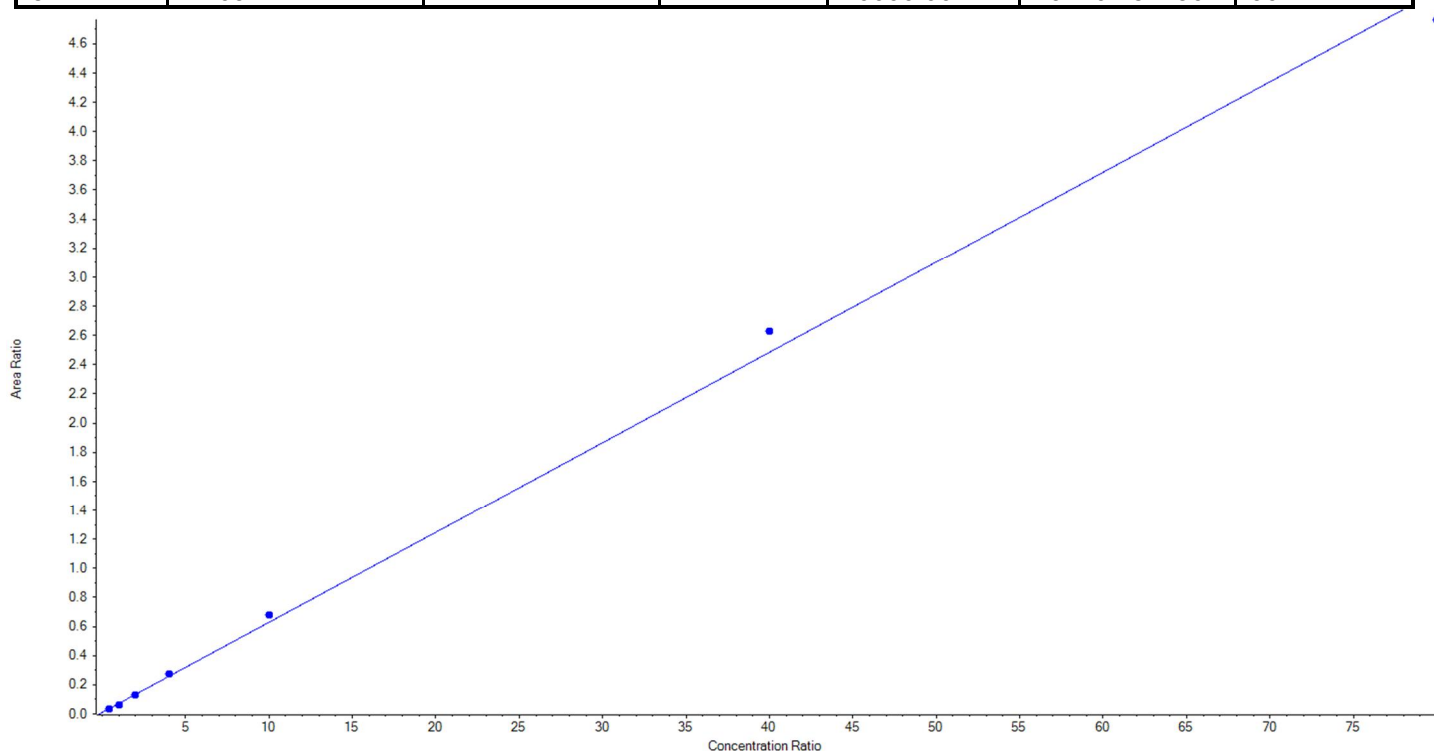
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTrDA_2	Data File	18-0571.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06185x + 0.01045$ ($r = 0.99861$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	98.798939	98.8
3	KA87	L2	True	250.00	220.868646	88.4
4	KA88	L3	True	500.00	485.166807	97.0
5	KA89	L4	True	1000.00	1059.197365	105.9
6	KA90	L5	True	2500.00	2703.074268	108.1
7	KB64	L6	True	10000.00	10572.612820	105.7
8	KB65	L7	True	20000.00	19210.281156	96.1





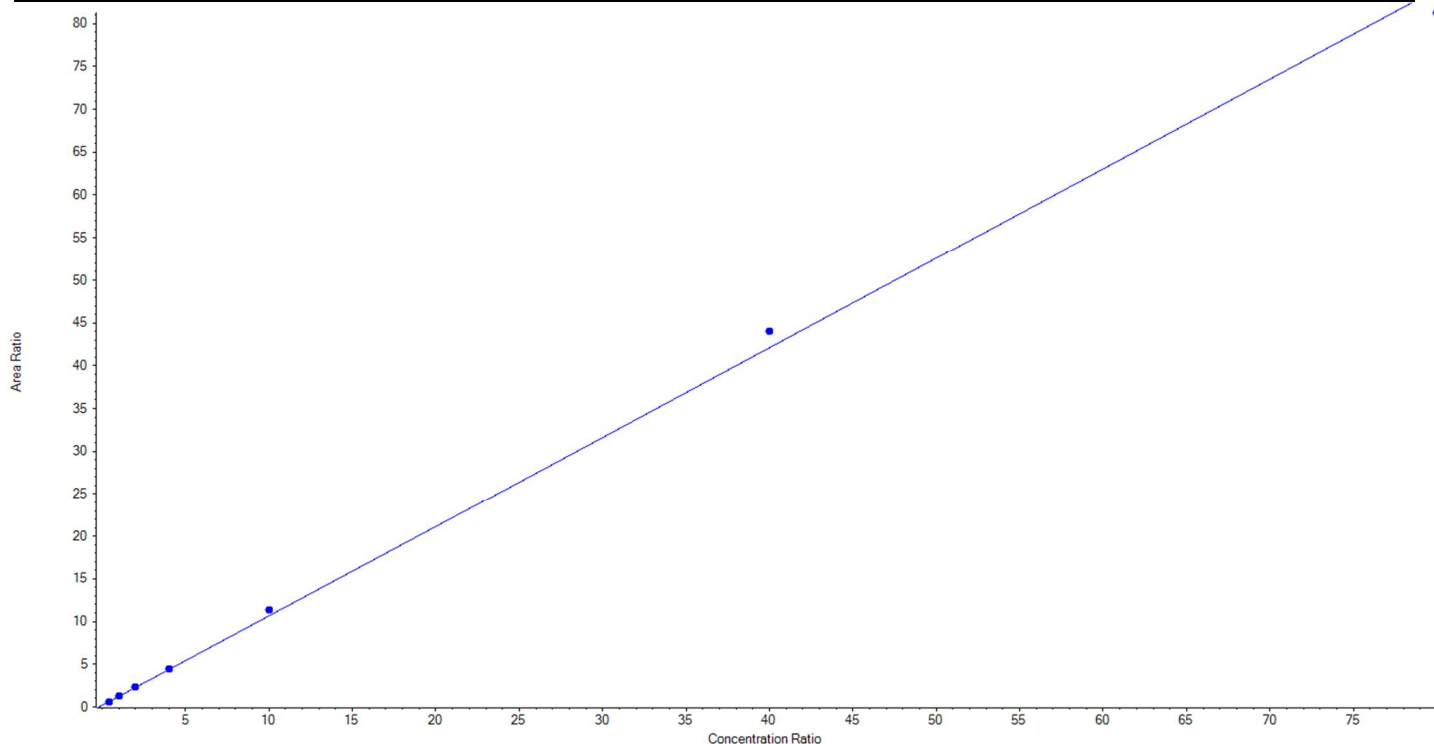
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Analyte Name	PFTeDA_1	Data File	18-0571.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.04773x + 0.18421$ ($r = 0.99907$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	82.151491	82.2
3	KA87	L2	True	250.00	260.908020	104.4
4	KA88	L3	True	500.00	522.634470	104.5
5	KA89	L4	True	1000.00	1012.005880	101.2
6	KA90	L5	True	2500.00	2658.231481	106.3
7	KB64	L6	True	10000.00	10471.643313	104.7
8	KB65	L7	True	20000.00	19342.425345	96.7





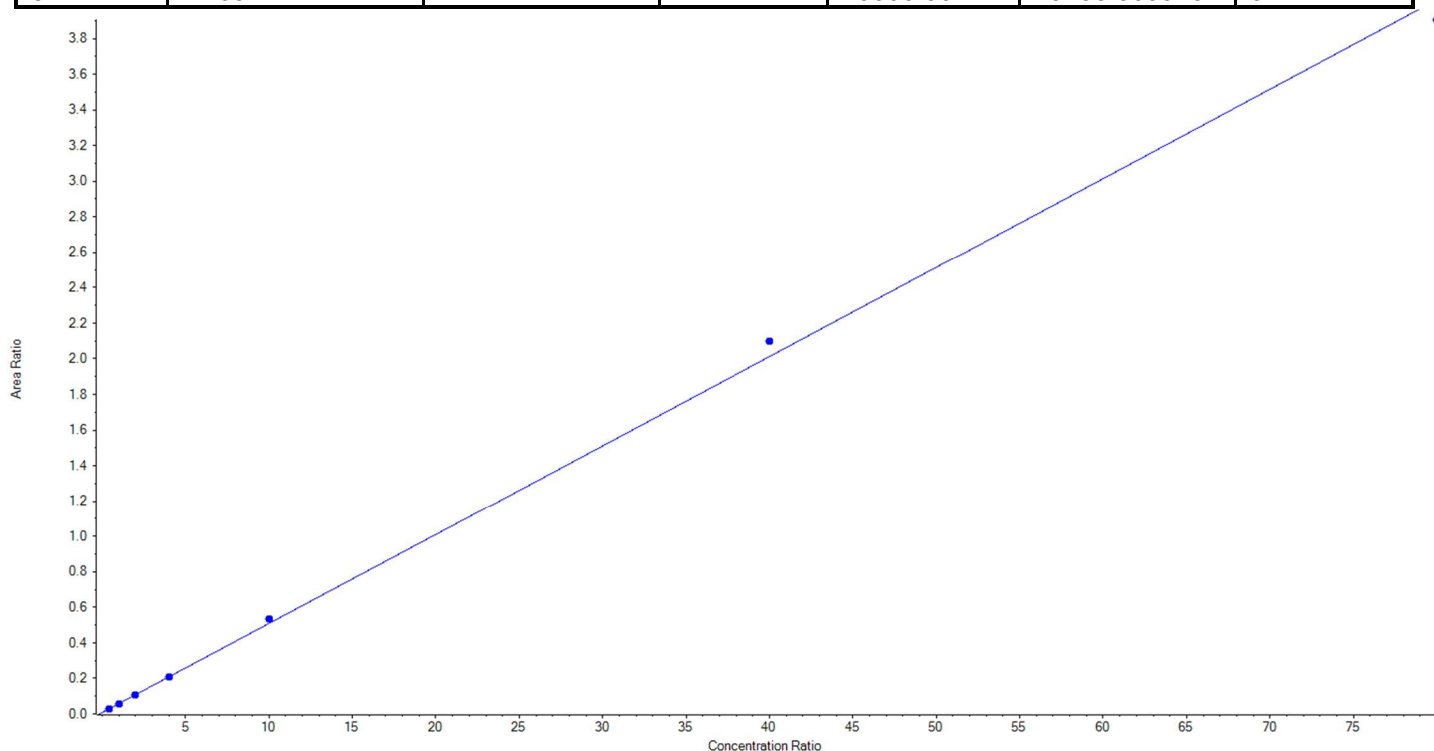
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Analyte Name	PFTeDA_2	Data File	18-0571.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0569_18-0571_BASE
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05011x + 0.00818$ ($r = 0.99932$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	98.232315	98.2
3	KA87	L2	True	250.00	234.812992	93.9
4	KA88	L3	True	500.00	502.416750	100.5
5	KA89	L4	True	1000.00	1004.916379	100.5
6	KA90	L5	True	2500.00	2632.177806	105.3
7	KB64	L6	True	10000.00	10438.633784	104.4
8	KB65	L7	True	20000.00	19438.809973	97.2





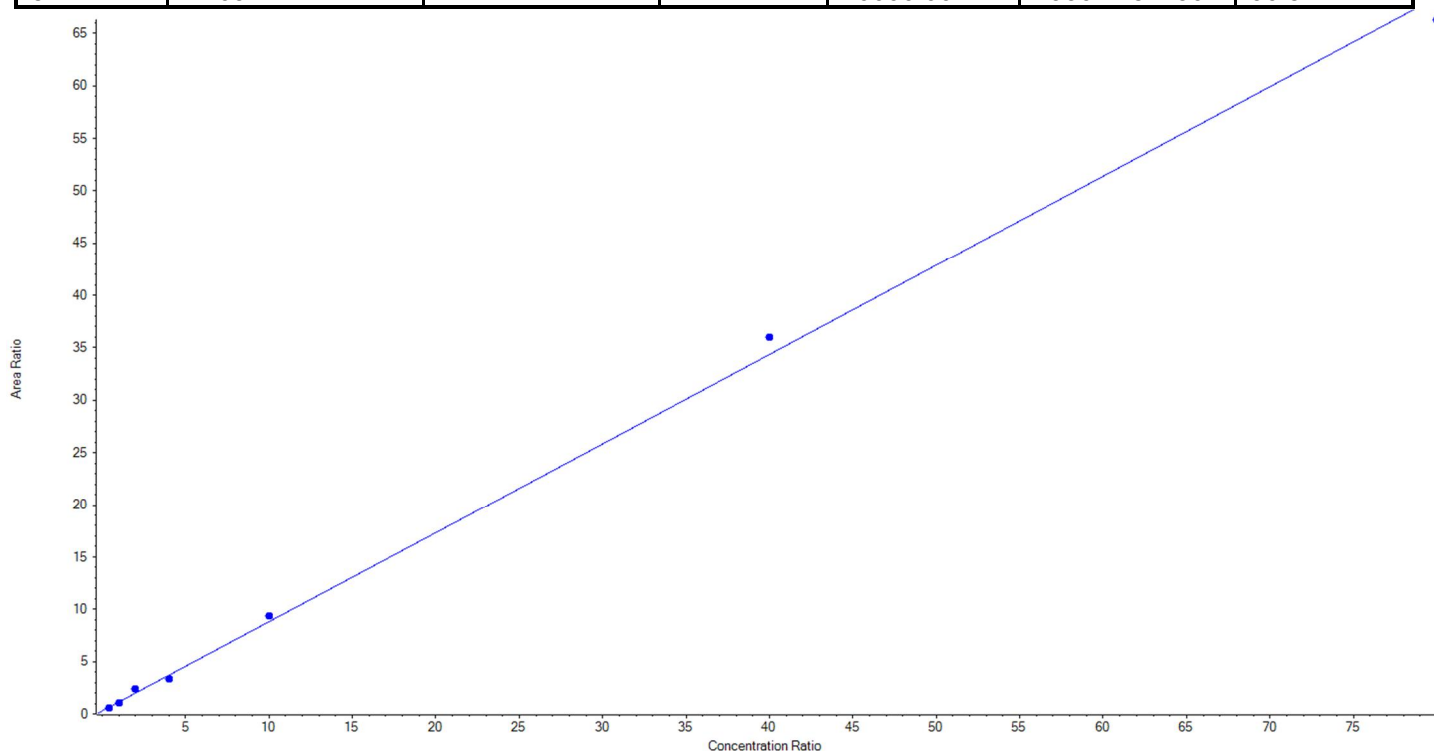
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Analyte Name	NMeFOSAA_1	Data File	18-0571.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0569_18-0571_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.85175x + 0.28921$ ($r = 0.99848$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	83.313611	83.3
3	KA87	L2	True	250.00	236.419837	94.6
4	KA88	L3	True	500.00	619.385646	123.9
5	KA89	L4	True	1000.00	899.674847	90.0
6	KA90	L5	True	2500.00	2666.190505	106.7
7	KB64	L6	True	10000.00	10480.228425	104.8
8	KB65	L7	True	20000.00	19364.787130	96.8





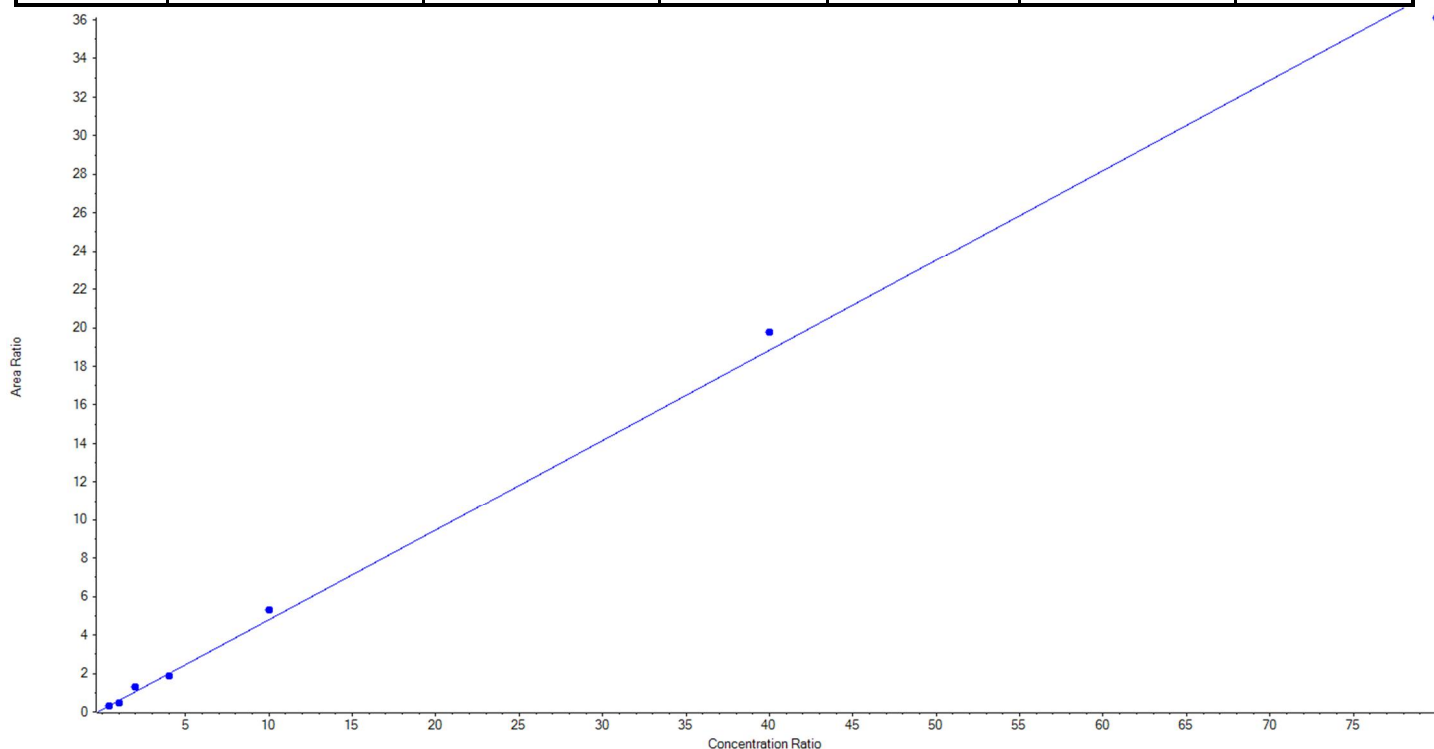
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Analyte Name	NMeFOSAA_2	Data File	18-0571.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0569_18-0571_BASE
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.46798x + 0.11766$ ($r = 0.99778$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	95.186590	95.2
3	KA87	L2	True	250.00	187.605156	75.0
4	KA88	L3	True	500.00	624.403761	124.9
5	KA89	L4	True	1000.00	923.924236	92.4
6	KA90	L5	True	2500.00	2781.250111	111.3
7	KB64	L6	True	10000.00	10512.003326	105.1
8	KB65	L7	True	20000.00	19225.626820	96.1





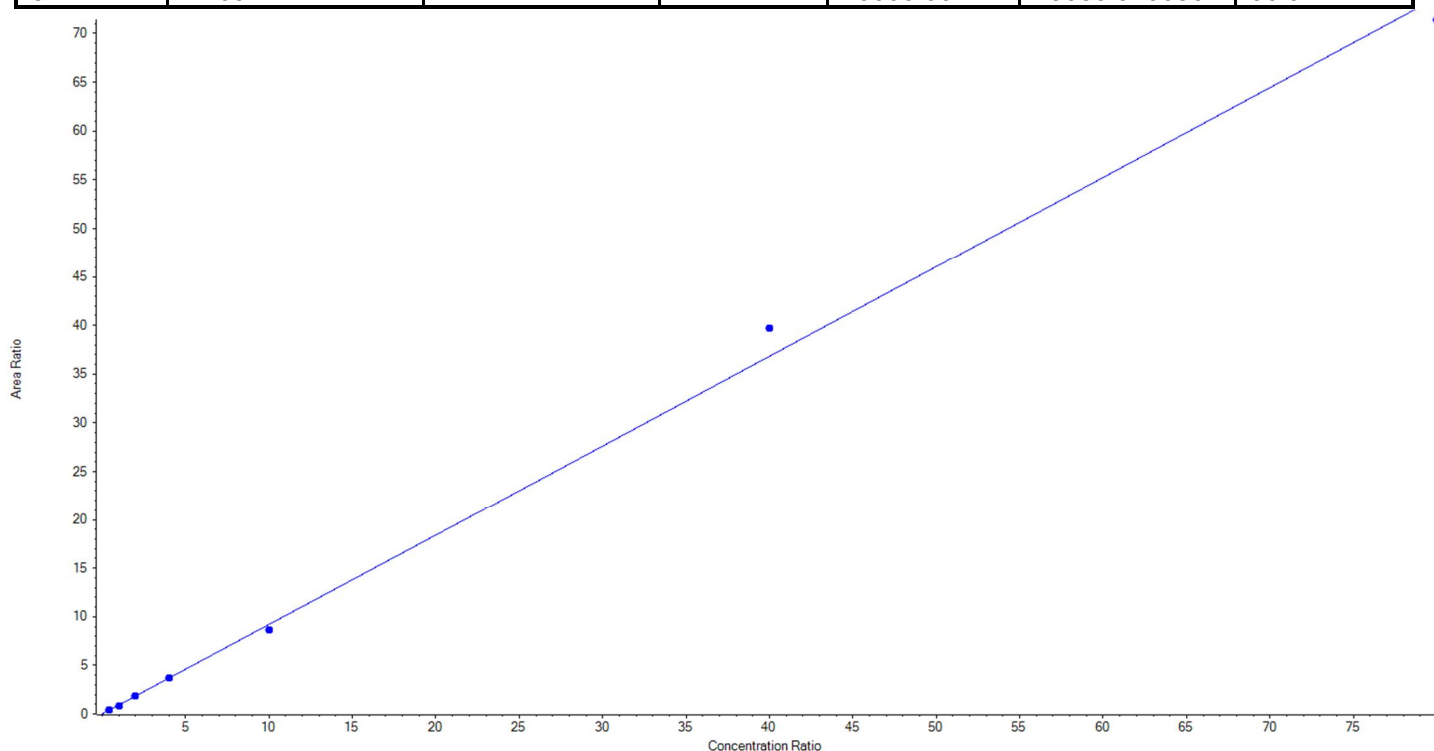
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Analyte Name	NEtFOSAA_1	Data File	18-0571.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0569_18-0571_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.92073x + -0.00231$ ($r = 0.99853$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	107.940488	107.9
3	KA87	L2	True	250.00	235.388542	94.2
4	KA88	L3	True	500.00	492.114001	98.4
5	KA89	L4	True	1000.00	1013.579533	101.4
6	KA90	L5	True	2500.00	2334.437364	93.4
7	KB64	L6	True	10000.00	10782.629385	107.8
8	KB65	L7	True	20000.00	19383.910686	96.9





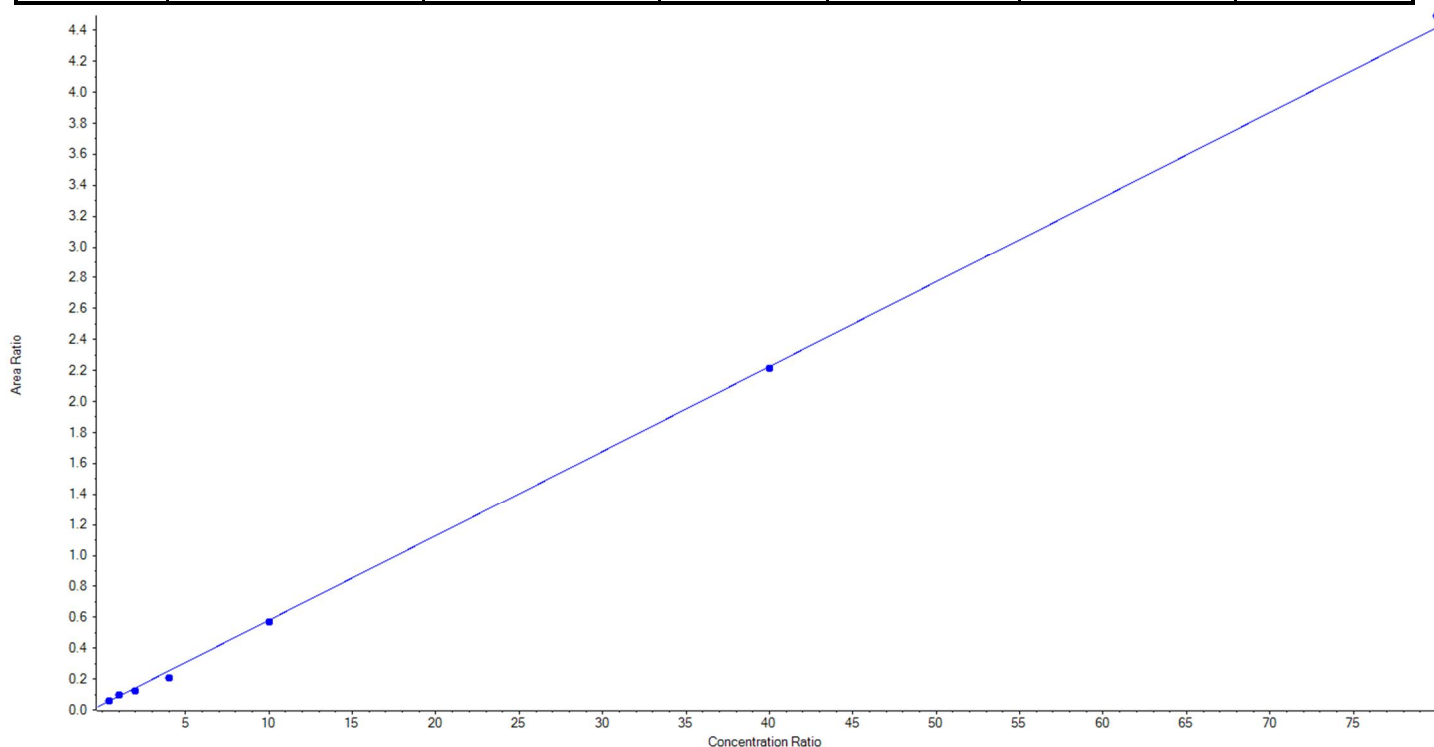
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Analyte Name	NEtFOSAA_2	Data File	18-0571.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0569_18-0571_BASE
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05481 x + 0.03308$ ($r = 0.99878$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	100.00	122.274980	122.3
3	KA87	L2	True	250.00	292.468235	117.0
4	KA88	L3	True	500.00	409.365692	81.9
5	KA89	L4	True	1000.00	796.384257	79.6
6	KA90	L5	True	2500.00	2454.182068	98.2
7	KB64	L6	True	10000.00	9936.451129	99.4
8	KB65	L7	True	20000.00	20338.873639	101.7





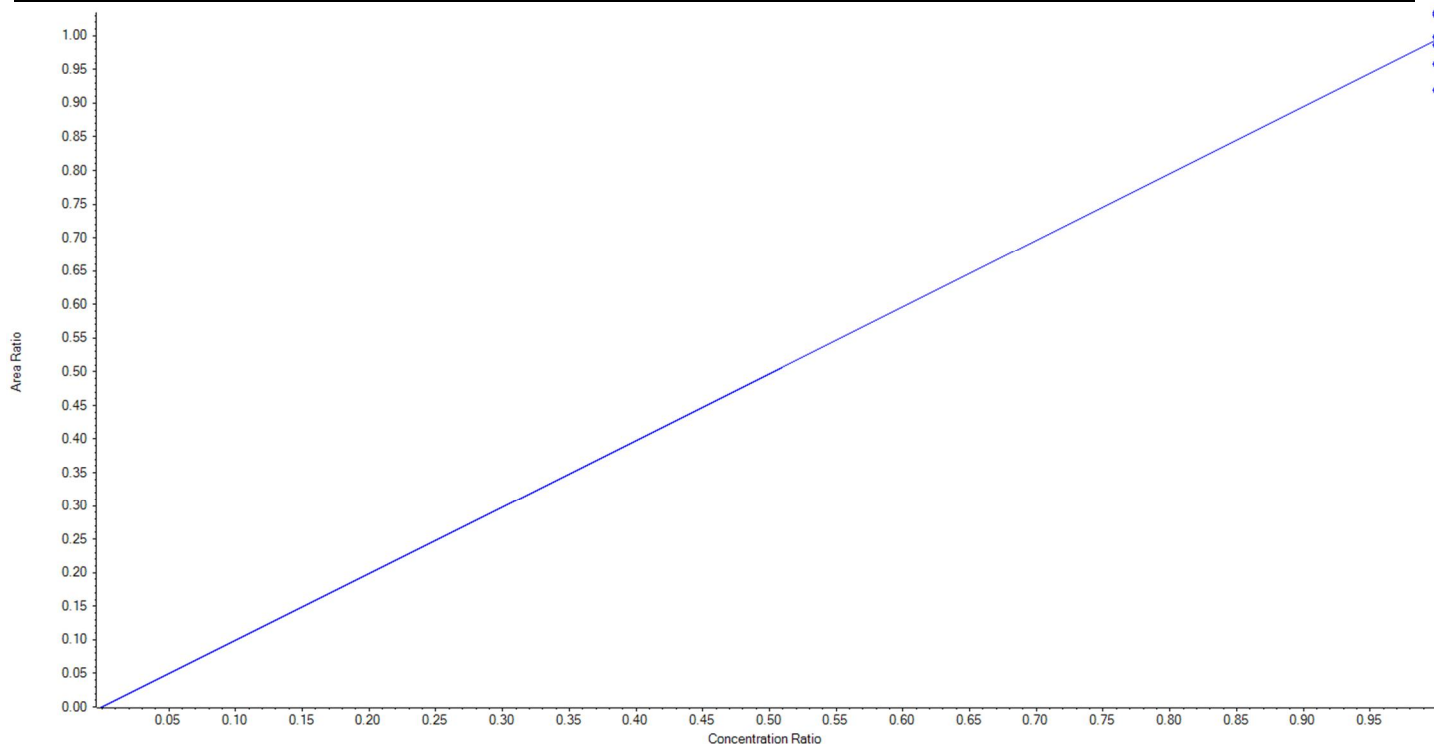
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Analyte Name	13C2-PFDoA	Data File	18-0571.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99383 x$ (std. dev. = 0.04343) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	231.231548	92.5
3	KA87	L2	True	250.00	251.262698	100.5
4	KA88	L3	True	250.00	248.009798	99.2
5	KA89	L4	True	250.00	240.833877	96.3
6	KA90	L5	True	250.00	259.290688	103.7
7	KB64	L6	True	250.00	260.073655	104.0
8	KB65	L7	True	250.00	259.297737	103.7





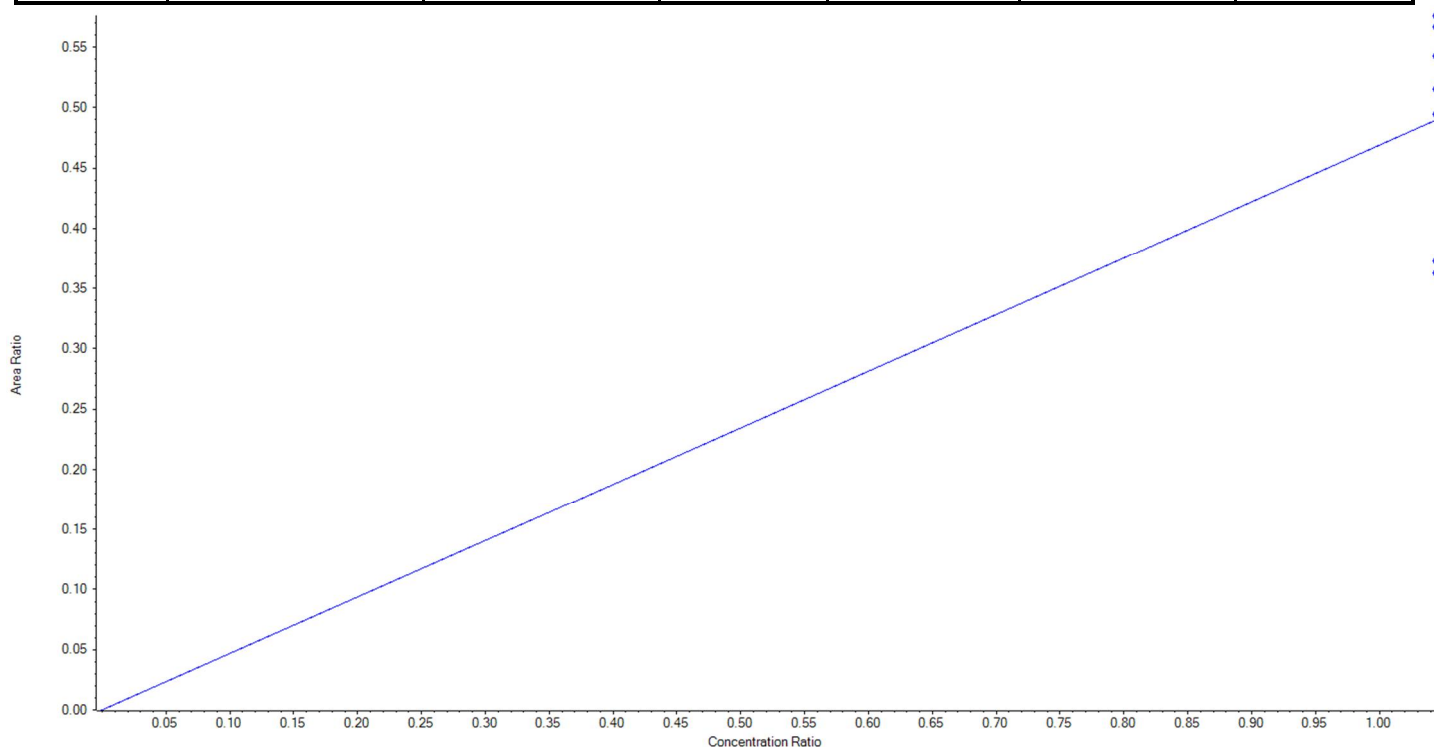
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/10/2018 4:18:58 PM

Analyte Name	d3-MeFOSAA	Data File	18-0571.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.46906 x$ (std. dev. = 0.08444) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	190.008710	76.0
3	KA87	L2	True	250.00	262.875354	105.2
4	KA88	L3	True	250.00	185.056021	74.0
5	KA89	L4	True	250.00	289.266289	115.7
6	KA90	L5	True	250.00	252.421395	101.0
7	KB64	L6	True	250.00	293.738761	117.5
8	KB65	L7	True	250.00	276.633470	110.7





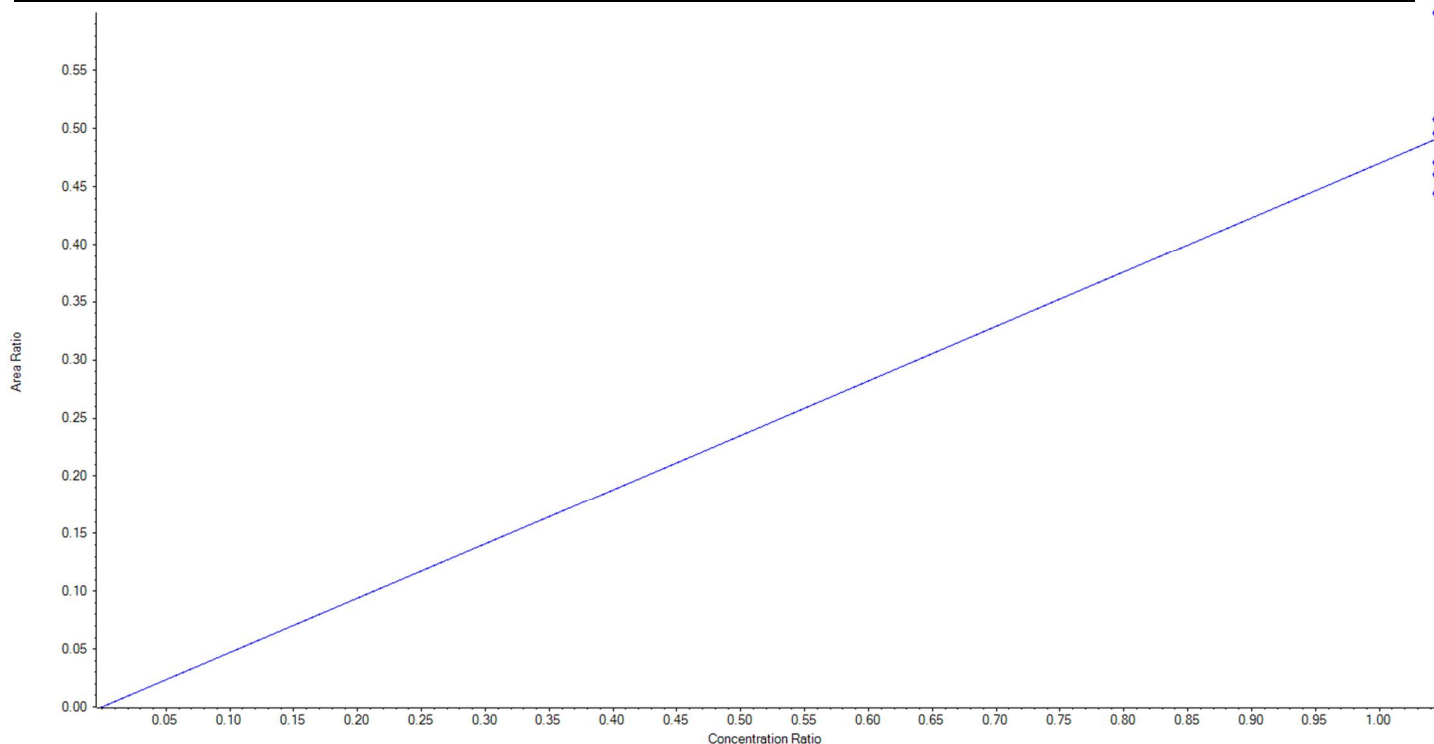
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/10/2018 4:18:58 PM

Analyte Name	d5-EtFOSAA	Data File	18-0571.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.47012 x$ (std. dev. = 0.05029) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	258.321777	103.3
3	KA87	L2	True	250.00	305.117100	122.1
4	KA88	L3	True	250.00	226.003728	90.4
5	KA89	L4	True	250.00	252.358625	100.9
6	KA90	L5	True	250.00	234.302989	93.7
7	KB64	L6	True	250.00	239.740720	95.9
8	KB65	L7	True	250.00	234.155060	93.7





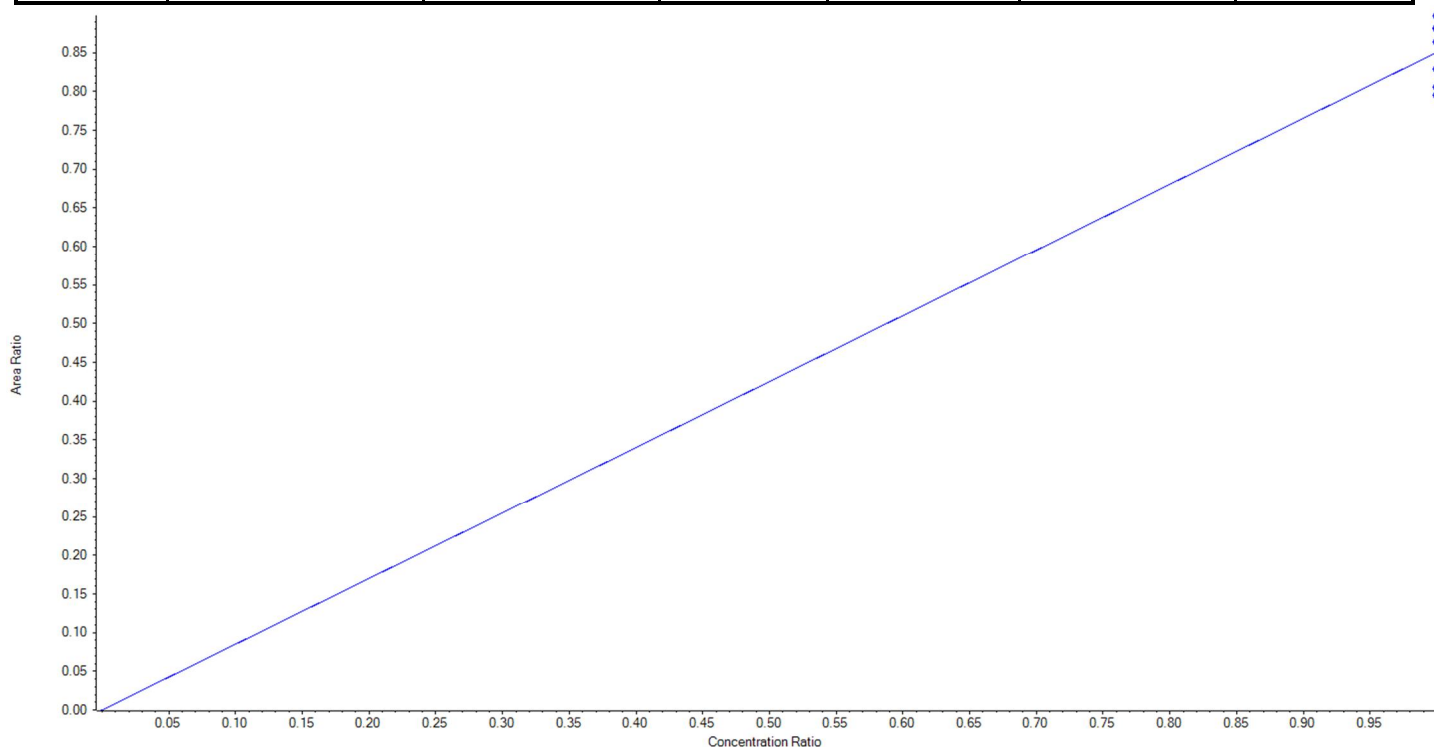
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/10/2018 4:18:58 PM

Analyte Name	13C5-PFHxA	Data File	18-0571.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.85038 x$ (std. dev. = 0.04038) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	236.705958	94.7
3	KA87	L2	True	250.00	233.852802	93.5
4	KA88	L3	True	250.00	259.202824	103.7
5	KA89	L4	True	250.00	243.728236	97.5
6	KA90	L5	True	250.00	258.922154	103.6
7	KB64	L6	True	250.00	263.772745	105.5
8	KB65	L7	True	250.00	253.815281	101.5





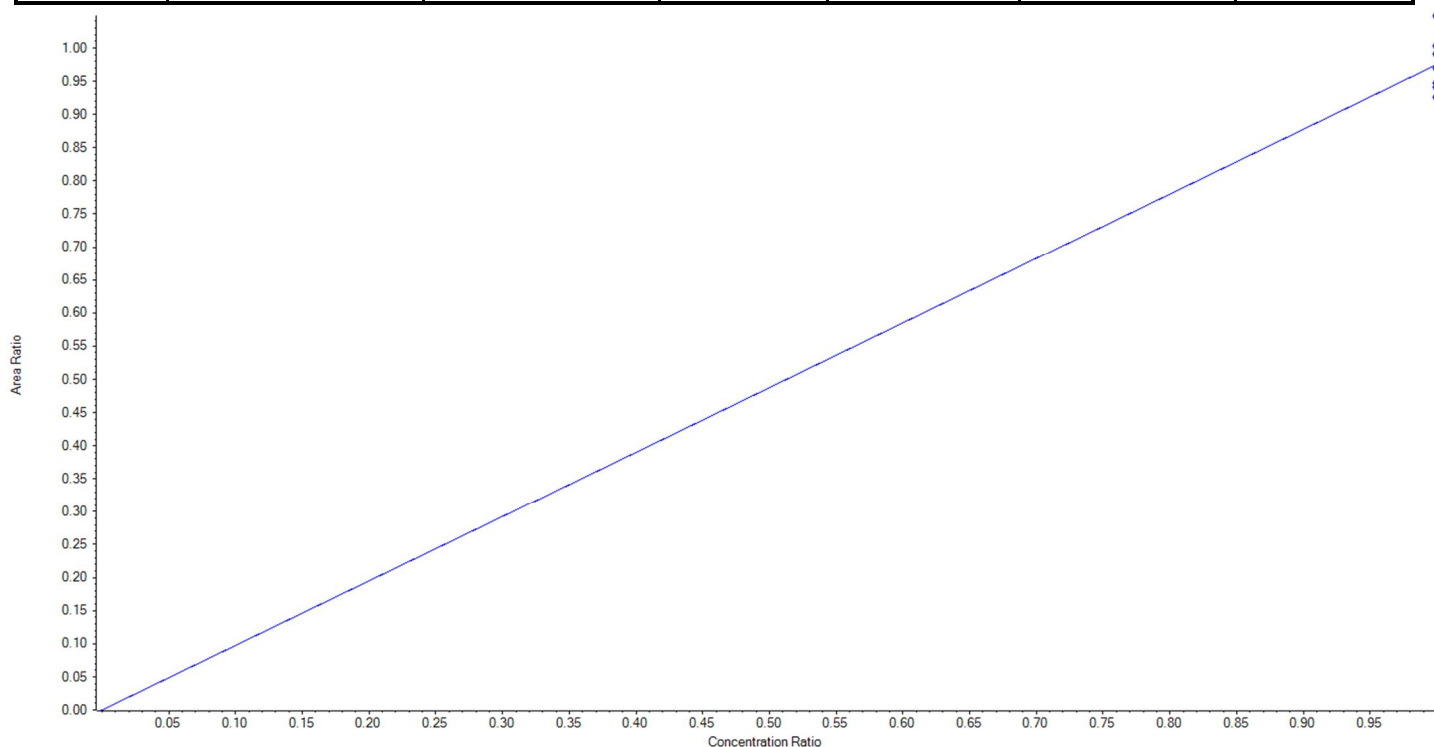
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/10/2018 4:18:58 PM

Analyte Name	13C4-PFHpA	Data File	18-0571.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.97509 x$ (std. dev. = 0.04235) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	237.519890	95.0
3	KA87	L2	True	250.00	241.225629	96.5
4	KA88	L3	True	250.00	268.743342	107.5
5	KA89	L4	True	250.00	248.734045	99.5
6	KA90	L5	True	250.00	253.860313	101.5
7	KB64	L6	True	250.00	257.268528	102.9
8	KB65	L7	True	250.00	242.648253	97.1





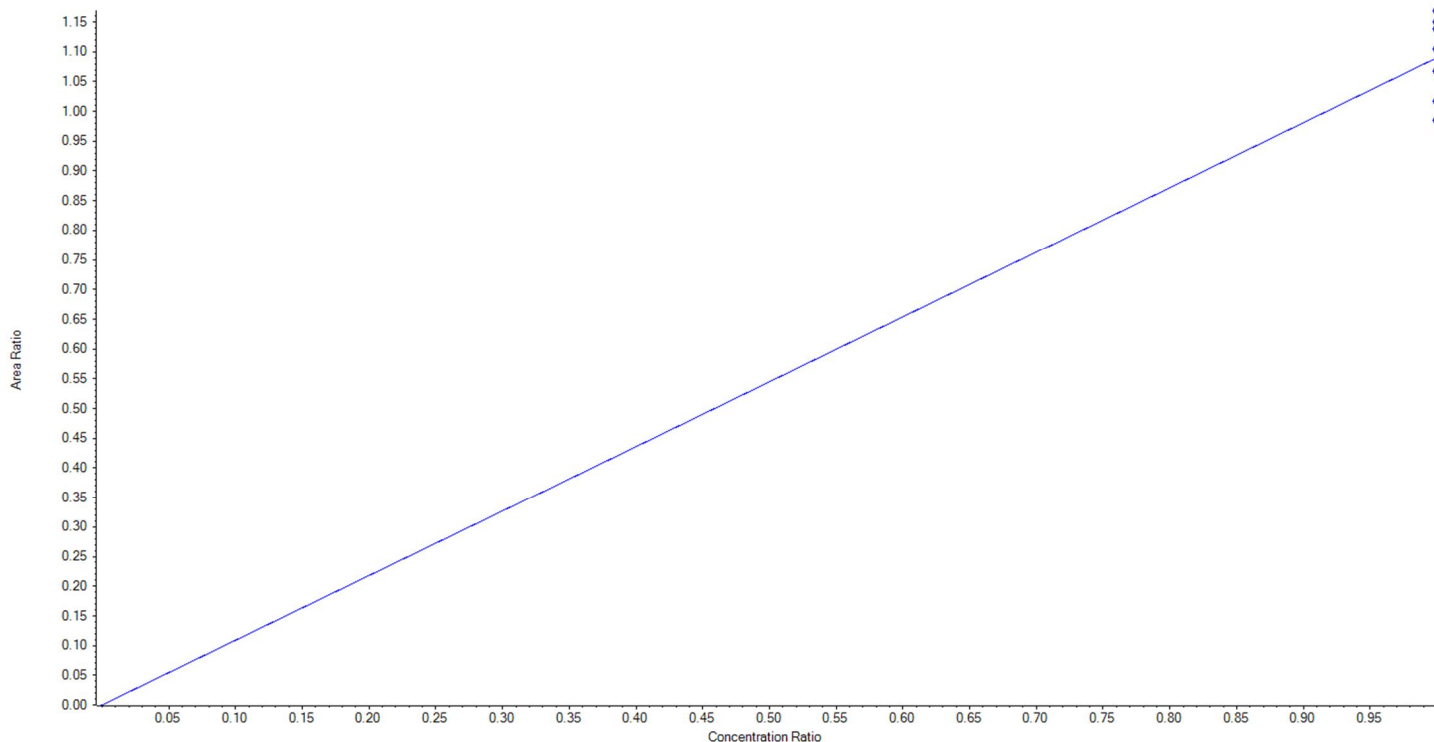
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C8-PFOA	Data File	18-0571.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.08999 x$ (std. dev. = 0.06977) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	244.713478	97.9
3	KA87	L2	True	250.00	233.330587	93.3
4	KA88	L3	True	250.00	263.724320	105.5
5	KA89	L4	True	250.00	261.031534	104.4
6	KA90	L5	True	250.00	253.368266	101.4
7	KB64	L6	True	250.00	268.012275	107.2
8	KB65	L7	True	250.00	225.819541	90.3





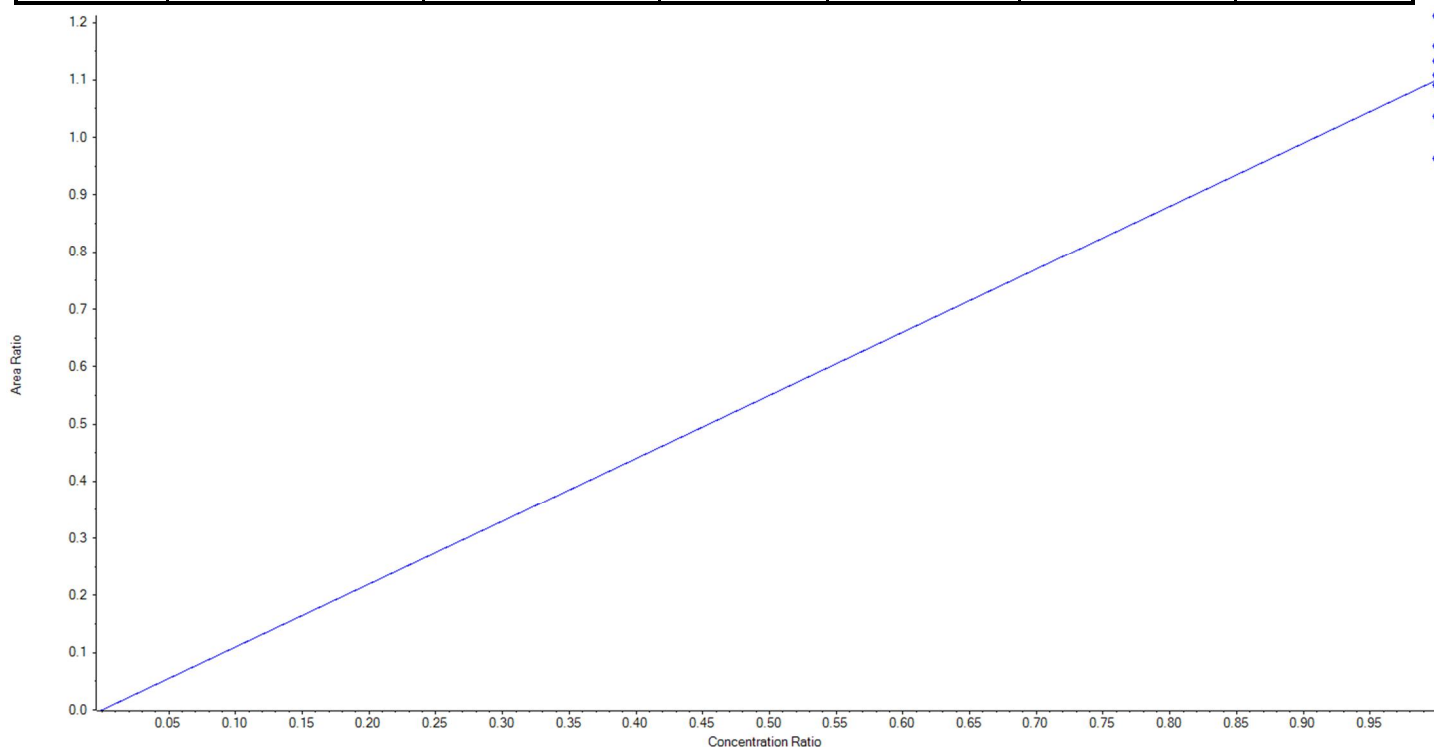
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C9-PFNA	Data File	18-0571.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.10004 x$ (std. dev. = 0.08160) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	235.585238	94.2
3	KA87	L2	True	250.00	247.745564	99.1
4	KA88	L3	True	250.00	275.312140	110.1
5	KA89	L4	True	250.00	263.333189	105.3
6	KA90	L5	True	250.00	251.854080	100.7
7	KB64	L6	True	250.00	257.381383	103.0
8	KB65	L7	True	250.00	218.788406	87.5





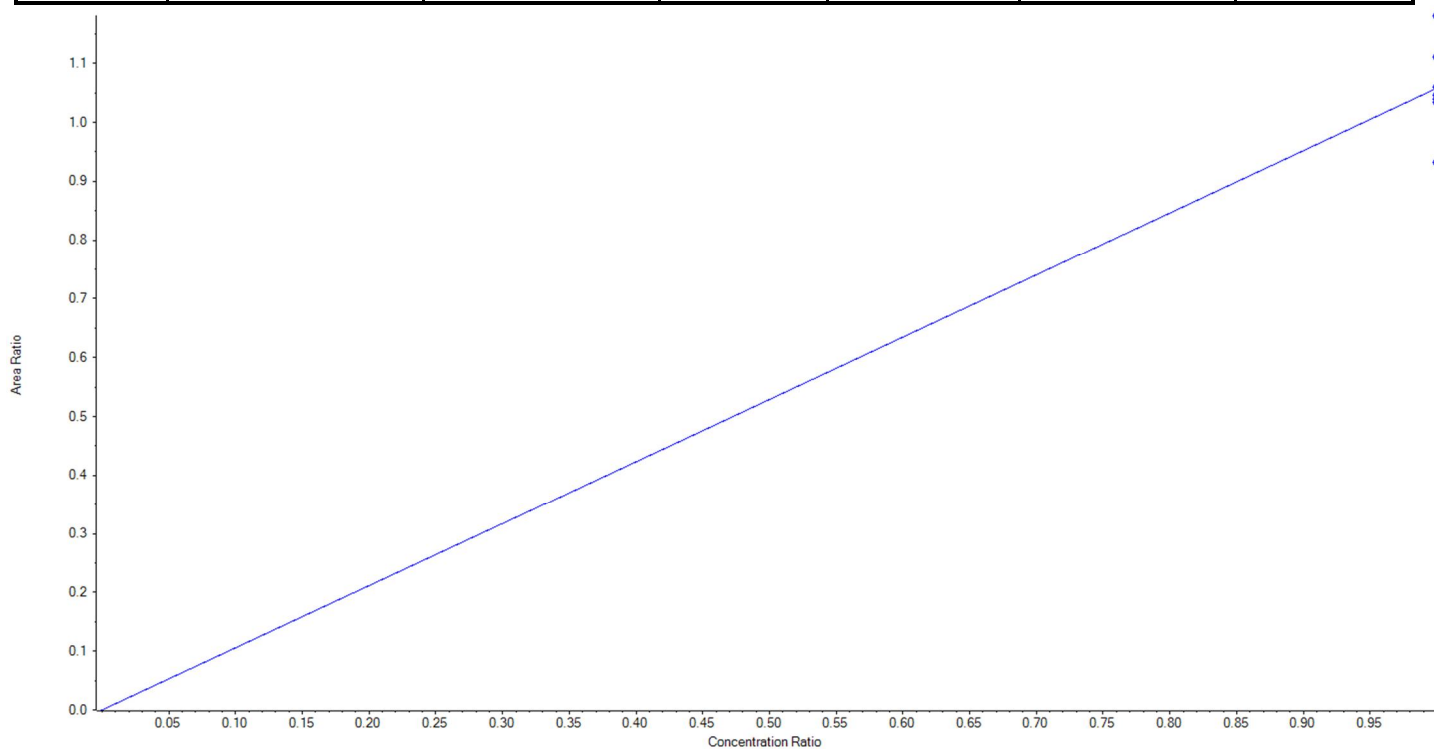
Calibration Summary Report

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Analyte Name	13C6-PFDA	Data File	18-0571.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05763 x$ (std. dev. = 0.07586) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	247.203912	98.9
3	KA87	L2	True	250.00	278.956327	111.6
4	KA88	L3	True	250.00	244.348945	97.7
5	KA89	L4	True	250.00	262.664721	105.1
6	KA90	L5	True	250.00	250.602872	100.2
7	KB64	L6	True	250.00	245.761775	98.3
8	KB65	L7	True	250.00	220.461448	88.2





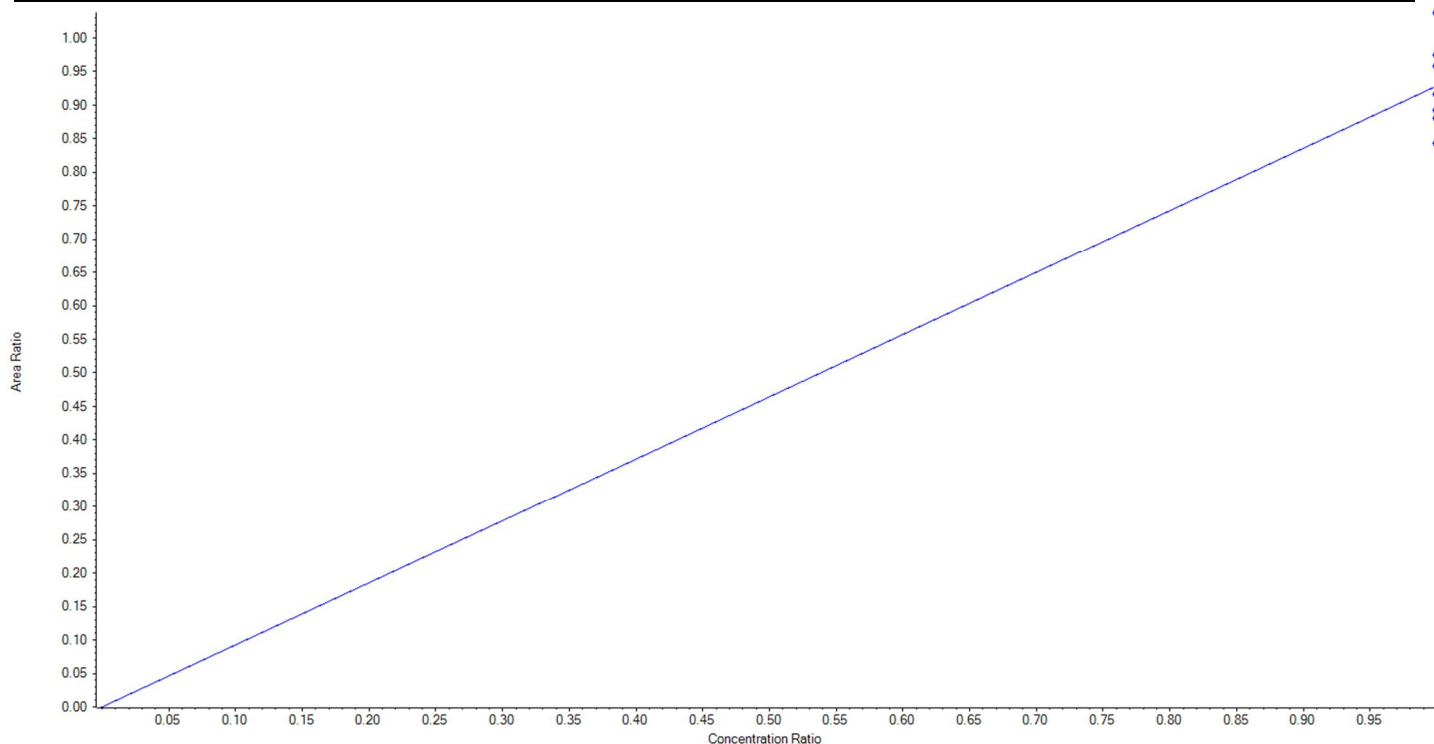
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C7-PFUnA	Data File	18-0571.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.92870 x$ (std. dev. = 0.06567) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	240.101921	96.0
3	KA87	L2	True	250.00	279.247168	111.7
4	KA88	L3	True	250.00	262.253080	104.9
5	KA89	L4	True	250.00	257.927383	103.2
6	KA90	L5	True	250.00	246.511053	98.6
7	KB64	L6	True	250.00	227.114419	90.9
8	KB65	L7	True	250.00	236.844977	94.7





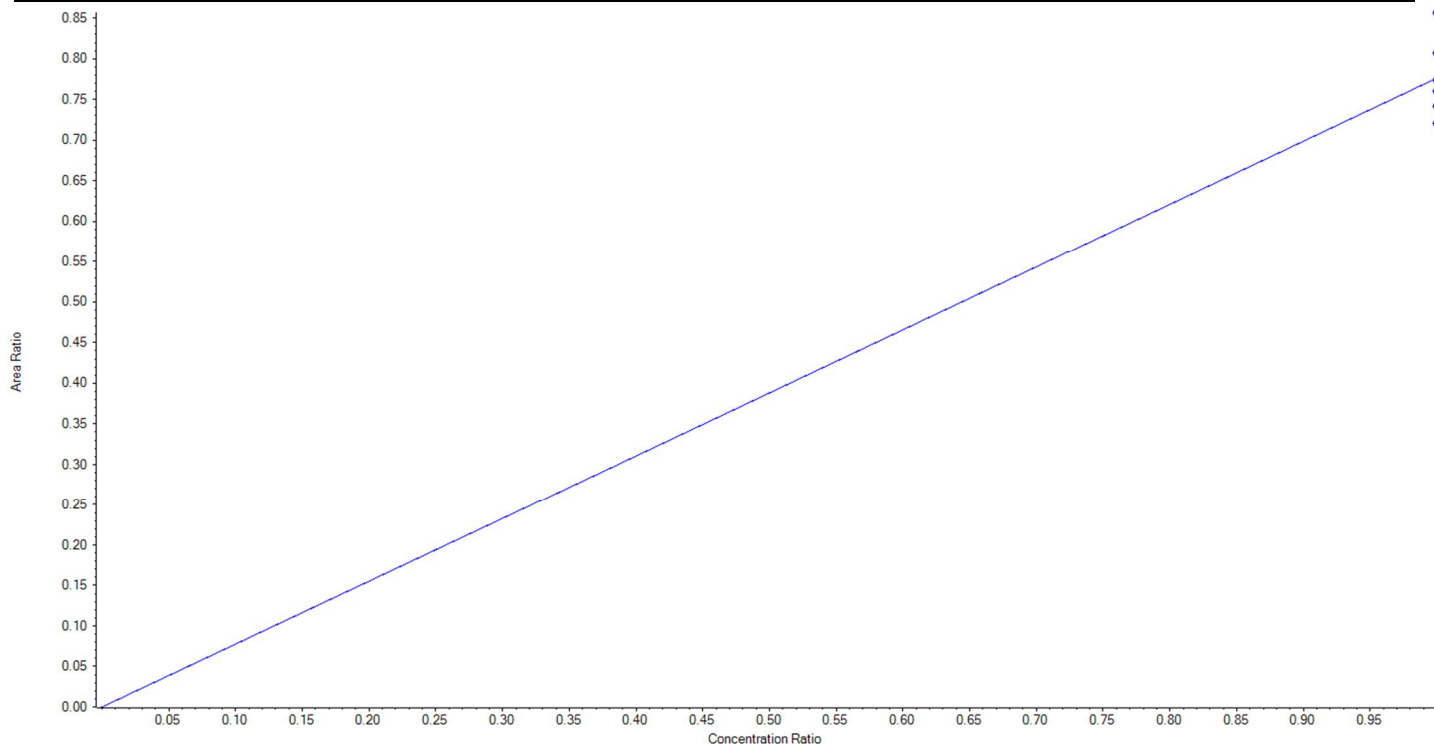
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C2-PFTeDA	Data File	18-0571.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.77628 x$ (std. dev. = 0.04448) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	250.00	238.821130	95.5
3	KA87	L2	True	250.00	259.718730	103.9
4	KA88	L3	True	250.00	232.122059	92.9
5	KA89	L4	True	250.00	244.987329	98.0
6	KA90	L5	True	250.00	249.187384	99.7
7	KB64	L6	True	250.00	249.355041	99.7
8	KB65	L7	True	250.00	275.808327	110.3





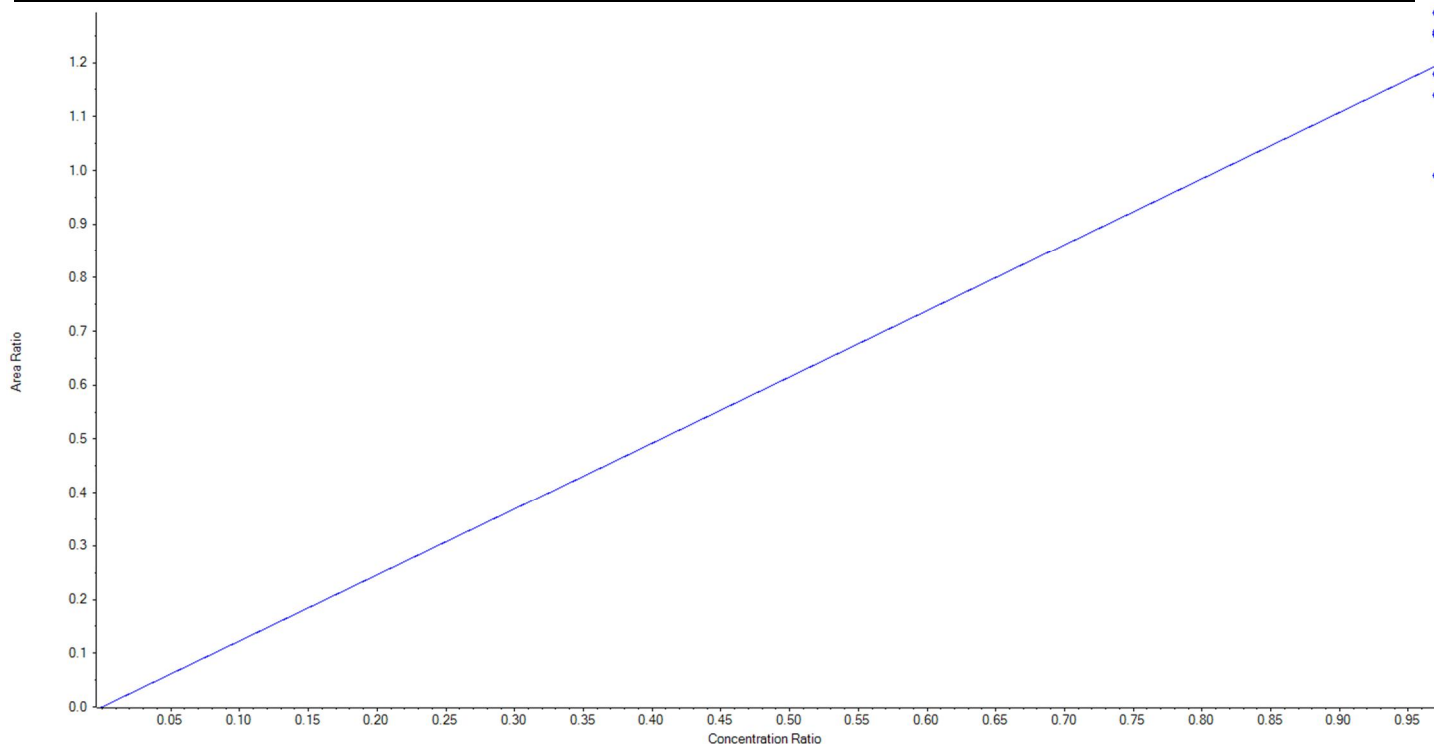
Calibration Summary Report

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Analyte Name	13C3-PFBS	Data File	18-0571.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.23072 x$ (std. dev. = 0.10719) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	232.25	221.442140	95.4
3	KA87	L2	True	232.25	243.303180	104.8
4	KA88	L3	True	232.25	192.585979	82.9
5	KA89	L4	True	232.25	243.432374	104.8
6	KA90	L5	True	232.25	229.288654	98.7
7	KB64	L6	True	232.25	251.200795	108.2
8	KB65	L7	True	232.25	244.496878	105.3





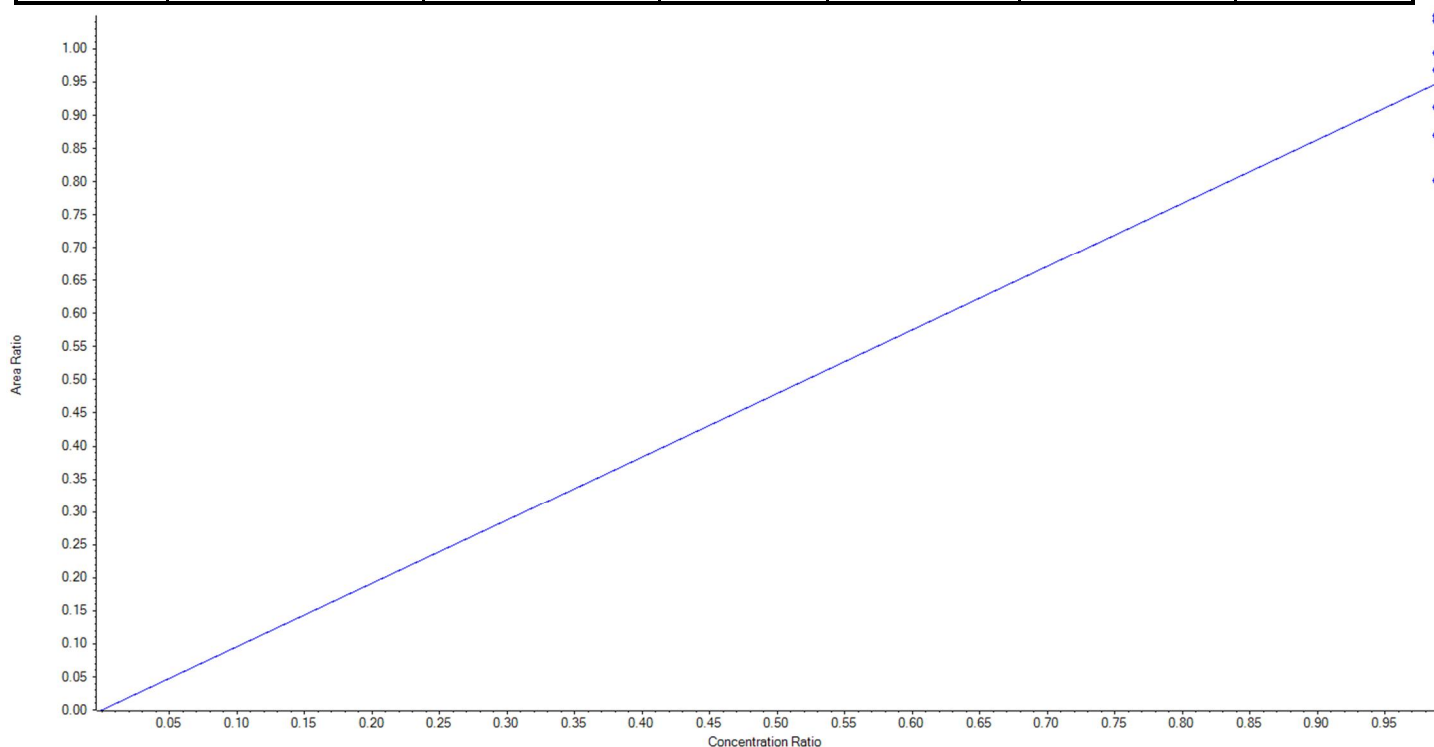
Calibration Summary Report

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Analyte Name	13C3-PFHxS	Data File	18-0571.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.95880 x$ (std. dev. = 0.09298) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	236.50	241.400564	102.1
3	KA87	L2	True	236.50	248.098418	104.9
4	KA88	L3	True	236.50	199.985038	84.6
5	KA89	L4	True	236.50	259.920256	109.9
6	KA90	L5	True	236.50	227.369285	96.1
7	KB64	L6	True	236.50	261.897987	110.7
8	KB65	L7	True	236.50	216.828452	91.7





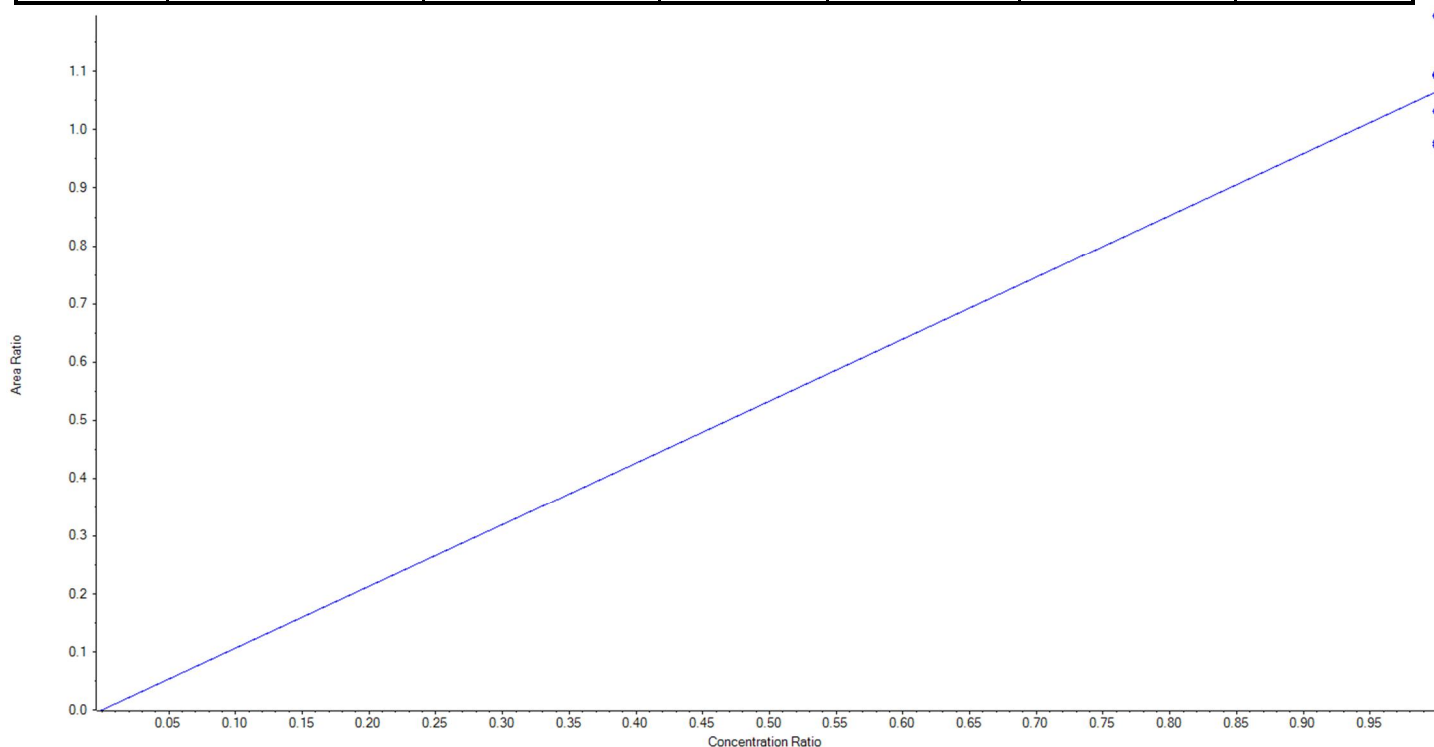
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C8-PFOS	Data File	18-0571.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0569_18-0571_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	9/28/2018 2:39:40 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06566 x$ (std. dev. = 0.07808) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	KA86	L1	True	239.25	231.741312	96.9
3	KA87	L2	True	239.25	245.889017	102.8
4	KA88	L3	True	239.25	219.618527	91.8
5	KA89	L4	True	239.25	245.251971	102.5
6	KA90	L5	True	239.25	245.492206	102.6
7	KB64	L6	True	239.25	268.364524	112.2
8	KB65	L7	True	239.25	218.392444	91.3



Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.57	37658.28	111.126549	51.1	false
PFBS 2	298.9 / 99.0	1.56	11566.10	107.644305	45.5	true
PFHxA 1	313.0 / 269.0	1.90	36478.09	117.603693	7.1	false
PFHxA 2	313.0 / 119.0	1.90	3429.02	131.015829	7.4	true
PFHpA 1	363.0 / 319.0	2.31	36212.89	123.022671	29.2	false
PFHpA 2	363.0 / 169.0	2.31	1472.95	213.652921	26.2	false
PFHxS 1	399.0 / 80.0	2.33	48270.45	113.607101	66.8	false
PFHxS 2	399.0 / 99.0	2.32	12890.33	103.176220	78.8	false
PFOA 1	413.0 / 369.0	2.72	43767.40	111.874648	65.1	true
PFOA 2	413.0 / 169.0	2.72	3508.39	124.278075	52.1	false
PFNA 1	463.0 / 419.0	3.13	39408.19	128.694613	63.2	true
PFNA 2	463.0 / 219.0	3.12	15076.14	192.812655	60.1	false
PFOS 1	499.0 / 80.0	3.12	58810.66	118.819032	44.0	true
PFOS 2	499.0 / 99.0	3.12	10062.94	108.555572	79.1	false
PFDA 1	513.0 / 469.0	3.48	46236.90	107.877157	117.6	true
PFDA 2	513.0 / 219.0	3.48	2909.98	97.188675	52.9	false
PFUnA 1	563.0 / 519.0	3.82	41036.80	114.953003	108.2	true
PFUnA 2	563.0 / 269.0	3.81	3075.34	99.946908	46.4	false
PFDoA 1	613.0 / 569.0	4.10	43307.93	92.175205	162.5	true
PFDoA 2	613.0 / 319.0	4.09	6068.28	89.793101	101.4	false
PFTrDA 1	663.0 / 619.0	4.35	33376.73	84.438059	243.9	true
PFTrDA 2	663.0 / 169.0	4.35	2434.85	98.798939	71.2	false
PFTeDA 1	713.0 / 669.0	4.57	36880.42	82.151491	465.1	false
PFTeDA 2	713.0 / 169.0	4.57	1944.98	98.232315	192.1	false
NMeFOSAA 1	570.0 / 419.0	3.64	6206.43	83.313611	135.8	true
NMeFOSAA 2	570.0 / 512.0	3.64	3204.08	95.186590	84.3	false
NEtFOSAA 1	584.0 / 419.0	3.81	5865.23	107.940488	127.7	true
NEtFOSAA 2	584.0 / 483.0	3.82	888.72	122.274980	28.4	false

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.56	106998.92	271.244650	88.3	false
PFBS 2	298.9 / 99.0	1.56	31659.97	265.804635	90.0	true
PFHxA 1	313.0 / 269.0	1.89	81523.97	251.345688	16.5	false
PFHxA 2	313.0 / 119.0	1.89	6186.33	237.464036	13.8	false
PFHpA 1	363.0 / 319.0	2.30	79480.20	254.107233	51.6	false
PFHpA 2	363.0 / 169.0	2.30	2257.76	317.650858	39.8	false
PFHxS 1	399.0 / 80.0	2.32	113350.14	259.546378	119.7	false
PFHxS 2	399.0 / 99.0	2.32	33664.75	270.862965	210.8	false
PFOA 1	413.0 / 369.0	2.72	108237.58	268.631396	144.3	true
PFOA 2	413.0 / 169.0	2.72	8202.79	293.428807	127.1	false
PFNA 1	463.0 / 419.0	3.12	95205.33	247.461832	140.4	true
PFNA 2	463.0 / 219.0	3.11	28543.88	278.384087	93.4	false
PFOS 1	499.0 / 80.0	3.11	142619.45	261.149790	59.2	true
PFOS 2	499.0 / 99.0	3.11	25912.60	267.614185	117.5	false
PFDA 1	513.0 / 469.0	3.47	117557.21	257.135950	173.0	true
PFDA 2	513.0 / 219.0	3.47	6333.46	257.260344	84.5	false
PFUnA 1	563.0 / 519.0	3.80	102064.37	253.005592	163.2	true
PFUnA 2	563.0 / 269.0	3.81	6679.24	256.295450	101.0	false
PFDoA 1	613.0 / 569.0	4.09	100559.78	263.851630	216.2	true
PFDoA 2	613.0 / 319.0	4.09	15297.49	268.003425	177.9	false
PFTrDA 1	663.0 / 619.0	4.34	84589.15	251.005204	334.5	true
PFTrDA 2	663.0 / 169.0	4.34	4879.64	220.868646	144.9	false
PFTeDA 1	713.0 / 669.0	4.56	95778.75	260.908020	731.2	false
PFTeDA 2	713.0 / 169.0	4.56	4141.46	234.812992	234.2	false
NMeFOSAA 1	570.0 / 419.0	3.63	15903.23	236.419837	228.2	true
NMeFOSAA 2	570.0 / 512.0	3.63	6811.15	187.605156	114.6	false
NEtFOSAA 1	584.0 / 419.0	3.80	14119.93	235.388542	229.3	true
NEtFOSAA 2	584.0 / 483.0	3.80	1587.42	292.468235	44.1	false

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.56	186363.29	471.739279	166.1	false
PFBS 2	298.9 / 99.0	1.56	56392.04	478.997677	172.1	false
PFHxA 1	313.0 / 269.0	1.88	154762.94	469.220108	21.9	false
PFHxA 2	313.0 / 119.0	1.88	11608.93	459.123362	21.8	false
PFHpA 1	363.0 / 319.0	2.29	152166.09	458.906747	68.7	false
PFHpA 2	363.0 / 169.0	2.29	3754.73	513.220163	82.2	false
PFHxS 1	399.0 / 80.0	2.32	216837.24	507.831007	156.7	false
PFHxS 2	399.0 / 99.0	2.32	63137.00	525.023020	260.9	false
PFOA 1	413.0 / 369.0	2.71	191553.08	451.934346	215.0	true
PFOA 2	413.0 / 169.0	2.70	11141.93	379.451627	115.2	false
PFNA 1	463.0 / 419.0	3.11	179790.63	434.733542	189.2	true
PFNA 2	463.0 / 219.0	3.11	58670.78	498.878543	184.8	false
PFOS 1	499.0 / 80.0	3.10	289358.16	471.153177	100.6	true
PFOS 2	499.0 / 99.0	3.10	49819.28	466.128535	246.7	false
PFDA 1	513.0 / 469.0	3.46	208838.06	481.482317	249.7	true
PFDA 2	513.0 / 219.0	3.46	12224.24	586.550584	170.1	false
PFUnA 1	563.0 / 519.0	3.79	180847.27	436.588763	194.5	true
PFUnA 2	563.0 / 269.0	3.79	12486.25	525.145269	112.0	false
PFDoA 1	613.0 / 569.0	4.08	184343.61	483.735294	278.3	true
PFDoA 2	613.0 / 319.0	4.08	27779.29	476.827216	230.0	false
PFTrDA 1	663.0 / 619.0	4.33	159534.85	516.635132	371.0	false
PFTrDA 2	663.0 / 169.0	4.33	9614.47	485.166807	227.5	false
PFTeDA 1	713.0 / 669.0	4.55	174964.96	522.634470	654.5	false
PFTeDA 2	713.0 / 169.0	4.55	8022.65	502.416750	383.2	false
NMeFOSAA 1	570.0 / 419.0	3.62	28119.83	619.385646	259.4	true
NMeFOSAA 2	570.0 / 512.0	3.62	15076.71	624.403761	188.9	false
NEtFOSAA 1	584.0 / 419.0	3.79	28725.79	492.114001	382.1	true
NEtFOSAA 2	584.0 / 483.0	3.79	1949.32	409.365692	58.9	false

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.56	442080.06	951.523668	320.4	false
PFBS 2	298.9 / 99.0	1.55	133040.39	969.790196	288.2	false
PFHxA 1	313.0 / 269.0	1.88	321014.10	968.366728	34.7	false
PFHxA 2	313.0 / 119.0	1.88	23187.43	936.657126	36.4	false
PFHpA 1	363.0 / 319.0	2.29	329344.79	926.409703	107.9	false
PFHpA 2	363.0 / 169.0	2.29	6509.38	846.256560	66.8	false
PFHxS 1	399.0 / 80.0	2.31	462182.95	923.301756	164.3	false
PFHxS 2	399.0 / 99.0	2.31	128642.90	916.878220	254.4	false
PFOA 1	413.0 / 369.0	2.70	433003.07	959.434348	318.4	true
PFOA 2	413.0 / 169.0	2.70	27636.40	900.967211	209.1	false
PFNA 1	463.0 / 419.0	3.10	400962.73	916.592054	342.6	true
PFNA 2	463.0 / 219.0	3.10	120135.89	935.062838	279.3	false
PFOS 1	499.0 / 80.0	3.10	592948.78	936.746040	164.4	true
PFOS 2	499.0 / 99.0	3.10	106619.39	979.486993	336.5	false
PFDA 1	513.0 / 469.0	3.46	455923.10	932.305645	358.7	true
PFDA 2	513.0 / 219.0	3.46	20082.88	878.902539	151.1	false
PFUnA 1	563.0 / 519.0	3.78	412747.12	961.956893	262.5	true
PFUnA 2	563.0 / 269.0	3.78	22850.67	981.112848	192.7	false
PFDoA 1	613.0 / 569.0	4.07	383831.48	1037.376917	416.1	true
PFDoA 2	613.0 / 319.0	4.07	59378.34	1037.943848	321.2	false
PFTrDA 1	663.0 / 619.0	4.32	343567.57	1031.899970	508.9	false
PFTrDA 2	663.0 / 169.0	4.32	22418.47	1059.197365	391.7	false
PFTeDA 1	713.0 / 669.0	4.54	364076.48	1012.005880	1193.2	false
PFTeDA 2	713.0 / 169.0	4.54	17242.79	1004.916379	526.2	false
NMeFOSAA 1	570.0 / 419.0	3.61	58576.72	899.674847	360.0	true
NMeFOSAA 2	570.0 / 512.0	3.61	32256.42	923.924236	401.8	false
NEtFOSAA 1	584.0 / 419.0	3.78	59036.24	1013.579533	404.4	true
NEtFOSAA 2	584.0 / 483.0	3.78	3286.65	796.384257	105.4	false

