



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (1)  
 Acquired: 2022/12/30 - 04:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



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 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (1)  
 Acquired: 2022/12/30 - 04:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	(699.0 / 80.0) N/A (699.0 / 99.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	(327.0 / 307.0) N/A (327.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	(427.0 / 407.0) N/A (427.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	(527.0 / 507.0) N/A (527.0 / 81.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

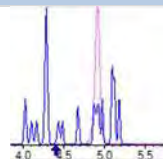
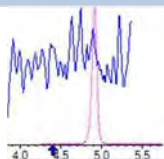
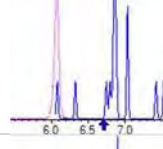
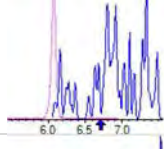
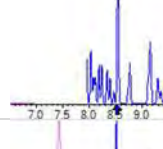
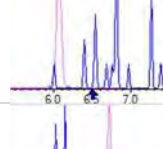
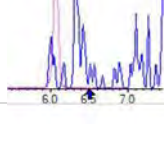
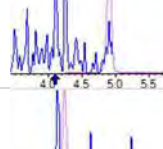
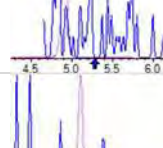
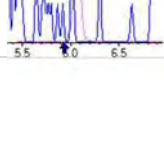
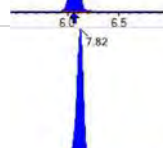
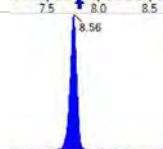


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 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (1)  
 Acquired: 2022/12/30 - 04:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 244517	(3.63, N/A) (N/A, 0.01, N/A)	513.5	N/A	1.1354 [ 1.0000 ]	113.5% { 103.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 421273	(6.07, N/A) (N/A, 0.01, N/A)	464.1	N/A	1.1097 [ 1.0000 ]	111.0% { 102.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 377748	(7.82, N/A) (N/A, 0.01, N/A)	447.8	N/A	1.0465 [ 1.0000 ]	104.6% { 96.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 311510	(8.56, N/A) (N/A, 0.01, N/A)	405.9	N/A	1.0593 [ 1.0000 ]	105.9% { 97.1% }			

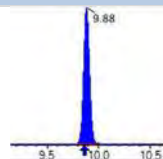
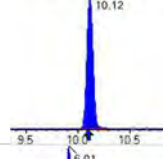
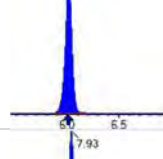
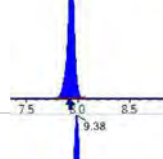
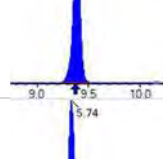
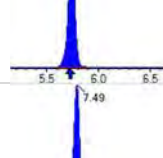
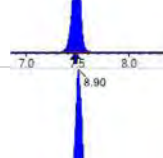
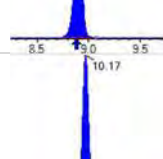
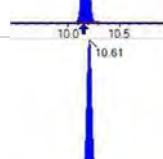
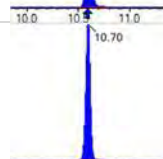
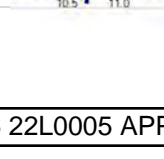


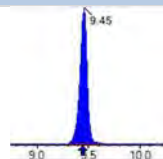
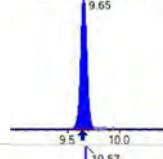
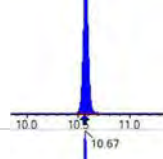
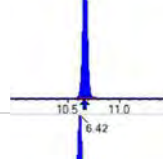
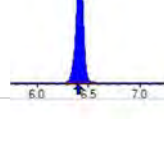
Chemist: HGH  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
Path: S2022-12-30A (1)  
Acquired: 2022/12/30 - 04:02

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 402141	(9.24, N/A) (N/A, 0.01, N/A)	346.4	N/A	1.1805 [1.0000]	118.1% {114.1%}			
18O2_PFHxS_IIS	(403.0 / 83.9) 644361	(7.94, N/A) (N/A, 0.01, N/A)	669.7	N/A	1.0649 [1.0000]	106.5% {102.3%}			
13C4_PFOS_IIS	(503.0 / 79.9) 671941	(9.39, N/A) (N/A, 0.02, N/A)	408.4	N/A	1.0421 [1.0000]	104.2% {102.7%}			
13C4_PFBA_EIS	(217.0 / 172.0) 1940120	(3.63, N/A) (N/A, 0.01, N/A)	744.1	N/A	7.9031 [8.0000]	98.8% {104.2%}			
13C5_PFPeA_EIS	(268.0 / 223.0) 1336121	(4.91, N/A) (N/A, 0.02, N/A)	662.3	N/A	4.2039 [4.0000]	105.1% {102.5%}			
13C5_PFHxA_EIS	(318.0 / 273.0) 878182	(6.07, N/A) (N/A, 0.02, N/A)	685.5	N/A	2.0371 [2.0000]	101.9% {108.3%}			
13C4_PFHpA_EIS	(367.0 / 322.0) 770098	(7.00, N/A) (N/A, 0.01, N/A)	608.3	N/A	2.0564 [2.0000]	102.8% {103.2%}			
13C8_PFOA_EIS	(421.0 / 376.0) 784695	(7.82, N/A) (N/A, 0.01, N/A)	510.8	N/A	2.0303 [2.0000]	101.5% {99.2%}			
13C9_PFNA_EIS	(472.0 / 427.0) 328459	(8.56, N/A) (N/A, 0.01, N/A)	299.2	N/A	1.0148 [1.0000]	101.5% {100.1%}			
13C6_PFDA_EIS	(519.0 / 474.0) 416820	(9.24, N/A) (N/A, 0.02, N/A)	428.6	N/A	0.8581 [1.0000]	85.8% {93.9%}			
13C7_PFUnA_EIS	(570.0 / 525.0) 618381	(9.69, N/A) (N/A, 0.02, N/A)	328.1	N/A	1.0352 [1.0000]	103.5% {128.6%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 623827	(9.88, N/A) (N/A, 0.01, N/A)	678.8	N/A	1.0464 [1.0000]	104.6% {108.5%}			
13C2_PFTeDA_EIS	(715.0 / 670.0) 422694	(10.12, N/A) (N/A, 0.01, N/A)	1671.0	N/A	1.1190 [1.0000]	111.9% {103.8%}			
13C3_PFBs_EIS	(302.0 / 80.0) 2102532	(6.01, N/A) (N/A, 0.01, N/A)	585.0	N/A	2.1560 [2.0000]	107.8% {103.4%}			
13C3_PFHxS_EIS	(402.0 / 80.0) 994082	(7.93, N/A) (N/A, 0.01, N/A)	847.8	N/A	1.8826 [2.0000]	94.1% {99.9%}			
13C8_PFOS_EIS	(507.0 / 80.0) 1596849	(9.38, N/A) (N/A, 0.01, N/A)	414.4	N/A	1.9720 [2.0000]	98.6% {106.0%}			
13C2_4:2FTS_EIS	(329.0 / 81.0) 547281	(5.74, N/A) (N/A, 0.02, N/A)	654.2	N/A	4.9673 [4.0000]	124.2% {105.3%}			
13C2_6:2FTS_EIS	(429.0 / 81.0) 663666	(7.49, N/A) (N/A, 0.01, N/A)	686.2	N/A	4.5525 [4.0000]	113.8% {93.4%}			
13C2_8:2FTS_EIS	(529.0 / 81.0) 605446	(8.90, N/A) (N/A, 0.01, N/A)	476.1	N/A	3.2947 [4.0000]	82.4% {98.9%}			
13C8_PFOsa_EIS	(506.0 / 78.0) 2112897	(10.17, N/A) (N/A, 0.01, N/A)	984.2	N/A	2.2356 [2.0000]	111.8% {103.2%}			
D3_NMeFOSA_EIS	(515.0 / 169.0) 385879	(10.61, N/A) (N/A, 0.01, N/A)	827.0	N/A	2.1591 [2.0000]	108.0% {97.1%}			
D5_NEtFOSA_EIS	(531.0 / 169.0) 368306	(10.70, N/A) (N/A, 0.01, N/A)	846.0	N/A	2.2499 [2.0000]	112.5% {99.8%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-Imin, $\Delta$ RT-CVmin, $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1063053	(9.45, N/A) (N/A, 0.01, N/A)	367.1	N/A	4.1724 [4.0000]	104.3% {106.6%}			
D5_EtFOSAA_EIS	(589.0 / 419.0) 974407	(9.65, N/A) (N/A, 0.02, N/A)	123.1	N/A	4.8101 [4.0000]	120.3% {112.9%}			
D7_NMeFOSE_EIS	(623.0 / 58.9) 969476	(10.57, N/A) (N/A, 0.01, N/A)	1334.4	N/A	24.8278 [20.0000]	124.1% {105.5%}			
D9_NEtFOSE_EIS	(639.0 / 58.9) 485946	(10.67, N/A) (N/A, 0.01, N/A)	1460.0	N/A	26.9877 [20.0000]	134.9% {102.0%}			
13C3_HFPODA_EIS	(287.0 / 169.0) 1896204	(6.42, N/A) (N/A, 0.01, N/A)	709.4	N/A	7.8628 [8.0000]	98.3% {104.1%}			

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N APPL, L CL SDG:N  
 Client:N Tidewater, Inc.L Project:N NASA JPL  
 Sequence:N SB04003L Instrument:N SaphiraL  
 Calibration:N 2253011L

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB20	PFBA	.0	ng/mL0	.40	U
	PFPEA	.0	ng/mL0	.20	U
	PFHXA	.0	ng/mL0	.10	U
	PFHPA	.0	ng/mL0	.10	U
	PFOA	.0	ng/mL0	.10	U
	PFNA	.0	ng/mL0	.10	U
	PFDA	.0	ng/mL0	.10	U
	PFUnA	.0	ng/mL0	.10	U
	PFDOA	.0	ng/mL0	.10	U
	PFTRDA	.0	ng/mL0	.10	U
	PFTEDA	.0	ng/mL0	.10	U
	PFBS0	.0	ng/mL0	.10	U
	PFPE0	.0	ng/mL0	.10	U
	PFHXS0	.0	ng/mL0	.10	U
	PFHPS0	.0	ng/mL0	.10	U
	PFOS0	.0	ng/mL0	.10	U
	PFNS0	.0	ng/mL0	.10	U
	PFDS0	.0	ng/mL0	.10	U
	4:2FTS0	.0	ng/mL0	.40	U
	6:2FTS0	.0	ng/mL0	.40	U
	8:2FTS0	.0	ng/mL0	.40	U
	PFOSA	.0	ng/mL0	.40	U
	NMeFOSA	.0	ng/mL0	.40	U
	NEtFOSA	.0	ng/mL0	.40	U
	NMeFOSAA	.0	ng/mL0	.10	U
	NEtFOSAA	.0	ng/mL0	.10	U
	NMeFOSE0	.0	ng/mL0	.40	U
	NEtFOSE0	.0	ng/mL0	.40	U
	HFPO-DA	.0	ng/mL0	.20	U
	ADONA	.0	ng/mL0	.20	U
	9CL-PF3ONS0	.0	ng/mL0	.20	U
	11CL-PF3OUDS0	.0	ng/mL0	.20	U
	13C4-PFBA	7.910	ng/mL0		

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N	APPL, L CL	SDG:N	
Client:N	Tidewater, Inc.L	Project:N	NASA JPL
Sequence:N	SB04003L	Instrument:N	SaphiraL
Calibration:N	2253011L		

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB20	13C5-PFPEA	4.070	ng/mL0		
	13C5-PFHXA	1.970	ng/mL0		
	13C4-PFHPA	1.920	ng/mL0		
	13C8-PFOA	2.040	ng/mL0		
	13C9-PFNA	.9730	ng/mL0		
	13C6-PFDA	.8690	ng/mL0		
	13C7-PFUnA	.9470	ng/mL0		
	13C2-PFDOA	.9370	ng/mL0		
	13C2-PFTEDA	.9740	ng/mL0		
	13C3-PFBS0	2.030	ng/mL0		
	13C3-PFHXS0	1.960	ng/mL0		
	13C8-PFOS0	2.070	ng/mL0		
	13C2-4:2FTS0	5.130	ng/mL0		
	13C2-6:2FTS0	4.570	ng/mL0		
	13C2-8:2FTS0	3.380	ng/mL0		
	13C8-PFOSA	2.540	ng/mL0		
	D3-NMEFOSA	2.270	ng/mL0		
	D5-NETFOSA	2.530	ng/mL0		
	D3-NMEFOSAA	4.970	ng/mL0		
	D5-NETFOSAA	4.890	ng/mL0		
	D7-NMEFOSE0	28.10	ng/mL0		
	D9-NETFOSSE0	26.40	ng/mL0		
	13C3-HFPO-DA	7.510	ng/mL0		



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (6)  
 Acquired: 2022/12/30 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (6)  
 Acquired: 2022/12/30 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 299.0 / 80.0 ) N/A ( 299.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 699.0 / 80.0 ) N/A ( 699.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

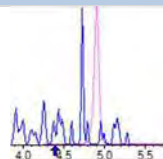
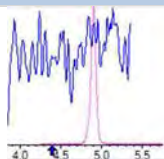
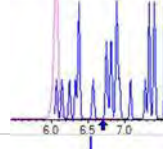
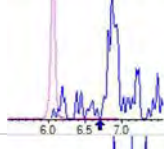
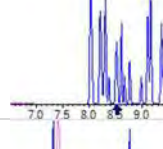
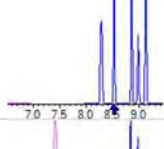
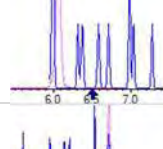
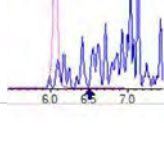
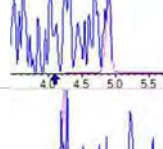
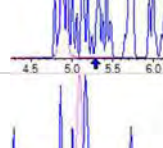
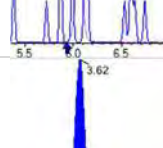
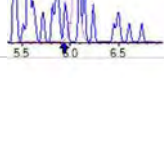
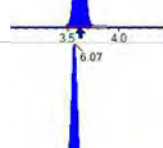
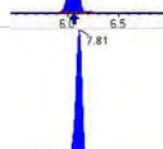
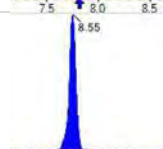
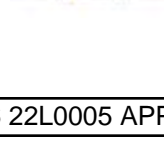


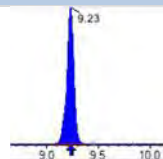
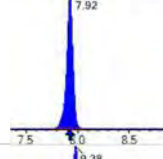
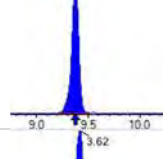
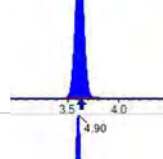
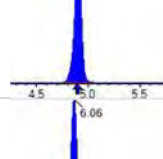
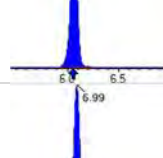
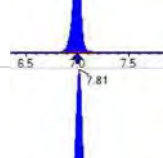
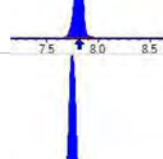
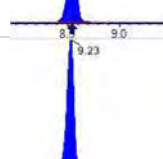
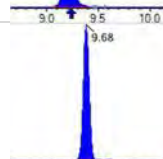
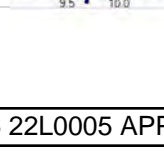
Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (6)  
 Acquired: 2022/12/30 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 254401	(3.62, N/A) (N/A, 0.00, N/A)	559.3	N/A	1.1813 [ 1.0000 ]	118.1% { 107.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 450633	(6.07, N/A) (N/A, 0.01, N/A)	448.2	N/A	1.1871 [ 1.0000 ]	118.7% { 109.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 405908	(7.81, N/A) (N/A, 0.00, N/A)	518.3	N/A	1.1245 [ 1.0000 ]	112.4% { 103.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 333218	(8.55, N/A) (N/A, 0.00, N/A)	482.2	N/A	1.1332 [ 1.0000 ]	113.3% { 103.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 443883	(9.23, N/A) (N/A, 0.00, N/A)	410.3	N/A	1.3031 [ 1.0000 ]	130.3% { 126.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 688180	(7.92, N/A) (N/A, 0.00, N/A)	833.7	N/A	1.1373 [ 1.0000 ]	113.7% { 109.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 638305	(9.38, N/A) (N/A, 0.00, N/A)	405.0	N/A	0.9899 [ 1.0000 ]	99.0% { 97.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2019473	(3.62, N/A) (N/A, 0.00, N/A)	669.7	N/A	7.9067 [ 8.0000 ]	98.8% { 108.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1384074	(4.90, N/A) (N/A, 0.01, N/A)	583.3	N/A	4.0711 [ 4.0000 ]	101.8% { 106.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 907761	(6.06, N/A) (N/A, 0.01, N/A)	586.6	N/A	1.9685 [ 2.0000 ]	98.4% { 112.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 769061	(6.99, N/A) (N/A, 0.00, N/A)	547.6	N/A	1.9198 [ 2.0000 ]	96.0% { 103.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 849031	(7.81, N/A) (N/A, 0.00, N/A)	763.1	N/A	2.0444 [ 2.0000 ]	102.2% { 107.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 336998	(8.55, N/A) (N/A, 0.00, N/A)	394.8	N/A	0.9733 [ 1.0000 ]	97.3% { 102.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 465678	(9.23, N/A) (N/A, 0.00, N/A)	273.1	N/A	0.8685 [ 1.0000 ]	86.9% { 104.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 624504	(9.68, N/A) (N/A, 0.00, N/A)	306.5	N/A	0.9471 [ 1.0000 ]	94.7% { 129.8% }			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (6)  
 Acquired: 2022/12/30 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 616280	(9.87, N/A) (N/A, 0.00, N/A)	485.0	N/A	0.9366 [ 1.0000 ]	93.7% { 107.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 405945	(10.11, N/A) (N/A, 0.00, N/A)	1454.8	N/A	0.9736 [ 1.0000 ]	97.4% { 99.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2113940	(6.01, N/A) (N/A, 0.01, N/A)	506.1	N/A	2.0296 [ 2.0000 ]	101.5% { 104.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1104215	(7.92, N/A) (N/A, 0.00, N/A)	725.1	N/A	1.9580 [ 2.0000 ]	97.9% { 111.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1596102	(9.37, N/A) (N/A, 0.00, N/A)	402.3	N/A	2.0750 [ 2.0000 ]	103.7% { 105.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 603842	(5.74, N/A) (N/A, 0.01, N/A)	668.0	N/A	5.1316 [ 4.0000 ]	128.3% { 116.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 711842	(7.48, N/A) (N/A, 0.00, N/A)	696.5	N/A	4.5721 [ 4.0000 ]	114.3% { 100.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 663477	(8.89, N/A) (N/A, 0.00, N/A)	547.2	N/A	3.3806 [ 4.0000 ]	84.5% { 108.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2279628	(10.16, N/A) (N/A, 0.00, N/A)	777.1	N/A	2.5391 [ 2.0000 ]	127.0% { 111.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 385243	(10.60, N/A) (N/A, 0.00, N/A)	672.6	N/A	2.2691 [ 2.0000 ]	113.5% { 96.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 393249	(10.69, N/A) (N/A, 0.00, N/A)	875.7	N/A	2.5288 [ 2.0000 ]	126.4% { 106.5% }			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB2  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (6)  
 Acquired: 2022/12/30 - 05:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1202649	(9.44, N/A) (N/A, 0.00, N/A)	362.8	N/A	4.9691 [ 4.0000 ]	124.2% { 120.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 941516	(9.64, N/A) (N/A, 0.00, N/A)	132.7	N/A	4.8927 [ 4.0000 ]	122.3% { 109.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 1043595	(10.56, N/A) (N/A, 0.00, N/A)	1152.5	N/A	28.1343 [ 20.0000 ]	140.7% { 113.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 451377	(10.66, N/A) (N/A, 0.00, N/A)	744.2	N/A	26.3889 [ 20.0000 ]	131.9% { 94.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1938069	(6.41, N/A) (N/A, 0.01, N/A)	767.6	N/A	7.5128 [ 8.0000 ]	93.9% { 106.4% }			

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N APPL, L CL SDG:N  
 Client:N Tidewater, Inc.L Project:N NASA JPL  
 Sequence:N SB04003L Instrument:N SaphiraL  
 Calibration:N 2253011L

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB30	PFBA	.0	ng/mL0	.40	U
	PFPEA	.0	ng/mL0	.20	U
	PFHXA	.0	ng/mL0	.10	U
	PFHPA	.0	ng/mL0	.10	U
	PFOA	.0	ng/mL0	.10	U
	PFNA	.0	ng/mL0	.10	U
	PFDA	.0	ng/mL0	.10	U
	PFUnA	.0	ng/mL0	.10	U
	PFDOA	.0	ng/mL0	.10	U
	PFTRDA	.0	ng/mL0	.10	U
	PFTEDA	.0	ng/mL0	.10	U
	PFBS0	.0	ng/mL0	.10	U
	PFPE0	.0	ng/mL0	.10	U
	PFHXS0	.0	ng/mL0	.10	U
	PFHPS0	.0	ng/mL0	.10	U
	PFOS0	.0	ng/mL0	.10	U
	PFNS0	.0	ng/mL0	.10	U
	PFDS0	.0	ng/mL0	.10	U
	4:2FTS0	.0	ng/mL0	.40	U
	6:2FTS0	.0	ng/mL0	.40	U
	8:2FTS0	.0	ng/mL0	.40	U
	PFOSA	.0	ng/mL0	.40	U
	NMeFOSA	.0	ng/mL0	.40	U
	NEtFOSA	.0	ng/mL0	.40	U
	NMeFOSAA	.0	ng/mL0	.10	U
	NEtFOSAA	.0	ng/mL0	.10	U
	NMeFOSE0	.0	ng/mL0	.40	U
	NEtFOSE0	.0	ng/mL0	.40	U
	HFPO-DA	.0	ng/mL0	.20	U
	ADONA	.0	ng/mL0	.20	U
	9CL-PF3ONS0	.0	ng/mL0	.20	U
	11CL-PF3OUDS0	.0	ng/mL0	.20	U
	13C4-PFBA	7.920	ng/mL0		

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N	APPL, L CL	SDG:N	
Client:N	Tidewater, Inc.L	Project:N	NASA JPL
Sequence:N	SB04003L	Instrument:N	SaphiraL
Calibration:N	2253011L		

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB30	13C5-PFPEA	3.650	ng/mL0		
	13C5-PFHXA	1.890	ng/mL0		
	13C4-PFHPA	1.70	ng/mL0		
	13C8-PFOA	1.910	ng/mL0		
	13C9-PFNA	.9880	ng/mL0		
	13C6-PFDA	.830	ng/mL0		
	13C7-PFUnA	.9990	ng/mL0		
	13C2-PFDOA	.9030	ng/mL0		
	13C2-PFTEDA	.8390	ng/mL0		
	13C3-PFBS0	2.260	ng/mL0		
	13C3-PFHXS0	2.080	ng/mL0		
	13C8-PFOS0	2.160	ng/mL0		
	13C2-4:2FTS0	5.160	ng/mL0		
	13C2-6:2FTS0	4.620	ng/mL0		
	13C2-8:2FTS0	3.420	ng/mL0		
	13C8-PFOSA	2.520	ng/mL0		
	D3-NMEFOSA	2.360	ng/mL0		
	D5-NETFOSA	2.720	ng/mL0		
	D3-NMEFOSAA	4.510	ng/mL0		
	D5-NETFOSAA	5.280	ng/mL0		
	D7-NMEFOSE0	29.10	ng/mL0		
	D9-NETFOS0	31.20	ng/mL0		
	13C3-HFPO-DA	7.310	ng/mL0		



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (34)  
 Acquired: 2022/12/30 - 11:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB3  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (34)  
 Acquired: 2022/12/30 - 11:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 299.0 / 80.0 ) N/A ( 299.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 699.0 / 80.0 ) N/A ( 699.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

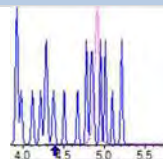
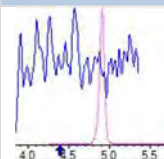
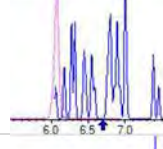
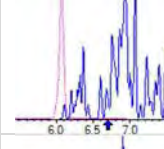
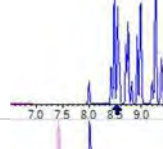
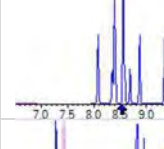
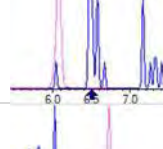
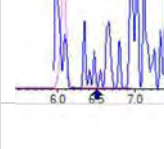
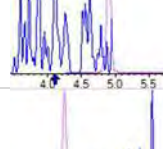
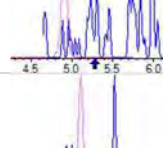
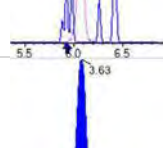
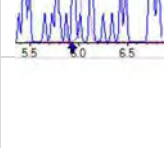
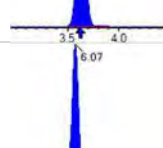
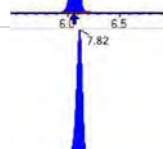
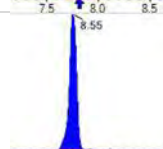
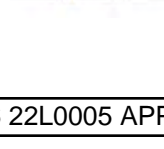


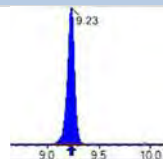
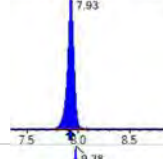
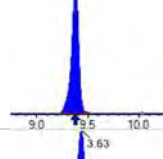
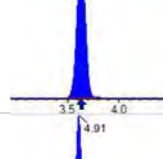
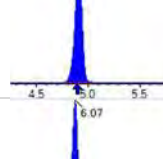
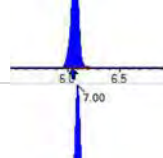
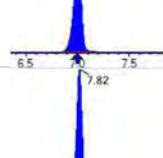
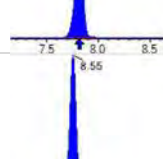
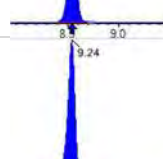
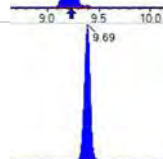
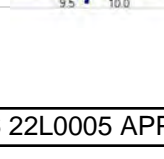
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 Type: Sciex Q3 5500

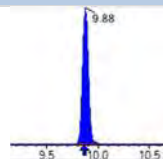
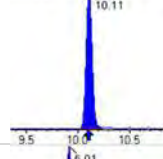
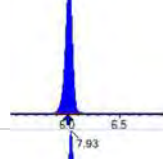
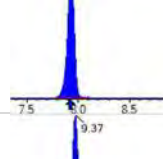
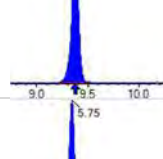
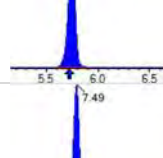
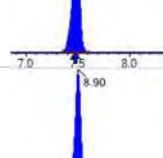
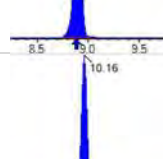
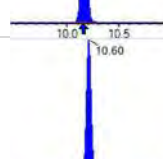
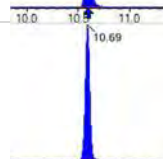
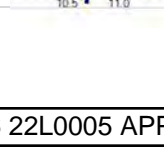
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 DF, IV: 1, 10.0µL  
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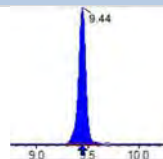
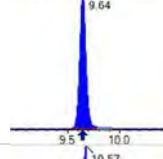
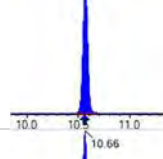
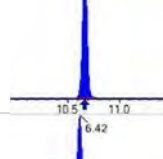
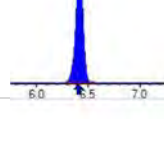
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 Path: S2022-12-30A (34)  
 Acquired: 2022/12/30 - 11:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 214646	(3.63, N/A) (N/A, 0.02, N/A)	578.7	N/A	0.9967 [ 1.0000 ]	99.7% { 91.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 423716	(6.07, N/A) (N/A, 0.02, N/A)	534.2	N/A	1.1162 [ 1.0000 ]	111.6% { 102.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 377950	(7.82, N/A) (N/A, 0.00, N/A)	469.4	N/A	1.0470 [ 1.0000 ]	104.7% { 96.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 291744	(8.55, N/A) (N/A, 0.00, N/A)	477.4	N/A	0.9921 [ 1.0000 ]	99.2% { 91.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 383974	(9.23, N/A) (N/A, 0.00, N/A)	455.3	N/A	1.1272 [ 1.0000 ]	112.7% { 109.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 564625	(7.93, N/A) (N/A, 0.00, N/A)	568.5	N/A	0.9331 [ 1.0000 ]	93.3% { 89.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 559063	(9.38, N/A) (N/A, 0.00, N/A)	526.6	N/A	0.8670 [ 1.0000 ]	86.7% { 85.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1706484	(3.63, N/A) (N/A, 0.01, N/A)	662.3	N/A	7.9187 [ 8.0000 ]	99.0% { 91.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1165314	(4.91, N/A) (N/A, 0.02, N/A)	685.1	N/A	3.6454 [ 4.0000 ]	91.1% { 89.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 820379	(6.07, N/A) (N/A, 0.02, N/A)	658.5	N/A	1.8921 [ 2.0000 ]	94.6% { 101.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 641220	(7.00, N/A) (N/A, 0.01, N/A)	471.7	N/A	1.7024 [ 2.0000 ]	85.1% { 86.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 738308	(7.82, N/A) (N/A, 0.01, N/A)	478.5	N/A	1.9093 [ 2.0000 ]	95.5% { 93.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 299602	(8.55, N/A) (N/A, 0.00, N/A)	443.2	N/A	0.9884 [ 1.0000 ]	98.8% { 91.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 384948	(9.24, N/A) (N/A, 0.01, N/A)	287.9	N/A	0.8300 [ 1.0000 ]	83.0% { 86.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 569844	(9.69, N/A) (N/A, 0.01, N/A)	608.7	N/A	0.9990 [ 1.0000 ]	99.9% { 118.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 513736	(9.88, N/A) (N/A, 0.01, N/A)	527.7	N/A	0.9025 [ 1.0000 ]	90.3% { 89.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 302650	(10.11, N/A) (N/A, 0.00, N/A)	682.2	N/A	0.8391 [ 1.0000 ]	83.9% { 74.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1934197	(6.01, N/A) (N/A, 0.02, N/A)	637.5	N/A	2.2634 [ 2.0000 ]	113.2% { 95.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 962396	(7.93, N/A) (N/A, 0.01, N/A)	583.0	N/A	2.0799 [ 2.0000 ]	104.0% { 96.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1457773	(9.37, N/A) (N/A, 0.00, N/A)	478.3	N/A	2.1637 [ 2.0000 ]	108.2% { 96.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 497723	(5.75, N/A) (N/A, 0.02, N/A)	687.3	N/A	5.1554 [ 4.0000 ]	128.9% { 95.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 590622	(7.49, N/A) (N/A, 0.01, N/A)	584.6	N/A	4.6236 [ 4.0000 ]	115.6% { 83.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 550357	(8.90, N/A) (N/A, 0.01, N/A)	460.5	N/A	3.4179 [ 4.0000 ]	85.4% { 89.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1983887	(10.16, N/A) (N/A, 0.01, N/A)	1038.9	N/A	2.5229 [ 2.0000 ]	126.1% { 96.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 351371	(10.60, N/A) (N/A, 0.01, N/A)	829.3	N/A	2.3629 [ 2.0000 ]	118.1% { 88.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 370889	(10.69, N/A) (N/A, 0.01, N/A)	1327.2	N/A	2.7231 [ 2.0000 ]	136.2% { 100.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 956851	(9.44, N/A) (N/A, 0.01, N/A)	419.4	N/A	4.5139 [ 4.0000 ]	112.8% { 95.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 889231	(9.64, N/A) (N/A, 0.01, N/A)	126.3	N/A	5.2760 [ 4.0000 ]	131.9% { 103.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 945782	(10.57, N/A) (N/A, 0.01, N/A)	1314.7	N/A	29.1113 [ 20.0000 ]	145.6% { 102.9% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 467588	(10.66, N/A) (N/A, 0.01, N/A)	1093.8	N/A	31.2113 [ 20.0000 ]	156.1% { 98.2% }			S2.
13C3_HFPODA_EIS	(287.0 / 169.0) 1773337	(6.42, N/A) (N/A, 0.01, N/A)	661.6	N/A	7.3109 [ 8.0000 ]	91.4% { 97.3% }			

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N APPL, L CL SDG:N  
 Client:N Tidewater, Inc.L Project:N NASA JPL  
 Sequence:N SB04003L Instrument:N SaphiraL  
 Calibration:N 2253011L

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB40	PFBA	.0	ng/mL0	.40	U
	PFPEA	.0	ng/mL0	.20	U
	PFHXA	.0	ng/mL0	.10	U
	PFHPA	.0	ng/mL0	.10	U
	PFOA	.0	ng/mL0	.10	U
	PFNA	.0	ng/mL0	.10	U
	PFDA	.0	ng/mL0	.10	U
	PFUnA	.0	ng/mL0	.10	U
	PFDOA	.0	ng/mL0	.10	U
	PFTRDA	.0	ng/mL0	.10	U
	PFTEDA	.0	ng/mL0	.10	U
	PFBS0	.0	ng/mL0	.10	U
	PFPE0	.0	ng/mL0	.10	U
	PFHXS0	.0	ng/mL0	.10	U
	PFHPS0	.0	ng/mL0	.10	U
	PFOS0	.0	ng/mL0	.10	U
	PFNS0	.0	ng/mL0	.10	U
	PFDS0	.0	ng/mL0	.10	U
	4:2FTS0	.0	ng/mL0	.40	U
	6:2FTS0	.0	ng/mL0	.40	U
	8:2FTS0	.0	ng/mL0	.40	U
	PFOSA	.0	ng/mL0	.40	U
	NMeFOSA	.0	ng/mL0	.40	U
	NEtFOSA	.0	ng/mL0	.40	U
	NMeFOSAA	.0	ng/mL0	.10	U
	NEtFOSAA	.0	ng/mL0	.10	U
	NMeFOSE0	.0	ng/mL0	.40	U
	NEtFOSE0	.0	ng/mL0	.40	U
	HFPO-DA	.0	ng/mL0	.20	U
	ADONA	.0	ng/mL0	.20	U
	9CL-PF3ONS0	.0	ng/mL0	.20	U
	11CL-PF3OUDS0	.0	ng/mL0	.20	U
	13C4-PFBA	7.720	ng/mL0		

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N	APPL, L CL	SDG:N	
Client:N	Tidewater, Inc.L	Project:N	NASA JPL
Sequence:N	SB04003L	Instrument:N	SaphiraL
Calibration:N	2253011L		

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB040 3-CCB40	13C5-PFPEA	4.070	ng/mL0		
	13C5-PFHXA	2.090	ng/mL0		
	13C4-PFHPA	1.990	ng/mL0		
	13C8-PFOA	1.920	ng/mL0		
	13C9-PFNA	1.010	ng/mL0		
	13C6-PFDA	1.040	ng/mL0		
	13C7-PFUnA	1.150	ng/mL0		
	13C2-PFDOA	1.140	ng/mL0		
	13C2-PFTEDA	1.320	ng/mL0		
	13C3-PFBS0	2.220	ng/mL0		
	13C3-PFHXS0	2.080	ng/mL0		
	13C8-PFOS0	2.10	ng/mL0		
	13C2-4:2FTS0	5.170	ng/mL0		
	13C2-6:2FTS0	4.570	ng/mL0		
	13C2-8:2FTS0	3.780	ng/mL0		
	13C8-PFOSA	2.310	ng/mL0		
	D3-NMEFOSA	2.150	ng/mL0		
	D5-NETFOSA	2.230	ng/mL0		
	D3-NMEFOSAA	4.320	ng/mL0		
	D5-NETFOSAA	5.220	ng/mL0		
	D7-NMEFOSE0	26.30	ng/mL0		
	D9-NETFOS0	27.60	ng/mL0		
	13C3-HFPO-DA	7.670	ng/mL0		



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (56)  
 Acquired: 2022/12/30 - 15:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (56)  
 Acquired: 2022/12/30 - 15:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 299.0 / 80.0 ) N/A ( 299.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 699.0 / 80.0 ) N/A ( 699.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04003-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (56)  
 Acquired: 2022/12/30 - 15:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

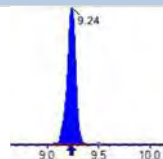
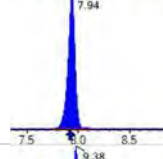
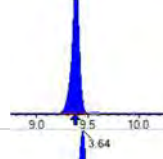
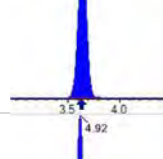
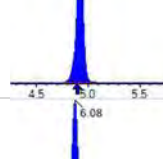
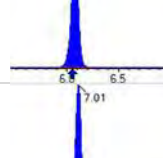
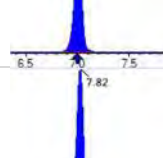
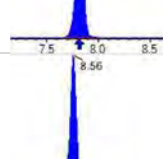
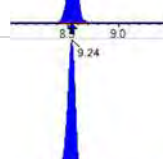
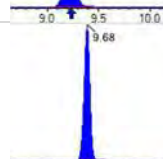
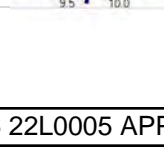


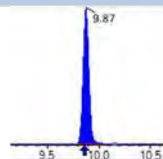
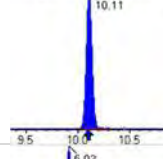
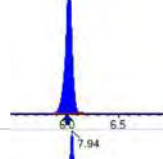
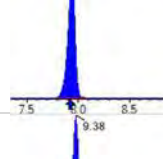
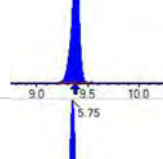
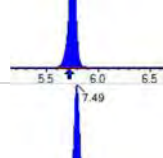
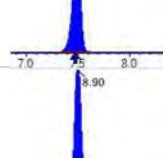
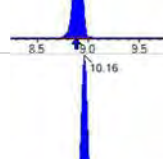
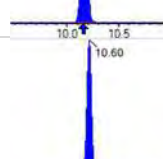
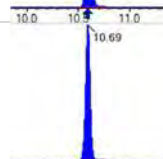
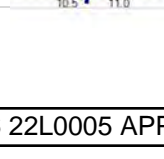
Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

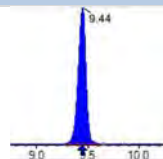
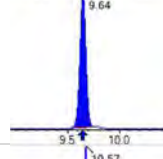
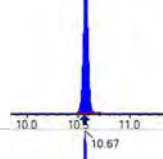
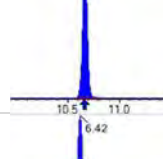
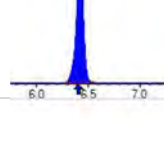
Sample I.D.: SB04003-CCB4  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (56)  
 Acquired: 2022/12/30 - 15:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 220187	(3.65, N/A) (N/A, 0.03, N/A)	637.9	N/A	1.0225 [ 1.0000 ]	102.2% { 93.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 414847	(6.08, N/A) (N/A, 0.02, N/A)	499.0	N/A	1.0928 [ 1.0000 ]	109.3% { 100.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 389690	(7.82, N/A) (N/A, 0.01, N/A)	675.2	N/A	1.0796 [ 1.0000 ]	108.0% { 99.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 286377	(8.56, N/A) (N/A, 0.01, N/A)	470.3	N/A	0.9739 [ 1.0000 ]	97.4% { 89.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 320829	(9.24, N/A) (N/A, 0.01, N/A)	382.0	N/A	0.9418 [ 1.0000 ]	94.2% { 91.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 632995	(7.94, N/A) (N/A, 0.01, N/A)	596.1	N/A	1.0461 [ 1.0000 ]	104.6% { 100.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 626150	(9.38, N/A) (N/A, 0.01, N/A)	380.7	N/A	0.9711 [ 1.0000 ]	97.1% { 95.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1706473	(3.64, N/A) (N/A, 0.03, N/A)	688.3	N/A	7.7194 [ 8.0000 ]	96.5% { 91.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1272461	(4.92, N/A) (N/A, 0.03, N/A)	677.6	N/A	4.0657 [ 4.0000 ]	101.6% { 97.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 885267	(6.08, N/A) (N/A, 0.02, N/A)	646.9	N/A	2.0854 [ 2.0000 ]	104.3% { 109.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 733603	(7.01, N/A) (N/A, 0.02, N/A)	428.3	N/A	1.9893 [ 2.0000 ]	99.5% { 98.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 766460	(7.82, N/A) (N/A, 0.01, N/A)	523.2	N/A	1.9224 [ 2.0000 ]	96.1% { 96.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 299978	(8.56, N/A) (N/A, 0.01, N/A)	586.0	N/A	1.0081 [ 1.0000 ]	100.8% { 91.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 403142	(9.24, N/A) (N/A, 0.01, N/A)	313.8	N/A	1.0403 [ 1.0000 ]	104.0% { 90.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 547784	(9.68, N/A) (N/A, 0.01, N/A)	443.9	N/A	1.1494 [ 1.0000 ]	114.9% { 113.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 539808	(9.87, N/A) (N/A, 0.01, N/A)	494.2	N/A	1.1350 [ 1.0000 ]	113.5% { 93.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 398838	(10.11, N/A) (N/A, 0.00, N/A)	1176.6	N/A	1.3235 [ 1.0000 ]	132.3% { 97.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2125385	(6.02, N/A) (N/A, 0.02, N/A)	619.6	N/A	2.2185 [ 2.0000 ]	110.9% { 104.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1078231	(7.94, N/A) (N/A, 0.01, N/A)	805.7	N/A	2.0786 [ 2.0000 ]	103.9% { 108.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1586324	(9.38, N/A) (N/A, 0.01, N/A)	513.0	N/A	2.1023 [ 2.0000 ]	105.1% { 105.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 559549	(5.75, N/A) (N/A, 0.03, N/A)	743.3	N/A	5.1698 [ 4.0000 ]	129.2% { 107.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 654068	(7.49, N/A) (N/A, 0.02, N/A)	602.5	N/A	4.5673 [ 4.0000 ]	114.2% { 92.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 682407	(8.90, N/A) (N/A, 0.01, N/A)	475.0	N/A	3.7802 [ 4.0000 ]	94.5% { 111.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2033450	(10.16, N/A) (N/A, 0.01, N/A)	1128.9	N/A	2.3089 [ 2.0000 ]	115.4% { 99.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 357428	(10.60, N/A) (N/A, 0.01, N/A)	748.0	N/A	2.1461 [ 2.0000 ]	107.3% { 89.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 340124	(10.69, N/A) (N/A, 0.01, N/A)	891.0	N/A	2.2297 [ 2.0000 ]	111.5% { 92.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1024487	(9.44, N/A) (N/A, 0.01, N/A)	504.5	N/A	4.3151 [ 4.0000 ]	107.9% { 102.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 985566	(9.64, N/A) (N/A, 0.01, N/A)	134.8	N/A	5.2210 [ 4.0000 ]	130.5% { 114.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 957350	(10.57, N/A) (N/A, 0.01, N/A)	1071.6	N/A	26.3102 [ 20.0000 ]	131.6% { 104.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 463589	(10.67, N/A) (N/A, 0.01, N/A)	1321.5	N/A	27.6289 [ 20.0000 ]	138.1% { 97.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1822167	(6.42, N/A) (N/A, 0.02, N/A)	719.1	N/A	7.6729 [ 8.0000 ]	95.9% { 100.0% }			

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N APPL, L CL SDG:N  
 Client:N Tidewater, Inc.L Project:N NASA JPL  
 Sequence:N SB04012L Instrument:N SaphiraL  
 Calibration:N 2253011L

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB04012-ICB10	PFBA0	.0	ng/mL0	.40	U
	PFPEA0	.0	ng/mL0	.20	U
	PFHXA0	.0	ng/mL0	.10	U
	PFHPA0	.0	ng/mL0	.10	U
	PFOA0	.0	ng/mL0	.10	U
	PFNA0	.0	ng/mL0	.10	U
	PFDA0	.0	ng/mL0	.10	U
	PFUnA0	.0	ng/mL0	.10	U
	PFDOA0	.0	ng/mL0	.10	U
	PFTRDA0	.03310	ng/mL0	.10	U
	PFTEDA0	.02880	ng/mL0	.10	U
	PFBS0	.0	ng/mL0	.10	U
	PFPE0	.0	ng/mL0	.10	U
	PFHXS0	.0	ng/mL0	.10	U
	PFHPS0	.0	ng/mL0	.10	U
	PFOS0	.0 9720	ng/mL0	.10	U
	PFNS0	.0	ng/mL0	.10	U
	PFDS0	.0	ng/mL0	.10	U
	4:2FTS0	.0	ng/mL0	.40	U
	6:2FTS0	.0	ng/mL0	.40	U
	8:2FTS0	.0	ng/mL0	.40	U
	PFOSA0	.0	ng/mL0	.40	U
	NMeFOSA0	.0	ng/mL0	.40	U
	NEtFOSA0	.0	ng/mL0	.40	U
	NMeFOSAA0	.0	ng/mL0	.10	U
	NEtFOSAA0	.02380	ng/mL0	.10	U
	NMeFOSE0	.0920	ng/mL0	.40	U
	NEtFOSE0	.1850	ng/mL0	.40	U
	HFPO-DA0	.0	ng/mL0	.20	U
	ADONA0	.0	ng/mL0	.20	U
	9CL-PF3ONS0	.0	ng/mL0	.20	U
	11CL-PF3OUDS0	.0	ng/mL0	.20	U
	13C4-PFBA0	8.170	ng/mL0		

## ANALYSIS SEQUENCE BLANKSN

Laboratory:N	APPL, L CL	SDG:N	
Client:N	Tidewater, Inc.L	Project:N	NASA JPL
Sequence:N	SB04012L	Instrument:N	SaphiraL
Calibration:N	2253011L		

Lab Sample IDN	AnalyteN	FoundN	UnitsN	RLN	CN
SB04012-ICB10	13C5-PFPEA0	4.350	ng/mL0		
	13C5-PFHXA0	2.0	ng/mL0		
	13C4-PFHPA0	2.220	ng/mL0		
	13C8-PFOA0	1.970	ng/mL0		
	13C9-PFNA0	1.160	ng/mL0		
	13C6-PFDA	0.9720	ng/mL0		
	13C7-PFUnA0	1.210	ng/mL0		
	13C2-PFDOA0	1.160	ng/mL0		
	13C2-PFTEDA0	1.250	ng/mL0		
	13C3-PFBS0	2.0	ng/mL0		
	13C3-PFHXS0	1.980	ng/mL0		
	13C8-PFOS0	2.190	ng/mL0		
	13C2-4:2FTS0	4.450	ng/mL0		
	13C2-6:2FTS0	4.180	ng/mL0		
	13C2-8:2FTS0	3.570	ng/mL0		
	13C8-PFOSA0	2.160	ng/mL0		
	D3-NMEFOSA0	2.160	ng/mL0		
	D5-NETFOSA0	2.30	ng/mL0		
	D3-NMEFOSAA0	4.550	ng/mL0		
	D5-NETFOSAA0	4.630	ng/mL0		
	D7-NMEFOSE0	25.60	ng/mL0		
	D9-NETFOSSE0	25.30	ng/mL0		
	13C3-HFPO-DA0	8.360	ng/mL0		



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04012-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-29A (9)  
 Acquired: 2022/12/29 - 13:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) 15713 (663.0 / 169.0) 1671	(10.00, 1.01) (N/A, -0.01, -2.2)	65.0 14.1	0.1063 48.8 48.8	0.0331	N/A			IR1,
PFTeDA	(713.0 / 669.0) 11292 (713.0 / 169.0) 873	(10.12, 1.00) (0.00, N/A, 0.0)	39.1 6.0	0.0773 39.2 39.2	0.0288	N/A			IR1,



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04012-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-29A (9)  
 Acquired: 2022/12/29 - 13:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 299.0 / 80.0 ) N/A ( 299.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) 9292 ( 499.0 / 99.0 ) 4650	( 9.43 , 1.00 ) ( 0.01 , N/A , -0.5 )	33.6 187.5	0.5004 240.5 240.5	0.0097	N/A			IR2,
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 699.0 / 80.0 ) N/A ( 699.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: SB04012-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-29A (9)  
 Acquired: 2022/12/29 - 13:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) N/A ( 498.0 / 478.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	( 512.0 / 219.0 ) N/A ( 512.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	( 526.0 / 219.0 ) N/A ( 526.0 / 169.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	( 570.0 / 419.0 ) N/A ( 570.0 / 483.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	( 584.0 / 419.0 ) 5082 ( 584.0 / 526.0 ) 2675	( 9.67 , 1.00 ) ( 0.01 , N/A , 1.6 )	174.9 148.7	0.5264 88.7 88.7	0.0238	N/A			
NMeFOSE	( 616.0 / 59.0 ) 5187	( 10.58 , 1.00 ) ( 0.01 , N/A , 0.0 )	47.5	N/A 0.0 0.0	0.0920	N/A			
NEtFOSE	( 630.0 / 59.0 ) 1185	( 10.68 , 1.00 ) ( 0.00 , N/A , 0.0 )	9.8	N/A 0.0 0.0	0.1846	N/A			
HFPO-DA	( 285.0 / 169.0 ) N/A ( 285.0 / 185.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	( 377.0 / 85.0 ) N/A ( 377.0 / 251.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	( 531.0 / 351.0 ) N/A ( 533.0 / 353.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	( 631.0 / 451.0 ) N/A ( 633.0 / 453.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

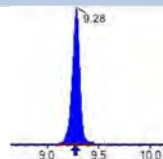
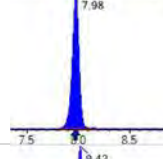
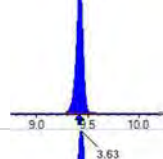
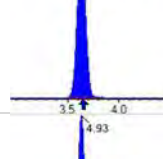
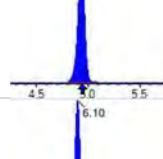
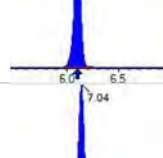
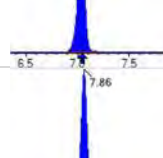
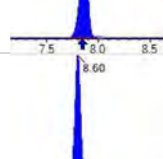
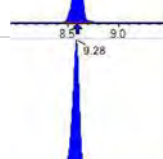
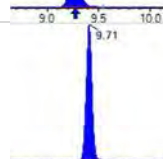
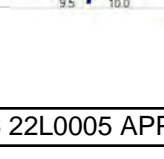


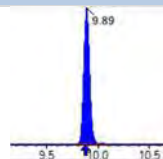
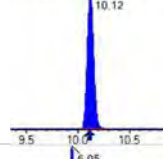
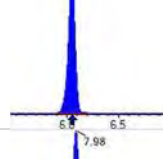
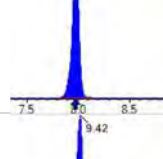
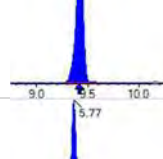
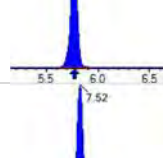
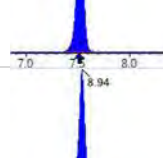
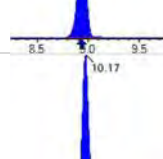
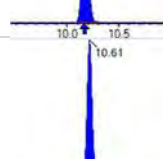
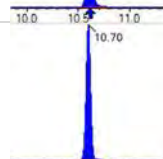
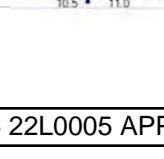
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

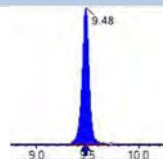
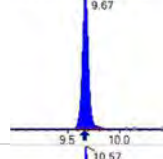
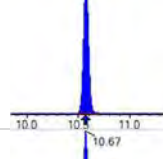
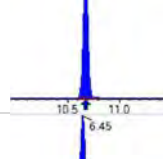
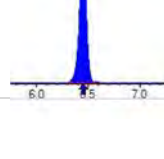
Sample I.D.: SB04012-ICB1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-29A (9)  
 Acquired: 2022/12/29 - 13:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 230902	(3.64, N/A) (N/A, -0.01, N/A)	539.2	N/A	1.0722 [ 1.0000 ]	107.2% { 100.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 374153	(6.10, N/A) (N/A, 0.00, N/A)	483.3	N/A	0.9856 [ 1.0000 ]	98.6% { 96.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 369015	(7.86, N/A) (N/A, 0.01, N/A)	469.0	N/A	1.0223 [ 1.0000 ]	102.2% { 98.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 275679	(8.60, N/A) (N/A, 0.01, N/A)	415.6	N/A	0.9375 [ 1.0000 ]	93.7% { 90.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 330272	(9.28, N/A) (N/A, 0.02, N/A)	320.5	N/A	0.9695 [ 1.0000 ]	97.0% { 90.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 595423	(7.98, N/A) (N/A, 0.01, N/A)	638.7	N/A	0.9840 [ 1.0000 ]	98.4% { 93.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 621542	(9.42, N/A) (N/A, 0.01, N/A)	432.2	N/A	0.9639 [ 1.0000 ]	96.4% { 100.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1893105	(3.63, N/A) (N/A, -0.01, N/A)	628.8	N/A	8.1663 [ 8.0000 ]	102.1% { 102.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1226991	(4.93, N/A) (N/A, -0.01, N/A)	666.6	N/A	4.3468 [ 4.0000 ]	108.7% { 103.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 766190	(6.10, N/A) (N/A, 0.00, N/A)	493.8	N/A	2.0012 [ 2.0000 ]	100.1% { 102.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 739200	(7.04, N/A) (N/A, 0.00, N/A)	528.3	N/A	2.2225 [ 2.0000 ]	111.1% { 107.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 744353	(7.86, N/A) (N/A, 0.01, N/A)	594.8	N/A	1.9715 [ 2.0000 ]	98.6% { 97.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 331452	(8.60, N/A) (N/A, 0.01, N/A)	570.6	N/A	1.1571 [ 1.0000 ]	115.7% { 108.3% }			
13C6_PFDA_EIS	(519.0 / 474.0) 387935	(9.28, N/A) (N/A, 0.01, N/A)	338.9	N/A	0.9724 [ 1.0000 ]	97.2% { 89.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 595609	(9.71, N/A) (N/A, 0.01, N/A)	663.1	N/A	1.2140 [ 1.0000 ]	121.4% { 106.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 568211	(9.89, N/A) (N/A, 0.01, N/A)	505.8	N/A	1.1606 [ 1.0000 ]	116.1% { 98.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 387296	(10.12, N/A) (N/A, 0.00, N/A)	1325.4	N/A	1.2484 [ 1.0000 ]	124.8% { 115.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 1806435	(6.05, N/A) (N/A, 0.00, N/A)	522.8	N/A	2.0046 [ 2.0000 ]	100.2% { 98.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 964498	(7.98, N/A) (N/A, 0.01, N/A)	628.9	N/A	1.9767 [ 2.0000 ]	98.8% { 97.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1642527	(9.42, N/A) (N/A, 0.01, N/A)	367.4	N/A	2.1929 [ 2.0000 ]	109.6% { 100.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 453328	(5.77, N/A) (N/A, -0.01, N/A)	723.8	N/A	4.4527 [ 4.0000 ]	111.3% { 104.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 562829	(7.52, N/A) (N/A, 0.01, N/A)	842.5	N/A	4.1781 [ 4.0000 ]	104.5% { 97.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 606756	(8.94, N/A) (N/A, 0.01, N/A)	459.8	N/A	3.5732 [ 4.0000 ]	89.3% { 95.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1887286	(10.17, N/A) (N/A, 0.01, N/A)	878.5	N/A	2.1588 [ 2.0000 ]	107.9% { 104.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 357077	(10.61, N/A) (N/A, 0.00, N/A)	998.5	N/A	2.1599 [ 2.0000 ]	108.0% { 96.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 348864	(10.70, N/A) (N/A, 0.00, N/A)	904.8	N/A	2.3039 [ 2.0000 ]	115.2% { 102.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1071843	(9.48, N/A) (N/A, 0.01, N/A)	440.9	N/A	4.5481 [ 4.0000 ]	113.7% { 105.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 867768	(9.67, N/A) (N/A, 0.01, N/A)	109.4	N/A	4.6311 [ 4.0000 ]	115.8% { 119.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 924009	(10.57, N/A) (N/A, 0.01, N/A)	1089.6	N/A	25.5822 [ 20.0000 ]	127.9% { 114.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 421620	(10.67, N/A) (N/A, 0.01, N/A)	1075.1	N/A	25.3140 [ 20.0000 ]	126.6% { 110.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 1789651	(6.45, N/A) (N/A, 0.00, N/A)	696.8	N/A	8.3556 [ 8.0000 ]	104.4% { 101.7% }			

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# QUALITY CONTROL RAW DATA

## ANALYSIS DATA SHEET

Blanka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-BLK1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Analyzed:a	12/09/22 13:17a
Batch:a	BBL0032a	Preparation:a	Table B-15a
Column:a	1a	Dilution:a	1a
		Sequence:a	SB03754a
		Calibration:a	2250016a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/g wet)L	OQL	OD	DL	QL
PFBAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFPEAa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFHXAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFHPAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFOAa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFNAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFDAa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFUnAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFDOAa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFTRDAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFTEDAa	0.40 Ua	0.99a	0.40a	0.20a	Ua
PFBSa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFPESa	0.89 Ua	0.99a	0.89a	0.41a	Ua
PFHXSa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFHPSa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFOSa	0.40 Ua	0.99a	0.40a	0.099a	Ua
PFNSa	0.79 Ua	0.99a	0.79a	0.39a	Ua
PFDSa	0.40 Ua	0.99a	0.40a	0.20a	Ua
4:2FTSa	0.40 Ua	0.99a	0.40a	0.20a	Ua
6:2FTSa	0.40 Ua	0.99a	0.40a	0.20a	Ua
8:2FTSa	0.40 Ua	0.99a	0.40a	0.15a	Ua
PFOSAa	0.40 Ua	0.99a	0.40a	0.099a	Ua
NMeFOSAa	0.89 Ua	0.99a	0.89a	0.49a	Ua
NEtFOSAa	0.89 Ua	0.99a	0.89a	0.49a	Ua
NMeFOSAAa	0.40 Ua	0.99a	0.40a	0.20a	Ua
NEtFOSAAa	0.40 Ua	0.99a	0.40a	0.20a	Ua
NMeFOSEa	0.81 Ua	0.99a	0.81a	0.40a	Ua
NEtFOSEa	0.64 Ua	0.99a	0.64a	0.31a	Ua
HFPO-DAa	0.40 Ua	0.99a	0.40a	0.20a	Ua
ADONa	0.40 Ua	0.99a	0.40a	0.20a	Ua

**ANALYSIS DATA SHEET**

Blanka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-BLK1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Preparation:a	Table B-15a
Batch:a	BBL0032a	Sequence:a	SB03754a
Column:a	1a	Calibration:a	2250016a
			Instrument:a Saphira
			File ID:a S2022-12-09A (5)a
			Analyzed:a 12/09/22 13:17a
			Dilution:a 1a

COMPOUNDL	CONC. (ng/g wet)L	OQL	OD	D	QL
9CL-PF3ONSa	0.40 Ua	0.99a	0.40a	0.20	Ua
11CL-PF3OUDSa	0.40 Ua	0.99a	0.40a	0.20	Ua



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (5)  
 Acquired: 2022/12/09 - 13:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (5)  
 Acquired: 2022/12/09 - 13:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (5)  
 Acquired: 2022/12/09 - 13:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11Cl-Pf3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

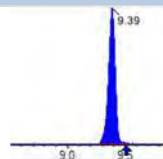
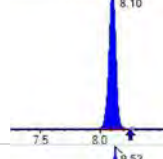
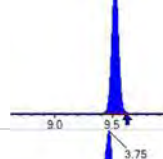
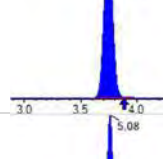
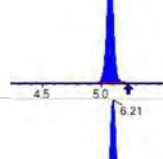
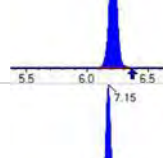
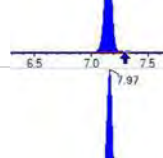
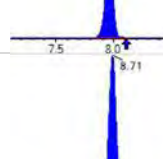
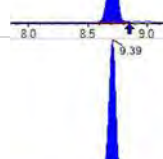
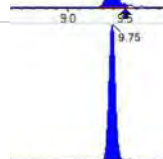
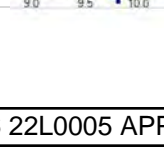


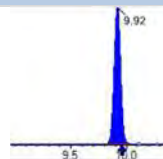
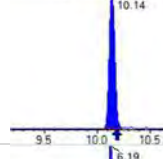
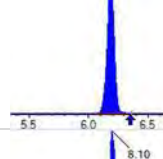
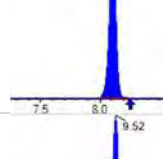
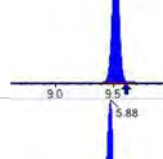
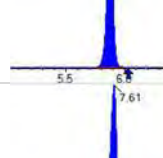
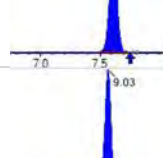
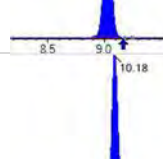
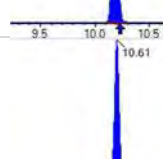
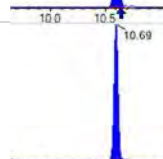
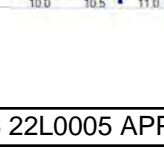
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

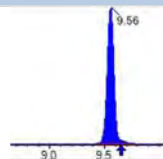
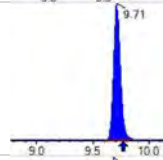
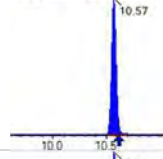
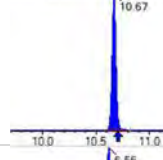
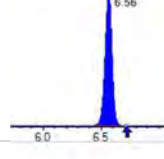
Sample I.D.: BBL0032-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (5)  
 Acquired: 2022/12/09 - 13:17

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 105869	(3.75, N/A) (N/A, 0.01, N/A)	776.0	N/A	1.1013 [ 1.0000 ]	110.1% { 132.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 136119	(6.21, N/A) (N/A, 0.01, N/A)	830.1	N/A	1.1023 [ 1.0000 ]	110.2% { 116.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 144169	(7.97, N/A) (N/A, 0.02, N/A)	399.1	N/A	1.2161 [ 1.0000 ]	121.6% { 131.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 118053	(8.71, N/A) (N/A, 0.02, N/A)	331.9	N/A	1.2395 [ 1.0000 ]	124.0% { 120.6% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 112545	(9.39, N/A) (N/A, 0.02, N/A)	538.2	N/A	1.3661 [ 1.0000 ]	136.6% { 129.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 260367	(8.10, N/A) (N/A, 0.01, N/A)	878.9	N/A	1.2131 [ 1.0000 ]	121.3% { 116.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 233580	(9.52, N/A) (N/A, 0.01, N/A)	762.5	N/A	1.2550 [ 1.0000 ]	125.5% { 109.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 885660	(3.75, N/A) (N/A, 0.00, N/A)	741.7	N/A	8.9230 [ 8.0000 ]	111.5% { 147.6% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 415601	(5.08, N/A) (N/A, 0.01, N/A)	1138.8	N/A	4.1856 [ 4.0000 ]	104.6% { 123.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 328802	(6.21, N/A) (N/A, 0.01, N/A)	1104.3	N/A	2.3682 [ 2.0000 ]	118.4% { 135.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 288529	(7.15, N/A) (N/A, 0.01, N/A)	488.6	N/A	2.3023 [ 2.0000 ]	115.1% { 123.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 313790	(7.97, N/A) (N/A, 0.02, N/A)	824.4	N/A	2.1399 [ 2.0000 ]	107.0% { 135.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 115210	(8.71, N/A) (N/A, 0.01, N/A)	262.5	N/A	0.9889 [ 1.0000 ]	98.9% { 123.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 159559	(9.39, N/A) (N/A, 0.02, N/A)	258.7	N/A	0.9760 [ 1.0000 ]	97.6% { 126.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 206104	(9.75, N/A) (N/A, 0.01, N/A)	355.8	N/A	0.9392 [ 1.0000 ]	93.9% { 114.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 235431	(9.92, N/A) (N/A, 0.01, N/A)	298.0	N/A	0.8840 [ 1.0000 ]	88.4% { 123.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 159362	(10.14, N/A) (N/A, 0.00, N/A)	445.9	N/A	0.8151 [ 1.0000 ]	81.5% { 105.3% }			
13C3_PFBs_EIS	(302.0 / 80.0) 800541	(6.19, N/A) (N/A, 0.02, N/A)	923.4	N/A	2.0921 [ 2.0000 ]	104.6% { 122.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 437419	(8.10, N/A) (N/A, 0.02, N/A)	998.3	N/A	2.0082 [ 2.0000 ]	100.4% { 116.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 771127	(9.52, N/A) (N/A, 0.01, N/A)	571.7	N/A	2.1656 [ 2.0000 ]	108.3% { 141.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 106244	(5.88, N/A) (N/A, 0.02, N/A)	563.2	N/A	4.9230 [ 4.0000 ]	123.1% { 171.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 110478	(7.61, N/A) (N/A, 0.02, N/A)	573.7	N/A	3.8157 [ 4.0000 ]	95.4% { 132.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 105151	(9.03, N/A) (N/A, 0.01, N/A)	455.2	N/A	4.1841 [ 4.0000 ]	104.6% { 130.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 947004	(10.18, N/A) (N/A, 0.00, N/A)	789.9	N/A	1.7421 [ 2.0000 ]	87.1% { 114.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 200168	(10.61, N/A) (N/A, 0.00, N/A)	647.4	N/A	1.2444 [ 2.0000 ]	62.2% { 100.2% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 194049	(10.69, N/A) (N/A, 0.00, N/A)	766.4	N/A	1.3304 [ 2.0000 ]	66.5% { 97.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 337843	(9.56, N/A) (N/A, 0.02, N/A)	506.4	N/A	4.2646 [ 4.0000 ]	106.6% { 131.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 338549	(9.71, N/A) (N/A, 0.01, N/A)	544.3	N/A	4.9722 [ 4.0000 ]	124.3% { 139.3% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 362107	(10.57, N/A) (N/A, 0.00, N/A)	802.2	N/A	13.1795 [ 20.0000 ]	65.9% { 88.7% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 191718	(10.67, N/A) (N/A, 0.00, N/A)	889.6	N/A	13.6949 [ 20.0000 ]	68.5% { 91.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 821991	(6.56, N/A) (N/A, 0.01, N/A)	866.6	N/A	8.9892 [ 8.0000 ]	112.4% { 130.1% }			

## ANALYSIS DATA SHEET

## LCSa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-BS1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Analyzed:a	12/09/22 13:30a
Batch:a	BBL0032a	Preparation:a	Table B-15a
Column:a	1a	Dilution:a	1a
		Sequence:a	SB03754a
		Calibration:a	2250016a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/g wet)L	OQL	DL	QL
PFBAa	7.61a	0.94a	0.094a	
PFPEAa	3.51a	0.94a	0.14a	
PFHXAa	1.96a	0.94a	0.094a	
PFHPAa	2.05a	0.94a	0.094a	
PFOAa	2.00a	0.94a	0.14a	
PFNAa	1.87a	0.94a	0.094a	
PFDAa	1.72a	0.94a	0.14a	
PFUnAa	2.25a	0.94a	0.094a	
PFDOAa	2.06a	0.94a	0.14a	
PFTRDAa	1.95a	0.94a	0.094a	
PFTEDAa	1.87a	0.94a	0.19a	
PFBSa	1.71a	0.94a	0.094a	
PFPESa	1.97a	0.94a	0.39a	
PFHXSa	1.80a	0.94a	0.14a	
PFHPSa	1.83a	0.94a	0.14a	
PFOSa	1.95a	0.94a	0.094a	
PFNSa	2.05a	0.94a	0.37a	
PFDSa	1.72a	0.94a	0.19a	
4:2FTSa	7.19a	0.94a	0.19a	
6:2FTSa	7.04a	0.94a	0.19a	
8:2FTSa	8.16a	0.94a	0.14a	
PFOSAa	1.96a	0.94a	0.094a	
NMeFOSAa	7.55a	0.94a	0.47a	
NEtFOSAa	7.10a	0.94a	0.46a	
NMeFOSAAa	1.72a	0.94a	0.19a	
NEtFOSAAa	1.96a	0.94a	0.19a	
NMeFOSEa	7.45a	0.94a	0.38a	
NEtFOSEa	7.25a	0.94a	0.29a	
HFPO-DAa	3.54a	0.94a	0.19a	
ADONa	3.53a	0.94a	0.19a	

**ANALYSIS DATA SHEETL**

LCSa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-BS1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Preparation:a	Table B-15a
Batch:a	BBL0032a	Sequence:a	SB03754a
Column:a	1a	Calibration:a	2250016a
			Instrument:a Saphira
			File ID:a S2022-12-09A (6)a
			Analyzed:a 12/09/22 13:30a
			Dilution:a 1a

COMPOUNDL	CONC. (ng/g wet)L	OQL	DL	QL
9CL-PF3ONSa	3.70a	0.94a	0.19a	
11CL-PF3OUDSa	3.21a	0.94a	0.19a	



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-BS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (6)  
 Acquired: 2022/12/09 - 13:30

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 285496	(3.72, 1.00) (0.00, N/A, 0.0)	60.9	N/A 0.0 0.0	4.0349 [4.0000]	100.9%			
PFPeA	(262.9 / 219.0) 184969 (262.9 / 69.0) 2058	(5.04, 1.00) (0.00, N/A, -0.4)	595.4 120.3	0.0111 95.6 108.6	1.8595 [2.0000]	93.0%			
PFHxA	(313.0 / 269.0) 167936 (313.0 / 119.0) 16408	(6.18, 1.00) (0.00, N/A, -0.2)	432.9 213.2	0.0977 108.7 100.6	1.0413 [1.0000]	104.1%			
PFHpA	(363.0 / 319.0) 150815 (363.0 / 169.0) 37089	(7.12, 1.00) (0.00, N/A, 0.0)	372.9 357.3	0.2459 85.7 78.9	1.0847 [1.0000]	108.5%			
PFOA	(413.0 / 369.0) 161212 (413.0 / 169.0) 51905	(7.95, 1.00) (0.00, N/A, 0.1)	328.6 389.0	0.3220 99.5 97.1	1.0620 [1.0000]	106.2%			
PFNA	(463.0 / 419.0) 108130 (463.0 / 169.0) 23395	(8.70, 1.00) (0.00, N/A, 0.1)	288.4 74.3	0.2164 107.5 111.4	0.9909 [1.0000]	99.1%			
PFDA	(513.0 / 469.0) 143688 (513.0 / 169.0) 17031	(9.40, 1.00) (0.00, N/A, -0.1)	246.5 157.5	0.1185 133.5 119.3	0.9115 [1.0000]	91.1%			
PFUnA	(563.0 / 519.0) 232909 (563.0 / 169.0) 18302	(9.76, 1.00) (0.00, N/A, 0.4)	388.6 341.0	0.0786 73.1 82.3	1.1907 [1.0000]	119.1%			
PFDoA	(613.0 / 569.0) 231350 (613.0 / 169.0) 27170	(9.93, 1.00) (0.00, N/A, 0.0)	326.7 303.5	0.1174 98.6 82.4	1.0932 [1.0000]	109.3%			
PFTrDA	(663.0 / 619.0) 192363 (663.0 / 169.0) 28142	(10.05, 1.01) (N/A, 0.01, 0.3)	488.2 115.6	0.1463 78.6 68.8	1.0348 [1.0000]	103.5%			
PFTeDA	(713.0 / 669.0) 165081 (713.0 / 169.0) 28837	(10.15, 1.00) (0.00, N/A, 0.1)	460.2 215.0	0.1747 88.7 82.7	0.9889 [1.0000]	98.9%			

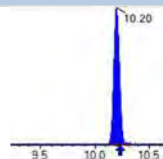
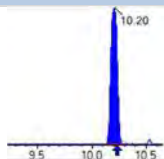
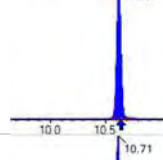
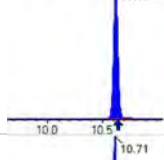
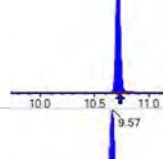
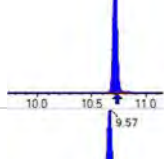
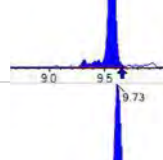
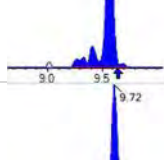
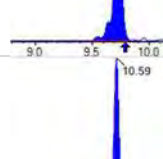
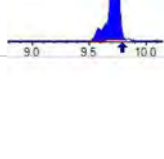
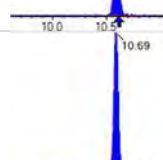
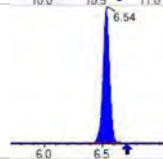
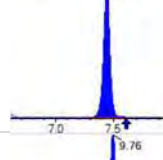
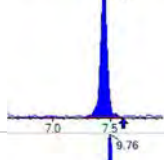
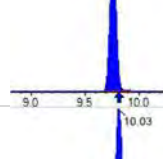
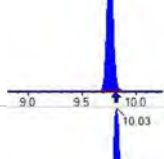
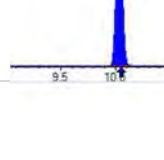
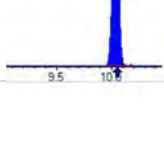
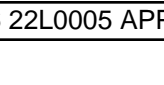
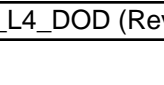


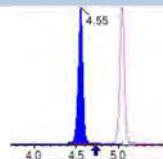
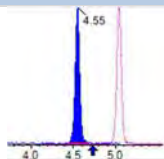
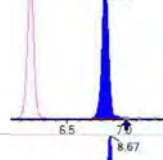
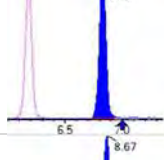
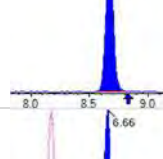
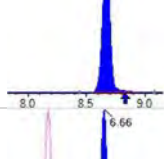
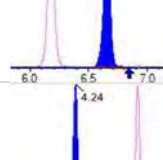
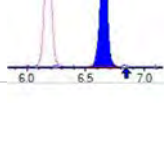
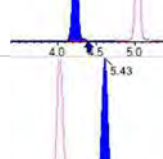
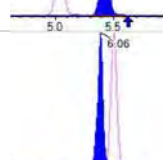
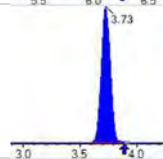

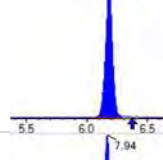
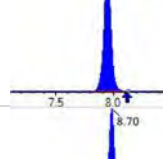
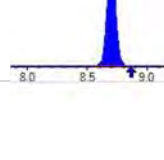
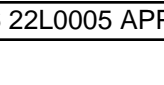
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

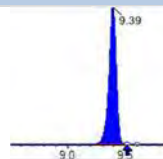
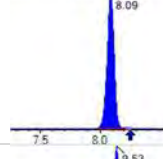
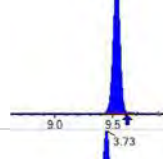
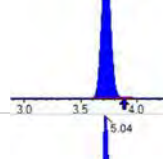
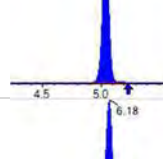
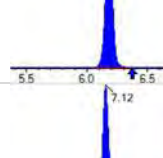
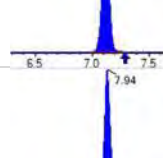
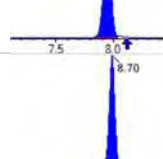
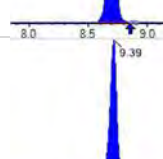
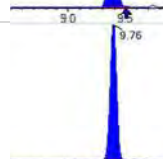
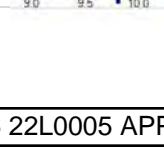
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 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

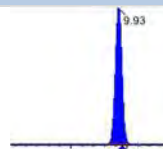
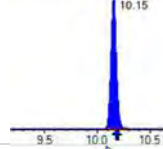
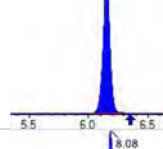
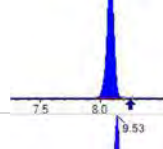
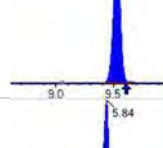
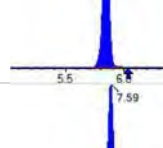
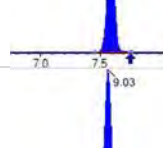
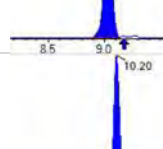
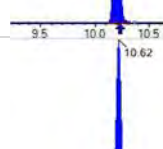
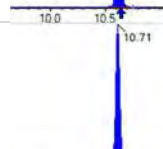
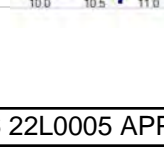
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 Path: S2022-12-09A (6)  
 Acquired: 2022/12/09 - 13:30

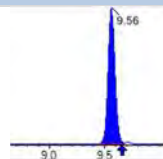
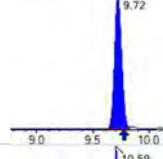
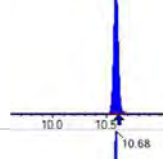
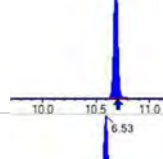
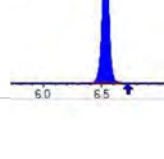
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT- CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 206071 (298.9 / 99.0) 135231	(6.15, 1.00) (0.00, N/A, -0.1)	840.9 576.3	0.6562 96.9 105.3	0.9042 [0.8847]	102.2%			
PFPeS	(349.0 / 80.0) 416284 (349.0 / 99.0) 150021	(7.20, 0.89) (N/A, -0.01, 0.0)	915.1 650.0	0.3604 98.8 93.7	1.0426 [0.9384]	111.1%			
PFHxS	(399.0 / 80.0) 337188 (399.0 / 99.0) 106591	(8.08, 1.00) (0.00, N/A, 0.3)	9321.8 259020.5	0.3161 91.7 97.2	0.9524 [0.9110]	104.5%			
PFHpS	(449.0 / 80.0) 299620 (449.0 / 99.0) 99009	(8.87, 0.93) (N/A, 0.01, 0.2)	345.5 464.5	0.3304 116.3 120.7	0.9718 [0.9514]	102.1%			
PFOS	(499.0 / 80.0) 393957 (499.0 / 99.0) 97912	(9.53, 1.00) (0.00, N/A, -0.2)	128.0 149.4	0.2485 96.5 107.6	1.0315 [0.9275]	111.2%			
PFNS	(549.0 / 80.0) 486417 (549.0 / 99.0) 118857	(9.80, 1.03) (N/A, 0.02, 0.0)	561.4 409.7	0.2444 102.2 96.5	1.0847 [0.9599]	113.0%			
PFDS	(599.0 / 80.0) 512545 (599.0 / 99.0) 123400	(9.95, 1.04) (N/A, 0.02, 0.1)	600.0 450.7	0.2408 103.5 105.9	0.9126 [0.9631]	94.8%			
PFDoS	(698.9 / 80.0) 318436 (698.9 / 99.0) 75991	(10.14, 1.06) (N/A, 0.01, 0.1)	1043.3 377.1	0.2386 103.0 119.3	0.9560 [0.9696]	98.6%			
4:2FTS	(327.0 / 307.0) 324343 (327.0 / 81.0) 195892	(5.84, 1.00) (0.00, N/A, 0.0)	913.2 772.9	0.6040 101.1 106.0	3.8124 [3.7381]	102.0%			
6:2FTS	(427.0 / 407.0) 173570 (427.0 / 81.0) 140630	(7.59, 1.00) (0.00, N/A, -0.2)	688.7 490.3	0.8102 112.7 113.3	3.7309 [3.7962]	98.3%			
8:2FTS	(527.0 / 507.0) 168475 (527.0 / 81.0) 116055	(9.03, 1.00) (0.00, N/A, 0.1)	2402.3 365.4	0.6889 110.5 107.5	4.3247 [3.8332]	112.8%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 564974 (498.0 / 478.0) 14292	(10.20, 1.00) (0.00, N/A, -0.2)	1228.9 4527.1	0.0253 106.0 100.7	1.0385 [1.0000]	103.9%			
NMeFOSA	(511.9 / 219.0) 396518 (511.9 / 169.0) 268829	(10.62, 1.00) (0.00, N/A, 0.0)	776.4 697.0	0.6780 101.7 104.1	4.0034 [4.0000]	100.1%			
NEIFOSA	(526.0 / 219.0) 409301 (526.0 / 169.0) 434459	(10.71, 1.00) (0.00, N/A, 0.0)	1186.9 1113.1	1.0615 97.4 99.4	3.7619 [4.0000]	94.0%			
NMeFOSAA	(570.0 / 419.0) 63836 (570.0 / 483.0) 33634	(9.57, 1.00) (0.01, N/A, 0.0)	229.9 999.9	0.5269 113.6 104.0	0.9122 [1.0000]	91.2%			
NEIFOSAA	(584.0 / 419.0) 79464 (584.0 / 526.0) 43054	(9.73, 1.00) (0.00, N/A, 0.2)	1314.4 96.4	0.5418 89.3 92.3	1.0365 [1.0000]	103.7%			
NMeFOSE	(616.1 / 59.0) 123052	(10.59, 1.00) (0.01, N/A, 0.0)	521.6	N/A 0.0 0.0	3.9492 [4.0000]	98.7%			
NEtFOSE	(630.0 / 59.0) 30030	(10.69, 1.00) (0.01, N/A, 0.0)	519.5	N/A 0.0 0.0	3.8445 [4.0000]	96.1%			
HFPO-DA	(285.0 / 169.0) 129480 (285.0 / 185.0) 351892	(6.54, 1.00) (0.00, N/A, 0.0)	744.1 860.4	2.7177 98.0 91.4	1.8784 [2.0000]	93.9%			
ADONA	(377.0 / 85.0) 522166 (377.0 / 251.0) 69507	(7.44, 1.14) (N/A, -0.01, -0.1)	884.1 261.8	0.1331 105.9 104.0	1.8734 [1.8854]	99.4%			
9CI-Pf3ONS	(531.0 / 351.0) 1504040 (533.0 / 353.0) 504486	(9.76, 1.49) (N/A, 0.02, 0.0)	1032.8 510.9	0.3354 100.5 106.6	1.9610 [1.8665]	105.1%			
11CI-PF3OUDS	(631.0 / 451.0) 897844 (633.0 / 453.0) 296523	(10.03, 1.54) (N/A, 0.01, -0.3)	696.9 586.3	0.3303 102.1 111.7	1.7014 [1.8864]	90.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 16248 (241.0 / 117.0) 29281	(4.55, 0.90) (N/A, -0.02, 0.1)	379.3 387.3	1.8021 103.5 107.4	3.3251 [4.0000]	83.1%			
5:3FTCA	(341.0 / 236.7) 124506 (341.0 / 217.0) 186789	(6.83, 1.10) (N/A, -0.02, 0.0)	391.9 562.1	1.5002 87.8 89.9	3.6338 [4.0000]	90.8%			
7:3FTCA	(441.0 / 317.0) 154383 (441.0 / 337.0) 131395	(8.67, 1.40) (N/A, 0.01, 0.2)	314.4 464.0	0.8511 103.2 103.6	3.4996 [4.0000]	87.5%			
PFEESA	(315.0 / 135.0) 275408 (315.0 / 83.0) 78571	(6.66, 1.08) (N/A, -0.02, 0.2)	737.5 373.1	0.2853 95.9 100.1	1.6700 [1.7849]	93.6%			
PFMPA	(229.0 / 85.0) 56131	(4.24, 0.84) (N/A, -0.02, 0.0)	911.5	N/A 0.0 0.0	2.0493 [2.0000]	102.5%			
PFMBA	(279.0 / 85.0) 179521	(5.43, 1.08) (N/A, -0.03, 0.0)	888.3	N/A 0.0 0.0	2.1029 [2.0000]	105.1%			
NFDHA	(201.0 / 85.0) 7504 (295.0 / 201.0) 45268	(6.06, 0.98) (N/A, -0.03, -0.2)	156.5 1332.2	6.0323 86.2 85.3	1.8221 [2.0000]	91.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 95486	(3.73, N/A) (N/A, -0.01, N/A)	905.3	N/A	0.9933 [1.0000]	99.3% {119.3%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 142182	(6.18, N/A) (N/A, -0.02, N/A)	333.4	N/A	1.1514 [1.0000]	115.1% {121.3%}			
13C4_PFOA_IIS	(417.0 / 372.0) 137682	(7.94, N/A) (N/A, 0.00, N/A)	529.3	N/A	1.1614 [1.0000]	116.1% {125.4%}			
13C5_PFNA_IIS	(468.0 / 423.0) 107808	(8.70, N/A) (N/A, 0.01, N/A)	644.3	N/A	1.1320 [1.0000]	113.2% {110.1%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 99284	(9.39, N/A) (N/A, 0.02, N/A)	304.7	N/A	1.2051 [ 1.0000 ]	120.5% { 113.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 243988	(8.09, N/A) (N/A, -0.01, N/A)	670.8	N/A	1.1368 [ 1.0000 ]	113.7% { 109.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 234350	(9.53, N/A) (N/A, 0.02, N/A)	527.7	N/A	1.2591 [ 1.0000 ]	125.9% { 110.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 743414	(3.73, N/A) (N/A, -0.02, N/A)	752.1	N/A	8.3043 [ 8.0000 ]	103.8% { 123.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 413900	(5.04, N/A) (N/A, -0.02, N/A)	1003.9	N/A	3.9907 [ 4.0000 ]	99.8% { 122.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 320015	(6.18, N/A) (N/A, -0.02, N/A)	786.8	N/A	2.2066 [ 2.0000 ]	110.3% { 131.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 274505	(7.12, N/A) (N/A, -0.01, N/A)	725.1	N/A	2.0970 [ 2.0000 ]	104.8% { 117.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 294525	(7.94, N/A) (N/A, -0.01, N/A)	663.3	N/A	2.1032 [ 2.0000 ]	105.2% { 127.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 113185	(8.70, N/A) (N/A, 0.01, N/A)	491.9	N/A	1.0639 [ 1.0000 ]	106.4% { 121.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 155391	(9.39, N/A) (N/A, 0.02, N/A)	431.8	N/A	1.0775 [ 1.0000 ]	107.7% { 122.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 222198	(9.76, N/A) (N/A, 0.02, N/A)	296.7	N/A	1.1478 [ 1.0000 ]	114.8% { 123.7% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 229999	(9.93, N/A) (N/A, 0.02, N/A)	402.0	N/A	0.9790 [ 1.0000 ]	97.9% { 120.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 169357	(10.15, N/A) (N/A, 0.02, N/A)	707.6	N/A	0.9820 [ 1.0000 ]	98.2% { 111.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 746624	(6.15, N/A) (N/A, -0.02, N/A)	878.0	N/A	2.0822 [ 2.0000 ]	104.1% { 114.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 422322	(8.08, N/A) (N/A, 0.00, N/A)	781.6	N/A	2.0690 [ 2.0000 ]	103.5% { 112.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 680364	(9.53, N/A) (N/A, 0.02, N/A)	713.7	N/A	1.9044 [ 2.0000 ]	95.2% { 124.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 97412	(5.84, N/A) (N/A, -0.02, N/A)	583.0	N/A	4.8168 [ 4.0000 ]	120.4% { 156.8% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 117312	(7.59, N/A) (N/A, -0.01, N/A)	649.1	N/A	4.3237 [ 4.0000 ]	108.1% { 140.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 99226	(9.03, N/A) (N/A, 0.01, N/A)	204.3	N/A	4.2134 [ 4.0000 ]	105.3% { 123.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 979735	(10.20, N/A) (N/A, 0.02, N/A)	1017.0	N/A	1.7964 [ 2.0000 ]	89.8% { 118.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 215524	(10.62, N/A) (N/A, 0.02, N/A)	595.4	N/A	1.3354 [ 2.0000 ]	66.8% { 107.9% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 210120	(10.71, N/A) (N/A, 0.01, N/A)	634.7	N/A	1.4359 [ 2.0000 ]	71.8% { 105.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 320990	(9.56, N/A) (N/A, 0.02, N/A)	659.2	N/A	4.0386 [ 4.0000 ]	101.0% { 125.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 334163	(9.72, N/A) (N/A, 0.02, N/A)	579.3	N/A	4.8916 [ 4.0000 ]	122.3% { 137.5% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 443246	(10.59, N/A) (N/A, 0.02, N/A)	1000.6	N/A	16.0797 [ 20.0000 ]	80.4% { 108.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 228152	(10.68, N/A) (N/A, 0.02, N/A)	1016.9	N/A	16.2438 [ 20.0000 ]	81.2% { 108.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 830298	(6.53, N/A) (N/A, -0.02, N/A)	941.8	N/A	8.6929 [ 8.0000 ]	108.7% { 131.5% }			

