

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL112025\
 Data File : VL043273.D
 Acq On : 20 Nov 2025 19:44
 Operator : SY/MD
 Sample : Q3698-02 4X
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

Quant Time: Nov 21 00:43:13 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

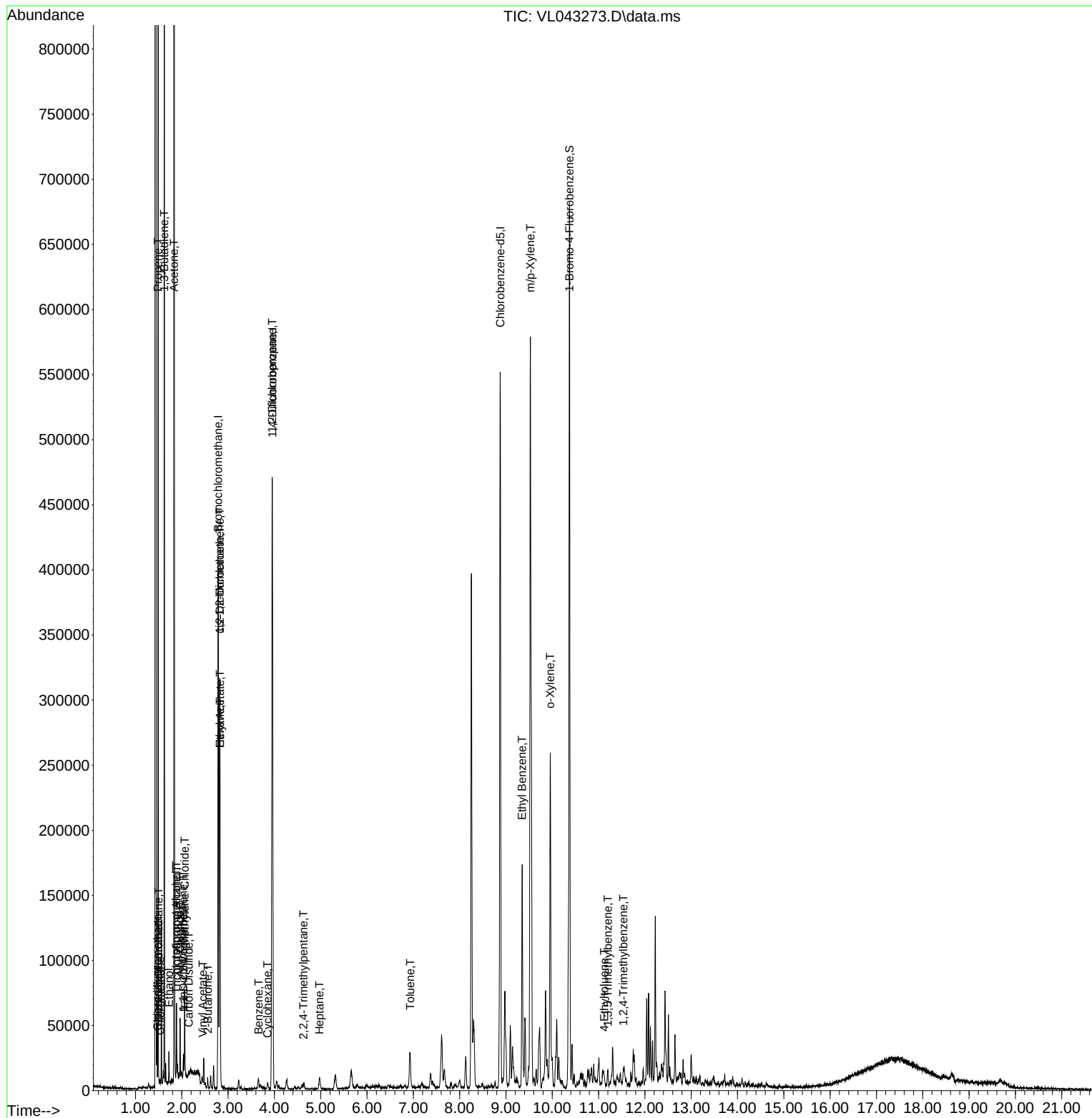
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	2.784	49	105164	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.955	114	277383	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.875	117	223095	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.370	95	166954	10.209	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	= 102.100%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.499	85	2240	0.151	ppbv #	82
3) Chlorodifluoromethane	1.476	51	2516	0.172	ppbv #	84
4) Chloromethane	1.531	50	716	0.129	ppbv	98
9) Propene	1.489	41	112131	18.102	ppbv #	11
10) Heptane	4.972	43	1387	0.075	ppbv #	1
11) Trichlorofluoromethane	1.881	101	880	0.061	ppbv	98
13) Ethanol	1.722	45	8260	3.792	ppbv #	38
15) Acetone	1.832	43	1065814	72.947	ppbv	98
16) 1,3-Butadiene	1.622	39	69169	10.619	ppbv #	15
18) 1,1-Dichloroethene	2.033	96	2244	0.430	ppbv	91
19) Isopropyl Alcohol	1.884	45	21880	2.650	ppbv #	1
20) Methylene Chloride	2.062	84	9361	1.508	ppbv	93
21) Allyl Chloride	1.962	41	6542	0.666	ppbv #	21
22) trans-1,2-Dichloroethene	2.033	96	2244	0.376	ppbv	88
23) Vinyl Acetate	2.454	43	610	0.035	ppbv #	1
25) Ethyl Acetate	2.826	43	21895	0.695	ppbv #	1
26) Hexane	2.826	57	28098	2.034	ppbv #	45
27) Carbon Disulfide	2.149	76	530	0.038	ppbv #	1
30) Cyclohexane	3.852	84	638	0.055	ppbv #	10
31) cis-1,2-Dichloroethene	2.819	61	7375	0.537	ppbv #	26
34) 2-Butanone	2.560	43	4908	0.251	ppbv	99
36) Benzene	3.658	78	4746	0.179	ppbv #	93
37) 1,2-Dichloroethane	2.819	62	9954	0.641	ppbv #	80
39) 1,2-Dichloropropane	3.952	63	69776	7.177	ppbv #	24
44) 2,2,4-Trimethylpentane	4.629	57	1623	0.036	ppbv #	31
53) Toluene	6.933	91	8648	0.275	ppbv #	21
58) Ethyl Benzene	9.348	91	91292	2.126	ppbv	98
59) m/p-Xylene	9.526	91	367723	10.681	ppbv	100
60) o-Xylene	9.956	91	110225	3.205	ppbv	98
72) 4-Ethyltoluene	11.121	105	1384	0.033	ppbv #	55
73) 1,3,5-Trimethylbenzene	11.202	105	1058	0.030	ppbv	89
74) 1,2,4-Trimethylbenzene	11.532	105	3659	0.095	ppbv #	54