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	1074188.08	2308.355918	491.1	false
PFBS 2	298.9 / 99.0	1.55	324578.93	2374.618112	559.7	false
PFHxA 1	313.0 / 269.0	1.88	834754.55	2324.705931	60.2	false
PFHxA 2	313.0 / 119.0	1.88	59169.31	2241.184637	61.1	false
PFHpA 1	363.0 / 319.0	2.28	813144.63	2294.295443	181.2	false
PFHpA 2	363.0 / 169.0	2.28	16480.48	2192.970548	125.4	false
PFHxS 1	399.0 / 80.0	2.31	1125157.16	2393.530209	220.0	false
PFHxS 2	399.0 / 99.0	2.31	325614.85	2481.088704	412.5	false
PFOA 1	413.0 / 369.0	2.70	1090524.88	2432.500528	434.1	true
PFOA 2	413.0 / 169.0	2.70	71007.21	2348.789728	317.2	false
PFNA 1	463.0 / 419.0	3.10	1035579.43	2382.423409	511.2	true
PFNA 2	463.0 / 219.0	3.10	313752.73	2399.973473	470.9	false
PFOS 1	499.0 / 80.0	3.10	1468644.23	2239.754676	214.2	true
PFOS 2	499.0 / 99.0	3.10	264153.50	2358.521181	628.8	false
PFDA 1	513.0 / 469.0	3.45	1140994.50	2554.527388	642.3	true
PFDA 2	513.0 / 219.0	3.45	47923.63	2396.071384	300.6	false
PFUnA 1	563.0 / 519.0	3.78	958596.77	2432.986188	389.7	true
PFUnA 2	563.0 / 269.0	3.78	47945.64	2333.630240	267.8	false
PFDoA 1	613.0 / 569.0	4.07	939373.09	2524.270442	630.2	true
PFDoA 2	613.0 / 319.0	4.07	150576.25	2600.085694	436.7	false
PFTrDA 1	663.0 / 619.0	4.32	846895.63	2654.818489	748.2	false
PFTrDA 2	663.0 / 169.0	4.31	54729.47	2703.074268	446.0	false
PFTeDA 1	713.0 / 669.0	4.53	912516.62	2658.231481	1111.3	false
PFTeDA 2	713.0 / 169.0	4.53	43167.90	2632.177806	744.0	false
NMeFOSAA 1	570.0 / 419.0	3.61	149335.14	2666.190505	638.3	true
NMeFOSAA 2	570.0 / 512.0	3.61	84823.96	2781.250111	593.3	false
NEtFOSAA 1	584.0 / 419.0	3.78	135494.43	2334.437364	517.6	true
NEtFOSAA 2	584.0 / 483.0	3.78	9003.95	2454.182068	203.9	false

Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	4520746.04	10528.716461	1168.7	false
PFBS 2	298.9 / 99.0	1.55	1327670.45	10557.467223	1631.5	false
PFHxA 1	313.0 / 269.0	1.87	3280605.78	10475.562168	126.7	false
PFHxA 2	313.0 / 119.0	1.87	239210.35	10484.102235	118.5	false
PFHpA 1	363.0 / 319.0	2.28	3073041.63	9534.801462	331.6	false
PFHpA 2	363.0 / 169.0	2.28	62331.19	9210.327366	230.6	false
PFHxS 1	399.0 / 80.0	2.30	4255783.55	9491.668992	436.8	false
PFHxS 2	399.0 / 99.0	2.30	1188610.22	9512.053167	964.9	false
PFOA 1	413.0 / 369.0	2.70	3778122.17	9282.868926	935.8	true
PFOA 2	413.0 / 169.0	2.70	256480.67	9379.268669	641.9	false
PFNA 1	463.0 / 419.0	3.10	3625902.02	9443.466309	925.0	true
PFNA 2	463.0 / 219.0	3.10	1136882.36	9735.385728	764.0	false
PFOS 1	499.0 / 80.0	3.09	5879681.70	9522.747770	461.5	true
PFOS 2	499.0 / 99.0	3.09	1009434.62	9607.006573	1067.7	false
PFDA 1	513.0 / 469.0	3.45	3989807.66	9495.396391	899.0	true
PFDA 2	513.0 / 219.0	3.45	177882.53	9638.765823	422.5	false
PFUnA 1	563.0 / 519.0	3.78	3644362.25	10451.864579	582.4	true
PFUnA 2	563.0 / 269.0	3.78	178633.38	10056.003393	475.9	false
PFDoA 1	613.0 / 569.0	4.06	3608022.57	10217.124570	830.7	true
PFDoA 2	613.0 / 319.0	4.06	556965.84	10091.107958	604.4	false
PFTrDA 1	663.0 / 619.0	4.31	3243229.68	10678.816138	972.0	false
PFTrDA 2	663.0 / 169.0	4.31	203632.32	10572.612820	803.6	false
PFTeDA 1	713.0 / 669.0	4.53	3417132.56	10471.643313	2227.0	false
PFTeDA 2	713.0 / 169.0	4.53	162855.18	10438.633784	1392.4	false
NMeFOSAA 1	570.0 / 419.0	3.61	565892.80	10480.228425	1175.7	true
NMeFOSAA 2	570.0 / 512.0	3.61	311206.01	10512.003326	1209.3	false
NEtFOSAA 1	584.0 / 419.0	3.77	528551.44	10782.629385	767.1	true
NEtFOSAA 2	584.0 / 483.0	3.77	29439.21	9936.451129	313.5	false

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	9749612.75	20050.793476	1780.2	false
PFBS 2	298.9 / 99.0	1.55	2838540.12	19939.177852	2148.3	false
PFHxA 1	313.0 / 269.0	1.87	6857659.73	20086.695684	211.3	false
PFHxA 2	313.0 / 119.0	1.87	501955.67	20203.952775	197.0	false
PFHpA 1	363.0 / 319.0	2.28	6389902.93	20758.456741	532.7	false
PFHpA 2	363.0 / 169.0	2.28	136592.85	21169.574505	434.0	false
PFHxS 1	399.0 / 80.0	2.30	9023143.12	21004.014558	870.9	false
PFHxS 2	399.0 / 99.0	2.30	2499548.34	20884.417704	1350.3	false
PFOA 1	413.0 / 369.0	2.69	8099096.51	20842.755808	1683.0	true
PFOA 2	413.0 / 169.0	2.69	545928.08	20923.815882	1233.4	false
PFNA 1	463.0 / 419.0	3.09	7701720.97	20796.628242	1683.0	true
PFNA 2	463.0 / 219.0	3.09	2302230.35	20402.315331	1052.2	false
PFOS 1	499.0 / 80.0	3.09	12248881.66	20799.629515	566.5	true
PFOS 2	499.0 / 99.0	3.09	2059440.90	20562.686961	1430.8	false
PFDA 1	513.0 / 469.0	3.45	8308690.97	20521.275152	1196.1	true
PFDA 2	513.0 / 219.0	3.45	363232.70	20495.260650	562.2	false
PFUnA 1	563.0 / 519.0	3.77	7696578.16	19698.644982	766.6	true
PFUnA 2	563.0 / 269.0	3.77	398627.42	20097.865891	471.5	false
PFDoA 1	613.0 / 569.0	4.05	7446543.03	19731.465943	793.2	true
PFDoA 2	613.0 / 319.0	4.05	1167746.11	19786.238759	747.0	false
PFTrDA 1	663.0 / 619.0	4.30	6896259.31	19132.387008	1287.4	false
PFTrDA 2	663.0 / 169.0	4.30	439029.06	19210.281156	977.0	false
PFTeDA 1	713.0 / 669.0	4.52	7488542.62	19342.425345	2413.6	false
PFTeDA 2	713.0 / 169.0	4.52	359845.52	19438.809973	1510.4	false
NMeFOSAA 1	570.0 / 419.0	3.60	1159896.80	19364.787130	1846.7	true
NMeFOSAA 2	570.0 / 512.0	3.60	632002.12	19225.626820	1160.0	false
NEtFOSAA 1	584.0 / 419.0	3.76	1045497.38	19383.910686	1036.3	true
NEtFOSAA 2	584.0 / 483.0	3.76	65795.30	20338.873639	858.4	false

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.09	86500.80	231.231548	1241.1	true
d3-MeFOSAA	573.0 / 419.0	3.63	10500.26	190.008710	121.1	false
d5-EtFOSAA	589.0 / 419.0	3.80	14307.72	258.321777	141.8	false
13C5-PFHxA	318.0 / 273.0	1.88	70095.33	236.705958	478.3	false
13C4-PFHpA	367.0 / 322.0	2.29	80650.59	237.519890	778.6	false
13C8-PFOA	421.0 / 376.0	2.71	92885.03	244.713478	1108.6	false
13C9-PFNA	472.0 / 427.0	3.11	90244.34	235.585238	1651.1	false
13C6-PFDA	519.0 / 474.0	3.47	98411.86	247.203912	915.9	false
13C7-PFUnA	570.0 / 525.0	3.80	83932.29	240.101921	911.8	false
13C2-PFTeDA	715.0 / 670.0	4.57	69782.98	238.821130	1663.9	false
13C3-PFBS	302.0 / 99.0	1.55	32108.32	221.442140	461.5	false
13C3-PFHxS	402.0 / 99.0	2.32	27268.83	241.400564	299.1	false
13C8-PFOS	507.0 / 99.0	3.11	29095.31	231.741312	232.1	false

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.08	92848.98	251.262698	1136.2	false
d3-MeFOSAA	573.0 / 419.0	3.62	14179.16	262.875354	128.1	false
d5-EtFOSAA	589.0 / 419.0	3.79	16494.92	305.117100	206.2	false
13C5-PFHxA	318.0 / 273.0	1.87	78148.94	233.852802	643.2	false
13C4-PFHpA	367.0 / 322.0	2.29	92433.98	241.225629	579.4	false
13C8-PFOA	421.0 / 376.0	2.70	99944.79	233.330587	1064.0	false
13C9-PFNA	472.0 / 427.0	3.10	107097.27	247.745564	1082.1	false
13C6-PFDA	519.0 / 474.0	3.46	109699.44	278.956327	846.4	false
13C7-PFUnA	570.0 / 525.0	3.79	96426.92	279.247168	1202.3	false
13C2-PFTeDA	715.0 / 670.0	4.56	74964.58	259.718730	1942.0	false
13C3-PFBS	302.0 / 99.0	1.55	34433.35	243.303180	458.1	false
13C3-PFHxS	402.0 / 99.0	2.31	27354.35	248.098418	292.1	false
13C8-PFOS	507.0 / 99.0	3.10	30132.34	245.889017	246.4	false

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.07	100791.33	248.009798	743.7	false
d3-MeFOSAA	573.0 / 419.0	3.61	12342.32	185.056021	147.3	false
d5-EtFOSAA	589.0 / 419.0	3.78	15107.48	226.003728	168.6	false
13C5-PFHxA	318.0 / 273.0	1.87	81676.40	259.202824	602.4	false
13C4-PFHpA	367.0 / 322.0	2.28	97100.68	268.743342	632.6	false
13C8-PFOA	421.0 / 376.0	2.70	106516.04	263.724320	1365.1	false
13C9-PFNA	472.0 / 427.0	3.09	112221.03	275.312140	1046.1	false
13C6-PFDA	519.0 / 474.0	3.45	105677.83	244.348945	720.5	false
13C7-PFUnA	570.0 / 525.0	3.78	99594.50	262.253080	915.2	false
13C2-PFTeDA	715.0 / 670.0	4.54	73684.22	232.122059	1613.2	false
13C3-PFBS	302.0 / 99.0	1.54	33701.48	192.585979	397.7	false
13C3-PFHxS	402.0 / 99.0	2.31	27264.19	199.985038	281.4	false
13C8-PFOS	507.0 / 99.0	3.09	33277.87	219.618527	259.5	false

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	103539.73	240.833877	731.2	false
d3-MeFOSAA	573.0 / 419.0	3.61	17676.17	289.266289	186.2	false
d5-EtFOSAA	589.0 / 419.0	3.77	15455.80	252.358625	152.4	false
13C5-PFHxA	318.0 / 273.0	1.87	83468.51	243.728236	600.3	false
13C4-PFHpA	367.0 / 322.0	2.28	97674.16	248.734045	613.8	false
13C8-PFOA	421.0 / 376.0	2.69	114582.35	261.031534	1413.4	false
13C9-PFNA	472.0 / 427.0	3.09	116657.97	263.333189	844.8	false
13C6-PFDA	519.0 / 474.0	3.45	120173.94	262.664721	1102.0	false
13C7-PFUnA	570.0 / 525.0	3.77	103620.89	257.927383	733.0	false
13C2-PFTeDA	715.0 / 670.0	4.53	82269.11	244.987329	1587.3	false
13C3-PFBS	302.0 / 99.0	1.54	39030.08	243.432374	496.2	false
13C3-PFHxS	402.0 / 99.0	2.30	32466.25	259.920256	257.7	false
13C8-PFOS	507.0 / 99.0	3.09	34048.34	245.251971	267.6	false

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.06	107343.24	259.290688	767.3	false
d3-MeFOSAA	573.0 / 419.0	3.60	16259.17	252.421395	111.3	false
d5-EtFOSAA	589.0 / 419.0	3.76	15126.32	234.302989	163.6	false
13C5-PFHxA	318.0 / 273.0	1.86	91253.07	258.922154	469.3	false
13C4-PFHpA	367.0 / 322.0	2.27	102588.99	253.860313	543.2	false
13C8-PFOA	421.0 / 376.0	2.69	114455.97	253.368266	1129.0	false
13C9-PFNA	472.0 / 427.0	3.08	114820.46	251.854080	688.2	false
13C6-PFDA	519.0 / 474.0	3.44	110406.06	250.602872	656.3	false
13C7-PFUnA	570.0 / 525.0	3.76	95364.03	246.511053	655.7	false
13C2-PFTeDA	715.0 / 670.0	4.53	80578.20	249.187384	1990.2	false
13C3-PFBS	302.0 / 99.0	1.54	38751.25	229.288654	690.0	false
13C3-PFHxS	402.0 / 99.0	2.30	29936.83	227.369285	233.3	false
13C8-PFOS	507.0 / 99.0	3.08	35925.52	245.492206	218.6	false

Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.05	103536.73	260.073655	662.4	false
d3-MeFOSAA	573.0 / 419.0	3.60	15859.16	293.738761	98.1	false
d5-EtFOSAA	589.0 / 419.0	3.76	12973.10	239.740720	123.3	false
13C5-PFHxA	318.0 / 273.0	1.86	79998.50	263.772745	414.0	false
13C4-PFHpA	367.0 / 322.0	2.27	89467.69	257.268528	707.5	false
13C8-PFOA	421.0 / 376.0	2.69	104187.25	268.012275	1347.2	false
13C9-PFNA	472.0 / 427.0	3.08	100976.67	257.381383	977.6	false
13C6-PFDA	519.0 / 474.0	3.44	104119.37	245.761775	498.2	false
13C7-PFUnA	570.0 / 525.0	3.76	84489.59	227.114419	792.3	false
13C2-PFTeDA	715.0 / 670.0	4.52	77538.96	249.355041	2726.2	false
13C3-PFBS	302.0 / 99.0	1.53	35585.31	251.200795	541.4	false
13C3-PFHxS	402.0 / 99.0	2.29	28903.66	261.897987	370.4	false
13C8-PFOS	507.0 / 99.0	3.08	32918.28	268.364524	229.7	false

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	110938.00	259.297737	732.7	false
d3-MeFOSAA	573.0 / 419.0	3.59	17366.68	276.633470	87.4	false
d5-EtFOSAA	589.0 / 419.0	3.76	14733.26	234.155060	117.1	false
13C5-PFHxA	318.0 / 273.0	1.86	87273.08	253.815281	656.1	false
13C4-PFHpA	367.0 / 322.0	2.27	95668.15	242.648253	636.1	false
13C8-PFOA	421.0 / 376.0	2.68	99524.96	225.819541	207.3	false
13C9-PFNA	472.0 / 427.0	3.08	97314.79	218.788406	1008.7	false
13C6-PFDA	519.0 / 474.0	3.43	100376.80	220.461448	1210.1	false
13C7-PFUnA	570.0 / 525.0	3.75	94690.46	236.844977	535.9	false
13C2-PFTeDA	715.0 / 670.0	4.51	92170.66	275.808327	1767.8	false
13C3-PFBS	302.0 / 99.0	1.53	40273.22	244.496878	665.4	false
13C3-PFHxS	402.0 / 99.0	2.29	27824.68	216.828452	281.1	false
13C8-PFOS	507.0 / 99.0	3.07	31148.91	218.392444	285.3	false

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.310	0.299	ü
PFHxA_1	313.0 / 269.0	1.90	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	PFHxA	0.090	0.076	ü
PFHpA_1	363.0 / 319.0	2.31	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	PFHpA	0.040	0.023	
PFHxS_1	399.0 / 80.0	2.33	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.270	0.283	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	3.13	PFNA			
PFNA_2	463.0 / 219.0	3.12	PFNA	0.380	0.307	ü
PFOS_1	499.0 / 80.0	3.12	PFOS			
PFOS_2	499.0 / 99.0	3.12	PFOS	0.170	0.175	ü
PFDA_1	513.0 / 469.0	3.48	PFDA			
PFDA_2	513.0 / 219.0	3.48	PFDA	0.060	0.050	ü
PFUnA_1	563.0 / 519.0	3.82	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.070	0.059	ü
PFDaA_1	613.0 / 569.0	4.10	PFDaA			
PFDaA_2	613.0 / 319.0	4.09	PFDaA	0.140	0.153	ü
PFTrDA_1	663.0 / 619.0	4.35	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.35	PFTrDA	0.070	0.064	ü
PFTeDA_1	713.0 / 669.0	4.57	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.57	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.64	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.64	NMeFOSAA	0.520	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.81	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.82	NEtFOSAA	0.150	0.082	

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.89	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.30	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	PFHpA	0.030	0.023	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.300	0.283	ü
PFOA_1	413.0 / 369.0	2.72	PFOA			
PFOA_2	413.0 / 169.0	2.72	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	3.12	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.300	0.307	ü
PFOS_1	499.0 / 80.0	3.11	PFOS			
PFOS_2	499.0 / 99.0	3.11	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.47	PFDA			
PFDA_2	513.0 / 219.0	3.47	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.80	PFUnA			
PFUnA_2	563.0 / 269.0	3.81	PFUnA	0.070	0.059	ü
PFDaA_1	613.0 / 569.0	4.09	PFDaA			
PFDaA_2	613.0 / 319.0	4.09	PFDaA	0.150	0.153	ü
PFTrDA_1	663.0 / 619.0	4.34	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.34	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.56	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.56	PFTeDA	0.040	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.63	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.63	NMeFOSAA	0.430	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.80	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.80	NEtFOSAA	0.110	0.082	ü

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.32	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.71	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.060	0.068	ü
PFNA_1	463.0 / 419.0	3.11	PFNA			
PFNA_2	463.0 / 219.0	3.11	PFNA	0.330	0.307	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.170	0.175	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.060	0.050	ü
PFUnA_1	563.0 / 519.0	3.79	PFUnA			
PFUnA_2	563.0 / 269.0	3.79	PFUnA	0.070	0.059	ü
PFDaA_1	613.0 / 569.0	4.08	PFDaA			
PFDaA_2	613.0 / 319.0	4.08	PFDaA	0.150	0.153	ü
PFTrDA_1	663.0 / 619.0	4.33	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.33	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.55	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.55	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.62	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.62	NMeFOSAA	0.540	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.79	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.79	NEtFOSAA	0.070	0.082	ü

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.29	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.060	0.068	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.300	0.307	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.46	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.78	PFUnA			
PFUnA_2	563.0 / 269.0	3.78	PFUnA	0.060	0.059	ü
PFDaA_1	613.0 / 569.0	4.07	PFDaA			
PFDaA_2	613.0 / 319.0	4.07	PFDaA	0.150	0.153	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.32	PFTrDA	0.070	0.064	ü
PFTeDA_1	713.0 / 669.0	4.54	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.54	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.61	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.550	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.060	0.082	ü

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.88	PFHxA			
PFHxA_2	313.0 / 119.0	1.88	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.31	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.300	0.307	ü
PFOS_1	499.0 / 80.0	3.10	PFOS			
PFOS_2	499.0 / 99.0	3.10	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.78	PFUnA			
PFUnA_2	563.0 / 269.0	3.78	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.07	PFDaA			
PFDaA_2	613.0 / 319.0	4.07	PFDaA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.32	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.31	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.61	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.570	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.78	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.78	NEtFOSAA	0.070	0.082	ü

Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.299	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.10	PFNA	0.310	0.307	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.175	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.78	PFUnA			
PFUnA_2	563.0 / 269.0	3.78	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.06	PFDaA			
PFDaA_2	613.0 / 319.0	4.06	PFDaA	0.150	0.153	ü
PFTrDA_1	663.0 / 619.0	4.31	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.31	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.53	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.53	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.61	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.550	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.77	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.77	NEtFOSAA	0.060	0.082	ü

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.299	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.300	0.307	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.170	0.175	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	3.45	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.160	0.153	ü
PFTTrDA_1	663.0 / 619.0	4.30	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.30	PFTTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.52	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.52	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.540	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.060	0.082	ü

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.57	13C3-PFBS	302.0 / 99.0	32108.32	232.25
PFBS 2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	32108.32	232.25
PFHxA 1	313.0 / 269.0	1.90	13C5-PFHxA	318.0 / 273.0	70095.33	250.00
PFHxA 2	313.0 / 119.0	1.90	13C5-PFHxA	318.0 / 273.0	70095.33	250.00
PFHpA 1	363.0 / 319.0	2.31	13C8-PFOA	421.0 / 376.0	92885.03	250.00
PFHpA 2	363.0 / 169.0	2.31	13C8-PFOA	421.0 / 376.0	92885.03	250.00
PFHxS 1	399.0 / 80.0	2.33	13C3-PFHxS	402.0 / 99.0	27337.00	236.50
PFHxS 2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	27337.00	236.50
PFOA 1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	92885.03	250.00
PFOA 2	413.0 / 169.0	2.72	13C8-PFOA	421.0 / 376.0	92885.03	250.00
PFNA 1	463.0 / 419.0	3.13	13C9-PFNA	472.0 / 427.0	90244.34	250.00
PFNA 2	463.0 / 219.0	3.12	13C9-PFNA	472.0 / 427.0	90244.34	250.00
PFOS 1	499.0 / 80.0	3.12	13C8-PFOS	507.0 / 99.0	28646.63	239.25
PFOS 2	499.0 / 99.0	3.12	13C8-PFOS	507.0 / 99.0	28646.63	239.25
PFDA 1	513.0 / 469.0	3.48	13C6-PFDA	519.0 / 474.0	98411.86	250.00
PFDA 2	513.0 / 219.0	3.48	13C6-PFDA	519.0 / 474.0	98411.86	250.00
PFUnA 1	563.0 / 519.0	3.82	13C7-PFUnA	570.0 / 525.0	83932.29	250.00
PFUnA 2	563.0 / 269.0	3.81	13C7-PFUnA	570.0 / 525.0	83932.29	250.00
PFDoA 1	613.0 / 569.0	4.10	13C2-PFDoA	615.0 / 570.0	86500.80	250.00
PFDoA 2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	86500.80	250.00
PFTTrDA 1	663.0 / 619.0	4.35	13C2-PFTeDA	715.0 / 670.0	69782.98	250.00
PFTTrDA 2	663.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	69782.98	250.00
PFTeDA 1	713.0 / 669.0	4.57	13C2-PFTeDA	715.0 / 670.0	69782.98	250.00
PFTeDA 2	713.0 / 169.0	4.57	13C2-PFTeDA	715.0 / 670.0	69782.98	250.00
NMeFOSAA 1	570.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	10830.39	250.00
NMeFOSAA 2	570.0 / 512.0	3.64	d3-MeFOSAA	573.0 / 419.0	10830.39	250.00
NEtFOSAA 1	584.0 / 419.0	3.81	d5-EtFOSAA	589.0 / 419.0	14840.10	250.00
NEtFOSAA 2	584.0 / 483.0	3.82	d5-EtFOSAA	589.0 / 419.0	14840.10	250.00

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	34433.35	232.25
PFBS 2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	34433.35	232.25
PFHxA 1	313.0 / 269.0	1.89	13C5-PFHxA	318.0 / 273.0	78148.94	250.00
PFHxA 2	313.0 / 119.0	1.89	13C5-PFHxA	318.0 / 273.0	78148.94	250.00
PFHpA 1	363.0 / 319.0	2.30	13C8-PFOA	421.0 / 376.0	99944.79	250.00
PFHpA 2	363.0 / 169.0	2.30	13C8-PFOA	421.0 / 376.0	99944.79	250.00
PFHxS 1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	27903.29	236.50
PFHxS 2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	27903.29	236.50
PFOA 1	413.0 / 369.0	2.72	13C8-PFOA	421.0 / 376.0	99944.79	250.00
PFOA 2	413.0 / 169.0	2.72	13C8-PFOA	421.0 / 376.0	99944.79	250.00
PFNA 1	463.0 / 419.0	3.12	13C9-PFNA	472.0 / 427.0	107097.27	250.00
PFNA 2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	107097.27	250.00
PFOS 1	499.0 / 80.0	3.11	13C8-PFOS	507.0 / 99.0	30467.12	239.25
PFOS 2	499.0 / 99.0	3.11	13C8-PFOS	507.0 / 99.0	30467.12	239.25
PFDA 1	513.0 / 469.0	3.47	13C6-PFDA	519.0 / 474.0	109699.44	250.00
PFDA 2	513.0 / 219.0	3.47	13C6-PFDA	519.0 / 474.0	109699.44	250.00
PFUnA 1	563.0 / 519.0	3.80	13C7-PFUnA	570.0 / 525.0	96426.92	250.00
PFUnA 2	563.0 / 269.0	3.81	13C7-PFUnA	570.0 / 525.0	96426.92	250.00
PFDoA 1	613.0 / 569.0	4.09	13C2-PFDoA	615.0 / 570.0	92848.98	250.00
PFDoA 2	613.0 / 319.0	4.09	13C2-PFDoA	615.0 / 570.0	92848.98	250.00
PFTTrDA 1	663.0 / 619.0	4.34	13C2-PFTeDA	715.0 / 670.0	74964.58	250.00
PFTTrDA 2	663.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	74964.58	250.00
PFTeDA 1	713.0 / 669.0	4.56	13C2-PFTeDA	715.0 / 670.0	74964.58	250.00
PFTeDA 2	713.0 / 169.0	4.56	13C2-PFTeDA	715.0 / 670.0	74964.58	250.00
NMeFOSAA 1	570.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	14527.65	250.00
NMeFOSAA 2	570.0 / 512.0	3.63	d3-MeFOSAA	573.0 / 419.0	14527.65	250.00
NEtFOSAA 1	584.0 / 419.0	3.80	d5-EtFOSAA	589.0 / 419.0	16331.01	250.00
NEtFOSAA 2	584.0 / 483.0	3.80	d5-EtFOSAA	589.0 / 419.0	16331.01	250.00

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	33701.48	232.25
PFBS 2	298.9 / 99.0	1.56	13C3-PFBS	302.0 / 99.0	33701.48	232.25
PFHxA 1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	81676.40	250.00
PFHxA 2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	81676.40	250.00
PFHpA 1	363.0 / 319.0	2.29	13C8-PFOA	421.0 / 376.0	106516.04	250.00
PFHpA 2	363.0 / 169.0	2.29	13C8-PFOA	421.0 / 376.0	106516.04	250.00
PFHxS 1	399.0 / 80.0	2.32	13C3-PFHxS	402.0 / 99.0	27209.25	236.50
PFHxS 2	399.0 / 99.0	2.32	13C3-PFHxS	402.0 / 99.0	27209.25	236.50
PFOA 1	413.0 / 369.0	2.71	13C8-PFOA	421.0 / 376.0	106516.04	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	106516.04	250.00
PFNA 1	463.0 / 419.0	3.11	13C9-PFNA	472.0 / 427.0	112221.03	250.00
PFNA 2	463.0 / 219.0	3.11	13C9-PFNA	472.0 / 427.0	112221.03	250.00
PFOS 1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	33808.32	239.25
PFOS 2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	33808.32	239.25
PFDA 1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	105677.83	250.00
PFDA 2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	105677.83	250.00
PFUnA 1	563.0 / 519.0	3.79	13C7-PFUnA	570.0 / 525.0	99594.50	250.00
PFUnA 2	563.0 / 269.0	3.79	13C7-PFUnA	570.0 / 525.0	99594.50	250.00
PFDoA 1	613.0 / 569.0	4.08	13C2-PFDoA	615.0 / 570.0	100791.33	250.00
PFDoA 2	613.0 / 319.0	4.08	13C2-PFDoA	615.0 / 570.0	100791.33	250.00
PFTTrDA 1	663.0 / 619.0	4.33	13C2-PFTeDA	715.0 / 670.0	73684.22	250.00
PFTTrDA 2	663.0 / 169.0	4.33	13C2-PFTeDA	715.0 / 670.0	73684.22	250.00
PFTeDA 1	713.0 / 669.0	4.55	13C2-PFTeDA	715.0 / 670.0	73684.22	250.00
PFTeDA 2	713.0 / 169.0	4.55	13C2-PFTeDA	715.0 / 670.0	73684.22	250.00
NMeFOSAA 1	570.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	11719.30	250.00
NMeFOSAA 2	570.0 / 512.0	3.62	d3-MeFOSAA	573.0 / 419.0	11719.30	250.00
NEtFOSAA 1	584.0 / 419.0	3.79	d5-EtFOSAA	589.0 / 419.0	15869.68	250.00
NEtFOSAA 2	584.0 / 483.0	3.79	d5-EtFOSAA	589.0 / 419.0	15869.68	250.00

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	39030.08	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	39030.08	232.25
PFHxA 1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	83468.51	250.00
PFHxA 2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	83468.51	250.00
PFHpA 1	363.0 / 319.0	2.29	13C8-PFOA	421.0 / 376.0	114582.35	250.00
PFHpA 2	363.0 / 169.0	2.29	13C8-PFOA	421.0 / 376.0	114582.35	250.00
PFHxS 1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	31859.13	236.50
PFHxS 2	399.0 / 99.0	2.31	13C3-PFHxS	402.0 / 99.0	31859.13	236.50
PFOA 1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	114582.35	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	114582.35	250.00
PFNA 1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	116657.97	250.00
PFNA 2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	116657.97	250.00
PFOS 1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	34562.36	239.25
PFOS 2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	34562.36	239.25
PFDA 1	513.0 / 469.0	3.46	13C6-PFDA	519.0 / 474.0	120173.94	250.00
PFDA 2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	120173.94	250.00
PFUnA 1	563.0 / 519.0	3.78	13C7-PFUnA	570.0 / 525.0	103620.89	250.00
PFUnA 2	563.0 / 269.0	3.78	13C7-PFUnA	570.0 / 525.0	103620.89	250.00
PFDoA 1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	103539.73	250.00
PFDoA 2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	103539.73	250.00
PFTTrDA 1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	82269.11	250.00
PFTTrDA 2	663.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	82269.11	250.00
PFTeDA 1	713.0 / 669.0	4.54	13C2-PFTeDA	715.0 / 670.0	82269.11	250.00
PFTeDA 2	713.0 / 169.0	4.54	13C2-PFTeDA	715.0 / 670.0	82269.11	250.00
NMeFOSAA 1	570.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	17462.71	250.00
NMeFOSAA 2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	17462.71	250.00
NEtFOSAA 1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	15824.80	250.00
NEtFOSAA 2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	15824.80	250.00

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	38751.25	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	38751.25	232.25
PFHxA 1	313.0 / 269.0	1.88	13C5-PFHxA	318.0 / 273.0	91253.07	250.00
PFHxA 2	313.0 / 119.0	1.88	13C5-PFHxA	318.0 / 273.0	91253.07	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	114455.97	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	114455.97	250.00
PFHxS 1	399.0 / 80.0	2.31	13C3-PFHxS	402.0 / 99.0	29890.57	236.50
PFHxS 2	399.0 / 99.0	2.31	13C3-PFHxS	402.0 / 99.0	29890.57	236.50
PFOA 1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	114455.97	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	114455.97	250.00
PFNA 1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	114820.46	250.00
PFNA 2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	114820.46	250.00
PFOS 1	499.0 / 80.0	3.10	13C8-PFOS	507.0 / 99.0	35633.00	239.25
PFOS 2	499.0 / 99.0	3.10	13C8-PFOS	507.0 / 99.0	35633.00	239.25
PFDA 1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	110406.06	250.00
PFDA 2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	110406.06	250.00
PFOA 1	563.0 / 519.0	3.78	13C7-PFOA	570.0 / 525.0	95364.03	250.00
PFOA 2	563.0 / 269.0	3.78	13C7-PFOA	570.0 / 525.0	95364.03	250.00
PFDoA 1	613.0 / 569.0	4.07	13C2-PFDoA	615.0 / 570.0	107343.24	250.00
PFDoA 2	613.0 / 319.0	4.07	13C2-PFDoA	615.0 / 570.0	107343.24	250.00
PFTeDA 1	663.0 / 619.0	4.32	13C2-PFTeDA	715.0 / 670.0	80578.20	250.00
PFTeDA 2	663.0 / 169.0	4.31	13C2-PFTeDA	715.0 / 670.0	80578.20	250.00
PFTeDA 1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	80578.20	250.00
PFTeDA 2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	80578.20	250.00
NMeFOSAA 1	570.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	15932.68	250.00
NMeFOSAA 2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	15932.68	250.00
NEtFOSAA 1	584.0 / 419.0	3.78	d5-EtFOSAA	589.0 / 419.0	15763.93	250.00
NEtFOSAA 2	584.0 / 483.0	3.78	d5-EtFOSAA	589.0 / 419.0	15763.93	250.00

Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	35585.31	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	35585.31	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	79998.50	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	79998.50	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	104187.25	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	104187.25	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	28497.55	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	28497.55	236.50
PFOA 1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	104187.25	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	104187.25	250.00
PFNA 1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	100976.67	250.00
PFNA 2	463.0 / 219.0	3.10	13C9-PFNA	472.0 / 427.0	100976.67	250.00
PFOS 1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	33465.16	239.25
PFOS 2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	33465.16	239.25
PFDA 1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	104119.37	250.00
PFDA 2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	104119.37	250.00
PFUnA 1	563.0 / 519.0	3.78	13C7-PFUnA	570.0 / 525.0	84489.59	250.00
PFUnA 2	563.0 / 269.0	3.78	13C7-PFUnA	570.0 / 525.0	84489.59	250.00
PFDoA 1	613.0 / 569.0	4.06	13C2-PFDoA	615.0 / 570.0	103536.73	250.00
PFDoA 2	613.0 / 319.0	4.06	13C2-PFDoA	615.0 / 570.0	103536.73	250.00
PFTTrDA 1	663.0 / 619.0	4.31	13C2-PFTeDA	715.0 / 670.0	77538.96	250.00
PFTTrDA 2	663.0 / 169.0	4.31	13C2-PFTeDA	715.0 / 670.0	77538.96	250.00
PFTeDA 1	713.0 / 669.0	4.53	13C2-PFTeDA	715.0 / 670.0	77538.96	250.00
PFTeDA 2	713.0 / 169.0	4.53	13C2-PFTeDA	715.0 / 670.0	77538.96	250.00
NMeFOSAA 1	570.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	15721.34	250.00
NMeFOSAA 2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	15721.34	250.00
NEtFOSAA 1	584.0 / 419.0	3.77	d5-EtFOSAA	589.0 / 419.0	13310.57	250.00
NEtFOSAA 2	584.0 / 483.0	3.77	d5-EtFOSAA	589.0 / 419.0	13310.57	250.00

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	40273.22	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	40273.22	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	87273.08	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	87273.08	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	99524.96	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	99524.96	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	27301.78	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	27301.78	236.50
PFOA 1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	99524.96	250.00
PFOA 2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	99524.96	250.00
PFNA 1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	97314.79	250.00
PFNA 2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	97314.79	250.00
PFOS 1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	31904.60	239.25
PFOS 2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	31904.60	239.25
PFDA 1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	100376.80	250.00
PFDA 2	513.0 / 219.0	3.45	13C6-PFDA	519.0 / 474.0	100376.80	250.00
PFUnA 1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	94690.46	250.00
PFUnA 2	563.0 / 269.0	3.77	13C7-PFUnA	570.0 / 525.0	94690.46	250.00
PFDoA 1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	110938.00	250.00
PFDoA 2	613.0 / 319.0	4.05	13C2-PFDoA	615.0 / 570.0	110938.00	250.00
PFTeDA 1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	92170.66	250.00
PFTeDA 2	663.0 / 169.0	4.30	13C2-PFTeDA	715.0 / 670.0	92170.66	250.00
PFTeDA 1	713.0 / 669.0	4.52	13C2-PFTeDA	715.0 / 670.0	92170.66	250.00
PFTeDA 2	713.0 / 169.0	4.52	13C2-PFTeDA	715.0 / 670.0	92170.66	250.00
NMeFOSAA 1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	17503.97	250.00
NMeFOSAA 2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	17503.97	250.00
NEtFOSAA 1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	14645.51	250.00
NEtFOSAA 2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	14645.51	250.00

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.09	13C2-PFDA	515.0 / 470.0	94102.14	250.00
d3-MeFOSAA	573.0 / 419.0	3.63	13C4-PFOS	503.0 / 99.0	28187.18	239.25
d5-EtFOSAA	589.0 / 419.0	3.80	13C4-PFOS	503.0 / 99.0	28187.18	239.25
13C5-PFHxA	318.0 / 273.0	1.88	13C2-PFOA	415.0 / 370.0	87057.14	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	87057.14	250.00
13C8-PFOA	421.0 / 376.0	2.71	13C2-PFOA	415.0 / 370.0	87057.14	250.00
13C9-PFNA	472.0 / 427.0	3.11	13C2-PFOA	415.0 / 370.0	87057.14	250.00
13C6-PFDA	519.0 / 474.0	3.47	13C2-PFDA	515.0 / 470.0	94102.14	250.00
13C7-PFUnA	570.0 / 525.0	3.80	13C2-PFDA	515.0 / 470.0	94102.14	250.00
13C2-PFTeDA	715.0 / 670.0	4.57	13C2-PFDA	515.0 / 470.0	94102.14	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	28187.18	239.25
13C3-PFHxS	402.0 / 99.0	2.32	13C4-PFOS	503.0 / 99.0	28187.18	239.25
13C8-PFOS	507.0 / 99.0	3.11	13C4-PFOS	503.0 / 99.0	28187.18	239.25

Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.08	13C2-PFDA	515.0 / 470.0	92955.61	250.00
d3-MeFOSAA	573.0 / 419.0	3.62	13C4-PFOS	503.0 / 99.0	27512.23	239.25
d5-EtFOSAA	589.0 / 419.0	3.79	13C4-PFOS	503.0 / 99.0	27512.23	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	98243.77	250.00
13C4-PFHpA	367.0 / 322.0	2.29	13C2-PFOA	415.0 / 370.0	98243.77	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	98243.77	250.00
13C9-PFNA	472.0 / 427.0	3.10	13C2-PFOA	415.0 / 370.0	98243.77	250.00
13C6-PFDA	519.0 / 474.0	3.46	13C2-PFDA	515.0 / 470.0	92955.61	250.00
13C7-PFUnA	570.0 / 525.0	3.79	13C2-PFDA	515.0 / 470.0	92955.61	250.00
13C2-PFTeDA	715.0 / 670.0	4.56	13C2-PFDA	515.0 / 470.0	92955.61	250.00
13C3-PFBS	302.0 / 99.0	1.55	13C4-PFOS	503.0 / 99.0	27512.23	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	27512.23	239.25
13C8-PFOS	507.0 / 99.0	3.10	13C4-PFOS	503.0 / 99.0	27512.23	239.25

Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.07	13C2-PFDA	515.0 / 470.0	102230.58	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	34018.77	239.25
d5-EtFOSAA	589.0 / 419.0	3.78	13C4-PFOS	503.0 / 99.0	34018.77	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	92636.33	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	92636.33	250.00
13C8-PFOA	421.0 / 376.0	2.70	13C2-PFOA	415.0 / 370.0	92636.33	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	92636.33	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	102230.58	250.00
13C7-PFUnA	570.0 / 525.0	3.78	13C2-PFDA	515.0 / 470.0	102230.58	250.00
13C2-PFTeDA	715.0 / 670.0	4.54	13C2-PFDA	515.0 / 470.0	102230.58	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	34018.77	239.25
13C3-PFHxS	402.0 / 99.0	2.31	13C4-PFOS	503.0 / 99.0	34018.77	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	34018.77	239.25

Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.06	13C2-PFDA	515.0 / 470.0	108147.37	250.00
d3-MeFOSAA	573.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	31168.47	239.25
d5-EtFOSAA	589.0 / 419.0	3.77	13C4-PFOS	503.0 / 99.0	31168.47	239.25
13C5-PFHxA	318.0 / 273.0	1.87	13C2-PFOA	415.0 / 370.0	100679.55	250.00
13C4-PFHpA	367.0 / 322.0	2.28	13C2-PFOA	415.0 / 370.0	100679.55	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	100679.55	250.00
13C9-PFNA	472.0 / 427.0	3.09	13C2-PFOA	415.0 / 370.0	100679.55	250.00
13C6-PFDA	519.0 / 474.0	3.45	13C2-PFDA	515.0 / 470.0	108147.37	250.00
13C7-PFUnA	570.0 / 525.0	3.77	13C2-PFDA	515.0 / 470.0	108147.37	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	108147.37	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	31168.47	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	31168.47	239.25
13C8-PFOS	507.0 / 99.0	3.09	13C4-PFOS	503.0 / 99.0	31168.47	239.25

Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.06	13C2-PFDA	515.0 / 470.0	104139.21	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	32854.70	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	32854.70	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	103610.26	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	103610.26	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	103610.26	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	103610.26	250.00
13C6-PFDA	519.0 / 474.0	3.44	13C2-PFDA	515.0 / 470.0	104139.21	250.00
13C7-PFUnA	570.0 / 525.0	3.76	13C2-PFDA	515.0 / 470.0	104139.21	250.00
13C2-PFTeDA	715.0 / 670.0	4.53	13C2-PFDA	515.0 / 470.0	104139.21	250.00
13C3-PFBS	302.0 / 99.0	1.54	13C4-PFOS	503.0 / 99.0	32854.70	239.25
13C3-PFHxS	402.0 / 99.0	2.30	13C4-PFOS	503.0 / 99.0	32854.70	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	32854.70	239.25

Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.05	13C2-PFDA	515.0 / 470.0	100143.92	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	27538.74	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	27538.74	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	89161.30	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	89161.30	250.00
13C8-PFOA	421.0 / 376.0	2.69	13C2-PFOA	415.0 / 370.0	89161.30	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	89161.30	250.00
13C6-PFDA	519.0 / 474.0	3.44	13C2-PFDA	515.0 / 470.0	100143.92	250.00
13C7-PFUnA	570.0 / 525.0	3.76	13C2-PFDA	515.0 / 470.0	100143.92	250.00
13C2-PFTeDA	715.0 / 670.0	4.52	13C2-PFDA	515.0 / 470.0	100143.92	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	27538.74	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	27538.74	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	27538.74	239.25

Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	107623.75	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	32021.18	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	32021.18	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	101085.07	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	101085.07	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	101085.07	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	101085.07	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	107623.75	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	107623.75	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	107623.75	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	32021.18	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	32021.18	239.25
13C8-PFOS	507.0 / 99.0	3.07	13C4-PFOS	503.0 / 99.0	32021.18	239.25

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.55	1040.754930	1010.00	103.05
PFBS 2	298.9 / 99.0	1.55	1024.762839	1010.00	101.46
PFHxA 1	313.0 / 269.0	1.87	1008.639264	1010.00	99.87
PFHxA 2	313.0 / 119.0	1.87	1107.779726	1010.00	109.68
PFHpA 1	363.0 / 319.0	2.28	963.105576	1000.00	96.31
PFHpA 2	363.0 / 169.0	2.28	998.493192	1000.00	99.85
PFHxS 1	399.0 / 80.0	2.30	1031.095491	1010.00	102.09
PFHxS 2	399.0 / 99.0	2.30	1020.815140	1010.00	101.07
PFOA 1	413.0 / 369.0	2.69	1023.702709	1000.00	102.37
PFOA 2	413.0 / 169.0	2.69	1019.837190	1000.00	101.98
PFNA 1	463.0 / 419.0	3.09	1058.273543	1000.00	105.83
PFNA 2	463.0 / 219.0	3.09	1019.245660	1000.00	101.92
PFOS 1	499.0 / 80.0	3.09	1144.894229	1000.00	114.49
PFOS 2	499.0 / 99.0	3.09	1187.792610	1000.00	118.78
PFDA 1	513.0 / 469.0	3.44	950.673829	1000.00	95.07
PFDA 2	513.0 / 219.0	3.44	1044.557425	1000.00	104.46
PFUnA 1	563.0 / 519.0	3.77	1092.971607	1000.00	109.30
PFUnA 2	563.0 / 269.0	3.77	1110.585774	1000.00	111.06
PFDoA 1	613.0 / 569.0	4.05	1081.606135	1000.00	108.16
PFDoA 2	613.0 / 319.0	4.05	1111.886742	1000.00	111.19
PFTrDA 1	663.0 / 619.0	4.30	1096.729926	1000.00	109.67
PFTrDA 2	663.0 / 169.0	4.29	1050.277344	1000.00	105.03
PFTeDA 1	713.0 / 669.0	4.51	1084.577465	1000.00	108.46
PFTeDA 2	713.0 / 169.0	4.51	1051.005537	1000.00	105.10
NMeFOSAA 1	570.0 / 419.0	3.60	1274.709656	1000.00	127.47
NMeFOSAA 2	570.0 / 512.0	3.60	1279.155192	1000.00	127.92
NEtFOSAA 1	584.0 / 419.0	3.76	939.853398	1000.00	93.99
NEtFOSAA 2	584.0 / 483.0	3.76	1095.304572	1000.00	109.53

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.54	991.084910	1010.00	98.13
PFBS 2	298.9 / 99.0	1.54	994.711803	1010.00	98.49
PFHxA 1	313.0 / 269.0	1.86	960.145667	1010.00	95.06
PFHxA 2	313.0 / 119.0	1.86	904.732742	1010.00	89.58
PFHpA 1	363.0 / 319.0	2.27	890.294512	1000.00	89.03
PFHpA 2	363.0 / 169.0	2.27	1005.493829	1000.00	100.55
PFHxS 1	399.0 / 80.0	2.29	895.184962	1010.00	88.63
PFHxS 2	399.0 / 99.0	2.29	902.816366	1010.00	89.39
PFOA 1	413.0 / 369.0	2.68	950.344689	1000.00	95.03
PFOA 2	413.0 / 169.0	2.68	868.622276	1000.00	86.86
PFNA 1	463.0 / 419.0	3.07	993.321232	1000.00	99.33
PFNA 2	463.0 / 219.0	3.07	1034.802070	1000.00	103.48
PFOS 1	499.0 / 80.0	3.07	938.420949	1000.00	93.84
PFOS 2	499.0 / 99.0	3.07	975.997684	1000.00	97.60
PFDA 1	513.0 / 469.0	3.43	963.924372	1000.00	96.39
PFDA 2	513.0 / 219.0	3.43	925.489953	1000.00	92.55
PFUnA 1	563.0 / 519.0	3.75	908.417484	1000.00	90.84
PFUnA 2	563.0 / 269.0	3.75	969.926401	1000.00	96.99
PFDoA 1	613.0 / 569.0	4.03	1058.138614	1000.00	105.81
PFDoA 2	613.0 / 319.0	4.03	1075.706223	1000.00	107.57
PFTTrDA 1	663.0 / 619.0	4.28	958.141174	1000.00	95.81
PFTTrDA 2	663.0 / 169.0	4.27	963.923893	1000.00	96.39
PFTeDA 1	713.0 / 669.0	4.49	959.476403	1000.00	95.95
PFTeDA 2	713.0 / 169.0	4.49	1021.975816	1000.00	102.20
NMeFOSAA 1	570.0 / 419.0	3.58	1147.608419	1000.00	114.76
NMeFOSAA 2	570.0 / 512.0	3.58	1277.454484	1000.00	127.75
NEtFOSAA 1	584.0 / 419.0	3.74	1026.190814	1000.00	102.62
NEtFOSAA 2	584.0 / 483.0	3.74	854.248976	1000.00	85.42

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.54	2495.889184	2525.00	98.85
PFBS 2	298.9 / 99.0	1.54	2423.149298	2525.00	95.97
PFHxA 1	313.0 / 269.0	1.86	2347.869195	2525.00	92.98
PFHxA 2	313.0 / 119.0	1.86	2526.239750	2525.00	100.05
PFHpA 1	363.0 / 319.0	2.26	2310.660211	2500.00	92.43
PFHpA 2	363.0 / 169.0	2.26	2256.933369	2500.00	90.28
PFHxS 1	399.0 / 80.0	2.29	2358.616114	2525.00	93.41
PFHxS 2	399.0 / 99.0	2.29	2417.291578	2525.00	95.73
PFOA 1	413.0 / 369.0	2.67	2377.235964	2500.00	95.09
PFOA 2	413.0 / 169.0	2.67	2403.990962	2500.00	96.16
PFNA 1	463.0 / 419.0	3.07	2373.107638	2500.00	94.92
PFNA 2	463.0 / 219.0	3.07	2439.822304	2500.00	97.59
PFOS 1	499.0 / 80.0	3.07	2487.208720	2500.00	99.49
PFOS 2	499.0 / 99.0	3.06	2648.482075	2500.00	105.94
PFDA 1	513.0 / 469.0	3.42	2512.776141	2500.00	100.51
PFDA 2	513.0 / 219.0	3.42	2258.012174	2500.00	90.32
PFUnA 1	563.0 / 519.0	3.74	2314.120421	2500.00	92.56
PFUnA 2	563.0 / 269.0	3.74	2316.172319	2500.00	92.65
PFDoA 1	613.0 / 569.0	4.03	2559.455887	2500.00	102.38
PFDoA 2	613.0 / 319.0	4.02	2622.451344	2500.00	104.90
PFTTrDA 1	663.0 / 619.0	4.27	2656.992617	2500.00	106.28
PFTTrDA 2	663.0 / 169.0	4.27	2815.607420	2500.00	112.62
PFTTeDA 1	713.0 / 669.0	4.48	2543.705763	2500.00	101.75
PFTTeDA 2	713.0 / 169.0	4.48	2604.421469	2500.00	104.18
NMeFOSAA 1	570.0 / 419.0	3.57	2764.977406	2500.00	110.60
NMeFOSAA 2	570.0 / 512.0	3.57	2833.628391	2500.00	113.35
NEtFOSAA 1	584.0 / 419.0	3.73	2571.410630	2500.00	102.86
NEtFOSAA 2	584.0 / 483.0	3.73	2610.992095	2500.00	104.44

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.54	1039.246796	1010.00	102.90
PFBS 2	298.9 / 99.0	1.54	1044.196993	1010.00	103.39
PFHxA 1	313.0 / 269.0	1.86	968.337993	1010.00	95.88
PFHxA 2	313.0 / 119.0	1.86	902.827185	1010.00	89.39
PFHpA 1	363.0 / 319.0	2.26	842.015433	1000.00	84.20
PFHpA 2	363.0 / 169.0	2.26	773.585907	1000.00	77.36
PFHxS 1	399.0 / 80.0	2.28	969.000794	1010.00	95.94
PFHxS 2	399.0 / 99.0	2.28	997.248708	1010.00	98.74
PFOA 1	413.0 / 369.0	2.67	994.817942	1000.00	99.48
PFOA 2	413.0 / 169.0	2.67	897.676623	1000.00	89.77
PFNA 1	463.0 / 419.0	3.06	1021.881846	1000.00	102.19
PFNA 2	463.0 / 219.0	3.06	995.331470	1000.00	99.53
PFOS 1	499.0 / 80.0	3.06	990.610631	1000.00	99.06
PFOS 2	499.0 / 99.0	3.06	1010.935326	1000.00	101.09
PFDA 1	513.0 / 469.0	3.42	1025.668236	1000.00	102.57
PFDA 2	513.0 / 219.0	3.42	1101.504368	1000.00	110.15
PFUnA 1	563.0 / 519.0	3.74	936.647308	1000.00	93.66
PFUnA 2	563.0 / 269.0	3.74	939.247478	1000.00	93.92
PFDoA 1	613.0 / 569.0	4.02	1090.389463	1000.00	109.04
PFDoA 2	613.0 / 319.0	4.02	1099.420288	1000.00	109.94
PFTTrDA 1	663.0 / 619.0	4.26	1035.643832	1000.00	103.56
PFTTrDA 2	663.0 / 169.0	4.26	975.632696	1000.00	97.56
PFTTeDA 1	713.0 / 669.0	4.48	966.003135	1000.00	96.60
PFTTeDA 2	713.0 / 169.0	4.48	943.101435	1000.00	94.31
NMeFOSAA 1	570.0 / 419.0	3.57	1029.456842	1000.00	102.95
NMeFOSAA 2	570.0 / 512.0	3.57	997.208182	1000.00	99.72
NEtFOSAA 1	584.0 / 419.0	3.73	859.576231	1000.00	85.96
NEtFOSAA 2	584.0 / 483.0	3.73	855.916972	1000.00	85.59

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFD _o A	615.0 / 570.0	4.04	229.789216	250.00	91.92
d3-MeFOSAA	573.0 / 419.0	3.59	201.427243	250.00	80.57
d5-EtFOSAA	589.0 / 419.0	3.75	237.885802	250.00	95.15
13C5-PFH _x A	318.0 / 273.0	1.86	249.631959	250.00	99.85
13C4-PFH _p A	367.0 / 322.0	2.27	255.113816	250.00	102.05
13C8-PFOA	421.0 / 376.0	2.68	262.574404	250.00	105.03
13C9-PFNA	472.0 / 427.0	3.08	260.551141	250.00	104.22
13C6-PFDA	519.0 / 474.0	3.43	253.483622	250.00	101.39
13C7-PFUnA	570.0 / 525.0	3.75	224.426508	250.00	89.77
13C2-PF _{Te} DA	715.0 / 670.0	4.51	228.880383	250.00	91.55
13C3-PFBS	302.0 / 99.0	1.53	198.675373	232.25	85.54
13C3-PFH _x S	402.0 / 99.0	2.29	212.842878	236.50	90.00
13C8-PFOS	507.0 / 99.0	3.08	188.688608	239.25	78.87

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.02	225.361958	250.00	90.14
d3-MeFOSAA	573.0 / 419.0	3.58	212.344686	250.00	84.94
d5-EtFOSAA	589.0 / 419.0	3.74	235.911380	250.00	94.36
13C5-PFHxA	318.0 / 273.0	1.84	244.451183	250.00	97.78
13C4-PFHpA	367.0 / 322.0	2.26	240.943749	250.00	96.38
13C8-PFOA	421.0 / 376.0	2.67	265.204223	250.00	106.08
13C9-PFNA	472.0 / 427.0	3.06	236.712183	250.00	94.68
13C6-PFDA	519.0 / 474.0	3.41	234.591216	250.00	93.84
13C7-PFUnA	570.0 / 525.0	3.73	255.502842	250.00	102.20
13C2-PFTeDA	715.0 / 670.0	4.49	234.533708	250.00	93.81
13C3-PFBS	302.0 / 99.0	1.52	236.610578	232.25	101.88
13C3-PFHxS	402.0 / 99.0	2.28	268.775643	236.50	113.65
13C8-PFOS	507.0 / 99.0	3.06	246.404468	239.25	102.99

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	246.538213	250.00	98.62
d3-MeFOSAA	573.0 / 419.0	3.57	224.092021	250.00	89.64
d5-EtFOSAA	589.0 / 419.0	3.72	239.152225	250.00	95.66
13C5-PFHxA	318.0 / 273.0	1.84	252.653870	250.00	101.06
13C4-PFHpA	367.0 / 322.0	2.25	250.264532	250.00	100.11
13C8-PFOA	421.0 / 376.0	2.66	258.149635	250.00	103.26
13C9-PFNA	472.0 / 427.0	3.05	243.928400	250.00	97.57
13C6-PFDA	519.0 / 474.0	3.41	244.027476	250.00	97.61
13C7-PFUnA	570.0 / 525.0	3.72	274.997330	250.00	110.00
13C2-PFTeDA	715.0 / 670.0	4.48	241.378143	250.00	96.55
13C3-PFBS	302.0 / 99.0	1.52	238.948767	232.25	102.88
13C3-PFHxS	402.0 / 99.0	2.28	234.389934	236.50	99.11
13C8-PFOS	507.0 / 99.0	3.05	236.619815	239.25	98.90

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	4.01	242.421604	250.00	96.97
d3-MeFOSAA	573.0 / 419.0	3.57	233.208151	250.00	93.28
d5-EtFOSAA	589.0 / 419.0	3.73	283.686155	250.00	113.47
13C5-PFHxA	318.0 / 273.0	1.84	230.908308	250.00	92.36
13C4-PFHpA	367.0 / 322.0	2.25	236.779806	250.00	94.71
13C8-PFOA	421.0 / 376.0	2.66	244.903235	250.00	97.96
13C9-PFNA	472.0 / 427.0	3.05	230.110469	250.00	92.04
13C6-PFDA	519.0 / 474.0	3.40	244.637758	250.00	97.86
13C7-PFUnA	570.0 / 525.0	3.72	282.487925	250.00	113.00
13C2-PFTeDA	715.0 / 670.0	4.47	250.348620	250.00	100.14
13C3-PFBS	302.0 / 99.0	1.52	213.468069	232.25	91.91
13C3-PFHxS	402.0 / 99.0	2.27	231.006291	236.50	97.68
13C8-PFOS	507.0 / 99.0	3.05	228.434771	239.25	95.48

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	428155.01	1040.754930	316.9	false
PFBS 2	298.9 / 99.0	1.55	124360.33	1024.762839	299.8	false
PFHxA 1	313.0 / 269.0	1.87	315420.65	1008.639264	34.7	false
PFHxA 2	313.0 / 119.0	1.87	25717.86	1107.779726	38.1	false
PFHpA 1	363.0 / 319.0	2.28	317377.55	963.105576	103.5	false
PFHpA 2	363.0 / 169.0	2.28	7081.46	998.493192	87.2	false
PFHxS 1	399.0 / 80.0	2.30	463018.72	1031.095491	264.0	false
PFHxS 2	399.0 / 99.0	2.30	128401.54	1020.815140	463.1	false
PFOA 1	413.0 / 369.0	2.69	428064.12	1023.702709	395.5	true
PFOA 2	413.0 / 169.0	2.69	28927.76	1019.837190	315.2	false
PFNA 1	463.0 / 419.0	3.09	423024.08	1058.273543	339.4	true
PFNA 2	463.0 / 219.0	3.09	119958.36	1019.245660	271.9	false
PFOS 1	499.0 / 80.0	3.09	602149.63	1144.894229	148.3	true
PFOS 2	499.0 / 99.0	3.09	107204.40	1187.792610	424.1	false
PFDA 1	513.0 / 469.0	3.44	442034.93	950.673829	330.7	true
PFDA 2	513.0 / 219.0	3.44	22429.37	1044.557425	211.2	false
PFUnA 1	563.0 / 519.0	3.77	401922.92	1092.971607	254.9	true
PFUnA 2	563.0 / 269.0	3.77	21993.31	1110.585774	190.3	false
PFDaA 1	613.0 / 569.0	4.05	375495.32	1081.606135	349.9	false
PFDaA 2	613.0 / 319.0	4.05	59650.45	1111.886742	329.5	false
PFTrDA 1	663.0 / 619.0	4.30	335463.03	1096.729926	478.0	false
PFTrDA 2	663.0 / 169.0	4.29	20471.99	1050.277344	310.6	false
PFTeDA 1	713.0 / 669.0	4.51	358215.65	1084.577465	1156.6	false
PFTeDA 2	713.0 / 169.0	4.51	16573.87	1051.005537	493.2	false
NMeFOSAA 1	570.0 / 419.0	3.60	62564.35	1274.709656	466.0	true
NMeFOSAA 2	570.0 / 512.0	3.60	33930.22	1279.155192	386.9	true
NEtFOSAA 1	584.0 / 419.0	3.76	57151.18	939.853398	577.8	true
NEtFOSAA 2	584.0 / 483.0	3.76	4514.32	1095.304572	209.2	false

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	453935.60	991.084910	301.8	false
PFBS 2	298.9 / 99.0	1.54	134465.33	994.711803	306.6	false
PFHxA 1	313.0 / 269.0	1.86	325613.10	960.145667	35.8	false
PFHxA 2	313.0 / 119.0	1.86	22943.46	904.732742	31.6	false
PFHpA 1	363.0 / 319.0	2.27	327991.15	890.294512	105.7	false
PFHpA 2	363.0 / 169.0	2.27	7968.54	1005.493829	89.4	false
PFHxS 1	399.0 / 80.0	2.29	448378.83	895.184962	190.2	false
PFHxS 2	399.0 / 99.0	2.29	126761.88	902.816366	424.3	false
PFOA 1	413.0 / 369.0	2.68	444444.81	950.344689	391.8	false
PFOA 2	413.0 / 169.0	2.68	27629.71	868.622276	311.4	false
PFNA 1	463.0 / 419.0	3.07	398831.11	993.321232	318.9	true
PFNA 2	463.0 / 219.0	3.07	122532.93	1034.802070	288.5	false
PFOS 1	499.0 / 80.0	3.07	611758.45	938.420949	145.9	true
PFOS 2	499.0 / 99.0	3.07	109413.83	975.997684	428.5	false
PFDA 1	513.0 / 469.0	3.43	456476.30	963.924372	322.2	true
PFDA 2	513.0 / 219.0	3.43	20407.78	925.489953	166.6	false
PFUnA 1	563.0 / 519.0	3.75	418860.66	908.417484	265.7	true
PFUnA 2	563.0 / 269.0	3.75	24290.61	969.926401	162.9	false
PFDaA 1	613.0 / 569.0	4.03	396954.09	1058.138614	350.3	false
PFDaA 2	613.0 / 319.0	4.03	62370.00	1075.706223	338.4	false
PFTrDA 1	663.0 / 619.0	4.28	332137.43	958.141174	554.3	false
PFTrDA 2	663.0 / 169.0	4.27	21263.71	963.923893	367.5	false
PFTeDA 1	713.0 / 669.0	4.49	359217.19	959.476403	926.2	false
PFTeDA 2	713.0 / 169.0	4.49	18195.32	1021.975816	556.7	false
NMeFOSAA 1	570.0 / 419.0	3.58	58152.37	1147.608419	459.0	true
NMeFOSAA 2	570.0 / 512.0	3.58	34745.71	1277.454484	438.7	false
NEtFOSAA 1	584.0 / 419.0	3.74	54612.69	1026.190814	442.9	true
NEtFOSAA 2	584.0 / 483.0	3.74	3186.44	854.248976	103.1	false

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	1106901.94	2495.889184	604.5	false
PFBS 2	298.9 / 99.0	1.54	315525.43	2423.149298	557.1	false
PFHxA 1	313.0 / 269.0	1.86	753357.32	2347.869195	63.0	false
PFHxA 2	313.0 / 119.0	1.86	59480.31	2526.239750	68.0	false
PFHpA 1	363.0 / 319.0	2.26	764148.55	2310.660211	182.2	false
PFHpA 2	363.0 / 169.0	2.26	15820.12	2256.933369	131.2	false
PFHxS 1	399.0 / 80.0	2.29	1019506.42	2358.616114	291.3	false
PFHxS 2	399.0 / 99.0	2.29	291724.88	2417.291578	543.5	false
PFOA 1	413.0 / 369.0	2.67	994532.34	2377.235964	578.2	false
PFOA 2	413.0 / 169.0	2.67	67800.75	2403.990962	390.5	false
PFNA 1	463.0 / 419.0	3.07	914941.29	2373.107638	475.5	true
PFNA 2	463.0 / 219.0	3.07	283014.55	2439.822304	463.9	false
PFOS 1	499.0 / 80.0	3.07	1455448.90	2487.208720	224.7	true
PFOS 2	499.0 / 99.0	3.06	264585.89	2648.482075	573.8	false
PFDA 1	513.0 / 469.0	3.42	1061310.46	2512.776141	486.4	true
PFDA 2	513.0 / 219.0	3.42	42778.90	2258.012174	219.1	false
PFUnA 1	563.0 / 519.0	3.74	987746.66	2314.120421	410.7	false
PFUnA 2	563.0 / 269.0	3.74	51561.01	2316.172319	251.7	false
PFDaA 1	613.0 / 569.0	4.03	879139.03	2559.455887	567.2	false
PFDaA 2	613.0 / 319.0	4.02	140201.55	2622.451344	456.2	false
PFTrDA 1	663.0 / 619.0	4.27	797243.32	2656.992617	717.2	false
PFTrDA 2	663.0 / 169.0	4.27	53589.39	2815.607420	471.6	false
PFTeDA 1	713.0 / 669.0	4.48	821946.07	2543.705763	1207.5	false
PFTeDA 2	713.0 / 169.0	4.48	40182.61	2604.421469	729.9	false
NMeFOSAA 1	570.0 / 419.0	3.57	132042.08	2764.977406	833.6	true
NMeFOSAA 2	570.0 / 512.0	3.57	73734.86	2833.628391	512.0	false
NEtFOSAA 1	584.0 / 419.0	3.73	133782.79	2571.410630	809.0	false
NEtFOSAA 2	584.0 / 483.0	3.73	8556.53	2610.992095	204.5	false

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.54	392029.87	1039.246796	320.9	false
PFBS 2	298.9 / 99.0	1.54	116209.92	1044.196993	269.7	false
PFHxA 1	313.0 / 269.0	1.86	277416.29	968.337993	34.4	false
PFHxA 2	313.0 / 119.0	1.86	19345.58	902.827185	28.8	false
PFHpA 1	363.0 / 319.0	2.26	256270.63	842.015433	99.7	false
PFHpA 2	363.0 / 169.0	2.26	5109.61	773.585907	89.4	false
PFHxS 1	399.0 / 80.0	2.28	404815.67	969.000794	203.4	false
PFHxS 2	399.0 / 99.0	2.28	116719.12	997.248708	453.9	false
PFOA 1	413.0 / 369.0	2.67	384119.43	994.817942	286.1	false
PFOA 2	413.0 / 169.0	2.67	23567.59	897.676623	232.6	false
PFNA 1	463.0 / 419.0	3.06	356895.32	1021.881846	292.3	true
PFNA 2	463.0 / 219.0	3.06	102275.56	995.331470	271.2	false
PFOS 1	499.0 / 80.0	3.06	549939.71	990.610631	154.3	true
PFOS 2	499.0 / 99.0	3.06	96457.81	1010.935326	270.7	false
PFDA 1	513.0 / 469.0	3.42	401043.33	1025.668236	443.4	true
PFDA 2	513.0 / 219.0	3.42	19837.55	1101.504368	202.3	false
PFUnA 1	563.0 / 519.0	3.74	378218.87	936.647308	294.0	false
PFUnA 2	563.0 / 269.0	3.74	20650.89	939.247478	167.2	false
PFDaA 1	613.0 / 569.0	4.02	348065.02	1090.389463	325.8	false
PFDaA 2	613.0 / 319.0	4.02	54276.45	1099.420288	296.3	false
PFTrDA 1	663.0 / 619.0	4.26	302707.80	1035.643832	495.7	false
PFTrDA 2	663.0 / 169.0	4.26	18190.05	975.632696	313.3	false
PFTeDA 1	713.0 / 669.0	4.48	305733.27	966.003135	859.9	false
PFTeDA 2	713.0 / 169.0	4.48	14244.28	943.101435	486.9	false
NMeFOSAA 1	570.0 / 419.0	3.57	51541.86	1029.456842	423.9	true
NMeFOSAA 2	570.0 / 512.0	3.57	26939.33	997.208182	270.9	false
NEtFOSAA 1	584.0 / 419.0	3.73	51522.39	859.576231	498.3	false
NEtFOSAA 2	584.0 / 483.0	3.73	3595.20	855.916972	117.0	false

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.04	97350.88	229.789216	964.8	false
d3-MeFOSAA	573.0 / 419.0	3.59	13336.94	201.427243	151.5	false
d5-EtFOSAA	589.0 / 419.0	3.75	15786.64	237.885802	166.8	false
13C5-PFHxA	318.0 / 273.0	1.86	78789.16	249.631959	648.2	false
13C4-PFHpA	367.0 / 322.0	2.27	92326.83	255.113816	539.8	false
13C8-PFOA	421.0 / 376.0	2.68	106224.97	262.574404	191.6	false
13C9-PFNA	472.0 / 427.0	3.08	106377.86	260.551141	1104.4	false
13C6-PFDA	519.0 / 474.0	3.43	114282.36	253.483622	870.9	false
13C7-PFUnA	570.0 / 525.0	3.75	88847.42	224.426508	652.0	false
13C2-PFTeDA	715.0 / 670.0	4.51	75739.51	228.880383	2098.0	false
13C3-PFBS	302.0 / 99.0	1.53	34515.40	198.675373	598.9	false
13C3-PFHxS	402.0 / 99.0	2.29	28807.05	212.842878	276.7	false
13C8-PFOS	507.0 / 99.0	3.08	28384.21	188.688608	196.8	false

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	105083.14	225.361958	830.7	false
d3-MeFOSAA	573.0 / 419.0	3.58	13152.80	212.344686	129.3	false
d5-EtFOSAA	589.0 / 419.0	3.74	14645.65	235.911380	184.6	false
13C5-PFHxA	318.0 / 273.0	1.84	85377.70	244.451183	651.8	false
13C4-PFHpA	367.0 / 322.0	2.26	96492.96	240.943749	670.8	false
13C8-PFOA	421.0 / 376.0	2.67	118724.59	265.204223	1004.6	false
13C9-PFNA	472.0 / 427.0	3.06	106946.09	236.712183	1008.8	false
13C6-PFDA	519.0 / 474.0	3.41	116408.12	234.591216	781.6	false
13C7-PFUnA	570.0 / 525.0	3.73	111329.07	255.502842	576.2	false
13C2-PFTeDA	715.0 / 670.0	4.49	85420.37	234.533708	1761.0	false
13C3-PFBS	302.0 / 99.0	1.52	38454.02	236.610578	439.2	false
13C3-PFHxS	402.0 / 99.0	2.28	34030.50	268.775643	384.4	false
13C8-PFOS	507.0 / 99.0	3.06	34675.16	246.404468	236.8	false

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	99108.44	246.538213	1077.7	false
d3-MeFOSAA	573.0 / 419.0	3.57	13194.20	224.092021	151.6	false
d5-EtFOSAA	589.0 / 419.0	3.72	14112.83	239.152225	174.9	false
13C5-PFHxA	318.0 / 273.0	1.84	81547.80	252.653870	610.9	false
13C4-PFHpA	367.0 / 322.0	2.25	92621.81	250.264532	708.8	false
13C8-PFOA	421.0 / 376.0	2.66	106798.65	258.149635	1390.1	false
13C9-PFNA	472.0 / 427.0	3.05	101845.23	243.928400	781.3	false
13C6-PFDA	519.0 / 474.0	3.41	104396.09	244.027476	868.4	false
13C7-PFUnA	570.0 / 525.0	3.72	103303.56	274.997330	894.7	false
13C2-PFTeDA	715.0 / 670.0	4.48	75792.82	241.378143	1474.3	false
13C3-PFBS	302.0 / 99.0	1.52	36914.09	238.948767	438.9	false
13C3-PFHxS	402.0 / 99.0	2.28	28209.62	234.389934	297.9	false
13C8-PFOS	507.0 / 99.0	3.05	31651.97	236.619815	215.5	false

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	89547.56	242.421604	673.0	false
d3-MeFOSAA	573.0 / 419.0	3.57	13178.00	233.208151	148.0	false
d5-EtFOSAA	589.0 / 419.0	3.73	16066.71	283.686155	190.9	false
13C5-PFHxA	318.0 / 273.0	1.84	72134.52	230.908308	467.9	false
13C4-PFHpA	367.0 / 322.0	2.25	84815.64	236.779806	620.3	false
13C8-PFOA	421.0 / 376.0	2.66	98063.21	244.903235	1325.3	false
13C9-PFNA	472.0 / 427.0	3.05	92989.09	230.110469	960.1	false
13C6-PFDA	519.0 / 474.0	3.40	96166.76	244.637758	922.9	false
13C7-PFUnA	570.0 / 525.0	3.72	97508.56	282.487925	789.3	false
13C2-PFTeDA	715.0 / 670.0	4.47	72232.28	250.348620	1738.4	false
13C3-PFBS	302.0 / 99.0	1.52	31649.69	213.468069	427.7	false
13C3-PFHxS	402.0 / 99.0	2.27	26682.79	231.006291	235.4	false
13C8-PFOS	507.0 / 99.0	3.05	29326.55	228.434771	223.6	false

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.290	0.299	ü
PFHxA_1	313.0 / 269.0	1.87	PFHxA			
PFHxA_2	313.0 / 119.0	1.87	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.28	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.30	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.69	PFOA			
PFOA_2	413.0 / 169.0	2.69	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.09	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.280	0.307	ü
PFOS_1	499.0 / 80.0	3.09	PFOS			
PFOS_2	499.0 / 99.0	3.09	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.44	PFDA			
PFDA_2	513.0 / 219.0	3.44	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.77	PFUnA			
PFUnA_2	563.0 / 269.0	3.77	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.05	PFDaA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.29	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.51	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.51	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.60	NMeFOSAA	0.540	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.76	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.76	NEtFOSAA	0.080	0.082	ü

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.060	0.068	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.310	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.43	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.75	PFUnA			
PFUnA_2	563.0 / 269.0	3.75	PFUnA	0.060	0.059	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.28	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.600	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.082	ü

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.290	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.310	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.070	0.064	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.560	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.060	0.082	ü

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.300	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.070	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.068	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.290	0.307	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.050	0.050	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.02	PFDaA	0.160	0.153	ü
PFTrDA_1	663.0 / 619.0	4.26	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.26	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.48	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.48	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.57	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.57	NMeFOSAA	0.520	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.73	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	NEtFOSAA	0.070	0.082	ü

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	34515.40	232.25
PFBS 2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	34515.40	232.25
PFHxA 1	313.0 / 269.0	1.87	13C5-PFHxA	318.0 / 273.0	78789.16	250.00
PFHxA 2	313.0 / 119.0	1.87	13C5-PFHxA	318.0 / 273.0	78789.16	250.00
PFHpA 1	363.0 / 319.0	2.28	13C8-PFOA	421.0 / 376.0	106224.97	250.00
PFHpA 2	363.0 / 169.0	2.28	13C8-PFOA	421.0 / 376.0	106224.97	250.00
PFHxS 1	399.0 / 80.0	2.30	13C3-PFHxS	402.0 / 99.0	28575.55	236.50
PFHxS 2	399.0 / 99.0	2.30	13C3-PFHxS	402.0 / 99.0	28575.55	236.50
PFOA 1	413.0 / 369.0	2.69	13C8-PFOA	421.0 / 376.0	106224.97	250.00
PFOA 2	413.0 / 169.0	2.69	13C8-PFOA	421.0 / 376.0	106224.97	250.00
PFNA 1	463.0 / 419.0	3.09	13C9-PFNA	472.0 / 427.0	106377.86	250.00
PFNA 2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	106377.86	250.00
PFOS 1	499.0 / 80.0	3.09	13C8-PFOS	507.0 / 99.0	28674.68	239.25
PFOS 2	499.0 / 99.0	3.09	13C8-PFOS	507.0 / 99.0	28674.68	239.25
PFDA 1	513.0 / 469.0	3.44	13C6-PFDA	519.0 / 474.0	114282.36	250.00
PFDA 2	513.0 / 219.0	3.44	13C6-PFDA	519.0 / 474.0	114282.36	250.00
PFUnA 1	563.0 / 519.0	3.77	13C7-PFUnA	570.0 / 525.0	88847.42	250.00
PFUnA 2	563.0 / 269.0	3.77	13C7-PFUnA	570.0 / 525.0	88847.42	250.00
PFDoA 1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	97350.88	250.00
PFDoA 2	613.0 / 319.0	4.05	13C2-PFDoA	615.0 / 570.0	97350.88	250.00
PFTeDA 1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	75739.51	250.00
PFTeDA 2	663.0 / 169.0	4.29	13C2-PFTeDA	715.0 / 670.0	75739.51	250.00
PFTeDA 1	713.0 / 669.0	4.51	13C2-PFTeDA	715.0 / 670.0	75739.51	250.00
PFTeDA 2	713.0 / 169.0	4.51	13C2-PFTeDA	715.0 / 670.0	75739.51	250.00
NMeFOSAA 1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	13506.61	250.00
NMeFOSAA 2	570.0 / 512.0	3.60	d3-MeFOSAA	573.0 / 419.0	13506.61	250.00
NEtFOSAA 1	584.0 / 419.0	3.76	d5-EtFOSAA	589.0 / 419.0	16522.03	250.00
NEtFOSAA 2	584.0 / 483.0	3.76	d5-EtFOSAA	589.0 / 419.0	16522.03	250.00

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	38454.02	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	38454.02	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	85377.70	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	85377.70	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	118724.59	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	118724.59	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	31879.87	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	31879.87	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	118724.59	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	118724.59	250.00
PFNA 1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	106946.09	250.00
PFNA 2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	106946.09	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	35594.58	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	35594.58	239.25
PFDA 1	513.0 / 469.0	3.43	13C6-PFDA	519.0 / 474.0	116408.12	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	116408.12	250.00
PFUnA 1	563.0 / 519.0	3.75	13C7-PFUnA	570.0 / 525.0	111329.07	250.00
PFUnA 2	563.0 / 269.0	3.75	13C7-PFUnA	570.0 / 525.0	111329.07	250.00
PFDoA 1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	105083.14	250.00
PFDoA 2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	105083.14	250.00
PFTeDA 1	663.0 / 619.0	4.28	13C2-PFTeDA	715.0 / 670.0	85420.37	250.00
PFTeDA 2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	85420.37	250.00
PFTeDA 1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	85420.37	250.00
PFTeDA 2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	85420.37	250.00
NMeFOSAA 1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	13848.79	250.00
NMeFOSAA 2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	13848.79	250.00
NEtFOSAA 1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	14459.04	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	14459.04	250.00

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	36914.09	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	36914.09	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	81547.80	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	81547.80	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	106798.65	250.00
PFHpA 2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	106798.65	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	27485.04	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	27485.04	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	106798.65	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	106798.65	250.00
PFNA 1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	101845.23	250.00
PFNA 2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	101845.23	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	31788.73	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	31788.73	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	104396.09	250.00
PFDA 2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	104396.09	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	103303.56	250.00
PFUnA 2	563.0 / 269.0	3.74	13C7-PFUnA	570.0 / 525.0	103303.56	250.00
PFDoA 1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	99108.44	250.00
PFDoA 2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	99108.44	250.00
PFTrDA 1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	75792.82	250.00
PFTrDA 2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	75792.82	250.00
PFTeDA 1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	75792.82	250.00
PFTeDA 2	713.0 / 169.0	4.48	13C2-PFTeDA	715.0 / 670.0	75792.82	250.00
NMeFOSAA 1	570.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	13599.34	250.00
NMeFOSAA 2	570.0 / 512.0	3.57	d3-MeFOSAA	573.0 / 419.0	13599.34	250.00
NEtFOSAA 1	584.0 / 419.0	3.73	d5-EtFOSAA	589.0 / 419.0	14130.04	250.00
NEtFOSAA 2	584.0 / 483.0	3.73	d5-EtFOSAA	589.0 / 419.0	14130.04	250.00

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	31649.69	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	31649.69	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	72134.52	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	72134.52	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	98063.21	250.00
PFHpA 2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	98063.21	250.00
PFHxS 1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	26586.78	236.50
PFHxS 2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	26586.78	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	98063.21	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	98063.21	250.00
PFNA 1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	92989.09	250.00
PFNA 2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	92989.09	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	30298.84	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	30298.84	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	96166.76	250.00
PFDA 2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	96166.76	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	97508.56	250.00
PFUnA 2	563.0 / 269.0	3.74	13C7-PFUnA	570.0 / 525.0	97508.56	250.00
PFDoA 1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	89547.56	250.00
PFDoA 2	613.0 / 319.0	4.02	13C2-PFDoA	615.0 / 570.0	89547.56	250.00
PFTrDA 1	663.0 / 619.0	4.26	13C2-PFTeDA	715.0 / 670.0	72232.28	250.00
PFTrDA 2	663.0 / 169.0	4.26	13C2-PFTeDA	715.0 / 670.0	72232.28	250.00
PFTeDA 1	713.0 / 669.0	4.48	13C2-PFTeDA	715.0 / 670.0	72232.28	250.00
PFTeDA 2	713.0 / 169.0	4.48	13C2-PFTeDA	715.0 / 670.0	72232.28	250.00
NMeFOSAA 1	570.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	13575.96	250.00
NMeFOSAA 2	570.0 / 512.0	3.57	d3-MeFOSAA	573.0 / 419.0	13575.96	250.00
NEtFOSAA 1	584.0 / 419.0	3.73	d5-EtFOSAA	589.0 / 419.0	16286.85	250.00
NEtFOSAA 2	584.0 / 483.0	3.73	d5-EtFOSAA	589.0 / 419.0	16286.85	250.00

Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.04	13C2-PFDA	515.0 / 470.0	106570.43	250.00
d3-MeFOSAA	573.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	33772.50	239.25
d5-EtFOSAA	589.0 / 419.0	3.75	13C4-PFOS	503.0 / 99.0	33772.50	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	92787.77	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	92787.77	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	92787.77	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	92787.77	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	106570.43	250.00
13C7-PFUnA	570.0 / 525.0	3.75	13C2-PFDA	515.0 / 470.0	106570.43	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	106570.43	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33772.50	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	33772.50	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	33772.50	239.25

Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	117294.85	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	31593.80	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	31593.80	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	102677.85	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	102677.85	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	102677.85	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	102677.85	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	117294.85	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	117294.85	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	117294.85	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	31593.80	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	31593.80	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	31593.80	239.25

Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	101123.69	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	30031.82	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	30031.82	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	94887.89	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	94887.89	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	94887.89	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	94887.89	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	101123.69	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	101123.69	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	101123.69	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	30031.82	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	30031.82	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	30031.82	239.25

Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	92919.94	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	28822.45	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	28822.45	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	91839.20	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	91839.20	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	91839.20	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	91839.20	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	92919.94	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	92919.94	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	92919.94	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28822.45	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	28822.45	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	28822.45	239.25

Raw Analytical Data

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.56	6053.19	27.217862	14.7	false
PFBS 2	298.9 / 99.0	1.54	3429.15	31.251355	14.5	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	2.70	6602.22	5.787841	19.0	true
PFOA 2	413.0 / 169.0	2.70	558.87	< 0	16.5	false
PFNA 1	463.0 / 419.0	3.10	10322.98	37.827322	25.2	true
PFNA 2	463.0 / 219.0	3.09	2551.24	68.361783	16.7	false
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	3.45	6275.25	4.861538	29.1	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	4.05	5225.11	< 0	43.6	false
PFDoA 2	613.0 / 319.0	4.06	522.71	< 0	21.8	false
PFTTrDA 1	663.0 / 619.0	4.30	5677.56	< 0	101.9	false
PFTTrDA 2	663.0 / 169.0	4.31	256.25	< 0	15.0	false
PFTeDA 1	713.0 / 669.0	4.52	5624.72	< 0	133.7	false
PFTeDA 2	713.0 / 169.0	4.52	301.85	< 0	22.9	false
NMeFOSAA 1	570.0 / 419.0	3.60	1756.59	< 0	49.6	true
NMeFOSAA 2	570.0 / 512.0	3.61	365.45	< 0	16.0	true
NEtFOSAA 1	584.0 / 419.0	3.77	1585.90	27.350176	50.0	true
NEtFOSAA 2	584.0 / 483.0	3.74	167.93	< 0	6.2	true

Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA 2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	1.55	1556955.16	3681.037135	703.4	false
PFBS 2	298.9 / 99.0	1.54	484180.36	3902.377893	682.6	false
PFHxA 1	313.0 / 269.0	1.86	1100210.37	4283.754170	73.0	false
PFHxA 2	313.0 / 119.0	1.86	87928.54	4686.385848	76.9	false
PFHpA 1	363.0 / 319.0	2.27	1118992.14	3711.393570	214.3	false
PFHpA 2	363.0 / 169.0	2.27	24289.90	3820.401124	164.3	false
PFHxS 1	399.0 / 80.0	2.29	1559316.00	3724.020906	286.6	false
PFHxS 2	399.0 / 99.0	2.29	427032.80	3655.861866	511.9	false
PFOA 1	413.0 / 369.0	2.68	1451437.24	3808.851619	740.9	false
PFOA 2	413.0 / 169.0	2.68	98111.76	3825.467248	525.6	false
PFNA 1	463.0 / 419.0	3.08	1346435.84	3970.481098	523.4	true
PFNA 2	463.0 / 219.0	3.07	410489.45	4000.890079	492.7	false
PFOS 1	499.0 / 80.0	3.07	2078064.15	4106.644248	246.0	true
PFOS 2	499.0 / 99.0	3.07	365435.09	4237.280793	647.0	false
PFDA 1	513.0 / 469.0	3.42	1464906.49	3540.912764	535.3	true
PFDA 2	513.0 / 219.0	3.42	65079.41	3542.581200	288.3	false
PFUnA 1	563.0 / 519.0	3.74	1464803.61	3646.471718	439.3	false
PFUnA 2	563.0 / 269.0	3.74	70843.65	3414.281412	255.6	false
PFDoA 1	613.0 / 569.0	4.03	1297653.08	4202.243072	656.9	false
PFDoA 2	613.0 / 319.0	4.03	198731.35	4124.409888	463.9	false
PFTrDA 1	663.0 / 619.0	4.27	1200941.05	4345.727603	947.1	false
PFTrDA 2	663.0 / 169.0	4.27	74687.19	4258.609023	521.6	false
PFTeDA 1	713.0 / 669.0	4.49	1262408.80	4247.577397	1421.7	false
PFTeDA 2	713.0 / 169.0	4.49	59849.47	4213.564599	922.5	false
NMeFOSAA 1	570.0 / 419.0	3.58	189667.72	4522.136503	629.6	true
NMeFOSAA 2	570.0 / 512.0	3.58	111841.52	4881.578000	543.4	false
NEtFOSAA 1	584.0 / 419.0	3.74	192092.00	3705.145505	879.3	false
NEtFOSAA 2	584.0 / 483.0	3.74	12459.95	3885.370511	345.2	false

Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	2.29	9064.97	19.286423	22.0	false
PFHxS 2	399.0 / 99.0	2.29	2112.23	10.557198	21.5	false
PFOA 1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA 2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA 2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	2.29	114877.06	235.829348	86.4	false
PFHxS 2	399.0 / 99.0	2.29	35616.47	256.550315	199.1	false
PFOA 1	413.0 / 369.0	N/A	N/A	N/A	N/A	true
PFOA 2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	3.00	48318.25	87.888798	22.4	false
PFOS 2	499.0 / 99.0	3.06	6111.12	56.348735	45.2	false
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	1.86	199786.46	518.147085	25.4	false
PFHxA 2	313.0 / 119.0	1.86	15339.96	522.621867	28.0	false
PFHpA 1	363.0 / 319.0	2.27	245042.46	623.279620	98.0	false
PFHpA 2	363.0 / 169.0	2.27	5636.35	656.898244	71.8	false
PFHxS 1	399.0 / 80.0	2.29	17937.01	33.860608	35.6	false
PFHxS 2	399.0 / 99.0	2.29	4992.44	28.032509	48.9	false
PFOA 1	413.0 / 369.0	2.68	50869.29	94.165502	84.2	false
PFOA 2	413.0 / 169.0	2.67	4676.10	121.185557	68.6	false
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	3.07	195795.96	311.611606	70.3	true
PFOS 2	499.0 / 99.0	3.07	36320.62	328.369210	174.0	false
PFDA 1	513.0 / 469.0	3.42	5839.32	2.974840	33.3	true
PFDA 2	513.0 / 219.0	3.46	1747.72	8.868639	22.6	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	2.26	35637.53	93.789939	29.0	false
PFHpA 2	363.0 / 169.0	2.25	542.77	39.146579	14.9	false
PFHxS 1	399.0 / 80.0	2.29	31338.95	51.467525	51.5	false
PFHxS 2	399.0 / 99.0	2.28	10986.11	58.611719	89.0	false
PFOA 1	413.0 / 369.0	2.67	46221.07	90.659111	82.0	false
PFOA 2	413.0 / 169.0	2.67	3571.93	94.665168	79.3	false
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	3.06	20575.44	38.434570	16.3	true
PFOS 2	499.0 / 99.0	3.06	4132.99	33.030479	28.3	false
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	1.86	127524.84	409.453932	19.1	false
PFHxA 2	313.0 / 119.0	1.86	10309.68	431.550073	18.7	false
PFHpA 1	363.0 / 319.0	2.27	52555.26	155.996059	40.6	false
PFHpA 2	363.0 / 169.0	2.26	1697.02	214.019707	30.3	false
PFHxS 1	399.0 / 80.0	2.29	14144.22	38.769735	27.6	false
PFHxS 2	399.0 / 99.0	2.29	4170.29	35.153479	30.8	false
PFOA 1	413.0 / 369.0	2.68	26323.26	54.259502	53.0	false
PFOA 2	413.0 / 169.0	2.68	2042.62	53.048823	42.0	false
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	3.07	78220.95	163.942771	55.1	true
PFOS 2	499.0 / 99.0	3.07	13719.66	157.922355	83.8	false
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	2.67	16468.27	28.745714	38.8	false
PFOA 2	413.0 / 169.0	2.66	2053.19	49.930235	41.9	false
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	3.07	39807.73	76.042487	27.3	true
PFOS 2	499.0 / 99.0	3.07	5727.83	54.541010	46.3	false
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	2.67	11850.19	20.130200	34.1	false
PFOA 2	413.0 / 169.0	2.68	539.40	< 0	12.0	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	2.67	16193.02	26.793835	37.2	false
PFOA 2	413.0 / 169.0	2.63	1336.11	23.901759	26.1	true
PFNA 1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA 2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS 2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA 1	413.0 / 369.0	2.67	8260.77	9.433833	23.8	false
PFOA 2	413.0 / 169.0	2.67	1167.83	18.604466	16.1	true
PFNA 1	463.0 / 419.0	3.07	12191.39	42.466901	37.4	true
PFNA 2	463.0 / 219.0	3.06	4864.56	86.271526	42.4	false
PFOS 1	499.0 / 80.0	3.06	168546.41	273.194083	95.0	true
PFOS 2	499.0 / 99.0	3.06	32154.04	294.677079	153.9	false
PFDA 1	513.0 / 469.0	3.42	33635.54	63.041176	100.9	true
PFDA 2	513.0 / 219.0	3.43	2193.48	36.268105	38.6	false
PFUnA 1	563.0 / 519.0	3.74	12539.54	22.026699	48.5	false
PFUnA 2	563.0 / 269.0	3.71	1833.92	< 0	21.7	true
PFDoA 1	613.0 / 569.0	4.02	8343.72	< 0	78.6	false
PFDoA 2	613.0 / 319.0	4.01	1391.48	< 0	26.0	false
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA 2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS 1	399.0 / 80.0	2.28	16347.88	34.122017	35.5	false
PFHxS 2	399.0 / 99.0	2.28	5515.75	35.234053	39.8	false
PFOA 1	413.0 / 369.0	2.66	23975.49	42.426009	51.6	false
PFOA 2	413.0 / 169.0	2.66	1777.47	36.721345	32.3	true
PFNA 1	463.0 / 419.0	3.06	19225.31	59.704228	51.7	true
PFNA 2	463.0 / 219.0	3.06	5049.74	88.397885	36.0	false
PFOS 1	499.0 / 80.0	3.06	233247.33	398.195755	78.7	true
PFOS 2	499.0 / 99.0	3.06	32399.26	315.794843	182.2	false
PFDA 1	513.0 / 469.0	3.42	10206.85	13.145182	36.9	true
PFDA 2	513.0 / 219.0	2.86	449.69	< 0	7.0	false
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS 1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS 2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA 1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA 2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA 1	363.0 / 319.0	2.26	16278.74	43.884508	18.0	false
PFHpA 2	363.0 / 169.0	2.05	353.46	17.370578	5.7	false
PFHxS 1	399.0 / 80.0	2.28	30831.62	64.226699	56.3	false
PFHxS 2	399.0 / 99.0	2.29	7646.92	51.540174	72.4	false
PFOA 1	413.0 / 369.0	2.67	23670.26	45.212447	48.4	false
PFOA 2	413.0 / 169.0	2.67	1401.80	27.781493	27.1	false
PFNA 1	463.0 / 419.0	3.07	3442.60	22.286880	13.1	true
PFNA 2	463.0 / 219.0	2.47	623.22	53.988877	8.4	false
PFOS 1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS 2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA 1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA 2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA 1	563.0 / 519.0	N/A	N/A	N/A	N/A	true
PFUnA 2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA 1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA 2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA 1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA 2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA 1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA 2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA 2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA 2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.05	99683.83	240.094819	1004.1	false
d3-MeFOSAA	573.0 / 419.0	3.60	13931.35	211.191254	150.6	false
d5-EtFOSAA	589.0 / 419.0	3.76	15941.90	241.123750	194.4	false
13C5-PFHxA	318.0 / 273.0	1.86	85981.33	247.763491	595.7	false
13C4-PFHpA	367.0 / 322.0	2.27	96927.87	243.587032	590.2	false
13C8-PFOA	421.0 / 376.0	2.68	115473.71	259.602187	888.2	false
13C9-PFNA	472.0 / 427.0	3.08	113876.03	253.672542	738.0	false
13C6-PFDA	519.0 / 474.0	3.43	115184.71	260.695675	1251.4	false
13C7-PFUnA	570.0 / 525.0	3.76	95980.99	247.390429	542.3	false
13C2-PFTeDA	715.0 / 670.0	4.51	78615.04	242.415286	1458.9	false
13C3-PFBS	302.0 / 99.0	1.53	38057.27	219.881953	563.5	false
13C3-PFHxS	402.0 / 99.0	2.29	32815.99	243.369791	328.7	false
13C8-PFOS	507.0 / 99.0	3.08	36393.28	242.834808	231.8	false

Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	101433.80	257.690779	812.8	false
d3-MeFOSAA	573.0 / 419.0	3.57	15655.98	283.004598	162.5	false
d5-EtFOSAA	589.0 / 419.0	3.74	16094.14	290.267255	146.1	false
13C5-PFHxA	318.0 / 273.0	1.85	82608.68	269.875733	643.3	false
13C4-PFHpA	367.0 / 322.0	2.25	97117.06	276.697983	685.7	false
13C8-PFOA	421.0 / 376.0	2.66	112382.23	286.436135	1100.9	false
13C9-PFNA	472.0 / 427.0	3.06	104238.57	263.253738	1330.4	false
13C6-PFDA	519.0 / 474.0	3.41	115330.34	275.321864	635.3	false
13C7-PFUnA	570.0 / 525.0	3.73	107987.97	293.583167	598.8	false
13C2-PFTeDA	715.0 / 670.0	4.49	78354.13	254.843959	1604.8	false
13C3-PFBS	302.0 / 99.0	1.52	36608.29	252.209802	464.8	false
13C3-PFHxS	402.0 / 99.0	2.28	30990.83	274.059486	257.5	false
13C8-PFOS	507.0 / 99.0	3.05	30495.56	242.636885	177.5	false

Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	89844.40	278.053542	893.5	false
d3-MeFOSAA	573.0 / 419.0	3.57	12107.71	268.921559	111.4	false
d5-EtFOSAA	589.0 / 419.0	3.73	13731.04	304.287417	136.5	false
13C5-PFHxA	318.0 / 273.0	1.85	65467.84	252.746077	477.7	false
13C4-PFHpA	367.0 / 322.0	2.25	84576.66	284.760193	615.0	false
13C8-PFOA	421.0 / 376.0	2.67	97415.95	293.412450	1487.7	false
13C9-PFNA	472.0 / 427.0	3.06	89365.55	266.707062	858.9	false
13C6-PFDA	519.0 / 474.0	3.41	102358.31	297.674371	962.8	false
13C7-PFUnA	570.0 / 525.0	3.73	97276.08	322.168511	1008.9	false
13C2-PFTeDA	715.0 / 670.0	4.48	70190.72	278.107970	1435.9	false
13C3-PFBS	302.0 / 99.0	1.53	35141.73	297.478692	475.7	false
13C3-PFHxS	402.0 / 99.0	2.28	26663.45	289.719818	242.5	false
13C8-PFOS	507.0 / 99.0	3.06	26998.62	263.944159	241.7	false

Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	116427.46	289.850220	689.6	false
d3-MeFOSAA	573.0 / 419.0	3.57	12868.18	221.346712	144.0	false
d5-EtFOSAA	589.0 / 419.0	3.73	16567.57	284.336027	160.8	false
13C5-PFHxA	318.0 / 273.0	1.84	90586.18	264.028867	502.8	false
13C4-PFHpA	367.0 / 322.0	2.25	103587.28	263.310525	734.7	false
13C8-PFOA	421.0 / 376.0	2.66	116999.51	266.051396	1052.0	false
13C9-PFNA	472.0 / 427.0	3.06	109421.30	246.546751	1190.7	false
13C6-PFDA	519.0 / 474.0	3.41	118296.86	276.740265	747.0	false
13C7-PFUnA	570.0 / 525.0	3.73	117525.95	313.106115	608.6	false
13C2-PFTeDA	715.0 / 670.0	4.48	87599.54	279.200596	1691.8	false
13C3-PFBS	302.0 / 99.0	1.52	39467.89	258.743329	457.4	false
13C3-PFHxS	402.0 / 99.0	2.27	32657.26	274.810992	248.4	false
13C8-PFOS	507.0 / 99.0	3.05	32865.73	248.831979	201.9	false

Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	96546.15	256.858310	684.2	false
d3-MeFOSAA	573.0 / 419.0	3.58	11135.99	176.323607	142.1	false
d5-EtFOSAA	589.0 / 419.0	3.73	13193.92	208.435797	135.3	false
13C5-PFHxA	318.0 / 273.0	1.84	80315.27	277.816260	632.0	false
13C4-PFHpA	367.0 / 322.0	2.25	99648.34	300.608981	746.3	false
13C8-PFOA	421.0 / 376.0	2.66	109930.96	296.668614	1165.9	false
13C9-PFNA	472.0 / 427.0	3.06	103315.66	276.269969	1731.0	false
13C6-PFDA	519.0 / 474.0	3.41	111455.37	278.638129	697.1	false
13C7-PFUnA	570.0 / 525.0	3.73	108201.72	308.057915	769.1	false
13C2-PFTeDA	715.0 / 670.0	4.48	78895.19	268.723392	1799.8	false
13C3-PFBS	302.0 / 99.0	1.52	38300.56	231.129752	408.2	false
13C3-PFHxS	402.0 / 99.0	2.27	31389.97	243.148029	263.2	false
13C8-PFOS	507.0 / 99.0	3.06	30457.85	212.269517	238.1	false

Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	116173.39	276.894168	748.3	false
d3-MeFOSAA	573.0 / 419.0	3.56	15917.94	290.785119	169.7	false
d5-EtFOSAA	589.0 / 419.0	3.73	16739.18	305.095948	155.7	false
13C5-PFHxA	318.0 / 273.0	1.85	88024.24	260.638791	685.4	false
13C4-PFHpA	367.0 / 322.0	2.25	103157.20	266.384297	551.9	false
13C8-PFOA	421.0 / 376.0	2.66	122177.43	282.240772	1475.3	false
13C9-PFNA	472.0 / 427.0	3.05	114918.10	263.046893	943.9	false
13C6-PFDA	519.0 / 474.0	3.40	122253.55	273.810153	595.9	false
13C7-PFUnA	570.0 / 525.0	3.72	111652.79	284.784464	727.0	false
13C2-PFTeDA	715.0 / 670.0	4.48	82356.45	251.304959	1342.5	false
13C3-PFBS	302.0 / 99.0	1.53	39342.17	273.913109	533.1	false
13C3-PFHxS	402.0 / 99.0	2.28	31902.47	285.107082	307.8	false
13C8-PFOS	507.0 / 99.0	3.05	31820.93	255.861609	174.0	false

Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	115177.83	294.013998	712.5	false
d3-MeFOSAA	573.0 / 419.0	3.57	14688.82	266.631941	134.9	false
d5-EtFOSAA	589.0 / 419.0	3.73	18191.21	329.460875	197.7	false
13C5-PFHxA	318.0 / 273.0	1.85	95771.24	289.812901	710.4	false
13C4-PFHpA	367.0 / 322.0	2.26	100693.28	265.739051	587.1	false
13C8-PFOA	421.0 / 376.0	2.67	126513.35	298.683326	1236.9	false
13C9-PFNA	472.0 / 427.0	3.06	113285.04	265.010521	895.6	false
13C6-PFDA	519.0 / 474.0	3.41	124577.85	298.827731	1068.7	false
13C7-PFUnA	570.0 / 525.0	3.73	118051.43	322.485345	825.0	false
13C2-PFTeDA	715.0 / 670.0	4.48	88059.59	287.787593	1971.5	false
13C3-PFBS	302.0 / 99.0	1.52	44195.61	305.755026	588.0	false
13C3-PFHxS	402.0 / 99.0	2.28	34759.71	308.673776	328.0	false
13C8-PFOS	507.0 / 99.0	3.06	33021.55	263.833350	214.0	false

Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	116156.74	302.348131	1066.5	false
d3-MeFOSAA	573.0 / 419.0	3.57	13301.31	225.873949	147.7	false
d5-EtFOSAA	589.0 / 419.0	3.73	16792.75	284.518562	142.4	false
13C5-PFHxA	318.0 / 273.0	1.84	94116.06	287.487457	529.5	false
13C4-PFHpA	367.0 / 322.0	2.25	111107.82	295.986651	648.9	false
13C8-PFOA	421.0 / 376.0	2.66	119003.20	283.599758	892.9	false
13C9-PFNA	472.0 / 427.0	3.05	117087.77	276.486974	3653.6	false
13C6-PFDA	519.0 / 474.0	3.41	122873.81	300.540581	569.2	false
13C7-PFUnA	570.0 / 525.0	3.73	122711.11	341.811249	754.0	false
13C2-PFTeDA	715.0 / 670.0	4.48	90913.05	302.960077	1836.5	false
13C3-PFBS	302.0 / 99.0	1.52	41023.66	265.506622	558.5	false
13C3-PFHxS	402.0 / 99.0	2.27	40294.37	334.745281	325.3	false
13C8-PFOS	507.0 / 99.0	3.05	35626.14	266.285445	228.6	false

Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	92372.53	285.308029	848.6	false
d3-MeFOSAA	573.0 / 419.0	3.57	14318.20	318.612932	172.0	false
d5-EtFOSAA	589.0 / 419.0	3.73	14646.63	325.184267	138.8	false
13C5-PFHxA	318.0 / 273.0	1.85	76766.14	302.463465	581.2	false
13C4-PFHpA	367.0 / 322.0	2.25	88357.27	303.611236	427.5	false
13C8-PFOA	421.0 / 376.0	2.67	106855.12	328.466130	1292.3	false
13C9-PFNA	472.0 / 427.0	3.06	91779.88	279.549487	724.3	false
13C6-PFDA	519.0 / 474.0	3.41	101490.82	294.563461	834.4	false
13C7-PFUnA	570.0 / 525.0	3.73	97290.11	321.572908	822.7	false
13C2-PFTeDA	715.0 / 670.0	4.48	69142.49	273.408802	1790.5	false
13C3-PFBS	302.0 / 99.0	1.52	34242.75	290.410806	433.9	false
13C3-PFHxS	402.0 / 99.0	2.28	24824.20	270.239308	233.7	false
13C8-PFOS	507.0 / 99.0	3.05	25741.24	252.122302	184.3	false

Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.02	102103.02	269.603832	956.3	false
d3-MeFOSAA	573.0 / 419.0	3.57	13863.76	237.128832	176.6	false
d5-EtFOSAA	589.0 / 419.0	3.73	14528.10	247.930072	189.3	false
13C5-PFHxA	318.0 / 273.0	1.84	89884.75	305.950048	589.9	false
13C4-PFHpA	367.0 / 322.0	2.25	94048.36	279.182410	573.1	false
13C8-PFOA	421.0 / 376.0	2.66	112202.49	297.960755	1268.6	false
13C9-PFNA	472.0 / 427.0	3.05	108647.33	285.885112	1040.0	false
13C6-PFDA	519.0 / 474.0	3.41	113600.57	281.870009	606.1	false
13C7-PFUnA	570.0 / 525.0	3.73	106492.18	300.915622	786.6	false
13C2-PFTeDA	715.0 / 670.0	4.48	79883.57	270.048150	1610.2	false
13C3-PFBS	302.0 / 99.0	1.52	40278.83	262.572536	532.3	false
13C3-PFHxS	402.0 / 99.0	2.28	31245.76	261.452434	319.1	false
13C8-PFOS	507.0 / 99.0	3.05	30248.54	227.727075	253.4	false

Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	97871.55	282.972746	978.7	false
d3-MeFOSAA	573.0 / 419.0	3.57	12423.96	238.228296	144.8	false
d5-EtFOSAA	589.0 / 419.0	3.73	17836.69	341.243582	185.9	false
13C5-PFHxA	318.0 / 273.0	1.84	77863.62	259.883701	559.6	false
13C4-PFHpA	367.0 / 322.0	2.25	93070.40	270.912074	650.8	false
13C8-PFOA	421.0 / 376.0	2.66	104730.89	272.716415	161.6	false
13C9-PFNA	472.0 / 427.0	3.05	106010.97	273.528915	919.0	false
13C6-PFDA	519.0 / 474.0	3.41	107542.39	292.178851	884.6	false
13C7-PFUnA	570.0 / 525.0	3.73	101784.33	314.926098	707.4	false
13C2-PFTeDA	715.0 / 670.0	4.47	75339.54	278.873618	1667.6	false
13C3-PFBS	302.0 / 99.0	1.52	34483.58	252.008282	475.1	false
13C3-PFHxS	402.0 / 99.0	2.28	28351.14	265.951331	293.5	false
13C8-PFOS	507.0 / 99.0	3.05	32843.88	277.200885	211.5	false

Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	100977.53	274.447253	873.8	false
d3-MeFOSAA	573.0 / 419.0	3.57	13094.84	248.048897	155.1	false
d5-EtFOSAA	589.0 / 419.0	3.73	16537.54	312.553958	167.1	false
13C5-PFHxA	318.0 / 273.0	1.84	84659.98	291.065329	544.7	false
13C4-PFHpA	367.0 / 322.0	2.25	100160.97	300.319248	679.0	false
13C8-PFOA	421.0 / 376.0	2.66	116366.70	312.128248	1438.5	false
13C9-PFNA	472.0 / 427.0	3.05	108125.09	287.373546	916.5	false
13C6-PFDA	519.0 / 474.0	3.40	117144.28	299.182476	629.5	false
13C7-PFUnA	570.0 / 525.0	3.72	112174.08	326.261803	925.2	false
13C2-PFTeDA	715.0 / 670.0	4.48	81747.73	284.450129	1218.3	false
13C3-PFBS	302.0 / 99.0	1.52	37683.12	272.052724	377.3	false
13C3-PFHxS	402.0 / 99.0	2.27	33205.06	307.708593	313.1	false
13C8-PFOS	507.0 / 99.0	3.05	33263.82	277.342265	232.8	false

Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	108094.93	276.574274	689.1	false
d3-MeFOSAA	573.0 / 419.0	3.57	13346.31	236.145742	145.9	false
d5-EtFOSAA	589.0 / 419.0	3.72	15606.14	275.506274	191.5	false
13C5-PFHxA	318.0 / 273.0	1.84	92450.87	322.992264	495.0	false
13C4-PFHpA	367.0 / 322.0	2.25	101355.70	308.817312	670.3	false
13C8-PFOA	421.0 / 376.0	2.66	115690.05	315.332815	1796.7	false
13C9-PFNA	472.0 / 427.0	3.05	112550.72	303.974658	934.4	false
13C6-PFDA	519.0 / 474.0	3.40	116363.60	279.772187	899.2	false
13C7-PFUnA	570.0 / 525.0	3.72	118790.72	325.258427	622.5	false
13C2-PFTeDA	715.0 / 670.0	4.48	83561.10	273.720229	2415.5	false
13C3-PFBS	302.0 / 99.0	1.52	43114.58	290.745036	431.1	false
13C3-PFHxS	402.0 / 99.0	2.27	35588.34	308.052690	266.8	false
13C8-PFOS	507.0 / 99.0	3.05	33837.75	263.528373	227.9	false

Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	108228.35	277.389271	580.0	false
d3-MeFOSAA	573.0 / 419.0	3.57	12620.22	219.913769	168.9	false
d5-EtFOSAA	589.0 / 419.0	3.72	15833.91	275.290091	152.5	false
13C5-PFHxA	318.0 / 273.0	1.84	86428.39	273.670553	530.0	false
13C4-PFHpA	367.0 / 322.0	2.25	97392.90	268.949837	692.0	false
13C8-PFOA	421.0 / 376.0	2.66	119779.96	295.901976	1260.6	false
13C9-PFNA	472.0 / 427.0	3.05	110515.31	270.521683	941.8	false
13C6-PFDA	519.0 / 474.0	3.40	116146.84	279.728641	595.6	false
13C7-PFUnA	570.0 / 525.0	3.72	114779.34	314.812457	691.2	false
13C2-PFTeDA	715.0 / 670.0	4.47	81523.68	267.503008	1402.4	false
13C3-PFBS	302.0 / 99.0	1.52	40234.86	267.212810	396.0	false
13C3-PFHxS	402.0 / 99.0	2.27	31809.18	271.166699	250.6	false
13C8-PFOS	507.0 / 99.0	3.05	31291.78	240.006392	189.0	false

Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	4.01	100903.54	274.947840	790.8	false
d3-MeFOSAA	573.0 / 419.0	3.57	14977.77	256.496390	229.1	false
d5-EtFOSAA	589.0 / 419.0	3.72	14987.21	256.077785	190.1	false
13C5-PFHxA	318.0 / 273.0	1.84	82805.65	260.972724	503.8	false
13C4-PFHpA	367.0 / 322.0	2.25	96158.99	264.300128	429.9	false
13C8-PFOA	421.0 / 376.0	2.66	112161.47	275.785167	1161.7	false
13C9-PFNA	472.0 / 427.0	3.05	109388.18	266.510018	834.1	false
13C6-PFDA	519.0 / 474.0	3.40	118288.71	302.878289	656.4	false
13C7-PFUnA	570.0 / 525.0	3.72	103891.81	302.945705	671.7	false
13C2-PFTeDA	715.0 / 670.0	4.47	80027.74	279.177733	2044.2	false
13C3-PFBS	302.0 / 99.0	1.52	35998.85	234.958965	356.5	false
13C3-PFHxS	402.0 / 99.0	2.27	30702.75	257.222964	238.1	false
13C8-PFOS	507.0 / 99.0	3.05	32906.18	248.038233	248.6	false

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.570	0.299	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.70	PFOA			
PFOA_2	413.0 / 169.0	2.70	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	3.10	PFNA			
PFNA_2	463.0 / 219.0	3.09	PFNA	0.250	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	3.45	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	4.05	PFDaA			
PFDaA_2	613.0 / 319.0	4.06	PFDaA	0.100	0.153	ü
PFTrDA_1	663.0 / 619.0	4.30	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.31	PFTrDA	0.050	0.064	ü
PFTeDA_1	713.0 / 669.0	4.52	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.52	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.60	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.61	NMeFOSAA	0.210	0.528	
NEtFOSAA_1	584.0 / 419.0	3.77	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.110	0.082	ü

Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.310	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.270	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.08	PFNA			
PFNA_2	463.0 / 219.0	3.07	PFNA	0.300	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.42	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.74	PFUnA	0.050	0.059	ü
PFDaA_1	613.0 / 569.0	4.03	PFDaA			
PFDaA_2	613.0 / 319.0	4.03	PFDaA	0.150	0.153	ü
PFTrDA_1	663.0 / 619.0	4.27	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.27	PFTrDA	0.060	0.064	ü
PFTeDA_1	713.0 / 669.0	4.49	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.49	PFTeDA	0.050	0.048	ü
NMeFOSAA_1	570.0 / 419.0	3.58	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	NMeFOSAA	0.590	0.528	ü
NEtFOSAA_1	584.0 / 419.0	3.74	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.74	NEtFOSAA	0.060	0.082	ü

Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.230	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.310	0.283	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	3.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.130	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.280	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.090	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.190	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.46	PFDA	0.300	0.050	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.25	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.350	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.200	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.080	0.076	ü
PFHpA_1	363.0 / 319.0	2.27	PFHpA			
PFHpA_2	363.0 / 169.0	2.26	PFHpA	0.030	0.023	ü
PFHxS_1	399.0 / 80.0	2.29	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.290	0.283	ü
PFOA_1	413.0 / 369.0	2.68	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.180	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.120	0.068	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	3.07	PFOS			
PFOS_2	499.0 / 99.0	3.07	PFOS	0.140	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.68	PFOA	0.050	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.63	PFOA	0.080	0.068	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.140	0.068	
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.400	0.307	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.190	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	3.43	PFDA	0.070	0.050	ü
PFUnA_1	563.0 / 519.0	3.74	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	PFUnA	0.150	0.059	
PFDaA_1	613.0 / 569.0	4.02	PFDaA			
PFDaA_2	613.0 / 319.0	4.01	PFDaA	0.170	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.023	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.28	PFHxS	0.340	0.283	ü
PFOA_1	413.0 / 369.0	2.66	PFOA			
PFOA_2	413.0 / 169.0	2.66	PFOA	0.070	0.068	ü
PFNA_1	463.0 / 419.0	3.06	PFNA			
PFNA_2	463.0 / 219.0	3.06	PFNA	0.260	0.307	ü
PFOS_1	499.0 / 80.0	3.06	PFOS			
PFOS_2	499.0 / 99.0	3.06	PFOS	0.140	0.175	ü
PFDA_1	513.0 / 469.0	3.42	PFDA			
PFDA_2	513.0 / 219.0	2.86	PFDA	0.040	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.299	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.076	ü
PFHpA_1	363.0 / 319.0	2.26	PFHpA			
PFHpA_2	363.0 / 169.0	2.05	PFHpA	0.020	0.023	ü
PFHxS_1	399.0 / 80.0	2.28	PFHxS			
PFHxS_2	399.0 / 99.0	2.29	PFHxS	0.250	0.283	ü
PFOA_1	413.0 / 369.0	2.67	PFOA			
PFOA_2	413.0 / 169.0	2.67	PFOA	0.060	0.068	ü
PFNA_1	463.0 / 419.0	3.07	PFNA			
PFNA_2	463.0 / 219.0	2.47	PFNA	0.180	0.307	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.175	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.050	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.153	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.064	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.048	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.528	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.082	ü

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.56	13C3-PFBS	302.0 / 99.0	38057.27	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	38057.27	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	85981.33	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	85981.33	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	115473.71	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	115473.71	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	32056.28	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	32056.28	236.50
PFOA 1	413.0 / 369.0	2.70	13C8-PFOA	421.0 / 376.0	115473.71	250.00
PFOA 2	413.0 / 169.0	2.70	13C8-PFOA	421.0 / 376.0	115473.71	250.00
PFNA 1	463.0 / 419.0	3.10	13C9-PFNA	472.0 / 427.0	113876.03	250.00
PFNA 2	463.0 / 219.0	3.09	13C9-PFNA	472.0 / 427.0	113876.03	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	36619.19	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	36619.19	239.25
PFDA 1	513.0 / 469.0	3.45	13C6-PFDA	519.0 / 474.0	115184.71	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	115184.71	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	95980.99	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	95980.99	250.00
PFDoA 1	613.0 / 569.0	4.05	13C2-PFDoA	615.0 / 570.0	99683.83	250.00
PFDoA 2	613.0 / 319.0	4.06	13C2-PFDoA	615.0 / 570.0	99683.83	250.00
PFTeDA 1	663.0 / 619.0	4.30	13C2-PFTeDA	715.0 / 670.0	78615.04	250.00
PFTeDA 2	663.0 / 169.0	4.31	13C2-PFTeDA	715.0 / 670.0	78615.04	250.00
PFTeDA 1	713.0 / 669.0	4.52	13C2-PFTeDA	715.0 / 670.0	78615.04	250.00
PFTeDA 2	713.0 / 169.0	4.52	13C2-PFTeDA	715.0 / 670.0	78615.04	250.00
NMeFOSAA 1	570.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	14300.71	250.00
NMeFOSAA 2	570.0 / 512.0	3.61	d3-MeFOSAA	573.0 / 419.0	14300.71	250.00
NEtFOSAA 1	584.0 / 419.0	3.77	d5-EtFOSAA	589.0 / 419.0	16113.28	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	16113.28	250.00

Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	36608.29	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	36608.29	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	82608.68	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	82608.68	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	112382.23	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	112382.23	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	31108.42	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	31108.42	236.50
PFOA 1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	112382.23	250.00
PFOA 2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	112382.23	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	104238.57	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	104238.57	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	31008.27	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	31008.27	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	115330.34	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	115330.34	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	107987.97	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	107987.97	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	101433.80	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	101433.80	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	78354.13	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78354.13	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	78354.13	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78354.13	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15592.06	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15592.06	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16569.67	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16569.67	250.00

Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	35141.73	232.25
PFBS 2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	35141.73	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	65467.84	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	65467.84	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	97415.95	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	97415.95	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	26618.98	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	26618.98	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	97415.95	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	97415.95	250.00
PFNA 1	463.0 / 419.0	3.08	13C9-PFNA	472.0 / 427.0	89365.55	250.00
PFNA 2	463.0 / 219.0	3.07	13C9-PFNA	472.0 / 427.0	89365.55	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	27455.74	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	27455.74	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	102358.31	250.00
PFDA 2	513.0 / 219.0	3.42	13C6-PFDA	519.0 / 474.0	102358.31	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	97276.08	250.00
PFUnA 2	563.0 / 269.0	3.74	13C7-PFUnA	570.0 / 525.0	97276.08	250.00
PFDoA 1	613.0 / 569.0	4.03	13C2-PFDoA	615.0 / 570.0	89844.40	250.00
PFDoA 2	613.0 / 319.0	4.03	13C2-PFDoA	615.0 / 570.0	89844.40	250.00
PFTeDA 1	663.0 / 619.0	4.27	13C2-PFTeDA	715.0 / 670.0	70190.72	250.00
PFTeDA 2	663.0 / 169.0	4.27	13C2-PFTeDA	715.0 / 670.0	70190.72	250.00
PFTeDA 1	713.0 / 669.0	4.49	13C2-PFTeDA	715.0 / 670.0	70190.72	250.00
PFTeDA 2	713.0 / 169.0	4.49	13C2-PFTeDA	715.0 / 670.0	70190.72	250.00
NMeFOSAA 1	570.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	12083.77	250.00
NMeFOSAA 2	570.0 / 512.0	3.58	d3-MeFOSAA	573.0 / 419.0	12083.77	250.00
NEtFOSAA 1	584.0 / 419.0	3.74	d5-EtFOSAA	589.0 / 419.0	14079.47	250.00
NEtFOSAA 2	584.0 / 483.0	3.74	d5-EtFOSAA	589.0 / 419.0	14079.47	250.00

Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	39467.89	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	39467.89	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	90586.18	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	90586.18	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	116999.51	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	116999.51	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	32199.14	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	32199.14	236.50
PFOA 1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	116999.51	250.00
PFOA 2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	116999.51	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	109421.30	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	109421.30	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	32828.19	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	32828.19	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	118296.86	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	118296.86	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	117525.95	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	117525.95	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	116427.46	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	116427.46	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	87599.54	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	87599.54	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	87599.54	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	87599.54	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13252.08	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13252.08	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16557.38	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16557.38	250.00

Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	38300.56	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	38300.56	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	80315.27	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	80315.27	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	109930.96	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	109930.96	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	31117.92	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	31117.92	236.50
PFOA 1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	109930.96	250.00
PFOA 2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	109930.96	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	103315.66	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	103315.66	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	30646.84	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	30646.84	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	111455.37	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	111455.37	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	108201.72	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	108201.72	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	96546.15	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	96546.15	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	78895.19	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78895.19	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	78895.19	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	78895.19	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	11563.82	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	11563.82	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	13348.85	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	13348.85	250.00

Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	39342.17	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	39342.17	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	88024.24	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	88024.24	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	122177.43	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	122177.43	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	31140.10	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	31140.10	236.50
PFOA 1	413.0 / 369.0	N/A	13C8-PFOA	421.0 / 376.0	122177.43	250.00
PFOA 2	413.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	122177.43	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	114918.10	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	114918.10	250.00
PFOS 1	499.0 / 80.0	3.00	13C8-PFOS	507.0 / 99.0	32606.79	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	32606.79	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	122253.55	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	122253.55	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	111652.79	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	111652.79	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	116173.39	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	116173.39	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	82356.45	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	82356.45	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	82356.45	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	82356.45	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	16034.36	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	16034.36	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16572.20	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16572.20	250.00

Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	44195.61	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	44195.61	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	95771.24	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	95771.24	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	126513.35	250.00
PFHpA 2	363.0 / 169.0	2.27	13C8-PFOA	421.0 / 376.0	126513.35	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	35110.91	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	35110.91	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	126513.35	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	126513.35	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	113285.04	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	113285.04	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	34883.42	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	34883.42	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	124577.85	250.00
PFDA 2	513.0 / 219.0	3.46	13C6-PFDA	519.0 / 474.0	124577.85	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	118051.43	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	118051.43	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	115177.83	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	115177.83	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	88059.59	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	88059.59	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	88059.59	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	88059.59	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15387.15	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15387.15	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	18127.51	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	18127.51	250.00

Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	41023.66	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	41023.66	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	94116.06	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	94116.06	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	119003.20	250.00
PFHpA 2	363.0 / 169.0	2.25	13C8-PFOA	421.0 / 376.0	119003.20	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	39773.83	236.50
PFHxS 2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	39773.83	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	119003.20	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	119003.20	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	117087.77	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	117087.77	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	36181.15	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	36181.15	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	122873.81	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	122873.81	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	122711.11	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	122711.11	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	116156.74	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	116156.74	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	90913.05	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	90913.05	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	90913.05	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	90913.05	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13893.22	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13893.22	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16958.06	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16958.06	250.00

Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	34242.75	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	34242.75	232.25
PFHxA 1	313.0 / 269.0	1.86	13C5-PFHxA	318.0 / 273.0	76766.14	250.00
PFHxA 2	313.0 / 119.0	1.86	13C5-PFHxA	318.0 / 273.0	76766.14	250.00
PFHpA 1	363.0 / 319.0	2.27	13C8-PFOA	421.0 / 376.0	106855.12	250.00
PFHpA 2	363.0 / 169.0	2.26	13C8-PFOA	421.0 / 376.0	106855.12	250.00
PFHxS 1	399.0 / 80.0	2.29	13C3-PFHxS	402.0 / 99.0	24050.01	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	24050.01	236.50
PFOA 1	413.0 / 369.0	2.68	13C8-PFOA	421.0 / 376.0	106855.12	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	106855.12	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	91779.88	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	91779.88	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	27101.94	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	27101.94	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	101490.82	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	101490.82	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	97290.11	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	97290.11	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	92372.53	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	92372.53	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	69142.49	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	69142.49	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	69142.49	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	69142.49	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	15555.65	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	15555.65	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14631.44	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14631.44	250.00

Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	40278.83	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	40278.83	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	89884.75	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	89884.75	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	112202.49	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	112202.49	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	31423.16	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	31423.16	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	112202.49	250.00
PFOA 2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	112202.49	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	108647.33	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	108647.33	250.00
PFOS 1	499.0 / 80.0	3.07	13C8-PFOS	507.0 / 99.0	31515.77	239.25
PFOS 2	499.0 / 99.0	3.07	13C8-PFOS	507.0 / 99.0	31515.77	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	113600.57	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	113600.57	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	106492.18	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	106492.18	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	102103.02	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	102103.02	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	79883.57	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	79883.57	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	79883.57	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	79883.57	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13986.08	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13986.08	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14445.05	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14445.05	250.00

Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	34483.58	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	34483.58	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	77863.62	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	77863.62	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	104730.89	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	104730.89	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	27356.23	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	27356.23	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	104730.89	250.00
PFOA 2	413.0 / 169.0	2.68	13C8-PFOA	421.0 / 376.0	104730.89	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	106010.97	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	106010.97	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	32149.17	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	32149.17	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	107542.39	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	107542.39	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	101784.33	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	101784.33	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	97871.55	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	97871.55	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	75339.54	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75339.54	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	75339.54	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	75339.54	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	12944.57	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	12944.57	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	17743.89	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	17743.89	250.00

Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	37683.12	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	37683.12	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	84659.98	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	84659.98	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	116366.70	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	116366.70	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	33049.24	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	33049.24	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	116366.70	250.00
PFOA 2	413.0 / 169.0	2.63	13C8-PFOA	421.0 / 376.0	116366.70	250.00
PFNA 1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	108125.09	250.00
PFNA 2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	108125.09	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	34077.16	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	34077.16	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	117144.28	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	117144.28	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	112174.08	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	112174.08	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	100977.53	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	100977.53	250.00
PFTeDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	81747.73	250.00
PFTeDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	81747.73	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	81747.73	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	81747.73	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13408.56	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13408.56	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16943.90	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16943.90	250.00

Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	43114.58	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	43114.58	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	92450.87	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	92450.87	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	115690.05	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	115690.05	250.00
PFHxS 1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	34480.39	236.50
PFHxS 2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	34480.39	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	115690.05	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	115690.05	250.00
PFNA 1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	112550.72	250.00
PFNA 2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	112550.72	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	34372.74	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	34372.74	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	116363.60	250.00
PFDA 2	513.0 / 219.0	3.43	13C6-PFDA	519.0 / 474.0	116363.60	250.00
PFUnA 1	563.0 / 519.0	3.74	13C7-PFUnA	570.0 / 525.0	118790.72	250.00
PFUnA 2	563.0 / 269.0	3.71	13C7-PFUnA	570.0 / 525.0	118790.72	250.00
PFDoA 1	613.0 / 569.0	4.02	13C2-PFDoA	615.0 / 570.0	108094.93	250.00
PFDoA 2	613.0 / 319.0	4.01	13C2-PFDoA	615.0 / 570.0	108094.93	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	83561.10	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	83561.10	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	83561.10	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	83561.10	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	13385.52	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	13385.52	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	15490.94	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	15490.94	250.00

Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	40234.86	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	40234.86	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	86428.39	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	86428.39	250.00
PFHpA 1	363.0 / 319.0	N/A	13C8-PFOA	421.0 / 376.0	119779.96	250.00
PFHpA 2	363.0 / 169.0	N/A	13C8-PFOA	421.0 / 376.0	119779.96	250.00
PFHxS 1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	31744.64	236.50
PFHxS 2	399.0 / 99.0	2.28	13C3-PFHxS	402.0 / 99.0	31744.64	236.50
PFOA 1	413.0 / 369.0	2.66	13C8-PFOA	421.0 / 376.0	119779.96	250.00
PFOA 2	413.0 / 169.0	2.66	13C8-PFOA	421.0 / 376.0	119779.96	250.00
PFNA 1	463.0 / 419.0	3.06	13C9-PFNA	472.0 / 427.0	110515.31	250.00
PFNA 2	463.0 / 219.0	3.06	13C9-PFNA	472.0 / 427.0	110515.31	250.00
PFOS 1	499.0 / 80.0	3.06	13C8-PFOS	507.0 / 99.0	32343.20	239.25
PFOS 2	499.0 / 99.0	3.06	13C8-PFOS	507.0 / 99.0	32343.20	239.25
PFDA 1	513.0 / 469.0	3.42	13C6-PFDA	519.0 / 474.0	116146.84	250.00
PFDA 2	513.0 / 219.0	2.86	13C6-PFDA	519.0 / 474.0	116146.84	250.00
PFOA 1	563.0 / 519.0	N/A	13C7-PFOA	570.0 / 525.0	114779.34	250.00
PFOA 2	563.0 / 269.0	N/A	13C7-PFOA	570.0 / 525.0	114779.34	250.00
PFOA 3	613.0 / 569.0	N/A	13C2-PFOA	615.0 / 570.0	108228.35	250.00
PFOA 4	613.0 / 319.0	N/A	13C2-PFOA	615.0 / 570.0	108228.35	250.00
PFOA 5	663.0 / 619.0	N/A	13C2-PFOA	715.0 / 670.0	81523.68	250.00
PFOA 6	663.0 / 169.0	N/A	13C2-PFOA	715.0 / 670.0	81523.68	250.00
PFOA 7	713.0 / 669.0	N/A	13C2-PFOA	715.0 / 670.0	81523.68	250.00
PFOA 8	713.0 / 169.0	N/A	13C2-PFOA	715.0 / 670.0	81523.68	250.00
PFOS 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	12199.81	250.00
PFOS 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	12199.81	250.00
PFOS 3	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	16040.49	250.00
PFOS 4	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	16040.49	250.00

Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS 1	298.9 / 80.0	N/A	13C3-PFBS	302.0 / 99.0	35998.85	232.25
PFBS 2	298.9 / 99.0	N/A	13C3-PFBS	302.0 / 99.0	35998.85	232.25
PFHxA 1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	82805.65	250.00
PFHxA 2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	82805.65	250.00
PFHpA 1	363.0 / 319.0	2.26	13C8-PFOA	421.0 / 376.0	112161.47	250.00
PFHpA 2	363.0 / 169.0	2.05	13C8-PFOA	421.0 / 376.0	112161.47	250.00
PFHxS 1	399.0 / 80.0	2.28	13C3-PFHxS	402.0 / 99.0	31183.78	236.50
PFHxS 2	399.0 / 99.0	2.29	13C3-PFHxS	402.0 / 99.0	31183.78	236.50
PFOA 1	413.0 / 369.0	2.67	13C8-PFOA	421.0 / 376.0	112161.47	250.00
PFOA 2	413.0 / 169.0	2.67	13C8-PFOA	421.0 / 376.0	112161.47	250.00
PFNA 1	463.0 / 419.0	3.07	13C9-PFNA	472.0 / 427.0	109388.18	250.00
PFNA 2	463.0 / 219.0	2.47	13C9-PFNA	472.0 / 427.0	109388.18	250.00
PFOS 1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	33562.32	239.25
PFOS 2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	33562.32	239.25
PFDA 1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	118288.71	250.00
PFDA 2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	118288.71	250.00
PFUnA 1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	103891.81	250.00
PFUnA 2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	103891.81	250.00
PFDoA 1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	100903.54	250.00
PFDoA 2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	100903.54	250.00
PFTrDA 1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	80027.74	250.00
PFTrDA 2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	80027.74	250.00
PFTeDA 1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	80027.74	250.00
PFTeDA 2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	80027.74	250.00
NMeFOSAA 1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	14992.06	250.00
NMeFOSAA 2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	14992.06	250.00
NEtFOSAA 1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	14722.56	250.00
NEtFOSAA 2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	14722.56	250.00

Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.05	13C2-PFDA	515.0 / 470.0	104440.37	250.00
d3-MeFOSAA	573.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	33646.69	239.25
d5-EtFOSAA	589.0 / 419.0	3.76	13C4-PFOS	503.0 / 99.0	33646.69	239.25
13C5-PFHxA	318.0 / 273.0	1.86	13C2-PFOA	415.0 / 370.0	102021.41	250.00
13C4-PFHpA	367.0 / 322.0	2.27	13C2-PFOA	415.0 / 370.0	102021.41	250.00
13C8-PFOA	421.0 / 376.0	2.68	13C2-PFOA	415.0 / 370.0	102021.41	250.00
13C9-PFNA	472.0 / 427.0	3.08	13C2-PFOA	415.0 / 370.0	102021.41	250.00
13C6-PFDA	519.0 / 474.0	3.43	13C2-PFDA	515.0 / 470.0	104440.37	250.00
13C7-PFUnA	570.0 / 525.0	3.76	13C2-PFDA	515.0 / 470.0	104440.37	250.00
13C2-PFTeDA	715.0 / 670.0	4.51	13C2-PFDA	515.0 / 470.0	104440.37	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	33646.69	239.25
13C3-PFHxS	402.0 / 99.0	2.29	13C4-PFOS	503.0 / 99.0	33646.69	239.25
13C8-PFOS	507.0 / 99.0	3.08	13C4-PFOS	503.0 / 99.0	33646.69	239.25

Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	99017.12	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	28217.07	239.25
d5-EtFOSAA	589.0 / 419.0	3.74	13C4-PFOS	503.0 / 99.0	28217.07	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	89988.36	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	89988.36	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	89988.36	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	89988.36	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	99017.12	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	99017.12	250.00
13C2-PFTeDA	715.0 / 670.0	4.49	13C2-PFDA	515.0 / 470.0	99017.12	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28217.07	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	28217.07	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	28217.07	239.25

Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	81281.00	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	22964.75	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	22964.75	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	76149.68	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	76149.68	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	76149.68	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	76149.68	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	81281.00	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	81281.00	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	81281.00	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	22964.75	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	22964.75	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	22964.75	239.25

Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	101043.48	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	29653.03	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	29653.03	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	100863.73	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	100863.73	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	100863.73	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	100863.73	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	101043.48	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	101043.48	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	101043.48	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	29653.03	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	29653.03	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	29653.03	239.25

Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	94551.37	250.00
d3-MeFOSAA	573.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	32213.92	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	32213.92	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	84989.44	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	84989.44	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	84989.44	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	84989.44	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	94551.37	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	94551.37	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	94551.37	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	32213.92	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	32213.92	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	32213.92	239.25

Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	105540.55	250.00
d3-MeFOSAA	573.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	27921.57	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	27921.57	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	99285.94	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	99285.94	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	99285.94	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	99285.94	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	105540.55	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	105540.55	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	105540.55	250.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	27921.57	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	27921.57	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	27921.57	239.25

Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	98543.36	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	28099.58	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	28099.58	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	97149.80	250.00
13C4-PFHpA	367.0 / 322.0	2.26	13C2-PFOA	415.0 / 370.0	97149.80	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	97149.80	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	97149.80	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	98543.36	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	98543.36	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	98543.36	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28099.58	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	28099.58	239.25
13C8-PFOS	507.0 / 99.0	3.06	13C4-PFOS	503.0 / 99.0	28099.58	239.25

Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	96641.49	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	30036.78	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	30036.78	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	96243.04	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	96243.04	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	96243.04	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	96243.04	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	96641.49	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	96641.49	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	96641.49	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	30036.78	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	30036.78	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	30036.78	239.25

Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	81443.29	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	22921.88	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	22921.88	239.25
13C5-PFHxA	318.0 / 273.0	1.85	13C2-PFOA	415.0 / 370.0	74614.16	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	74614.16	250.00
13C8-PFOA	421.0 / 376.0	2.67	13C2-PFOA	415.0 / 370.0	74614.16	250.00
13C9-PFNA	472.0 / 427.0	3.06	13C2-PFOA	415.0 / 370.0	74614.16	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	81443.29	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	81443.29	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	81443.29	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	22921.88	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	22921.88	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	22921.88	239.25

Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.02	13C2-PFDA	515.0 / 470.0	95266.24	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	29820.98	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	29820.98	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	86369.41	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	86369.41	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	86369.41	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	86369.41	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	95266.24	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	95266.24	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	95266.24	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	29820.98	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	29820.98	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	29820.98	239.25

Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	87003.82	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	26600.63	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	26600.63	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	88080.55	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	88080.55	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	88080.55	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	88080.55	250.00
13C6-PFDA	519.0 / 474.0	3.41	13C2-PFDA	515.0 / 470.0	87003.82	250.00
13C7-PFUnA	570.0 / 525.0	3.73	13C2-PFDA	515.0 / 470.0	87003.82	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	87003.82	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	26600.63	239.25
13C3-PFHxS	402.0 / 99.0	2.28	13C4-PFOS	503.0 / 99.0	26600.63	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	26600.63	239.25

Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	92553.39	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	26927.01	239.25
d5-EtFOSAA	589.0 / 419.0	3.73	13C4-PFOS	503.0 / 99.0	26927.01	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	85509.07	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	85509.07	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	85509.07	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	85509.07	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	92553.39	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	92553.39	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	92553.39	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	26927.01	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	26927.01	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	26927.01	239.25

Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	98315.05	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	28827.45	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	28827.45	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	84147.91	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	84147.91	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	84147.91	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	84147.91	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	98315.05	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	98315.05	250.00
13C2-PFTeDA	715.0 / 670.0	4.48	13C2-PFDA	515.0 / 470.0	98315.05	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	28827.45	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	28827.45	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	28827.45	239.25

Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	98147.19	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	29271.14	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	29271.14	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	92843.79	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	92843.79	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	92843.79	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	92843.79	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	98147.19	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	98147.19	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	98147.19	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	29271.14	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	29271.14	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	29271.14	239.25

Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Results Summary

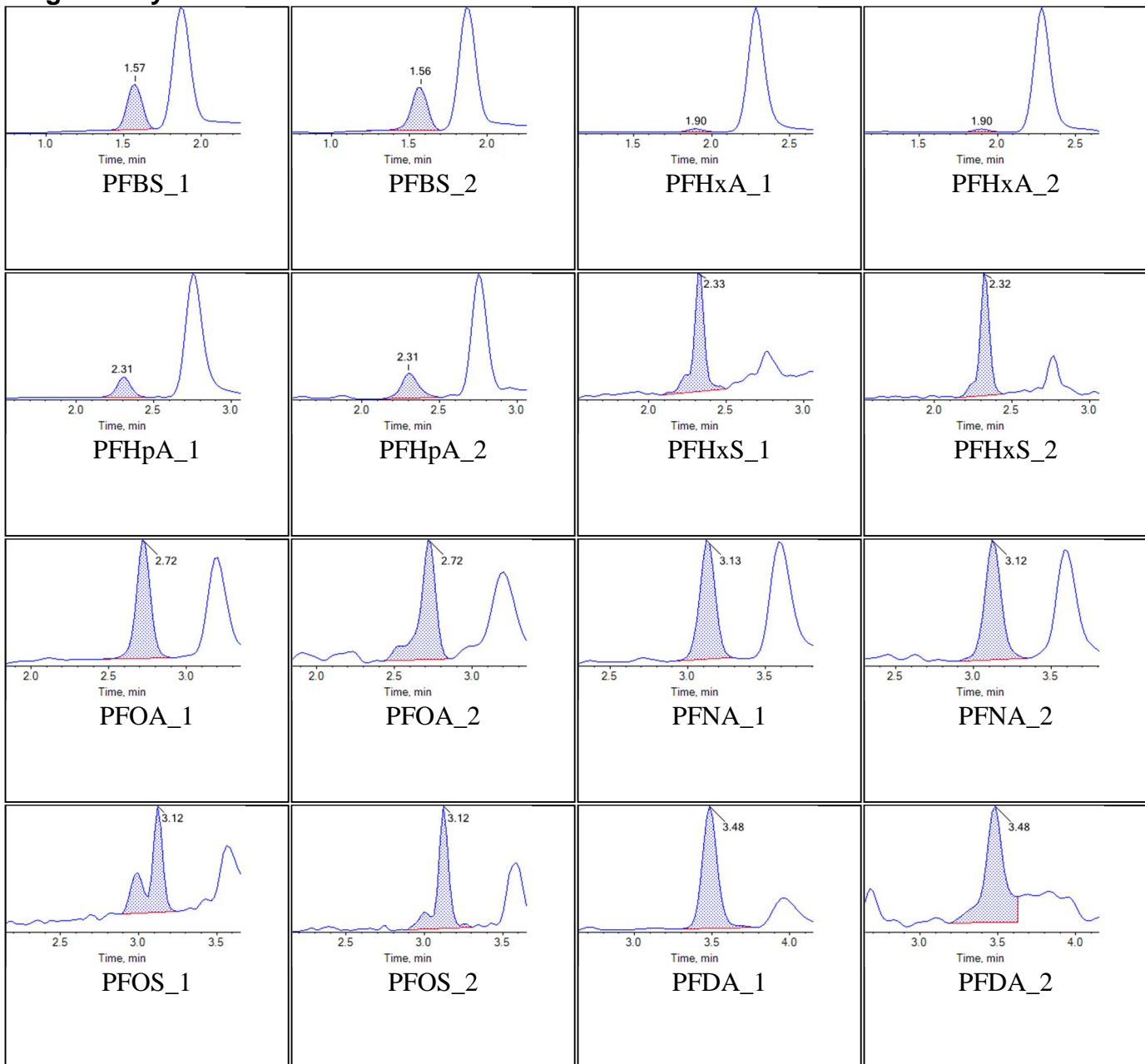
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	4.01	13C2-PFDA	515.0 / 470.0	92317.19	250.00
d3-MeFOSAA	573.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	29784.54	239.25
d5-EtFOSAA	589.0 / 419.0	3.72	13C4-PFOS	503.0 / 99.0	29784.54	239.25
13C5-PFHxA	318.0 / 273.0	1.84	13C2-PFOA	415.0 / 370.0	93280.17	250.00
13C4-PFHpA	367.0 / 322.0	2.25	13C2-PFOA	415.0 / 370.0	93280.17	250.00
13C8-PFOA	421.0 / 376.0	2.66	13C2-PFOA	415.0 / 370.0	93280.17	250.00
13C9-PFNA	472.0 / 427.0	3.05	13C2-PFOA	415.0 / 370.0	93280.17	250.00
13C6-PFDA	519.0 / 474.0	3.40	13C2-PFDA	515.0 / 470.0	92317.19	250.00
13C7-PFUnA	570.0 / 525.0	3.72	13C2-PFDA	515.0 / 470.0	92317.19	250.00
13C2-PFTeDA	715.0 / 670.0	4.47	13C2-PFDA	515.0 / 470.0	92317.19	250.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	29784.54	239.25
13C3-PFHxS	402.0 / 99.0	2.27	13C4-PFOS	503.0 / 99.0	29784.54	239.25
13C8-PFOS	507.0 / 99.0	3.05	13C4-PFOS	503.0 / 99.0	29784.54	239.25

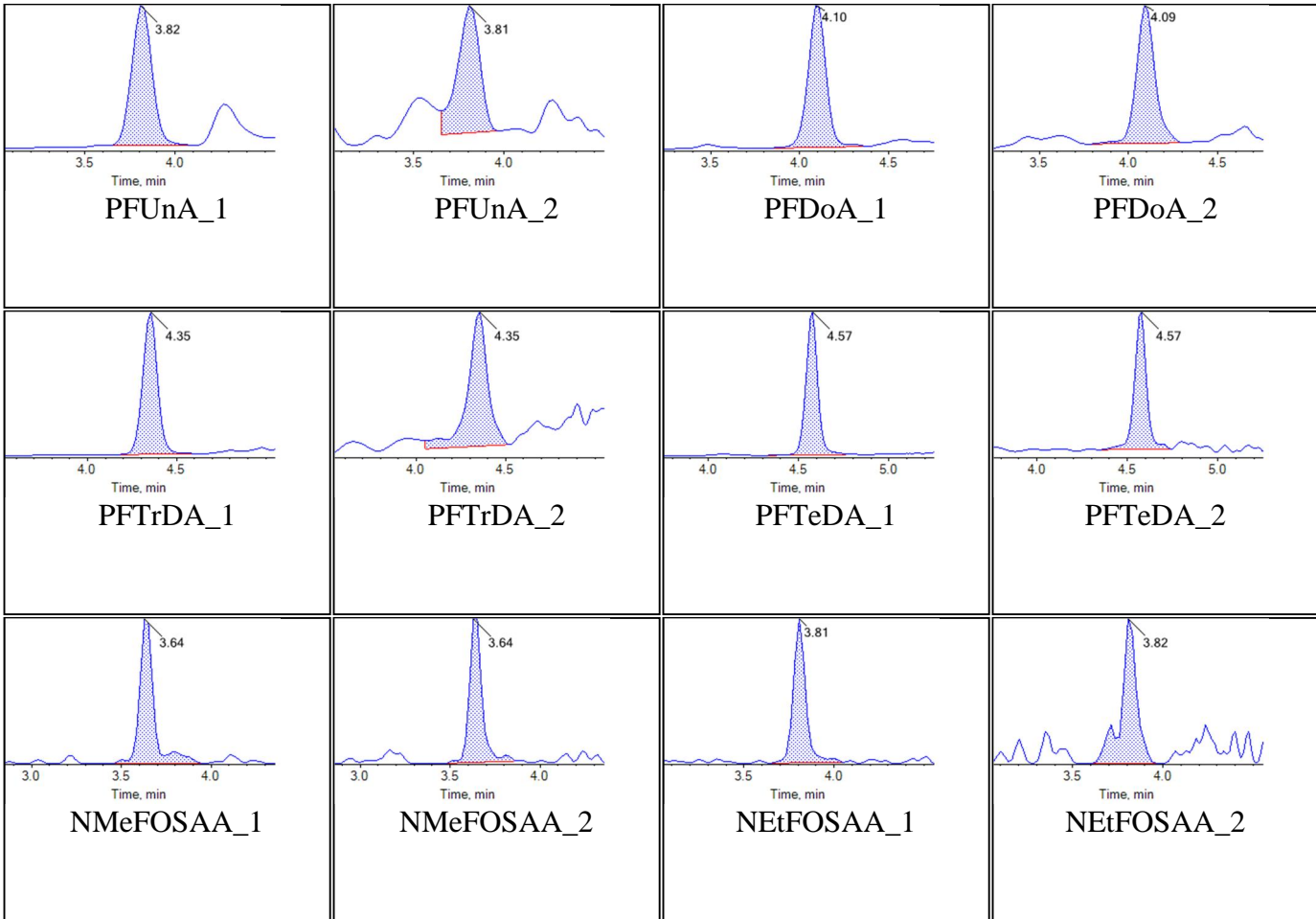
Chromatograms

Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

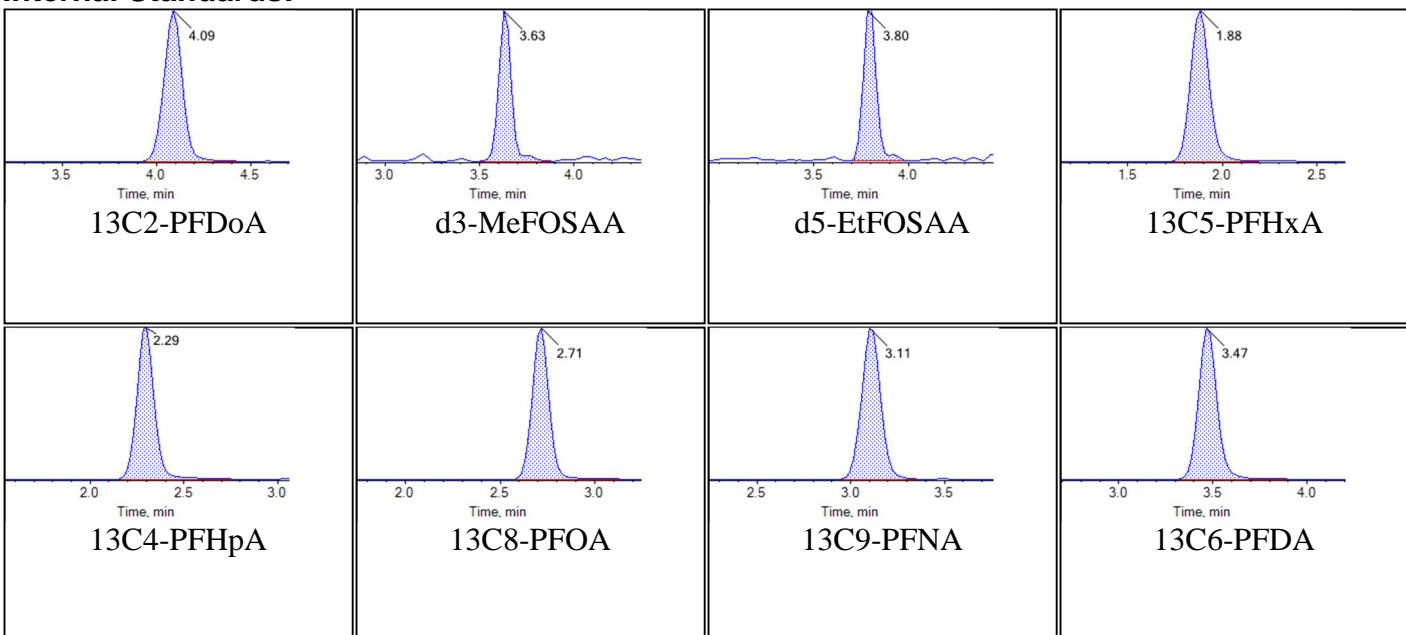
Chromatograms

Target Analytes:



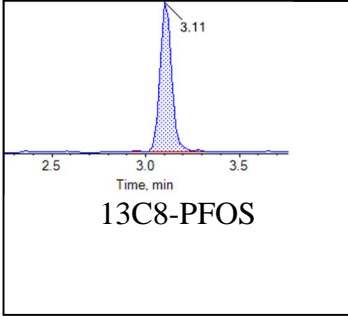
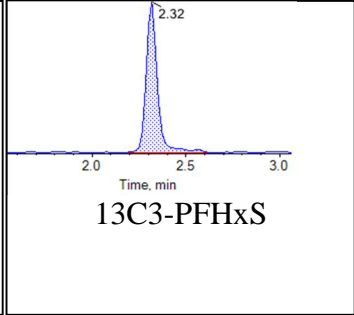
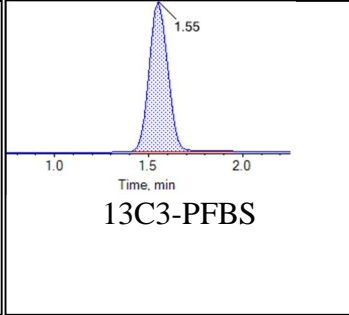
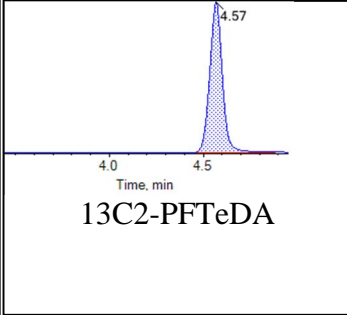
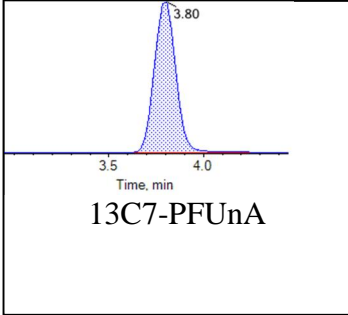


Internal Standards:



Chromatogram Report

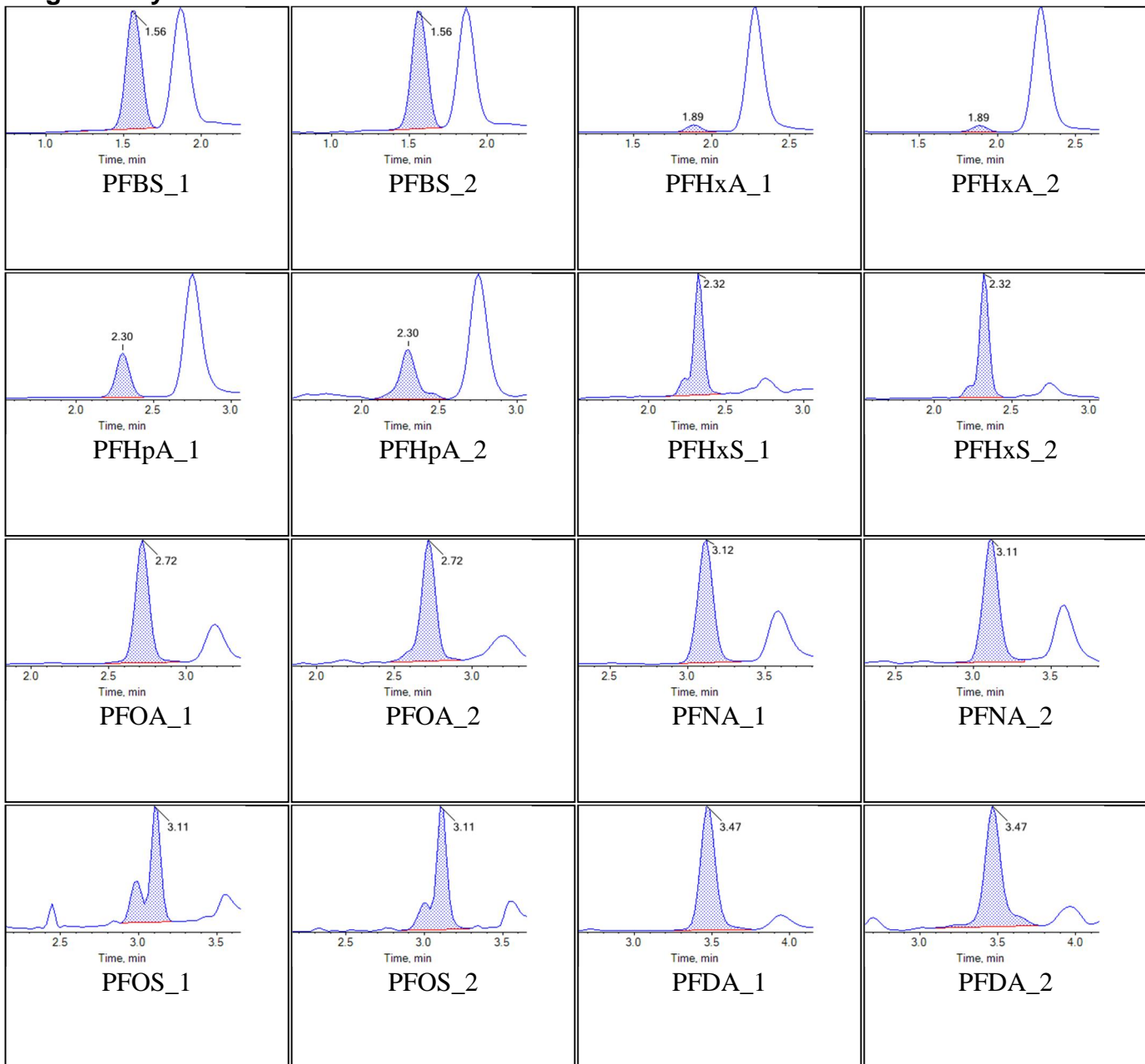
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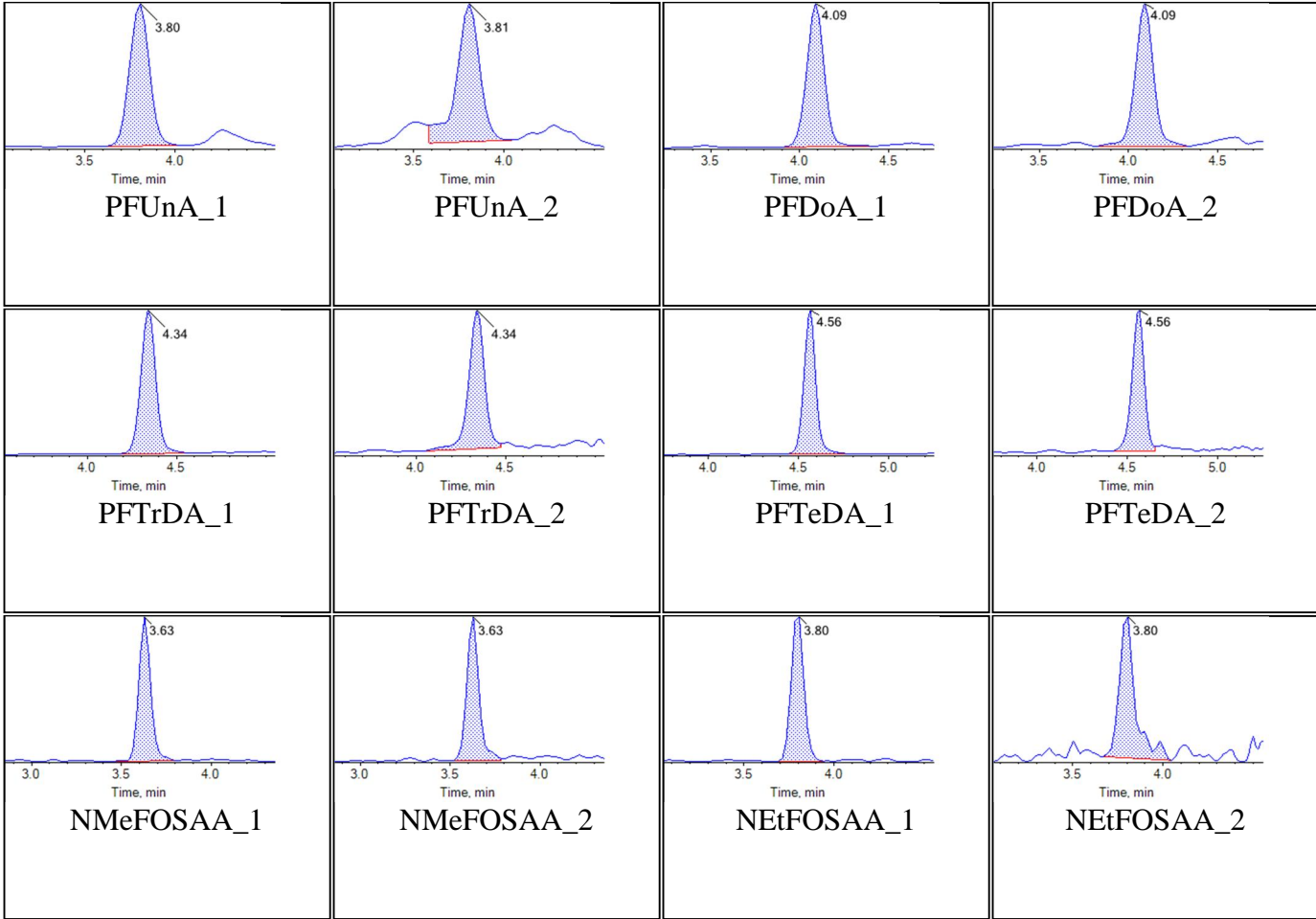


Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

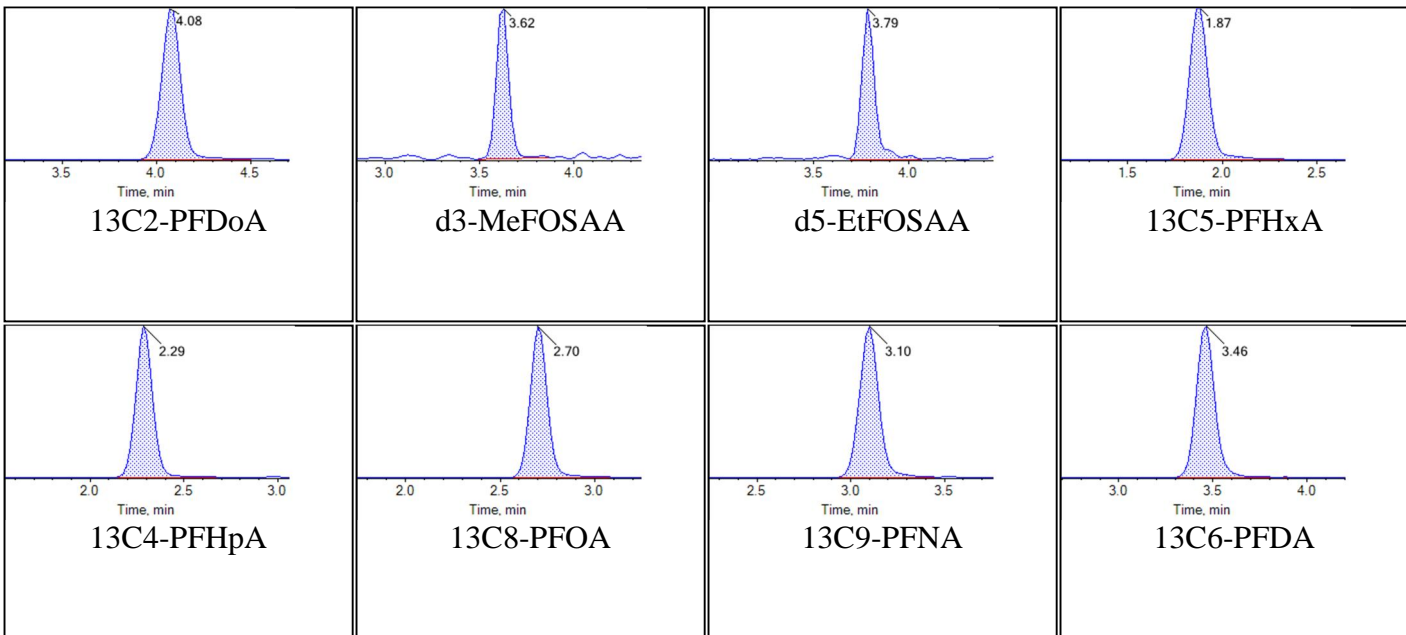
Chromatograms

Target Analytes:



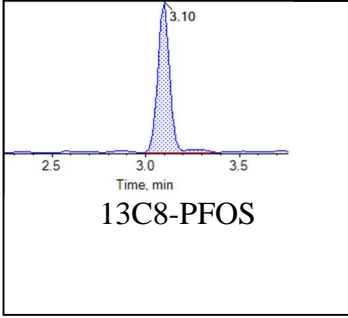
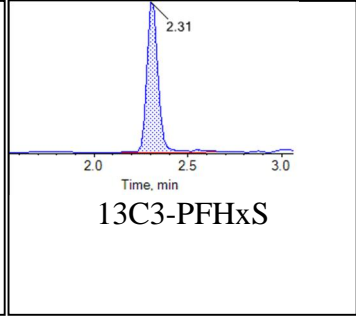
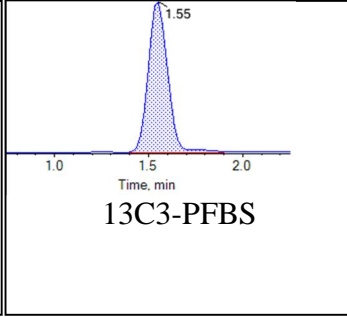
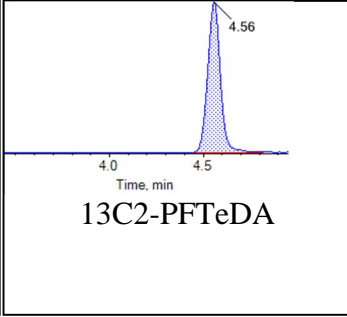
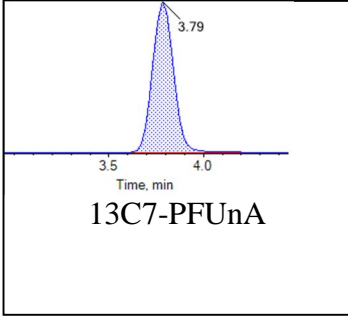


Internal Standards:



Chromatogram Report

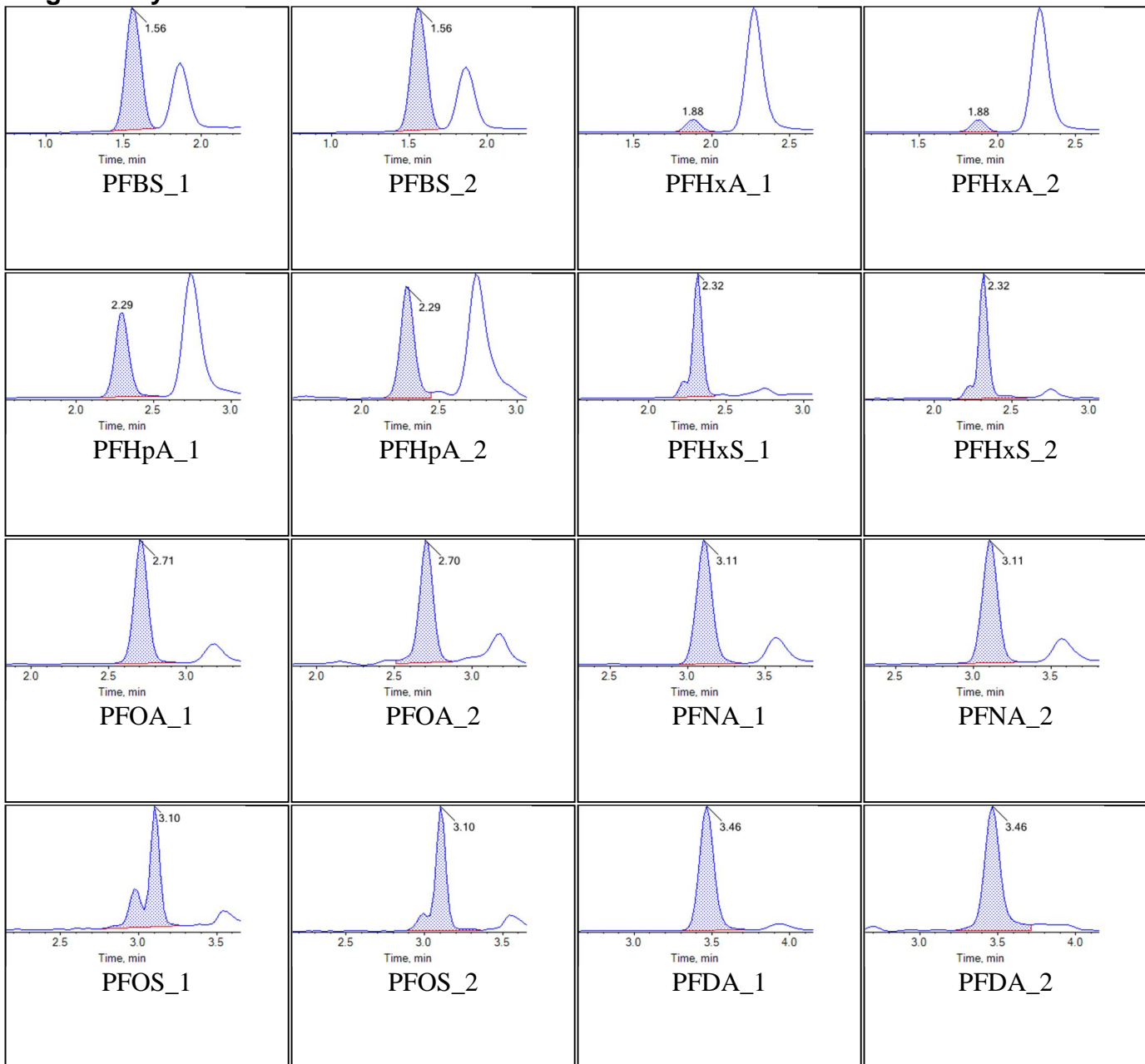
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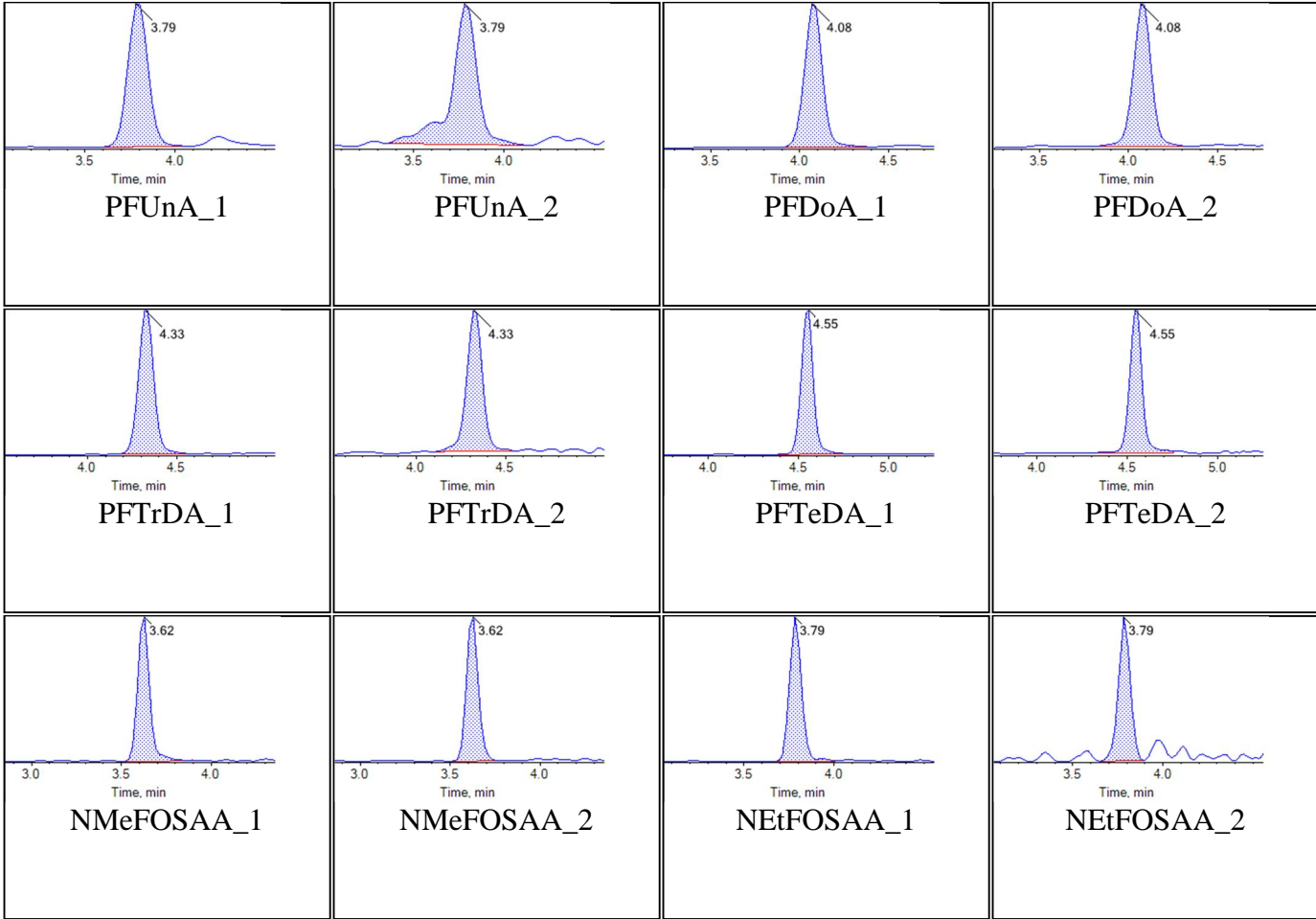


Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

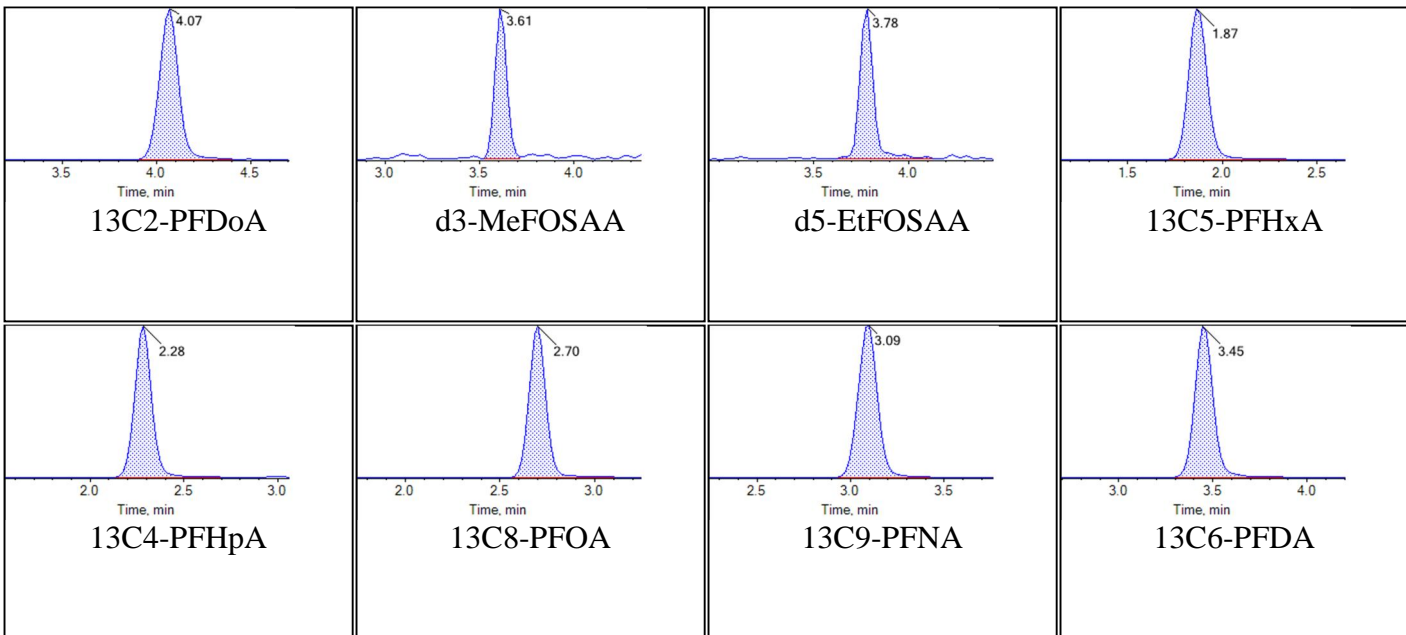
Chromatograms

Target Analytes:



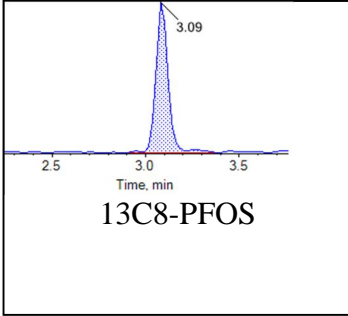
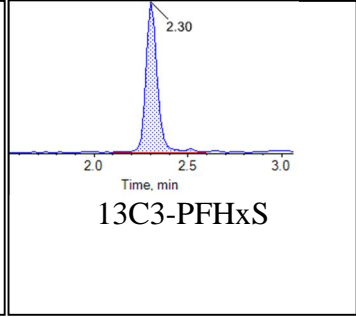
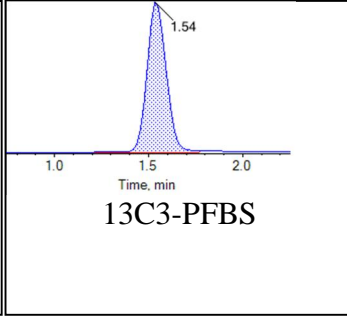
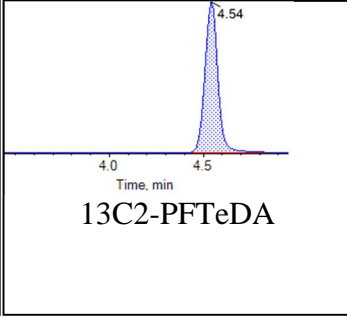
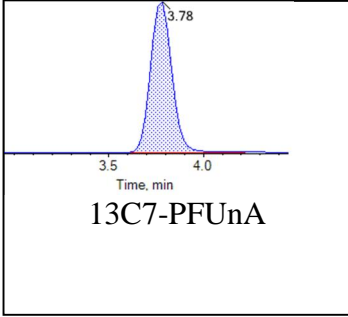