## ANALYSIS DATA SHEET

## LCS Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Solida	Laboratory ID:a	BBL0032-BSD1a
Sampled:a		File ID:a	S2022-12-09A (7)a
Solids:a		Prepared:a	12/01/22 14:45a
Batch:a	BBL0032a	Analyzed:a	12/09/22 13:43a
Column:a	1a	Preparation:a	Table B-15a
		Dilution:a	1a
		Calibration:a	2250016a
		Instrument:a	Saphira
		Sequence:a	SB03754a

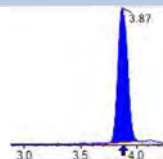
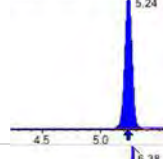
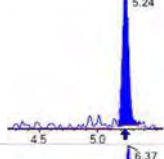
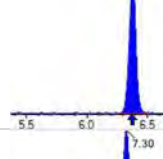
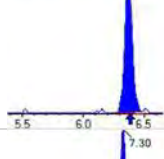
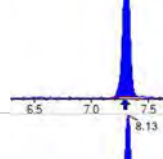
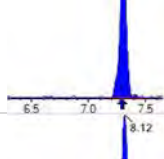
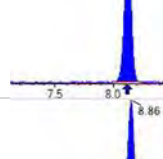
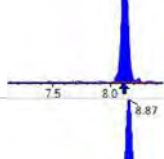
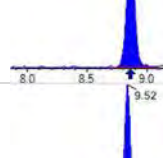
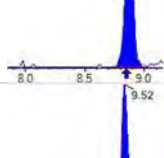
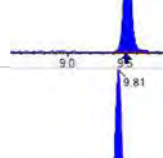
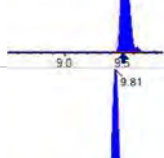
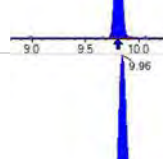
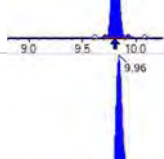
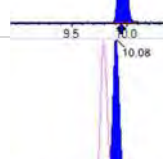
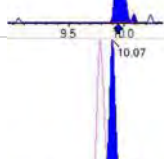
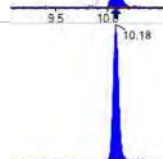
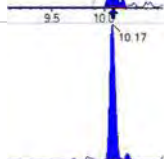
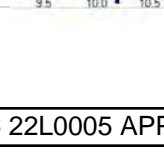
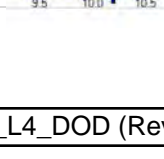
COMPOUNDL	CONC. (ng/g wet)L	OQL	DL	QL
PFBAa	7.45a	0.98a	0.098a	
PFPEAa	3.92a	0.98a	0.15a	
PFHXAa	1.82a	0.98a	0.098a	
PFHPAa	1.91a	0.98a	0.098a	
PFOAa	1.93a	0.98a	0.15a	
PFNAa	1.77a	0.98a	0.098a	
PFDAa	2.02a	0.98a	0.15a	
PFUnAa	1.95a	0.98a	0.098a	
PFDOAa	2.32a	0.98a	0.15a	
PFTRDAa	2.05a	0.98a	0.098a	
PFTEDAa	2.17a	0.98a	0.20a	
PFBSa	1.70a	0.98a	0.098a	
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PFHXSa	1.87a	0.98a	0.15a	
PFHPSa	1.70a	0.98a	0.15a	
PFOSa	1.83a	0.98a	0.098a	
PFNSa	1.71a	0.98a	0.38a	
PFDSa	1.82a	0.98a	0.20a	
4:2FTSa	6.82a	0.98a	0.20a	
6:2FTSa	7.49a	0.98a	0.20a	
8:2FTSa	7.56a	0.98a	0.15a	
PFOSAa	1.73a	0.98a	0.098a	
NMeFOSAa	7.74a	0.98a	0.48a	
NEtFOSAa	7.15a	0.98a	0.48a	
NMeFOSAAa	2.09a	0.98a	0.20a	
NEtFOSAAa	1.93a	0.98a	0.20a	
NMeFOSEa	7.10a	0.98a	0.40a	
NEtFOSEa	8.07a	0.98a	0.30a	
HFPO-DAa	4.10a	0.98a	0.20a	
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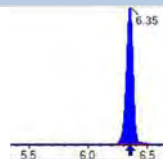
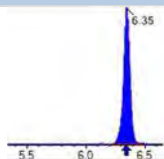
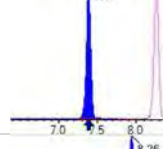
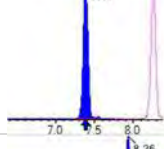
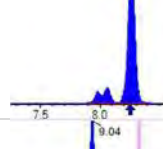
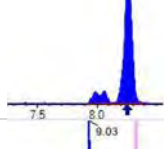
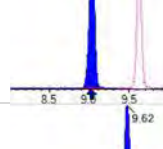
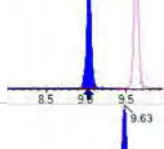
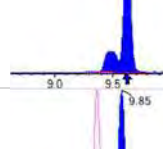
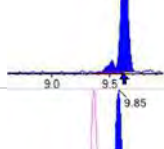
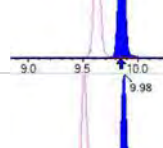
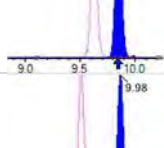
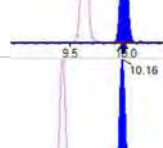
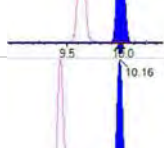
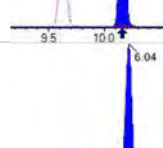
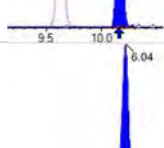
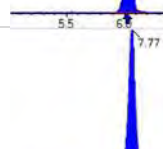
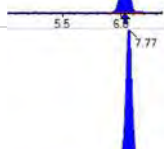
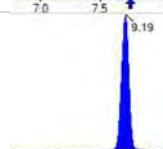
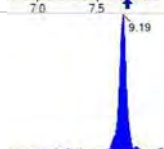
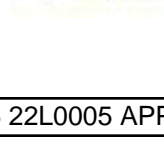
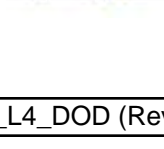
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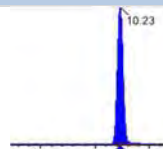
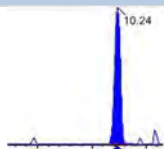
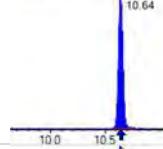
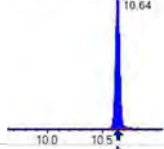
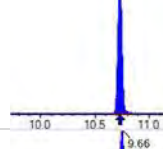
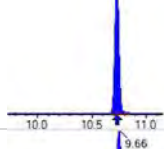
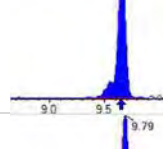
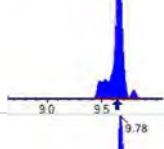
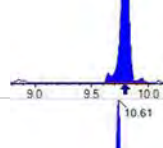
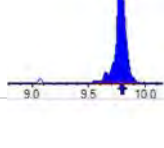
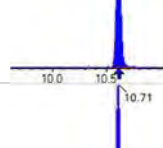
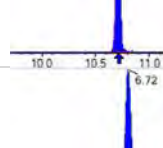
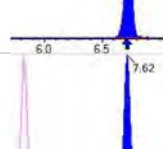
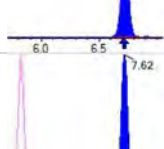
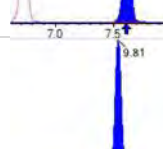
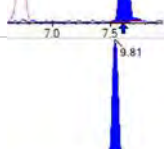
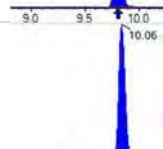
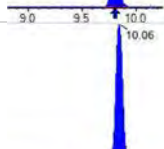
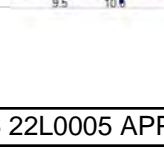
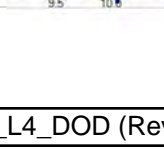
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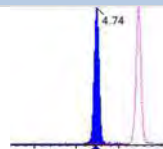
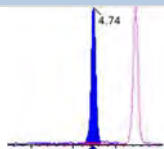
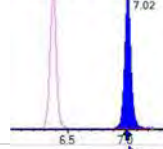
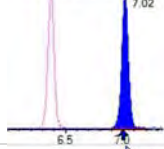
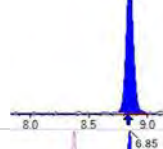
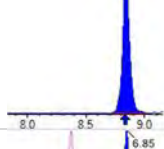
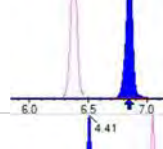
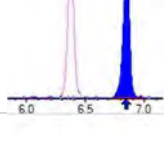
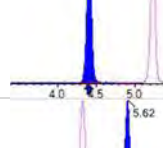
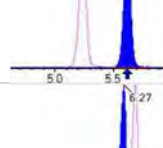
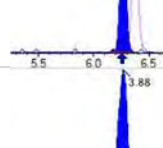
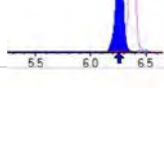
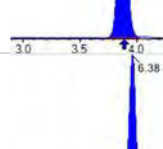
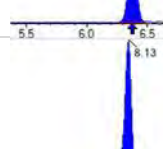
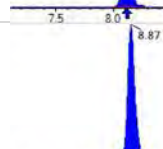

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Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
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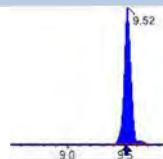
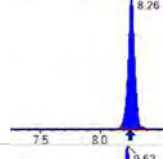
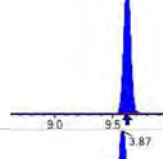
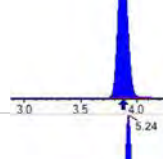
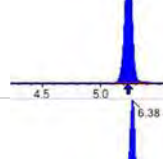
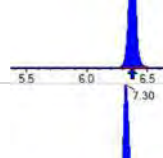
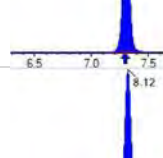
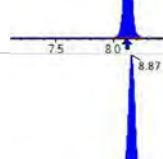
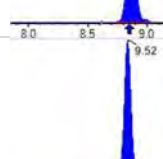
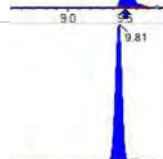
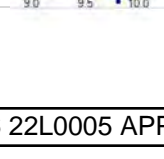
COMPOUNDL	CONC. (ng/g wet)L	OQL	DL	QL
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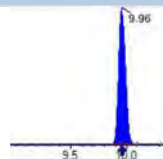
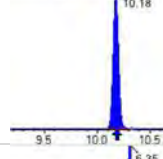
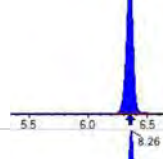
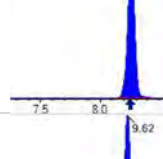
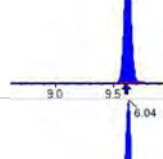
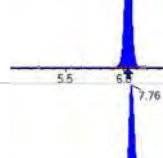
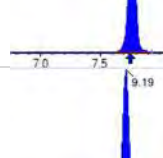
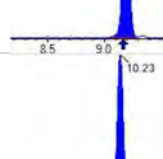
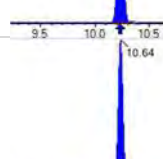
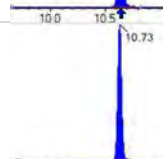
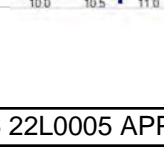
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 261303	(3.87, 1.00) (0.00, N/A, 0.0)	62.6	N/A 0.0 0.0	3.8006 [ 4.0000 ]	95.0%			
PFPeA	(262.9 / 219.0) 173955 (262.9 / 69.0) 1853	(5.24, 1.00) (0.00, N/A, 0.0)	646.8 67.8	0.0107 91.5 103.9	1.9969 [ 2.0000 ]	99.8%			
PFHxA	(313.0 / 269.0) 144025 (313.0 / 119.0) 14113	(6.38, 1.00) (0.00, N/A, 0.5)	393.1 151.8	0.0980 109.0 100.9	0.9278 [ 1.0000 ]	92.8%			
PFHpA	(363.0 / 319.0) 133915 (363.0 / 169.0) 36741	(7.30, 1.00) (0.00, N/A, 0.0)	301.0 247.1	0.2744 95.6 88.0	0.9718 [ 1.0000 ]	97.2%			
PFOA	(413.0 / 369.0) 144251 (413.0 / 169.0) 46338	(8.13, 1.00) (0.00, N/A, 0.3)	340.6 390.1	0.3212 99.3 96.9	0.9856 [ 1.0000 ]	98.6%			
PFNA	(463.0 / 419.0) 106121 (463.0 / 169.0) 18899	(8.86, 1.00) (0.00, N/A, -0.4)	303.6 89.4	0.1781 88.5 91.7	0.9031 [ 1.0000 ]	90.3%			
PFDA	(513.0 / 469.0) 152649 (513.0 / 169.0) 13263	(9.52, 1.00) (0.00, N/A, -0.1)	329.7 74.0	0.0869 97.9 87.4	1.0325 [ 1.0000 ]	103.2%			
PFUnA	(563.0 / 519.0) 182101 (563.0 / 169.0) 21039	(9.81, 1.00) (0.00, N/A, 0.0)	398.3 154.5	0.1155 107.5 121.0	0.9947 [ 1.0000 ]	99.5%			
PFDoA	(613.0 / 569.0) 212437 (613.0 / 169.0) 17284	(9.96, 1.00) (0.00, N/A, 0.3)	459.7 137.2	0.0814 68.3 57.1	1.1845 [ 1.0000 ]	118.4%			
PFTTrDA	(663.0 / 619.0) 165047 (663.0 / 169.0) 27694	(10.08, 1.01) (N/A, 0.04, 0.1)	416.4 90.2	0.1678 90.1 78.9	1.0476 [ 1.0000 ]	104.8%			
PFTeDA	(713.0 / 669.0) 153667 (713.0 / 169.0) 28823	(10.18, 1.00) (0.00, N/A, 0.4)	501.0 134.6	0.1876 95.3 88.8	1.1090 [ 1.0000 ]	110.9%			

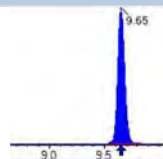
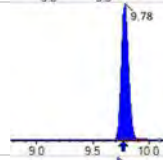
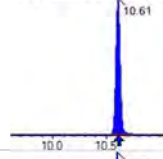
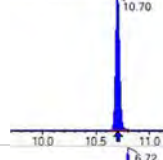
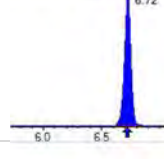
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 192540 (298.9 / 99.0) 121314	(6.35, 1.00) (0.00, N/A, 0.2)	927.7 605.0	0.6301 93.0 101.1	0.8659 [0.8847]	97.9%			
PFPeS	(349.0 / 80.0) 366073 (349.0 / 99.0) 127942	(7.38, 0.89) (N/A, 0.17, 0.0)	729.5 468.3	0.3495 95.8 90.9	0.9662 [0.9384]	103.0%			
PFHxS	(399.0 / 80.0) 319715 (399.0 / 99.0) 100605	(8.26, 1.00) (0.00, N/A, 0.2)	61594.8 273902.8	0.3147 91.3 96.7	0.9517 [0.9110]	104.5%			
PFHpS	(449.0 / 80.0) 284849 (449.0 / 99.0) 90541	(9.04, 0.94) (N/A, 0.17, 0.2)	791.9 555.2	0.3179 111.8 116.1	0.8667 [0.9514]	91.1%			
PFOS	(499.0 / 80.0) 379452 (499.0 / 99.0) 80142	(9.62, 1.00) (0.00, N/A, -0.1)	155.4 212.9	0.2112 82.0 91.4	0.9321 [0.9275]	100.5%			
PFNS	(549.0 / 80.0) 416544 (549.0 / 99.0) 107508	(9.85, 1.02) (N/A, 0.06, 0.1)	375.7 448.6	0.2581 108.0 101.9	0.8714 [0.9599]	90.8%			
PFDS	(599.0 / 80.0) 555643 (599.0 / 99.0) 113267	(9.98, 1.04) (N/A, 0.05, 0.2)	610.4 484.7	0.2038 87.6 89.6	0.9281 [0.9631]	96.4%			
PFDoS	(698.9 / 80.0) 279432 (698.9 / 99.0) 67573	(10.16, 1.06) (N/A, 0.04, -0.1)	939.1 261.3	0.2418 104.4 120.9	0.7870 [0.9696]	81.2%			
4:2FTS	(327.0 / 307.0) 283683 (327.0 / 81.0) 171565	(6.04, 1.00) (0.00, N/A, 0.1)	953.8 698.4	0.6048 101.2 106.1	3.4770 [3.7381]	93.0%			
6:2FTS	(427.0 / 407.0) 162338 (427.0 / 81.0) 127225	(7.77, 1.00) (0.00, N/A, 0.0)	681.2 651.5	0.7837 109.0 109.6	3.8189 [3.7962]	100.6%			
8:2FTS	(527.0 / 507.0) 155090 (527.0 / 81.0) 93878	(9.19, 1.00) (0.00, N/A, -0.1)	370.4 284.2	0.6053 97.1 94.5	3.8579 [3.8332]	100.6%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 482424 (498.0 / 478.0) 9869	(10.23, 1.00) (0.00, N/A, -0.3)	554.9 194.8	0.0205 85.7 81.4	0.8825 [1.0000]	88.3%			
NMeFOSA	(511.9 / 219.0) 419822 (511.9 / 169.0) 275593	(10.64, 1.00) (0.00, N/A, 0.0)	974.8 853.1	0.6565 98.4 100.8	3.9463 [4.0000]	98.7%			
NEIFOSA	(526.0 / 219.0) 428557 (526.0 / 169.0) 442019	(10.73, 1.00) (0.00, N/A, 0.0)	1179.2 1346.7	1.0314 94.6 96.6	3.6452 [4.0000]	91.1%			
NMeFOSAA	(570.0 / 419.0) 70741 (570.0 / 483.0) 38220	(9.66, 1.00) (0.01, N/A, 0.1)	614.0 973543.6	0.5403 116.5 106.6	1.0673 [1.0000]	106.7%			
NEIFOSAA	(584.0 / 419.0) 72596 (584.0 / 526.0) 40439	(9.79, 1.00) (0.01, N/A, 0.9)	1737.4 1056.7	0.5570 91.8 94.9	0.9859 [1.0000]	98.6%			
NMeFOSE	(616.1 / 59.0) 112320	(10.61, 1.00) (0.00, N/A, 0.0)	607.8	N/A 0.0 0.0	3.6235 [4.0000]	90.6%			
NEtFOSE	(630.0 / 59.0) 33588	(10.71, 1.00) (0.01, N/A, 0.0)	790.9	N/A 0.0 0.0	4.1136 [4.0000]	102.8%			
HFPO-DA	(285.0 / 169.0) 124884 (285.0 / 185.0) 331162	(6.72, 1.00) (0.00, N/A, 0.0)	761.2 621.8	2.6518 95.7 89.2	2.0903 [2.0000]	104.5%			
ADONA	(377.0 / 85.0) 521419 (377.0 / 251.0) 62869	(7.62, 1.13) (N/A, 0.17, -0.2)	1081.9 234.0	0.1206 95.9 94.2	2.1584 [1.8854]	114.5%			
9CI-Pf3ONS	(531.0 / 351.0) 1519861 (533.0 / 353.0) 439914	(9.81, 1.46) (N/A, 0.07, 0.0)	650.2 519.9	0.2894 86.7 91.9	2.2863 [1.8665]	122.5%			
11CI-PF3OUDS	(631.0 / 451.0) 897193 (633.0 / 453.0) 292747	(10.06, 1.50) (N/A, 0.04, -0.2)	1053.3 765.7	0.3263 100.9 110.4	1.9616 [1.8864]	104.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15601 (241.0 / 117.0) 26102	(4.74, 0.91) (N/A, 0.17, 0.2)	404.9 310.8	1.6731 96.1 99.7	3.6454 [4.0000]	91.1%			
5:3FTCA	(341.0 / 236.7) 110892 (341.0 / 217.0) 197852	(7.02, 1.10) (N/A, 0.17, 0.0)	546.4 512.6	1.7842 104.5 107.0	3.3623 [4.0000]	84.1%			
7:3FTCA	(441.0 / 317.0) 142031 (441.0 / 337.0) 134987	(8.85, 1.39) (N/A, 0.18, 0.3)	297.7 552.4	0.9504 115.2 115.7	3.3448 [4.0000]	83.6%			
PFEESA	(315.0 / 135.0) 248782 (315.0 / 83.0) 75609	(6.85, 1.07) (N/A, 0.17, 0.0)	767.7 362.1	0.3039 102.2 106.7	1.5672 [1.7849]	87.8%			
PFMPA	(229.0 / 85.0) 51551	(4.41, 0.84) (N/A, 0.16, 0.0)	578.6	N/A 0.0 0.0	2.1490 [2.0000]	107.4%			
PFMBA	(279.0 / 85.0) 163741	(5.62, 1.07) (N/A, 0.17, 0.0)	951.9	N/A 0.0 0.0	2.1901 [2.0000]	109.5%			
NFDHA	(201.0 / 85.0) 6410 (295.0 / 201.0) 43531	(6.27, 0.98) (N/A, 0.18, 0.4)	369.3 552.9	6.7908 97.1 96.0	1.6032 [2.0000]	80.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 87705	(3.88, N/A) (N/A, 0.14, N/A)	660.6	N/A	0.9124 [1.0000]	91.2% {109.6%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 130589	(6.38, N/A) (N/A, 0.17, N/A)	569.0	N/A	1.0575 [1.0000]	105.8% {111.4%}			
13C4_PFOA_IIS	(417.0 / 372.0) 123665	(8.13, N/A) (N/A, 0.18, N/A)	480.3	N/A	1.0431 [1.0000]	104.3% {112.7%}			
13C5_PFNA_IIS	(468.0 / 423.0) 92072	(8.87, N/A) (N/A, 0.17, N/A)	368.7	N/A	0.9667 [1.0000]	96.7% {94.1%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 93948	(9.52, N/A) (N/A, 0.15, N/A)	4938.8	N/A	1.1404 [ 1.0000 ]	114.0% { 107.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 239731	(8.26, N/A) (N/A, 0.17, N/A)	919.6	N/A	1.1169 [ 1.0000 ]	111.7% { 107.5% }			
13C4_PFOS_IIS	(502.8 / 79.9) 221286	(9.62, N/A) (N/A, 0.11, N/A)	267.9	N/A	1.1889 [ 1.0000 ]	118.9% { 104.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 722370	(3.87, N/A) (N/A, 0.13, N/A)	1021.1	N/A	8.7851 [ 8.0000 ]	109.8% { 120.4% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 362485	(5.24, N/A) (N/A, 0.17, N/A)	1048.5	N/A	3.8052 [ 4.0000 ]	95.1% { 107.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 308037	(6.38, N/A) (N/A, 0.17, N/A)	954.9	N/A	2.3126 [ 2.0000 ]	115.6% { 126.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 272081	(7.30, N/A) (N/A, 0.17, N/A)	382.5	N/A	2.2630 [ 2.0000 ]	113.1% { 116.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 283963	(8.12, N/A) (N/A, 0.17, N/A)	892.9	N/A	2.2576 [ 2.0000 ]	112.9% { 122.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 121889	(8.87, N/A) (N/A, 0.17, N/A)	616.2	N/A	1.3415 [ 1.0000 ]	134.1% { 130.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 145732	(9.52, N/A) (N/A, 0.15, N/A)	390.4	N/A	1.0679 [ 1.0000 ]	106.8% { 115.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 207971	(9.81, N/A) (N/A, 0.07, N/A)	523.2	N/A	1.1354 [ 1.0000 ]	113.5% { 115.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 194926	(9.96, N/A) (N/A, 0.05, N/A)	391.9	N/A	0.8768 [ 1.0000 ]	87.7% { 102.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 140568	(10.18, N/A) (N/A, 0.04, N/A)	420.0	N/A	0.8613 [ 1.0000 ]	86.1% { 92.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 728472	(6.35, N/A) (N/A, 0.18, N/A)	993.3	N/A	2.0676 [ 2.0000 ]	103.4% { 111.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 400740	(8.26, N/A) (N/A, 0.17, N/A)	814.8	N/A	1.9982 [ 2.0000 ]	99.9% { 106.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 725252	(9.62, N/A) (N/A, 0.12, N/A)	678.4	N/A	2.1499 [ 2.0000 ]	107.5% { 132.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 93420	(6.04, N/A) (N/A, 0.17, N/A)	646.4	N/A	4.7014 [ 4.0000 ]	117.5% { 150.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 107193	(7.76, N/A) (N/A, 0.17, N/A)	657.0	N/A	4.0209 [ 4.0000 ]	100.5% { 128.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 102396	(9.19, N/A) (N/A, 0.17, N/A)	415.3	N/A	4.4252 [ 4.0000 ]	110.6% { 127.4% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 984430	(10.23, N/A) (N/A, 0.05, N/A)	717.1	N/A	1.9116 [ 2.0000 ]	95.6% { 118.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 231496	(10.64, N/A) (N/A, 0.03, N/A)	614.2	N/A	1.5191 [ 2.0000 ]	76.0% { 115.9% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 227051	(10.73, N/A) (N/A, 0.03, N/A)	891.1	N/A	1.6432 [ 2.0000 ]	82.2% { 113.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 304000	(9.65, N/A) (N/A, 0.11, N/A)	333.6	N/A	4.0506 [ 4.0000 ]	101.3% { 118.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 320962	(9.78, N/A) (N/A, 0.08, N/A)	406.6	N/A	4.9758 [ 4.0000 ]	124.4% { 132.0% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 440958	(10.61, N/A) (N/A, 0.04, N/A)	938.2	N/A	16.9410 [ 20.0000 ]	84.7% { 108.0% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 238485	(10.70, N/A) (N/A, 0.03, N/A)	1206.8	N/A	17.9819 [ 20.0000 ]	89.9% { 113.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 719635	(6.72, N/A) (N/A, 0.17, N/A)	922.0	N/A	8.2031 [ 8.0000 ]	102.5% { 113.9% }			

# ANALYSIS DATA SHEET

## MRL Checka

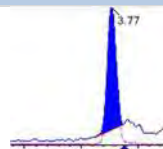
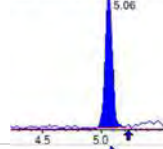
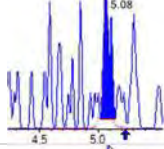
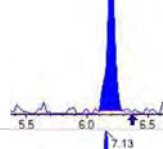
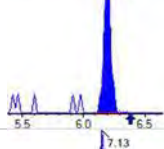
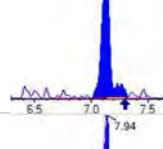
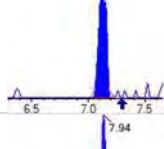
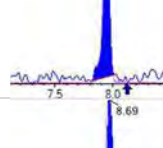
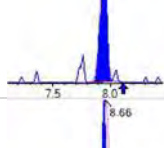
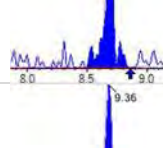
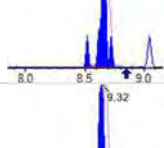
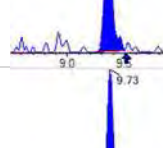
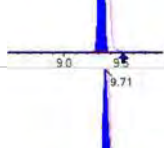
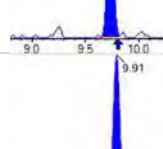
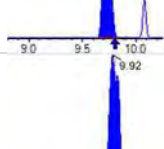
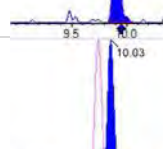
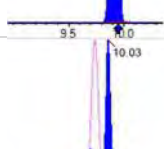
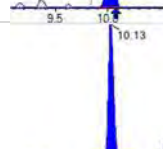
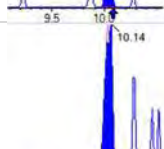
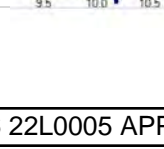
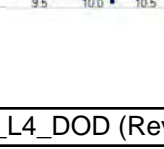
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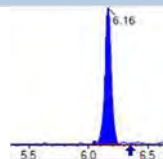
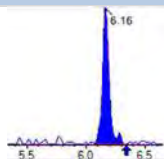
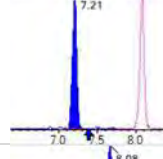
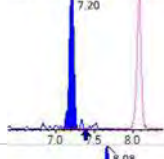
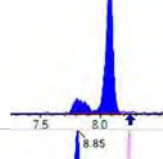
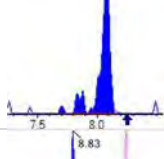
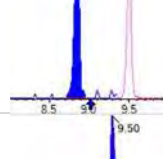
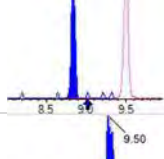
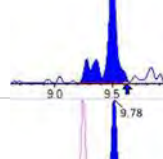
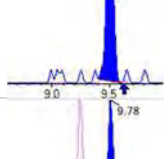
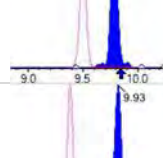
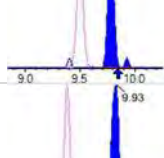
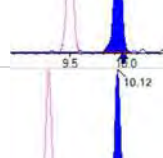
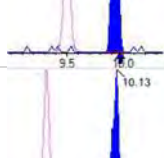
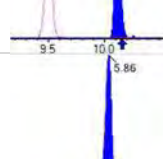
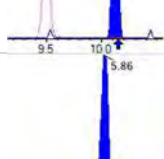
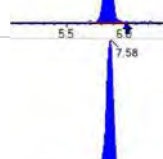
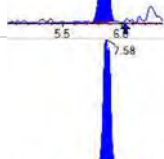
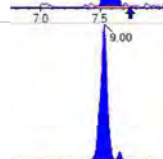
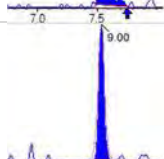
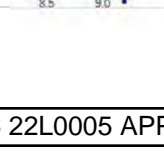
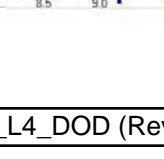
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PFPEAa	0.362a	0.92a	0.14a	Ja
PFHXAa	0.169a	0.92a	0.092a	Ja
PFHPAa	0.209a	0.92a	0.092a	Ja
PFOAa	0.191a	0.92a	0.14a	Ja
PFNAa	0.162a	0.92a	0.092a	Ja
PFDAa	0.147a	0.92a	0.14a	Ja
PFUnAa	0.212a	0.92a	0.092a	Ja
PFDOAa	0.182a	0.92a	0.14a	Ja
PFTRDAa	0.194a	0.92a	0.092a	Ja
PFTEDAa	0.173a	0.92a	0.092a	Ja
PFBSa	0.158a	0.92a	0.092a	Ja
PFPESa	0.133a	0.92a	0.092a	Ja
PFHXSa	0.157a	0.92a	0.14a	Ja
PFHPSa	0.120a	0.92a	0.092a	BS1, Ja
PFOSa	0.162a	0.92a	0.092a	Ja
PFNSa	0.187a	0.92a	0.092a	Ja
PFDSa	0.151a	0.92a	0.092a	Ja
4:2FTSa	0.631a	0.92a	0.18a	Ja
6:2FTSa	0.627a	0.92a	0.18a	Ja
8:2FTSa	0.780a	0.92a	0.14a	Ja
PFOSAa	0.192a	0.92a	0.092a	Ja
NMeFOSAa	0.643a	0.92a	0.45a	Ja
NEtFOSAa	0.623a	0.92a	0.45a	Ja
NMeFOSAAa	0.226a	0.92a	0.18a	Ja
NEtFOSAAa	0.166a	0.92a	0.092a	Ja
NMeFOSEa	0.537a	0.92a	0.37a	Ja
NEtFOSEa	0.539a	0.92a	0.28a	Ja
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ADONa	0.301a	0.92a	0.18a	Ja

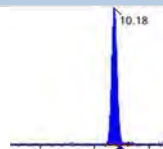
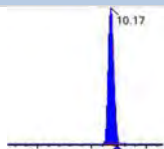
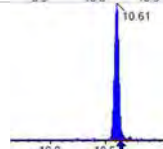
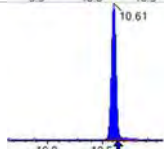
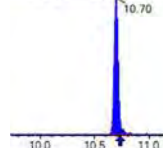
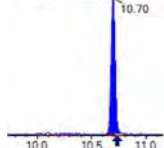
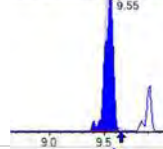
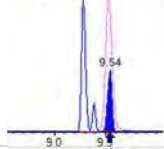
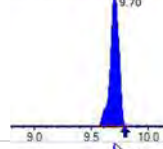
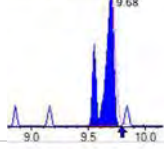
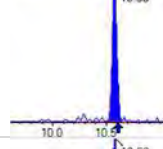
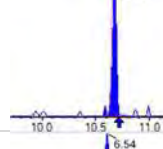
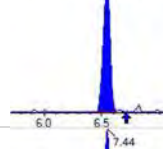
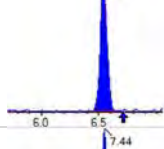
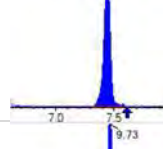
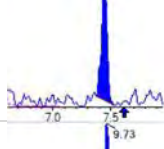
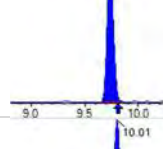
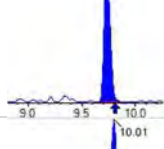
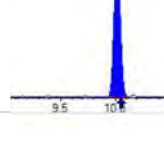
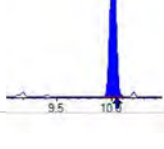
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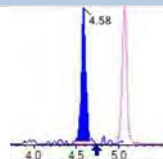
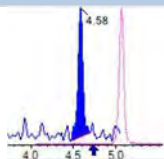
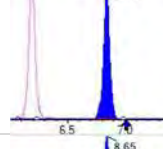
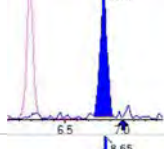
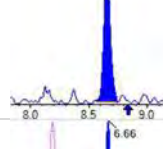
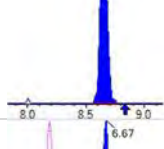
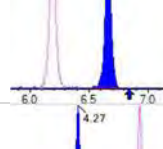
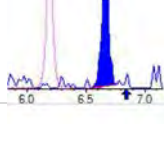
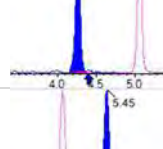
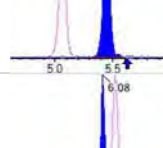
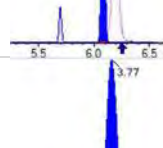
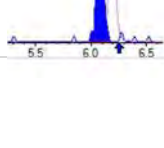
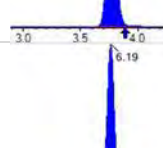
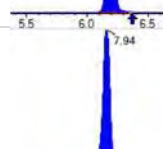
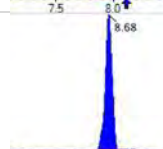
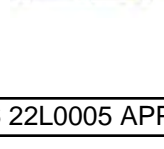
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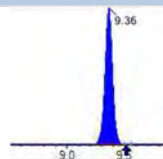
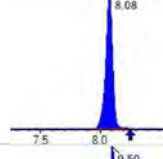
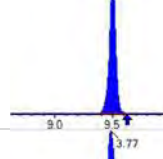
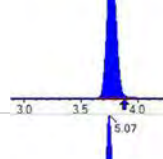
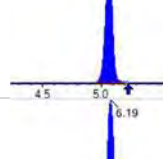
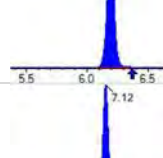
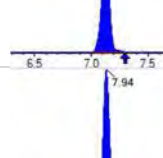
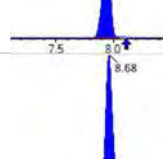
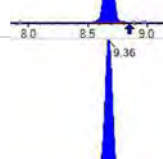
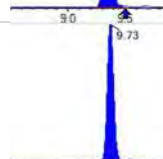
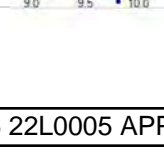
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11CL-PF3OUDSa	0.337a	0.92a	0.18a	Ja

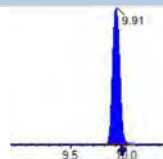
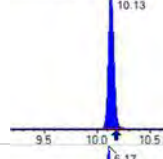
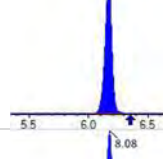
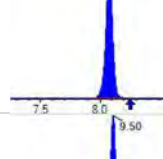
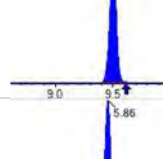
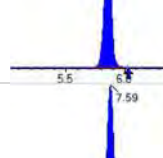
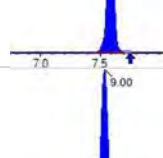
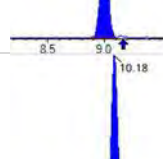
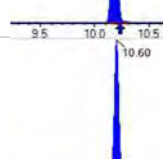
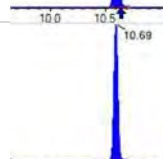
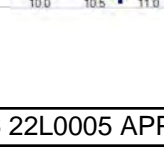
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 25105	(3.77, 1.00) (0.00, N/A, 0.0)	39.7	N/A 0.0 0.0	0.3231 [0.4000]	80.8%			
PFPeA	(262.9 / 219.0) 17708 (262.9 / 69.0) 196	(5.06, 1.00) (0.00, N/A, -0.7)	134.3 6.5	0.0111 95.3 108.2	0.1973 [0.2000]	98.7%			
PFHxA	(313.0 / 269.0) 14297 (313.0 / 119.0) 1458	(6.20, 1.00) (0.00, N/A, 0.2)	75.7 62.1	0.1020 113.5 105.0	0.0919 [0.1000]	91.9%			
PFHpA	(363.0 / 319.0) 14568 (363.0 / 169.0) 4502	(7.13, 1.00) (0.00, N/A, 0.0)	56.9 85.6	0.3090 107.7 99.2	0.1141 [0.1000]	114.1%			
PFOA	(413.0 / 369.0) 16779 (413.0 / 169.0) 4830	(7.94, 1.00) (0.01, N/A, 0.1)	55.5 99.8	0.2878 89.0 86.8	0.1043 [0.1000]	104.3%			
PFNA	(463.0 / 419.0) 10106 (463.0 / 169.0) 1416	(8.69, 1.00) (0.01, N/A, 1.7)	82.5 12282.5	0.1401 69.6 72.1	0.0885 [0.1000]	88.5%			
PFDA	(513.0 / 469.0) 13200 (513.0 / 169.0) 1097	(9.36, 1.00) (0.00, N/A, 2.4)	40.9 5382.5	0.0831 93.6 83.6	0.0800 [0.1000]	80.0%			
PFUnA	(563.0 / 519.0) 24478 (563.0 / 169.0) 1894	(9.73, 1.00) (0.00, N/A, 0.9)	121.8 1013.0	0.0774 72.0 81.0	0.1156 [0.1000]	115.6%			
PFDoA	(613.0 / 569.0) 22607 (613.0 / 169.0) 2668	(9.91, 1.00) (0.00, N/A, -0.4)	110.4 146.0	0.1180 99.1 82.8	0.0991 [0.1000]	99.1%			
PFTrDA	(663.0 / 619.0) 21227 (663.0 / 169.0) 3905	(10.03, 1.01) (N/A, -0.01, -0.5)	138.6 118.1	0.1840 98.8 86.5	0.1059 [0.1000]	105.9%			
PFTeDA	(713.0 / 669.0) 15512 (713.0 / 169.0) 1598	(10.13, 1.00) (0.00, N/A, -0.7)	199.0 29.2	0.1030 52.3 48.8	0.0945 [0.1000]	94.5%			IR1,

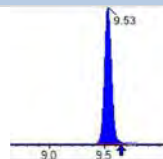
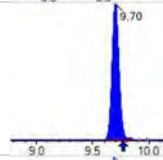
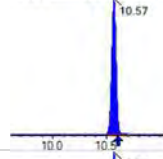
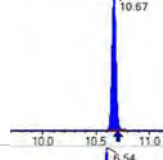
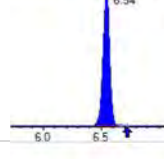
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 19946 (298.9 / 99.0) 10818	(6.16, 1.00) (0.00, N/A, 0.0)	259.8 71.8	0.5423 80.0 87.0	0.0861 [0.0885]	97.3%			
PFPeS	(349.0 / 80.0) 30406 (349.0 / 99.0) 11920	(7.21, 0.89) (N/A, -0.01, 0.1)	302.2 118.2	0.3920 107.5 101.9	0.0726 [0.0938]	77.4%			
PFHxS	(399.0 / 80.0) 31784 (399.0 / 99.0) 7244	(8.08, 1.00) (0.00, N/A, 0.2)	298.2 38674.0	0.2279 66.1 70.1	0.0856 [0.0911]	93.9%			
PFHpS	(449.0 / 80.0) 22678 (449.0 / 99.0) 9339	(8.85, 0.93) (N/A, -0.02, 0.7)	115.1 195.3	0.4118 144.9 150.4	0.0656 [0.0951]	68.9%			QC,IR2,
PFOS	(499.0 / 80.0) 37770 (499.0 / 99.0) 6456	(9.50, 1.00) (0.00, N/A, -0.2)	82.9 40.4	0.1709 66.4 74.0	0.0882 [0.0927]	95.1%			
PFNS	(549.0 / 80.0) 51304 (549.0 / 99.0) 7244	(9.78, 1.03) (N/A, -0.01, 0.2)	112.0 424.2	0.1412 59.1 55.8	0.1020 [0.0960]	106.3%			
PFDS	(599.0 / 80.0) 51846 (599.0 / 99.0) 14188	(9.93, 1.05) (N/A, 0.00, -0.1)	176.5 89.1	0.2737 117.7 120.3	0.0823 [0.0963]	85.5%			
PFDoS	(698.9 / 80.0) 27823 (698.9 / 99.0) 8040	(10.12, 1.07) (N/A, 0.00, -0.7)	45322.3 710.9	0.2890 124.7 144.4	0.0745 [0.0970]	76.8%			
4:2FTS	(327.0 / 307.0) 24313 (327.0 / 81.0) 12926	(5.86, 1.00) (0.00, N/A, 0.3)	364.0 90.9	0.5317 89.0 93.3	0.3438 [0.3738]	92.0%			
6:2FTS	(427.0 / 407.0) 17000 (427.0 / 81.0) 11010	(7.58, 1.00) (0.00, N/A, -0.1)	152.5 90.7	0.6477 90.1 90.6	0.3419 [0.3796]	90.1%			
8:2FTS	(527.0 / 507.0) 15862 (527.0 / 81.0) 8309	(9.00, 1.00) (0.00, N/A, 0.1)	39253.3 75.7	0.5239 84.0 81.8	0.4251 [0.3833]	110.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 61857 (498.0 / 478.0) 2851	(10.18, 1.00) (0.00, N/A, 0.3)	302.7 235.0	0.0461 193.1 183.4	0.1044 [0.1000]	104.4%			
NMeFOSA	(511.9 / 219.0) 38694 (511.9 / 169.0) 25977	(10.61, 1.00) (0.00, N/A, 0.0)	348.3 396.7	0.6714 100.7 103.1	0.3502 [0.4000]	87.6%			
NEiFOSA	(526.0 / 219.0) 42028 (526.0 / 169.0) 43863	(10.70, 1.00) (0.00, N/A, 0.0)	474.5 381.6	1.0437 95.8 97.7	0.3394 [0.4000]	84.8%			
NMeFOSAA	(570.0 / 419.0) 8765 (570.0 / 483.0) 821	(9.55, 1.00) (0.02, N/A, 0.3)	57.3 68.4	0.0937 20.2 18.5	0.1231 [0.1000]	123.1%			IR1,
NEiFOSAA	(584.0 / 419.0) 6553 (584.0 / 526.0) 4832	(9.70, 1.00) (0.00, N/A, 1.3)	4445290.3 257.6	0.7373 121.5 125.6	0.0905 [0.1000]	90.5%			
NMeFOSE	(616.1 / 59.0) 10006	(10.58, 1.00) (0.01, N/A, 0.0)	128.5	N/A 0.0 0.0	0.2925 [0.4000]	73.1%			
NEiFOSE	(630.0 / 59.0) 2462	(10.68, 1.00) (0.01, N/A, 0.0)	261.3	N/A 0.0 0.0	0.2939 [0.4000]	73.5%			
HFPO-DA	(285.0 / 169.0) 12052 (285.0 / 185.0) 33821	(6.54, 1.00) (0.00, N/A, 0.3)	223.6 285.0	2.8063 101.2 94.4	0.1788 [0.2000]	89.4%			
ADONA	(377.0 / 85.0) 44757 (377.0 / 251.0) 5843	(7.44, 1.14) (N/A, -0.01, -0.1)	500.3 41.0	0.1306 103.9 102.0	0.1642 [0.1885]	87.1%			
9CI-Pf3ONS	(531.0 / 351.0) 138249 (533.0 / 353.0) 44838	(9.73, 1.49) (N/A, -0.01, 0.1)	301.6 117.5	0.3243 97.2 103.0	0.1843 [0.1867]	98.8%			
11CI-PF3OUDS	(631.0 / 451.0) 94719 (633.0 / 453.0) 27227	(10.01, 1.53) (N/A, 0.00, 0.1)	423.5 126.7	0.2875 88.8 97.3	0.1835 [0.1886]	97.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1533 (241.0 / 117.0) 2522	(4.58, 0.90) (N/A, 0.01, 0.0)	96.4 40.9	1.6445 94.5 98.0	0.3478 [0.4000]	86.9%			
5:3FTCA	(341.0 / 236.7) 11648 (341.0 / 217.0) 18082	(6.84, 1.10) (N/A, -0.01, 0.3)	502.8 85.9	1.5524 90.9 93.1	0.3522 [0.4000]	88.1%			
7:3FTCA	(441.0 / 317.0) 15800 (441.0 / 337.0) 12777	(8.65, 1.40) (N/A, -0.01, 0.1)	62.1 1308.8	0.8087 98.0 98.4	0.3711 [0.4000]	92.8%			
PFEESA	(315.0 / 135.0) 25181 (315.0 / 83.0) 7003	(6.66, 1.08) (N/A, -0.01, -0.2)	316.1 45.5	0.2781 93.5 97.6	0.1582 [0.1785]	88.6%			
PFMPA	(229.0 / 85.0) 4740	(4.27, 0.84) (N/A, 0.01, 0.0)	193.0	N/A 0.0 0.0	0.1918 [0.2000]	95.9%			
PFMBA	(279.0 / 85.0) 14793	(5.45, 1.07) (N/A, -0.01, 0.0)	397.9	N/A 0.0 0.0	0.1921 [0.2000]	96.0%			
NFDHA	(201.0 / 85.0) 399 (295.0 / 201.0) 4392	(6.08, 0.98) (N/A, -0.01, 0.1)	235.0 118.2	11.0164 157.5 155.8	0.0000 [0.2000]	N/A%			QC, IR2,
13C3_PFBA_IIS	(216.0 / 172.0) 90798	(3.77, N/A) (N/A, 0.04, N/A)	677.4	N/A	0.9446 [1.0000]	94.5% {113.4%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 130703	(6.19, N/A) (N/A, -0.01, N/A)	757.4	N/A	1.0585 [1.0000]	105.8% {111.5%}			
13C4_PFOA_IIS	(417.0 / 372.0) 133040	(7.94, N/A) (N/A, -0.01, N/A)	494.0	N/A	1.1222 [1.0000]	112.2% {121.2%}			
13C5_PFNA_IIS	(468.0 / 423.0) 108054	(8.68, N/A) (N/A, -0.01, N/A)	522.2	N/A	1.1345 [1.0000]	113.5% {110.4%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 94517	(9.36, N/A) (N/A, -0.01, N/A)	356.6	N/A	1.1473 [ 1.0000 ]	114.7% { 108.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 223032	(8.08, N/A) (N/A, -0.02, N/A)	823.5	N/A	1.0391 [ 1.0000 ]	103.9% { 100.0% }			
13C4_PFOS_IIS	(502.8 / 79.9) 219719	(9.50, N/A) (N/A, -0.01, N/A)	818.8	N/A	1.1805 [ 1.0000 ]	118.0% { 103.4% }			
13C4_PFBA_EIS	(217.0 / 172.0) 816291	(3.77, N/A) (N/A, 0.02, N/A)	950.3	N/A	9.5892 [ 8.0000 ]	119.9% { 136.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 373448	(5.07, N/A) (N/A, 0.00, N/A)	990.6	N/A	3.9169 [ 4.0000 ]	97.9% { 110.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 308839	(6.19, N/A) (N/A, -0.01, N/A)	890.6	N/A	2.3166 [ 2.0000 ]	115.8% { 127.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 252174	(7.12, N/A) (N/A, -0.01, N/A)	645.5	N/A	2.0956 [ 2.0000 ]	104.8% { 108.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 312098	(7.94, N/A) (N/A, -0.01, N/A)	508.5	N/A	2.3064 [ 2.0000 ]	115.3% { 134.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 118507	(8.68, N/A) (N/A, -0.02, N/A)	431.9	N/A	1.1113 [ 1.0000 ]	111.1% { 127.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 162558	(9.36, N/A) (N/A, -0.01, N/A)	199.1	N/A	1.1840 [ 1.0000 ]	118.4% { 128.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 240625	(9.73, N/A) (N/A, -0.01, N/A)	339.0	N/A	1.3057 [ 1.0000 ]	130.6% { 134.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 247936	(9.91, N/A) (N/A, 0.00, N/A)	619.8	N/A	1.1086 [ 1.0000 ]	110.9% { 130.2% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 166479	(10.13, N/A) (N/A, -0.01, N/A)	301.4	N/A	1.0140 [ 1.0000 ]	101.4% { 110.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 758673	(6.17, N/A) (N/A, 0.00, N/A)	699.0	N/A	2.3146 [ 2.0000 ]	115.7% { 116.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 443016	(8.08, N/A) (N/A, -0.01, N/A)	1058.7	N/A	2.3744 [ 2.0000 ]	118.7% { 117.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 762933	(9.50, N/A) (N/A, -0.01, N/A)	506.0	N/A	2.2778 [ 2.0000 ]	113.9% { 139.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 80983	(5.86, N/A) (N/A, 0.00, N/A)	670.1	N/A	4.3806 [ 4.0000 ]	109.5% { 130.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 125365	(7.59, N/A) (N/A, -0.01, N/A)	730.5	N/A	5.0546 [ 4.0000 ]	126.4% { 150.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 95038	(9.00, N/A) (N/A, -0.02, N/A)	414.6	N/A	4.4147 [ 4.0000 ]	110.4% { 118.2% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 1066962	(10.18, N/A) (N/A, 0.00, N/A)	604.6	N/A	2.0866 [ 2.0000 ]	104.3% { 128.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 240415	(10.60, N/A) (N/A, 0.00, N/A)	783.2	N/A	1.5888 [ 2.0000 ]	79.4% { 120.4% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 239162	(10.69, N/A) (N/A, 0.00, N/A)	768.8	N/A	1.7432 [ 2.0000 ]	87.2% { 120.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 326652	(9.53, N/A) (N/A, -0.01, N/A)	294.6	N/A	4.3835 [ 4.0000 ]	109.6% { 127.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 315607	(9.70, N/A) (N/A, 0.00, N/A)	454.5	N/A	4.9276 [ 4.0000 ]	123.2% { 129.8% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 486597	(10.57, N/A) (N/A, 0.00, N/A)	736.2	N/A	18.8278 [ 20.0000 ]	94.1% { 119.2% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 244676	(10.67, N/A) (N/A, 0.00, N/A)	1038.5	N/A	18.5803 [ 20.0000 ]	92.9% { 116.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 811951	(6.54, N/A) (N/A, -0.01, N/A)	706.3	N/A	9.2474 [ 8.0000 ]	115.6% { 128.6% }			

## ANALYSIS DATA SHEET

## M trix Spikea

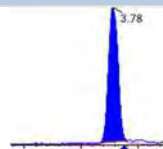
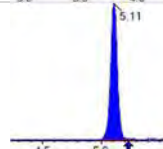
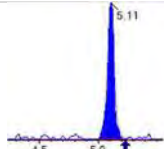
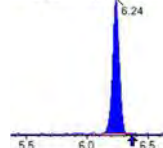
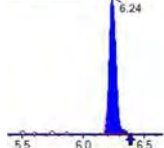
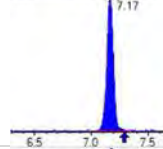
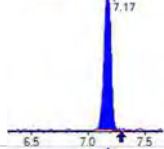
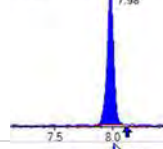
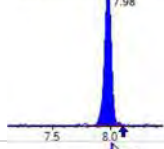
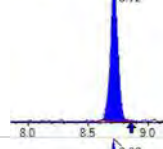
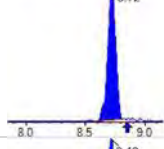
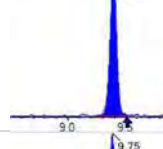
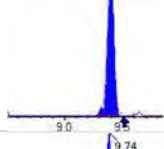
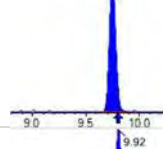
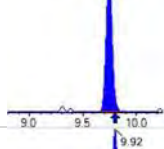
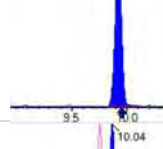
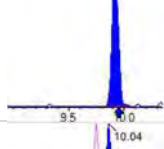
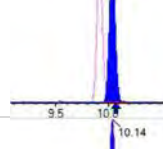
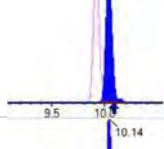
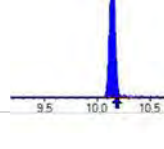
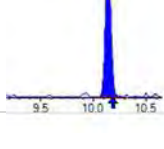
Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Solida	Laboratory ID:a	BBL0032-MS1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Analyzed:a	12/09/22 14:12a
Batch:a	BBL0032a	Preparation:a	Table B-15a
Column:a	1a	Dilution:a	1a
		Sequence:a	SB03754a
		Calibration:a	2250016a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/g dry)L	OQL	DL	QL
PFBAa	8.32a	1.1a	0.11a	
PFPEAa	4.35a	1.1a	0.16a	
PFHXAa	2.26a	1.1a	0.11a	
PFHPAa	2.19a	1.1a	0.11a	
PFOAa	2.40a	1.1a	0.16a	
PFNAa	2.15a	1.1a	0.11a	
PFDAa	1.99a	1.1a	0.16a	
PFUnAa	1.90a	1.1a	0.11a	
PFDOAa	2.22a	1.1a	0.16a	
PFTRDAa	2.27a	1.1a	0.11a	
PFTEDAa	2.00a	1.1a	0.22a	
PFBSa	2.04a	1.1a	0.11a	
PFPESa	1.93a	1.1a	0.45a	
PFHXSa	4.44a	1.1a	0.16a	
PFHPSa	2.36a	1.1a	0.16a	
PFOSa	155a	1.1a	0.11a	MS2, Ea
PFNSa	5.04a	1.1a	0.43a	MS2a
PFDSa	2.30a	1.1a	0.22a	
4:2FTSa	7.59a	1.1a	0.22a	
6:2FTSa	8.74a	1.1a	0.22a	
8:2FTSa	7.99a	1.1a	0.16a	
PFOSAa	2.25a	1.1a	0.11a	
NMeFOSAa	9.25a	1.1a	0.54a	
NEtFOSAa	8.07a	1.1a	0.54a	
NMeFOSAAa	2.18a	1.1a	0.22a	
NEtFOSAAa	2.30a	1.1a	0.22a	
NMeFOSEa	7.96a	1.1a	0.44a	
NEtFOSEa	8.98a	1.1a	0.34a	
HFPO-DAa	4.56a	1.1a	0.22a	
ADONa	4.12a	1.1a	0.22a	

**ANALYSIS DATA SHEETL****Matrix Spikea**

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-MS1a
Sampled:a		Prepared:a	12/01/22 14:45a
Solids:a		Preparation:a	Table B-15a
Batch:a	BBL0032a	Sequence:a	SB03754a
Column:a	1a	Calibration:a	2250016a
			Instrument:a Saphira
			File ID:a S2022-12-09A (8)a
			Analyzed:a 12/09/22 14:12a
			Dilution:a 1a

COMPOUNDL	CONC. (ng/g dry)L	OQL	DL	QL
9CL-PF3ONSa	5.50a	1.1a	0.22a	MS2a
11CL-PF3OUDSa	5.27a	1.1a	0.22a	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 233283	(3.78, 1.00) (0.00, N/A, 0.0)	65.5	N/A 0.0 0.0	3.8188	N/A			
PFPeA	(262.9 / 219.0) 154685 (262.9 / 69.0) 2771	(5.11, 1.00) (0.00, N/A, 0.0)	650.0 115.1	0.0179 153.8 174.8	1.9975	N/A			
PFHxA	(313.0 / 269.0) 142128 (313.0 / 119.0) 14020	(6.24, 1.00) (0.00, N/A, 0.0)	353.6 222.3	0.0986 109.8 101.5	1.0389	N/A			
PFHpA	(363.0 / 319.0) 129399 (363.0 / 169.0) 33273	(7.17, 1.00) (0.00, N/A, -0.2)	481.9 278.1	0.2571 89.6 82.5	1.0066	N/A			
PFOA	(413.0 / 369.0) 139975 (413.0 / 169.0) 50627	(7.98, 1.00) (0.00, N/A, 0.0)	337.9 374.9	0.3617 111.8 109.1	1.1027	N/A			
PFNA	(463.0 / 419.0) 100152 (463.0 / 169.0) 20330	(8.72, 1.00) (0.01, N/A, -0.1)	265.7 79.0	0.2030 100.8 104.5	0.9866	N/A			
PFDA	(513.0 / 469.0) 141421 (513.0 / 169.0) 15702	(9.39, 1.00) (0.00, N/A, -0.4)	289.5 259.0	0.1110 125.1 111.7	0.9115	N/A			
PFUnA	(563.0 / 519.0) 165576 (563.0 / 169.0) 21185	(9.75, 1.00) (0.00, N/A, 0.2)	360.4 260.7	0.1279 119.1 134.0	0.8698	N/A			
PFDoA	(613.0 / 569.0) 205415 (613.0 / 169.0) 28279	(9.92, 1.00) (0.00, N/A, 0.2)	325.2 188.3	0.1377 115.6 96.5	1.0199	N/A			
PFTrDA	(663.0 / 619.0) 184315 (663.0 / 169.0) 33943	(10.04, 1.01) (N/A, 0.00, 0.1)	530.4 38996.1	0.1842 98.9 86.6	1.0418	N/A			
PFTeDA	(713.0 / 669.0) 143446 (713.0 / 169.0) 32033	(10.14, 1.00) (-0.01, N/A, 0.2)	436.7 144.2	0.2233 113.4 105.8	0.9164	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-MS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (8)  
 Acquired: 2022/12/09 - 14:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 225453 (298.9 / 99.0) 136287	(6.21, 1.00) (0.00, N/A, 0.0)	757.2 489.0	0.6045 89.2 97.0	0.9340	N/A			
PFPeS	(349.0 / 80.0) 378095 (349.0 / 99.0) 147813	(7.25, 0.89) (N/A, 0.03, -0.2)	793.3 558.5	0.3909 107.2 101.7	0.8853	N/A			
PFHxS	(399.0 / 80.0) 770520 (399.0 / 99.0) 238290	(8.12, 1.00) (0.00, N/A, -0.1)	14769.8 59790.0	0.3093 89.7 95.1	2.0347	N/A			
PFHpS	(449.0 / 80.0) 317336 (449.0 / 99.0) 89951	(8.89, 0.93) (N/A, 0.02, -0.2)	701.6 657.7	0.2835 99.7 103.5	1.0807	N/A			
PFOS	(499.0 / 80.0) 25934333 (499.0 / 99.0) 6279128	(9.53, 1.00) (0.00, N/A, 0.0)	155.1 297.0	0.2421 94.0 104.8	71.3006	N/A			E,
PFNS	(549.0 / 80.0) 987102 (549.0 / 99.0) 143130	(9.79, 1.03) (N/A, 0.00, -0.4)	261.9 305.4	0.1450 60.7 57.3	2.3112	N/A			
PFDS	(599.0 / 80.0) 565044 (599.0 / 99.0) 126240	(9.94, 1.04) (N/A, 0.01, 0.0)	530.7 452.0	0.2234 96.1 98.2	1.0564	N/A			
PFDoS	(698.9 / 80.0) 331026 (698.9 / 99.0) 70665	(10.13, 1.06) (N/A, 0.01, 0.1)	1002.0 443.3	0.2135 92.1 106.7	1.0435	N/A			
4:2FTS	(327.0 / 307.0) 295724 (327.0 / 81.0) 172614	(5.90, 1.00) (0.00, N/A, -0.1)	1119.7 662.9	0.5837 97.7 102.4	3.4821	N/A			
6:2FTS	(427.0 / 407.0) 176569 (427.0 / 81.0) 123994	(7.62, 1.00) (0.00, N/A, -0.1)	521.9 625.2	0.7022 97.6 98.2	4.0093	N/A			
8:2FTS	(527.0 / 507.0) 151518 (527.0 / 81.0) 97691	(9.05, 1.00) (0.00, N/A, 0.2)	314.8 432.2	0.6447 103.4 100.7	3.6648	N/A			

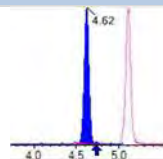
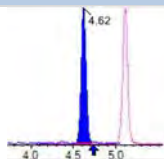
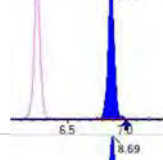
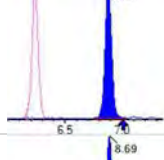
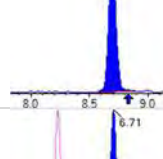
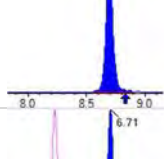
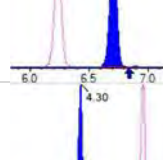
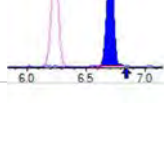
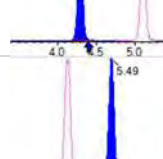
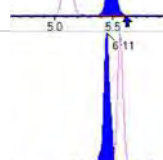
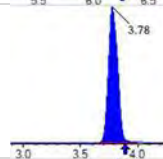

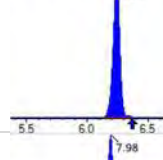
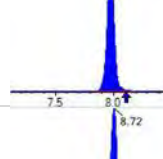
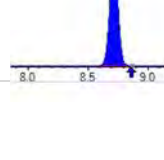
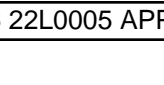


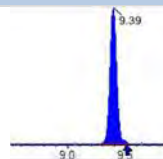
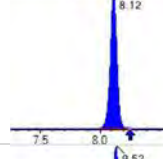
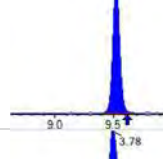
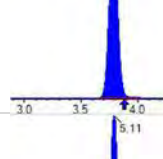
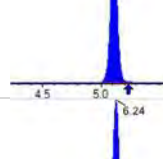
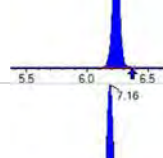
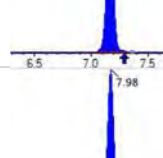
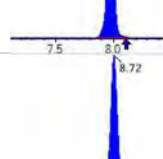
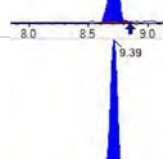
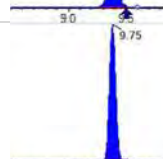
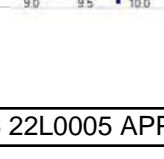
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 Instrument: Saphira  
 Type: Sciex Q3 5500

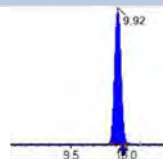
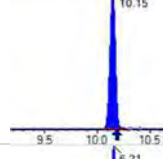
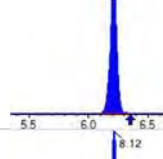
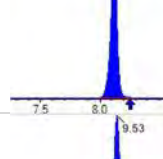
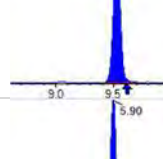
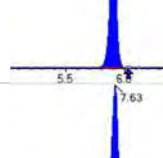
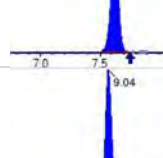
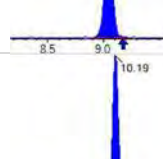
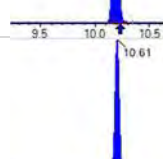
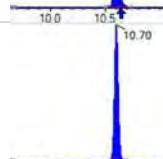
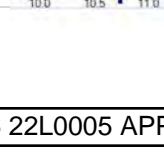
Sample I.D.: BBL0032-MS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

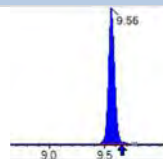
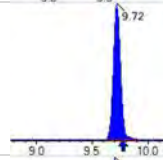
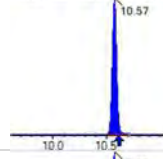
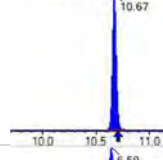
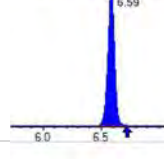
Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (8)  
 Acquired: 2022/12/09 - 14:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 437812 (498.0 / 478.0) 9447	(10.19, 1.00) (0.00, N/A, 0.2)	638.1 181.0	0.0216 90.4 85.9	1.0322	N/A			
NMeFOSA	(511.9 / 219.0) 339880 (511.9 / 169.0) 234833	(10.61, 1.00) (0.00, N/A, 0.0)	1000.1 776.3	0.6909 103.6 106.1	4.2415	N/A			
NEIFOSA	(526.0 / 219.0) 350995 (526.0 / 169.0) 373012	(10.70, 1.00) (0.00, N/A, 0.0)	1105.4 867.3	1.0627 97.5 99.5	3.7042	N/A			
NMeFOSAA	(570.0 / 419.0) 58541 (570.0 / 483.0) 26977	(9.56, 1.00) (0.00, N/A, -0.5)	393.4 1003.3	0.4608 99.3 90.9	0.9979	N/A			
NEIFOSAA	(584.0 / 419.0) 66883 (584.0 / 526.0) 43385	(9.72, 1.00) (0.00, N/A, 0.4)	1930.4 1419.6	0.6487 106.9 110.5	1.0572	N/A			
NMeFOSE	(616.1 / 59.0) 96107	(10.58, 1.00) (0.01, N/A, 0.0)	701.3	N/A 0.0 0.0	3.6500	N/A			
NEtFOSE	(630.0 / 59.0) 26064	(10.68, 1.00) (0.01, N/A, 0.0)	733.8	N/A 0.0 0.0	4.1179	N/A			
HFPO-DA	(285.0 / 169.0) 116534 (285.0 / 185.0) 328587	(6.59, 1.00) (0.00, N/A, 0.0)	659.2 678.9	2.8197 101.7 94.8	2.0910	N/A			
ADONA	(377.0 / 85.0) 425651 (377.0 / 251.0) 49356	(7.48, 1.14) (N/A, 0.03, 0.0)	794.3 190.0	0.1160 92.3 90.6	1.8889	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 1566003 (533.0 / 353.0) 489295	(9.75, 1.48) (N/A, 0.01, 0.0)	833.3 588.4	0.3124 93.6 99.3	2.5253	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 1031989 (633.0 / 453.0) 316532	(10.02, 1.52) (N/A, 0.01, 0.0)	1186.9 659.9	0.3067 94.8 103.8	2.4187	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 13348 (241.0 / 117.0) 21544	(4.62, 0.90) (N/A, 0.05, 0.0)	392.4 260.4	1.6141 92.7 96.2	3.5085	N/A			
5:3FTCA	(341.0 / 236.7) 95628 (341.0 / 217.0) 161346	(6.88, 1.10) (N/A, 0.03, 0.1)	450.3 435.9	1.6872 98.8 101.1	3.2902	N/A			
7:3FTCA	(441.0 / 317.0) 124630 (441.0 / 337.0) 104689	(8.69, 1.39) (N/A, 0.03, -0.1)	229.0 347.9	0.8400 101.8 102.2	3.3305	N/A			
PFEESA	(315.0 / 135.0) 266298 (315.0 / 83.0) 83528	(6.71, 1.08) (N/A, 0.03, 0.0)	590.5 482.8	0.3137 105.5 110.1	1.9036	N/A			
PFMPA	(229.0 / 85.0) 45006	(4.30, 0.84) (N/A, 0.04, 0.0)	738.1	N/A 0.0 0.0	2.1106	N/A			
PFMBA	(279.0 / 85.0) 142468	(5.49, 1.07) (N/A, 0.04, 0.0)	1152.3	N/A 0.0 0.0	2.1437	N/A			
NFDHA	(201.0 / 85.0) 4840 (295.0 / 201.0) 37801	(6.11, 0.98) (N/A, 0.03, -0.4)	96.3 418.4	7.8104 111.6 110.4	1.3558	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 93006	(3.78, N/A) (N/A, 0.05, N/A)	709.6	N/A	0.9675 [ 1.0000 ]	96.8% { 116.2% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 141517	(6.24, N/A) (N/A, 0.04, N/A)	809.2	N/A	1.1460 [ 1.0000 ]	114.6% { 120.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 127319	(7.98, N/A) (N/A, 0.03, N/A)	726.7	N/A	1.0740 [ 1.0000 ]	107.4% { 116.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 107140	(8.72, N/A) (N/A, 0.02, N/A)	437.6	N/A	1.1249 [ 1.0000 ]	112.5% { 109.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 98753	(9.39, N/A) (N/A, 0.02, N/A)	564.3	N/A	1.1987 [ 1.0000 ]	119.9% { 113.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 244112	(8.12, N/A) (N/A, 0.02, N/A)	801.7	N/A	1.1374 [ 1.0000 ]	113.7% { 109.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 196461	(9.52, N/A) (N/A, 0.01, N/A)	347.6	N/A	1.0555 [ 1.0000 ]	105.6% { 92.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 641820	(3.78, N/A) (N/A, 0.04, N/A)	780.5	N/A	7.3606 [ 8.0000 ]	92.0% { 107.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 322228	(5.11, N/A) (N/A, 0.04, N/A)	1049.2	N/A	3.1214 [ 4.0000 ]	78.0% { 95.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 271459	(6.24, N/A) (N/A, 0.03, N/A)	654.9	N/A	1.8806 [ 2.0000 ]	94.0% { 111.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 253808	(7.16, N/A) (N/A, 0.03, N/A)	655.4	N/A	1.9480 [ 2.0000 ]	97.4% { 108.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 246272	(7.98, N/A) (N/A, 0.03, N/A)	510.2	N/A	1.9017 [ 2.0000 ]	95.1% { 106.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 105290	(8.72, N/A) (N/A, 0.02, N/A)	313.8	N/A	0.9958 [ 1.0000 ]	99.6% { 112.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 152941	(9.39, N/A) (N/A, 0.03, N/A)	503.8	N/A	1.0662 [ 1.0000 ]	106.6% { 120.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 216234	(9.75, N/A) (N/A, 0.01, N/A)	363.4	N/A	1.1230 [ 1.0000 ]	112.3% { 120.4% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 218899	(9.92, N/A) (N/A, 0.01, N/A)	364.3	N/A	0.9367 [ 1.0000 ]	93.7% { 115.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 158793	(10.15, N/A) (N/A, 0.01, N/A)	527.1	N/A	0.9257 [ 1.0000 ]	92.6% { 104.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 790730	(6.21, N/A) (N/A, 0.04, N/A)	804.4	N/A	2.2040 [ 2.0000 ]	110.2% { 121.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 451737	(8.12, N/A) (N/A, 0.03, N/A)	845.5	N/A	2.2120 [ 2.0000 ]	110.6% { 119.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 647974	(9.53, N/A) (N/A, 0.02, N/A)	425.2	N/A	2.1636 [ 2.0000 ]	108.2% { 118.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 97242	(5.90, N/A) (N/A, 0.04, N/A)	664.0	N/A	4.8059 [ 4.0000 ]	120.1% { 156.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 111052	(7.63, N/A) (N/A, 0.03, N/A)	591.9	N/A	4.0909 [ 4.0000 ]	102.3% { 133.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 105309	(9.04, N/A) (N/A, 0.02, N/A)	469.3	N/A	4.4694 [ 4.0000 ]	111.7% { 131.0% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 763893	(10.19, N/A) (N/A, 0.00, N/A)	639.1	N/A	1.6708 [ 2.0000 ]	83.5% { 92.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 174371	(10.61, N/A) (N/A, 0.00, N/A)	627.0	N/A	1.2888 [ 2.0000 ]	64.4% { 87.3% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 182996	(10.70, N/A) (N/A, 0.00, N/A)	719.3	N/A	1.4917 [ 2.0000 ]	74.6% { 91.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 269068	(9.56, N/A) (N/A, 0.02, N/A)	553.8	N/A	4.0382 [ 4.0000 ]	101.0% { 105.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 275760	(9.72, N/A) (N/A, 0.01, N/A)	662.9	N/A	4.8152 [ 4.0000 ]	120.4% { 113.4% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 374564	(10.57, N/A) (N/A, 0.00, N/A)	876.3	N/A	16.2086 [ 20.0000 ]	81.0% { 91.7% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 184869	(10.67, N/A) (N/A, 0.00, N/A)	918.2	N/A	15.7006 [ 20.0000 ]	78.5% { 88.1% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 671304	(6.59, N/A) (N/A, 0.04, N/A)	846.1	N/A	7.0613 [ 8.0000 ]	88.3% { 106.3% }			

## ANALYSIS DATA SHEET

## M trix Spike Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Solida	Laboratory ID:a	BBL0032-MSD1a
Sampled:a		File ID:a	S2022-12-09A (9)a
		Prepared:a	12/01/22 14:45a
Solids:a		Analyzed:a	12/09/22 14:25a
		Preparation:a	Table B-15a
Batch:a	BBL0032a	Dilution:a	1a
Column:a	1a	Sequence:a	SB03754a
		Calibration:a	2250016a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/g dry)L	OQL	DL	QL
PFBAa	7.84a	1.1a	0.11a	
PFPEAa	4.25a	1.1a	0.16a	
PFHXAa	2.17a	1.1a	0.11a	
PFHPAa	2.01a	1.1a	0.11a	
PFOAa	2.24a	1.1a	0.16a	
PFNAa	1.95a	1.1a	0.11a	
PFDAa	1.80a	1.1a	0.16a	
PFUnAa	1.79a	1.1a	0.11a	
PFDOAa	2.31a	1.1a	0.16a	
PFTRDAa	2.16a	1.1a	0.11a	
PFTEDAa	1.60a	1.1a	0.21a	
PFBSa	1.74a	1.1a	0.11a	
PFPESa	1.93a	1.1a	0.44a	
PFHXSa	3.89a	1.1a	0.16a	
PFHPSa	2.27a	1.1a	0.16a	
PFOSa	118a	1.1a	0.11a	MS1, Ea
PFNSa	3.51a	1.1a	0.42a	MS3a
PFDSa	2.09a	1.1a	0.21a	
4:2FTSa	7.31a	1.1a	0.21a	
6:2FTSa	8.20a	1.1a	0.21a	
8:2FTSa	8.84a	1.1a	0.16a	
PFOSAa	2.05a	1.1a	0.11a	
NMeFOSAa	8.40a	1.1a	0.53a	
NEtFOSAa	8.18a	1.1a	0.53a	
NMeFOSAAa	2.02a	1.1a	0.21a	
NEtFOSAAa	1.95a	1.1a	0.21a	
NMeFOSEa	8.49a	1.1a	0.44a	
NEtFOSEa	8.04a	1.1a	0.33a	
HFPO-DAa	4.04a	1.1a	0.21a	
ADONa	3.81a	1.1a	0.21a	

**ANALYSIS DATA SHEETL**

## Matrix Spike Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Solida	Laboratory ID:a	BBL0032-MSD1a
Sampled:a		File ID:a	S2022-12-09A (9)a
Solids:a		Prepared:a	12/01/22 14:45a
Batch:a	BBL0032a	Analyzed:a	12/09/22 14:25a
Column:a	1a	Preparation:a	Table B-15a
		Dilution:a	1a
		Calibration:a	2250016a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/g dry)L	OQL	DL	QL
9CL-PF3ONSa	5.31a	1.1a	0.21a	MS2a
11CL-PF3OUDSa	4.62a	1.1a	0.21a	

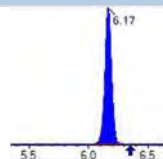
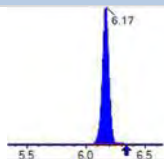
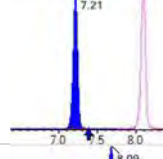
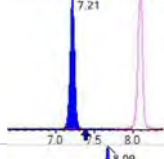
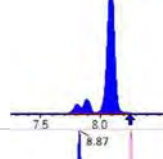
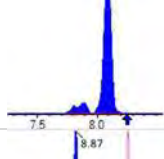
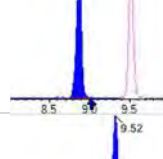
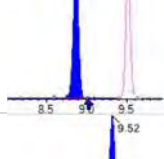
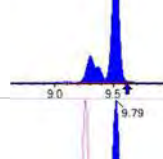
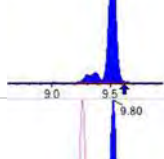
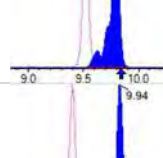
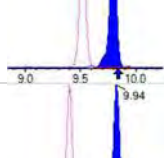
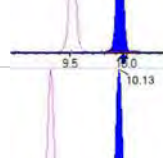
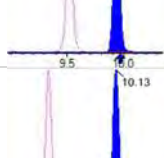
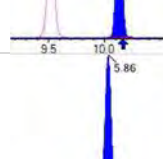
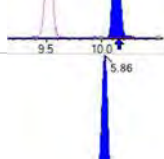
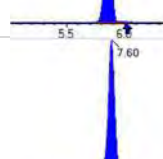
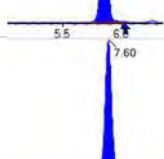
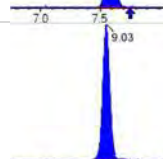
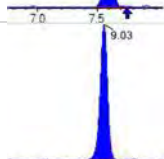
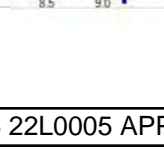
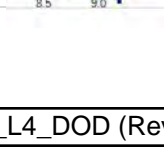


