

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL110625\
 Data File : VL043176.D
 Acq On : 06 Nov 2025 20:03
 Operator : SY/MD
 Sample : Q3556-04 2X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 131-SG-2

Quant Time: Nov 07 00:28:00 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL101425AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Oct 15 02:12:58 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Bromochloromethane	2.784	49	130480	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.955	114	360019	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.875	117	309583	10.000	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.374	95	240054	9.976	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	99.800%

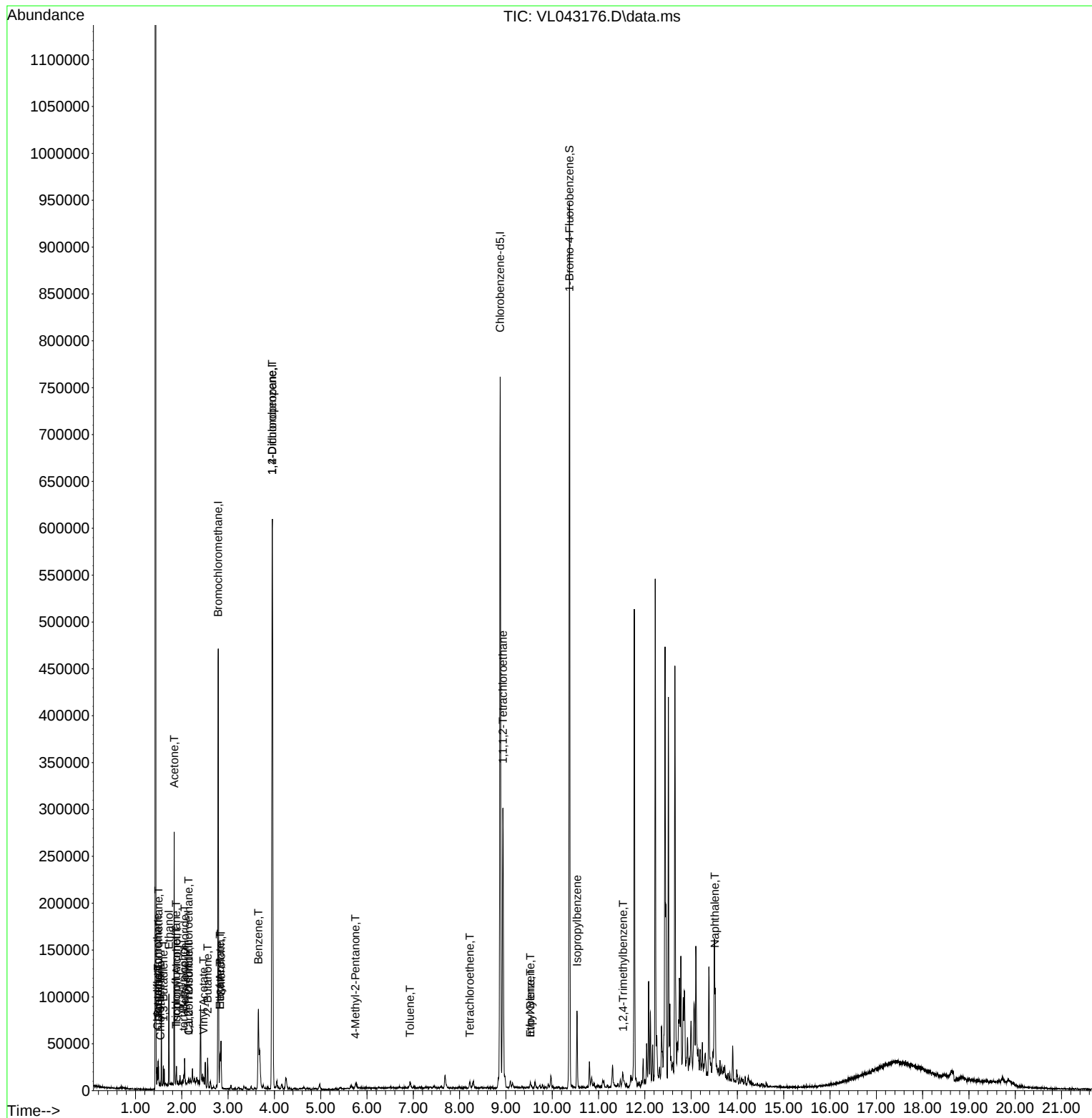
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.499	85	4362	0.235	ppbv	99
3) Chlorodifluoromethane	1.476	51	8747	0.436	ppbv #	80
4) Chloromethane	1.534	50	704	0.096	ppbv #	70
9) Propene	1.486	41	3526	0.396	ppbv	94
11) Trichlorofluoromethane	1.877	101	2266	0.125	ppbv	94
12) 1,1,2-Trichlorotrifluo...	2.143	101	548	0.038	ppbv #	78
13) Ethanol	1.722	45	34752	10.555	ppbv	100
15) Acetone	1.835	43	111827	6.359	ppbv	91
16) 1,3-Butadiene	1.602	39	2451	0.292	ppbv #	25
17) tert-Butyl alcohol	2.039	59	3728	0.154	ppbv #	76
19) Isopropyl Alcohol	1.887	45	6484	0.592	ppbv #	1
20) Methylene Chloride	2.062	84	4427	0.637	ppbv #	86
23) Vinyl Acetate	2.470	43	1891	0.073	ppbv #	48
25) Ethyl Acetate	2.826	43	5755	0.132	ppbv #	83
26) Hexane	2.826	57	7014	0.349	ppbv #	39
27) Carbon Disulfide	2.149	76	1193	0.065	ppbv #	1
29) Chloroform	2.845	83	19971	0.686	ppbv	99
34) 2-Butanone	2.557	43	19902	0.822	ppbv	99
36) Benzene	3.654	78	52069	1.536	ppbv	97
39) 1,2-Dichloropropane	3.955	63	90779	7.323	ppbv #	26
50) 4-Methyl-2-Pentanone	5.752	43	1643	0.049	ppbv #	38
52) Tetrachloroethene	8.221	164	1247	0.102	ppbv #	65
53) Toluene	6.927	91	1746	0.043	ppbv #	1
56) 1,1,1,2-Tetrachloroethane	8.937	131	631	0.032	ppbv #	1
58) Ethyl Benzene	9.529	91	2679	0.050	ppbv	96
59) m/p-Xylene	9.529	91	2679	0.063	ppbv	91
62) Isopropylbenzene	10.536	105	35300	0.467	ppbv	97
74) 1,2,4-Trimethylbenzene	11.532	105	2166	0.046	ppbv #	47
79) Naphthalene	13.513	128	1582	0.032	ppbv #	1

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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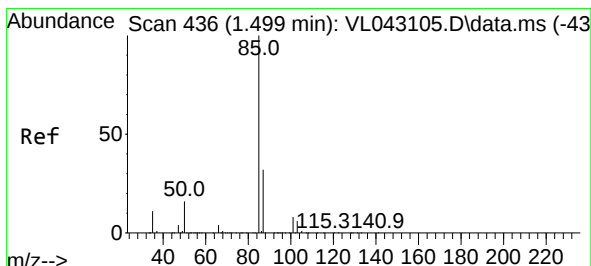
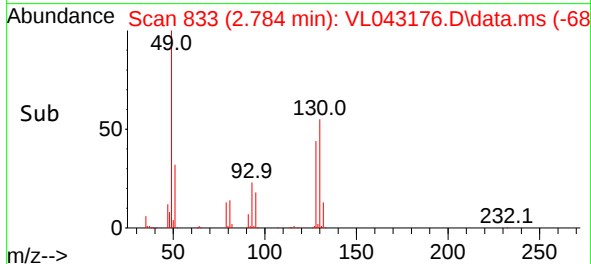
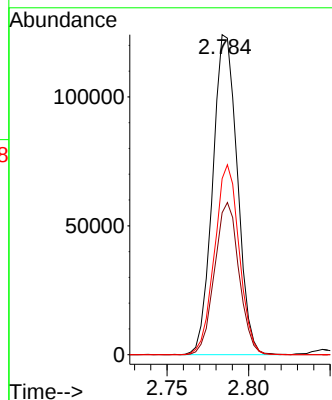
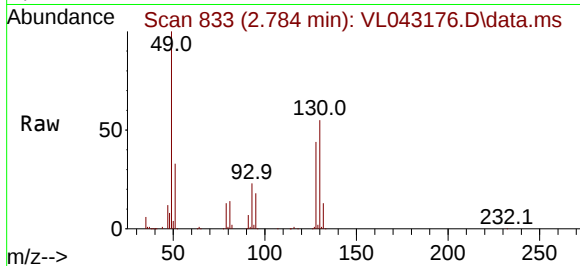




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.784 min Scan# 811
Delta R.T. -0.006 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

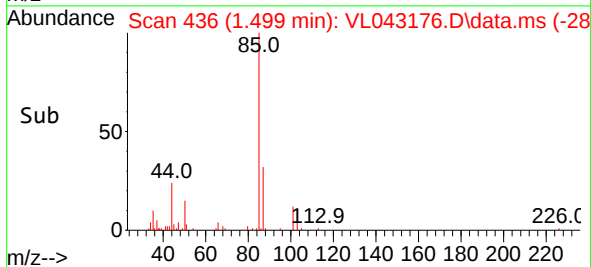
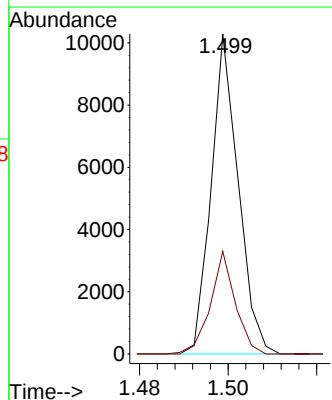
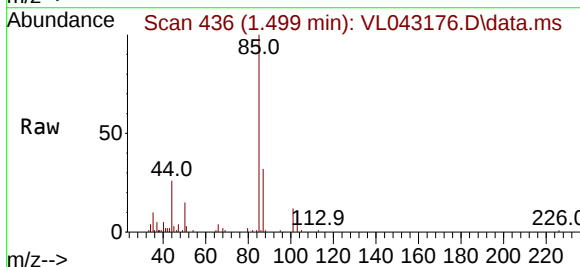
Instrument :
MSVOA_1
ClientSampleId :
131-SG-2