Internal Standards:



Chromatogram Report

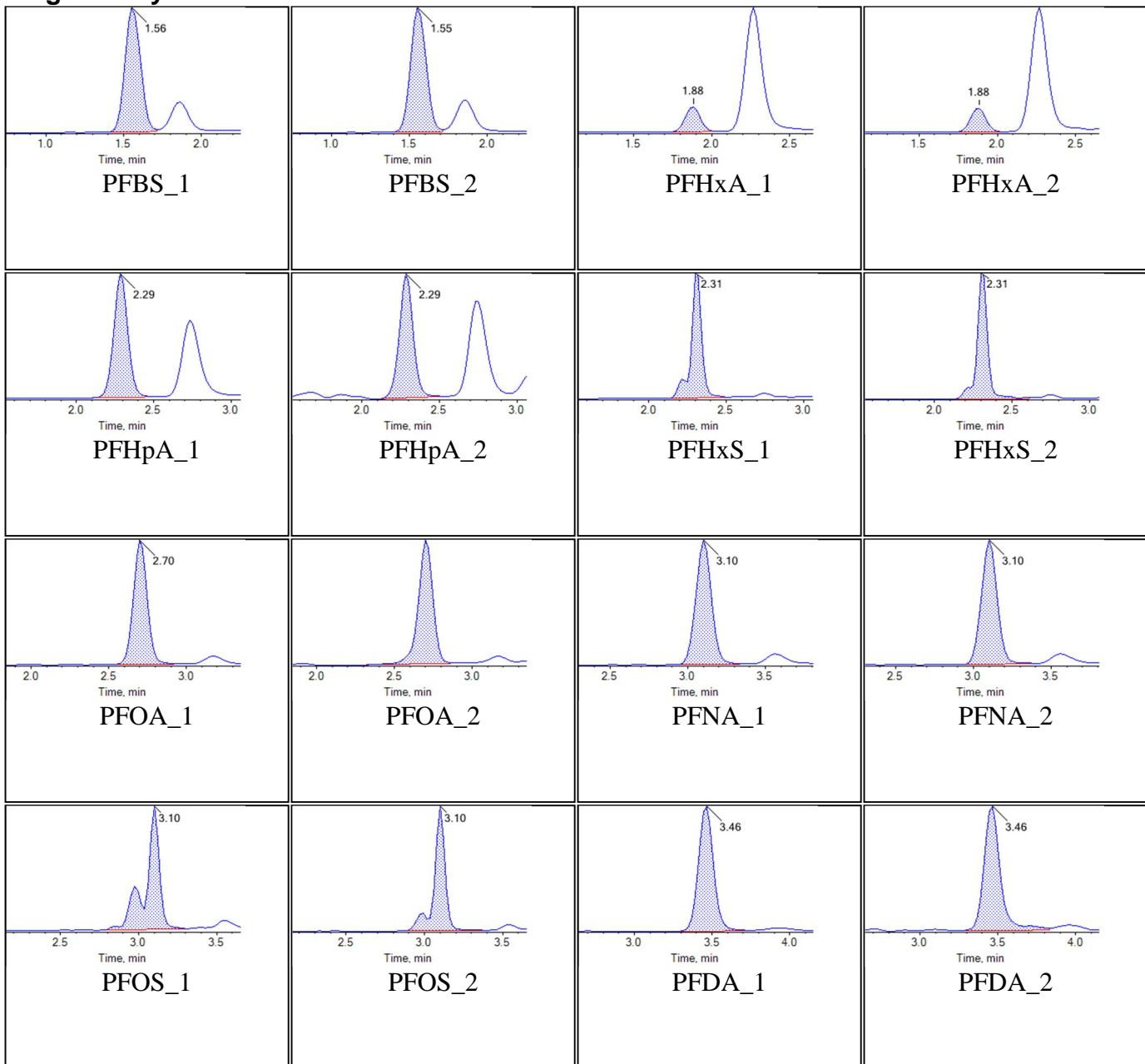
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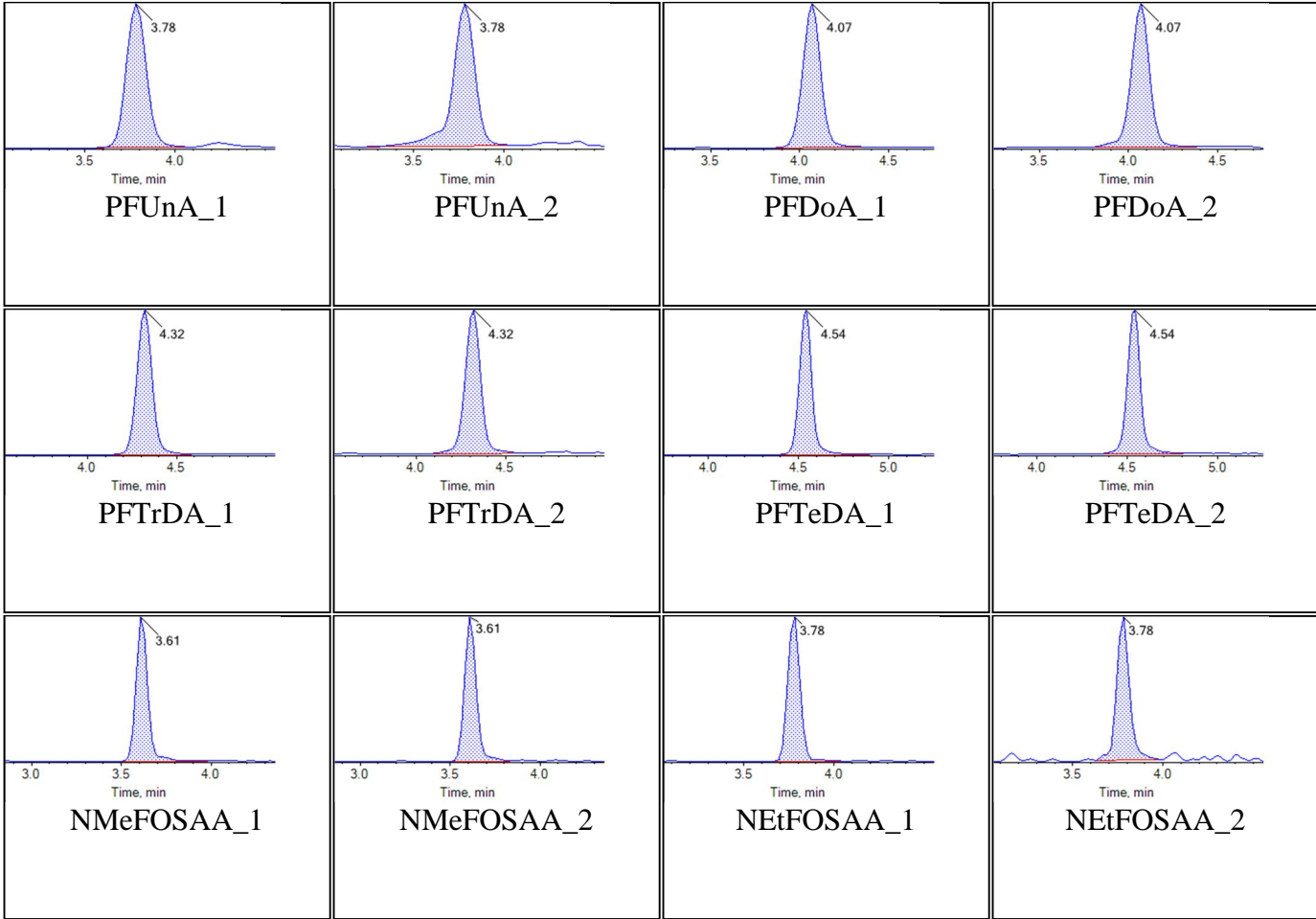


Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

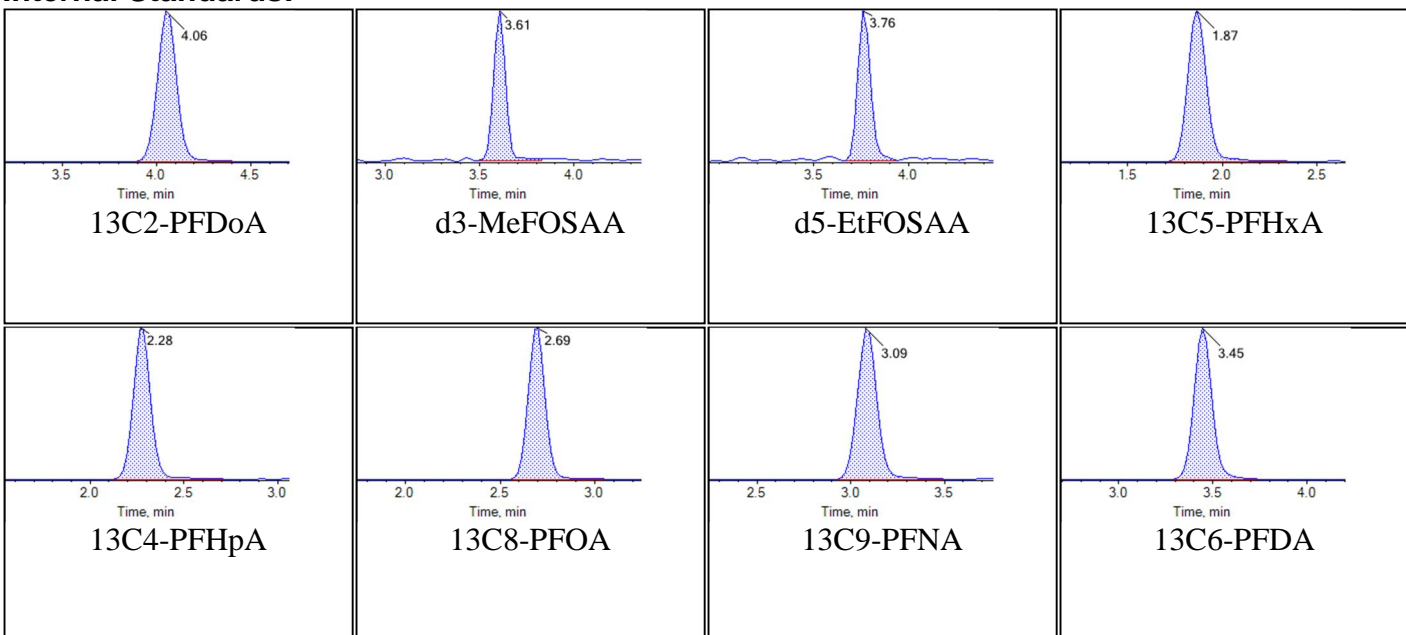
Chromatograms

Target Analytes:



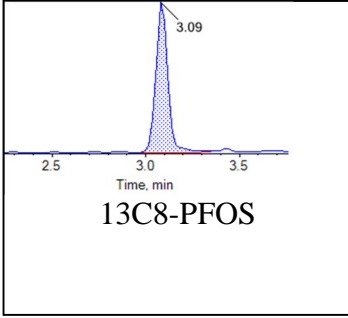
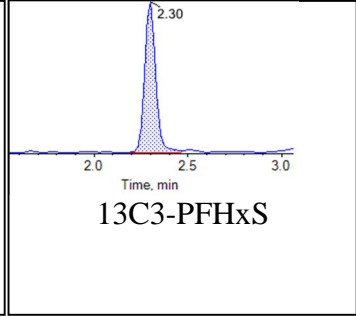
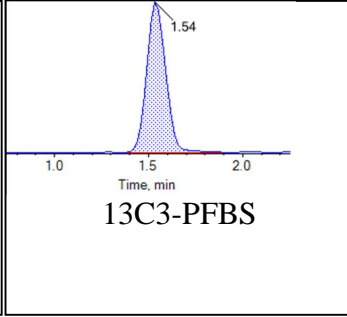
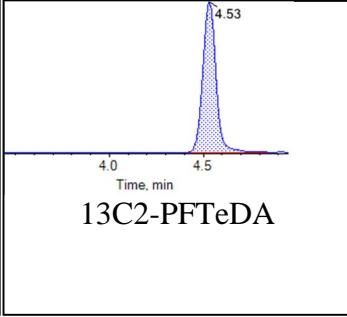
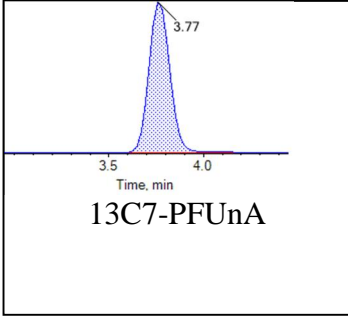


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Chromatogram Report

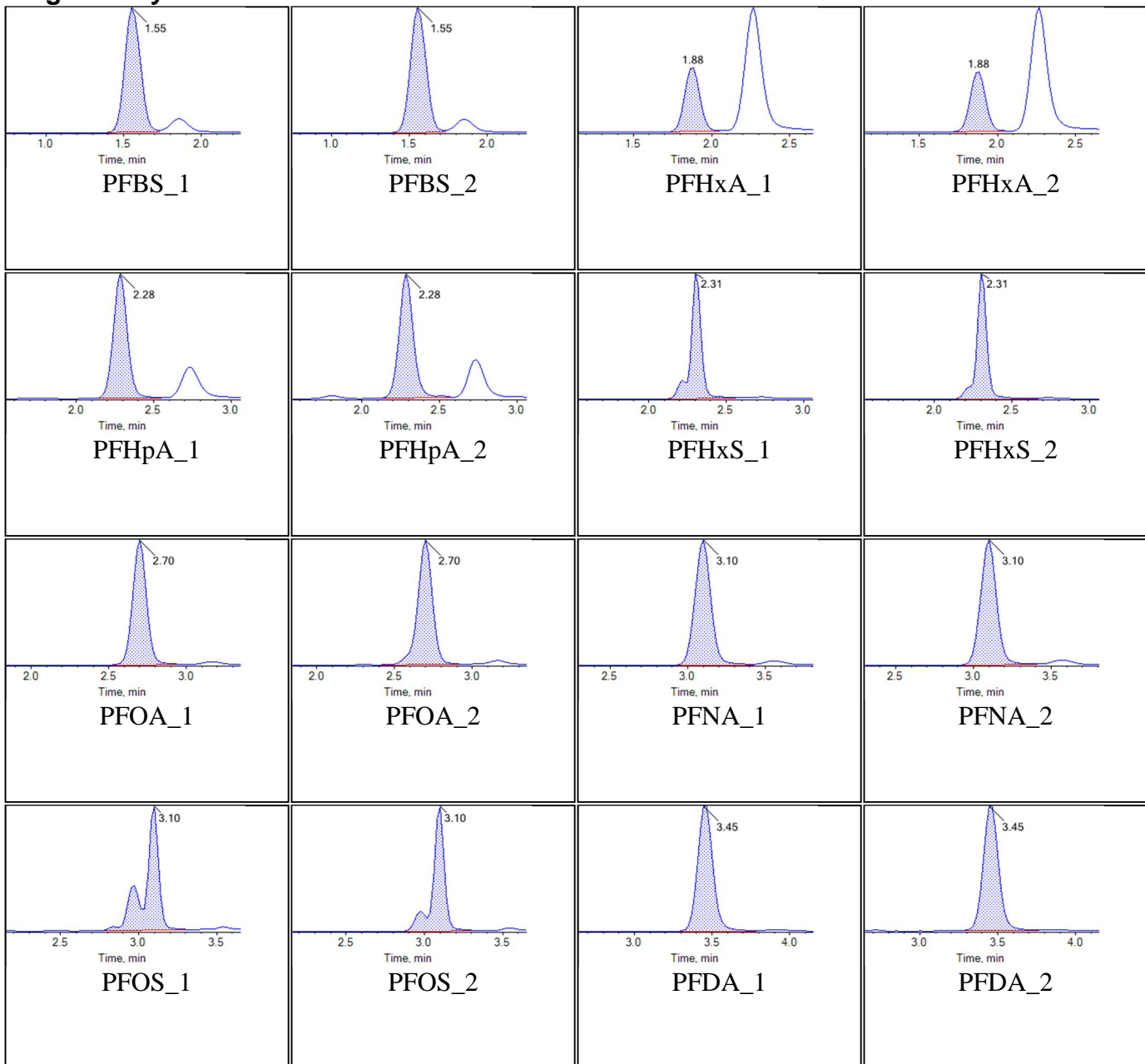
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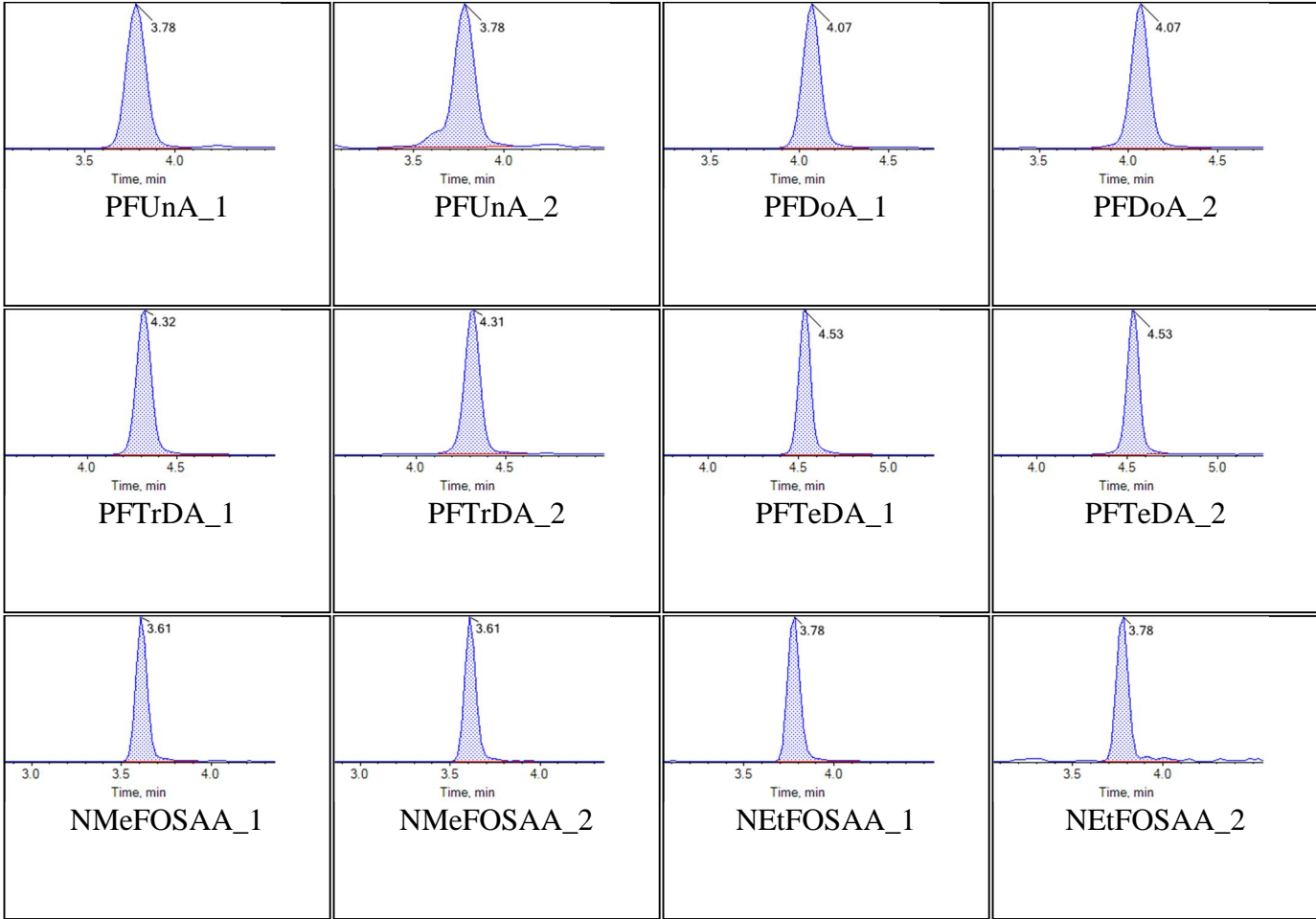


Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

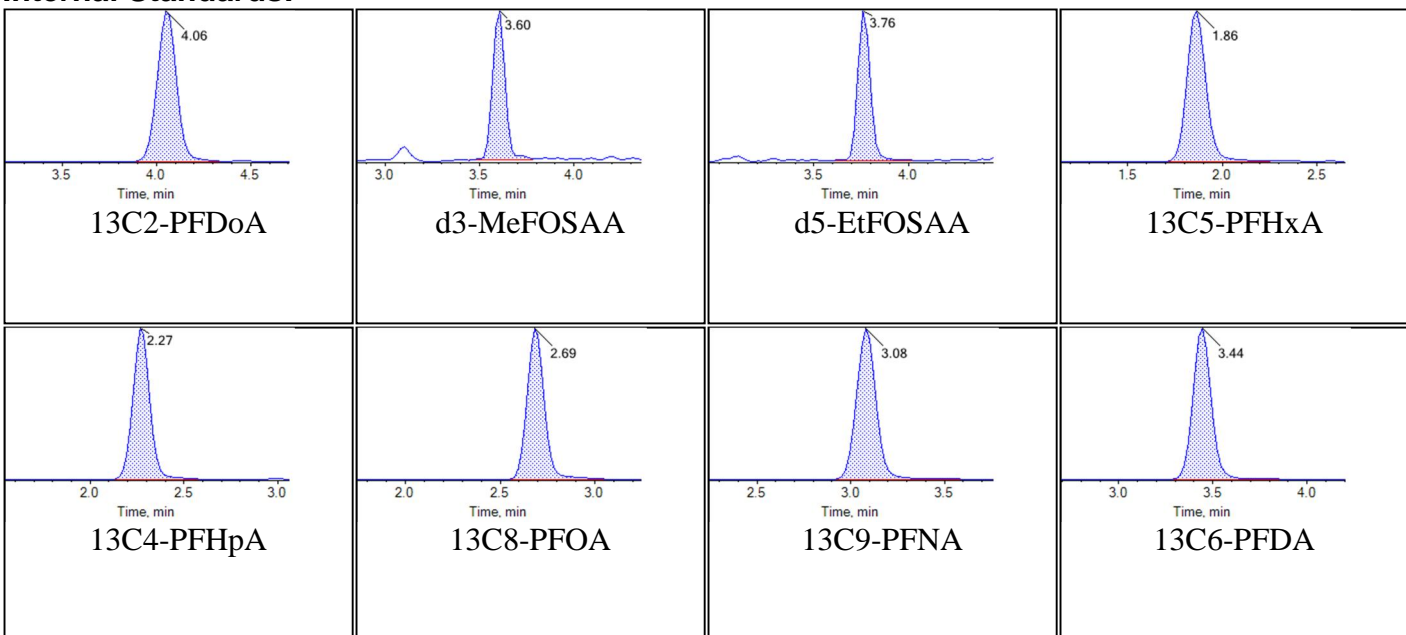
Chromatograms

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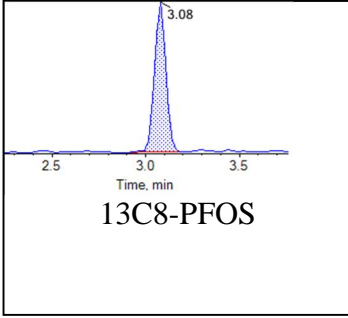
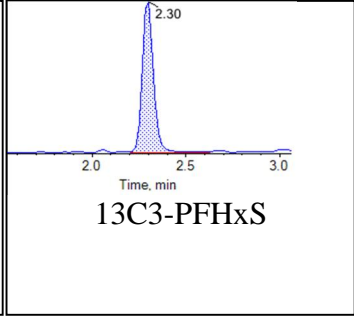
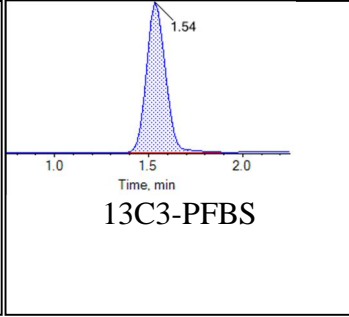
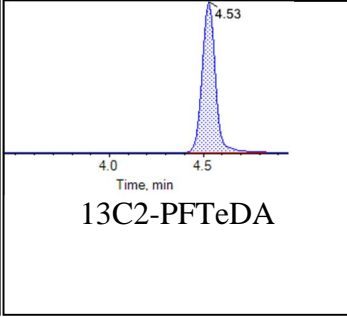
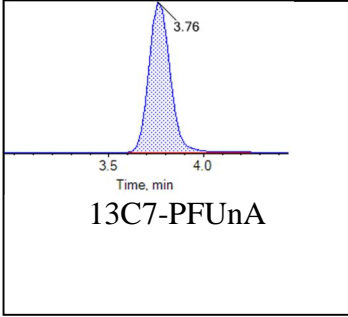


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Chromatogram Report

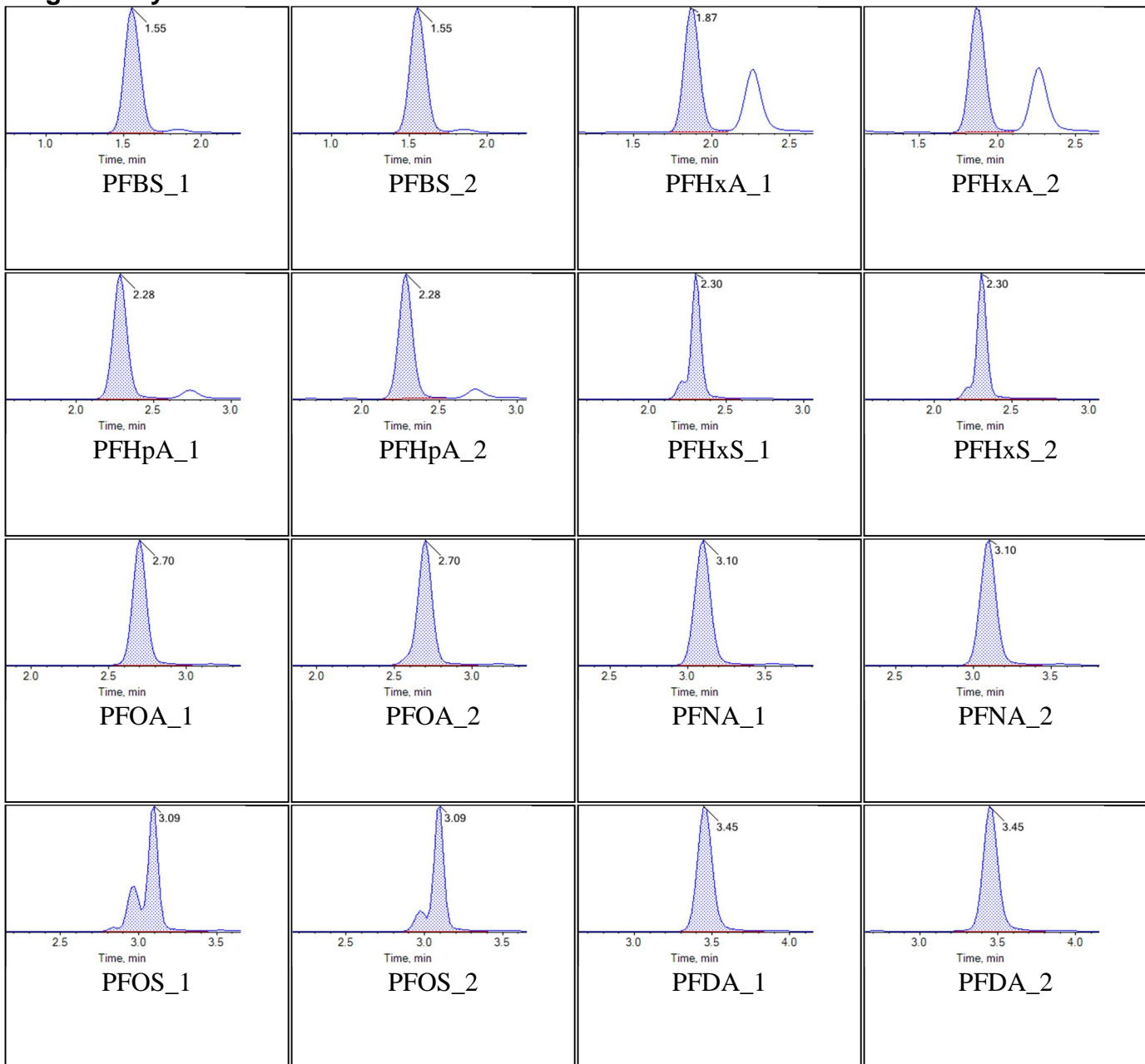
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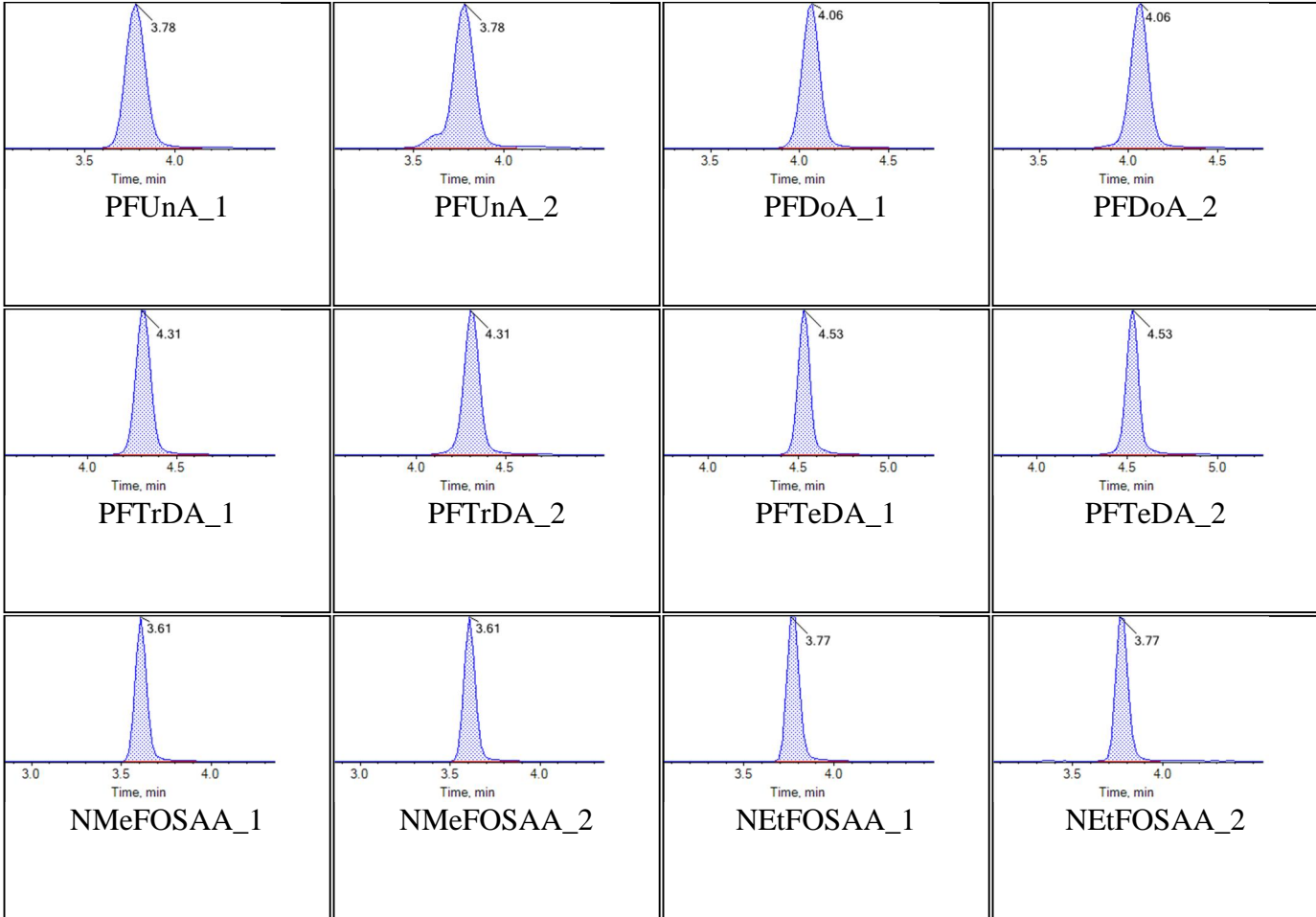


Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

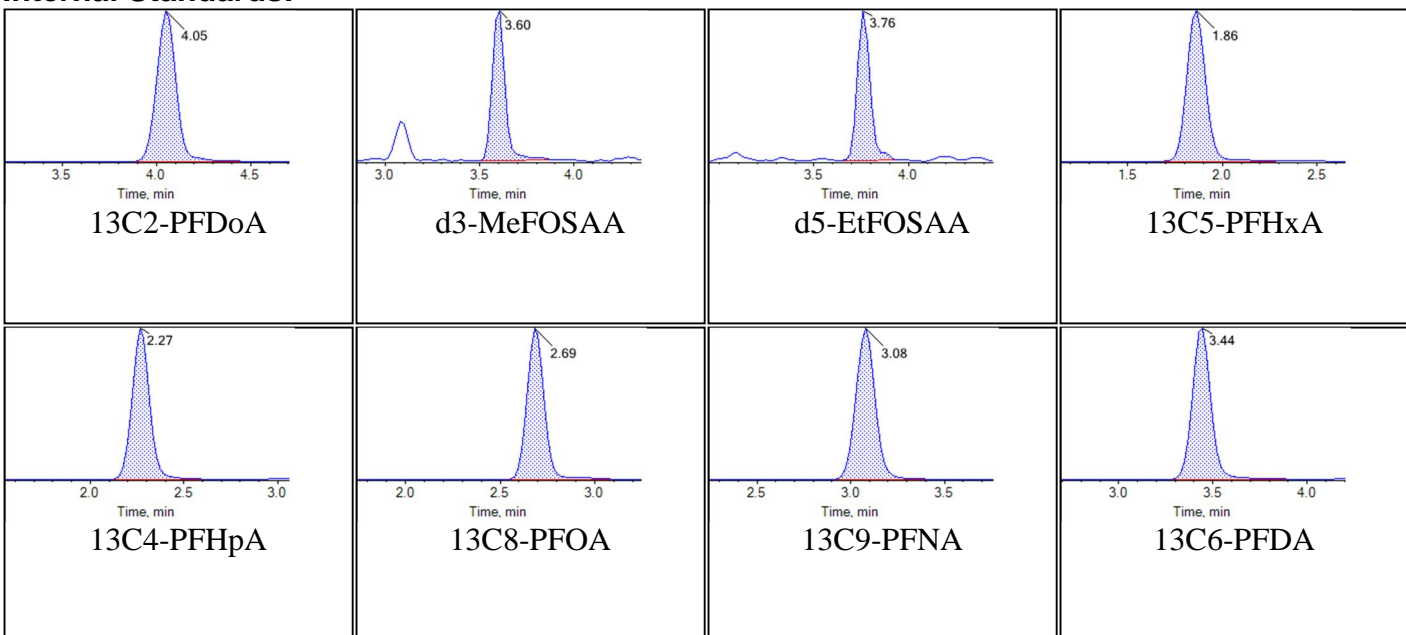
Chromatograms

Target Analytes:



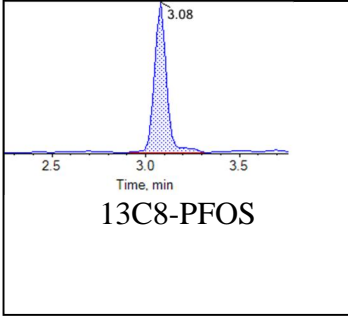
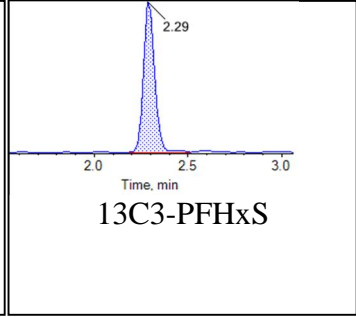
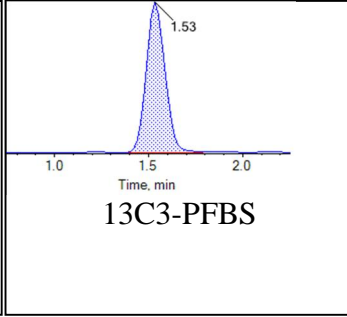
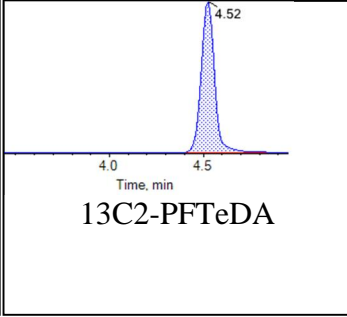
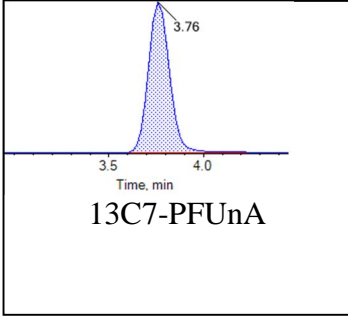


Internal Standards:



Chromatogram Report

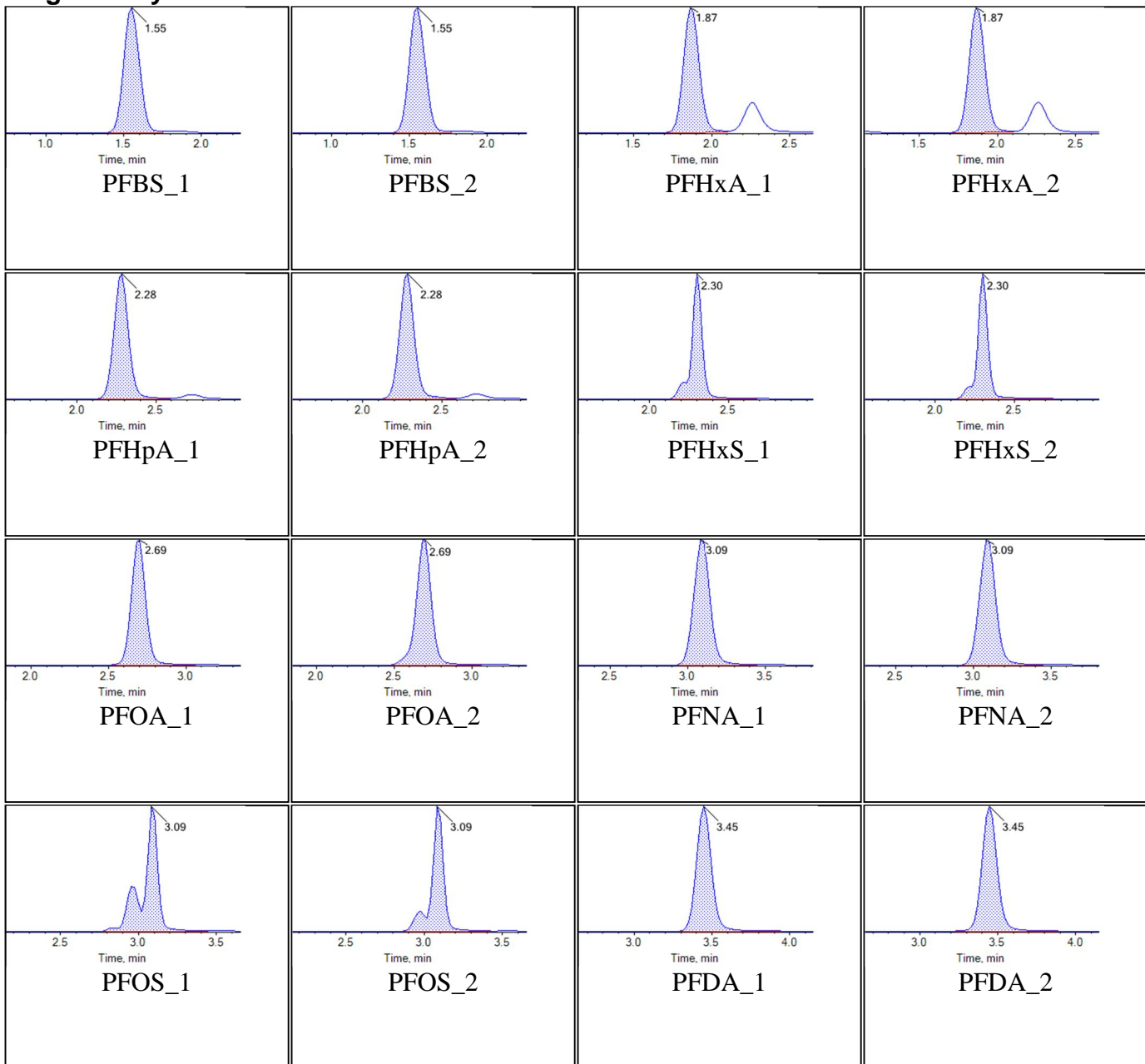
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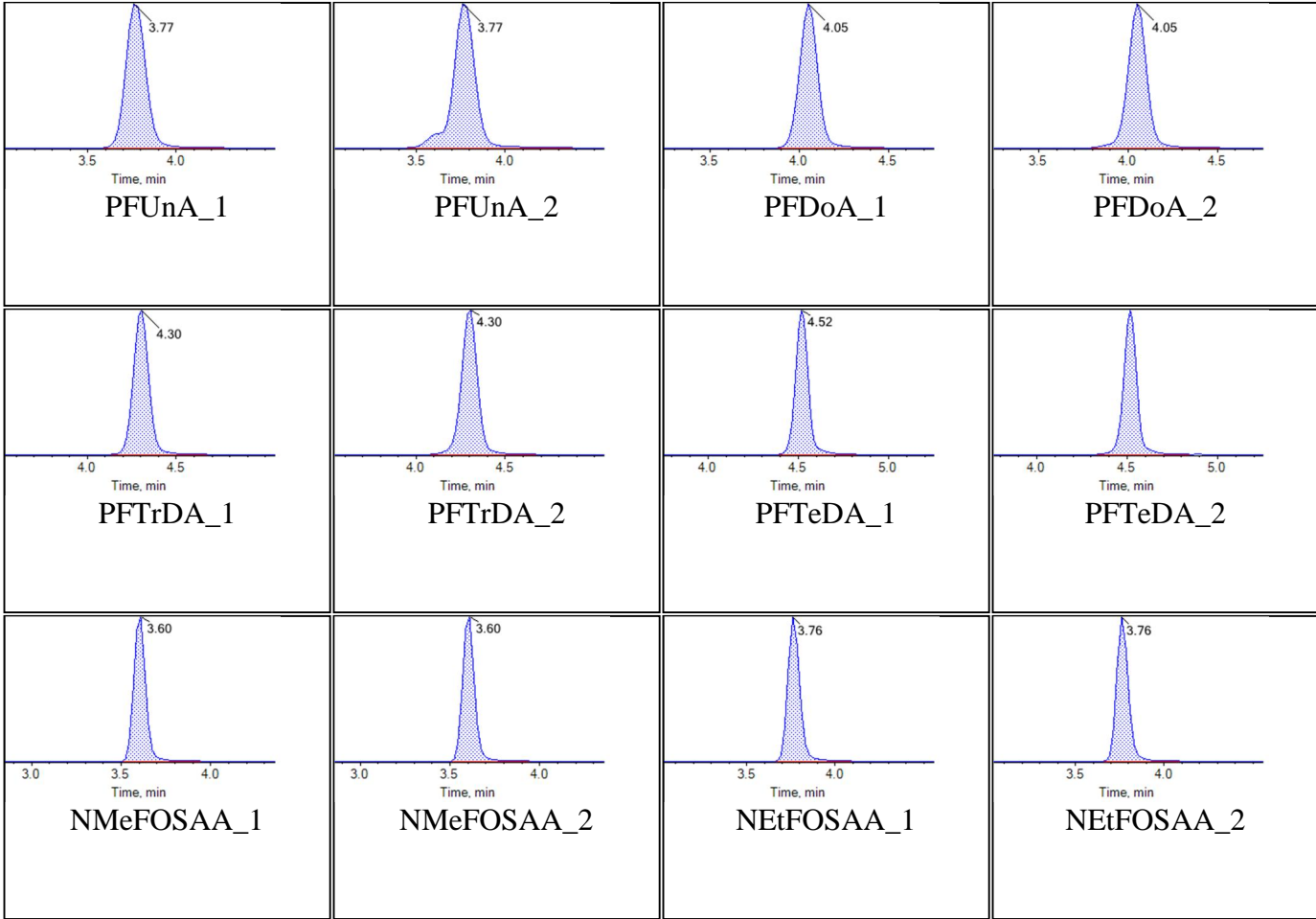


Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

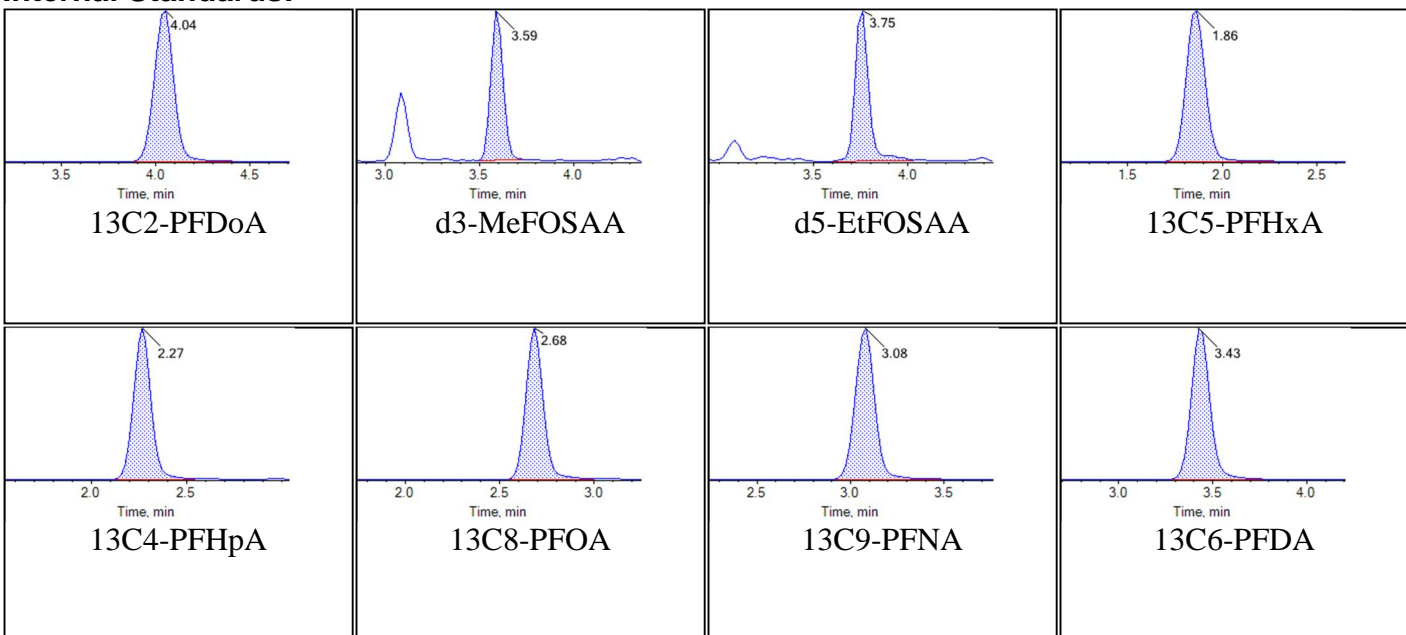
Chromatograms

Target Analytes:



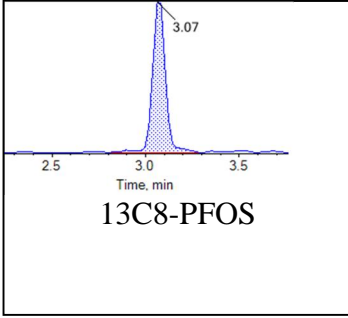
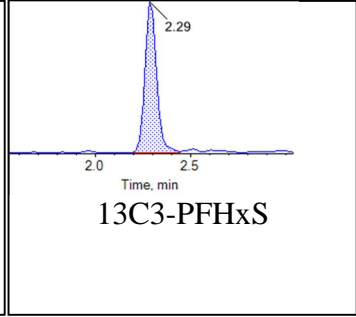
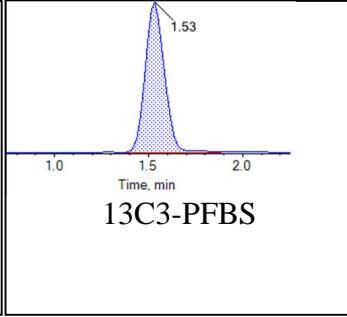
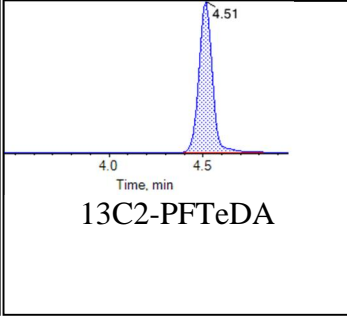
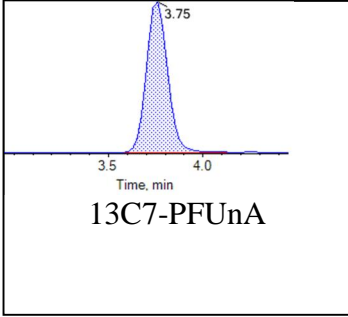


Internal Standards:



Chromatogram Report

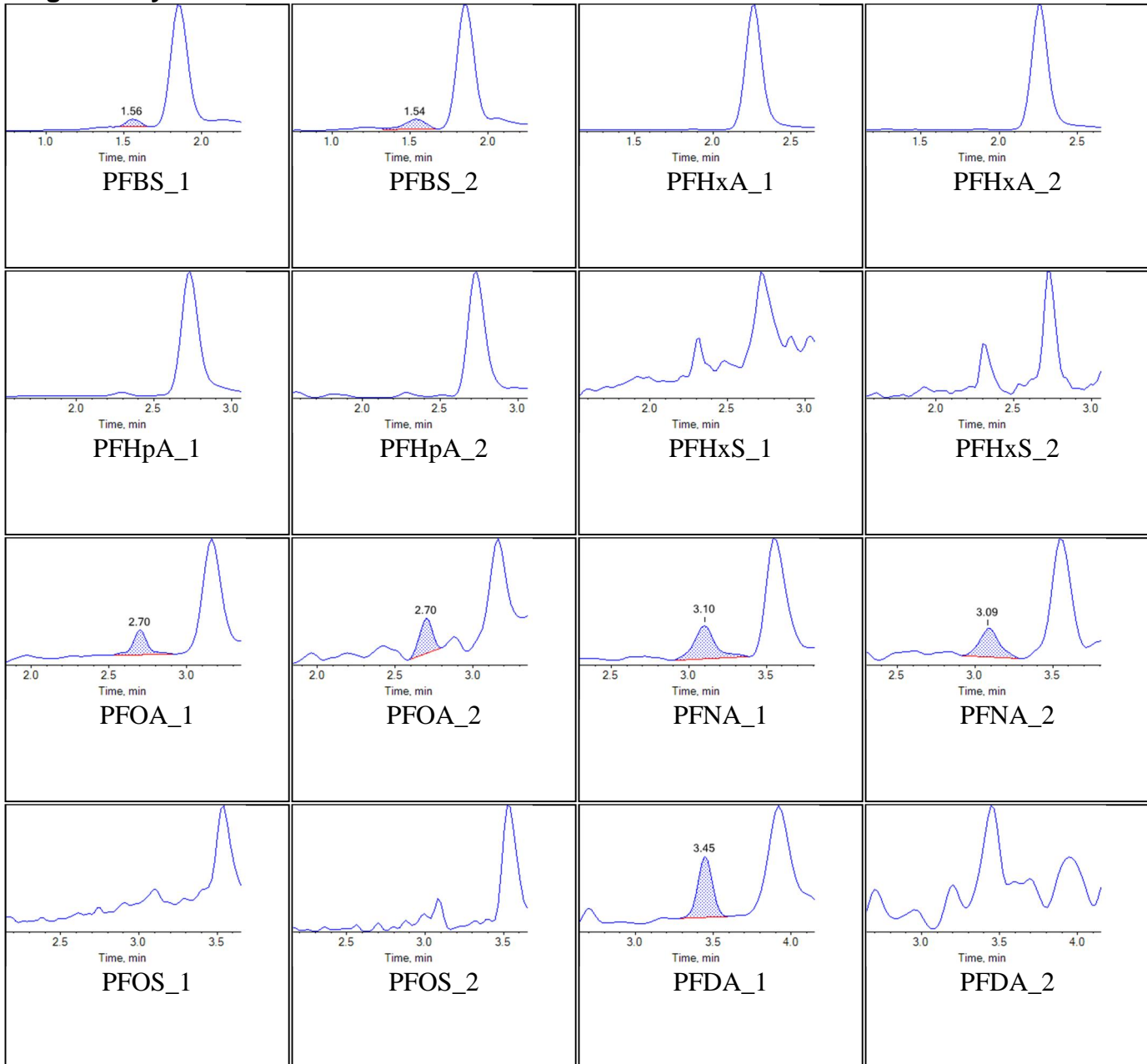
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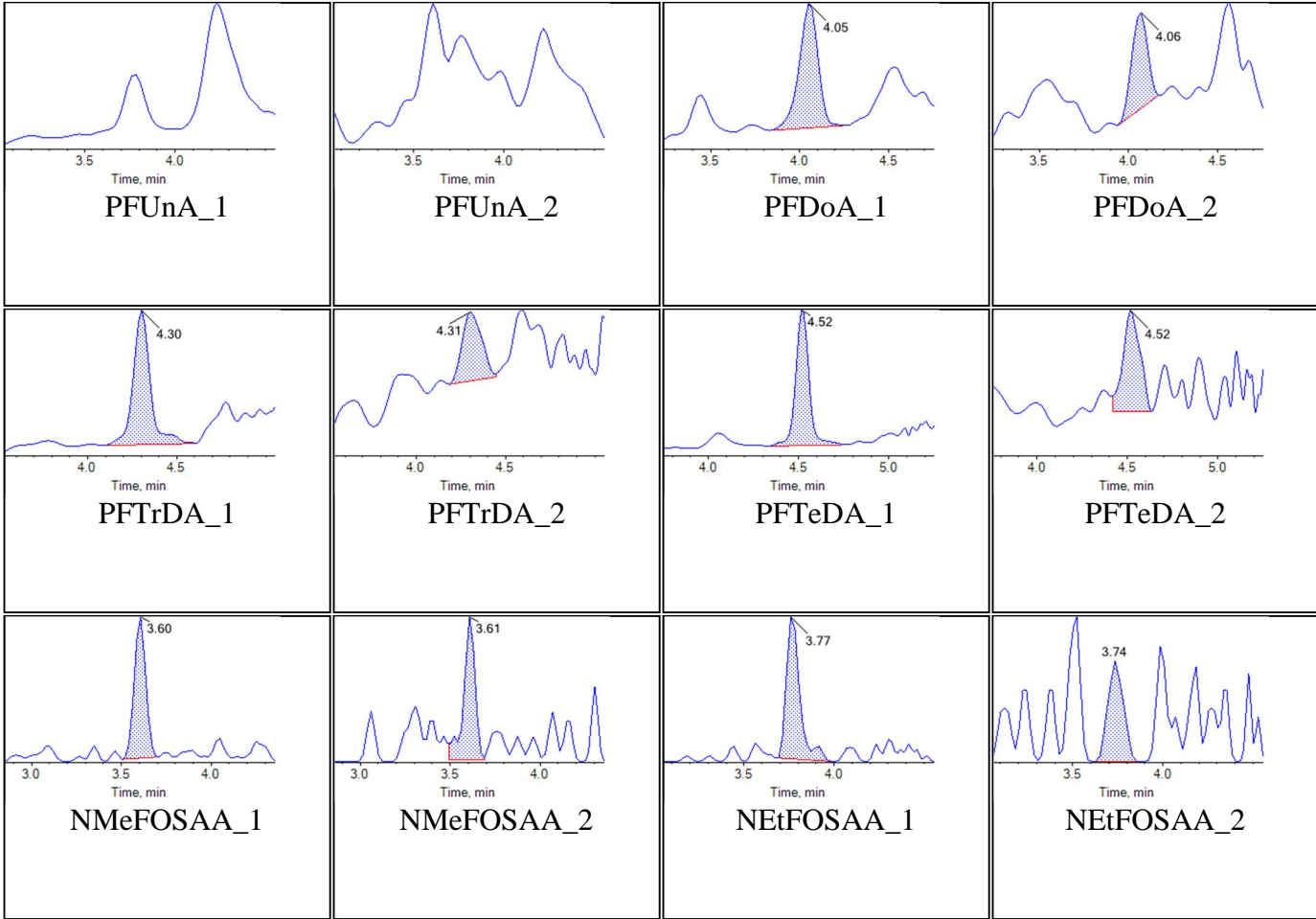


Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

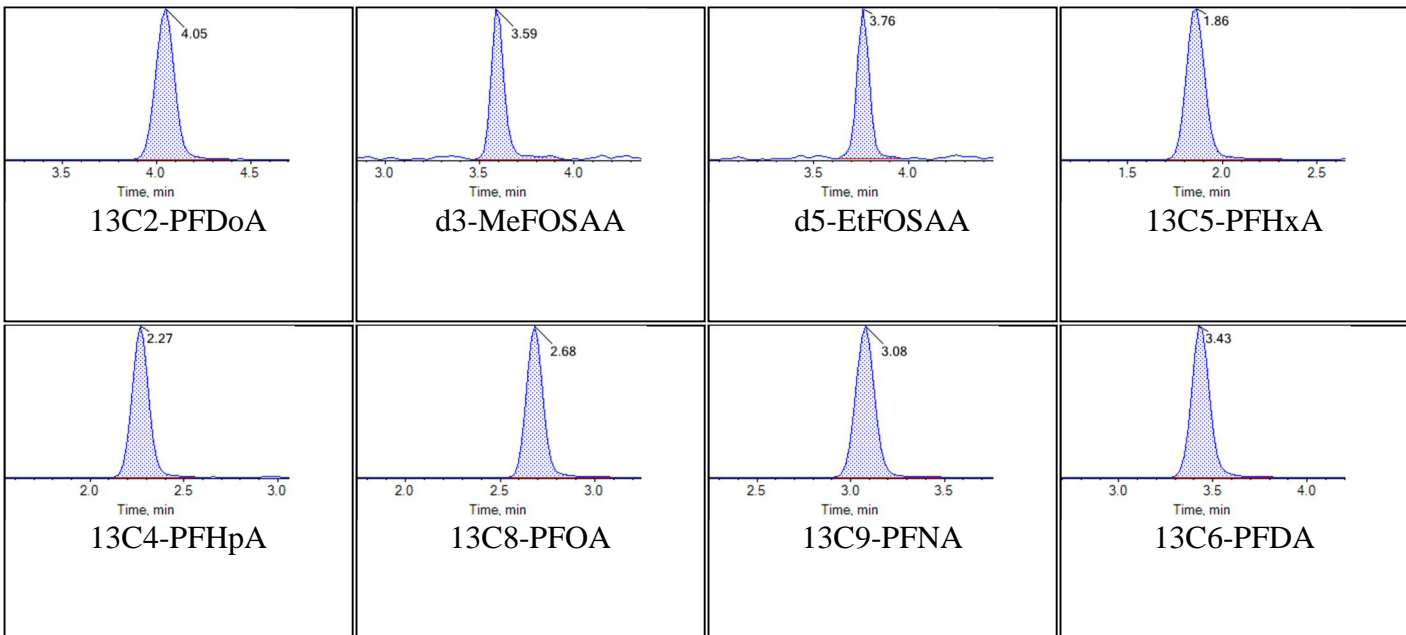
Chromatograms

Target Analytes:



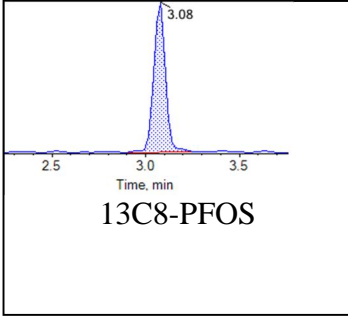
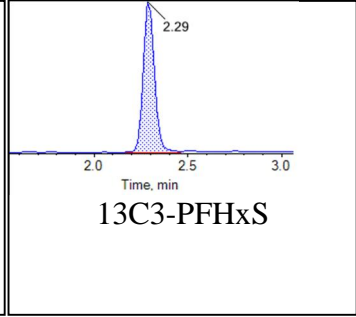
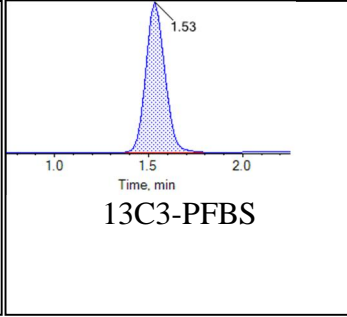
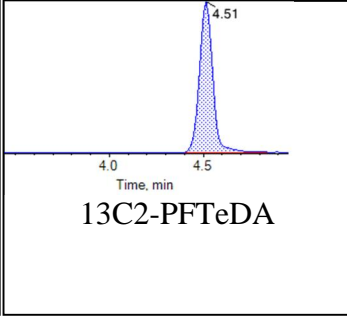
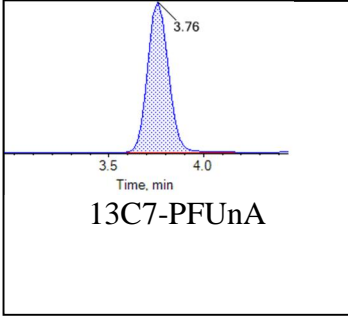


Internal Standards:



Chromatogram Report

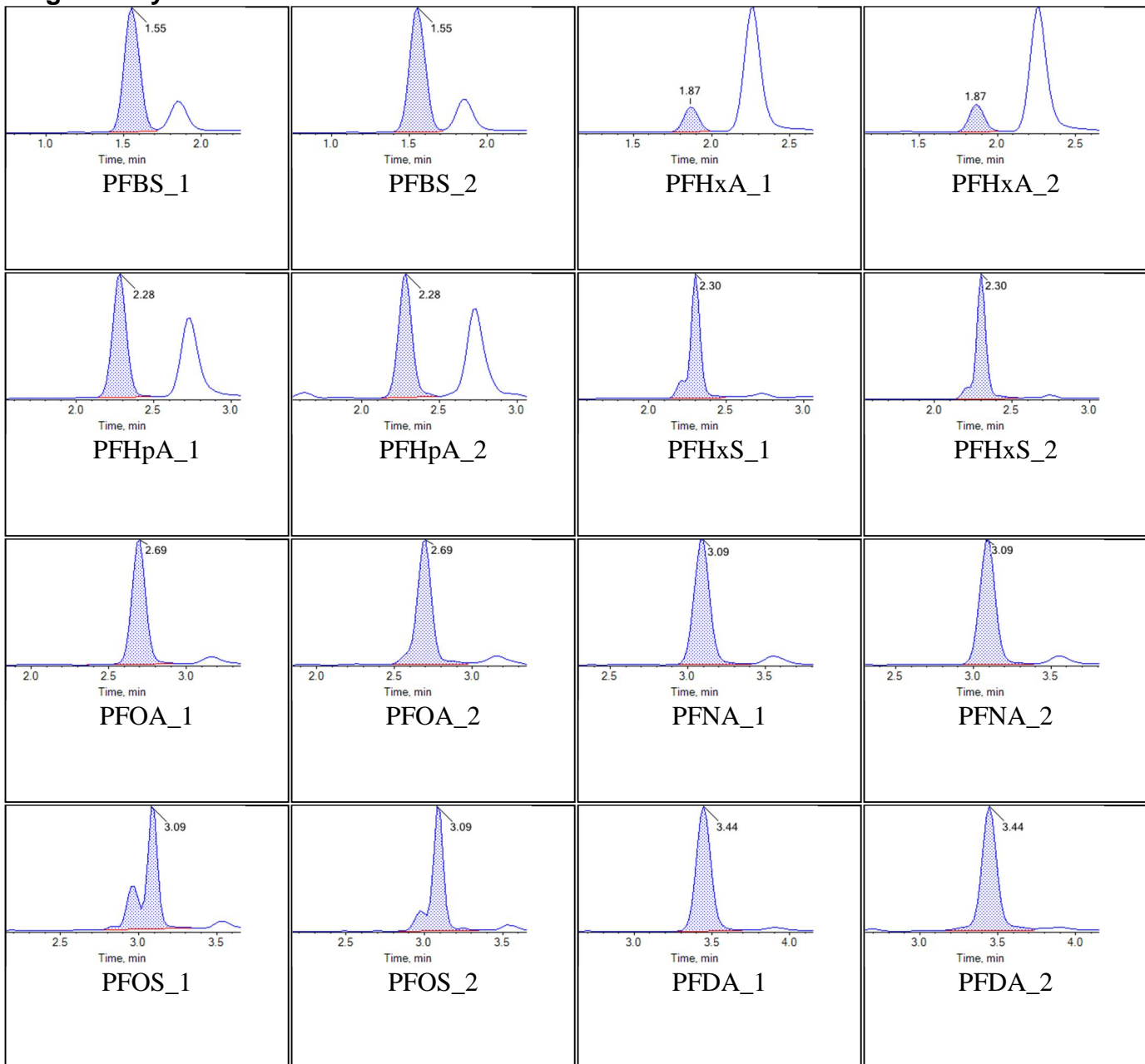
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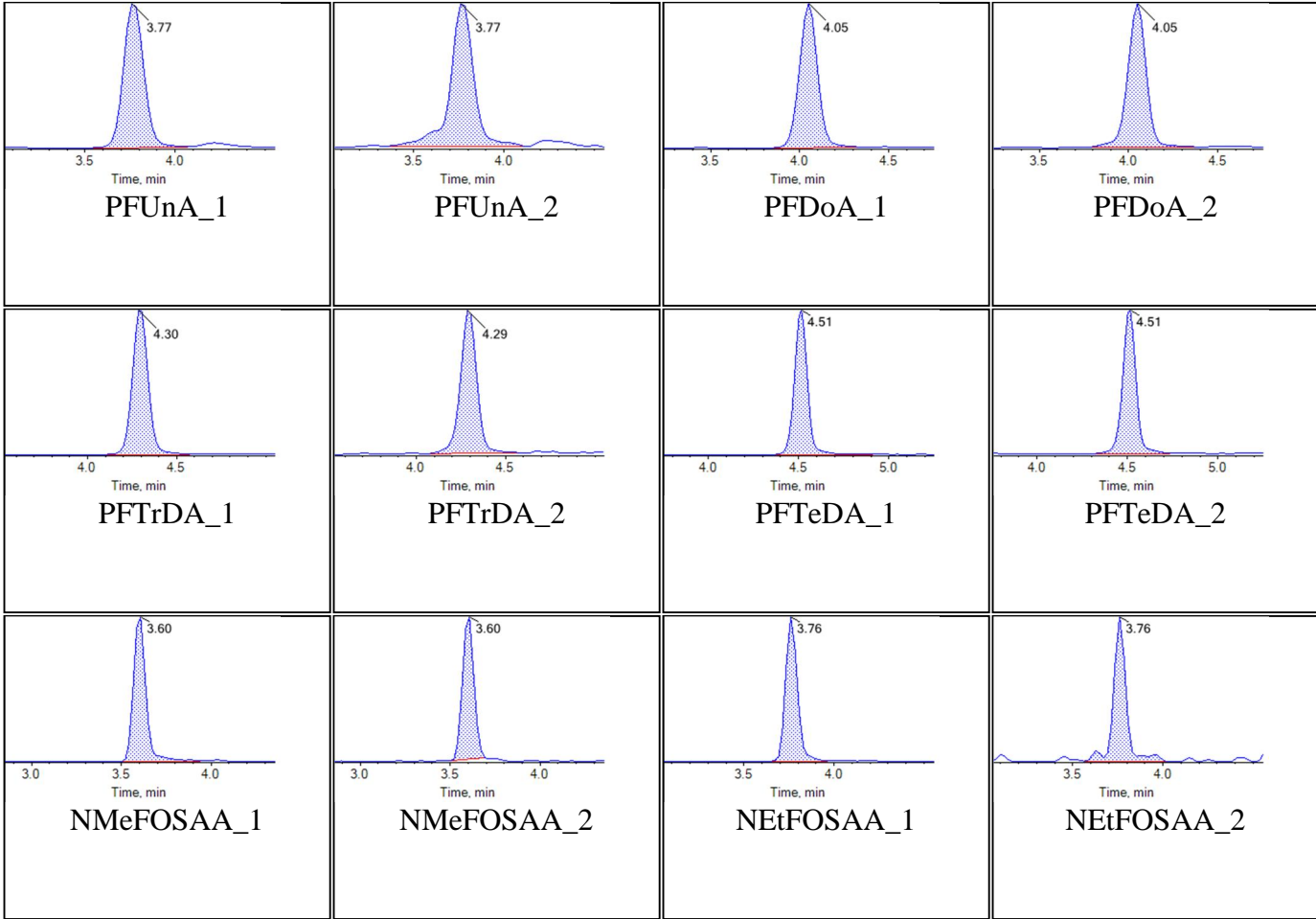


Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

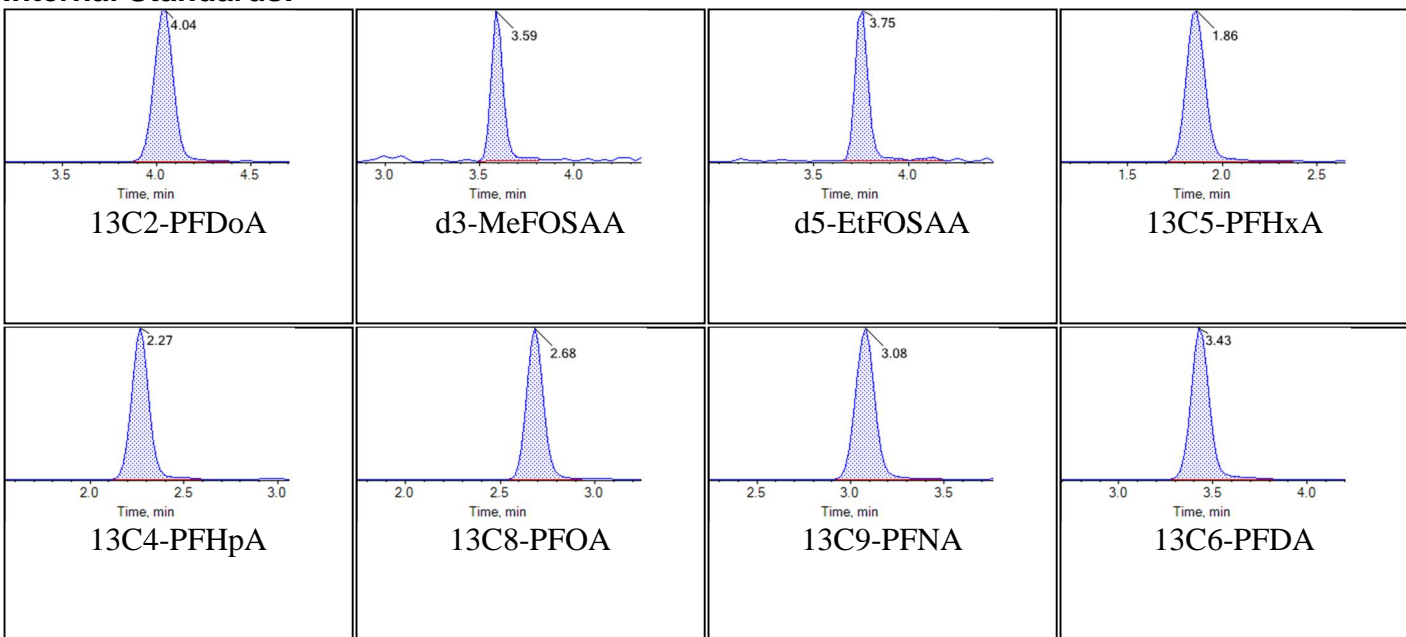
Chromatograms

Target Analytes:



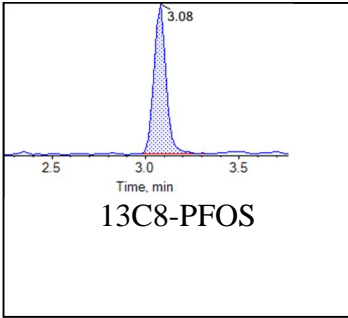
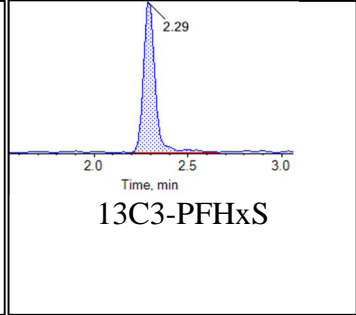
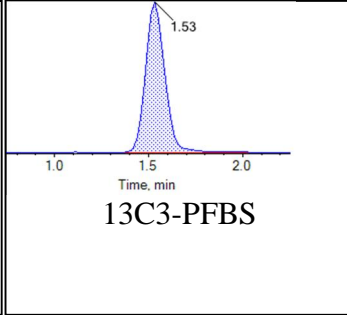
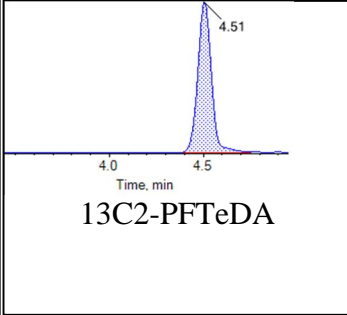
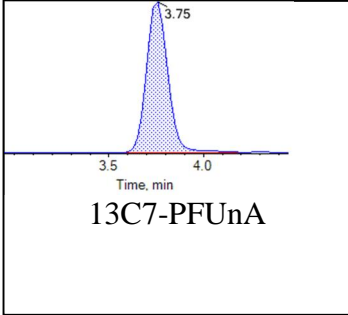


Internal Standards:



Chromatogram Report

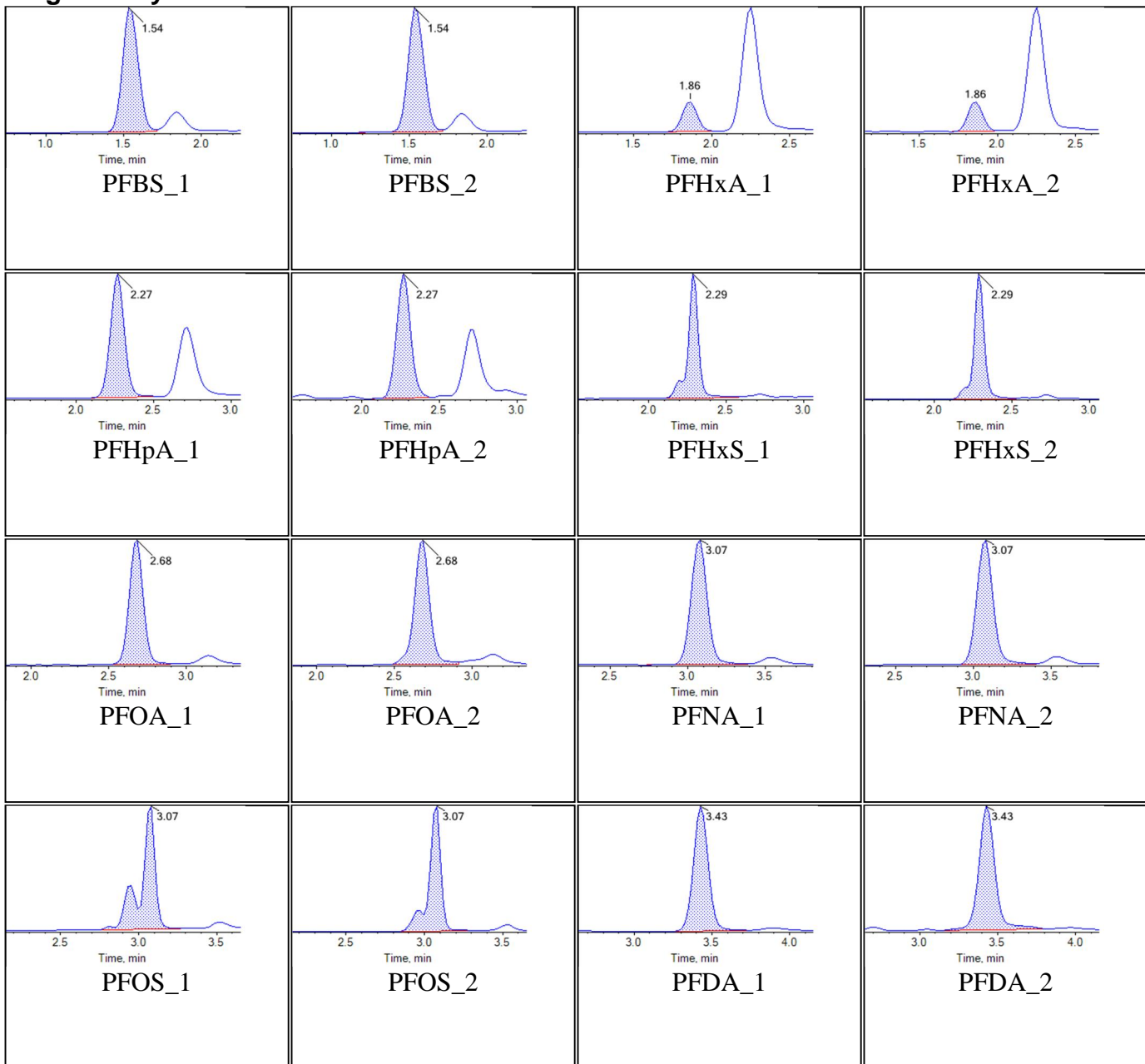
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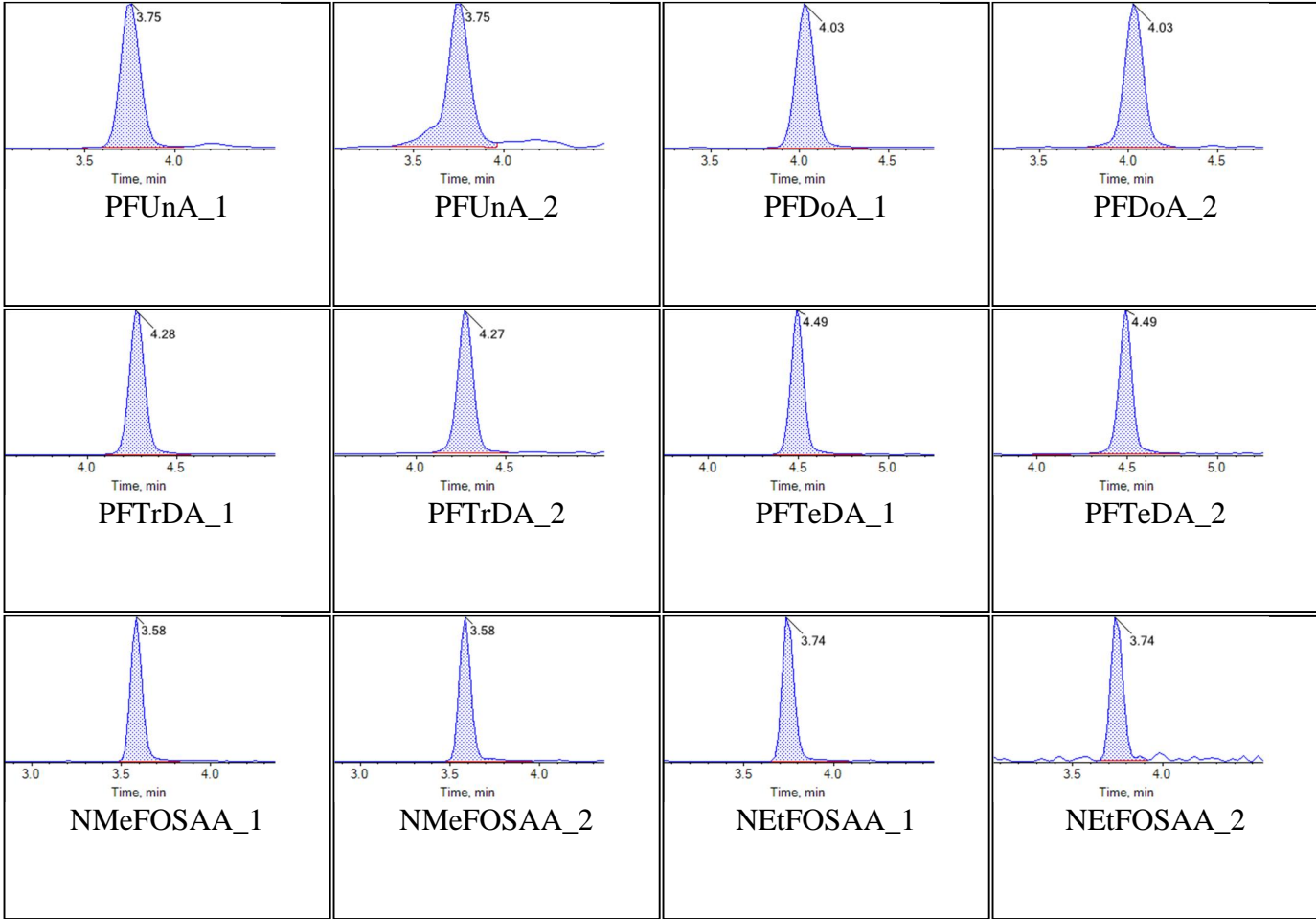


Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

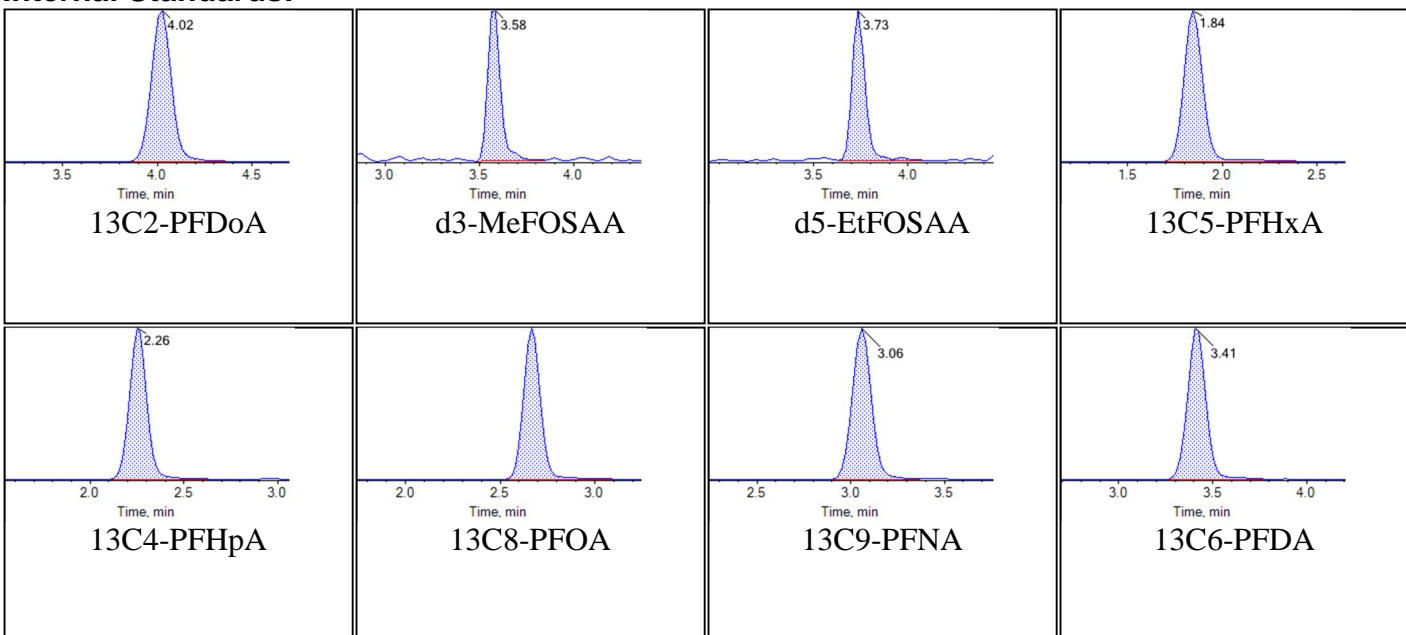
Chromatograms

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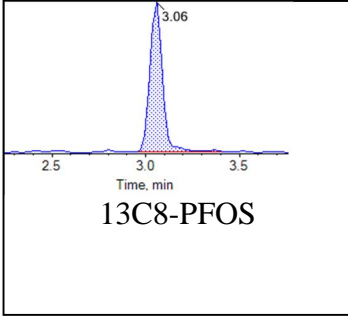
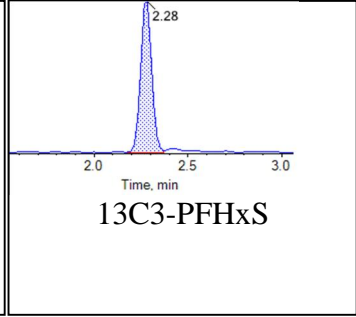
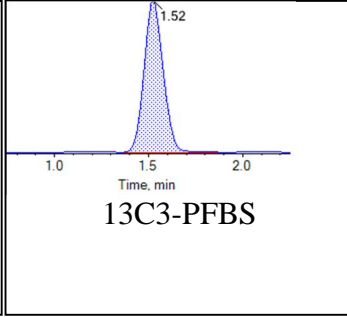
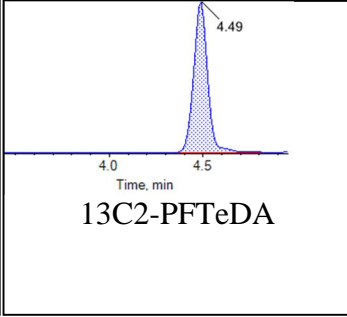
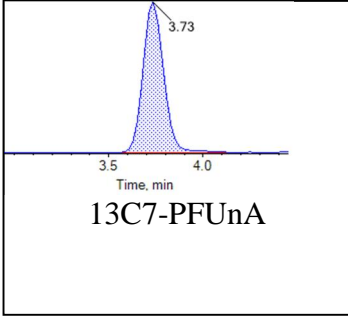


Internal Standards:



Chromatogram Report

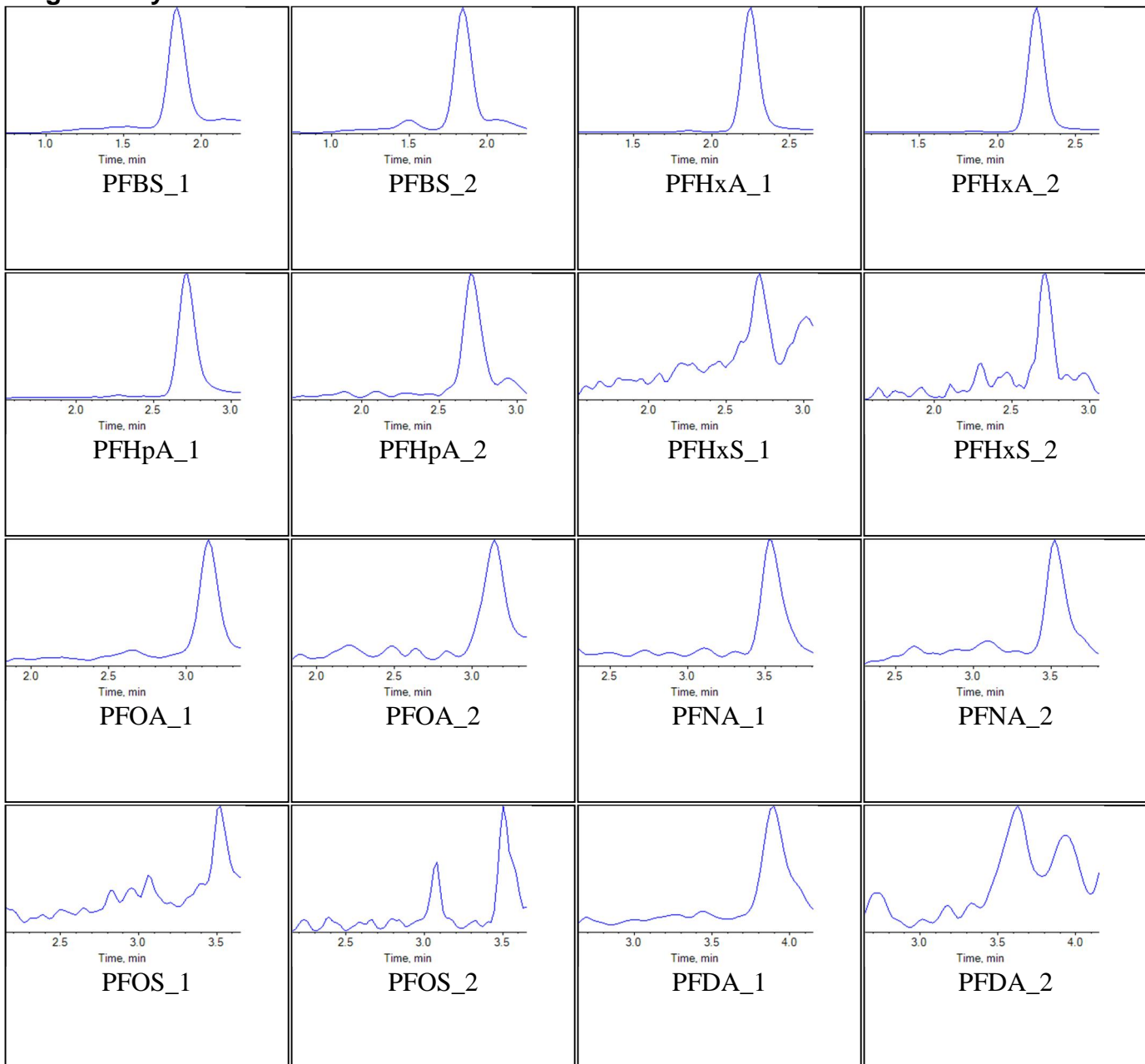
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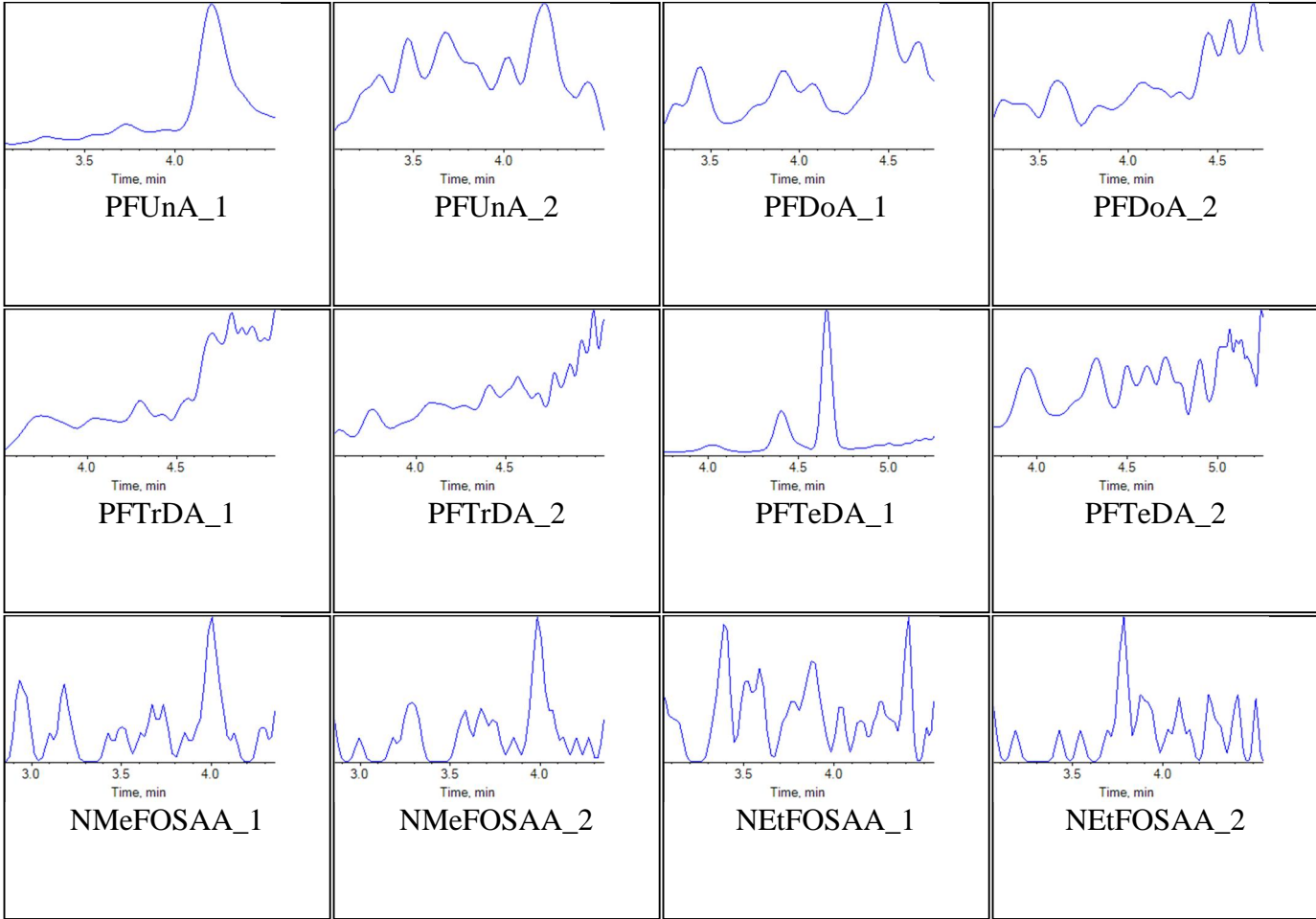


Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

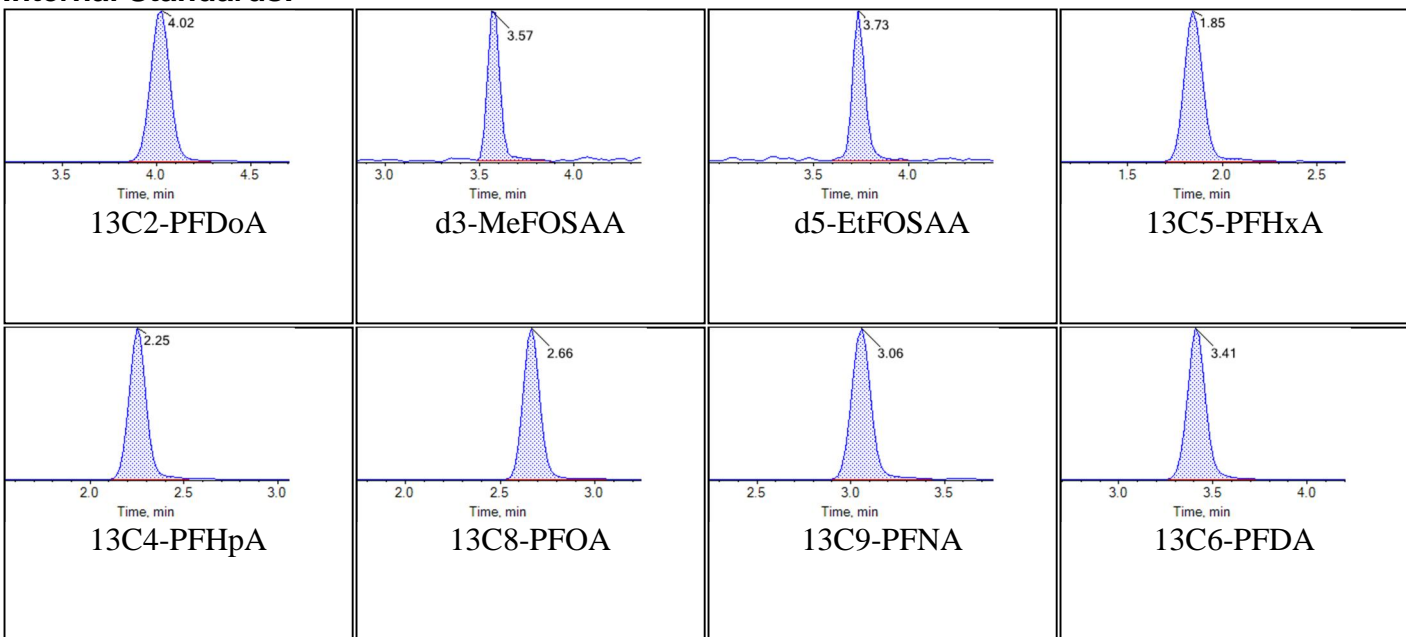
Chromatograms

Target Analytes:



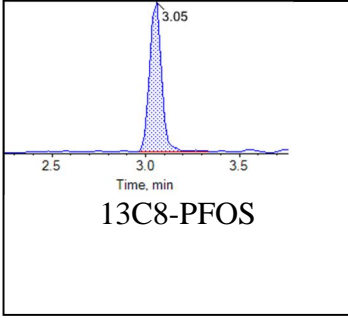
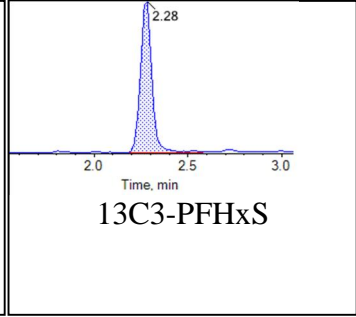
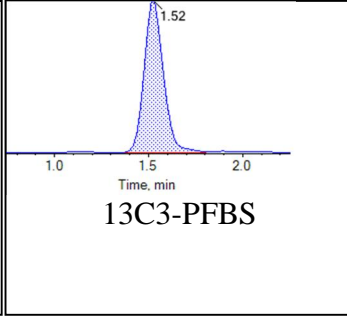
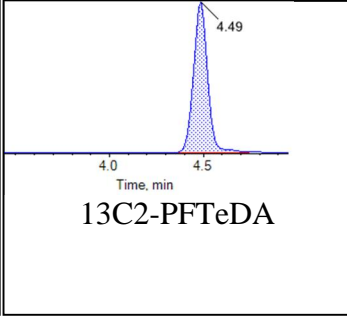
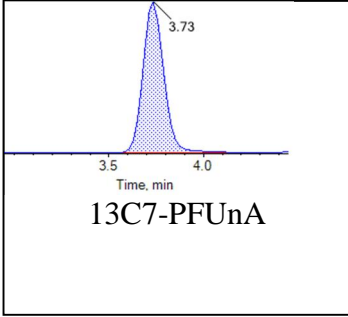


Internal Standards:



Chromatogram Report

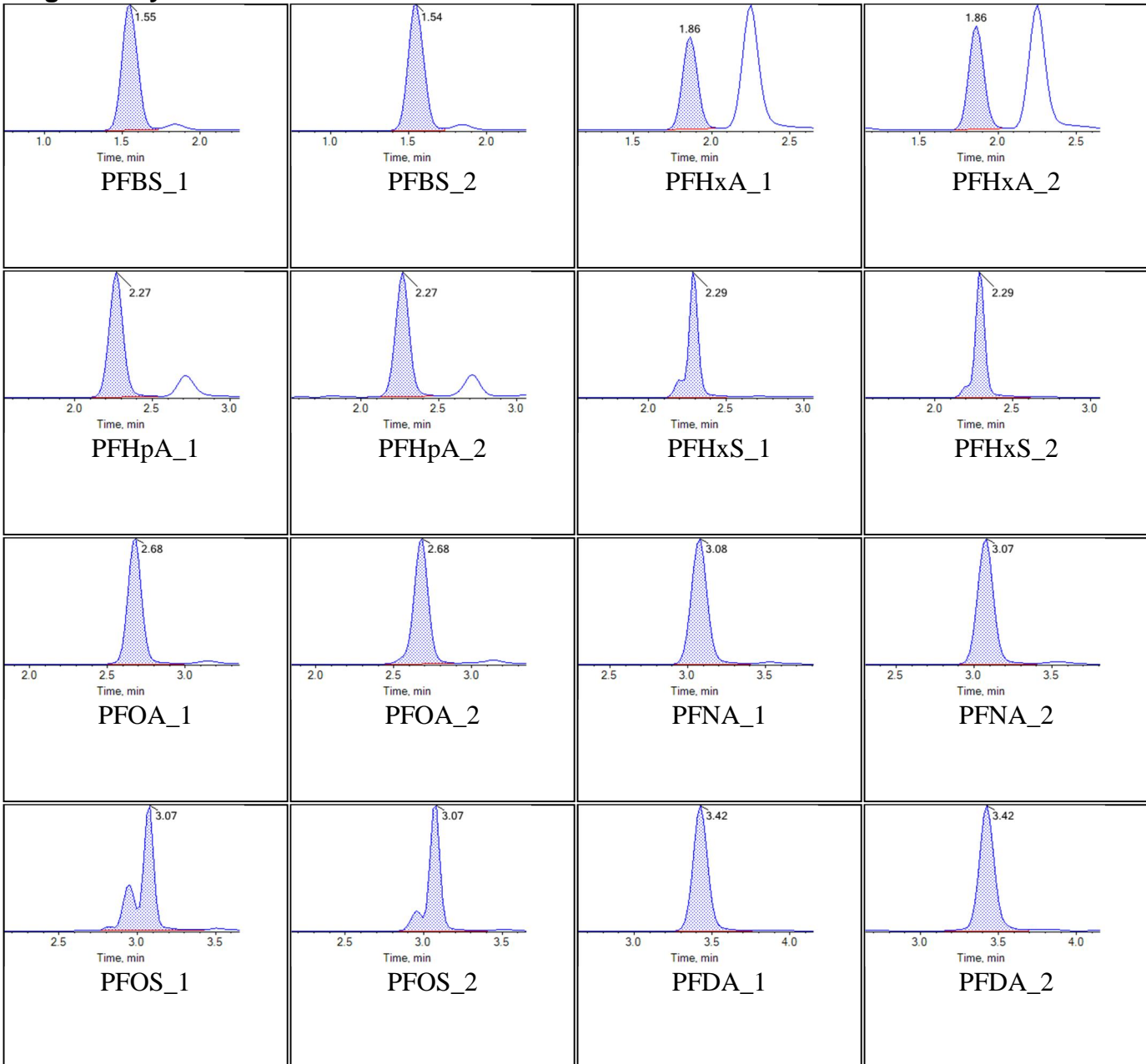
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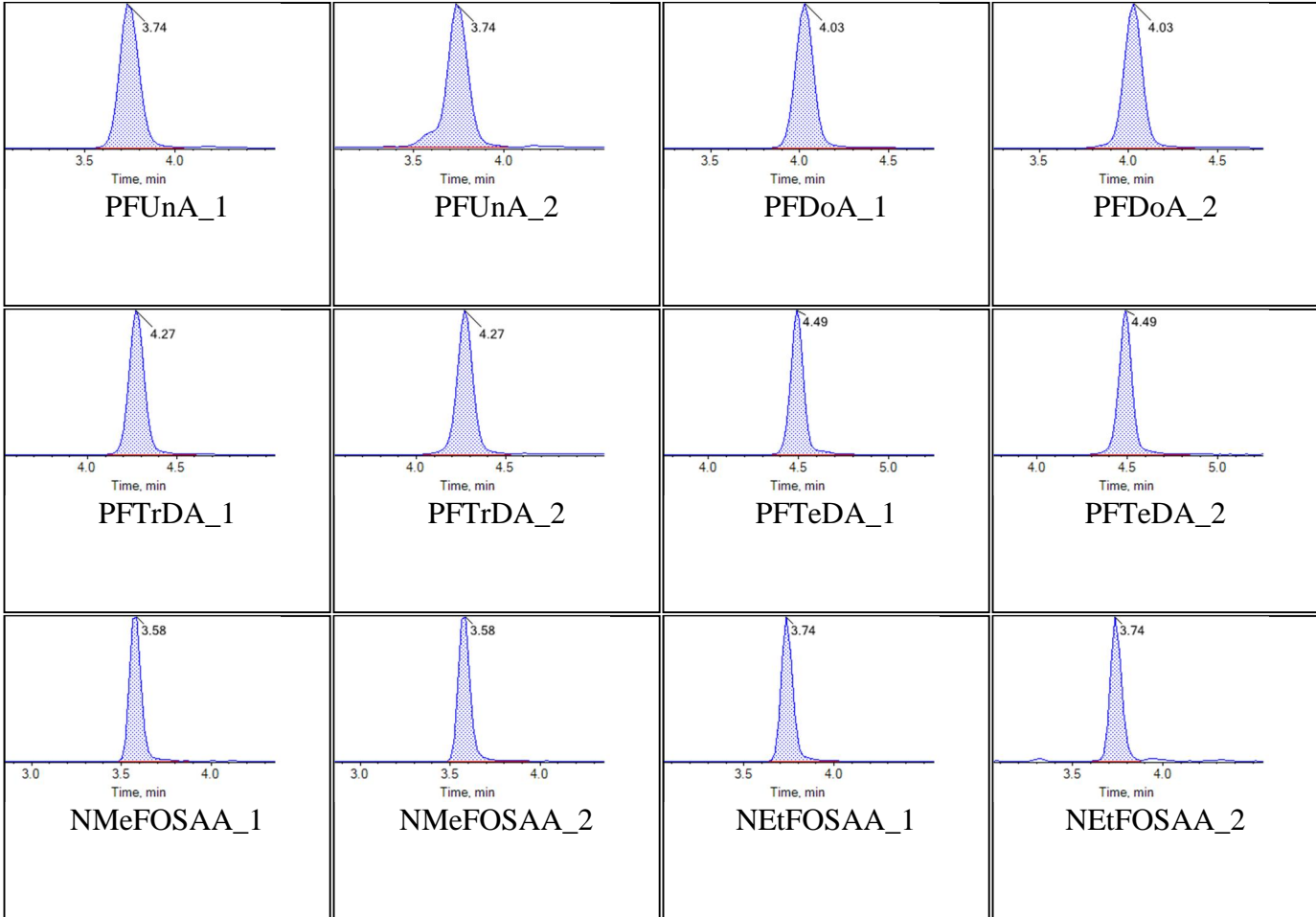


Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

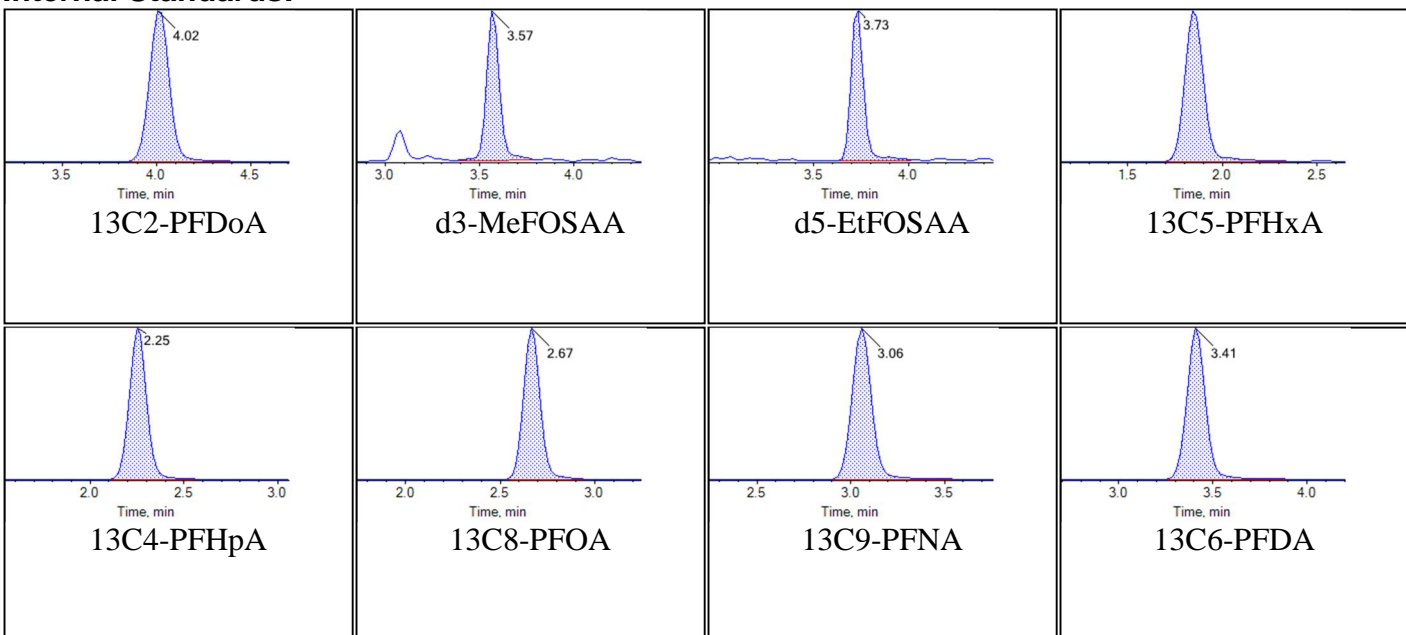
Chromatograms

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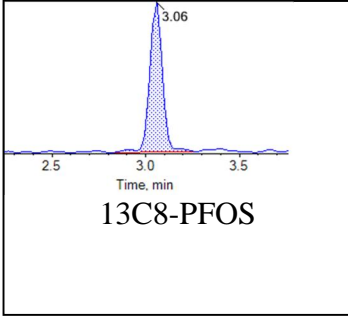
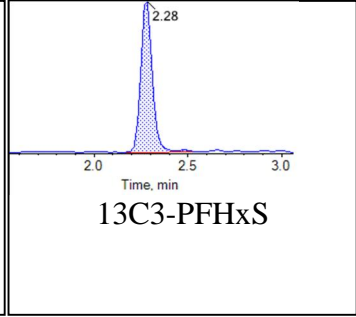
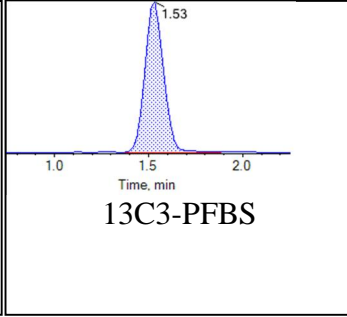
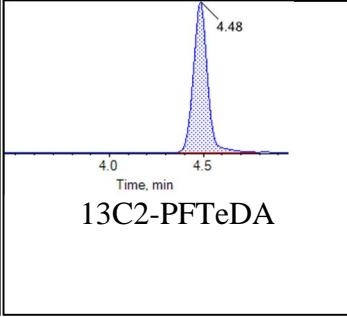
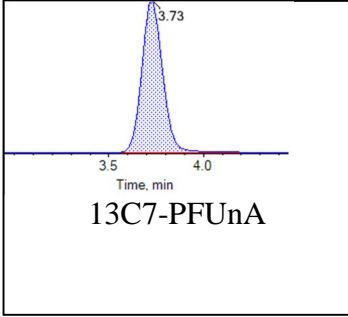


Internal Standards:



Chromatogram Report

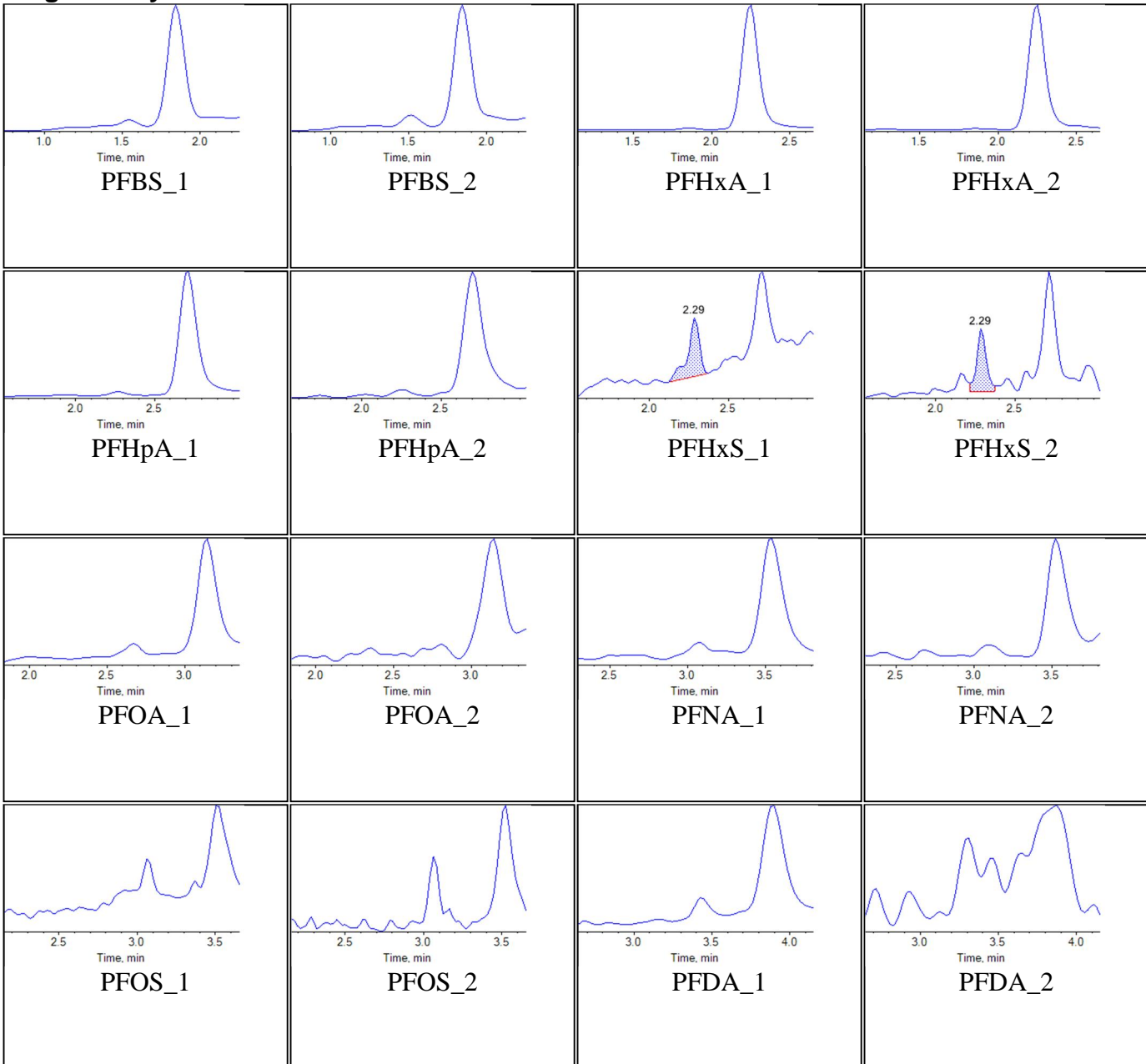
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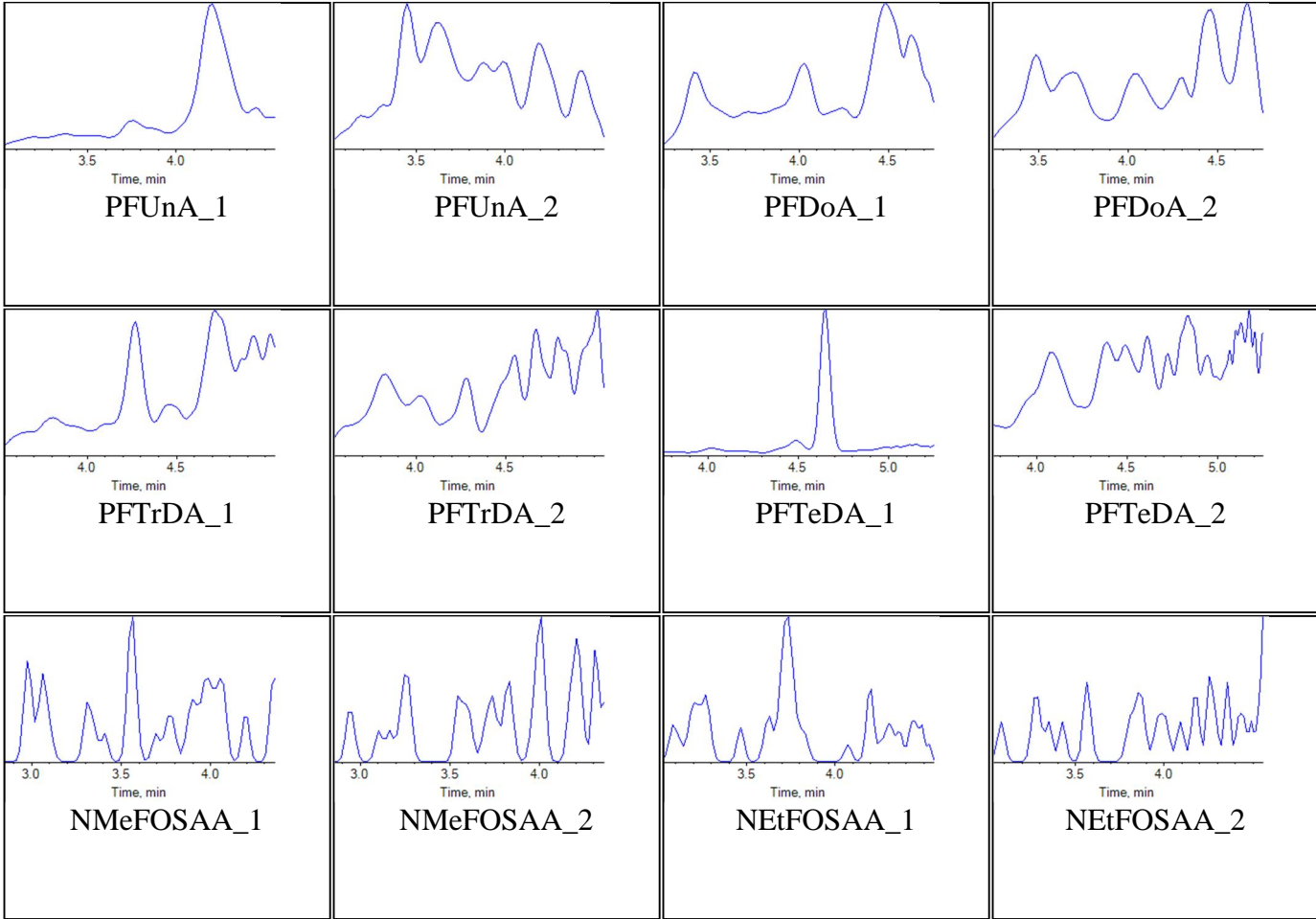


Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

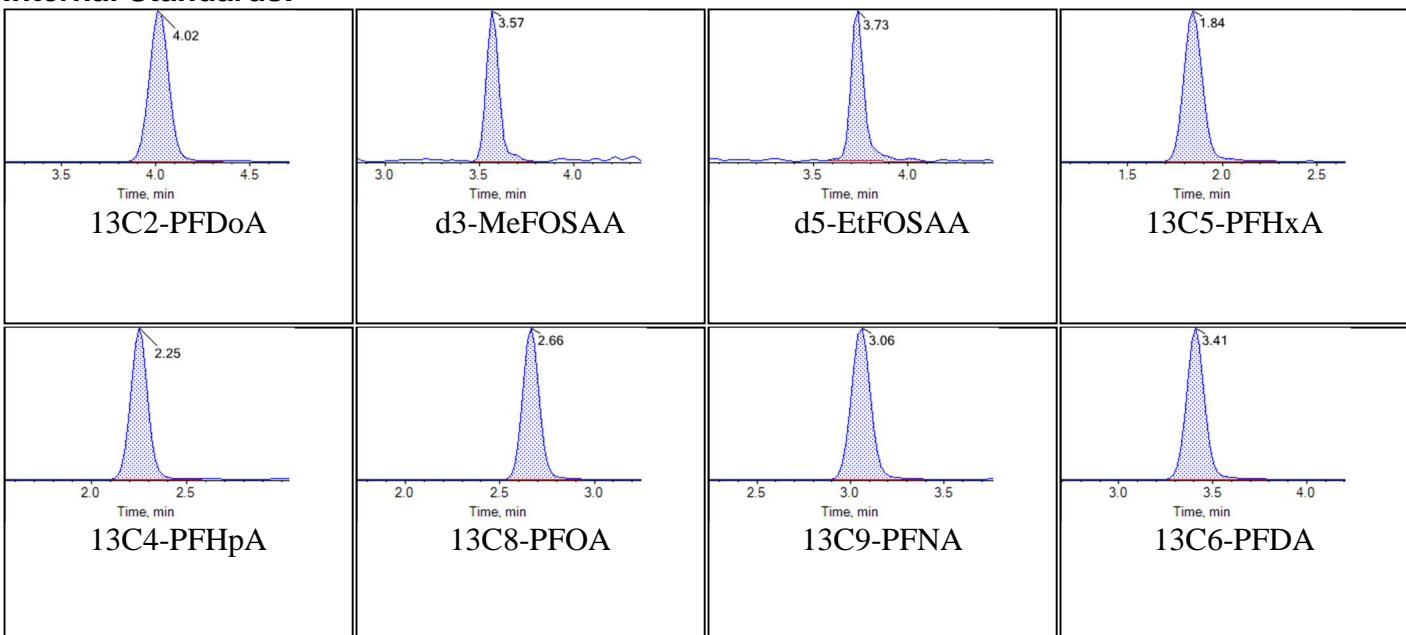
Chromatograms

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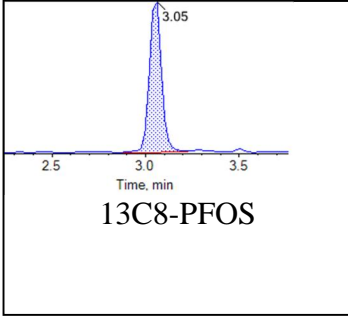
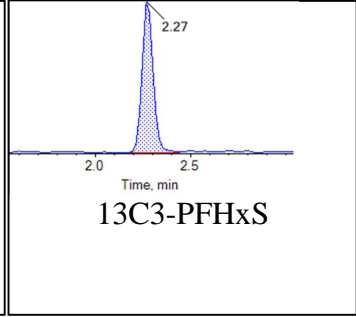
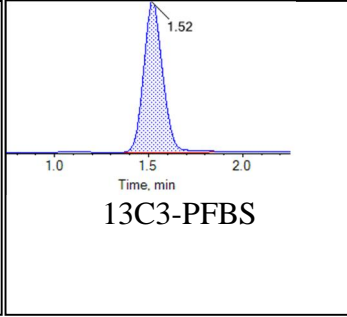
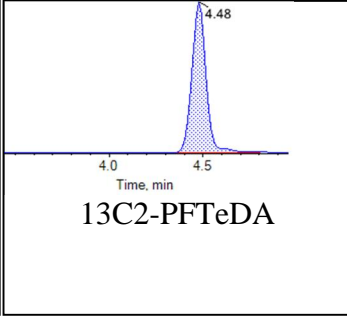
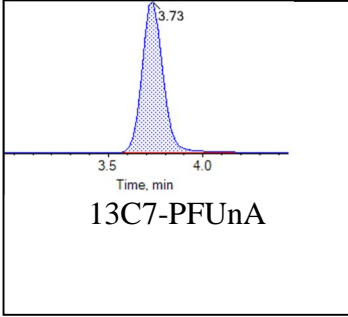


Internal Standards:



Chromatogram Report

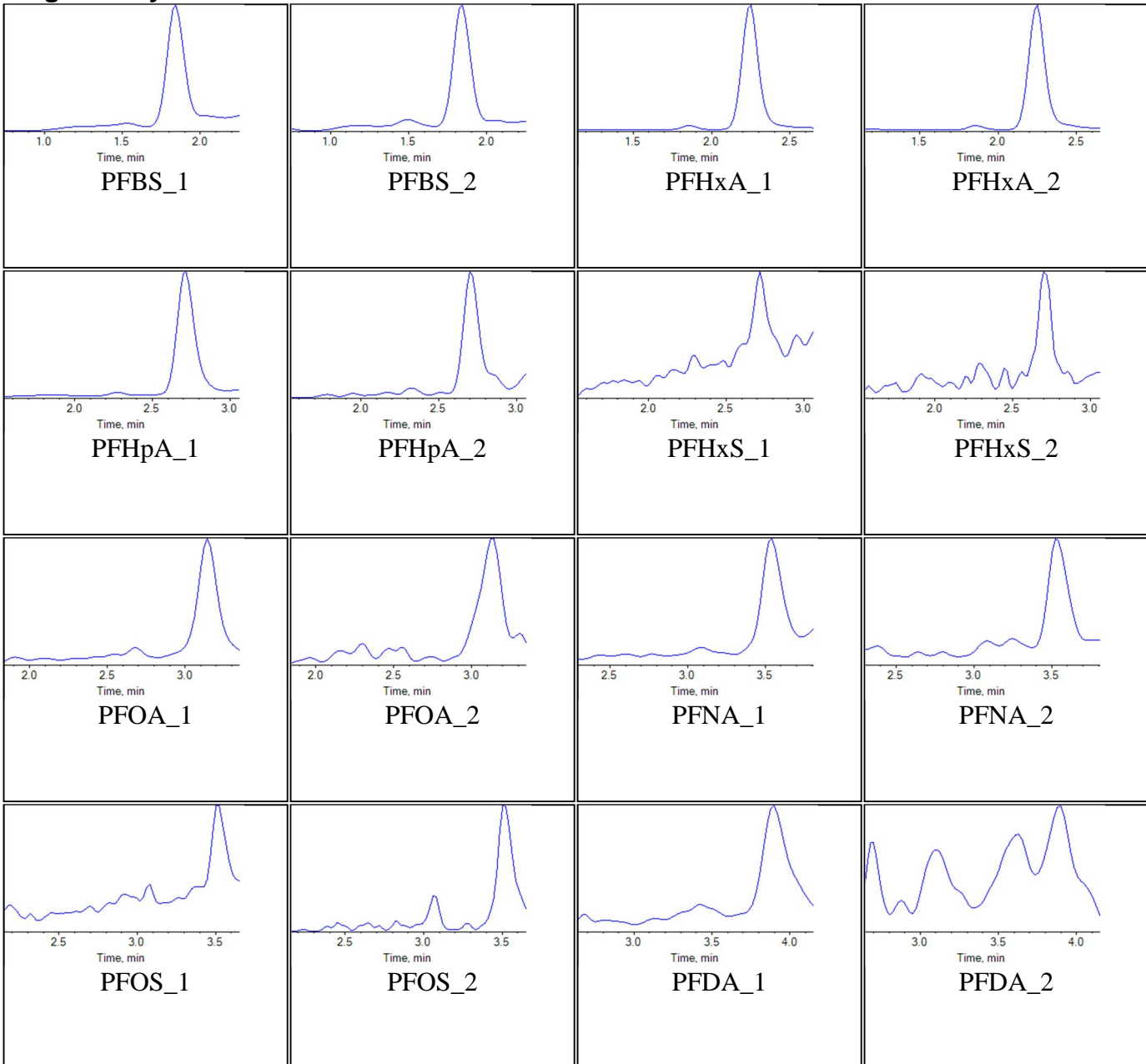
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Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

Chromatograms

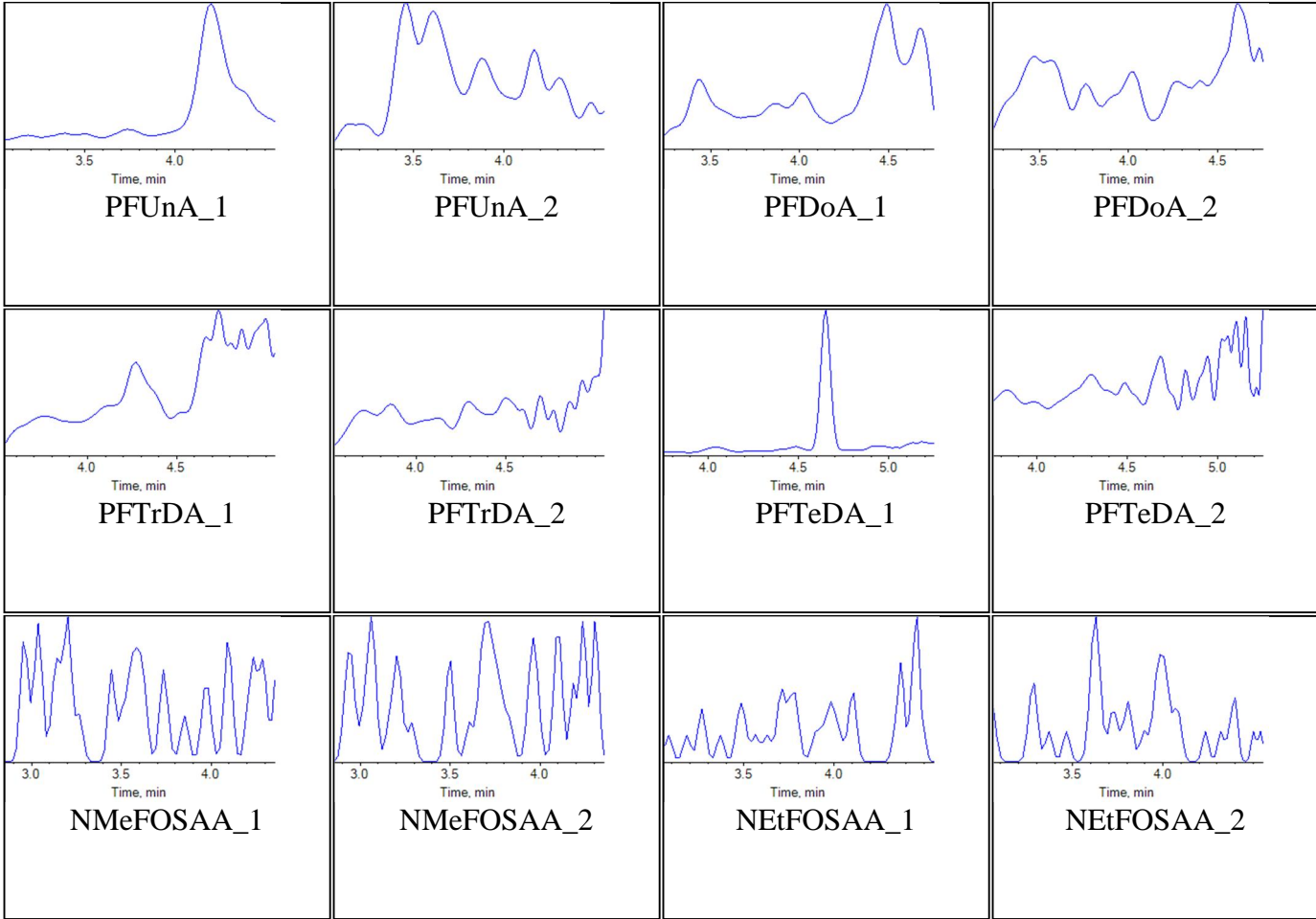
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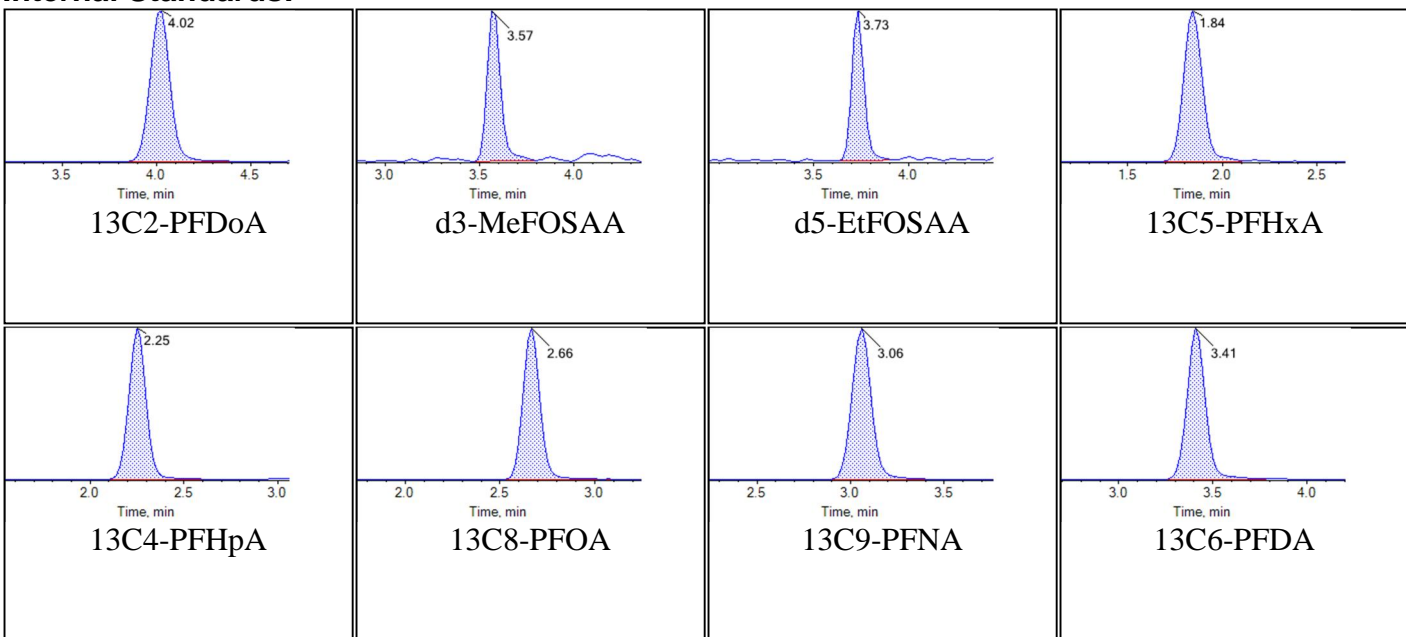


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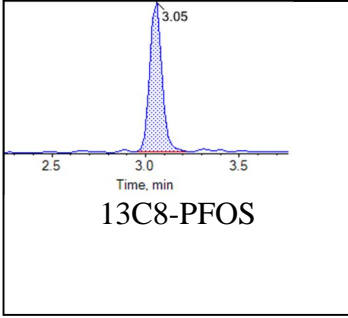
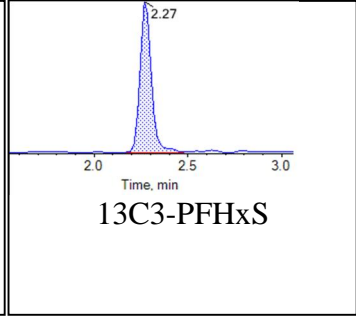
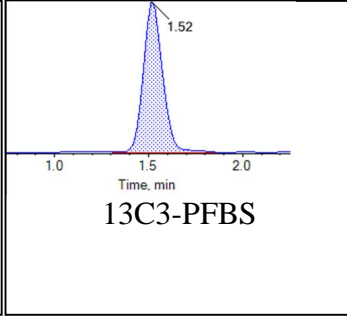
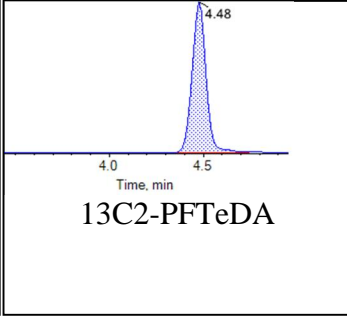
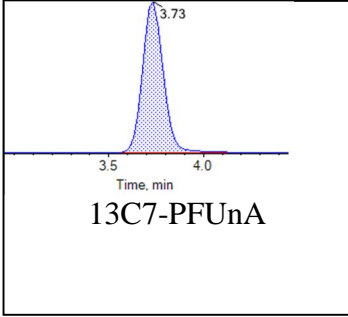


Internal Standards:



Chromatogram Report

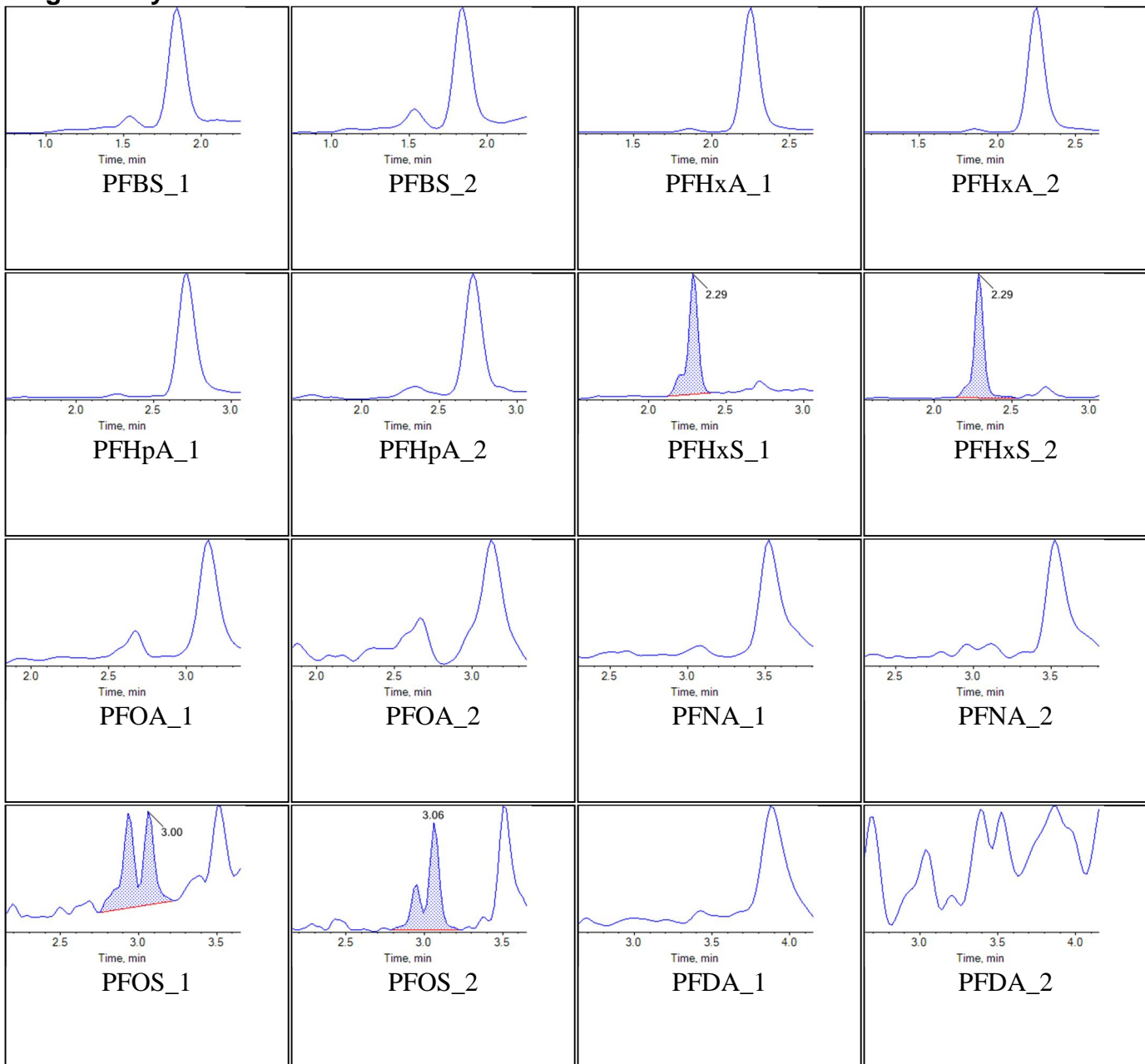
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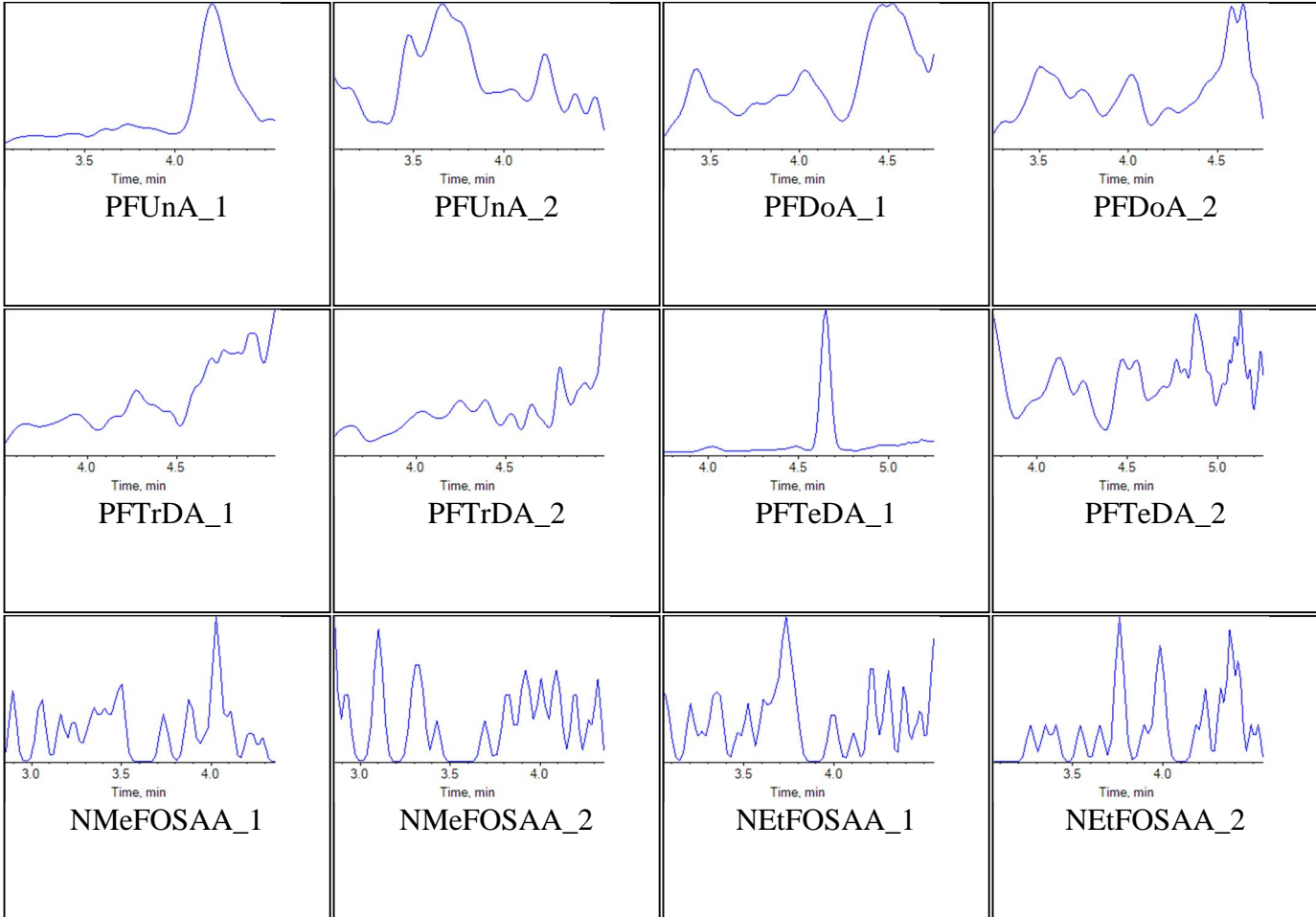


Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

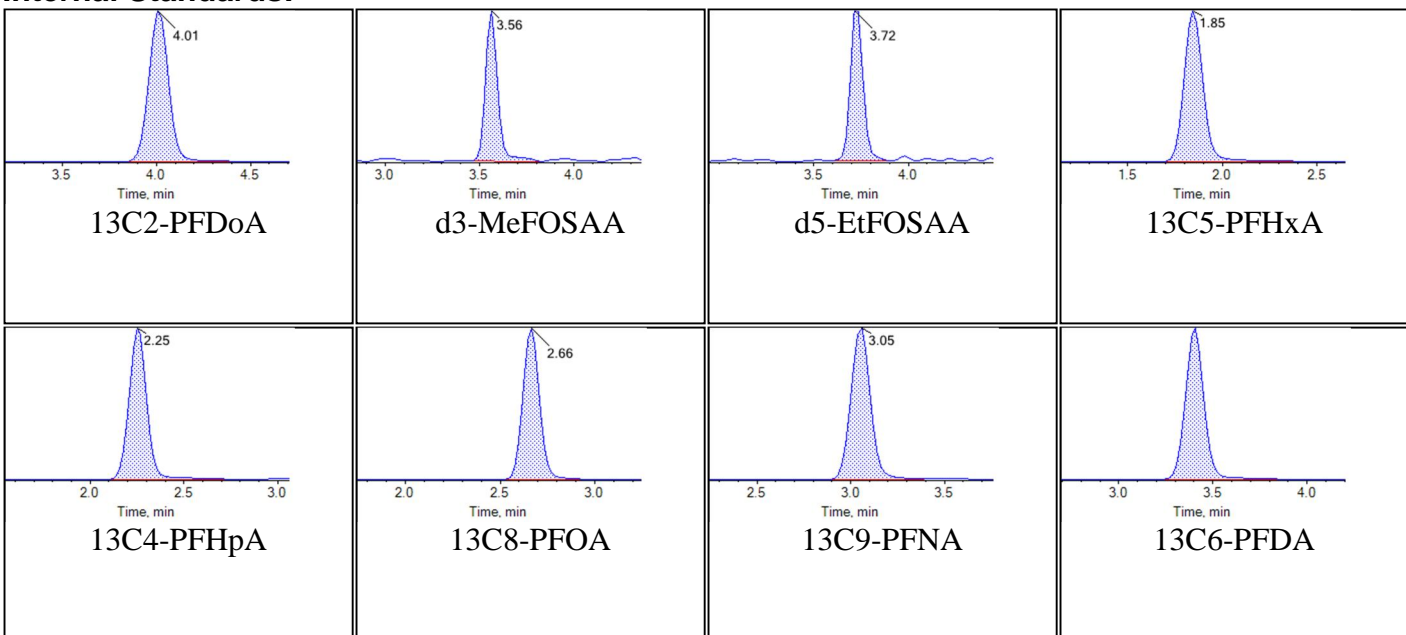
Chromatograms

Target Analytes:



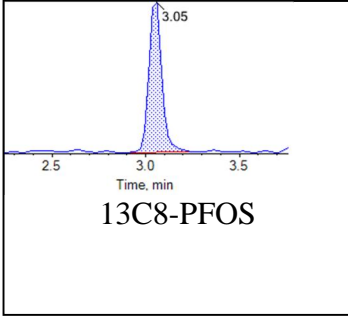
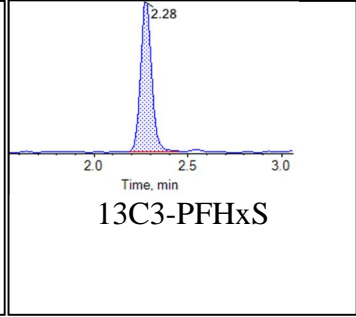
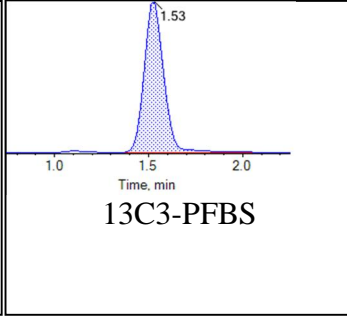
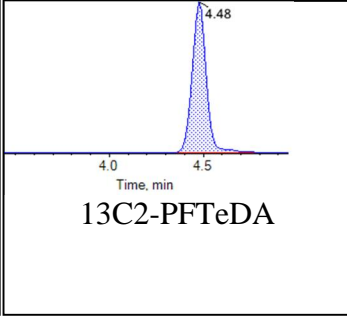
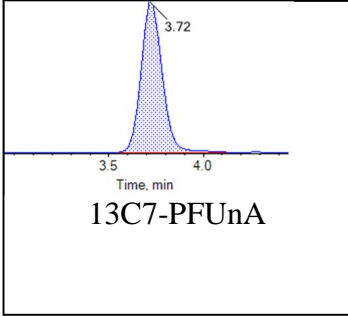


Internal Standards:



Chromatogram Report

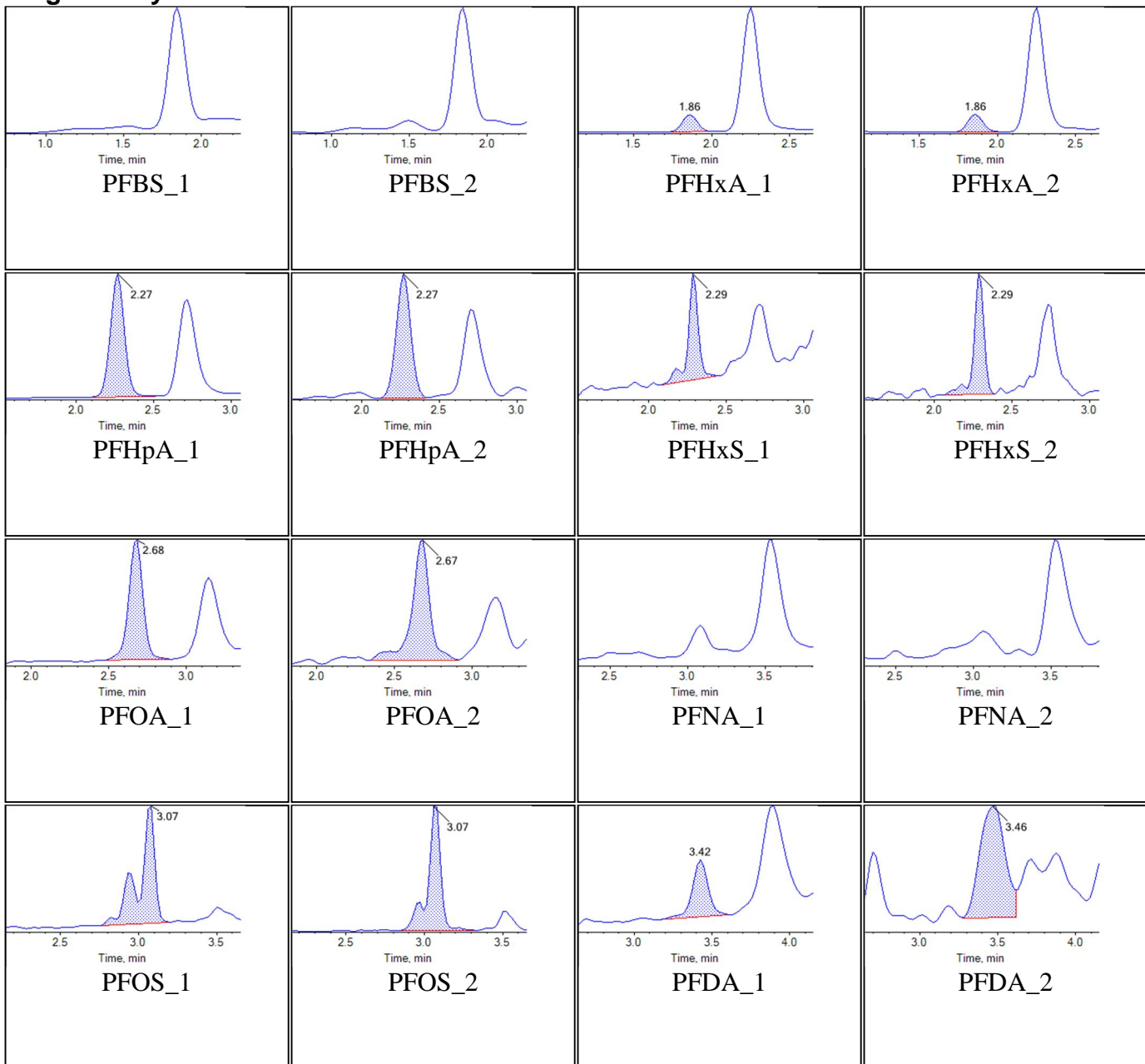
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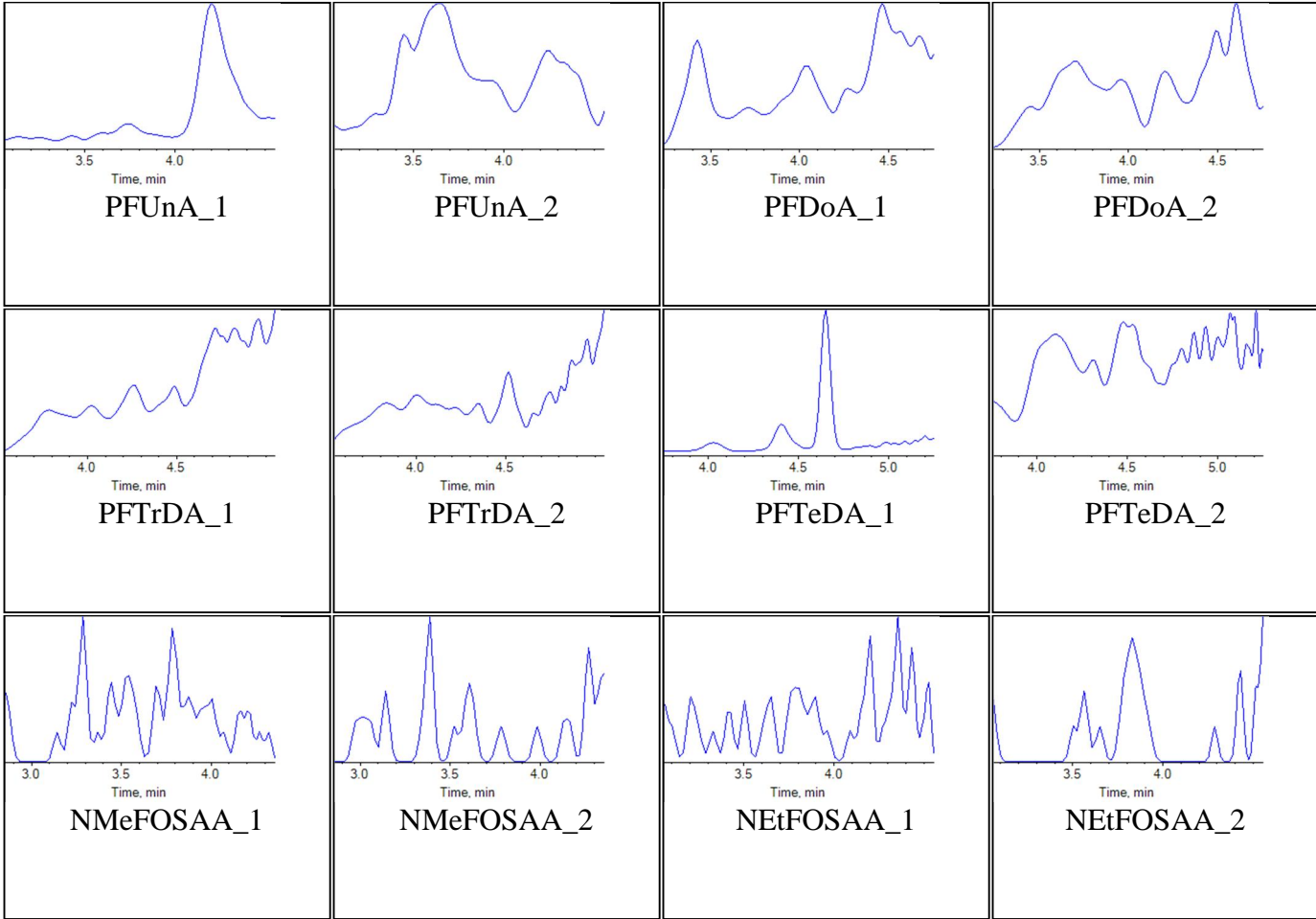


Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

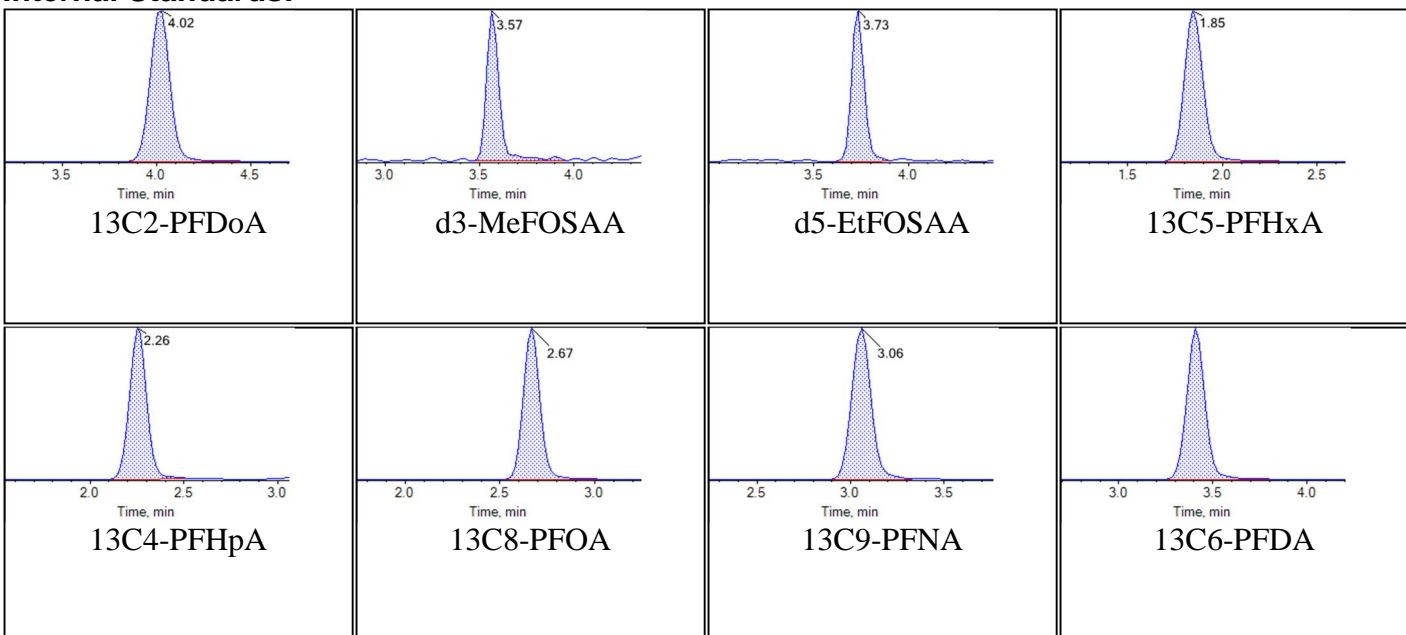
Chromatograms

Target Analytes:



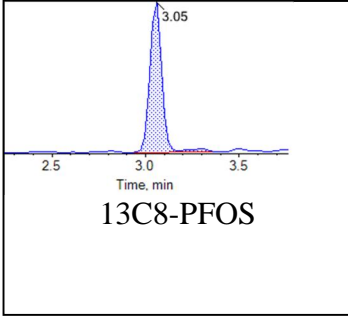
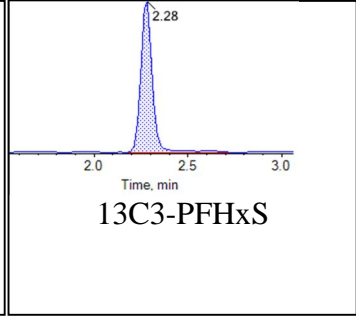
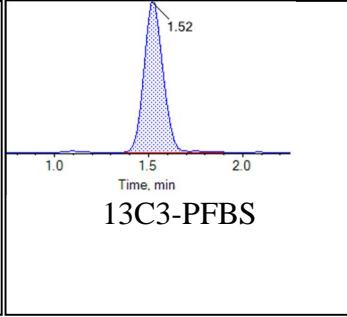
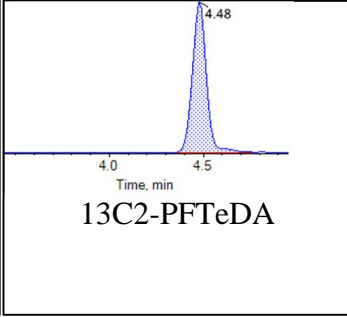
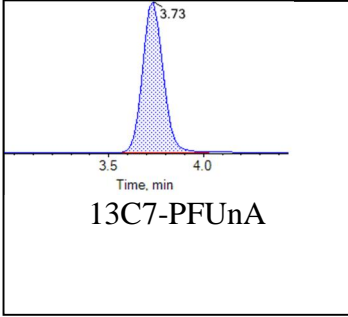


Internal Standards:



Chromatogram Report

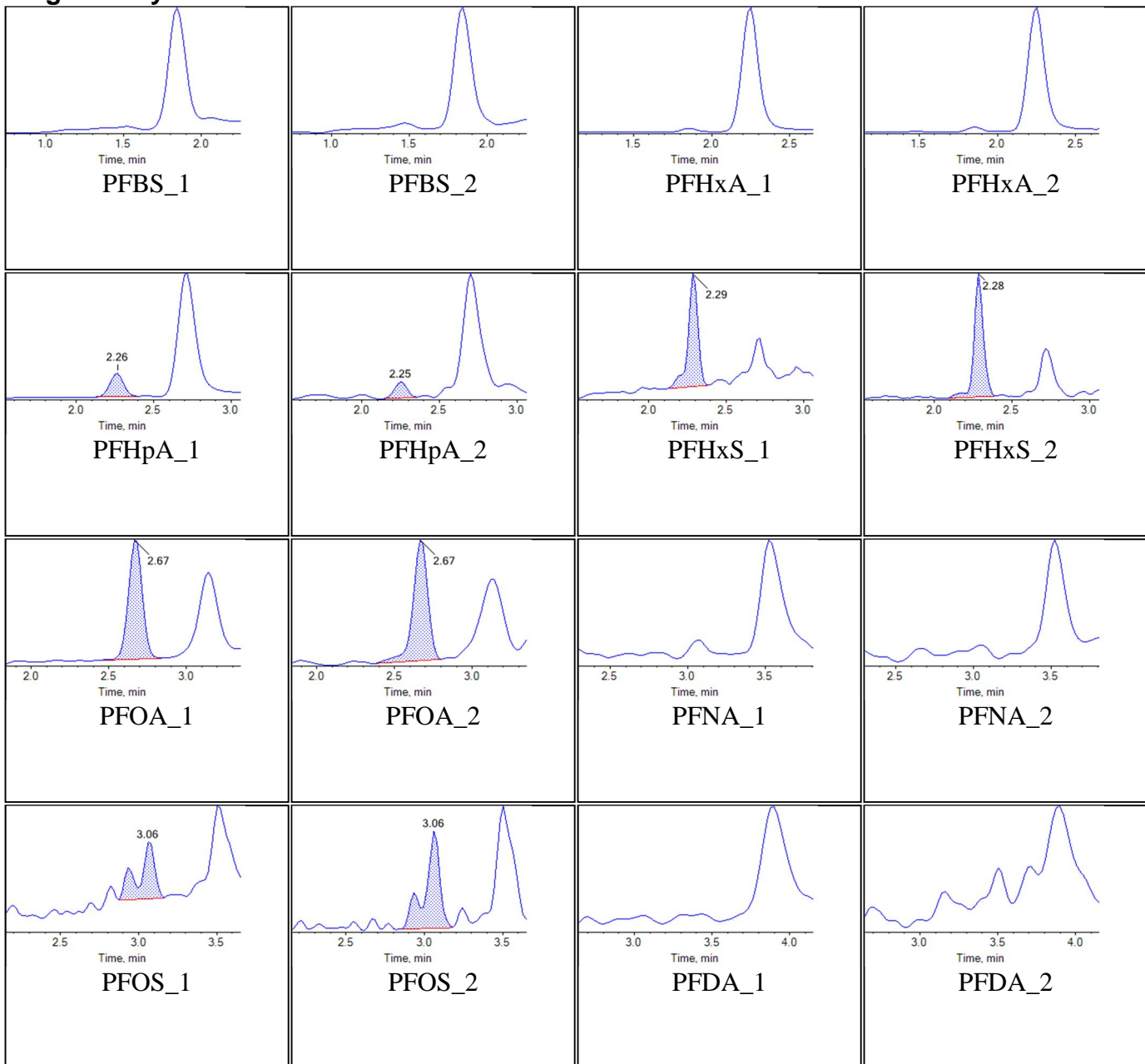
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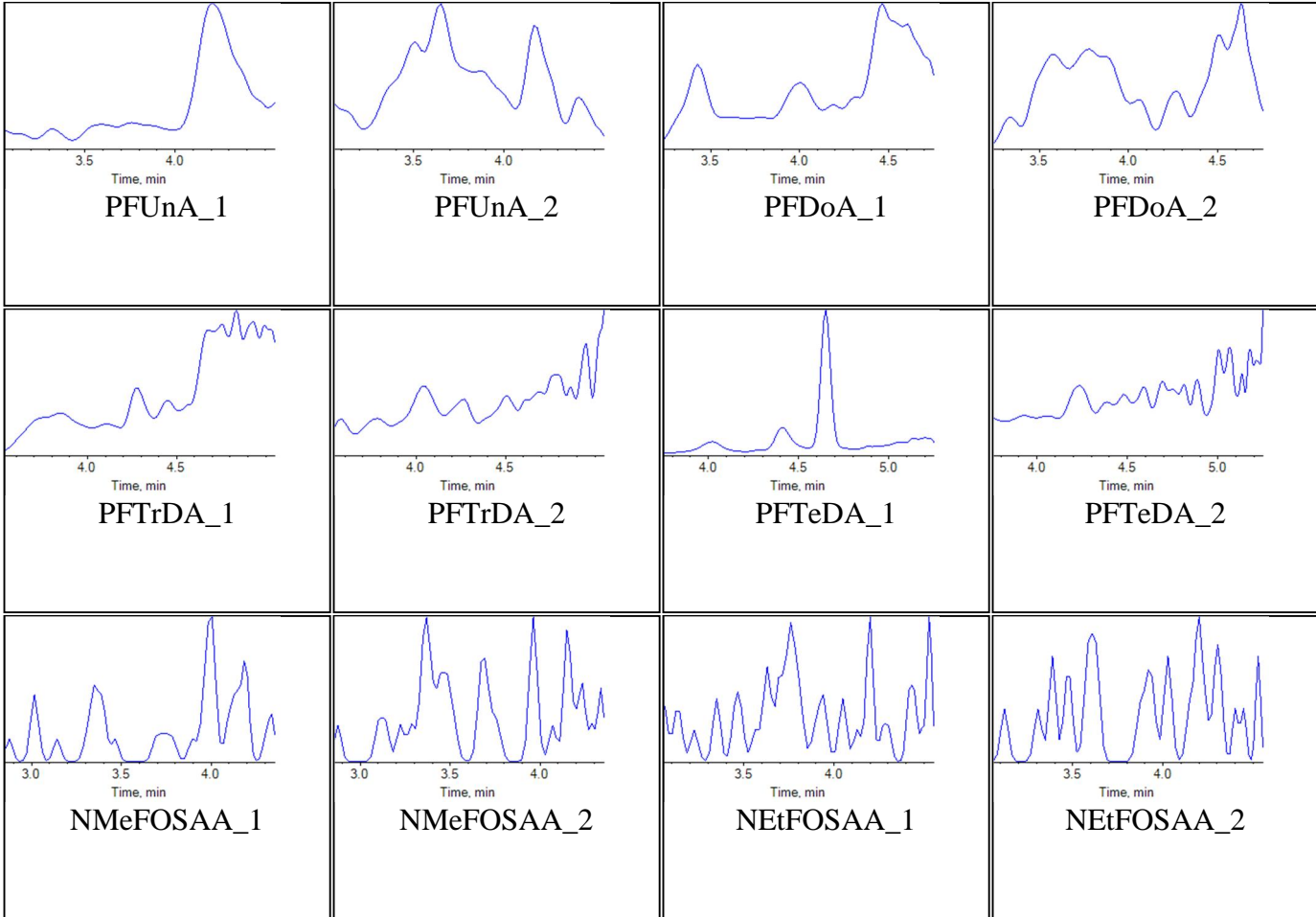


Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

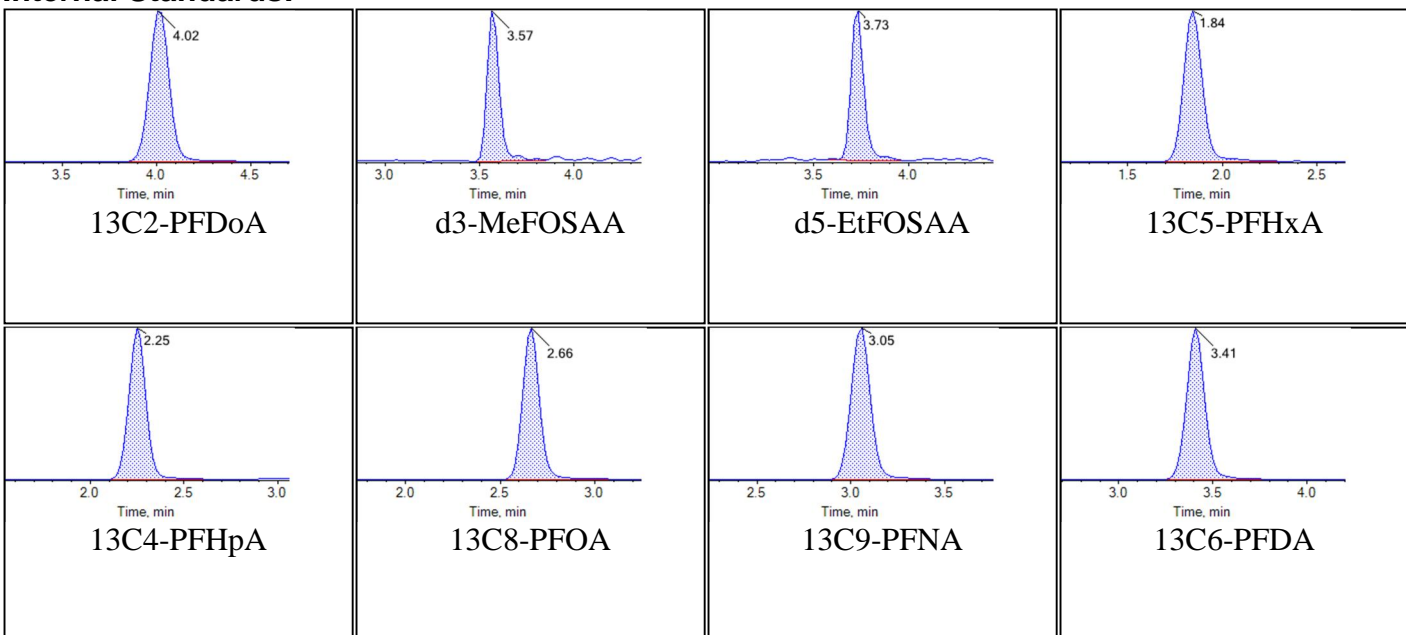
Chromatograms

Target Analytes:



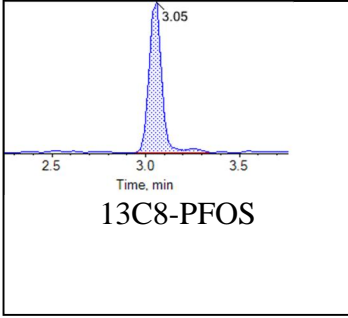
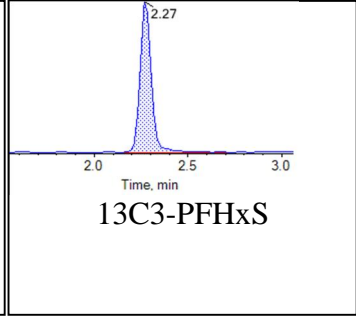
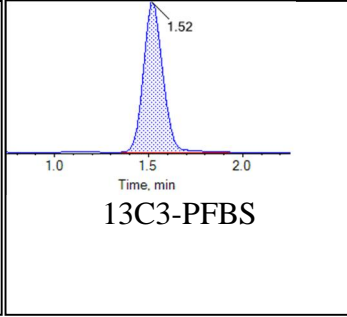
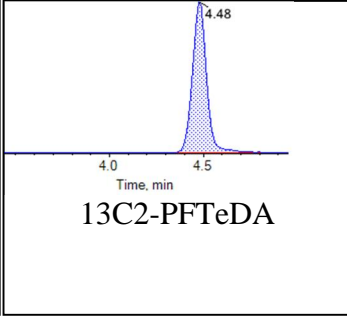
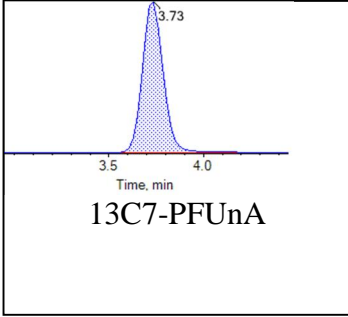


Internal Standards:



Chromatogram Report

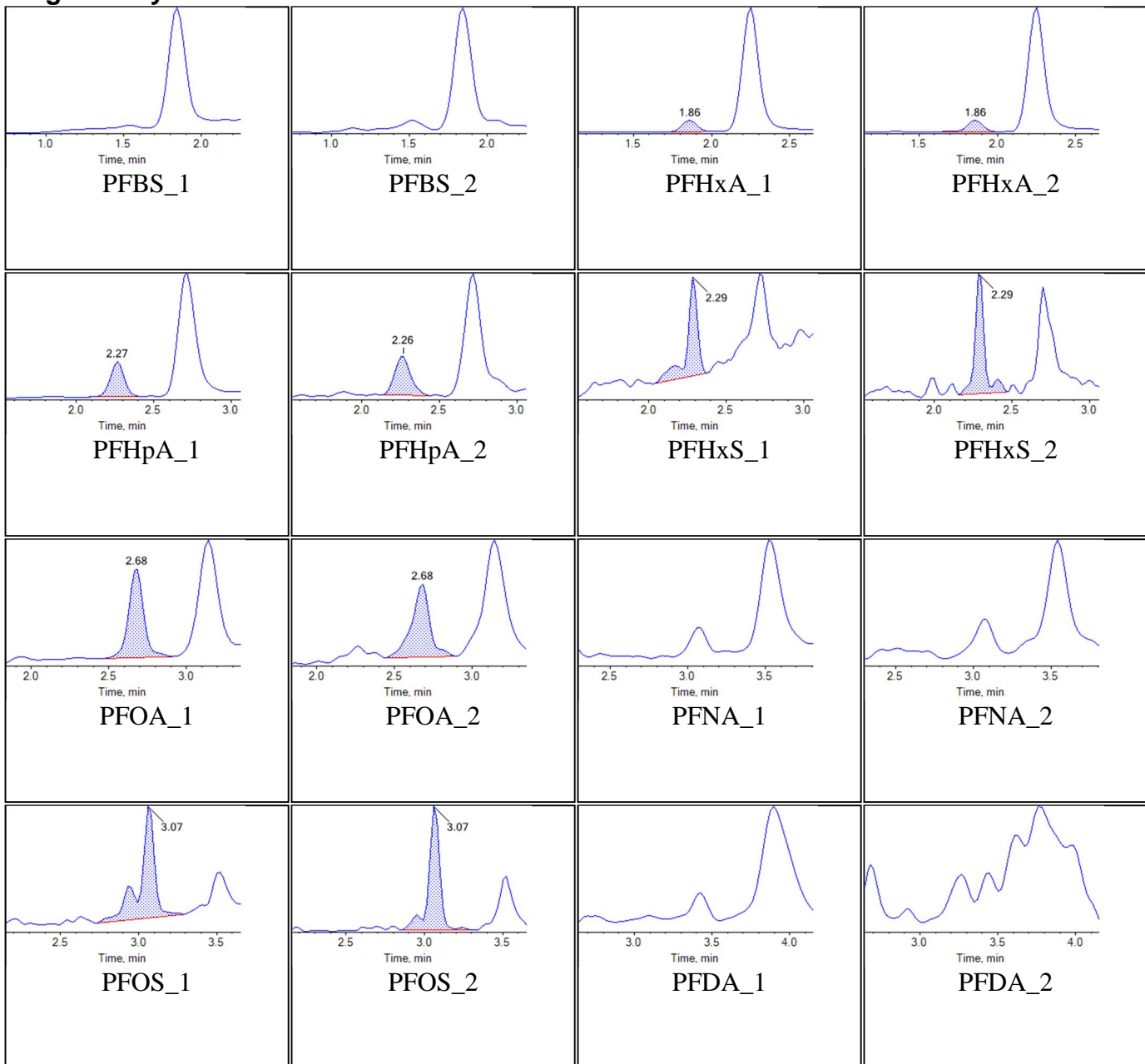
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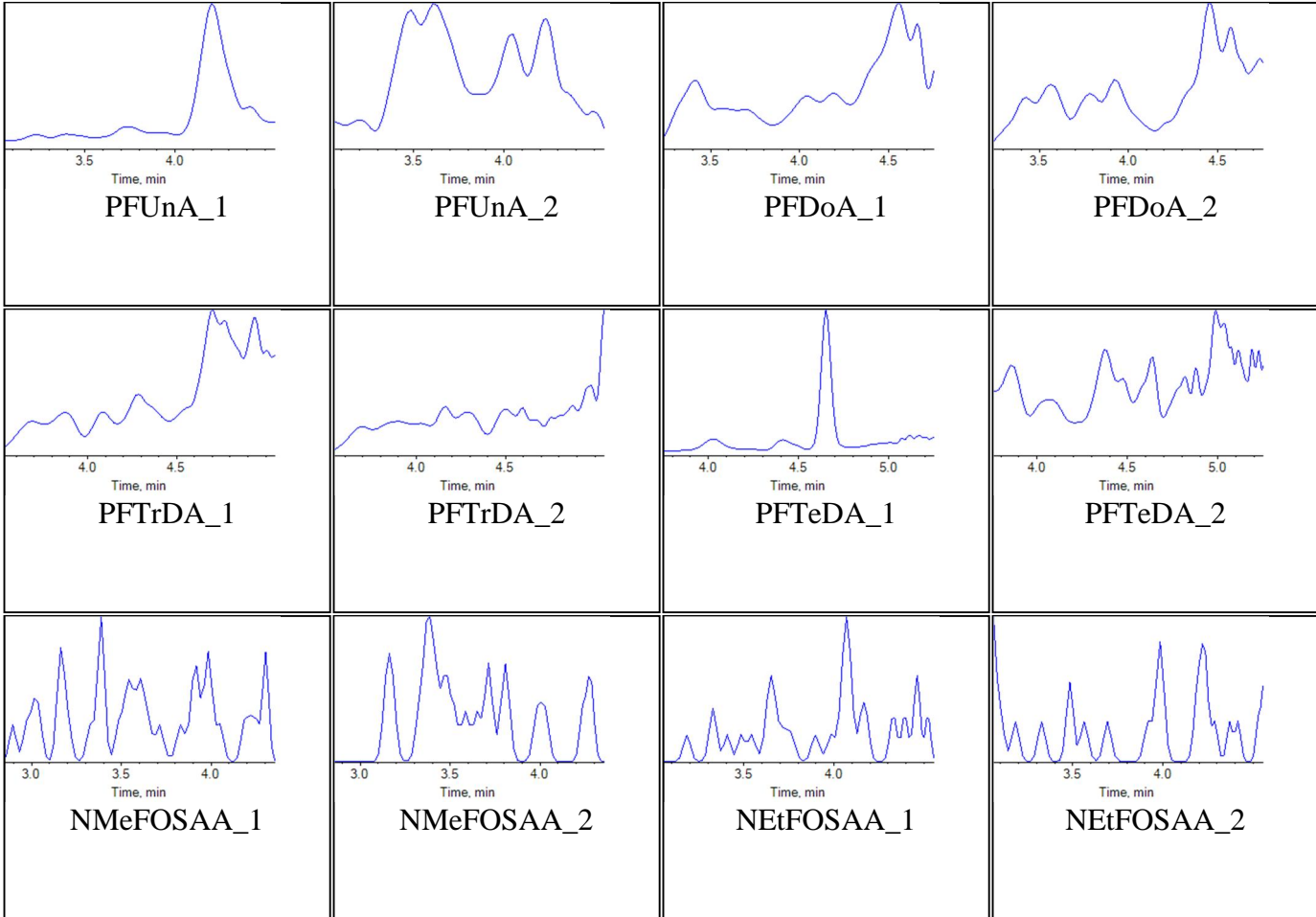


Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

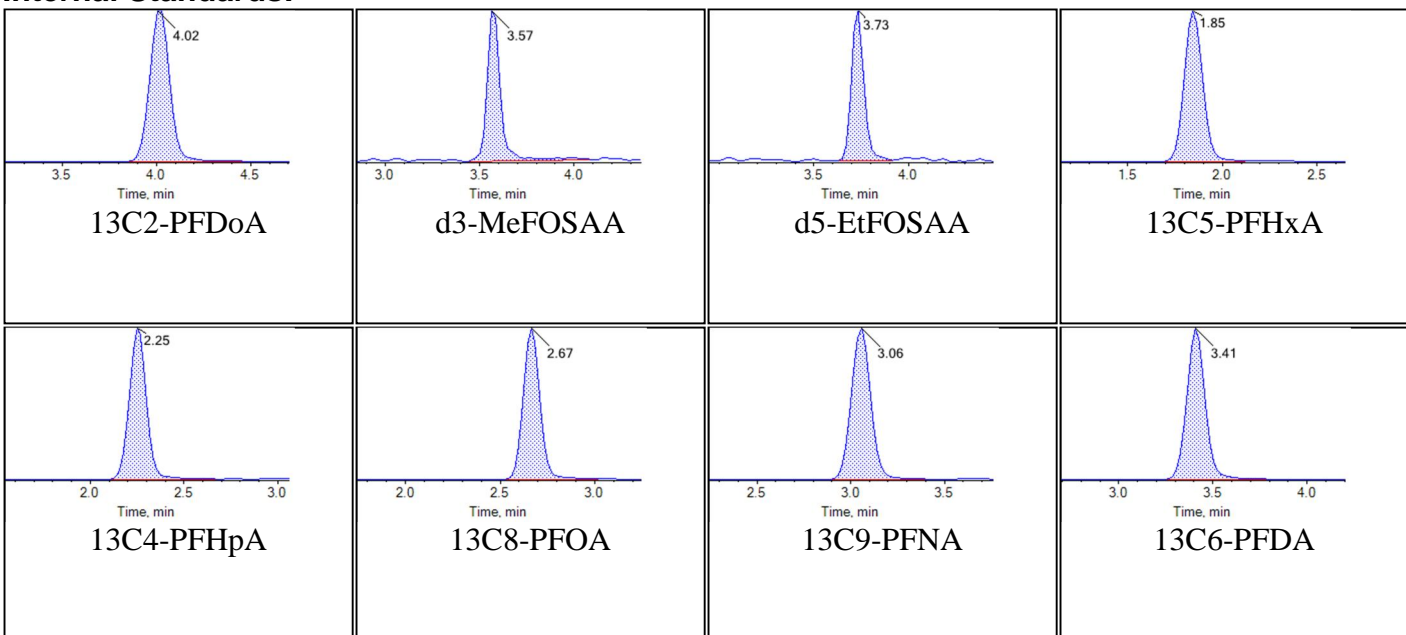
Chromatograms

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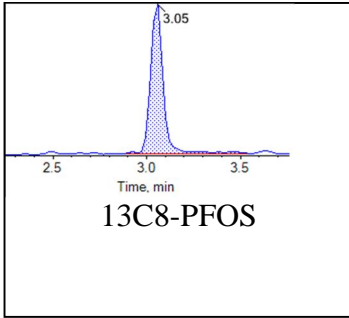
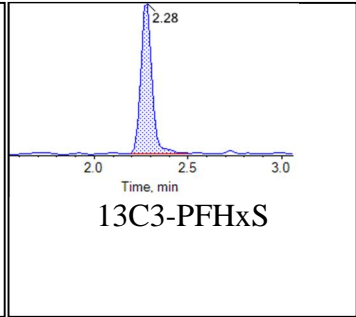
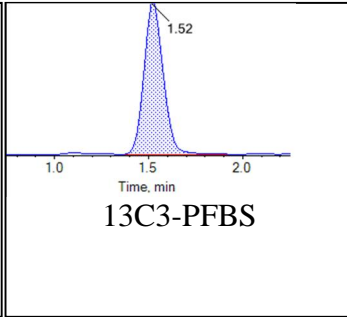
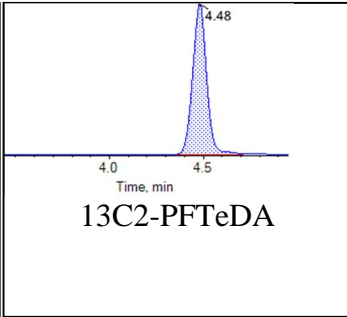
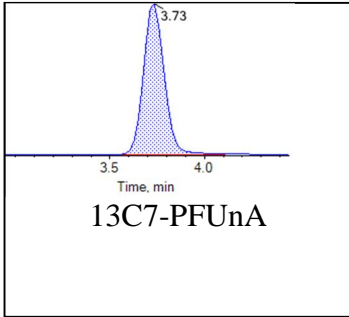


Internal Standards:



Chromatogram Report

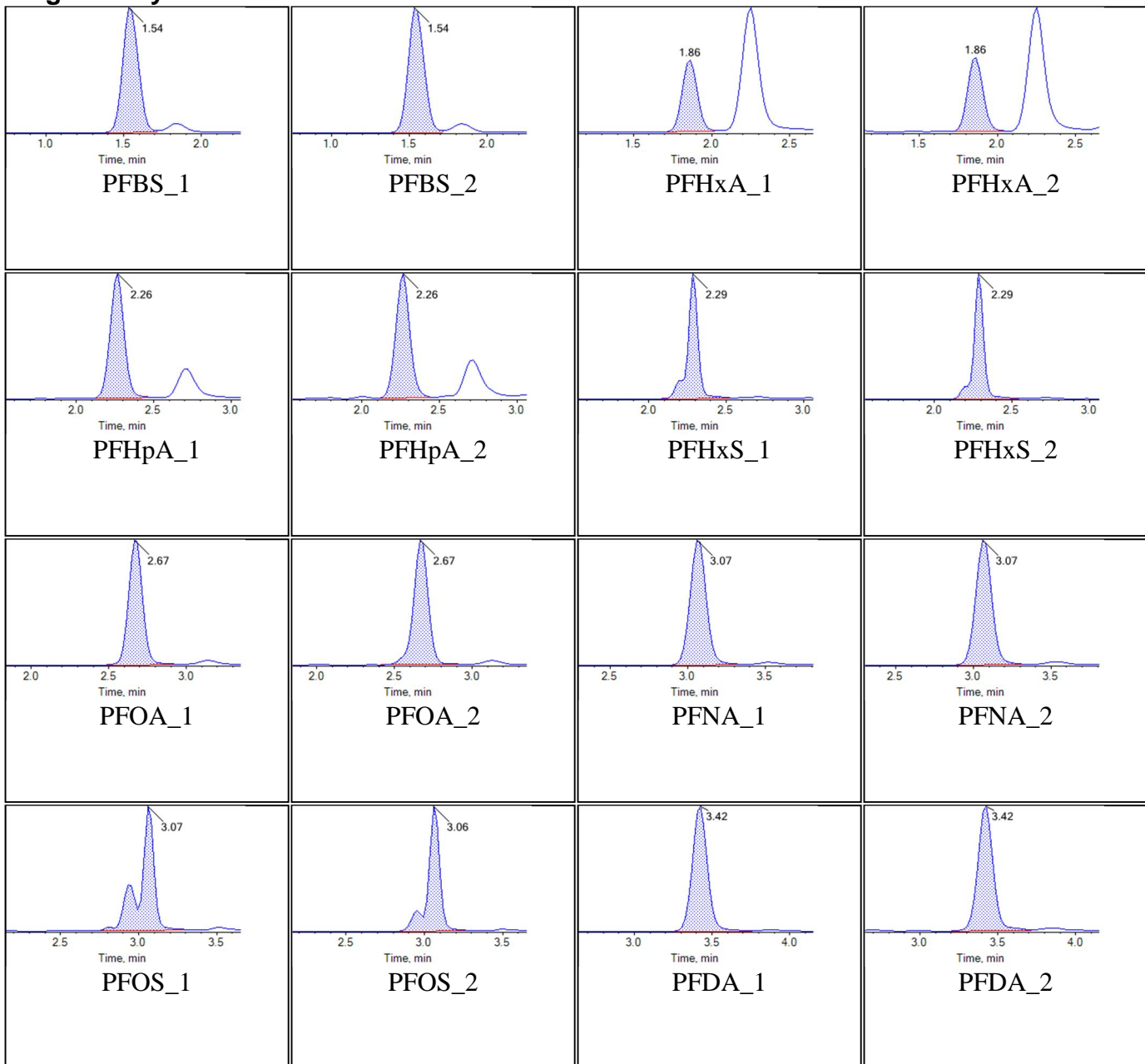
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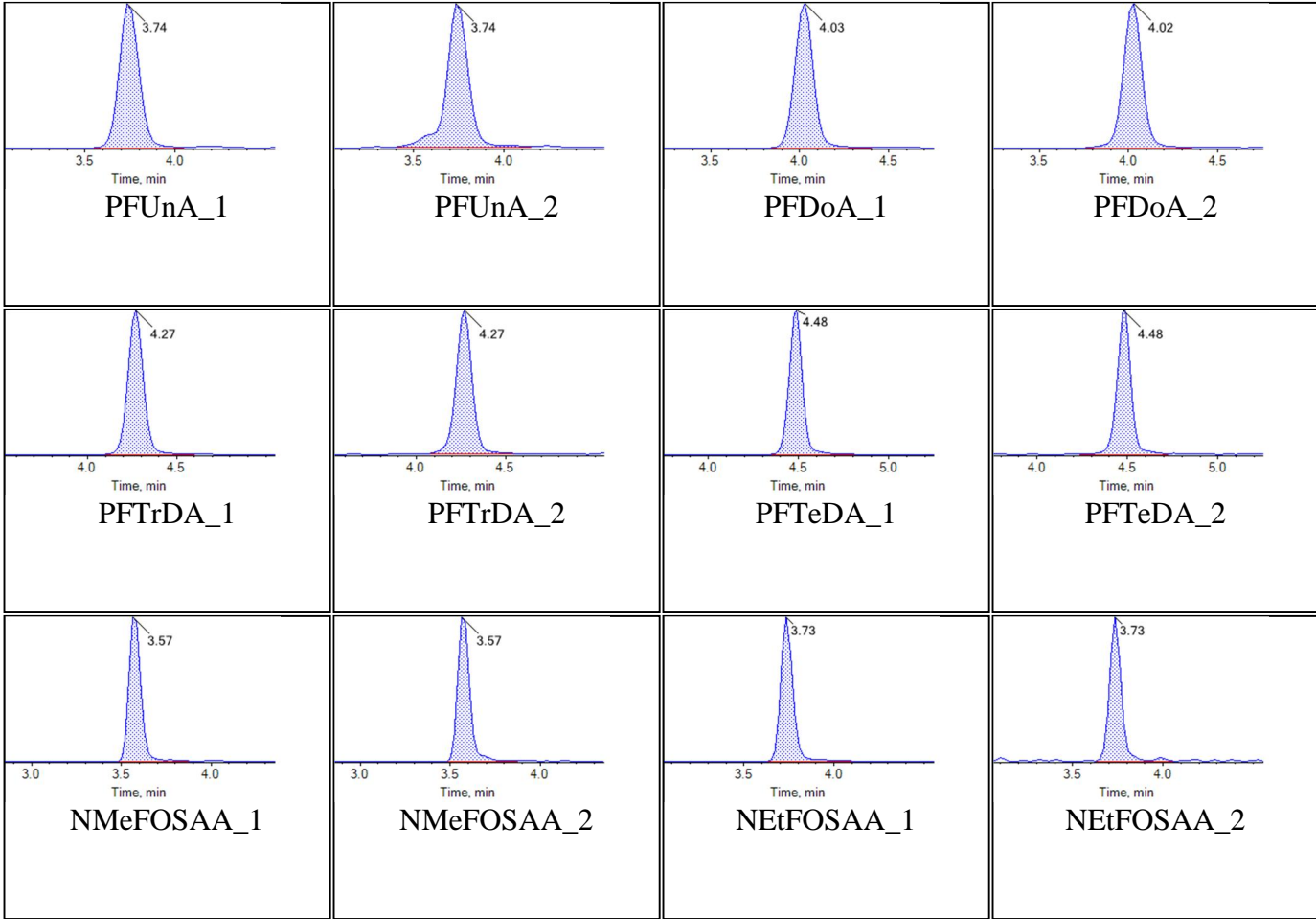


Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

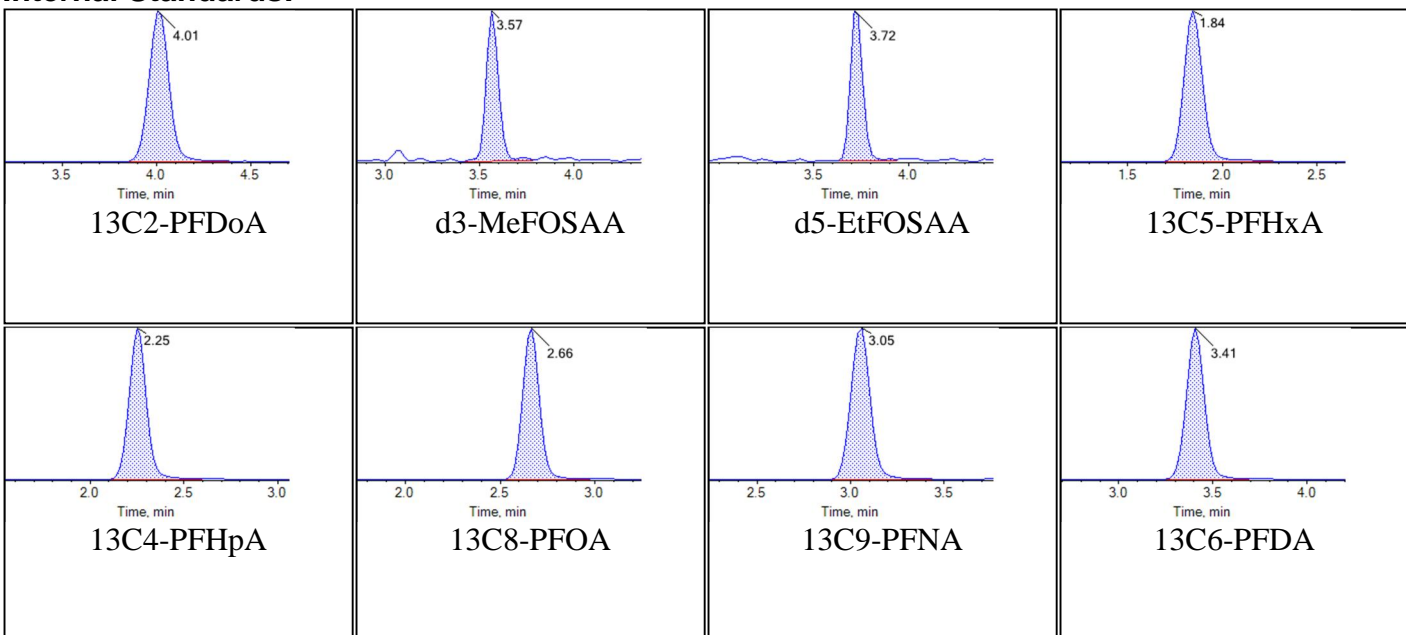
Chromatograms

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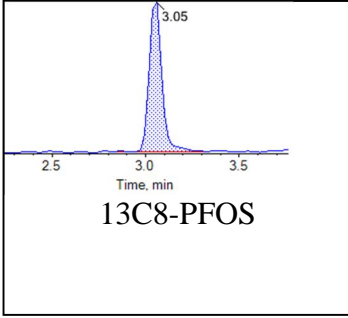
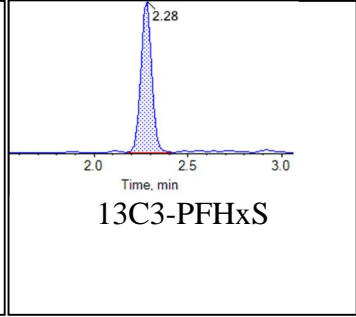
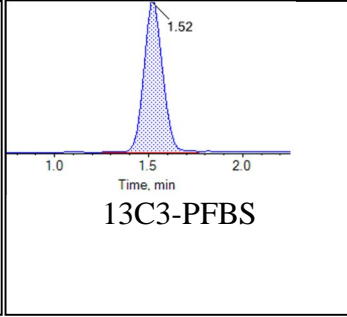
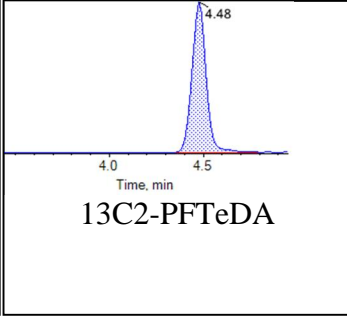
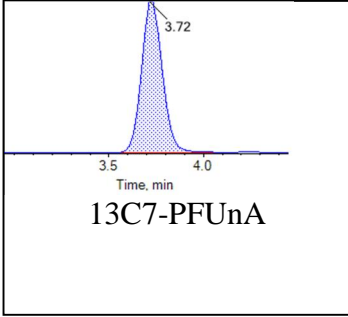


Internal Standards:



Chromatogram Report

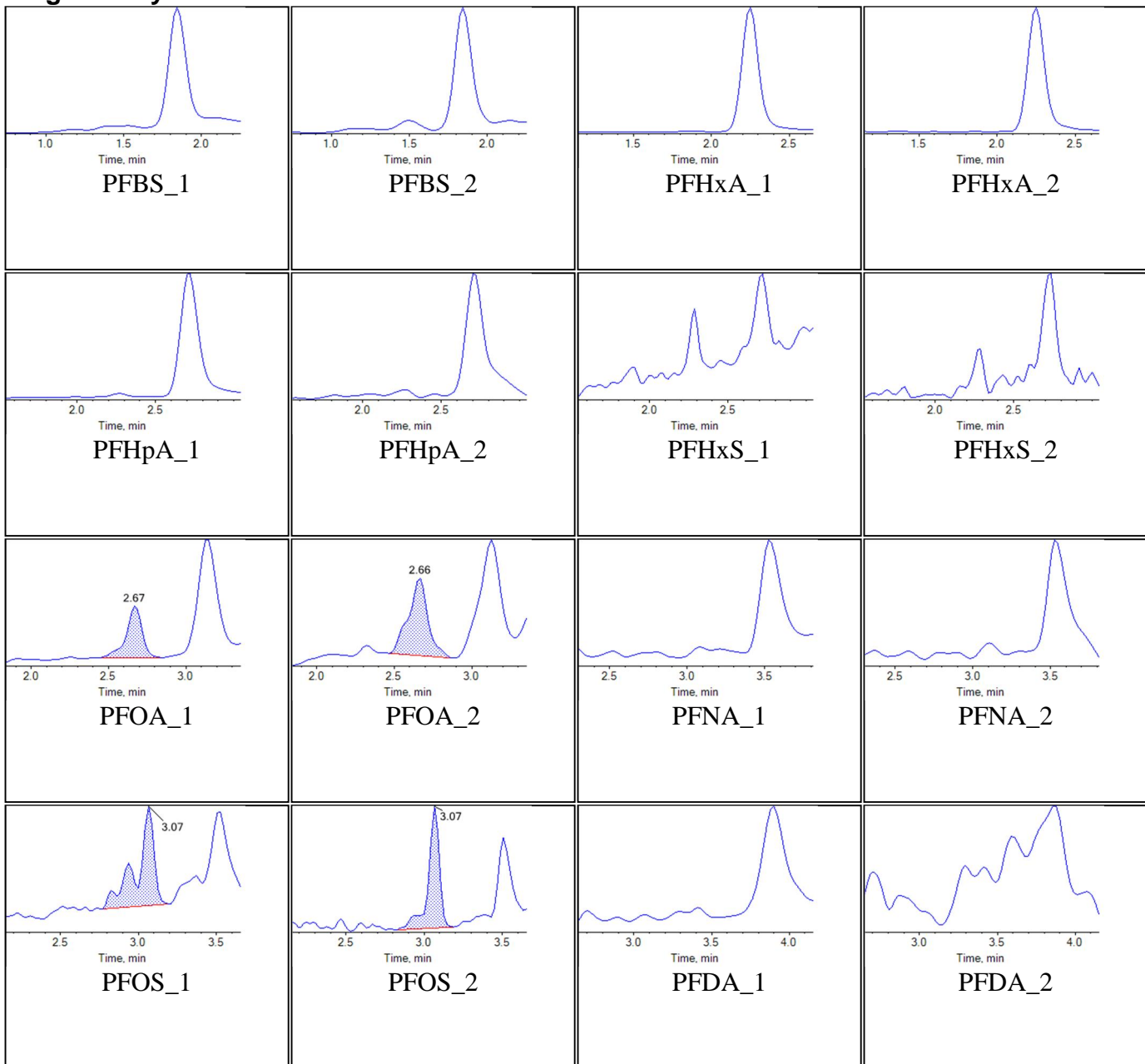
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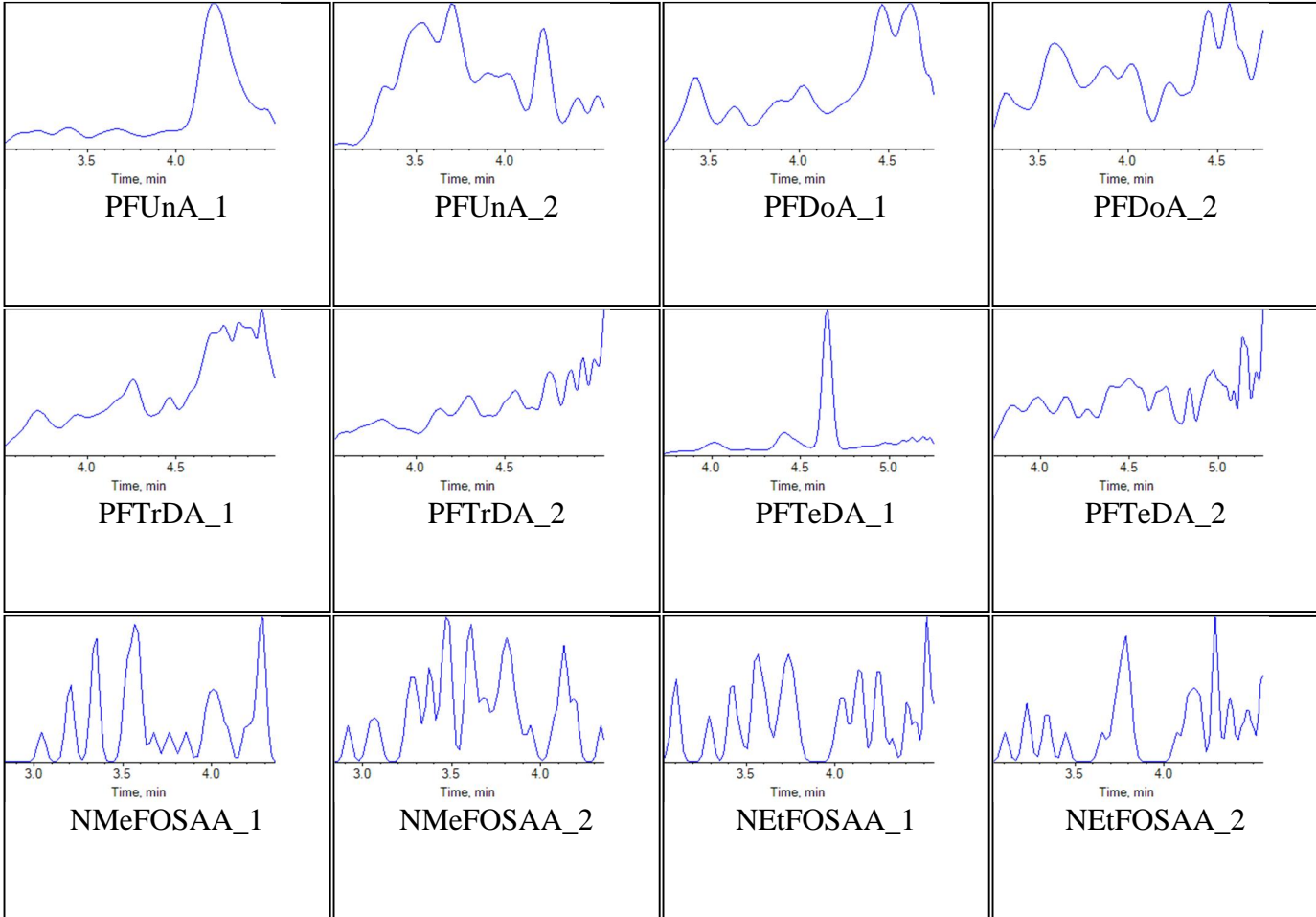


Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

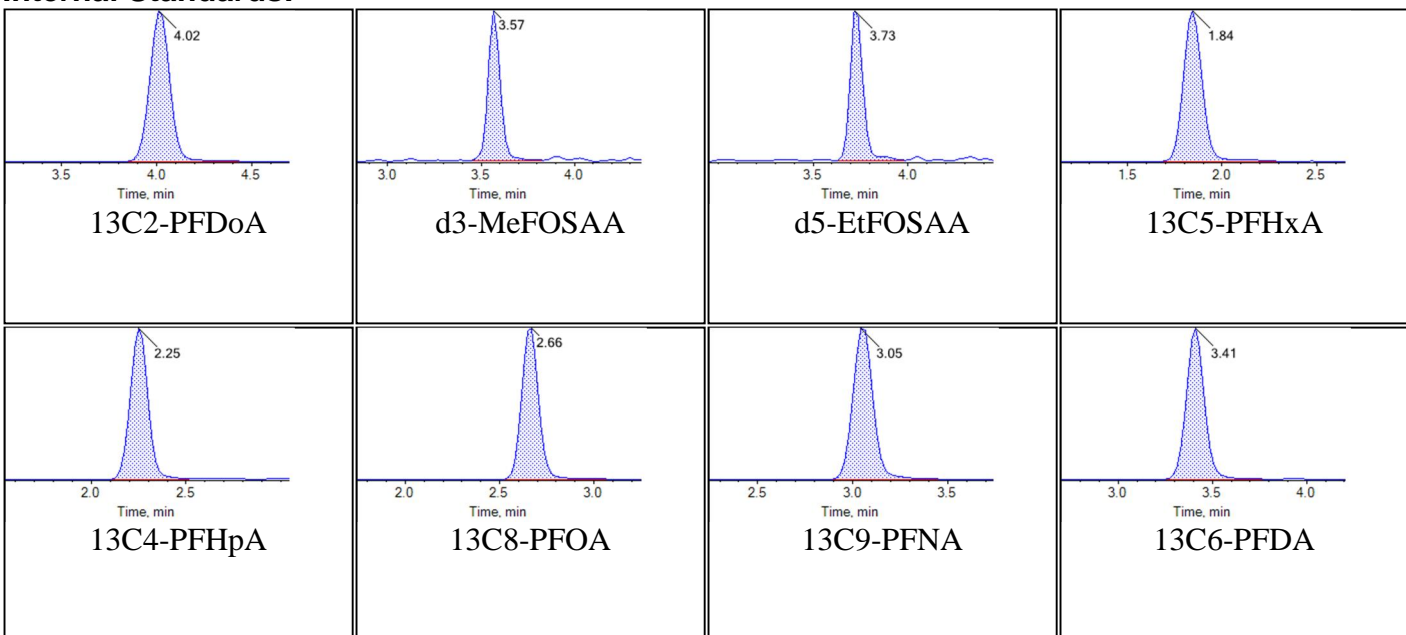
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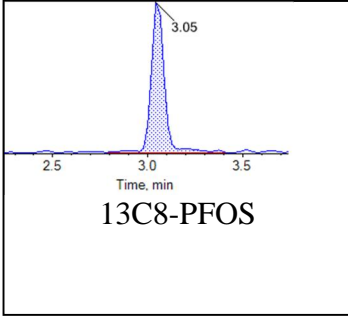
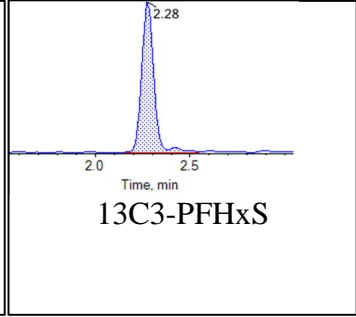
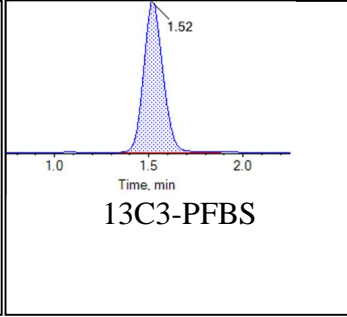
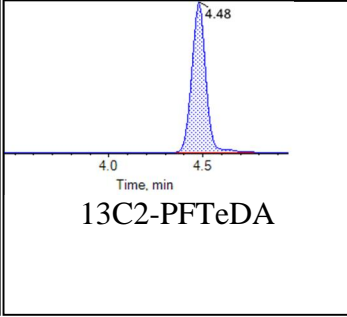
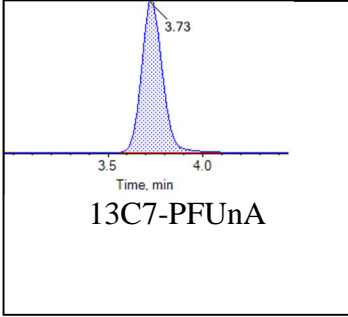


Internal Standards:



Chromatogram Report

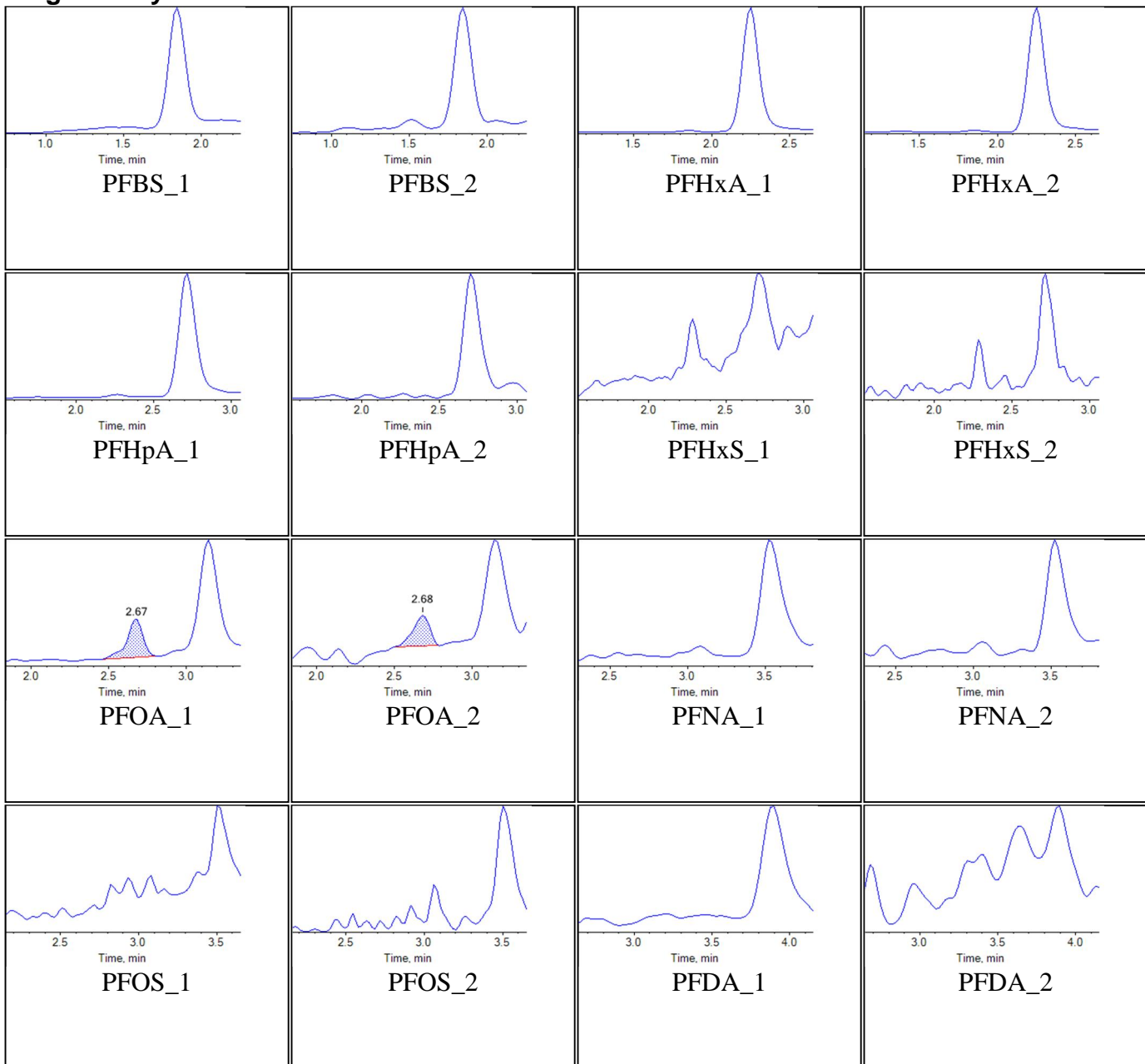
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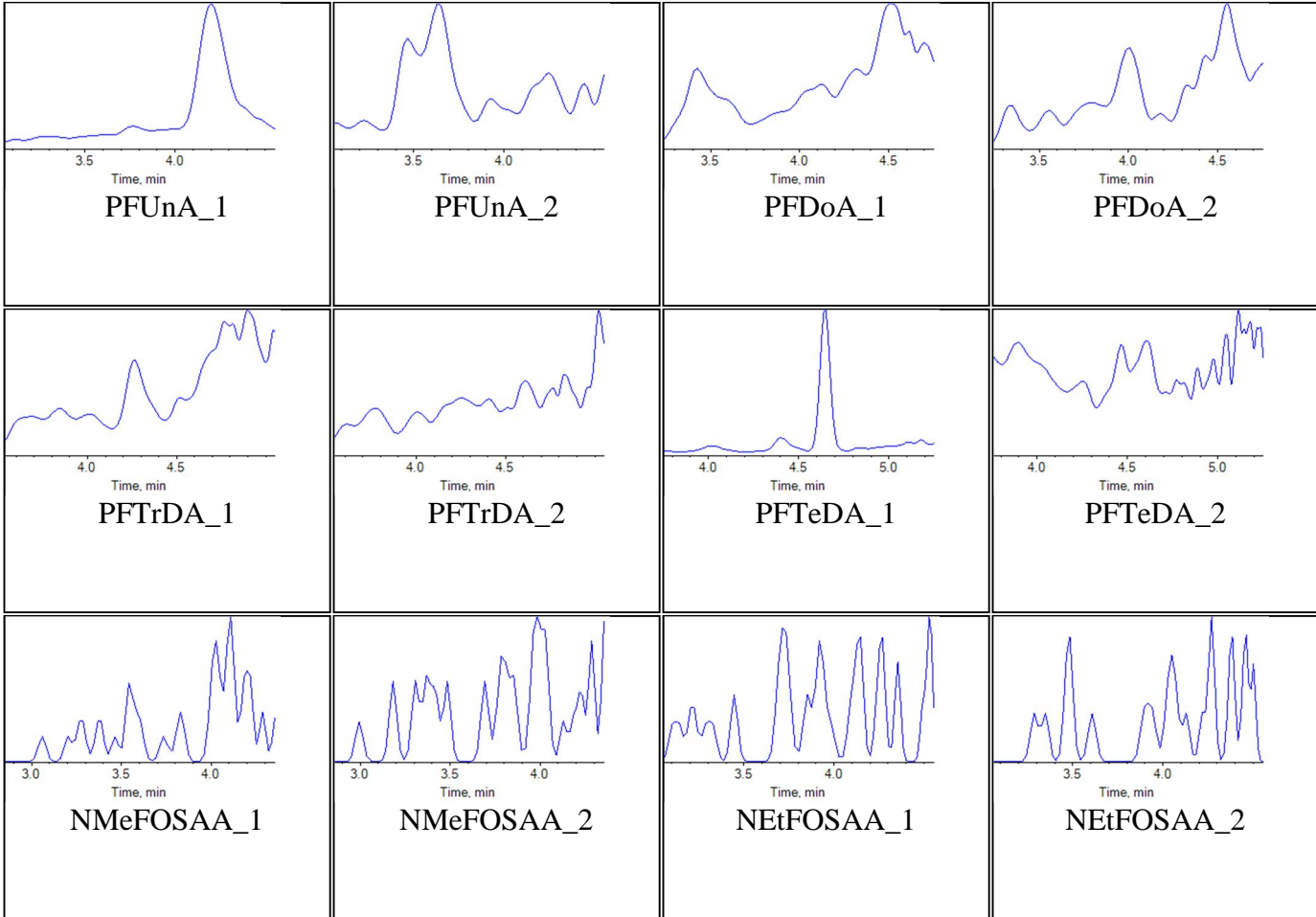


Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

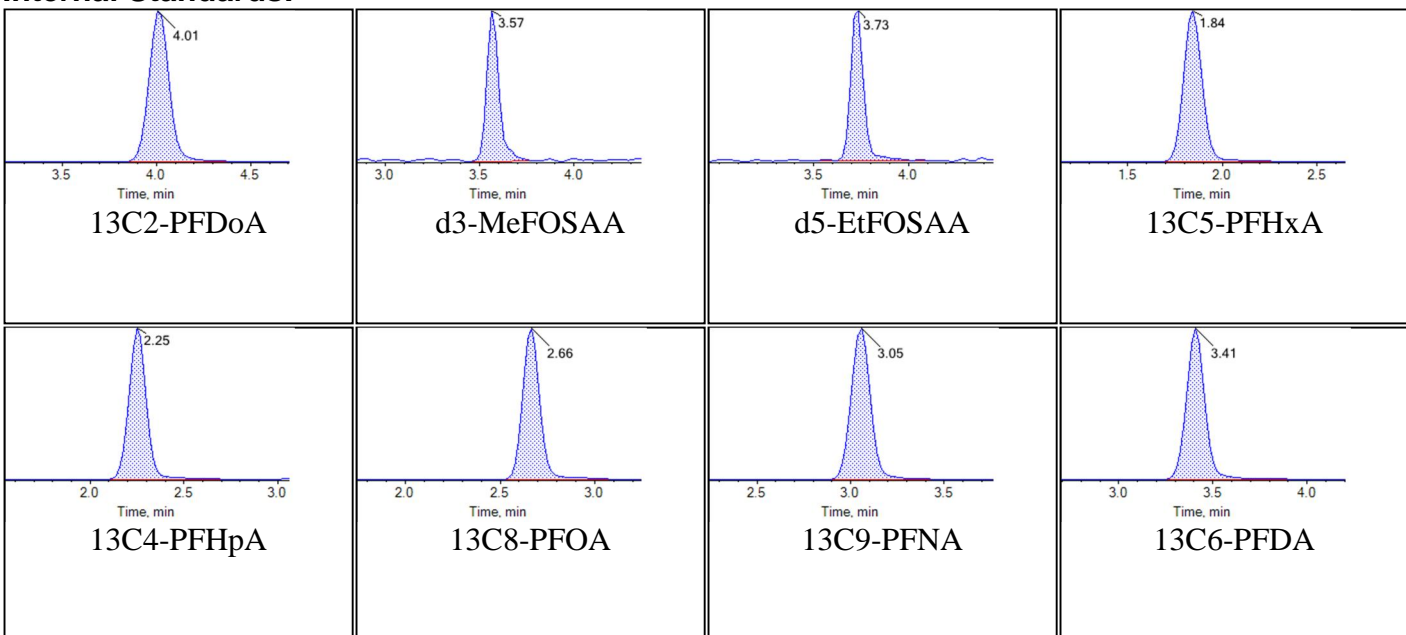
Chromatograms

Target Analytes:



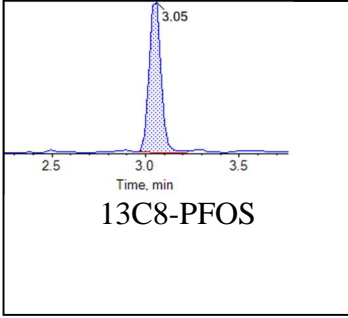
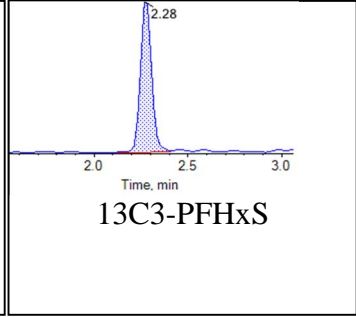
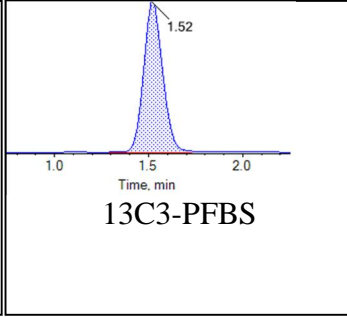
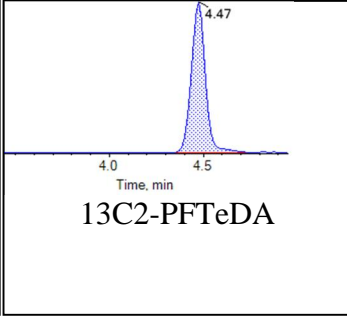
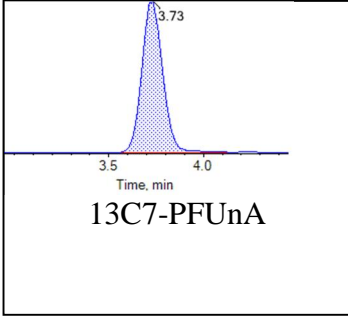


Internal Standards:



Chromatogram Report

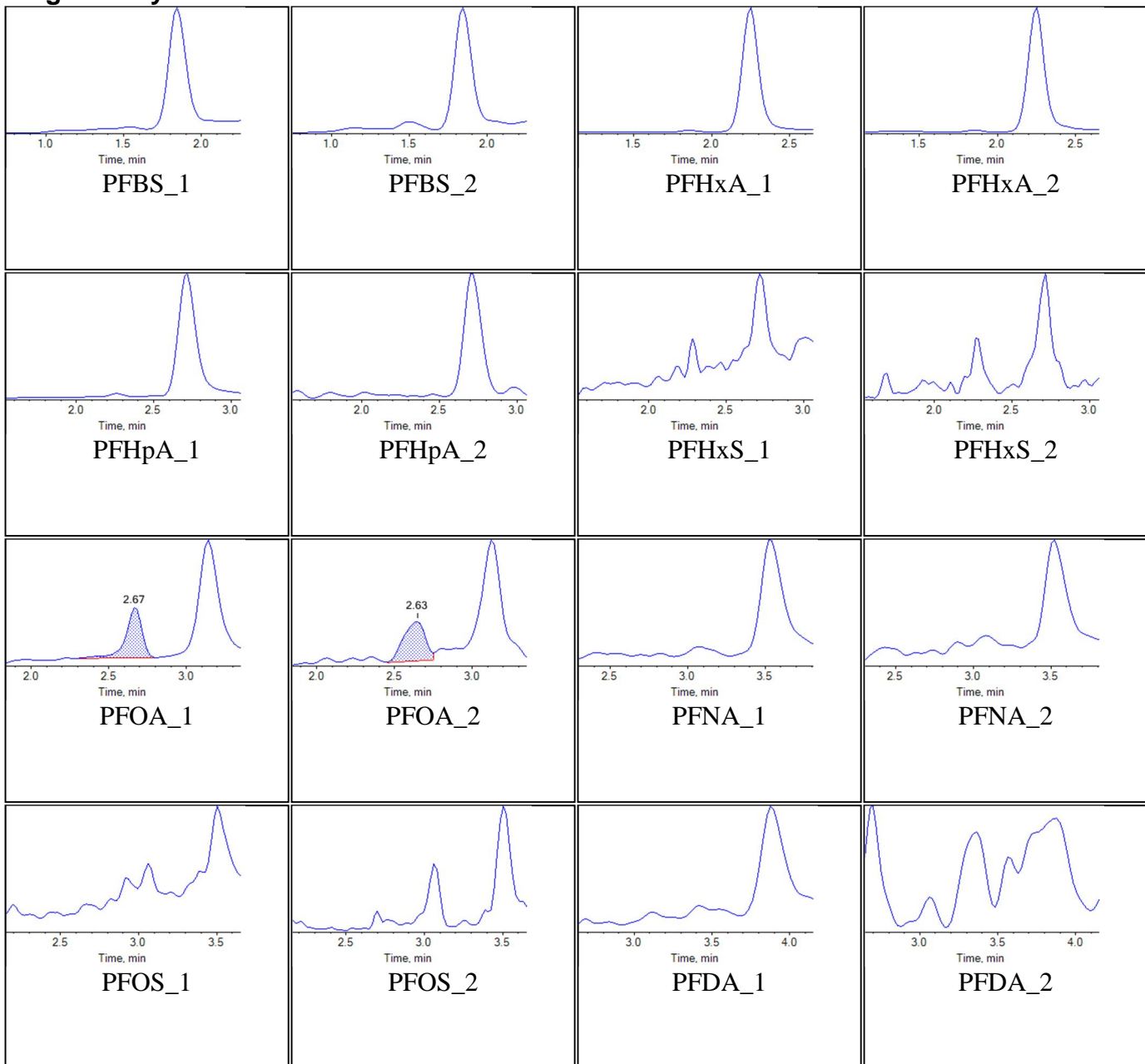
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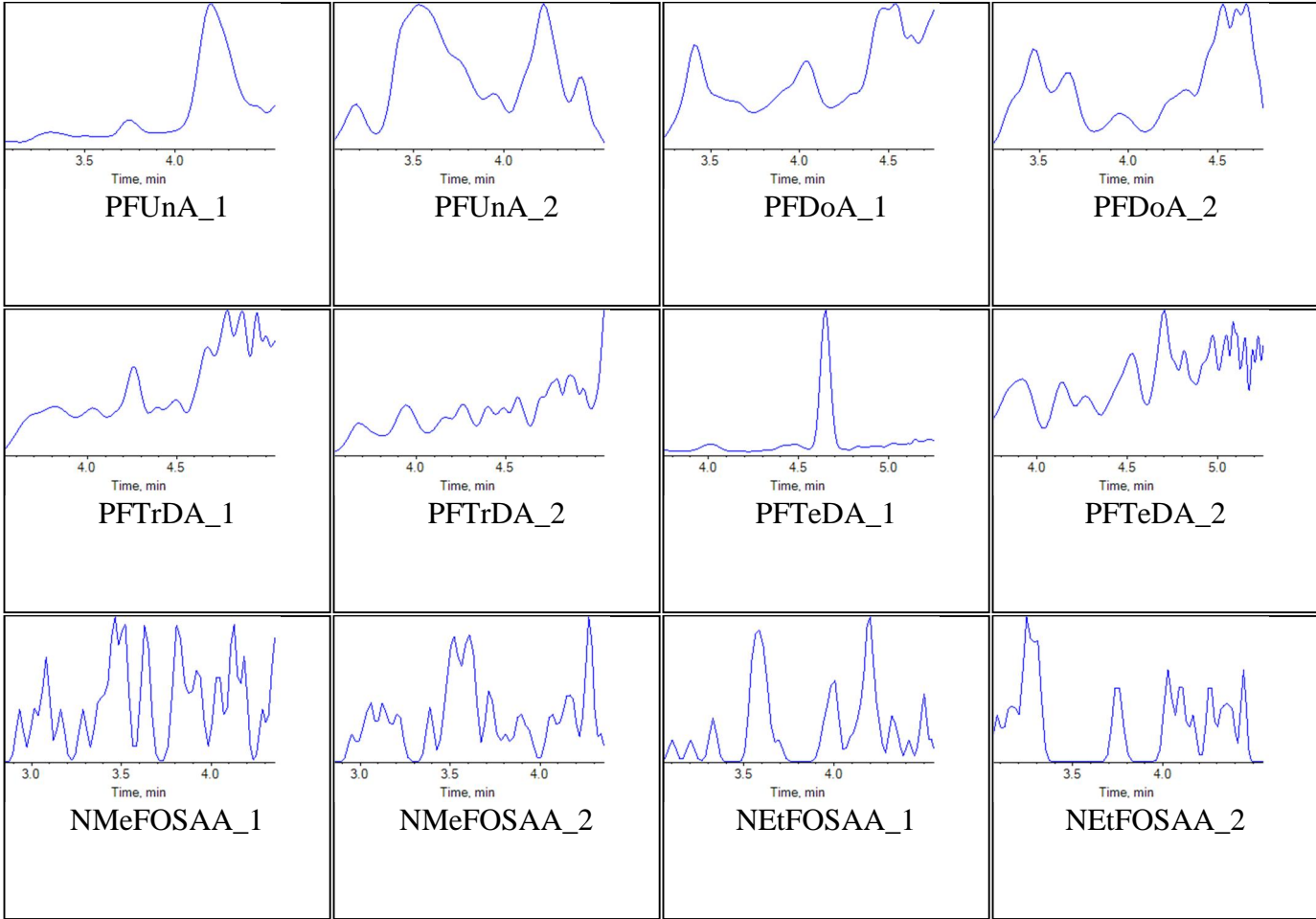


Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

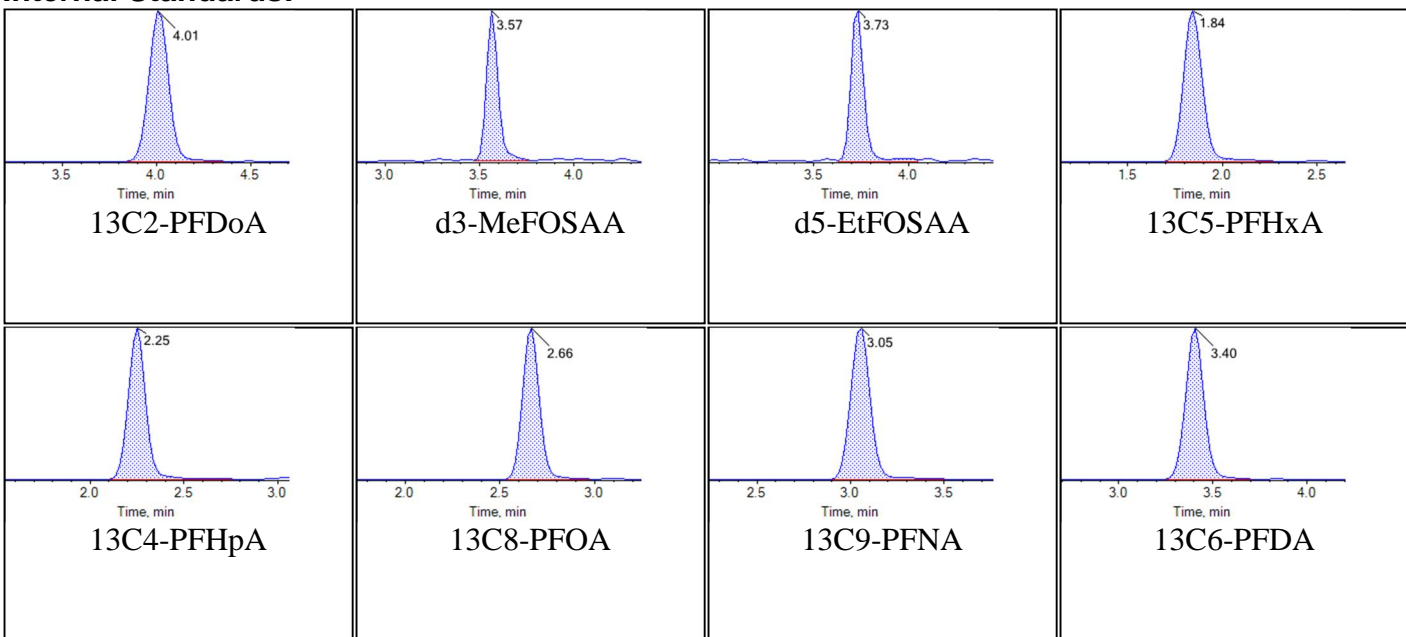
Chromatograms

Target Analytes:



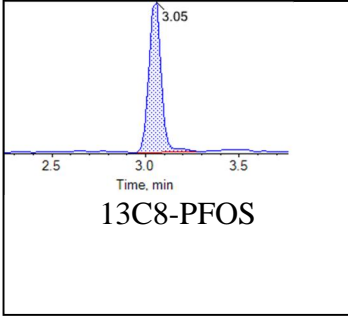
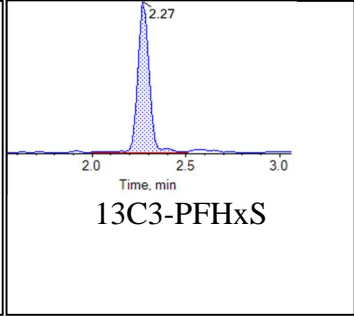
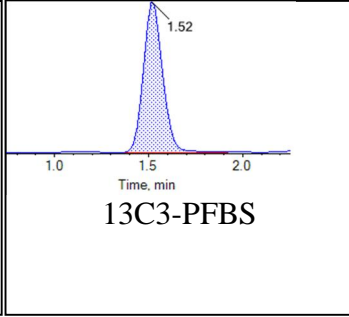
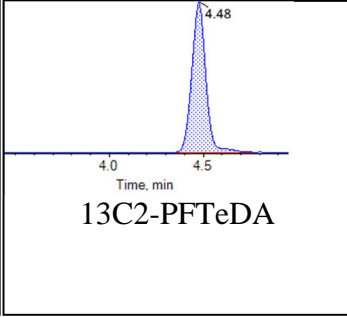
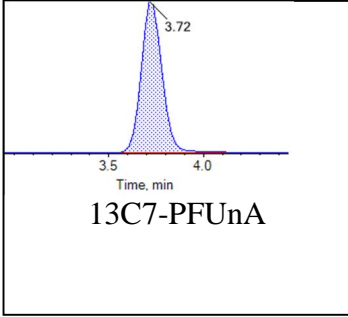


Internal Standards:



Chromatogram Report

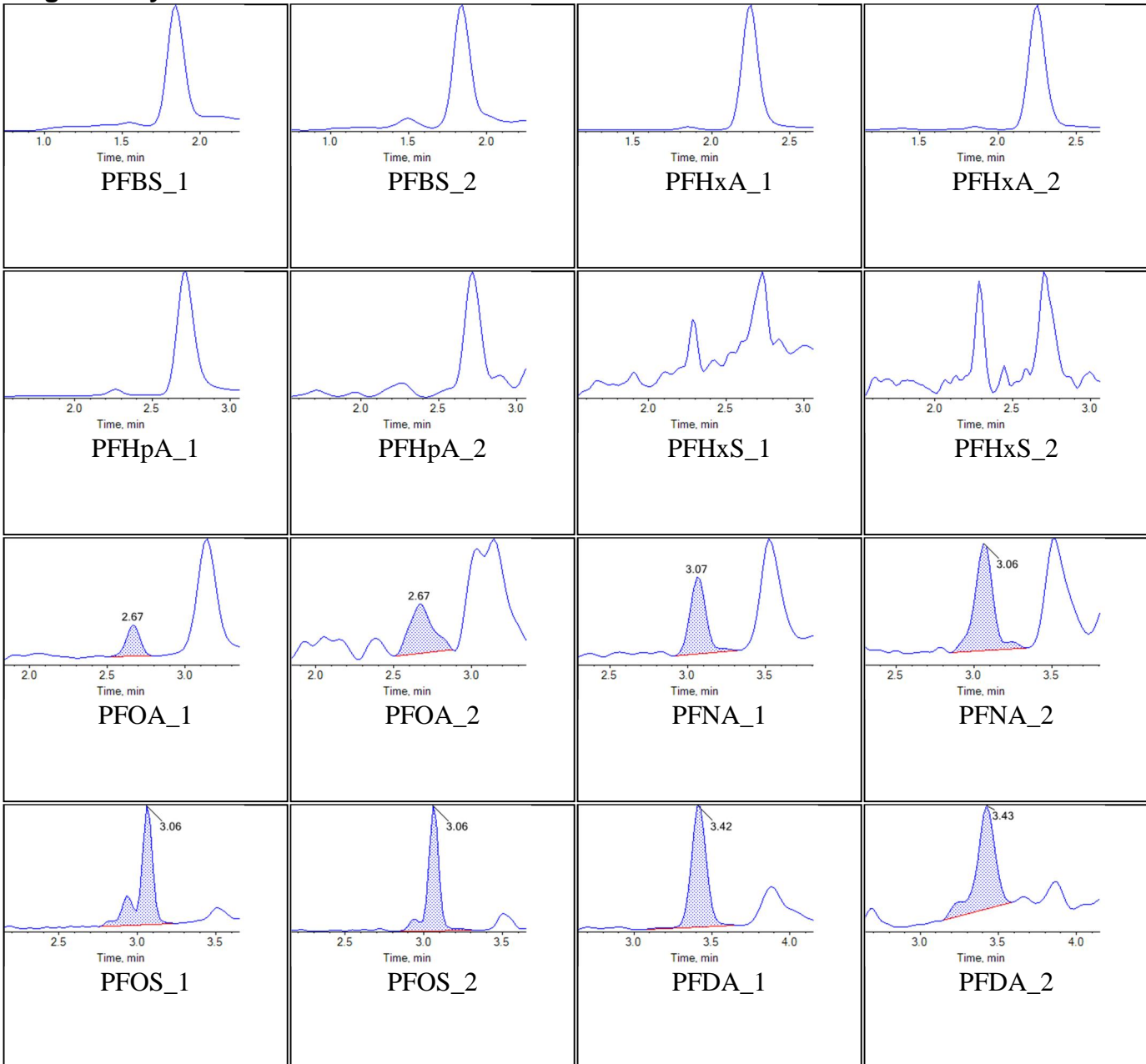
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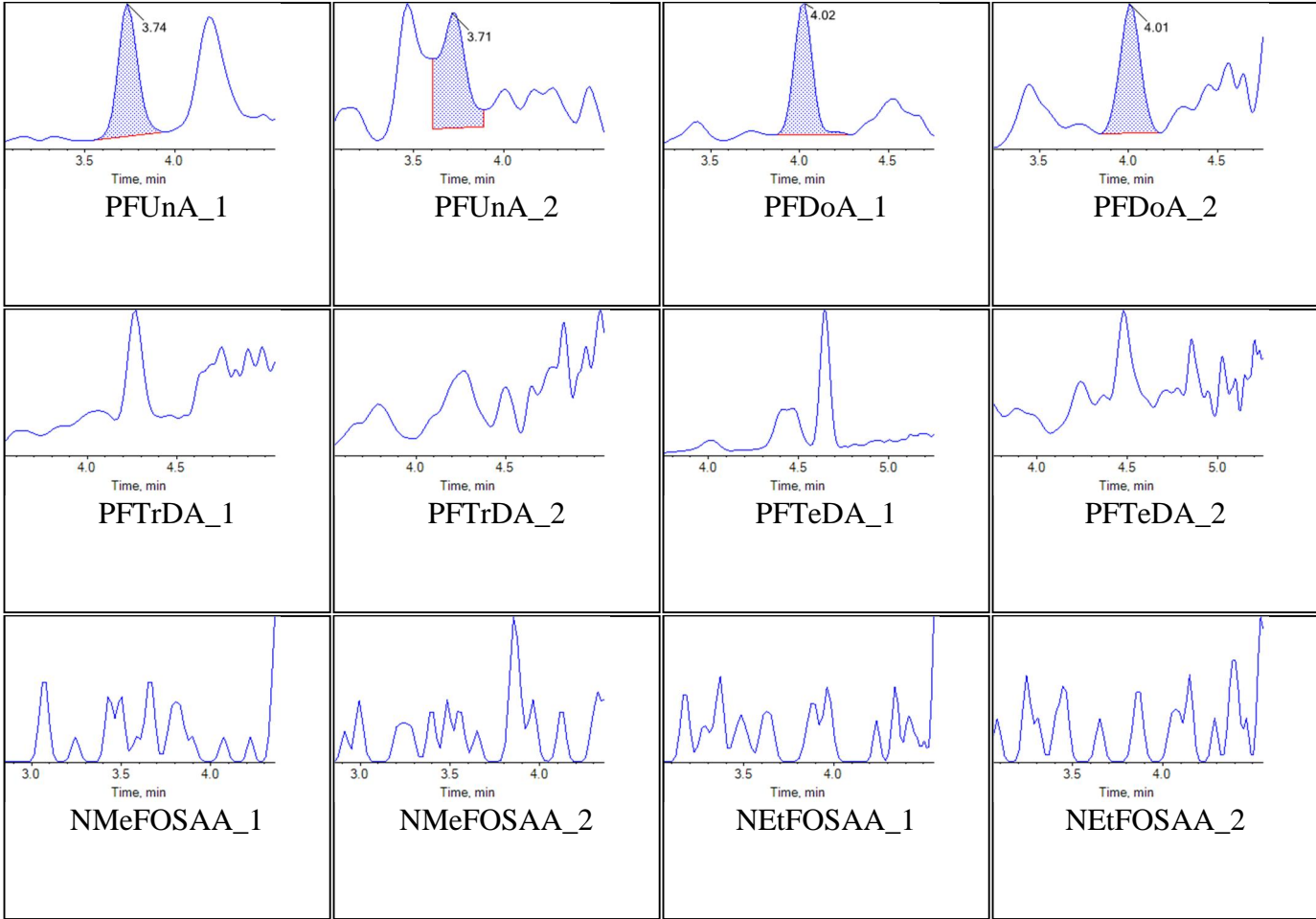


Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

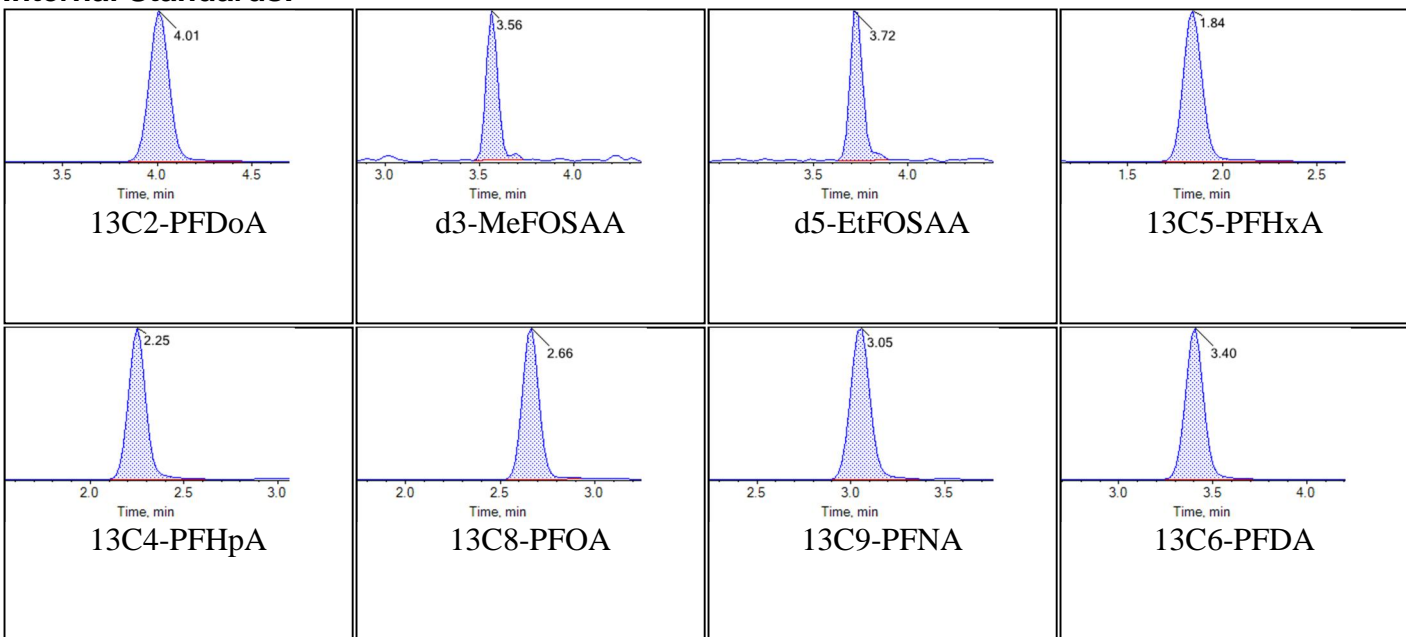
Chromatograms

Target Analytes:



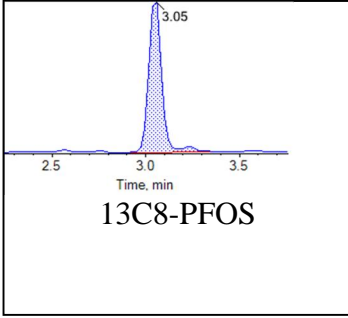
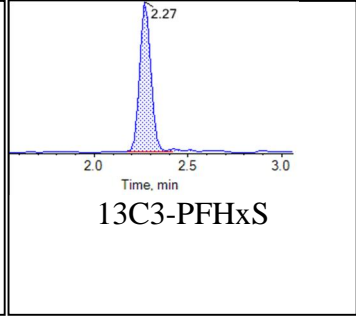
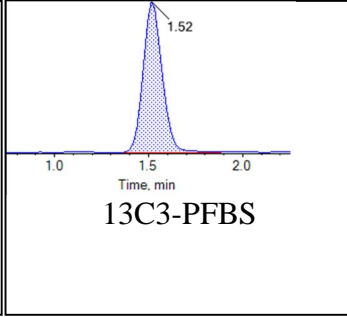
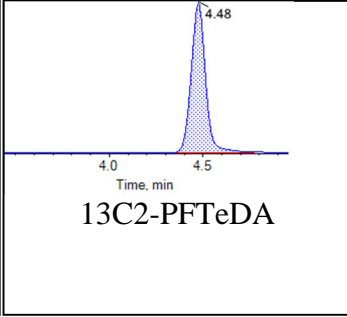
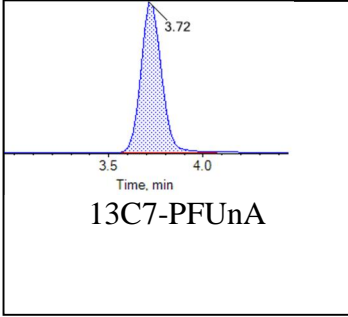


Internal Standards:



Chromatogram Report

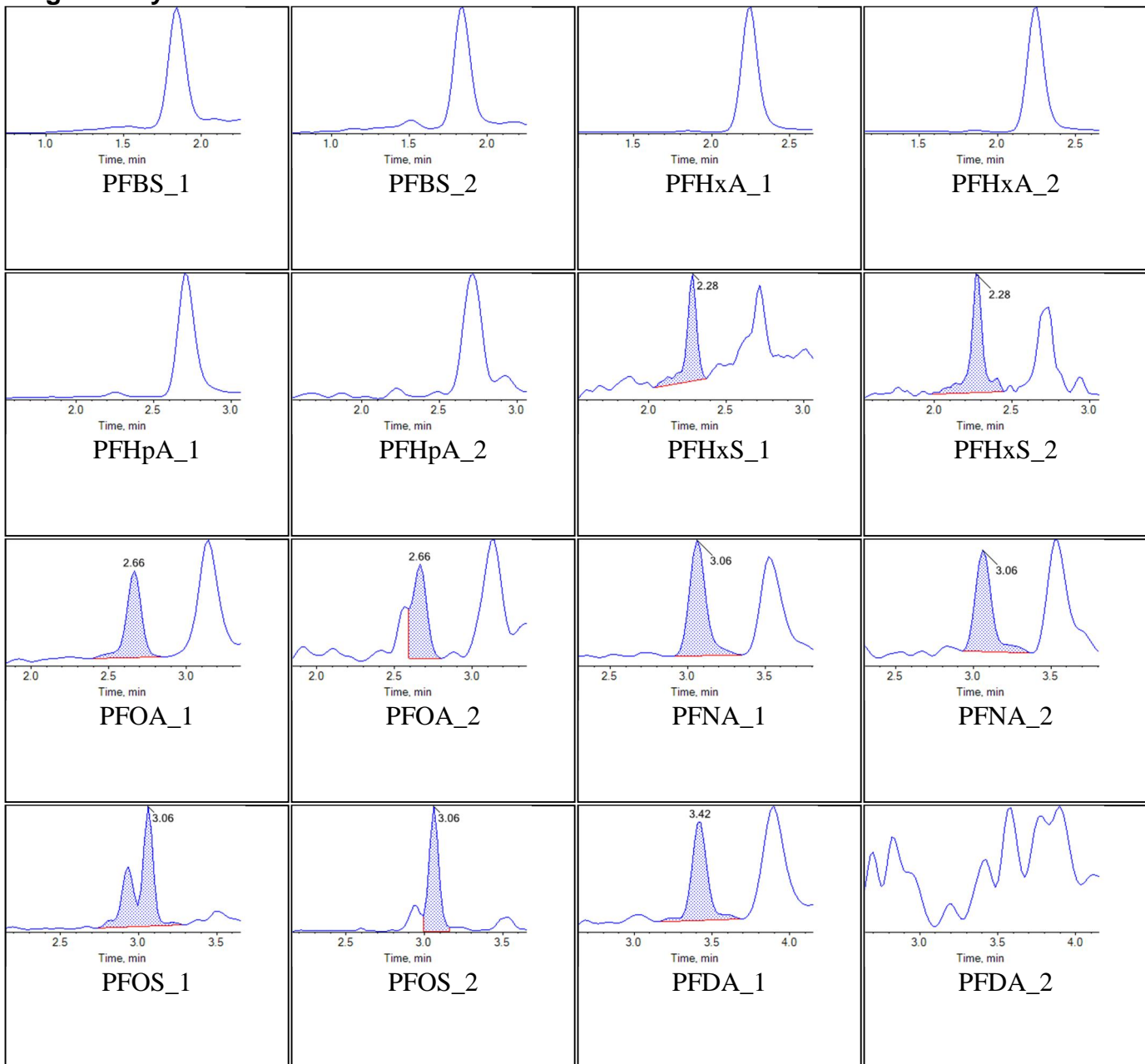
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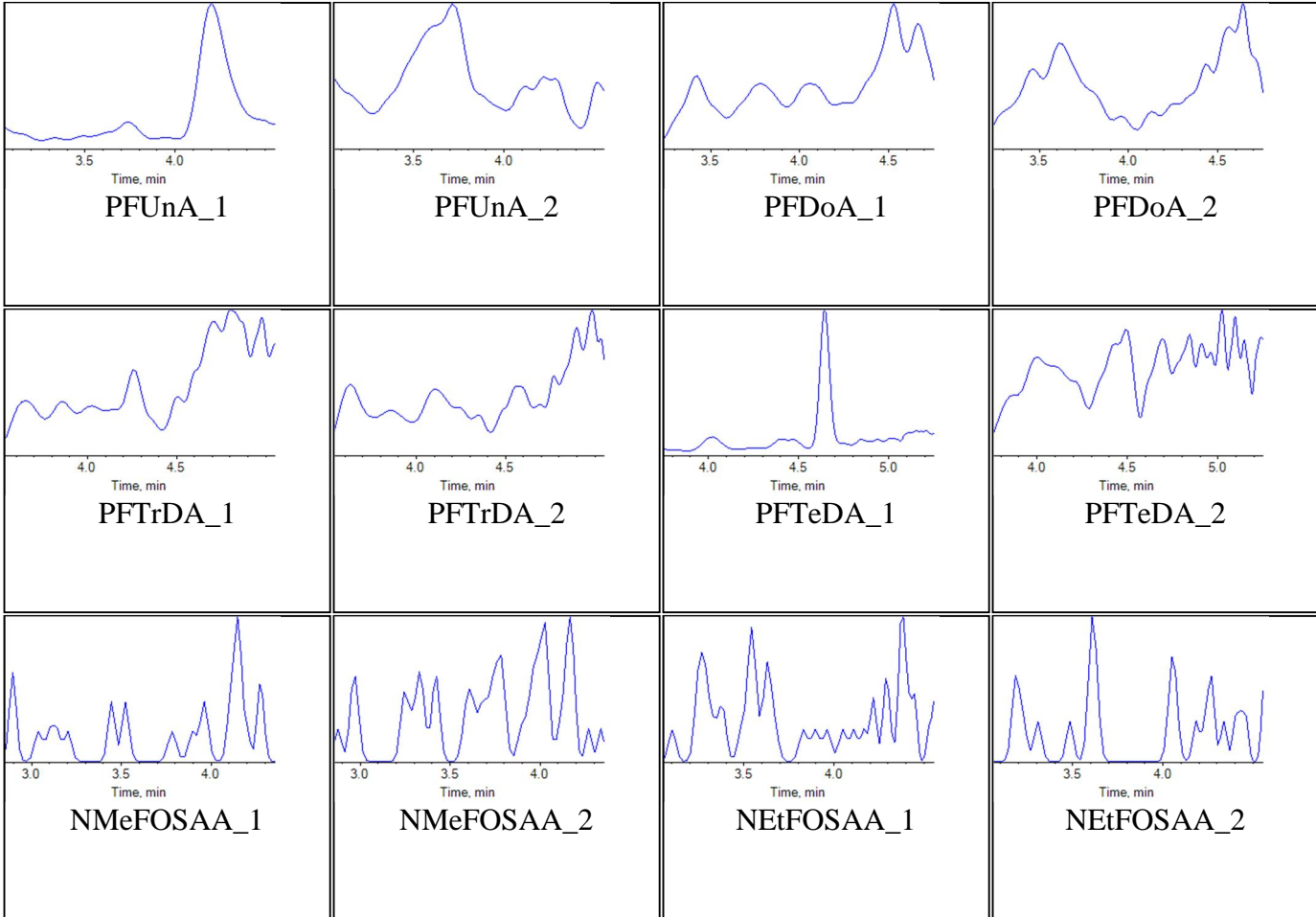


Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

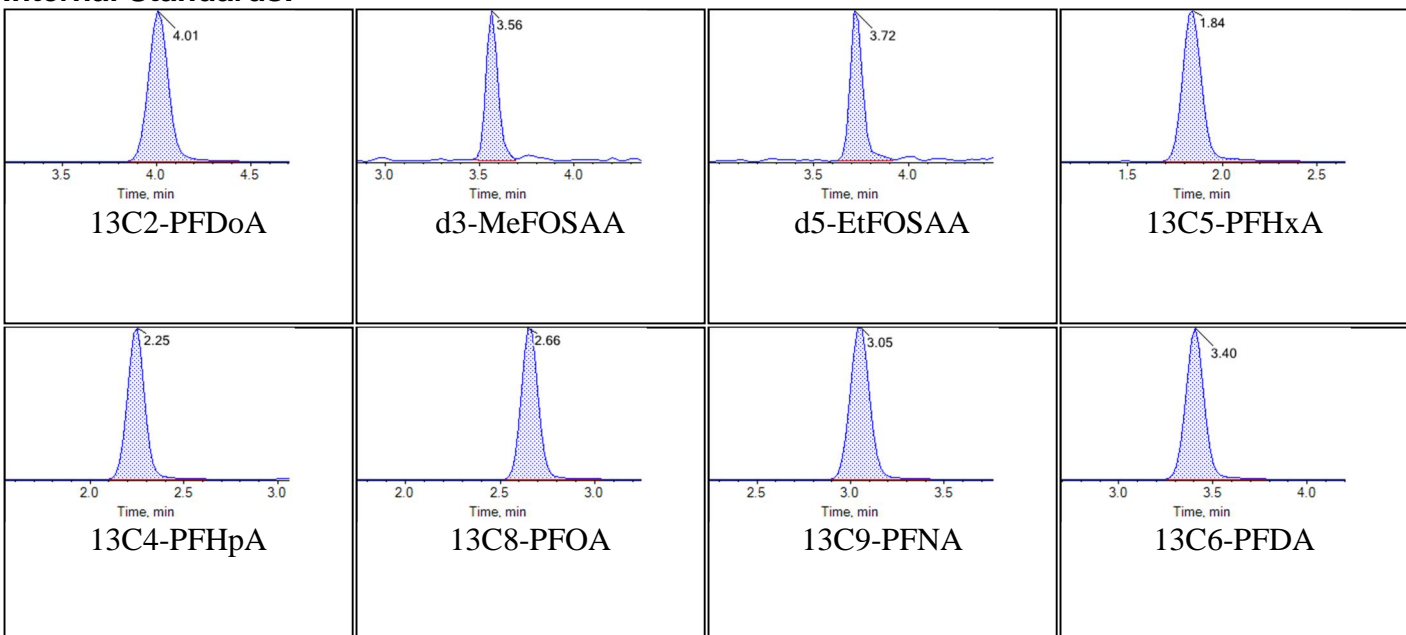
Chromatograms

Target Analytes:



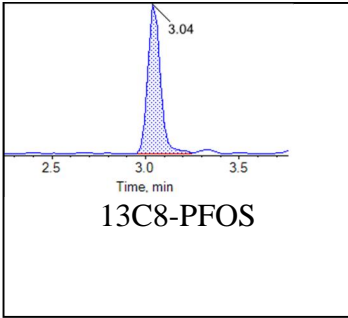
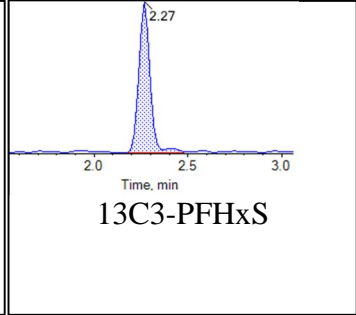
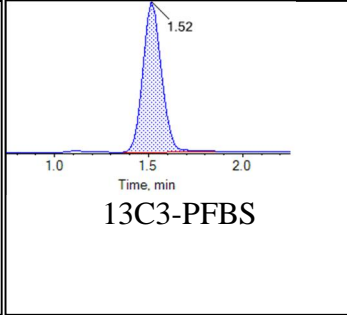
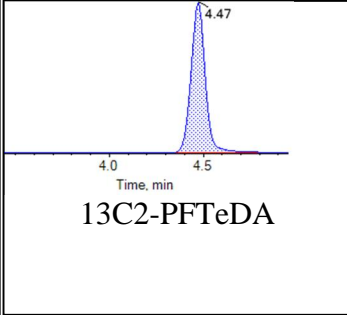
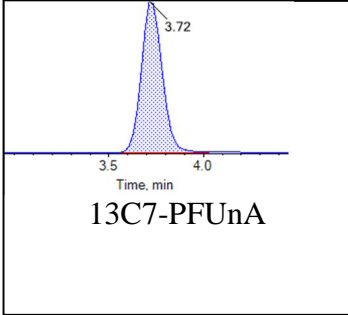


Internal Standards:



Chromatogram Report

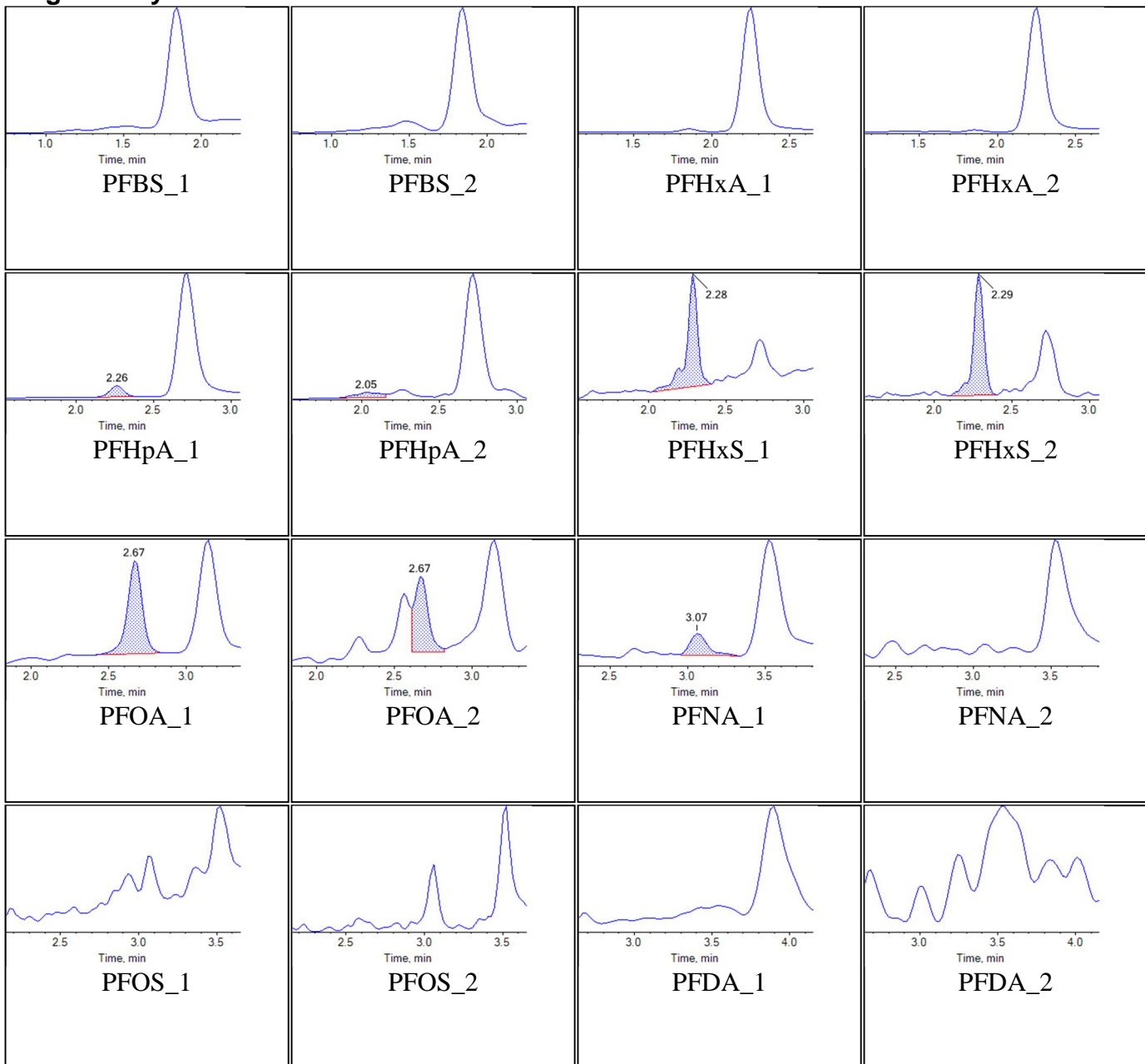
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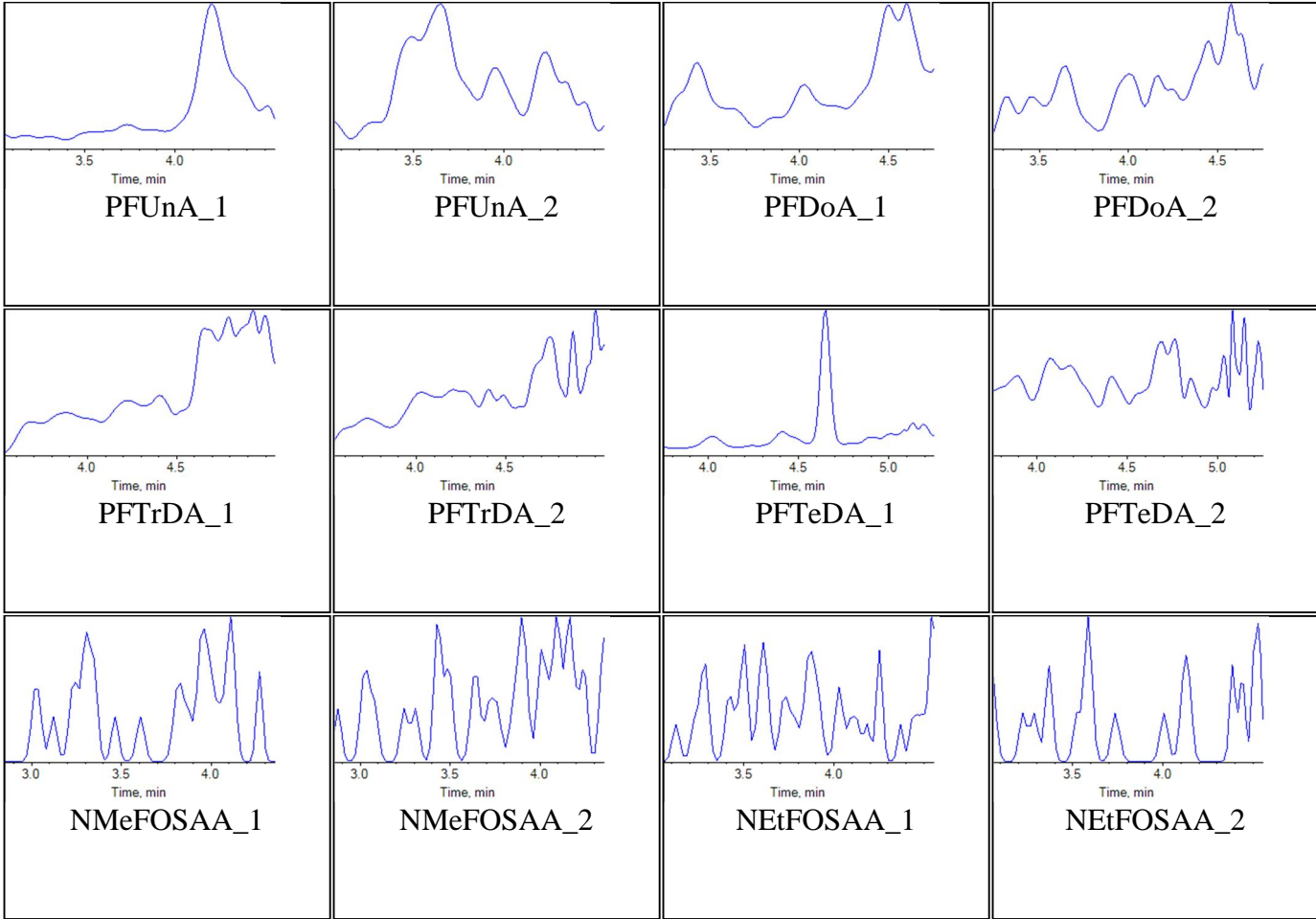


Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

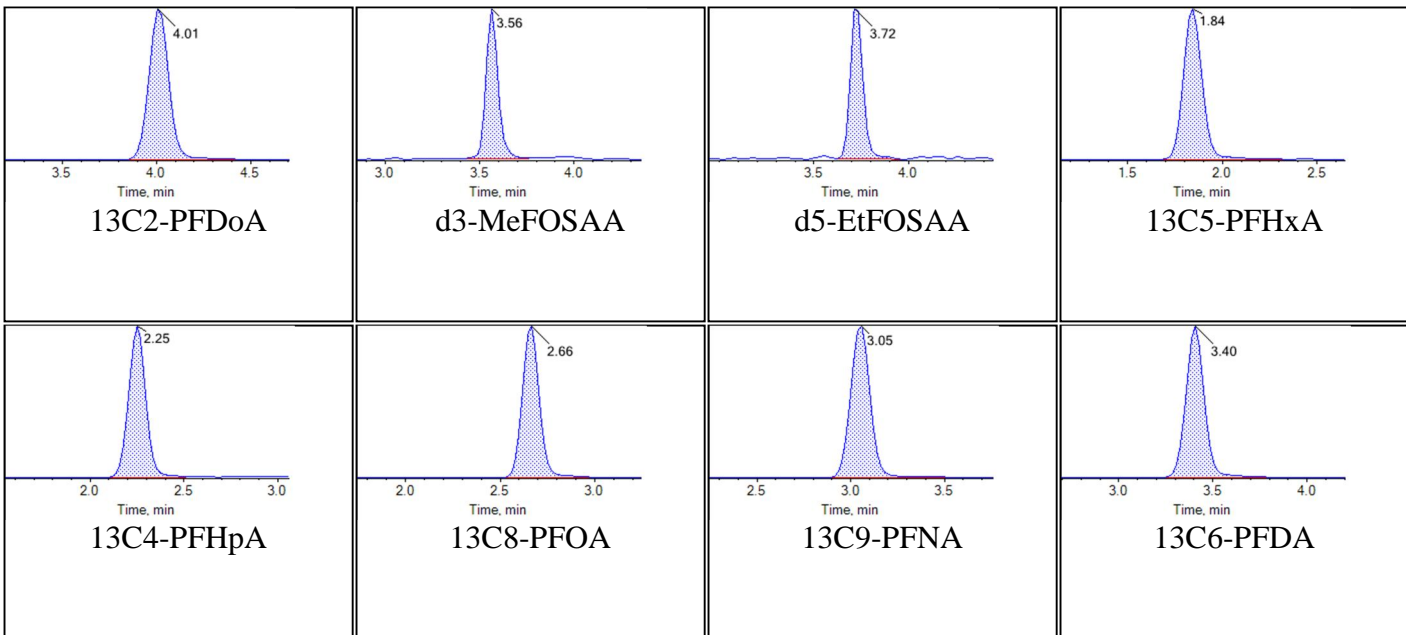
Chromatograms

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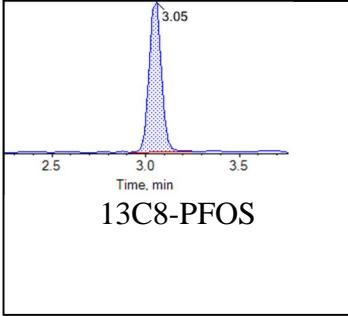
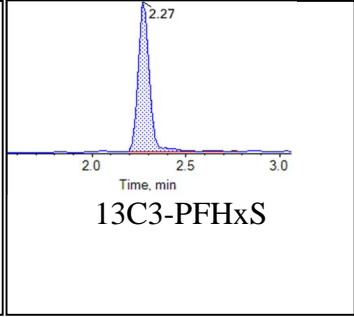
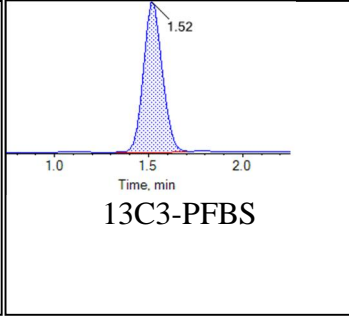
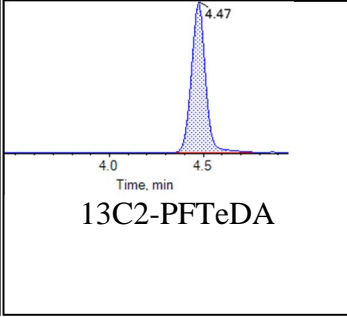
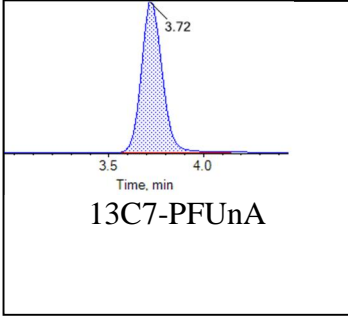


Internal Standards:



Chromatogram Report

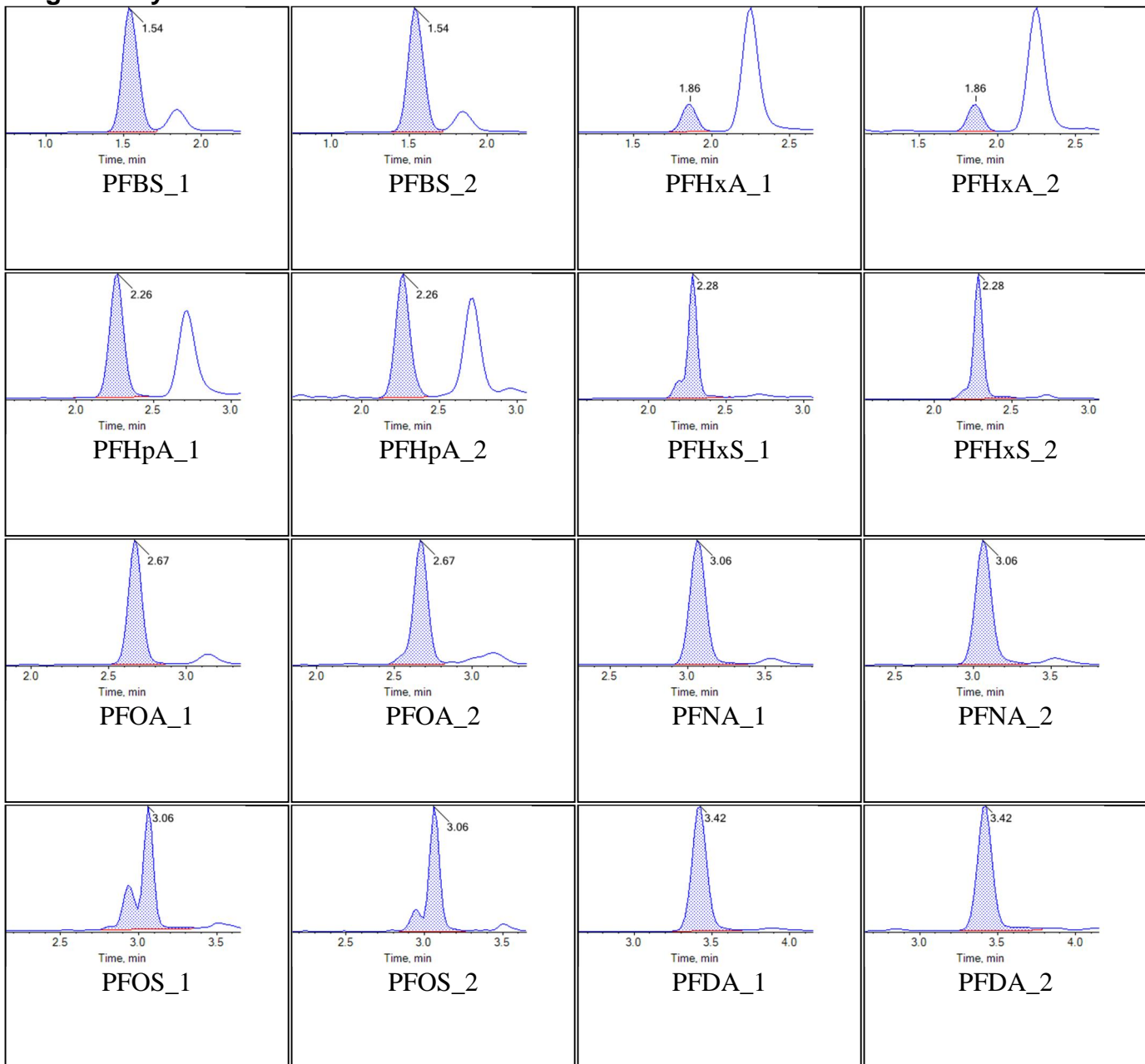
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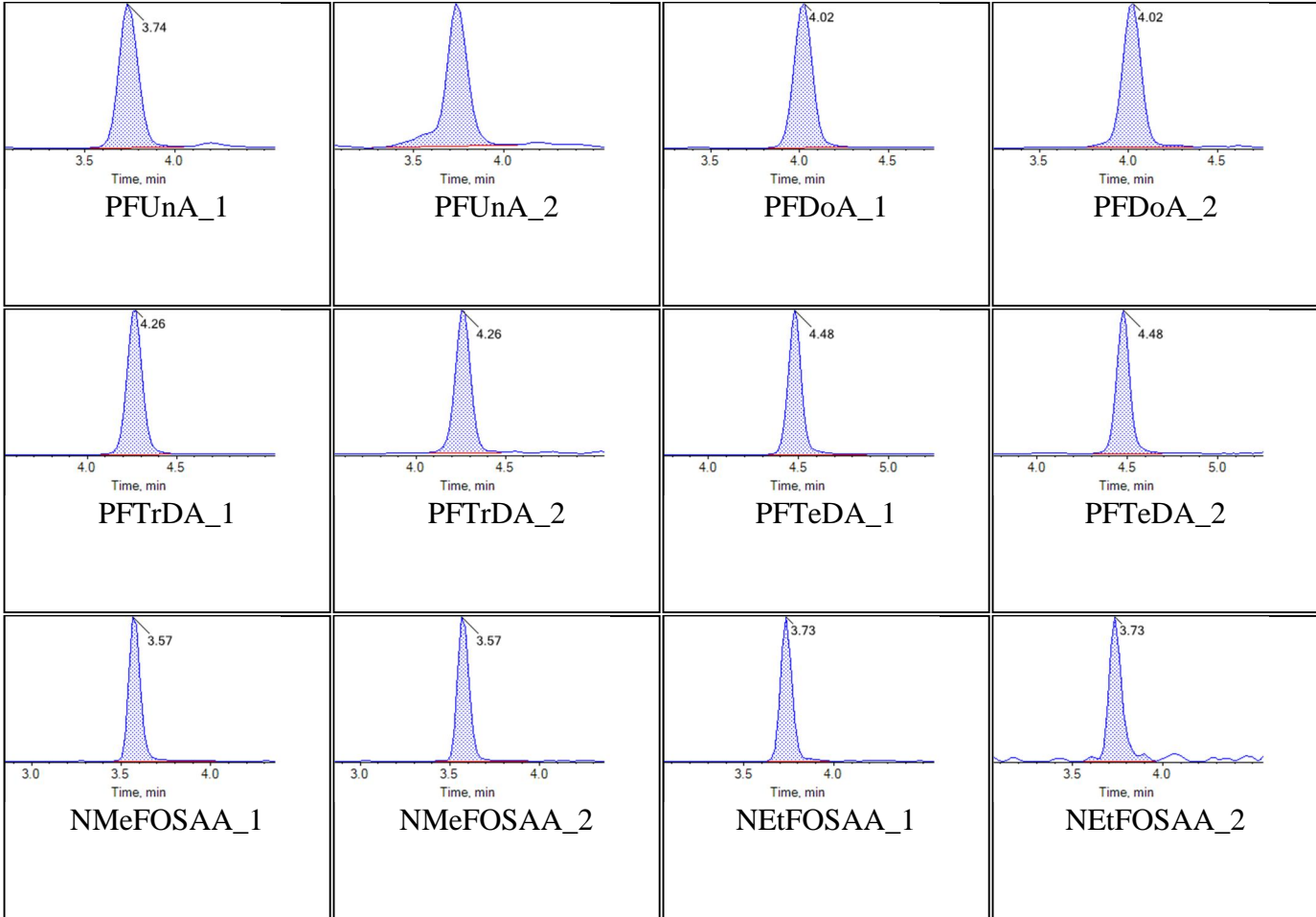


Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_BASE
Sample Comment			

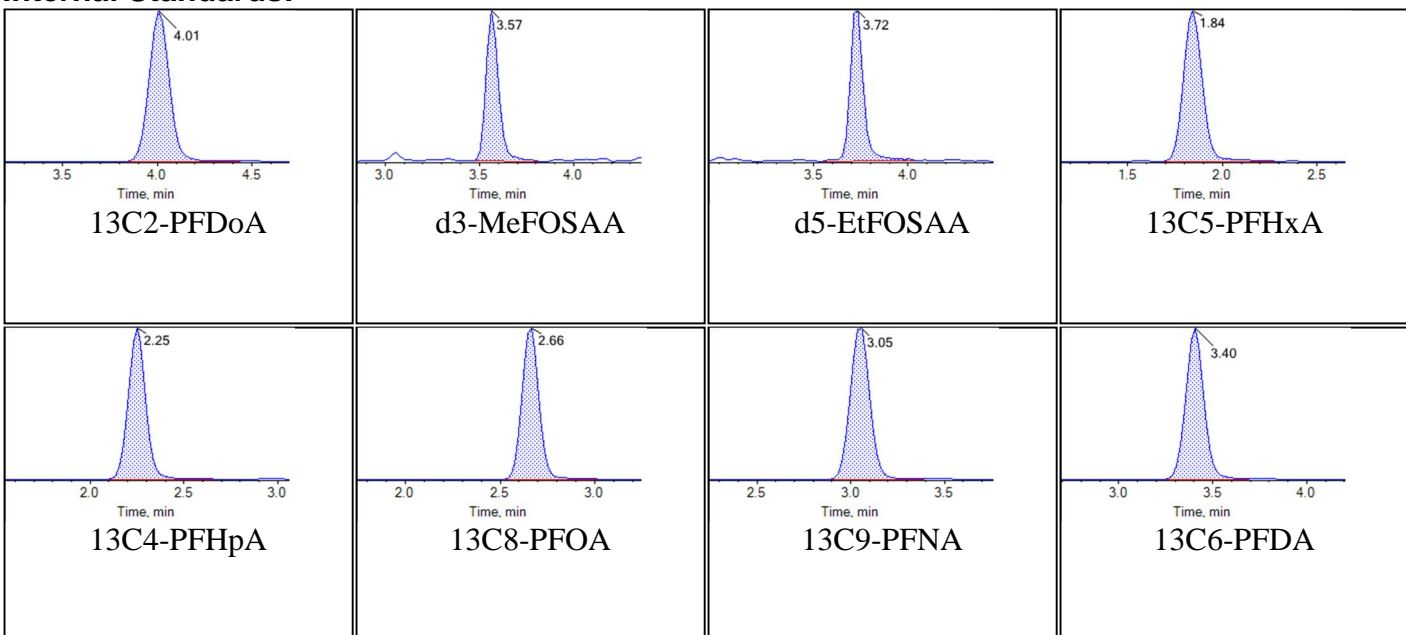
Chromatograms

Target Analytes:



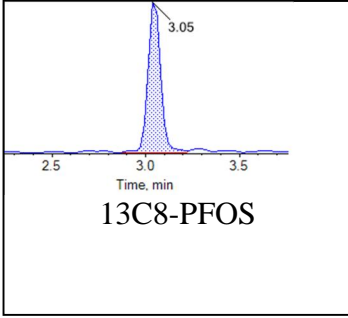
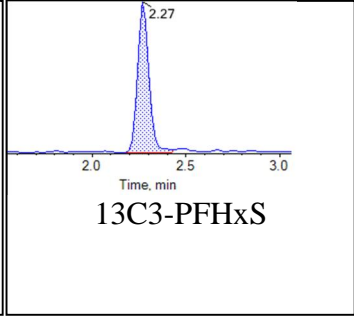
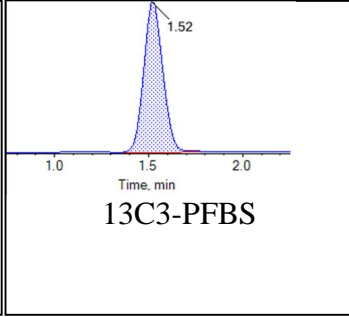
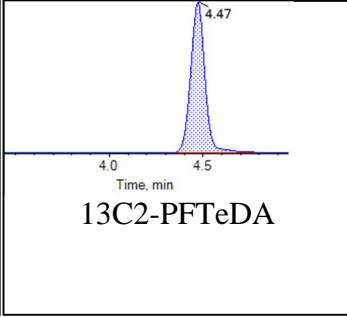
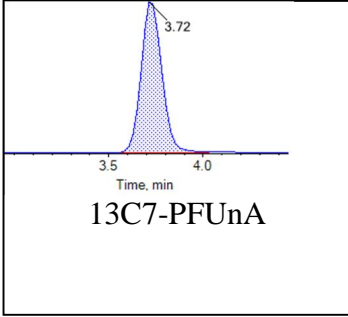


Internal Standards:



Chromatogram Report

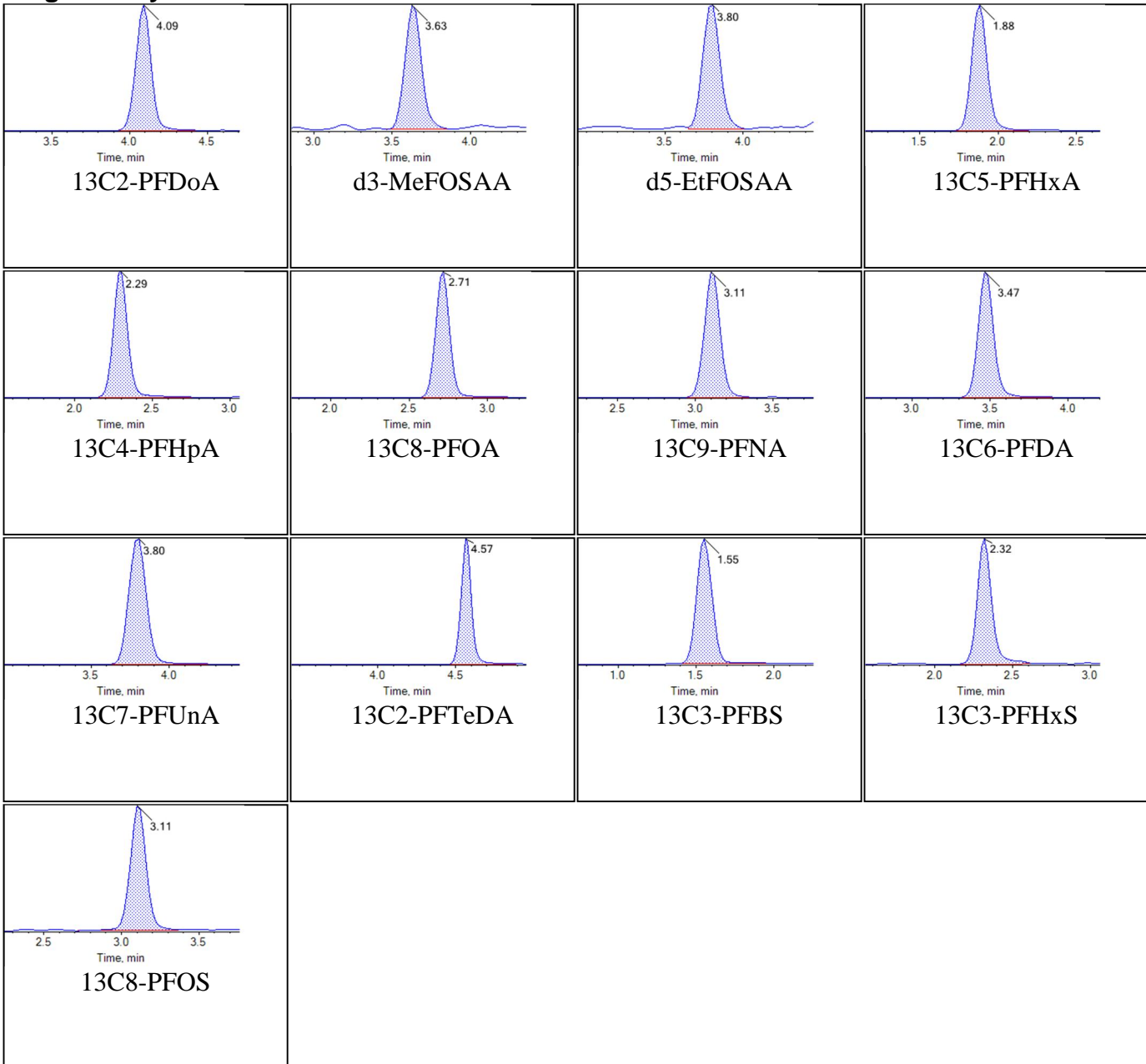
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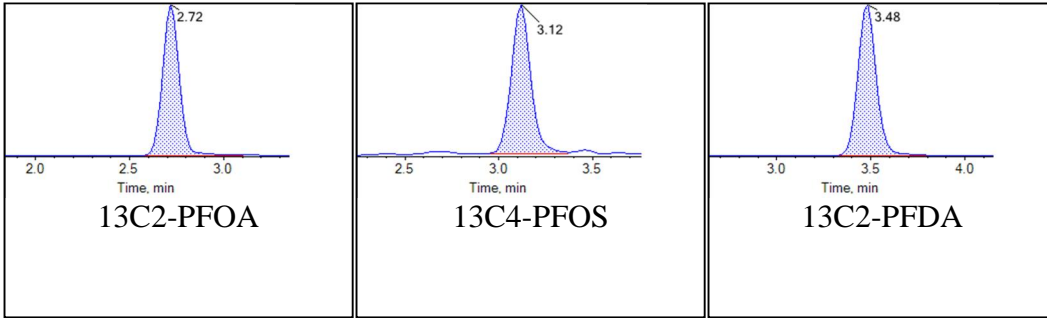
Sample Name	KA86	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T14:50:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



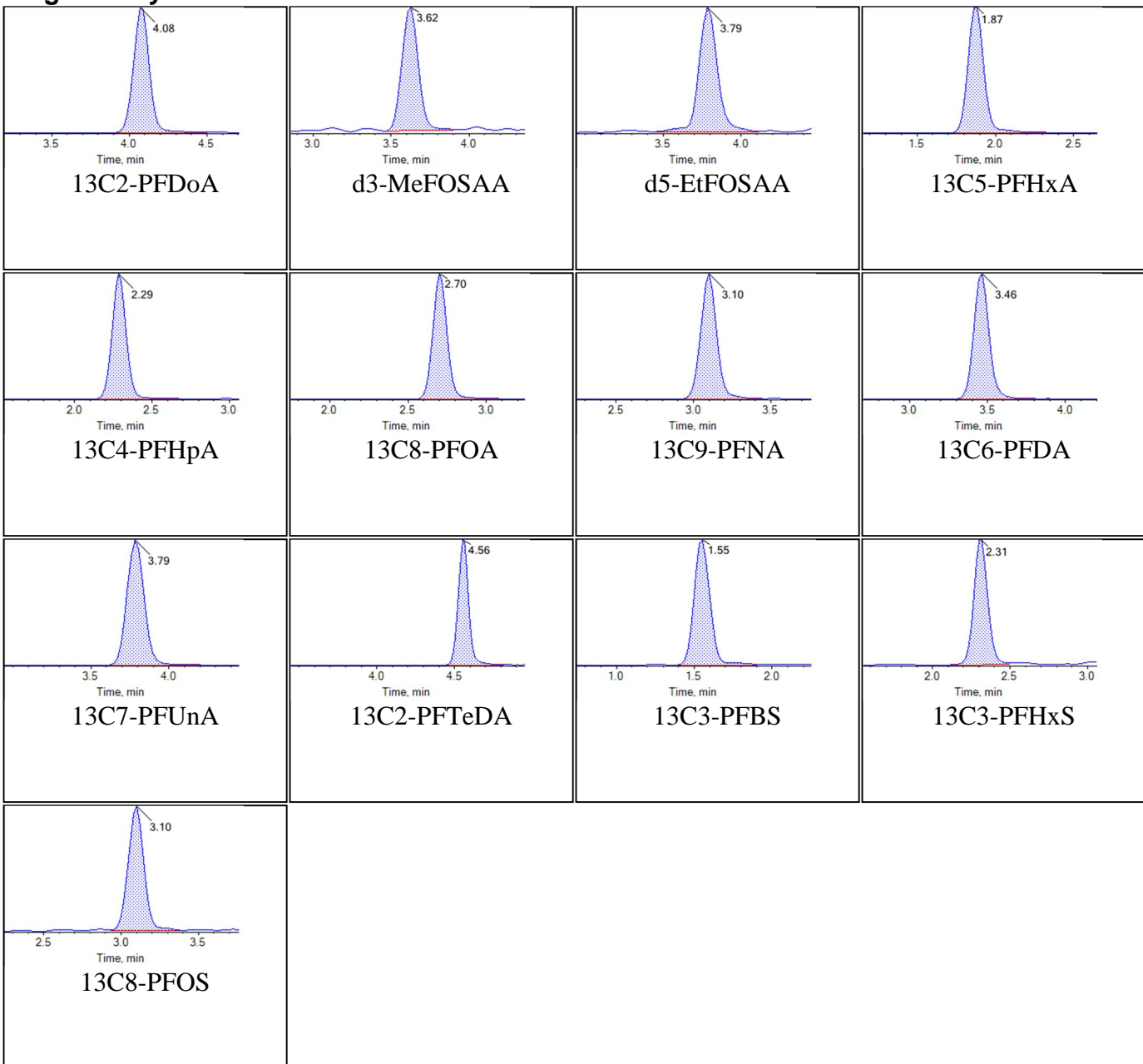
Internal Standards:



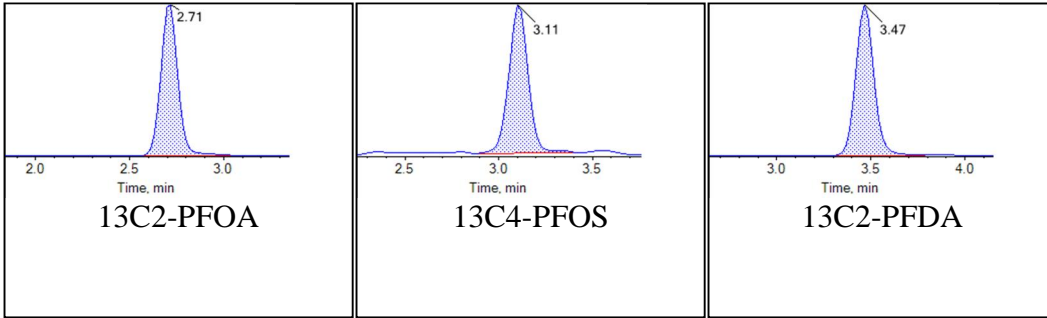
Sample Name	KA87	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:01:25	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



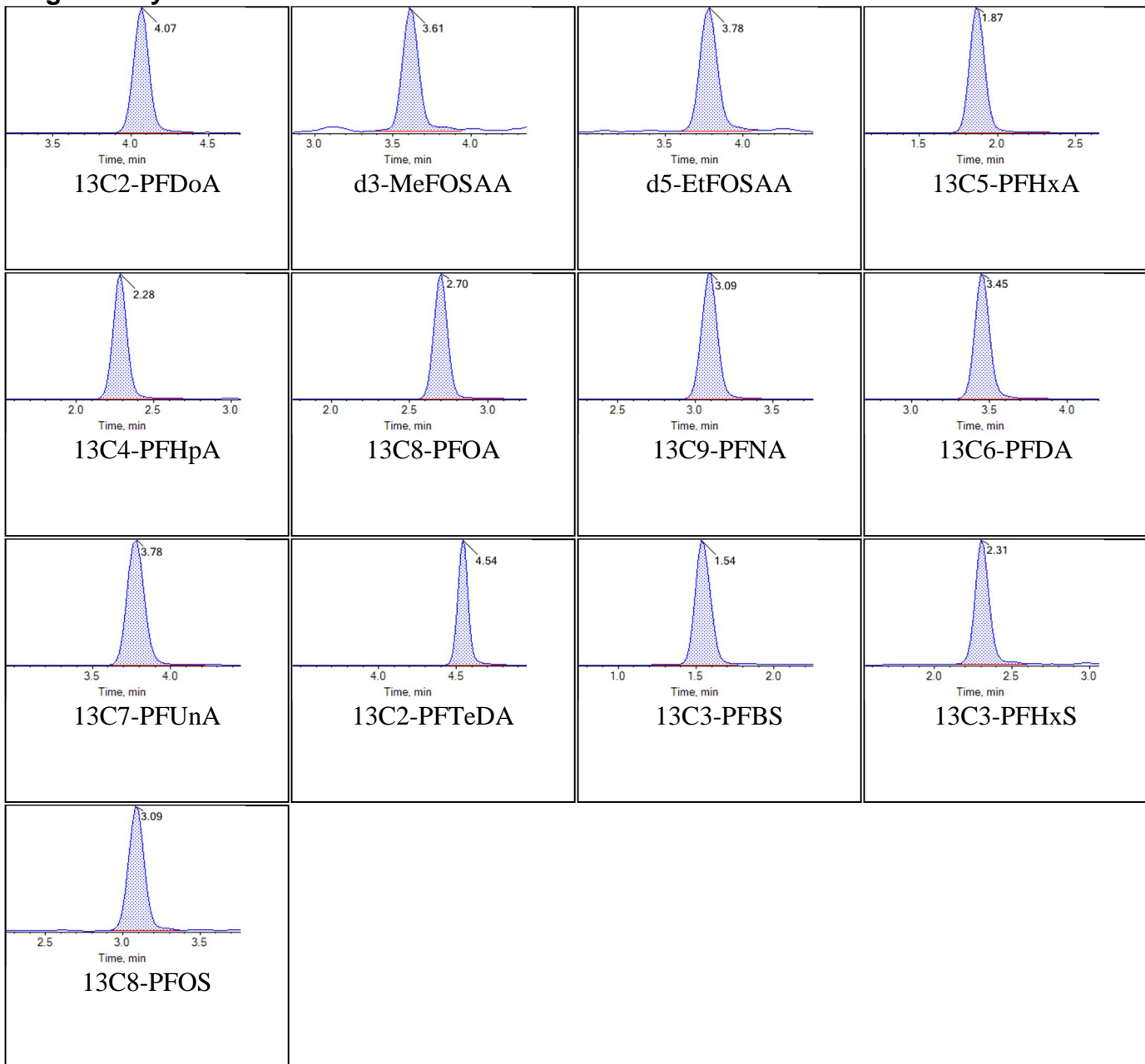
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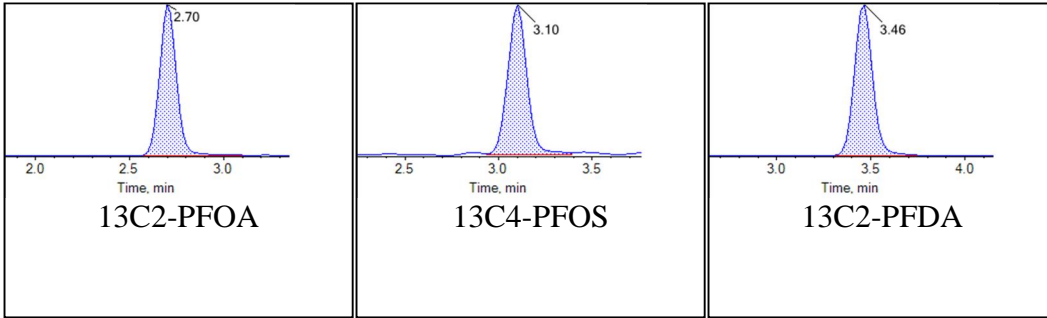
Sample Name	KA88	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:12:17	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



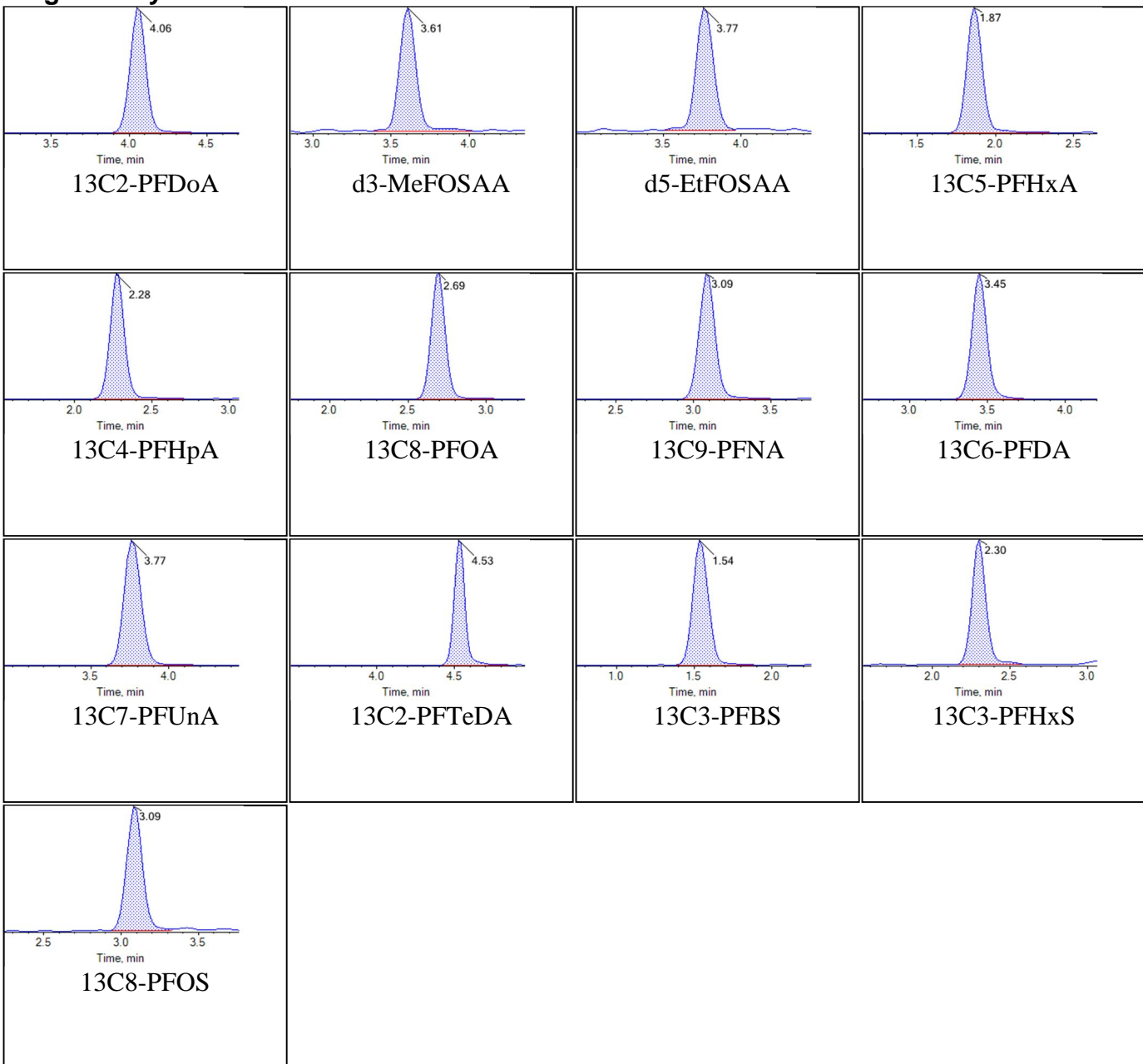
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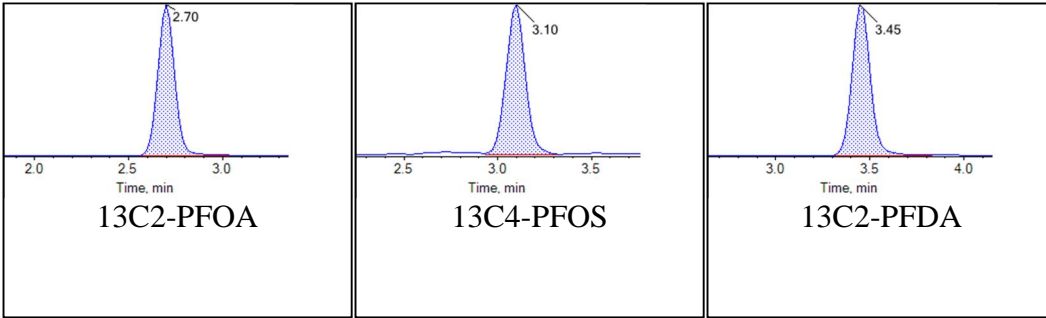
Sample Name	KA89	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:23:09	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



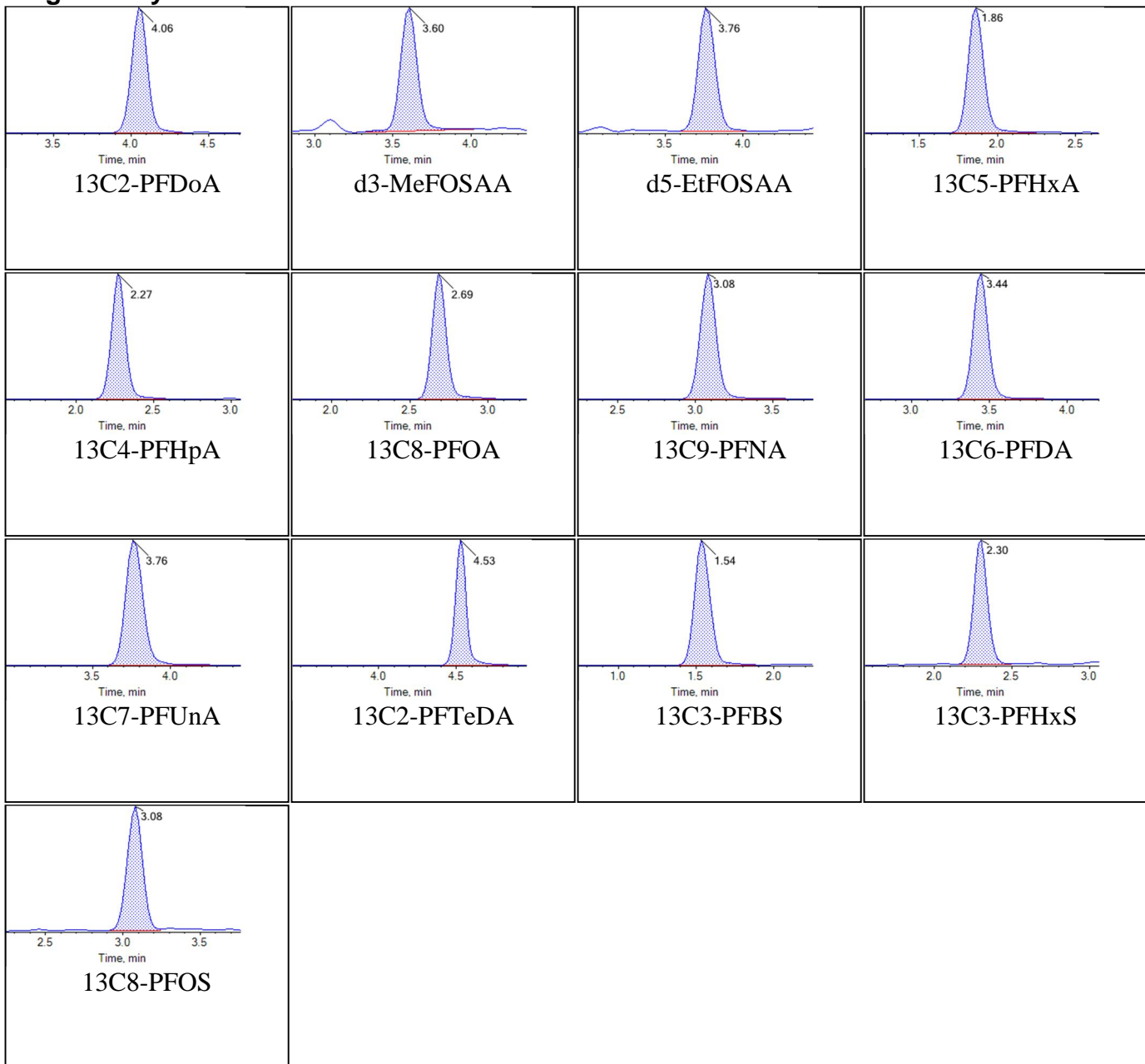
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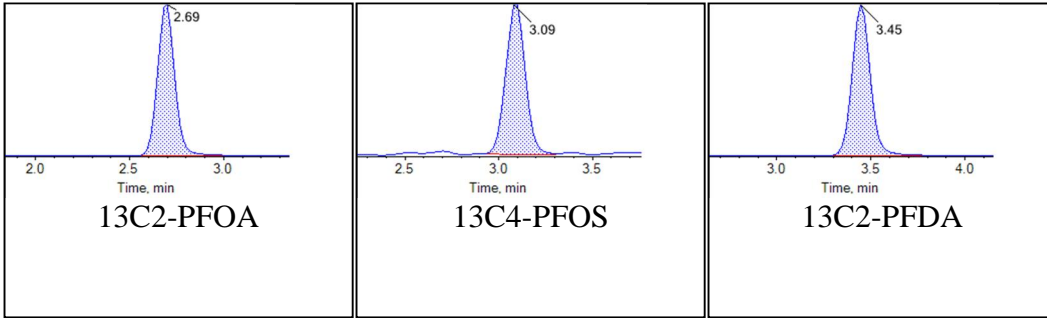
Sample Name	KA90	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:34:02	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



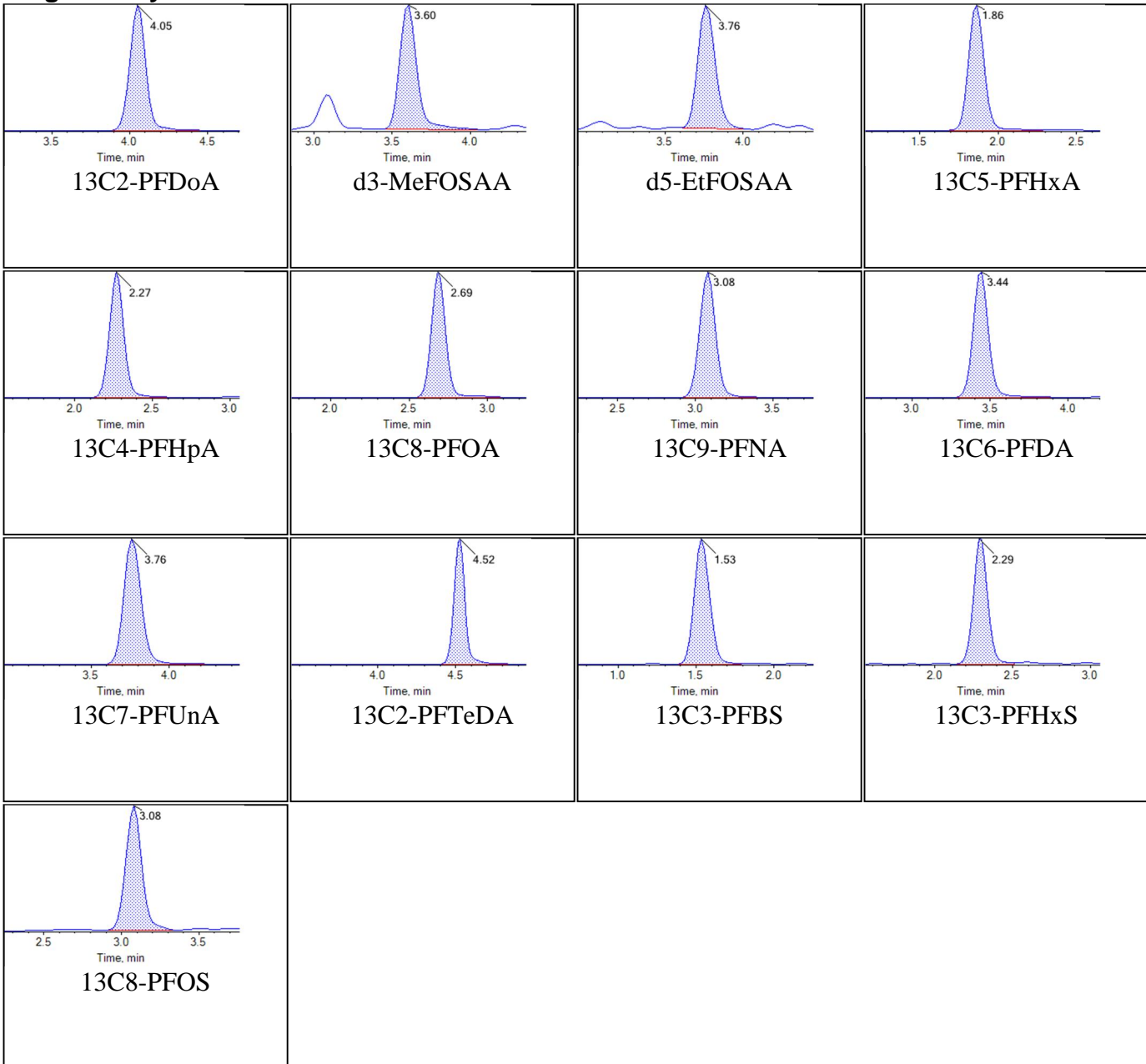
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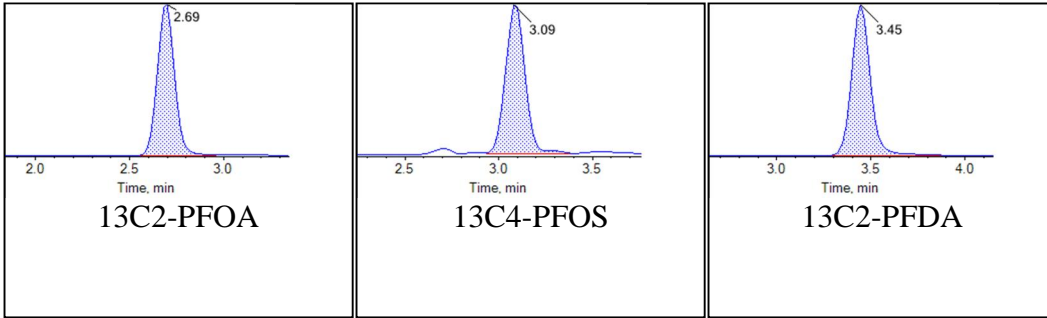
Sample Name	KB64	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:44:53	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



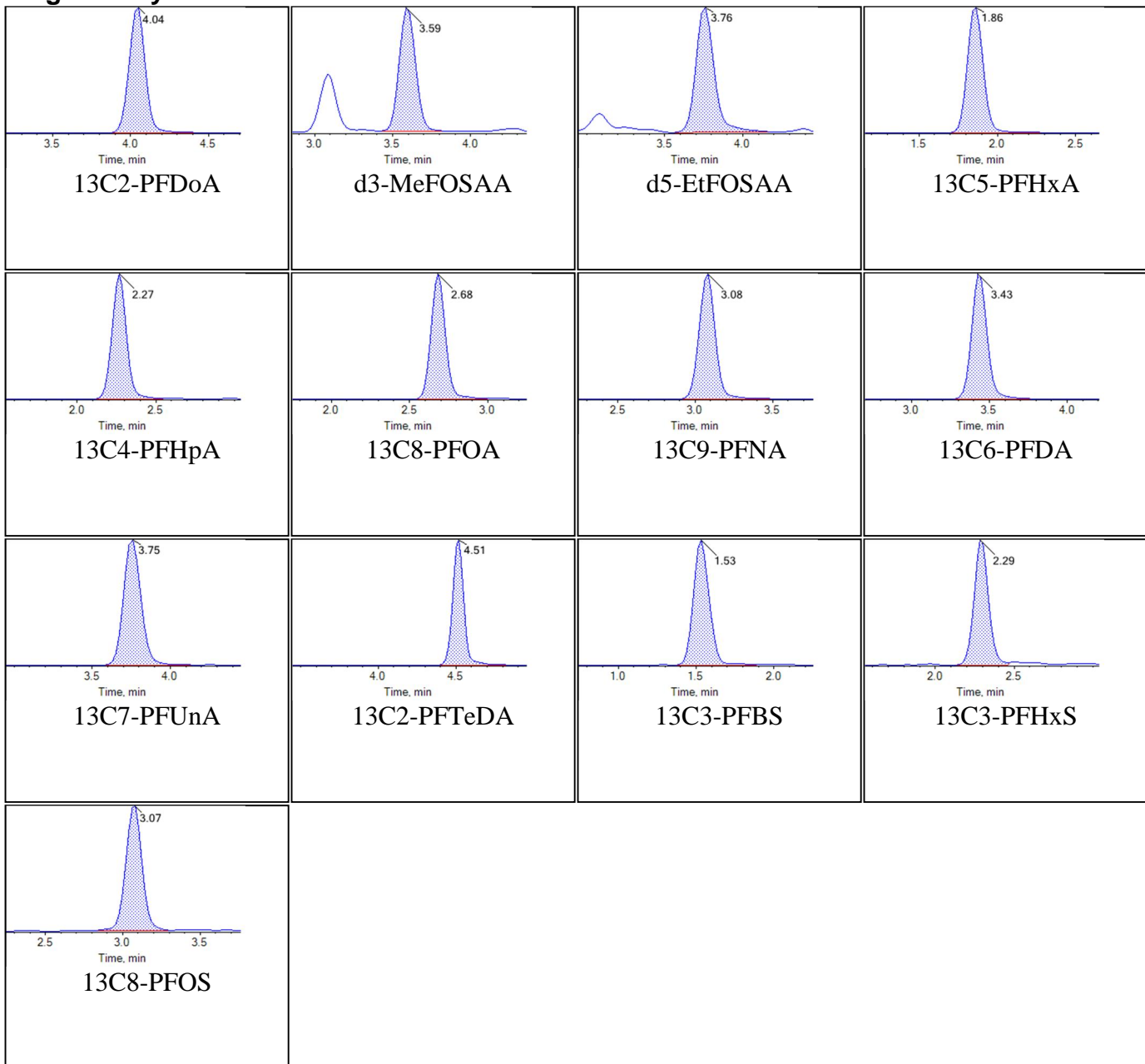
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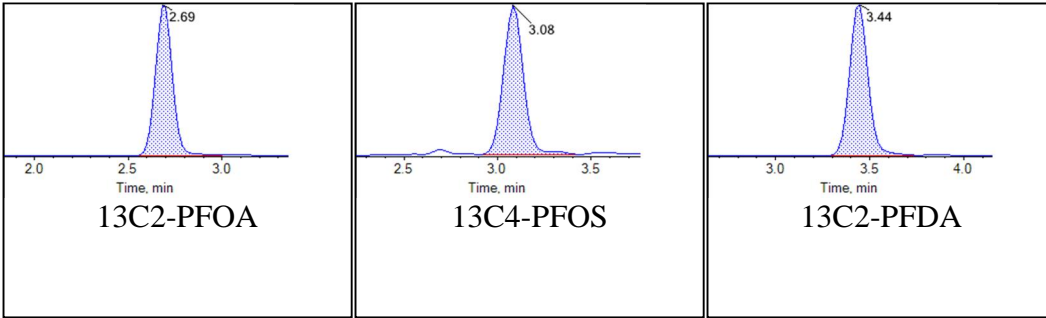
Sample Name	KB65	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T15:55:45	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



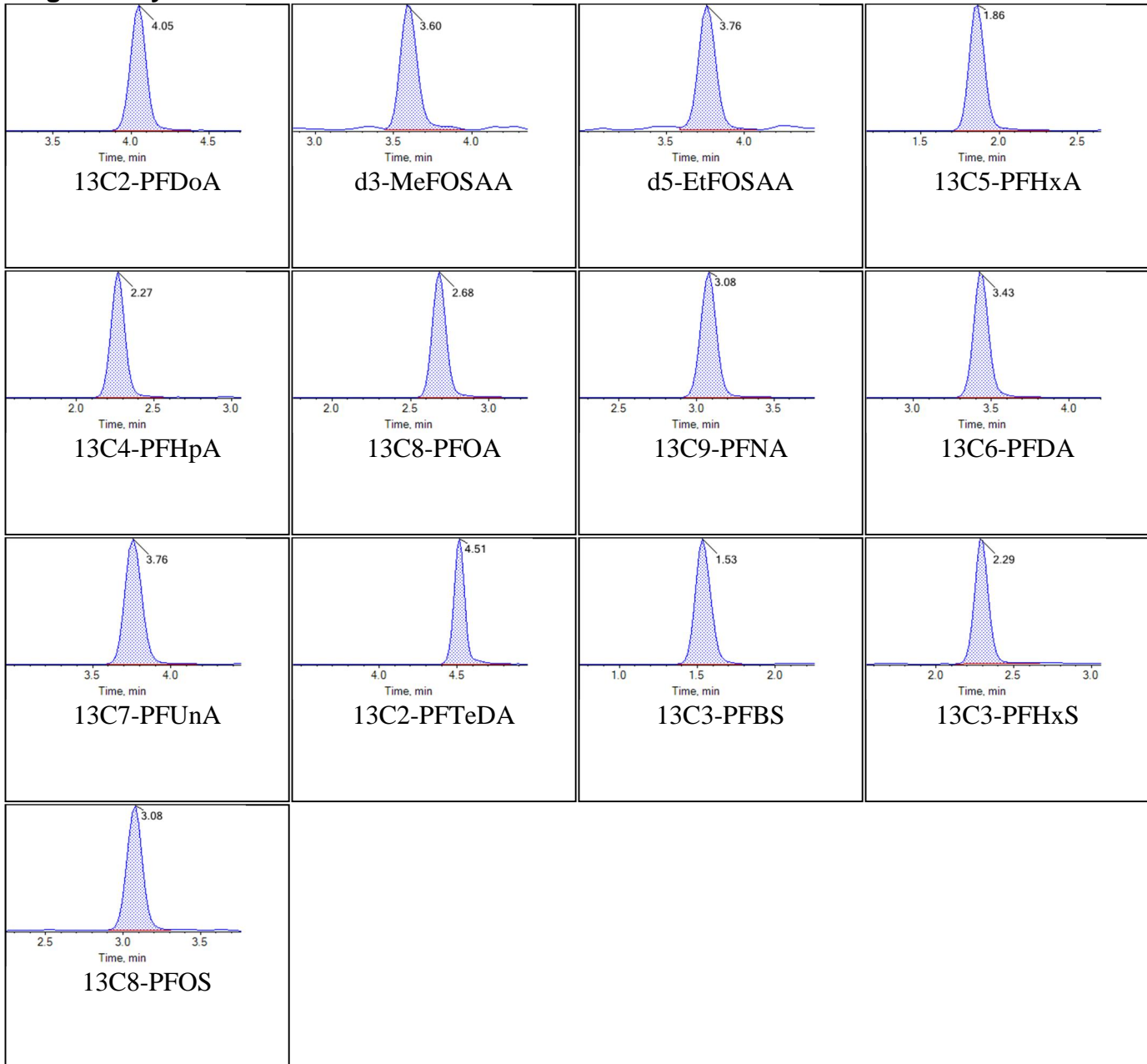
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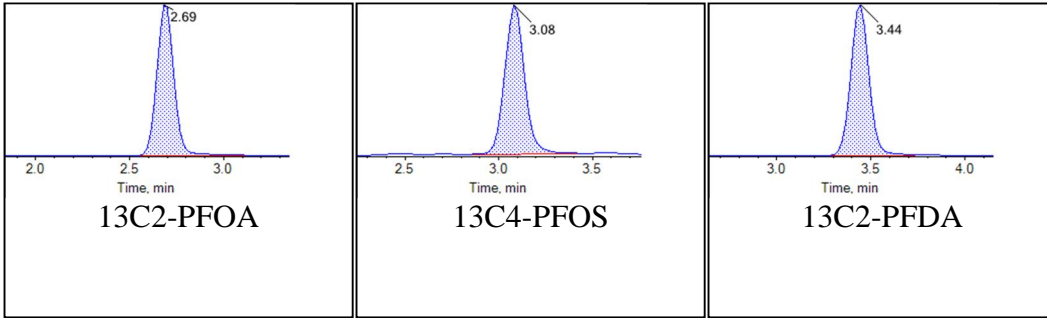
Sample Name	KB35 IB	Injection Vial	9
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:06:37	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



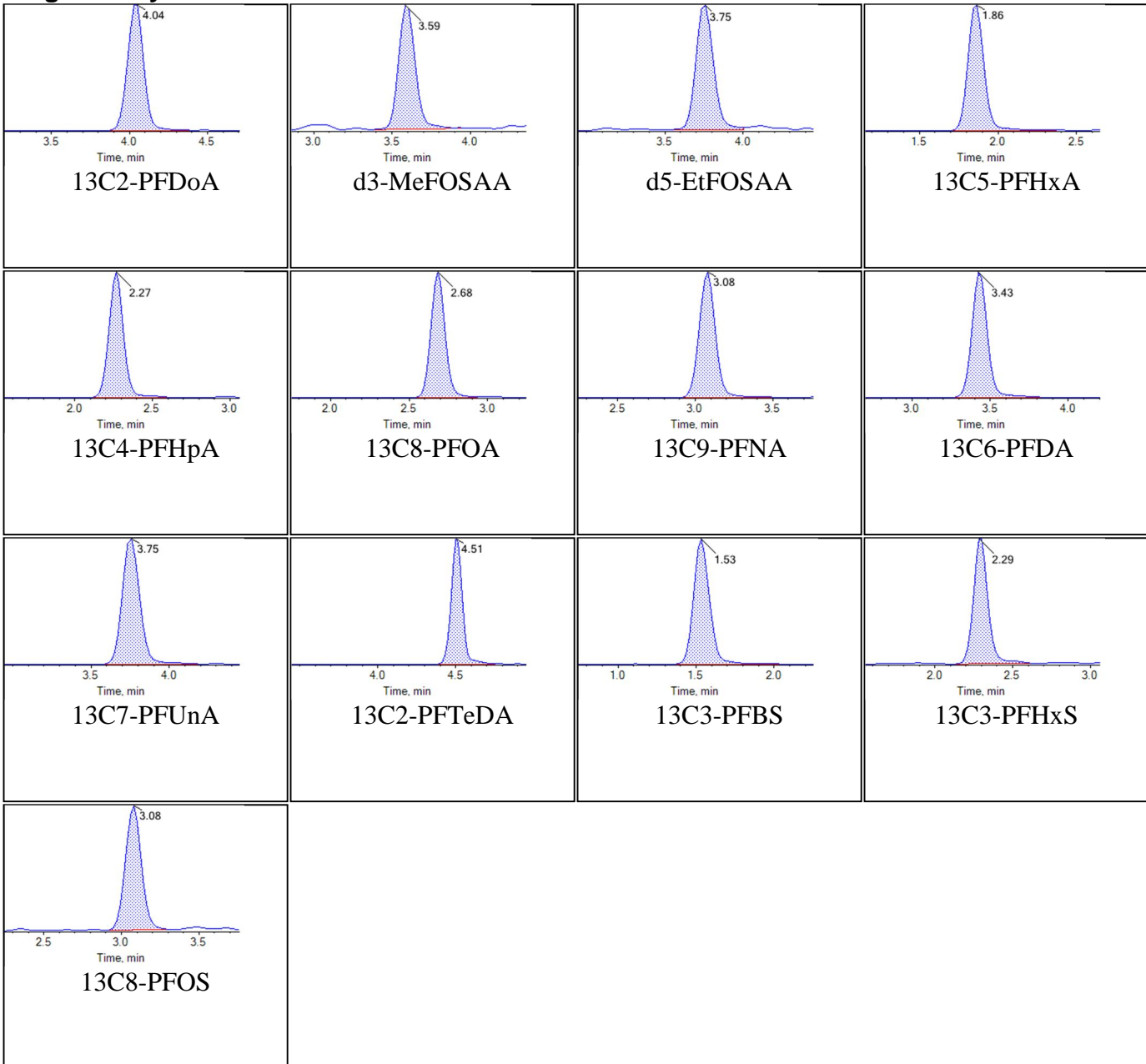
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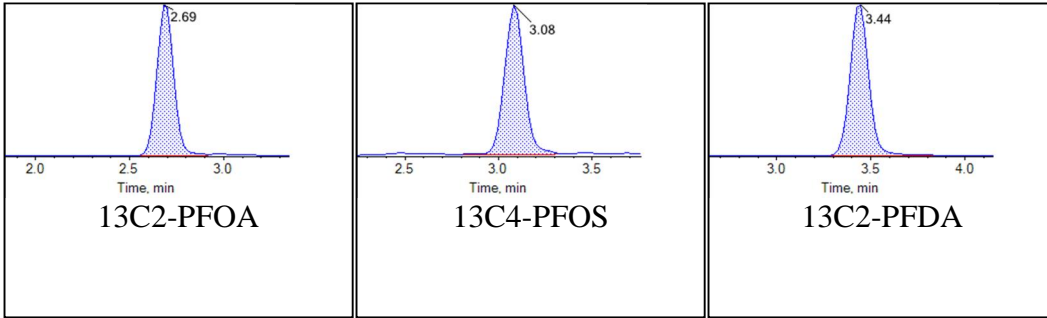
Sample Name	KB36 ICC	Injection Vial	10
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T16:17:28	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



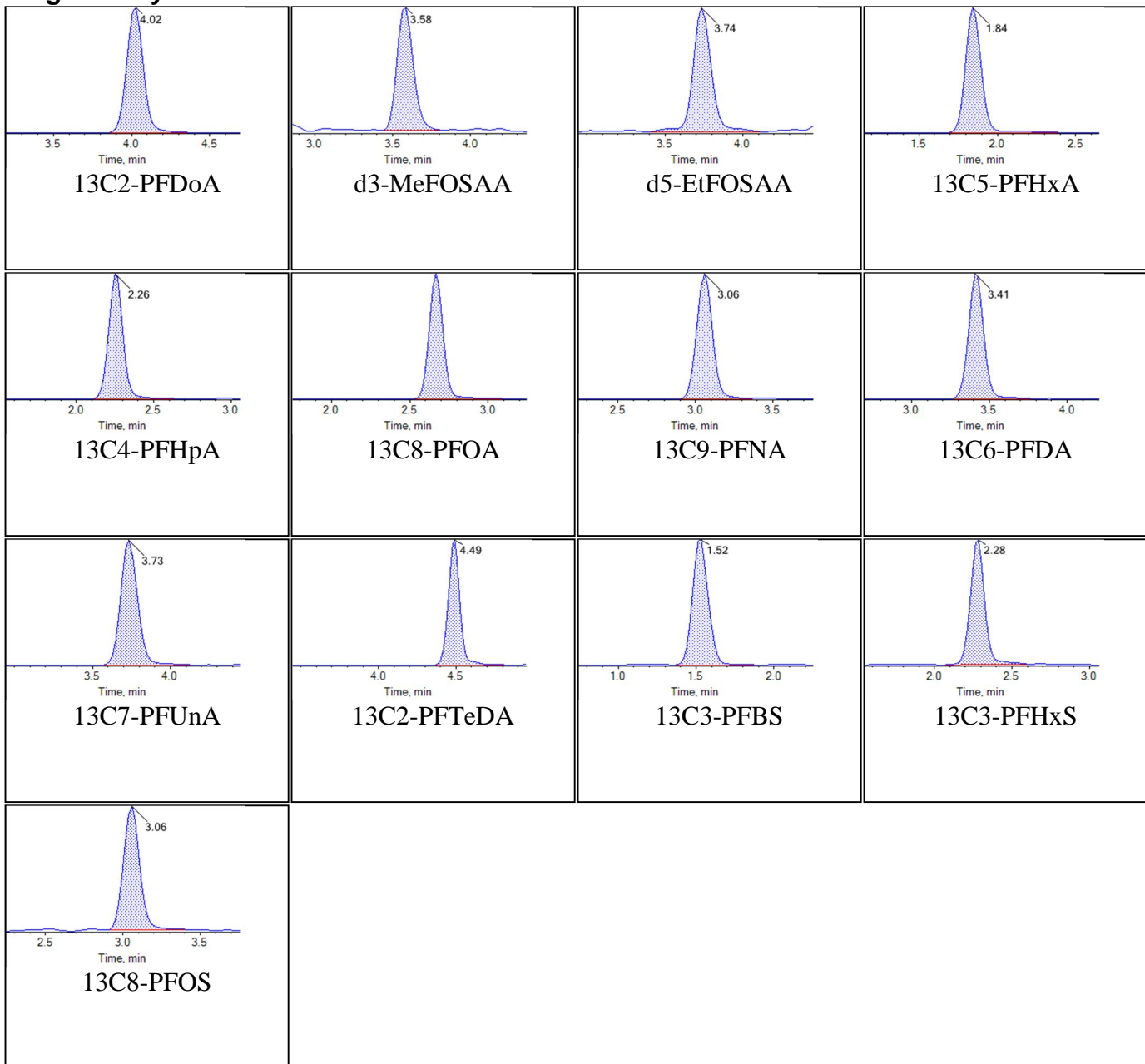
Internal Standards:



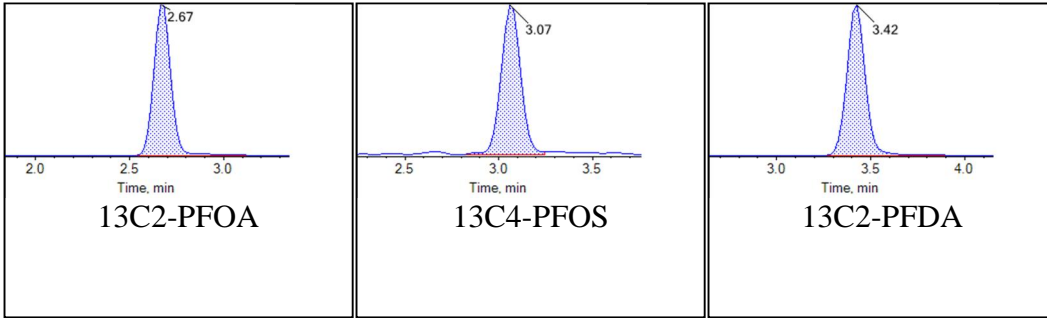
Sample Name	KA89 CCV	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:33:32	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



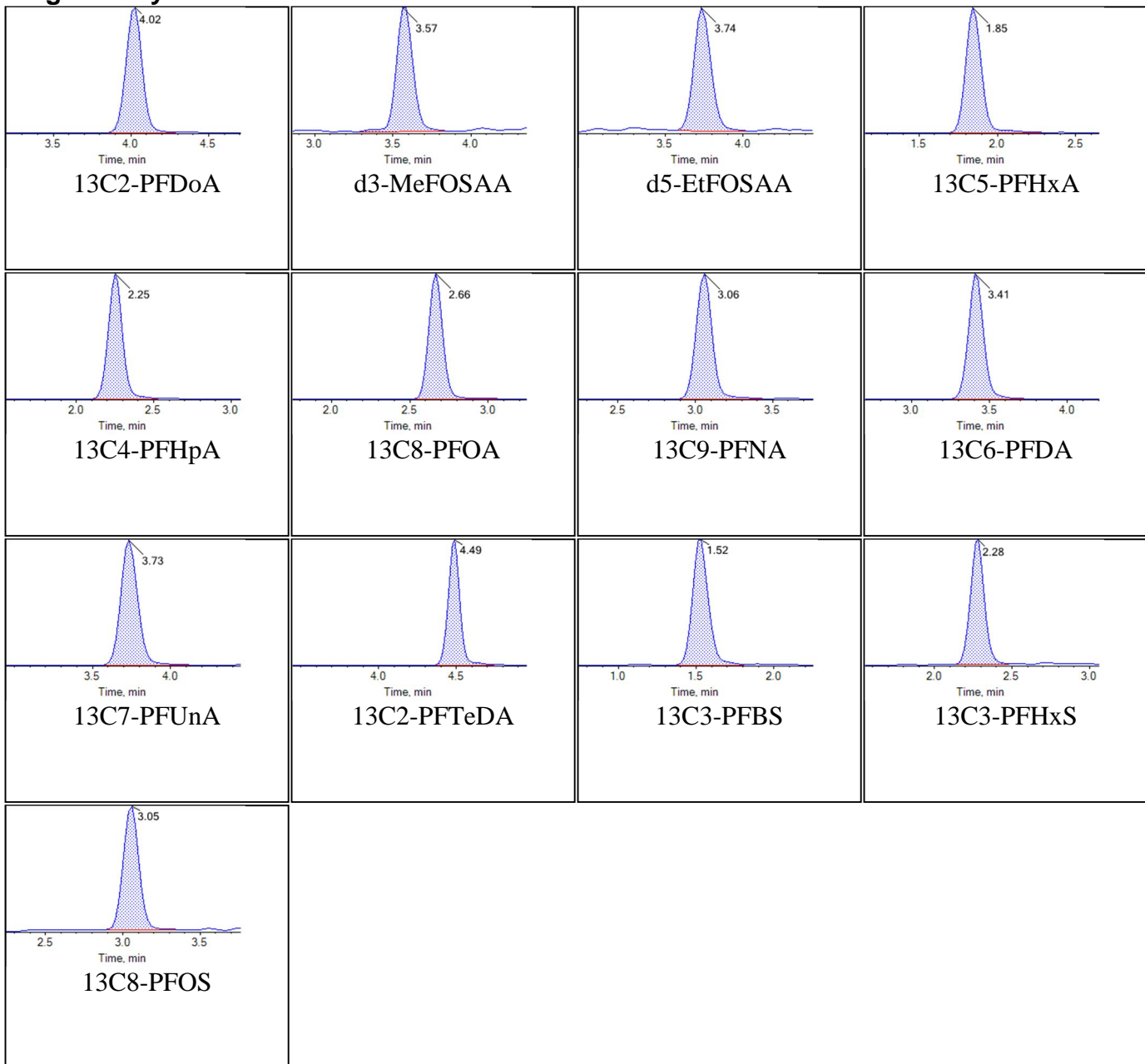
Internal Standards:



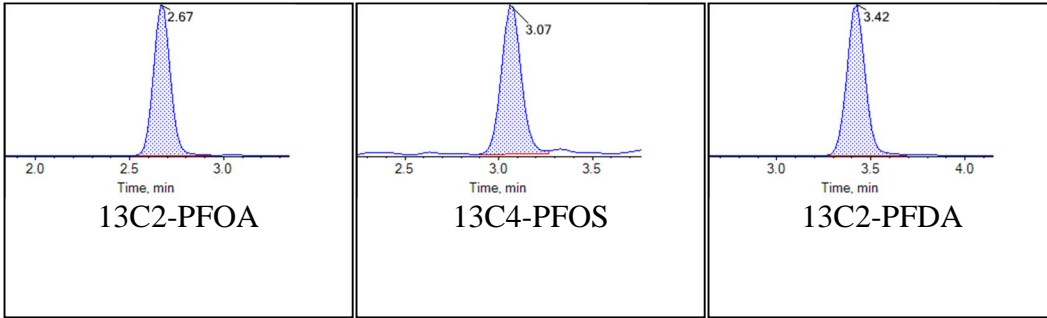
Sample Name	CR853PB-FS(3)	Injection Vial	18
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T17:55:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



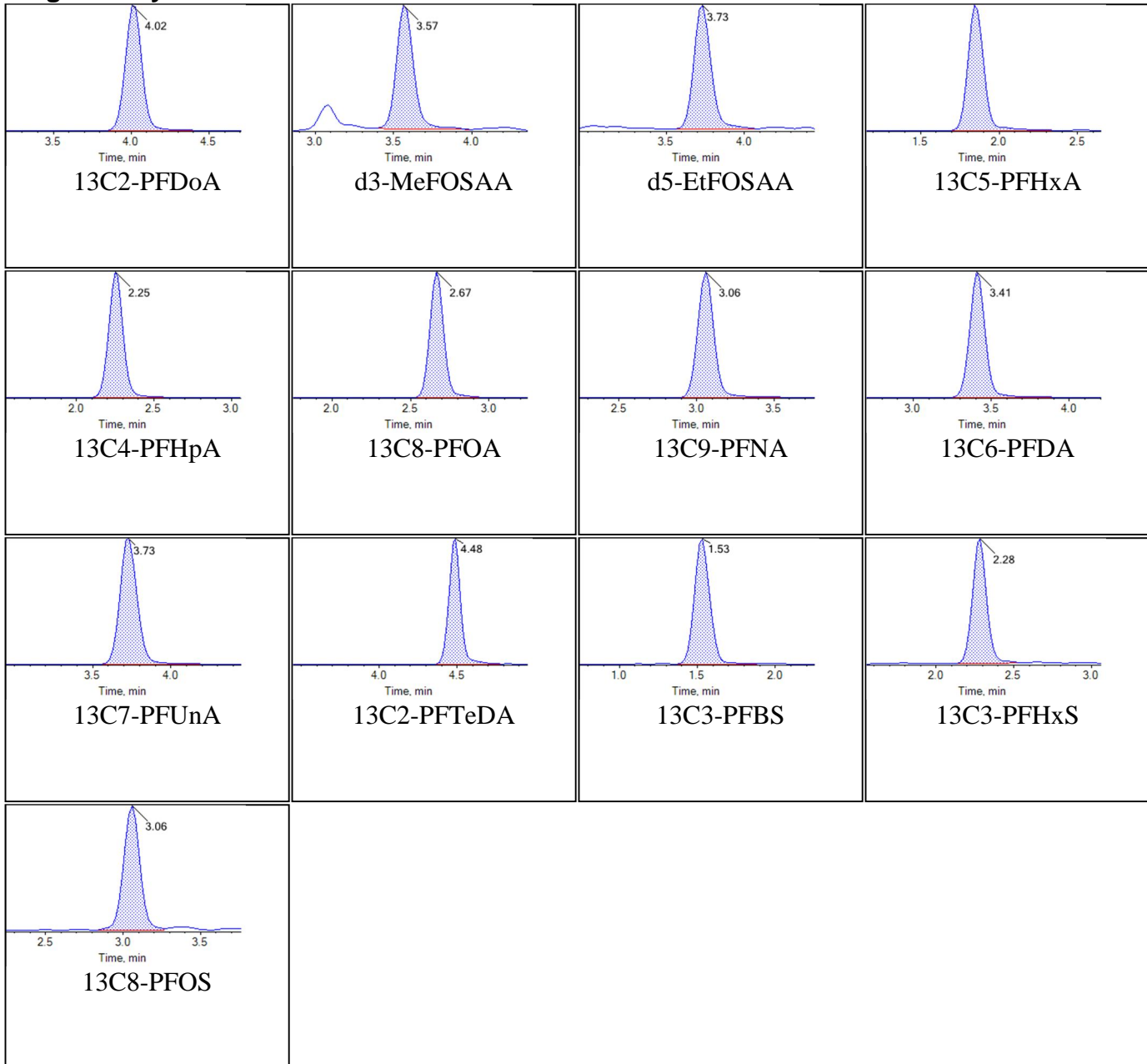
Internal Standards:



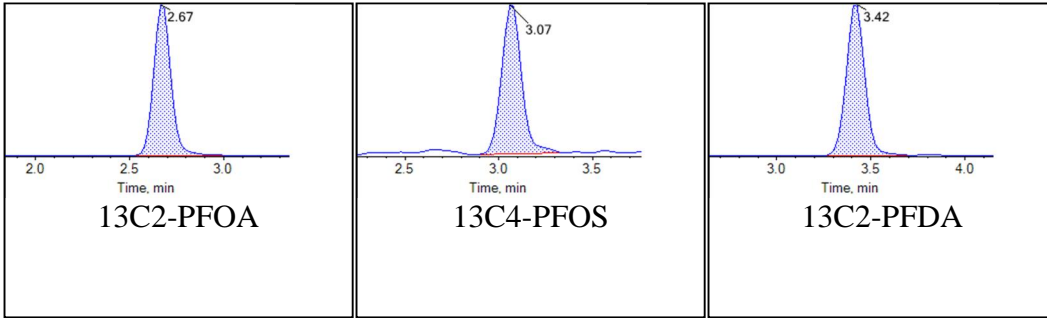
Sample Name	CR854LCS-FS(3)	Injection Vial	19
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:06:07	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



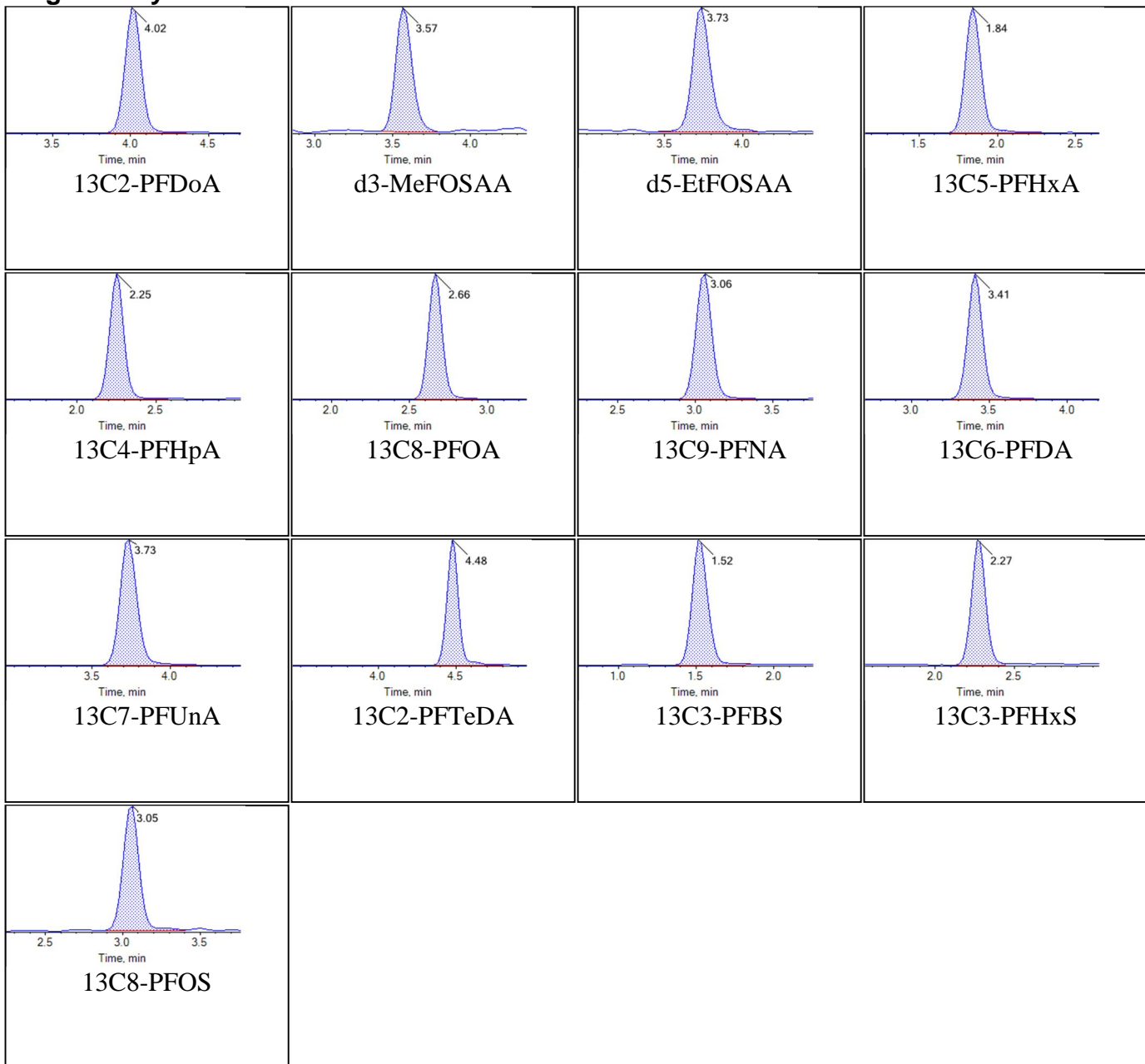
Internal Standards:



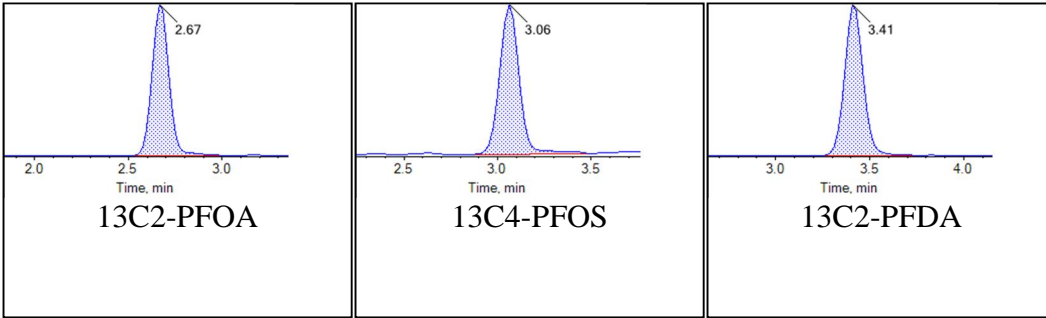
Sample Name	J8254-FS(3)	Injection Vial	20
Sample ID	VC-PM365-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:17:00	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



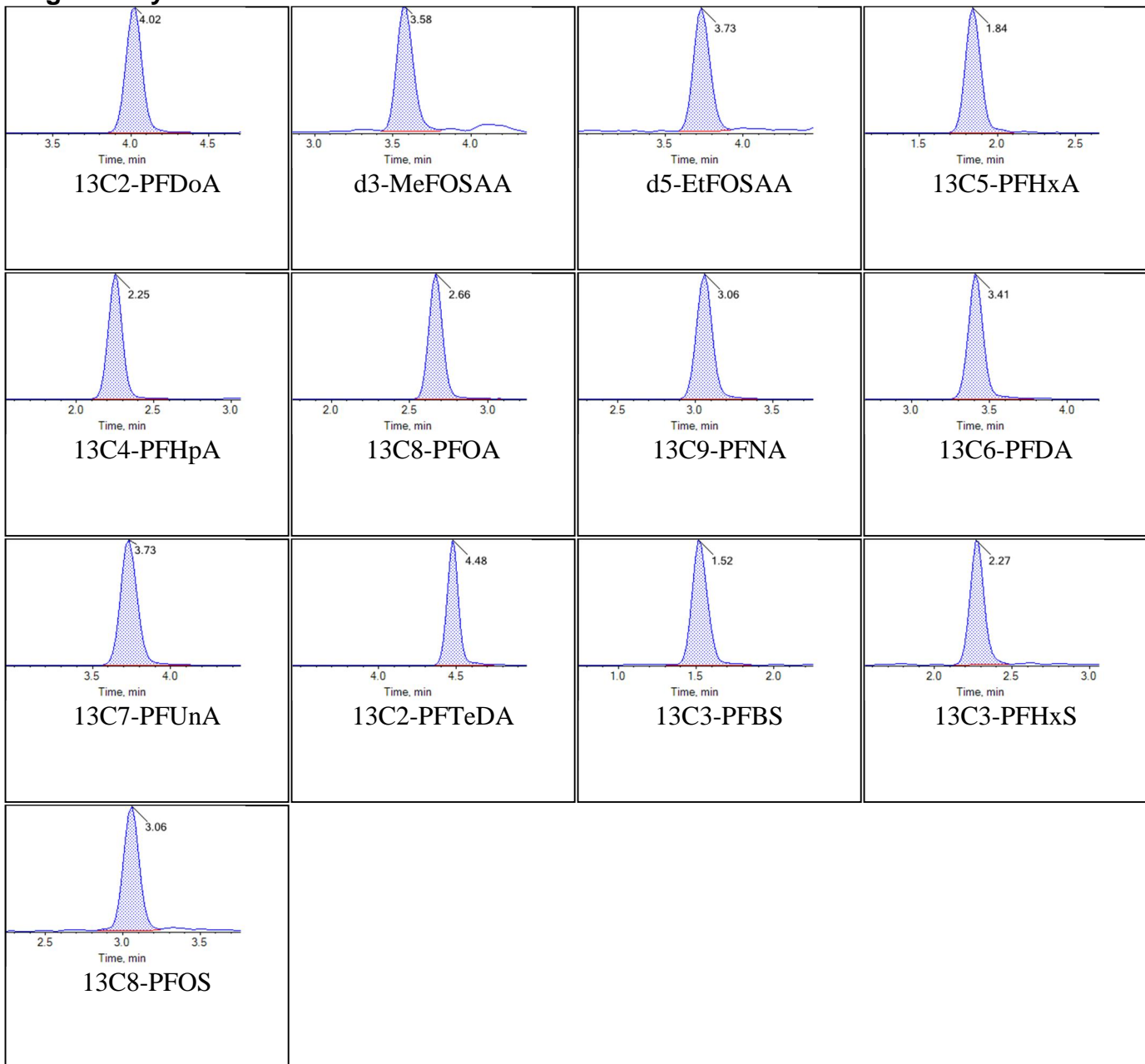
Internal Standards:



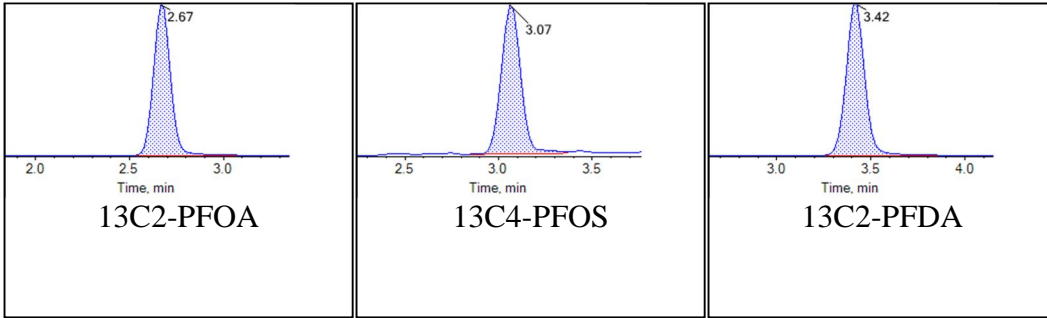
Sample Name	J8255-FS(3)	Injection Vial	21
Sample ID	VC-PM365-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:27:52	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



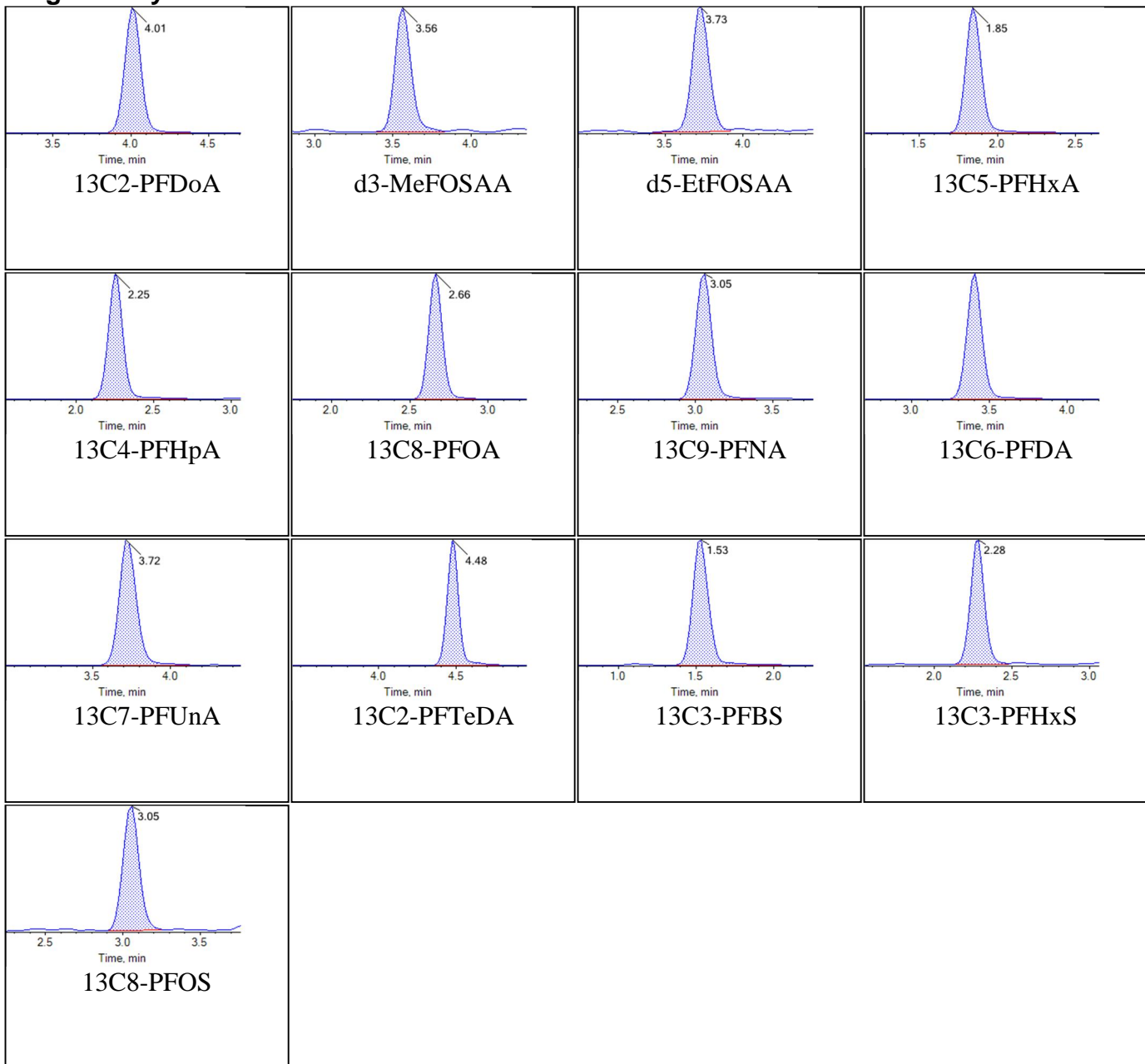
Internal Standards:



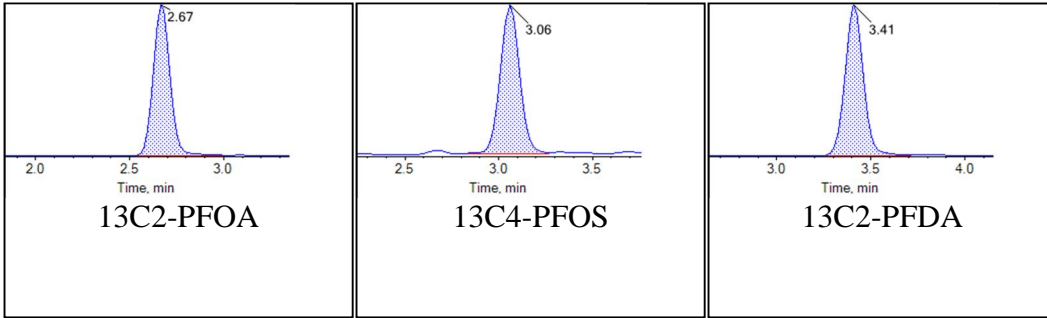
Sample Name	J8256-FS(3)	Injection Vial	22
Sample ID	VC-PM365-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:38:44	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



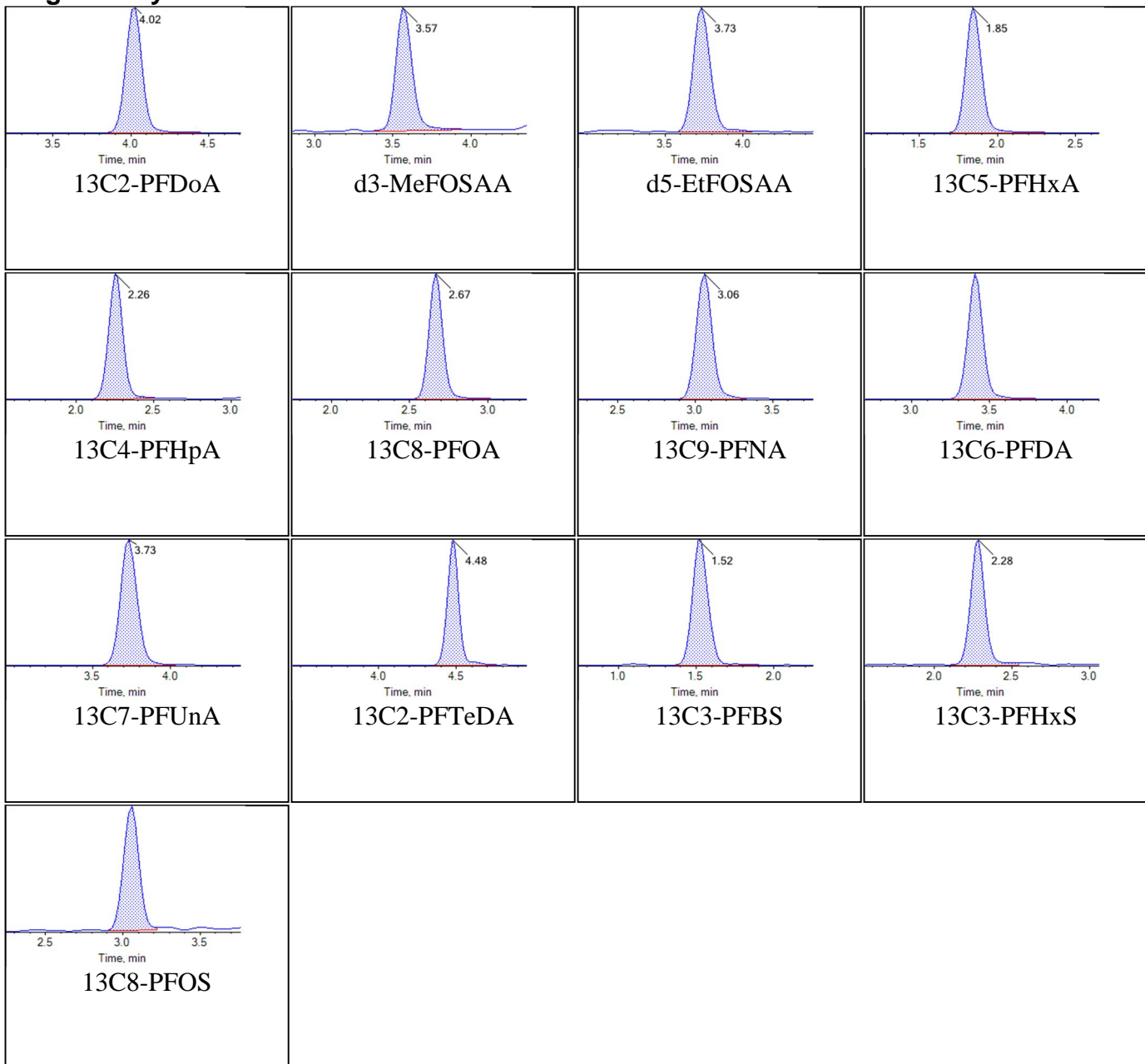
Internal Standards:



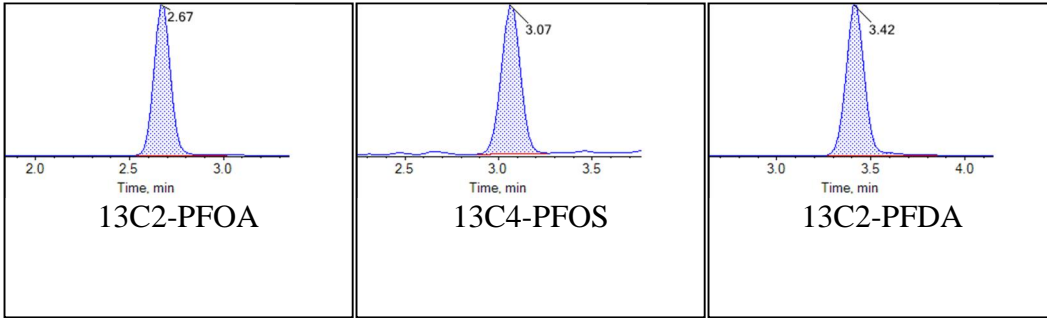
Sample Name	J8263-FS(3)	Injection Vial	23
Sample ID	VC-PM553-SS01-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T18:49:36	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



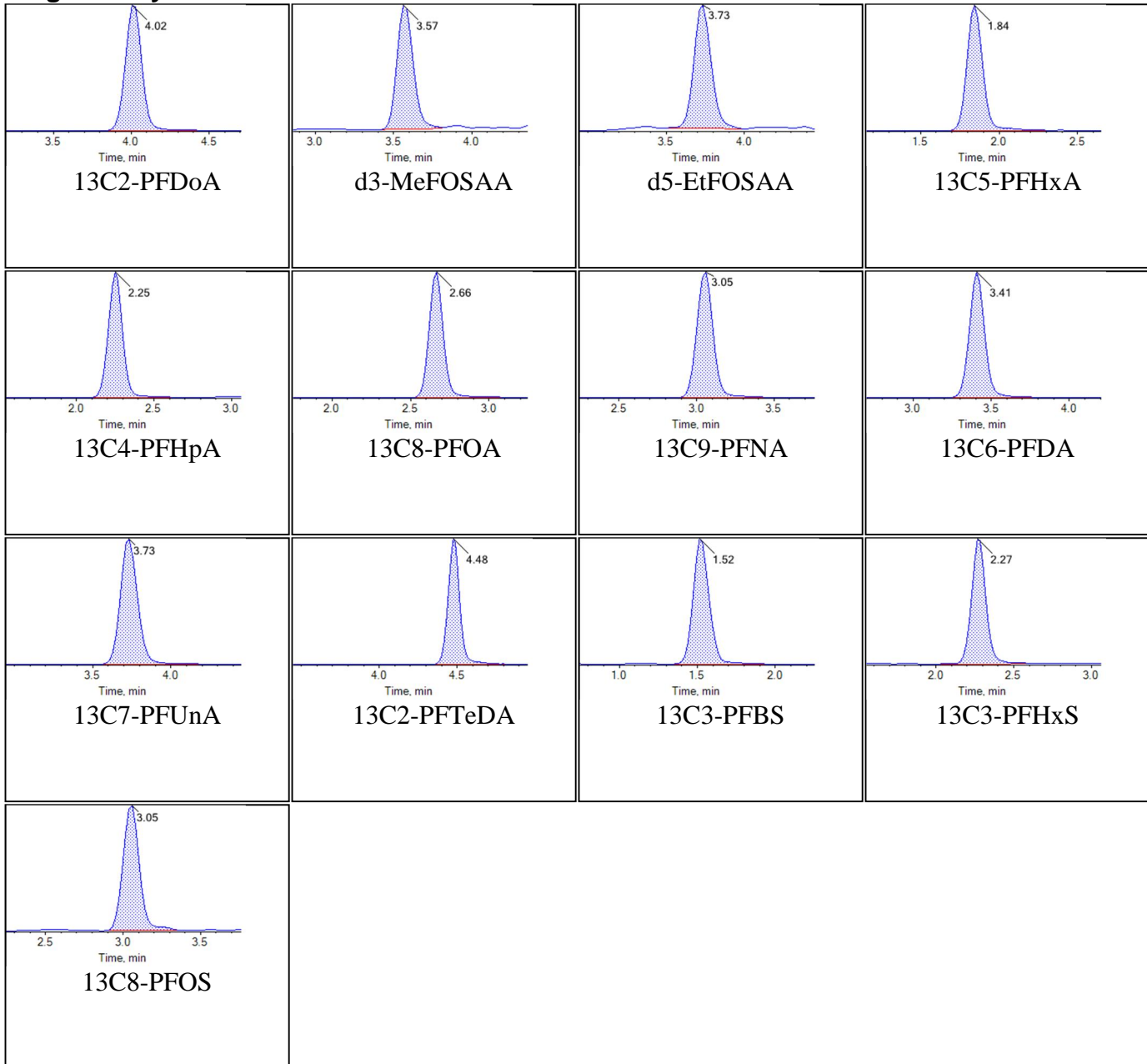
Internal Standards:



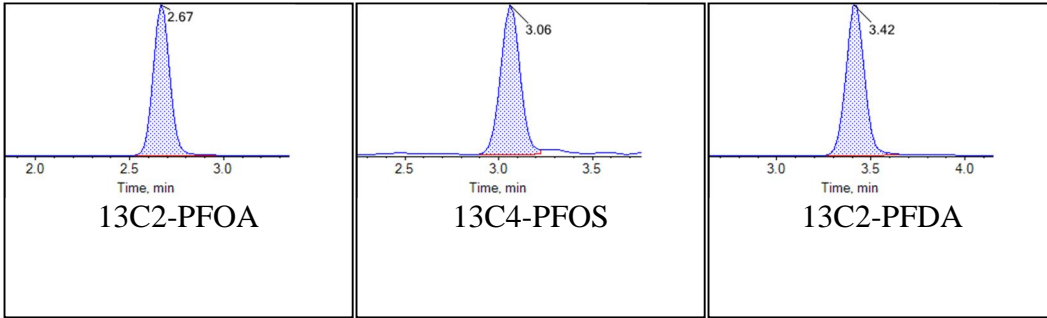
Sample Name	J8264-FS(3)	Injection Vial	24
Sample ID	VC-PM553-SB01-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:00:30	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



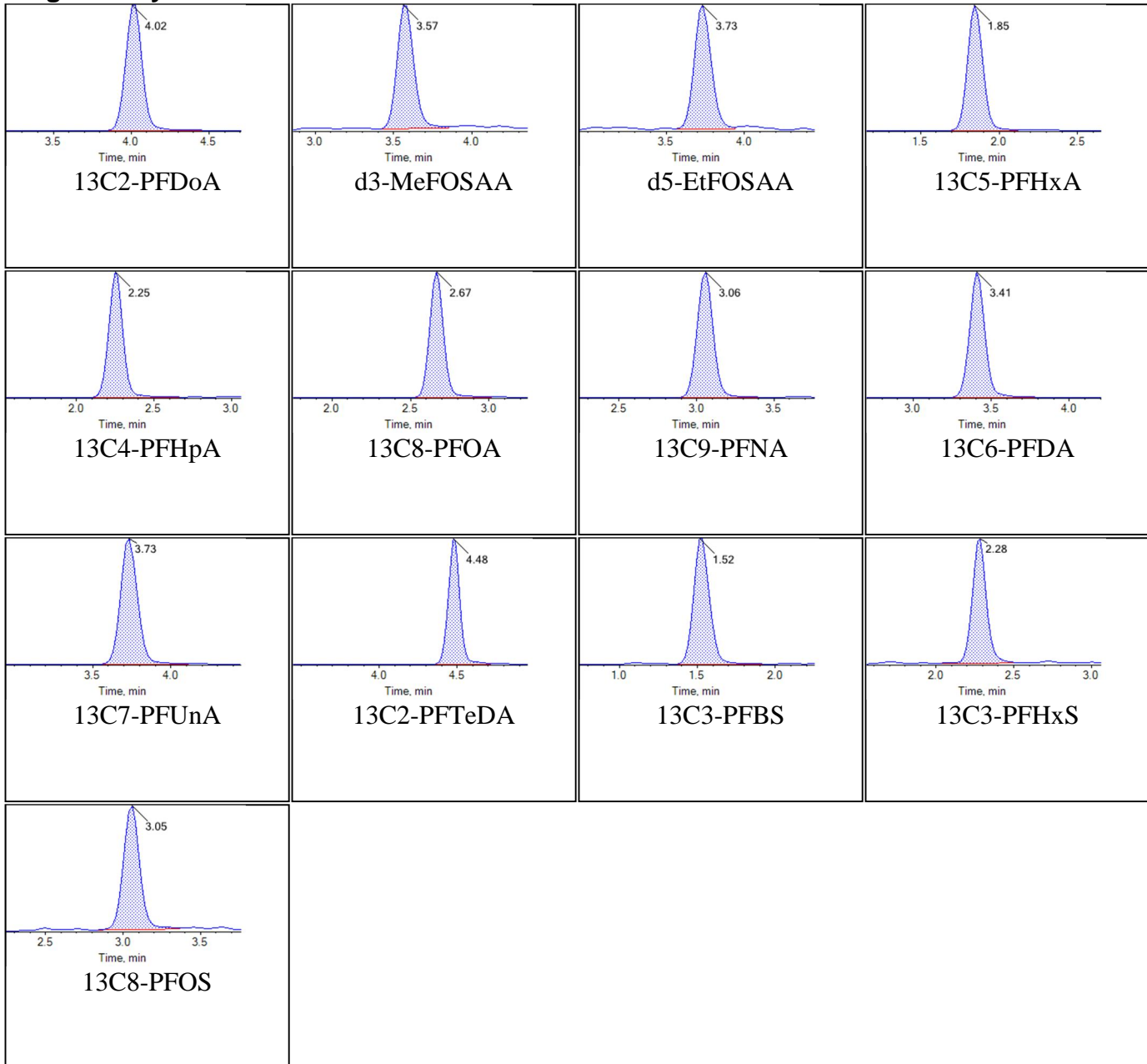
Internal Standards:



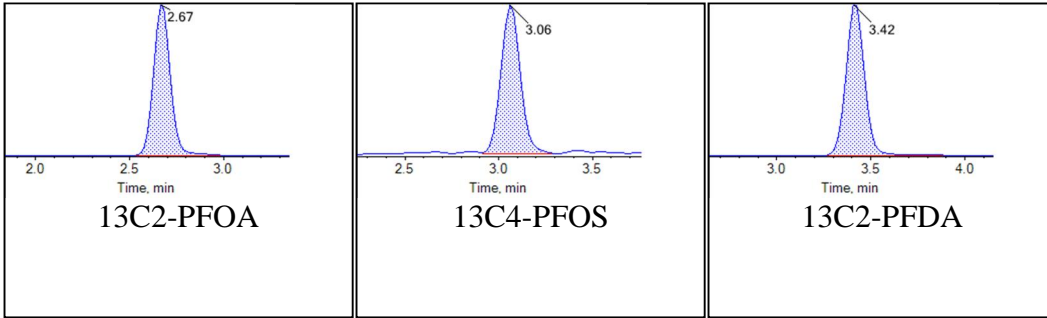
Sample Name	J8265-FS(3)	Injection Vial	25
Sample ID	VC-PM553-SB01-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:11:22	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



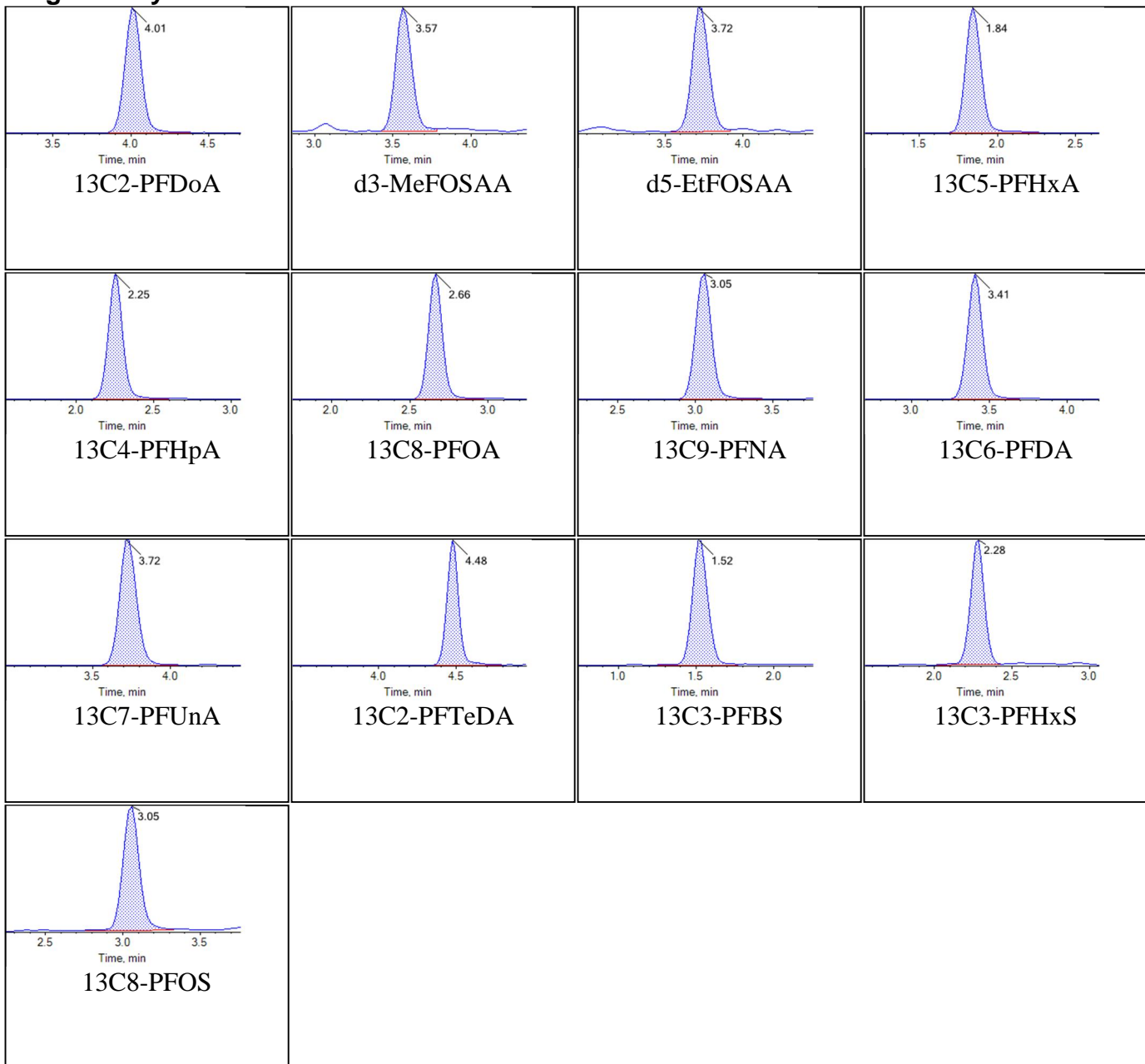
Internal Standards:



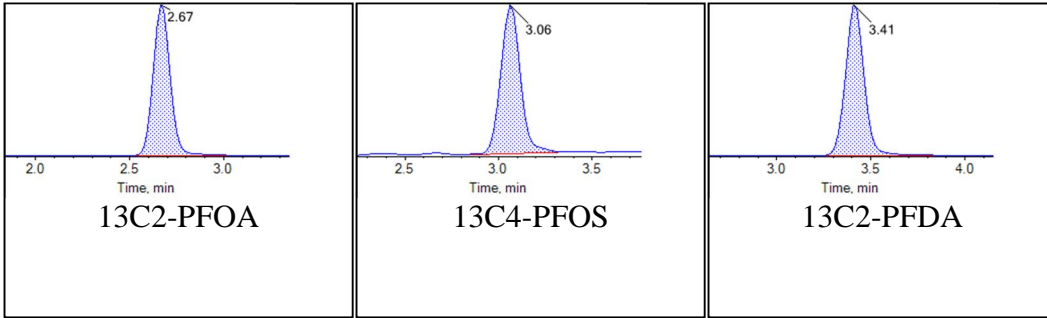
Sample Name	KA90 CCV	Injection Vial	26
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:22:14	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



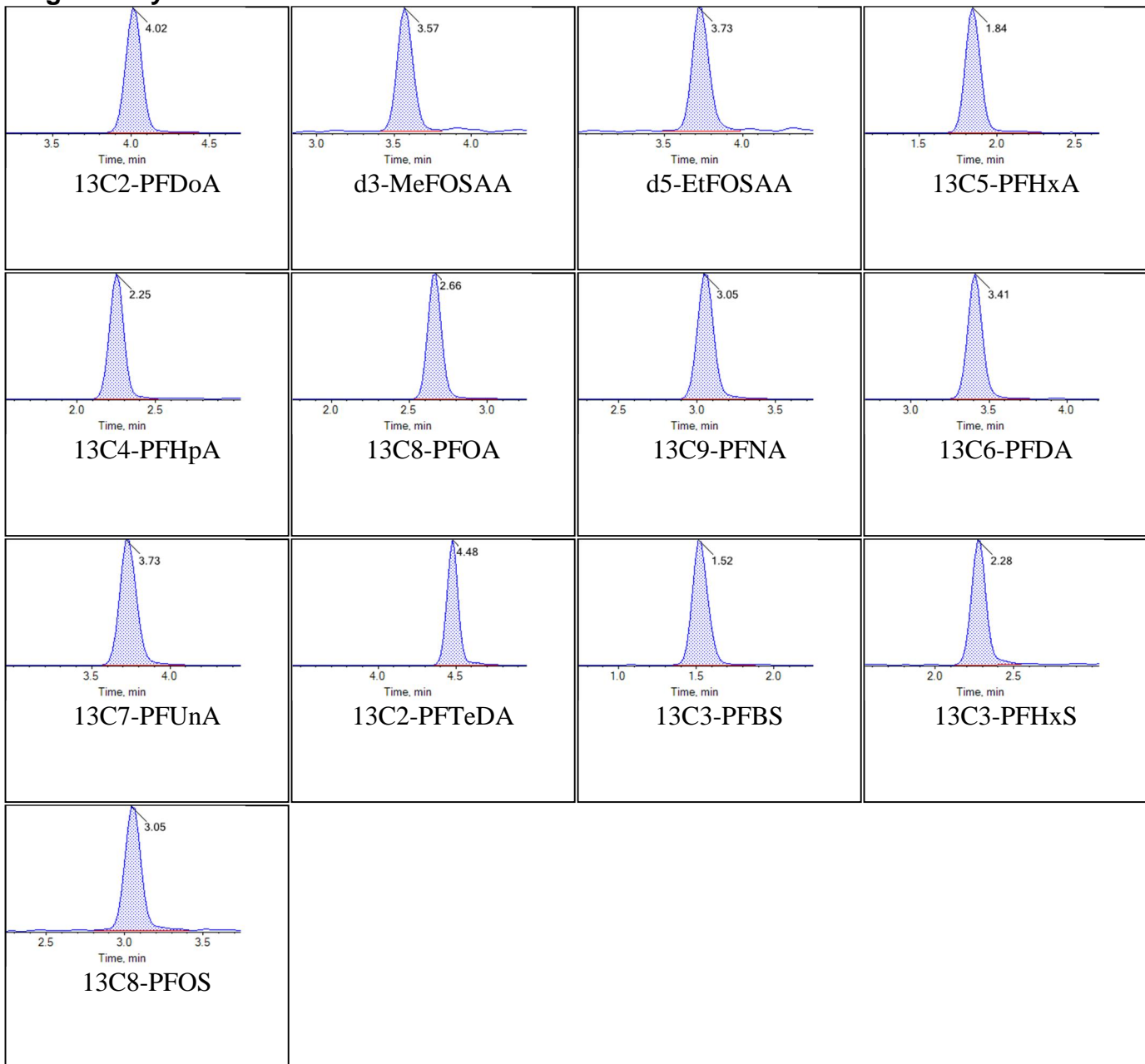
Internal Standards:



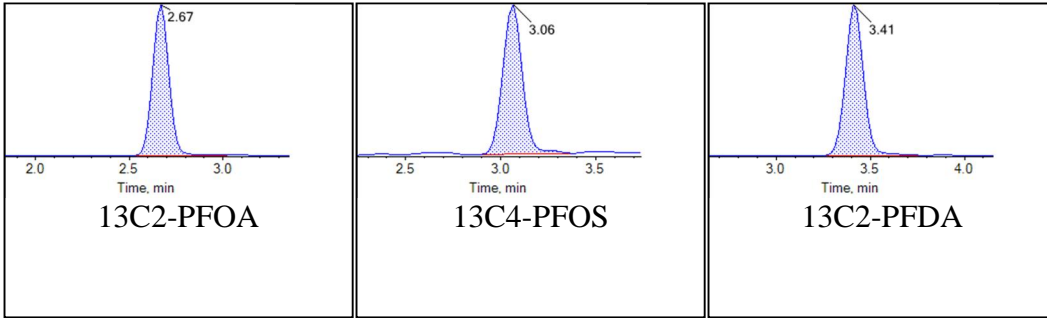
Sample Name	J8266-FS(3)	Injection Vial	28
Sample ID	VC-PM553-SS02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:43:57	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



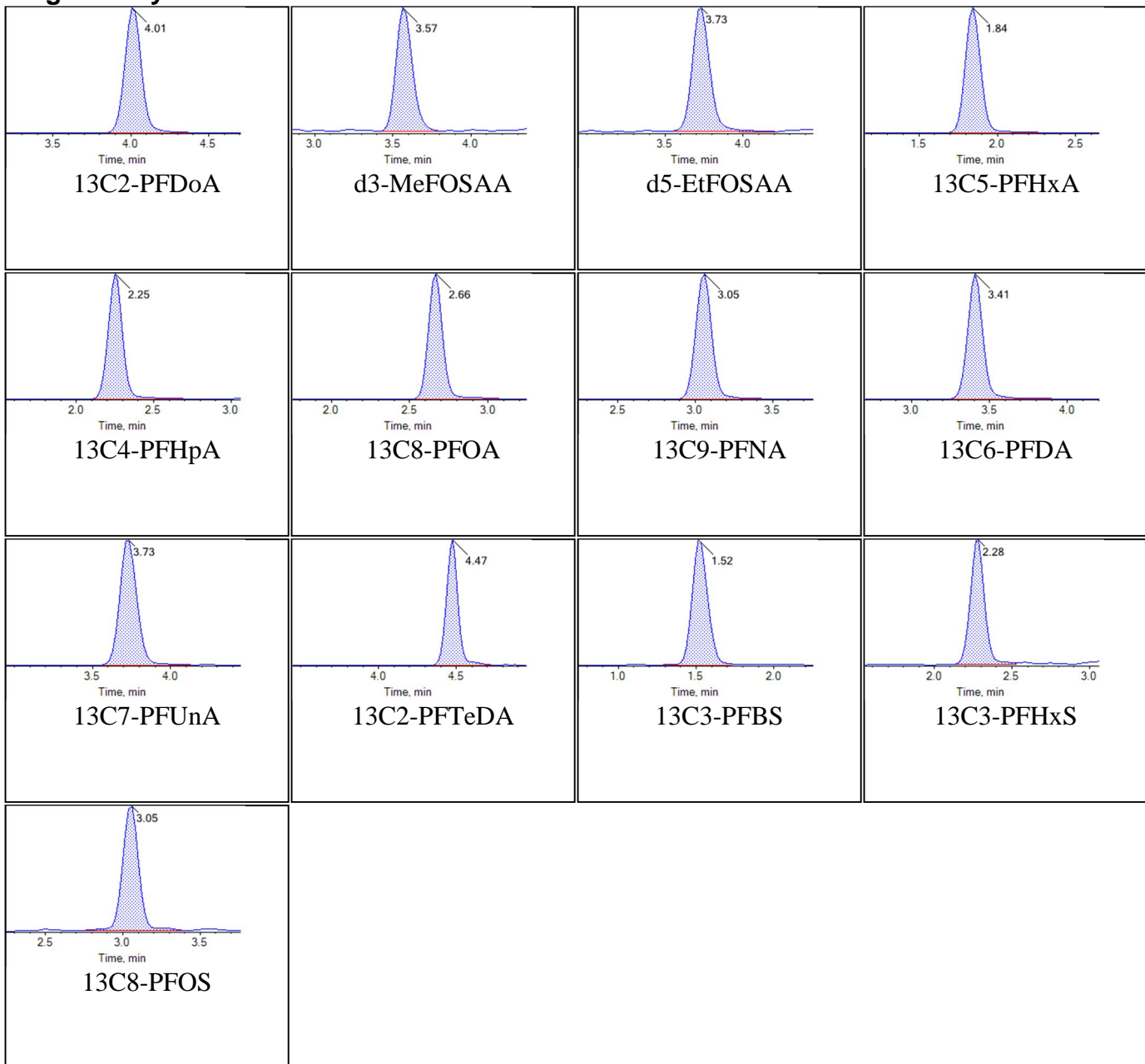
Internal Standards:



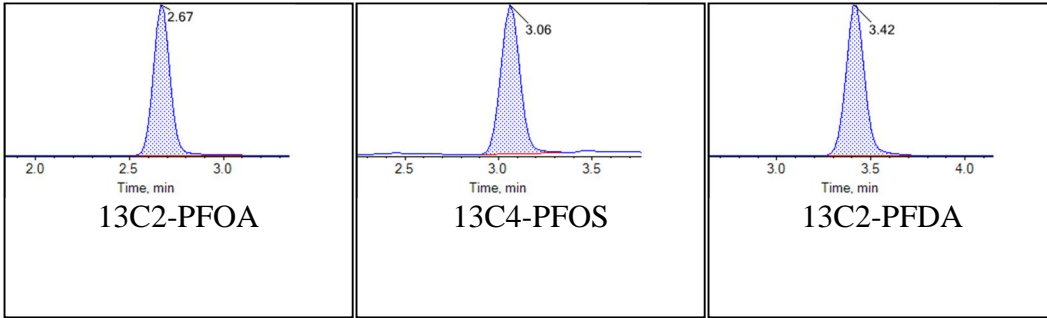
Sample Name	J8267-FS(3)	Injection Vial	29
Sample ID	VC-PM553-SB02-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T19:54:50	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



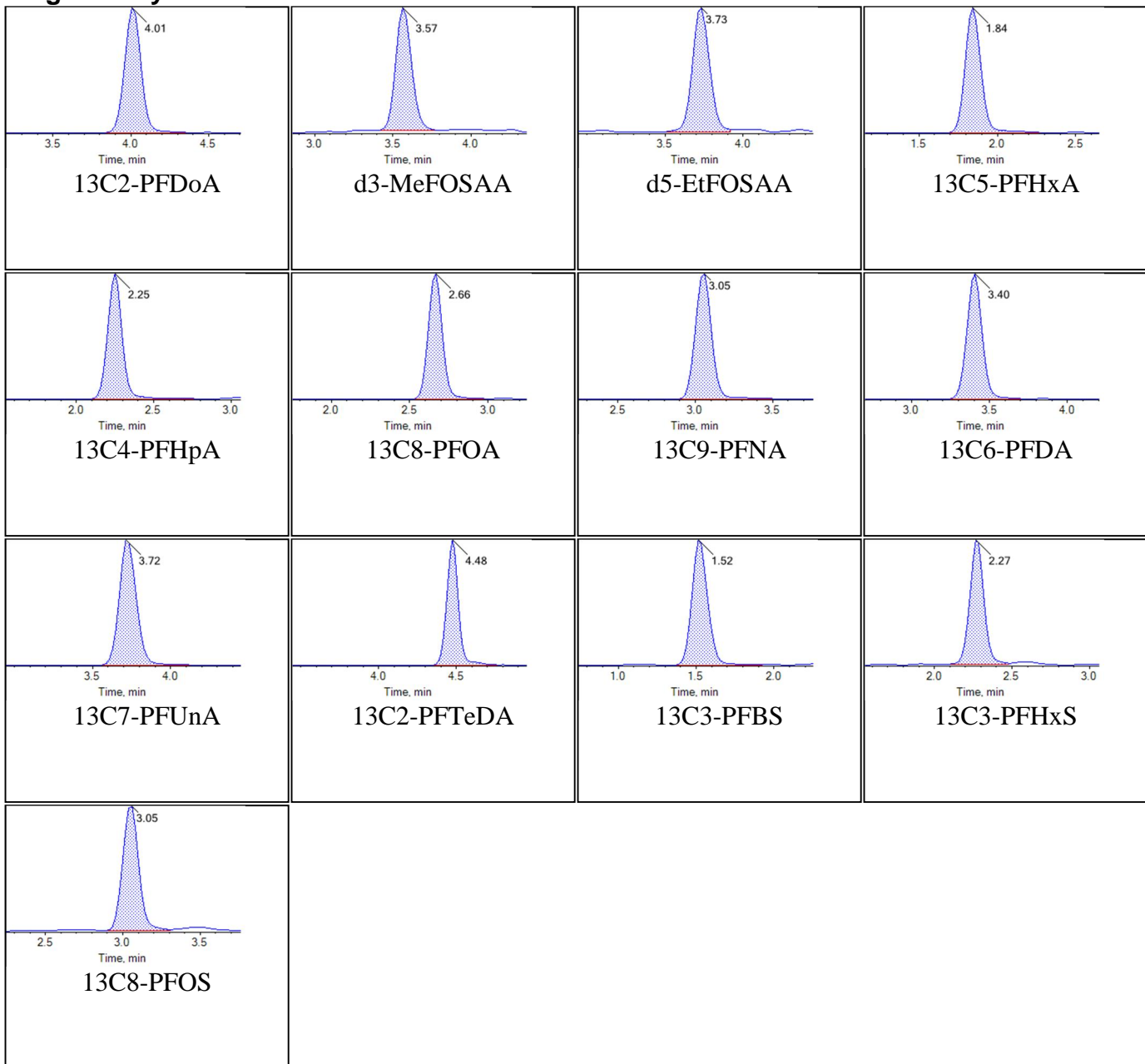
Internal Standards:



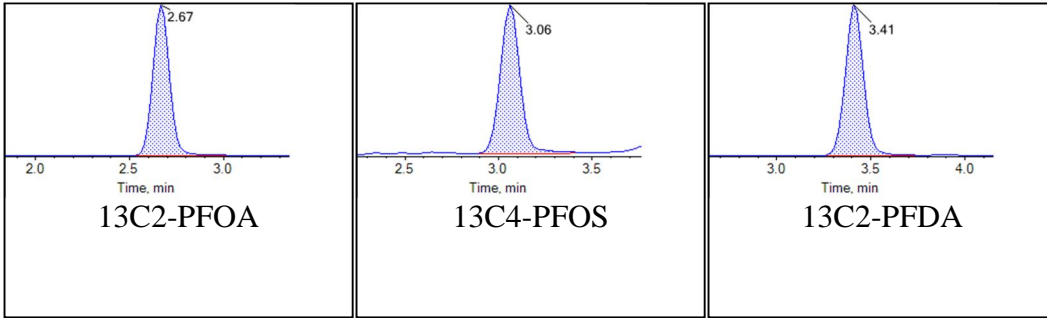
Sample Name	J8268-FS(3)	Injection Vial	30
Sample ID	VC-PM553-SB02-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:05:42	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



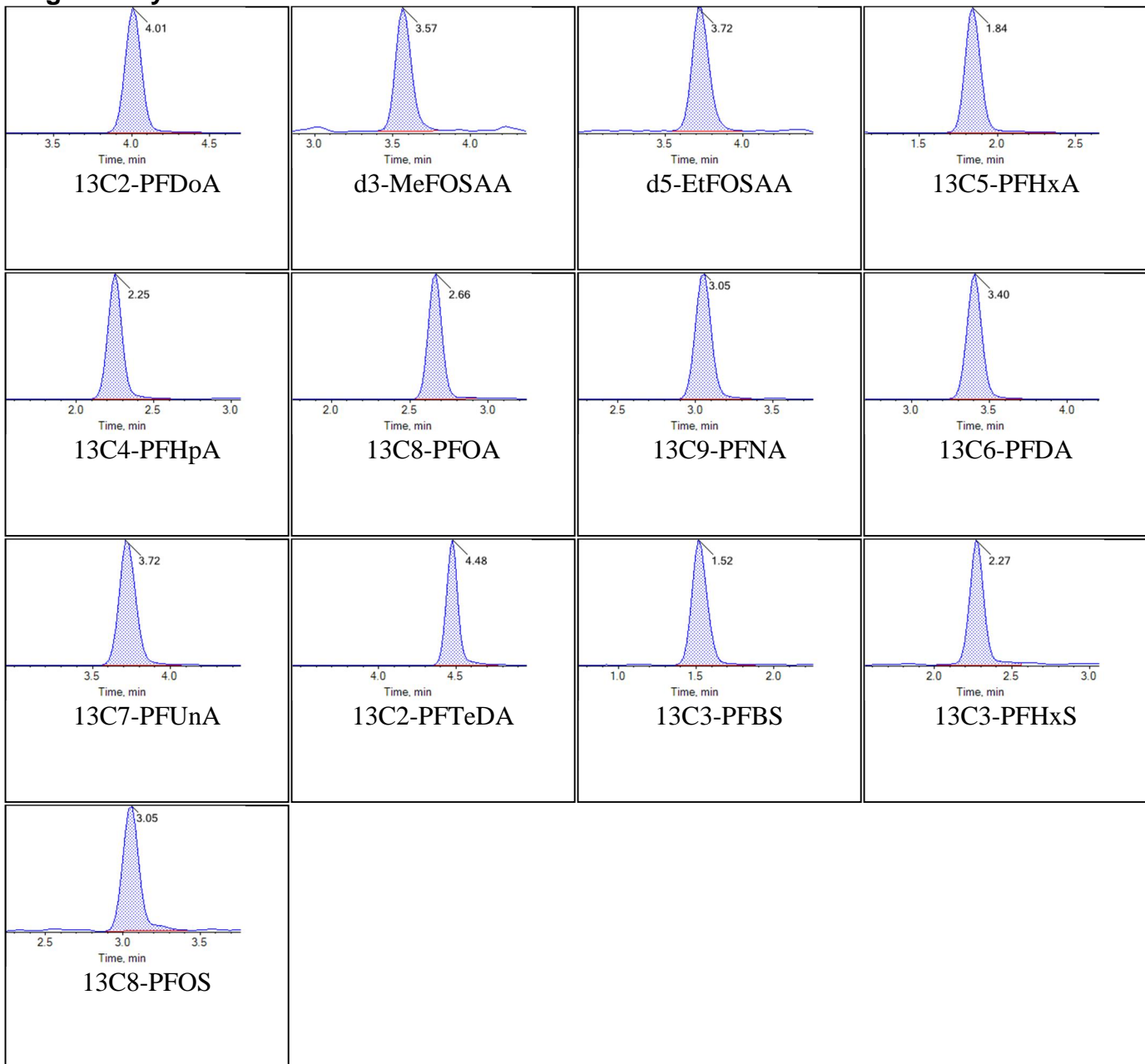
Internal Standards:



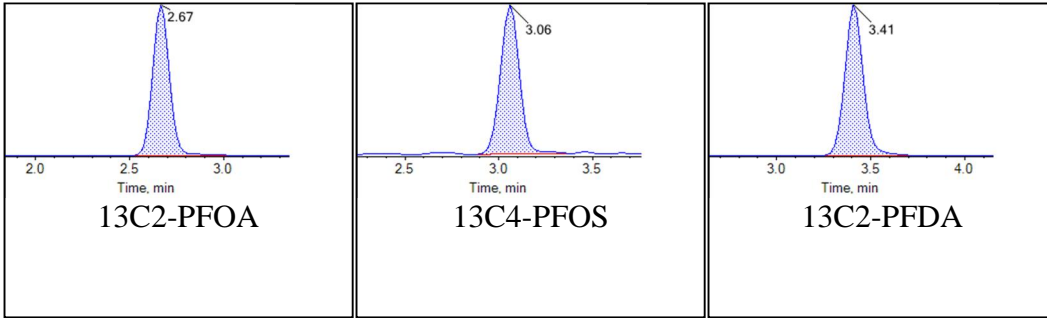
Sample Name	J8269-FS(3)	Injection Vial	31
Sample ID	VC-PM553-SS03-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:16:34	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



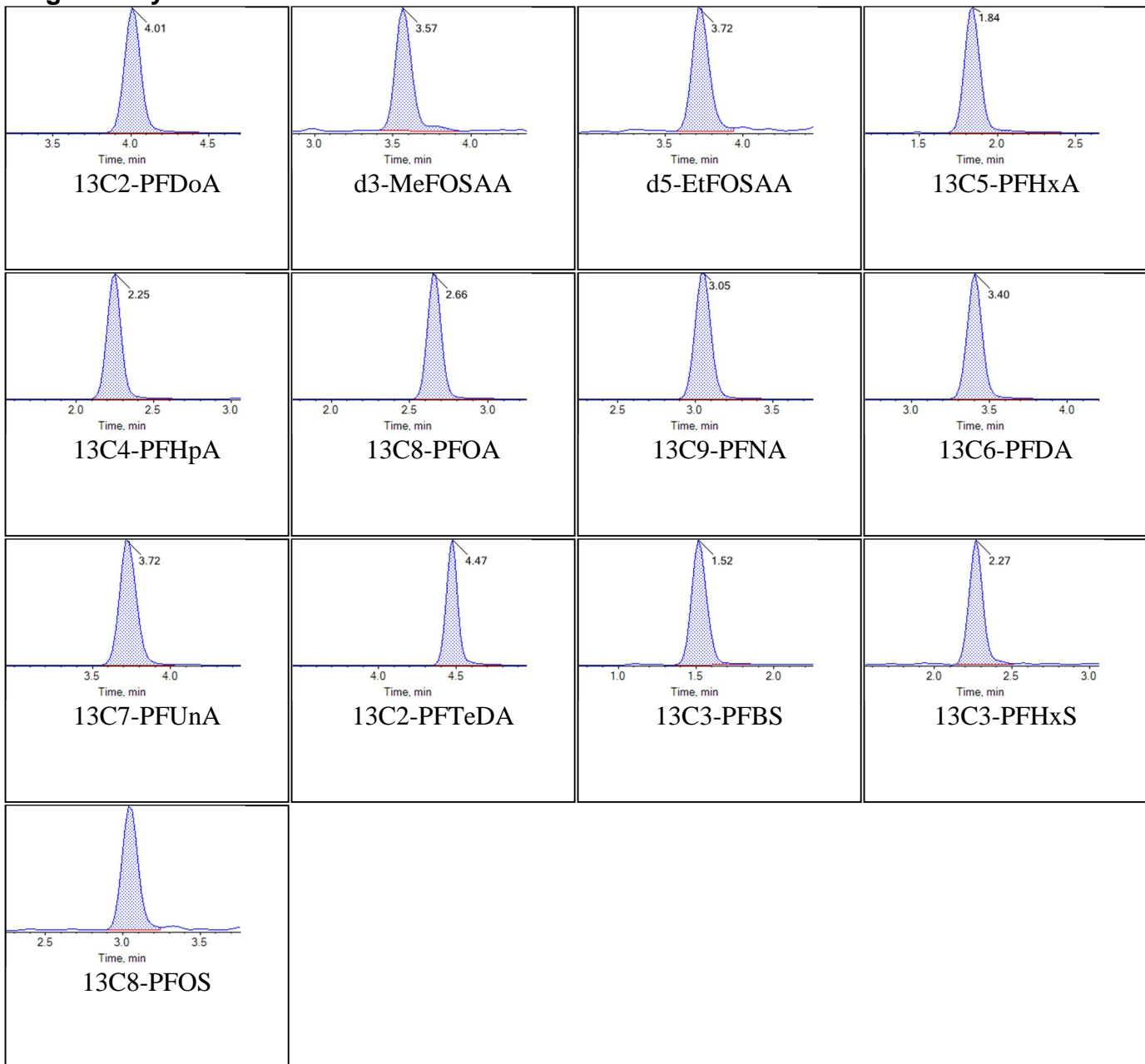
Internal Standards:



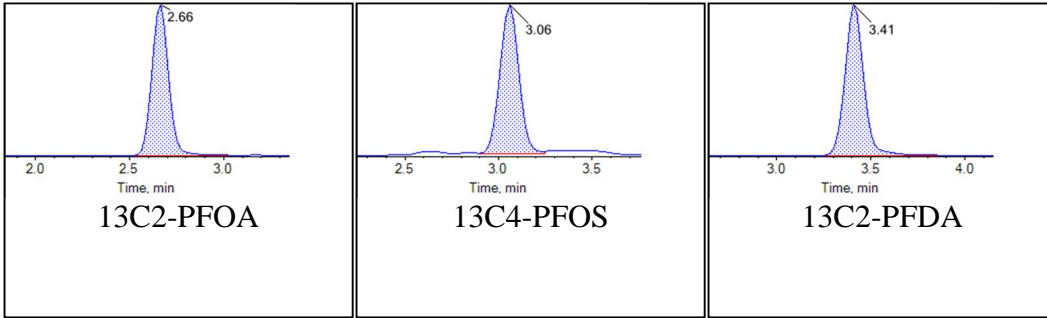
Sample Name	J8270-FS(3)	Injection Vial	32
Sample ID	VC-PM553-SB03-0102	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:27:24	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



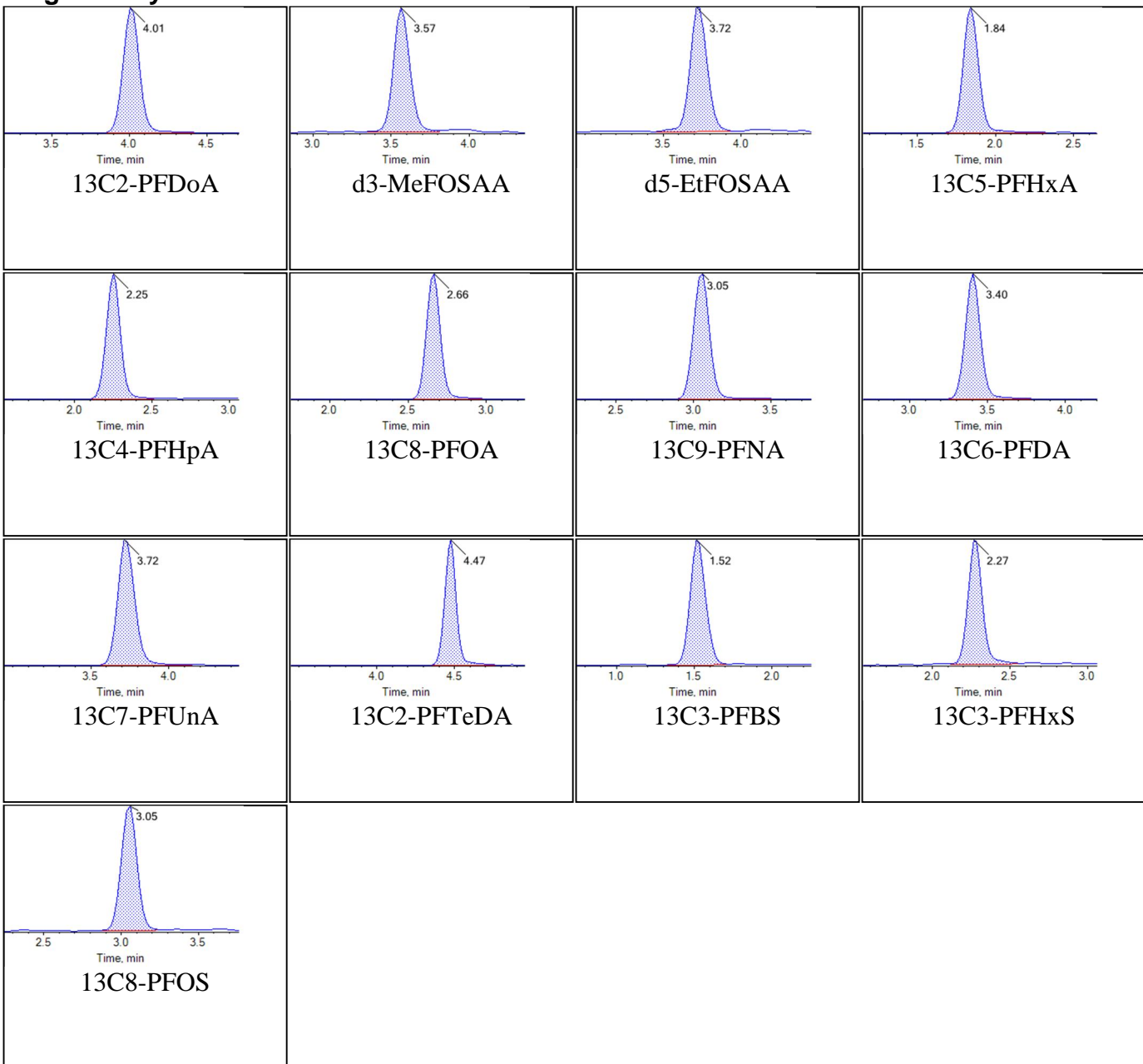
Internal Standards:



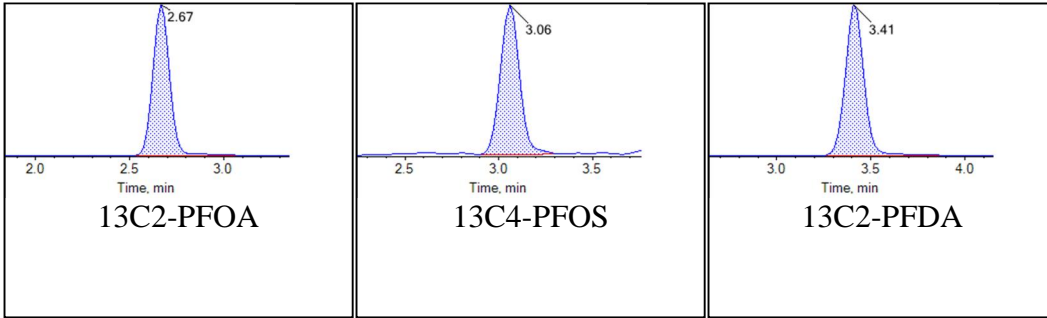
Sample Name	J8271-FS(3)	Injection Vial	33
Sample ID	VC-PM553-SB03-0506	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:38:16	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



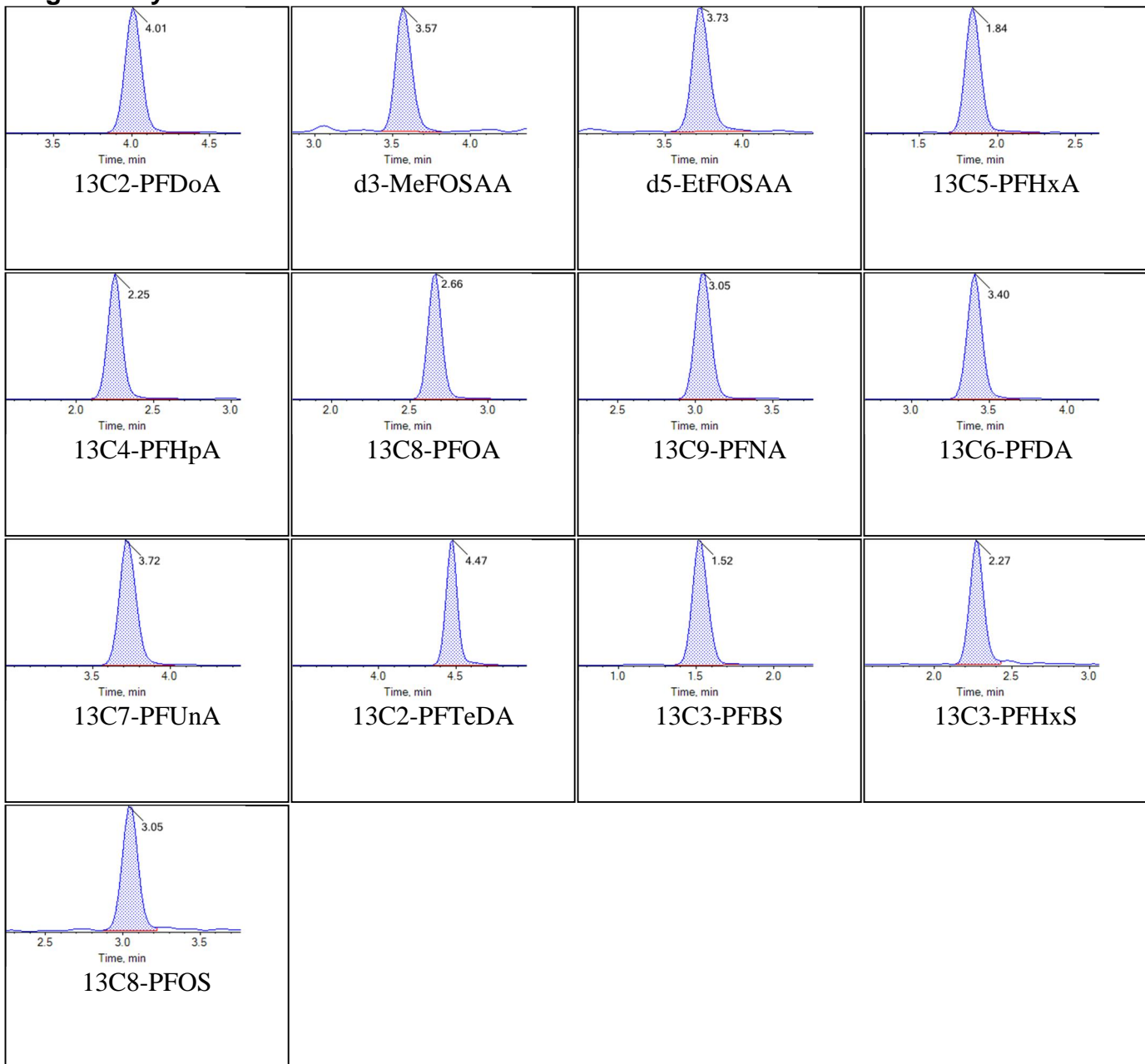
Internal Standards:



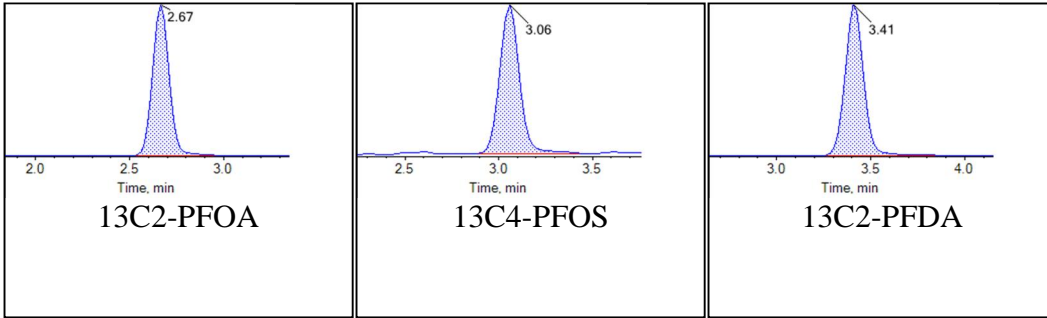
Sample Name	KA89 CCV	Injection Vial	34
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-09-28T20:49:08	Data File	18-0571.wiff
Acquisition Method	5-0369.dam	Result Table	18-0569_18-0571_SIS
Sample Comment			

Chromatograms

Target Analytes:



Internal Standards:



Contract_ID	DOCTO_Phase	InstallerSample_No	CH2M_CorAnalysis_GAnalytical_PRC_Code	Lab_Code	Lab_Name	Leachate	SAMPLE_B	Extraction_Result_Typ	Lab_OC_Ty	SAMPLE_NO_Level	DateTime_Date	ReceLeachate_Leachate_	Extraction_Extraction_Analysis_D	Analysis_T_Lab_Samp	Dilution	Run_Numt	PERCENT	PERCENT	Chem_NanAnalyte_IC_Analyte_V	Original_A_Result_Uni	Lab_Quallif	Validator_ICG_Column	Analysis_R_Result_Nar	QC_Cntrore_QC_AccuraQC_Accura	Control_Li	QC_Narrat	MDL	Detection_QSM	Vers	DL	LOD	LOQ	SDG	Analysis_B	Validator_Val_Date					
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluoroo376-06-7	2.25	NG_L	U				20171116				0.71	0.71	5.1	70	2.25	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			N-Methyl T2355-31-9	2.81	NG_L	U				20171116				1.26	1.26	5.1	70	2.81	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			N-Ethyl Pe2991-50-6	2.25	NG_L	U				20171116				0.64	0.64	5.1	70	2.25	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob375-73-5	1.12	NG_L	U				20171116				0.4	0.4	5.1	70	1.12	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob355-46-4	1.32	NG_L	J				20171116				0.25	0.25	5.1	70	0.56	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluoroo1763-23-1	0.49	NG_L	J				20171116				0.3	0.3	5.1	70	1.12	5.62	18-0571	DP-18-0279			
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C5-PFH8DO-2217	104	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C4-PFH8DO-2218	107	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C8-PFO8DO-2219	113	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C9-PFN8DO-2221	105	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C6-PFO8DO-2222	110	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C7-PFU8DO-2223	114	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C2-PFO8DO-2112	111	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C2-PFTE BDO-2224	101	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			43-MeFOS BDO-1838	130	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			45-EtFOSA BDO-1839	122	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C3-PFBS BDO-2226	118	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C3-PFH8DO-2227	121	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C8-PFOS BDO-2228	107	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob307-24-4	2.67	NG_L	J				20171116		TRG					0.34	0.34	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob375-85-9	3.21	NG_L	J				20171116		TRG					0.45	0.45	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob335-67-1	1.03	NG_L	U				20171116		TRG					0.52	0.52	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob375-95-1	1.03	NG_L	U				20171116		TRG					0.44	0.44	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob2058-94-8	1.03	NG_L	U				20171116		TRG					0.28	0.28	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob307-55-1	0.52	NG_L	U				20171116		TRG					0.42	0.42	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob72629-94-8	1.03	NG_L	U				20171116		TRG					0.25	0.25	5.1	70	0.52	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob376-06-7	2.06	NG_L	U				20171116		TRG					0.29	0.29	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			N-Methyl T2355-31-9	2.58	NG_L	U				20171116		TRG					0.65	0.65	5.1	70	2.06	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			N-Ethyl Pe2991-50-6	2.06	NG_L	U				20171116		TRG					1.15	1.15	5.1	70	2.58	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob375-73-5	1.03	NG_L	U				20171116		TRG					0.59	0.59	5.1	70	2.06	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob1763-23-1	1.61	NG_L	J				20171116		TRG					0.37	0.37	5.1	70	1.03	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			Perfluorob1763-23-1	1.61	NG_L	J				20171116		TRG					0.23	0.23	5.1	70	0.52	5.15	18-0571	DP-18-0279
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C5-PFH8DO-2217	116	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4	20180919	20180921			13C4-PFH8DO-2218	106	PCT_REC					20171116		SLSP	150	50	20171116									
N62470164164		POINT_MLVLC-PM365 NONS	SVQA	537	MOD	ORG	BMSL_NOFBATTLEL	NULL	DRY	METHOD	000	REG	SB	4																										

**DATA VALIDATION SUMMARY REPORT
NAVAL BASE VENTURA COUNTY, CALIFORNIA**

Client: CH2M HILL, Inc., Corvallis, Oregon
 SDG: 18-0571
 Laboratory: Battelle Norwell Operations, Norwell, Massachusetts
 Site: Naval Base Ventura County, CTO-4164, California
 Date: December 26, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	VC-PM365-SS03-000H	J8254-FS	Soil
2	VC-PM365-SB03-0102	J8255-FS	Soil
3	VC-PM365-SB03-0506	J8256-FS	Soil
4	VC-PM553-SS01-000H	J8263-FS	Soil
5	VC-PM553-SB01-0102	J8264-FS	Soil
6	VC-PM553-SB01-0506	J8265-FS	Soil
7	VC-PM553-SS02-000H	J8266-FS	Soil
8	VC-PM553-SB02-0102	J8267-FS	Soil
9	VC-PM553-SB02-0506	J8268-FS	Soil
10	VC-PM553-SS03-000H	J8269-FS	Soil
11	VC-PM553-SB03-0102	J8270-FS	Soil
12	VC-PM553-SB03-0506	J8271-FS	Soil

A full data validation was performed on the analytical data for twelve soil samples collected on September 19, 2018 by CH2M HILL at the Naval Base Ventura County site in California. The samples were analyzed under the Battelle SOP Method for “Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)”.

Specific method references are as follows:

Analysis
PFCs

Method References
SOP 5-369

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, the DoD Quality Systems Manual for Environmental Laboratories, Version 5.1, February 2018, the Final Sampling and Analysis Plan Basewide Preliminary Assessments/Site Inspections of Per- and Polyfluoroalkyl Substances, August 2018, and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA “Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review,” January 2017;
- and the reviewer’s professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required. All criteria were met.

Holding Times

- All samples were extracted within 28 days for soil samples and analyzed within 30 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent recovery (%R) criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
VC-SO-FB02-0918	PFDA	0.16	None	See EB02
	PFUnA	0.39	None	All Associated ND
	PFDoA	0.46	None	
	PFTTrDA	0.74	None	
	PFTeDA	0.66	None	
VC-SO-EB02-0918	PFDA	0.21	U	10
	PFUnA	0.37	None	All Associated ND
	PFDoA	0.49	None	
	PFTTrDA	0.69	None	
	PFTeDA	0.59	None	
	PFHxS	0.52	U	3, 5, 12
	PFOS	2.52	U	3-4, 6-7, 10-11

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R).

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed:

Nancy Weaver
Nancy Weaver
Senior Chemist

Dated: 12/27/18

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limits is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.



Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SS03-000H				
Battelle ID	J8254-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.32				
Matrix	SS				
Sample Size	1.87				
Size Unit-Basis	g				
Units		ng/g_Dry	MDL	LOD	LOQ
PFHxA	307-24-4	1.07 U	0.35	1.07	5.35
PFHpA	375-85-9	1.07 U	0.47	1.07	5.35
PFOA	335-67-1	1.07 U	0.53	1.07	5.35
PFNA	375-95-1	1.07 U	0.46	1.07	5.35
PFDA	335-76-2	1.07 U	0.29	1.07	5.35
PFUnA	2058-94-8	1.07 U	0.44	1.07	5.35
PFDoA	307-55-1	0.53 U	0.26	0.53	5.35
PFTeDA	72629-94-8	1.07 U	0.30	1.07	5.35
PFTeDA	376-06-7	2.14 U	0.67	2.14	5.35
NMeFOSAA	2355-31-9	2.67 U	1.20	2.67	5.35
NEtFOSAA	2991-50-6	2.14 U	0.61	2.14	5.35
PFBS	375-73-5	1.07 U	0.39	1.07	5.35
PFHxS	355-46-4	0.53 U	0.24	0.53	5.35
PFOS	1763-23-1	1.07 U	0.29	1.07	5.35

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	105
13C8-PFOA	106
13C9-PFNA	99
13C6-PFDA	111
13C7-PFUnA	125
13C2-PFDoA	116
13C2-PFTeDA	112
d3-MeFOSAA	89
d5-EtFOSAA	114
13C3-PFBS	111
13C3-PFHxS	116
13C8-PFOS	104



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM365-SB03-0102				
Battelle ID	J8255-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.21				
Matrix	SB				
Sample Size	1.93				
Size Unit-Basis	g				
Units	ng/g_Dry				
		MDL	LOD	LOQ	
PFHxA	307-24-4	1.04 U	0.34	1.04	5.18
PFHpA	375-85-9	1.04 U	0.46	1.04	5.18
PFOA	335-67-1	1.04 U	0.52	1.04	5.18
PFNA	375-95-1	1.04 U	0.45	1.04	5.18
PFDA	335-76-2	1.04 U	0.28	1.04	5.18
PFUnA	2058-94-8	1.04 U	0.42	1.04	5.18
PFDoA	307-55-1	0.52 U	0.25	0.52	5.18
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.18
PFTeDA	376-06-7	2.07 U	0.65	2.07	5.18
NMeFOSAA	2355-31-9	2.59 U	1.16	2.59	5.18
NEtFOSAA	2991-50-6	2.07 U	0.59	2.07	5.18
PFBS	375-73-5	1.04 U	0.37	1.04	5.18
PFHxS	355-46-4	0.52 U	0.23	0.52	5.18
PFOS	1763-23-1	1.04 U	0.28	1.04	5.18

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	120
13C8-PFOA	119
13C9-PFNA	111
13C6-PFDA	111
13C7-PFUnA	123
13C2-PFDoA	103
13C2-PFTeDA	107
d3-MeFOSAA	71
d5-EtFOSAA	83
13C3-PFBS	100
13C3-PFHxS	103
13C8-PFOS	89



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID VC-PM365-SB03-0506

Battelle ID J8256-FS
 Sample Type SA
 Collection Date 09/19/2018
 Extraction Date 09/26/2018
 Analysis Date 09/28/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture 11.23
 Matrix SB
 Sample Size 1.78
 Size Unit-Basis g

Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.12 U	0.37	1.12	5.62
PFHpA	375-85-9	1.12 U	0.49	1.12	5.62
PFOA	335-67-1	1.12 U	0.56	1.12	5.62
PFNA	375-95-1	1.12 U	0.48	1.12	5.62
PFDA	335-76-2	1.12 U	0.30	1.12	5.62
PFUnA	2058-94-8	1.12 U	0.46	1.12	5.62
PFDoA	307-55-1	0.56 U	0.27	0.56	5.62
PFTeDA	72629-94-8	1.12 U	0.31	1.12	5.62
PFTeDA	376-06-7	2.25 U	0.71	2.25	5.62
NMeFOSAA	2355-31-9	2.81 U	1.26	2.81	5.62
NEtFOSAA	2991-50-6	2.25 U	0.64	2.25	5.62
PFBS	375-73-5	1.12 U	0.40	1.12	5.62
PFHxS	355-46-4	1.32 U	0.25	0.56	5.62
PFOS	1763-23-1	1.12 U	0.30	1.12	5.62

EBL
EBL

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	107
13C8-PFOA	113
13C9-PFNA	105
13C6-PFDA	110
13C7-PFUnA	114
13C2-PFDoA	111
13C2-PFTeDA	101
d3-MeFOSAA	116
d5-EtFOSAA	122
13C3-PFBS	118
13C3-PFHxS	121
13C8-PFOS	107



4

Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS01-000H				
Battelle ID	J8263-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	5.43				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.67 J	0.34	1.03	5.15
PFHpA	375-85-9	3.21 J	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	1.03 U	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDoA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.61 y u	0.28	1.03	5.15 EBL

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	106
13C8-PFOA	119
13C9-PFNA	106
13C6-PFDA	120
13C7-PFUnA	129
13C2-PFDoA	118
13C2-PFTeDA	115
d3-MeFOSAA	107
d5-EtFOSAA	132
13C3-PFBS	132
13C3-PFHxS	131
13C8-PFOS	110

10/12/2018



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB01-0102				
Battelle ID	J8264-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	10.87				
Matrix	SB				
Sample Size	1.77				
Size Unit-Basis	g				
Units		ng/g_Dry	MDL	LOD	LOQ
PFHxA	307-24-4	1.13 U	0.37	1.13	5.65
PFHpA	375-85-9	0.53 J	0.50	1.13	5.65
PFOA	335-67-1	1.13 U	0.56	1.13	5.65
PFNA	375-95-1	1.13 U	0.49	1.13	5.65
PFDA	335-76-2	1.13 U	0.31	1.13	5.65
PFUnA	2058-94-8	1.13 U	0.46	1.13	5.65
PFDoA	307-55-1	0.56 U	0.27	0.56	5.65
PFTeDA	72629-94-8	1.13 U	0.32	1.13	5.65
PFTeDA	376-06-7	2.26 U	0.71	2.26	5.65
NMeFOSAA	2355-31-9	2.82 U	1.27	2.82	5.65
NEtFOSAA	2991-50-6	2.26 U	0.64	2.26	5.65
PFBS	375-73-5	1.13 U	0.41	1.13	5.65
PFHxS	355-46-4	0.56 0.29 U	0.25	0.56	5.65
PFOS	1763-23-1	1.13 U	0.31	1.13	5.65

EBC

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	118
13C8-PFOA	113
13C9-PFNA	111
13C6-PFDA	120
13C7-PFUnA	137
13C2-PFDoA	121
13C2-PFTeDA	121
d3-MeFOSAA	90
d5-EtFOSAA	114
13C3-PFBS	114
13C3-PFHxS	142
13C8-PFOS	111



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB01-0506				
Battelle ID	J8265-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	21.01				
Matrix	SB				
Sample Size	1.63				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	2.51 J	0.40	1.23	6.13
PFHpA	375-85-9	0.96 J	0.54	1.23	6.13
PFOA	335-67-1	1.23 U	0.61	1.23	6.13
PFNA	375-95-1	1.23 U	0.53	1.23	6.13
PFDA	335-76-2	1.23 U	0.33	1.23	6.13
PFUnA	2058-94-8	1.23 U	0.50	1.23	6.13
PFDoA	307-55-1	0.61 U	0.29	0.61	6.13
PFTeDA	72629-94-8	1.23 U	0.34	1.23	6.13
PFTeDA	376-06-7	2.45 U	0.77	2.45	6.13
NMeFOSAA	2355-31-9	3.07 U	1.37	3.07	6.13
NEtFOSAA	2991-50-6	2.45 U	0.70	2.45	6.13
PFBS	375-73-5	1.23 U	0.44	1.23	6.13
PFHxS	355-46-4	0.61 U	0.27	0.61	6.13
PFOS	1763-23-1	1.23 U	0.33	1.23	6.13

EBC

Surrogate Recoveries (%)

13C5-PFHxA	121
13C4-PFHpA	121
13C8-PFOA	131
13C9-PFNA	112
13C6-PFDA	118
13C7-PFUnA	129
13C2-PFDoA	114
13C2-PFTeDA	109
d3-MeFOSAA	127
d5-EtFOSAA	130
13C3-PFBS	125
13C3-PFHxS	114
13C8-PFOS	105



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS02-000H				
Battelle ID	J8266-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	6.10				
Matrix	SS				
Sample Size	1.88				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.06 U	0.35	1.06	5.32
PFHpA	375-85-9	1.06 U	0.47	1.06	5.32
PFOA	335-67-1	1.06 U	0.53	1.06	5.32
PFNA	375-95-1	1.06 U	0.46	1.06	5.32
PFDA	335-76-2	1.06 U	0.29	1.06	5.32
PFUnA	2058-94-8	1.06 U	0.44	1.06	5.32
PFDoA	307-55-1	0.53 U	0.26	0.53	5.32
PFTeDA	72629-94-8	1.06 U	0.30	1.06	5.32
PFTeDA	376-06-7	2.13 U	0.67	2.13	5.32
NMeFOSAA	2355-31-9	2.66 U	1.19	2.66	5.32
NEtFOSAA	2991-50-6	2.13 U	0.61	2.13	5.32
PFBS	375-73-5	1.06 U	0.38	1.06	5.32
PFHxS	355-46-4	0.53 U	0.23	0.53	5.32
PFOS	1763-23-1	1.06 U	0.29	1.06	5.32

1.06 0.40 u *EBL*

Surrogate Recoveries (%)

13C5-PFHxA	122
13C4-PFHpA	112
13C8-PFOA	119
13C9-PFNA	114
13C6-PFDA	113
13C7-PFUnA	120
13C2-PFDoA	108
13C2-PFTeDA	108
d3-MeFOSAA	95
d5-EtFOSAA	99
13C3-PFBS	113
13C3-PFHxS	111
13C8-PFOS	95

10/12/2018



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0102				
Battelle ID	J8267-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	16.96				
Matrix	SB				
Sample Size	1.66				
Size Unit-Basis	g				
Units	ng/g_Dry				
		MDL	LOD	LOQ	
PFHxA	307-24-4	1.20 U	0.40	1.20	6.02
PFHpA	375-85-9	1.20 U	0.53	1.20	6.02
PFOA	335-67-1	1.20 U	0.60	1.20	6.02
PFNA	375-95-1	1.20 U	0.52	1.20	6.02
PFDA	335-76-2	1.20 U	0.33	1.20	6.02
PFUnA	2058-94-8	1.20 U	0.49	1.20	6.02
PFDoA	307-55-1	0.60 U	0.29	0.60	6.02
PFTeDA	72629-94-8	1.20 U	0.34	1.20	6.02
PFTeDA	376-06-7	2.41 U	0.76	2.41	6.02
NMeFOSAA	2355-31-9	3.01 U	1.35	3.01	6.02
NEtFOSAA	2991-50-6	2.41 U	0.69	2.41	6.02
PFBS	375-73-5	1.20 U	0.43	1.20	6.02
PFHxS	355-46-4	0.60 U	0.27	0.60	6.02
PFOS	1763-23-1	1.20 U	0.33	1.20	6.02

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	108
13C8-PFOA	109
13C9-PFNA	109
13C6-PFDA	117
13C7-PFUnA	126
13C2-PFDoA	113
13C2-PFTeDA	112
d3-MeFOSAA	95
d5-EtFOSAA	136
13C3-PFBS	109
13C3-PFHxS	112
13C8-PFOS	116



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB02-0506				
Battelle ID	J8268-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	15.64				
Matrix	SB				
Sample Size	1.71				
Size Unit-Basis	g				
Units	ng/g_Dry	MDL	LOD	LOQ	
PFHxA	307-24-4	1.17 U	0.39	1.17	5.85
PFHpA	375-85-9	1.17 U	0.51	1.17	5.85
PFOA	335-67-1	1.17 U	0.58	1.17	5.85
PFNA	375-95-1	1.17 U	0.50	1.17	5.85
PFDA	335-76-2	1.17 U	0.32	1.17	5.85
PFUnA	2058-94-8	1.17 U	0.48	1.17	5.85
PFDoA	307-55-1	0.58 U	0.28	0.58	5.85
PFTeDA	72629-94-8	1.17 U	0.33	1.17	5.85
PFTeDA	376-06-7	2.34 U	0.74	2.34	5.85
NMeFOSAA	2355-31-9	2.92 U	1.31	2.92	5.85
NEtFOSAA	2991-50-6	2.34 U	0.67	2.34	5.85
PFBS	375-73-5	1.17 U	0.42	1.17	5.85
PFHxS	355-46-4	0.58 U	0.26	0.58	5.85
PFOS	1763-23-1	1.17 U	0.32	1.17	5.85

Surrogate Recoveries (%)

13C5-PFHxA	116
13C4-PFHpA	120
13C8-PFOA	125
13C9-PFNA	115
13C6-PFDA	120
13C7-PFUnA	131
13C2-PFDoA	110
13C2-PFTeDA	114
d3-MeFOSAA	99
d5-EtFOSAA	125
13C3-PFBS	117
13C3-PFHxS	130
13C8-PFOS	116



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SS03-000H				
Battelle ID	J8269-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	3.78				
Matrix	SS				
Sample Size	1.94				
Size Unit-Basis	g				
Units		ng/g_Dry	MDL	LOD	LOQ
PFHxA	307-24-4	1.03 U	0.34	1.03	5.15
PFHpA	375-85-9	1.03 U	0.45	1.03	5.15
PFOA	335-67-1	1.03 U	0.52	1.03	5.15
PFNA	375-95-1	1.03 U	0.44	1.03	5.15
PFDA	335-76-2	1.03 U	0.28	1.03	5.15
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.15
PFDoA	307-55-1	0.52 U	0.25	0.52	5.15
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.15
PFTeDA	376-06-7	2.06 U	0.65	2.06	5.15
NMeFOSAA	2355-31-9	2.58 U	1.15	2.58	5.15
NEtFOSAA	2991-50-6	2.06 U	0.59	2.06	5.15
PFBS	375-73-5	1.03 U	0.37	1.03	5.15
PFHxS	355-46-4	0.52 U	0.23	0.52	5.15
PFOS	1763-23-1	1.41 U	0.28	1.03	5.15

1.03

0.32 U

EBL

EBL

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	124
13C8-PFOA	126
13C9-PFNA	122
13C6-PFDA	112
13C7-PFUnA	130
13C2-PFDoA	111
13C2-PFTeDA	109
d3-MeFOSAA	94
d5-EtFOSAA	110
13C3-PFBS	125
13C3-PFHxS	130
13C8-PFOS	110



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0102				
Battelle ID	J8270-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	2.31				
Matrix	SB				
Sample Size	1.95				
Size Unit-Basis	g				
Units		ng/g_Dry	MDL	LOD	LOQ
PFHxA	307-24-4	1.03 U	0.34	1.03	5.13
PFHpA	375-85-9	1.03 U	0.45	1.03	5.13
PFOA	335-67-1	1.03 U	0.51	1.03	5.13
PFNA	375-95-1	1.03 U	0.44	1.03	5.13
PFDA	335-76-2	1.03 U	0.28	1.03	5.13
PFUnA	2058-94-8	1.03 U	0.42	1.03	5.13
PFDoA	307-55-1	0.51 U	0.25	0.51	5.13
PFTeDA	72629-94-8	1.03 U	0.29	1.03	5.13
PFTeDA	376-06-7	2.05 U	0.65	2.05	5.13
NMeFOSAA	2355-31-9	2.56 U	1.15	2.56	5.13
NEtFOSAA	2991-50-6	2.05 U	0.58	2.05	5.13
PFBS	375-73-5	1.03 U	0.37	1.03	5.13
PFHxS	355-46-4	0.51 U	0.23	0.51	5.13
PFOS	1763-23-1	2.04 ✓ u	0.28	1.03	5.13

EBC

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	108
13C8-PFOA	118
13C9-PFNA	108
13C6-PFDA	112
13C7-PFUnA	126
13C2-PFDoA	111
13C2-PFTeDA	107
d3-MeFOSAA	88
d5-EtFOSAA	110
13C3-PFBS	115
13C3-PFHxS	115
13C8-PFOS	100



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Project Client: CH2M
 Project Name: CTO-4164 Naval Base Ventura County, California
 Project No.: 100110125-01

Client ID	VC-PM553-SB03-0506				
Battelle ID	J8271-FS				
Sample Type	SA				
Collection Date	09/19/2018				
Extraction Date	09/26/2018				
Analysis Date	09/28/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	4.53				
Matrix	SB				
Sample Size	1.92				
Size Unit-Basis	g				
Units		ng/g_Dry	MDL	LOD	LOQ
PFHxA	307-24-4	1.04 U	0.34	1.04	5.21
PFHpA	375-85-9	1.04 U	0.46	1.04	5.21
PFOA	335-67-1	1.04 U	0.52	1.04	5.21
PFNA	375-95-1	1.04 U	0.45	1.04	5.21
PFDA	335-76-2	1.04 U	0.28	1.04	5.21
PFUnA	2058-94-8	1.04 U	0.43	1.04	5.21
PFDoA	307-55-1	0.52 U	0.25	0.52	5.21
PFTeDA	72629-94-8	1.04 U	0.29	1.04	5.21
PFTeDA	376-06-7	2.08 U	0.66	2.08	5.21
NMeFOSAA	2355-31-9	2.60 U	1.17	2.60	5.21
NEtFOSAA	2991-50-6	2.08 U	0.59	2.08	5.21
PFBS	375-73-5	1.04 U	0.38	1.04	5.21
PFHxS	355-46-4	0.52 U	0.23	0.52	5.21
PFOS	1763-23-1	1.04 U	0.28	1.04	5.21

0.52 ~~0.33~~ U EBC

Surrogate Recoveries (%)

13C5-PFHxA	104
13C4-PFHpA	106
13C8-PFOA	110
13C9-PFNA	107
13C6-PFDA	121
13C7-PFUnA	121
13C2-PFDoA	110
13C2-PFTeDA	112
d3-MeFOSAA	103
d5-EtFOSAA	102
13C3-PFBS	101
13C3-PFHxS	109
13C8-PFOS	104

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
VC-PM365-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222439.4	1866116.9	Perfluoroalkyl Compounds	VC-PM365-SB03- 0102	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM365-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222439.4	1866116.9	Perfluoroalkyl Compounds	VC-PM365-SB03- 0506	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM365-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222439.4	1866116.9	Perfluoroalkyl Compounds	VC-PM365-SS03- 000H	SU	Surface soil (less than 6 inches)	19-Sep-18
VC-PM553-SO01	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221698.7	1865631.5	Perfluoroalkyl Compounds	VC-PM553-SB01- 0102	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO01	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221698.7	1865631.5	Perfluoroalkyl Compounds	VC-PM553-SB01- 0506	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO01	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221698.7	1865631.5	Perfluoroalkyl Compounds	VC-PM553-SS01- 000H	SU	Surface soil (less than 6 inches)	19-Sep-18
VC-PM553-SO02	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221834.7	1865540.5	Perfluoroalkyl Compounds	VC-PM553-SB02- 0102	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO02	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221834.7	1865540.5	Perfluoroalkyl Compounds	VC-PM553-SB02- 0506	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO02	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6221834.7	1865540.5	Perfluoroalkyl Compounds	VC-PM553-SS02- 000H	SU	Surface soil (less than 6 inches)	19-Sep-18
VC-PM553-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222252	1865921.2	Perfluoroalkyl Compounds	VC-PM553-SB03- 0102	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222252	1865921.2	Perfluoroalkyl Compounds	VC-PM553-SB03- 0506	SBS	Sub-surface soil (> 6)	19-Sep-18
VC-PM553-SO03	BASEWIDE PFAS	POINT_MUGU_NA S	DP	Direct Push/Geoprobe	18-0571	6222252	1865921.2	Perfluoroalkyl Compounds	VC-PM553-SS03- 000H	SU	Surface soil (less than 6 inches)	19-Sep-18