

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL112025\
 Data File : VL043267.D
 Acq On : 20 Nov 2025 16:20
 Operator : SY/MD
 Sample : Q3655-01DUP 2X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SG-1DUP

Quant Time: Nov 21 00:40:31 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL111825AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
 QLast Update : Wed Nov 19 01:11:25 2025
 Response via : Initial Calibration

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

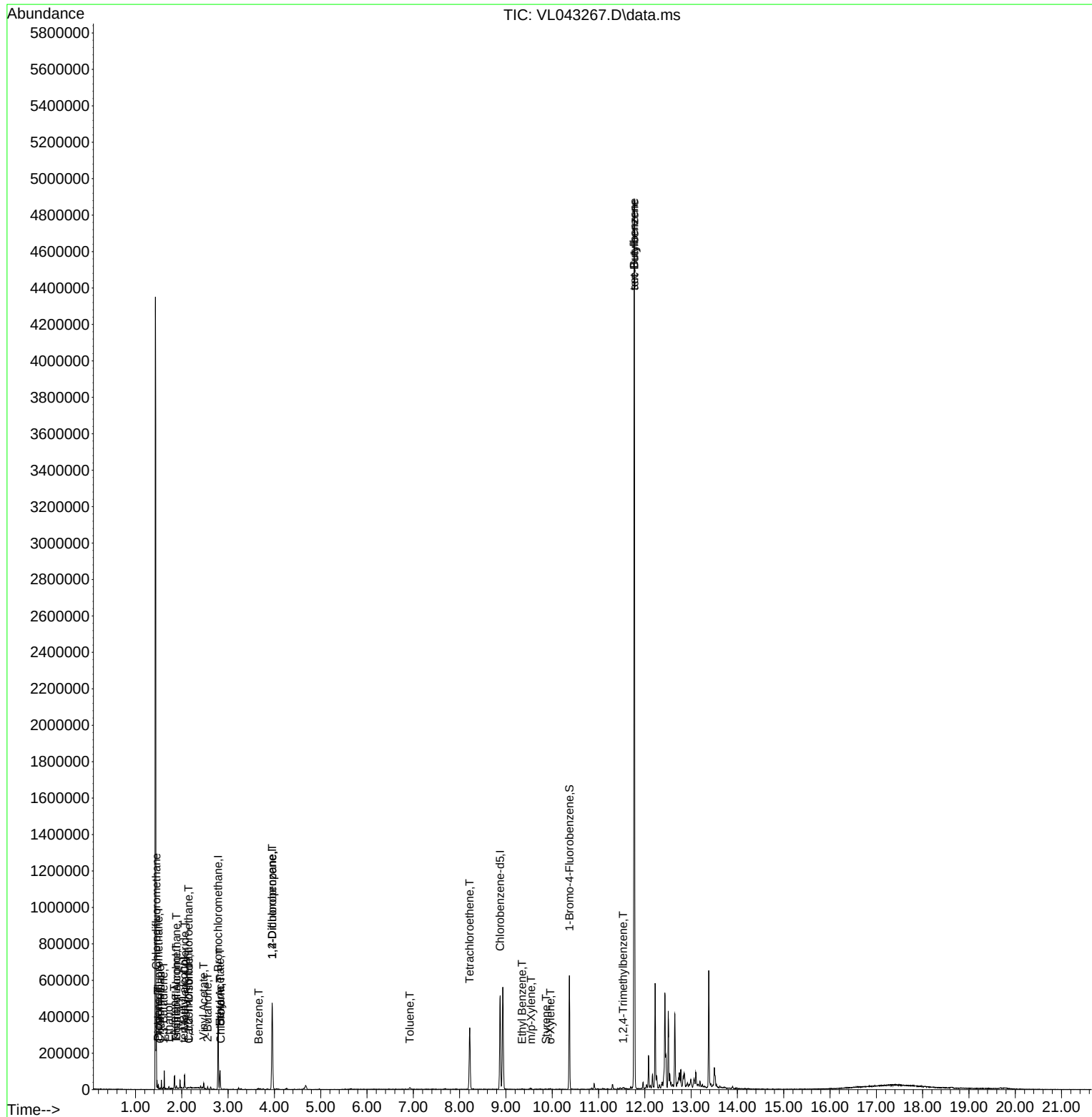
Internal Standards						
1) Bromochloromethane	2.784	49	103103	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.952	114	274025	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.875	117	207116	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.370	95	147871	9.740	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	97.400%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.499	85	3914	0.269	ppbv	96
3) Chlorodifluoromethane	1.450	51	21594	1.510	ppbv #	59
4) Chloromethane	1.531	50	1067	0.196	ppbv	89
9) Propene	1.489	41	1389	0.229	ppbv #	1
11) Trichlorofluoromethane	1.881	101	2116	0.150	ppbv	86
12) 1,1,2-Trichlorotrifluo...	2.143	101	751	0.068	ppbv	99
13) Ethanol	1.719	45	3960	1.854	ppbv #	38
15) Acetone	1.835	43	24225	1.691	ppbv #	85
16) 1,3-Butadiene	1.602	39	959	0.150	ppbv #	59
17) tert-Butyl alcohol	2.043	59	996	0.053	ppbv #	24
19) Isopropyl Alcohol	1.884	45	5352	0.661	ppbv #	29
20) Methylene Chloride	2.062	84	11481	2.100	ppbv	86
23) Vinyl Acetate	2.470	43	7675	0.444	ppbv #	55
25) Ethyl Acetate	2.826	43	17336	0.561	ppbv #	79
26) Hexane	2.826	57	23124	1.707	ppbv #	43
27) Carbon Disulfide	2.149	76	893	0.065	ppbv #	68
29) Chloroform	2.842	83	644	0.033	ppbv	90
34) 2-Butanone	2.557	43	8817	0.456	ppbv	97
36) Benzene	3.658	78	1286	0.049	ppbv	97
39) 1,2-Dichloropropane	3.952	63	68840	7.167	ppbv #	25
52) Tetrachloroethene	8.218	164	60070	6.154	ppbv	98
53) Toluene	6.923	91	6049	0.195	ppbv #	84
58) Ethyl Benzene	9.348	91	1679	0.042	ppbv #	86
59) m/p-Xylene	9.542	91	1115	0.035	ppbv #	31
60) o-Xylene	9.959	91	1577	0.049	ppbv	98
61) Styrene	9.865	104	765	0.055	ppbv #	75
65) tert-Butylbenzene	11.772	119	31815	0.624	ppbv #	27
67) sec-Butylbenzene	11.769	105	9077	0.127	ppbv #	90
74) 1,2,4-Trimethylbenzene	11.532	105	1913	0.054	ppbv #	56

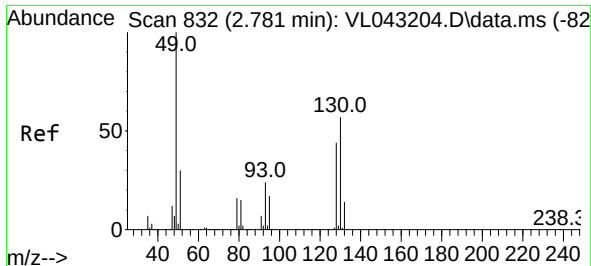
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Data File : VL043267.D
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Quant Time: Nov 21 00:40:31 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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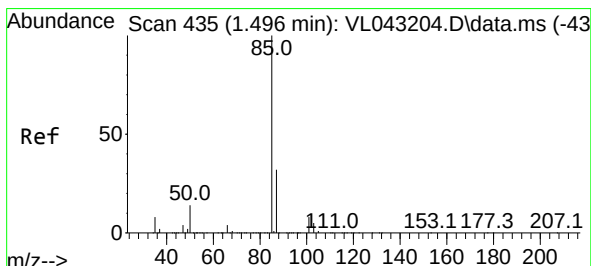
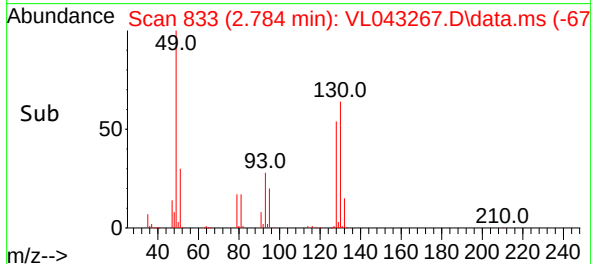
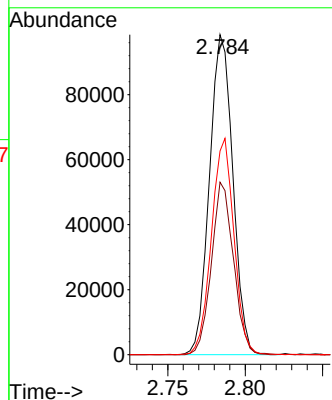
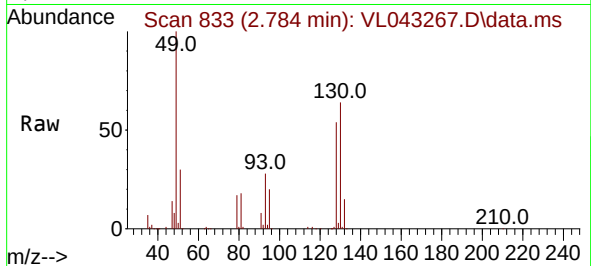




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.784 min Scan# 81
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

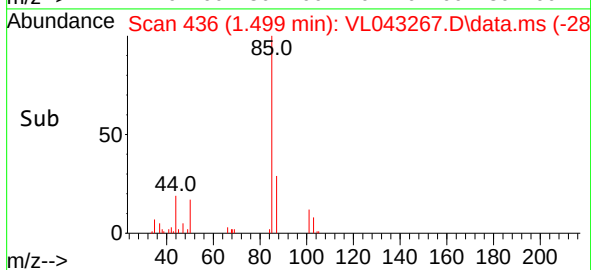
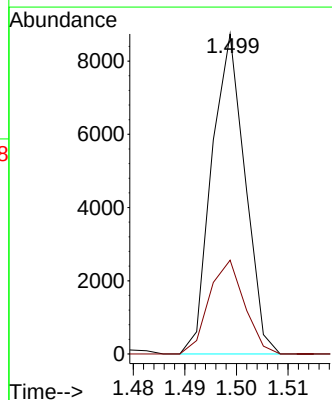
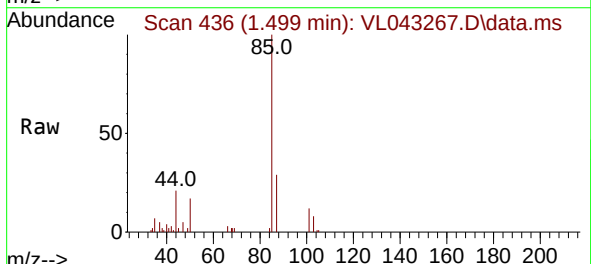
Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