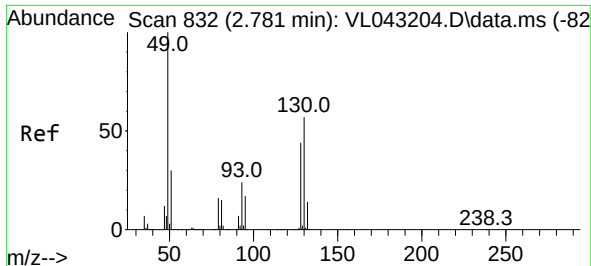
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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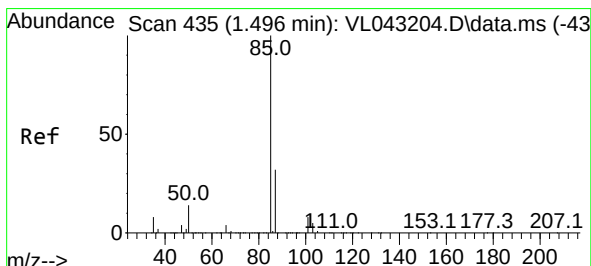
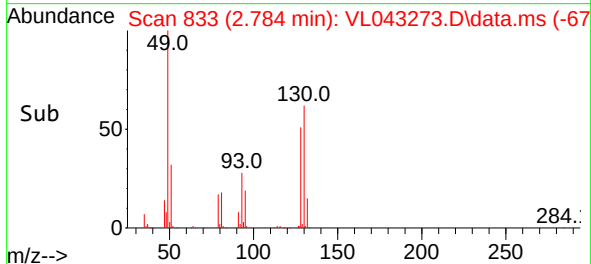
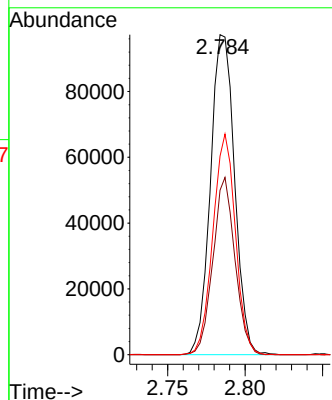
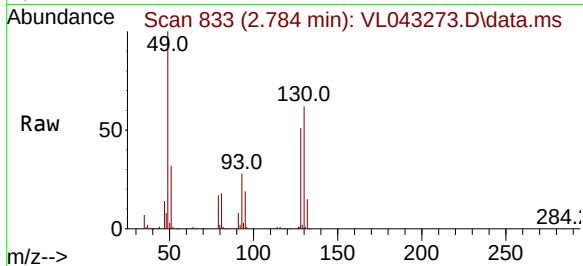




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.784 min Scan# 81
Delta R.T. 0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

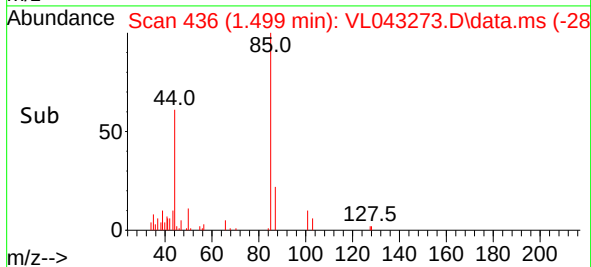
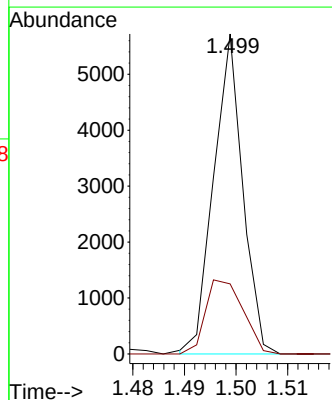
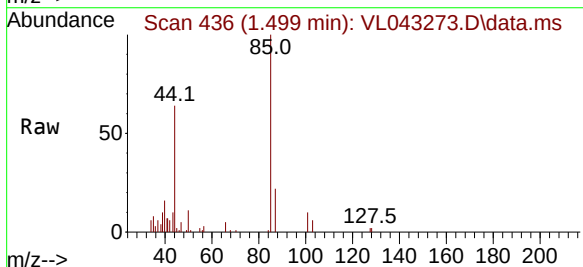
Instrument :
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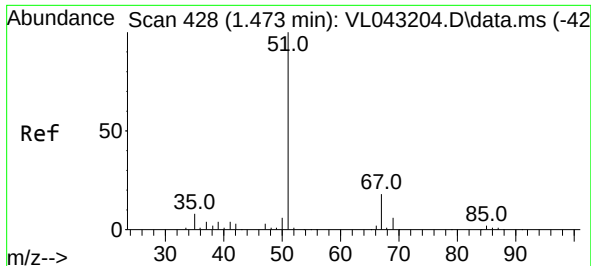
Tgt Ion: 49 Resp: 105164
Ion Ratio Lower Upper
49 100
128 50.7 23.0 69.0
130 64.4 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.151 ppbv
RT: 1.499 min Scan# 436
Delta R.T. 0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 85 Resp: 2240
Ion Ratio Lower Upper
85 100
87 21.9 25.4 38.2#