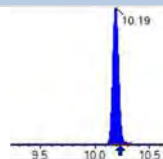
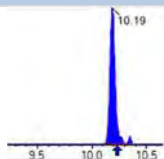
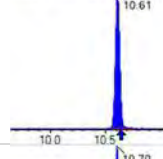
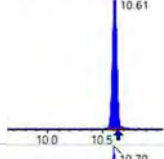
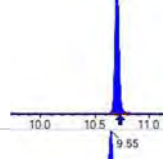
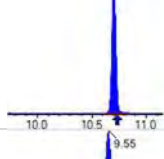
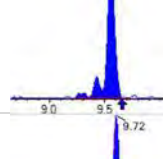
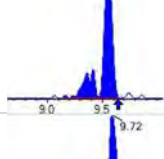
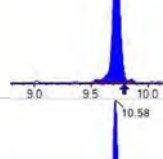
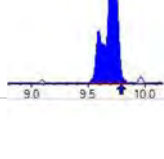
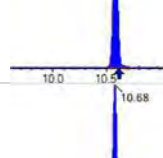
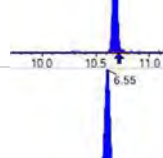
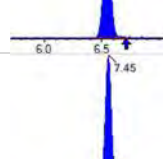
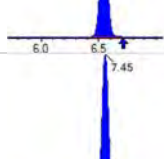
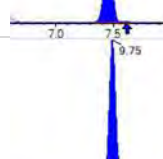
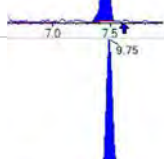
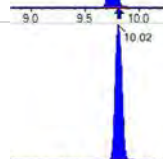
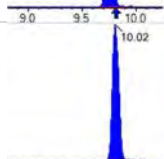
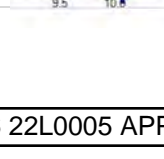
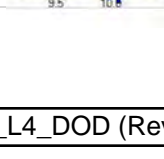
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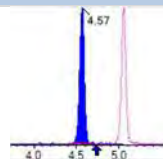
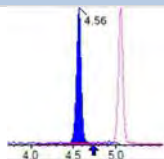
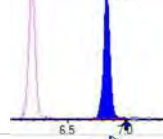
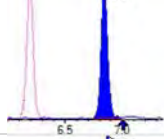
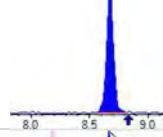
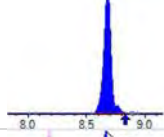
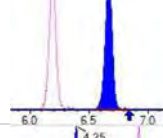
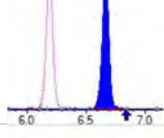
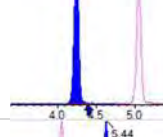
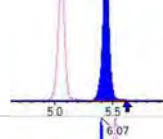
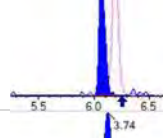
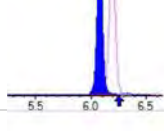
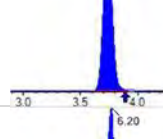
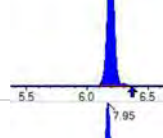
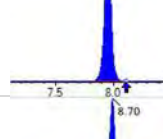
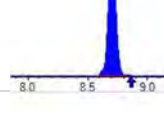
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 Acquisition Method: 1633 2022-12-07.dam

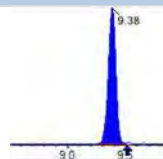
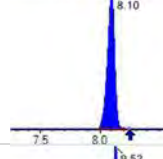
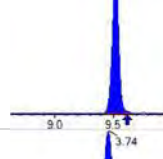
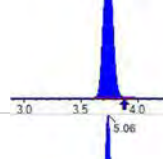
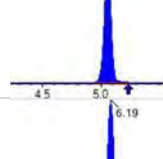
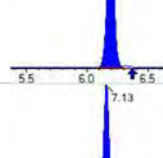
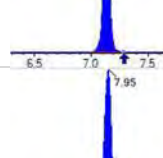
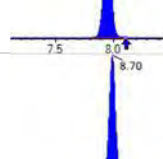
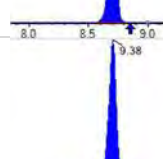
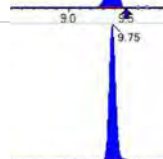
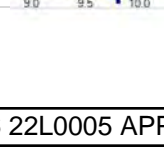
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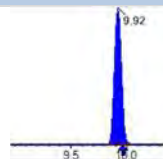
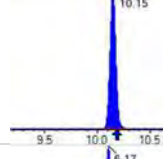
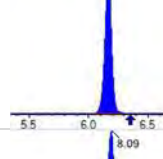
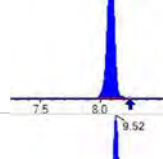
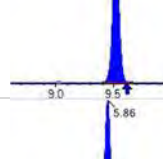
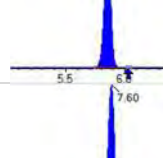
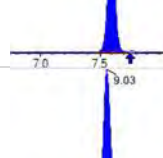
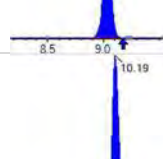
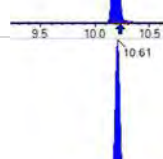
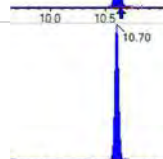
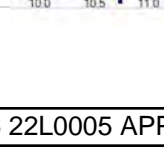
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 207389	(3.74, 1.00) (0.00, N/A, 0.0)	63.5	N/A 0.0 0.0	3.6690	N/A			
PFPeA	(262.9 / 219.0) 141815 (262.9 / 69.0) 960	(5.06, 1.00) (0.00, N/A, 0.1)	621.6 29.9	0.0068 58.1 66.0	1.9897	N/A			
PFHxA	(313.0 / 269.0) 123219 (313.0 / 119.0) 12517	(6.20, 1.00) (0.00, N/A, -0.1)	345.0 167.9	0.1016 113.0 104.5	1.0142	N/A			
PFHpA	(363.0 / 319.0) 109529 (363.0 / 169.0) 30753	(7.13, 1.00) (0.00, N/A, 0.2)	351.5 235.6	0.2808 97.9 90.1	0.9412	N/A			
PFOA	(413.0 / 369.0) 133726 (413.0 / 169.0) 37843	(7.96, 1.00) (0.00, N/A, 0.1)	357.4 247.7	0.2830 87.5 85.3	1.0457	N/A			
PFNA	(463.0 / 419.0) 92141 (463.0 / 169.0) 21299	(8.71, 1.00) (0.01, N/A, -0.2)	243.1 76.1	0.2312 114.8 119.0	0.9118	N/A			
PFDA	(513.0 / 469.0) 129833 (513.0 / 169.0) 13885	(9.38, 1.00) (0.00, N/A, -0.7)	223.4 27408.6	0.1069 120.5 107.6	0.8426	N/A			
PFUnA	(563.0 / 519.0) 165387 (563.0 / 169.0) 16104	(9.75, 1.00) (0.00, N/A, -0.1)	473.6 223.5	0.0974 90.6 102.0	0.8382	N/A			
PFDoA	(613.0 / 569.0) 227486 (613.0 / 169.0) 28225	(9.92, 1.00) (0.00, N/A, 0.1)	547.1 7513.7	0.1241 104.2 87.0	1.0786	N/A			
PFTrDA	(663.0 / 619.0) 186946 (663.0 / 169.0) 33385	(10.05, 1.01) (N/A, 0.01, 0.2)	495.6 142.2	0.1786 95.9 84.0	1.0091	N/A			
PFTeDA	(713.0 / 669.0) 140626 (713.0 / 169.0) 19600	(10.15, 1.00) (0.00, N/A, 0.5)	461.0 5763.8	0.1394 70.8 66.0	0.7499	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 201535 (298.9 / 99.0) 134898	(6.17, 1.00) (0.00, N/A, 0.0)	885.6 637.2	0.6694 98.8 107.4	0.8129	N/A			
PFPeS	(349.0 / 80.0) 365739 (349.0 / 99.0) 135719	(7.21, 0.89) (N/A, 0.00, 0.0)	719.5 767.7	0.3711 101.8 96.5	0.9036	N/A			
PFHxS	(399.0 / 80.0) 652865 (399.0 / 99.0) 211337	(8.09, 1.00) (0.00, N/A, 0.2)	86170.6 8868.5	0.3237 93.9 99.5	1.8191	N/A			
PFHpS	(449.0 / 80.0) 321465 (449.0 / 99.0) 84790	(8.87, 0.93) (N/A, 0.01, 0.2)	434.5 465.6	0.2638 92.8 96.3	1.0597	N/A			
PFOS	(499.0 / 80.0) 20665954 (499.0 / 99.0) 4721319	(9.52, 1.00) (0.00, N/A, 0.1)	133.7 188.6	0.2285 88.7 98.9	54.9958	N/A			E,
PFNS	(549.0 / 80.0) 723586 (549.0 / 99.0) 123352	(9.79, 1.03) (N/A, 0.01, -0.2)	278.1 509.3	0.1705 71.3 67.3	1.6399	N/A			
PFDS	(599.0 / 80.0) 540612 (599.0 / 99.0) 131636	(9.94, 1.04) (N/A, 0.01, 0.1)	460.1 596.2	0.2435 104.7 107.1	0.9783	N/A			
PFDoS	(698.9 / 80.0) 343544 (698.9 / 99.0) 76228	(10.13, 1.06) (N/A, 0.01, 0.3)	683.0 274.5	0.2219 95.8 110.9	1.0482	N/A			
4:2FTS	(327.0 / 307.0) 290084 (327.0 / 81.0) 159304	(5.86, 1.00) (0.00, N/A, 0.0)	801.3 555.4	0.5492 91.9 96.3	3.4208	N/A			
6:2FTS	(427.0 / 407.0) 168230 (427.0 / 81.0) 118482	(7.60, 1.00) (0.00, N/A, 0.1)	689.8 499.9	0.7043 97.9 98.5	3.8373	N/A			
8:2FTS	(527.0 / 507.0) 173385 (527.0 / 81.0) 96315	(9.03, 1.00) (0.00, N/A, -0.2)	487.5 519.3	0.5555 89.1 86.7	4.1343	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 349513 (498.0 / 478.0) 7615	(10.19, 1.00) (0.00, N/A, 0.1)	452.3 2689.0	0.0218 91.3 86.7	0.9570	N/A			
NMeFOFA	(511.9 / 219.0) 301162 (511.9 / 169.0) 201763	(10.61, 1.00) (0.00, N/A, 0.0)	626.6 741.0	0.6700 100.5 102.9	3.9293	N/A			
NEFOFA	(526.0 / 219.0) 304127 (526.0 / 169.0) 338524	(10.70, 1.00) (0.00, N/A, 0.1)	1568.1 1119.3	1.1131 102.1 104.2	3.8253	N/A			
NMeFOSAA	(570.0 / 419.0) 57193 (570.0 / 483.0) 33149	(9.55, 1.00) (0.00, N/A, 0.0)	270.9 218.5	0.5796 124.9 114.4	0.9471	N/A			
NEIFOSAA	(584.0 / 419.0) 64812 (584.0 / 526.0) 39159	(9.72, 1.00) (0.00, N/A, 0.3)	308.1 763.7	0.6042 99.6 102.9	0.9104	N/A			
NMeFOSE	(616.1 / 59.0) 95111	(10.58, 1.00) (0.01, N/A, 0.0)	523.4	N/A 0.0 0.0	3.9692	N/A			
NEtFOSE	(630.0 / 59.0) 24015	(10.68, 1.00) (0.01, N/A, 0.0)	486.6	N/A 0.0 0.0	3.7605	N/A			
HFPO-DA	(285.0 / 169.0) 101430 (285.0 / 185.0) 267263	(6.55, 1.00) (0.00, N/A, 0.1)	322.1 865.6	2.6350 95.0 88.6	1.8914	N/A			
ADONA	(377.0 / 85.0) 386281 (377.0 / 251.0) 53244	(7.45, 1.14) (N/A, 0.00, 0.1)	660.9 238.1	0.1378 109.7 107.7	1.7814	N/A			
9CI-Pf3ONS	(531.0 / 351.0) 1483009 (533.0 / 353.0) 490512	(9.75, 1.49) (N/A, 0.01, 0.1)	974.6 499.9	0.3308 99.1 105.1	2.4854	N/A			
11CI-PF3OUDS	(631.0 / 451.0) 886408 (633.0 / 453.0) 279142	(10.02, 1.53) (N/A, 0.01, 0.0)	678.8 540.9	0.3149 97.3 106.5	2.1591	N/A			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 10663 (241.0 / 117.0) 19941	(4.57, 0.90) (N/A, 0.00, 0.1)	324.4 258.8	1.8702 107.4 111.5	3.0452	N/A			
5:3FTCA	(341.0 / 236.7) 81328 (341.0 / 217.0) 128114	(6.84, 1.10) (N/A, -0.01, 0.0)	283.4 267.8	1.5753 92.2 94.4	3.1507	N/A			
7:3FTCA	(441.0 / 317.0) 99632 (441.0 / 337.0) 80242	(8.68, 1.40) (N/A, 0.01, -0.3)	258.2 483.0	0.8054 97.6 98.0	2.9979	N/A			
PFEESA	(315.0 / 135.0) 262285 (315.0 / 83.0) 78539	(6.67, 1.08) (N/A, -0.01, 0.1)	846.1 337.8	0.2994 100.7 105.1	2.1112	N/A			
PFMPA	(229.0 / 85.0) 37743	(4.25, 0.84) (N/A, -0.01, 0.0)	569.5	N/A 0.0 0.0	1.9230	N/A			
PFMBA	(279.0 / 85.0) 128435	(5.44, 1.08) (N/A, -0.01, 0.0)	781.4	N/A 0.0 0.0	2.0996	N/A			
NFDHA	(201.0 / 85.0) 6049 (295.0 / 201.0) 37224	(6.07, 0.98) (N/A, -0.02, -0.6)	152.4 477.9	6.1538 88.0 87.0	1.9582	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 84350	(3.74, N/A) (N/A, 0.00, N/A)	743.1	N/A	0.8775 [ 1.0000 ]	87.7% { 105.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 130131	(6.20, N/A) (N/A, -0.01, N/A)	741.0	N/A	1.0538 [ 1.0000 ]	105.4% { 111.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 137235	(7.95, N/A) (N/A, 0.00, N/A)	754.0	N/A	1.1576 [ 1.0000 ]	115.8% { 125.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 95975	(8.70, N/A) (N/A, 0.01, N/A)	682.7	N/A	1.0077 [ 1.0000 ]	100.8% { 98.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 105995	(9.38, N/A) (N/A, 0.01, N/A)	251.0	N/A	1.2866 [ 1.0000 ]	128.7% { 121.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 239312	(8.10, N/A) (N/A, 0.00, N/A)	729.5	N/A	1.1150 [ 1.0000 ]	111.5% { 107.3% }			
13C4_PFOS_IIS	(502.8 / 79.9) 177712	(9.52, N/A) (N/A, 0.01, N/A)	471.2	N/A	0.9548 [ 1.0000 ]	95.5% { 83.6% }			
13C4_PFBA_EIS	(217.0 / 172.0) 593882	(3.74, N/A) (N/A, 0.00, N/A)	808.6	N/A	7.5098 [ 8.0000 ]	93.9% { 99.0% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 296582	(5.06, N/A) (N/A, -0.01, N/A)	889.0	N/A	3.1244 [ 4.0000 ]	78.1% { 87.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 241086	(6.19, N/A) (N/A, -0.01, N/A)	878.4	N/A	1.8163 [ 2.0000 ]	90.8% { 99.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 229756	(7.13, N/A) (N/A, 0.00, N/A)	723.6	N/A	1.9177 [ 2.0000 ]	95.9% { 98.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 248114	(7.95, N/A) (N/A, 0.00, N/A)	653.6	N/A	1.7775 [ 2.0000 ]	88.9% { 107.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 104821	(8.70, N/A) (N/A, 0.01, N/A)	687.0	N/A	1.1067 [ 1.0000 ]	110.7% { 112.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 151892	(9.38, N/A) (N/A, 0.02, N/A)	299.9	N/A	0.9865 [ 1.0000 ]	98.7% { 119.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 224152	(9.75, N/A) (N/A, 0.01, N/A)	4407.4	N/A	1.0846 [ 1.0000 ]	108.5% { 124.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 229229	(9.92, N/A) (N/A, 0.01, N/A)	355.7	N/A	0.9139 [ 1.0000 ]	91.4% { 120.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 190246	(10.15, N/A) (N/A, 0.01, N/A)	516.9	N/A	1.0333 [ 1.0000 ]	103.3% { 125.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 812224	(6.17, N/A) (N/A, -0.01, N/A)	1115.1	N/A	2.3094 [ 2.0000 ]	115.5% { 124.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 428120	(8.09, N/A) (N/A, 0.00, N/A)	825.0	N/A	2.1384 [ 2.0000 ]	106.9% { 113.6% }			
13C8_PFOS_EIS	(507.0 / 80.0) 669425	(9.52, N/A) (N/A, 0.01, N/A)	437.9	N/A	2.4710 [ 2.0000 ]	123.6% { 122.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 97098	(5.86, N/A) (N/A, -0.01, N/A)	640.3	N/A	4.8951 [ 4.0000 ]	122.4% { 156.3% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 110550	(7.60, N/A) (N/A, 0.00, N/A)	668.4	N/A	4.1541 [ 4.0000 ]	103.9% { 132.5% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 106821	(9.03, N/A) (N/A, 0.00, N/A)	511.7	N/A	4.6245 [ 4.0000 ]	115.6% { 132.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 657707	(10.19, N/A) (N/A, 0.00, N/A)	694.3	N/A	1.5903 [ 2.0000 ]	79.5% { 79.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 166783	(10.61, N/A) (N/A, 0.01, N/A)	489.0	N/A	1.3628 [ 2.0000 ]	68.1% { 83.5% }			
D5_NEiFOSA_EIS	(531.1 / 169.0) 153539	(10.70, N/A) (N/A, 0.00, N/A)	756.9	N/A	1.3836 [ 2.0000 ]	69.2% { 77.0% }			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0032-MSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-07.dam

Quant Method: 1633 - S2022-12-07A  
 Path: S2022-12-09A (9)  
 Acquired: 2022/12/09 - 14:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 276982	(9.55, N/A) (N/A, 0.02, N/A)	332.4	N/A	4.5955 [ 4.0000 ]	114.9% { 108.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 310323	(9.72, N/A) (N/A, 0.01, N/A)	575.5	N/A	5.9904 [ 4.0000 ]	149.8% { 127.7% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 340874	(10.58, N/A) (N/A, 0.00, N/A)	922.8	N/A	16.3070 [ 20.0000 ]	81.5% { 83.5% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 186526	(10.67, N/A) (N/A, 0.00, N/A)	956.0	N/A	17.5126 [ 20.0000 ]	87.6% { 88.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 645943	(6.55, N/A) (N/A, 0.00, N/A)	865.7	N/A	7.3890 [ 8.0000 ]	92.4% { 102.3% }			

# ANALYSIS DATA SHEET

Blanka

Laboratory:a	APPL, LLCa		Work Order:a	22L0005a			
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa				
M trix:a	Watera	Laboratory ID:a	BBL0249-BLK1a	File ID:a	S2022-12-15C (5)a		
Sampled:a		Prepared:a	12/13/22 09:44a	Analyzed:a	12/16/22 00:51a		
Solids:a		Preparation:a	Table B-15a	Dilution:a	1a		
Batch:a	BBL0249a	Sequence:a	SB03860a	Calibration:a	2251019a	Instrument:a	Saphira
Column:a	1a						

COMPOUNDL	CONC. (ng/L)L	OQL	OD	DL	QL
PFBAa	1.0 Ua	16a	1.0a	0.25a	Ua
PFPEAa	1.0 Ua	8.0a	1.0a	0.31a	Ua
PFHXAa	1.0 Ua	4.0a	1.0a	0.32a	Ua
PFHPAa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFOAa	1.0 Ua	4.0a	1.0a	0.41a	Ua
PFNAa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFDAa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFUnAa	1.0 Ua	4.0a	1.0a	0.40a	Ua
PFDOAa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFTRDAa	1.0 Ua	4.0a	1.0a	0.29a	Ua
PFTEDAa	1.0 Ua	4.0a	1.0a	0.43a	Ua
PFBSa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFPEsa	1.0 Ua	4.0a	1.0a	0.29a	Ua
PFHXsa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFHPSa	1.0 Ua	4.0a	1.0a	0.28a	Ua
PFOSa	1.0 Ua	4.0a	1.0a	0.25a	Ua
PFNSa	2.0 Ua	4.0a	2.0a	1.2a	Ua
PFDSa	1.0 Ua	4.0a	1.0a	0.32a	Ua
4:2FTSa	2.0 Ua	16a	2.0a	0.54a	Ua
6:2FTSa	1.0 Ua	16a	1.0a	0.45a	Ua
8:2FTSa	3.0 Ua	16a	3.0a	1.0a	Ua
PFOSAa	1.0 Ua	16a	1.0a	0.25a	Ua
NMeFOSAa	10 Ua	16a	10a	4.9a	Ua
NEtFOSAa	10 Ua	16a	10a	4.9a	Ua
NMeFOSAAa	1.0 Ua	4.0a	1.0a	0.36a	Ua
NEtFOSAAa	1.0 Ua	4.0a	1.0a	0.25a	Ua
NMeFOSEa	6.0 Ua	16a	6.0a	3.0a	Ua
NEtFOSEa	6.0 Ua	16a	6.0a	3.0a	Ua
HFPO-DAa	5.0 Ua	8.0a	5.0a	2.4a	Ua
ADONa	3.0 Ua	8.0a	3.0a	1.8a	Ua

**ANALYSIS DATA SHEETL**

Blanka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0249-BLK1a
Sampled:a		Prepared:a	12/13/22 09:44a
Solids:a		Preparation:a	Table B-15a
Batch:a	BBL0249a	Sequence:a	SB03860a
Column:a	1a	Calibration:a	2251019a
			Instrument:a Saphira
			File ID:a S2022-12-15C (5)a
			Analyzed:a 12/16/22 00:51a
			Dilution:a 1a

COMPOUNDL	CONC. (ng/L)L	OQL	OD	D	QL
9CL-PF3ONSa	3.0 Ua	8.0a	3.0a	1.2	Ua
11CL-PF3OUDSa	3.0 Ua	8.0a	3.0a	1.2	Ua



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0249-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-13.dam

Quant Method: 1633 - S2022-12-15A  
 Path: S2022-12-15C (5)  
 Acquired: 2022/12/16 - 00:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(262.9 / 219.0) N/A (262.9 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0249-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-13.dam

Quant Method: 1633 - S2022-12-15A  
 Path: S2022-12-15C (5)  
 Acquired: 2022/12/16 - 00:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 298.9 / 80.0 ) N/A ( 298.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 698.9 / 80.0 ) N/A ( 698.9 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0249-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-13.dam

Quant Method: 1633 - S2022-12-15A  
 Path: S2022-12-15C (5)  
 Acquired: 2022/12/16 - 00:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(511.9 / 219.0) N/A (511.9 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.1 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

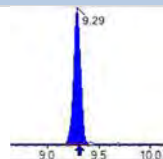
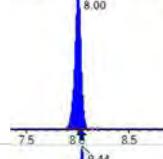
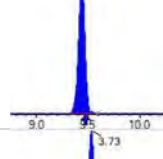
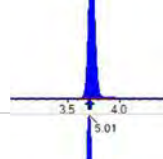
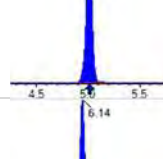
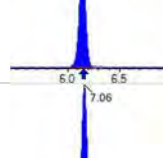
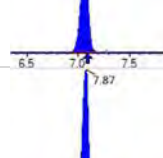
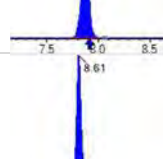
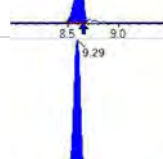
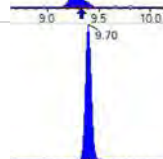
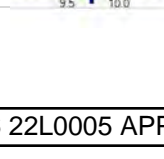


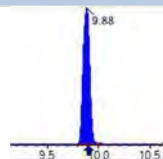
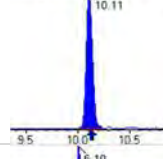
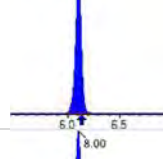
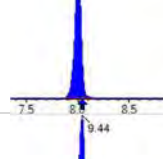
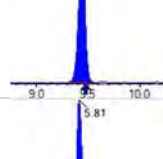
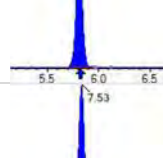
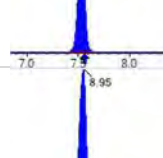
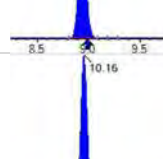
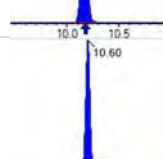
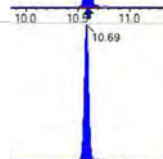
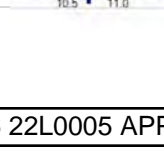
Chemist: ABK  
 Instrument: Saphira  
 Type: Sciex Q3 5500

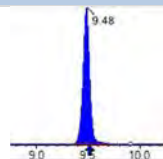
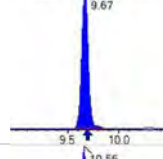
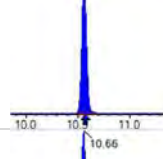
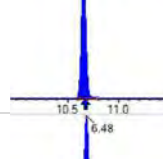
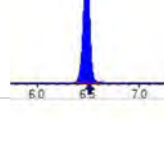
Sample I.D.: BBL0249-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-13.dam

Quant Method: 1633 - S2022-12-15A  
 Path: S2022-12-15C (5)  
 Acquired: 2022/12/16 - 00:51

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(201.0 / 85.0) N/A (295.0 / 201.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 85238	(3.73, N/A) (N/A, 0.05, N/A)	835.0	N/A	0.9749 [ 1.0000 ]	97.5% { 102.4% }			
13C2_PFHxA_IIS	(315.1 / 270.0) 137794	(6.14, N/A) (N/A, 0.01, N/A)	366.1	N/A	1.0473 [ 1.0000 ]	104.7% { 104.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 144520	(7.88, N/A) (N/A, 0.00, N/A)	578.6	N/A	1.1546 [ 1.0000 ]	115.5% { 118.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 102138	(8.61, N/A) (N/A, 0.00, N/A)	408.6	N/A	1.0233 [ 1.0000 ]	102.3% { 106.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 105417	(9.29, N/A) (N/A, 0.00, N/A)	512.9	N/A	1.0165 [ 1.0000 ]	101.7% { 105.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 231147	(8.00, N/A) (N/A, 0.00, N/A)	779.4	N/A	0.9770 [ 1.0000 ]	97.7% { 104.1% }			
13C4_PFOS_IIS	(502.8 / 79.9) 170294	(9.44, N/A) (N/A, 0.00, N/A)	330.5	N/A	0.8488 [ 1.0000 ]	84.9% { 86.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 567263	(3.73, N/A) (N/A, 0.05, N/A)	950.0	N/A	6.4280 [ 8.0000 ]	80.3% { 84.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 330972	(5.01, N/A) (N/A, 0.02, N/A)	865.3	N/A	3.2626 [ 4.0000 ]	81.6% { 87.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 254512	(6.14, N/A) (N/A, 0.01, N/A)	732.8	N/A	1.5690 [ 2.0000 ]	78.5% { 89.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 220372	(7.06, N/A) (N/A, 0.00, N/A)	528.2	N/A	1.5377 [ 2.0000 ]	76.9% { 84.3% }			
13C8_PFOA_EIS	(421.0 / 376.0) 241601	(7.87, N/A) (N/A, 0.00, N/A)	687.6	N/A	1.5129 [ 2.0000 ]	75.6% { 95.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 101418	(8.61, N/A) (N/A, -0.01, N/A)	255.0	N/A	0.9090 [ 1.0000 ]	90.9% { 107.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 109010	(9.29, N/A) (N/A, 0.00, N/A)	359.4	N/A	0.7631 [ 1.0000 ]	76.3% { 83.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 188443	(9.70, N/A) (N/A, 0.00, N/A)	555.2	N/A	0.9162 [ 1.0000 ]	91.6% { 125.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 161576	(9.88, N/A) (N/A, 0.00, N/A)	350.7	N/A	0.6966 [ 1.0000 ]	69.7% { 66.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 105924	(10.11, N/A) (N/A, 0.00, N/A)	311.2	N/A	0.7514 [ 1.0000 ]	75.1% { 79.9% }			
13C3_PFBs_EIS	(302.0 / 80.0) 630172	(6.10, N/A) (N/A, 0.01, N/A)	824.2	N/A	1.6693 [ 2.0000 ]	83.5% { 84.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 328770	(8.00, N/A) (N/A, 0.00, N/A)	933.3	N/A	1.6793 [ 2.0000 ]	84.0% { 91.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 459801	(9.44, N/A) (N/A, 0.00, N/A)	344.4	N/A	1.6437 [ 2.0000 ]	82.2% { 74.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 81139	(5.81, N/A) (N/A, 0.01, N/A)	528.0	N/A	3.8117 [ 4.0000 ]	95.3% { 89.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 96802	(7.53, N/A) (N/A, 0.00, N/A)	775.7	N/A	3.5485 [ 4.0000 ]	88.7% { 87.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 83082	(8.95, N/A) (N/A, 0.00, N/A)	290.6	N/A	3.3971 [ 4.0000 ]	84.9% { 77.9% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 765689	(10.16, N/A) (N/A, 0.00, N/A)	692.3	N/A	1.8808 [ 2.0000 ]	94.0% { 83.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 129336	(10.60, N/A) (N/A, 0.00, N/A)	570.9	N/A	1.2752 [ 2.0000 ]	63.8% { 53.6% }			
D5_NeIFOSA_EIS	(531.1 / 169.0) 103481	(10.69, N/A) (N/A, 0.00, N/A)	725.1	N/A	1.0926 [ 2.0000 ]	54.6% { 44.1% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 246449	(9.48, N/A) (N/A, 0.00, N/A)	218.0	N/A	3.7557 [ 4.0000 ]	93.9% { 89.7% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 257828	(9.67, N/A) (N/A, 0.00, N/A)	282.8	N/A	4.7277 [ 4.0000 ]	118.2% { 106.4% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 344192	(10.56, N/A) (N/A, 0.00, N/A)	1084.1	N/A	17.6422 [ 20.0000 ]	88.2% { 74.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 170640	(10.66, N/A) (N/A, 0.00, N/A)	1090.5	N/A	16.2424 [ 20.0000 ]	81.2% { 62.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 688645	(6.48, N/A) (N/A, 0.01, N/A)	841.1	N/A	6.9727 [ 8.0000 ]	87.2% { 96.5% }			

## ANALYSIS DATA SHEET

## LCSa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0249-BS1a
Sampled:a		Prepared:a	12/13/22 09:44a
Solids:a		Preparation:a	Table B-15a
Batch:a	BBL0249a	Sequence:a	SB03860a
Column:a	1a	Calibration:a	2251019a
		File ID:a	S2022-12-15C (6)a
		Analyzed:a	12/16/22 01:03a
		Dilution:a	1a
		Instrument:a	Saphira

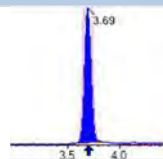
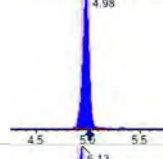
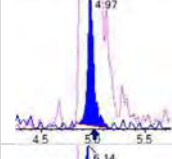
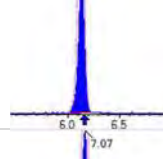
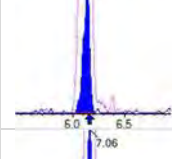
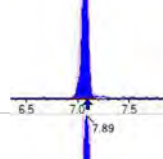
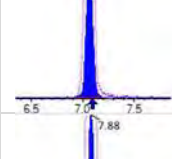
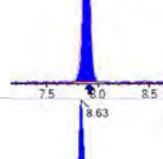
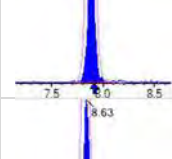
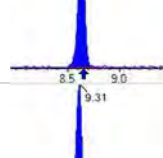
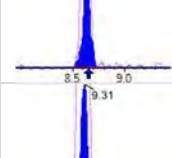
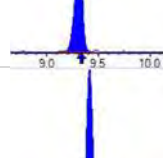
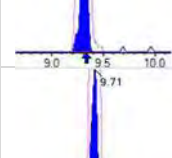
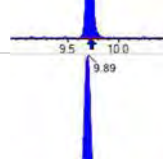
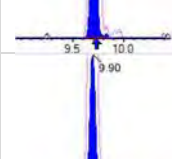
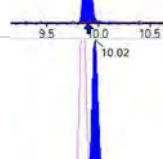
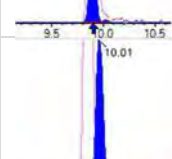
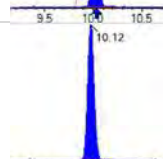
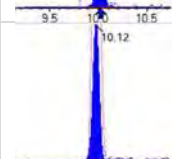
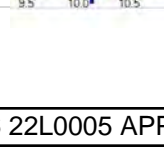
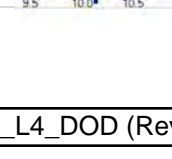
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PFPEAa	91.9a	8.0a	0.31a	
PFHXAa	40.8a	4.0a	0.32a	
PFHPAa	44.6a	4.0a	0.25a	
PFOAa	46.8a	4.0a	0.41a	
PFNAa	55.8a	4.0a	0.25a	BS2a
PFDAa	50.8a	4.0a	0.25a	
PFUnAa	53.5a	4.0a	0.40a	BS2a
PFDOAa	42.5a	4.0a	0.25a	
PFTRDAa	46.2a	4.0a	0.29a	
PFTEDAa	43.6a	4.0a	0.43a	
PFBSa	43.8a	4.0a	0.25a	
PFPEsa	39.8a	4.0a	0.29a	
PFHXsa	38.6a	4.0a	0.25a	
PFHPSa	42.7a	4.0a	0.28a	
PFOSa	44.7a	4.0a	0.25a	
PFNSa	47.0a	4.0a	1.2a	
PFDSa	46.2a	4.0a	0.32a	
4:2FTSa	182a	16a	0.54a	
6:2FTSa	179a	16a	0.45a	
8:2FTSa	216a	16a	1.0a	BS2a
PFOSAa	43.7a	16a	0.25a	
NMeFOSAa	195a	16a	4.9a	
NEtFOSAa	208a	16a	4.9a	
NMeFOSAAa	61.4a	4.0a	0.36a	BS2a
NEtFOSAAa	46.0a	4.0a	0.25a	
NMeFOSEa	182a	16a	3.0a	
NEtFOSEa	201a	16a	3.0a	
HFPO-DAa	85.2a	8.0a	2.4a	
ADONa	84.8a	8.0a	2.4a	

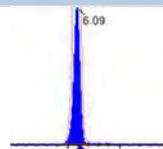
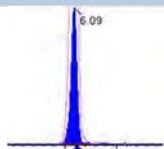
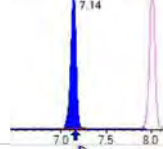
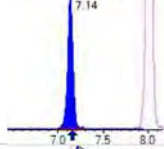
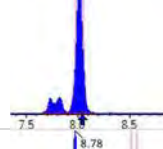
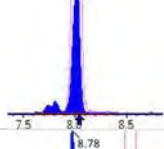
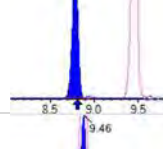
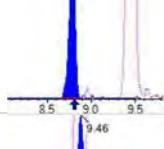
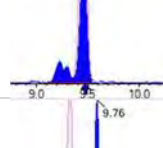
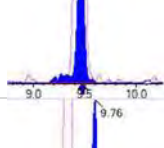
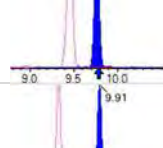
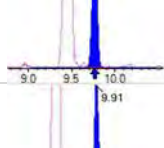
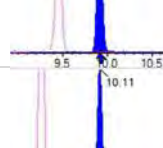
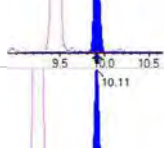
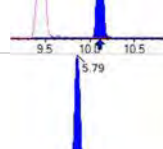
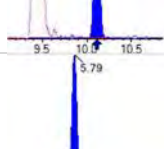
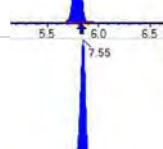
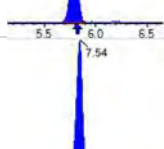
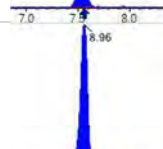
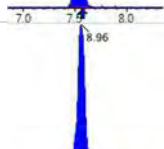

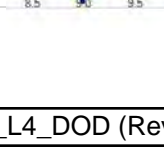
**ANALYSIS DATA SHEET**

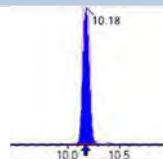
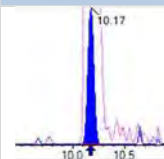
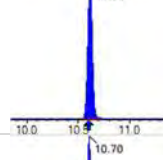
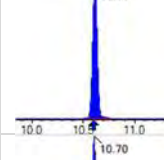
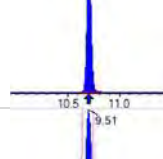
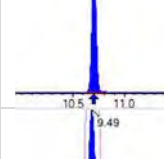
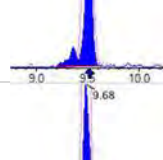
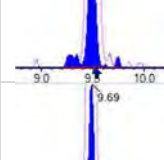
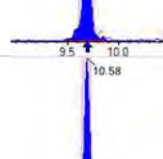
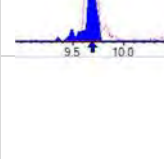
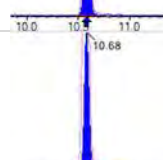
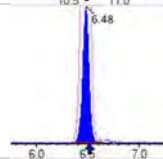
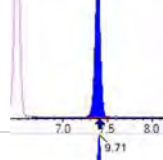
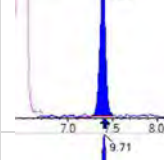
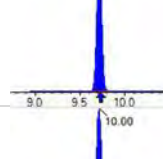
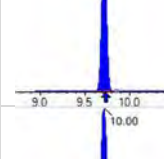
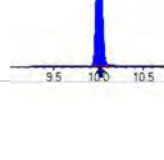
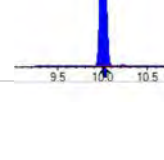
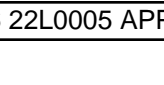
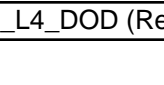
LCSa

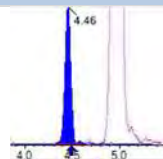
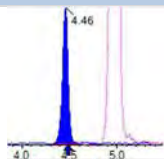
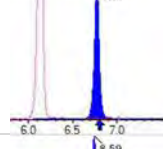
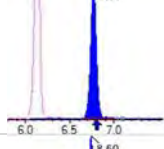
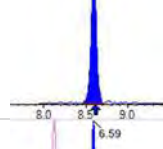
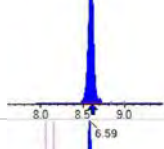
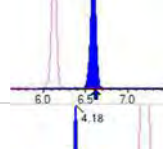
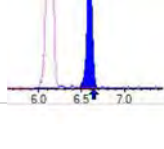
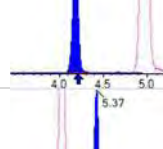
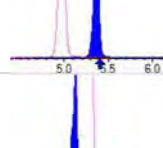
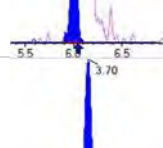
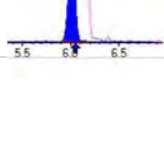
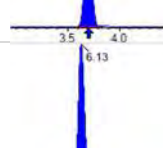
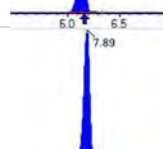
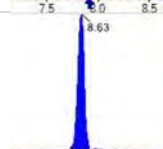
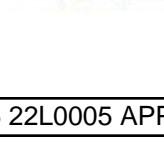
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Matrix:a	Watera	Laboratory ID:a	BBL0249-BS1a
Sampled:a		Prepared:a	12/13/22 09:44a
Solids:a		Preparation:a	Table B-15a
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Column:a	1a	Calibration:a	2251019a
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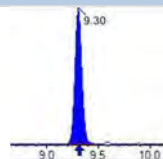
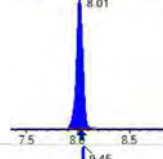
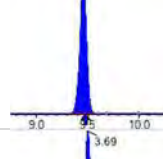
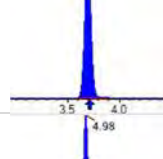
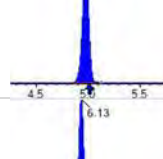
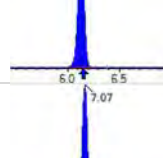
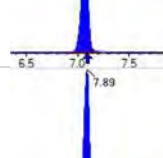
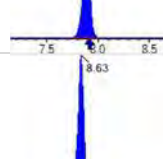
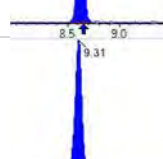
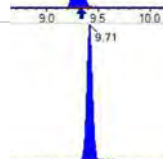
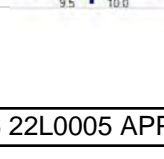
COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
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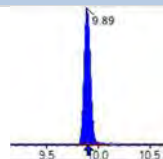
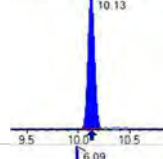
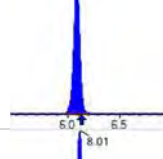
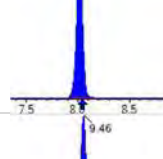
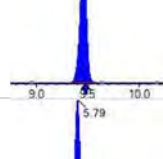
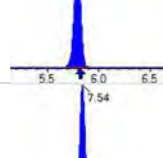
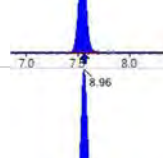
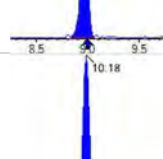
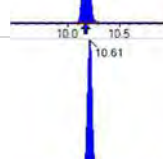
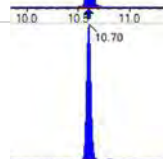
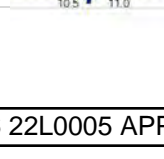
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 262314	(3.69, 1.00) (0.00, N/A, 0.0)	56.3	N/A 0.0 0.0	4.7493 [4.0000]	118.7%			
PFPeA	(262.9 / 219.0) 192496 (262.9 / 69.0) 2073	(4.98, 1.00) (0.00, N/A, 0.2)	643.7 54.0	0.0108 12620.5 88.5	2.2963 [2.0000]	114.8%			
PFHxA	(313.0 / 269.0) 144132 (313.0 / 119.0) 12931	(6.13, 1.00) (0.00, N/A, -0.3)	456.8 156.2	0.0897 91.5 92.5	1.0193 [1.0000]	101.9%			
PFHpA	(363.0 / 319.0) 129227 (363.0 / 169.0) 45829	(7.07, 1.00) (0.00, N/A, 0.3)	371.3 345.2	0.3546 113.5 127.6	1.1162 [1.0000]	111.6%			
PFOA	(413.0 / 369.0) 145593 (413.0 / 169.0) 46501	(7.89, 1.00) (0.00, N/A, 0.2)	388.2 257.3	0.3194 94.8 100.2	1.1695 [1.0000]	116.9%			
PFNA	(463.0 / 419.0) 104057 (463.0 / 169.0) 23290	(8.63, 1.00) (0.00, N/A, -0.2)	285.4 62.4	0.2238 111.5 109.5	1.3954 [1.0000]	139.5%			QC,
PFDA	(513.0 / 469.0) 157335 (513.0 / 169.0) 14790	(9.31, 1.00) (0.00, N/A, -0.1)	308.1 326.4	0.0940 118.1 103.4	1.2709 [1.0000]	127.1%			
PFUnA	(563.0 / 519.0) 184882 (563.0 / 169.0) 16693	(9.72, 1.00) (0.00, N/A, 0.1)	307.1 217.8	0.0903 80.6 105.3	1.3379 [1.0000]	133.8%			QC,
PFDoA	(613.0 / 569.0) 198370 (613.0 / 169.0) 32158	(9.89, 1.00) (0.00, N/A, -0.1)	452.5 179.4	0.1621 129.1 132.5	1.0617 [1.0000]	106.2%			
PFTrDA	(663.0 / 619.0) 178234 (663.0 / 169.0) 39588	(10.02, 1.01) (N/A, 0.01, 0.3)	321.0 216.4	0.2221 106.3 97.4	1.1559 [1.0000]	115.6%			
PFTeDA	(713.0 / 669.0) 147938 (713.0 / 169.0) 35624	(10.12, 1.00) (0.00, N/A, -0.1)	365.7 142.2	0.2408 106.1 135.2	1.0899 [1.0000]	109.0%			

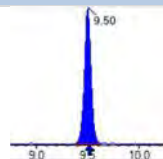
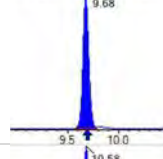
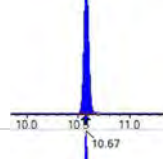
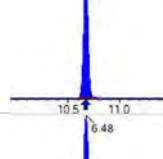
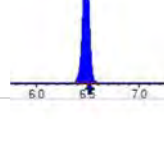
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 218624 (298.9 / 99.0) 148954	(6.09, 1.00) (0.00, N/A, -0.1)	752.0 565.7	0.6813 100.2 102.6	1.0959 [0.8847]	123.9%			
PFPeS	(349.0 / 80.0) 384304 (349.0 / 99.0) 140764	(7.14, 0.89) (N/A, 0.01, 0.1)	865.7 476.5	0.3663 98.1 107.1	0.9947 [0.9384]	106.0%			
PFHxS	(399.0 / 80.0) 315930 (399.0 / 99.0) 107467	(8.01, 1.00) (0.00, N/A, -0.1)	10890.4 305625.4	0.3402 99.2 102.8	0.9646 [0.9110]	105.9%			
PFHpS	(449.0 / 80.0) 283702 (449.0 / 99.0) 75542	(8.78, 0.93) (N/A, 0.02, 0.0)	558.5 362.1	0.2663 90.7 97.8	1.0669 [0.9514]	112.1%			
PFOS	(499.0 / 80.0) 368094 (499.0 / 99.0) 85200	(9.46, 1.00) (0.00, N/A, -0.2)	121.9 140.2	0.2315 101.3 106.7	1.1166 [0.9275]	120.4%			
PFNS	(549.0 / 80.0) 445677 (549.0 / 99.0) 131179	(9.76, 1.03) (N/A, 0.01, 0.0)	654.1 509.6	0.2943 117.9 111.6	1.1757 [0.9599]	122.5%			
PFDS	(599.0 / 80.0) 540151 (599.0 / 99.0) 127206	(9.91, 1.05) (N/A, 0.01, 0.2)	615.0 448.6	0.2355 92.4 107.9	1.1548 [0.9631]	119.9%			
PFDoS	(698.9 / 80.0) 284196 (698.9 / 99.0) 73303	(10.11, 1.07) (N/A, 0.01, 0.0)	735.3 323.5	0.2579 125.5 109.3	1.1640 [0.9696]	120.1%			
4:2FTS	(327.0 / 307.0) 314426 (327.0 / 81.0) 179828	(5.79, 1.00) (0.00, N/A, -0.1)	871.8 503.6	0.5719 114.4 97.0	4.5443 [3.7381]	121.6%			
6:2FTS	(427.0 / 407.0) 178326 (427.0 / 81.0) 146281	(7.55, 1.00) (0.01, N/A, 0.3)	560.6 571.0	0.8203 114.5 117.9	4.4668 [3.7962]	117.7%			
8:2FTS	(527.0 / 507.0) 160298 (527.0 / 81.0) 107443	(8.96, 1.00) (0.00, N/A, -0.1)	476.3 300.1	0.6703 95.3 105.5	5.3906 [3.8332]	140.6%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	( 498.0 / 78.0 ) 506320 ( 498.0 / 478.0 ) 12857	( 10.18 , 1.00 ) ( 0.00 , N/A , 0.0 )	706.1 185.3	0.0254 107.4 109.2	1.0926 [ 1.0000 ]	109.3%			
NMeFOSA	( 511.9 / 219.0 ) 295489 ( 511.9 / 169.0 ) 185372	( 10.61 , 1.00 ) ( 0.00 , N/A , 0.1 )	661.0 958.9	0.6273 90.0 92.8	4.8742 [ 4.0000 ]	121.9%			
NEIFOSA	( 526.0 / 219.0 ) 290432 ( 526.0 / 169.0 ) 310659	( 10.70 , 1.00 ) ( 0.00 , N/A , 0.0 )	1428.2 1184.1	1.0696 95.0 102.1	5.1920 [ 4.0000 ]	129.8%			
NMeFOSAA	( 570.0 / 419.0 ) 74609 ( 570.0 / 483.0 ) 33997	( 9.51 , 1.00 ) ( 0.01 , N/A , 1.1 )	90.8 49986.1	0.4557 97.0 73.6	1.5340 [ 1.0000 ]	153.4%			QC.
NEIFOSAA	( 584.0 / 419.0 ) 69267 ( 584.0 / 526.0 ) 41823	( 9.68 , 1.00 ) ( 0.00 , N/A , -0.1 )	708.6 493.1	0.6038 78.4 91.6	1.1509 [ 1.0000 ]	115.1%			
NMeFOSE	( 616.1 / 59.0 ) 115868	( 10.58 , 1.00 ) ( 0.01 , N/A , 0.0 )	465.3	N/A 0.0 0.0	4.5498 [ 4.0000 ]	113.7%			
NEtFOSE	( 630.0 / 59.0 ) 32051	( 10.68 , 1.00 ) ( 0.01 , N/A , 0.0 )	680.5	N/A 0.0 0.0	5.0203 [ 4.0000 ]	125.5%			
HFPO-DA	( 285.0 / 169.0 ) 120166 ( 285.0 / 185.0 ) 352796	( 6.48 , 1.00 ) ( 0.00 , N/A , -0.1 )	577.6 703.7	2.9359 115.1 106.4	2.1299 [ 2.0000 ]	106.5%			
ADONA	( 377.0 / 85.0 ) 495791 ( 377.0 / 251.0 ) 61245	( 7.39 , 1.14 ) ( N/A , 0.01 , -0.2 )	850.9 195.2	0.1235 98.5 94.9	2.1198 [ 1.8854 ]	112.4%			
9CI-Pf3ONS	( 531.0 / 351.0 ) 1477379 ( 533.0 / 353.0 ) 421247	( 9.71 , 1.50 ) ( N/A , 0.01 , 0.1 )	787.0 652.3	0.2851 90.0 91.0	2.2274 [ 1.8665 ]	119.3%			
11CI-PF3OUDS	( 631.0 / 451.0 ) 800969 ( 633.0 / 453.0 ) 269979	( 10.00 , 1.54 ) ( N/A , 0.02 , 0.0 )	747.3 376.6	0.3371 115.2 110.2	1.8326 [ 1.8864 ]	97.1%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15496 (241.0 / 117.0) 28481	(4.46, 0.90) (N/A, -0.01, -0.1)	400.6 346.2	1.8380 0.1 110.5	4.3099 [4.0000]	107.7%			IR1,
5:3FTCA	(341.0 / 236.7) 137299 (341.0 / 217.0) 192077	(6.77, 1.10) (N/A, 0.01, 0.2)	497.8 440.1	1.3990 88.5 87.7	4.7683 [4.0000]	119.2%			
7:3FTCA	(441.0 / 317.0) 142227 (441.0 / 337.0) 123268	(8.59, 1.40) (N/A, 0.01, -0.1)	277.4 452.7	0.8667 106.6 97.3	4.3768 [4.0000]	109.4%			
PFEESA	(315.0 / 135.0) 316307 (315.0 / 83.0) 81026	(6.59, 1.08) (N/A, 0.00, 0.0)	976.6 356.3	0.2562 90.6 93.1	2.1782 [1.7849]	122.0%			
PFMPA	(229.0 / 85.0) 51725	(4.18, 0.84) (N/A, 0.00, 0.0)	914.5	N/A 0.0 0.0	2.2861 [2.0000]	114.3%			
PFMBA	(279.0 / 85.0) 171295	(5.37, 1.08) (N/A, -0.01, 0.0)	972.3	N/A 0.0 0.0	2.3192 [2.0000]	116.0%			
NFDHA	(201.0 / 85.0) 6869 (295.0 / 201.0) 46347	(6.01, 0.98) (N/A, 0.00, 0.0)	1198.0 409.2	6.7470 0.9 84.6	2.3498 [2.0000]	117.5%			IR1,
13C3_PFBA_IIS	(216.0 / 172.0) 87334	(3.70, N/A) (N/A, 0.01, N/A)	851.6	N/A	0.9989 [1.0000]	99.9% {105.0%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 155506	(6.13, N/A) (N/A, 0.00, N/A)	817.9	N/A	1.1819 [1.0000]	118.2% {117.8%}			
13C4_PFOA_IIS	(417.0 / 372.0) 134698	(7.89, N/A) (N/A, 0.01, N/A)	508.8	N/A	1.0761 [1.0000]	107.6% {110.0%}			
13C5_PFNA_IIS	(468.0 / 423.0) 103100	(8.63, N/A) (N/A, 0.01, N/A)	360.0	N/A	1.0329 [1.0000]	103.3% {107.1%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 109226	(9.30, N/A) (N/A, 0.01, N/A)	455.3	N/A	1.0533 [ 1.0000 ]	105.3% { 109.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 244009	(8.01, N/A) (N/A, 0.01, N/A)	1145.5	N/A	1.0314 [ 1.0000 ]	103.1% { 109.9% }			
13C4_PFOS_IIS	(502.8 / 79.9) 196352	(9.45, N/A) (N/A, 0.02, N/A)	318.1	N/A	0.9787 [ 1.0000 ]	97.9% { 99.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 665281	(3.69, N/A) (N/A, 0.01, N/A)	748.2	N/A	7.3578 [ 8.0000 ]	92.0% { 99.1% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 370363	(4.98, N/A) (N/A, -0.01, N/A)	827.3	N/A	3.2350 [ 4.0000 ]	80.9% { 97.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 311724	(6.13, N/A) (N/A, 0.00, N/A)	748.1	N/A	1.7028 [ 2.0000 ]	85.1% { 109.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 256418	(7.07, N/A) (N/A, 0.01, N/A)	444.9	N/A	1.5854 [ 2.0000 ]	79.3% { 98.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 262706	(7.89, N/A) (N/A, 0.01, N/A)	687.0	N/A	1.7650 [ 2.0000 ]	88.3% { 104.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 88247	(8.63, N/A) (N/A, 0.01, N/A)	449.2	N/A	0.7836 [ 1.0000 ]	78.4% { 93.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 134283	(9.31, N/A) (N/A, 0.01, N/A)	2197.3	N/A	0.9073 [ 1.0000 ]	90.7% { 102.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 185419	(9.71, N/A) (N/A, 0.01, N/A)	346.4	N/A	0.8701 [ 1.0000 ]	87.0% { 123.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 233258	(9.89, N/A) (N/A, 0.02, N/A)	367.8	N/A	0.9706 [ 1.0000 ]	97.1% { 96.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 141826	(10.13, N/A) (N/A, 0.01, N/A)	283.9	N/A	0.9710 [ 1.0000 ]	97.1% { 107.0% }			
13C3_PFBs_EIS	(302.0 / 80.0) 730385	(6.09, N/A) (N/A, 0.00, N/A)	838.3	N/A	1.8328 [ 2.0000 ]	91.6% { 98.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 411893	(8.01, N/A) (N/A, 0.01, N/A)	981.9	N/A	1.9930 [ 2.0000 ]	99.7% { 114.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 599867	(9.46, N/A) (N/A, 0.02, N/A)	414.7	N/A	1.8598 [ 2.0000 ]	93.0% { 96.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 86783	(5.79, N/A) (N/A, -0.01, N/A)	646.5	N/A	3.8620 [ 4.0000 ]	96.5% { 95.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 103424	(7.54, N/A) (N/A, 0.01, N/A)	491.6	N/A	3.5914 [ 4.0000 ]	89.8% { 93.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 81151	(8.96, N/A) (N/A, 0.01, N/A)	292.0	N/A	3.1433 [ 4.0000 ]	78.6% { 76.1% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 931134	(10.18, N/A) (N/A, 0.01, N/A)	976.2	N/A	1.9836 [ 2.0000 ]	99.2% { 101.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 151966	(10.61, N/A) (N/A, 0.01, N/A)	734.2	N/A	1.2995 [ 2.0000 ]	65.0% { 63.0% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 122684	(10.70, N/A) (N/A, 0.01, N/A)	1000.6	N/A	1.1235 [ 2.0000 ]	56.2% { 52.2% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 268443	(9.50, N/A) (N/A, 0.01, N/A)	369.2	N/A	3.5480 [ 4.0000 ]	88.7% { 97.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 267057	(9.68, N/A) (N/A, 0.01, N/A)	381.3	N/A	4.2470 [ 4.0000 ]	106.2% { 110.2% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 400001	(10.58, N/A) (N/A, 0.02, N/A)	869.3	N/A	17.7819 [ 20.0000 ]	88.9% { 86.9% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 200026	(10.67, N/A) (N/A, 0.01, N/A)	1305.3	N/A	16.5128 [ 20.0000 ]	82.6% { 73.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 738683	(6.48, N/A) (N/A, 0.00, N/A)	796.1	N/A	6.6275 [ 8.0000 ]	82.8% { 103.5% }			

# ANALYSIS DATA SHEET

## LCS Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Watera	Laboratory ID:a	BBL0249-BSD1a
		File ID:a	S2022-12-15C (7)a
Sampled:a		Prepared:a	12/13/22 09:44a
		Analyzed:a	12/16/22 01:16a
Solids:a		Preparation:a	Table B-15a
		Dilution:a	1a
Batch:a	BBL0249a	Sequence:a	SB03860a
		Calibration:a	2251019a
Column:a	1a	Instrument:a	Saphira

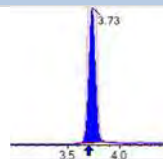
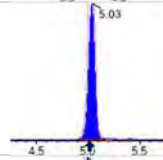
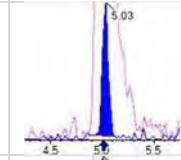
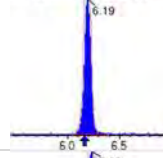
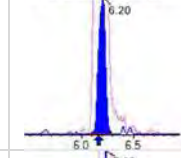
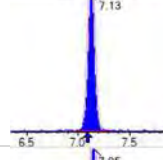
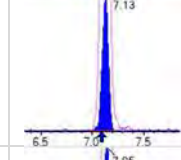
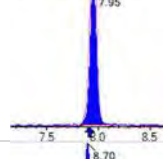
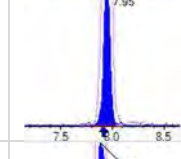
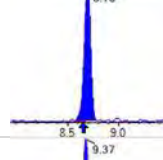
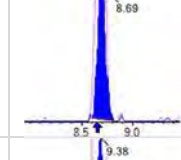
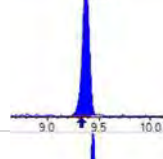
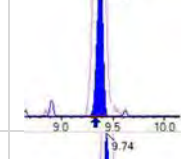
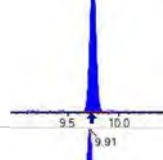
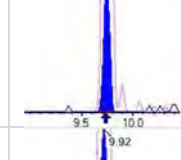
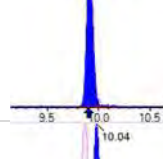
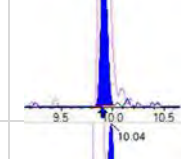
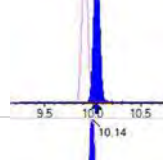
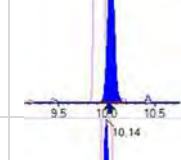
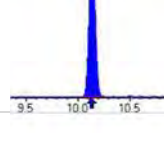
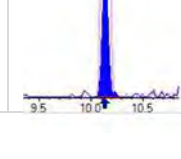
COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
PFBAa	180a	16a	0.25a	
PFPEAa	91.0a	8.0a	0.31a	
PFHXAa	46.6a	4.0a	0.32a	
PFHPAa	47.4a	4.0a	0.25a	
PFOAa	47.9a	4.0a	0.41a	
PFNAa	49.1a	4.0a	0.25a	
PFDAa	40.3a	4.0a	0.25a	
PFUnAa	51.9a	4.0a	0.40a	
PFDOAa	44.2a	4.0a	0.25a	
PFTRDAa	56.1a	4.0a	0.29a	
PFTEDAa	35.3a	4.0a	0.43a	
PFBSa	40.4a	4.0a	0.25a	
PFPESa	42.5a	4.0a	0.29a	
PFHXSa	41.4a	4.0a	0.25a	
PFHPSa	40.0a	4.0a	0.28a	
PFOSa	41.9a	4.0a	0.25a	
PFNSa	45.6a	4.0a	1.2a	
PFDSa	41.0a	4.0a	0.32a	
4:2FTSa	178a	16a	0.54a	
6:2FTSa	185a	16a	0.45a	
8:2FTSa	205a	16a	1.0a	
PFOSAa	45.4a	16a	0.25a	
NMeFOSAa	203a	16a	4.9a	
NEtFOSAa	175a	16a	4.9a	
NMeFOSAAa	48.5a	4.0a	0.36a	
NEtFOSAAa	44.9a	4.0a	0.25a	
NMeFOSEa	185a	16a	3.0a	
NEtFOSEa	204a	16a	3.0a	
HFPO-DAa	89.0a	8.0a	2.4a	
ADONa	86.7a	8.0a	1.8a	

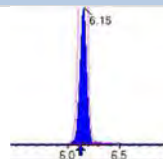
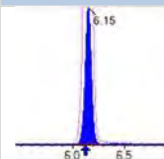
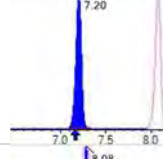
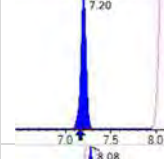
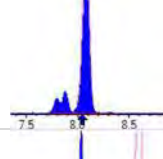
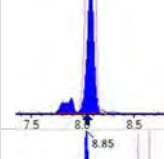
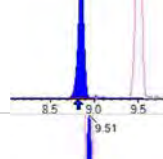
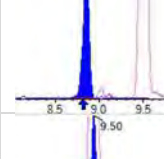
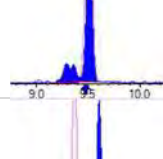
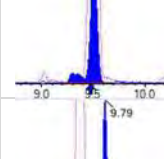
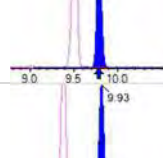
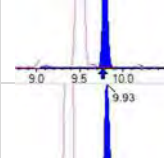
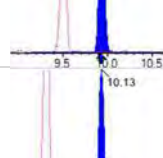
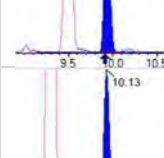
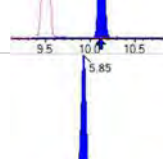
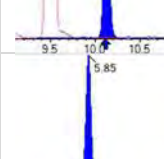
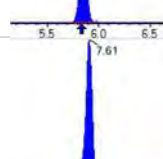
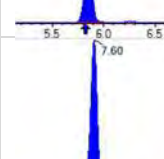
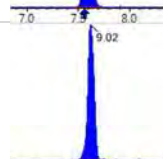
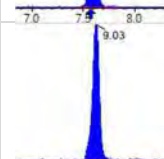
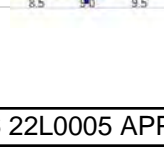
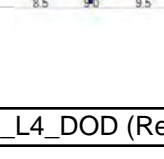
**ANALYSIS DATA SHEET**

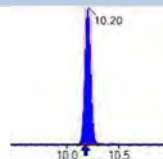
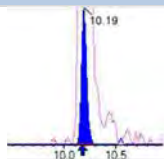
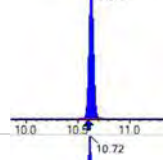
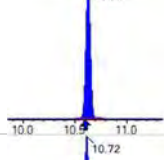
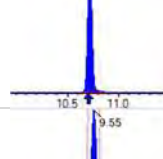
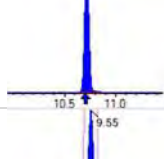
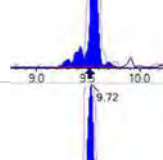
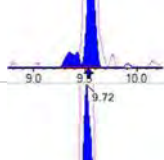
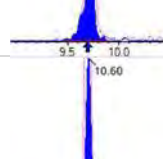
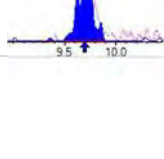
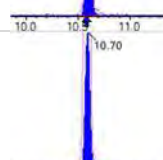
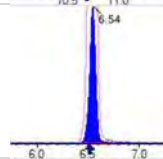
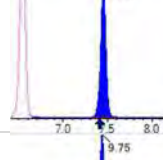
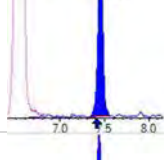
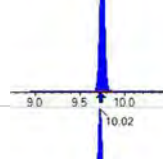
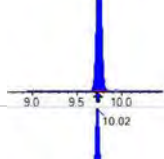
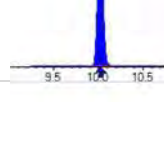
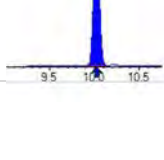
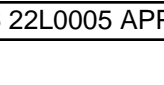
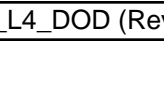
## LCS Dupa

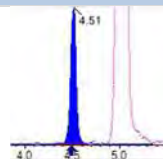
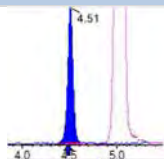
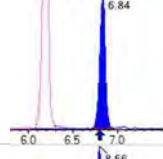
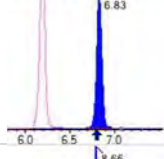
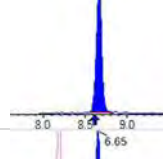
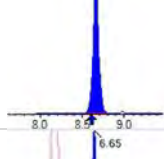
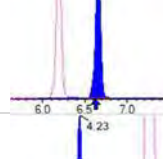
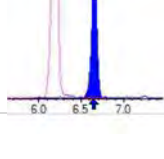
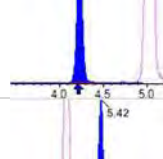
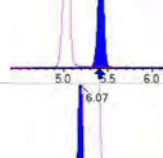
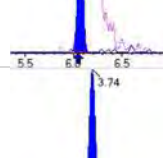
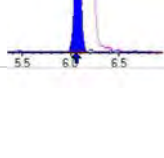
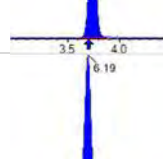
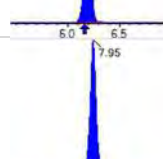
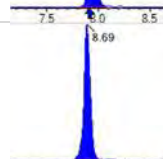
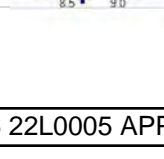
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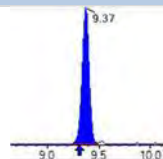
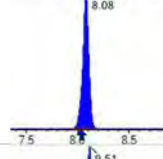
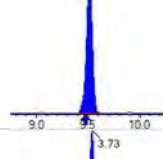
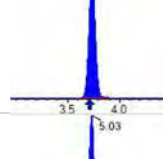
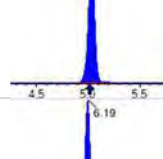
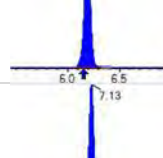
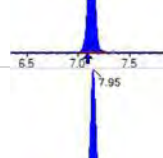
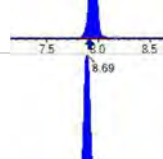
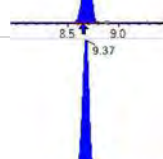
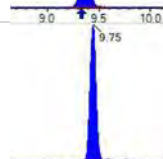
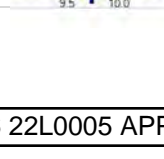
COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
9CL-PF3ONSa	83.8a	8.0a	1.2a	
11CL-PF3OUDSa	81.4a	8.0a	1.2a	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 245613	(3.73, 1.00) (0.00, N/A, 0.0)	63.5	N/A 0.0 0.0	4.5007 [4.0000]	112.5%			
PFPeA	(262.9 / 219.0) 181168 (262.9 / 69.0) 2165	(5.03, 1.00) (0.00, N/A, 0.4)	603.5 81.7	0.0120 14004.3 98.2	2.2738 [2.0000]	113.7%			
PFHxA	(313.0 / 269.0) 152757 (313.0 / 119.0) 14236	(6.19, 1.00) (0.00, N/A, -0.3)	340.9 145.3	0.0932 95.0 96.0	1.1643 [1.0000]	116.4%			
PFHpA	(363.0 / 319.0) 135798 (363.0 / 169.0) 37857	(7.13, 1.00) (0.00, N/A, -0.1)	390.6 524.3	0.2788 89.2 100.3	1.1852 [1.0000]	118.5%			
PFOA	(413.0 / 369.0) 139499 (413.0 / 169.0) 39718	(7.95, 1.00) (0.00, N/A, 0.2)	323.8 242.0	0.2847 84.5 89.3	1.1980 [1.0000]	119.8%			
PFNA	(463.0 / 419.0) 102067 (463.0 / 169.0) 19711	(8.70, 1.00) (0.01, N/A, 0.1)	225.8 37.3	0.1931 96.2 94.4	1.2278 [1.0000]	122.8%			
PFDA	(513.0 / 469.0) 125809 (513.0 / 169.0) 11909	(9.37, 1.00) (0.00, N/A, -0.1)	215.2 195.3	0.0947 119.0 104.1	1.0087 [1.0000]	100.9%			
PFUnA	(563.0 / 519.0) 173283 (563.0 / 169.0) 12248	(9.74, 1.00) (0.00, N/A, 0.1)	356.6 86.4	0.0707 63.1 82.4	1.2968 [1.0000]	129.7%			
PFDoA	(613.0 / 569.0) 186094 (613.0 / 169.0) 19803	(9.91, 1.00) (0.00, N/A, -0.2)	403.3 124.7	0.1064 84.7 87.0	1.1042 [1.0000]	110.4%			
PFTrDA	(663.0 / 619.0) 195009 (663.0 / 169.0) 37484	(10.04, 1.01) (N/A, 0.03, -0.2)	593.3 394.5	0.1922 91.9 84.3	1.4021 [1.0000]	140.2%			QC,
PFTeDA	(713.0 / 669.0) 125688 (713.0 / 169.0) 24116	(10.14, 1.00) (0.00, N/A, -0.1)	454.0 102.7	0.1919 84.5 107.7	0.8837 [1.0000]	88.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 191686 (298.9 / 99.0) 121319	(6.15, 1.00) (0.00, N/A, 0.0)	559.5 655.7	0.6329 93.1 95.3	1.0109 [0.8847]	114.3%			
PFPeS	(349.0 / 80.0) 377588 (349.0 / 99.0) 135473	(7.20, 0.89) (N/A, 0.07, 0.1)	1064.0 776.9	0.3588 96.1 104.9	1.0622 [0.9384]	113.2%			
PFHxS	(399.0 / 80.0) 312197 (399.0 / 99.0) 104484	(8.08, 1.00) (0.00, N/A, 0.2)	9838.5 592.7	0.3347 97.6 101.1	1.0360 [0.9110]	113.7%			
PFHpS	(449.0 / 80.0) 276523 (449.0 / 99.0) 73087	(8.85, 0.93) (N/A, 0.08, -0.2)	486.9 279.4	0.2643 90.1 97.1	0.9992 [0.9514]	105.0%			
PFOS	(499.0 / 80.0) 359577 (499.0 / 99.0) 83422	(9.51, 1.00) (0.00, N/A, 0.1)	127.4 123.6	0.2320 101.5 106.9	1.0481 [0.9275]	113.0%			
PFNS	(549.0 / 80.0) 450198 (549.0 / 99.0) 107502	(9.79, 1.03) (N/A, 0.04, -0.1)	606.5 365.9	0.2388 95.7 90.6	1.1411 [0.9599]	118.9%			
PFDS	(599.0 / 80.0) 498383 (599.0 / 99.0) 123152	(9.93, 1.04) (N/A, 0.03, 0.0)	660.0 376.1	0.2471 96.9 113.2	1.0238 [0.9631]	106.3%			
PFDoS	(698.9 / 80.0) 286796 (698.9 / 99.0) 63279	(10.13, 1.07) (N/A, 0.03, -0.1)	540.1 275.3	0.2206 107.4 93.5	1.1287 [0.9696]	116.4%			
4:2FTS	(327.0 / 307.0) 312996 (327.0 / 81.0) 167238	(5.85, 1.00) (0.00, N/A, 0.1)	713.0 419.5	0.5343 106.9 90.6	4.4548 [3.7381]	119.2%			
6:2FTS	(427.0 / 407.0) 192083 (427.0 / 81.0) 130063	(7.61, 1.00) (0.00, N/A, 0.1)	573.9 522.8	0.6771 94.5 97.3	4.6154 [3.7962]	121.6%			
8:2FTS	(527.0 / 507.0) 165094 (527.0 / 81.0) 91524	(9.02, 1.00) (0.00, N/A, -0.1)	450.8 270.9	0.5544 78.8 87.2	5.1195 [3.8332]	133.6%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 497653 (498.0 / 478.0) 9942	(10.20, 1.00) (0.00, N/A, 0.5)	861.6 33326.4	0.0200 84.5 85.9	1.1357 [1.0000]	113.6%			
NMeFOSA	(511.9 / 219.0) 220525 (511.9 / 169.0) 152768	(10.63, 1.00) (0.00, N/A, 0.1)	918.0 1010.5	0.6927 99.4 102.5	5.0683 [4.0000]	126.7%			
NEIFOSA	(526.0 / 219.0) 192169 (526.0 / 169.0) 214715	(10.72, 1.00) (0.00, N/A, 0.1)	1137.9 922.1	1.1173 99.2 106.7	4.3775 [4.0000]	109.4%			
NMeFOSAA	(570.0 / 419.0) 62243 (570.0 / 483.0) 32585	(9.55, 1.00) (0.01, N/A, 0.1)	158.5 69259.4	0.5235 111.5 84.6	1.2137 [1.0000]	121.4%			
NEIFOSAA	(584.0 / 419.0) 69807 (584.0 / 526.0) 33509	(9.72, 1.00) (0.01, N/A, 0.3)	7863.9 5783.0	0.4800 62.3 72.9	1.1223 [1.0000]	112.2%			
NMeFOSE	(616.1 / 59.0) 106374	(10.60, 1.00) (0.01, N/A, 0.0)	545.2	N/A 0.0 0.0	4.6204 [4.0000]	115.5%			
NEtFOSE	(630.0 / 59.0) 29040	(10.70, 1.00) (0.01, N/A, 0.0)	747.6	N/A 0.0 0.0	5.1019 [4.0000]	127.5%			
HFPO-DA	(285.0 / 169.0) 118540 (285.0 / 185.0) 325042	(6.54, 1.00) (0.00, N/A, 0.0)	796.1 656.5	2.7421 107.5 99.3	2.2256 [2.0000]	111.3%			
ADONA	(377.0 / 85.0) 478461 (377.0 / 251.0) 59899	(7.45, 1.14) (N/A, 0.07, 0.0)	951.6 194.5	0.1252 99.8 96.2	2.1670 [1.8854]	114.9%			
9CI-Pf3ONS	(531.0 / 351.0) 1311879 (533.0 / 353.0) 408138	(9.75, 1.49) (N/A, 0.04, 0.0)	1032.5 574.9	0.3111 98.2 99.2	2.0952 [1.8665]	112.3%			
11CI-PF3OUDS	(631.0 / 451.0) 840008 (633.0 / 453.0) 250463	(10.02, 1.53) (N/A, 0.03, -0.2)	669.3 586.7	0.2982 101.9 97.4	2.0359 [1.8864]	107.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 15925 (241.0 / 117.0) 26689	(4.51, 0.90) (N/A, 0.04, 0.2)	433.8 384.9	1.6759 0.1 100.7	4.6600 [4.0000]	116.5%			IR1,
5:3FTCA	(341.0 / 236.7) 114645 (341.0 / 217.0) 204048	(6.84, 1.10) (N/A, 0.07, 0.3)	377.6 561.1	1.7798 112.7 111.6	4.2914 [4.0000]	107.3%			
7:3FTCA	(441.0 / 317.0) 136307 (441.0 / 337.0) 114525	(8.66, 1.40) (N/A, 0.08, 0.2)	263.5 421.2	0.8402 103.3 94.3	4.5211 [4.0000]	113.0%			
PFEESA	(315.0 / 135.0) 256326 (315.0 / 83.0) 86697	(6.65, 1.07) (N/A, 0.07, 0.0)	748.1 450.4	0.3382 119.7 122.9	1.9025 [1.7849]	106.6%			
PFMPA	(229.0 / 85.0) 49089	(4.23, 0.84) (N/A, 0.04, 0.0)	1023.6	N/A 0.0 0.0	2.2826 [2.0000]	114.1%			
PFMBA	(279.0 / 85.0) 175785	(5.42, 1.08) (N/A, 0.05, 0.0)	1187.3	N/A 0.0 0.0	2.5039 [2.0000]	125.2%			
NFDHA	(201.0 / 85.0) 6976 (295.0 / 201.0) 44626	(6.07, 0.98) (N/A, 0.05, 0.0)	127.5 382.9	6.3972 0.8 80.2	2.5830 [2.0000]	129.2%			IR1,
13C3_PFBA_IIS	(216.0 / 172.0) 88320	(3.74, N/A) (N/A, 0.05, N/A)	819.2	N/A	1.0102 [1.0000]	101.0% {106.1%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 132214	(6.19, N/A) (N/A, 0.06, N/A)	470.5	N/A	1.0049 [1.0000]	100.5% {100.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 131775	(7.95, N/A) (N/A, 0.07, N/A)	520.7	N/A	1.0528 [1.0000]	105.3% {107.6%}			
13C5_PFNA_IIS	(468.0 / 423.0) 103847	(8.69, N/A) (N/A, 0.07, N/A)	314.7	N/A	1.0404 [1.0000]	104.0% {107.9%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 99850	(9.37, N/A) (N/A, 0.08, N/A)	276.6	N/A	0.9628 [ 1.0000 ]	96.3% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 242831	(8.08, N/A) (N/A, 0.08, N/A)	810.0	N/A	1.0264 [ 1.0000 ]	102.6% { 109.4% }			
13C4_PFOS_IIS	(502.8 / 79.9) 209621	(9.51, N/A) (N/A, 0.07, N/A)	490.9	N/A	1.0449 [ 1.0000 ]	104.5% { 106.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 657336	(3.73, N/A) (N/A, 0.05, N/A)	1033.0	N/A	7.1887 [ 8.0000 ]	89.9% { 97.9% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 352023	(5.03, N/A) (N/A, 0.05, N/A)	748.4	N/A	3.6165 [ 4.0000 ]	90.4% { 92.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 289215	(6.19, N/A) (N/A, 0.06, N/A)	538.6	N/A	1.8582 [ 2.0000 ]	92.9% { 101.5% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 253777	(7.13, N/A) (N/A, 0.07, N/A)	569.9	N/A	1.8455 [ 2.0000 ]	92.3% { 97.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 245710	(7.95, N/A) (N/A, 0.07, N/A)	786.3	N/A	1.6875 [ 2.0000 ]	84.4% { 97.5% }			
13C9_PFNA_EIS	(472.0 / 427.0) 98379	(8.69, N/A) (N/A, 0.07, N/A)	540.3	N/A	0.8673 [ 1.0000 ]	86.7% { 104.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 135282	(9.37, N/A) (N/A, 0.08, N/A)	471.3	N/A	0.9999 [ 1.0000 ]	100.0% { 103.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 179288	(9.75, N/A) (N/A, 0.04, N/A)	326.6	N/A	0.9203 [ 1.0000 ]	92.0% { 119.8% }			

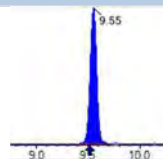
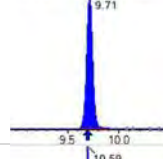
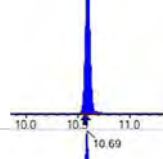
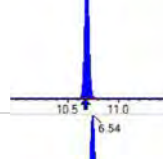
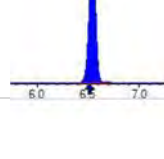


Chemist: ABK  
Instrument: Saphira  
Type: Sciex Q3 5500

Sample I.D.: BBL0249-BSD1  
DF, IV: 1, 10.0µL  
Acquisition Method: 1633 2022-12-13.dam

Quant Method: 1633 - S2022-12-15A  
Path: S2022-12-15C (7)  
Acquired: 2022/12/16 - 01:16

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 210401	(9.92, N/A) (N/A, 0.04, N/A)	514.8	N/A	0.9577 [ 1.0000 ]	95.8% { 87.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 148610	(10.14, N/A) (N/A, 0.03, N/A)	371.1	N/A	1.1129 [ 1.0000 ]	111.3% { 112.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 694262	(6.15, N/A) (N/A, 0.06, N/A)	817.5	N/A	1.7506 [ 2.0000 ]	87.5% { 93.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 378961	(8.08, N/A) (N/A, 0.08, N/A)	886.6	N/A	1.8426 [ 2.0000 ]	92.1% { 105.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 624310	(9.51, N/A) (N/A, 0.07, N/A)	483.9	N/A	1.8131 [ 2.0000 ]	90.7% { 100.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 88124	(5.85, N/A) (N/A, 0.05, N/A)	681.9	N/A	3.9406 [ 4.0000 ]	98.5% { 96.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 107817	(7.61, N/A) (N/A, 0.08, N/A)	740.7	N/A	3.7621 [ 4.0000 ]	94.1% { 97.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 88003	(9.03, N/A) (N/A, 0.08, N/A)	328.8	N/A	3.4252 [ 4.0000 ]	85.6% { 82.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 880520	(10.20, N/A) (N/A, 0.04, N/A)	739.4	N/A	1.7571 [ 2.0000 ]	87.9% { 96.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 109069	(10.63, N/A) (N/A, 0.03, N/A)	478.6	N/A	0.8736 [ 2.0000 ]	43.7% { 45.2% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 96280	(10.72, N/A) (N/A, 0.03, N/A)	556.5	N/A	0.8259 [ 2.0000 ]	41.3% { 41.0% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 283058	(9.55, N/A) (N/A, 0.07, N/A)	420.5	N/A	3.5043 [ 4.0000 ]	87.6% { 103.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 275995	(9.71, N/A) (N/A, 0.04, N/A)	326.3	N/A	4.1113 [ 4.0000 ]	102.8% { 113.9% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 361611	(10.59, N/A) (N/A, 0.03, N/A)	999.0	N/A	15.0578 [ 20.0000 ]	75.3% { 78.6% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 178335	(10.69, N/A) (N/A, 0.03, N/A)	1145.0	N/A	13.7903 [ 20.0000 ]	69.0% { 65.8% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 697332	(6.54, N/A) (N/A, 0.07, N/A)	934.4	N/A	7.3586 [ 8.0000 ]	92.0% { 97.7% }			

# ANALYSIS DATA SHEET

## MRL Checka

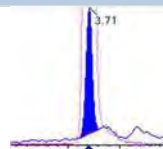
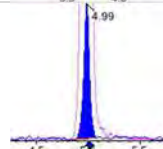
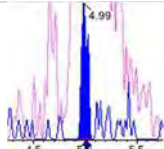
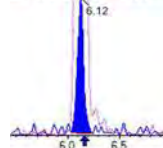
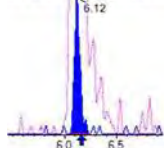
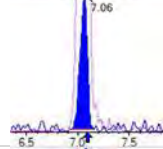
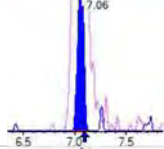
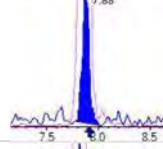
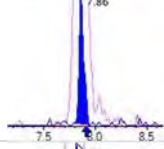
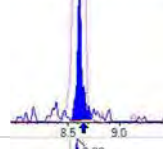
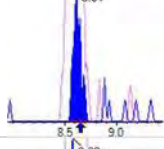
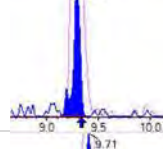
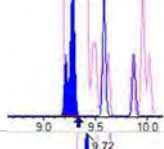
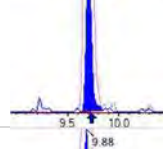
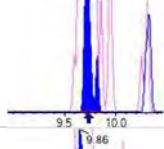
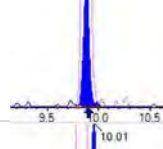
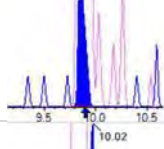
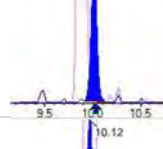
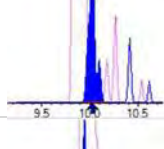
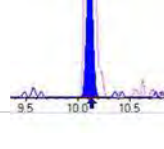
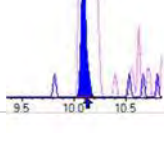
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Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Watera	Laboratory ID:a	BBL0249-MRL1a
Sampled:a		Prepared:a	12/13/22 09:44a
Solids:a		Analyzed:a	12/16/22 01:29a
Batch:a	BBL0249a	Preparation:a	Table B-15a
Column:a	1a	Dilution:a	1a
		Sequence:a	SB03860a
		Calibration:a	2251019a
		Instrument:a	Saphira