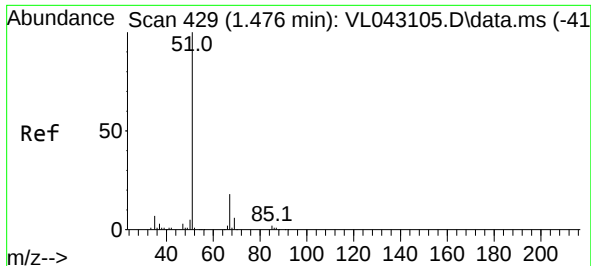
Tgt Ion: 49 Resp: 130480
Ion Ratio Lower Upper
49 100
128 47.2 24.4 73.4
130 59.3 31.0 93.0



#2
Dichlorodifluoromethane
Concen: 0.235 ppbv
RT: 1.499 min Scan# 436
Delta R.T. -0.000 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 85 Resp: 4362
Ion Ratio Lower Upper
85 100
87 32.0 25.3 37.9

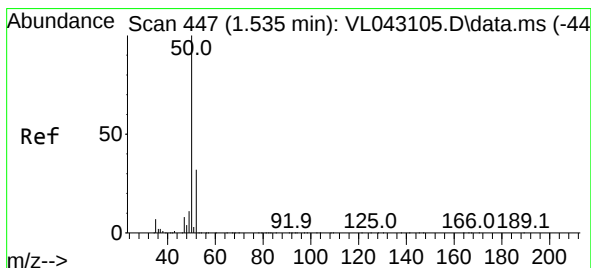
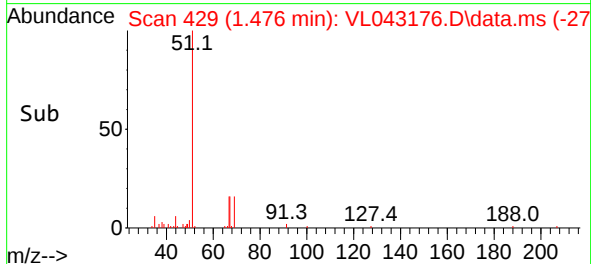
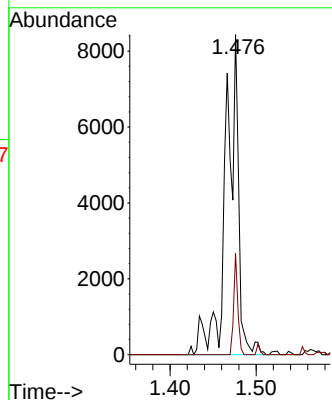
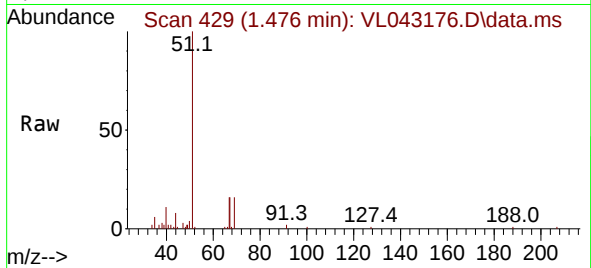




#3
Chlorodifluoromethane
Concen: 0.436 ppbv
RT: 1.476 min Scan# 429
Delta R.T. -0.000 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

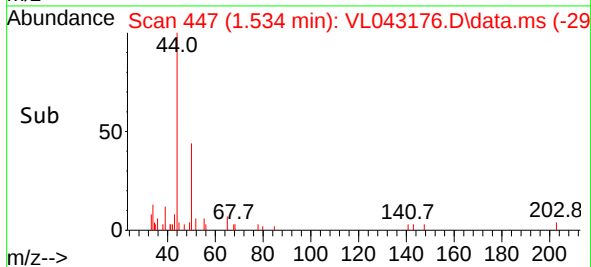
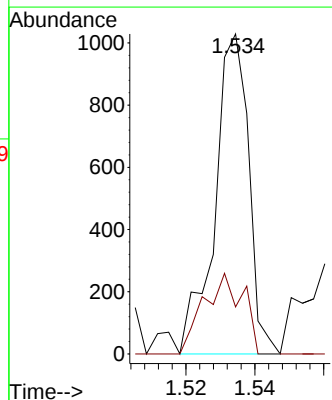
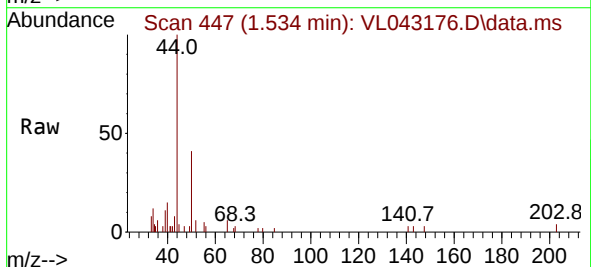
Instrument :
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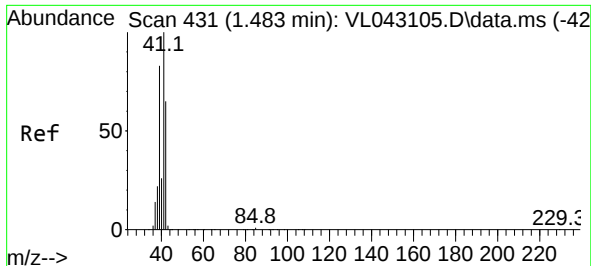
Tgt Ion: 51 Resp: 8747
Ion Ratio Lower Upper
51 100
67 10.1 15.1 22.7#



#4
Chloromethane
Concen: 0.096 ppbv
RT: 1.534 min Scan# 447
Delta R.T. -0.000 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 50 Resp: 704
Ion Ratio Lower Upper
50 100
52 14.7 25.2 37.8#





#9

Propene

Concen: 0.396 ppbv

RT: 1.486 min Scan# 41

Delta R.T. 0.003 min

Lab File: VL043176.D

Acq: 06 Nov 2025 20:03

Instrument :

MSVOA_1

ClientSampleId :

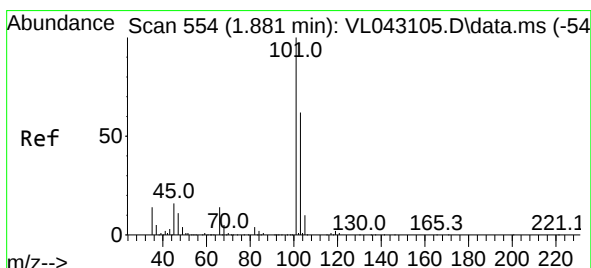
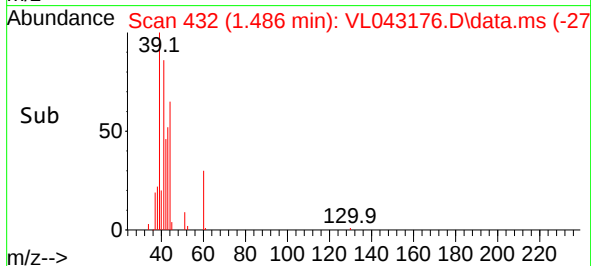
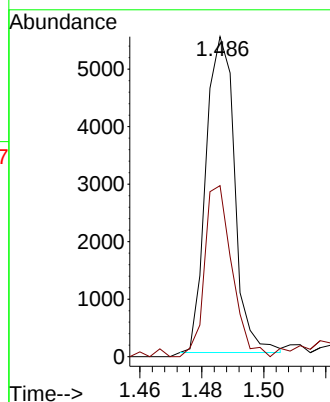
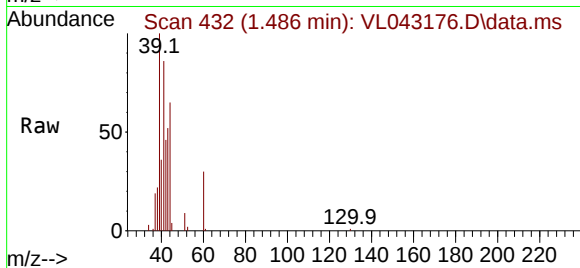
131-SG-2

Tgt Ion: 41 Resp: 3526

Ion Ratio Lower Upper

41 100

42 63.9 55.1 82.7



#11

Trichlorofluoromethane

Concen: 0.125 ppbv

RT: 1.877 min Scan# 553

Delta R.T. -0.003 min

Lab File: VL043176.D

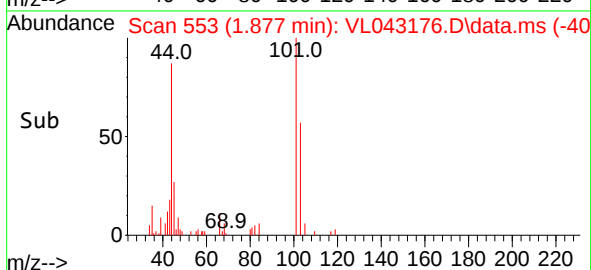
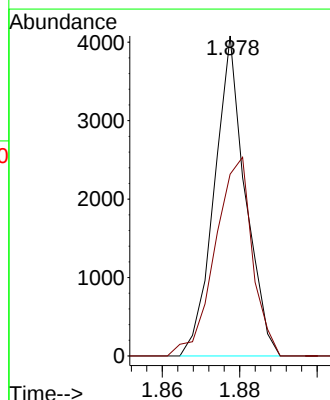
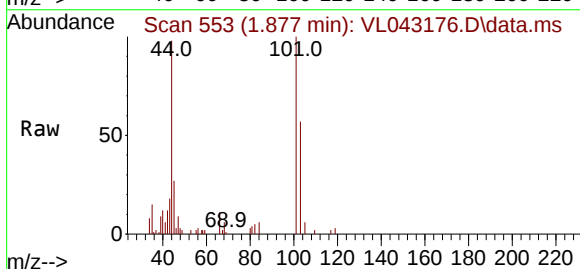
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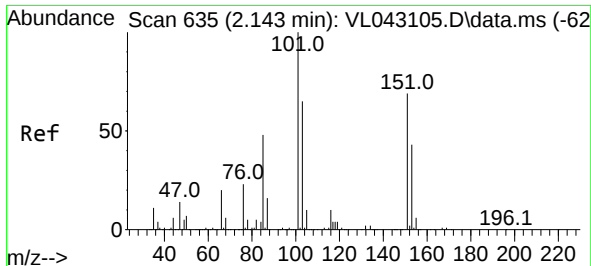
Tgt Ion: 101 Resp: 2266

