

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL110625\
 Data File : VL043159.D
 Acq On : 06 Nov 2025 10:17
 Operator : SY/MD
 Sample : Q3555-02DUP
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 151-IA-2DUP

Quant Time: Nov 07 00:19:08 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)

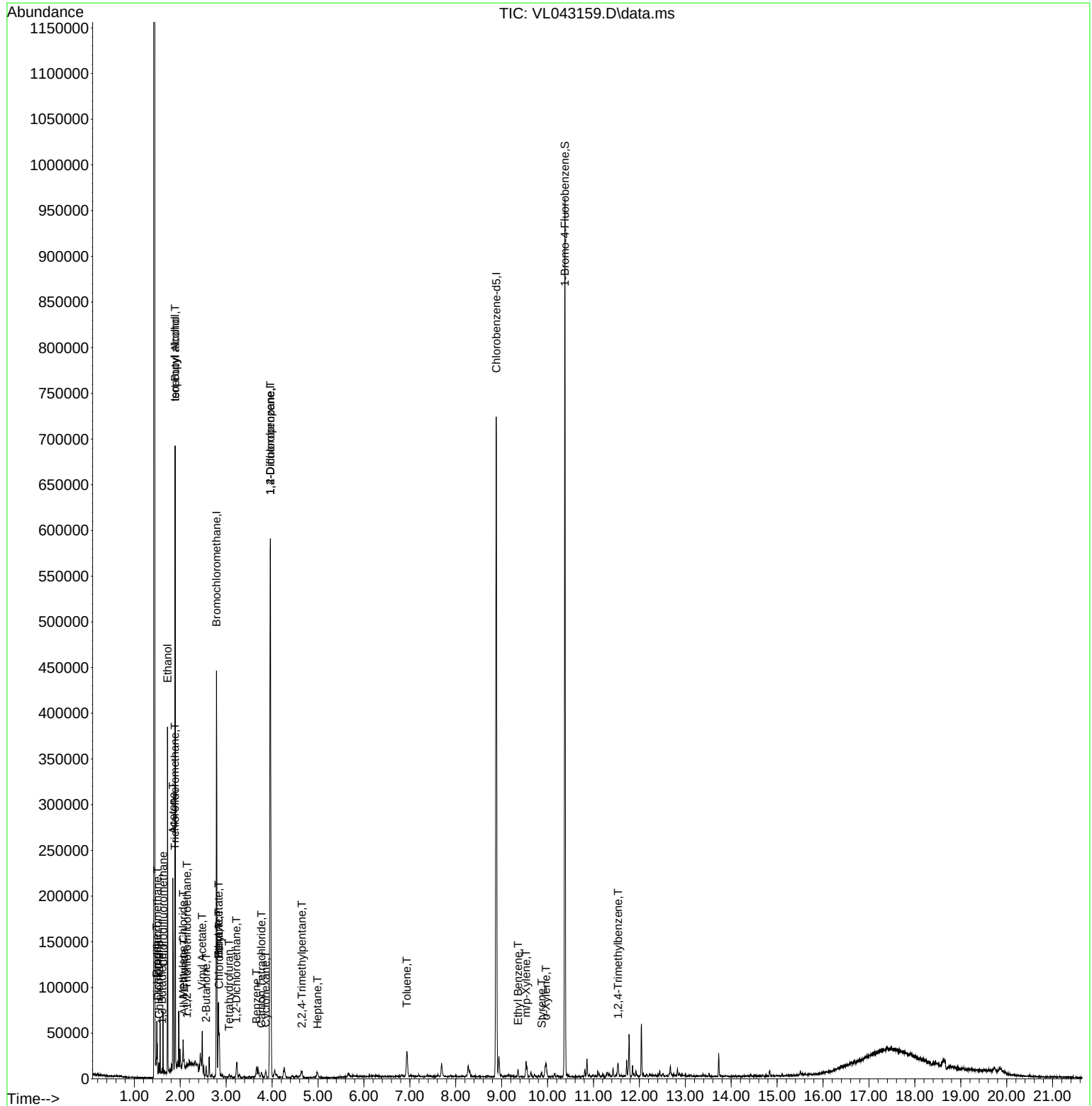
Internal Standards						
1) Bromochloromethane	2.790	49	118024	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.962	114	354784	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.881	117	303947	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.377	95	238666	10.102	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	101.000%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.502	85	7609	0.453	ppbv	94
3) Chlorodifluoromethane	1.625	51	552	0.030	ppbv	100
4) Chloromethane	1.534	50	2577	0.388	ppbv	98
9) Propene	1.489	41	3944	0.490	ppbv	85
10) Heptane	4.985	43	1039	0.045	ppbv #	27
11) Trichlorofluoromethane	1.881	101	5437	0.331	ppbv	98
12) 1,1,2-Trichlorotrifluo...	2.146	101	1161	0.088	ppbv	99
13) Ethanol	1.722	45	124950	41.954	ppbv	96
15) Acetone	1.839	43	97541	6.132	ppbv	95
16) 1,3-Butadiene	1.602	39	908	0.120	ppbv #	13
17) tert-Butyl alcohol	1.887	59	10088	0.462	ppbv	97
19) Isopropyl Alcohol	1.887	45	278208	28.080	ppbv #	37
20) Methylene Chloride	2.065	84	3186	0.507	ppbv	96
21) Allyl Chloride	2.084	41	933	0.080	ppbv #	45
23) Vinyl Acetate	2.476	43	12803	0.549	ppbv #	59
25) Ethyl Acetate	2.832	43	18936	0.480	ppbv #	93
26) Hexane	2.832	57	18040	0.992	ppbv #	56
29) Chloroform	2.848	83	16144	0.613	ppbv	93
30) Cyclohexane	3.861	84	508	0.032	ppbv #	1
34) 2-Butanone	2.560	43	6502	0.273	ppbv	99
35) Carbon Tetrachloride	3.768	117	2069	0.081	ppbv #	93
36) Benzene	3.658	78	3482	0.104	ppbv	97
37) 1,2-Dichloroethane	3.221	62	4176	0.217	ppbv	96
39) 1,2-Dichloropropane	3.962	63	89086	7.292	ppbv #	26
41) Tetrahydrofuran	3.062	42	462	0.035	ppbv #	37
44) 2,2,4-Trimethylpentane	4.648	57	2264	0.040	ppbv #	1
53) Toluene	6.936	91	20621	0.520	ppbv	95
58) Ethyl Benzene	9.357	91	2454	0.047	ppbv	94
59) m/p-Xylene	9.532	91	8752	0.210	ppbv #	82
60) o-Xylene	9.966	91	4326	0.105	ppbv	98
61) Styrene	9.872	104	1372	0.074	ppbv #	79
74) 1,2,4-Trimethylbenzene	11.535	105	3636	0.078	ppbv #	58

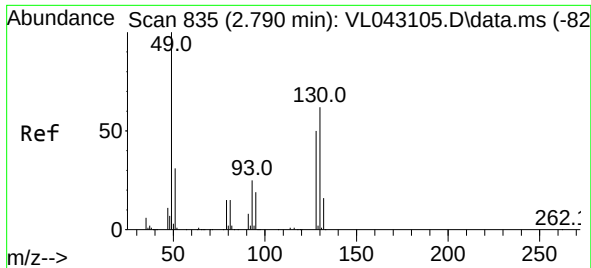
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Instrument :
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151-IA-2DUP

Quant Time: Nov 07 00:19:08 2025
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Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
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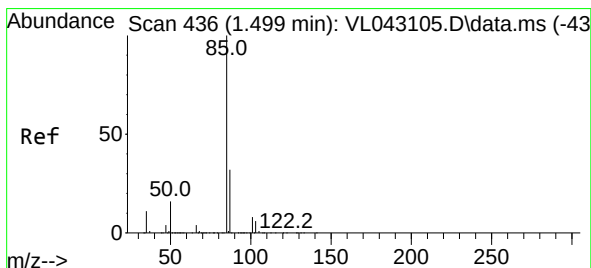
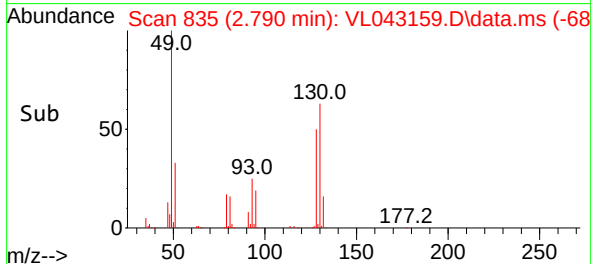
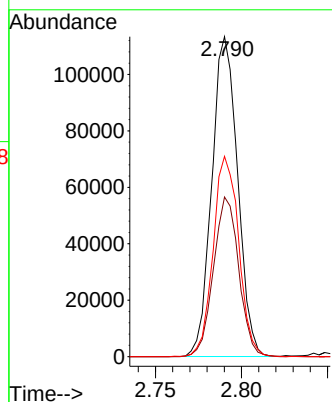
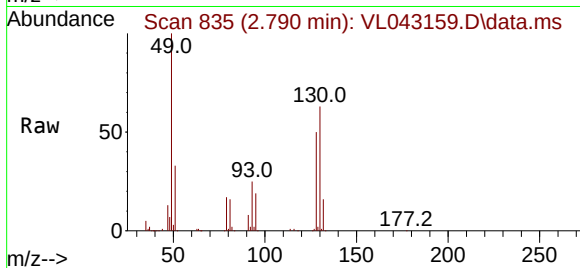




#1
 Bromochloromethane
 Concen: 10.000 ppbv
 RT: 2.790 min Scan# 81
 Delta R.T. 0.000 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

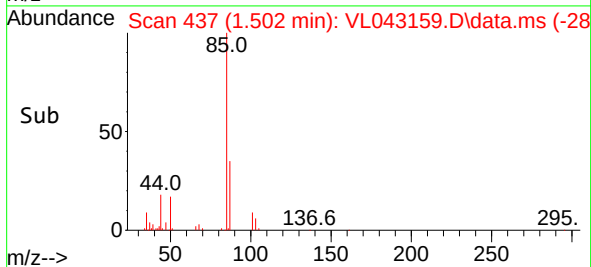
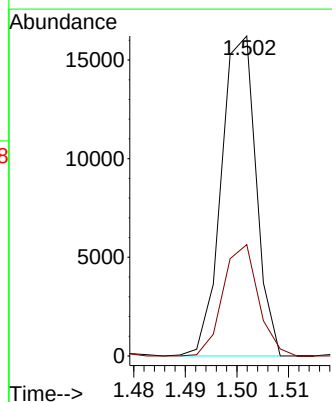
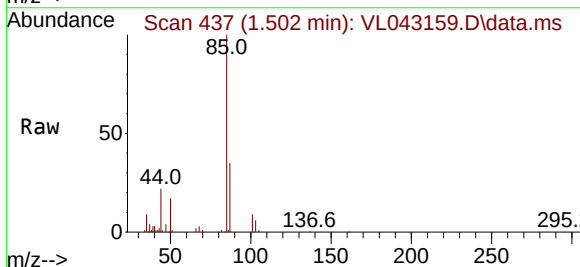
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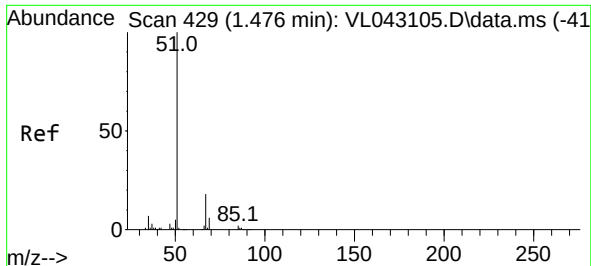
Tgt Ion: 49 Resp: 118024
 Ion Ratio Lower Upper
 49 100
 128 49.1 24.4 73.4
 130 62.2 31.0 93.0