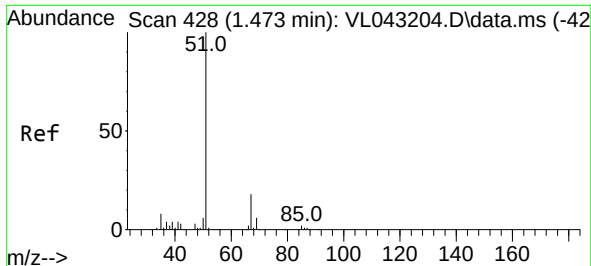
Tgt Ion: 49 Resp: 103103
Ion Ratio Lower Upper
49 100
128 50.9 23.0 69.0
130 65.3 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.269 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 85 Resp: 3914
Ion Ratio Lower Upper
85 100
87 29.3 25.4 38.2

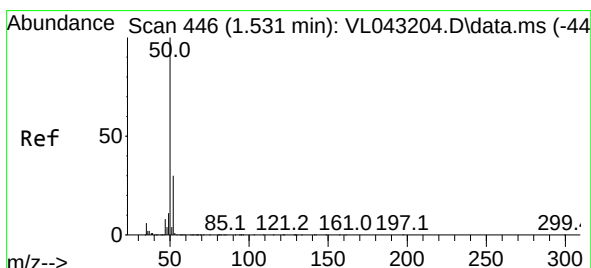
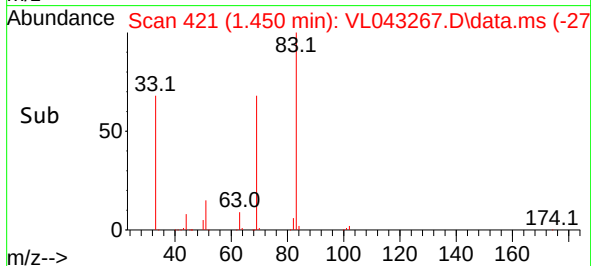
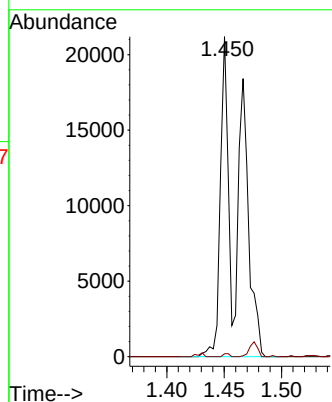
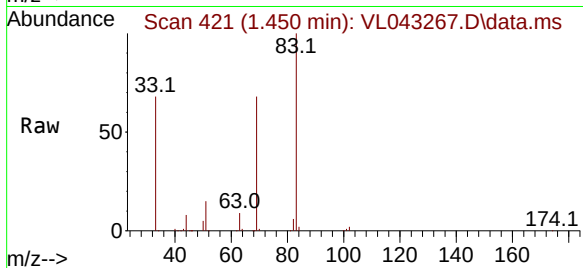




#3
Chlorodifluoromethane
Concen: 1.510 ppbv
RT: 1.450 min Scan# 41
Delta R.T. -0.023 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

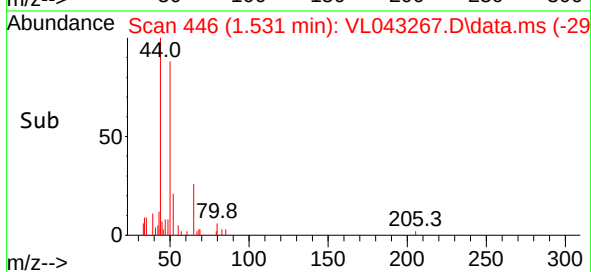
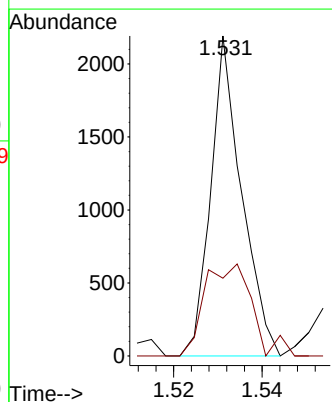
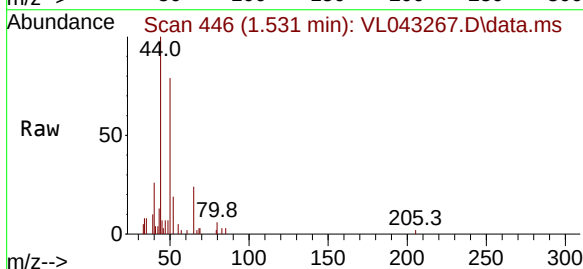
Instrument :
MSVOA_1
ClientSampleId :
SG-1DUP

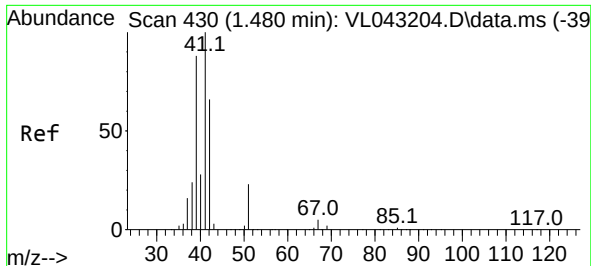
Tgt Ion: 51 Resp: 21594
Ion Ratio Lower Upper
51 100
67 0.4 14.9 22.3#



#4
Chloromethane
Concen: 0.196 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 50 Resp: 1067
Ion Ratio Lower Upper
50 100
52 24.3 24.1 36.1





#9

Propene

Concen: 0.229 ppbv

RT: 1.489 min Scan# 41

Delta R.T. 0.009 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Instrument :

MSVOA_L

ClientSampleId :

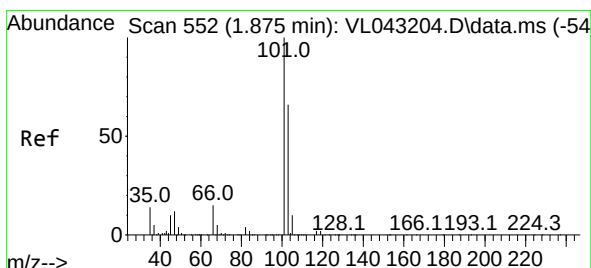
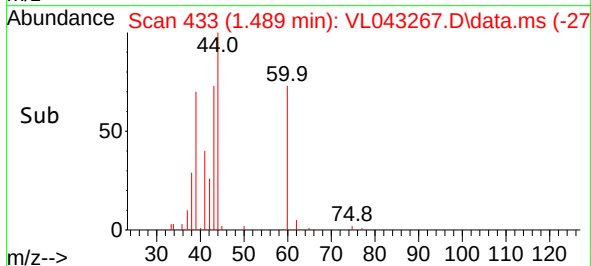
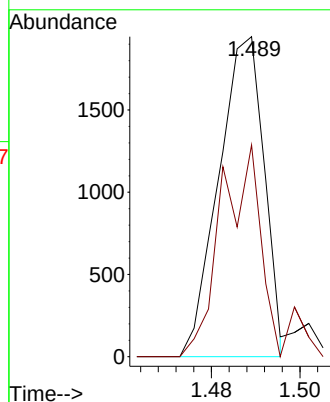
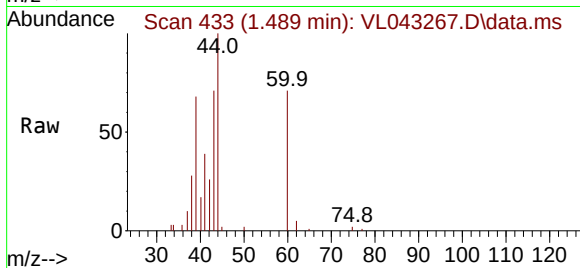
SG-1DUP

Tgt Ion: 41 Resp: 1389

Ion Ratio Lower Upper

41 100

42 74.4 3.7 5.5#



#11

Trichlorofluoromethane

Concen: 0.150 ppbv

RT: 1.881 min Scan# 554

Delta R.T. 0.006 min

Lab File: VL043267.D

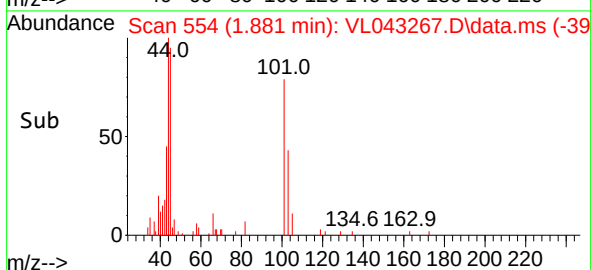
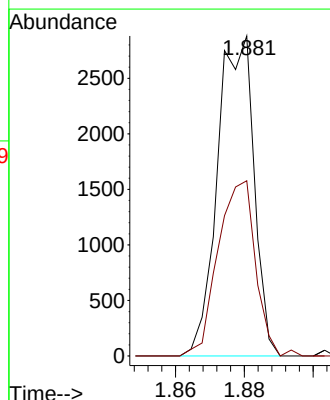
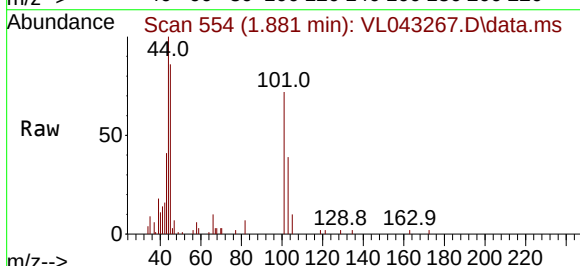
Acq: 20 Nov 2025 16:20