Ion Ratio Lower Upper

101 100

103 56.8 49.3 73.9

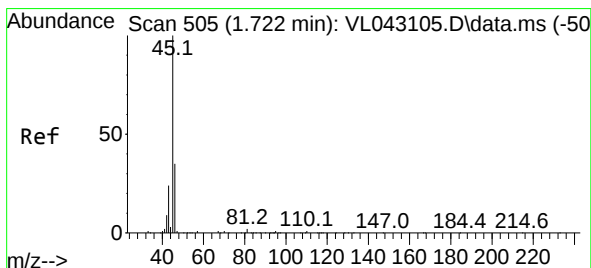
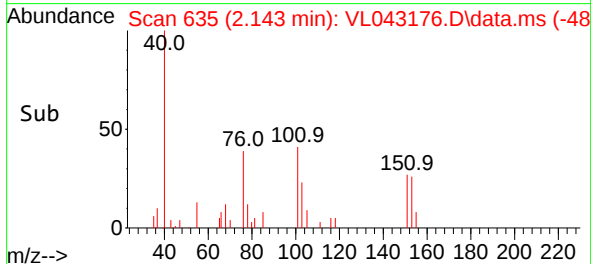
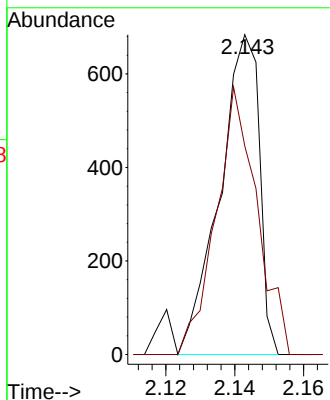
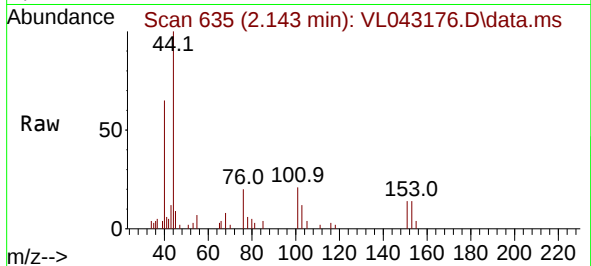




#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.038 ppbv
 RT: 2.143 min Scan# 61
 Delta R.T. -0.000 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

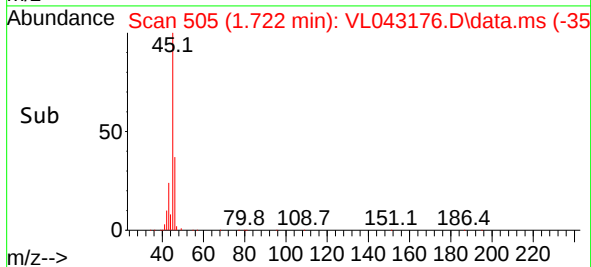
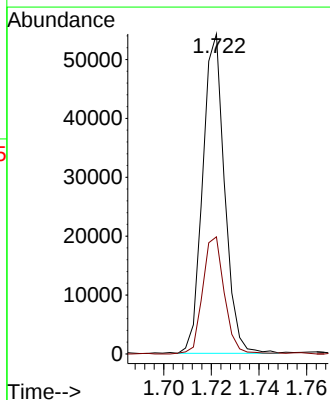
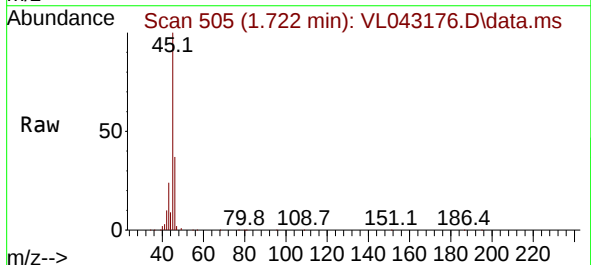
Instrument :
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 ClientSampleId :
 131-SG-2

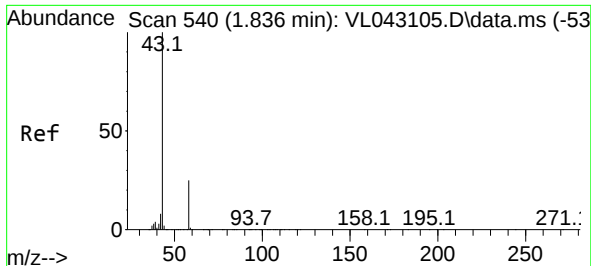
Tgt Ion:101 Resp: 548
 Ion Ratio Lower Upper
 101 100
 151 86.1 54.7 82.1#



#13
 Ethanol
 Concen: 10.555 ppbv
 RT: 1.722 min Scan# 505
 Delta R.T. -0.000 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

Tgt Ion: 45 Resp: 34752
 Ion Ratio Lower Upper
 45 100
 46 37.0 14.7 58.9

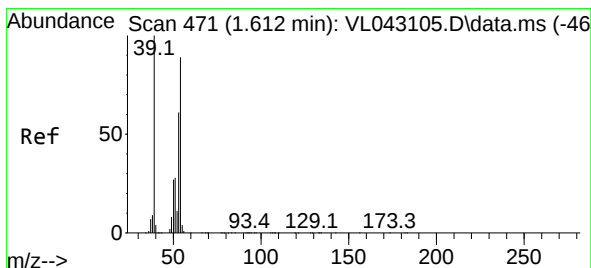
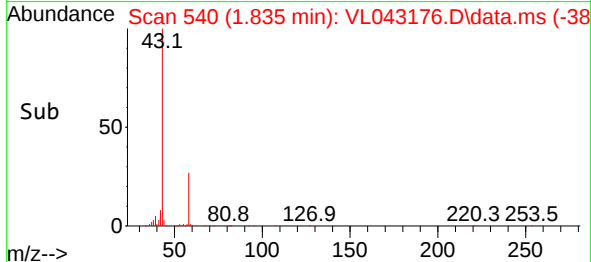
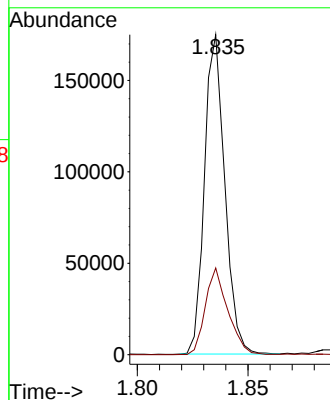
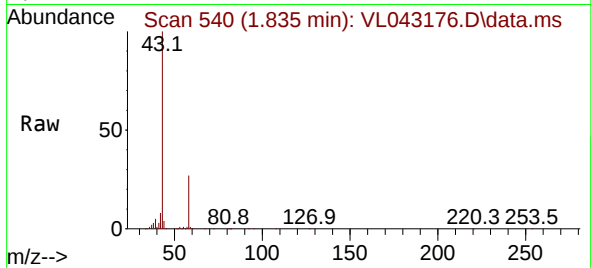




#15
Acetone
Concen: 6.359 ppbv
RT: 1.835 min Scan# 54
Delta R.T. -0.000 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

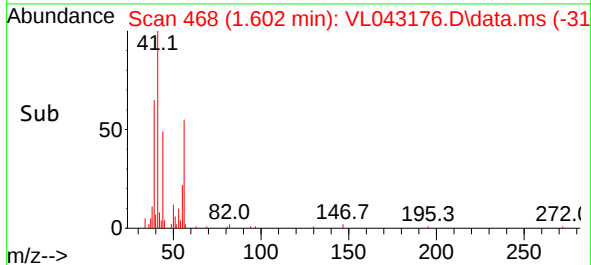
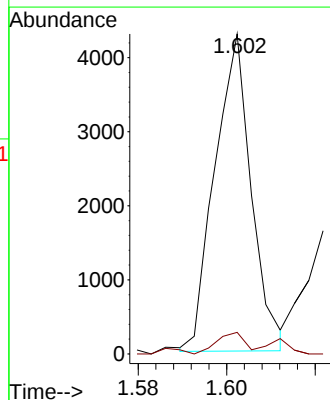
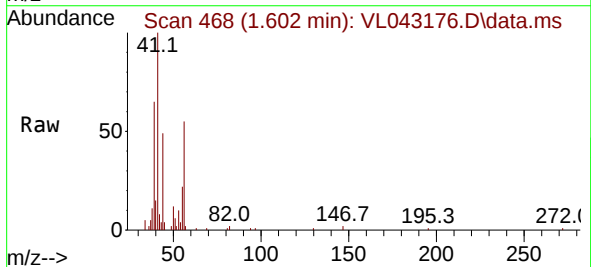
Instrument :
MSVOA_1
ClientSampleId :
131-SG-2

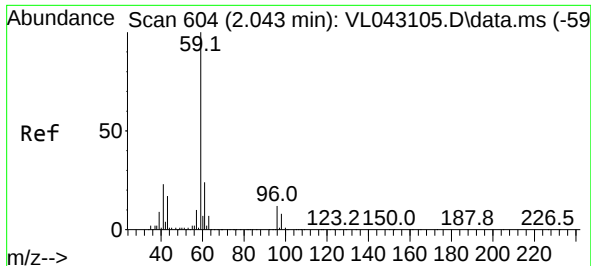
Tgt Ion: 43 Resp: 111827
Ion Ratio Lower Upper
43 100
58 30.5 20.8 31.2



#16
1,3-Butadiene
Concen: 0.292 ppbv
RT: 1.602 min Scan# 468
Delta R.T. -0.010 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 39 Resp: 2451
Ion Ratio Lower Upper
39 100
54 10.7 59.0 88.4#

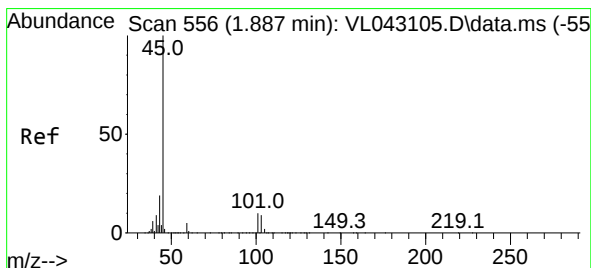
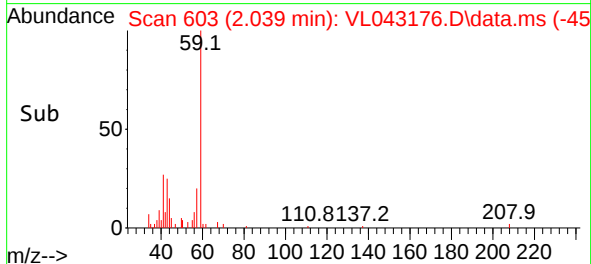
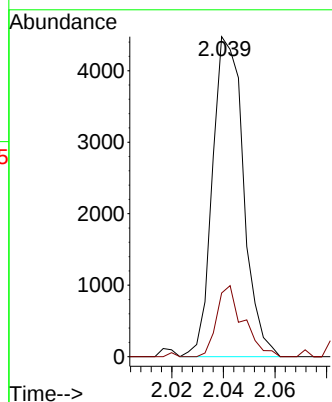
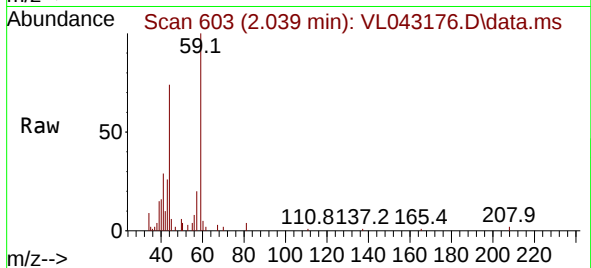