#2
 Dichlorodifluoromethane
 Concen: 0.453 ppbv
 RT: 1.502 min Scan# 437
 Delta R.T. 0.003 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

Tgt Ion: 85 Resp: 7609
 Ion Ratio Lower Upper
 85 100
 87 34.8 25.3 37.9

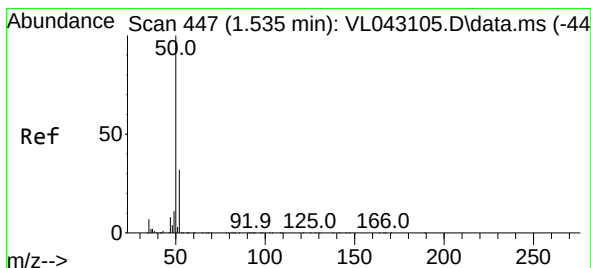
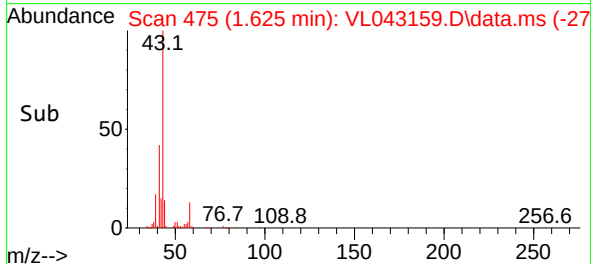
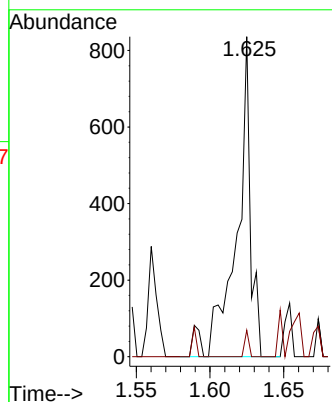
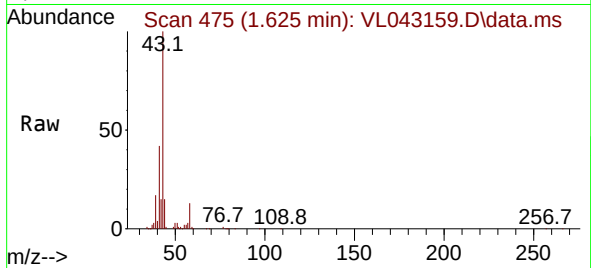




#3
Chlorodifluoromethane
Concen: 0.030 ppbv
RT: 1.625 min Scan# 41
Delta R.T. 0.149 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

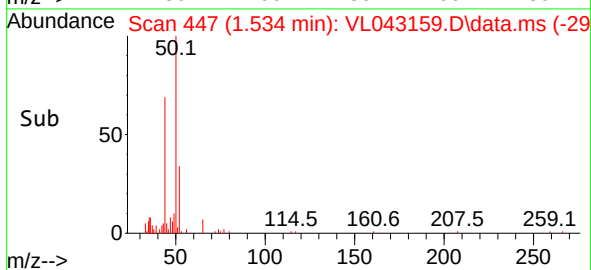
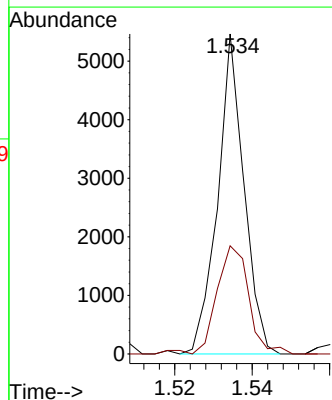
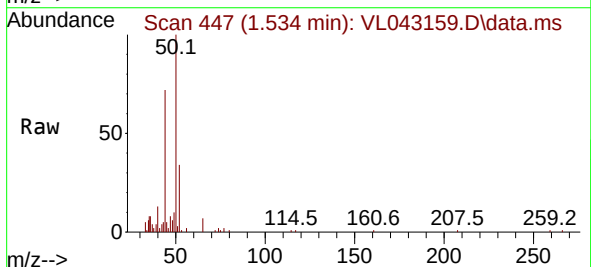
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

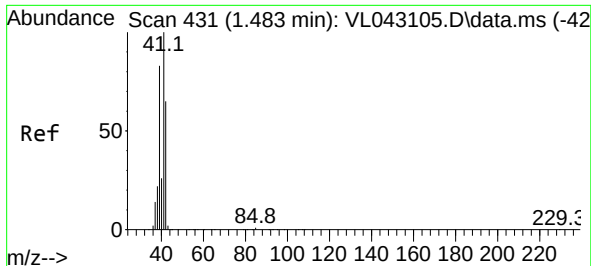
Tgt Ion: 51 Resp: 552
Ion Ratio Lower Upper
51 100
67 18.8 15.1 22.7



#4
Chloromethane
Concen: 0.388 ppbv
RT: 1.534 min Scan# 447
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 50 Resp: 2577
Ion Ratio Lower Upper
50 100
52 32.7 25.2 37.8





#9

Propene

Concen: 0.490 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.006 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

Instrument :

MSVOA_1

ClientSampleId :

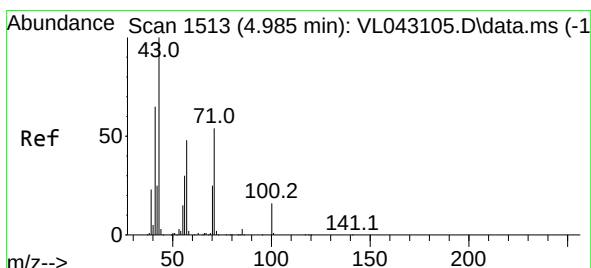
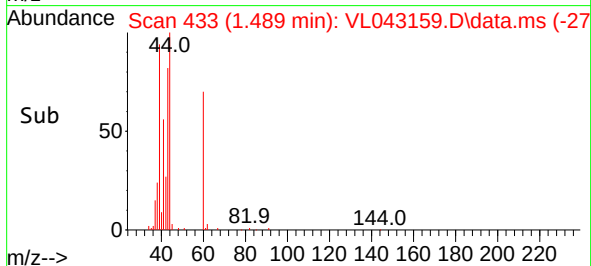
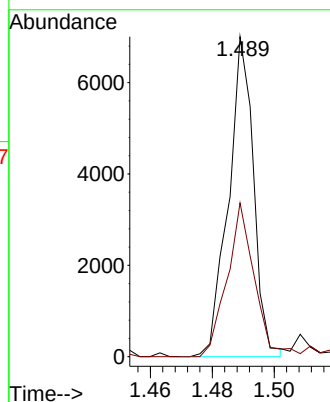
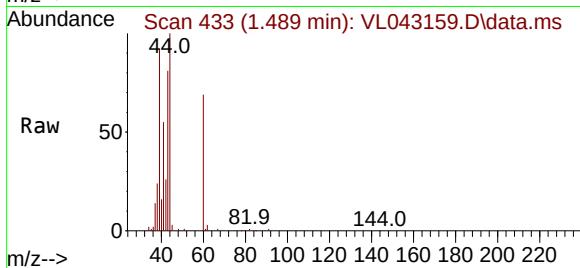
151-IA-2DUP

Tgt Ion: 41 Resp: 3944

Ion Ratio Lower Upper

41 100

42 56.6 55.1 82.7



#10

Heptane

Concen: 0.045 ppbv

RT: 4.985 min Scan# 1513

Delta R.T. -0.000 min

Lab File: VL043159.D

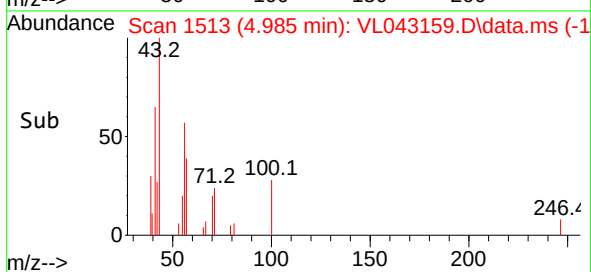
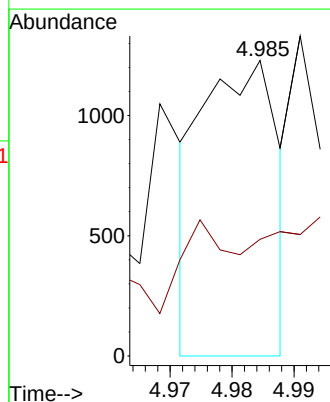
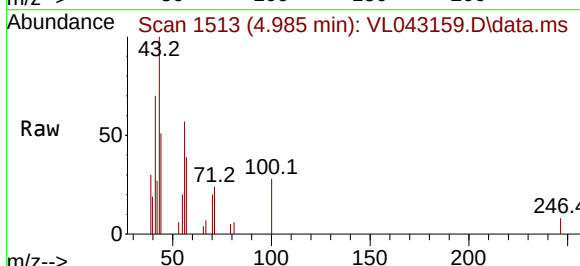
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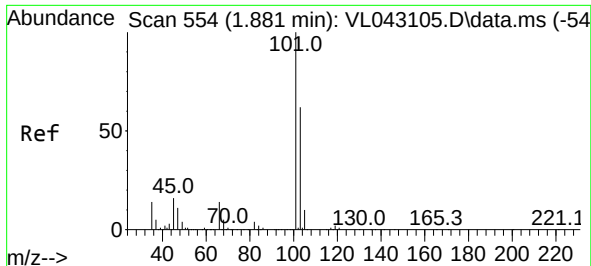
Tgt Ion: 43 Resp: 1039

Ion Ratio Lower Upper

43 100

57 0.0 40.8 61.2#

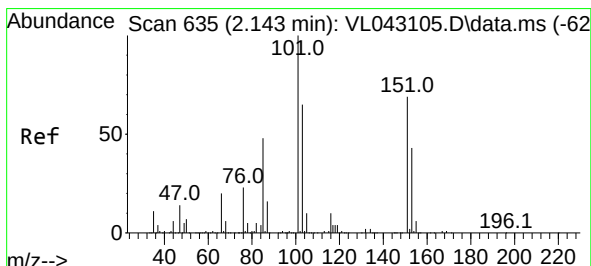
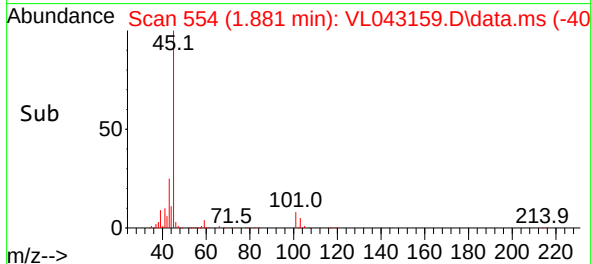
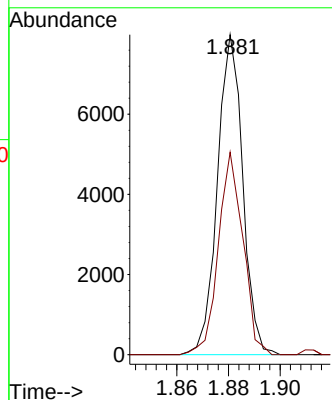
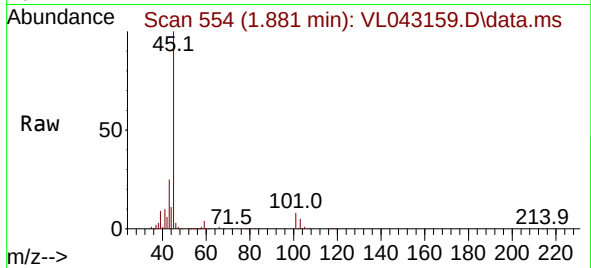