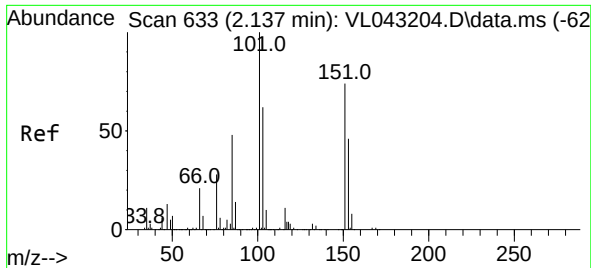
Tgt Ion:101 Resp: 2116

Ion Ratio Lower Upper

101 100

103 54.7 52.6 79.0

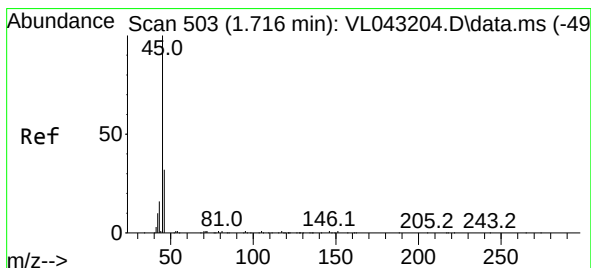
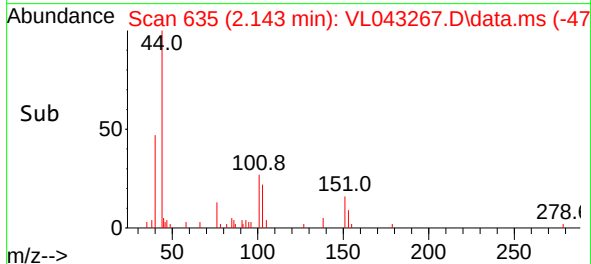
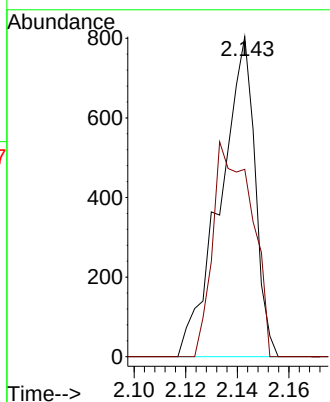
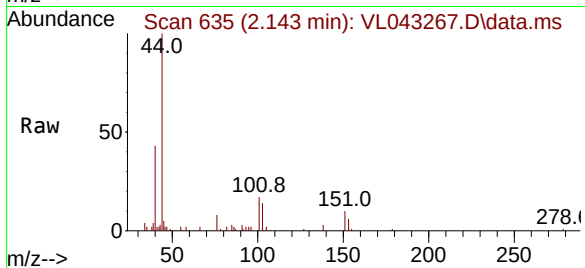




#12
1,1,2-Trichlorotrifluoroethane
Concen: 0.068 ppbv
RT: 2.143 min Scan# 61
Delta R.T. 0.006 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

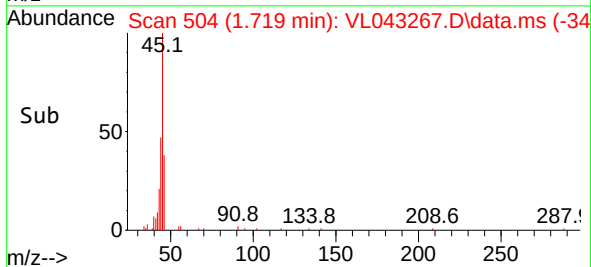
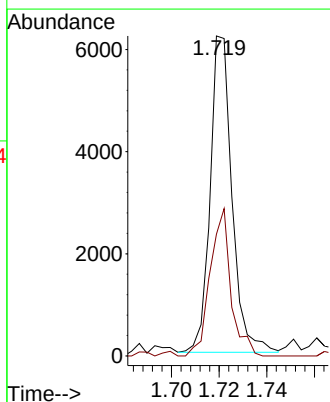
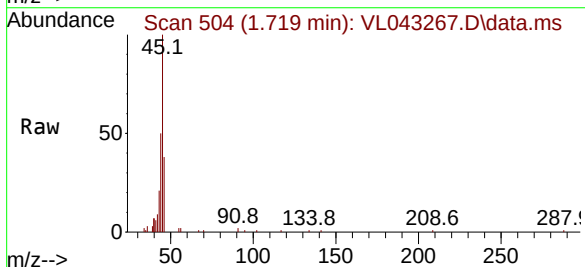
Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

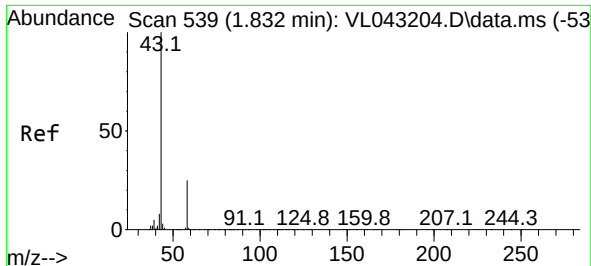
Tgt Ion:101 Resp: 751
Ion Ratio Lower Upper
101 100
151 74.6 59.2 88.8



#13
Ethanol
Concen: 1.854 ppbv
RT: 1.719 min Scan# 504
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 45 Resp: 3960
Ion Ratio Lower Upper
45 100
46 0.0 15.0 59.8#





#15

Acetone

Concen: 1.691 ppbv

RT: 1.835 min Scan# 54

Delta R.T. 0.003 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Instrument :

MSVOA_L

ClientSampleId :

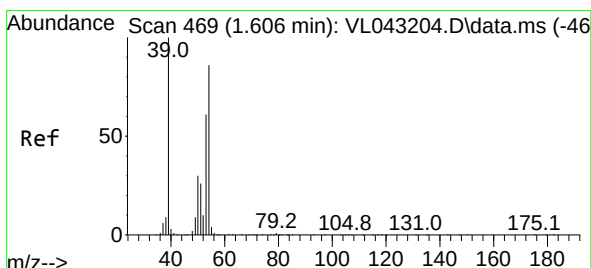
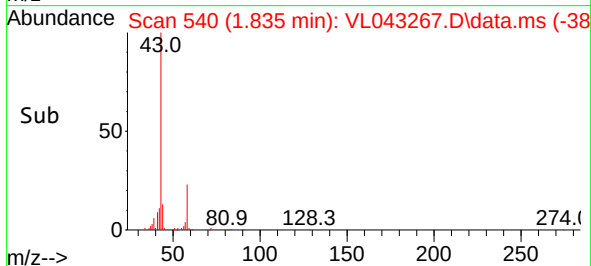
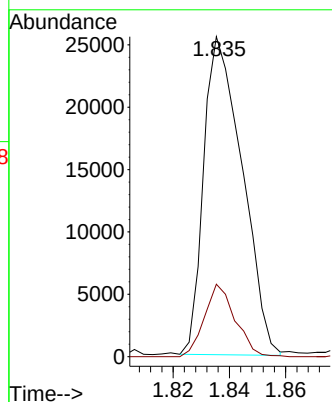
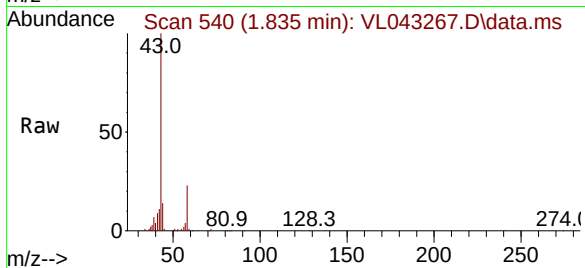
SG-1DUP

Tgt Ion: 43 Resp: 24225

Ion Ratio Lower Upper

43 100

58 18.2 20.7 31.1#



#16

1,3-Butadiene

Concen: 0.150 ppbv

RT: 1.602 min Scan# 468

Delta R.T. -0.004 min

Lab File: VL043267.D

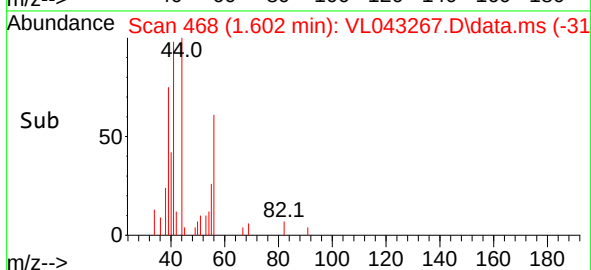
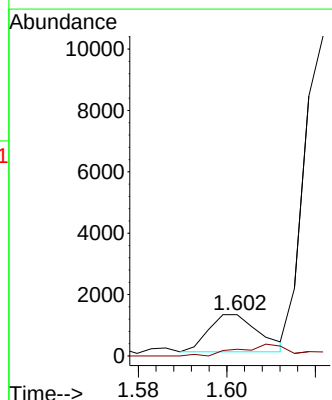
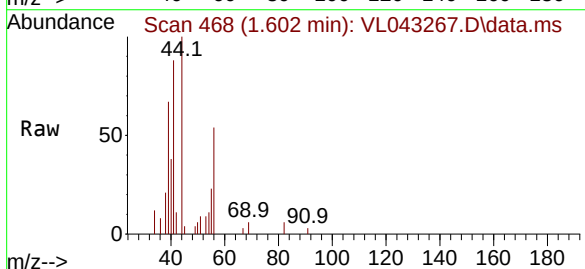
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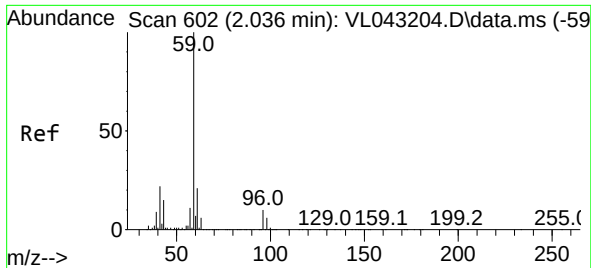
Tgt Ion: 39 Resp: 959

Ion Ratio Lower Upper

39 100

54 39.5 59.4 89.2#

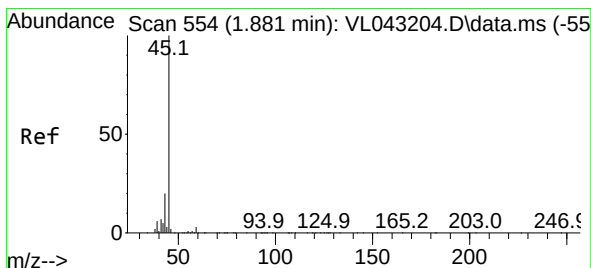
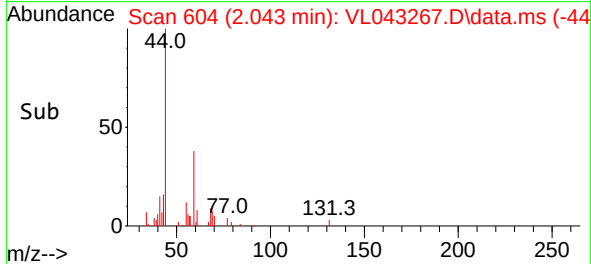
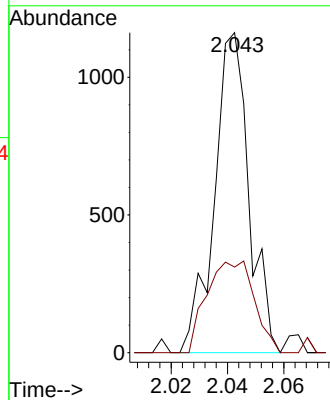
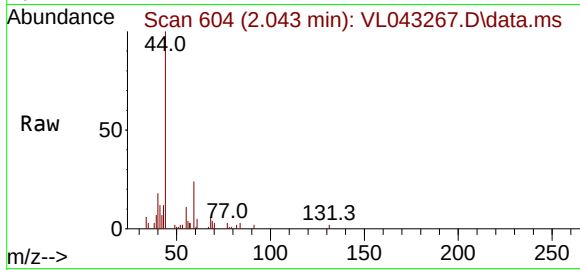