#17
tert-Butyl alcohol
Concen: 0.154 ppbv
RT: 2.039 min Scan# 604
Delta R.T. -0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

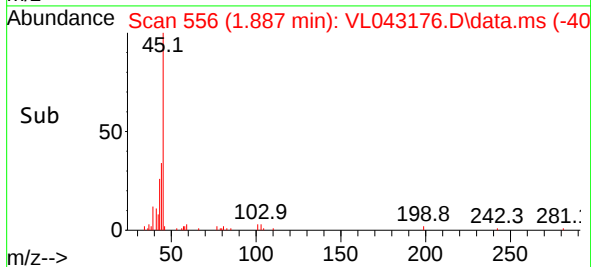
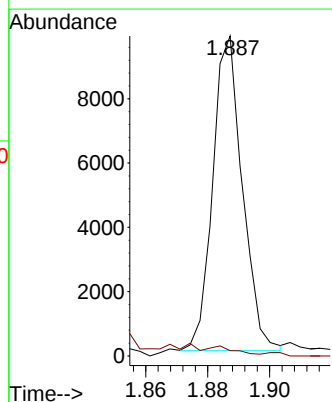
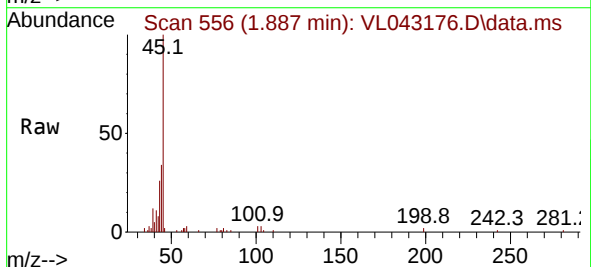
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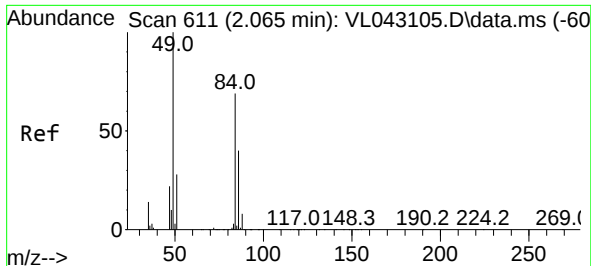
Tgt Ion: 59 Resp: 3728
Ion Ratio Lower Upper
59 100
57 19.3 8.2 12.4#



#19
Isopropyl Alcohol
Concen: 0.592 ppbv
RT: 1.887 min Scan# 556
Delta R.T. -0.000 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

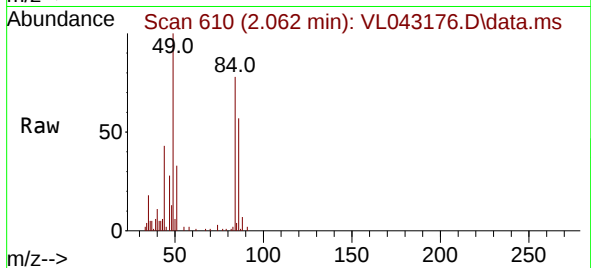
Tgt Ion: 45 Resp: 6484
Ion Ratio Lower Upper
45 100
58 525.6 31.3 46.9#



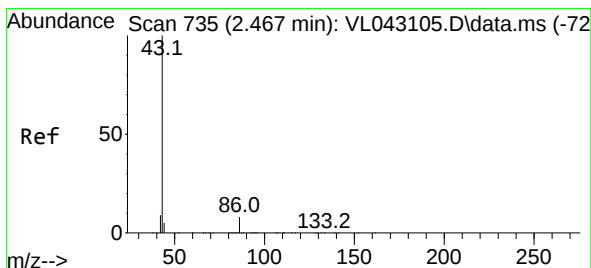
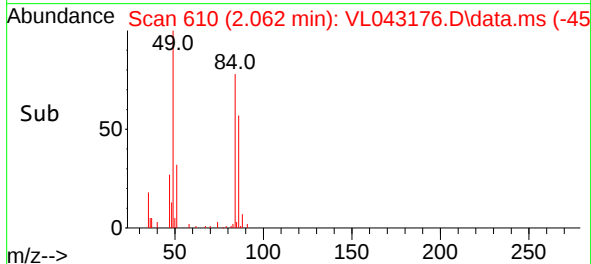
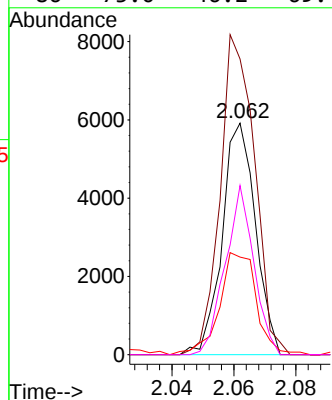


#20
Methylene Chloride
Concen: 0.637 ppbv
RT: 2.062 min Scan# 611
Delta R.T. -0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Instrument :
MSVOA_1
ClientSampleId :
131-SG-2

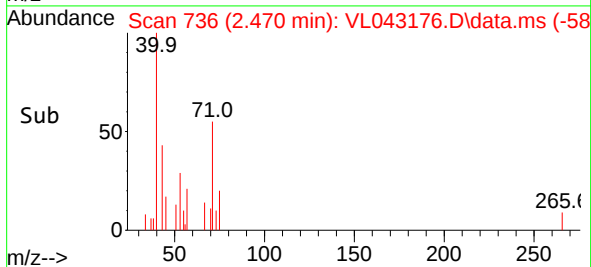
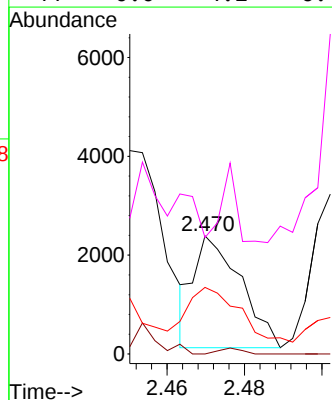
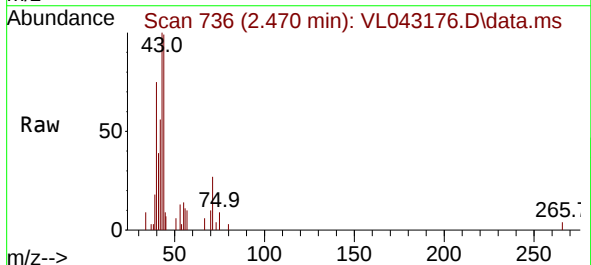


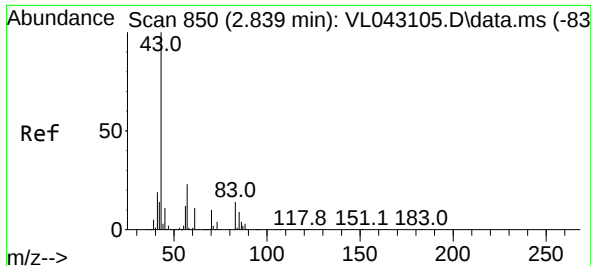
Tgt Ion: 84	Resp: 4427
Ion Ratio	Lower Upper
84 100	
49 127.7	116.6 175.0
51 40.8	34.8 52.2
86 73.0	46.2 69.4#



#23
Vinyl Acetate
Concen: 0.073 ppbv
RT: 2.470 min Scan# 736
Delta R.T. 0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt	Ion: 43	Resp:	1891
Ion	Ratio	Lower	Upper
43	100		
86	0.0	6.2	9.2#
42	45.1	7.6	11.4#
44	0.0	4.2	6.4#

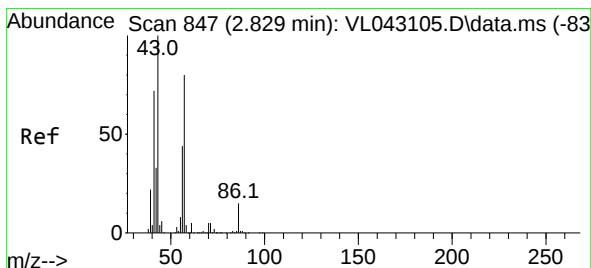
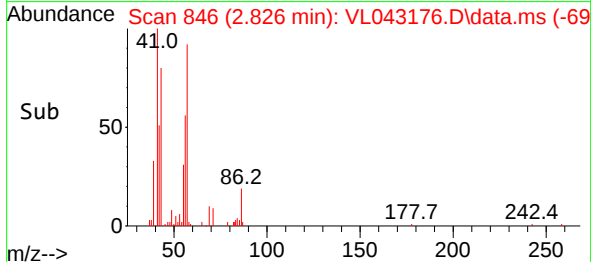
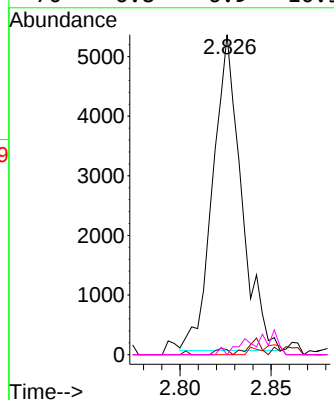
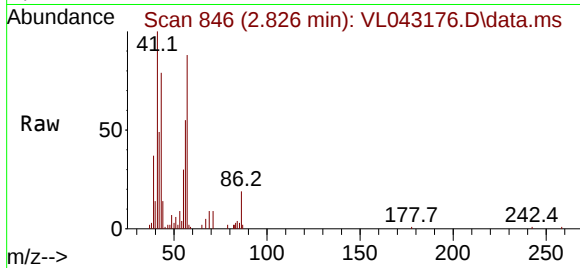




#25
Ethyl Acetate
Concen: 0.132 ppbv
RT: 2.826 min Scan# 846
Delta R.T. -0.013 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