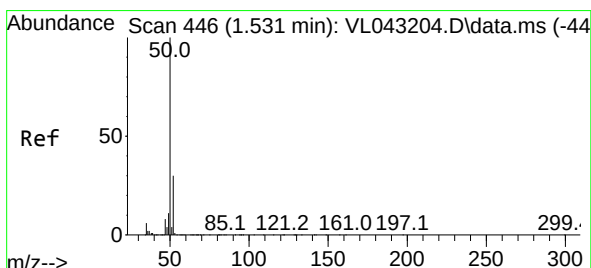
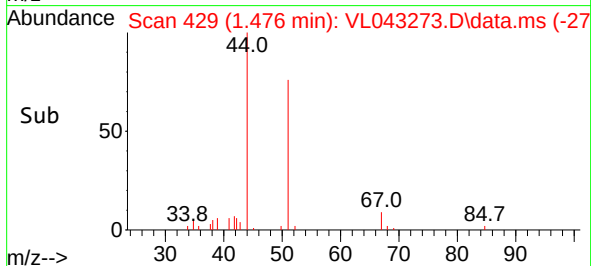
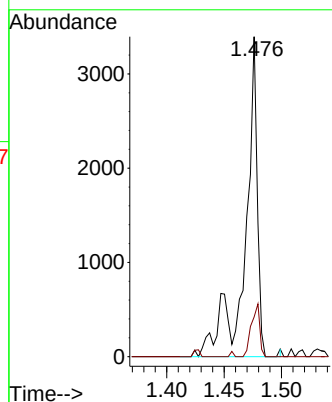
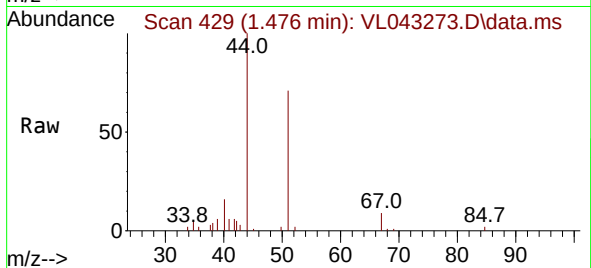




#3
Chlorodifluoromethane
Concen: 0.172 ppbv
RT: 1.476 min Scan# 428
Delta R.T. 0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

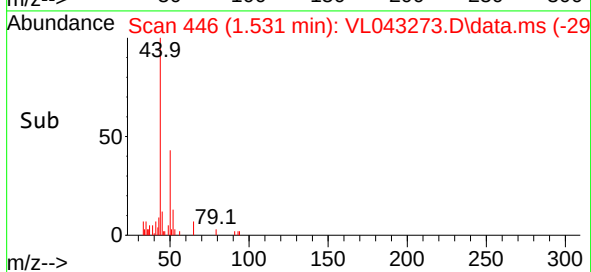
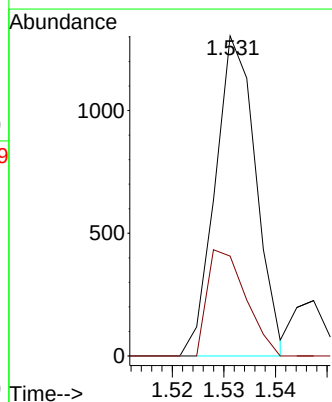
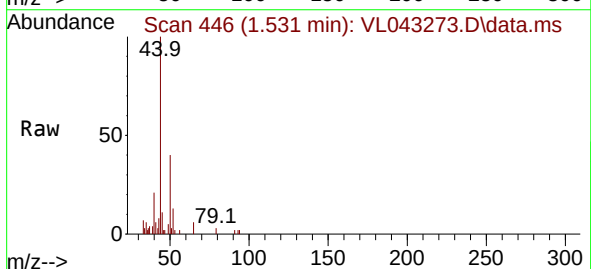
Instrument :
MSVOA_L
ClientSampleId :
SV2

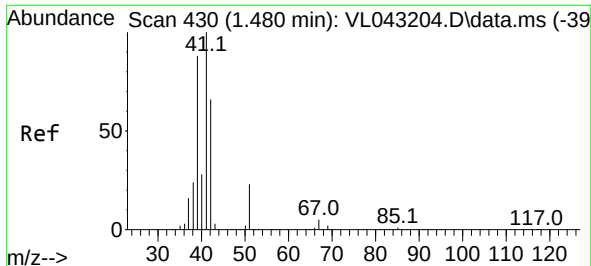
Tgt Ion: 51 Resp: 2516
Ion Ratio Lower Upper
51 100
67 11.6 14.9 22.3#