#11
 Trichlorofluoromethane
 Concen: 0.331 ppbv
 RT: 1.881 min Scan# 511
 Delta R.T. -0.000 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

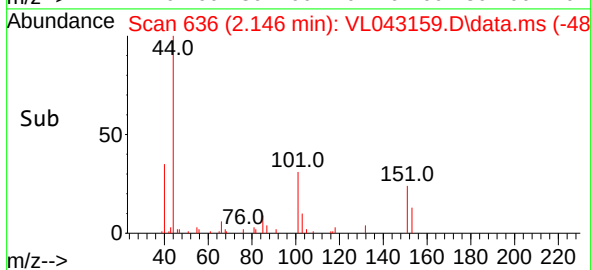
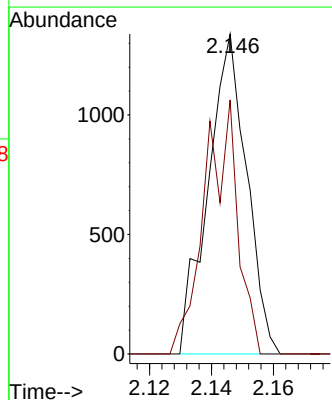
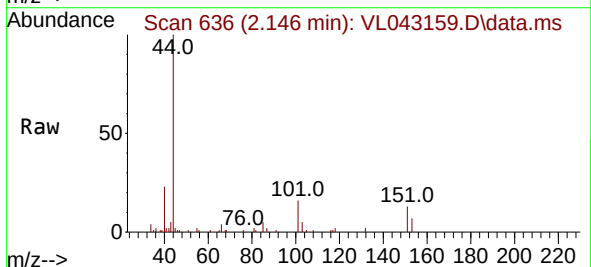
Instrument :
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 151-IA-2DUP

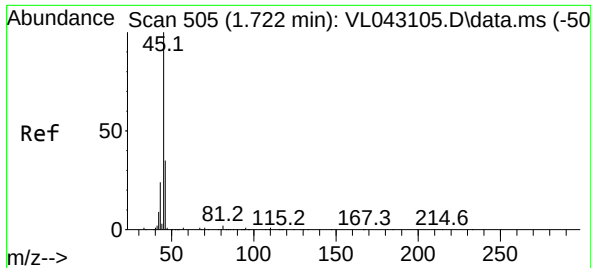
Tgt Ion:101 Resp: 5437
 Ion Ratio Lower Upper
 101 100
 103 63.3 49.3 73.9



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.088 ppbv
 RT: 2.146 min Scan# 636
 Delta R.T. 0.003 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

Tgt Ion:101 Resp: 1161
 Ion Ratio Lower Upper
 101 100
 151 67.8 54.7 82.1

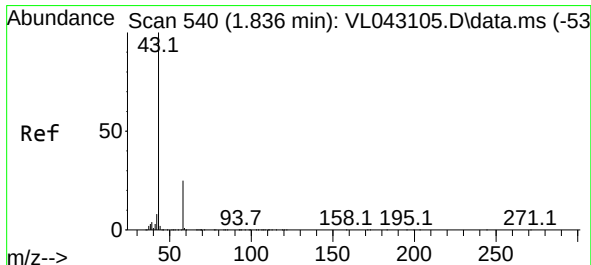
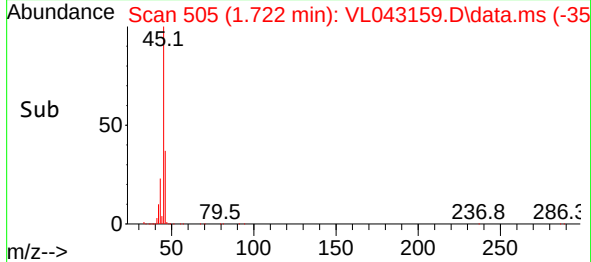
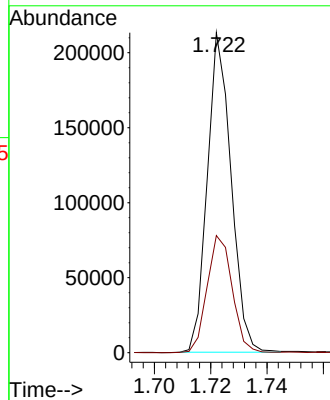
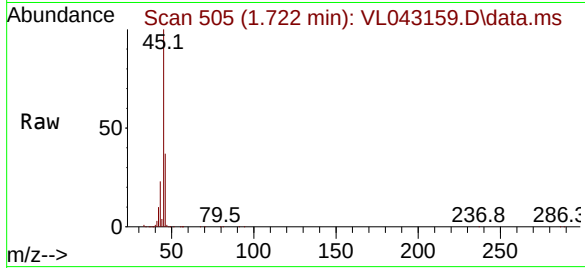




#13
Ethanol
Concen: 41.954 ppbv
RT: 1.722 min Scan# 505
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

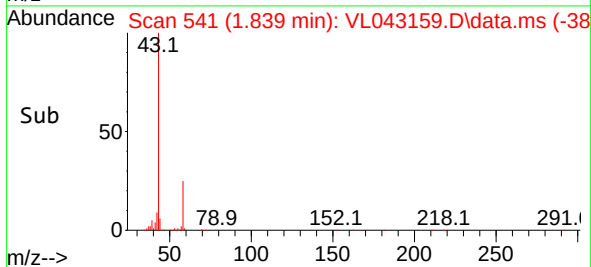
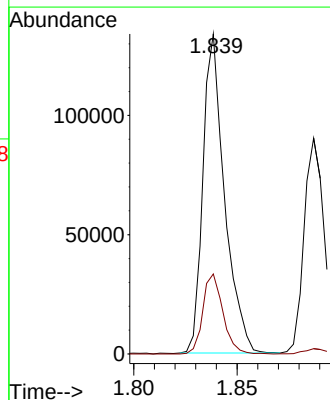
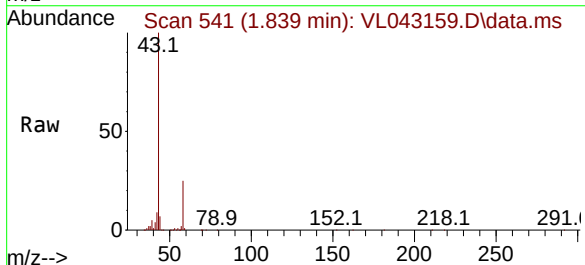
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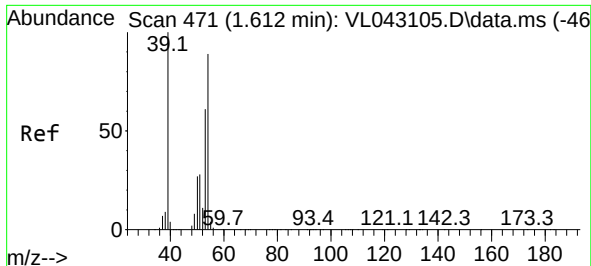
Tgt Ion: 45 Resp: 124950
Ion Ratio Lower Upper
45 100
46 39.0 14.7 58.9



#15
Acetone
Concen: 6.132 ppbv
RT: 1.839 min Scan# 541
Delta R.T. 0.003 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 43 Resp: 97541
Ion Ratio Lower Upper
43 100
58 23.2 20.8 31.2

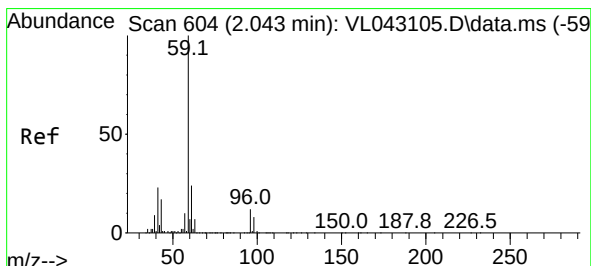
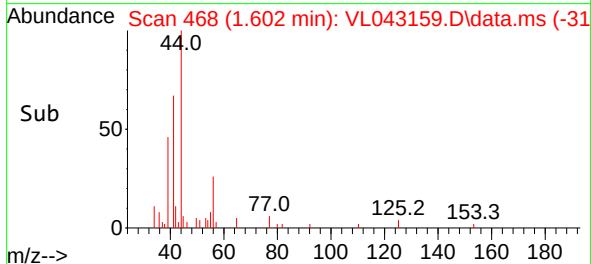
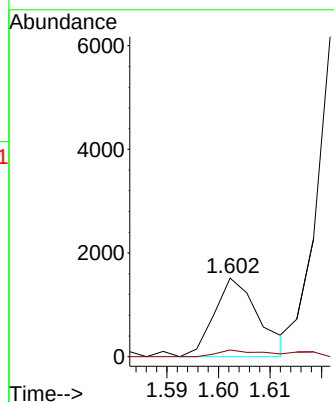
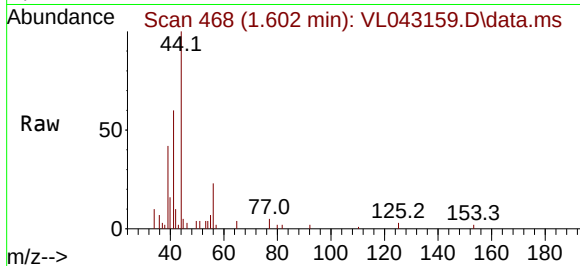




#16
1,3-Butadiene
Concen: 0.120 ppbv
RT: 1.602 min Scan# 41
Delta R.T. -0.010 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