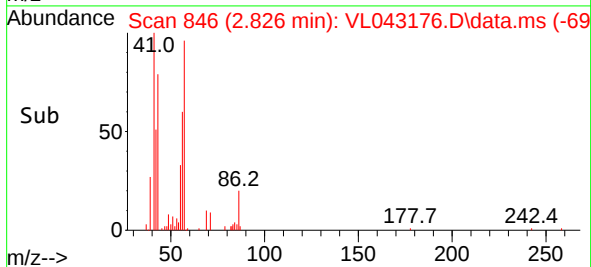
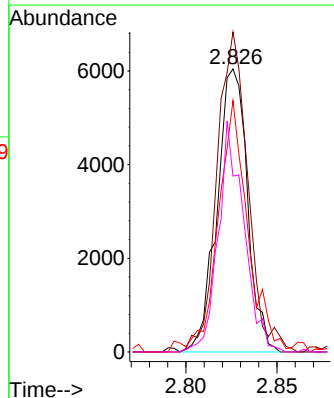
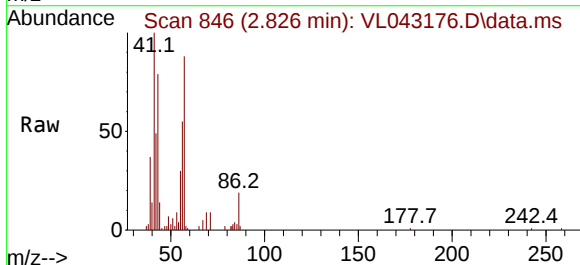
Instrument :
MSVOA_L
ClientSampleId :
131-SG-2

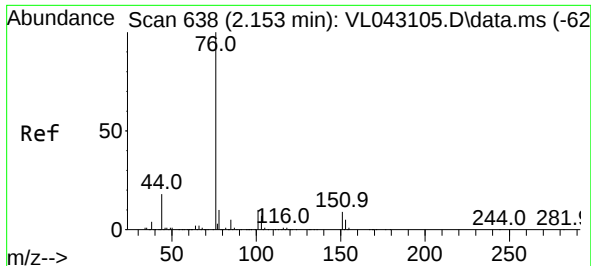
Tgt Ion: 43	Resp: 5755
Ion Ratio	Lower Upper
43 100	
45 0.0	7.8 11.8#
61 2.5	7.0 10.6#
70 6.8	6.9 10.3#



#26
Hexane
Concen: 0.349 ppbv
RT: 2.826 min Scan# 846
Delta R.T. -0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 57	Resp: 7014
Ion Ratio	Lower Upper
57 100	
41 114.7	71.4 107.0#
43 88.2	178.5 267.7#
56 68.7	42.2 63.4#

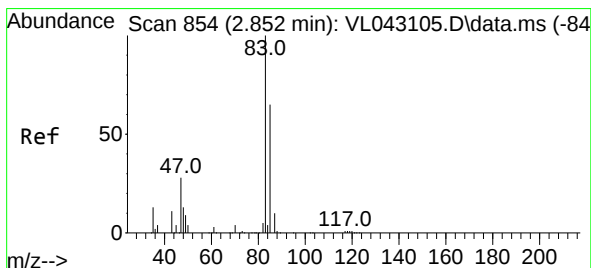
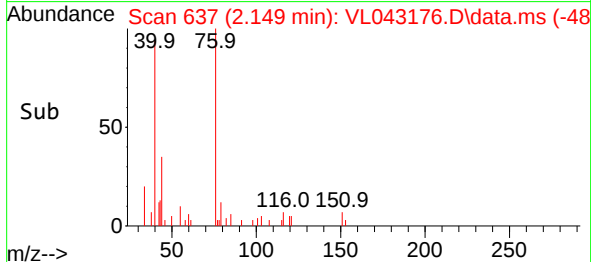
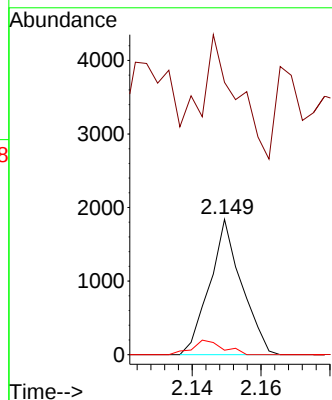
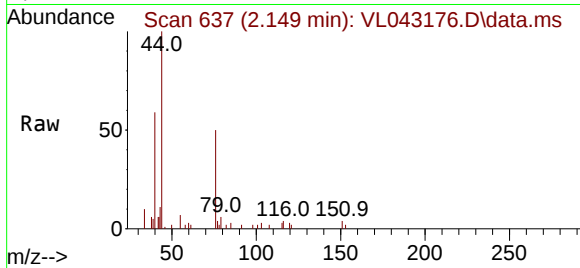




#27
Carbon Disulfide
Concen: 0.065 ppbv
RT: 2.149 min Scan# 61
Delta R.T. -0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

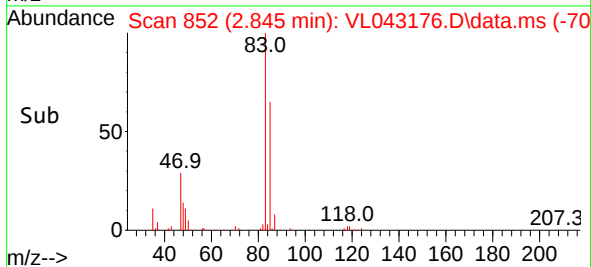
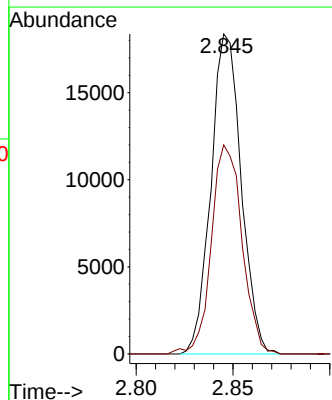
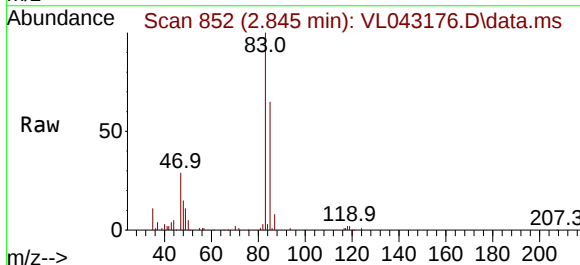
Instrument :
MSVOA_1
ClientSampleId :
131-SG-2

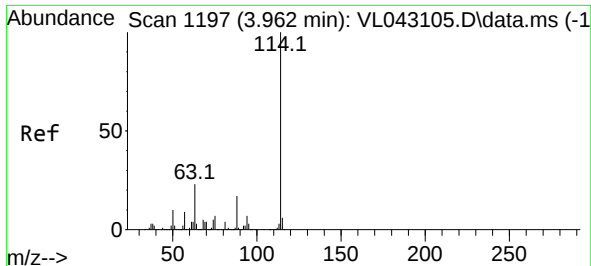
Tgt Ion: 76 Resp: 1193
Ion Ratio Lower Upper
76 100
44 383.9 16.7 25.1#
78 10.1 9.3 13.9



#29
Chloroform
Concen: 0.686 ppbv
RT: 2.845 min Scan# 852
Delta R.T. -0.007 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 83 Resp: 19971
Ion Ratio Lower Upper
83 100
85 65.4 51.8 77.6





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.955 min Scan# 1195

Delta R.T. -0.007 min

Lab File: VL043176.D

Acq: 06 Nov 2025 20:03

Instrument :

MSVOA_1

ClientSampleId :

131-SG-2

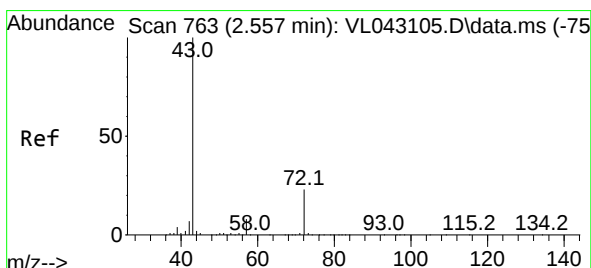
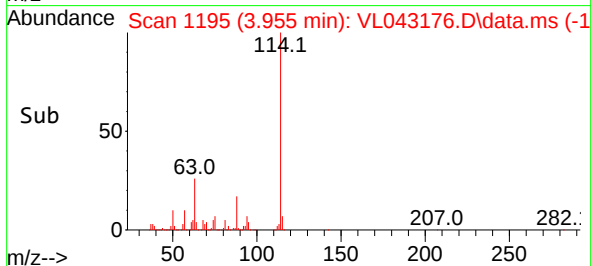
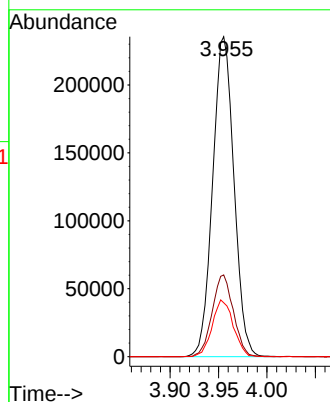
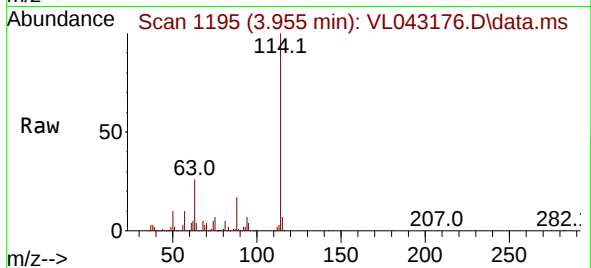
Tgt Ion:114 Resp: 360019

Ion Ratio Lower Upper

114 100

63 25.6 19.3 28.9

88 17.6 13.9 20.9



#34

2-Butanone

Concen: 0.822 ppbv

RT: 2.557 min Scan# 763

Delta R.T. -0.000 min

Lab File: VL043176.D

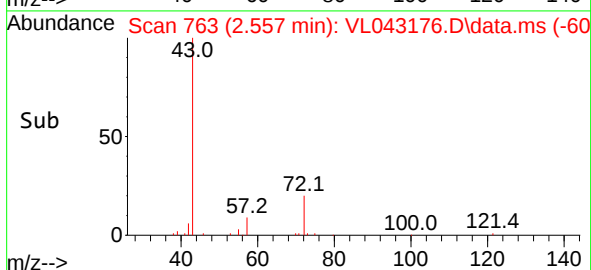
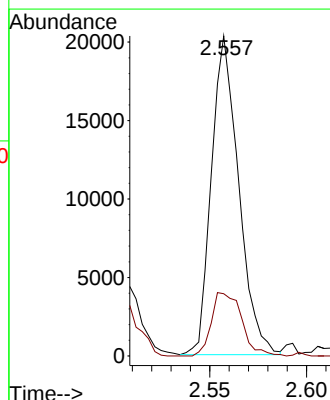
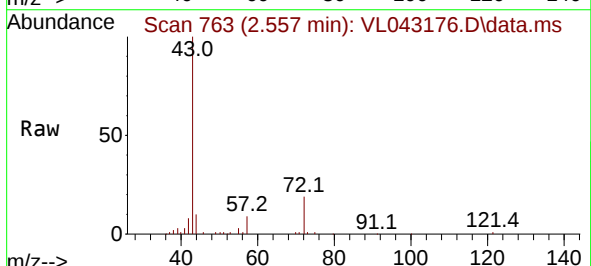
Acq: 06 Nov 2025 20:03