#4
Chloromethane
Concen: 0.129 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 50 Resp: 716
Ion Ratio Lower Upper
50 100
52 31.2 24.1 36.1

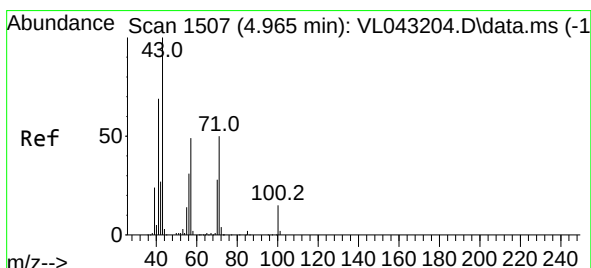
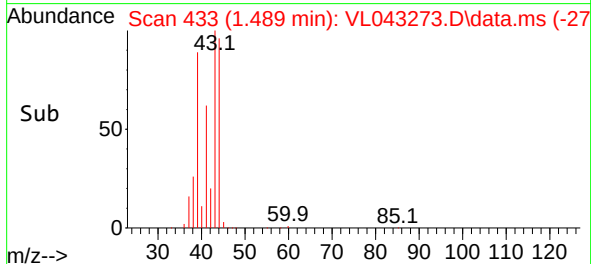
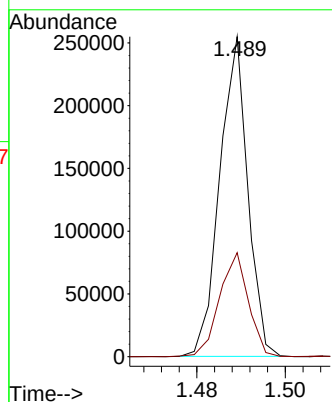
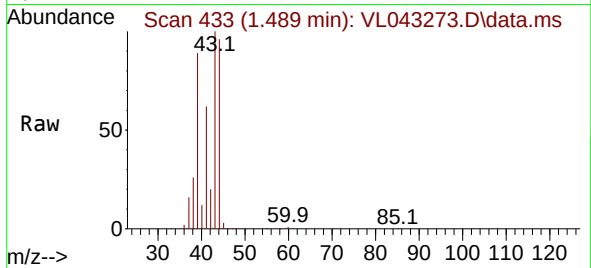




#9
 Propene
 Concen: 18.102 ppbv
 RT: 1.489 min Scan# 41
 Delta R.T. 0.009 min
 Lab File: VL043273.D
 Acq: 20 Nov 2025 19:44

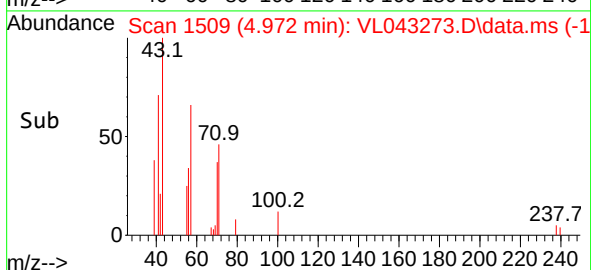
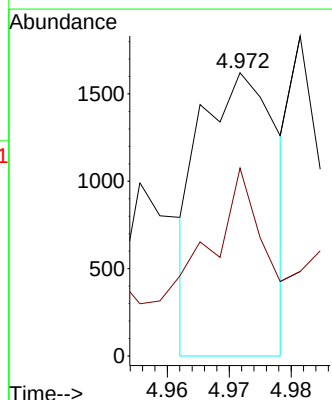
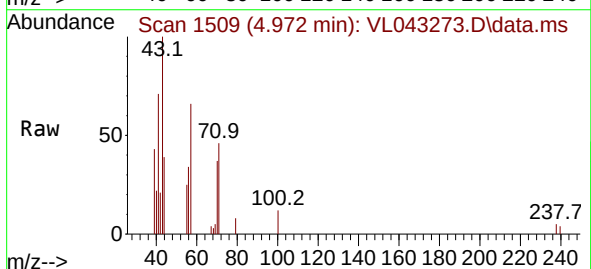
Instrument :
 MSVOA_L
 ClientSampleId :
 SV2

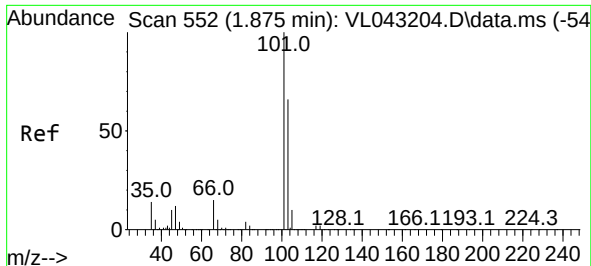
Tgt Ion: 41 Resp: 112131
 Ion Ratio Lower Upper
 41 100
 42 33.9 3.7 5.5#



#10
 Heptane
 Concen: 0.075 ppbv
 RT: 4.972 min Scan# 1509
 Delta R.T. 0.006 min
 Lab File: VL043273.D
 Acq: 20 Nov 2025 19:44