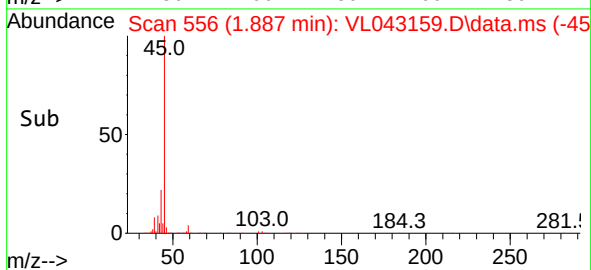
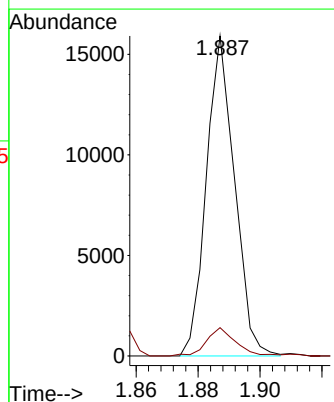
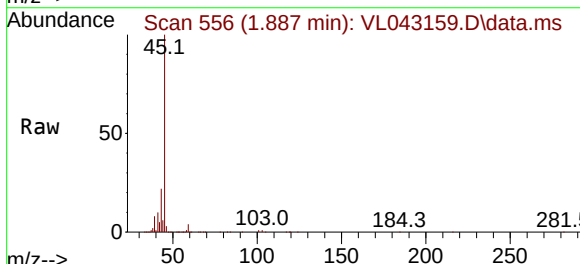
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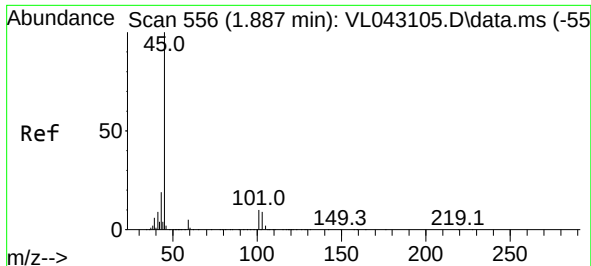
Tgt Ion: 39 Resp: 908
Ion Ratio Lower Upper
39 100
54 0.0 59.0 88.4#



#17
tert-Butyl alcohol
Concen: 0.462 ppbv
RT: 1.887 min Scan# 556
Delta R.T. -0.156 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 59 Resp: 10088
Ion Ratio Lower Upper
59 100
57 9.3 8.2 12.4

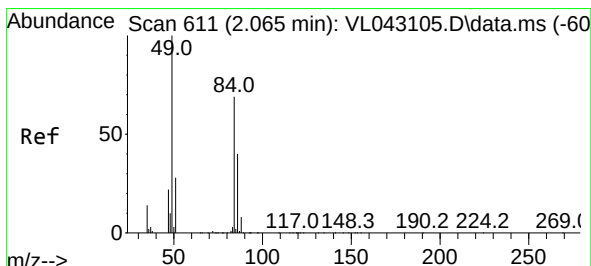
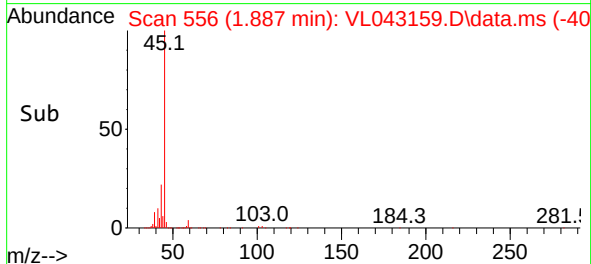
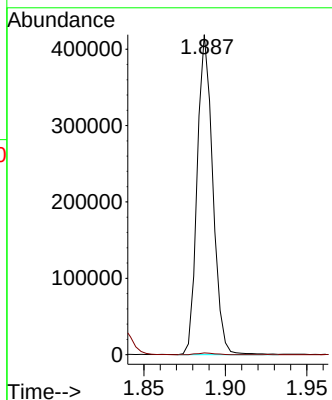
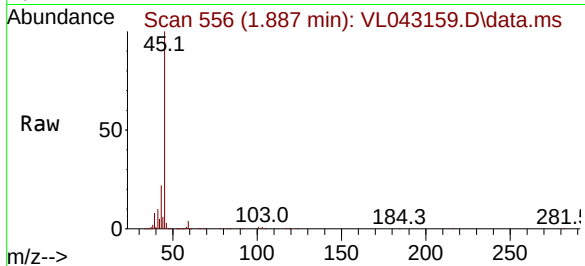




#19
Isopropyl Alcohol
Concen: 28.080 ppbv
RT: 1.887 min Scan# 511
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

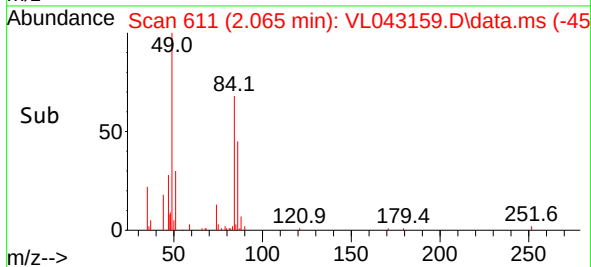
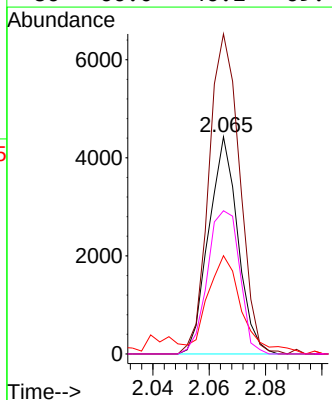
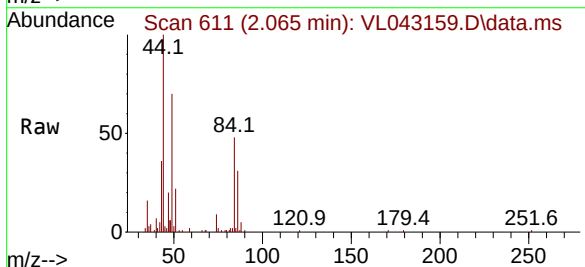
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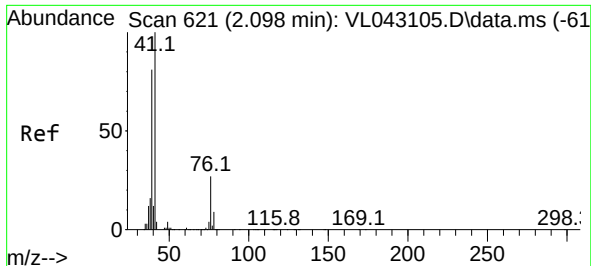
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Ion Ratio Lower Upper
45 100
58 0.6 31.3 46.9#



#20
Methylene Chloride
Concen: 0.507 ppbv
RT: 2.065 min Scan# 611
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 84 Resp: 3186
Ion Ratio Lower Upper
84 100
49 147.4 116.6 175.0
51 41.9 34.8 52.2
86 66.0 46.2 69.4

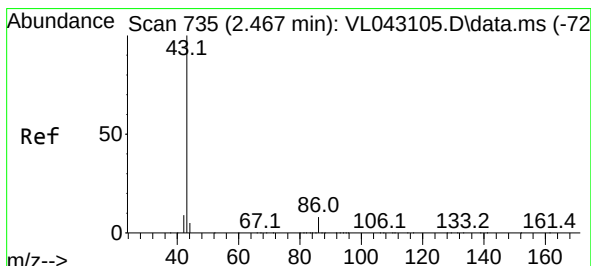
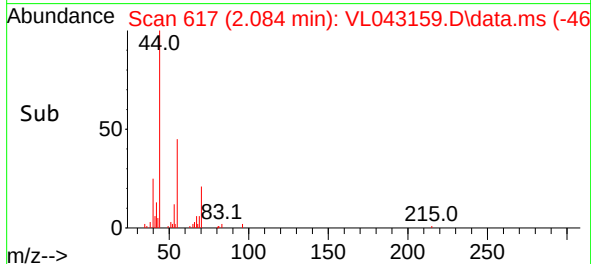
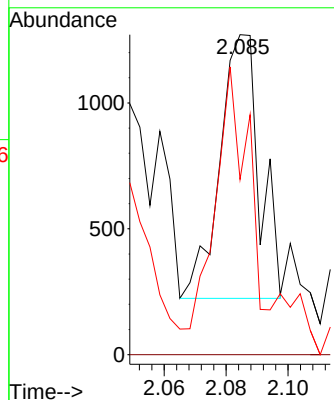
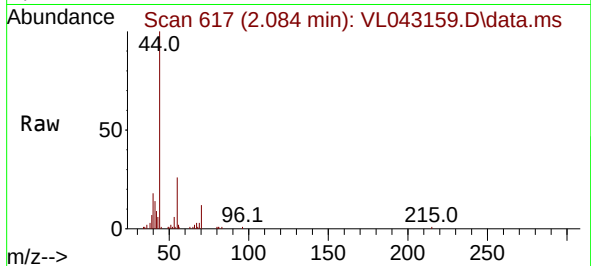




#21
 Allyl Chloride
 Concen: 0.080 ppbv
 RT: 2.084 min Scan# 61
 Delta R.T. -0.013 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

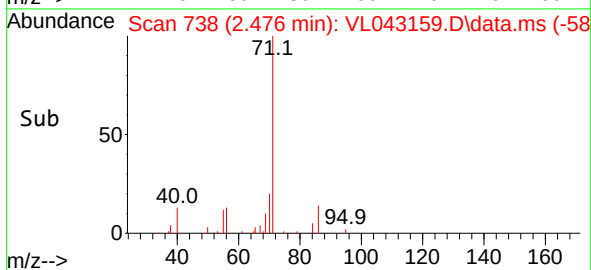
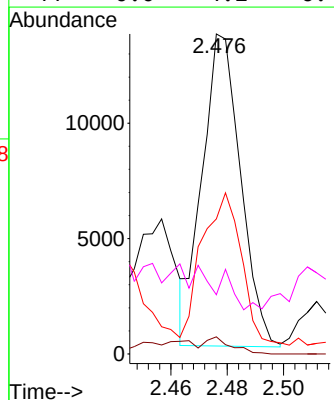
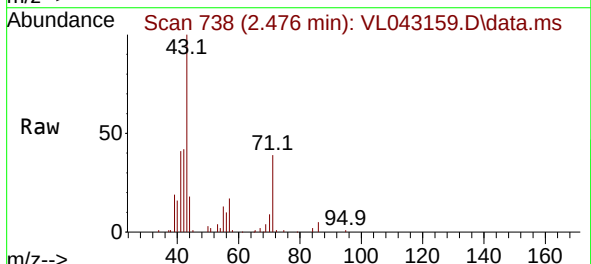
Instrument :
 MSVOA_L
 ClientSampleId :
 151-IA-2DUP

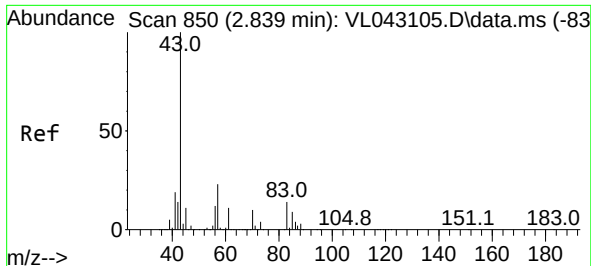
Tgt Ion: 41 Resp: 933
 Ion Ratio Lower Upper
 41 100
 76 35.5 21.5 32.3#
 39 134.5 60.8 91.2#



#23
 Vinyl Acetate
 Concen: 0.549 ppbv
 RT: 2.476 min Scan# 738
 Delta R.T. 0.009 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

Tgt Ion: 43 Resp: 12803
 Ion Ratio Lower Upper
 43 100
 86 5.5 6.2 9.2#
 42 40.0 7.6 11.4#
 44 0.0 4.2 6.4#