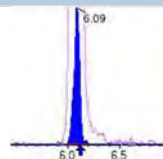
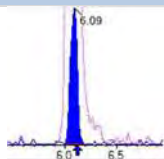
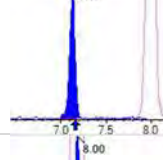
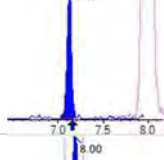
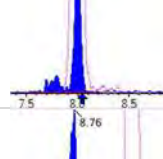
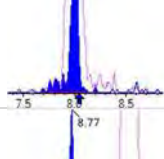
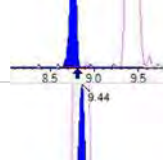
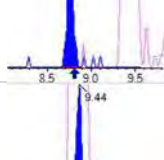
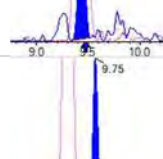
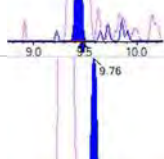
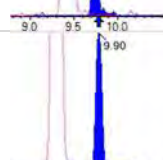
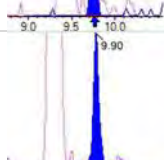
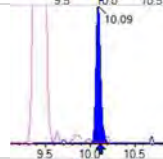
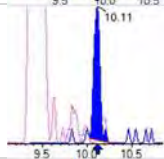
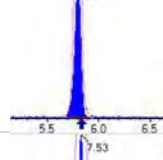
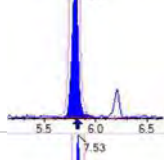
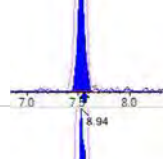
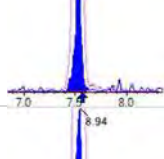
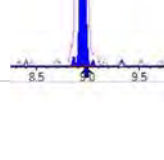
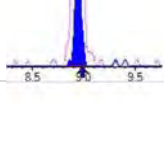
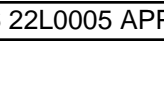
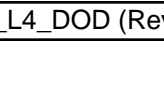
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PFPEAa	8.72a	8.0a	0.31a	
PFHXAa	4.29a	4.0a	0.32a	IR2a
PFHPAa	4.93a	4.0a	0.25a	
PFOAa	5.03a	4.0a	0.41a	
PFNAa	4.58a	4.0a	0.25a	IR2a
PFDAa	4.35a	4.0a	0.25a	
PFUnAa	4.67a	4.0a	0.40a	
PFDOAa	5.50a	4.0a	0.25a	BS2a
PFTRDAa	5.29a	4.0a	0.29a	
PFTEDAa	3.32a	4.0a	0.43a	Ja
PFBSa	3.97a	4.0a	0.25a	Ja
PFPESa	3.89a	4.0a	0.29a	Ja
PFHXSa	4.31a	4.0a	0.25a	
PFHPSa	3.66a	4.0a	0.28a	Ja
PFOSa	3.00a	4.0a	0.25a	Ja
PFNSa	4.87a	4.0a	1.2a	
PFDSa	3.89a	4.0a	0.32a	Ja
4:2FTSa	16.5a	16a	0.54a	
6:2FTSa	16.7a	16a	0.45a	
8:2FTSa	13.7a	16a	1.0a	Ja
PFOSAa	8.00a	16a	0.25a	BS2, Ja
NMeFOSAa	14.0a	16a	4.9a	Ja
NEtFOSAa	15.0a	16a	4.9a	Ja
NMeFOSAAa	5.01a	4.0a	0.36a	IR1a
NEtFOSAAa	2.46a	4.0a	0.25a	Ja
NMeFOSEa	17.6a	16a	3.0a	
NEtFOSEa	16.8a	16a	3.0a	
HFPO-DAa	10.3a	8.0a	2.4a	
ADONa	6.74a	8.0a	1.8a	

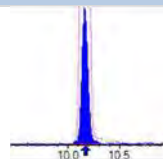
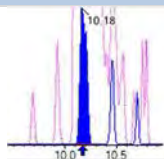
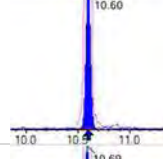
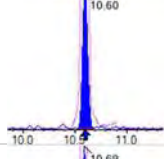
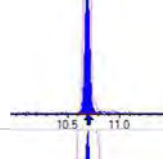
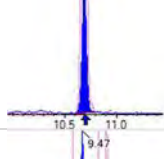
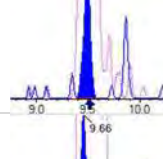
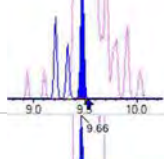
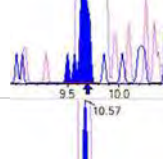
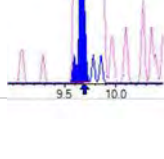
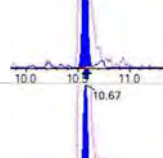
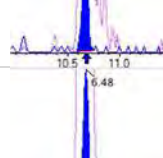
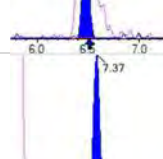
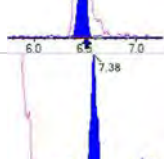
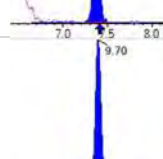
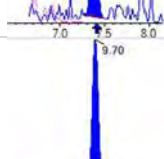
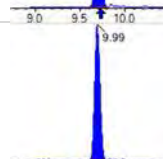
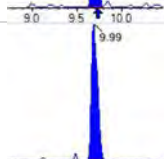
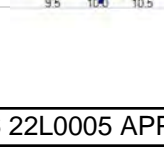
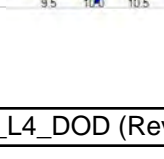
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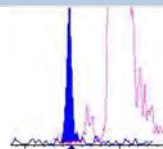
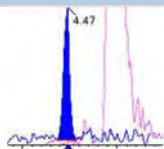
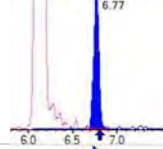
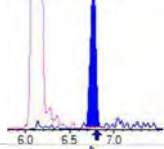
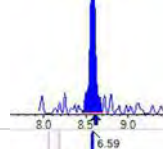
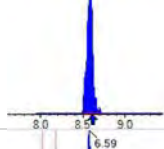
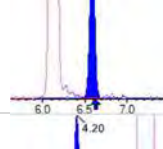
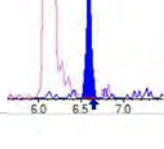
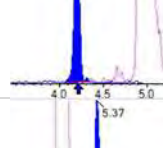
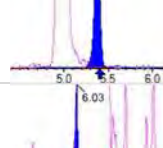
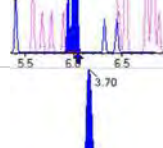
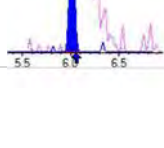
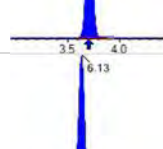
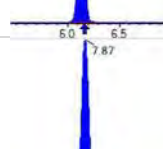
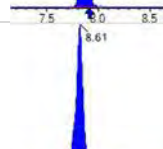
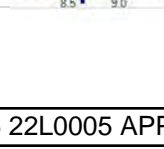
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Sampled:a		File ID:a	S2022-12-15C (8)a
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Column:a	1a	Preparation:a	Table B-15a
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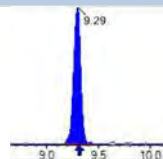
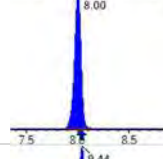
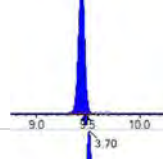
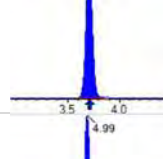
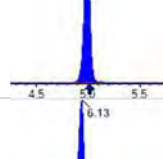
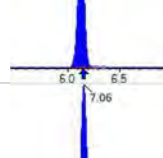
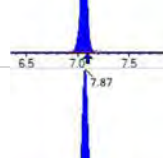
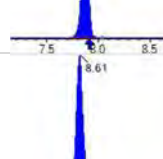
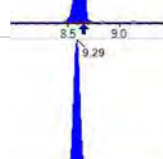
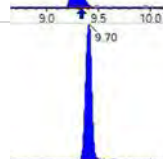
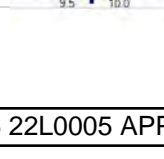
COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
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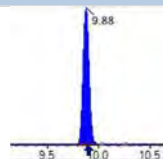
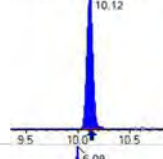
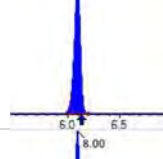
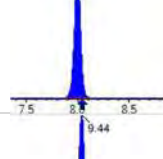
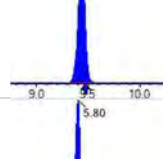
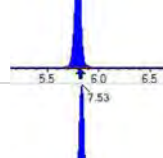
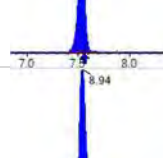
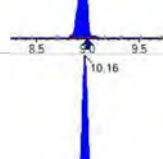
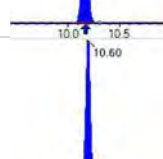
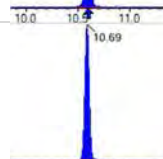
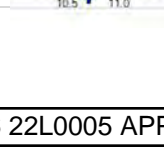
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(212.9 / 169.0) 24839	(3.71, 1.00) (0.00, N/A, 0.0)	47.9	N/A 0.0 0.0	0.4567 [0.4000]	114.2%			
PFPeA	(262.9 / 219.0) 18944 (262.9 / 69.0) 374	(4.99, 1.00) (0.00, N/A, -0.5)	166.5 18.5	0.0197 23111.4 162.1	0.2181 [0.2000]	109.0%			
PFHxA	(313.0 / 269.0) 13685 (313.0 / 119.0) 3293	(6.12, 1.00) (-0.01, N/A, 0.4)	55.6 79.6	0.2406 245.3 248.0	0.1071 [0.1000]	107.1%			IR2,
PFHpA	(363.0 / 319.0) 14689 (363.0 / 169.0) 5234	(7.06, 1.00) (0.00, N/A, 0.1)	53.3 98.2	0.3563 114.0 128.2	0.1232 [0.1000]	123.2%			
PFOA	(413.0 / 369.0) 16293 (413.0 / 169.0) 6082	(7.88, 1.00) (0.01, N/A, 1.1)	55.6 100.5	0.3733 110.9 117.1	0.1257 [0.1000]	125.7%			
PFNA	(463.0 / 419.0) 9103 (463.0 / 169.0) 3060	(8.61, 1.00) (0.00, N/A, -0.3)	46.7 20.3	0.3361 167.5 164.4	0.1146 [0.1000]	114.6%			IR2,
PFDA	(513.0 / 469.0) 13173 (513.0 / 169.0) 1049	(9.29, 1.00) (0.00, N/A, 0.9)	49.7 88.5	0.0796 100.1 87.6	0.1089 [0.1000]	108.9%			
PFUnA	(563.0 / 519.0) 17732 (563.0 / 169.0) 1574	(9.71, 1.00) (0.00, N/A, -0.8)	106.1 77.8	0.0887 79.2 103.5	0.1167 [0.1000]	116.7%			
PFDoA	(613.0 / 569.0) 25941 (613.0 / 169.0) 2709	(9.88, 1.00) (0.00, N/A, 1.5)	138.7 23.0	0.1044 83.1 85.3	0.1374 [0.1000]	137.4%			QC,
PFTrDA	(663.0 / 619.0) 20613 (663.0 / 169.0) 4123	(10.01, 1.01) (N/A, 0.00, -0.6)	106.1 64.1	0.2000 95.7 87.7	0.1323 [0.1000]	132.3%			QC,
PFTeDA	(713.0 / 669.0) 12992 (713.0 / 169.0) 2538	(10.12, 1.00) (0.00, N/A, 1.4)	84.1 73.0	0.1954 86.1 109.7	0.0831 [0.1000]	83.1%			

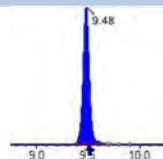
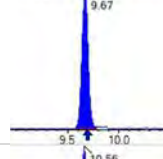
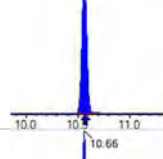
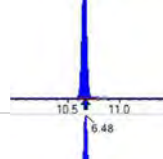
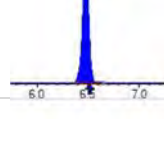
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(298.9 / 80.0) 19706 (298.9 / 99.0) 13324	(6.09, 1.00) (0.00, N/A, 0.2)	276.7 132.3	0.6761 99.4 101.8	0.0991 [0.0885]	112.0%			
PFPeS	(349.0 / 80.0) 35301 (349.0 / 99.0) 13560	(7.13, 0.89) (N/A, 0.00, 0.0)	223.2 155.8	0.3841 102.9 112.3	0.0972 [0.0938]	103.6%			
PFHxS	(399.0 / 80.0) 33162 (399.0 / 99.0) 13194	(8.00, 1.00) (0.00, N/A, -0.2)	1861.4 5439.9	0.3979 116.0 120.2	0.1077 [0.0911]	118.2%			
PFHpS	(449.0 / 80.0) 24794 (449.0 / 99.0) 6266	(8.76, 0.93) (N/A, -0.01, -0.5)	177.3 74.3	0.2527 86.1 92.8	0.0915 [0.0951]	96.1%			
PFOS	(499.0 / 80.0) 25177 (499.0 / 99.0) 6592	(9.44, 1.00) (0.00, N/A, -0.2)	36.9 52.4	0.2618 114.5 120.7	0.0749 [0.0927]	80.8%			
PFNS	(549.0 / 80.0) 47050 (549.0 / 99.0) 11641	(9.75, 1.03) (N/A, -0.01, -0.6)	160.3 91.5	0.2474 99.1 93.8	0.1218 [0.0960]	126.8%			
PFDS	(599.0 / 80.0) 46335 (599.0 / 99.0) 15044	(9.90, 1.05) (N/A, 0.00, 0.2)	137.0 101.2	0.3247 127.4 148.7	0.0972 [0.0963]	100.9%			
PFDoS	(698.9 / 80.0) 20634 (698.9 / 99.0) 6041	(10.09, 1.07) (N/A, -0.01, -1.1)	743.6 49.3	0.2928 142.5 124.0	0.0829 [0.0970]	85.5%			
4:2FTS	(327.0 / 307.0) 29893 (327.0 / 81.0) 17143	(5.80, 1.00) (0.00, N/A, -0.1)	478.0 153.6	0.5735 114.7 97.3	0.4137 [0.3738]	110.7%			
6:2FTS	(427.0 / 407.0) 17493 (427.0 / 81.0) 12757	(7.53, 1.00) (-0.01, N/A, -0.1)	165.9 97.2	0.7293 101.8 104.8	0.4181 [0.3796]	110.1%			
8:2FTS	(527.0 / 507.0) 11586 (527.0 / 81.0) 10281	(8.94, 1.00) (0.00, N/A, 0.1)	266.5 196.1	0.8873 126.1 139.6	0.3424 [0.3833]	89.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 91893 (498.0 / 478.0) 1523	(10.16, 1.00) (0.00, N/A, -1.0)	396.5 115.7	0.0166 70.1 71.3	0.1999 [0.1000]	199.9%			QC,
NMeFOFA	(511.9 / 219.0) 21803 (511.9 / 169.0) 15820	(10.60, 1.00) (0.00, N/A, 0.1)	396.8 179.3	0.7256 104.1 107.3	0.3501 [0.4000]	87.5%			
NEFOFA	(526.0 / 219.0) 22357 (526.0 / 169.0) 26048	(10.69, 1.00) (0.00, N/A, 0.0)	398.3 284.6	1.1651 103.4 111.2	0.3759 [0.4000]	94.0%			
NMeFOSAA	(570.0 / 419.0) 6065 (570.0 / 483.0) 1387	(9.49, 1.00) (0.01, N/A, 1.2)	81.6 417.0	0.2287 48.7 36.9	0.1252 [0.1000]	125.2%			IR1,
NEIFOSAA	(584.0 / 419.0) 3463 (584.0 / 526.0) 2371	(9.66, 1.00) (-0.01, N/A, -0.5)	48.0 33.9	0.6848 88.9 103.9	0.0614 [0.1000]	61.4%			QC,
NMeFOSE	(616.1 / 59.0) 10403	(10.57, 1.00) (0.01, N/A, 0.0)	135.2	N/A 0.0 0.0	0.4396 [0.4000]	109.9%			
NEtFOSE	(630.0 / 59.0) 2736	(10.67, 1.00) (0.01, N/A, 0.0)	71.4	N/A 0.0 0.0	0.4195 [0.4000]	104.9%			
HFPO-DA	(285.0 / 169.0) 15677 (285.0 / 185.0) 34555	(6.48, 1.00) (0.00, N/A, 0.1)	245.8 243.7	2.2041 86.4 79.9	0.2586 [0.2000]	129.3%			
ADONA	(377.0 / 85.0) 42334 (377.0 / 251.0) 7953	(7.37, 1.14) (N/A, -0.01, -0.2)	374.5 28.6	0.1879 149.8 144.3	0.1684 [0.1885]	89.3%			
9CI-Pf3ONS	(531.0 / 351.0) 139556 (533.0 / 353.0) 35148	(9.70, 1.50) (N/A, 0.00, 0.0)	302.8 142.8	0.2519 79.5 80.3	0.1958 [0.1867]	104.9%			
11CI-PF3OUDS	(631.0 / 451.0) 78323 (633.0 / 453.0) 23294	(9.99, 1.54) (N/A, 0.00, 0.1)	361.4 375.8	0.2974 101.7 97.2	0.1668 [0.1886]	88.4%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 1491 (241.0 / 117.0) 2964	(4.47, 0.90) (N/A, 0.00, -0.1)	73.7 51.9	1.9883 0.1 119.5	0.4002 [0.4000]	100.0%			IR1,
5:3FTCA	(341.0 / 236.7) 12938 (341.0 / 217.0) 16845	(6.77, 1.10) (N/A, 0.00, 0.2)	201.4 76.3	1.3020 82.4 81.6	0.4974 [0.4000]	124.3%			
7:3FTCA	(441.0 / 317.0) 15300 (441.0 / 337.0) 10200	(8.58, 1.40) (N/A, 0.00, -0.2)	30.7 21026.7	0.6667 82.0 74.8	0.5212 [0.4000]	130.3%			QC,
PFEESA	(315.0 / 135.0) 29121 (315.0 / 83.0) 8647	(6.59, 1.07) (N/A, 0.00, -0.3)	359.5 71.0	0.2969 105.1 107.9	0.2220 [0.1785]	124.4%			
PFMPA	(229.0 / 85.0) 4908	(4.20, 0.84) (N/A, 0.01, 0.0)	225.4	N/A 0.0 0.0	0.2093 [0.2000]	104.7%			
PFMBA	(279.0 / 85.0) 16614	(5.37, 1.08) (N/A, 0.00, 0.0)	372.9	N/A 0.0 0.0	0.2171 [0.2000]	108.5%			
NFDHA	(201.0 / 85.0) 614 (295.0 / 201.0) 4069	(6.03, 0.98) (N/A, 0.01, 0.8)	52.3 900.5	6.6307 0.8 83.1	0.1276 [0.2000]	63.8%			QC,IR1,
13C3_PFBA_IIS	(216.0 / 172.0) 90280	(3.70, N/A) (N/A, 0.02, N/A)	756.5	N/A	1.0326 [1.0000]	103.3% {108.5%}			
13C2_PFHxA_IIS	(315.1 / 270.0) 153289	(6.13, N/A) (N/A, 0.00, N/A)	450.6	N/A	1.1650 [1.0000]	116.5% {116.1%}			
13C4_PFOA_IIS	(417.0 / 372.0) 131041	(7.87, N/A) (N/A, 0.00, N/A)	739.7	N/A	1.0469 [1.0000]	104.7% {107.0%}			
13C5_PFNA_IIS	(468.0 / 423.0) 107707	(8.61, N/A) (N/A, 0.00, N/A)	516.8	N/A	1.0790 [1.0000]	107.9% {111.9%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.1 / 470.1) 116134	(9.29, N/A) (N/A, 0.00, N/A)	341.3	N/A	1.1199 [ 1.0000 ]	112.0% { 116.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 228106	(8.00, N/A) (N/A, 0.00, N/A)	1041.0	N/A	0.9642 [ 1.0000 ]	96.4% { 102.7% }			
13C4_PFOS_IIS	(502.8 / 79.9) 215357	(9.44, N/A) (N/A, 0.00, N/A)	512.5	N/A	1.0735 [ 1.0000 ]	107.3% { 108.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 655135	(3.70, N/A) (N/A, 0.02, N/A)	933.3	N/A	7.0091 [ 8.0000 ]	87.6% { 97.5% }			
13C5_PFPeA_EIS	(267.9 / 223.0) 383793	(4.99, N/A) (N/A, 0.00, N/A)	888.8	N/A	3.4008 [ 4.0000 ]	85.0% { 100.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 281611	(6.13, N/A) (N/A, 0.00, N/A)	675.6	N/A	1.5606 [ 2.0000 ]	78.0% { 98.8% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 264143	(7.06, N/A) (N/A, 0.00, N/A)	598.6	N/A	1.6568 [ 2.0000 ]	82.8% { 101.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 273614	(7.87, N/A) (N/A, 0.00, N/A)	867.1	N/A	1.8896 [ 2.0000 ]	94.5% { 108.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 94001	(8.61, N/A) (N/A, 0.00, N/A)	406.0	N/A	0.7990 [ 1.0000 ]	79.9% { 99.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 131239	(9.29, N/A) (N/A, -0.01, N/A)	357.3	N/A	0.8340 [ 1.0000 ]	83.4% { 100.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 203876	(9.70, N/A) (N/A, 0.00, N/A)	352.8	N/A	0.8998 [ 1.0000 ]	90.0% { 136.3% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 235674	(9.88, N/A) (N/A, 0.00, N/A)	376.3	N/A	0.9223 [ 1.0000 ]	92.2% { 97.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 163317	(10.12, N/A) (N/A, 0.00, N/A)	346.1	N/A	1.0516 [ 1.0000 ]	105.2% { 123.2% }			
13C3_PFBs_EIS	(302.0 / 80.0) 727866	(6.09, N/A) (N/A, 0.00, N/A)	772.1	N/A	1.9538 [ 2.0000 ]	97.7% { 97.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 387254	(8.00, N/A) (N/A, 0.00, N/A)	956.2	N/A	2.0044 [ 2.0000 ]	100.2% { 107.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 611521	(9.44, N/A) (N/A, 0.00, N/A)	746.2	N/A	1.7286 [ 2.0000 ]	86.4% { 98.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 90627	(5.80, N/A) (N/A, 0.00, N/A)	574.2	N/A	4.3142 [ 4.0000 ]	107.9% { 99.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 108386	(7.53, N/A) (N/A, 0.00, N/A)	529.5	N/A	4.0261 [ 4.0000 ]	100.7% { 97.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 92339	(8.94, N/A) (N/A, 0.00, N/A)	356.4	N/A	3.8260 [ 4.0000 ]	95.6% { 86.5% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 923626	(10.16, N/A) (N/A, 0.00, N/A)	913.0	N/A	1.7940 [ 2.0000 ]	89.7% { 101.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 156129	(10.60, N/A) (N/A, 0.00, N/A)	645.4	N/A	1.2173 [ 2.0000 ]	60.9% { 64.7% }			
D5_NEtFOSA_EIS	(531.1 / 169.0) 130426	(10.69, N/A) (N/A, 0.00, N/A)	1021.0	N/A	1.0890 [ 2.0000 ]	54.4% { 55.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 267268	(9.48, N/A) (N/A, 0.00, N/A)	416.6	N/A	3.2207 [ 4.0000 ]	80.5% { 97.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 250190	(9.67, N/A) (N/A, 0.00, N/A)	287.1	N/A	3.6277 [ 4.0000 ]	90.7% { 103.2% }			
D7_NMeFOSE_EIS	(623.2 / 58.9) 371717	(10.56, N/A) (N/A, 0.00, N/A)	969.4	N/A	15.0664 [ 20.0000 ]	75.3% { 80.8% }			
D9_NEtFOSE_EIS	(639.2 / 58.9) 204341	(10.66, N/A) (N/A, 0.00, N/A)	1031.8	N/A	15.3805 [ 20.0000 ]	76.9% { 75.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 793858	(6.48, N/A) (N/A, 0.00, N/A)	917.6	N/A	7.2255 [ 8.0000 ]	90.3% { 111.2% }			

## ANALYSIS DATA SHEET

Blanka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Watera	Laboratory ID:a	BBL0371-BLK1a
Sampled:a		Prepared:a	12/19/22 12:17a
Solids:a		Analyzed:a	12/30/22 05:19a
Batch:a	BBL0371a	Preparation:a	Table B-15a
Column:a	1a	Dilution:a	1a
		Sequence:a	SB04003a
		Calibration:a	2253011a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/L)L	OQL	OD	DL	QL
PFBAa	0.20 Ua	3.2a	0.20a	0.050a	Ua
PFPEAa	0.20 Ua	1.6a	0.20a	0.062a	Ua
PFHXAa	0.20 Ua	0.80a	0.20a	0.064a	Ua
PFHPAa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFOAa	0.20 Ua	0.80a	0.20a	0.082a	Ua
PFNAa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFDAa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFUnAa	0.20 Ua	0.80a	0.20a	0.080a	Ua
PFDOAa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFTRDAa	0.20 Ua	0.80a	0.20a	0.058a	Ua
PFTEDAa	0.20 Ua	0.80a	0.20a	0.086a	Ua
PFBSa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFPESa	0.20 Ua	0.80a	0.20a	0.058a	Ua
PFHXSa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFHPSa	0.20 Ua	0.80a	0.20a	0.056a	Ua
PFOSa	0.20 Ua	0.80a	0.20a	0.050a	Ua
PFNSa	0.40 Ua	0.80a	0.40a	0.25a	Ua
PFDSa	0.20 Ua	0.80a	0.20a	0.064a	Ua
4:2FTSa	0.40 Ua	3.2a	0.40a	0.11a	Ua
6:2FTSa	0.20 Ua	3.2a	0.20a	0.090a	Ua
8:2FTSa	0.60 Ua	3.2a	0.60a	0.20a	Ua
PFOSAa	0.20 Ua	3.2a	0.20a	0.050a	Ua
NMeFOSAa	2.0 Ua	3.2a	2.0a	0.99a	Ua
NEtFOSAa	2.0 Ua	3.2a	2.0a	0.98a	Ua
NMeFOSAAa	0.20 Ua	0.80a	0.20a	0.072a	Ua
NEtFOSAAa	0.20 Ua	0.80a	0.20a	0.050a	Ua
NMeFOSEa	1.2 Ua	3.2a	1.2a	0.60a	Ua
NEtFOSEa	1.2 Ua	3.2a	1.2a	0.60a	Ua
HFPO-DAa	1.0 Ua	1.6a	1.0a	0.49a	Ua
ADONa	0.60 Ua	1.6a	0.60a	0.38a	Ua

**ANALYSIS DATA SHEET**

Blanka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0371-BLK1a
Sampled:a		File ID:a	S2022-12-29C (7)a
Solids:a		Prepared:a	12/19/22 12:17a
Batch:a	BBL0371a	Analyzed:a	12/30/22 05:19a
Column:a	1a	Preparation:a	Table B-15a
		Dilution:a	1a
		Calibration:a	2253011a
		Instrument:a	Saphira
		Sequence:a	SB04003a

COMPOUNDL	CONC. (ng/L)L	OQL	OD	D	QL
9CL-PF3ONSa	0.60 Ua	1.6a	0.60a	0.24	Ua
11CL-PF3OUDSa	0.60 Ua	1.6a	0.60a	0.24	Ua



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (7)  
 Acquired: 2022/12/30 - 05:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeA	(263.0 / 219.0) N/A (263.0 / 69.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxA	(313.0 / 269.0) N/A (313.0 / 119.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpA	(363.0 / 319.0) N/A (363.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOA	(413.0 / 369.0) N/A (413.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNA	(463.0 / 419.0) N/A (463.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDA	(513.0 / 469.0) N/A (513.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFUnA	(563.0 / 519.0) N/A (563.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoA	(613.0 / 569.0) N/A (613.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTrDA	(663.0 / 619.0) N/A (663.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFTeDA	(713.0 / 669.0) N/A (713.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (7)  
 Acquired: 2022/12/30 - 05:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	( 299.0 / 80.0 ) N/A ( 299.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	( 349.0 / 80.0 ) N/A ( 349.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	( 399.0 / 80.0 ) N/A ( 399.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	( 449.0 / 80.0 ) N/A ( 449.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	( 499.0 / 80.0 ) N/A ( 499.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	( 549.0 / 80.0 ) N/A ( 549.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDS	( 599.0 / 80.0 ) N/A ( 599.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFDoS	( 699.0 / 80.0 ) N/A ( 699.0 / 99.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
4:2FTS	( 327.0 / 307.0 ) N/A ( 327.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
6:2FTS	( 427.0 / 407.0 ) N/A ( 427.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
8:2FTS	( 527.0 / 507.0 ) N/A ( 527.0 / 81.0 ) N/A	( N/A , N/A ) ( N/A , N/A , N/A )	N/A N/A	N/A 0.0 0.0	0.0000	N/A			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (7)  
 Acquired: 2022/12/30 - 05:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) N/A (512.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSA	(526.0 / 219.0) N/A (526.0 / 169.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSAA	(584.0 / 419.0) N/A (584.0 / 526.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSE	(616.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NEtFOSE	(630.0 / 59.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9CI-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
11CI-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			

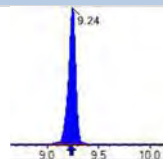
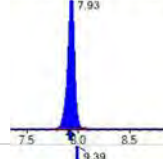
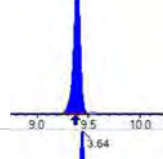
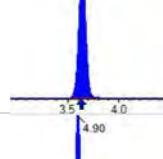
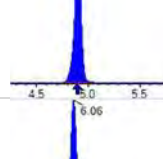
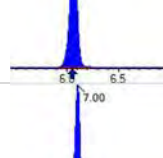
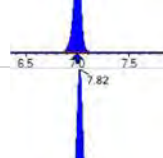
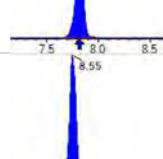
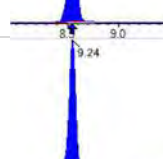
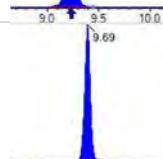
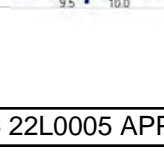


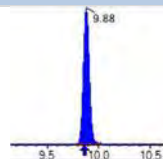
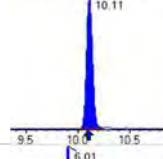
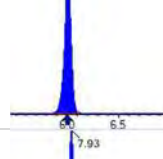
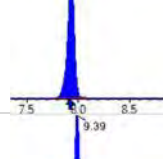
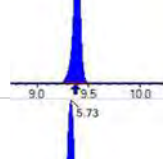
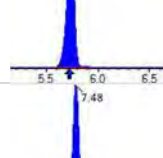
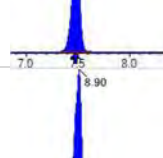
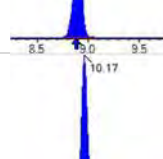
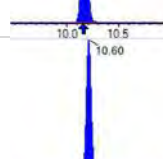
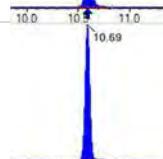
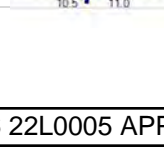
Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

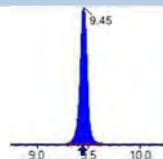
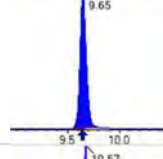
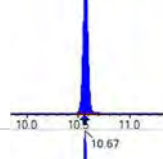
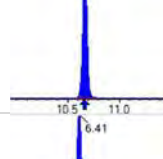
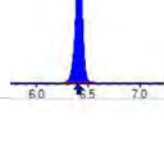
Sample I.D.: BBL0371-BLK1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (7)  
 Acquired: 2022/12/30 - 05:19

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A, N/A) (N/A, N/A, N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 302617	(3.64, N/A) (N/A, 0.02, N/A)	740.7	N/A	1.4052 [ 1.0000 ]	140.5% { 128.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 572416	(6.06, N/A) (N/A, 0.01, N/A)	551.4	N/A	1.5079 [ 1.0000 ]	150.8% { 138.6% }			
13C4_PFOA_IIS	(417.0 / 372.0) 508864	(7.82, N/A) (N/A, 0.01, N/A)	754.3	N/A	1.4097 [ 1.0000 ]	141.0% { 129.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 406940	(8.56, N/A) (N/A, 0.01, N/A)	353.6	N/A	1.3839 [ 1.0000 ]	138.4% { 126.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 503252	(9.24, N/A) (N/A, 0.02, N/A)	369.6	N/A	1.4773 [ 1.0000 ]	147.7% { 142.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 819867	(7.93, N/A) (N/A, 0.01, N/A)	602.6	N/A	1.3550 [ 1.0000 ]	135.5% { 130.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 959884	(9.39, N/A) (N/A, 0.01, N/A)	399.1	N/A	1.4886 [ 1.0000 ]	148.9% { 146.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2201536	(3.64, N/A) (N/A, 0.02, N/A)	839.4	N/A	7.2462 [ 8.0000 ]	90.6% { 118.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1600335	(4.90, N/A) (N/A, 0.01, N/A)	641.0	N/A	3.7057 [ 4.0000 ]	92.6% { 122.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1007995	(6.06, N/A) (N/A, 0.01, N/A)	522.6	N/A	1.7208 [ 2.0000 ]	86.0% { 124.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 961082	(7.00, N/A) (N/A, 0.01, N/A)	656.9	N/A	1.8887 [ 2.0000 ]	94.4% { 128.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 859465	(7.82, N/A) (N/A, 0.01, N/A)	835.8	N/A	1.6508 [ 2.0000 ]	82.5% { 108.7% }			
13C9_PFNA_EIS	(472.0 / 427.0) 369850	(8.55, N/A) (N/A, 0.00, N/A)	477.9	N/A	0.8747 [ 1.0000 ]	87.5% { 112.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 518104	(9.24, N/A) (N/A, 0.02, N/A)	398.6	N/A	0.8523 [ 1.0000 ]	85.2% { 116.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 656729	(9.69, N/A) (N/A, 0.01, N/A)	529.4	N/A	0.8785 [ 1.0000 ]	87.8% { 136.5% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 656113	(9.88, N/A) (N/A, 0.01, N/A)	675.5	N/A	0.8795 [ 1.0000 ]	87.9% { 114.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 397759	(10.11, N/A) (N/A, 0.01, N/A)	708.8	N/A	0.8415 [ 1.0000 ]	84.1% { 97.7% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2410120	(6.01, N/A) (N/A, 0.01, N/A)	600.9	N/A	1.9423 [ 2.0000 ]	97.1% { 118.6% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1184915	(7.93, N/A) (N/A, 0.01, N/A)	700.3	N/A	1.7636 [ 2.0000 ]	88.2% { 119.1% }			
13C8_PFOS_EIS	(507.0 / 80.0) 2021546	(9.39, N/A) (N/A, 0.01, N/A)	480.2	N/A	1.7476 [ 2.0000 ]	87.4% { 134.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 726624	(5.73, N/A) (N/A, 0.01, N/A)	491.1	N/A	5.1832 [ 4.0000 ]	129.6% { 139.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 830024	(7.48, N/A) (N/A, 0.01, N/A)	679.7	N/A	4.4749 [ 4.0000 ]	111.9% { 116.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 811762	(8.90, N/A) (N/A, 0.01, N/A)	424.9	N/A	3.4718 [ 4.0000 ]	86.8% { 132.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2406913	(10.17, N/A) (N/A, 0.01, N/A)	972.4	N/A	1.7827 [ 2.0000 ]	89.1% { 117.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 162130	(10.60, N/A) (N/A, 0.01, N/A)	538.5	N/A	0.6350 [ 2.0000 ]	31.8% { 40.8% }			
D5_NeIFOSA_EIS	(531.0 / 169.0) 124627	(10.69, N/A) (N/A, 0.01, N/A)	791.7	N/A	0.5329 [ 2.0000 ]	26.6% { 33.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT- CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1062493	(9.45, N/A) (N/A, 0.01, N/A)	227.2	N/A	2.9193 [ 4.0000 ]	73.0% { 106.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 852023	(9.65, N/A) (N/A, 0.01, N/A)	108.4	N/A	2.9443 [ 4.0000 ]	73.6% { 98.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 732994	(10.57, N/A) (N/A, 0.01, N/A)	1022.7	N/A	13.1406 [ 20.0000 ]	65.7% { 79.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 332663	(10.67, N/A) (N/A, 0.01, N/A)	940.0	N/A	12.9329 [ 20.0000 ]	64.7% { 69.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2357889	(6.41, N/A) (N/A, 0.01, N/A)	700.8	N/A	7.1956 [ 8.0000 ]	89.9% { 129.4% }			

## ANALYSIS DATA SHEET

LCSa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0371-BS1a
Sampled:a		File ID:a	S2022-12-29C (8)a
Solids:a		Prepared:a	12/19/22 12:17a
Batch:a	BBL0371a	Analyzed:a	12/30/22 05:32a
Column:a	1a	Preparation:a	Table B-15a
		Dilution:a	1a
		Sequence:a	SB04003a
		Calibration:a	2253011a
		Instrument:a	Saphira

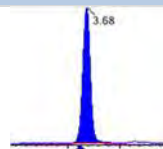
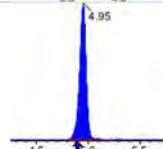
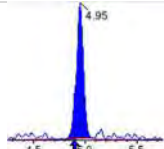
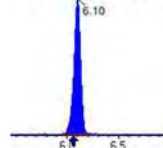
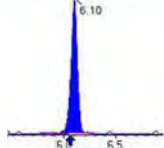
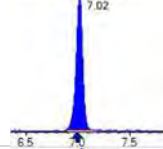
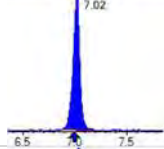
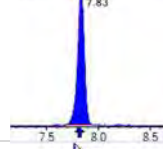
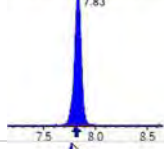
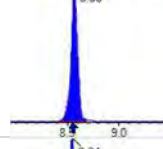
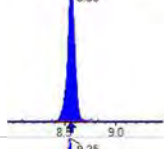
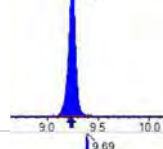
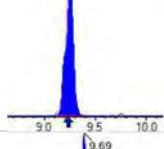
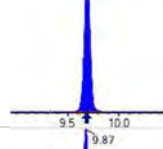
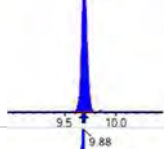
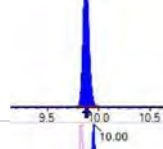
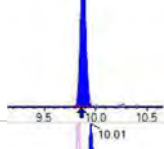
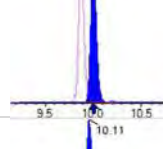
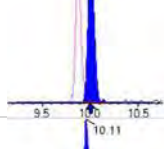
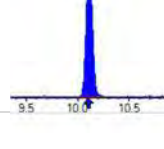
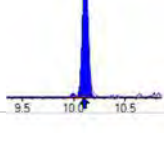
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PFTRDAa	5.48a	0.80a	0.058a	
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NEtFOSAa	28.6a	3.2a	0.98a	
NMeFOSAAa	6.87a	0.80a	0.072a	
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NMeFOSEa	28.6a	3.2a	0.60a	
NEtFOSEa	30.0a	3.2a	0.60a	
HFPO-DAa	14.0a	1.6a	0.49a	
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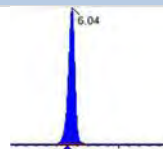
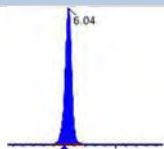
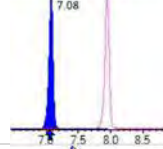
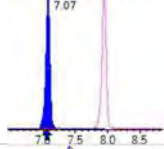
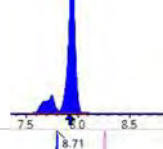
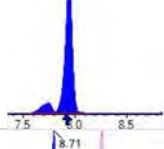
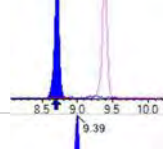
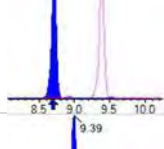
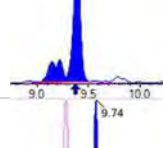
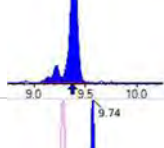
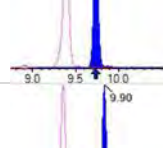
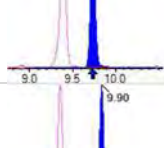
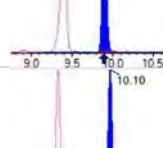
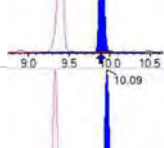
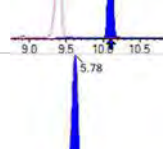
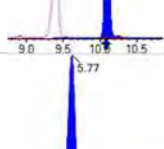
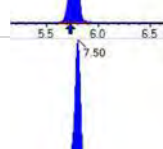
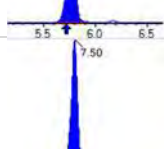
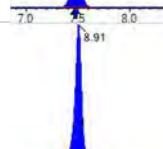
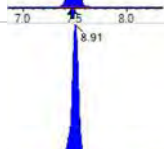
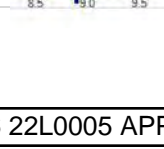
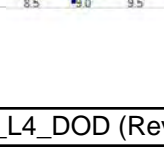
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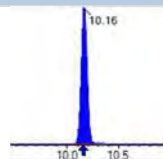
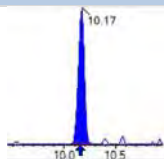
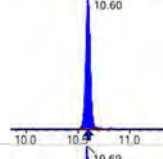
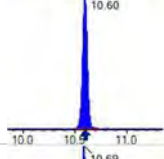
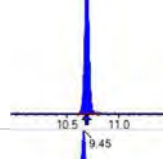
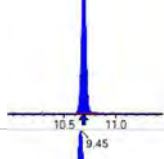
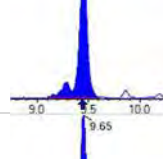
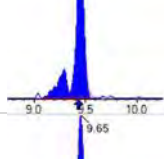
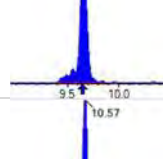
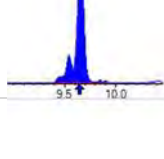
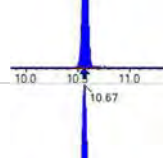
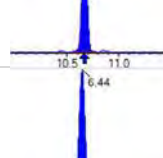
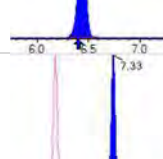
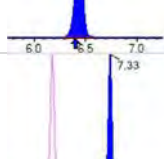
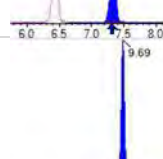
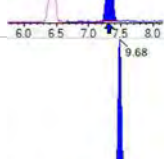
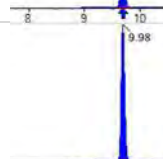
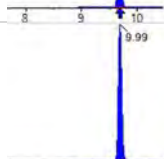
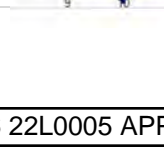

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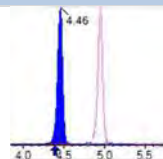
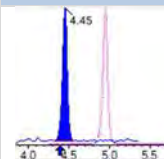
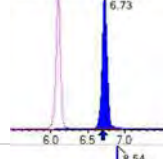
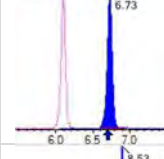
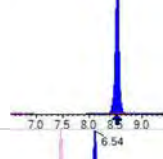
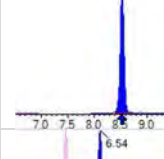
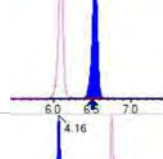
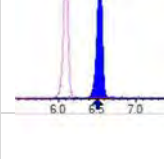
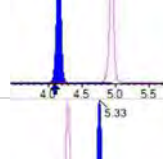
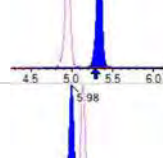
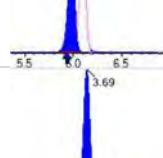
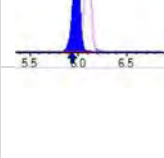
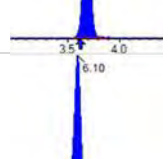
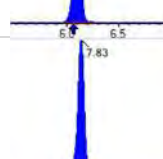
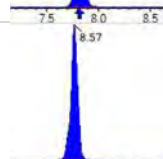
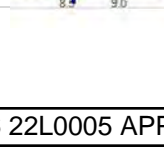
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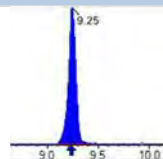
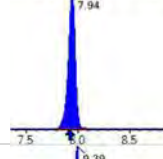
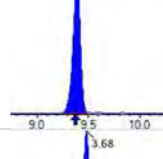
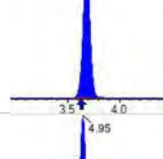
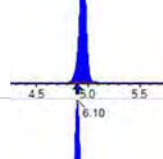
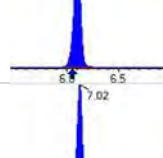
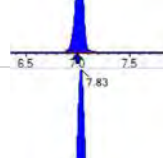
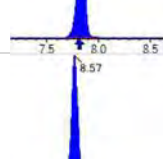
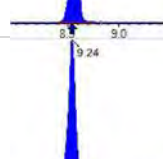
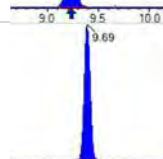
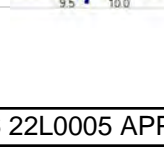
COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
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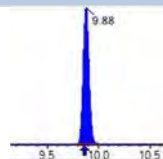
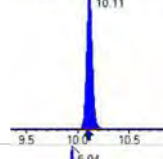
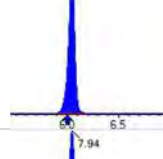
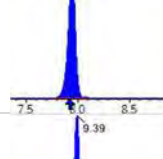
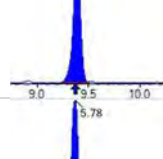
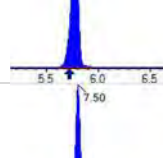
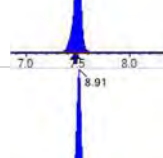
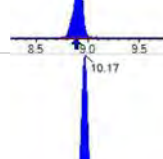
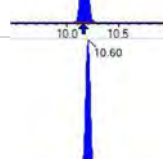
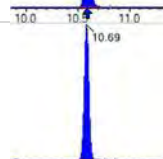
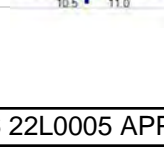
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 847947	(3.68, 1.00) (0.00, N/A, 0.0)	403.7	N/A 0.0 0.0	3.4174 [4.0000]	85.4%			
PFPeA	(263.0 / 219.0) 604848 (263.0 / 69.0) 6575	(4.95, 1.00) (0.00, N/A, -0.1)	530.0 84.1	0.0109 105.2 94.0	1.6782 [2.0000]	83.9%			
PFHxA	(313.0 / 269.0) 403227 (313.0 / 119.0) 36959	(6.10, 1.00) (0.00, N/A, 0.1)	438.0 184.3	0.0917 94.2 101.2	0.8026 [1.0000]	80.3%			
PFHpA	(363.0 / 319.0) 369575 (363.0 / 169.0) 105077	(7.02, 1.00) (0.00, N/A, -0.1)	387.2 268.6	0.2843 99.4 104.1	0.8284 [1.0000]	82.8%			
PFOA	(413.0 / 369.0) 401625 (413.0 / 169.0) 136166	(7.83, 1.00) (0.00, N/A, 0.1)	477.1 385.3	0.3390 111.7 111.0	0.8604 [1.0000]	86.0%			
PFNA	(463.0 / 419.0) 318535 (463.0 / 169.0) 70849	(8.56, 1.00) (0.00, N/A, 0.0)	499.9 310.8	0.2224 105.1 104.2	0.9477 [1.0000]	94.8%			
PFDA	(513.0 / 469.0) 474500 (513.0 / 169.0) 37723	(9.24, 1.00) (0.00, N/A, -0.6)	472.8 402.2	0.0795 86.2 83.4	0.9425 [1.0000]	94.3%			
PFUnA	(563.0 / 519.0) 443070 (563.0 / 169.0) 47991	(9.69, 1.00) (0.00, N/A, 0.1)	515.8 1198.5	0.1083 140.8 112.7	0.7168 [1.0000]	71.7%			
PFDoA	(613.0 / 569.0) 544107 (613.0 / 169.0) 87623	(9.87, 1.00) (0.00, N/A, -0.1)	857.6 297.2	0.1610 119.6 125.9	0.8449 [1.0000]	84.5%			
PFTrDA	(663.0 / 619.0) 384711 (663.0 / 169.0) 95524	(10.00, 1.01) (N/A, 0.00, -0.4)	344.0 266.8	0.2483 114.0 136.0	0.6846 [1.0000]	68.5%			QC,
PFTeDA	(713.0 / 669.0) 314315 (713.0 / 169.0) 53039	(10.11, 1.00) (0.00, N/A, 0.1)	357.3 157.0	0.1687 85.5 70.9	0.7697 [1.0000]	77.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 581492 (299.0 / 99.0) 381519	(6.04, 1.00) (0.00, N/A, 0.2)	745.6 672.2	0.6561 99.8 102.3	0.7445 [0.8847]	84.2%			
PFPeS	(349.0 / 80.0) 932938 (349.0 / 99.0) 336452	(7.08, 0.89) (N/A, 0.03, 0.1)	720.0 576.0	0.3606 97.3 101.6	0.8151 [0.9384]	86.9%			
PFHxS	(399.0 / 80.0) 776787 (399.0 / 99.0) 252013	(7.94, 1.00) (0.00, N/A, -0.1)	675.9 666.9	0.3244 99.5 101.3	0.7705 [0.9110]	84.6%			
PFHpS	(449.0 / 80.0) 686226 (449.0 / 99.0) 191515	(8.71, 0.93) (N/A, 0.01, 0.0)	334.3 426.0	0.2791 107.1 98.7	0.7598 [0.9514]	79.9%			
PFOS	(499.0 / 80.0) 894773 (499.0 / 99.0) 186919	(9.39, 1.00) (0.00, N/A, 0.2)	168.2 348.9	0.2089 100.4 91.6	0.8608 [0.9275]	92.8%			
PFNS	(549.0 / 80.0) 981435 (549.0 / 99.0) 256907	(9.74, 1.04) (N/A, 0.01, 0.1)	485.3 399.6	0.2618 110.0 113.1	0.8329 [0.9599]	86.8%			
PFDS	(599.0 / 80.0) 1149326 (599.0 / 99.0) 272241	(9.90, 1.05) (N/A, 0.01, -0.3)	1057.6 361.6	0.2369 90.0 125.1	0.8067 [0.9631]	83.8%			
PFDoS	(699.0 / 80.0) 689146 (699.0 / 99.0) 135849	(10.10, 1.08) (N/A, 0.01, 0.2)	974.2 379.1	0.1971 100.5 109.1	1.0271 [0.9696]	105.9%			
4:2FTS	(327.0 / 307.0) 1896821 (327.0 / 81.0) 962991	(5.78, 1.00) (0.00, N/A, 0.2)	674.0 350.8	0.5077 70.9 81.4	3.3393 [3.7381]	89.3%			
6:2FTS	(427.0 / 407.0) 1047016 (427.0 / 81.0) 736670	(7.50, 1.00) (0.00, N/A, 0.1)	631.4 616.6	0.7036 95.2 101.2	3.4909 [3.7962]	92.0%			
8:2FTS	(527.0 / 507.0) 968695 (527.0 / 81.0) 670014	(8.91, 1.00) (0.00, N/A, 0.1)	498.6 484.9	0.6917 113.1 92.1	3.1275 [3.8332]	81.6%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1051852 (498.0 / 478.0) 21170	(10.16, 1.00) (0.00, N/A, -0.2)	773.2 157.9	0.0201 96.4 97.6	0.8126 [ 1.0000 ]	81.3%			
NMeFOSA	(512.0 / 219.0) 286522 (512.0 / 169.0) 193193	(10.60, 1.00) (0.00, N/A, 0.1)	857.5 645.0	0.6743 97.4 100.8	3.8918 [ 4.0000 ]	97.3%			
NEIFOSA	(526.0 / 219.0) 225548 (526.0 / 169.0) 236874	(10.69, 1.00) (0.00, N/A, 0.0)	795.1 622.9	1.0591 106.7 98.1	3.5703 [ 4.0000 ]	89.3%			
NMeFOSAA	(570.0 / 419.0) 202883 (570.0 / 483.0) 104790	(9.45, 1.00) (0.00, N/A, 0.0)	200.3 228.6	0.5165 92.8 97.8	0.8589 [ 1.0000 ]	85.9%			
NEIFOSAA	(584.0 / 419.0) 173326 (584.0 / 526.0) 111531	(9.65, 1.00) (0.00, N/A, -0.2)	380.9 229.6	0.6435 108.5 97.7	0.6673 [ 1.0000 ]	66.7%			QC,
NMeFOSE	(616.0 / 59.0) 182833	(10.57, 1.00) (0.01, N/A, 0.0)	477.5	N/A 0.0 0.0	3.5700 [ 4.0000 ]	89.3%			
NEtFOSE	(630.0 / 59.0) 39329	(10.67, 1.00) (0.01, N/A, 0.0)	507.2	N/A 0.0 0.0	3.7487 [ 4.0000 ]	93.7%			
HFPO-DA	(285.0 / 169.0) 315540 (285.0 / 185.0) 805457	(6.44, 1.00) (0.00, N/A, -0.1)	624.3 674.2	2.5526 99.6 102.8	1.7528 [ 2.0000 ]	87.6%			
ADONA	(377.0 / 85.0) 1196987 (377.0 / 251.0) 139480	(7.33, 1.14) (N/A, 0.02, 0.1)	663.7 309.4	0.1165 94.7 108.4	1.6685 [ 1.8854 ]	88.5%			
9CI-Pf3ONS	(531.0 / 351.0) 3227468 (533.0 / 353.0) 1017790	(9.69, 1.50) (N/A, 0.01, 0.2)	675.5 598.6	0.3154 99.8 105.8	1.6472 [ 1.8665 ]	88.3%			
11CI-PF3OUDS	(631.0 / 451.0) 1984205 (633.0 / 453.0) 566382	(9.98, 1.55) (N/A, 0.00, -0.1)	1092.8 874.2	0.2854 92.2 89.8	1.7893 [ 1.8864 ]	94.9%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 37862 (241.0 / 117.0) 53286	(4.46, 0.90) (N/A, 0.06, 0.2)	478.6 203.1	1.4074 107.0 106.6	3.0563 [4.0000]	76.4%			
5:3FTCA	(341.0 / 236.7) 227712 (341.0 / 217.0) 382146	(6.73, 1.10) (N/A, 0.03, -0.1)	426.8 459.1	1.6782 93.5 108.3	2.9611 [4.0000]	74.0%			
7:3FTCA	(441.0 / 317.0) 296403 (441.0 / 337.0) 243159	(8.54, 1.40) (N/A, 0.02, 0.2)	440.6 373.2	0.8204 99.5 96.9	2.9589 [4.0000]	74.0%			
PFEESA	(315.0 / 135.0) 684100 (315.0 / 83.0) 197761	(6.54, 1.07) (N/A, 0.04, 0.1)	611.6 370.2	0.2891 94.8 103.6	1.4830 [1.7849]	83.1%			
PFMPA	(229.0 / 85.0) 177432	(4.16, 0.84) (N/A, 0.06, 0.0)	813.3	N/A 0.0 0.0	1.6857 [2.0000]	84.3%			
PFMBA	(279.0 / 85.0) 475960	(5.33, 1.08) (N/A, 0.06, 0.0)	785.3	N/A 0.0 0.0	1.5856 [2.0000]	79.3%			
NFDHA	(295.0 / 201.0) 392822 (295.0 / 85.0) 373305	(5.98, 0.98) (N/A, 0.05, 0.0)	511.5 471.9	0.9503 110.6 103.5	1.5929 [2.0000]	79.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 283066	(3.69, N/A) (N/A, 0.07, N/A)	692.0	N/A	1.3144 [1.0000]	131.4% {120.0%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 556774	(6.10, N/A) (N/A, 0.04, N/A)	516.8	N/A	1.4667 [1.0000]	146.7% {134.9%}			
13C4_PFOA_IIS	(417.0 / 372.0) 508963	(7.83, N/A) (N/A, 0.02, N/A)	619.4	N/A	1.4100 [1.0000]	141.0% {129.4%}			
13C5_PFNA_IIS	(468.0 / 423.0) 413699	(8.57, N/A) (N/A, 0.01, N/A)	505.2	N/A	1.4068 [1.0000]	140.7% {129.0%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 459129	(9.25, N/A) (N/A, 0.02, N/A)	353.3	N/A	1.3478 [ 1.0000 ]	134.8% { 130.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 821838	(7.94, N/A) (N/A, 0.02, N/A)	776.8	N/A	1.3582 [ 1.0000 ]	135.8% { 130.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 804236	(9.39, N/A) (N/A, 0.01, N/A)	351.8	N/A	1.2472 [ 1.0000 ]	124.7% { 123.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2124540	(3.68, N/A) (N/A, 0.06, N/A)	878.5	N/A	7.4757 [ 8.0000 ]	93.4% { 114.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1518299	(4.95, N/A) (N/A, 0.06, N/A)	628.9	N/A	3.6145 [ 4.0000 ]	90.4% { 116.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1012599	(6.10, N/A) (N/A, 0.05, N/A)	505.6	N/A	1.7773 [ 2.0000 ]	88.9% { 124.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 851487	(7.02, N/A) (N/A, 0.03, N/A)	490.3	N/A	1.7204 [ 2.0000 ]	86.0% { 114.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 876333	(7.83, N/A) (N/A, 0.02, N/A)	637.4	N/A	1.6828 [ 2.0000 ]	84.1% { 110.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 348267	(8.57, N/A) (N/A, 0.02, N/A)	522.2	N/A	0.8102 [ 1.0000 ]	81.0% { 106.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 507660	(9.24, N/A) (N/A, 0.02, N/A)	465.6	N/A	0.9154 [ 1.0000 ]	91.5% { 114.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 677353	(9.69, N/A) (N/A, 0.01, N/A)	629.8	N/A	0.9931 [ 1.0000 ]	99.3% { 140.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 671993	(9.88, N/A) (N/A, 0.01, N/A)	735.0	N/A	0.9873 [ 1.0000 ]	98.7% { 116.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 403709	(10.11, N/A) (N/A, 0.01, N/A)	805.7	N/A	0.9361 [ 1.0000 ]	93.6% { 99.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2448582	(6.04, N/A) (N/A, 0.05, N/A)	566.0	N/A	1.9686 [ 2.0000 ]	98.4% { 120.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1164043	(7.94, N/A) (N/A, 0.02, N/A)	645.8	N/A	1.7284 [ 2.0000 ]	86.4% { 117.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1785396	(9.39, N/A) (N/A, 0.01, N/A)	343.3	N/A	1.8422 [ 2.0000 ]	92.1% { 118.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 668182	(5.78, N/A) (N/A, 0.05, N/A)	594.6	N/A	4.7549 [ 4.0000 ]	118.9% { 128.6% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 747246	(7.50, N/A) (N/A, 0.03, N/A)	658.3	N/A	4.0189 [ 4.0000 ]	100.5% { 105.2% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 794261	(8.91, N/A) (N/A, 0.02, N/A)	525.8	N/A	3.3888 [ 4.0000 ]	84.7% { 129.8% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2232210	(10.17, N/A) (N/A, 0.01, N/A)	737.6	N/A	1.9733 [ 2.0000 ]	98.7% { 109.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 151578	(10.60, N/A) (N/A, 0.01, N/A)	816.3	N/A	0.7086 [ 2.0000 ]	35.4% { 38.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 127381	(10.69, N/A) (N/A, 0.00, N/A)	583.6	N/A	0.6501 [ 2.0000 ]	32.5% { 34.5% }			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BS1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (8)  
 Acquired: 2022/12/30 - 05:32

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1041263	(9.45, N/A) (N/A, 0.02, N/A)	339.3	N/A	3.4146 [ 4.0000 ]	85.4% { 104.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1053980	(9.65, N/A) (N/A, 0.01, N/A)	111.0	N/A	4.3471 [ 4.0000 ]	108.7% { 122.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 838928	(10.57, N/A) (N/A, 0.01, N/A)	1168.2	N/A	17.9504 [ 20.0000 ]	89.8% { 91.3% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 395201	(10.66, N/A) (N/A, 0.00, N/A)	1521.0	N/A	18.3376 [ 20.0000 ]	91.7% { 83.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2074722	(6.44, N/A) (N/A, 0.04, N/A)	732.3	N/A	6.5094 [ 8.0000 ]	81.4% { 113.9% }			

## ANALYSIS DATA SHEET

## LCS Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Watera	Laboratory ID:a	BBL0371-BSD1a
Sampled:a		File ID:a	S2022-12-29C (9)a
Solids:a		Prepared:a	12/19/22 12:17a
		Analyzed:a	12/30/22 05:45a
		Preparation:a	Table B-15a
		Dilution:a	1a
Batch:a	BBL0371a	Sequence:a	SB04003a
		Calibration:a	2253011a
Column:a	1a		Instrument:a Saphira

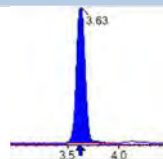
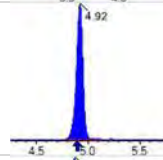
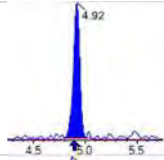
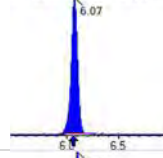
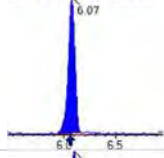
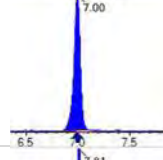
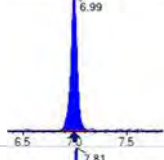
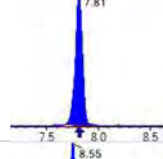
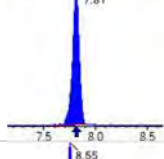
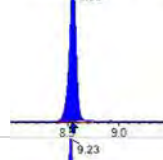
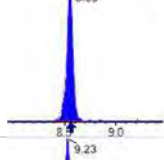
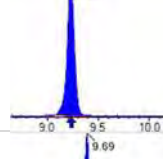
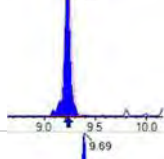
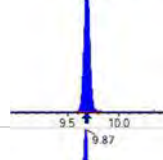
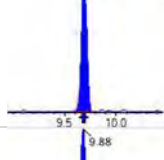
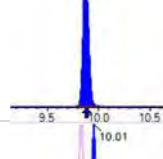
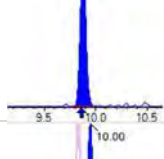
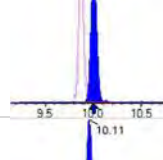
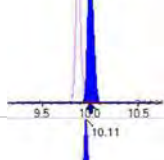
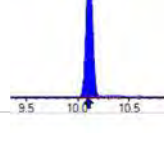
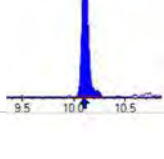
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PFPEAa	14.4a	1.6a	0.062 a	
PFHXAa	6.75a	0.80a	0.064 a	
PFHPAa	6.93a	0.80a	0.050 a	
PFOAa	6.94a	0.80a	0.082 a	
PFNAa	7.74a	0.80a	0.050 a	
PFDAa	7.03a	0.80a	0.050 a	
PFUnAa	7.10a	0.80a	0.080 a	
PFDOAa	7.00a	0.80a	0.050 a	
PFTRDAa	5.74a	0.80a	0.058 a	
PFTEDAa	8.88a	0.80a	0.086a	BS3 a
PFBSa	6.25a	0.80a	0.050 a	
PFPESa	7.19a	0.80a	0.058 a	
PFHXSa	6.43a	0.80a	0.050 a	
PFHPSa	6.71a	0.80a	0.056 a	
PFOSa	6.59a	0.80a	0.050 a	
PFNSa	7.14a	0.80a	0.25 a	
PFDSa	7.12a	0.80a	0.064 a	
4:2FTSa	26.0a	3.2a	0.11 a	
6:2FTSa	26.0a	3.2a	0.090 a	
8:2FTSa	26.8a	3.2a	0.20 a	
PFOSAa	7.21a	3.2a	0.050 a	
NMeFOSAa	27.2a	3.2a	0.99 a	
NEtFOSAa	29.2a	3.2a	0.98 a	
NMeFOSAAa	6.77a	0.80a	0.072 a	
NEtFOSAAa	6.60a	0.80a	0.050 a	
NMeFOSEa	27.8a	3.2a	0.60 a	
NEtFOSEa	32.6a	3.2a	0.60 a	
HFPO-DAa	13.2a	1.6a	0.49 a	
ADONa	14.1a	1.6a	0.38 a	

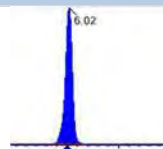
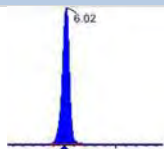
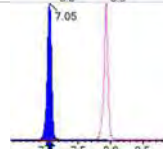
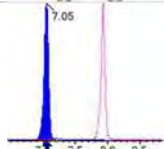
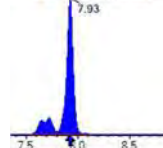
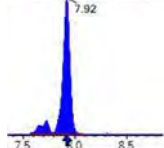
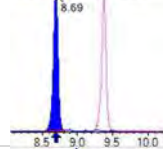
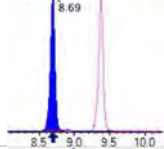
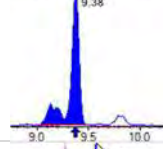
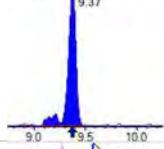
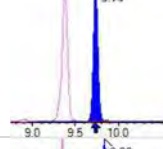
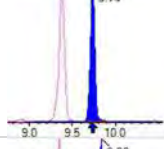
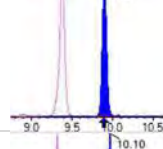
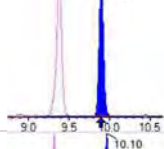
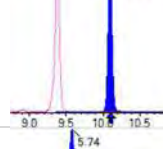
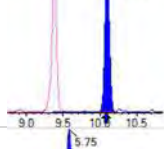
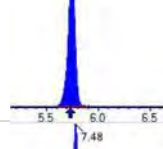
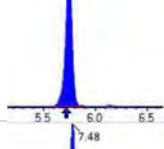
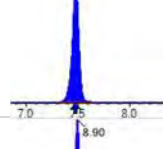
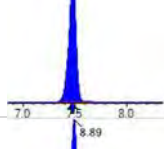
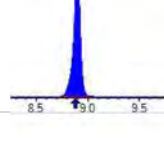
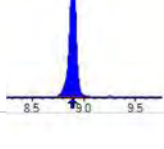
**ANALYSIS DATA SHEETL**

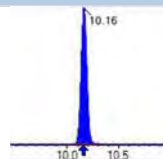
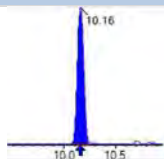
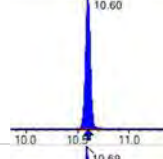
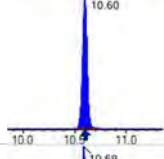
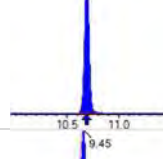
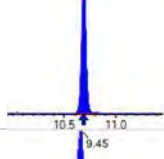
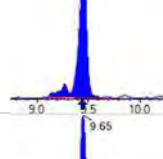
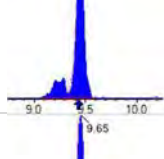
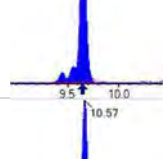
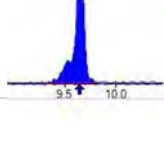
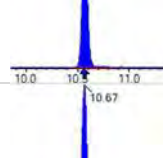
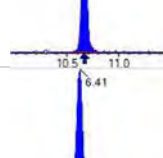
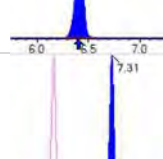
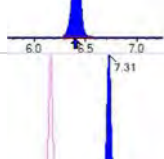
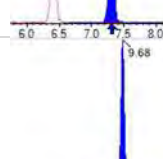
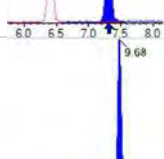
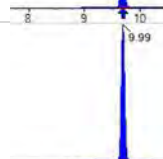
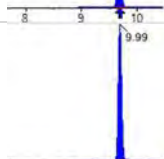
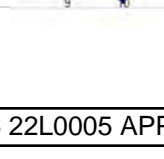

## LCS Dupa

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0371-BSD1a
Sampled:a		File ID:a	S2022-12-29C (9)a
Solids:a		Prepared:a	12/19/22 12:17a
Batch:a	BBL0371a	Analyzed:a	12/30/22 05:45a
Column:a	1a	Preparation:a	Table B-15a
		Dilution:a	1a
		Batch:a	BBL0371a
		Sequence:a	SB04003a
		Calibration:a	2253011a
		Instrument:a	Saphira

COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
9CL-PF3ONSa	13.0a	1.6a	0.24a	
11CL-PF3OUDSa	15.9a	1.6a	0.24a	

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 884081	(3.63, 1.00) (0.00, N/A, 0.0)	428.8	N/A 0.0 0.0	3.6731 [4.0000]	91.8%			
PFPeA	(263.0 / 219.0) 663340 (263.0 / 69.0) 7343	(4.92, 1.00) (0.00, N/A, 0.0)	686.5 94.7	0.0111 107.1 95.7	1.8036 [2.0000]	90.2%			
PFHxA	(313.0 / 269.0) 409208 (313.0 / 119.0) 42732	(6.07, 1.00) (0.00, N/A, -0.2)	441.2 258.4	0.1044 107.3 115.3	0.8440 [1.0000]	84.4%			
PFHpA	(363.0 / 319.0) 411089 (363.0 / 169.0) 112624	(7.00, 1.00) (0.00, N/A, 0.2)	364.5 310.7	0.2740 95.8 100.3	0.8661 [1.0000]	86.6%			
PFOA	(413.0 / 369.0) 441539 (413.0 / 169.0) 145174	(7.81, 1.00) (0.00, N/A, 0.0)	367.0 421.2	0.3288 108.3 107.7	0.8674 [1.0000]	86.7%			
PFNA	(463.0 / 419.0) 357051 (463.0 / 169.0) 72710	(8.55, 1.00) (0.00, N/A, -0.1)	414.8 371.3	0.2036 96.2 95.4	0.9681 [1.0000]	96.8%			
PFDA	(513.0 / 469.0) 432258 (513.0 / 169.0) 32635	(9.23, 1.00) (0.00, N/A, 0.2)	377.9 123.8	0.0755 81.9 79.2	0.8783 [1.0000]	87.8%			
PFUnA	(563.0 / 519.0) 540568 (563.0 / 169.0) 51508	(9.69, 1.00) (0.00, N/A, -0.1)	490.6 221.0	0.0953 123.9 99.2	0.8873 [1.0000]	88.7%			
PFDoA	(613.0 / 569.0) 666852 (613.0 / 169.0) 84093	(9.87, 1.00) (0.00, N/A, -0.2)	735.8 145.9	0.1261 93.6 98.6	0.8751 [1.0000]	87.5%			
PFTrDA	(663.0 / 619.0) 477265 (663.0 / 169.0) 95158	(10.01, 1.01) (N/A, 0.01, 0.3)	610.4 314.3	0.1994 91.5 109.2	0.7178 [1.0000]	71.8%			
PFTeDA	(713.0 / 669.0) 379819 (713.0 / 169.0) 66060	(10.11, 1.00) (0.00, N/A, 0.3)	358.5 206.3	0.1739 88.1 73.1	1.1097 [1.0000]	111.0%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 549804 (299.0 / 99.0) 345463	(6.02, 1.00) (0.00, N/A, 0.0)	706.5 461.0	0.6283 95.6 98.0	0.7818 [0.8847]	88.4%			
PFPeS	(349.0 / 80.0) 1041939 (349.0 / 99.0) 328558	(7.05, 0.89) (N/A, 0.01, 0.0)	600.3 483.2	0.3153 85.1 88.9	0.8992 [0.9384]	95.8%			
PFHxS	(399.0 / 80.0) 820504 (399.0 / 99.0) 259990	(7.93, 1.00) (0.00, N/A, 0.2)	803.9 621.5	0.3169 97.2 98.9	0.8039 [0.9110]	88.2%			
PFHpS	(449.0 / 80.0) 772376 (449.0 / 99.0) 198770	(8.69, 0.93) (N/A, 0.00, 0.1)	431.4 472.9	0.2573 98.7 91.0	0.8384 [0.9514]	88.1%			
PFOS	(499.0 / 80.0) 872946 (499.0 / 99.0) 184728	(9.38, 1.00) (0.00, N/A, 0.1)	181.9 406.7	0.2116 101.7 92.8	0.8233 [0.9275]	88.8%			
PFNS	(549.0 / 80.0) 1072437 (549.0 / 99.0) 254597	(9.74, 1.04) (N/A, 0.01, 0.0)	519.4 454.3	0.2374 99.7 102.6	0.8923 [0.9599]	93.0%			
PFDS	(599.0 / 80.0) 1292597 (599.0 / 99.0) 290043	(9.90, 1.06) (N/A, 0.01, 0.1)	681.1 409.9	0.2244 85.3 118.5	0.8895 [0.9631]	92.4%			
PFDoS	(699.0 / 80.0) 632874 (699.0 / 99.0) 143324	(10.10, 1.08) (N/A, 0.00, 0.0)	487.5 245.3	0.2265 115.5 125.3	0.9248 [0.9696]	95.4%			
4:2FTS	(327.0 / 307.0) 1907839 (327.0 / 81.0) 1185078	(5.74, 1.00) (0.00, N/A, -0.1)	604.7 453.3	0.6212 86.8 99.6	3.2491 [3.7381]	86.9%			
6:2FTS	(427.0 / 407.0) 1033486 (427.0 / 81.0) 721800	(7.48, 1.00) (0.00, N/A, 0.0)	642.3 638.6	0.6984 94.5 100.4	3.2445 [3.7962]	85.5%			
8:2FTS	(527.0 / 507.0) 1032302 (527.0 / 81.0) 703828	(8.90, 1.00) (0.00, N/A, 0.2)	472.9 533.0	0.6818 111.4 90.8	3.3450 [3.8332]	87.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1201164 (498.0 / 478.0) 27590	(10.16, 1.00) (0.00, N/A, 0.3)	715.8 422.8	0.0230 110.0 111.4	0.9018 [1.0000]	90.2%			
NMeFOSA	(512.0 / 219.0) 351718 (512.0 / 169.0) 268530	(10.60, 1.00) (0.00, N/A, 0.0)	888.5 708.1	0.7635 110.3 114.2	3.4011 [4.0000]	85.0%			
NEIFOSA	(526.0 / 219.0) 295585 (526.0 / 169.0) 307296	(10.69, 1.00) (0.00, N/A, 0.0)	644.0 567.0	1.0396 104.7 96.3	3.6461 [4.0000]	91.2%			
NMeFOSAA	(570.0 / 419.0) 206196 (570.0 / 483.0) 115455	(9.45, 1.00) (0.01, N/A, -0.1)	212.7 567.0	0.5599 100.6 106.0	0.8458 [1.0000]	84.6%			
NEIFOSAA	(584.0 / 419.0) 193457 (584.0 / 526.0) 131490	(9.65, 1.00) (0.01, N/A, -0.2)	519.8 284.9	0.6797 114.6 103.2	0.8252 [1.0000]	82.5%			
NMeFOSE	(616.0 / 59.0) 145478	(10.57, 1.00) (0.00, N/A, 0.0)	515.9	N/A 0.0 0.0	3.4757 [4.0000]	86.9%			
NEtFOSE	(630.0 / 59.0) 32992	(10.67, 1.00) (0.01, N/A, 0.0)	366.2	N/A 0.0 0.0	4.0749 [4.0000]	101.9%			
HFPO-DA	(285.0 / 169.0) 313288 (285.0 / 185.0) 854961	(6.41, 1.00) (0.00, N/A, 0.1)	611.9 699.7	2.7290 106.5 109.9	1.6477 [2.0000]	82.4%			
ADONA	(377.0 / 85.0) 1332878 (377.0 / 251.0) 156994	(7.31, 1.14) (N/A, 0.00, -0.1)	619.3 349.4	0.1178 95.7 109.6	1.7591 [1.8854]	93.3%			
9CI-Pf3ONS	(531.0 / 351.0) 3368288 (533.0 / 353.0) 1116127	(9.68, 1.51) (N/A, 0.01, 0.2)	676.7 639.4	0.3314 104.9 111.2	1.6277 [1.8665]	87.2%			
11CI-PF3OUDS	(631.0 / 451.0) 2333458 (633.0 / 453.0) 656095	(9.99, 1.56) (N/A, 0.01, 0.1)	725.1 765.9	0.2812 90.8 88.4	1.9923 [1.8864]	105.6%			

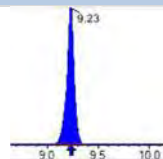
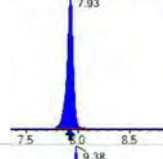
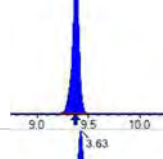
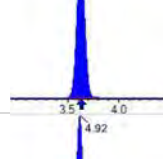
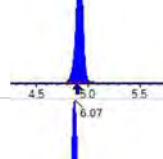
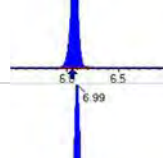
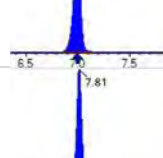
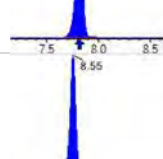
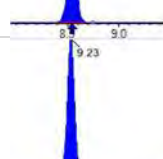
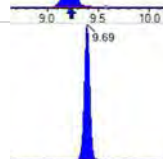
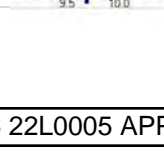


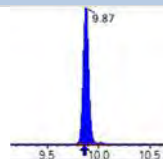
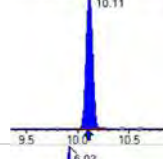
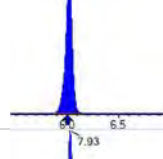
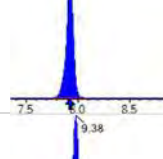
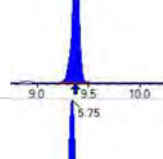
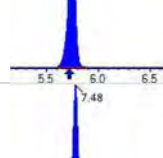
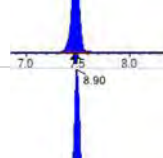
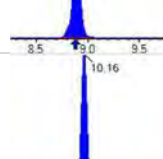
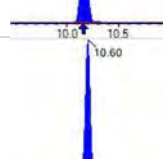
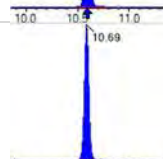
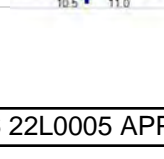
Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (9)  
 Acquired: 2022/12/30 - 05:45

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT-CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 40608 (241.0 / 117.0) 54793	(4.41, 0.90) (N/A, 0.02, 0.1)	564.1 196.1	1.3493 102.6 102.2	3.2123 [4.0000]	80.3%			
5:3FTCA	(341.0 / 236.7) 266110 (341.0 / 217.0) 423711	(6.71, 1.11) (N/A, 0.01, 0.2)	361.9 384.2	1.5922 88.7 102.8	3.5857 [4.0000]	89.6%			
7:3FTCA	(441.0 / 317.0) 309024 (441.0 / 337.0) 266592	(8.52, 1.40) (N/A, 0.00, 0.0)	359.1 384.2	0.8627 104.6 101.9	3.1965 [4.0000]	79.9%			
PFEESA	(315.0 / 135.0) 652913 (315.0 / 83.0) 202347	(6.51, 1.07) (N/A, 0.01, 0.0)	677.3 335.0	0.3099 101.6 111.0	1.4666 [1.7849]	82.2%			
PFMPA	(229.0 / 85.0) 172465	(4.13, 0.84) (N/A, 0.02, 0.0)	876.2	N/A 0.0 0.0	1.6056 [2.0000]	80.3%			
PFMBA	(279.0 / 85.0) 517851	(5.30, 1.08) (N/A, 0.03, 0.0)	871.3	N/A 0.0 0.0	1.6906 [2.0000]	84.5%			
NFDHA	(295.0 / 201.0) 438898 (295.0 / 85.0) 373573	(5.95, 0.98) (N/A, 0.02, 0.2)	729.7 498.3	0.8512 99.1 92.7	1.8442 [2.0000]	92.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 297143	(3.63, N/A) (N/A, 0.01, N/A)	801.2	N/A	1.3798 [1.0000]	138.0% {126.0%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 539122	(6.07, N/A) (N/A, 0.02, N/A)	506.3	N/A	1.4202 [1.0000]	142.0% {130.6%}			
13C4_PFOA_IIS	(417.0 / 372.0) 505604	(7.81, N/A) (N/A, 0.00, N/A)	641.8	N/A	1.4007 [1.0000]	140.1% {128.6%}			
13C5_PFNA_IIS	(468.0 / 423.0) 449957	(8.55, N/A) (N/A, 0.00, N/A)	384.0	N/A	1.5301 [1.0000]	153.0% {140.3%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 459178	(9.23, N/A) (N/A, 0.00, N/A)	524.9	N/A	1.3480 [ 1.0000 ]	134.8% { 130.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 825502	(7.93, N/A) (N/A, 0.00, N/A)	691.4	N/A	1.3643 [ 1.0000 ]	136.4% { 131.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 855561	(9.38, N/A) (N/A, 0.00, N/A)	515.9	N/A	1.3268 [ 1.0000 ]	132.7% { 130.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2060878	(3.63, N/A) (N/A, 0.01, N/A)	752.7	N/A	6.9082 [ 8.0000 ]	86.4% { 110.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1549365	(4.92, N/A) (N/A, 0.03, N/A)	636.7	N/A	3.8093 [ 4.0000 ]	95.2% { 118.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 977234	(6.07, N/A) (N/A, 0.02, N/A)	475.5	N/A	1.7714 [ 2.0000 ]	88.6% { 120.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 905864	(6.99, N/A) (N/A, 0.00, N/A)	633.2	N/A	1.8901 [ 2.0000 ]	94.5% { 121.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 955683	(7.81, N/A) (N/A, 0.00, N/A)	635.3	N/A	1.8474 [ 2.0000 ]	92.4% { 120.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 382151	(8.55, N/A) (N/A, 0.00, N/A)	502.5	N/A	0.8174 [ 1.0000 ]	81.7% { 116.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 496302	(9.23, N/A) (N/A, 0.01, N/A)	378.6	N/A	0.8948 [ 1.0000 ]	89.5% { 111.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 667589	(9.69, N/A) (N/A, 0.01, N/A)	622.3	N/A	0.9787 [ 1.0000 ]	97.9% { 138.8% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 795187	(9.87, N/A) (N/A, 0.01, N/A)	555.6	N/A	1.1682 [ 1.0000 ]	116.8% { 138.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 338352	(10.11, N/A) (N/A, 0.01, N/A)	807.8	N/A	0.7845 [ 1.0000 ]	78.4% { 83.1% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2204611	(6.02, N/A) (N/A, 0.02, N/A)	767.1	N/A	1.7646 [ 2.0000 ]	88.2% { 108.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1178503	(7.93, N/A) (N/A, 0.00, N/A)	713.4	N/A	1.7421 [ 2.0000 ]	87.1% { 118.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1821094	(9.38, N/A) (N/A, 0.00, N/A)	288.8	N/A	1.7663 [ 2.0000 ]	88.3% { 120.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 690715	(5.75, N/A) (N/A, 0.02, N/A)	664.1	N/A	4.8935 [ 4.0000 ]	122.3% { 133.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 793593	(7.48, N/A) (N/A, 0.00, N/A)	636.8	N/A	4.2493 [ 4.0000 ]	106.2% { 111.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 791382	(8.90, N/A) (N/A, 0.01, N/A)	474.3	N/A	3.3616 [ 4.0000 ]	84.0% { 129.3% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2297173	(10.16, N/A) (N/A, 0.01, N/A)	573.3	N/A	1.9089 [ 2.0000 ]	95.4% { 112.2% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 212916	(10.60, N/A) (N/A, 0.00, N/A)	574.0	N/A	0.9356 [ 2.0000 ]	46.8% { 53.6% }			
D5_NEiFOSA_EIS	(531.0 / 169.0) 163461	(10.69, N/A) (N/A, 0.00, N/A)	795.1	N/A	0.7842 [ 2.0000 ]	39.2% { 44.3% }			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-BSD1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (9)  
 Acquired: 2022/12/30 - 05:45