#17
tert-Butyl alcohol
Concen: 0.053 ppbv
RT: 2.043 min Scan# 602
Delta R.T. 0.006 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

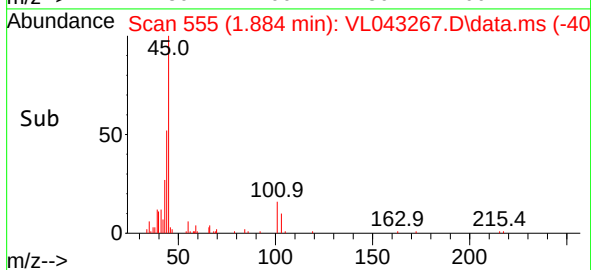
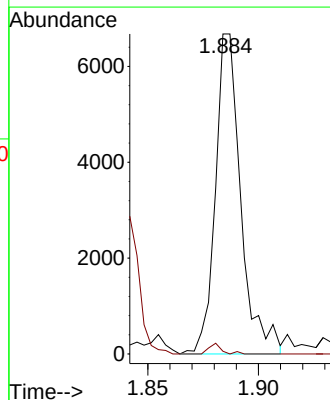
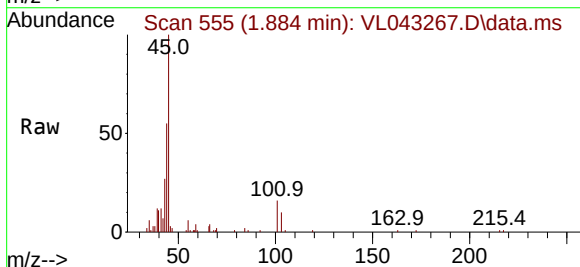
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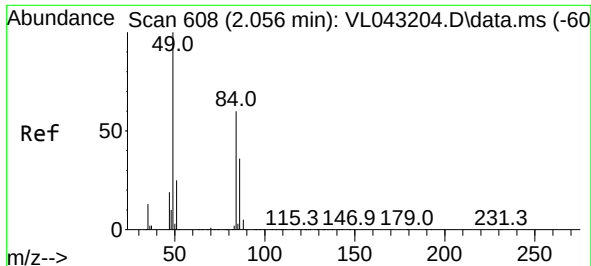
Tgt Ion: 59 Resp: 996
Ion Ratio Lower Upper
59 100
57 40.2 9.0 13.4#



#19
Isopropyl Alcohol
Concen: 0.661 ppbv
RT: 1.884 min Scan# 555
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 45 Resp: 5352
Ion Ratio Lower Upper
45 100
58 82.5 31.3 46.9#

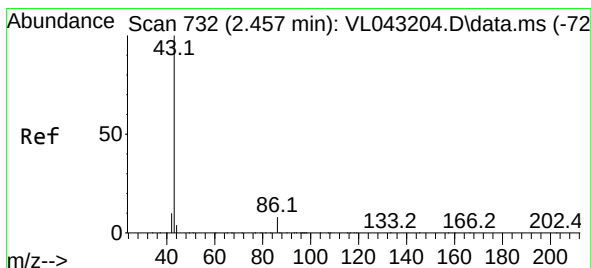
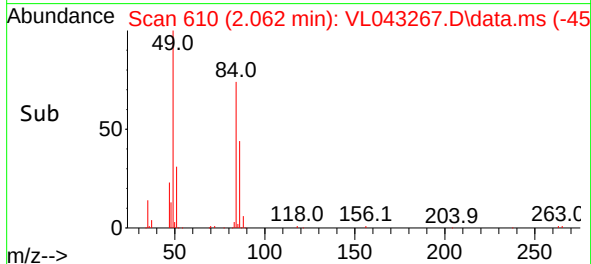
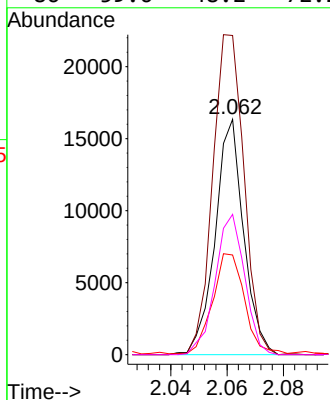
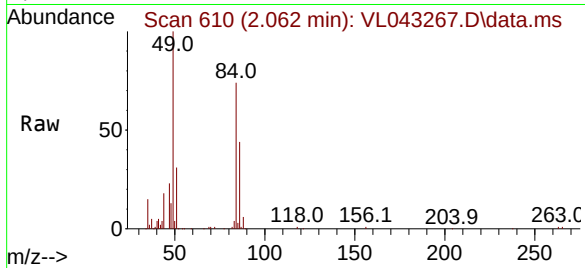




#20
Methylene Chloride
Concen: 2.100 ppbv
RT: 2.062 min Scan# 610
Delta R.T. 0.006 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

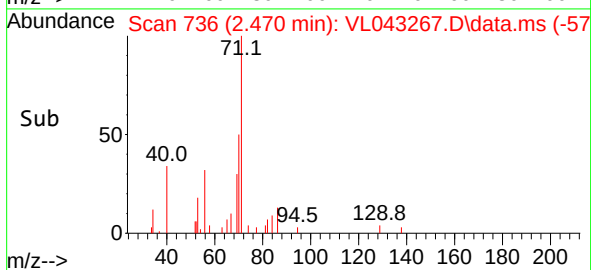
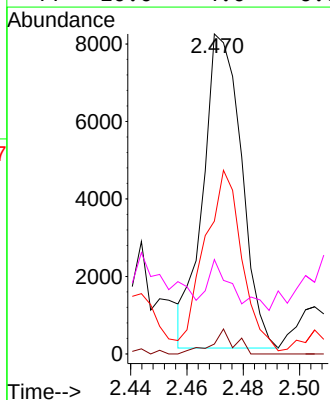
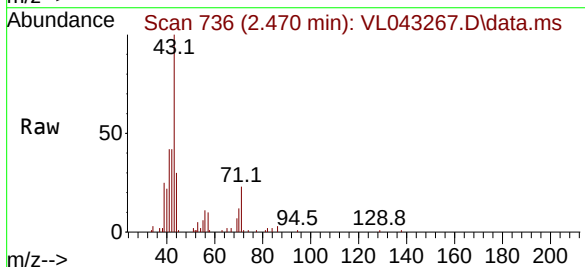
Instrument :
MSVOA_1
ClientSampleId :
SG-1DUP

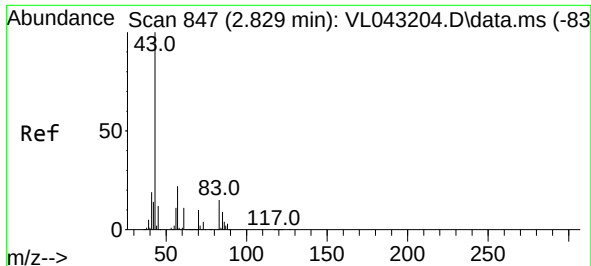
Tgt Ion:	84	Resp:	11481
Ion	Ratio	Lower	Upper
84	100		
49	135.6	132.9	199.3
51	41.9	34.8	52.2
86	59.6	48.2	72.2



#23
Vinyl Acetate
Concen: 0.444 ppbv
RT: 2.470 min Scan# 736
Delta R.T. 0.013 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion:	43	Resp:	7675
Ion	Ratio	Lower	Upper
43	100		
86	3.1	6.2	9.2#
42	41.3	8.0	12.0#
44	10.0	4.0	6.0#

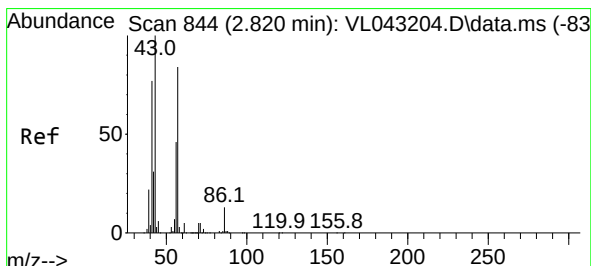
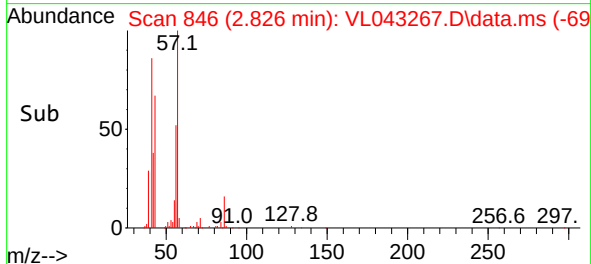
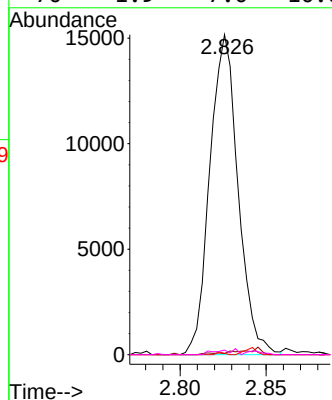
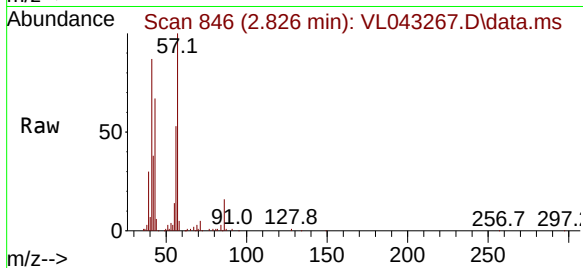