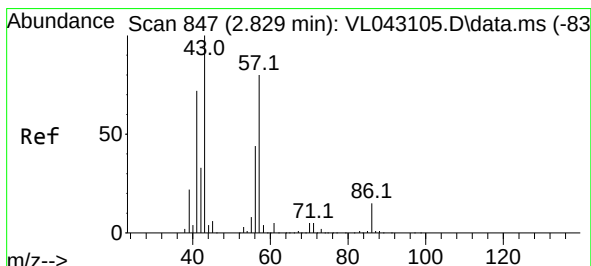
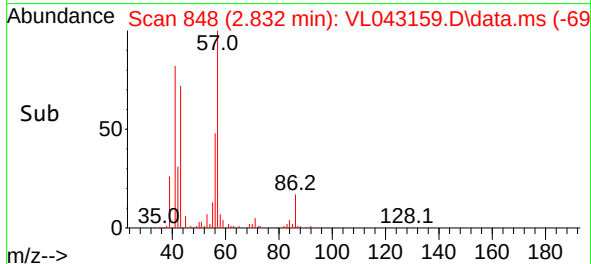
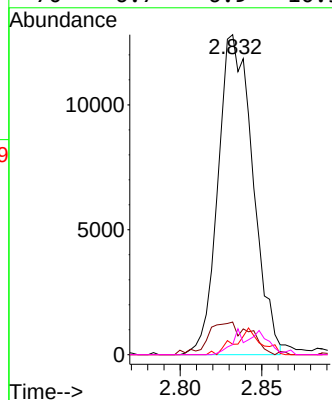
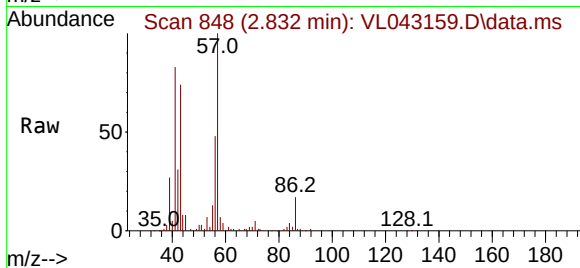




#25
Ethyl Acetate
Concen: 0.480 ppbv
RT: 2.832 min Scan# 848
Delta R.T. -0.007 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

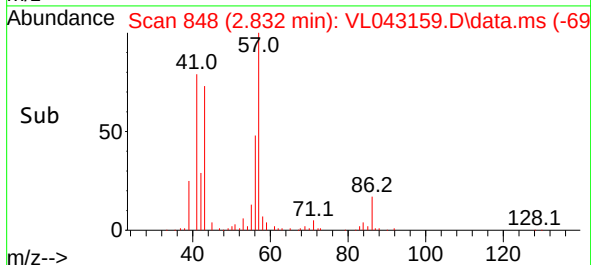
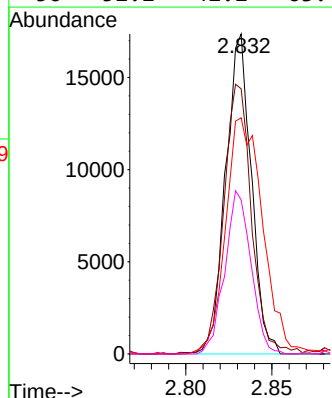
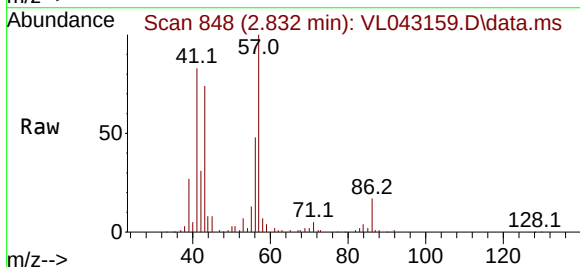
Instrument :
MSVOA_1
ClientSampleId :
151-IA-2DUP

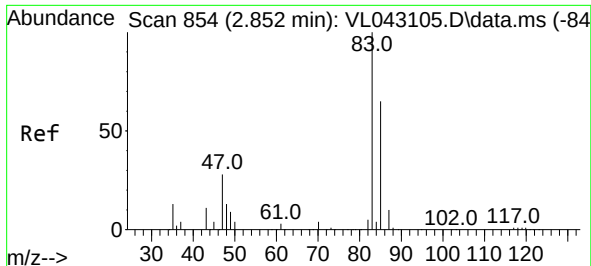
Tgt Ion: 43	Resp: 18936
Ion Ratio	Lower Upper
43 100	
45 12.5	7.8 11.8#
61 6.1	7.0 10.6#
70 6.7	6.9 10.3#



#26
Hexane
Concen: 0.992 ppbv
RT: 2.832 min Scan# 848
Delta R.T. 0.003 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 57	Resp: 18040
Ion Ratio	Lower Upper
57 100	
41 92.0	71.4 107.0
43 108.4	178.5 267.7#
56 52.2	42.2 63.4





#29

Chloroform

Concen: 0.613 ppbv

RT: 2.848 min Scan# 854

Delta R.T. -0.004 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

Instrument :

MSVOA_L

ClientSampleId :

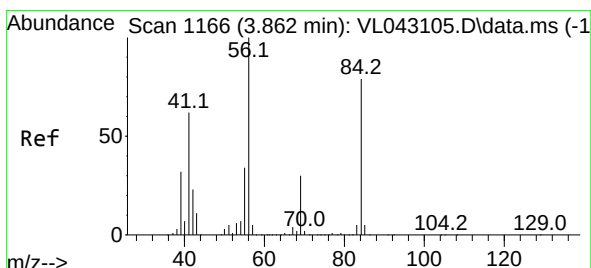
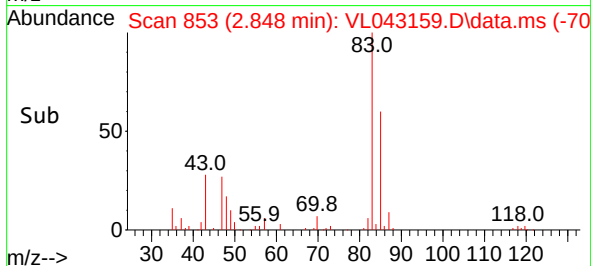
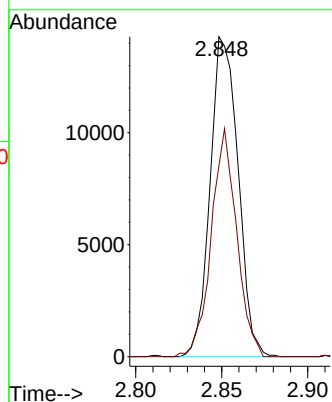
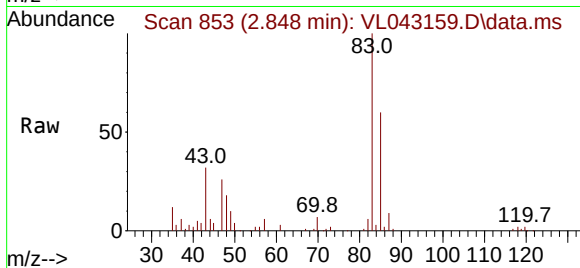
151-IA-2DUP

Tgt Ion: 83 Resp: 16144

Ion Ratio Lower Upper

83 100

85 59.6 51.8 77.6



#30

Cyclohexane

Concen: 0.032 ppbv

RT: 3.861 min Scan# 1166

Delta R.T. -0.000 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

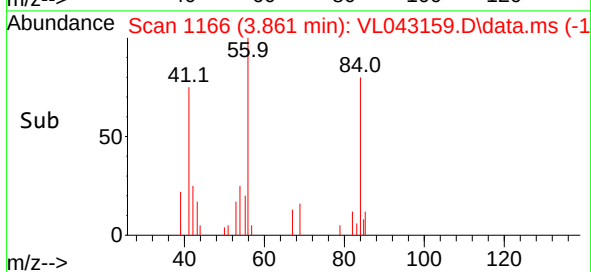
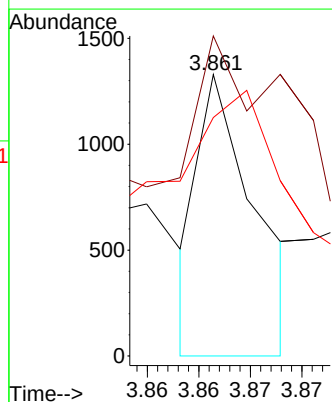
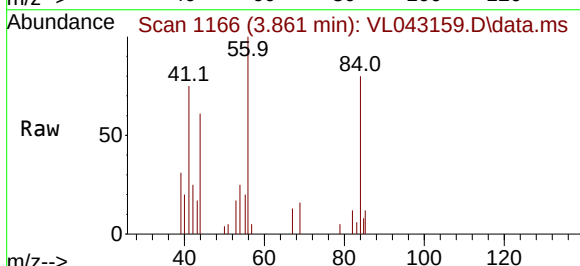
Tgt Ion: 84 Resp: 508

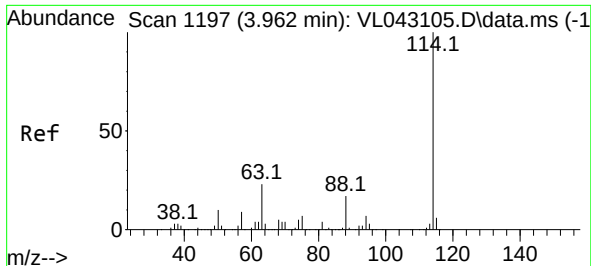
Ion Ratio Lower Upper

84 100

56 436.0 100.9 151.3#

41 353.7 63.8 95.6#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.962 min Scan# 1197

Delta R.T. -0.000 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

Instrument :

MSVOA_L

ClientSampleId :

151-IA-2DUP

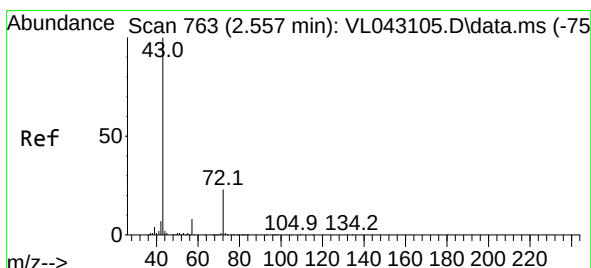
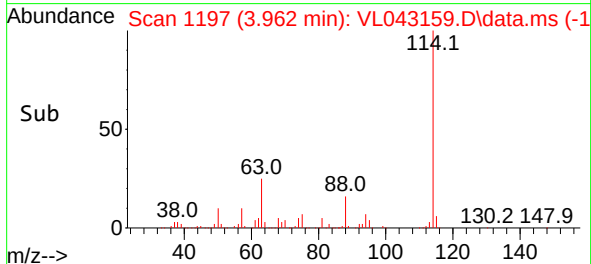
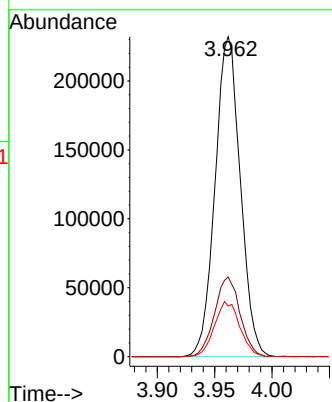
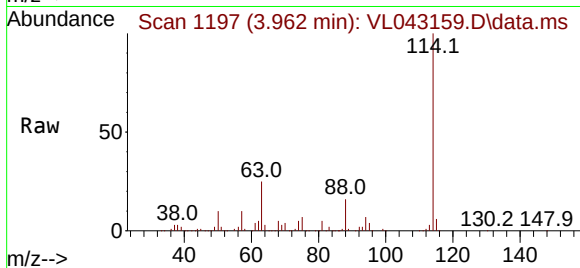
Tgt Ion:114 Resp: 354784