Tgt Ion: 43 Resp: 1387
 Ion Ratio Lower Upper
 43 100
 57 122.9 39.7 59.5#

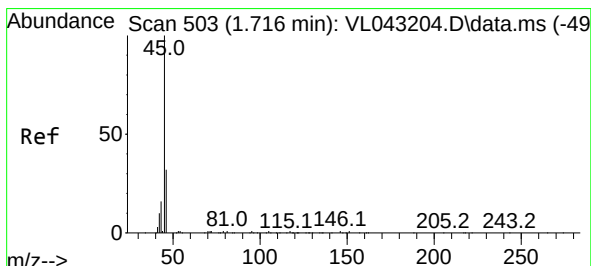
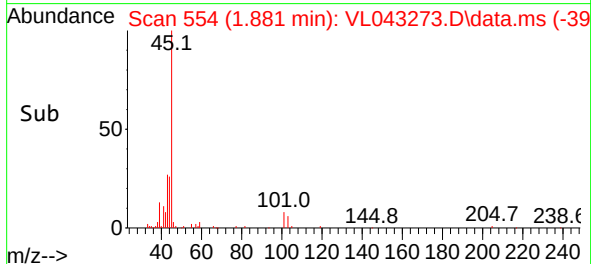
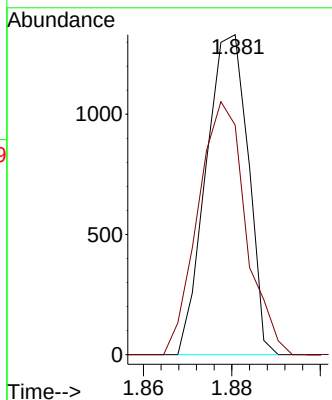
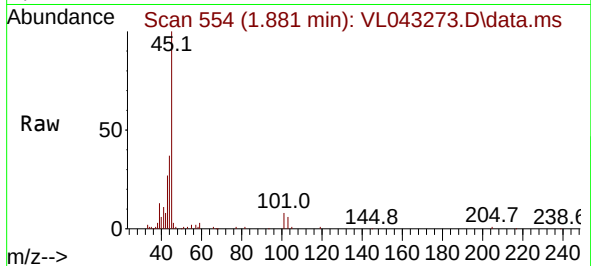




#11
Trichlorofluoromethane
Concen: 0.061 ppbv
RT: 1.881 min Scan# 51
Delta R.T. 0.006 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

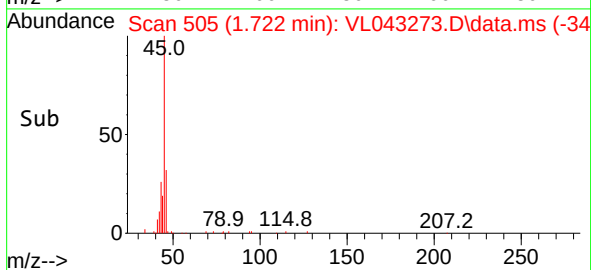
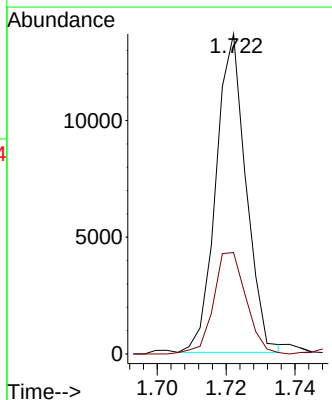
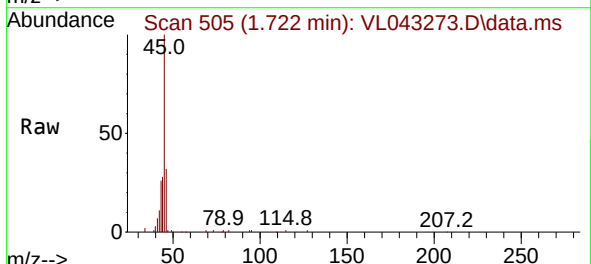
Instrument :
MSVOA_L
ClientSampleId :
SV2

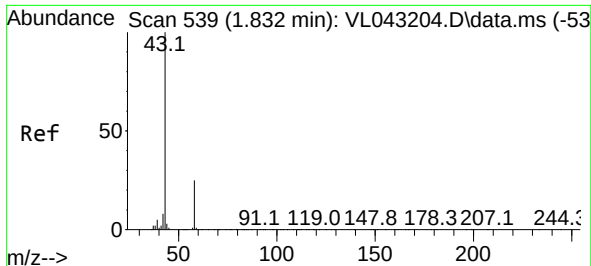
Tgt Ion:101 Resp: 880
Ion Ratio Lower Upper
101 100
103 67.4 52.6 79.0



#13
Ethanol
Concen: 3.792 ppbv
RT: 1.722 min Scan# 505
Delta R.T. 0.006 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 45 Resp: 8260
Ion Ratio Lower Upper
45 100
46 0.0 15.0 59.8#