#25
Ethyl Acetate
Concen: 0.561 ppbv
RT: 2.826 min Scan# 846
Delta R.T. -0.004 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

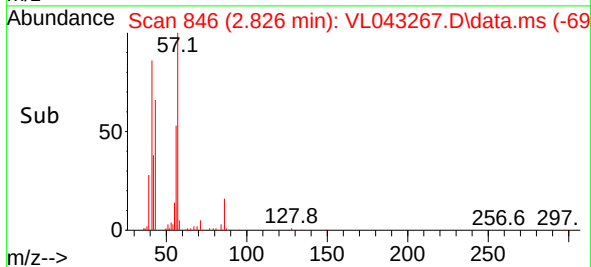
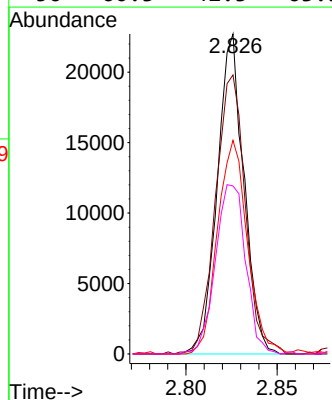
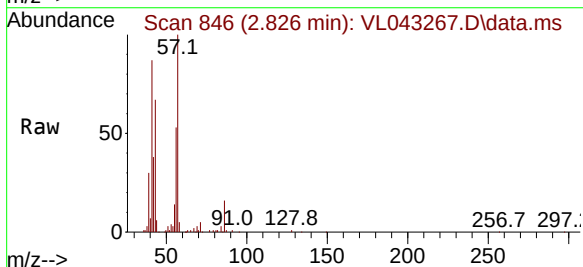
Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

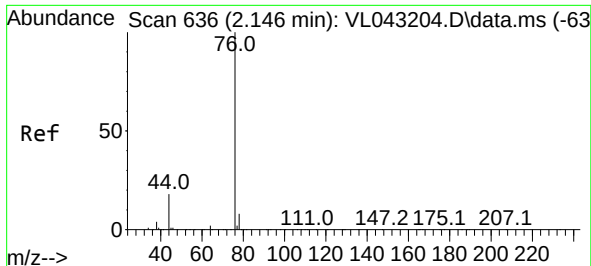
Tgt Ion: 43	Resp: 17336
Ion Ratio	Lower Upper
43 100	
45 1.9	8.1 12.1#
61 1.1	7.0 10.4#
70 1.9	7.0 10.6#



#26
Hexane
Concen: 1.707 ppbv
RT: 2.826 min Scan# 846
Delta R.T. 0.006 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 57	Resp: 23124
Ion Ratio	Lower Upper
57 100	
41 97.2	74.6 111.8
43 76.7	179.0 268.4#
56 60.3	42.3 63.5

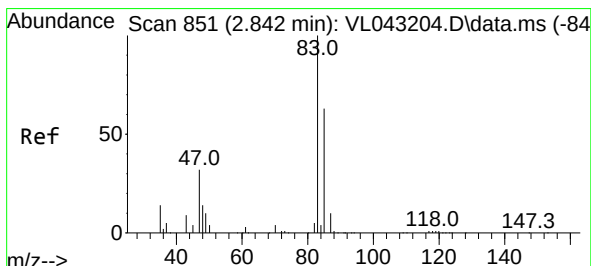
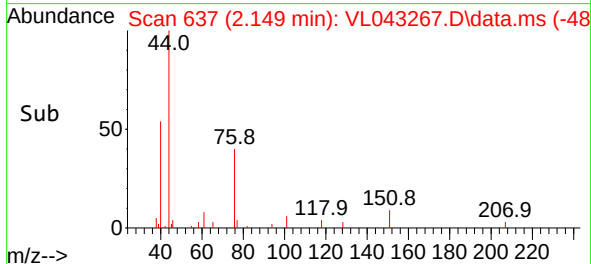
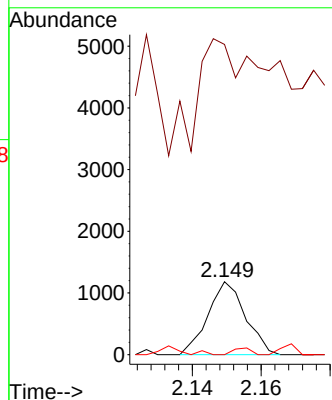
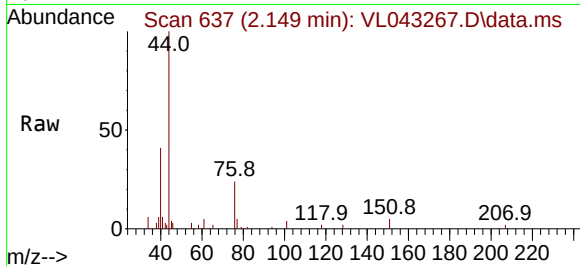




#27
Carbon Disulfide
Concen: 0.065 ppbv
RT: 2.149 min Scan# 611
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

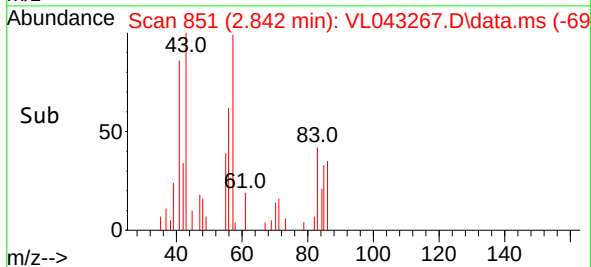
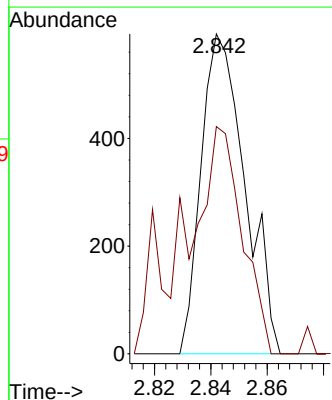
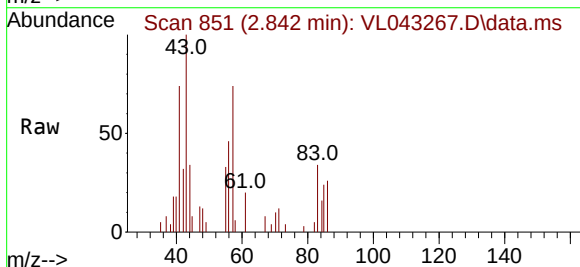
Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

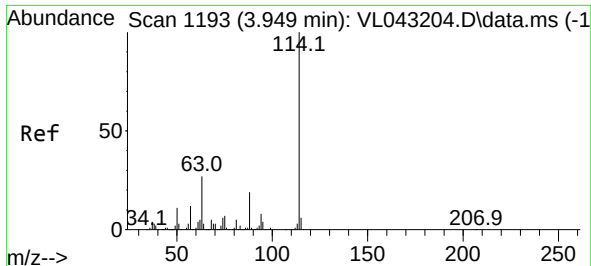
Tgt Ion: 76 Resp: 893
Ion Ratio Lower Upper
76 100
44 0.0 16.1 24.1#
78 17.1 9.6 14.4#



#29
Chloroform
Concen: 0.033 ppbv
RT: 2.842 min Scan# 851
Delta R.T. -0.000 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 83 Resp: 644
Ion Ratio Lower Upper
83 100
85 71.0 50.5 75.7





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 3.952 min Scan# 1194

Delta R.T. 0.003 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Instrument :

MSVOA_L

ClientSampleId :

SG-1DUP

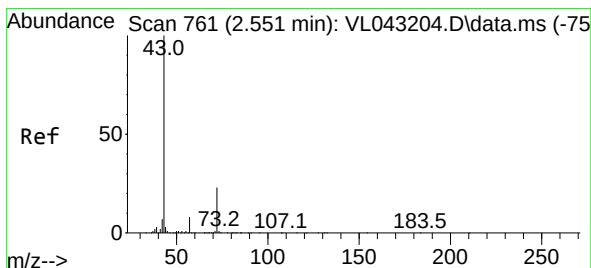
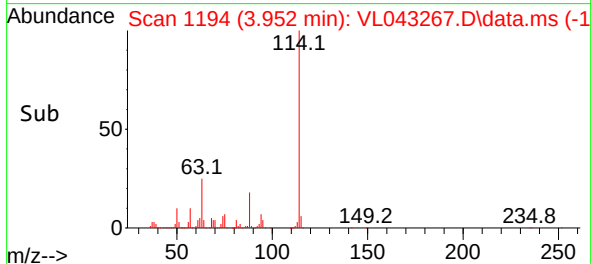
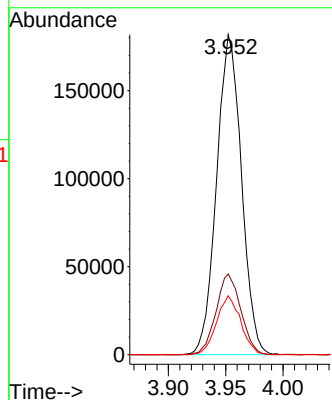
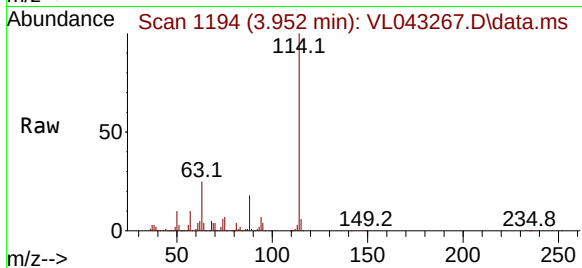
Tgt Ion:114 Resp: 274025

Ion Ratio Lower Upper

114 100

63 25.2 21.0 31.6

88 17.9 14.9 22.3



#34

2-Butanone

Concen: 0.456 ppbv

RT: 2.557 min Scan# 763

Delta R.T. 0.006 min

Lab File: VL043267.D

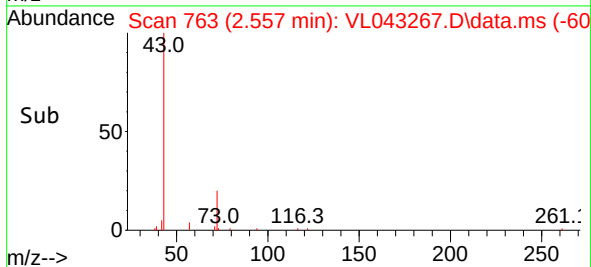
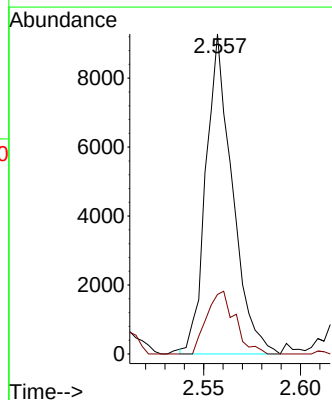
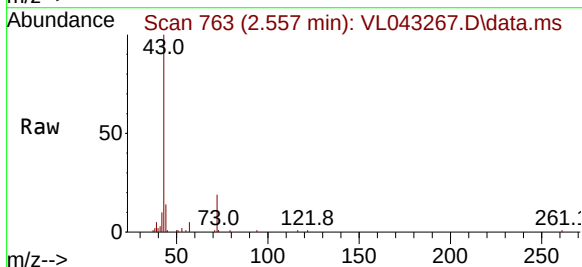
Acq: 20 Nov 2025 16:20