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1074630	(9.44, N/A) (N/A, 0.00, N/A)	337.9	N/A	3.3126 [ 4.0000 ]	82.8% { 107.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 951303	(9.64, N/A) (N/A, 0.01, N/A)	101.6	N/A	3.6882 [ 4.0000 ]	92.2% { 110.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 685639	(10.56, N/A) (N/A, 0.00, N/A)	1121.1	N/A	13.7904 [ 20.0000 ]	69.0% { 74.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 304423	(10.66, N/A) (N/A, 0.00, N/A)	1126.2	N/A	13.2781 [ 20.0000 ]	66.4% { 63.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2191243	(6.41, N/A) (N/A, 0.01, N/A)	686.2	N/A	7.1000 [ 8.0000 ]	88.8% { 120.3% }			

# ANALYSIS DATA SHEET

## MRL Checka

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
M trix:a	Watera	Laboratory ID:a	BBL0371-MRL1a
		File ID:a	S2022-12-29C (10)a
Sampled:a		Prepared:a	12/19/22 12:17a
		Analyzed:a	12/30/22 05:58a
Solids:a		Preparation:a	Table B-15a
		Dilution:a	1a
Batch:a	BBL0371a	Sequence:a	SB04003a
		Calibration:a	2253011a
Column:a	1a	Instrument:a	Saphira

COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
PFBAa	2.63a	3.2a	0.050a	Ja
PFPEAa	1.31a	1.6a	0.062a	Ja
PFHXAa	0.651a	0.80a	0.064a	Ja
PFHPAa	0.725a	0.80a	0.050a	Ja
PFOAa	0.743a	0.80a	0.082a	Ja
PFNAa	0.651a	0.80a	0.050a	Ja
PFDAa	0.713a	0.80a	0.050a	Ja
PFUnAa	0.805a	0.80a	0.080a	
PFDOAa	0.622a	0.80a	0.050a	Ja
PFTRDAa	0.676a	0.80a	0.058a	Ja
PFTEDAa	0.497a	0.80a	0.086a	BS1, Ja
PFBSa	0.573a	0.80a	0.050a	Ja
PFPESa	0.598a	0.80a	0.058a	Ja
PFHXSa	0.607a	0.80a	0.050a	Ja
PFHPSa	0.577a	0.80a	0.056a	Ja
PFOSa	0.526a	0.80a	0.050a	IR2, Ja
PFNSa	0.552a	0.80a	0.25a	Ja
PFDSa	0.538a	0.80a	0.064a	Ja
4:2FTSa	2.61a	3.2a	0.11a	Ja
6:2FTSa	2.55a	3.2a	0.090a	Ja
8:2FTSa	2.37a	3.2a	0.20a	Ja
PFOSAa	0.655a	3.2a	0.050a	Ja
NMeFOSAa	2.69a	3.2a	0.99a	Ja
NEtFOSAa	2.93a	3.2a	0.98a	Ja
NMeFOSAAa	0.642a	0.80a	0.072a	Ja
NEtFOSAAa	0.596a	0.80a	0.050a	Ja
NMeFOSEa	2.05a	3.2a	0.60a	BS1, Ja
NEtFOSEa	4.21a	3.2a	0.60a	BS2a
HFPO-DAa	1.25a	1.6a	0.49a	Ja
ADONa	1.20a	1.6a	0.38a	Ja

**ANALYSIS DATA SHEETL****MRL Checka**

Laboratory:a	APPL, LLCa	Work Order:a	22L0005a
Client:a	Tidewater, Inc.a	Project:a	NASA JPLa
Matrix:a	Watera	Laboratory ID:a	BBL0371-MRL1a
		File ID:a	S2022-12-29C (10)a
Sampled:a		Prepared:a	12/19/22 12:17a
		Analyzed:a	12/30/22 05:58a
Solids:a		Preparation:a	Table B-15a
		Dilution:a	1a
Batch:a	BBL0371a	Sequence:a	SB04003a
		Calibration:a	2253011a
Column:a	1a	Instrument:a	Saphira

COMPOUNDL	CONC. (ng/L)L	OQL	DL	QL
9CL-PF3ONSa	1.16a	1.6a	0.24a	Ja
11CL-PF3OUDSa	1.30a	1.6a	0.24a	Ja

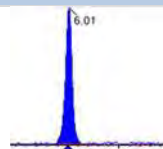
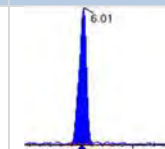
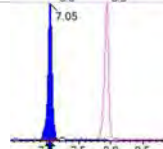
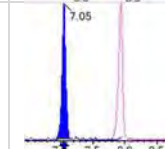
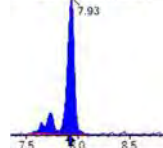
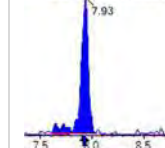
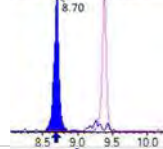
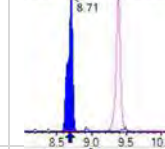
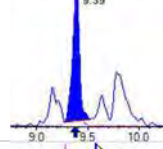
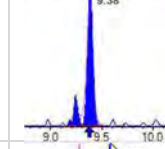
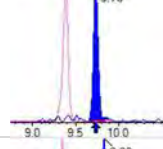
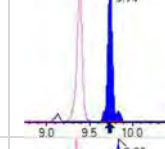
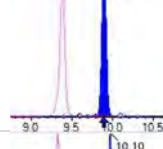
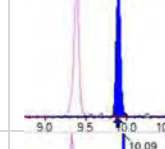
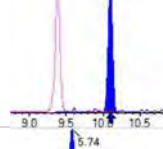
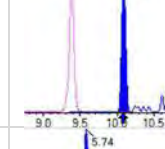
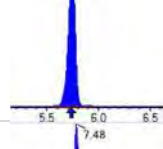
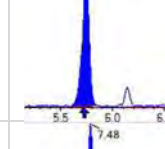
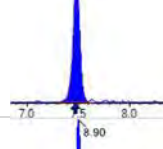
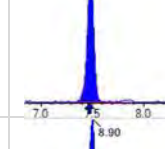
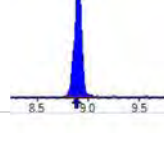
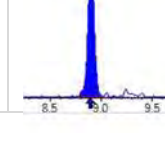


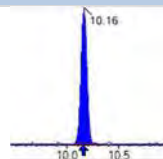
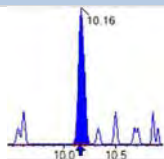
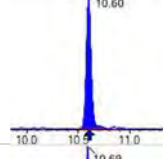
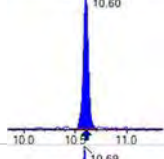
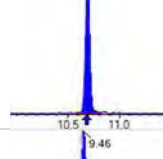
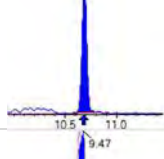
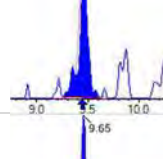
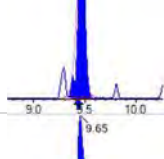
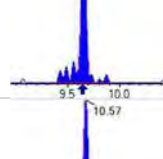
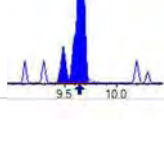
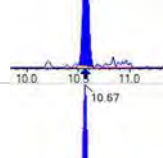
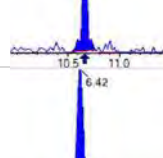
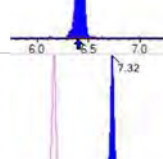
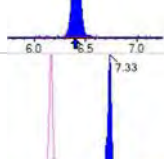
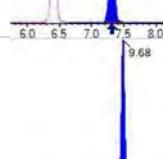
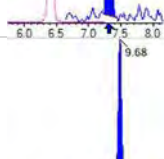
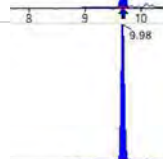
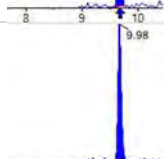
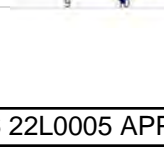

Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

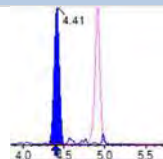
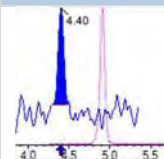
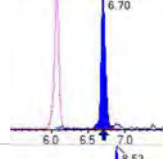
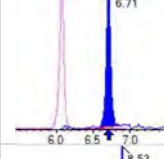
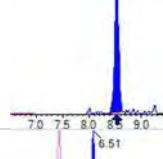
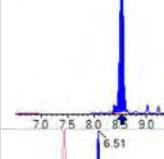
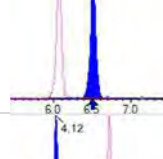
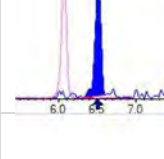
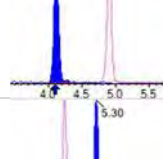
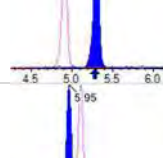
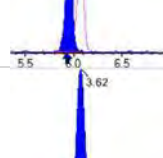
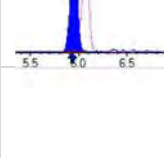
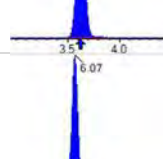
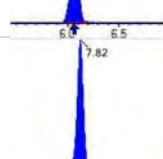
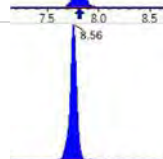
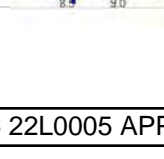
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 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

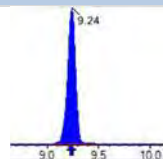
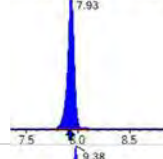
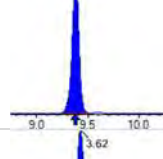
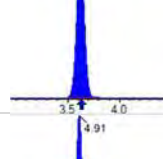
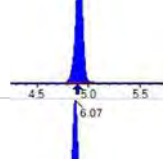
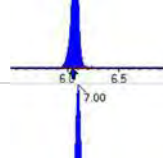
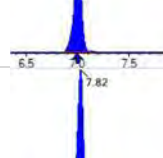
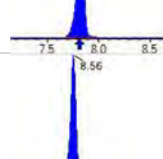
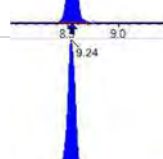
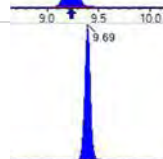
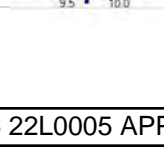
Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (10)  
 Acquired: 2022/12/30 - 05:58

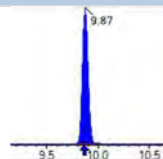
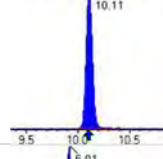
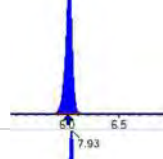
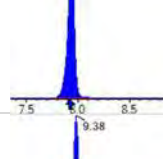
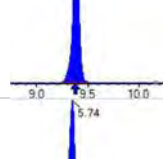
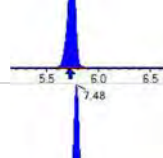
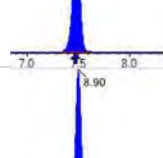
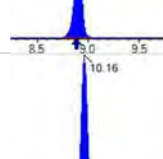
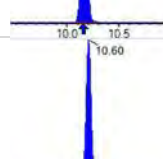
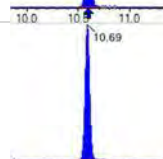
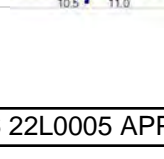
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) (ΔRT-[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 77889	(3.62, 1.00) (0.00, N/A, 0.0)	124.2	N/A 0.0 0.0	0.3293 [0.4000]	82.3%			
PFPeA	(263.0 / 219.0) 59134 (263.0 / 69.0) 704	(4.91, 1.00) (0.00, N/A, -0.8)	192.4 13.4	0.0119 115.2 103.0	0.1637 [0.2000]	81.8%			
PFHxA	(313.0 / 269.0) 40442 (313.0 / 119.0) 3057	(6.07, 1.00) (0.00, N/A, 0.1)	121.1 30.1	0.0756 77.7 83.4	0.0813 [0.1000]	81.3%			
PFHpA	(363.0 / 319.0) 36943 (363.0 / 169.0) 10648	(7.00, 1.00) (0.00, N/A, 0.1)	74.7 46.5	0.2882 100.7 105.6	0.0907 [0.1000]	90.7%			
PFOA	(413.0 / 369.0) 42344 (413.0 / 169.0) 14072	(7.82, 1.00) (0.00, N/A, 0.2)	111.9 133.2	0.3323 109.4 108.8	0.0929 [0.1000]	92.9%			
PFNA	(463.0 / 419.0) 28269 (463.0 / 169.0) 5280	(8.56, 1.00) (0.00, N/A, 1.2)	134.6 79.5	0.1868 88.2 87.5	0.0814 [0.1000]	81.4%			
PFDA	(513.0 / 469.0) 36964 (513.0 / 169.0) 2683	(9.24, 1.00) (0.00, N/A, 2.8)	56.3 25.3	0.0726 78.7 76.2	0.0891 [0.1000]	89.1%			
PFUnA	(563.0 / 519.0) 59141 (563.0 / 169.0) 4559	(9.68, 1.00) (-0.01, N/A, 0.0)	141.9 59.7	0.0771 100.2 80.2	0.1006 [0.1000]	100.6%			
PFDoA	(613.0 / 569.0) 50961 (613.0 / 169.0) 6234	(9.87, 1.00) (0.00, N/A, -0.4)	144.1 110.8	0.1223 90.8 95.6	0.0778 [0.1000]	77.8%			
PFTrDA	(663.0 / 619.0) 48271 (663.0 / 169.0) 8490	(10.00, 1.01) (N/A, 0.00, -0.1)	288.1 47.1	0.1759 80.7 96.3	0.0844 [0.1000]	84.4%			
PFTeDA	(713.0 / 669.0) 22872 (713.0 / 169.0) 5548	(10.11, 1.00) (0.00, N/A, 0.5)	51.6 33.5	0.2425 122.9 101.9	0.0621 [0.1000]	62.1%			QC,

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 53945 (299.0 / 99.0) 36476	(6.01, 1.00) (0.00, N/A, -0.2)	216.5 237.2	0.6762 102.9 105.5	0.0716 [0.0885]	81.0%			
PFPeS	(349.0 / 80.0) 84779 (349.0 / 99.0) 30553	(7.05, 0.89) (N/A, 0.01, 0.1)	257.7 197.0	0.3604 97.2 101.6	0.0747 [0.0938]	79.6%			
PFHxS	(399.0 / 80.0) 75759 (399.0 / 99.0) 23884	(7.93, 1.00) (0.00, N/A, 0.0)	221.7 138.9	0.3153 96.7 98.4	0.0758 [0.0911]	83.2%			
PFHpS	(449.0 / 80.0) 66425 (449.0 / 99.0) 18597	(8.70, 0.93) (N/A, 0.00, -0.3)	104.6 192.0	0.2800 107.4 99.0	0.0721 [0.0951]	75.8%			
PFOS	(499.0 / 80.0) 69647 (499.0 / 99.0) 22796	(9.39, 1.00) (0.00, N/A, 0.1)	45.4 217.9	0.3273 157.3 143.5	0.0657 [0.0927]	70.8%			IR2,
PFNS	(549.0 / 80.0) 82894 (549.0 / 99.0) 19595	(9.73, 1.04) (N/A, 0.00, -0.1)	90.3 84.7	0.2364 99.3 102.2	0.0690 [0.0960]	71.9%			
PFDS	(599.0 / 80.0) 97701 (599.0 / 99.0) 26803	(9.90, 1.05) (N/A, 0.01, -0.2)	236.9 171.5	0.2743 104.3 144.9	0.0672 [0.0963]	69.8%			QC,
PFDoS	(699.0 / 80.0) 56282 (699.0 / 99.0) 12361	(10.10, 1.08) (N/A, 0.01, 0.5)	173.5 43.9	0.2196 112.0 121.5	0.0822 [0.0970]	84.8%			
4:2FTS	(327.0 / 307.0) 182273 (327.0 / 81.0) 111898	(5.74, 1.00) (0.00, N/A, 0.0)	490.6 181.3	0.6139 85.8 98.4	0.3263 [0.3738]	87.3%			
6:2FTS	(427.0 / 407.0) 98010 (427.0 / 81.0) 77652	(7.48, 1.00) (0.00, N/A, -0.1)	262.2 255.8	0.7923 107.2 113.9	0.3185 [0.3796]	83.9%			
8:2FTS	(527.0 / 507.0) 88742 (527.0 / 81.0) 58472	(8.90, 1.00) (0.00, N/A, 0.1)	332.1 151.2	0.6589 107.7 87.7	0.2960 [0.3833]	77.2%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 107367 (498.0 / 478.0) 3541	(10.16, 1.00) (0.00, N/A, -0.2)	367.9 32.9	0.0330 158.0 159.9	0.0819 [0.1000]	81.9%			
NMeFOSA	(512.0 / 219.0) 30745 (512.0 / 169.0) 24248	(10.60, 1.00) (0.00, N/A, -0.1)	263.2 201.7	0.7887 114.0 117.9	0.3359 [0.4000]	84.0%			
NEIFOSA	(526.0 / 219.0) 33457 (526.0 / 169.0) 30226	(10.69, 1.00) (0.00, N/A, 0.2)	365.6 181.1	0.9035 91.0 83.7	0.3666 [0.4000]	91.7%			
NMeFOSAA	(570.0 / 419.0) 20089 (570.0 / 483.0) 12852	(9.46, 1.00) (0.01, N/A, -0.5)	51.9 23664.1	0.6397 114.9 121.1	0.0803 [0.1000]	80.3%			
NEIFOSAA	(584.0 / 419.0) 18435 (584.0 / 526.0) 9726	(9.65, 1.00) (0.00, N/A, -0.1)	194.5 255.8	0.5276 88.9 80.1	0.0746 [0.1000]	74.6%			
NMeFOSE	(616.0 / 59.0) 11198	(10.57, 1.00) (0.01, N/A, 0.0)	97.6	N/A 0.0 0.0	0.2560 [0.4000]	64.0%			QC,
NEtFOSE	(630.0 / 59.0) 3730	(10.67, 1.00) (0.01, N/A, 0.0)	83.0	N/A 0.0 0.0	0.5257 [0.4000]	131.4%			QC,
HFPO-DA	(285.0 / 169.0) 28358 (285.0 / 185.0) 79783	(6.42, 1.00) (0.01, N/A, 0.4)	355.9 335.7	2.8134 109.7 113.3	0.1563 [0.2000]	78.1%			
ADONA	(377.0 / 85.0) 108813 (377.0 / 251.0) 11969	(7.32, 1.14) (N/A, 0.01, -0.5)	509.5 56.0	0.1100 89.4 102.3	0.1505 [0.1885]	79.8%			
9CI-Pf3ONS	(531.0 / 351.0) 285653 (533.0 / 353.0) 96313	(9.68, 1.51) (N/A, 0.01, 0.1)	181.0 109.8	0.3372 106.7 113.1	0.1446 [0.1867]	77.5%			
11CI-PF3OUDS	(631.0 / 451.0) 182031 (633.0 / 453.0) 55643	(9.98, 1.56) (N/A, 0.00, 0.1)	490.4 189.9	0.3057 98.7 96.1	0.1628 [0.1886]	86.3%			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 3276 (241.0 / 117.0) 4512	(4.41, 0.90) (N/A, 0.01, 0.5)	132.0 20.8	1.3776 104.7 104.4	0.2638 [0.4000]	65.9%			QC,
5:3FTCA	(341.0 / 236.7) 25790 (341.0 / 217.0) 37546	(6.70, 1.10) (N/A, 0.00, -0.3)	139.8 126.0	1.4559 81.1 94.0	0.3389 [0.4000]	84.7%			
7:3FTCA	(441.0 / 317.0) 30240 (441.0 / 337.0) 21902	(8.53, 1.40) (N/A, 0.01, 0.0)	94.5 93.3	0.7243 87.8 85.6	0.3051 [0.4000]	76.3%			
PFEESA	(315.0 / 135.0) 65804 (315.0 / 83.0) 18063	(6.51, 1.07) (N/A, 0.01, 0.0)	317.6 69.2	0.2745 90.0 98.3	0.1442 [0.1785]	80.8%			
PFMPA	(229.0 / 85.0) 15799	(4.12, 0.84) (N/A, 0.02, 0.0)	260.3	N/A 0.0 0.0	0.1497 [0.2000]	74.9%			
PFMBA	(279.0 / 85.0) 44845	(5.30, 1.08) (N/A, 0.02, 0.0)	447.9	N/A 0.0 0.0	0.1490 [0.2000]	74.5%			
NFDHA	(295.0 / 201.0) 37533 (295.0 / 85.0) 36010	(5.95, 0.98) (N/A, 0.02, 0.1)	263.0 188.7	0.9594 111.7 104.5	0.1538 [0.2000]	76.9%			
13C3_PFBa_IIS	(216.0 / 172.0) 294995	(3.62, N/A) (N/A, 0.01, N/A)	705.0	N/A	1.3698 [1.0000]	137.0% {125.1%}			
13C2_PFHxA_IIS	(315.0 / 270.0) 545711	(6.07, N/A) (N/A, 0.01, N/A)	523.2	N/A	1.4375 [1.0000]	143.8% {132.2%}			
13C4_PFOA_IIS	(417.0 / 372.0) 501545	(7.82, N/A) (N/A, 0.01, N/A)	508.1	N/A	1.3894 [1.0000]	138.9% {127.5%}			
13C5_PFNAl_IIS	(468.0 / 423.0) 375959	(8.56, N/A) (N/A, 0.01, N/A)	465.3	N/A	1.2785 [1.0000]	127.9% {117.2%}			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 446770	(9.24, N/A) (N/A, 0.01, N/A)	296.6	N/A	1.3115 [ 1.0000 ]	131.2% { 126.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 783622	(7.93, N/A) (N/A, 0.01, N/A)	613.4	N/A	1.2951 [ 1.0000 ]	129.5% { 124.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 751267	(9.38, N/A) (N/A, 0.00, N/A)	446.6	N/A	1.1651 [ 1.0000 ]	116.5% { 114.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2025217	(3.62, N/A) (N/A, 0.00, N/A)	747.4	N/A	6.8381 [ 8.0000 ]	85.5% { 108.8% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1521910	(4.91, N/A) (N/A, 0.02, N/A)	665.5	N/A	3.6966 [ 4.0000 ]	92.4% { 116.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1002040	(6.07, N/A) (N/A, 0.02, N/A)	576.0	N/A	1.7944 [ 2.0000 ]	89.7% { 123.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 777648	(7.00, N/A) (N/A, 0.01, N/A)	436.5	N/A	1.6030 [ 2.0000 ]	80.2% { 104.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 855718	(7.82, N/A) (N/A, 0.01, N/A)	634.9	N/A	1.6676 [ 2.0000 ]	83.4% { 108.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 360024	(8.56, N/A) (N/A, 0.01, N/A)	532.2	N/A	0.9216 [ 1.0000 ]	92.2% { 109.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 418336	(9.24, N/A) (N/A, 0.01, N/A)	307.3	N/A	0.7752 [ 1.0000 ]	77.5% { 94.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 643902	(9.69, N/A) (N/A, 0.01, N/A)	543.7	N/A	0.9702 [ 1.0000 ]	97.0% { 133.9% }			

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-[min], $\Delta$ RT- CV[min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDa_EIS	(615.0 / 570.0) 683594	(9.87, N/A) (N/A, 0.00, N/A)	926.5	N/A	1.0322 [ 1.0000 ]	103.2% { 118.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 364315	(10.11, N/A) (N/A, 0.00, N/A)	894.7	N/A	0.8681 [ 1.0000 ]	86.8% { 89.5% }			
13C3_PFBs_EIS	(302.0 / 80.0) 2360328	(6.01, N/A) (N/A, 0.02, N/A)	624.6	N/A	1.9902 [ 2.0000 ]	99.5% { 116.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1153858	(7.93, N/A) (N/A, 0.01, N/A)	576.2	N/A	1.7968 [ 2.0000 ]	89.8% { 115.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 1821040	(9.38, N/A) (N/A, 0.01, N/A)	486.6	N/A	2.0114 [ 2.0000 ]	100.6% { 120.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 657139	(5.74, N/A) (N/A, 0.02, N/A)	676.4	N/A	4.9044 [ 4.0000 ]	122.6% { 126.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 766730	(7.48, N/A) (N/A, 0.01, N/A)	666.1	N/A	4.3248 [ 4.0000 ]	108.1% { 107.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 768879	(8.90, N/A) (N/A, 0.01, N/A)	781.1	N/A	3.4405 [ 4.0000 ]	86.0% { 125.6% }			
13C8_PFOsa_EIS	(506.0 / 78.0) 2259813	(10.16, N/A) (N/A, 0.01, N/A)	921.7	N/A	2.1385 [ 2.0000 ]	106.9% { 110.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 188461	(10.60, N/A) (N/A, 0.01, N/A)	605.6	N/A	0.9431 [ 2.0000 ]	47.2% { 47.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 183999	(10.69, N/A) (N/A, 0.00, N/A)	884.7	N/A	1.0053 [ 2.0000 ]	50.3% { 49.8% }			



Chemist: HGH  
 Instrument: Saphira  
 Type: Sciex Q3 5500

Sample I.D.: BBL0371-MRL1  
 DF, IV: 1, 10.0µL  
 Acquisition Method: 1633 2022-12-27.dam

Quant Method: 1633 - S2022-12-29A  
 Path: S2022-12-30A (10)  
 Acquired: 2022/12/30 - 05:58

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min], R.R.T.) ( $\Delta$ RT-I[ $\mu$ min], $\Delta$ RT-CV[ $\mu$ min], $\Delta$ RT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [ True ] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1102903	(9.45, N/A) (N/A, 0.01, N/A)	417.6	N/A	3.8718 [ 4.0000 ]	96.8% { 110.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1003321	(9.65, N/A) (N/A, 0.01, N/A)	122.2	N/A	4.4299 [ 4.0000 ]	110.7% { 116.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 716654	(10.56, N/A) (N/A, 0.00, N/A)	1031.6	N/A	16.4152 [ 20.0000 ]	82.1% { 78.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 309347	(10.66, N/A) (N/A, 0.01, N/A)	1089.5	N/A	15.3660 [ 20.0000 ]	76.8% { 65.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2091445	(6.41, N/A) (N/A, 0.01, N/A)	725.0	N/A	6.6949 [ 8.0000 ]	83.7% { 114.8% }			

## PREPARATION BATCH SUMMARYb

Table B-15b

Laboratory:b APPL, LLCb Work Order:b 22L0005b  
 Client:b Tidewater, Inc.b Project:b NASA JPLb  
 Batch:b BBL0032b Batch Matrix:b Solidb Preparation:b Table B-15b

SAMPLE NAMEb	LAB SAMPLE IDb	DATE PREPAREDb	INITIAL VOL./WEIGHTb gb	FINAL VOL.b mLb
SB-1-0.5-113022-	22L0005-01-	12/01/22 14:45-	1.02-	2.00-
SB-1-2.0-113022-	22L0005-02-	12/01/22 14:45-	1.10-	2.00-
SB-1-2.0-113022-	22L0005-02RE1-	12/01/22 14:45-	1.10-	2.00-
SB-2-0.5-113022-	22L0005-03-	12/01/22 14:45-	1.00-	2.00-
SB-2-2.0-113022-	22L0005-04-	12/01/22 14:45-	1.03-	2.00-
SB-3-0.5-113022-	22L0005-05-	12/01/22 14:45-	1.03-	2.00-
SB-3-2.0-113022-	22L0005-06-	12/01/22 14:45-	1.09-	2.00-
SB-4-0.5-113022-	22L0005-07-	12/01/22 14:45-	1.04-	2.00-
SB-4-2.0-113022-	22L0005-08-	12/01/22 14:45-	1.04-	2.00-
SB-5-0.5-113022-	22L0005-09-	12/01/22 14:45-	1.08-	2.00-
SB-5-2.0-113022-	22L0005-10-	12/01/22 14:45-	1.16-	2.00-
DUP-1-113022-	22L0005-11-	12/01/22 14:45-	1.06-	2.00-
SB-6-0.5-113022-	22L0005-12-	12/01/22 14:45-	1.02-	2.00-
SB-6-0.5-113022-	22L0005-12RE1-	12/01/22 14:45-	1.02-	2.00-
DUP-2-113022-	22L0005-13-	12/01/22 14:45-	1.09-	2.00-
DUP-2-113022-	22L0005-13RE1-	12/01/22 14:45-	1.09-	2.00-
SB-6-2.0-113022-	22L0005-14-	12/01/22 14:45-	1.11-	2.00-
SB-6-2.0-113022-	22L0005-14RE1-	12/01/22 14:45-	1.11-	2.00-
Blank-	BBL0032-BLK1-	12/01/22 14:45-	1.01-	2.00-
LCS-	BBL0032-BS1-	12/01/22 14:45-	1.06-	2.00-
LCS Dup-	BBL0032-BSD1-	12/01/22 14:45-	1.02-	2.00-
MRL Check-	BBL0032-MRL1-	12/01/22 14:45-	1.09-	2.00-
SB-6-2.0-113022-	BBL0032-MS1-	12/01/22 14:45-	1.02-	2.00-
SB-6-2.0-113022-	BBL0032-MSD1-	12/01/22 14:45-	1.04-	2.00-

# PREPARATION BENCH SHEETE

## OrganicsE

BBL0032 0

**Ma rix: Solidt**

**Prepared using: PFAS - Table B-15**

<b>Analyses</b> B-15 DOD	<b>Spiking Solution(s)</b> PFAS - MIX 1633 10ng/mLi	<b>Surrogate Solution(s)</b> MPFAC-HIF-ES 40.0ng/mLi
-----------------------------	--	---

Lab Number	Sample and Source IDT	Date Due	Extract by	Preparedt	Initial (g)t	Final (mL)t	ul Spiket	ul Surrogatet	Extraction Comments
22L0005-01i	SB-1-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.02i	2i		100	
22L0005-01RE1i	SB-1-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.02i	2i		100i	Added 12/9/2022 by DAG
22L0005-02i	SB-1-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.1i	2i		100	
22L0005-02RE1i	SB-1-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.1i	2i		100i	Added 12/9/2022 by DAG
22L0005-03	SB-2-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1i	2i		100	
22L0005-03RE1i	SB-2-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1i	2i		100i	Added 12/9/2022 by DAG
22L0005-04i	SB-2-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.03	2i		100	
22L0005-04RE1i	SB-2-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.03	2i		100i	Added 12/9/2022 by DAG
22L0005-05i	SB-3-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.03	2i		100	
22L0005-05RE1i	SB-3-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.03	2i		100i	Added 12/9/2022 by DAG
22L0005-06i	SB-3-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.09i	2i		100	
22L0005-06RE1i	SB-3-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.09i	2i		100i	Added 12/9/2022 by DAG
22L0005-07i	SB-4-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.04i	2i		100	
22L0005-07RE1i	SB-4-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.04i	2i		100i	Added 12/9/2022 by DAG
22L0005-08i	SB-4-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.04i	2i		100	
22L0005-08RE1i	SB-4-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.04i	2i		100i	Added 12/9/2022 by DAG
22L0005-09i	SB-5-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.08i	2i		100	
22L0005-09RE1i	SB-5-0.5-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.08i	2i		100i	Added 12/9/2022 by DAG
22L0005-10i	SB-5-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.16i	2i		100	
22L0005-10RE1i	SB-5-2.0-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.16i	2i		100i	Added 12/9/2022 by DAG
22L0005-11i	DUP-1-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.06i	2i		100	
22L0005-11RE1i	DUP-1-113022i	12/14/2022i	12/28/2022	12/1/2022 2:45:00PM	1.06i	2i		100i	Added 12/9/2022 by DAG

# PREPARATION BENCH SHEETE

## Organics

BBL0032 0

(Continued)E

Print Date/Time: 01/03/2023 1:10 pm

Ma mix: Solidt

Prepared using: PFAS - Table B-15

Analyses		Spiking Solution(s)			Surrogate Solution(s)		
B-15 DOD	22K0039i	PFAS - MIX 1633 10ng/mL	22K0408i	MPFAC-HIF-ES 40.0ng/mL			
22L0005-12i	12/28/2022	12/1/2022 2:45:00PM	100				
22L0005-12RE1i	12/28/2022	12/1/2022 2:45:00PM	100i	Added 12/9/2022 by DAG			
22L0005-13	12/28/2022	12/1/2022 2:45:00PM	100				
22L0005-13RE1i	12/28/2022	12/1/2022 2:45:00PM	100i	Added 12/9/2022 by DAG			
22L0005-14i	12/28/2022	12/1/2022 2:45:00PM	100				
22L0005-14RE1i	12/28/2022	12/1/2022 2:45:00PM	100i	Added 12/9/2022 by DAG			
BBL0032-BLK1i			0i				
BBL0032-BS1i			200i				
BBL0032-BSD1i			200i				
BBL0032-MRL1i			20i				
BBL0032-MS1i			200i				
BBL0032-MSD1i			200i				

Reagents	Standardt	Descriptiont	LotNumt
	22C0296i	Envi-carbi	122395i
	22K0485i	Reagent - 1.0%	219481i
		Ammonia Hydroxidei	

Start Date/Time \_\_\_\_\_  
 Stop Date/Time \_\_\_\_\_

Batch Comments:  
 Spiked by: ABK 12/01/22 2:00 PM  
 Balance #: WB2  
 Concentration: 12/2/22 11:55-3:10,12/4/22 12-2:00i

Spiking Witnessed By \_\_\_\_\_ Date i \_\_\_\_\_  
 Preparation Reviewed By \_\_\_\_\_ Date i \_\_\_\_\_  
 Extracts Received By \_\_\_\_\_ Date \_\_\_\_\_

# PREPARATION BATCH SUMMARY<sup>b</sup>

Table B-15<sup>b</sup>

Laboratory: <sup>b</sup>	APPL, LLC <sup>b</sup>	Work Order: <sup>b</sup>	22L0005 <sup>b</sup>
Client: <sup>b</sup>	Tidewater, Inc. <sup>b</sup>	Project: <sup>b</sup>	NASA JPL <sup>b</sup>
Batch: <sup>b</sup>	BBL0249 <sup>b</sup>	Batch Matrix: <sup>b</sup>	Water <sup>b</sup>
		Preparation: <sup>b</sup>	Table B-15 <sup>b</sup>

<b>SAMPLE NAME<sup>b</sup></b>	<b>LAB SAMPLE ID<sup>b</sup></b>	<b>DATE PREPARED<sup>b</sup></b>	<b>INITIAL VOL./WEIGHT<sup>b</sup> mL<sup>b</sup></b>	<b>FINAL VOL.<sup>b</sup> mL<sup>b</sup></b>
Field Blanke	22L0005-15e	12/13/22 09:44e	47.29e	2.00e
Blanke	BBL0249-BLK1	12/13/22 09:44e	50.00e	2.00e
LCS <sup>e</sup>	BBL0249-BS1	12/13/22 09:44e	50.00e	2.00e
LCS Dupe	BBL0249-BSD1	12/13/22 09:44e	50.00e	2.00e
MRL Checke	BBL0249-MRL1	12/13/22 09:44e	50.00e	2.00e

# PREPARATION BENCH SHEETE

## Organics

BBL0249 0

**Ma rix: Watert**

**Prepared using: PFAS - Table B-15**

Analyses	Spiking Solution(s)			Surrogate Solution(s)			Final (mL)t	ul Spiket	ul Surrogatet	Extraction Comments
B-15 DOD	22K0039i	PFAS - MIX 1633 10ng/mLi		22L0117i	MPFAC-HIF-ES 20.0ng/mLi					
Lab Numbert	Sample and Source IDT	Date Due	Extract by	Preparedt	Initial (mL)t	Final (mL)t	ul Spiket	ul Surrogatet	Extraction Comments	
22L0003-04i	Field Blank-LAWCi	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	53.25i	2i		200		
22L0003-04RE1i	Field Blank-LAWCi	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	53.25i	2i		200	Added 12/15/2022 by ABK	
22L0004-21i	FB-1-112822i	12/14/2021	12/26/2022	12/13/2022 9:44:00AM	51.52i	2i		200		
22L0004-21RE1i	FB-1-112822i	12/14/2021	12/26/2022	12/13/2022 9:44:00AM	51.52i	2i		200	Added 12/15/2022 by ABK	
22L0004-24i	FB-2-112922i	12/14/2021	12/27/2022	12/13/2022 9:44:00AM	47.64i	2i		200		
22L0004-24RE1i	FB-2-112922i	12/14/2021	12/27/2022	12/13/2022 9:44:00AM	47.64i	2i		200	Added 12/15/2022 by ABK	
22L0004-28i	FB-3-113022i	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	48.85i	2i		200		
22L0004-28RE1i	FB-3-113022i	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	48.85i	2i		200	Added 12/15/2022 by ABK	
22L0005-15i	Field Blanki	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	47.29i	2i		200		
22L0005-15RE1i	Field Blanki	12/14/2021	12/28/2022	12/13/2022 9:44:00AM	47.29i	2i		200	Added 12/15/2022 by ABK	
22L0068-04i	FB2-120522i	12/22/2021	01/02/2023	12/13/2022 9:44:00AM	44.96i	2i		200		
22L0068-04RE1i	FB2-120522i	12/22/2021	01/02/2023	12/13/2022 9:44:00AM	44.96i	2i		200	Added 12/15/2022 by ABK	
22L0068-12i	FB1-120622i	12/22/2021	01/03/2023	12/13/2022 9:44:00AM	47.91i	2i		200		
22L0068-12RE1i	FB1-120622i	12/22/2021	01/03/2023	12/13/2022 9:44:00AM	47.91i	2i		200	Added 12/15/2022 by ABK	
22L0068-17i	FB-4-120722i	12/22/2021	01/04/2023	12/13/2022 9:44:00AM	46.5i	2i		200		
22L0068-17RE1i	FB-4-120722i	12/22/2021	01/04/2023	12/13/2022 9:44:00AM	46.5i	2i		200	Added 12/15/2022 by ABK	
22L0068-23i	FB-3-120822i	12/22/2021	01/05/2023	12/13/2022 9:44:00AM	47.74i	2i		200		
22L0068-23RE1i	FB-3-120822i	12/22/2021	01/05/2023	12/13/2022 9:44:00AM	47.74i	2i		200	Added 12/15/2022 by ABK	
BBL0249-BLK1i	Blanki			12/13/2022 9:44:00AM	50	2i	0	200		
BBL0249-BS1i	LCSI			12/13/2022 9:44:00AM	50	2i	200	200		
BBL0249-BSD1i	LCS Dupi			12/13/2022 9:44:00AM	50	2i	200	200		
BBL0249-MRL1i	MRL Checki			12/13/2022 9:44:00AMi	50	2i	20	200		

# PREPARATION BENCH SHEETE

## Organics

Print Date/Time: 12/22/2022 12:47 pm

BBL0249

(Continued)E

Matrix: Watert

Prepared using: PFAS - Table B-15

**Analyses**  
B-15 DOD

**Spiking Solution(s)**  
22K0039i PFAS - MIX 1633 10ng/mLi

**Surrogate Solution(s)**  
22L0117i MPFAC-HIF-ES 20.0ng/mLi

Start Date/Time \_\_\_\_\_

Stop Date/Time \_\_\_\_\_

Batch Comments:

Spiked by: HH 12/13/22 9:00

Balance #: WB2

Concentration: 12/14/22 9:15-10:02

Cartridge: N/A

Reagents	Standardt	Description	LotNumt
	22C0296i	Envi-carbi	122395i
	22K0511i	Reagent -0.3M Formic Acidi	M13H051i
	22L0094i	Reagent - 0.05MFA washi	xi
	22L0175i	Reagent - 1.0% Ammonia Hydroxide	219481i
	22L0224i	Am. Ac. preservativei	P28T056i

Spiking Witnessed By

Date i

Preparation Reviewed Byi

Date i

Extracts Received Byi

Date

# PREPARATION BATCH SUMMARY<sup>b</sup>

## Table B-15<sup>b</sup>

Laboratory: <sup>b</sup>	APPL, LLC <sup>b</sup>	Work Order: <sup>b</sup>	22L0005 <sup>b</sup>
Client: <sup>b</sup>	Tidewater, Inc. <sup>b</sup>	Project: <sup>b</sup>	NASA JPL <sup>b</sup>
Batch: <sup>b</sup>	BBL0371 <sup>b</sup>	Batch Matrix: <sup>b</sup>	Water <sup>b</sup>
		Preparation: <sup>b</sup>	Table B-15 <sup>b</sup>

<b>SAMPLE NAME<sup>b</sup></b>	<b>LAB SAMPLE ID<sup>b</sup></b>	<b>DATE PREPARED<sup>b</sup></b>	<b>INITIAL VOL./WEIGHT<sup>b</sup> mL<sup>b</sup></b>	<b>FINAL VOL.<sup>b</sup> mL<sup>b</sup></b>
EQP-1-SOILP	22L0005-16RE2P	12/19/22 12:17P	311.42P	2.00P
EQP-1-SOILP	22L0005-16RE3P	12/19/22 12:17P	311.42P	2.00P
BlankP	BBL0371-BLK1P	12/19/22 12:17P	250.00P	2.00P
LCSP	BBL0371-BS1P	12/19/22 12:17P	250.00P	2.00P
LCS DupP	BBL0371-BSD1P	12/19/22 12:17P	250.00P	2.00P
MRL CheckP	BBL0371-MRL1P	12/19/22 12:17P	250.00P	2.00P

# PREPARATION BENCH SHEETE

## Organics

BBL0371 0

**Ma rix: Watert**

**Prepared using: PFAS - Table B-15**

Analyses		Spiking Solution(s)			Surrogate Solution(s)				
B-15 DOD		22L0269i	PFAS - MIX 1633 10ng/mLi	22L0272i	MPFAC-HIF-ES 20.0ng/mLi				
Lab Number	Sample and Source IDT	Date Due	Extract by	Prepared	Initial (mL)t	Final (mL)t	ul Spiket	ul Surrogatet	Extraction Comments
22L0004-26RE2i	SB-3-113022i	12/14/2022i	12/28/2022	12/19/2022 12:17:00PM	289.55	2i		200i	Re-extract added 12/16/2022 by HGH
22L0004-26RE3i	SB-3-113022i	12/14/2022i	12/28/2022	12/19/2022 12:17:00PM	289.55	2i		200i	Re-extract added 12/16/2022 by HGH
22L0005-16RE2i	EQP-1-SO1i	12/14/2022i	12/28/2022	12/19/2022 12:17:00PM	311.42i	2i		200i	Re-extract added 12/16/2022 by HGH
22L0005-16RE3i	EQP-1-SO1i	12/14/2022i	12/28/2022	12/19/2022 12:17:00PM	311.42i	2i		200i	Re-extract added 12/16/2022 by HGH
22L0050-02i	CL5	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	196.87i	2i		200	
22L0050-02RE1i	CL5	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	196.87i	2i		200i	Added 12/28/2022 by DAG
22L0050-03i	CL6i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	217.3i	2i		200	
22L0050-03RE1i	CL6i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	217.3i	2i		200i	Added 12/28/2022 by DAG
22L0050-03RE2i	CL6i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	217.3i	2i		200i	Added 1/4/2023 by DAG
22L0050-04i	CL7i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	259.88i	2i		200	
22L0050-04RE1i	CL7i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	259.88i	2i		200i	Added 12/28/2022 by DAG
22L0050-05	CL8i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	206.59i	2i		200	
22L0050-05RE1i	CL8i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	206.59i	2i		200i	Added 12/28/2022 by DAG
22L0050-05RE2i	CL8i	12/20/2022i	01/02/2023	12/19/2022 12:17:00PM	206.59i	2i		200i	Added 1/4/2023 by DAG
22L0068-21i	EP-3i	12/22/2022i	01/05/2023	12/19/2022 12:17:00PM	309.36i	2i		200	
22L0068-21RE1i	EP-3i	12/22/2022i	01/05/2023	12/19/2022 12:17:00PM	309.36i	2i		200i	Added 12/28/2022 by DAG
22L0068-22i	EQP-3-120822i	12/22/2022i	01/05/2023	12/19/2022 12:17:00PM	305.1i	2i		200	
22L0068-22RE1i	EQP-3-120822i	12/22/2022i	01/05/2023	12/19/2022 12:17:00PM	305.1i	2i		200i	Added 12/28/2022 by DAG
22L0080-01i	SS596P-76-MW54_1222i	12/27/2022i	01/03/2023	12/19/2022 12:17:00PM	311.75	2i		200i	Include all EIS in dilutions
22L0080-01RE1i	SS596P-76-MW54_1222i	12/27/2022i	01/03/2023	12/19/2022 12:17:00PM	311.75	2i		200i	Include all EIS in dilutions
22L0080-02i	SS596P-86-MW05_1222i	12/27/2022i	01/03/2023	12/19/2022 12:17:00PM	271.8i	2i		200i	Include all EIS in dilutions
22L0080-02RE1i	SS596P-86-MW05_1222i	12/27/2022i	01/03/2023	12/19/2022 12:17:00PM	271.8i	2i		200i	Include all EIS in dilutions

# PREPARATION BENCH SHEETE

## Organics

BBL0371

(Continued)E

**Ma rix: Watert**

**Prepared using: PFAS - Table B-15**

Analyses		Spiking Solution(s)				Surrogate Solution(s)			
B-15 DOD	22L0269i	PFAS - MIX 1633 10ng/mL	2i	267.48i	2i	22L0272i	MPFAC-HIF-ES 20.0ng/mL	200i	Include all EIS in dilutions
22L0080-03i	SS596P-86-MW13_1222i	12/27/2021	12/19/2022 12:17:00PM	267.48i	2i		200i		Include all EIS in dilutions
22L0080-03REli	SS596P-86-MW13_1222i	12/27/2021	12/19/2022 12:17:00PM	267.48i	2i		200i		Include all EIS in dilutions
22L0080-04i	SS596P-76-MW49_1222i	12/27/2021	12/19/2022 12:17:00PM	275.3i	2i		200i		Include all EIS in dilutions
22L0080-04REli	SS596P-76-MW49_1222i	12/27/2021	12/19/2022 12:17:00PM	275.3i	2i		200i		Include all EIS in dilutions
22L0080-05	SS596P-76-MW50_1222i	12/27/2021	12/19/2022 12:17:00PM	294.18i	2i		200i		Include all EIS in dilutions
22L0080-05REli	SS596P-76-MW50_1222i	12/27/2021	12/19/2022 12:17:00PM	294.18i	2i		200i		Include all EIS in dilutions
22L0080-06i	SS596P-86-MW33_1222i	12/27/2021	12/19/2022 12:17:00PM	277.96i	2i		200i		Include all EIS in dilutions
22L0080-06REli	SS596P-86-MW33_1222i	12/27/2021	12/19/2022 12:17:00PM	277.96i	2i		200i		Include all EIS in dilutions
22L0080-06RE2i	SS596P-86-MW33_1222i	12/27/2021	12/19/2022 12:17:00PM	277.96i	2i		200i		Include all EIS in dilutions
22L0080-07i	SS596P-76-MW10_1222i	12/27/2021	12/19/2022 12:17:00PM	297.75	2i		200i		Include all EIS in dilutions
22L0080-07REli	SS596P-76-MW10_1222i	12/27/2021	12/19/2022 12:17:00PM	297.75	2i		200i		Include all EIS in dilutions
22L0080-08i	SS593P-5/14-MW170_1222i	12/27/2021	12/19/2022 12:17:00PM	309.24i	2i		200i		Include all EIS in dilutions
22L0080-08REli	SS593P-5/14-MW170_1222i	12/27/2021	12/19/2022 12:17:00PM	309.24i	2i		200i		Include all EIS in dilutions
22L0080-09i	SS593P-5/14-MW001_1222i	12/27/2021	12/19/2022 12:17:00PM	2991.58i	2i		200i		Include all EIS in dilutions
22L0080-09REli	SS593P-5/14-MW001_1222i	12/27/2021	12/19/2022 12:17:00PM	2991.58i	2i		200i		Include all EIS in dilutions
22L0080-10i	SS593P-5/14-MW001A1_1222i	12/27/2021	12/19/2022 12:17:00PM	301.73i	2i		200i		Include all EIS in dilutions
22L0080-10REli	SS593P-5/14-MW001A1_1222i	12/27/2021	12/19/2022 12:17:00PM	301.73i	2i		200i		Include all EIS in dilutions
22L0080-11i	SS593P-15-MW10_1222i	12/27/2021	12/19/2022 12:17:00PM	314.28i	2i		200i		Include all EIS in dilutions
22L0080-11REli	SS593P-15-MW10_1222i	12/27/2021	12/19/2022 12:17:00PM	314.28i	2i		200i		Include all EIS in dilutions
22L0080-15	WP112P-110-MW01_1222i	12/27/2021	12/19/2022 12:17:00PM	293.93i	2i		200i		Include all EIS in dilutions
22L0080-15REli	WP112P-110-MW01_1222i	12/27/2021	12/19/2022 12:17:00PM	293.93i	2i		200i		Include all EIS in dilutions
BBL0371-BLK1i	Blanki		12/19/2022 12:17:00PM	250i	2i	0i	200		
BBL0371-BSIi	LCSI		12/19/2022 12:17:00PM	250i	2i	200i	200		
BBL0371-BSD1i	LCS Dupi		12/19/2022 12:17:00PM	250i	2i	200i	200		

# PREPARATION BENCH SHEETE

## Organics

Print Date/Time: 01/05/2023 4:54 pm

BBL0371

(Continued)E

**Marix: Watert**

**Prepared using: PFAS - Table B-15**

Analyses		Spiking Solution(s)			Surrogate Solution(s)		
B-15 DOD		22L0269i	PFAS - MIX 1633 10ng/mL		22L0272i	MPFAC-HIF-ES 20.0ng/mL	
BBL0371-MRL1i	MRL Checki	12/19/2022 12:17:00PM	250i	2i	20i	200	
BBL0371-MS1 i	Matrix Spike [22L0080-15]i	12/19/2022 12:17:00PM	250i	2i	200i	200	
BBL0371-MSD1 i	Matrix Spike Dup [22L0080-15]i	12/19/2022 12:17:00PM	250i	2i	200i	200	

Start Date/Time \_\_\_\_\_

Stop Date/Time \_\_\_\_\_

Standardt	Description	LotNumt
22K0511i	Reagent -0.3M Formic Acidi	M13H051i
22L0094i	Reagent - 0.05MFA wash	xi
22L0224i	Am. Ac. preservativei	P28I056i
22L0369i	Reagent - 1.0% Ammonia Hydroxidei	219481i

Batch Comments:  
 Spiked by: DAG 12/19/22 3:30  
 Balance #: WB2  
 Cartridge: Phenomenex 8B-S038-FBJ  
 concentration:12/21/22 9:00-3:35, 12/22/22/ 10:41-4:00i

Spiking Witnessed By \_\_\_\_\_

Date i \_\_\_\_\_

Preparation Reviewed By \_\_\_\_\_

Date i \_\_\_\_\_

Extracts Received By \_\_\_\_\_

Date \_\_\_\_\_

# PREPARATION BENCH SHEETE

## Organics

BBL0371 0

**Ma rix: Watert**

**Prepared using: PFAS - Table B-15**

<b>Analyses</b> B-15 DOD	<b>Spiking Solution(s)t</b>
Surrogate Solution(s) 22L0272i MPFAC-HIF-ES 20.0ng/mLi	

Lab Number	Sample and Source IDT	Date Due	Extract by	Preparedt	Initial (mL)t	Final (mL)t	ul Spiket	ul Surrogatet	Extraction Comments
22L0004-26RE2i	SB-3-113022i	12/14/2021	12/28/2022	12/19/2022 12:17:00PM	50i	2i		200i	Re-extract added 12/16/2022 by HGH
22L0005-16RE2i	EQP-1-SO1I	12/14/2021	12/28/2022	12/19/2022 12:17:00PM	50i	2i		200i	Re-extract added 12/16/2022 by HGH
22L0050-02i	CL5	12/20/2021	01/02/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0050-03i	CL6i	12/20/2021	01/02/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0050-04i	CL7i	12/20/2021	01/02/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0050-05	CL8i	12/20/2021	01/02/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0068-21i	EP-3i	12/22/2021	01/05/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0068-22i	EQP-3-120822i	12/22/2021	01/05/2023	12/19/2022 12:17:00PM	50i	2i		200	
22L0080-01i	SS596P-76-MW54_1222i	12/27/2021	01/03/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-02i	SS596P-86-MW05_1222i	12/27/2021	01/03/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-03i	SS596P-86-MW13_1222i	12/27/2021	01/03/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-04i	SS596P-76-MW49_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-05	SS596P-76-MW50_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-06i	SS596P-86-MW33_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-07i	SS596P-76-MW10_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-08i	SS593P-5/14-MW170_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-09i	SS593P-5/14-MW001_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-10i	SS593P-5/14-MW001A1_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-11i	SS593P-15-MW10_1222i	12/27/2021	01/04/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
22L0080-15	WP112P-110-MW01_1222i	12/27/2021	01/05/2023	12/19/2022 12:17:00PM	50i	2i		200i	Include all EIS in dilutions
BBL0371-BLK1i	Blanki			12/19/2022 12:17:00PM	50i	2i		200	
BBL0371-BS1i	LCSI			12/19/2022 12:17:00PMi	50i	2i		200	

# PREPARATION BENCH SHEETE

## Organics

Print Date/Time: 12/19/2022 12:29 pm

BBL0371

(Continued)E

**Matrix:** Watert

**Prepared using:** PFAS - Table B-15

Analyses	Spiking Solution(s)t				Surrogate Solution(s)
BBL0371-BSD1i	LCS Dupi	12/19/2022 12:17:00PM	50i	2i	22L0272i MPFAC-HIF-ES 20.0ng/mL
BBL0371-MRL1i	MRL Checki	12/19/2022 12:17:00PM	50i	2i	
BBL0371-MS1i	Matrix Spike [22L0080-15]j	12/19/2022 12:17:00PM	50i	2i	
BBL0371-MSD1i	Matrix Spike Dup [22L0080-15]j	12/19/2022 12:17:00PM	50i	2i	

Reagents	Standardt	Description	LotNum t

Start Date/Time \_\_\_\_\_  
 Stop Date/Time \_\_\_\_\_

Spiking Witnessed By \_\_\_\_\_
Preparation Reviewed By \_\_\_\_\_
Extracts Received By \_\_\_\_\_

Date i \_\_\_\_\_
Date i \_\_\_\_\_
Date \_\_\_\_\_

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB03724b	Instrument:b	Saphirab
Calibration:b	2250016b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Cal StandardI	SB03724-CAL1b	S2022-12-07A (1)b	12/07/22 14:12b
Cal StandardI	SB03724-CAL2b	S2022-12-07A (2)b	12/07/22 14:24b
Cal StandardI	SB03724-CAL3b	S2022-12-07A (3)b	12/07/22 14:37b
Cal StandardI	SB03724-CAL4b	S2022-12-07A (4)b	12/07/22 14:50b
Cal StandardI	SB03724-CAL5b	S2022-12-07A (5)b	12/07/22 15:03b
Cal StandardI	SB03724-CAL6b	S2022-12-07A (6)b	12/07/22 15:15b
Cal StandardI	SB03724-CAL7b	S2022-12-07A (7)b	12/07/22 15:28b
Cal StandardI	SB03724-CAL8b	S2022-12-07A (8)b	12/07/22 15:41b
Initial Cal BlankI	SB03724-ICB1b	S2022-12-07A (9)b	12/07/22 15:53b
Secondary Cal CheckI	SB03724-SCV1b	S2022-12-07A (10)b	12/07/22 16:06b

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB03754b	Instrument:b	Saphirab
Calibration:b	2250016b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Calibration Blankl	SB03754-CCB1b	S2022-12-09A (1)b	12/09/22 08:49b
Low Cal Checkl	SB03754-LCV1b	S2022-12-09A (2)b	12/09/22 09:01b
Calibration Checkl	SB03754-CCV1b	S2022-12-09A (3)b	12/09/22 09:14b
Calibration Blankl	SB03754-CCB2b	S2022-12-09A (4)b	12/09/22 09:52b
Blankl	BBL0032-BLK1b	S2022-12-09A (5)b	12/09/22 13:17b
LCSI	BBL0032-BS1b	S2022-12-09A (6)b	12/09/22 13:30b
LCS Dupl	BBL0032-BSD1b	S2022-12-09A (7)b	12/09/22 13:43b
SB-6-2.0-113022l	BBL0032-MS1b	S2022-12-09A (8)b	12/09/22 14:12b
SB-6-2.0-113022l	BBL0032-MSD1b	S2022-12-09A (9)b	12/09/22 14:25b
SB-1-0.5-113022l	22L0005-01b	S2022-12-09A (10)b	12/09/22 14:38b
SB-1-2.0-113022l	22L0005-02b	S2022-12-09A (12)b	12/09/22 15:03b
SB-1-2.0-113022l	22L0005-02RE1b	S2022-12-09A (13)b	12/09/22 15:16b
SB-2-0.5-113022l	22L0005-03b	S2022-12-09A (14)b	12/09/22 15:29b
SB-2-2.0-113022l	22L0005-04b	S2022-12-09A (16)b	12/09/22 15:54b
SB-3-0.5-113022l	22L0005-05b	S2022-12-09A (18)b	12/09/22 16:19b
SB-3-2.0-113022l	22L0005-06b	S2022-12-09A (20)b	12/09/22 16:45b
Calibration Checkl	SB03754-CCV2b	S2022-12-09A (22)b	12/09/22 17:10b
Calibration Blankl	SB03754-CCB3b	S2022-12-09A (23)b	12/09/22 17:23b
SB-4-0.5-113022l	22L0005-07b	S2022-12-09A (24)b	12/09/22 17:36b
SB-4-2.0-113022l	22L0005-08b	S2022-12-09A (26)b	12/09/22 18:01b
SB-5-0.5-113022l	22L0005-09b	S2022-12-09A (28)b	12/09/22 18:26b
SB-5-2.0-113022l	22L0005-10b	S2022-12-09A (30)b	12/09/22 18:52b
DUP-1-113022l	22L0005-11b	S2022-12-09A (32)b	12/09/22 19:17b
SB-6-0.5-113022l	22L0005-12b	S2022-12-09A (34)b	12/09/22 19:43b
SB-6-0.5-113022l	22L0005-12RE1b	S2022-12-09A (35)b	12/09/22 19:55b
DUP-2-113022l	22L0005-13b	S2022-12-09A (36)b	12/09/22 20:08b
DUP-2-113022l	22L0005-13RE1b	S2022-12-09A (37)b	12/09/22 20:21b
SB-6-2.0-113022l	22L0005-14b	S2022-12-09A (38)b	12/09/22 20:34b

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY<sup>b</sup>Table B-15<sup>b</sup>

Laboratory: <sup>b</sup>	APPL, LLC <sup>b</sup>	SDG: <sup>b</sup>	
Client: <sup>b</sup>	Tidewater, Inc. <sup>b</sup>	Project: <sup>b</sup>	NASA JPL <sup>b</sup>
Sequence: <sup>b</sup>	SB03754 <sup>b</sup>	Instrument: <sup>b</sup>	Saphirab
Calibration: <sup>b</sup>	2250016 <sup>b</sup>		

Sample Name <sup>b</sup>	Lab Sample ID <sup>b</sup>	Lab File ID <sup>b</sup>	Analysis Date/Time <sup>b</sup>
SB-6-2.0-113022I	22L0005-14RE1 <sup>b</sup>	S2022-12-09A (39) <sup>b</sup>	12/09/22 20:46 <sup>b</sup>
MRL CheckI	BBL0032-MRL1 <sup>b</sup>	S2022-12-09A (40) <sup>b</sup>	12/09/22 20:59 <sup>b</sup>
Calibration CheckI	SB03754-CCV3 <sup>b</sup>	S2022-12-09A (41) <sup>b</sup>	12/09/22 21:12 <sup>b</sup>
Calibration BlankI	SB03754-CCB4 <sup>b</sup>	S2022-12-09A (42) <sup>b</sup>	12/09/22 21:25 <sup>b</sup>

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB03856b	Instrument:b	Saphirab
Calibration:b	2251019b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Cal StandardI	SB03856-CAL1b	S2022-12-15A (1)b	12/15/22 12:33b
Cal StandardI	SB03856-CAL2b	S2022-12-15A (2)b	12/15/22 12:46b
Cal StandardI	SB03856-CAL3b	S2022-12-15A (3)b	12/15/22 12:59b
Cal StandardI	SB03856-CAL4b	S2022-12-15A (4)b	12/15/22 13:11b
Cal StandardI	SB03856-CAL5b	S2022-12-15A (5)b	12/15/22 13:24b
Cal StandardI	SB03856-CAL6b	S2022-12-15A (6)b	12/15/22 13:37b
Cal StandardI	SB03856-CAL7b	S2022-12-15A (7)b	12/15/22 13:50b
Cal StandardI	SB03856-CAL8b	S2022-12-15A (8)b	12/15/22 14:02b
Initial Cal BlankI	SB03856-ICB1b	S2022-12-15A (9)b	12/15/22 14:15b
Secondary Cal CheckI	SB03856-SCV1b	S2022-12-15A (10)b	12/15/22 14:28b

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB03858b	Instrument:b	Saphirab
Calibration:b	2251019b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Calibration Blankl	SB03858-CCB1b	S2022-12-15B (1)b	12/15/22 14:53b
Low Cal Checkl	SB03858-LCV1b	S2022-12-15B (2)b	12/15/22 15:06b
Calibration Checkl	SB03858-CCV1b	S2022-12-15B (3)b	12/15/22 15:19b
Calibration Blankl	SB03858-CCB2b	S2022-12-15B (4)b	12/15/22 15:57b
Calibration Checkl	SB03858-CCV2b	S2022-12-15B (25)b	12/15/22 20:24b
Calibration Blankl	SB03858-CCB3b	S2022-12-15B (26)b	12/15/22 20:36b
Calibration Checkl	SB03858-CCV3b	S2022-12-15B (37)b	12/15/22 22:56b
Calibration Blankl	SB03858-CCB4b	S2022-12-15B (38)b	12/15/22 23:09b

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB03860b	Instrument:b	Saphirab
Calibration:b	2251019b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Calibration Blankl	SB03860-CCB1b	S2022-12-15C (1)b	12/15/22 23:34b
Low Cal Checkl	SB03860-LCV1b	S2022-12-15C (2)b	12/15/22 23:47b
Calibration Checkl	SB03860-CCV1b	S2022-12-15C (3)b	12/16/22 00:00b
Calibration Blankl	SB03860-CCB2b	S2022-12-15C (4)b	12/16/22 00:38b
Blankl	BBL0249-BLK1b	S2022-12-15C (5)b	12/16/22 00:51b
LCSI	BBL0249-BS1b	S2022-12-15C (6)b	12/16/22 01:03b
LCS Dupl	BBL0249-BSD1b	S2022-12-15C (7)b	12/16/22 01:16b
MRL Checkl	BBL0249-MRL1b	S2022-12-15C (8)b	12/16/22 01:29b
Field Blankl	22L0005-15b	S2022-12-15C (17)b	12/16/22 03:23b
Calibration Checkl	SB03860-CCV2b	S2022-12-15C (27)b	12/16/22 05:30b
Calibration Blankl	SB03860-CCB3b	S2022-12-15C (28)b	12/16/22 05:43b

## INJECTION LOG - ANALYSIS SEQUENCE SUMMARYb

Table B-15b

Laboratory:b	APPL, LLCb	SDG:b	
Client:b	Tidewater, Inc.b	Project:b	NASA JPLb
Sequence:b	SB04003b	Instrument:b	Saphirab
Calibration:b	2253011b		

Sample Nameb	Lab Sample IDb	Lab File IDb	Analysis Date/Timeb
Calibration Blankl	SB04003-CCB1b	S2022-12-29C (1)b	12/30/22 04:02b
Low Cal Checkl	SB04003-LCV1b	S2022-12-29C (2)b	12/30/22 04:15b
Calibration Checkl	SB04003-CCV1b	S2022-12-29C (3)b	12/30/22 04:28b
Resolution Checkl	SB04003-RES1b	S2022-12-29C (4)b	12/30/22 04:41b
Calibration Blankl	SB04003-CCB2b	S2022-12-29C (6)b	12/30/22 05:07b
Blankl	BBL0371-BLK1b	S2022-12-29C (7)b	12/30/22 05:19b
LCSI	BBL0371-BS1b	S2022-12-29C (8)b	12/30/22 05:32b
LCS Dupl	BBL0371-BSD1b	S2022-12-29C (9)b	12/30/22 05:45b
MRL Checkl	BBL0371-MRL1b	S2022-12-29C (10)b	12/30/22 05:58b
EQP-1-SOILI	22L0005-16RE2b	S2022-12-29C (15)b	12/30/22 07:03b
EQP-1-SOILI	22L0005-16RE3b	S2022-12-29C (16)b	12/30/22 07:15b
Calibration Checkl	SB04003-CCV2b	S2022-12-29C (33)b	12/30/22 10:54b
Calibration Blankl	SB04003-CCB3b	S2022-12-29C (34)b	12/30/22 11:07b
Calibration Checkl	SB04003-CCV3b	S2022-12-29C (55)b	12/30/22 15:38b
Calibration Blankl	SB04003-CCB4b	S2022-12-29C (56)b	12/30/22 15:51b

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY<sup>b</sup>Table B-15<sup>b</sup>

Laboratory: <sup>b</sup>	APPL, LLC <sup>b</sup>	SDG: <sup>b</sup>	
Client: <sup>b</sup>	Tidewater, Inc. <sup>b</sup>	Project: <sup>b</sup>	NASA JPL <sup>b</sup>
Sequence: <sup>b</sup>	SB04012 <sup>b</sup>	Instrument: <sup>b</sup>	Saphirab
Calibration: <sup>b</sup>	2253011 <sup>b</sup>		

Sample Name <sup>b</sup>	Lab Sample ID <sup>b</sup>	Lab File ID <sup>b</sup>	Analysis Date/Time <sup>b</sup>
Cal StandardI	SB04012-CAL1 <sup>b</sup>	S2022-12-29A (1) <sup>b</sup>	12/29/22 12:08 <sup>b</sup>
Cal StandardI	SB04012-CAL2 <sup>b</sup>	S2022-12-29A (2) <sup>b</sup>	12/29/22 12:20 <sup>b</sup>
Cal StandardI	SB04012-CAL3 <sup>b</sup>	S2022-12-29A (3) <sup>b</sup>	12/29/22 12:33 <sup>b</sup>
Cal StandardI	SB04012-CAL4 <sup>b</sup>	S2022-12-29A (4) <sup>b</sup>	12/29/22 12:46 <sup>b</sup>
Cal StandardI	SB04012-CAL5 <sup>b</sup>	S2022-12-29A (5) <sup>b</sup>	12/29/22 12:59 <sup>b</sup>
Cal StandardI	SB04012-CAL6 <sup>b</sup>	S2022-12-29A (6) <sup>b</sup>	12/29/22 13:12 <sup>b</sup>
Cal StandardI	SB04012-CAL7 <sup>b</sup>	S2022-12-29A (7) <sup>b</sup>	12/29/22 13:25 <sup>b</sup>
Cal StandardI	SB04012-CAL8 <sup>b</sup>	S2022-12-29A (8) <sup>b</sup>	12/29/22 13:38 <sup>b</sup>
Initial Cal BlankI	SB04012-ICB1 <sup>b</sup>	S2022-12-29A (9) <sup>b</sup>	12/29/22 13:51 <sup>b</sup>
Secondary Cal CheckI	SB04012-SCV1 <sup>b</sup>	S2022-12-29A (10) <sup>b</sup>	12/29/22 14:03 <sup>b</sup>

# Solids

SAMPLE DATA M  
Solids M

**ANALYSIS DATA SHEETL**

SB-1-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 08:35M  
 % Solids:M 84.56M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-01M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	84.6S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-1-2.0-113022M

Laboratory:M APPL, LLCM	SDG:M
Client: Tidewater, Inc.M	Project:M NASA JPLM
Matrix:M SolidM	Laboratory ID:M 22L0005-02M
Sampled:M 11/30/22 08:44M	
% Solids:M 91.16M	

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	91.2S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

SB-2-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 09:05M  
 % Solids:M 90.87M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-03M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	90.9S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-2-2.0-113022M

Laboratory:M APPL, LLCM	SDG:M
Client: Tidewater, Inc.M	Project:M NASA JPLM
Matrix:M SolidM	Laboratory ID:M 22L0005-04M
Sampled:M 11/30/22 09:05M	
% Solids:M 90.26M	

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	90.3S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-3-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 09:33M  
 % Solids:M 94.61M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-05M

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	94.6S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-3-2.0-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 09:40M  
 % Solids:M 90.99M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-06M

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	91.0S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

SB-4-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:00M  
 % Solids:M 97.80M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-07M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	97.8S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-4-2.0-113022M

Laboratory:M APPL, LLCM	SDG:M
Client: Tidewater, Inc.M	Project:M NASA JPLM
Matrix:M SolidM	Laboratory ID:M 22L0005-08M
Sampled:M 11/30/22 11:10M	
% Solids:M 94.12M	

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	94.1S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-5-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:20M  
 % Solids:M 95.42M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-09M

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	95.4S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

SB-5-2.0-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:30M  
 % Solids:M 95.37M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-10M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	95.4S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

DUP-1-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:30M  
 % Solids:M 94.60M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-11M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	94.6S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

SB-6-0.5-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:35M  
 % Solids:M 79.39M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-12M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	79.4S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**ANALYSIS DATA SHEETL**

DUP-2-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:35M  
 % Solids:M 77.76M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-13M

<b>AnalyteL</b>	<b>Concentration (%)L</b>	<b>OQL</b>	<b>ODL</b>	<b>DL</b>	<b>DF</b>	<b>QL</b>	<b>BatchL</b>	<b>AnalyzedL</b>	<b>MethodL</b>
% SolidsS	77.8S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

# ANALYSIS DATA SHEETL

SB-6-2.0-113022M

Laboratory:M APPL, LLCM  
 Client: Tidewater, Inc.M  
 Matrix:M SolidM  
 Sampled:M 11/30/22 11:45M  
 % Solids:M 89.95M

SDG:M  
 Project:M NASA JPLM  
 Laboratory ID:M 22L0005-14M

AnalyteL	Concentration (%)L	OQL	ODL	DL	DF	QL	BatchL	AnalyzedL	MethodL
% SolidsS	89.9S	2.00S	1.50S	0.750	1S		BBL0135	12/07/22 13:06S	ISM02.2S

**DUPLICATESP**

SB-6-2.0-113022-

Laboratory:-	APPL, LLC-	Work Order:-	22L0005-
Client:-	Tidewater, Inc.-	Project:-	NASA JPL-
Matrix:-	Solid-	Laboratory ID:-	BBL0135-DUP1-
Batch:-	BBL0135-	Initial/Final:-	6 g / 6 g-
Preparation:-	ISM02.2-	Analysis:-	ISM02.2-
% Solids:-	89.95-		

<b>ANALYTEP</b>	<b>SAMPLEP CONC.P (%)P</b>	<b>DUPLICATEP CONC.P (%)</b>	<b>RPDP %P</b>	<b>QP</b>	<b>CONTROLP LIMITP</b>
% Solids-	89.9-	90.7-	0.792-		20-
MOISTURE-	10.1-	9.33-	7.38-		20-



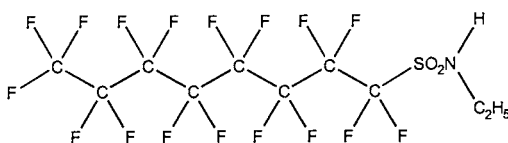


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSA-M **LOT NUMBER:** NEtFOSA0821M  
**COMPOUND:** N-ethylperfluoro-1-octanesulfonamide

**STRUCTURE:** **CAS #:** 4151-50-2



**MOLECULAR FORMULA:**  $C_{10}H_6F_{17}NO_2S$  **MOLECULAR WEIGHT:** 527.20  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/12/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/12/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/16/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  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.

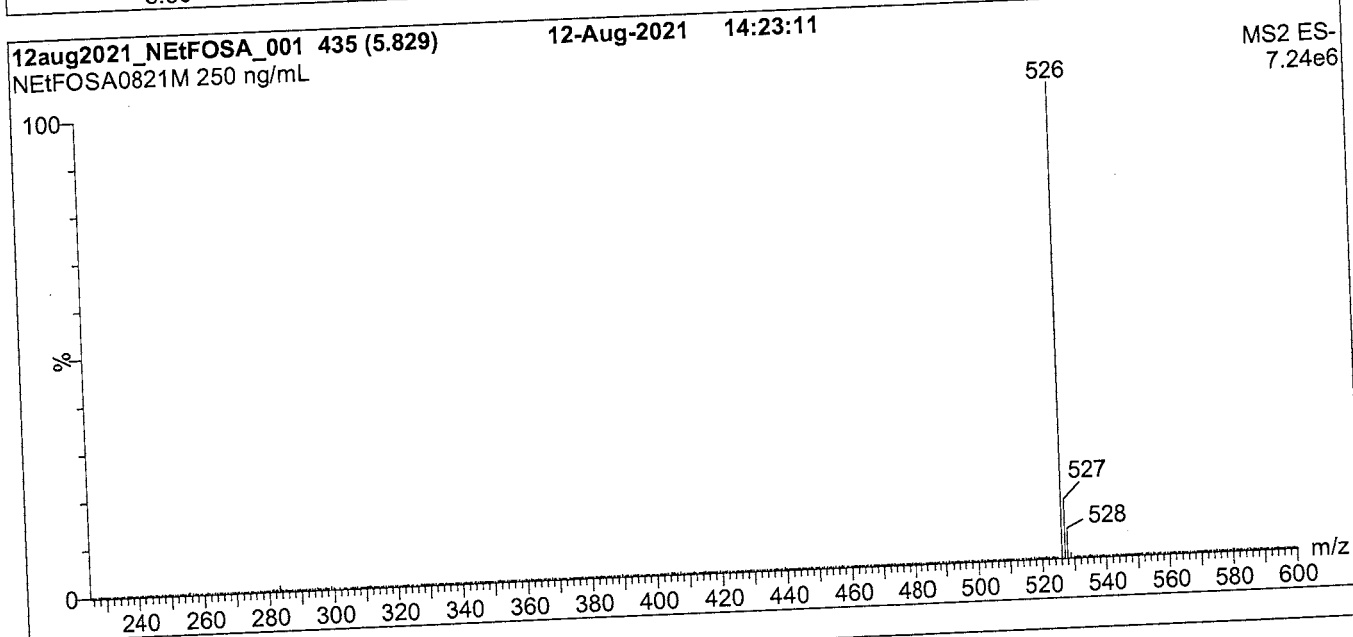
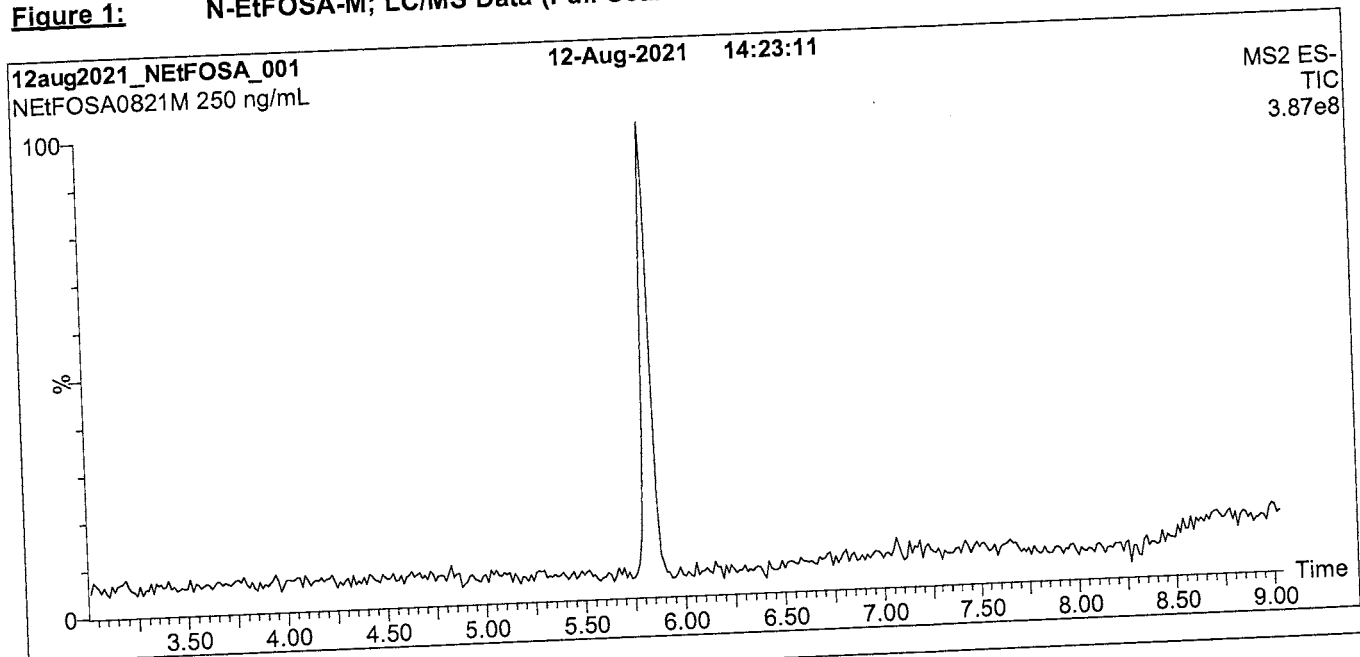
**QUALITY MANAGEMENT:**

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; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**



**Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

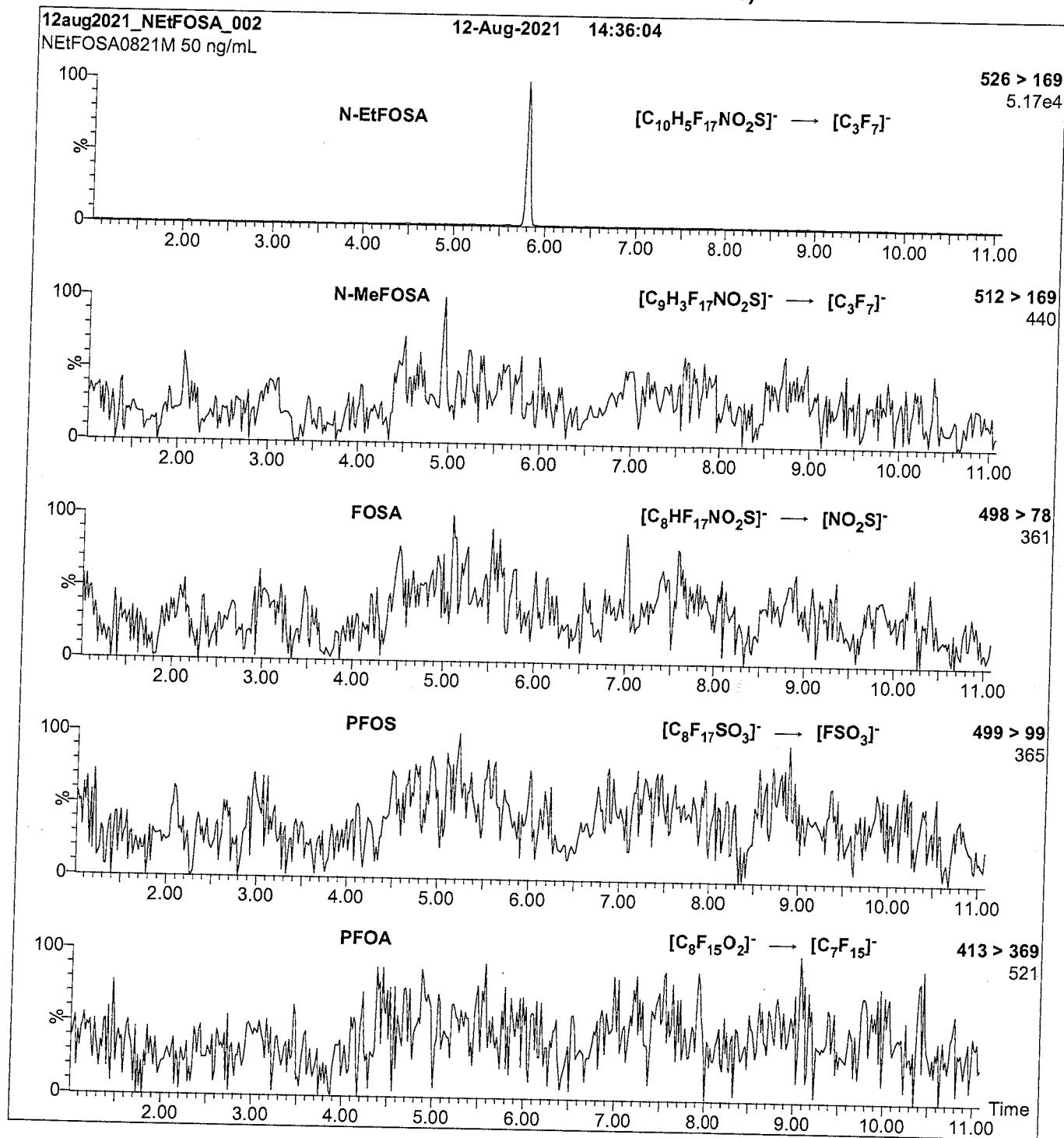
Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

NEtFOSA0821M (3 of 4)  
rev0

**Figure 2: N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-EtFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.29e-3

Collision Energy (eV) = 24

# Analytical Standard Record

**21J0007J**

Description:s	PFAS - SAS N-EtFOSA 50ug/mLs	Expires:s	08/12/2026s
Standard Type:s	Analyte Spikes	Prepared:s	08/12/2021s
Solvent:s	MeOHs	Prepared By:s	Wellington Laboratories (Lot#: PFAS)
Final Volume (mL)s:	1s	Department:s	PFAS0821M)s
Vials:s	1s	Last Edit:s	12/07/2021 16:05 by HGHS

AnalyteJ	ParentJ	CAS NumberJ	Concentration J	UnitsJ
N-ETFOSAs		4151-50-2s	50s	ug/mLs

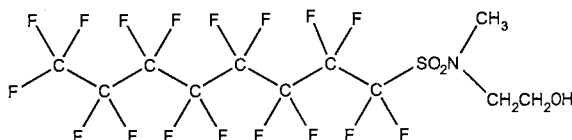


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M  
**COMPOUND:** 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

**STRUCTURE:** **CAS #:** 24448-09-7



**MOLECULAR FORMULA:** C<sub>11</sub>H<sub>8</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 557.22  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 09/28/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

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**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

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Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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

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.