Ion Ratio Lower Upper

114 100

63 25.2 19.3 28.9

88 17.3 13.9 20.9



#34

2-Butanone

Concen: 0.273 ppbv

RT: 2.560 min Scan# 764

Delta R.T. 0.003 min

Lab File: VL043159.D

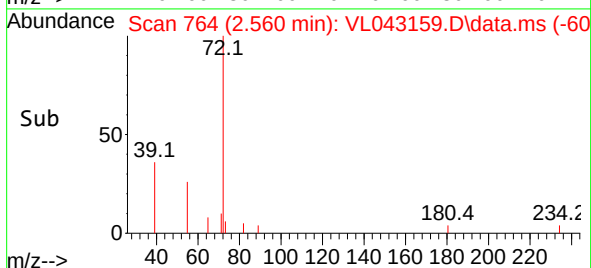
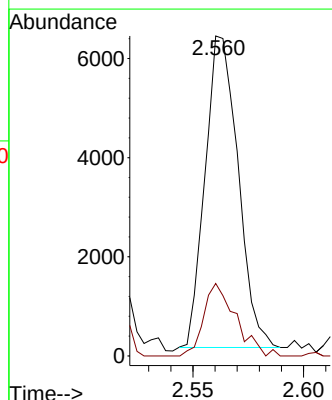
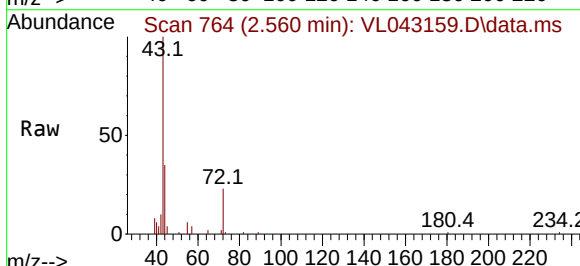
Acq: 06 Nov 2025 10:17

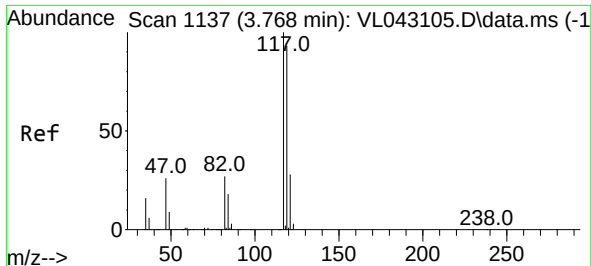
Tgt Ion: 43 Resp: 6502

Ion Ratio Lower Upper

43 100

72 22.6 18.4 27.6

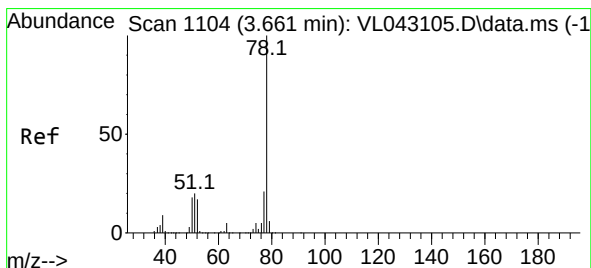
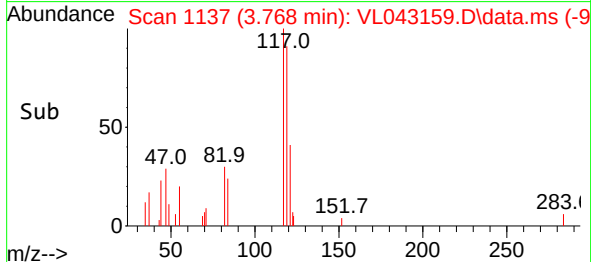
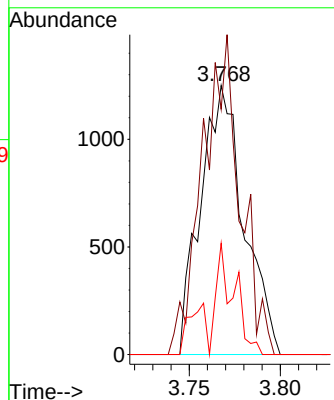
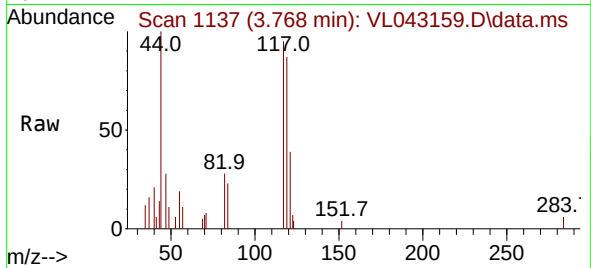




#35
Carbon Tetrachloride
Concen: 0.081 ppbv
RT: 3.768 min Scan# 1137
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

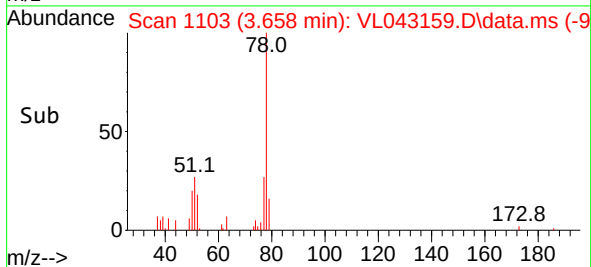
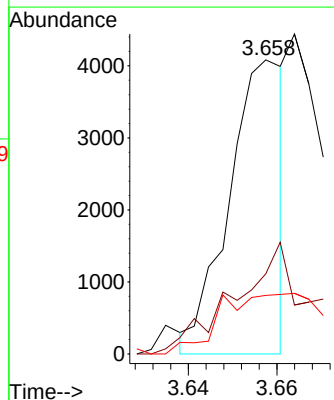
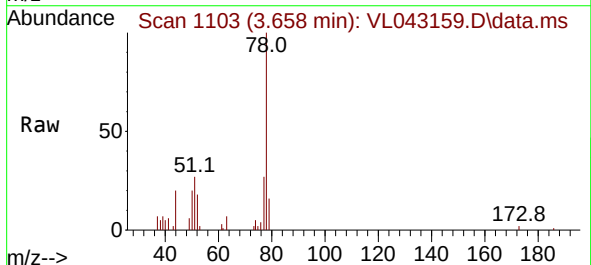
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

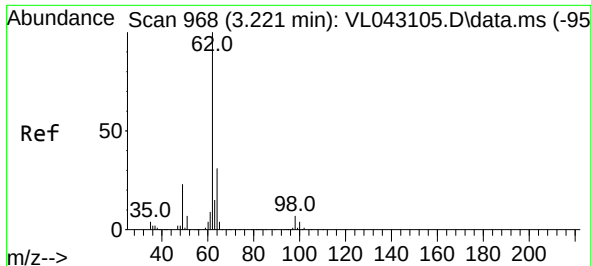
Tgt Ion:117 Resp: 2069
Ion Ratio Lower Upper
117 100
119 91.2 74.1 111.1
121 41.4 22.2 33.2#



#36
Benzene
Concen: 0.104 ppbv
RT: 3.658 min Scan# 1103
Delta R.T. -0.004 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 78 Resp: 3482
Ion Ratio Lower Upper
78 100
77 23.4 17.0 25.6
50 17.3 14.6 22.0

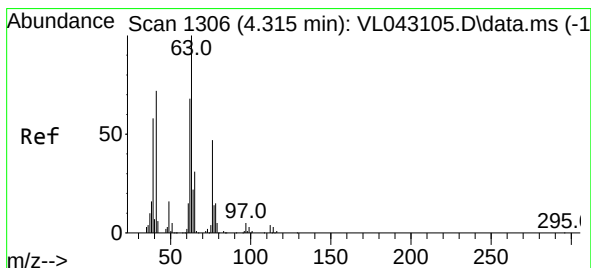
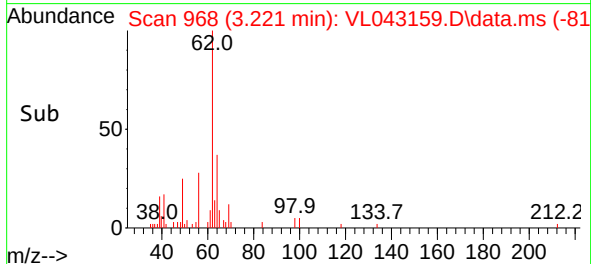
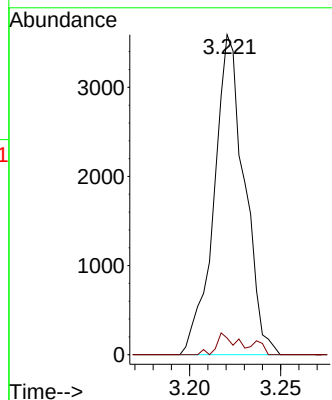
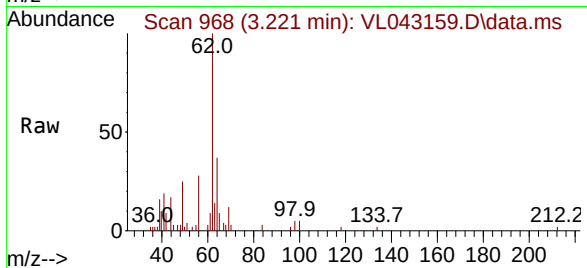




#37
1,2-Dichloroethane
Concen: 0.217 ppbv
RT: 3.221 min Scan# 91
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

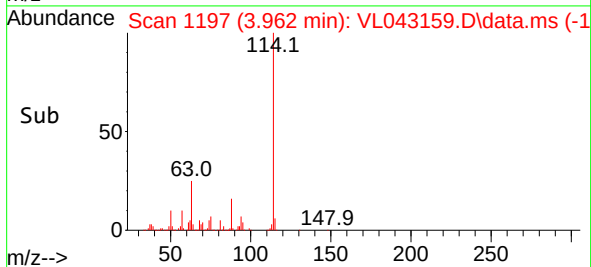
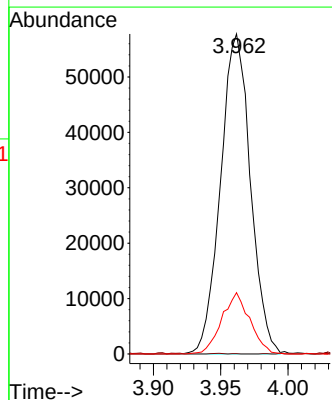
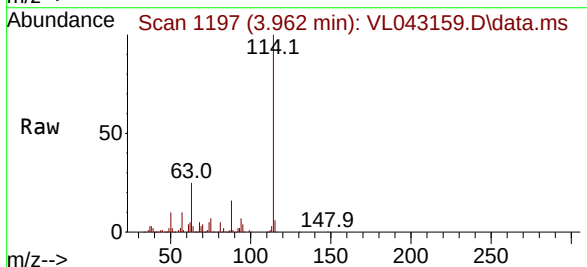
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