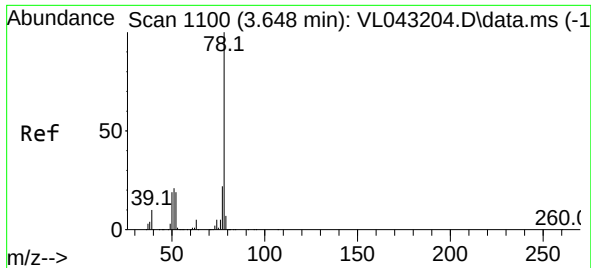
Tgt Ion: 43 Resp: 8817

Ion Ratio Lower Upper

43 100

72 21.1 18.1 27.1





#36

Benzene

Concen: 0.049 ppbv

RT: 3.658 min Scan# 1100

Delta R.T. 0.009 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

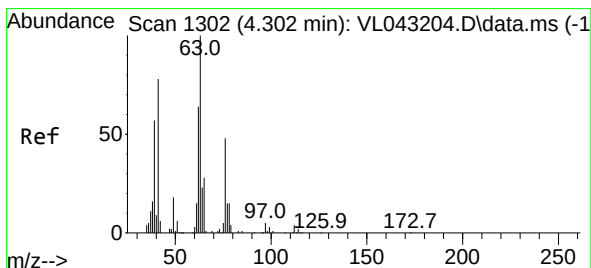
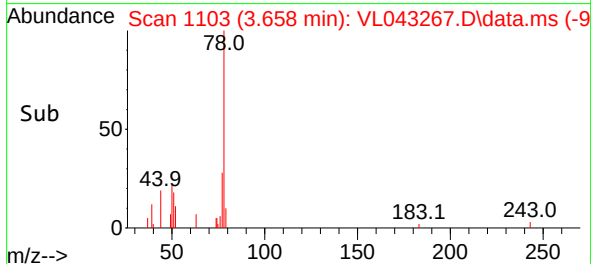
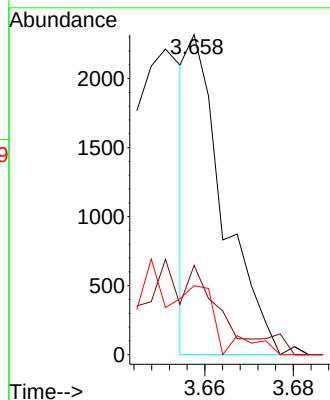
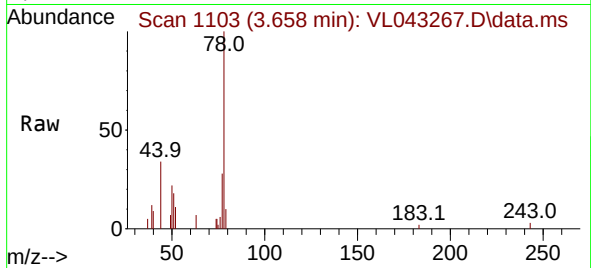
Instrument :

MSVOA_1

ClientSampleId :

SG-1DUP

Tgt Ion: 78	Resp: 1286
Ion Ratio	Lower Upper
78 100	
77 21.4	17.5 26.3
50 21.5	15.5 23.3



#39

1,2-Dichloropropane

Concen: 7.167 ppbv

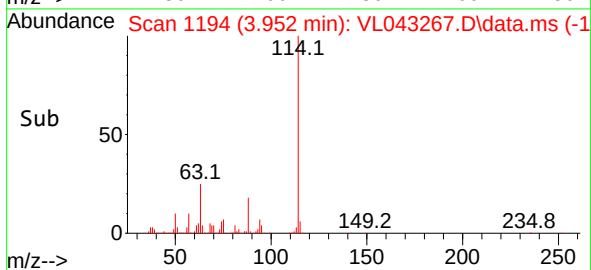
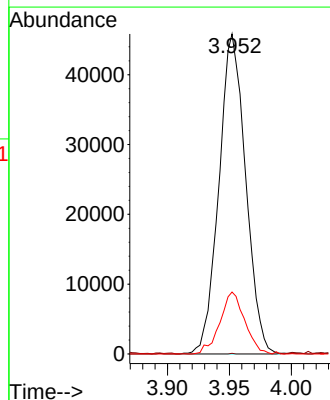
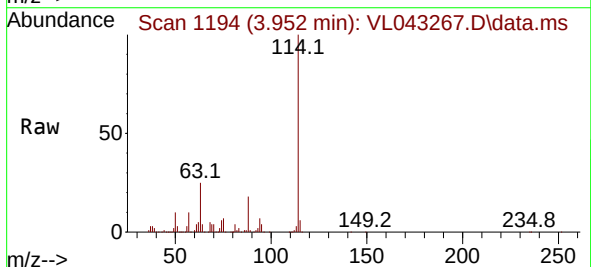
RT: 3.952 min Scan# 1194

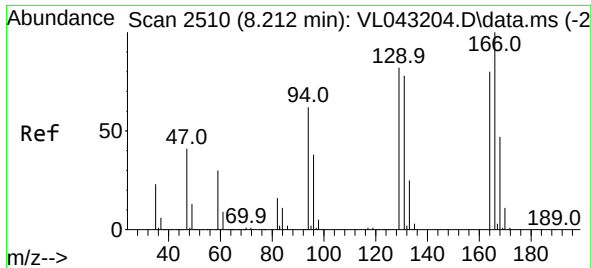
Delta R.T. -0.350 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Tgt Ion: 63	Resp: 68840
Ion Ratio	Lower Upper
63 100	
41 0.2	62.6 93.8#
62 19.3	51.0 76.6#



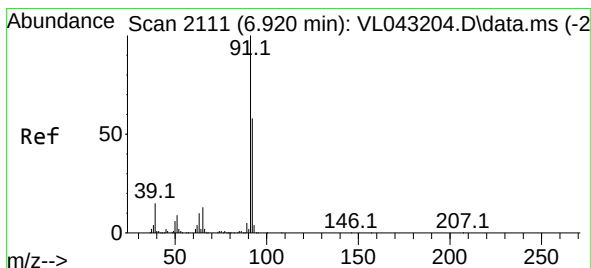
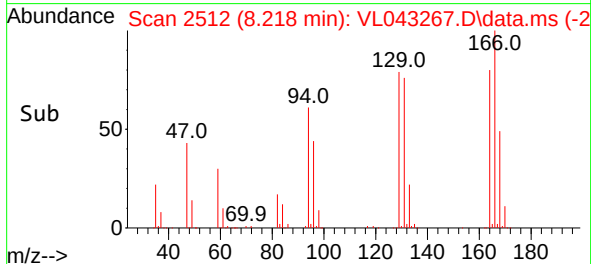
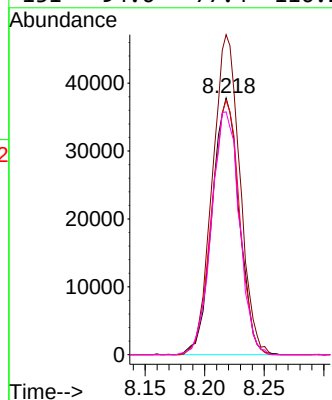
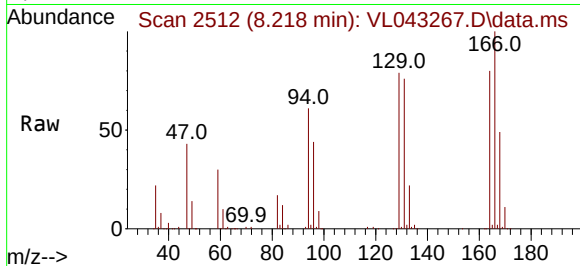


#52
Tetrachloroethene
Concen: 6.154 ppbv
RT: 8.218 min Scan# 2112
Delta R.T. 0.006 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

Tgt Ion:164 Resp: 60070

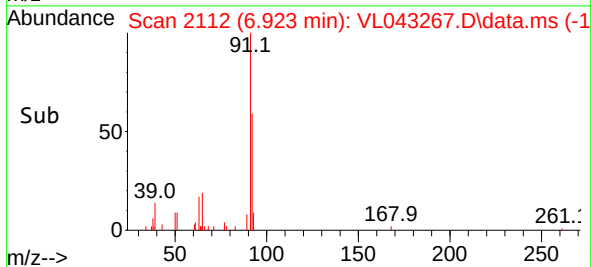
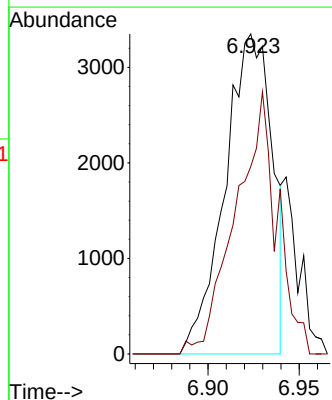
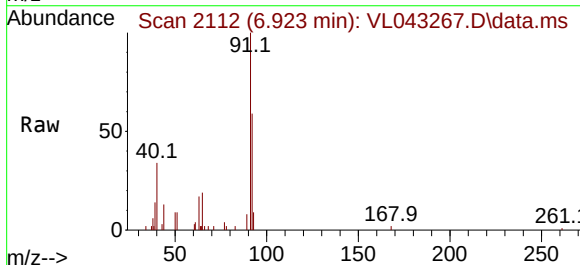
Ion	Ratio	Lower	Upper
164	100		
166	124.7	99.4	149.2
129	99.1	81.8	122.8
131	94.6	77.4	116.2