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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:**

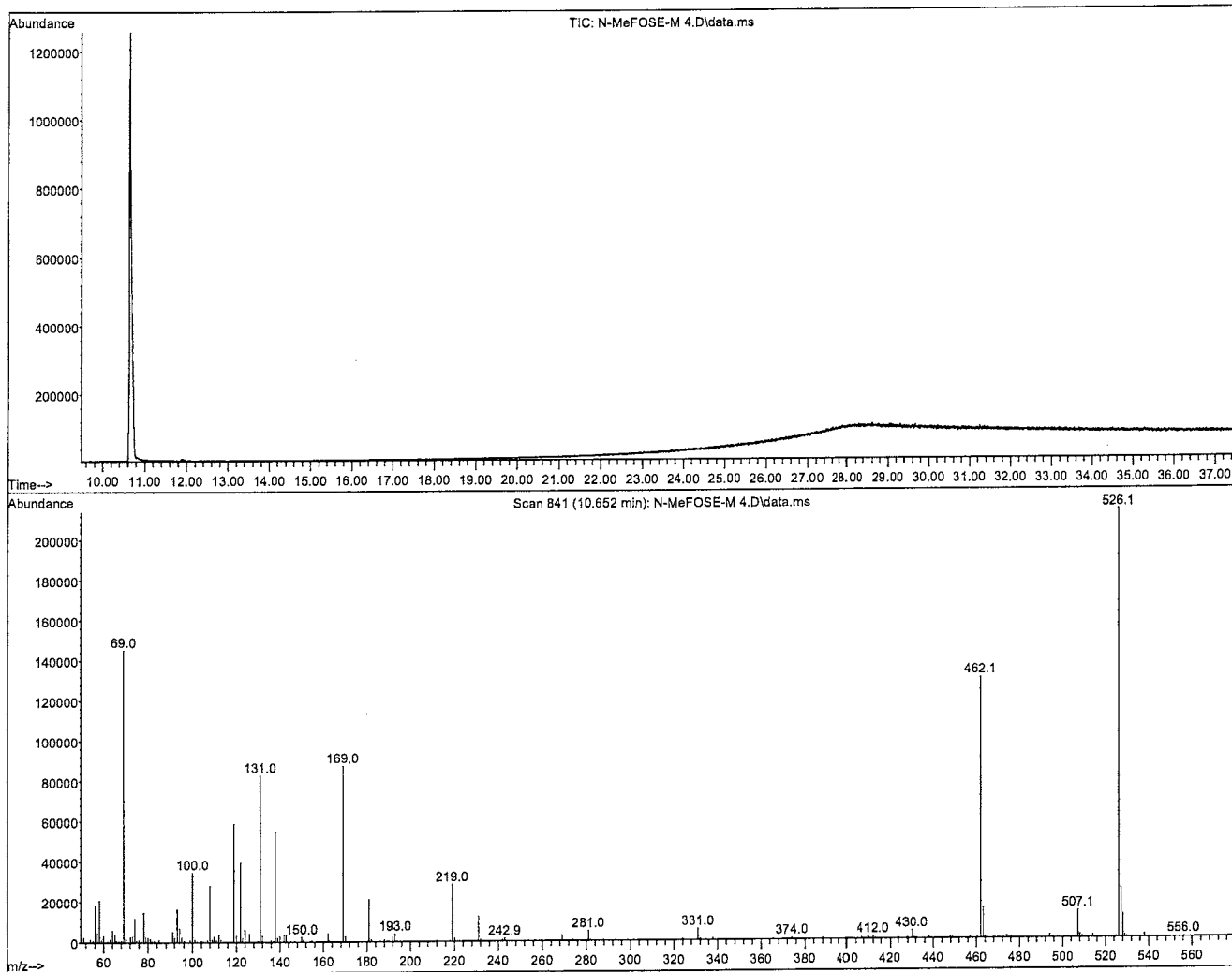
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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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; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1:** N-MeFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

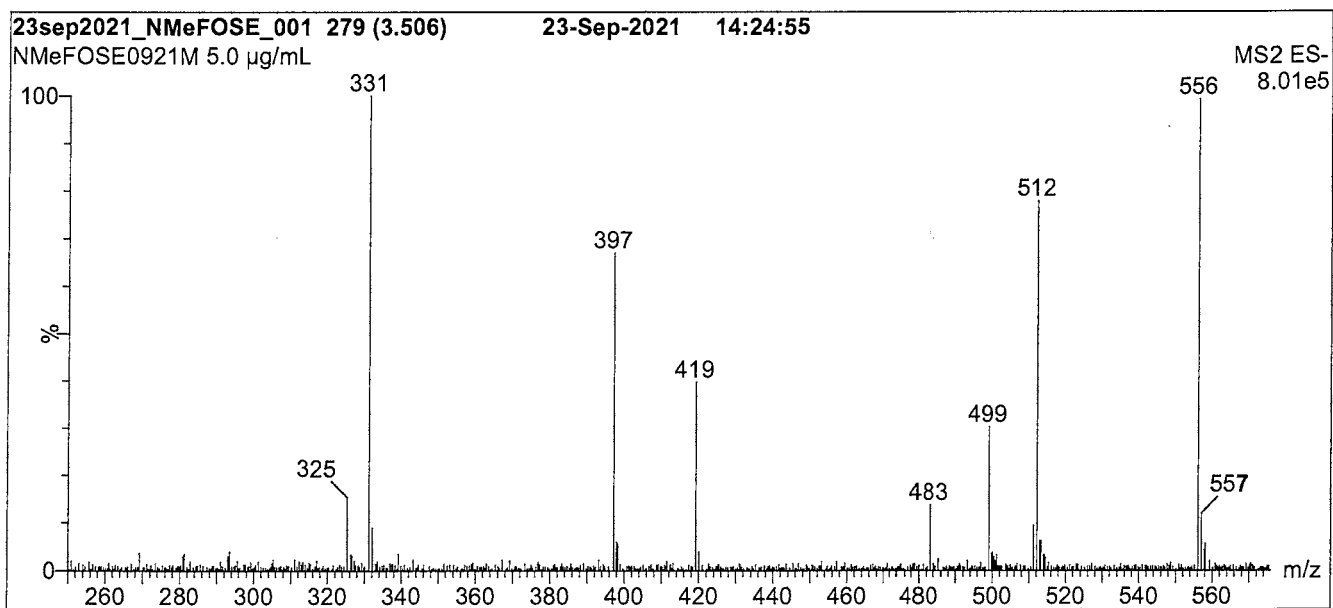
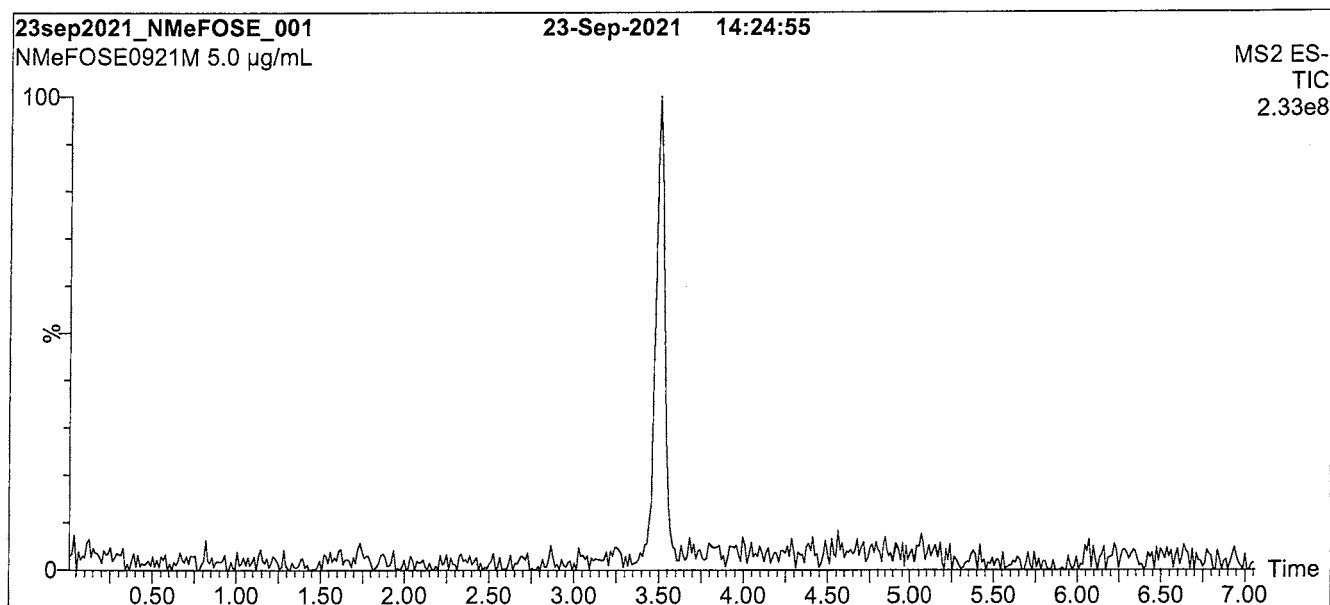
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 310°C  
 310°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2:** N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)**Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

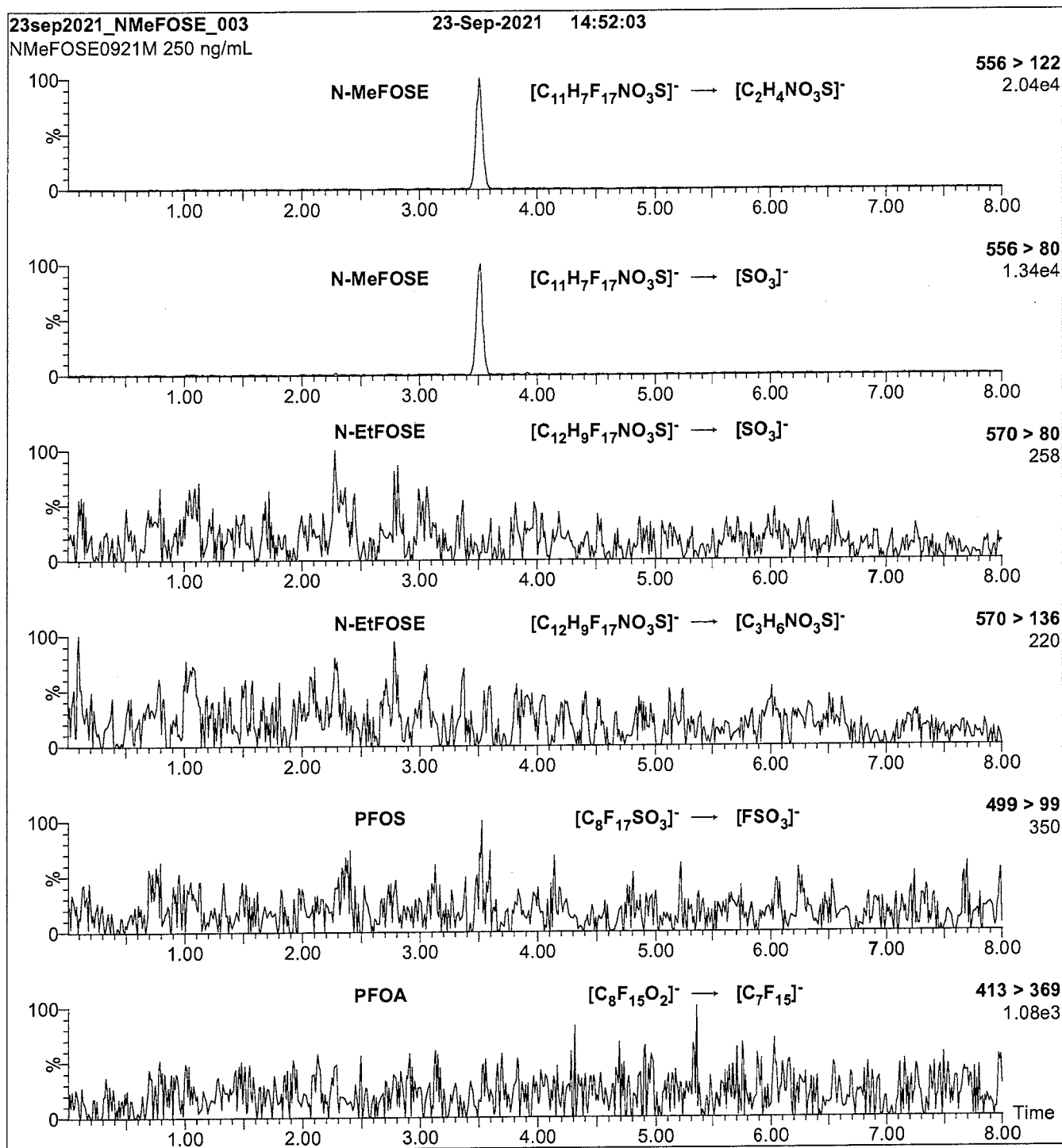
Start: 30% H<sub>2</sub>O / 70% MeOH  
Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 65.00  
Desolvation Temperature (°C) = 450  
Desolvation Gas Flow (L/hr) = 1000

**Figure 3: N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 3:**

Injection: On-column (N-MeFOSE-M)

**MS Parameters:**

Mobile phase: Same as Figure 2

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 36

Flow: 300  $\mu$ L/min



# Analytical Standard Record

**21J0014J**

Description:s	PFAS - SAS N-MeFOSE 50ug/mLs	Expires:s	09/23/2026s
Standard Type:s	Analyte Spikes	Prepared:s	09/22/2021s
Solvent:s	MeOHs	Prepared By:s	Wellington Laboratories (Lot#: N-MEFOSE0921M)s
Final Volume (mL)s:	1.2s	Department:s	PFAS
Vials:s	1s	Last Edit:s	12/07/2021 16:06 by HGHS

AnalyteJ	ParentJ	CAS NumberJ	Concentration J	UnitsJ
N-MEFOSEs		24448-09-7s	50s	ug/mLs

# Analytical Standard Record

**21J0014J**

Description:s	PFAS - SAS N-MeFOSE 50ug/mLs	Expires:s	09/23/2026s
Standard Type:s	Analyte Spikes	Prepared:s	09/22/2021s
Solvent:s	MeOHs	Prepared By:s	Wellington Laboratories (Lot#: N-MEFOSE0921M)s
Final Volume (mL)s:	1.2s	Department:s	PFAS
Vials:s	1s	Last Edit:s	12/07/2021 16:06 by HGHS

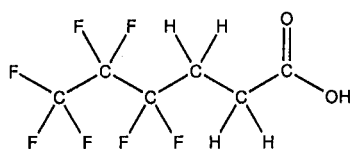
AnalyteJ	ParentJ	CAS NumberJ	Concentration J	UnitsJ
N-MEFOSEs		24448-09-7s	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FPrPA **LOT NUMBER:** FPrPA1020  
**COMPOUND:** 3-Perfluoropropyl propanoic acid  
**STRUCTURE:** **CAS #:** 356-02-5



**MOLECULAR FORMULA:**  $C_8H_5F_7O_2$  **MOLECULAR WEIGHT:** 242.09  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 11/12/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 11/12/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ( $C_8H_3F_7O_2$ ) as an impurity determined by  $^{19}\text{F}$  NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 11/27/2020  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  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:**

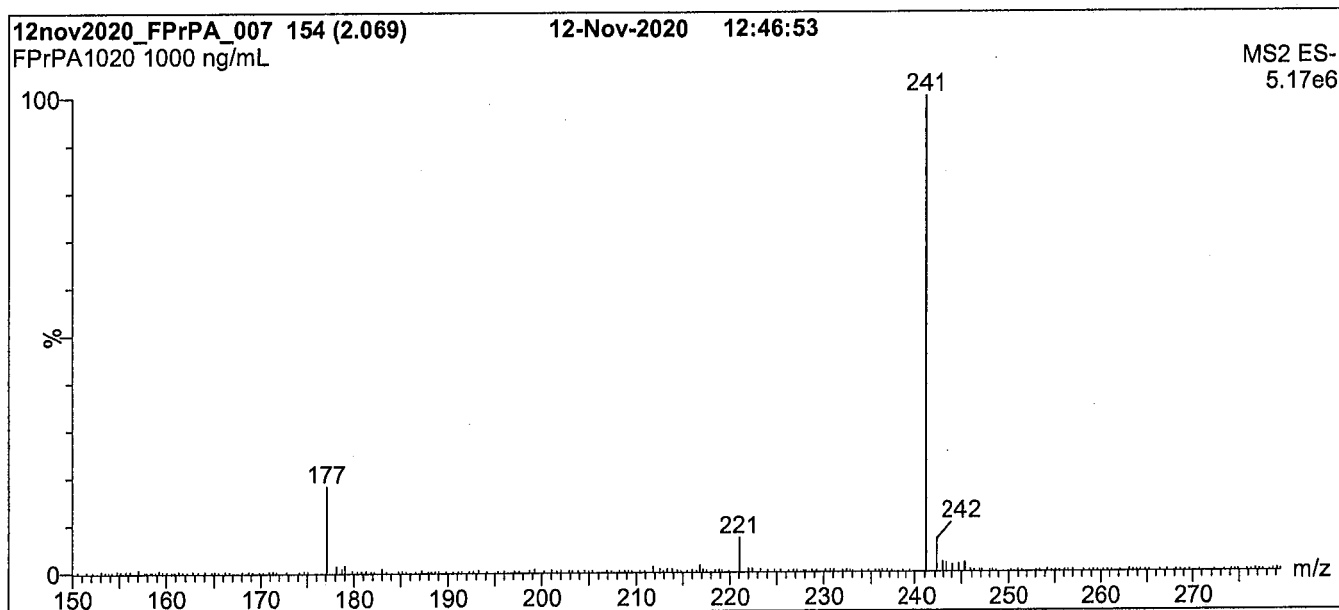
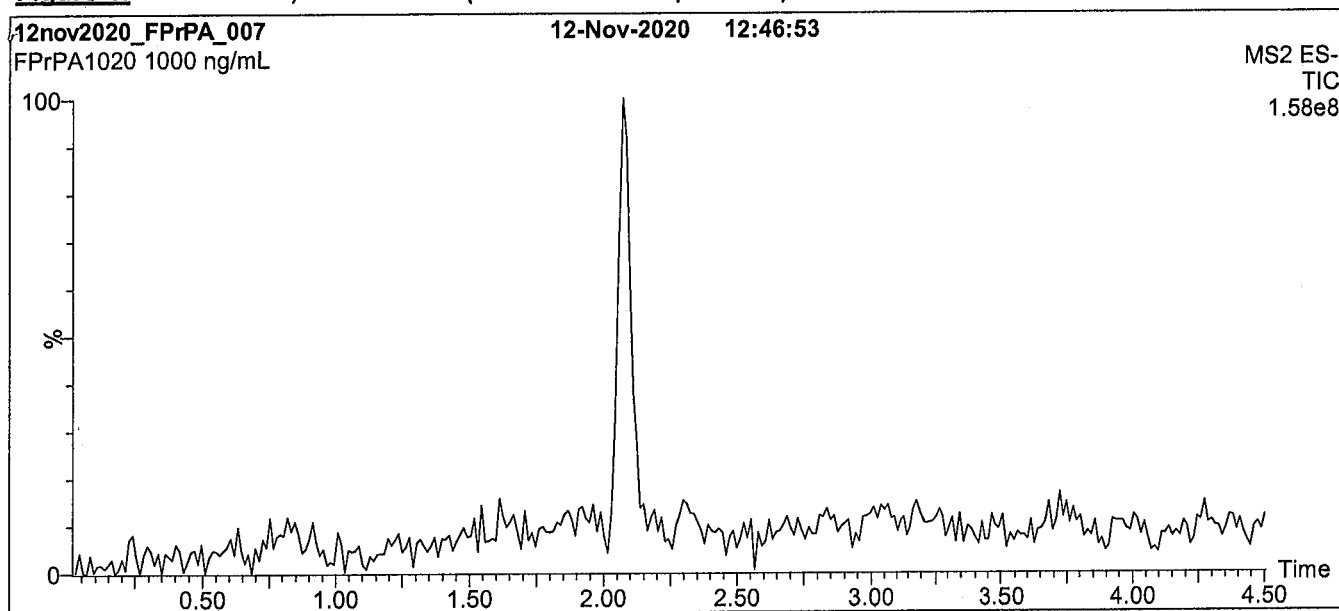
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**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; A1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



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

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (150 - 850 amu)

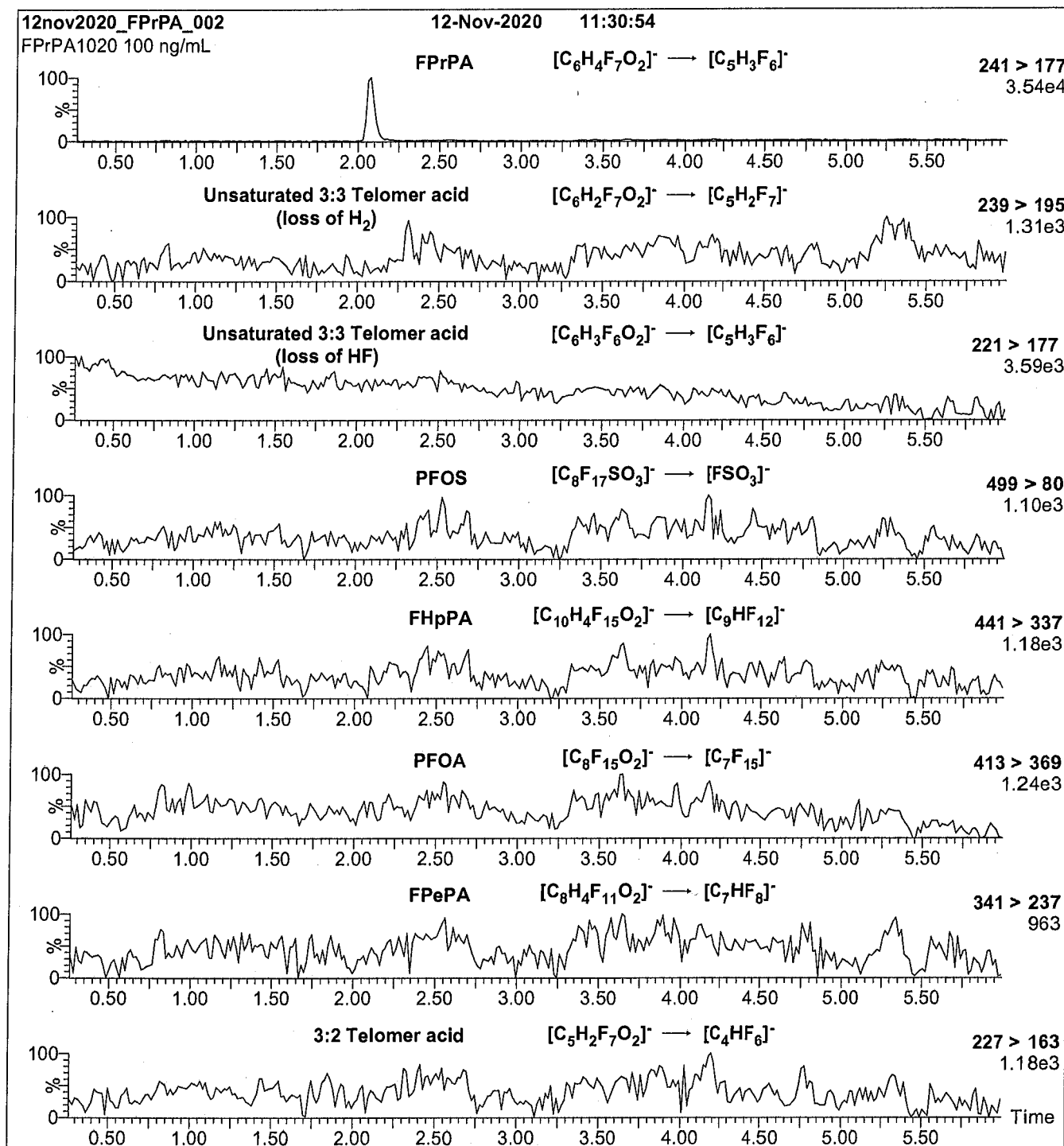
Source: Electrospray (negative)

Capillary Voltage (kV) = 0.50

Cone Voltage (V) = 18.50

Desolvation Temperature ( $^{\circ}$ C) = 500

Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FPrPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.49e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**21L0004L**

Description:s	PFAS - SAS 3:3FTA 50ug/mLs	Expires:s	06/05/2022s
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021s
Solvent:s	MeOHs	Prepared By:s	Hart Hedgpeths
Final Volume (mL)s:	1s	Department:s	PFASs
Vials:s	1s	Last Edit:s	12/07/2021 16:03 by HGHS
Comments:	3:3 FTCA 50.0ug/mL		

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
3:3 FTAs		113507-82-7s	50s	ug/mLs



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

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**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

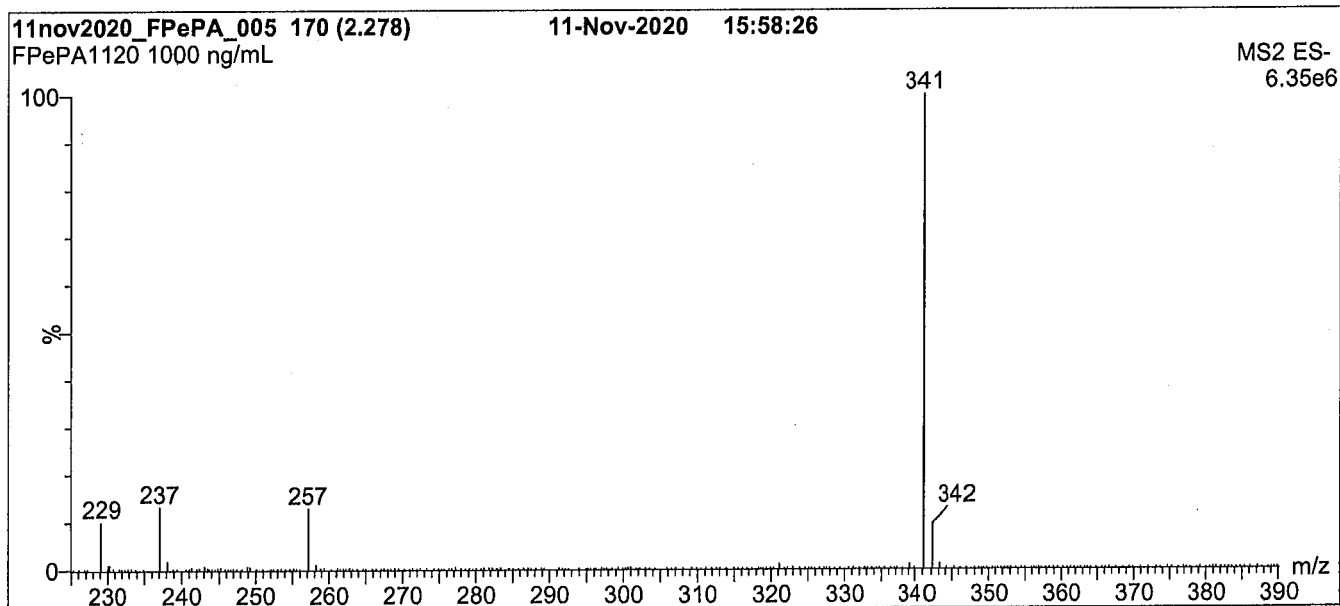
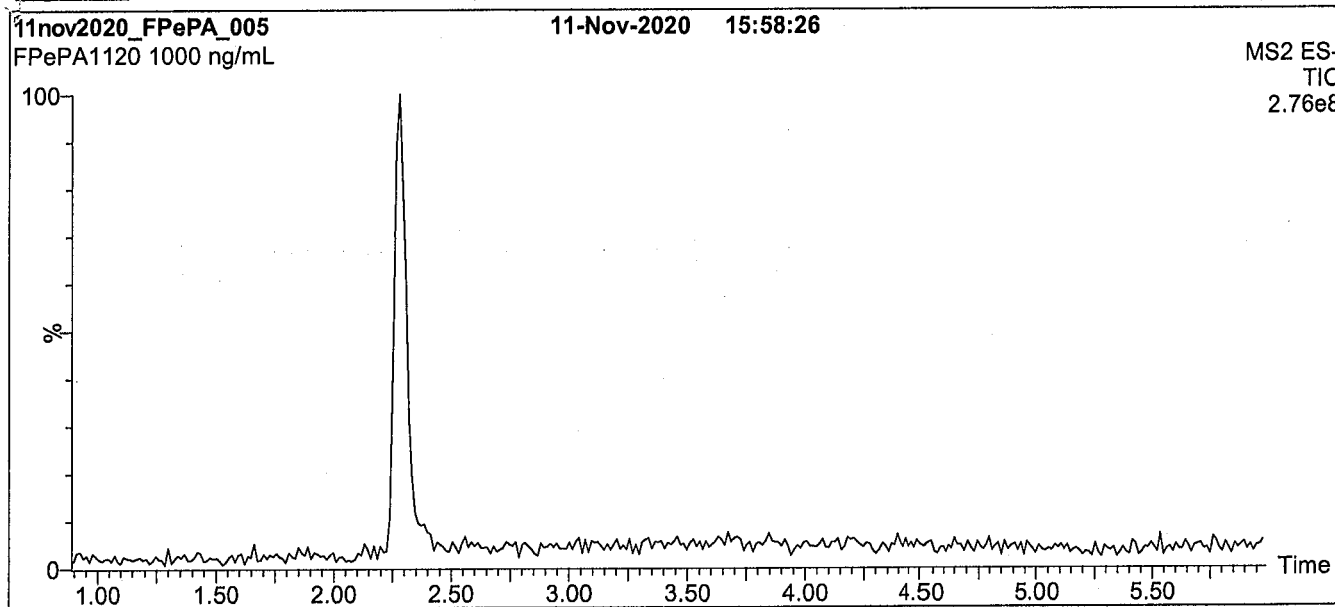
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**Figure 1: FPePA; LC/MS Data (TIC and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

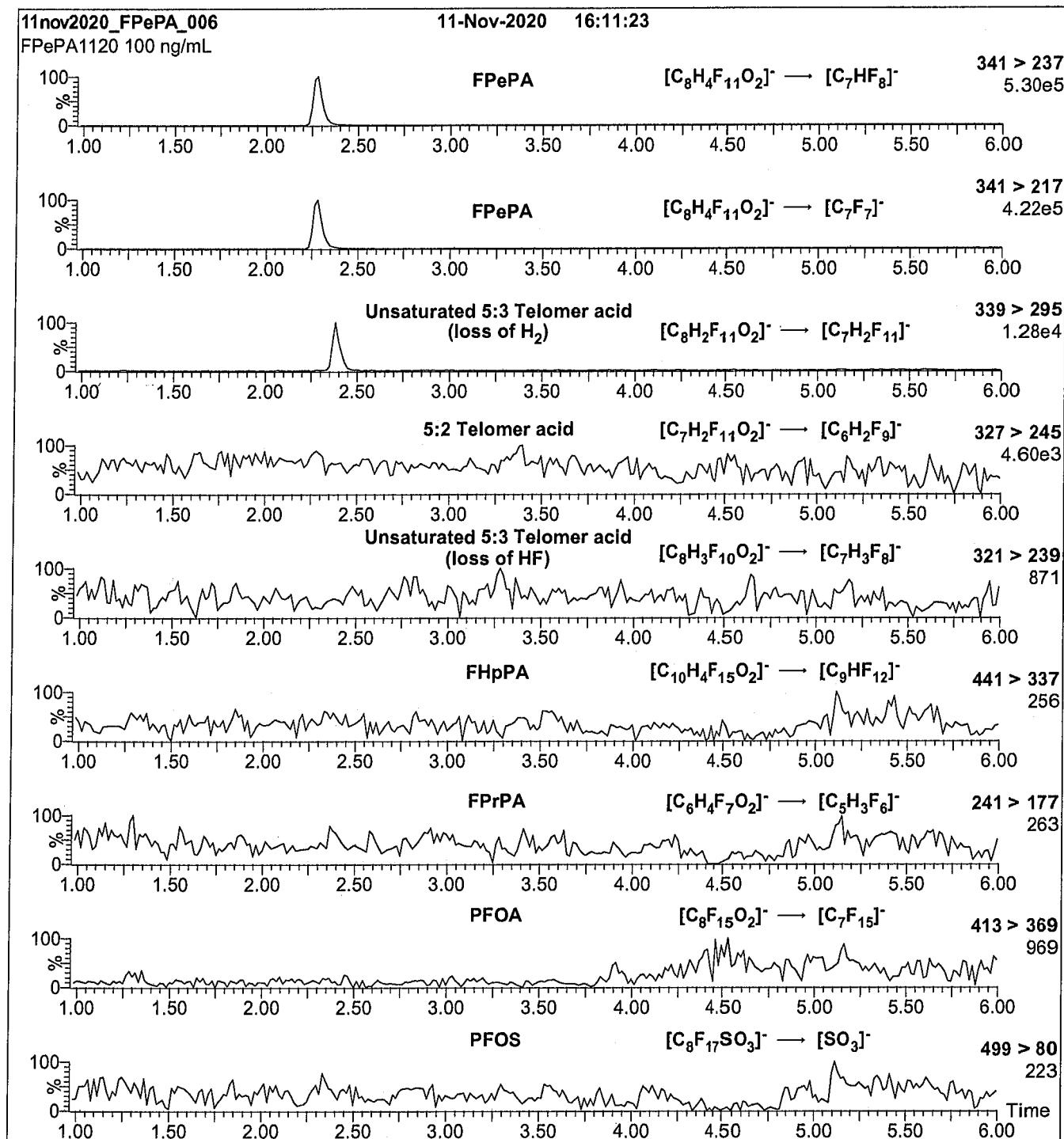
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 18.50  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FPePA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FPePA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.24e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**21L0005L**

Description:s	PFAS - SAS 5:3FTA 50ug/mLs	Expires:	06/05/2022s
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021s
Solvent:s	MeOHs	Prepared By:	Hart Hedgpeths
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	12/07/2021 16:03 by HGHS
Comments:	5:3 FTCA 50.0ug/mL		

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
5:3 FTAs		914637-49-3s	50s	ug/mLs

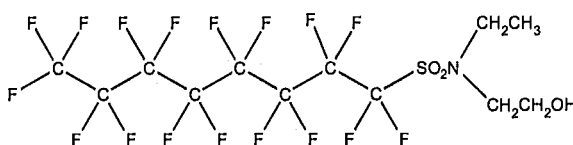


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSE-M **LOT NUMBER:** NEtFOSE0921M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

**STRUCTURE:** **CAS #:** 1691-99-2



**MOLECULAR FORMULA:** C<sub>12</sub>H<sub>10</sub>F<sub>17</sub>NO<sub>3</sub>S **MOLECULAR WEIGHT:** 571.25  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 10/20/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

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**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

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**TRACEABILITY:**

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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

**LIMITED WARRANTY:**

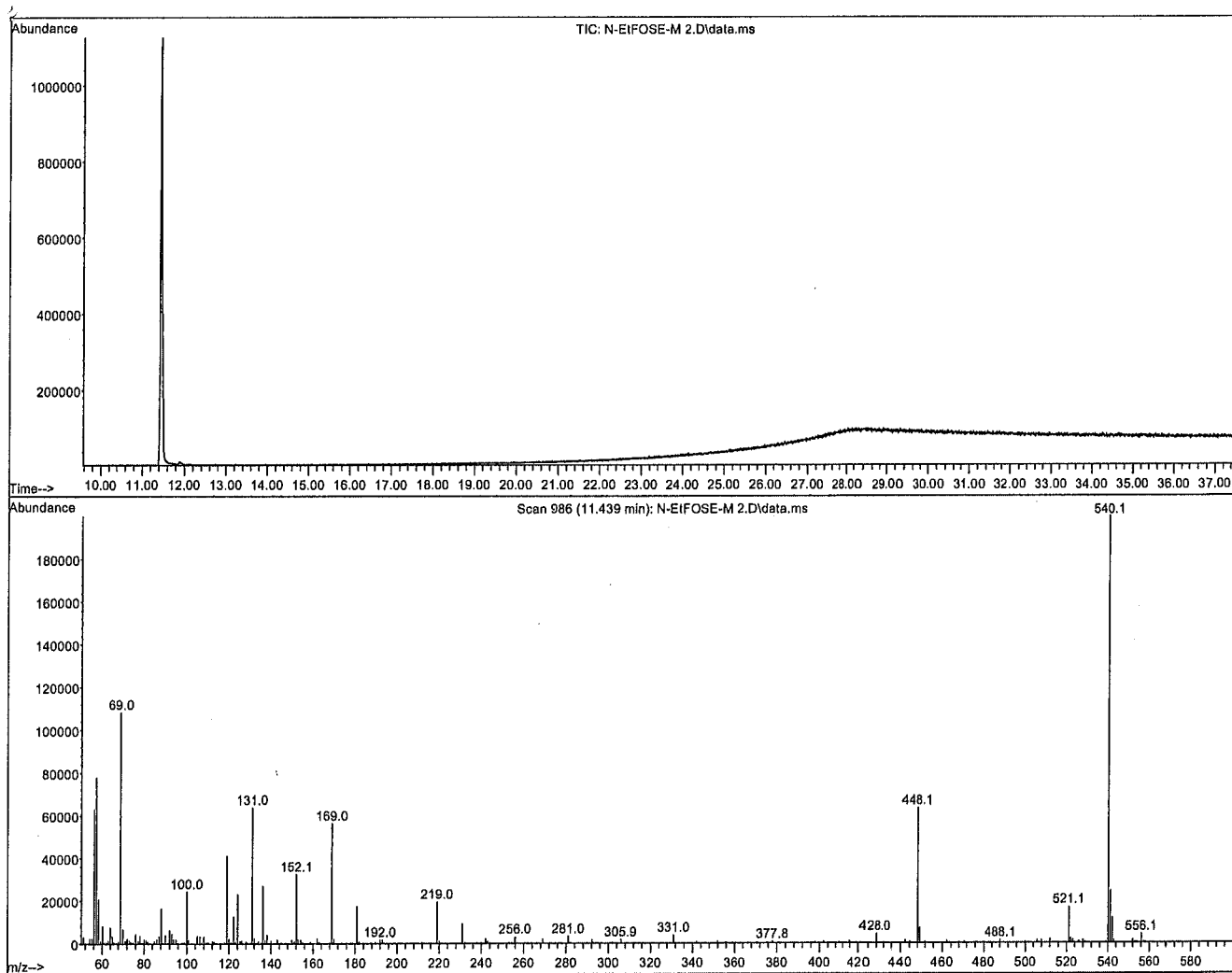
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**Figure 1: N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

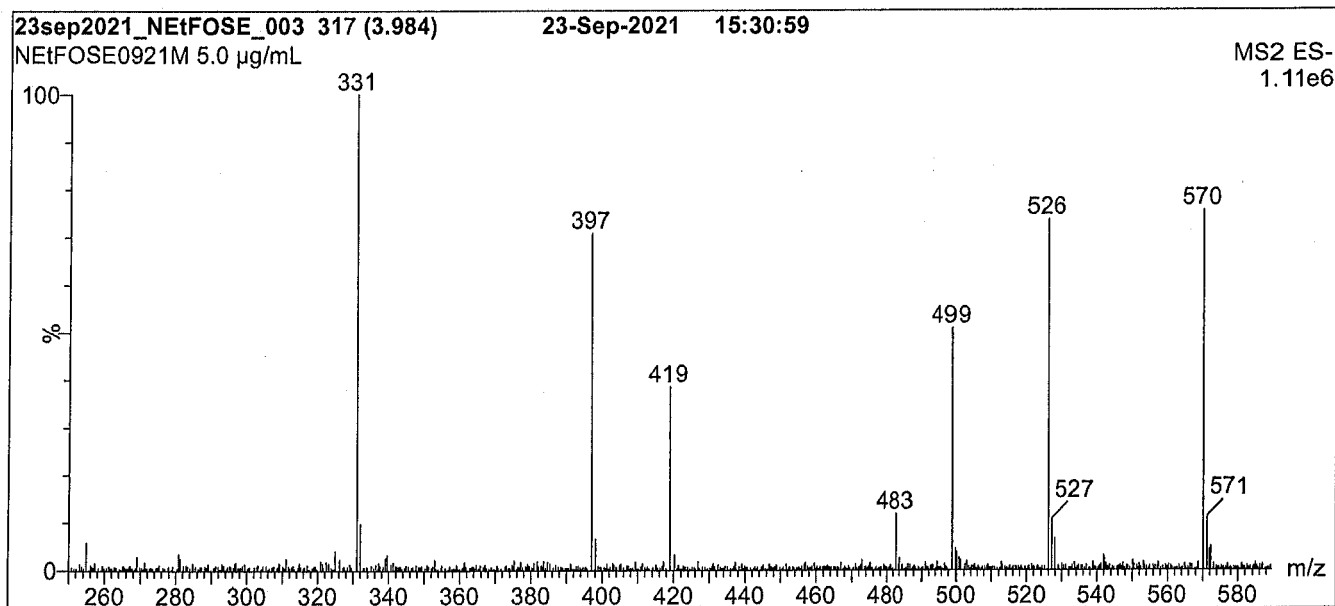
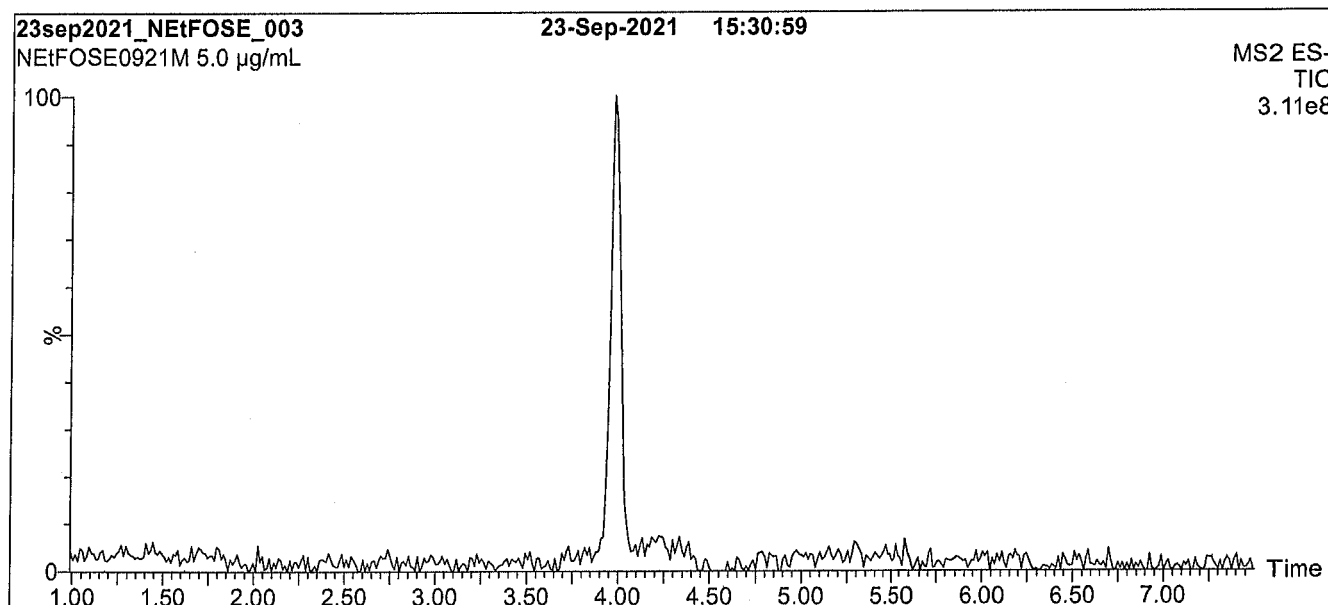
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 325°C  
 325°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H<sub>2</sub>O / 70% MeOH

Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.

Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

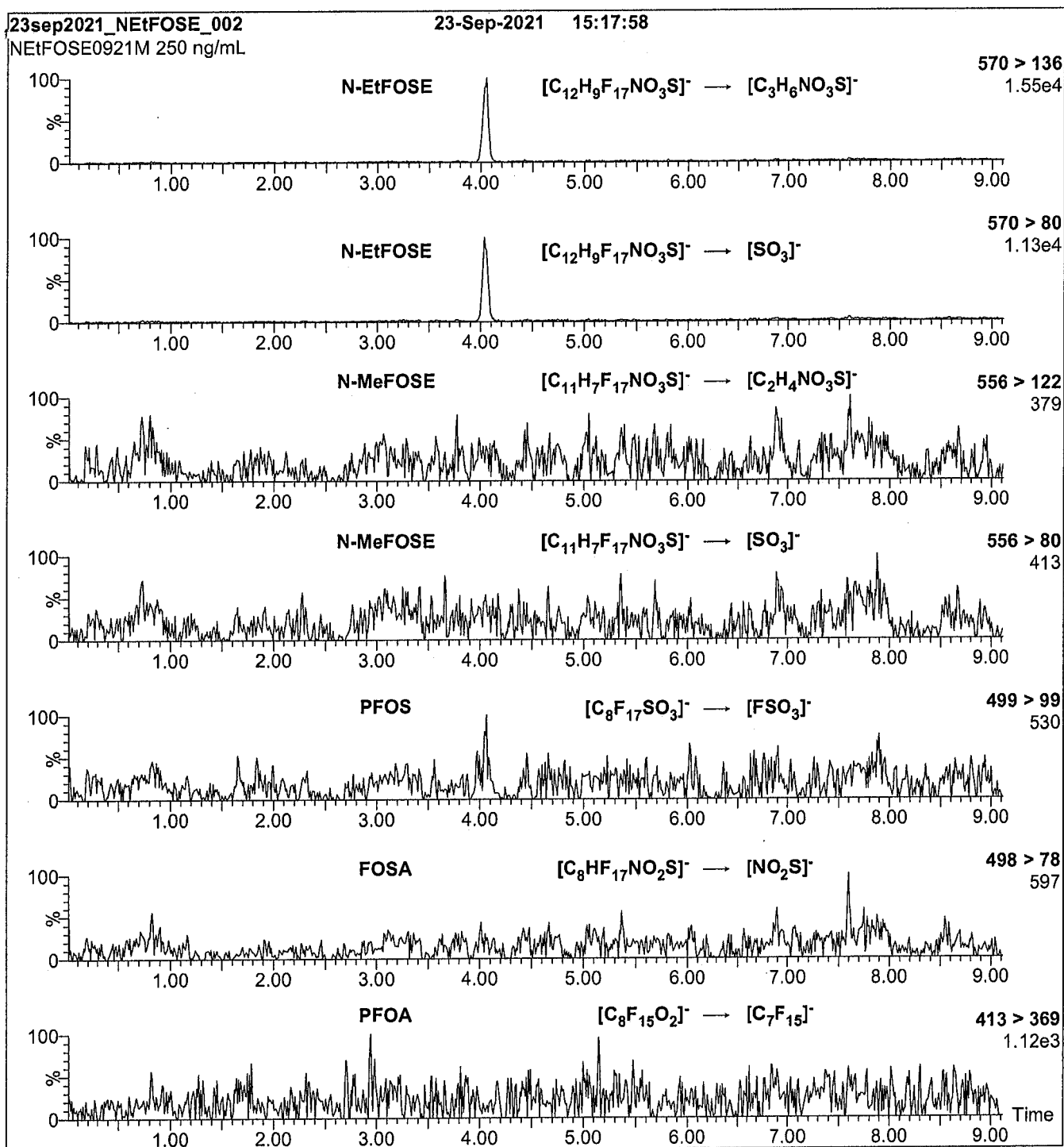
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 65.00

Desolvation Temperature (°C) = 450

Desolvation Gas Flow (L/hr) = 1000

**Figure 3:** N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 3:**

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 32

f  
t

# Analytical Standard Record

**21L0006L**

Description:s	PFAS - SAS EtFOSE 50ug/mLs	Expires:	06/05/2022s
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021s
Solvent:s	MeOHs	Prepared By:	Hart Hedgpeths
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	12/07/2021 17:22 by HGHS
Comments:	5:3 FTCA 50.0ug/mL		

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
N-ETFOSE		1691-99-2	50s	ug/mLs



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  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:**

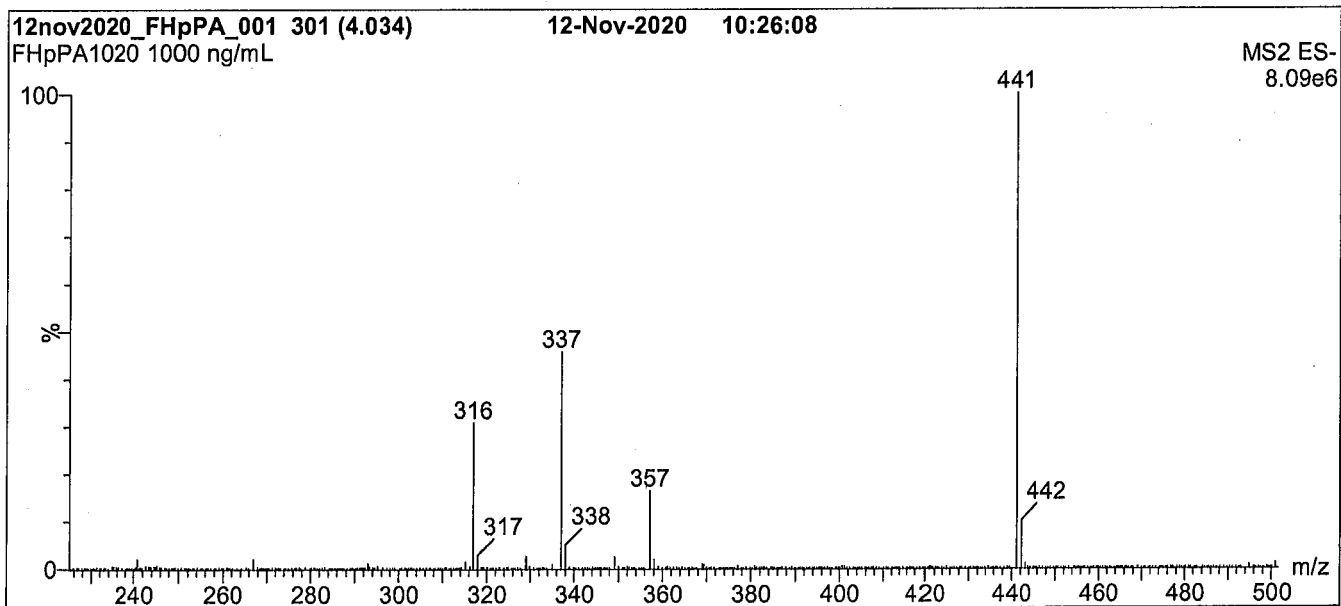
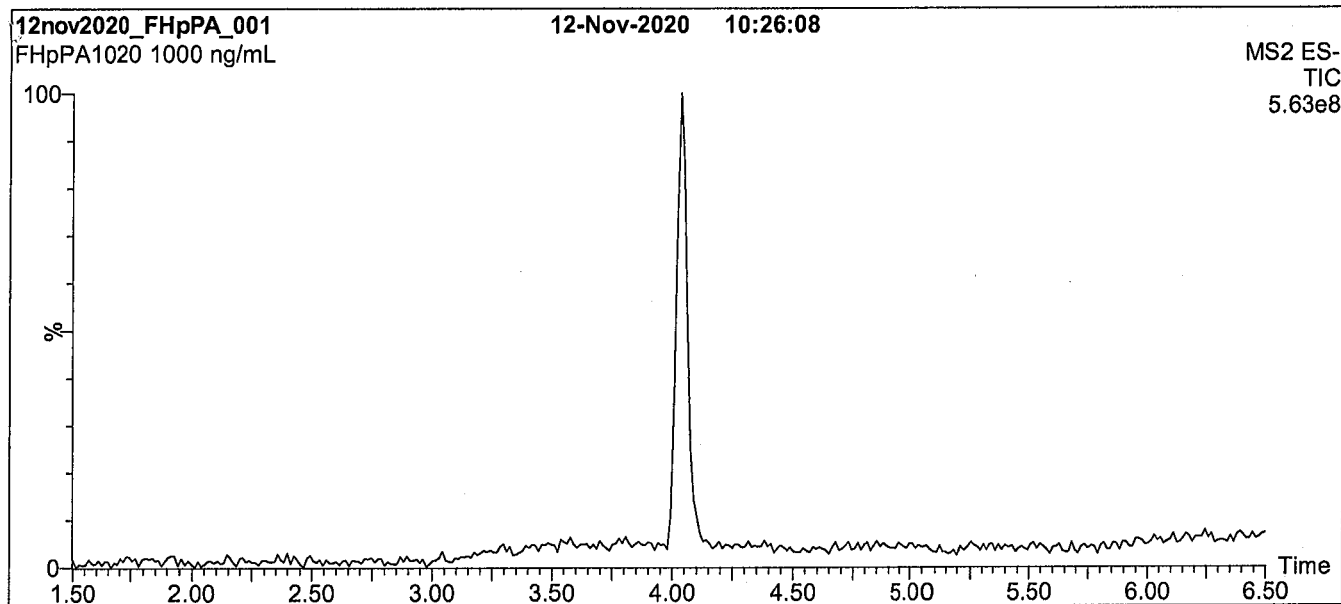
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**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; A1226), 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

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

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

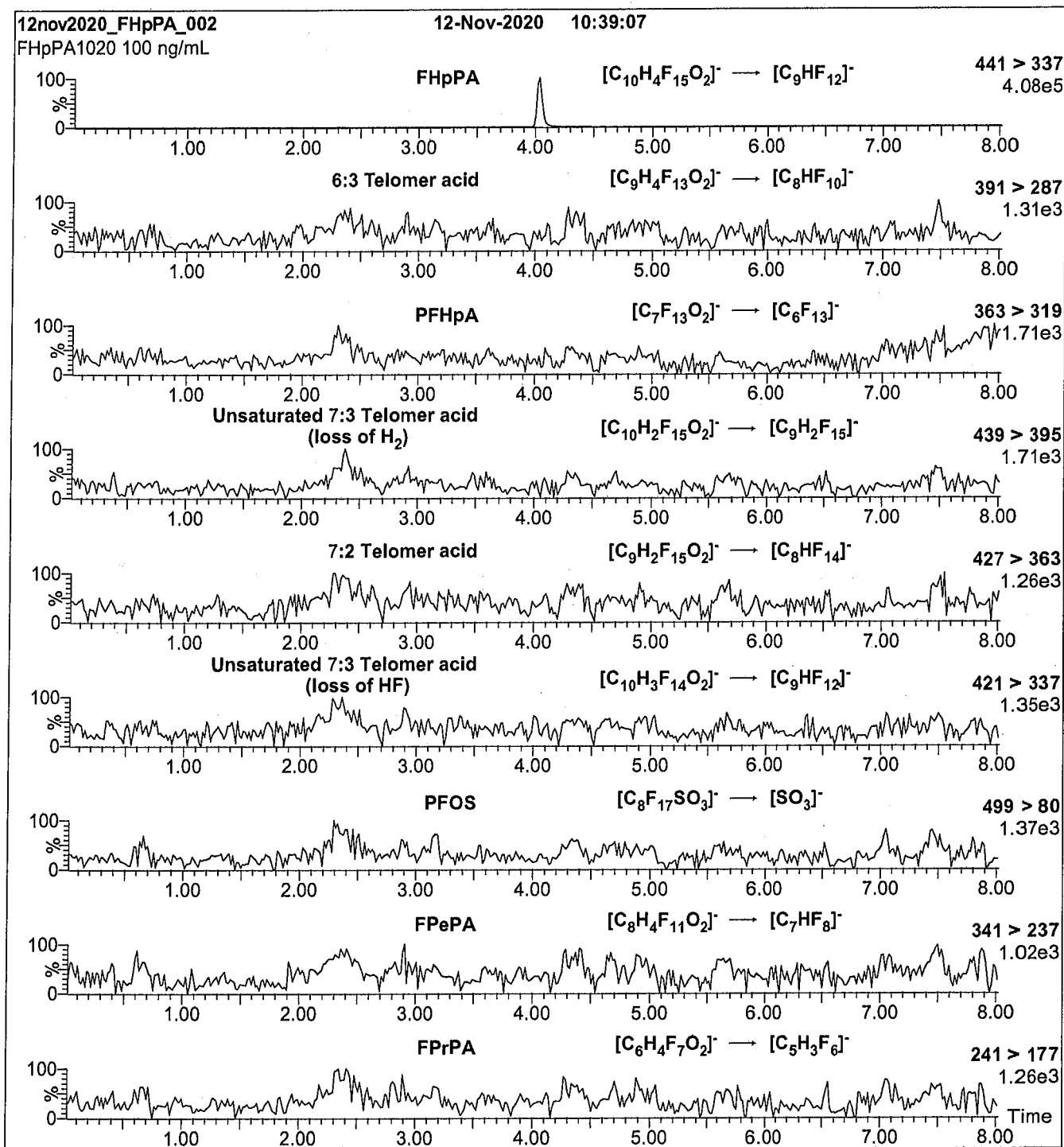
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 0.50  
Cone Voltage (V) = 28.50  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FHpPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**21L0007L**

Description:s	PFAS - SAS 7:3FTA 50ug/mLs	Expires:	06/05/2022s
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021s
Solvent:s	MeOHs	Prepared By:	Hart Hedgpeths
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	12/07/2021 16:16 by HGHS
Comments:3	7:3 FTCA 50.0ug/mL		

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
7:3 FTAs		812-70-4	50s	ug/mLs

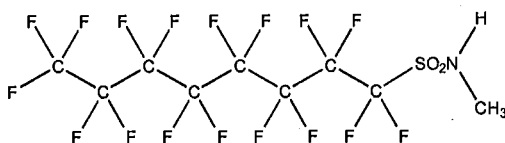


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M      **LOT NUMBER:** NMeFOSA0721M  
**COMPOUND:** N-methylperfluoro-1-octanesulfonamide

**STRUCTURE:**      **CAS #:** 31506-32-8



**MOLECULAR FORMULA:**  $C_9H_4F_{17}NO_2S$       **MOLECULAR WEIGHT:** 513.17  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$       **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/03/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**       **Date:** 08/04/2021  
B.G. Chittim, General Manager      (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

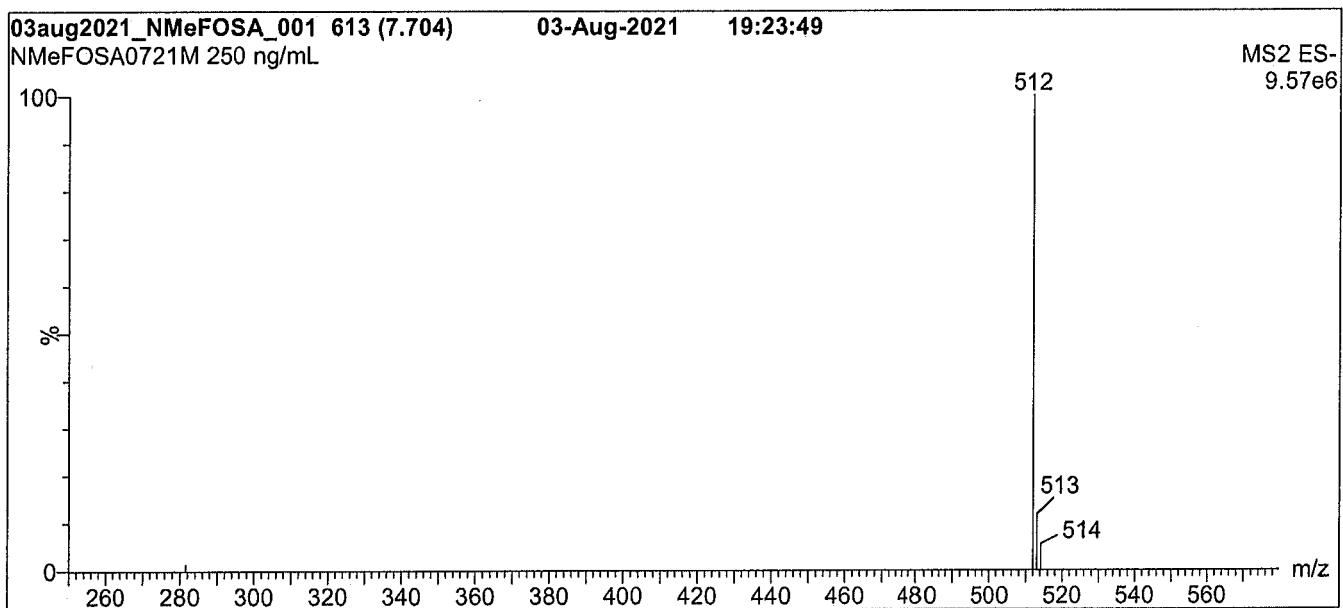
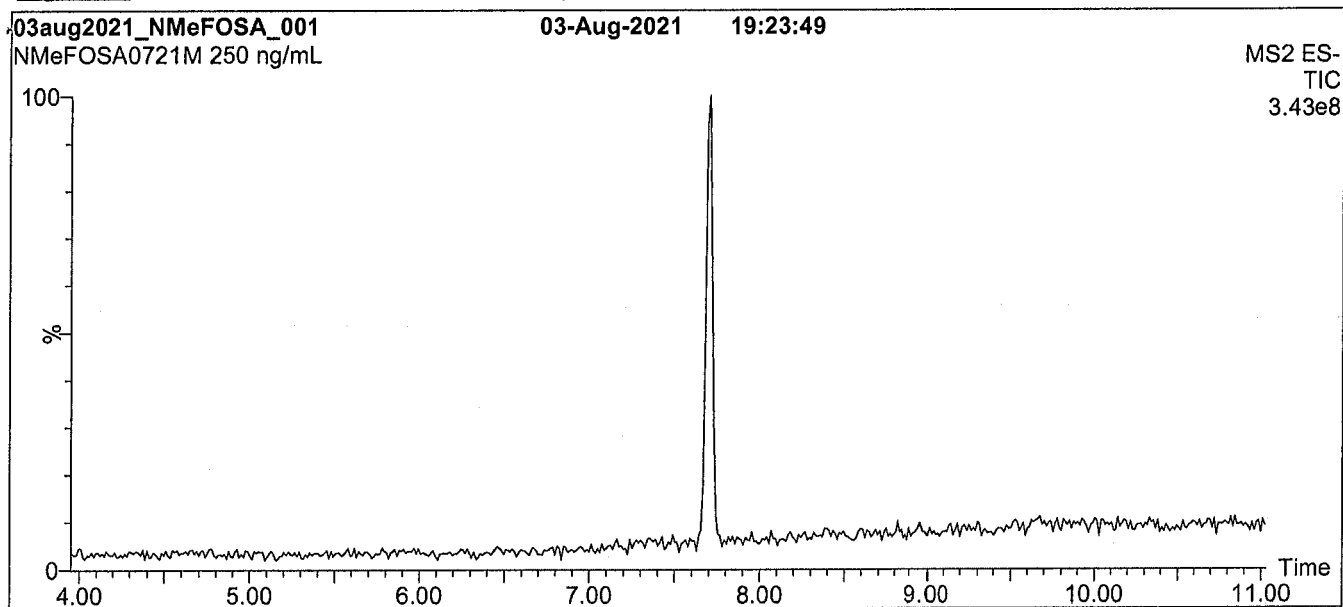
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\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

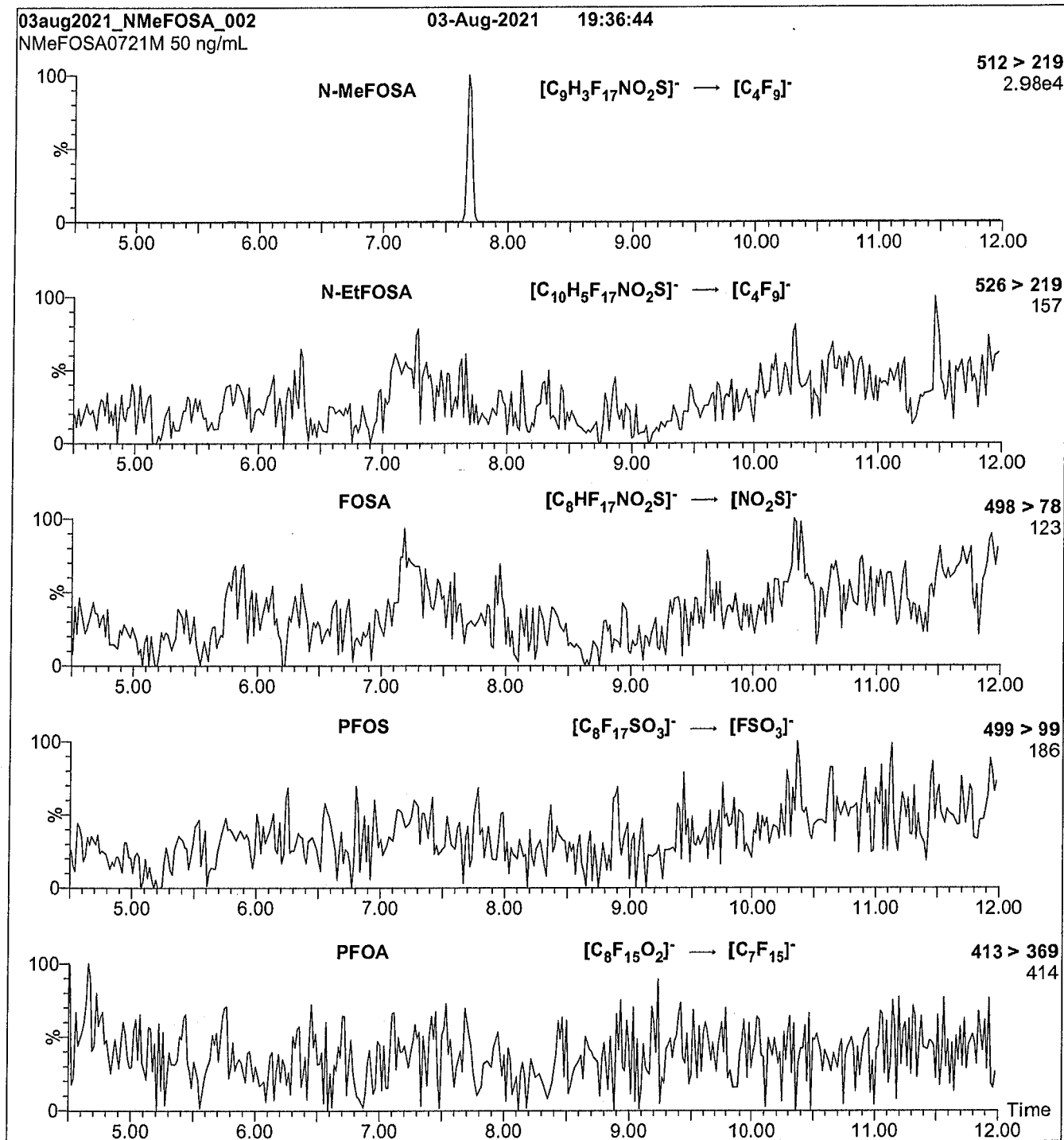
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 24

# Analytical Standard Record

**21L0008L**

Description:s	PFAS - SAS N-MeFOSA 50ug/mL	Expires:s	06/05/2022s
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021s
Solvent:s	MeOHs	Prepared By:s	Hart Hedgpeths
Final Volume (mls):s	1s	Department:s	PFASs
Vials:s	1s	Last Edit:s	12/07/2021 16:18 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
N-MEFOSAs		31506-32-8s	50s	ug/mLs

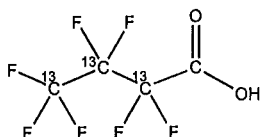


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M3PFBA **LOT NUMBER:** M3PFBA0721  
**COMPOUND:** Perfluoro-n-(2,3,4-<sup>13</sup>C<sub>3</sub>)butanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>3</sub><sup>12</sup>CHF<sub>7</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 217.02  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
 (2,3,4-<sup>13</sup>C<sub>3</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 08/19/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/19/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~0.2% of perfluoro-n-(<sup>13</sup>C<sub>3</sub>)propanoic acid and also contains ~1.0% of perfluoro-n-(1,2,3,4-<sup>13</sup>C<sub>4</sub>)butanoic acid due to the naturally occurring isotopic abundance of <sup>13</sup>C in the unlabelled carbon atom.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/25/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

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$x_1, x_2, \dots, x_n$  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.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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**LIMITED WARRANTY:**

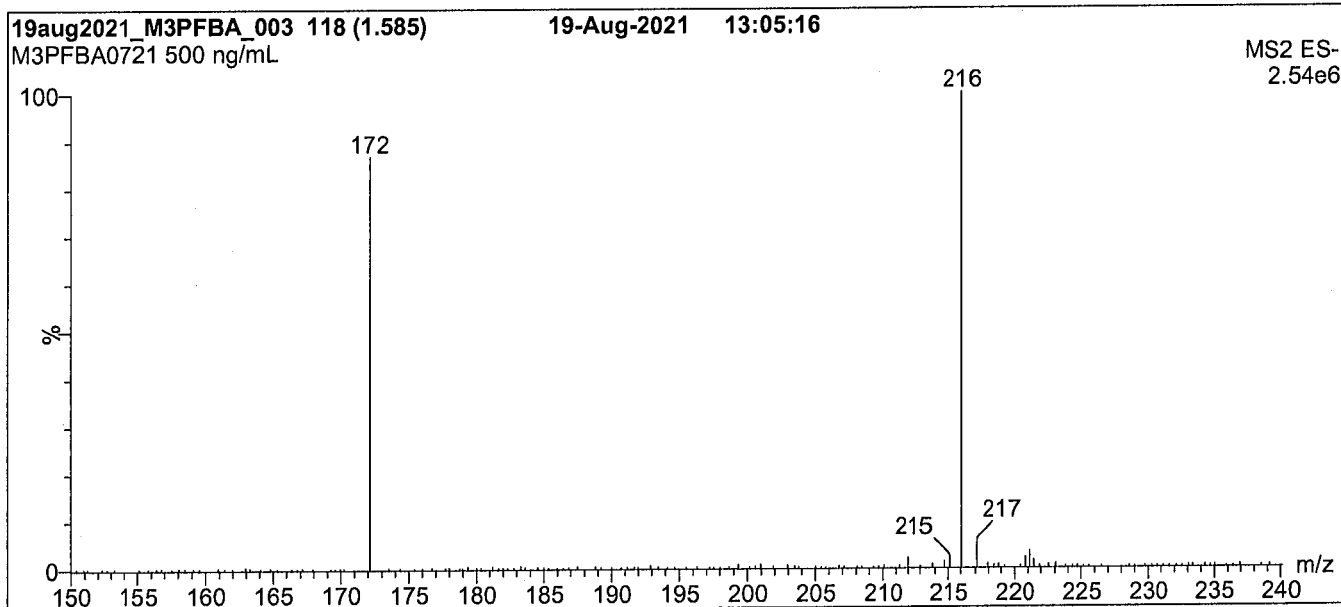
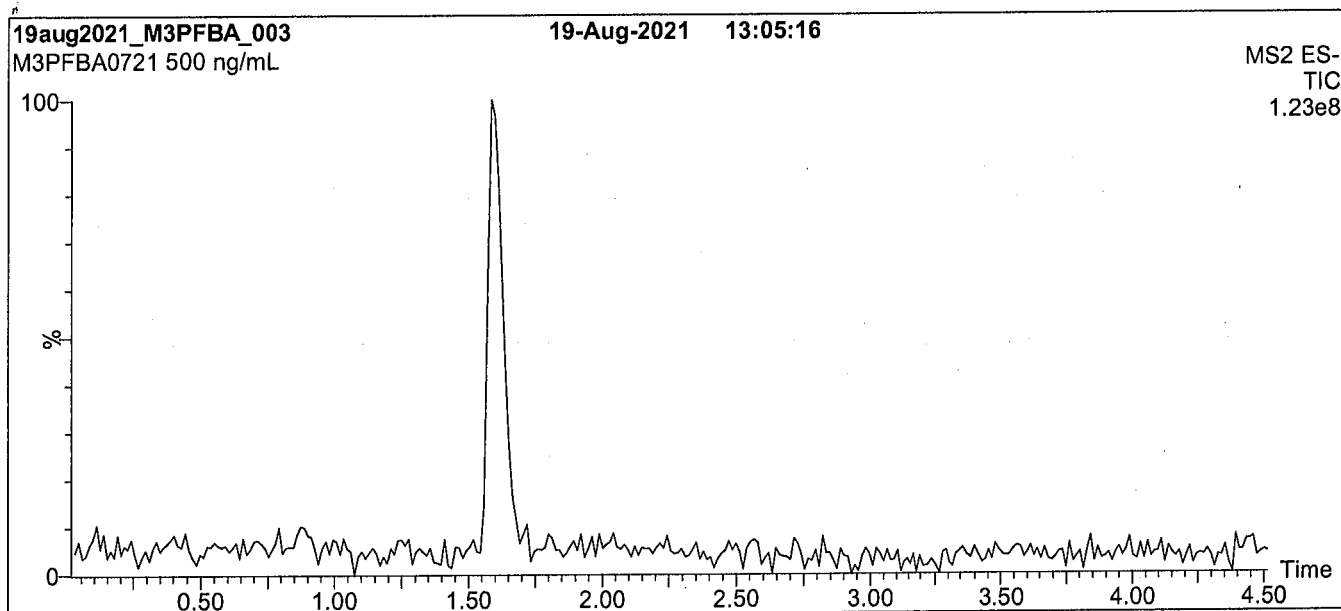
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**Figure 1: M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

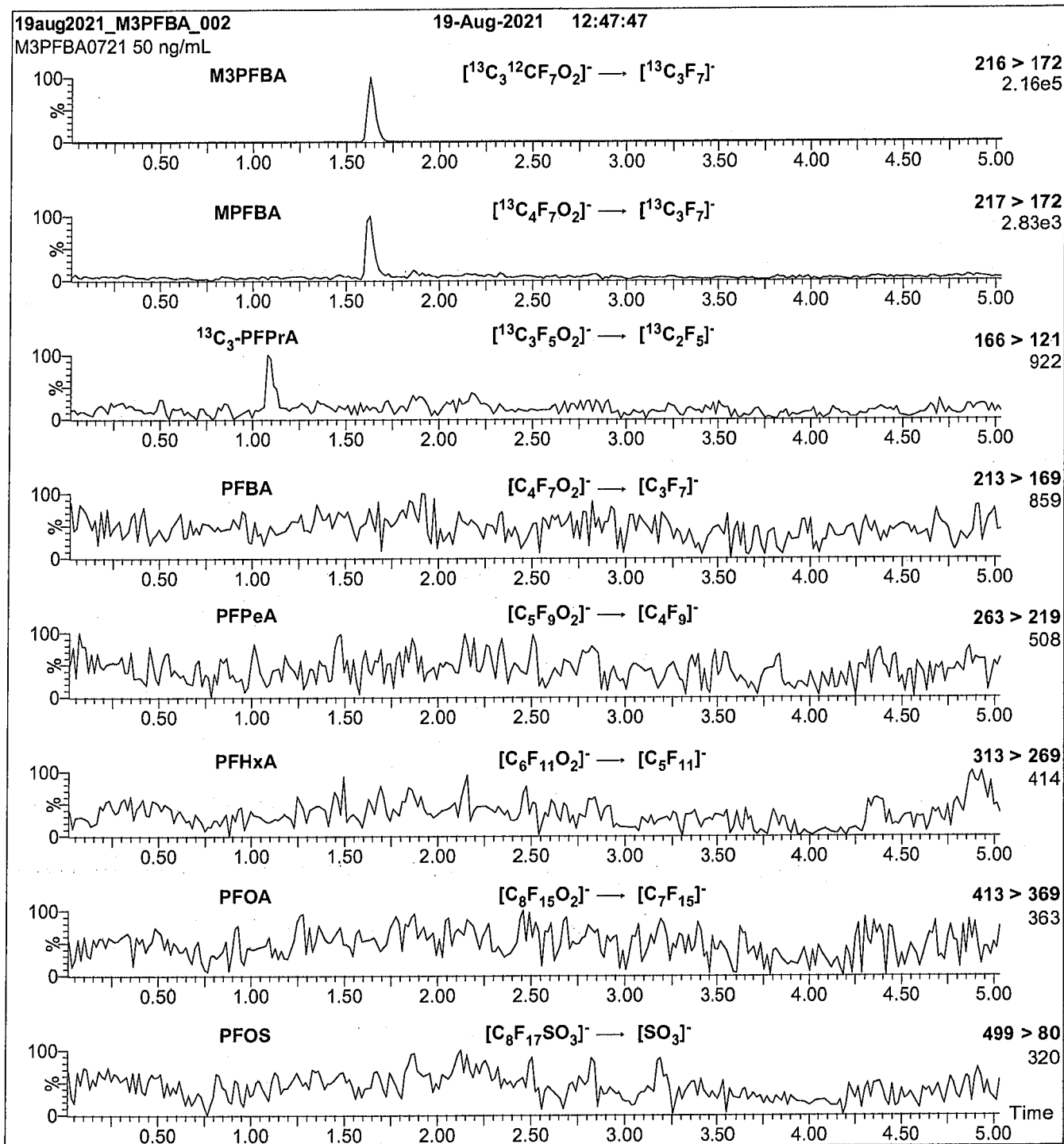
Mobile phase: Gradient  
Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.5 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: M3PFBA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (M3PFBA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.45e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22A0116L**

Description:s	PFAS - IIS M3PFBA 50ug/mLs	Expires:s	08/19/2026s
Standard Type:s	Analyte Spikes	Prepared:s	08/19/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
13C3-PFBAs		13C3-PFBAs	50s	ug/mLs

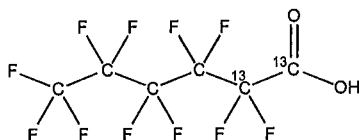


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFHxA **LOT NUMBER:** MPFHxA0921  
**COMPOUND:** Perfluoro-n-(1,2-<sup>13</sup>C<sub>2</sub>)hexanoic acid

**STRUCTURE:** **CAS #:** 960315-47-3



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>4</sub>HF<sub>11</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 316.04  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2-<sup>13</sup>C<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/04/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/04/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 10/22/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

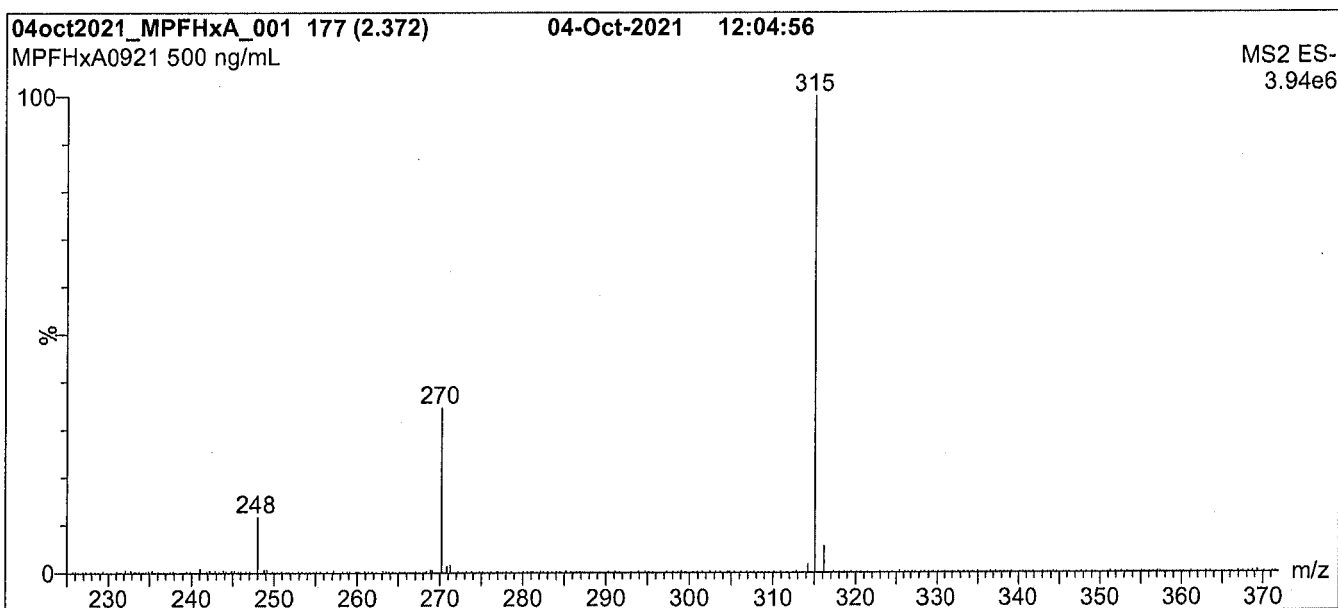
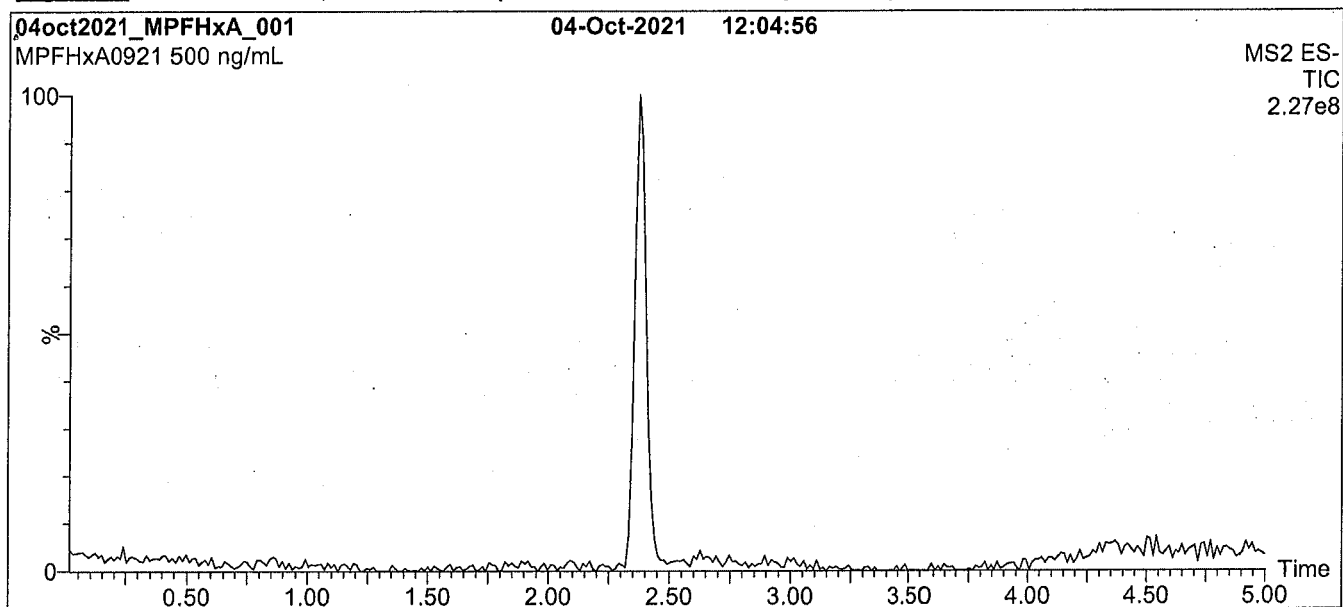
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**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; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).