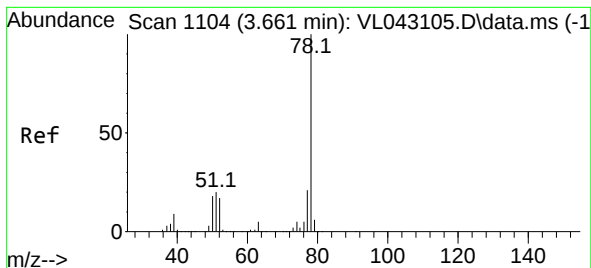
Tgt Ion: 43 Resp: 19902

Ion Ratio Lower Upper

43 100

72 22.4 18.4 27.6





#36

Benzene

Concen: 1.536 ppbv

RT: 3.654 min Scan# 1104

Delta R.T. -0.007 min

Lab File: VL043176.D

Acq: 06 Nov 2025 20:03

Instrument :

MSVOA_1

ClientSampleId :

131-SG-2

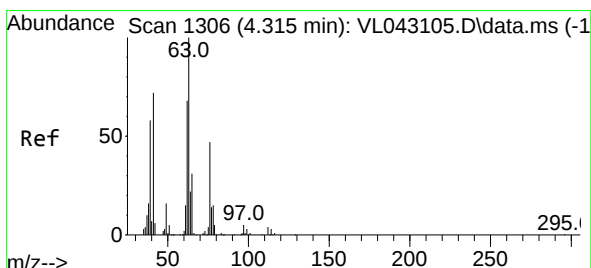
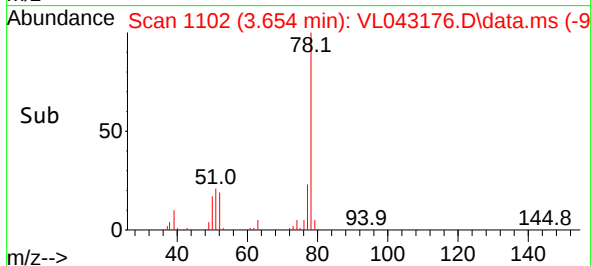
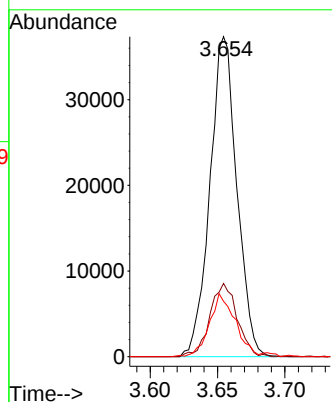
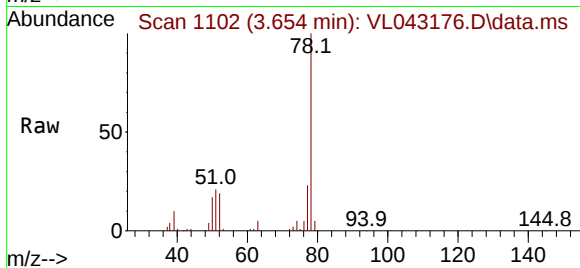
Tgt Ion: 78 Resp: 52069

Ion Ratio Lower Upper

78 100

77 22.9 17.0 25.6

50 17.0 14.6 22.0



#39

1,2-Dichloropropane

Concen: 7.323 ppbv

RT: 3.955 min Scan# 1195

Delta R.T. -0.359 min

Lab File: VL043176.D

Acq: 06 Nov 2025 20:03

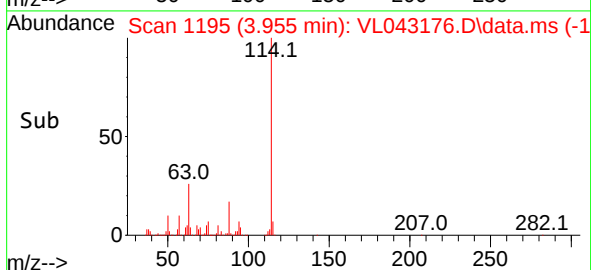
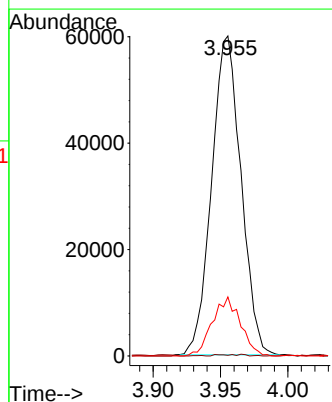
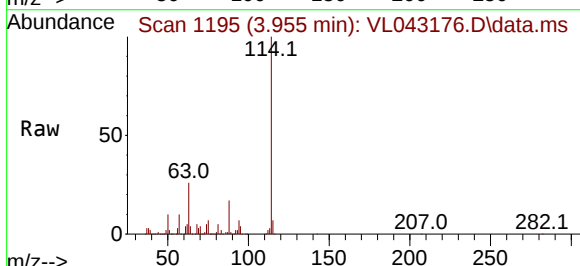
Tgt Ion: 63 Resp: 90779

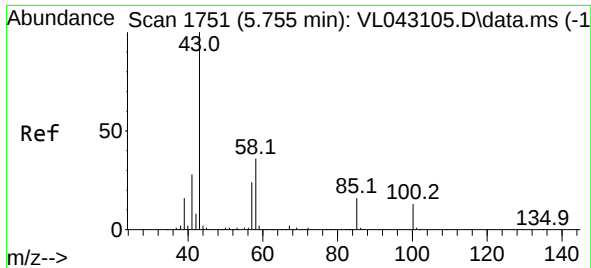
Ion Ratio Lower Upper

63 100

41 0.2 58.0 87.0#

62 18.5 54.7 82.1#

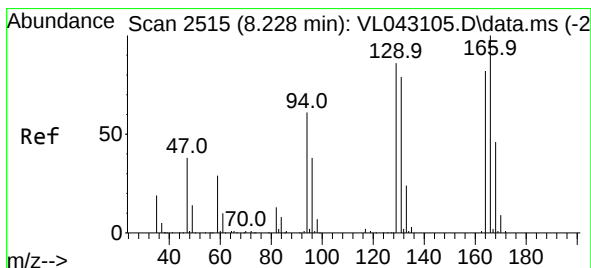
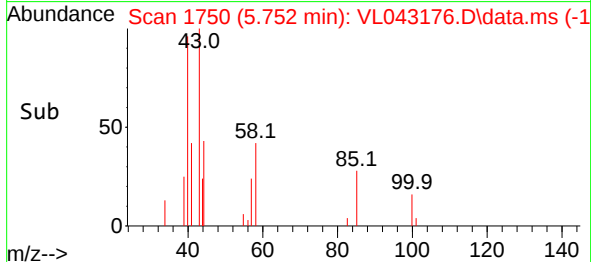
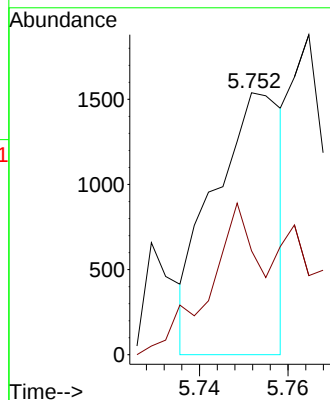
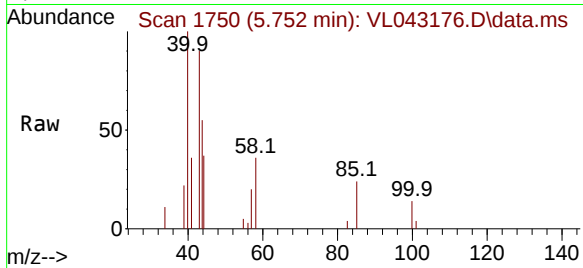




#50
4-Methyl-2-Pentanone
Concen: 0.049 ppbv
RT: 5.752 min Scan# 1
Delta R.T. -0.003 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

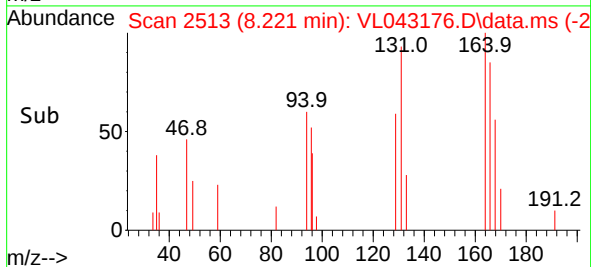
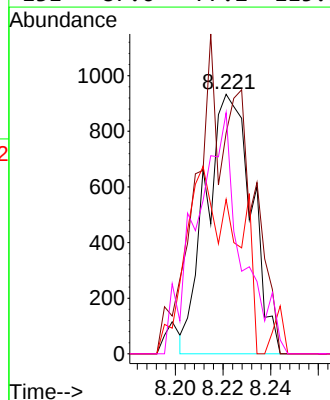
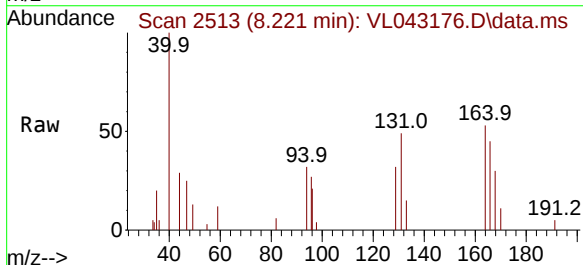
Instrument :
MSVOA_L
ClientSampleId :
131-SG-2

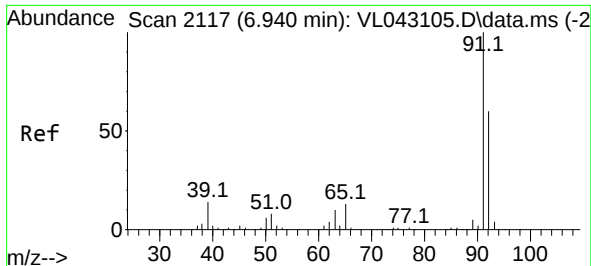
Tgt Ion: 43 Resp: 1643
Ion Ratio Lower Upper
43 100
58 0.0 29.1 43.7#