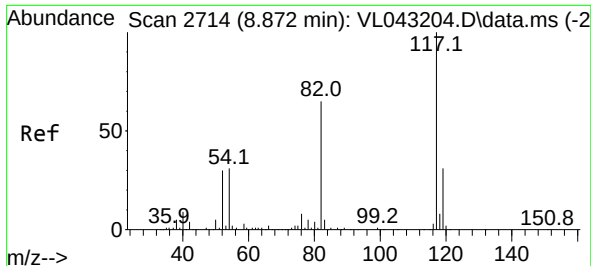


#53
Toluene
Concen: 0.195 ppbv
RT: 6.923 min Scan# 2112
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 91 Resp: 6049

Ion	Ratio	Lower	Upper
91	100		
92	71.6	47.4	71.0#

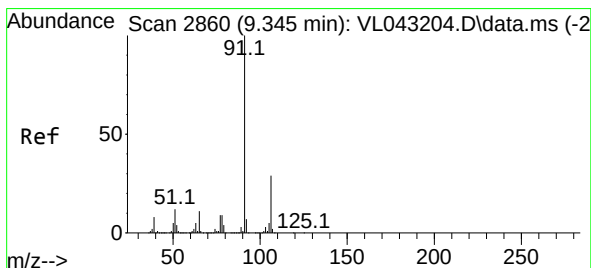
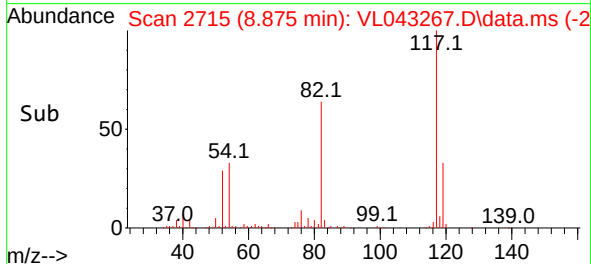
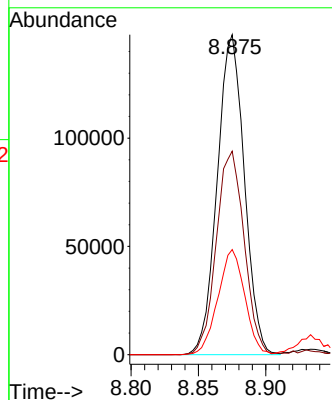
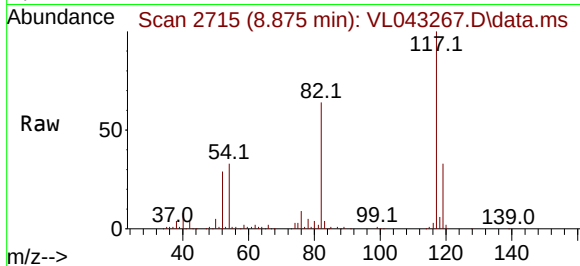




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.875 min Scan# 21
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

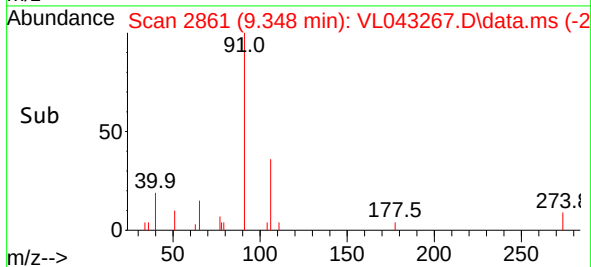
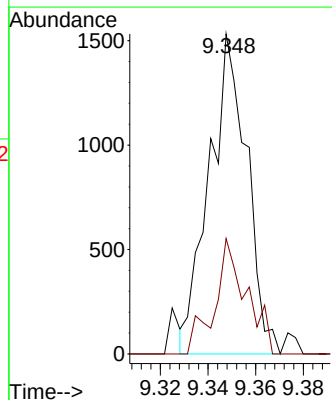
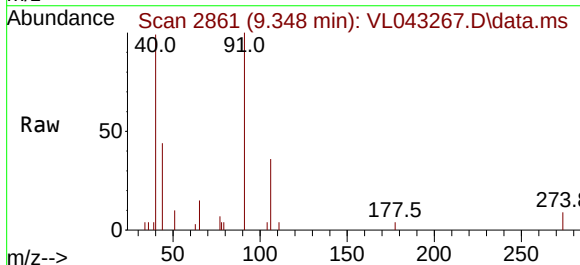
Instrument :
MSVOA_L
ClientSampleId :
SG-1DUP

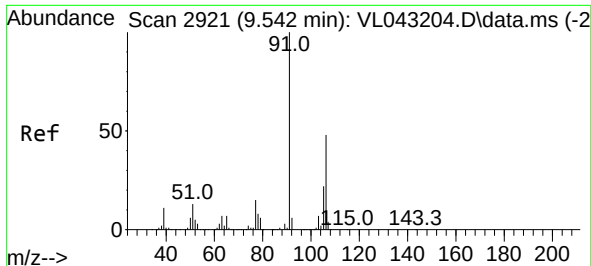
Tgt Ion:117 Resp: 207116
Ion Ratio Lower Upper
117 100
82 65.4 56.1 84.1
119 32.5 25.0 37.6



#58
Ethyl Benzene
Concen: 0.042 ppbv
RT: 9.348 min Scan# 2861
Delta R.T. 0.003 min
Lab File: VL043267.D
Acq: 20 Nov 2025 16:20

Tgt Ion: 91 Resp: 1679
Ion Ratio Lower Upper
91 100
106 36.0 22.8 34.2#





#59

m/p-Xylene

Concen: 0.035 ppbv

RT: 9.542 min Scan# 29

Delta R.T. -0.000 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Instrument :

MSVOA_L

ClientSampleId :

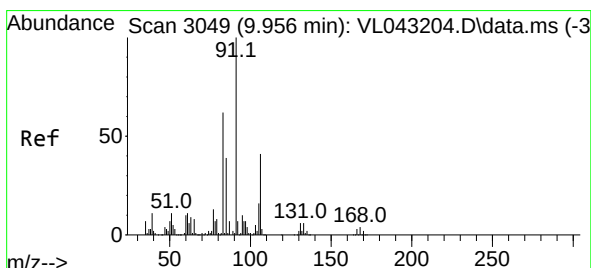
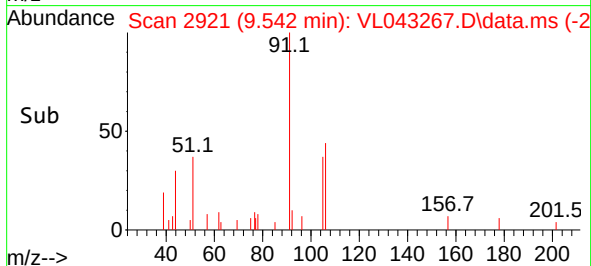
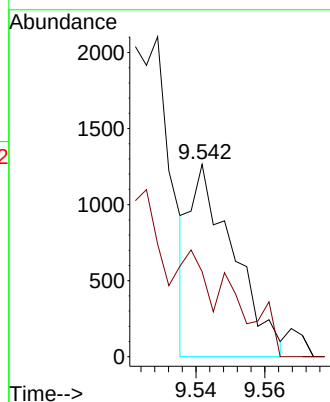
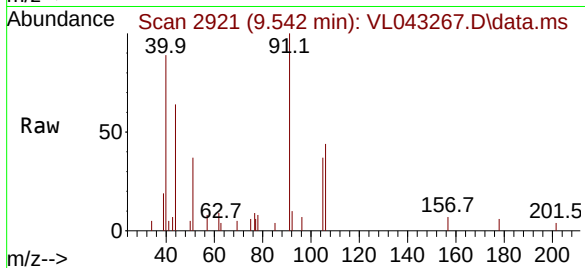
SG-1DUP

Tgt Ion: 91 Resp: 1115

Ion Ratio Lower Upper

91 100

106 0.0 36.1 54.1#



#60

o-Xylene

Concen: 0.049 ppbv

RT: 9.959 min Scan# 3050

Delta R.T. 0.003 min

Lab File: VL043267.D

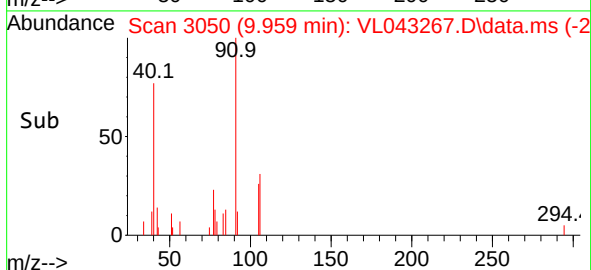
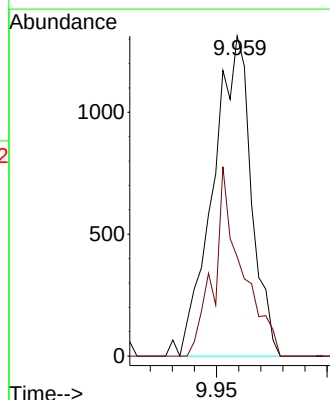
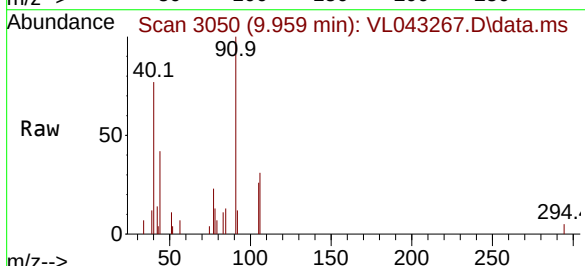
Acq: 20 Nov 2025 16:20

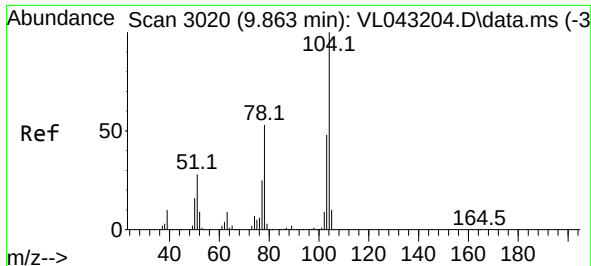
Tgt Ion: 91 Resp: 1577

Ion Ratio Lower Upper

91 100

106 43.2 20.9 62.8





#61

Styrene

Concen: 0.055 ppbv

RT: 9.865 min Scan# 3020

Delta R.T. 0.003 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

Instrument :

MSVOA_L

ClientSampleId :