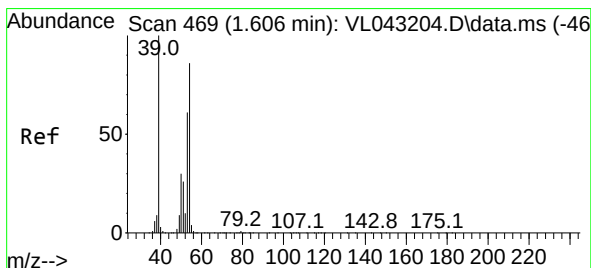
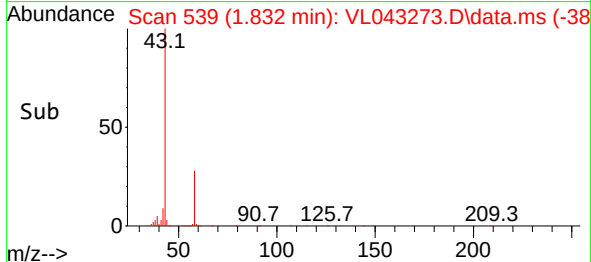
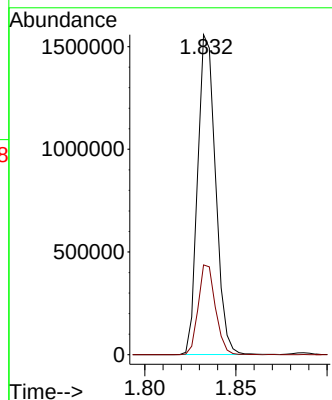
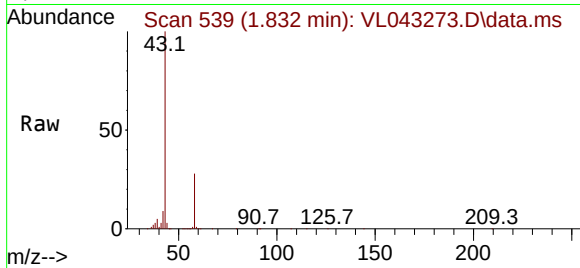




#15
Acetone
Concen: 72.947 ppbv
RT: 1.832 min Scan# 51
Delta R.T. -0.000 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

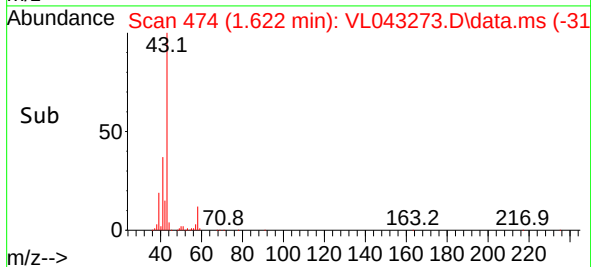
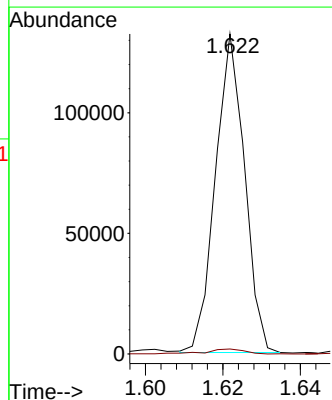
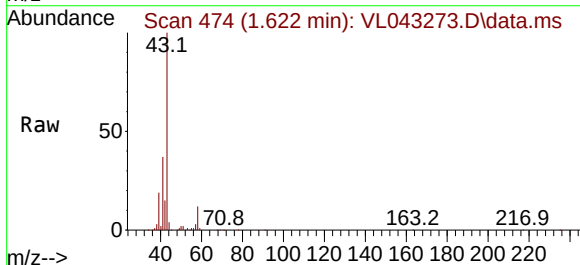
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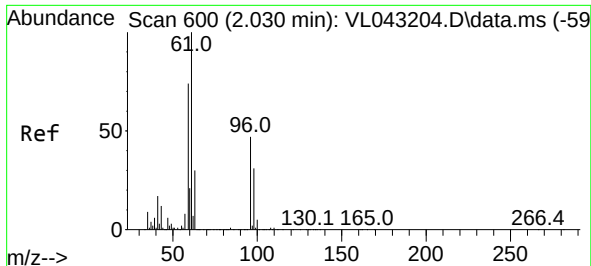
Tgt Ion: 43 Resp: 1065814
Ion Ratio Lower Upper
43 100
58 27.0 20.7 31.1



#16
1,3-Butadiene
Concen: 10.619 ppbv
RT: 1.622 min Scan# 474
Delta R.T. 0.016 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 39 Resp: 69169
Ion Ratio Lower Upper
39 100
54 2.1 59.4 89.2#





#18

1,1-Dichloroethene

Concen: 0.430 ppbv

RT: 2.033 min Scan# 600

Delta R.T. 0.003 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Instrument :

MSVOA_L

ClientSampleId :

SV2

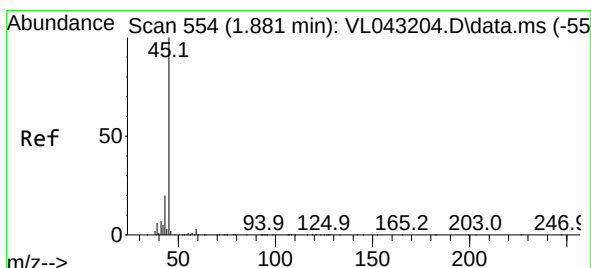
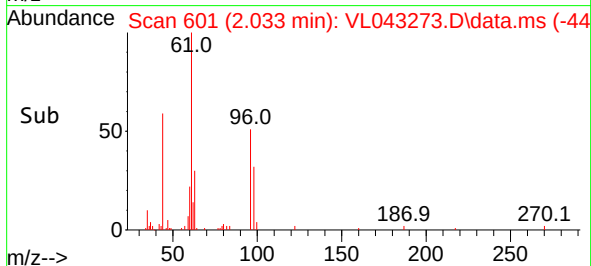
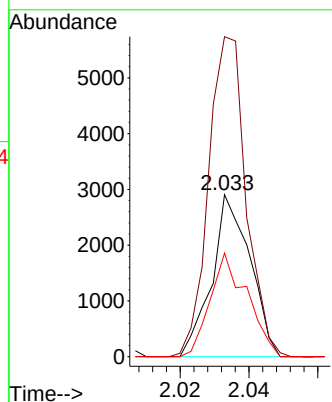
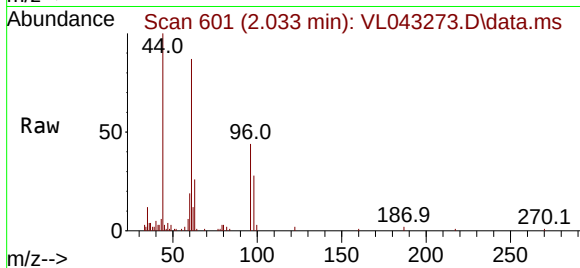
Tgt Ion: 96 Resp: 2244