#52
Tetrachloroethene
Concen: 0.102 ppbv
RT: 8.221 min Scan# 2513
Delta R.T. -0.007 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 164 Resp: 1247
Ion Ratio Lower Upper
164 100
166 85.1 97.6 146.4#
129 41.1 84.5 126.7#
131 87.6 77.2 115.8

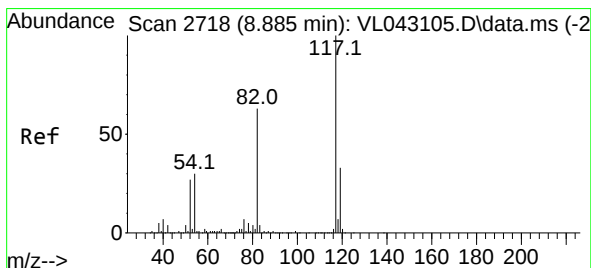
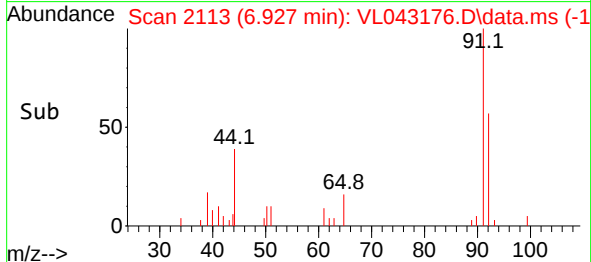
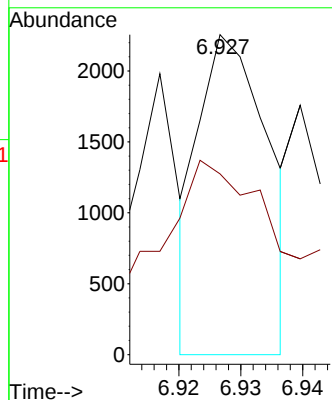
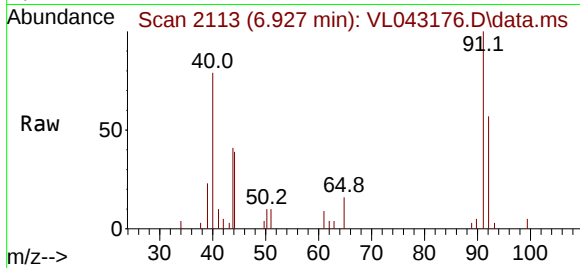




#53
Toluene
Concen: 0.043 ppbv
RT: 6.927 min Scan# 2113
Delta R.T. -0.013 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

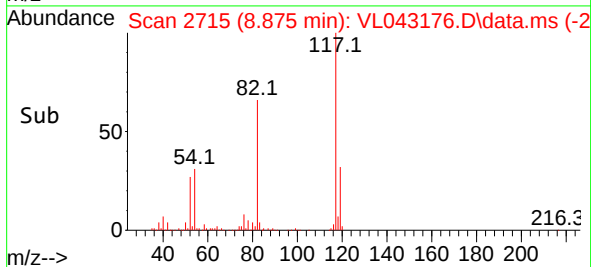
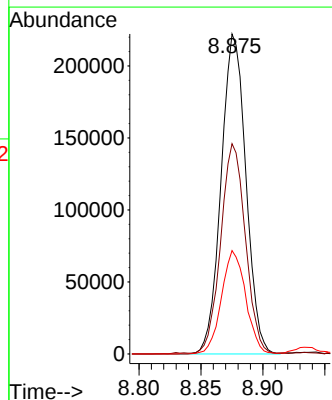
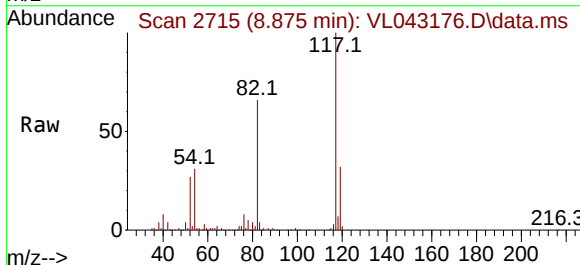
Instrument :
MSVOA_1
ClientSampleId :
131-SG-2

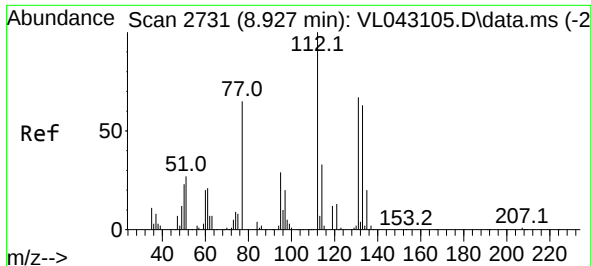
Tgt Ion: 91 Resp: 1746
Ion Ratio Lower Upper
91 100
92 143.3 48.8 73.2#



#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.875 min Scan# 2715
Delta R.T. -0.010 min
Lab File: VL043176.D
Acq: 06 Nov 2025 20:03

Tgt Ion: 117 Resp: 309583
Ion Ratio Lower Upper
117 100
82 65.9 53.8 80.8
119 31.7 25.4 38.0

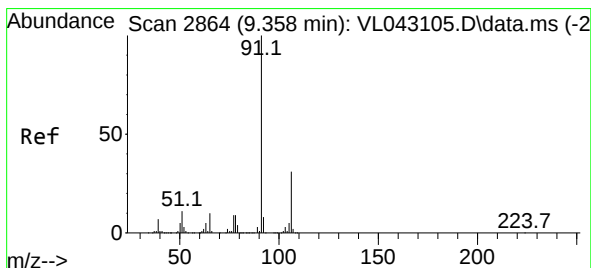
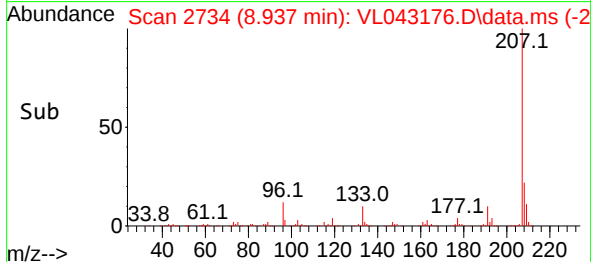
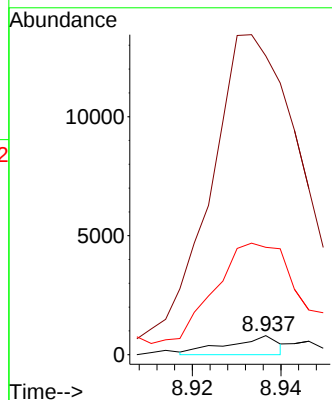
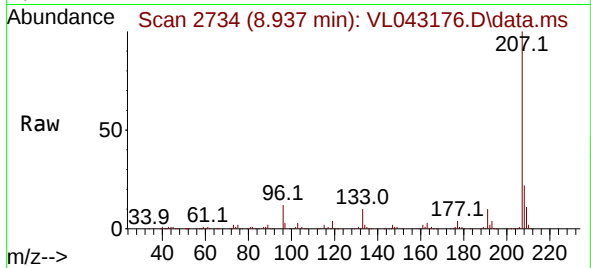




#56
 1,1,1,2-Tetrachloroethane
 Concen: 0.032 ppbv
 RT: 8.937 min Scan# 21
 Delta R.T. 0.010 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

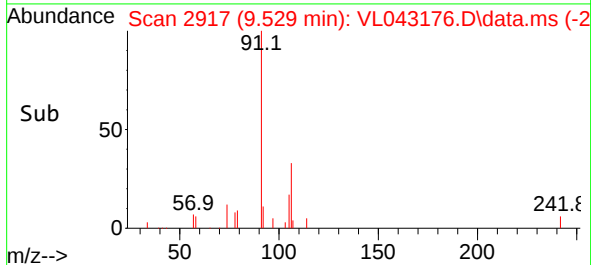
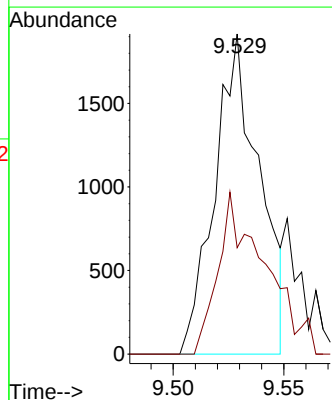
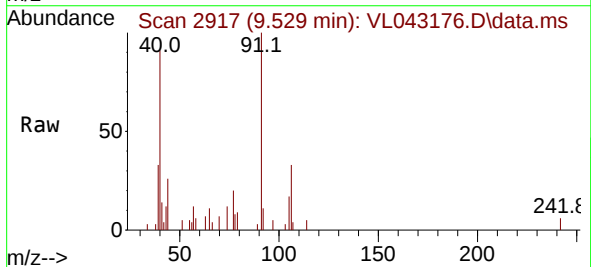
Instrument :
 MSVOA_1
 ClientSampleId :
 131-SG-2

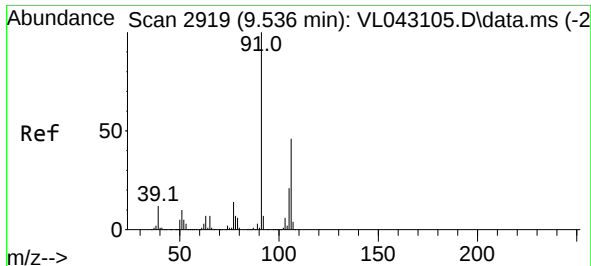
Tgt Ion:131 Resp: 631
 Ion Ratio Lower Upper
 131 100
 133 3271.2 75.7 113.5#
 119 1100.6 50.6 76.0#



#58
 Ethyl Benzene
 Concen: 0.050 ppbv
 RT: 9.529 min Scan# 2917
 Delta R.T. 0.171 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

Tgt Ion: 91 Resp: 2679
 Ion Ratio Lower Upper
 91 100
 106 33.2 24.8 37.2





#59

m/p-Xylene

Concen: 0.063 ppbv

RT: 9.529 min Scan# 2917

Delta R.T. -0.007 min

Lab File: VL043176.D

Acq: 06 Nov 2025 20:03

Instrument :

MSVOA_1

ClientSampleId :