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**Figure 1: MPFHxA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

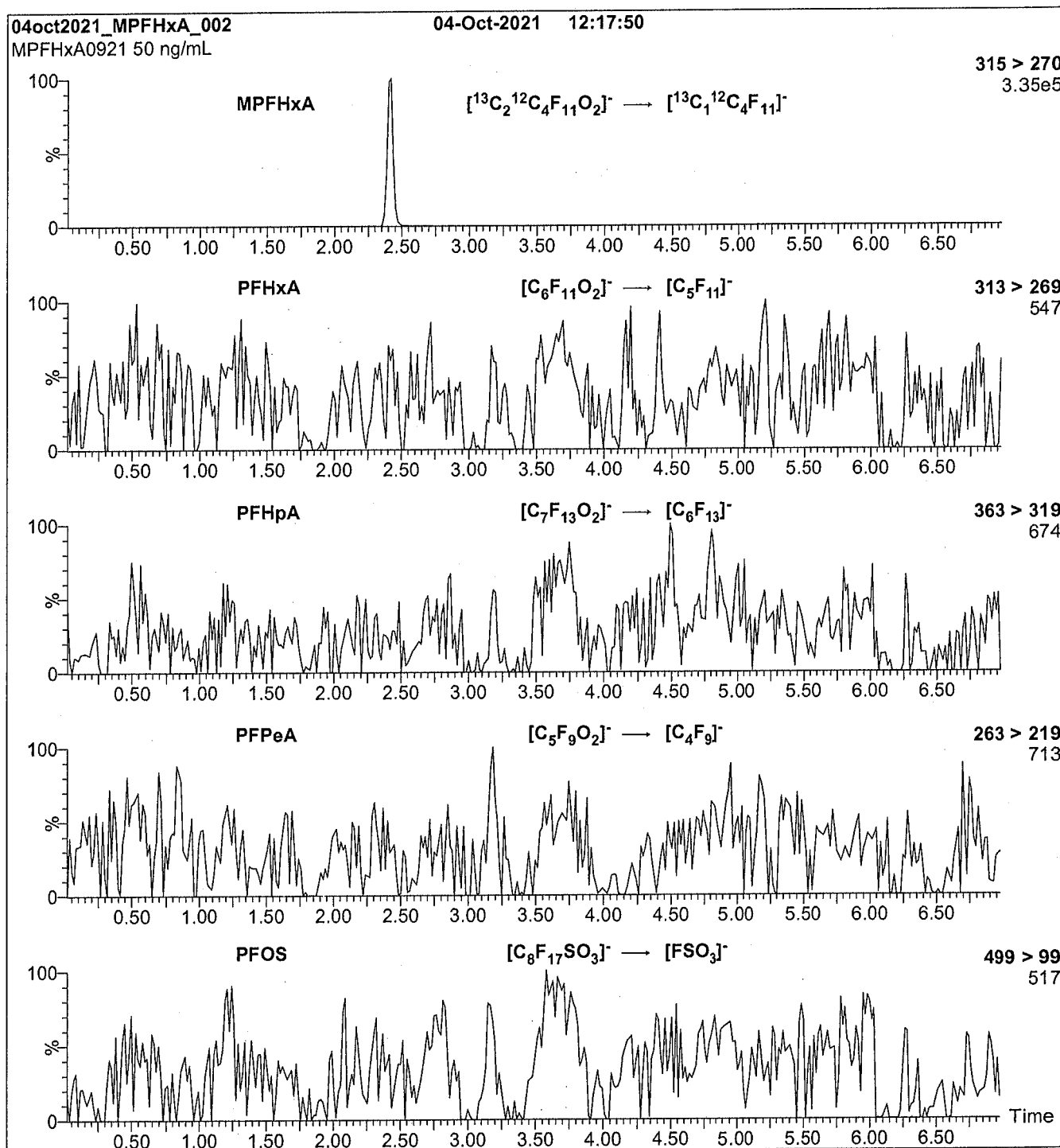
Mobile phase: Gradient  
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 7 min and hold for  
2 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFHxA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22A0117J**

Description:s	PFAS - IIS MPFHxA 50ug/mLs	Expires:s	10/04/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/04/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

<b>AnalyteJ</b>	<b>ParentJ</b>	<b>CAS NumberJ</b>	<b>Concentration J</b>	<b>UnitsJ</b>
13C2-PFHxA		13C2-PFHxAs	50s	ug/mLs

# Analytical Standard Record

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Description:s	PFAS - IIS MPFHxA 50ug/mLs	Expires:s	10/04/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/04/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mLs):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

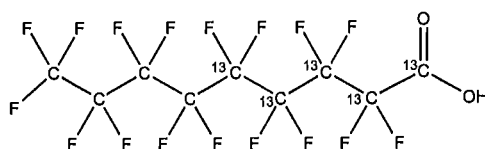
<b>AnalyteJ</b>	<b>ParentJ</b>	<b>CAS NumberJ</b>	<b>Concentration J</b>	<b>UnitsJ</b>
13C2-PFHxA		13C2-PFHxAs	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFNA **LOT NUMBER:** MPFNA1021  
**COMPOUND:** Perfluoro-n-(1,2,3,4,5-<sup>13</sup>C<sub>5</sub>)nonanoic acid  
**STRUCTURE:** **CAS #:** 960315-49-5



**MOLECULAR FORMULA:**  $^{13}\text{C}_5^{12}\text{C}_4\text{HF}_{17}\text{O}_2$  **MOLECULAR WEIGHT:** 469.04  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2,3,4,5-<sup>13</sup>C<sub>5</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/29/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/29/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 11/01/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

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**LIMITED WARRANTY:**

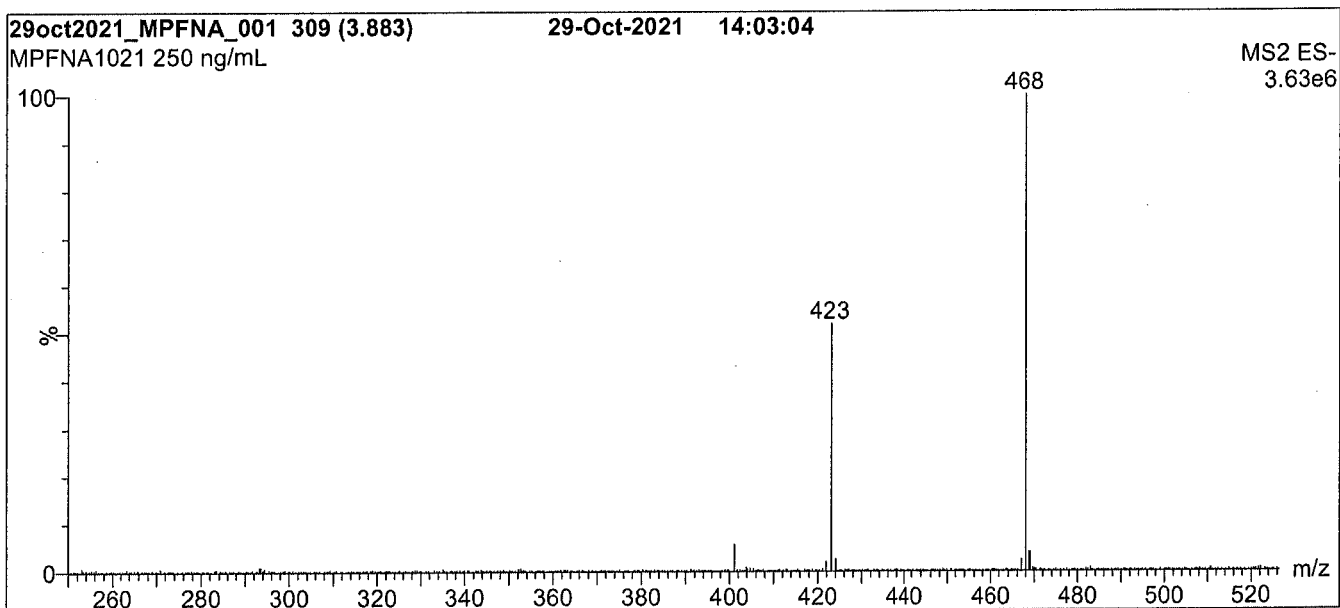
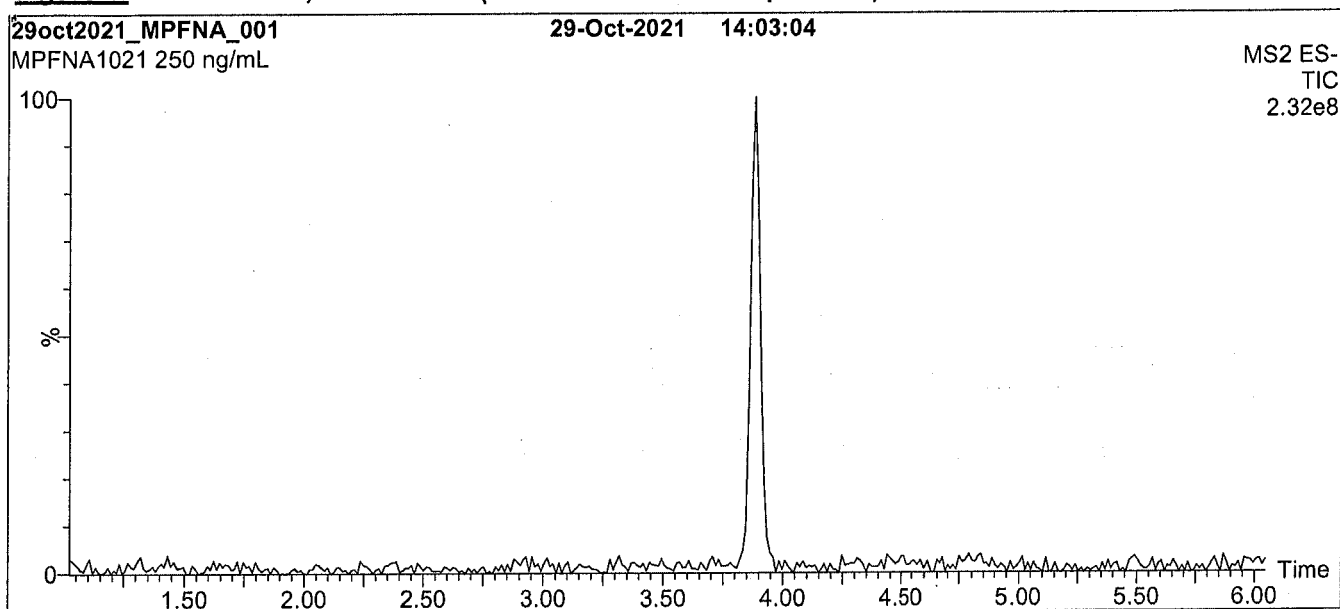
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**Figure 1: MPFNA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

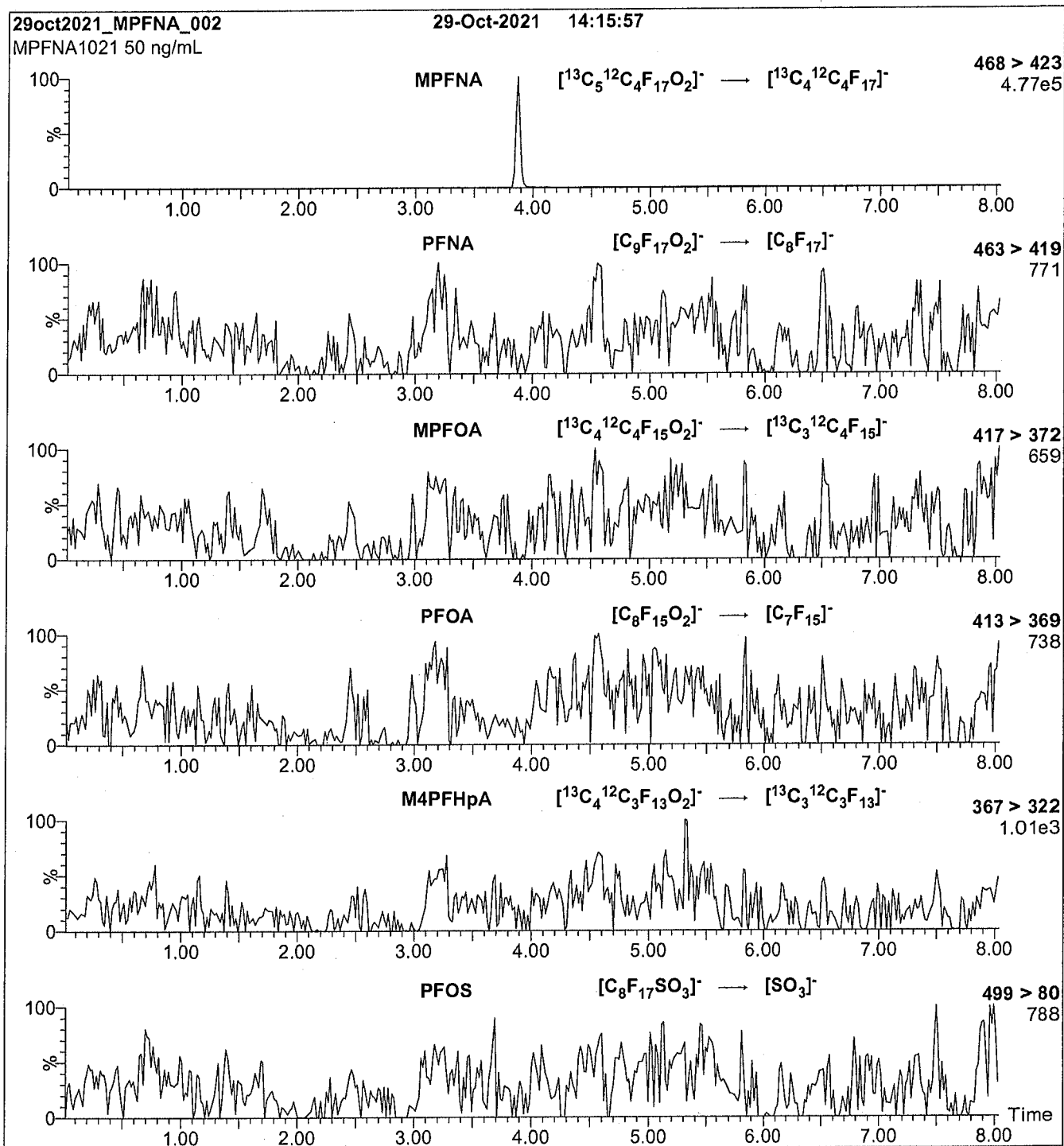
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 10.00

Desolvation Temperature (°C) = 500

Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFNA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFNA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.16e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**22A0118L**

Description:s	PFAS - IIS MPFNA 50ug/mL	Expires:s	10/29/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/29/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mls):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
13C5-PFNA		13C5-PFNA	50s	ug/mLs

# Analytical Standard Record

**22A0118L**

Description:s	PFAS - IIS MPFNA 50ug/mL	Expires:s	10/29/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/29/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mls):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
13C5-PFNA		13C5-PFNA	50s	ug/mLs



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where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

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**LIMITED WARRANTY:**

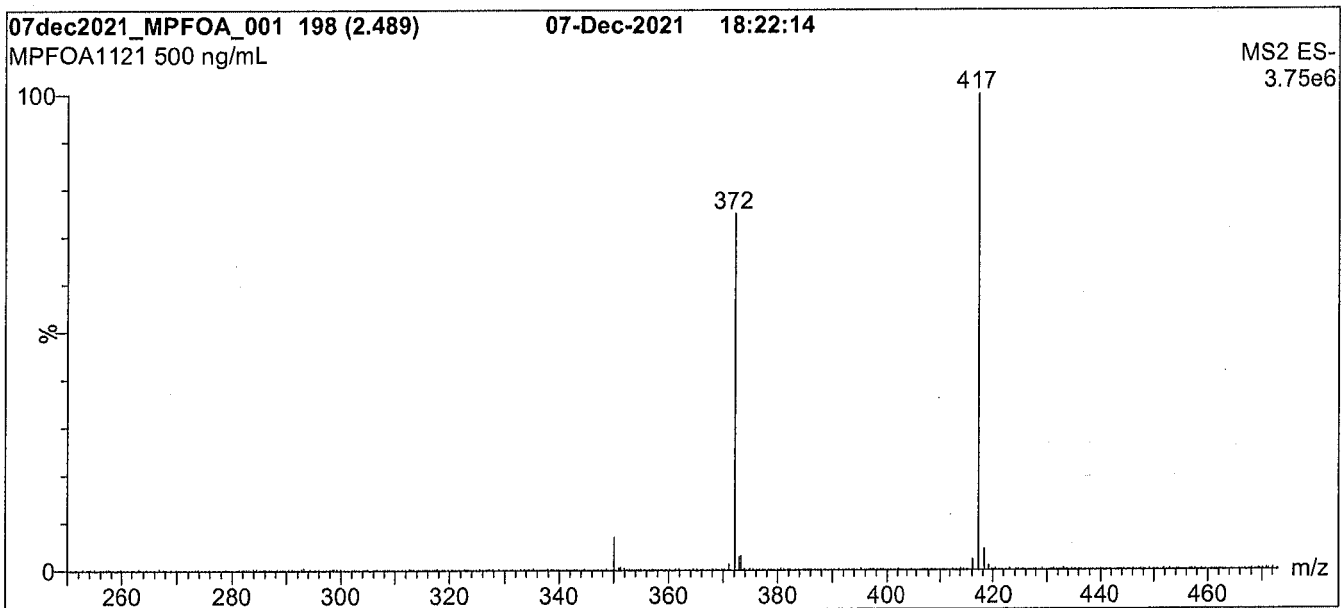
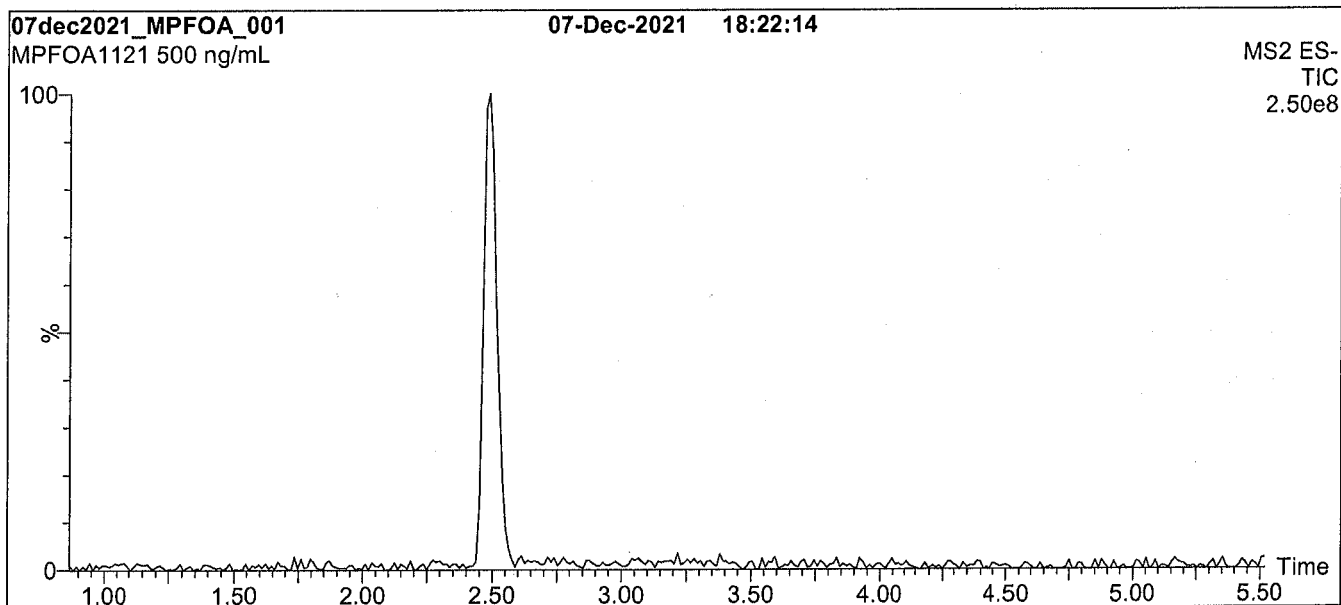
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**Figure 1: MPFOA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

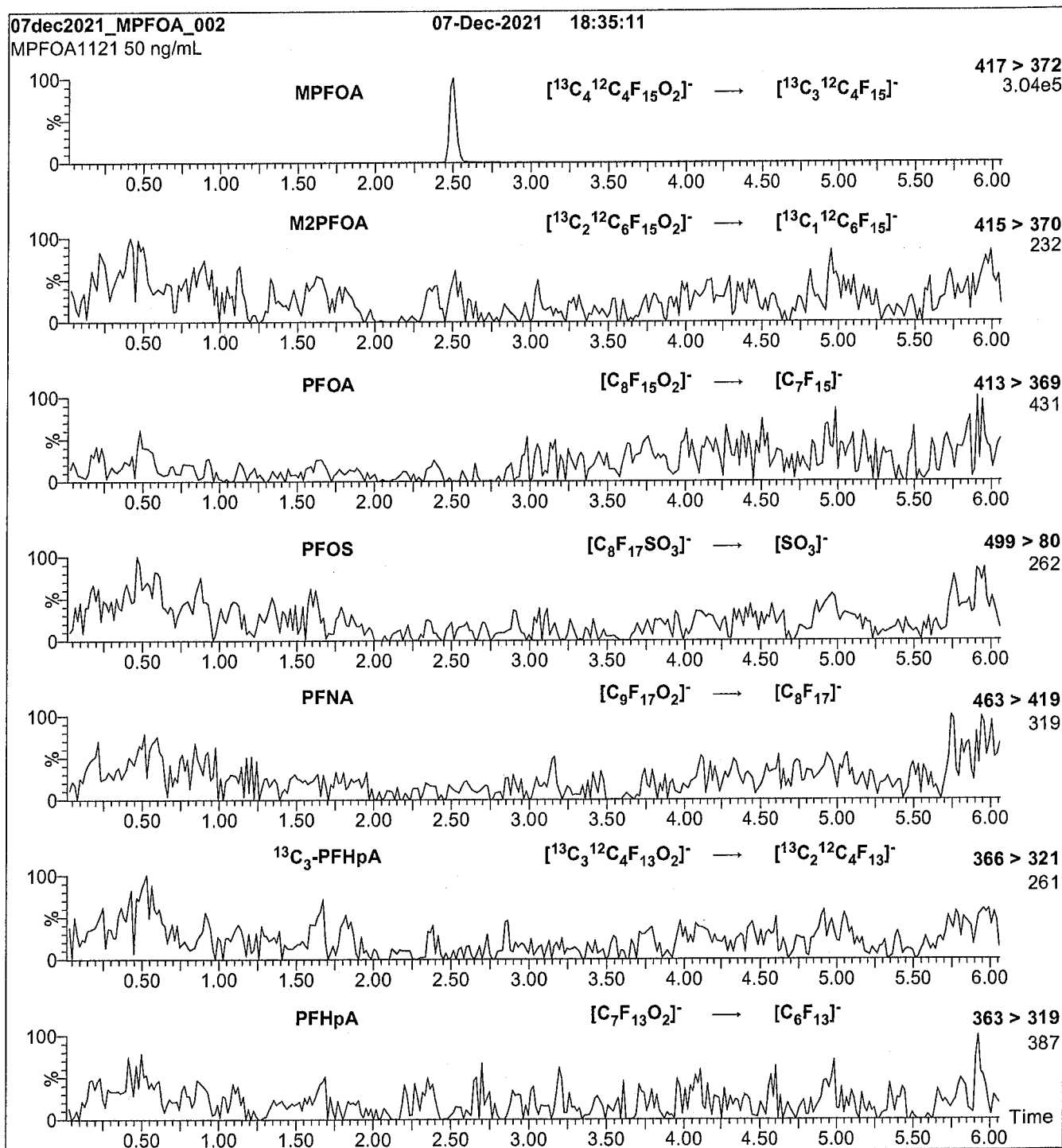
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFOA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFOA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 8

**Analytical Standard Record0****22A01190**

Description:s	PFAS - IIS MPFOA 50ug/mLs	Expires:s	12/07/2026
Standard Type:s	Analyte Spikes	Prepared:s	12/07/2021
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:48 by HGHS

<b>Analyte0</b>	<b>Parent0</b>	<b>CAS Number</b>	<b>Concentration 0</b>	<b>Units0</b>
13C4-PFOAs		13C4-PFOAs	50s	ug/mLs

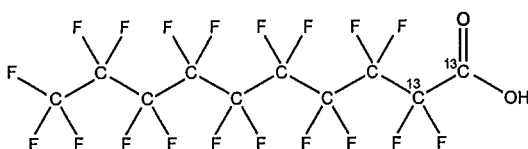


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFDA **LOT NUMBER:** MPFDA1221  
**COMPOUND:** Perfluoro-n-(1,2-<sup>13</sup>C<sub>2</sub>)decanoic acid

**STRUCTURE:** **CAS #:** 960315-50-8



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>8</sub>HF<sub>19</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 516.07  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2-<sup>13</sup>C<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 12/08/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 12/08/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 12/13/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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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:**

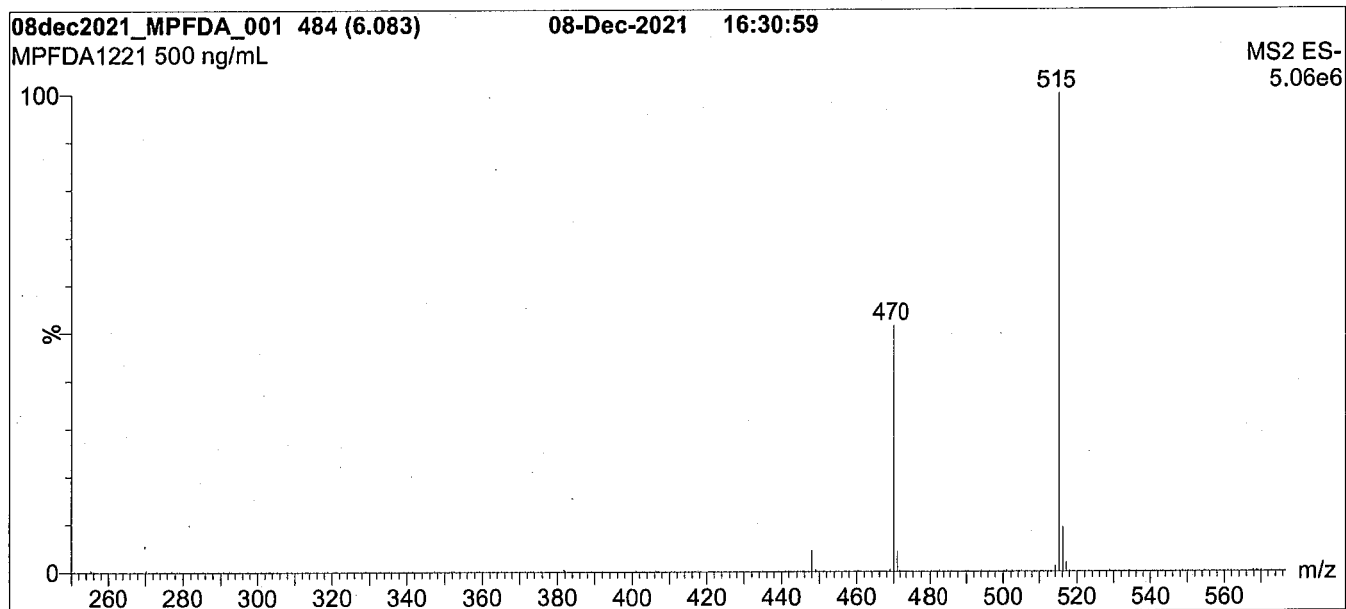
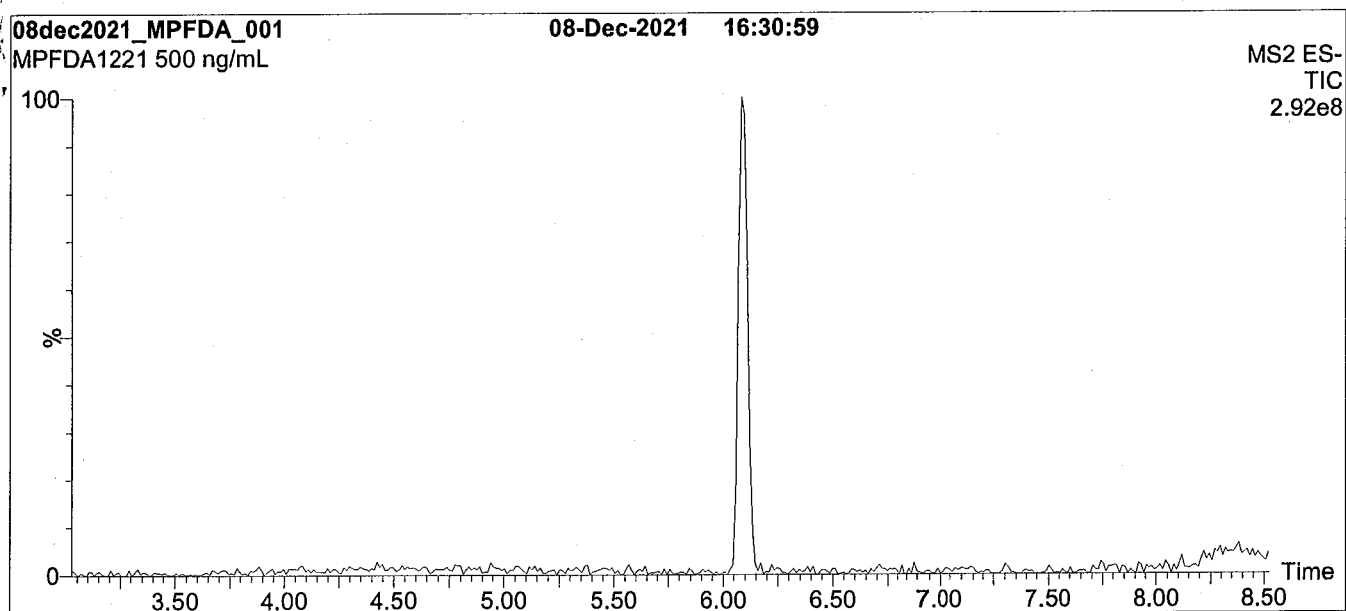
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**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; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: MPFDA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

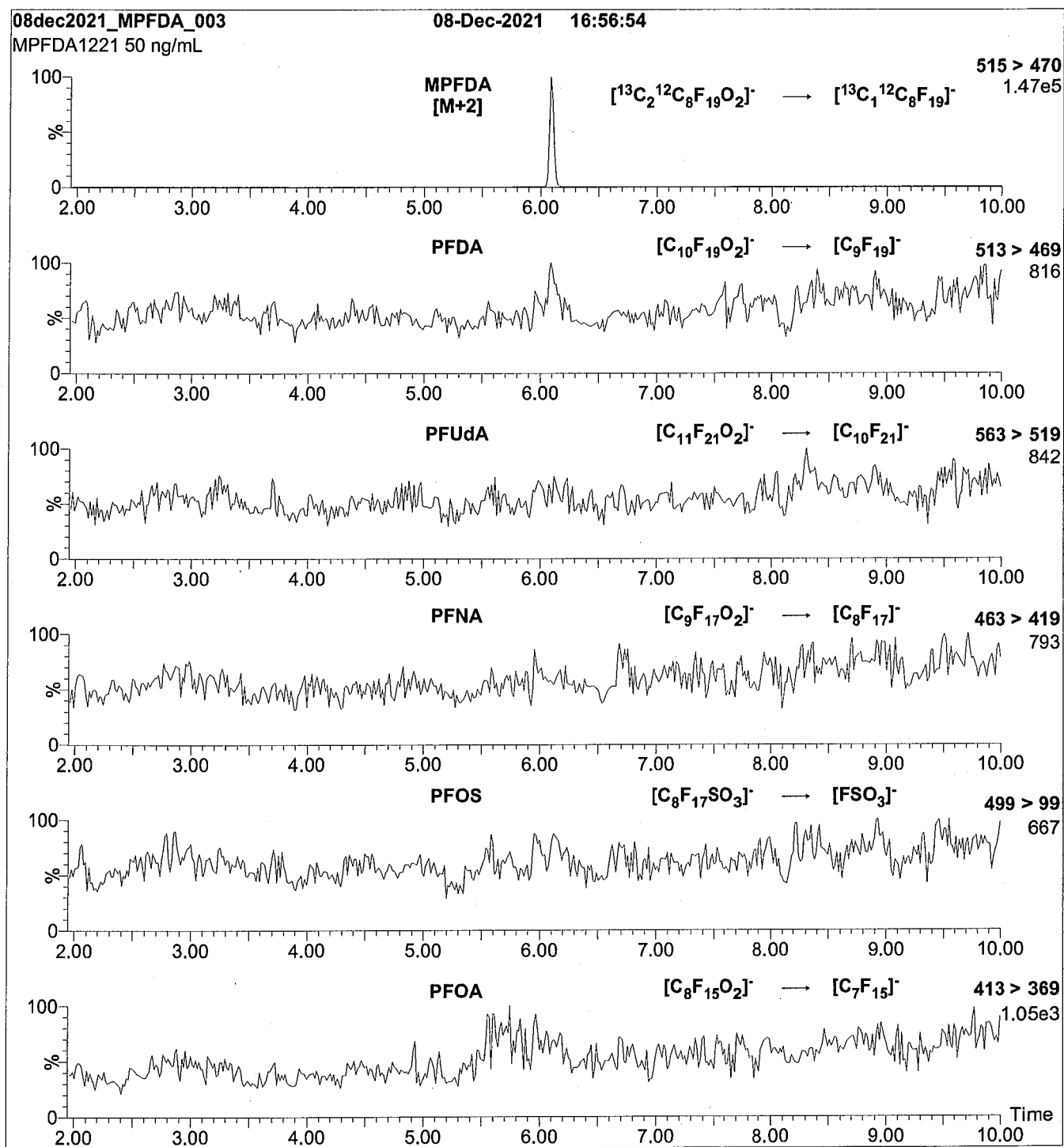
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for  
1 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFDA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFDA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 10

# Analytical Standard Record

**22A0120L**

Description:s	PFAS - IIS MPFDA 50ug/mLs	Expires:s	12/08/2026s
Standard Type:s	Analyte Spikes	Prepared:s	12/08/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS

AnalyteL	ParentL	CAS NumberL	Concentration L	UnitsL
13C2-PFDAs		13C2-PFDAs	50s	ug/mLs

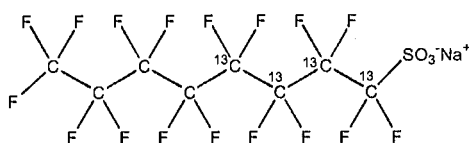


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFOS **LOT NUMBER:** MPFOS0821  
**COMPOUND:** Sodium perfluoro-1-(1,2,3,4-<sup>13</sup>C<sub>4</sub>)octanesulfonate

**STRUCTURE:** **CAS #:** 960315-53-1



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>4</sub><sup>12</sup>C<sub>4</sub>F<sub>17</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 526.08  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
 47.9 ± 2.4 µg/mL (MPFOS acid)  
 47.8 ± 2.4 µg/mL (MPFOS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 08/18/2021 (1,2,3,4-<sup>13</sup>C<sub>4</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 08/18/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.4% sodium perfluoro-1-(<sup>13</sup>C<sub>3</sub>)heptanesulfonate.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager

**Date:** 08/19/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

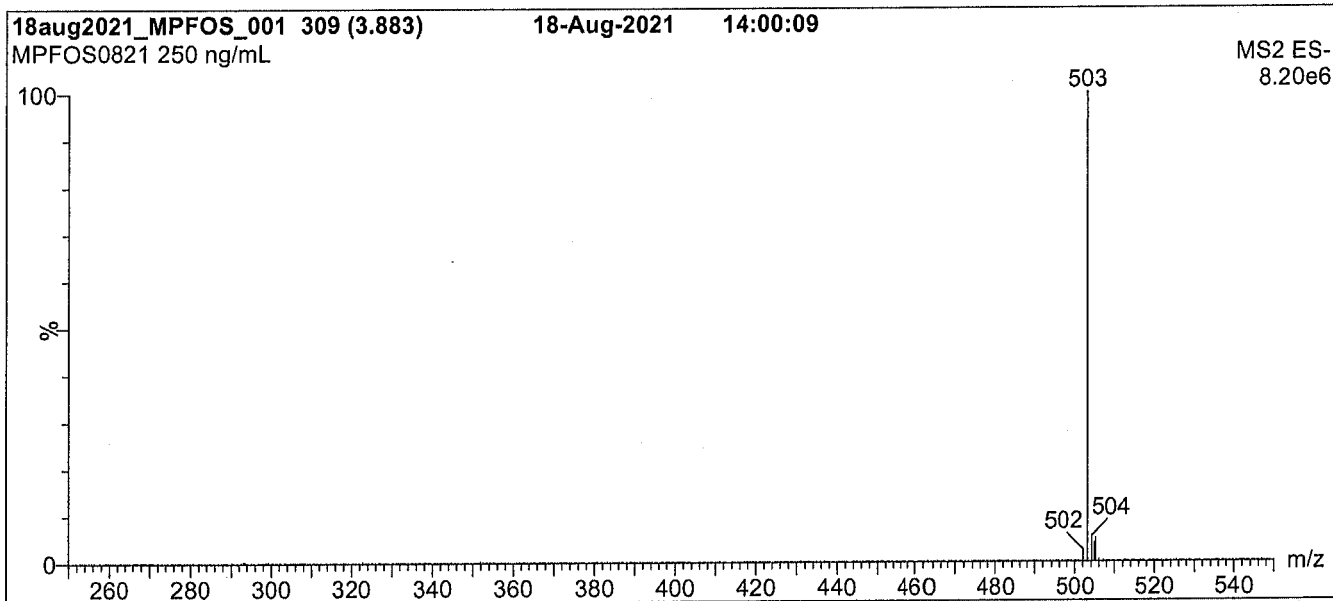
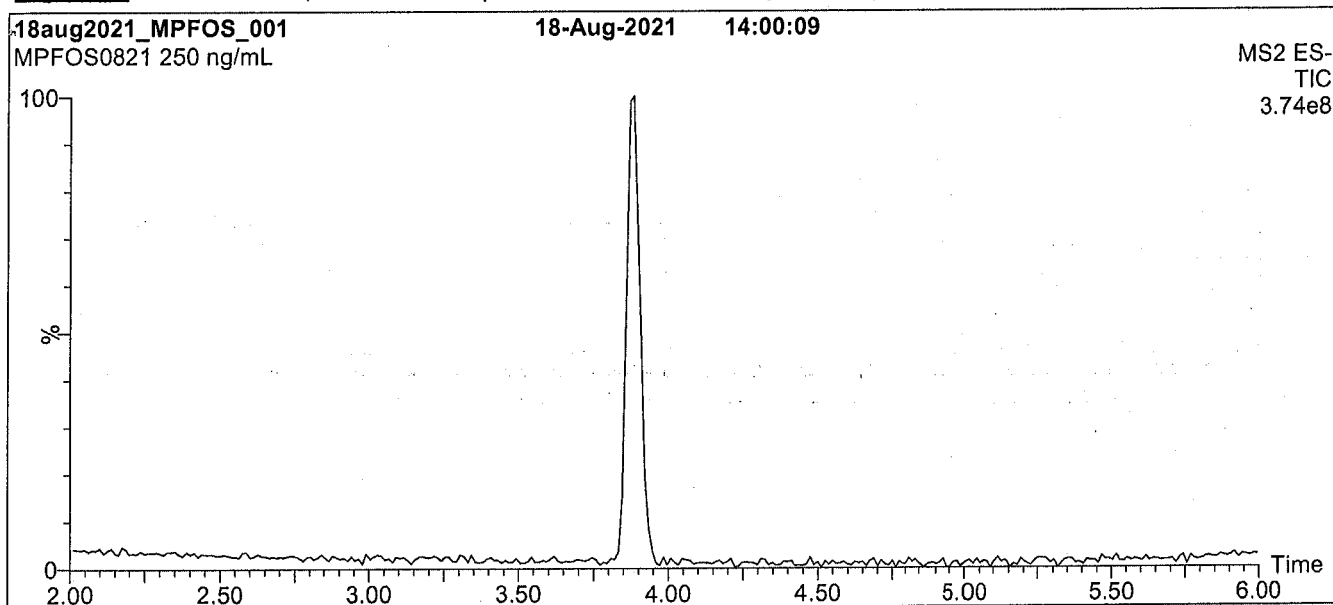
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

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**Figure 1: MPFOS; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

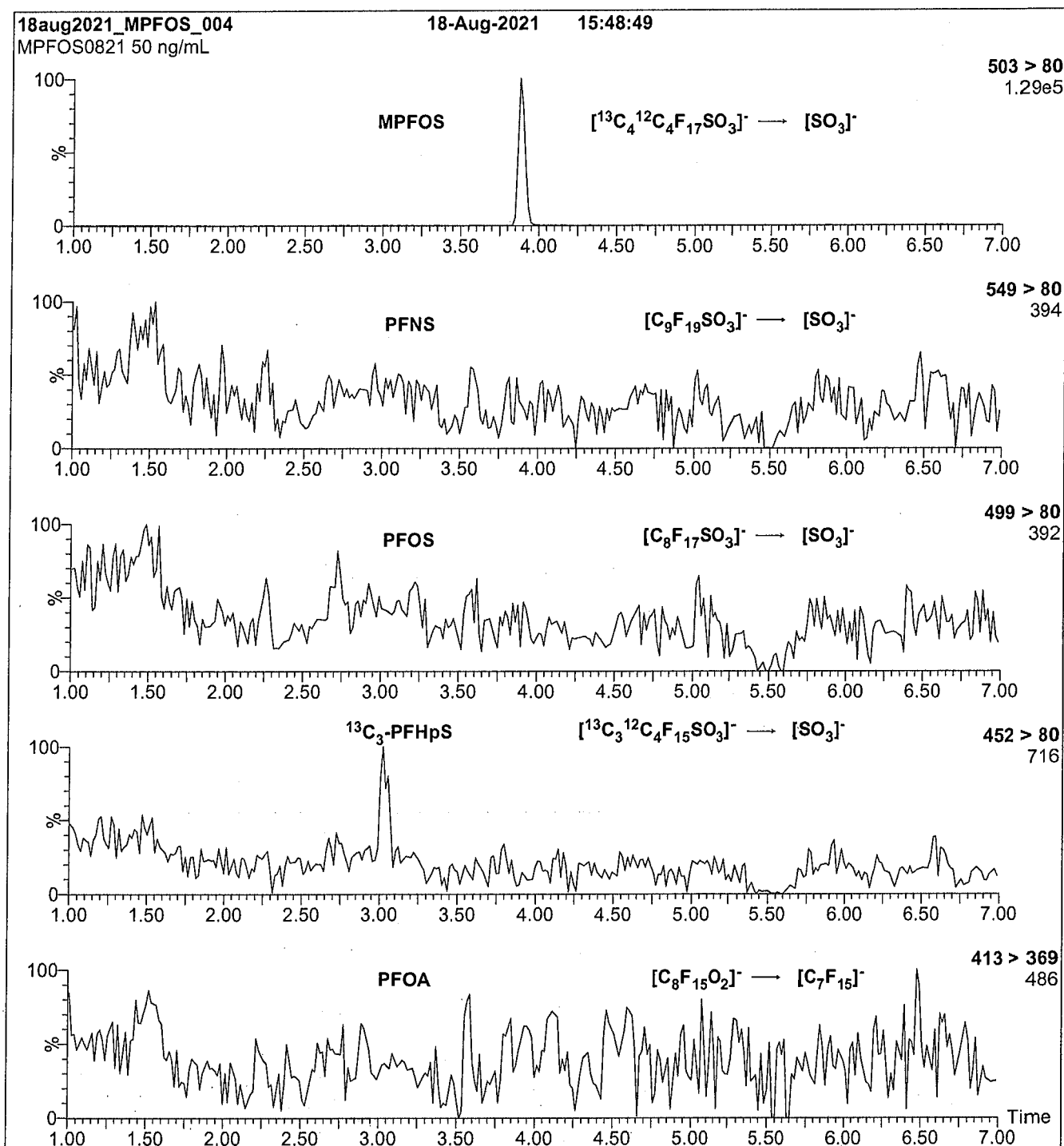
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFOS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFOS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu\text{L}/\text{min}$ **MS Parameters:**

Collision Gas (mbar) = 3.39e-3

Collision Energy (eV) = 42

# Analytical Standard Record

**22A0121L**

Description:s	PFAS - IIS MPFOS 50ug/mLs	Expires:s	08/18/2026s
Standard Type:s	Analyte Spikes	Prepared:s	08/18/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
13C4-PFOs		13C4-PFOs	50s	ug/mLs

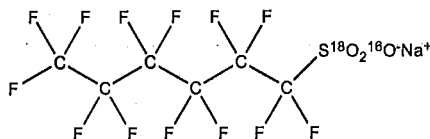


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFHxS **LOT NUMBER:** MPFHxS1021  
**COMPOUND:** Sodium perfluoro-1-hexane(<sup>18</sup>O<sub>2</sub>)sulfonate

**STRUCTURE:** **CAS #:** 1585941-14-5



**MOLECULAR FORMULA:** C<sub>6</sub>F<sub>13</sub>S<sup>18</sup>O<sub>2</sub><sup>16</sup>ONa **MOLECULAR WEIGHT:** 426.10  
**CONCENTRATION:** 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol  
 47.4 ± 2.4 µg/mL (MPFHxS acid)  
 47.3 ± 2.4 µg/mL (MPFHxS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** >94% (<sup>18</sup>O<sub>2</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 10/29/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 10/29/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:


Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS (C<sub>6</sub>F<sub>13</sub>S<sup>18</sup>O<sub>2</sub><sup>16</sup>O) has been observed to be up to 10% lower than for PFHxS (C<sub>6</sub>F<sub>13</sub>S<sup>16</sup>O<sub>3</sub>) when both compounds are injected together. This difference may vary between instruments.
- Contains ~0.6% of sodium perfluoro-1-octane(<sup>18</sup>O<sub>2</sub>)sulfonate (<sup>18</sup>O<sub>2</sub>-PFOS) and ~0.3% of sodium perfluoro-1-heptane(<sup>18</sup>O<sub>2</sub>)sulfonate (<sup>18</sup>O<sub>2</sub>-PFHpS).
- Due to the isotopic purity of the starting material (<sup>18</sup>O<sub>2</sub> >94%), MPFHxS contains ~0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

**Certified By:**   
 B.G. Chittim, General Manager **Date:** 11/05/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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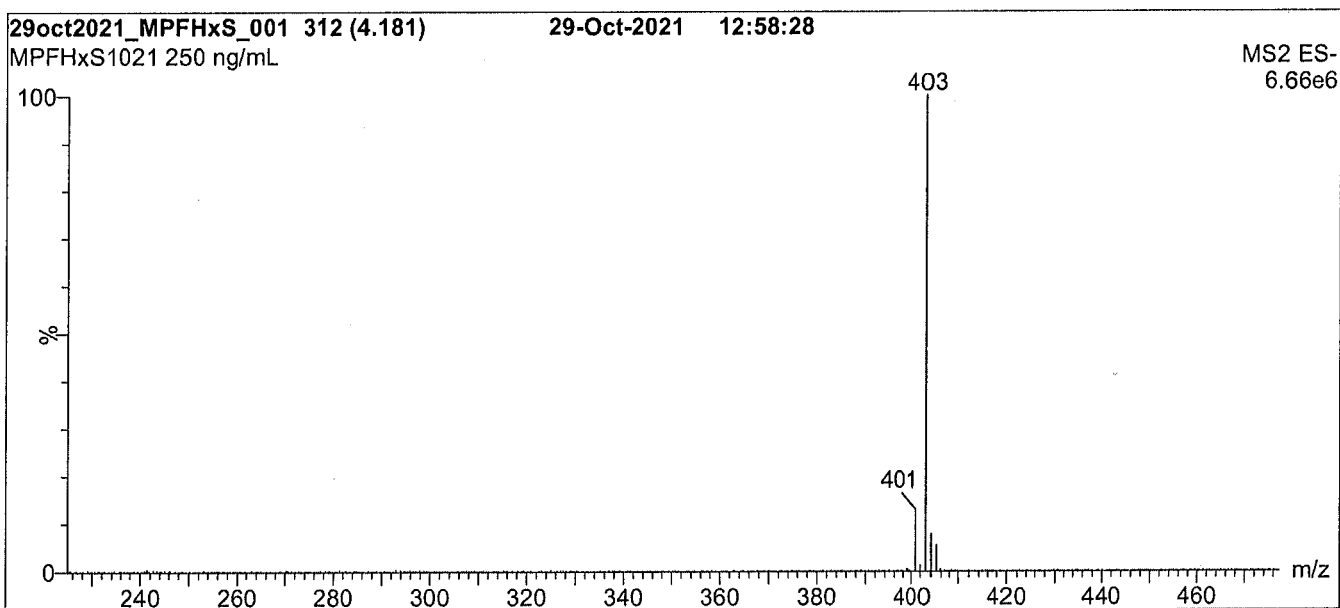
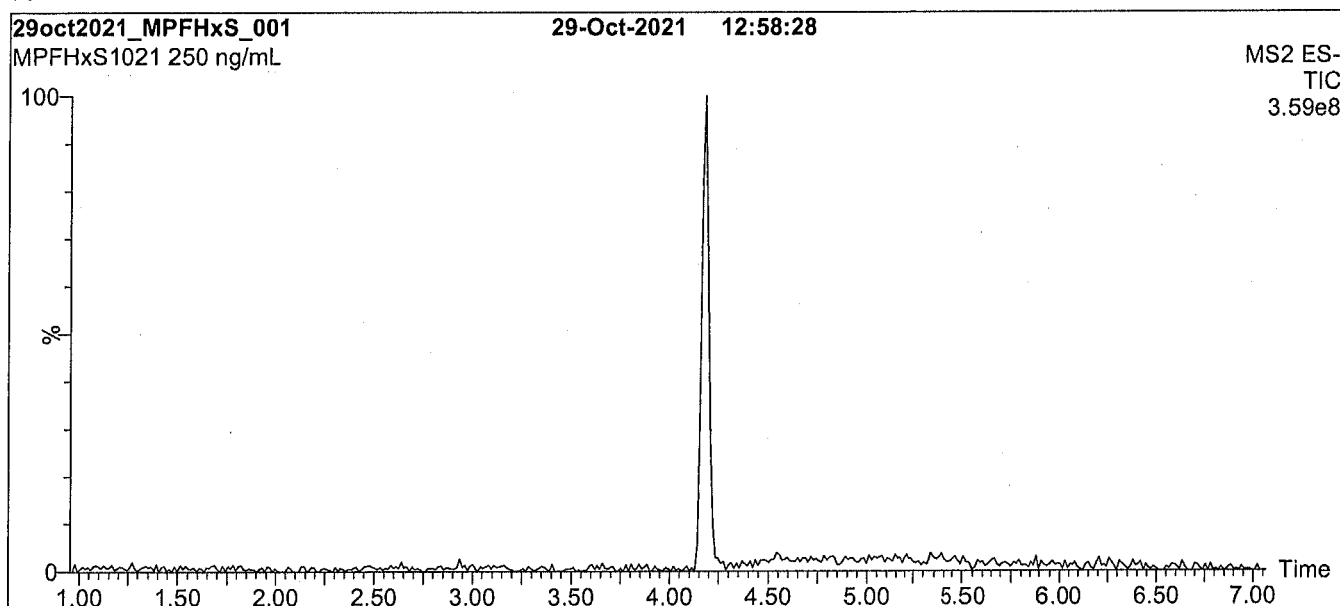
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**Figure 1: MPFHxS; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

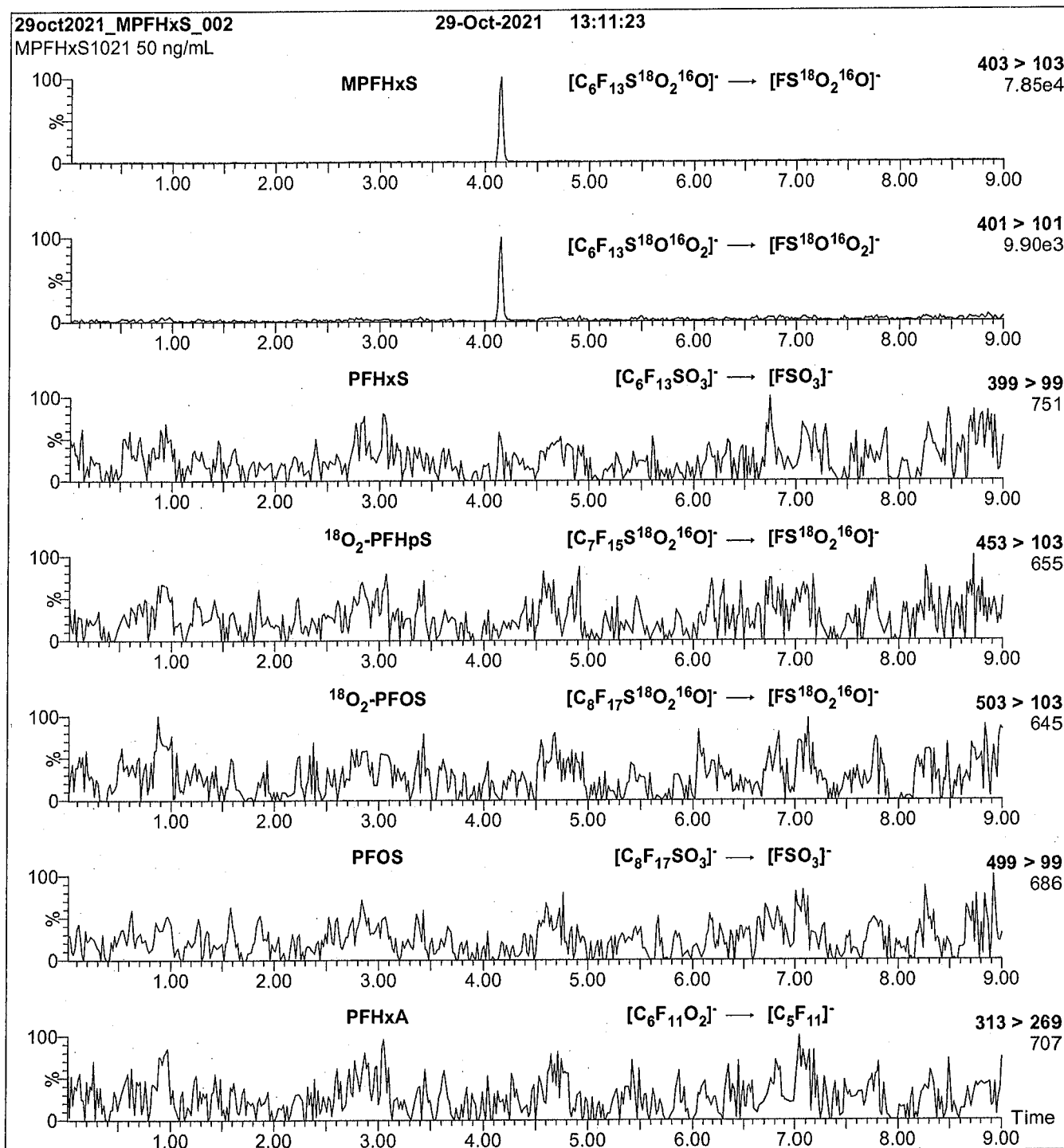
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for  
1 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: MPFHxS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (MPFHxS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.16e-3

Collision Energy (eV) = 32

# Analytical Standard Record

**22A0122L**

Description:s	PFAS - IIS MPFHxS 50ug/mLs	Expires:s	10/29/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/29/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL)s:	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS

AnalyteL	ParentL	CAS NumberL	Concentration L	UnitsL
1802-PFHXS		1802-PFHXS	50s	ug/mLs

# Analytical Standard Record

**22A0122L**

Description:s	PFAS - IIS MPFHxS 50ug/mLs	Expires:s	10/29/2026s
Standard Type:s	Analyte Spikes	Prepared:s	10/29/2021s
Solvent:s	MeOHs	Prepared By:s	Dipti Gokals
Final Volume (mL):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS

<b>AnalyteL</b>	<b>ParentL</b>	<b>CAS NumberL</b>	<b>Concentration L</b>	<b>UnitsL</b>
1802-PFHXS		1802-PFHXS	50s	ug/mLs

# Analytical Standard Record0

22A02340

Description:s	PFAS IIS 7C 5ug/mL	Expires:s	01/20/2023s
Standard Type:	Internal Standards	Prepared:s	01/20/2022s
Solvent:	MeOH/61252s	Prepared By:s	Dipti Gokals
Final Volume (mls):	12s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS
Comments:f	mpfna had more left over than others.		

Analyte0	Parent0	CAS Number	Concentration 0	Units0
13C3-PFBAs	22A0116s	13C3-PFBAs	5s	ug/mLs
13C2-PFHxA	22A0117	13C2-PFHxAs	5s	ug/mLs
13C5-PFNA	22A0118s	13C5-PFNA	5s	ug/mLs
13C4-PFOAs	22A0119s	13C4-PFOAs	5s	ug/mLs
13C2-PFDAs	22A0120s	13C2-PFDAs	5s	ug/mLs
13C4-PFOSs	22A0121s	13C4-PFOSs	5s	ug/mLs
18O2-PFHXS	22A0122s	18O2-PFHXS	5s	ug/mLs

## Parent Standards used: 0

Standard 0	Description0	Prepared0	Prepared By0	Lot Nbr	Expires0	Last Edit0	(mls)0
22A0116s	PFAS - IIS M3PFBA 50ug/mLs	08/19/2021s	Wellington Laboratories	M3PFBA0721	08/19/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0117	PFAS - IIS MPFHxA 50ug/mLs	10/04/2021s	Wellington Laboratories	MPFHxA0921s	10/04/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0118s	PFAS - IIS MPFNA 50ug/mLs	10/29/2021s	Wellington Laboratories	MPFNA1021	10/29/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0119s	PFAS - IIS MPFOA 50ug/mLs	12/07/2021	Wellington Laboratories	MPFOA1121s	12/07/2026	01/20/2022 15:48s by HGHS	1.2s
22A0120s	PFAS - IIS MPFDA 50ug/mLs	12/08/2021s	Wellington Laboratories	MPFDA1221s	12/08/2026s	01/20/2022 15:49s by HGHS	1.2s
22A0121s	PFAS - IIS MPFOS 50ug/mLs	08/18/2021s	Wellington Laboratories	MPFOS0821s	08/18/2026s	01/20/2022 15:49s by HGHS	1.2s
22A0122s	PFAS - IIS MPFHxS 50ug/mLs	10/29/2021s	Wellington Laboratories	MPFHxS1021s	10/29/2026s	01/20/2022 15:49s by HGHS	1.2s

# Analytical Standard Record0

22A02340

Description:s	PFAS IIS 7C 5ug/mL	Expires:s	01/20/2023s
Standard Type:	Internal Standards	Prepared:s	01/20/2022s
Solvent:	MeOH/61252s	Prepared By:s	Dipti Gokals
Final Volume (mLs):	12s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS
Comments:f	mpfna had more left over than others.		

Analyte0	Parent0	CAS Number	Concentration 0	Units0
13C3-PFBAs	22A0116s	13C3-PFBAs	5s	ug/mLs
13C2-PFHxA	22A0117	13C2-PFHxAs	5s	ug/mLs
13C5-PFNA	22A0118s	13C5-PFNA	5s	ug/mLs
13C4-PFOAs	22A0119s	13C4-PFOAs	5s	ug/mLs
13C2-PFDAs	22A0120s	13C2-PFDAs	5s	ug/mLs
13C4-PFOSs	22A0121s	13C4-PFOSs	5s	ug/mLs
18O2-PFHXS	22A0122s	18O2-PFHXS	5s	ug/mLs

## Parent Standards used: 0

Standard 0	Description0	Prepared0	Prepared By0	Lot Nbr	Expires0	Last Edit0	(mLs)0
22A0116s	PFAS - IIS M3PFBA 50ug/mLs	08/19/2021s	Wellington Laboratories	M3PFBA0721	08/19/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0117	PFAS - IIS MPFHxA 50ug/mLs	10/04/2021s	Wellington Laboratories	MPFHxA0921s	10/04/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0118s	PFAS - IIS MPFNA 50ug/mLs	10/29/2021s	Wellington Laboratories	MPFNA1021	10/29/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0119s	PFAS - IIS MPFOA 50ug/mLs	12/07/2021	Wellington Laboratories	MPFOA1121s	12/07/2026	01/20/2022 15:48s by HGHS	1.2s
22A0120s	PFAS - IIS MPFDA 50ug/mLs	12/08/2021s	Wellington Laboratories	MPFDA1221s	12/08/2026s	01/20/2022 15:49s by HGHS	1.2s
22A0121s	PFAS - IIS MPFOS 50ug/mLs	08/18/2021s	Wellington Laboratories	MPFOS0821s	08/18/2026s	01/20/2022 15:49s by HGHS	1.2s
22A0122s	PFAS - IIS MPFHxS 50ug/mLs	10/29/2021s	Wellington Laboratories	MPFHxS1021s	10/29/2026s	01/20/2022 15:49s by HGHS	1.2s

# Analytical Standard Record0

22A02340

Description:s	PFAS IIS 7C 5ug/mL	Expires:s	01/20/2023s
Standard Type:	Internal Standards	Prepared:s	01/20/2022s
Solvent:	MeOH/61252s	Prepared By:s	Dipti Gokals
Final Volume (mLs):	12s	Department:s	PFASs
Vials:s	1s	Last Edit:s	01/20/2022 15:49 by HGHS
Comments:f	mpfna had more left over than others.		

Analyte0	Parent0	CAS Number	Concentration 0	Units0
13C3-PFBAs	22A0116s	13C3-PFBAs	5s	ug/mLs
13C2-PFHxA	22A0117	13C2-PFHxAs	5s	ug/mLs
13C5-PFNA	22A0118s	13C5-PFNA	5s	ug/mLs
13C4-PFOAs	22A0119s	13C4-PFOAs	5s	ug/mLs
13C2-PFDAs	22A0120s	13C2-PFDAs	5s	ug/mLs
13C4-PFOSs	22A0121s	13C4-PFOSs	5s	ug/mLs
18O2-PFHXS	22A0122s	18O2-PFHXS	5s	ug/mLs

## Parent Standards used: 0

Standard 0	Description0	Prepared0	Prepared By0	Lot Nbr	Expires0	Last Edit0	(mLs)0
22A0116s	PFAS - IIS M3PFBA 50ug/mLs	08/19/2021s	Wellington Laboratories	M3PFBA0721	08/19/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0117	PFAS - IIS MPFHxA 50ug/mLs	10/04/2021s	Wellington Laboratories	MPFHxA0921s	10/04/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0118s	PFAS - IIS MPFNA 50ug/mLs	10/29/2021s	Wellington Laboratories	MPFNA1021	10/29/2026s	01/20/2022 15:48s by HGHS	1.2s
22A0119s	PFAS - IIS MPFOA 50ug/mLs	12/07/2021	Wellington Laboratories	MPFOA1121s	12/07/2026	01/20/2022 15:48s by HGHS	1.2s
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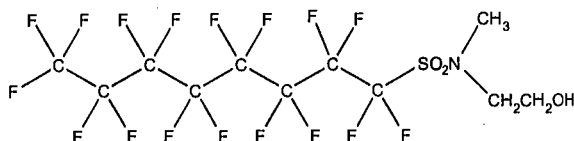


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSE-M **LOT NUMBER:** NMeFOSE0921M  
**COMPOUND:** 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol **22C0307**

**STRUCTURE:** **CAS #:** 24448-09-7



**MOLECULAR FORMULA:**  $C_{11}H_8F_{17}NO_3S$  **MOLECULAR WEIGHT:** 557.22  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 09/28/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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**HOMOGENEITY:**

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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.

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**LIMITED WARRANTY:**

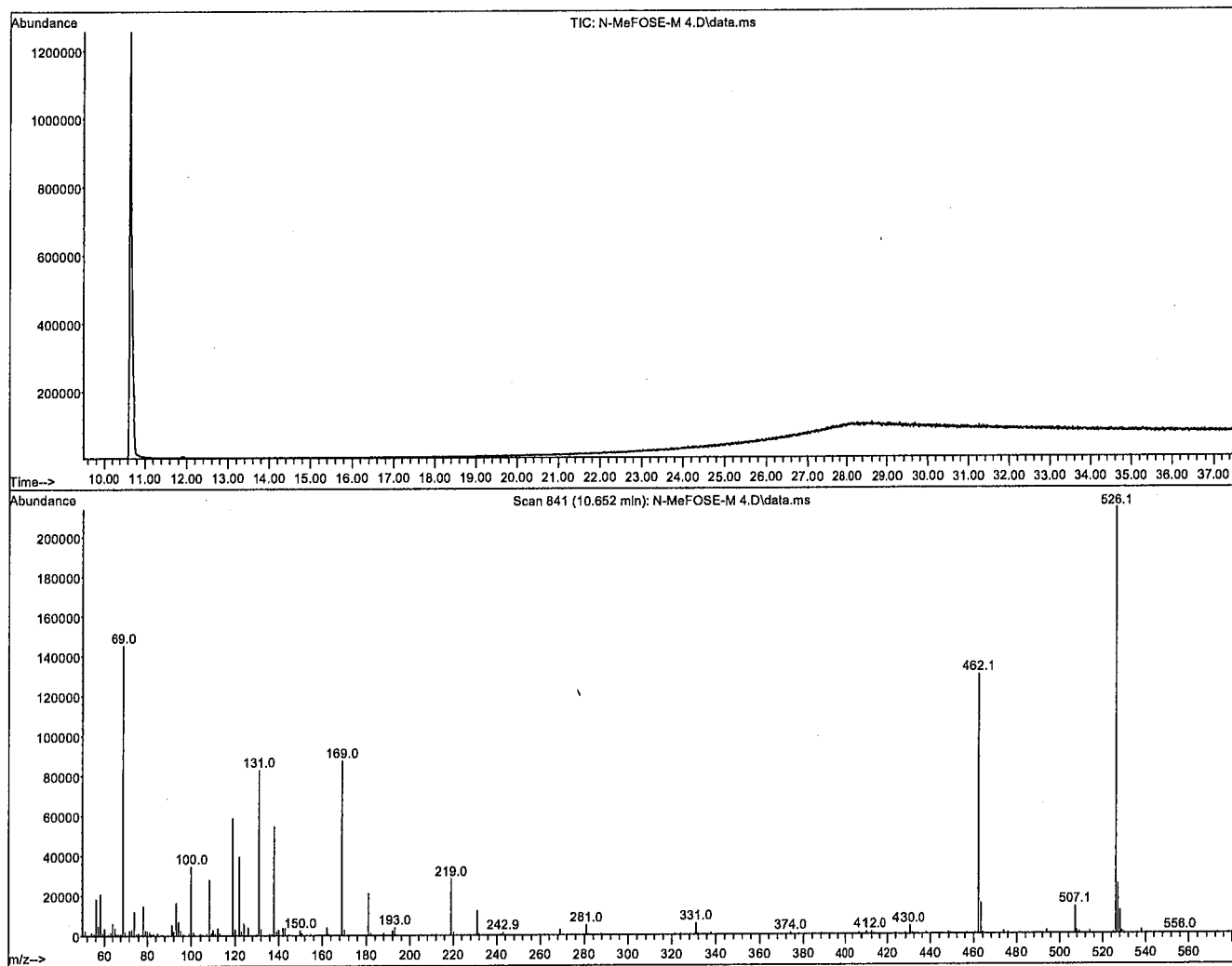
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: N-MeFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

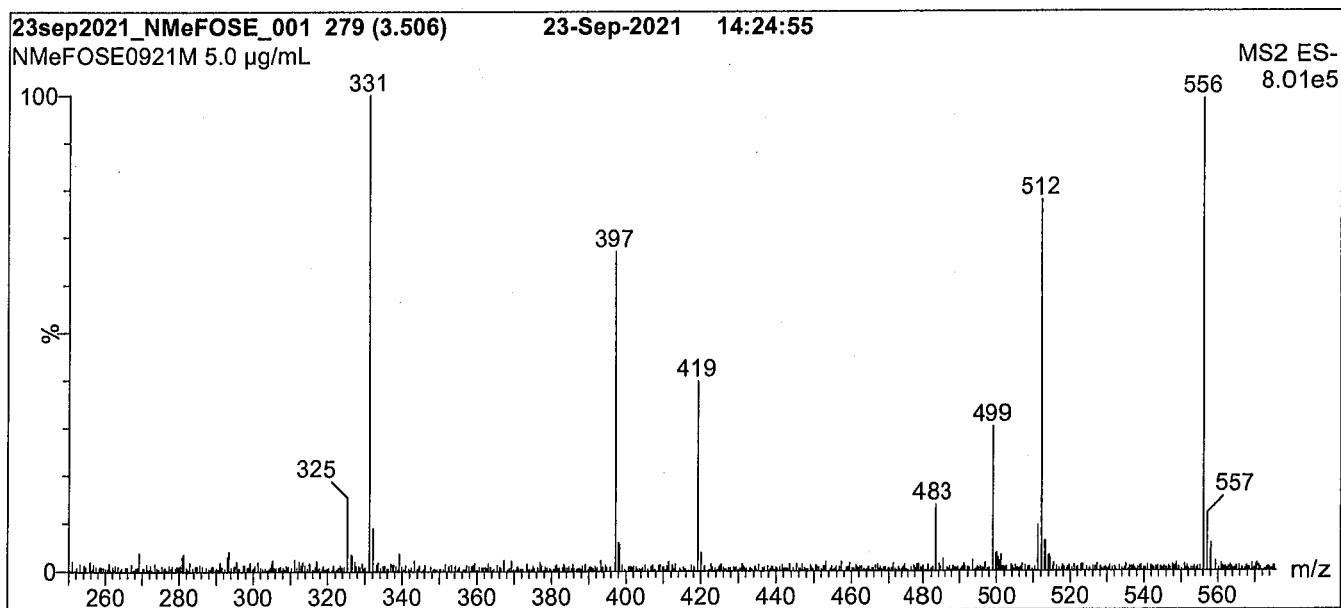
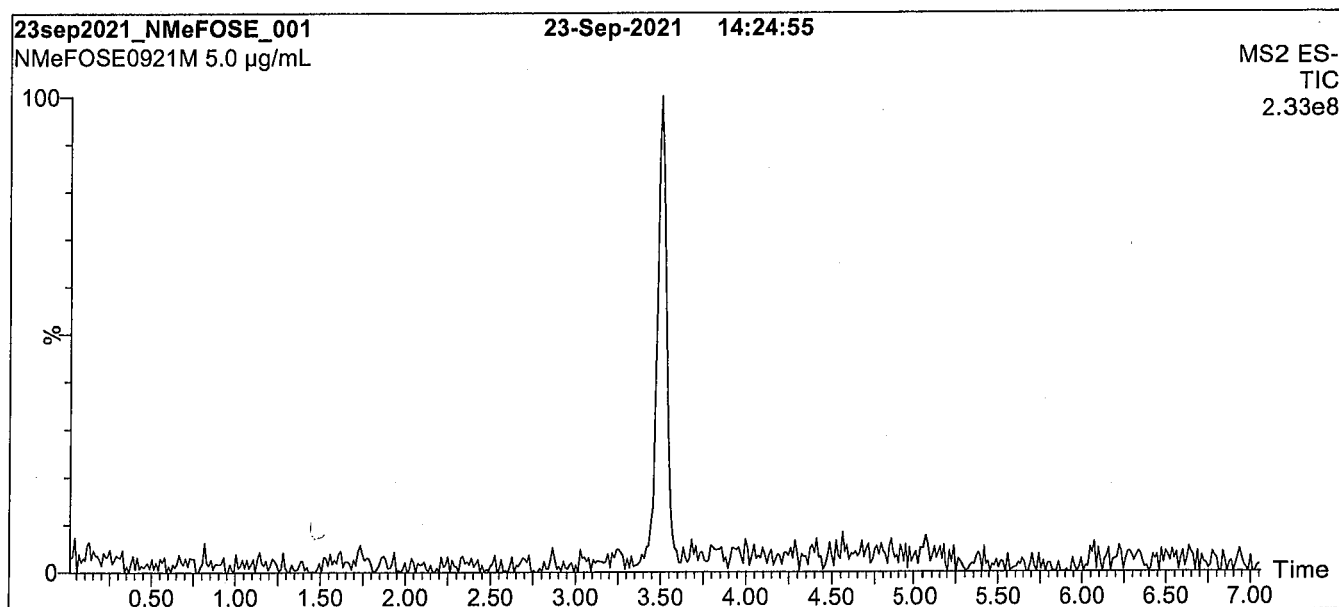
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 310°C  
 310°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-MeFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H<sub>2</sub>O / 70% MeOH

Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.

Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

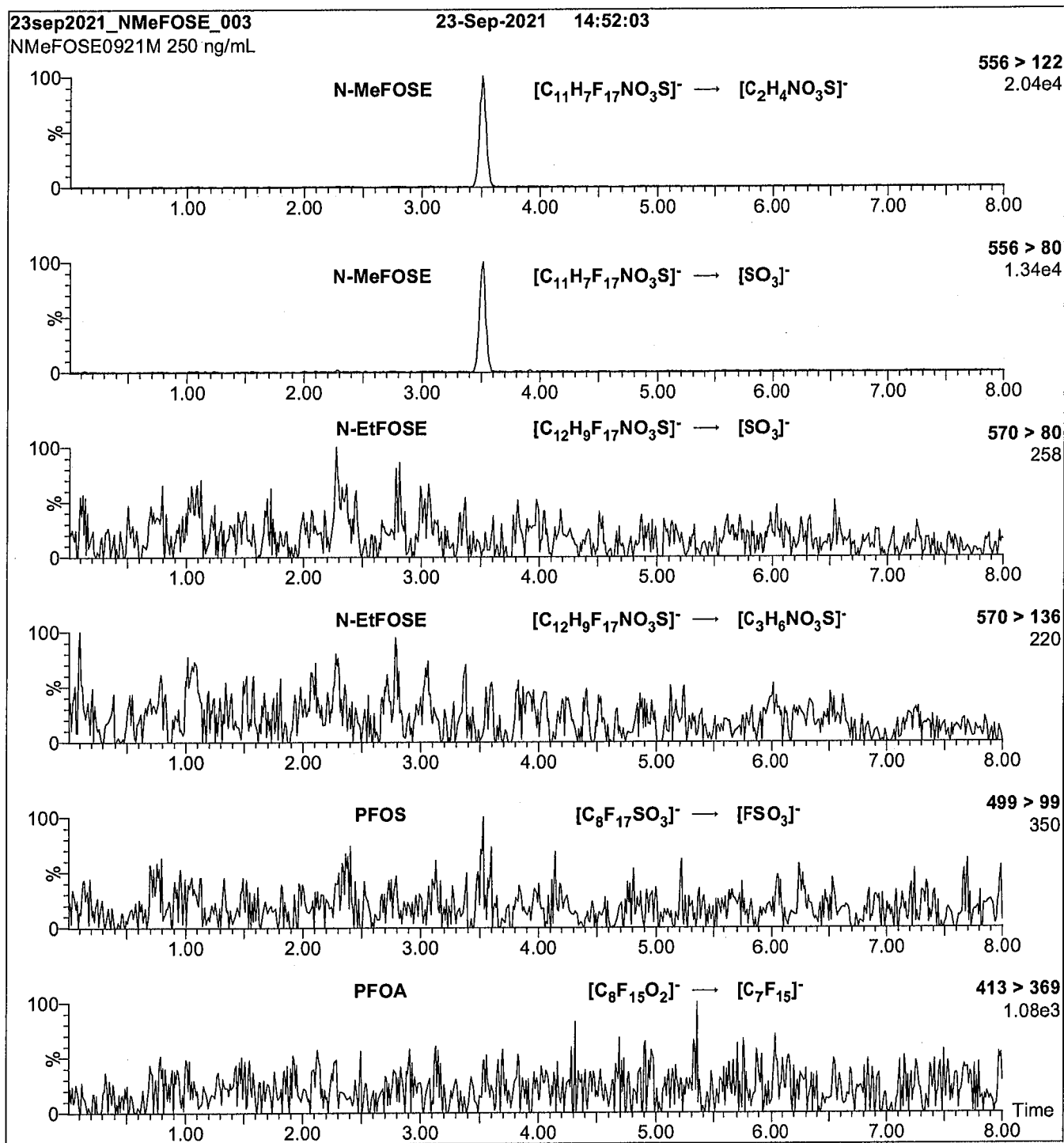
Source: Electrospray (negative)

Capillary Voltage (kV) = 2.00

Cone Voltage (V) = 65.00

Desolvation Temperature (°C) = 450

Desolvation Gas Flow (L/hr) = 1000

**Figure 3: N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 3:**

Injection: On-column (N-MeFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 36

8

4

# Analytical Standard Record

**22C03070**

Description:s	PFAS - SAS N-MeFOSE 50ug/mLs	Expires:s	09/23/2026s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#: NMeFOSE0921M)s
Final Volume (mL)s:	1s	Department:s	PFAS
Vials:s	1s	Last Edit:s	03/15/2022 15:59 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
NMeFOSEs		24448-09-7s	50s	ug/mLs



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

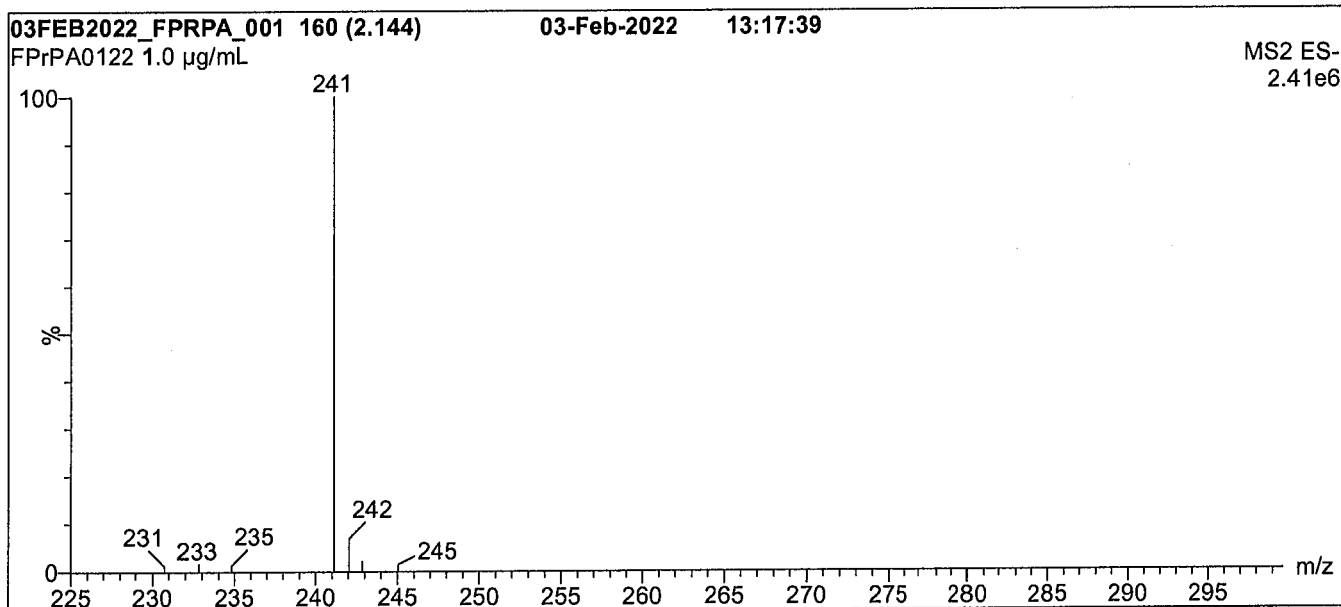
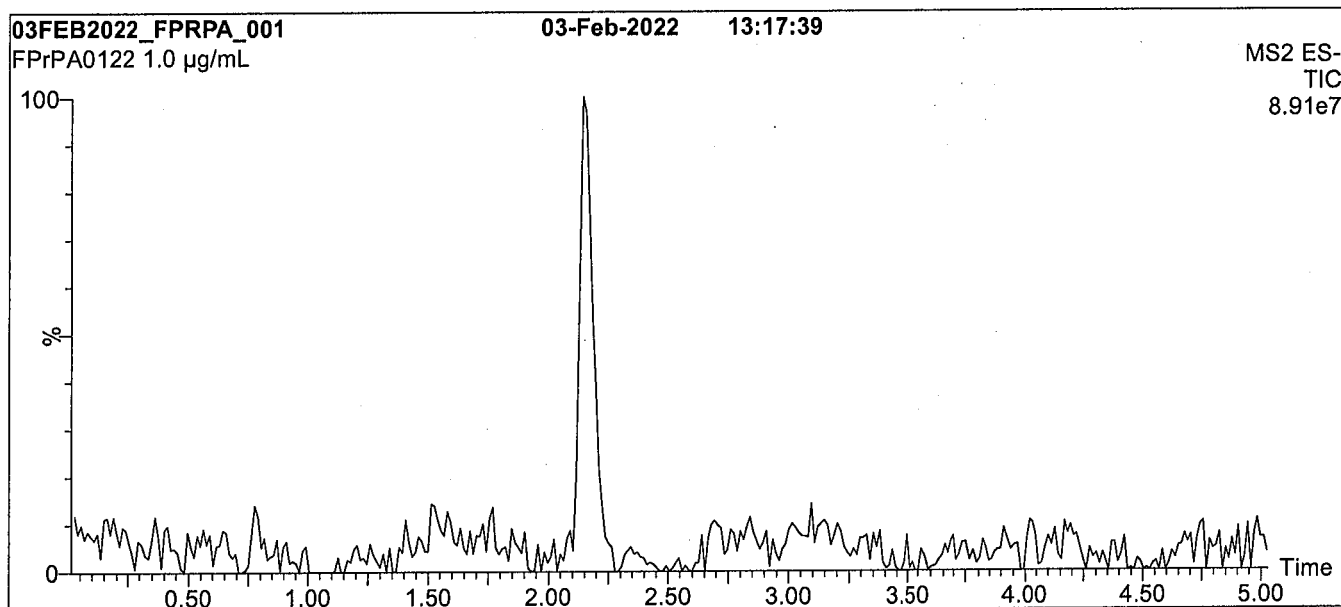
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**Figure 1: FPrPA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

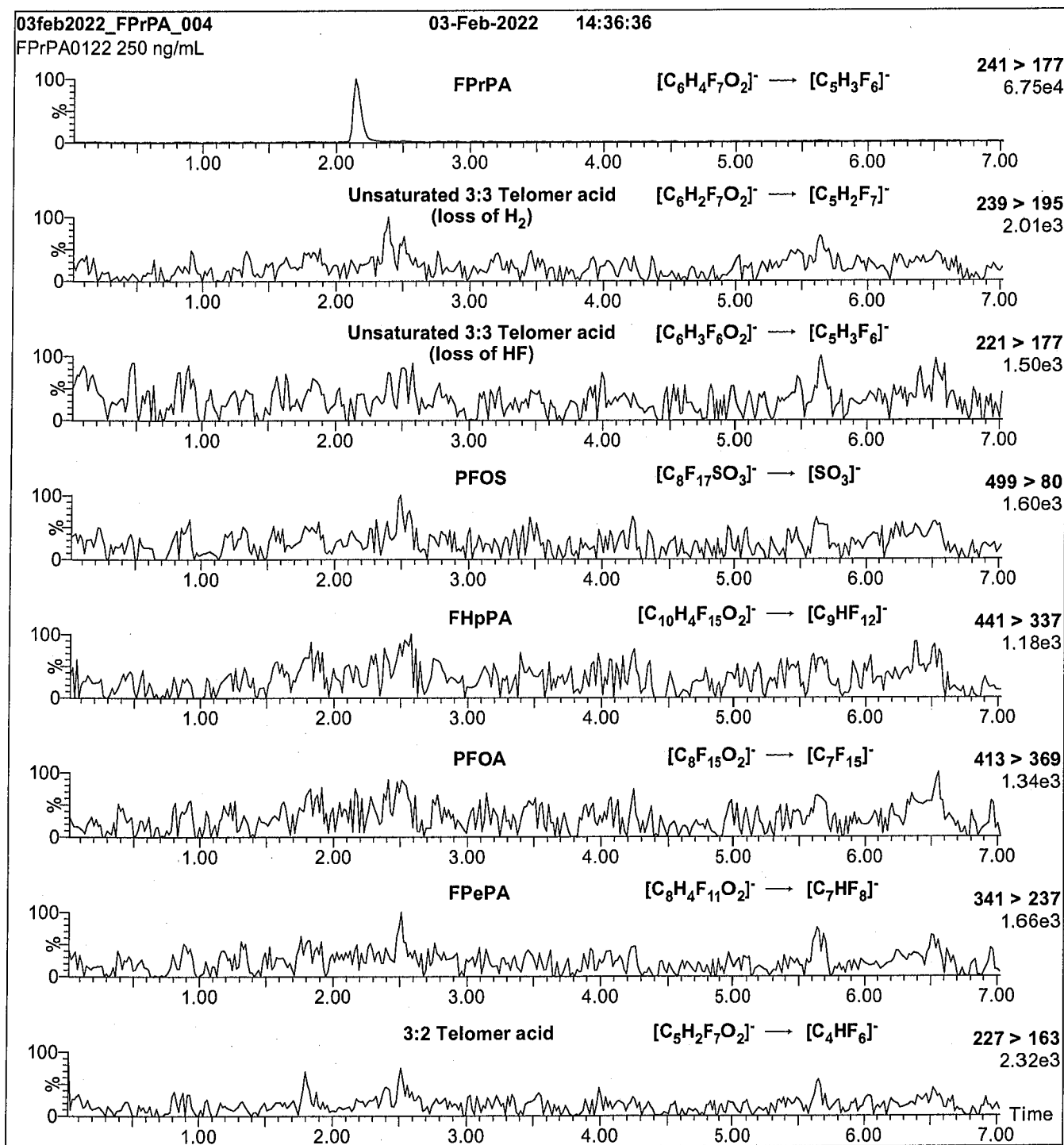
Mobile phase: Gradient  
Start: 60% H<sub>2</sub>O / 40% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 10.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2:** FPrPA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (FPrPA)

**MS Parameters:**

Mobile phase: Same as Figure 1

Collision Gas (mbar) = 3.33e-3

Flow: 300  $\mu$ L/min

Collision Energy (eV) = 10

# Analytical Standard Record

22C03080

Description:s	PFAS - SAS FPrPA 50ug/mLs	Expires:s	02/03/2027s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#: FPrPA0122)s
Final Volume (mL)s:	1s	Department:s	PFASs
Vials:s	1s	Last Edit:s	03/15/2022 15:59 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
3:3FTCAs		113507-82-7	50s	ug/mLs

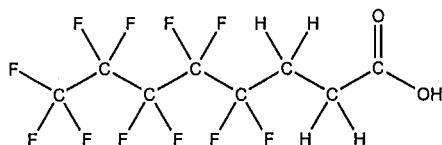


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** FPePA **LOT NUMBER:** FPePA1221  
**COMPOUND:** 3-Perfluoropentyl propanoic acid **22C0309**

**STRUCTURE:** **CAS #:** 914637-49-3



**MOLECULAR FORMULA:**  $C_8H_5F_{11}O_2$  **MOLECULAR WEIGHT:** 342.11  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 01/05/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 01/05/2027  
**RECOMMENDED STORAGE:** Refrigerate ampoule