Ion Ratio Lower Upper

96 100

61 195.4 170.6 255.8

98 63.9 52.2 78.4



#19

Isopropyl Alcohol

Concen: 2.650 ppbv

RT: 1.884 min Scan# 555

Delta R.T. 0.003 min

Lab File: VL043273.D

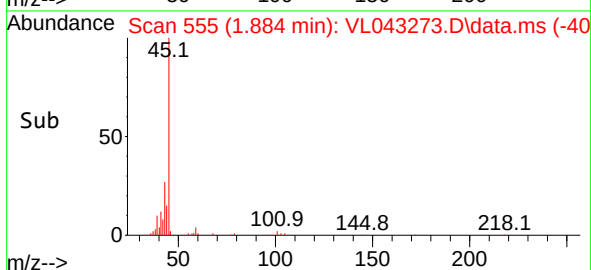
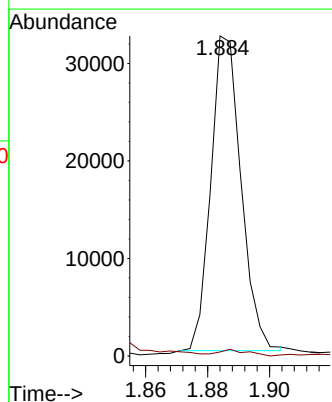
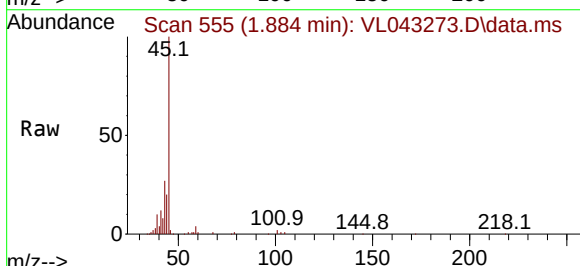
Acq: 20 Nov 2025 19:44

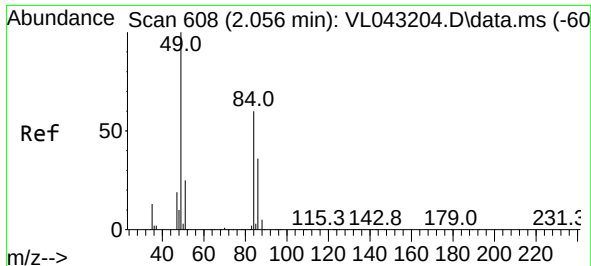
Tgt Ion: 45 Resp: 21880

Ion Ratio Lower Upper

45 100

58 1314.9 31.3 46.9#

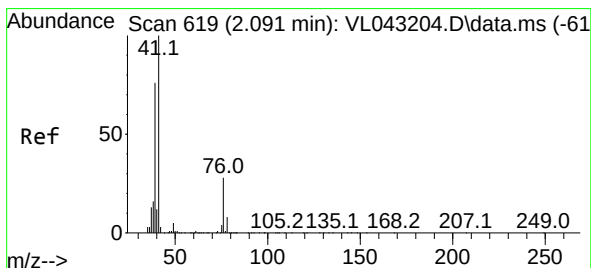
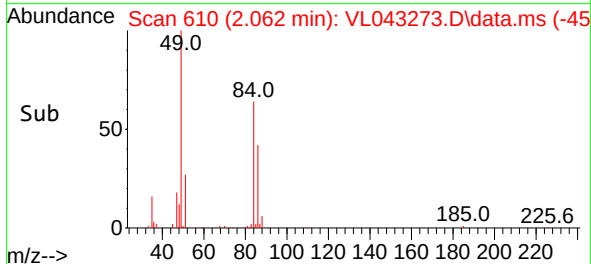
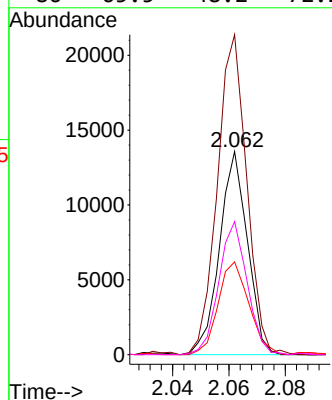
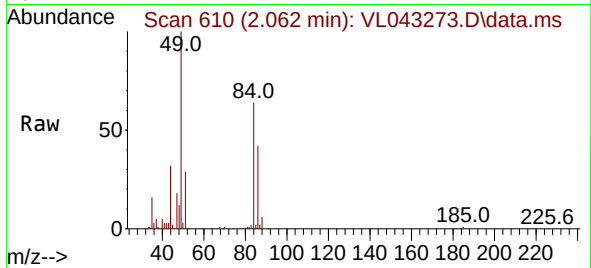




#20
Methylene Chloride
Concen: 1.508 ppbv
RT: 2.062 min Scan# 610
Delta R.T. 0.006 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