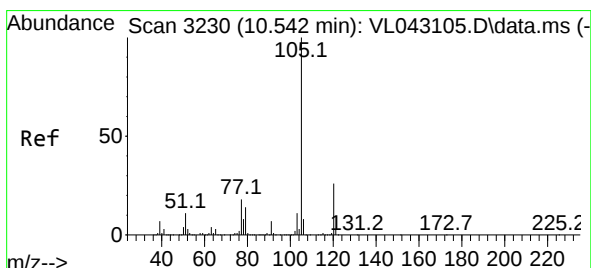
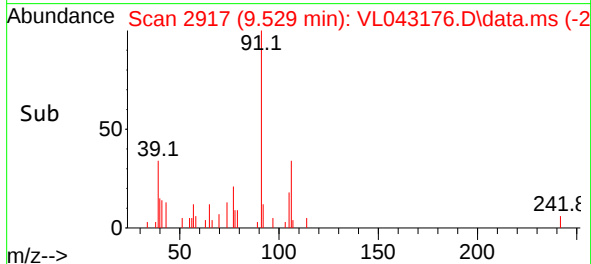
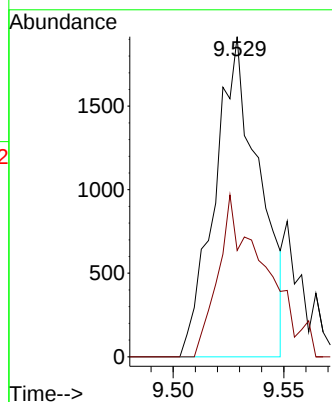
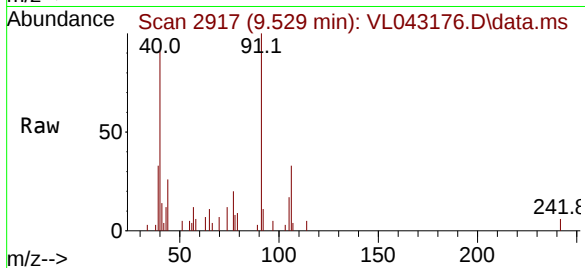
131-SG-2

Tgt Ion: 91 Resp: 2679

Ion Ratio Lower Upper

91 100

106 53.3 38.0 57.0



#62

Isopropylbenzene

Concen: 0.467 ppbv

RT: 10.536 min Scan# 3228

Delta R.T. -0.007 min

Lab File: VL043176.D

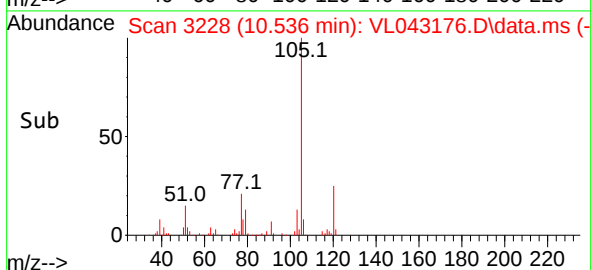
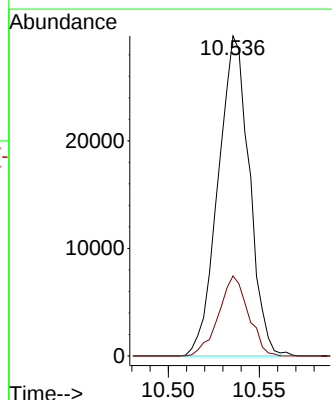
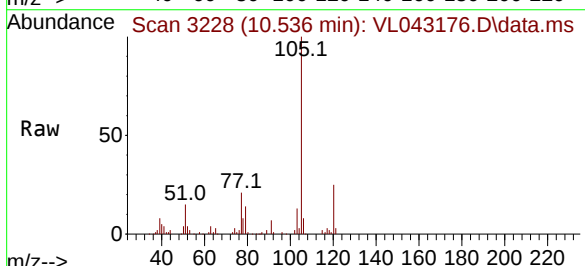
Acq: 06 Nov 2025 20:03

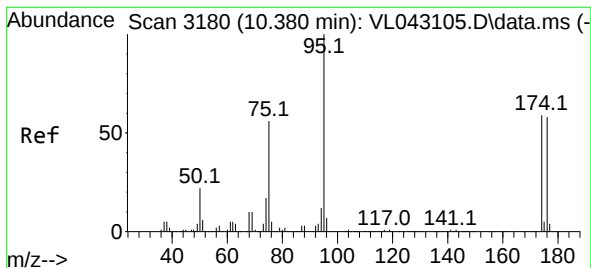
Tgt Ion: 105 Resp: 35300

Ion Ratio Lower Upper

105 100

120 23.9 20.2 30.4

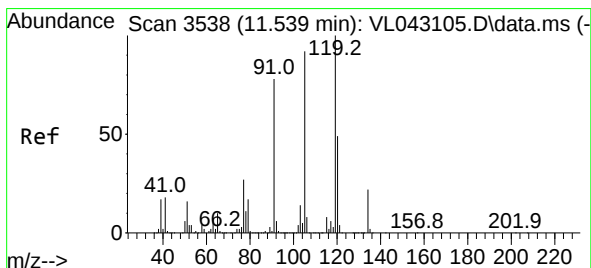
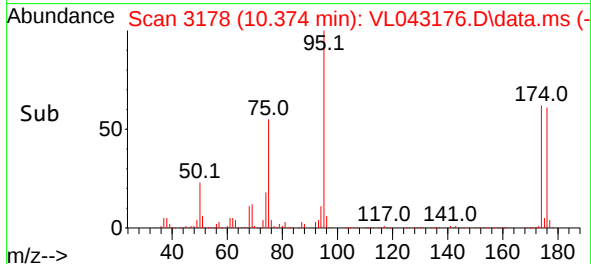
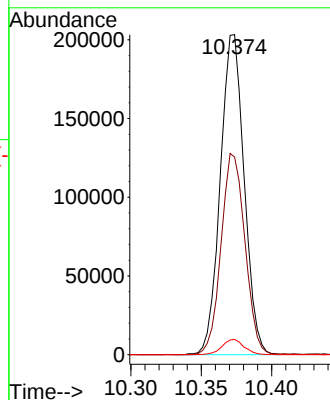
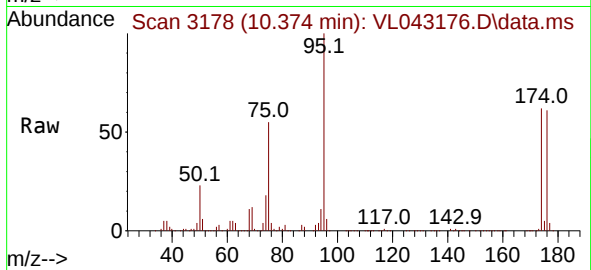




#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.976 ppbv
 RT: 10.374 min Scan# 3180
 Delta R.T. -0.007 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

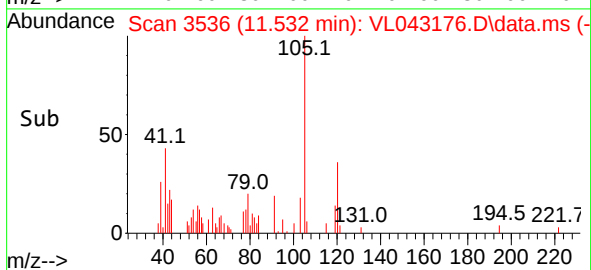
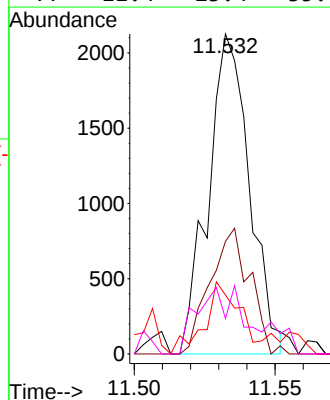
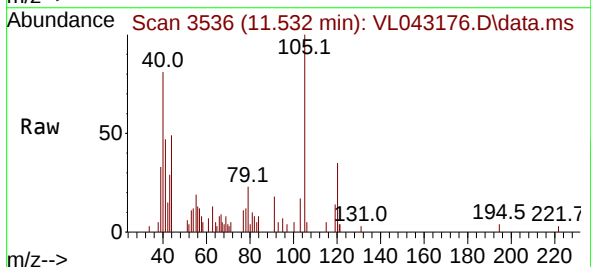
Instrument :
 MSVOA_1
 ClientSampleId :
 131-SG-2

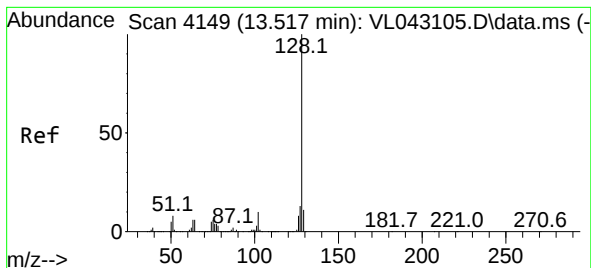
Tgt Ion: 95 Resp: 240054
 Ion Ratio Lower Upper
 95 100
 174 62.9 48.3 72.5
 175 4.4 3.8 5.8



#74
 1,2,4-Trimethylbenzene
 Concen: 0.046 ppbv
 RT: 11.532 min Scan# 3536
 Delta R.T. -0.007 min
 Lab File: VL043176.D
 Acq: 06 Nov 2025 20:03

Tgt Ion: 105 Resp: 2166
 Ion Ratio Lower Upper
 105 100
 120 36.2 42.8 64.2#
 91 15.2 68.3 102.5#
 77 11.4 23.4 35.0#





#79

Naphthalene

Concen: 0.032 ppbv

RT: 13.513 min Scan# 41

Delta R.T. -0.003 min

Lab File: VL043176.D

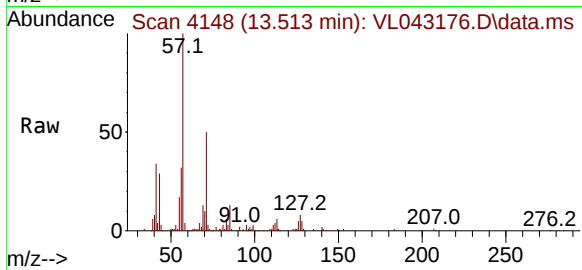
Acq: 06 Nov 2025 20:03

Instrument :

MSVOA_L

ClientSampleId :

131-SG-2



Tgt Ion:	128	Resp:	1582
Ion	Ratio	Lower	Upper
128	100		
127	155.6	10.5	15.7#
129	21.6	9.1	13.7#