SG-1DUP

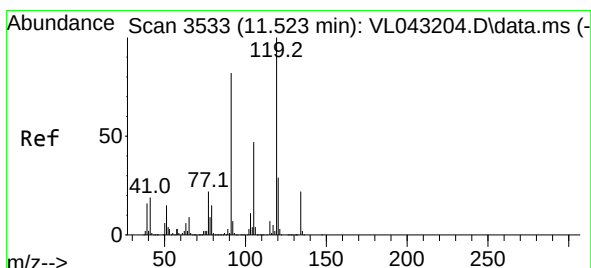
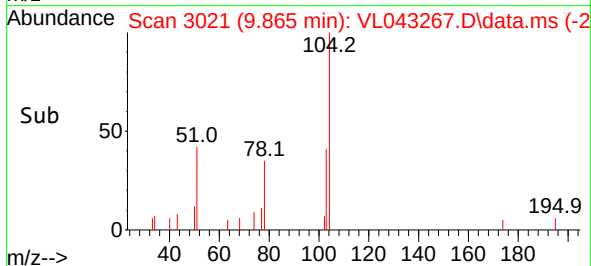
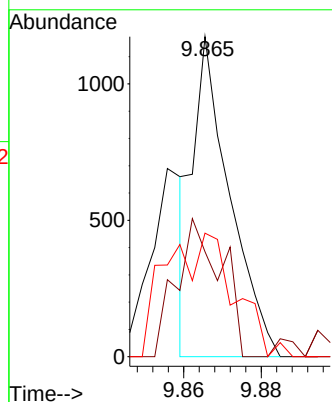
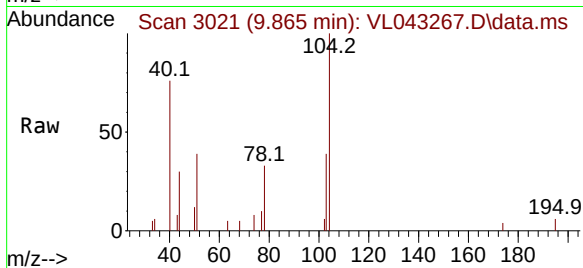
Tgt Ion:104 Resp: 765

Ion Ratio Lower Upper

104 100

78 56.3 42.1 63.1

103 78.0 37.2 55.8#



#65

tert-Butylbenzene

Concen: 0.624 ppbv

RT: 11.772 min Scan# 3610

Delta R.T. 0.249 min

Lab File: VL043267.D

Acq: 20 Nov 2025 16:20

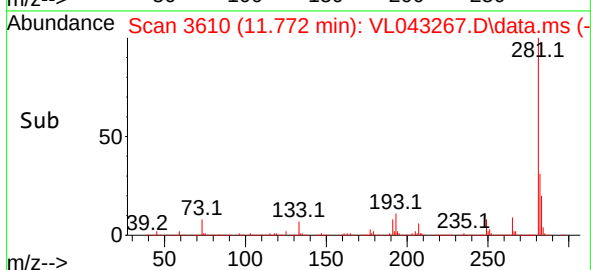
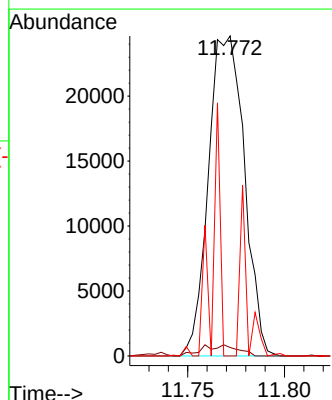
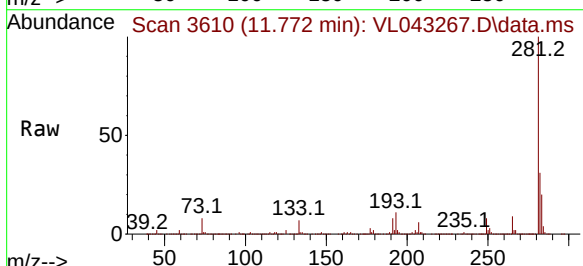
Tgt Ion:119 Resp: 31815

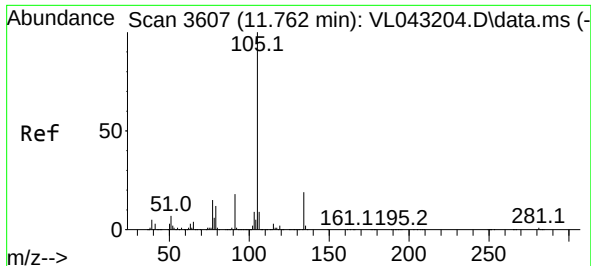
Ion Ratio Lower Upper

119 100

91 3.9 65.3 97.9#

134 29.5 17.0 25.4#

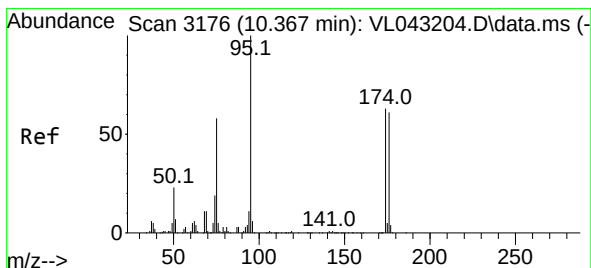
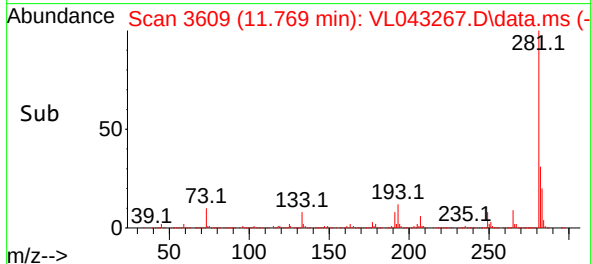
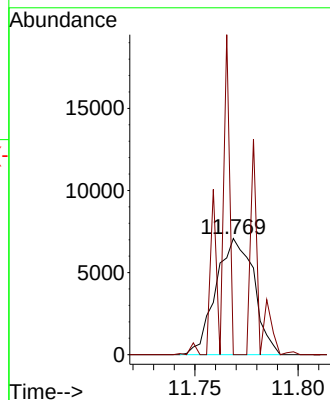
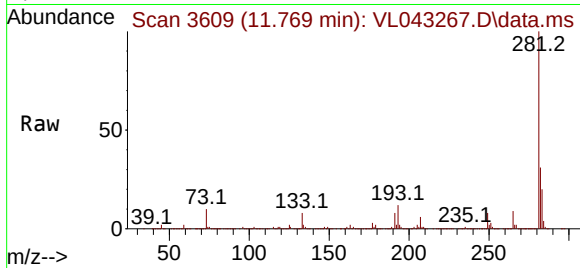




#67
 sec-Butylbenzene
 Concen: 0.127 ppbv
 RT: 11.769 min Scan# 3609
 Delta R.T. 0.006 min
 Lab File: VL043267.D
 Acq: 20 Nov 2025 16:20

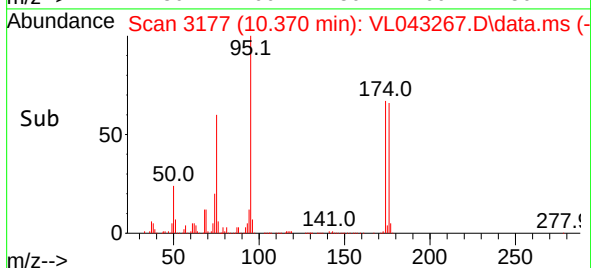
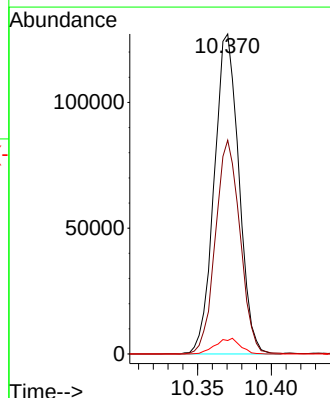
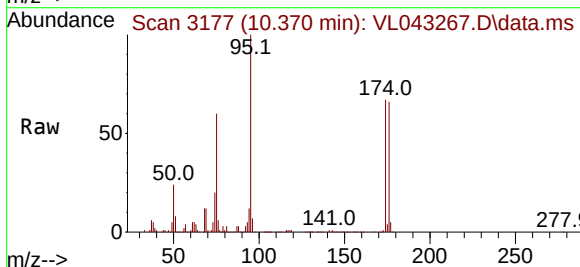
Instrument :
 MSVOA_1
 ClientSampleId :
 SG-1DUP

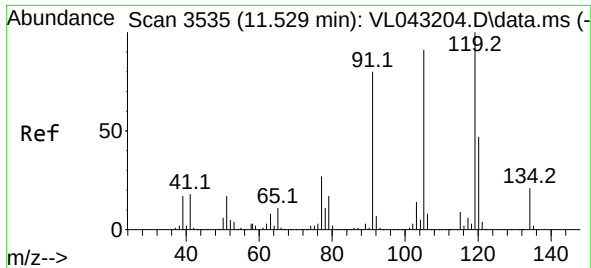
Tgt Ion:105 Resp: 9077
 Ion Ratio Lower Upper
 105 100
 134 23.2 15.0 22.6#



#68
 1-Bromo-4-Fluorobenzene
 Concen: 9.740 ppbv
 RT: 10.370 min Scan# 3177
 Delta R.T. 0.003 min
 Lab File: VL043267.D
 Acq: 20 Nov 2025 16:20

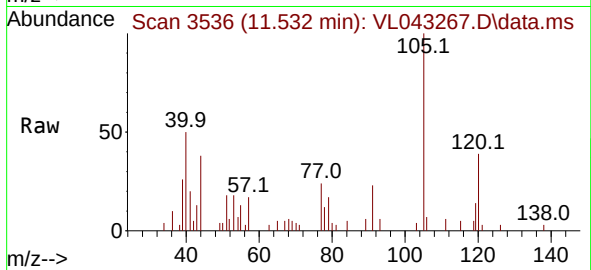
Tgt Ion: 95 Resp: 147871
 Ion Ratio Lower Upper
 95 100
 174 66.9 50.2 75.2
 175 4.9 4.1 6.1





#74
 1,2,4-Trimethylbenzene
 Concen: 0.054 ppbv
 RT: 11.532 min Scan# 3
 Delta R.T. 0.003 min
 Lab File: VL043267.D
 Acq: 20 Nov 2025 16:20

Instrument :
 MSVOA_L
 ClientSampleId :
 SG-1DUP



Tgt Ion:	105	Resp:	1913
Ion	Ratio	Lower	Upper
105	100		
120	38.5	41.7	62.5#
91	22.7	70.0	105.0#
77	24.2	23.8	35.8