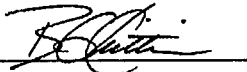
### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <0.5% of the unsaturated 5:3 telomer acid ( $C_8H_3F_{11}O_2$ ) as an impurity determined by  $^1\text{H}$  NMR.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 01/06/2022  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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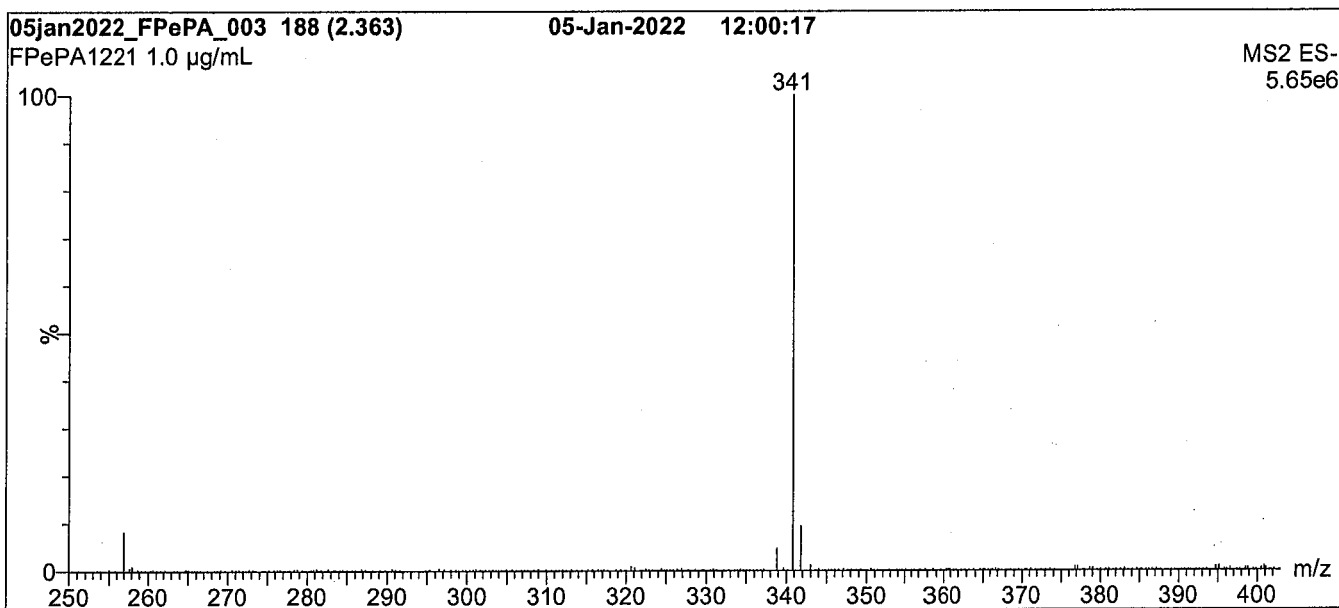
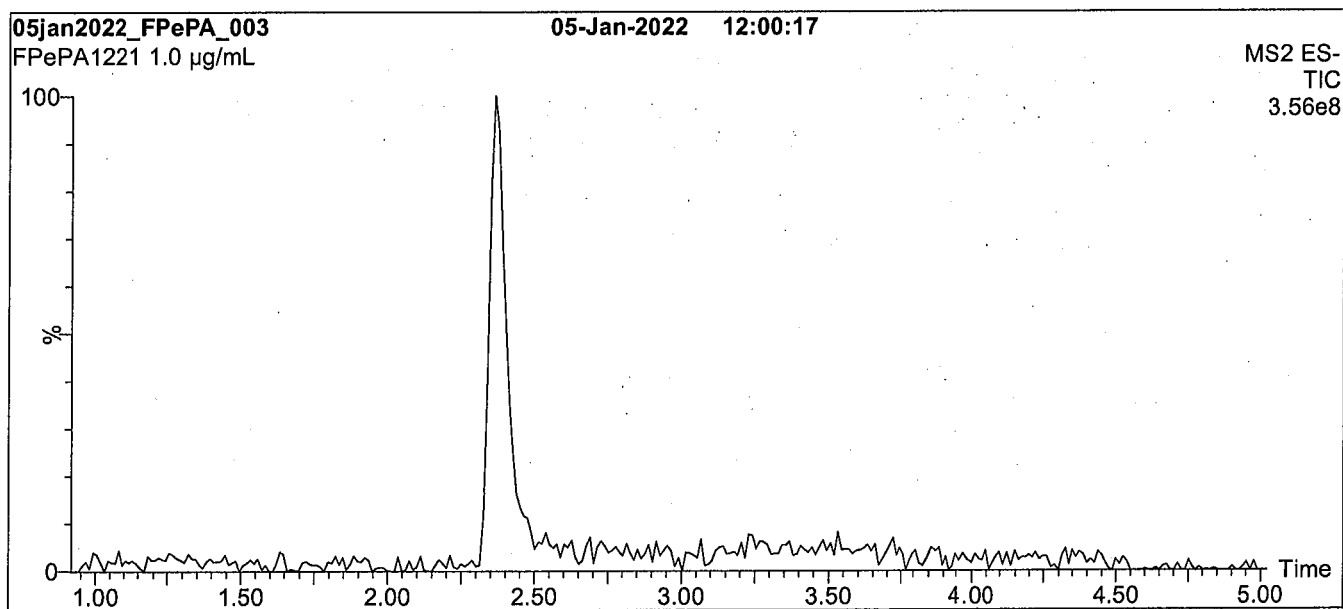
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**Figure 1: FPePA; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
 Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
 1.7 µm, 2.1 x 100 mm

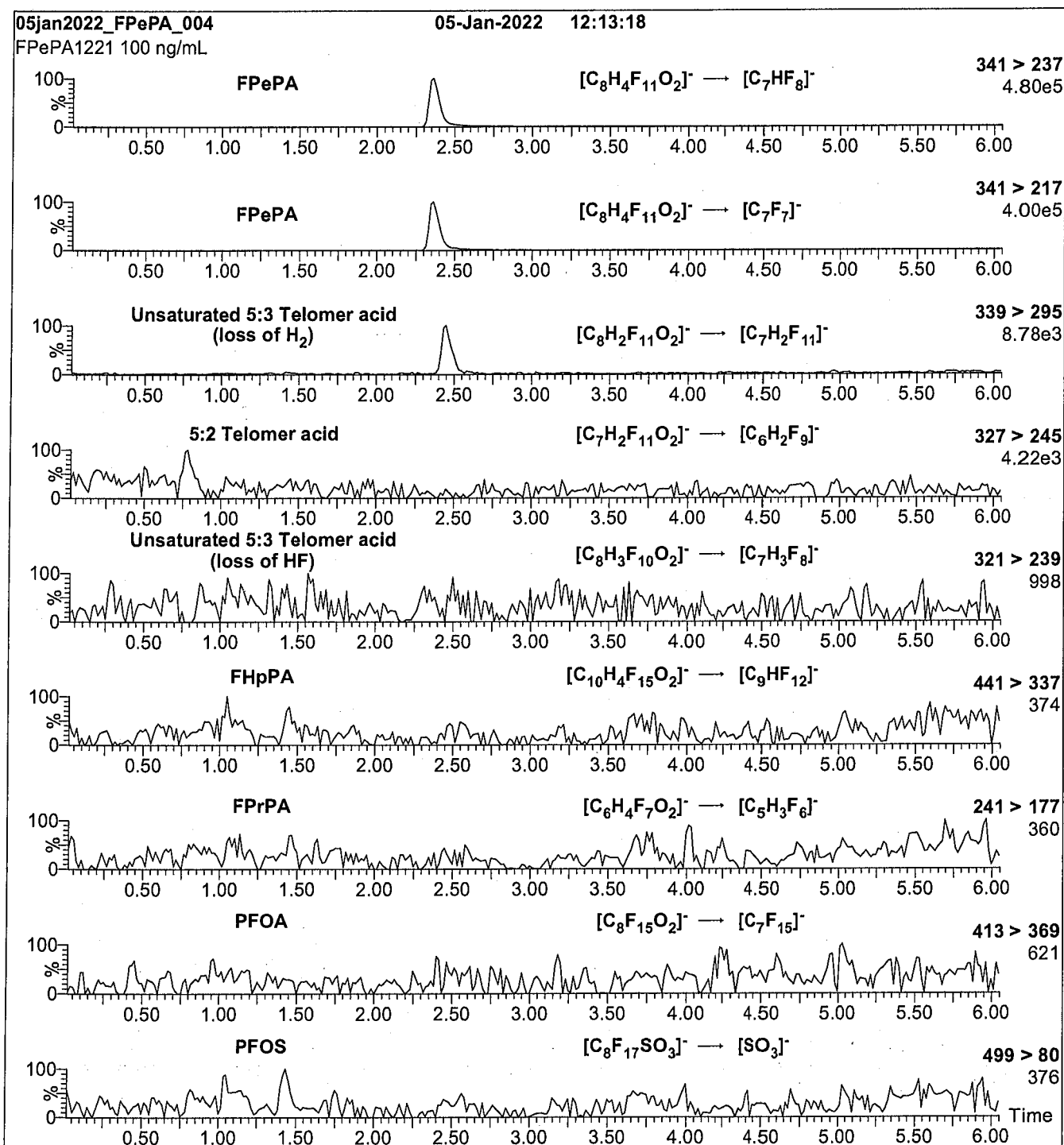
Mobile phase: Gradient  
 Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
 (both with 10 mM NH<sub>4</sub>OAc buffer)  
 Ramp to 90% organic over 7 min and hold for  
 3 min before returning to initial conditions in 0.75 min.  
 Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
 Capillary Voltage (kV) = 0.50  
 Cone Voltage (V) = 18.50  
 Desolvation Temperature (°C) = 500  
 Desolvation Gas Flow (L/hr) = 1000

**Figure 2:** FPePA; LC/MS/MS Data (Selected MRM Transitions)**Conditions for Figure 2:**

Injection: On-column (FPePA)  
 Mobile phase: Same as Figure 1  
 Flow: 300  $\mu$ L/min

**MS Parameters:**

Collision Gas (mbar) = 3.09e-3  
 Collision Energy (eV) = 10

# Analytical Standard Record

**22C03090**

Description:s	PFAS - SAS FPePA 50ug/mLs	Expires:s	01/05/2027s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#:
Final Volume (mL)s:	1s	Department:s	PFAS1221)s
Vials:s	1s	Last Edit:s	03/15/2022 15:59 by DAGs

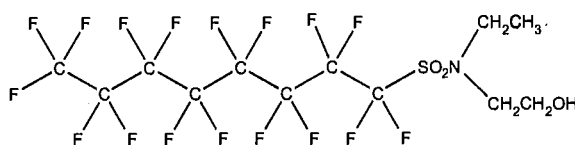
Analyte0	Parent0	CAS Number0	Concentration 0	Units0
5:3FTCAs		914637-49-3	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSE-M **LOT NUMBER:** NEtFOSE0921M  
**COMPOUND:** 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol **22C0310**  
**STRUCTURE:** **CAS #:** 1691-99-2



**MOLECULAR FORMULA:**  $C_{12}H_{10}F_{17}NO_3S$  **MOLECULAR WEIGHT:** 571.25  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$  **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 09/22/2021 (HRGC/LRMS)  
 09/23/2021 (LC/MS)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/23/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By:   
 B.G. Chittim, General Manager

Date: 10/20/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

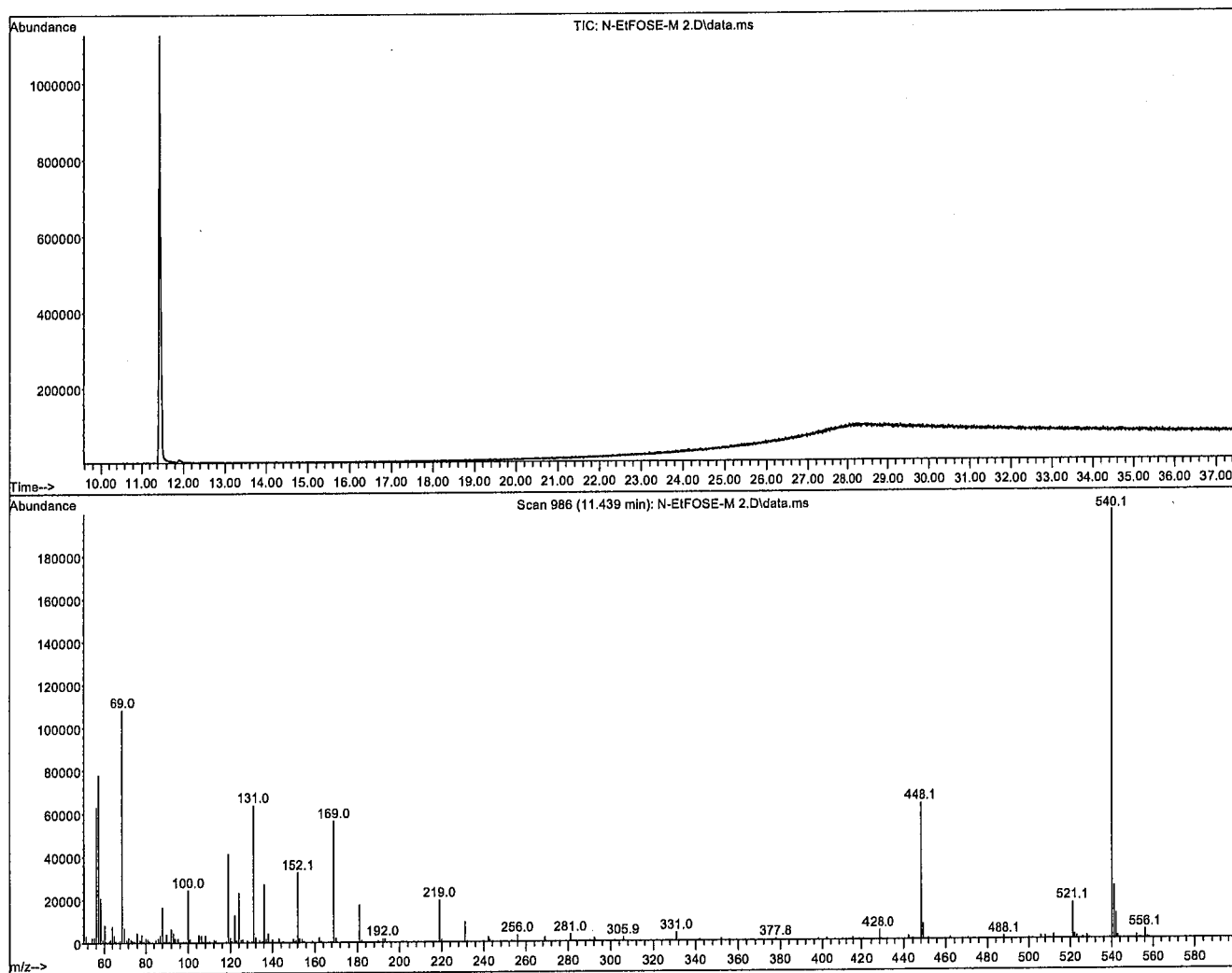
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**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; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Figure 1: N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Agilent 7890A HRGC  
 Agilent 5975C MSD

**Chromatographic Conditions:**

Column: 30 m DB-5 (0.25 mm id, 0.25  $\mu$ m film thickness) Agilent J&W

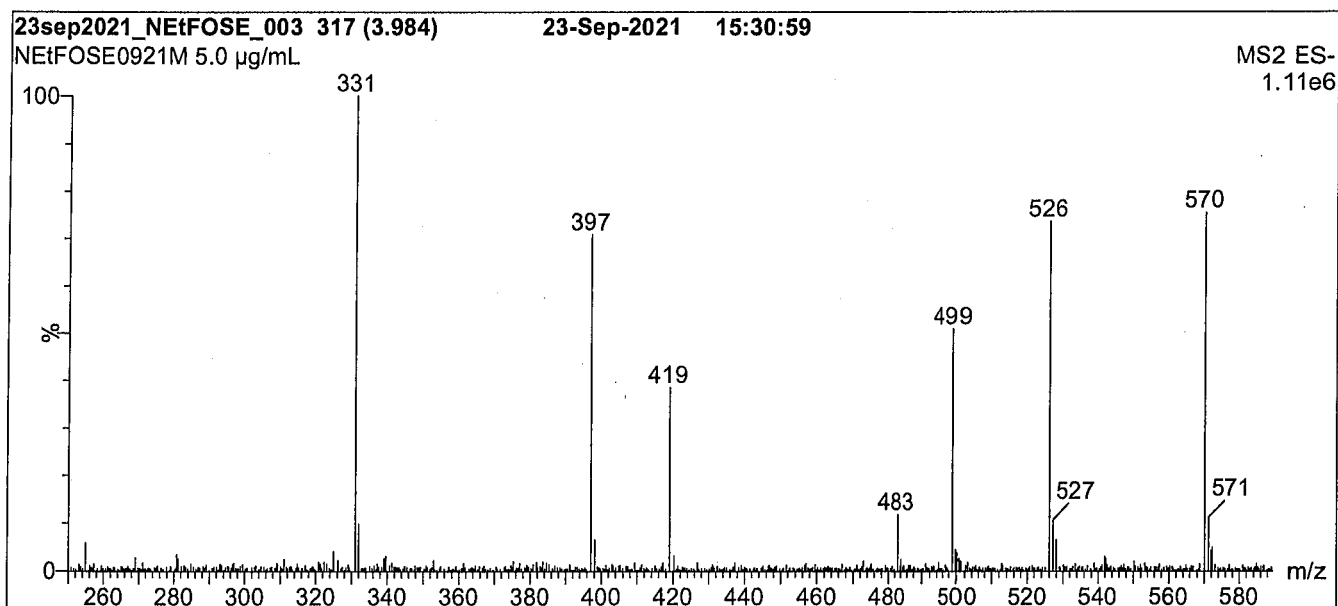
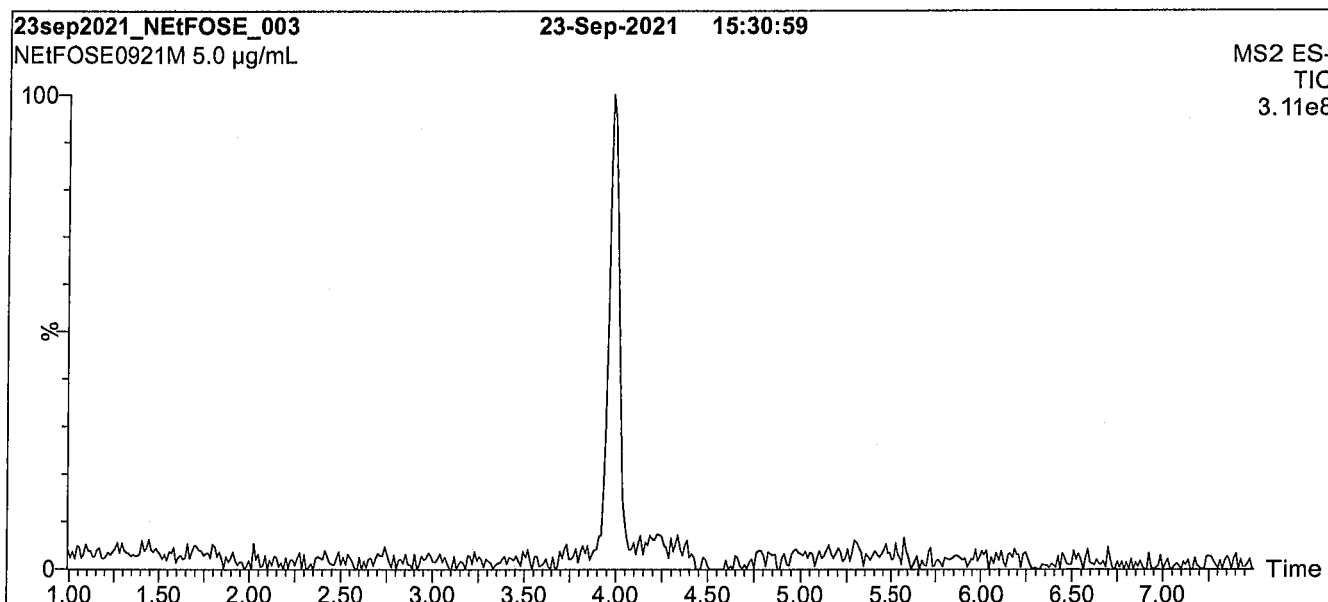
Flow: Constant at 1 mL/min

Injector: 250°C (Splitless Injection)

Oven: 100°C (5 min)  
 10°C/min to 325°C  
 325°C (10 min)

Ionization: EI+

Detector: 230°C  
 Full Scan (50-1000 amu)

**Figure 2: N-EtFOSE-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 2:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7 µm, 2.1 x 100 mm

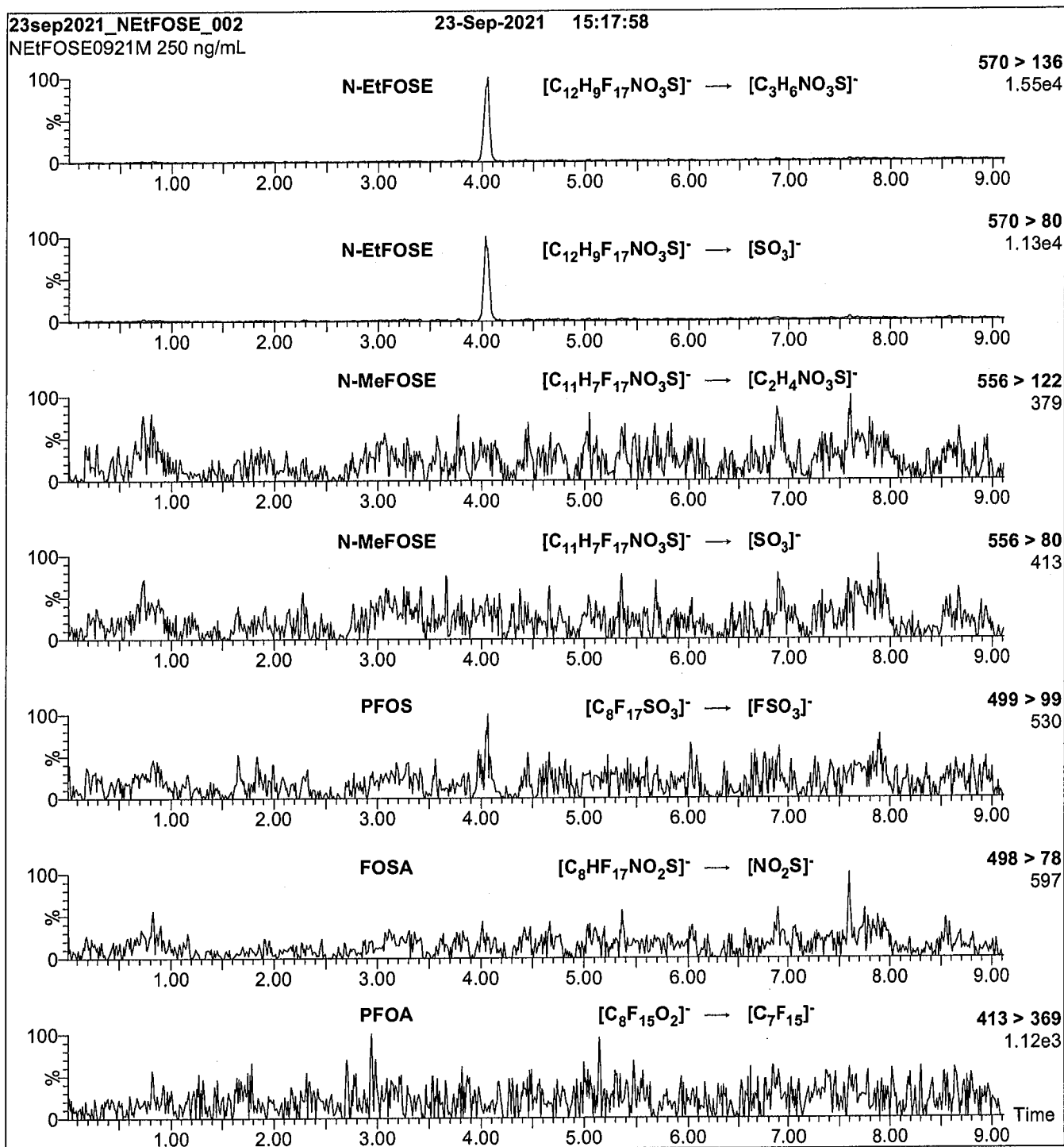
Mobile phase: Gradient  
Start: 30% H<sub>2</sub>O / 70% MeOH  
Ramp to 90% organic over 8 min and hold for  
1.5 min before returning to initial conditions in 1 min.  
Time: 12 min

Flow: 300 µL/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = 65.00  
Desolvation Temperature (°C) = 450  
Desolvation Gas Flow (L/hr) = 1000

**Figure 3: N-EtFOSE-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 3:**

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.14e-3

Collision Energy (eV) = 32



# Analytical Standard Record

<b>22C0310</b>
----------------

Description:s	PFAS - SAS NtFOSE 50ug/mLs	Expires:s	09/23/2026s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#:
Final Volume (mL)s:	1s	Department:s	PFAS
Vials:s	1s	Last Edit:s	03/15/2022 15:59 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
NEtFOSEs		1691-99-2s	50s	ug/mLs



**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

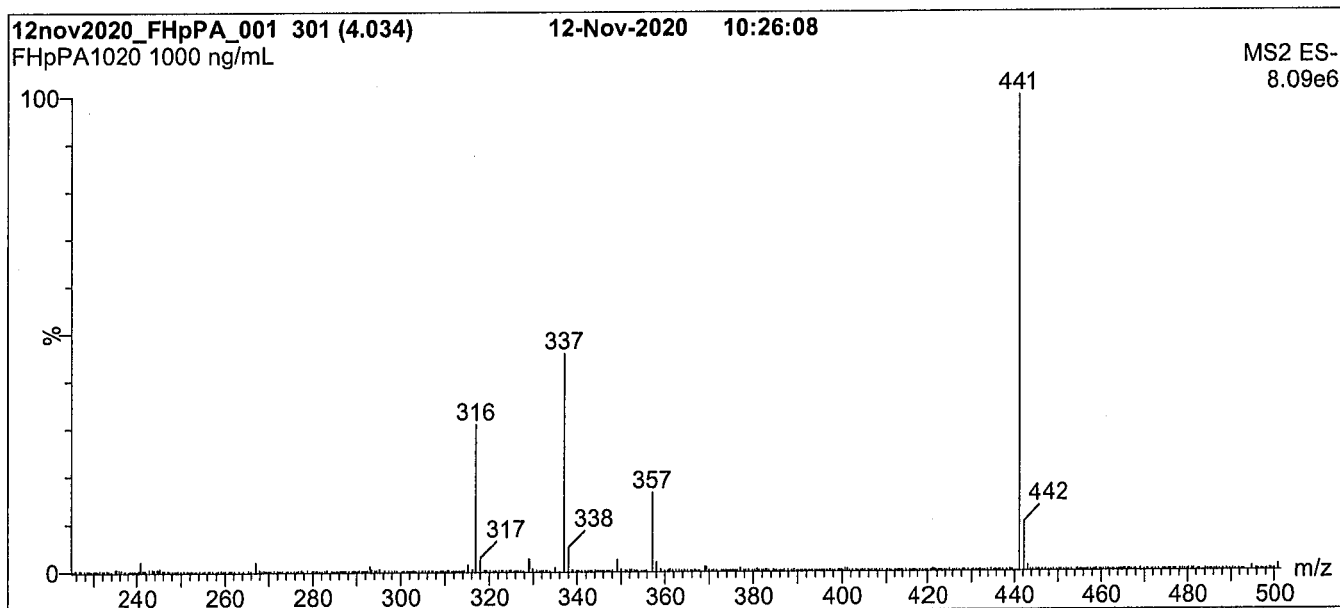
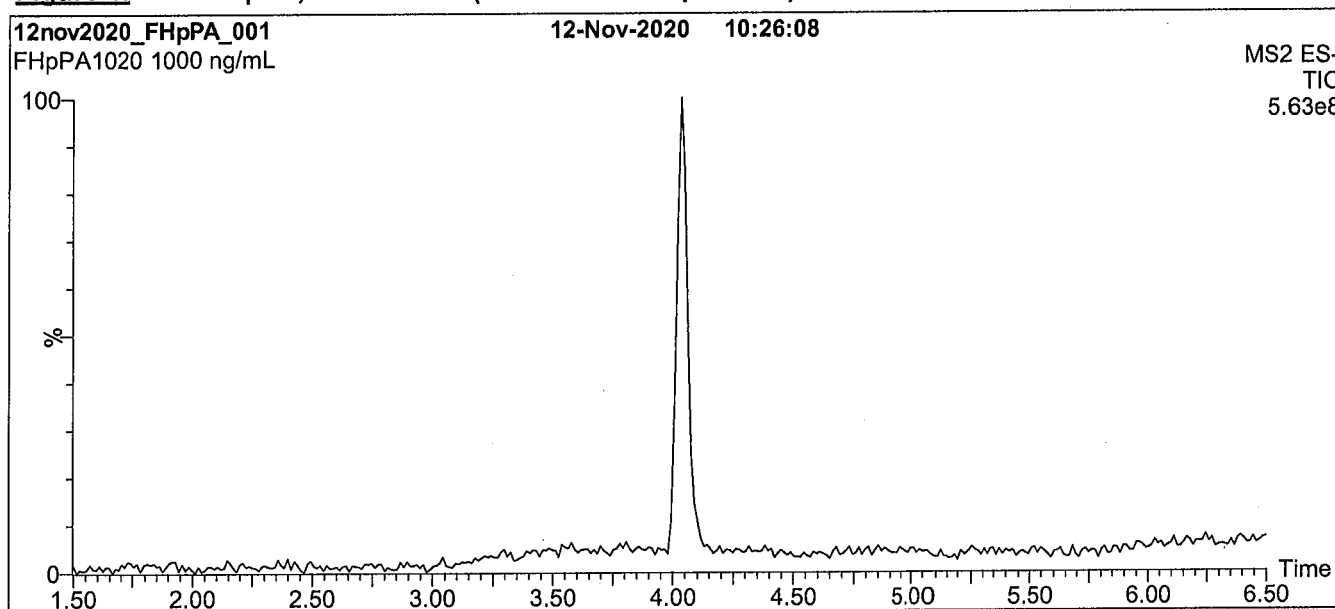
At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

**QUALITY MANAGEMENT:**

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\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

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

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

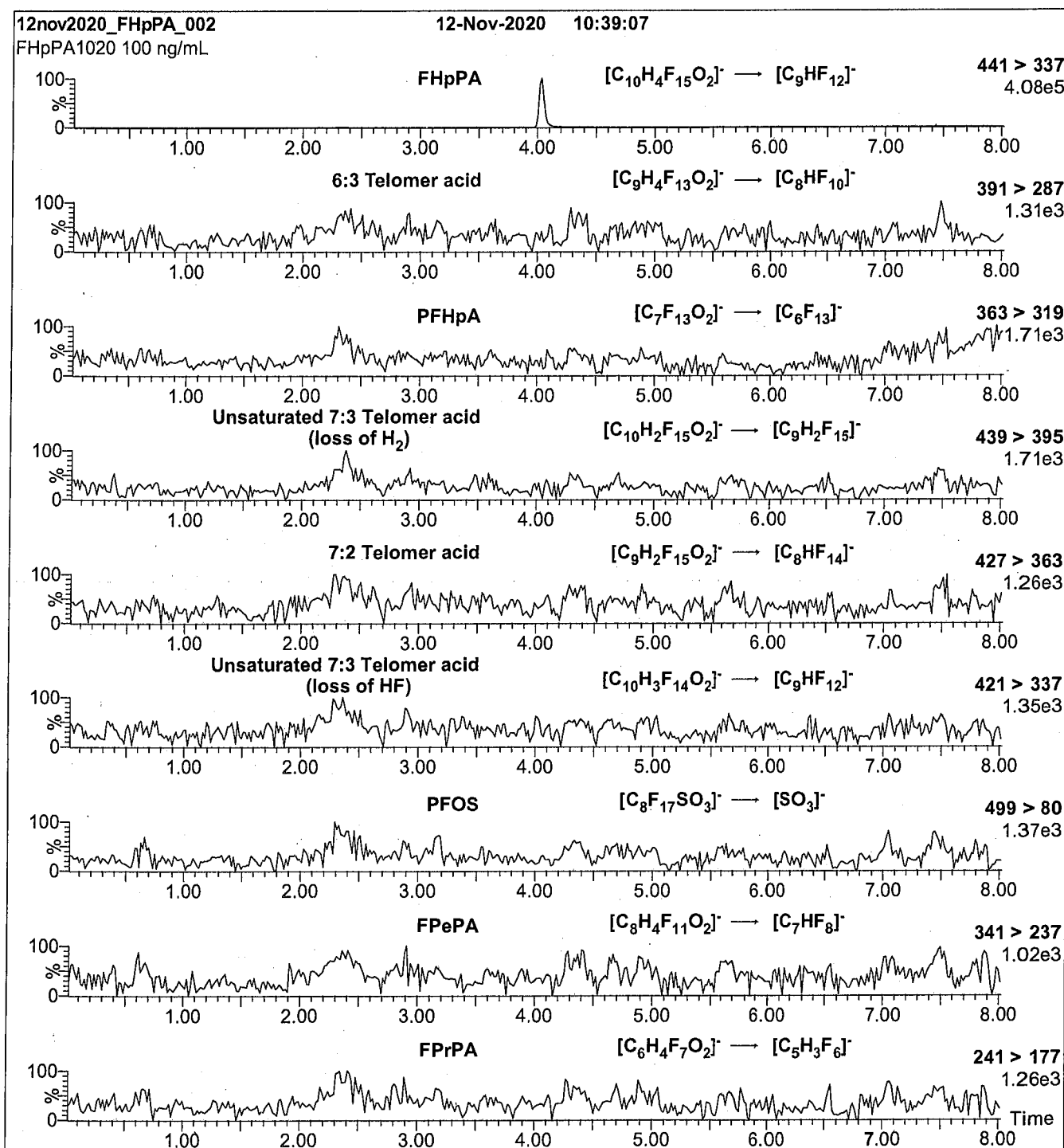
Source: Electrospray (negative)

Capillary Voltage (kV) = 0.50

Cone Voltage (V) = 28.50

Desolvation Temperature (°C) = 500

Desolvation Gas Flow (L/hr) = 1000

**Figure 2: FHpPA; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 8

# Analytical Standard Record

**22C03110**

Description:s	PFAS - SAS FHpPA 50ug/mLs	Expires:s	11/12/2025s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#: HFA1020)s
Final Volume (mL)s:	1s	Department:s	PFAS
Vials:s	1s	Last Edit:s	03/15/2022 16:00 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
7:3FTCA		812-70-4	50s	ug/mLs

# Analytical Standard Record

<b>22C03110</b>
-----------------

Description:s	PFAS - SAS FHpPA 50ug/mLs	Expires:s	11/12/2025s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#:
Final Volume (mL)s:	1s	Department:s	PFAS
Vials:s	1s	Last Edit:s	03/15/2022 16:00 by DAGs

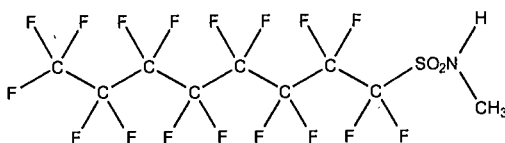
Analyte0	Parent0	CAS Number0	Concentration 0	Units0
7:3FTCA		812-70-4	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-MeFOSA-M      **LOT NUMBER:** NMeFOSA0721M  
**COMPOUND:** N-methylperfluoro-1-octanesulfonamide      22C0312  
**STRUCTURE:**      **CAS #:** 31506-32-8



**MOLECULAR FORMULA:**  $C_9H_4F_{17}NO_2S$       **MOLECULAR WEIGHT:** 513.17  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$       **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/03/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/03/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.

**FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**

Certified By: \_\_\_\_\_

  
 B.G. Chittim, General Manager

Date: 08/04/2021  
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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where  $x$  is expressed as a relative standard uncertainty of the individual parameter.

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**LIMITED WARRANTY:**

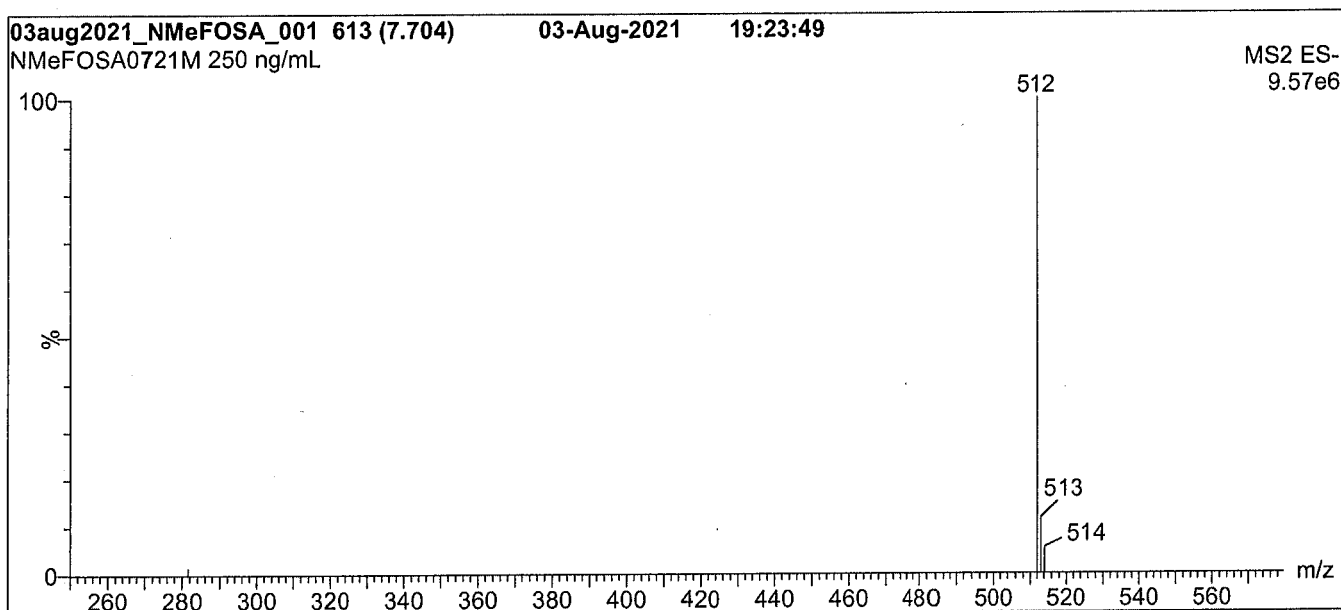
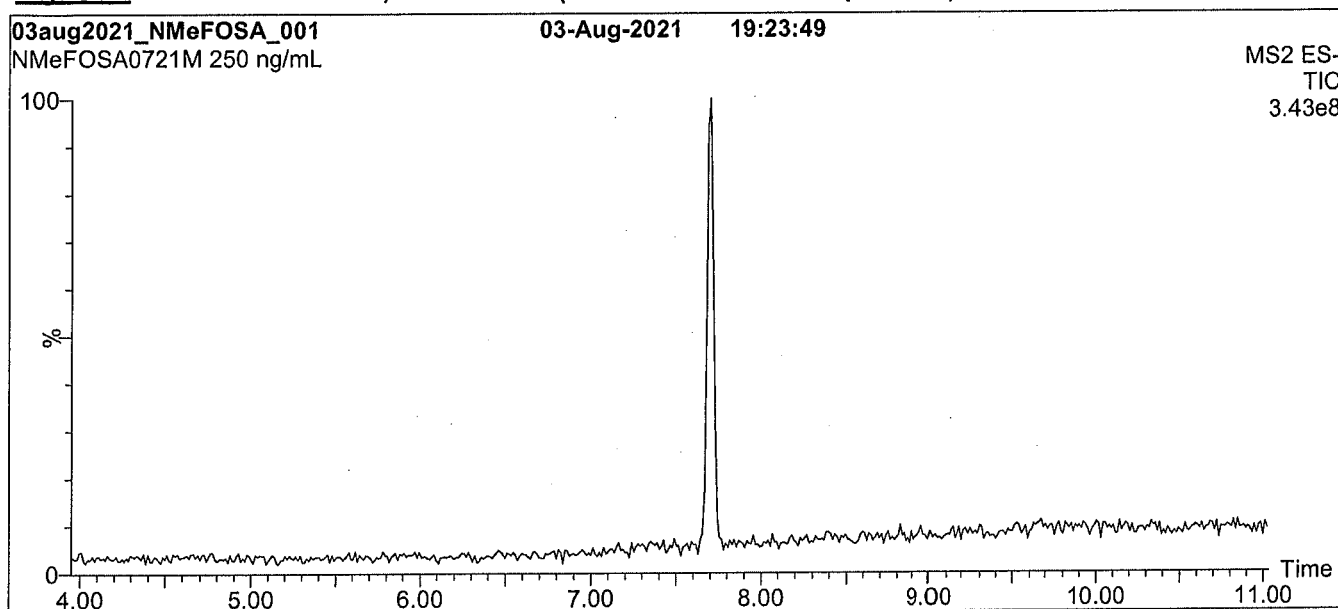
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**Figure 1: N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

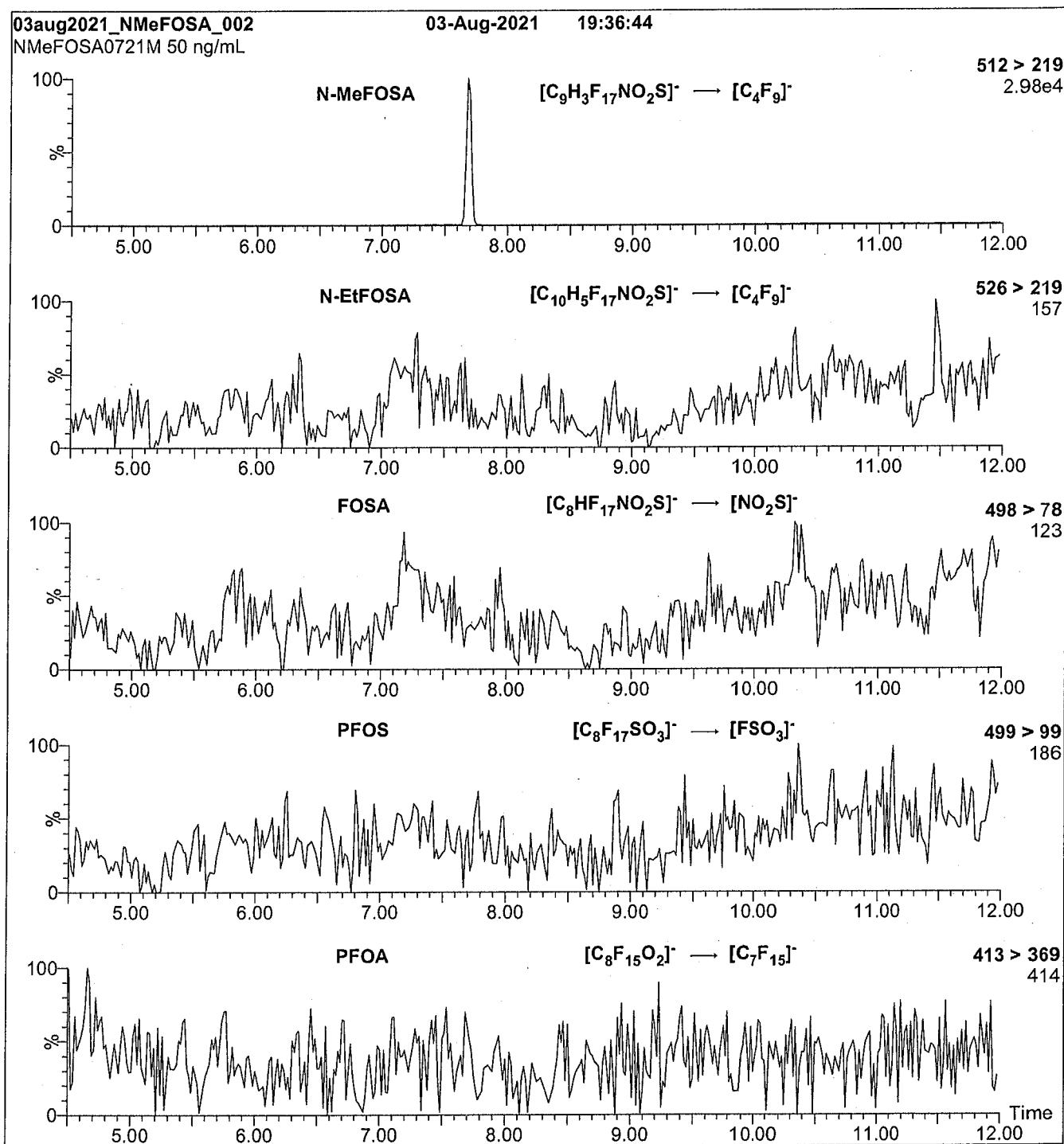
Mobile phase: Gradient  
Start: 40% H<sub>2</sub>O / 60% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature (°C) = 500  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.41e-3

Collision Energy (eV) = 24

# Analytical Standard Record

**22C03120**

Description:s	PFAS - SAS NMeFOSA 50ug/mLs	Expires:s	08/03/2026s
Standard Type:s	Analyte Spikes	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Dipti Gokals
Final Volume (mL):s	1s	Department:s	PFASs
Vials:s	1s	Last Edit:s	03/15/2022 16:00 by DAGs

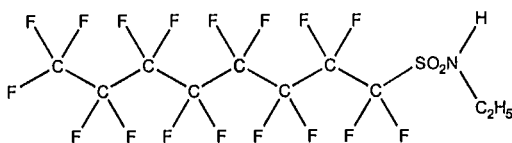
<b>Analyte0</b>	<b>Parent0</b>	<b>CAS Number0</b>	<b>Concentration 0</b>	<b>Units0</b>
NMeFOSAs		31506-32-8s	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** N-EtFOSA-M      **LOT NUMBER:** NEtFOSA0821M  
**COMPOUND:** N-ethylperfluoro-1-octanesulfonamide      **22C0313**  
**STRUCTURE:**      **CAS #:** 4151-50-2



**MOLECULAR FORMULA:**  $C_{10}H_6F_{17}NO_2S$       **MOLECULAR WEIGHT:** 527.20  
**CONCENTRATION:**  $50.0 \pm 2.5 \mu\text{g/mL}$       **SOLVENT(S):** Methanol  
**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 08/12/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 08/12/2026  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

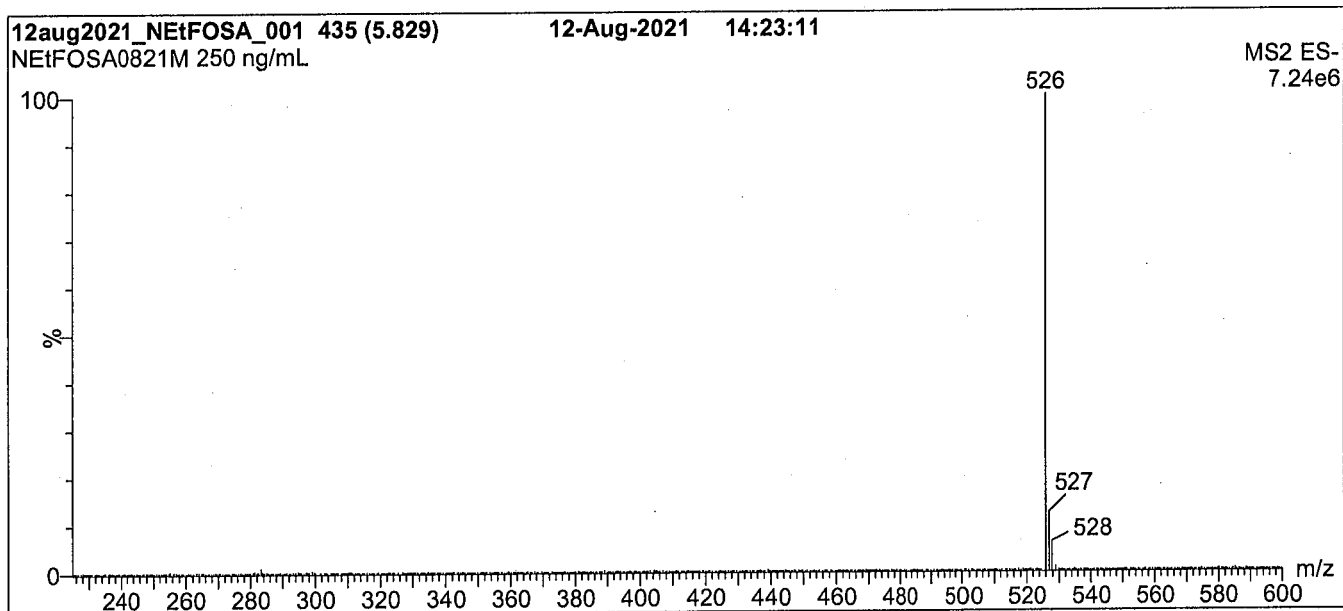
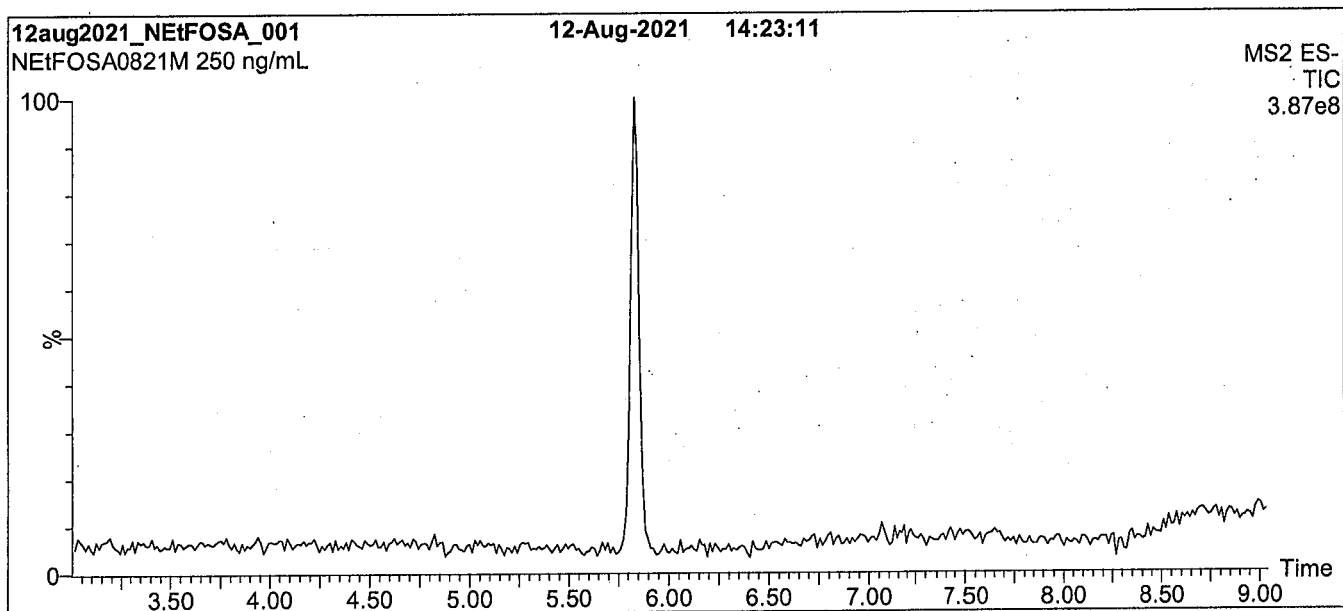
### ADDITIONAL INFORMATION:

- See page 2 for further details.

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**Certified By:**       **Date:** 08/16/2021  
 B.G. Chittim, General Manager      (mm/dd/yyyy)

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 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**Figure 1: N-EtFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 30% H<sub>2</sub>O / 70% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for  
2 min before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 1.00  
Cone Voltage (V) = 44.00  
Desolvation Temperature ( $^{\circ}$ C) = 500  
Desolvation Gas Flow (L/hr) = 1000

# Analytical Standard Record

22C03130

Description:s	PFAS - SAS NETFOSA 50ug/mLs	Expires:s	08/12/2026s
Standard Type:s	Others	Prepared:s	03/15/2022s
Solvent:s	Methanols	Prepared By:s	Wellington Laboratories (Lot#:
Final Volume (mL)s:	1s	Department:s	NETFOSA0821M)s
Vials:s	1s	Last Edit:s	08/17/2022 10:49 by LYA

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
NETFOSA		4151-50-2s	50s	ug/mLs



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PFAC-MXF** 22F0058

**Native Replacement PFAS  
Solution/Mixture**

**PRODUCT CODE:** PFAC-MXF  
**LOT NUMBER:** PFACMXF0122  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 01/10/2022  
**LAST TESTED:** (mm/dd/yyyy) 01/11/2022  
**EXPIRY DATE:** (mm/dd/yyyy) 01/11/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and GenX (HFPO-DA). The components and their concentrations are given in Table A.

The individual native components of this mixture all have chemical 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 acid to the methyl ester.

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**INTENDED USE:**

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

**HANDLING:**

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  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:**

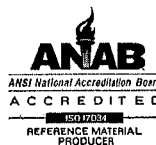
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

**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; A1226), and ISO 17034 by ANSI 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](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: PFAC-MXF; Components and Concentrations (ng/mL;  $\pm$  5% in Methanol/Water (<1%))**

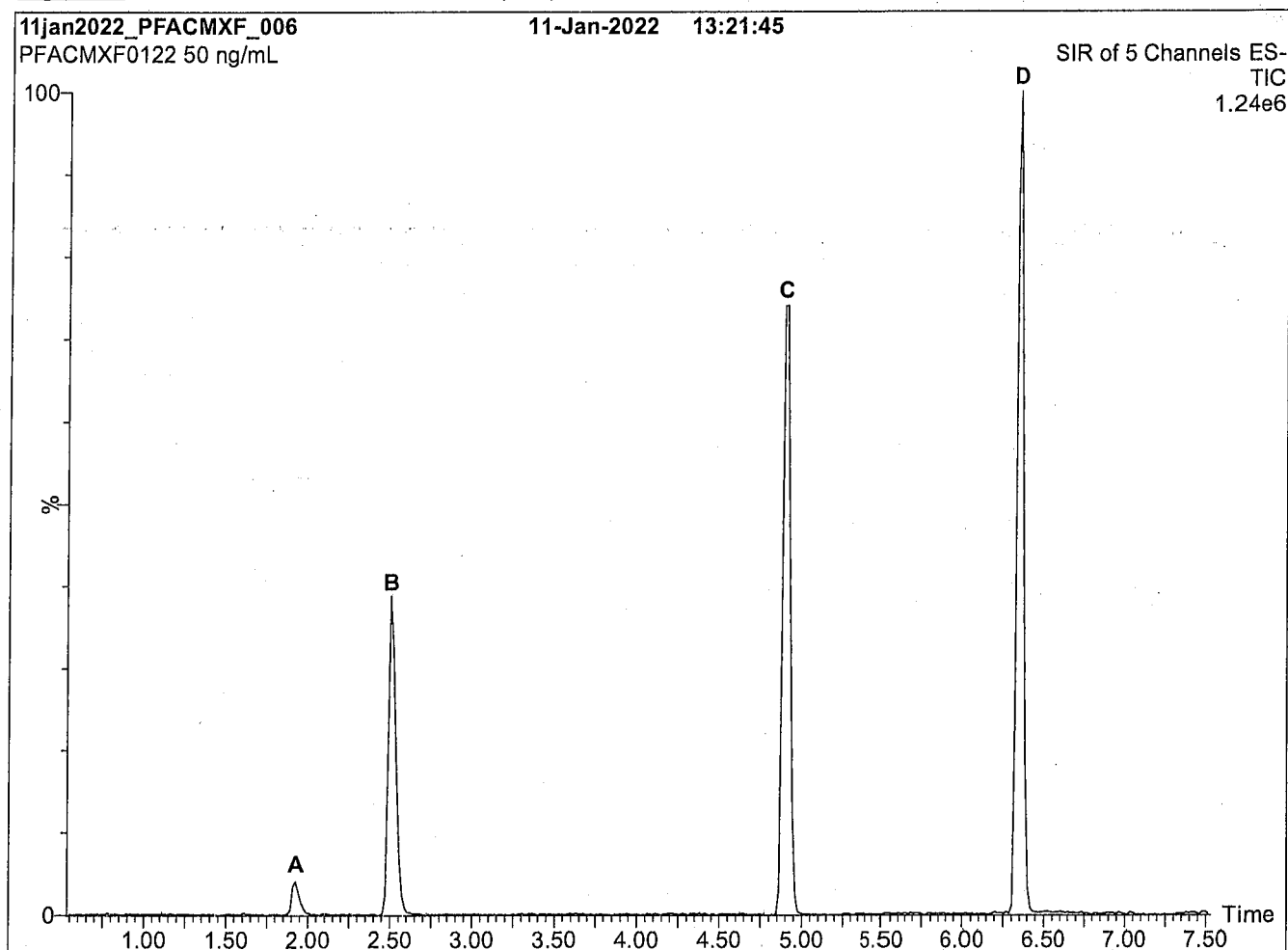
Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

\* Concentrations have been rounded to three significant figures.

Certified By: 

B.G. Chittim, General Manager

Date: 01/12/2022  
(mm/dd/yyyy)

**Figure 1: PFAC-MXF; LC/MS Data (SIR)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

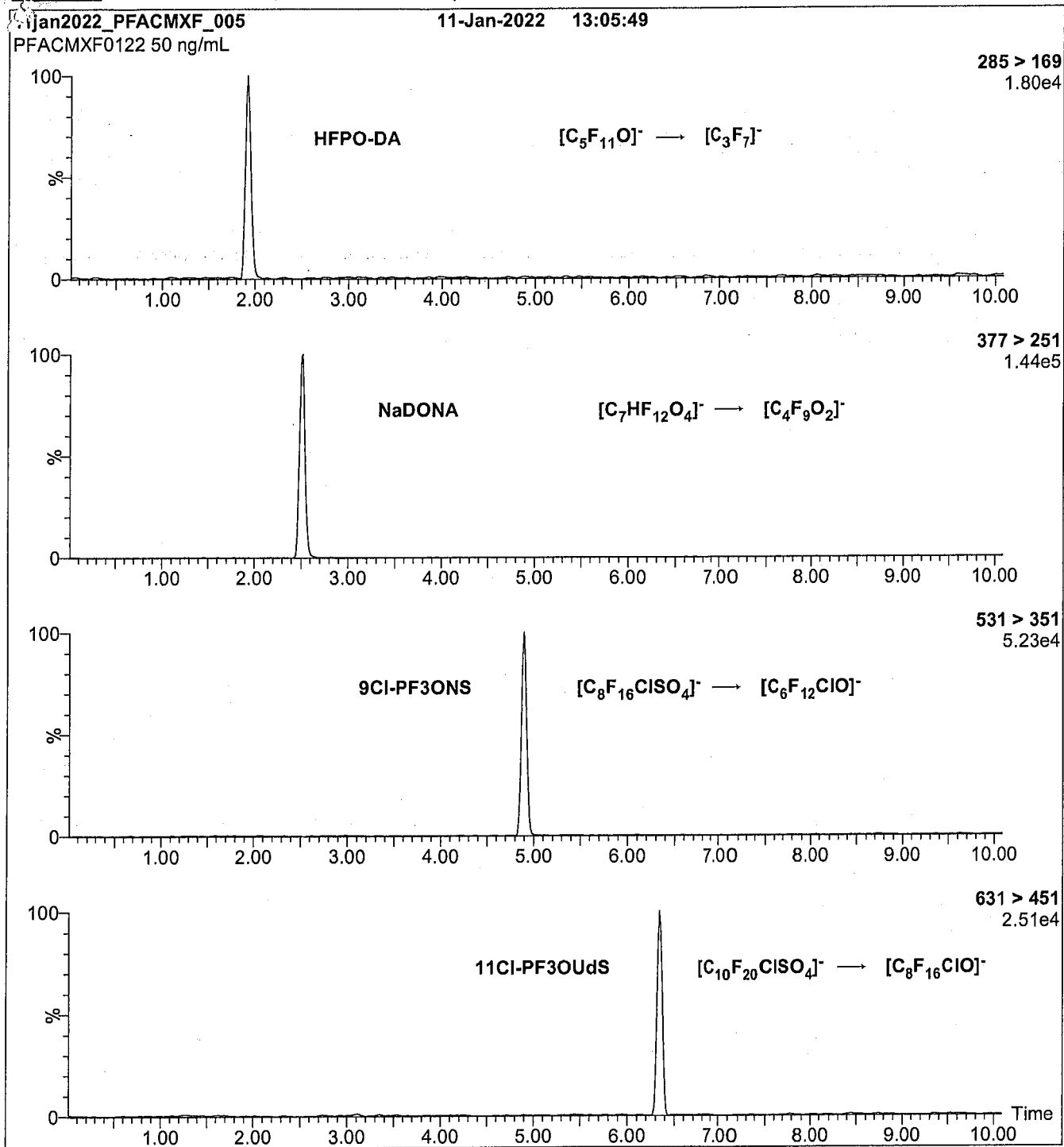
Mobile phase: Gradient  
Start: 45% H<sub>2</sub>O / 55% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 8 min and hold for 2 min  
before returning to initial conditions in 0.75 min.  
Time: 12 min

Flow: 300  $\mu$ L/min

**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.00  
Cone Voltage (V) = variable (15-74)  
Desolvation Temperature ( $^{\circ}$ C) = 325  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: PFAC-MXF; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (PFAC-MXF)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.43e-3

Collision Energy (eV) = 6-60 (variable)



# Analytical Standard Record

<b>22F0 580</b>
-----------------

Description:s	PFAS - MIX MXF 2ug/mL	Expires:s	01/11/2025s
Standard Type:s	Others	Prepared:s	01/10/2022s
Solvent:s	MeOHs	Prepared By:s	Lizbeth Andres
Final Volume (mls):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	09/15/2022 09:32 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
11CL-PF3OUDS		763051-92-9	1.89s	ug/mLs
9CL-PF3ONS		756426-58-1	1.87	ug/mLs
ADONA		919005-14-4s	1.89s	ug/mLs
HFPO-DAs		13252-13-6s	2s	ug/mLs



**WELLINGTON**  
LABORATORIES

**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PFAC-MXH** 22F0059

**Native Per- and Poly-fluoroalkyl Substance  
Solution/Mixture**

**PRODUCT CODE:** PFAC-MXH  
**LOT NUMBER:** PFACMXH0921  
**SOLVENT(S):** Methanol / Isopropanol (2%) / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 09/09/2021  
**LAST TESTED:** (mm/dd/yyyy) 09/14/2021  
**EXPIRY DATE:** (mm/dd/yyyy) 09/14/2026  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

PFAC-MXH is a solution/mixture of eleven native linear perfluoroalkylcarboxylic acids (C<sub>4</sub>-C<sub>14</sub>), eight native perfluoroalkanesulfonates (C<sub>4</sub>, C<sub>5</sub>, C<sub>7</sub>, C<sub>9</sub>, C<sub>10</sub> and C<sub>12</sub> linear; C<sub>6</sub> and C<sub>8</sub> linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
 Table B: Isomeric Components and Percent Composition of br-NMeFOSAA  
 Table C: Isomeric Components and Percent Composition of br-NEtFOSAA  
 Table D: Isomeric Components and Percent Composition of PFHxSK  
 Table E: Isomeric Components and Percent Composition of PFOSK  
 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.

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**SYNTHESIS / CHARACTERIZATION:**

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The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$  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.

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**EXPIRY DATE / PERIOD OF VALIDITY:**

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

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**Table A: PFAC-MXH; Components and Concentrations**  
( $\mu\text{g/mL}$ ,  $\pm 5\%$  in methanol / isopropanol (2%) / water (<1%))

Compound	Acronym	Concentration* ( $\mu\text{g/mL}$ )		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-n-butanoic acid	PFBA	4.00		1
Perfluoro-n-pentanoic acid	PFPeA	2.00		2
Perfluoro-n-hexanoic acid	PFHxA	1.00		5
Perfluoro-n-heptanoic acid	PFHpA	1.00		7
Perfluoro-n-octanoic acid	PFOA	1.00		11
Perfluoro-n-nonanoic acid	PFNA	1.00		14
Perfluoro-n-decanoic acid	PFDA	1.00		18
Perfluoro-n-undecanoic acid	PFUDA	1.00		23
Perfluoro-n-dodecanoic acid	PFDoA	1.00		26
Perfluoro-n-tridecanoic acid	PFTTrDA	1.00		27
Perfluoro-n-tetradecanoic acid	PFTeDA	1.00		29
Perfluoro-1-octanesulfonamide	FOSA	1.00		25
N-methylperfluorooctanesulfonamidoacetic acid <sup>a</sup>	N-MeFOSAA: linear isomer	0.760		20
	N-MeFOSAA: $\Sigma$ branched isomers	0.240		17
N-ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup>	N-EtFOSAA: linear isomer	0.775		22
	N-EtFOSAA: $\Sigma$ branched isomers	0.225		21
Compound	Acronym	Concentration* ( $\mu\text{g/mL}$ )		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanedisulfonate	L-PFBS	1.00	0.887	3
Sodium perfluoro-1-pentadisulfonate	L-PFPeS	1.00	0.941	6
Potassium perfluorohexadisulfonate <sup>c</sup>	PFHxSK: linear isomer	0.811	0.741	9
	PFHxSK: $\Sigma$ branched isomers	0.189	0.173	8
Sodium perfluoro-1-heptadisulfonate	L-PFHpS	1.00	0.953	12
Potassium perfluorooctadisulfonate <sup>d</sup>	PFOSK: linear isomer	0.788	0.732	15
	PFOSK: $\Sigma$ branched isomers	0.211	0.196	13
Sodium perfluoro-1-nonadisulfonate	L-PFNS	1.00	0.962	19
Sodium perfluoro-1-decadisulfonate	L-PFDs	1.00	0.965	24
Sodium perfluoro-1-dodecadisulfonate	L-PFDoS	1.00	0.970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4.00	3.75	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4.00	3.80	10
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2FTS	4.00	3.84	16

<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

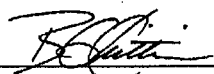
<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> See Table E for percent composition of linear and branched PFOSK isomers.

\* Concentrations have been rounded to three significant figures.

Certified By: \_\_\_\_\_

  
B.G. Chittim, General Manager

Date: 09/23/2021

(mm/dd/yyyy)





**Table D: PFHxSK; Isomeric Components and Percent Composition (by  $^{19}\text{F}$ -NMR)\***

Isomer	Compound	Structure	Percent Composition by $^{19}\text{F}$ -NMR	
1	Potassium perfluoro-1-hexanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	81.1	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	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CF}_2\text{CFCF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CF}_2\text{CFCF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$\begin{array}{c} \text{CF}_3\text{CFCF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{CCF}_2\text{CF}_2\text{SO}_3^-\text{K}^+ \\   \\ \text{CF}_3 \end{array}$	0.2	
7	Other Unidentified Isomers		0.5	

\* Percent of total perfluorohexanesulfonate isomers only.

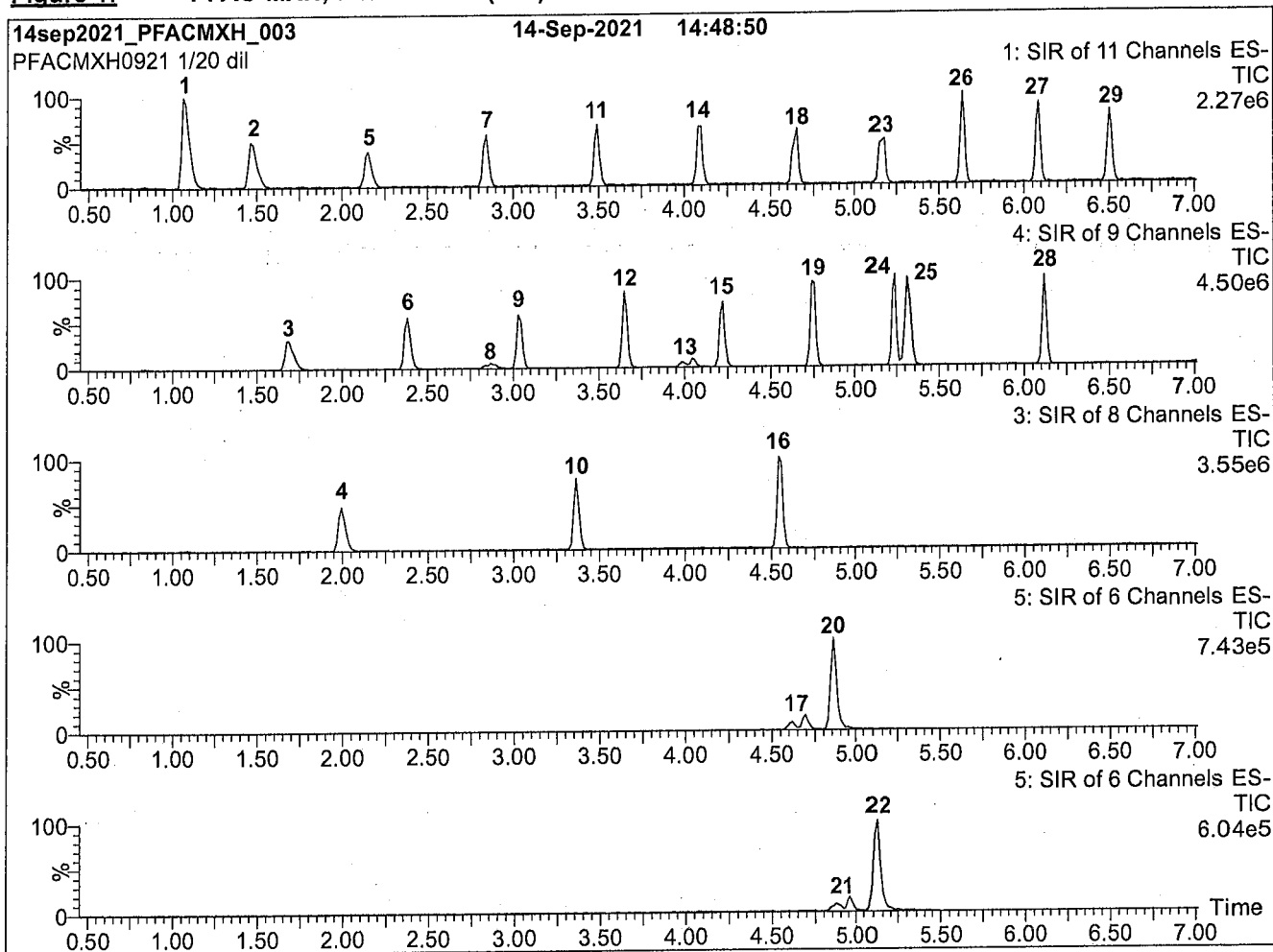
\*\* Systematic Name: Potassium perfluorohexane-2-sulfonate.

**Table E: PFOSK; Isomeric Components and Percent Composition (by  $^{19}\text{F}$ -NMR)\***

Isomer	Compound	Structure	Percent Composition by $^{19}\text{F}$ -NMR	
1	Potassium perfluoro-1-octanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}(\text{SO}_3\text{-K}^+)\text{CF}_3$	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{SO}_3\text{-K}^+$	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{CF}_2\text{C}(\text{CF}_3)_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{CF}(\text{CF}_3)\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3\text{-K}^+$	0.07	

\* Percent of total perfluorooctanesulfonate isomers only.

\*\* Systematic Name: Potassium perfluorooctane-2-sulfonate.

**Figure 1: PFAC-MXH; LC/MS Data (SIR)****Conditions for Figure 1:**

Waters Acquity Ultra Performance LC  
Waters Xevo TQ-S micro MS

**Chromatographic Conditions:**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

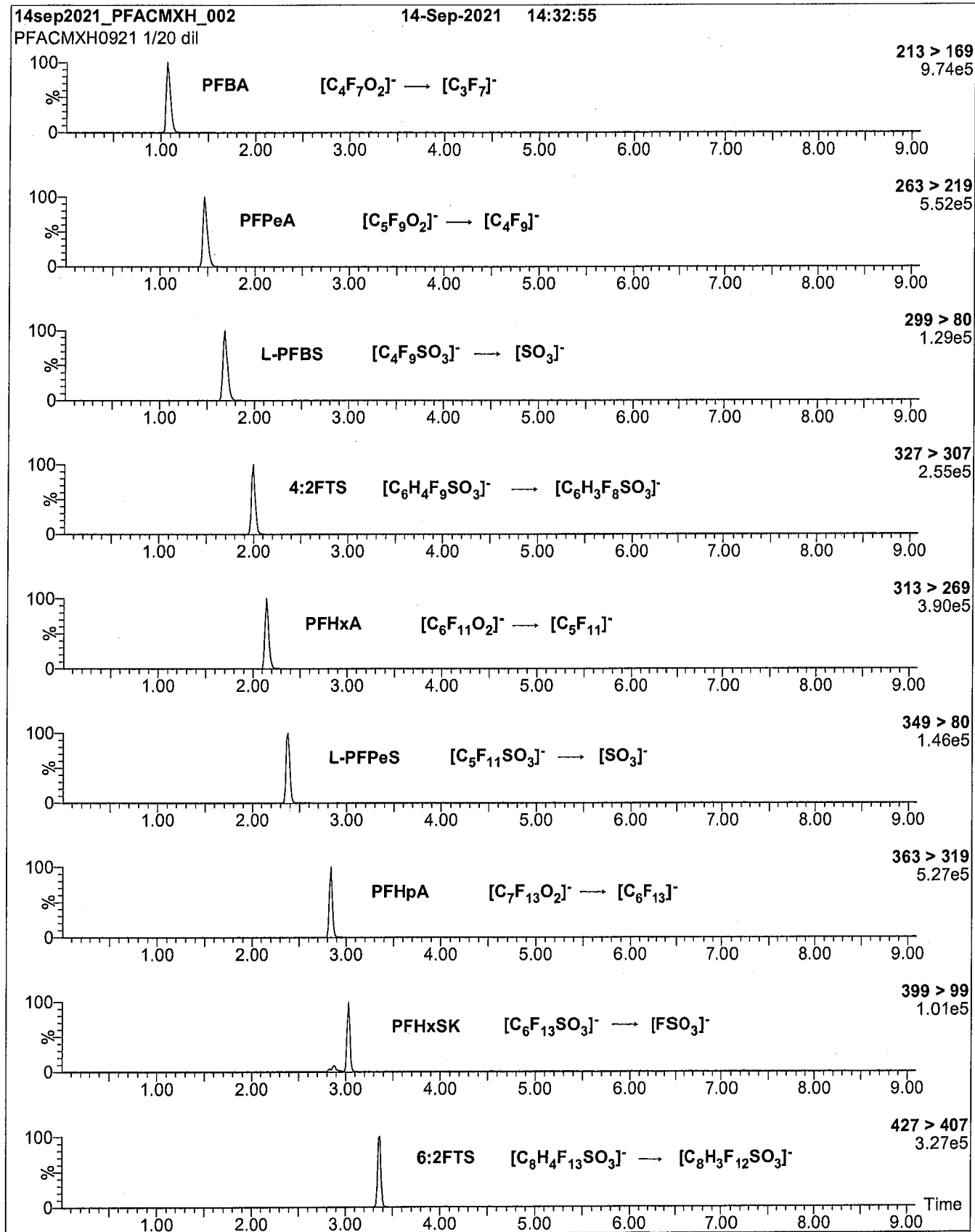
Start: 50% H<sub>2</sub>O / 50% (80:20 MeOH:ACN)  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 9 min and hold for 2 min  
before returning to initial conditions in 1 min.  
Time: 15 min

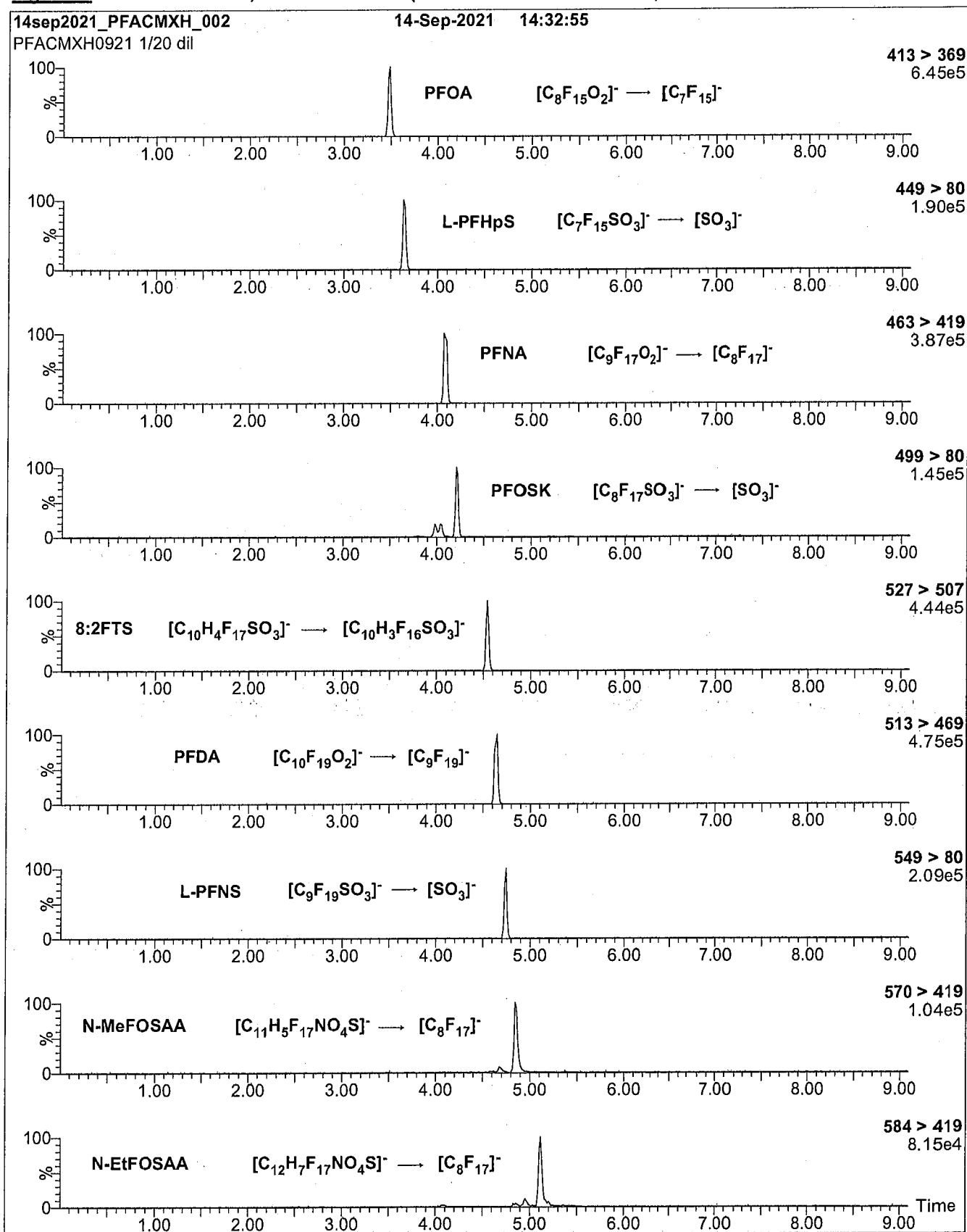
Flow: 300  $\mu$ L/min

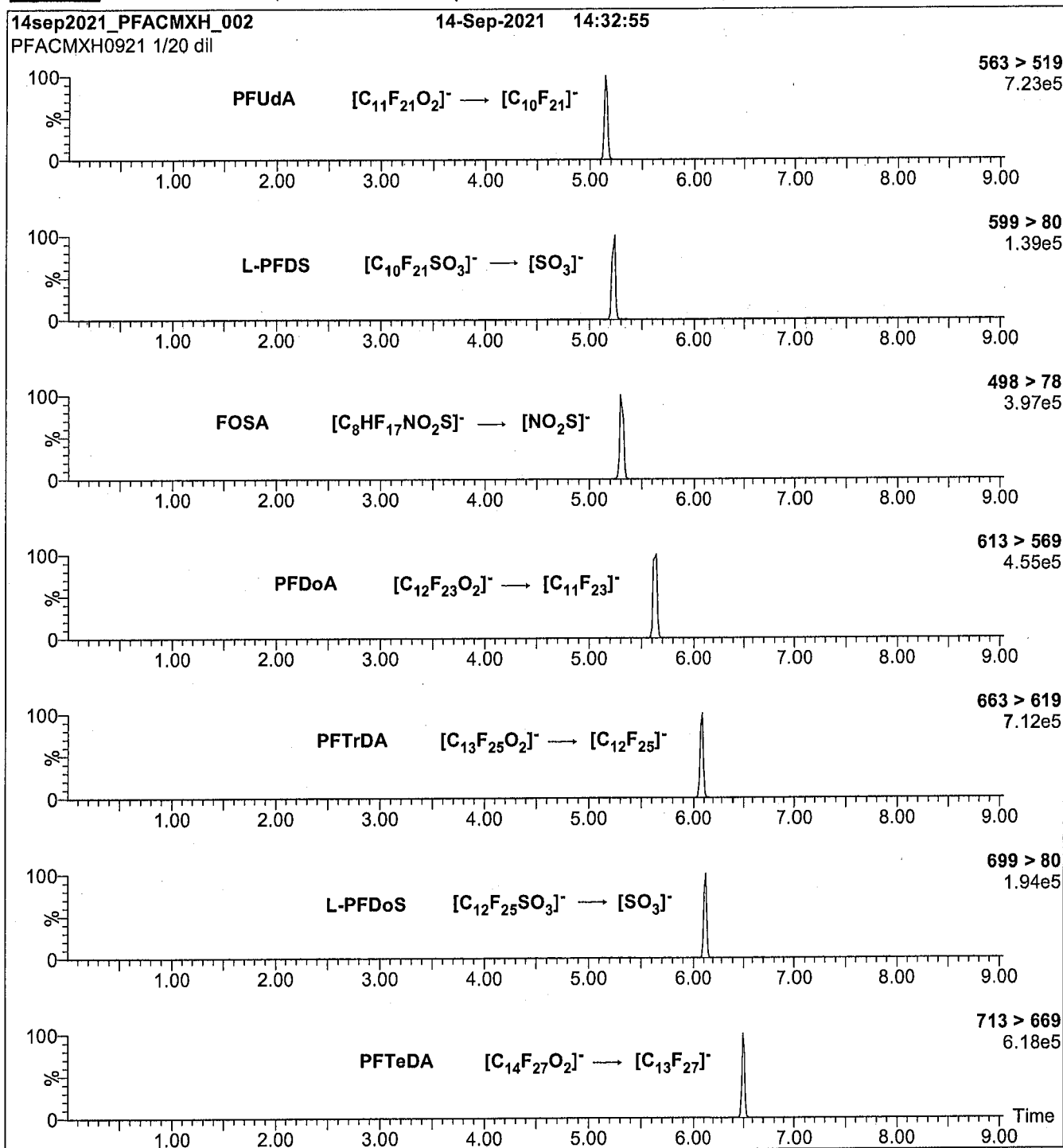
**MS Parameters:**

Experiment: SIR

Source: Electrospray (negative)  
Capillary Voltage (kV) = 2.50  
Cone Voltage (V) = variable (2-74)  
Desolvation Temperature ( $^{\circ}$ C) = 350  
Desolvation Gas Flow (L/hr) = 1000

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (PFAC-MXH)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ L/min**MS Parameters:**

Collision Gas (mbar) = 3.31e-3

Collision Energy (eV) = 6-60 (variable)



# Analytical Standard Record

<b>22F0 590</b>
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Description:s	PFAS - MIX MXH 2ug/mL	Expires:s	09/14/2026s
Standard Type:s	Others	Prepared:s	09/09/2021s
Solvent:s	MeOHs	Prepared By:s	Lizabeth Andres
Final Volume (mls):s	1.2s	Department:s	PFASs
Vials:s	1s	Last Edit:s	09/15/2022 09:33 by DAGs

Analyte0	Parent0	CAS Number0	Concentration 0	Units0
4:2FTSs		757124-72-4	3.75	ug/mLs
6:2FTSs		27619-97-2	3.8s	ug/mLs
8:2FTSs		39108-34-4s	3.84s	ug/mLs
NETFOSAA		2991-50-6s	1s	ug/mLs
NMeFOSAA		2355-31-9s	1s	ug/mLs
PFBA		375-22-4	4s	ug/mLs
PFBS		375-73-5	0.887	ug/mLs
PFDA		335-76-2	1s	ug/mLs
PFDOA		307-55-1	1s	ug/mLs
PFDOs		79780-39-5	0.97	ug/mLs
PFDS		335-77-3	0.965s	ug/mLs
PFHPA		375-85-9	1s	ug/mLs
PFHPS		375-92-8	0.953s	ug/mLs
PFHXA		307-24-4	1s	ug/mLs
PFHXS		355-46-4s	0.914s	ug/mLs
PFNA		375-95-1	1s	ug/mLs
PFNS		68259-12-1s	0.962s	ug/mLs
PFOA		335-67-1	1s	ug/mLs
PFOs		1763-23-1	0.928s	ug/mLs
PFOSA		754-91-6	1s	ug/mLs
PFPEA		2706-90-3	2s	ug/mLs
PFPEs		630402-22-1s	0.941s	ug/mLs
PFTEDA		376-06-7	1s	ug/mLs
PFTRDA		72629-94-8	1s	ug/mLs
PFUnA		2058-94-8s	1s	ug/mLs