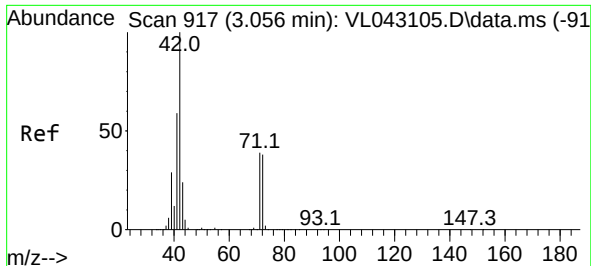
Tgt Ion: 62 Resp: 4176
Ion Ratio Lower Upper
62 100
98 6.0 5.8 8.6



#39
1,2-Dichloropropane
Concen: 7.292 ppbv
RT: 3.962 min Scan# 1197
Delta R.T. -0.353 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 63 Resp: 89086
Ion Ratio Lower Upper
63 100
41 0.0 58.0 87.0#
62 19.2 54.7 82.1#

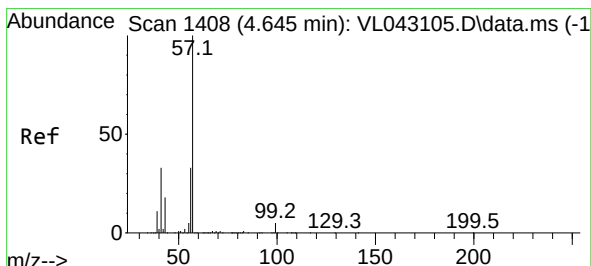
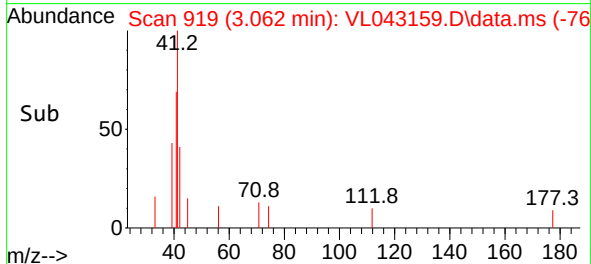
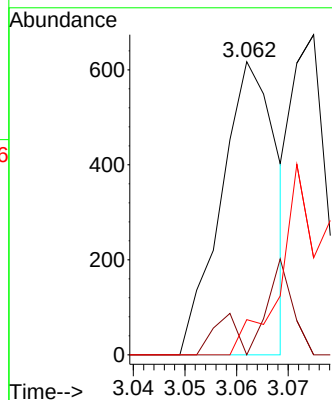
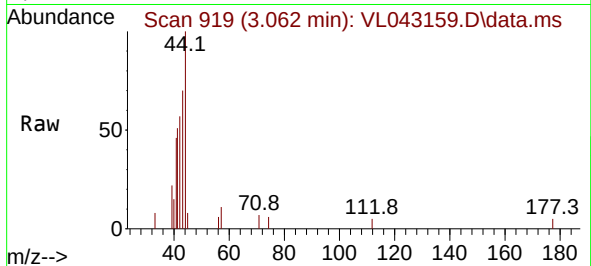




#41
Tetrahydrofuran
Concen: 0.035 ppbv
RT: 3.062 min Scan# 917
Delta R.T. 0.006 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

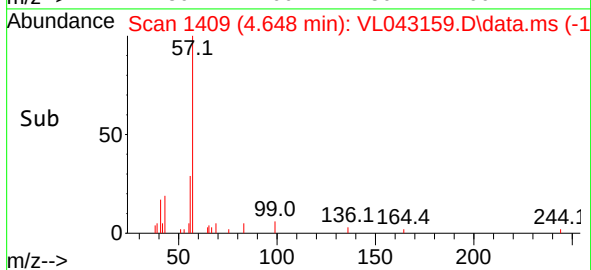
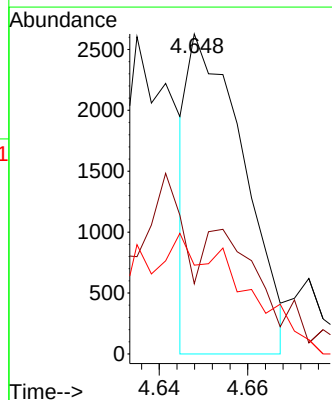
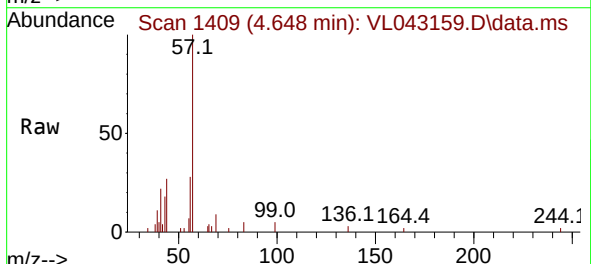
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

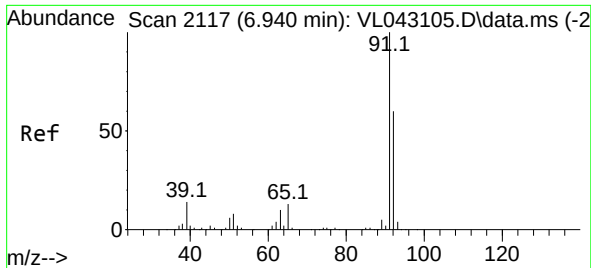
Tgt Ion: 42 Resp: 462
Ion Ratio Lower Upper
42 100
72 0.0 31.3 46.9#
71 0.0 30.4 45.6#



#44
2,2,4-Trimethylpentane
Concen: 0.040 ppbv
RT: 4.648 min Scan# 1409
Delta R.T. 0.003 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 57 Resp: 2264
Ion Ratio Lower Upper
57 100
41 130.6 26.3 39.5#
56 112.9 25.9 38.9#





#53

Toluene

Concen: 0.520 ppbv

RT: 6.936 min Scan# 2117

Delta R.T. -0.004 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

Instrument :

MSVOA_L

ClientSampleId :

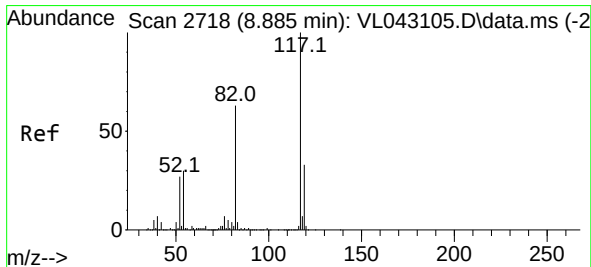
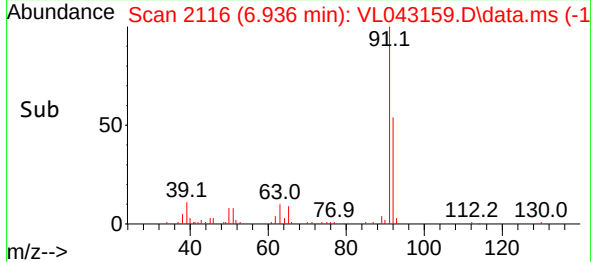
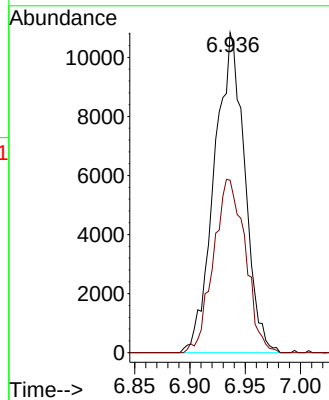
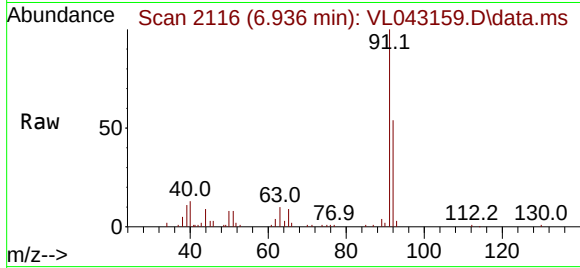
151-IA-2DUP

Tgt Ion: 91 Resp: 20621

Ion Ratio Lower Upper

91 100

92 57.0 48.8 73.2



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 8.881 min Scan# 2717

Delta R.T. -0.004 min

Lab File: VL043159.D

Acq: 06 Nov 2025 10:17

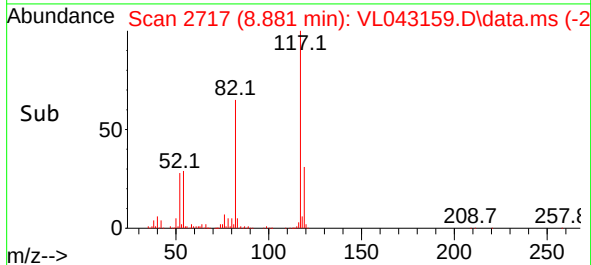
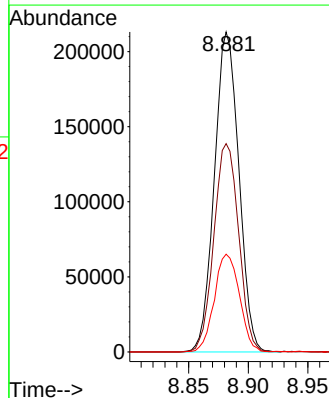
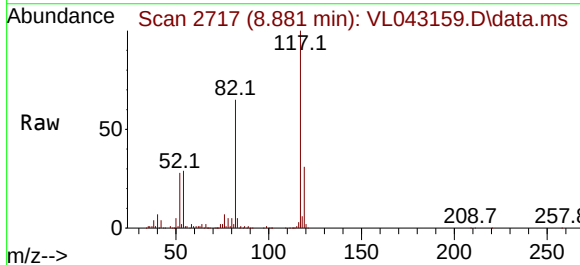
Tgt Ion: 117 Resp: 303947

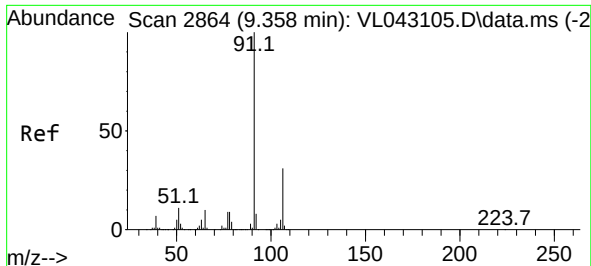
Ion Ratio Lower Upper

117 100

82 66.1 53.8 80.8

119 31.6 25.4 38.0

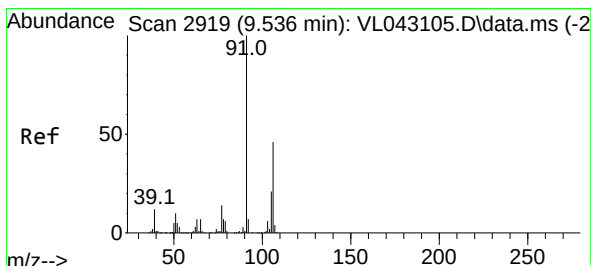
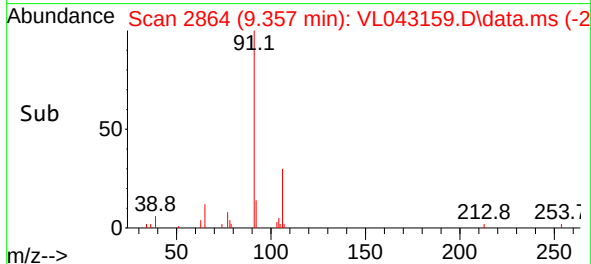
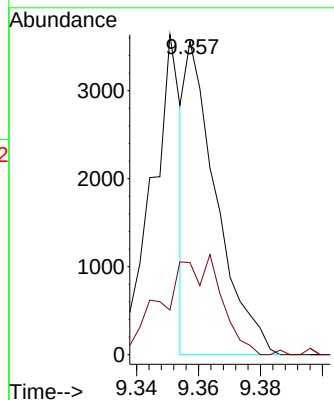
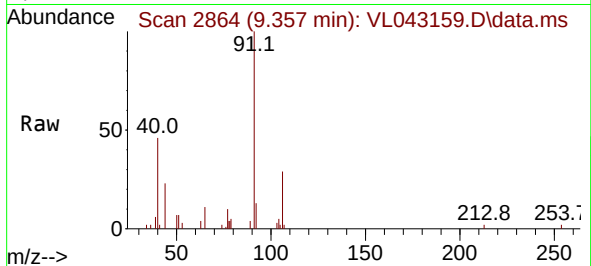




#58
Ethyl Benzene
Concen: 0.047 ppbv
RT: 9.357 min Scan# 21
Delta R.T. -0.000 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

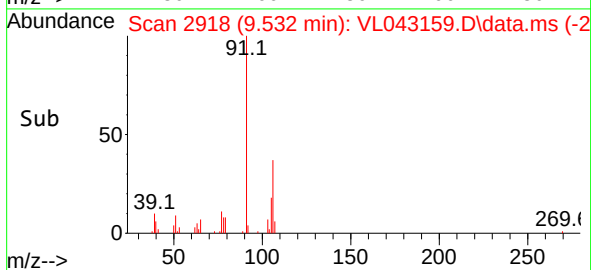
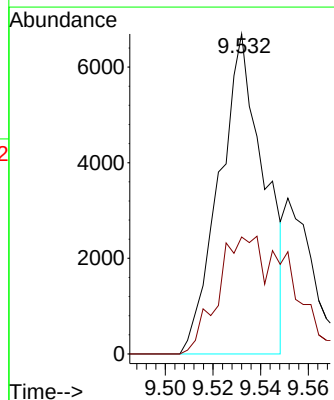
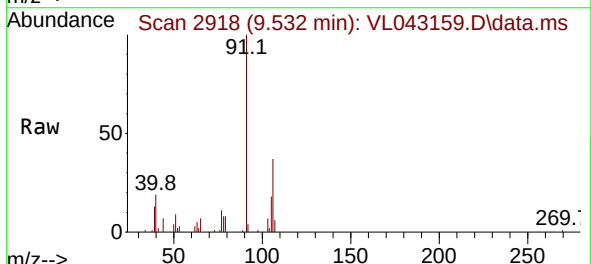
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

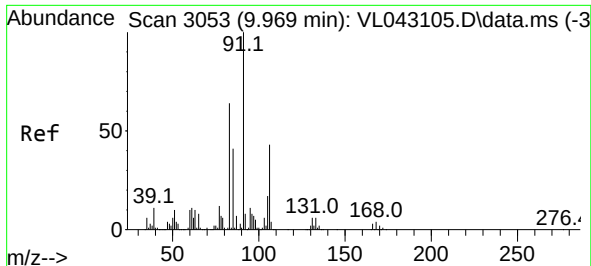
Tgt Ion: 91 Resp: 2454
Ion Ratio Lower Upper
91 100
106 27.9 24.8 37.2



#59
m/p-Xylene
Concen: 0.210 ppbv
RT: 9.532 min Scan# 2918
Delta R.T. -0.004 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 91 Resp: 8752
Ion Ratio Lower Upper
91 100
106 59.3 38.0 57.0#

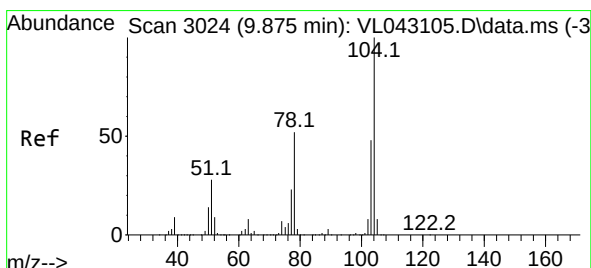
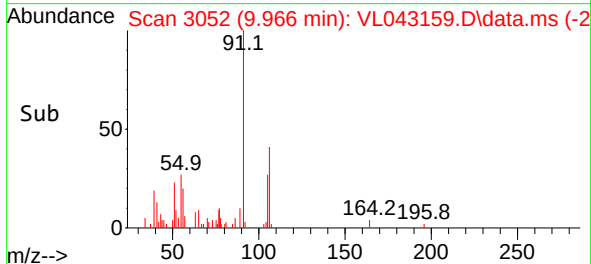
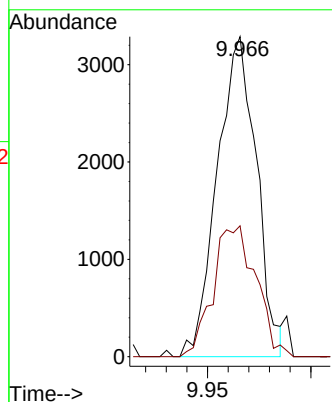
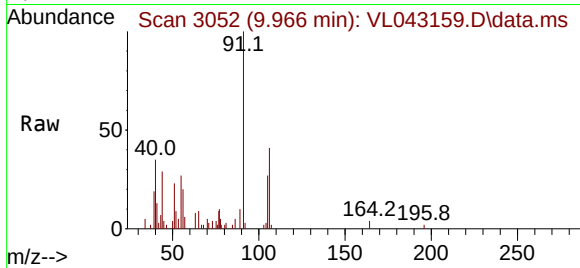




#60
o-Xylene
Concen: 0.105 ppbv
RT: 9.966 min Scan# 3052
Delta R.T. -0.004 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

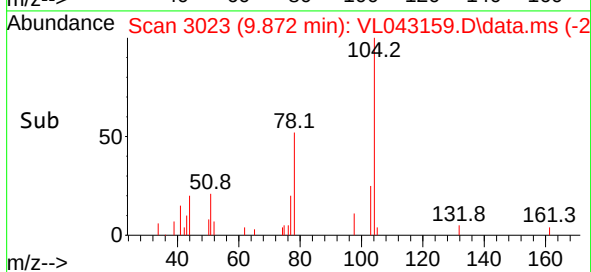
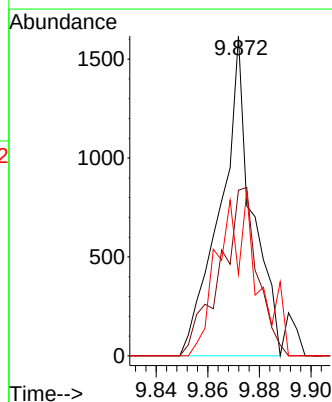
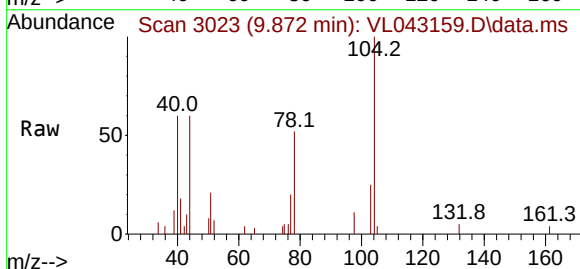
Instrument :
MSVOA_L
ClientSampleId :
151-IA-2DUP

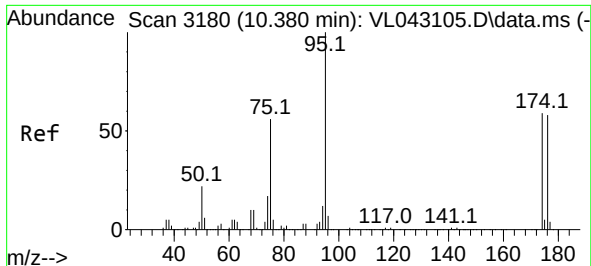
Tgt Ion: 91 Resp: 4326
Ion Ratio Lower Upper
91 100
106 44.9 21.9 65.8



#61
Styrene
Concen: 0.074 ppbv
RT: 9.872 min Scan# 3023
Delta R.T. -0.004 min
Lab File: VL043159.D
Acq: 06 Nov 2025 10:17

Tgt Ion: 104 Resp: 1372
Ion Ratio Lower Upper
104 100
78 62.4 40.2 60.2#
103 62.9 36.9 55.3#

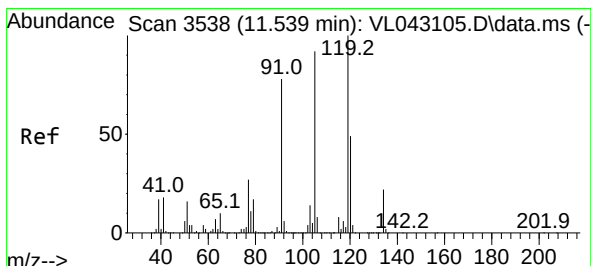
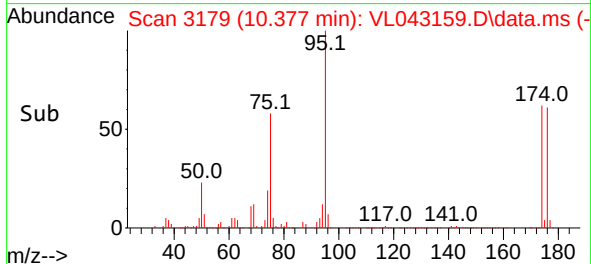
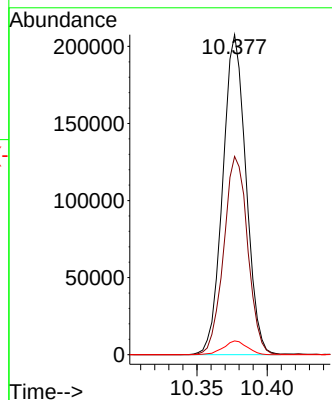
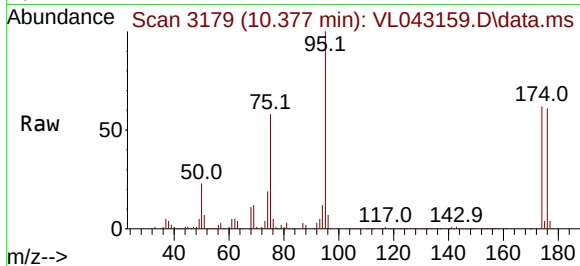




#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.102 ppbv
 RT: 10.377 min Scan# 3180
 Delta R.T. -0.004 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

Instrument :
 MSVOA_1
 ClientSampleId :
 151-IA-2DUP

Tgt Ion: 95 Resp: 238666
 Ion Ratio Lower Upper
 95 100
 174 63.9 48.3 72.5
 175 4.4 3.8 5.8



#74
 1,2,4-Trimethylbenzene
 Concen: 0.078 ppbv
 RT: 11.535 min Scan# 3537
 Delta R.T. -0.004 min
 Lab File: VL043159.D
 Acq: 06 Nov 2025 10:17

Tgt Ion: 105 Resp: 3636
 Ion Ratio Lower Upper
 105 100
 120 42.0 42.8 64.2#
 91 21.3 68.3 102.5#
 77 23.8 23.4 35.0