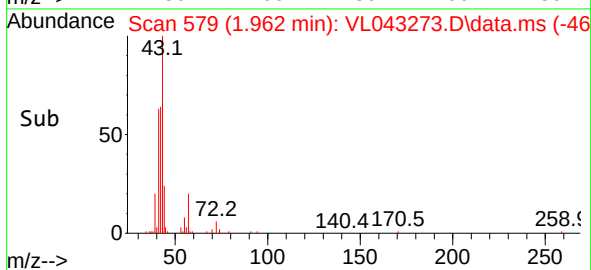
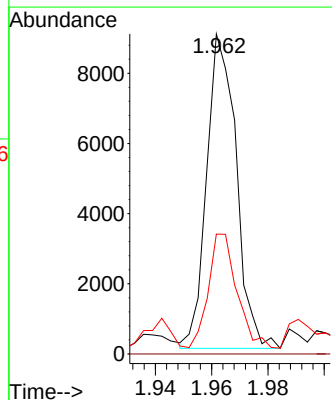
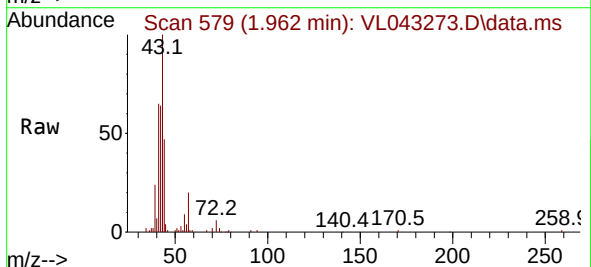
Instrument :
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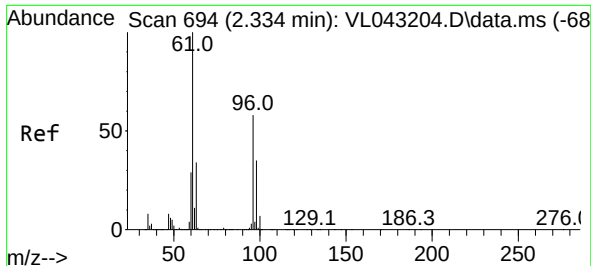
Tgt Ion: 84 Resp: 9361
Ion Ratio Lower Upper
84 100
49 156.4 132.9 199.3
51 45.7 34.8 52.2
86 65.5 48.2 72.2



#21
Allyl Chloride
Concen: 0.666 ppbv
RT: 1.962 min Scan# 579
Delta R.T. -0.130 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 41 Resp: 6542
Ion Ratio Lower Upper
41 100
76 1.1 22.1 33.1#
39 0.0 61.0 91.4#

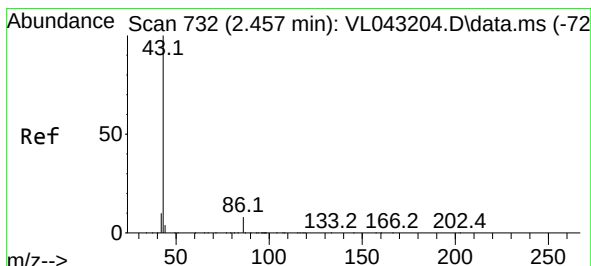
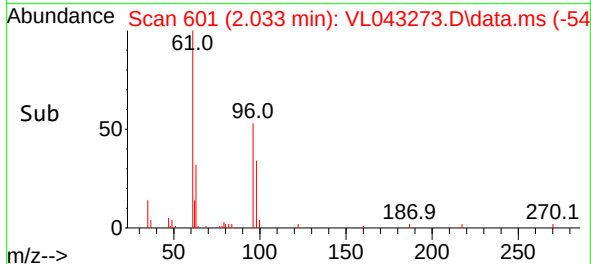
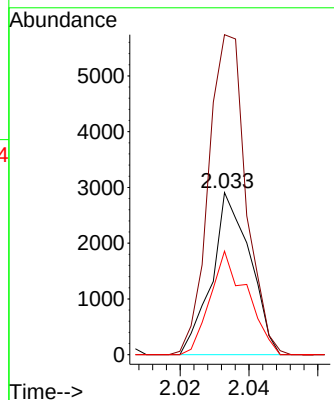
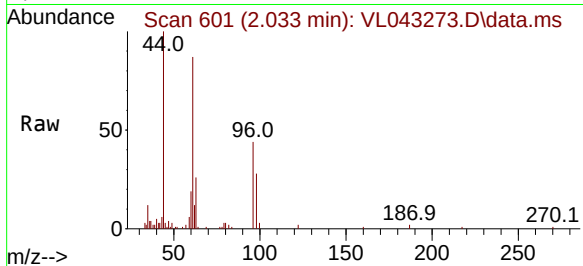




#22
trans-1,2-Dichloroethene
Concen: 0.376 ppbv
RT: 2.033 min Scan# 601
Delta R.T. -0.301 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

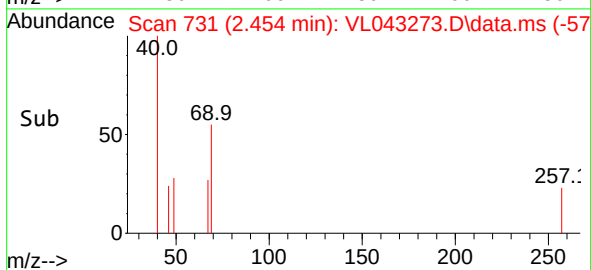
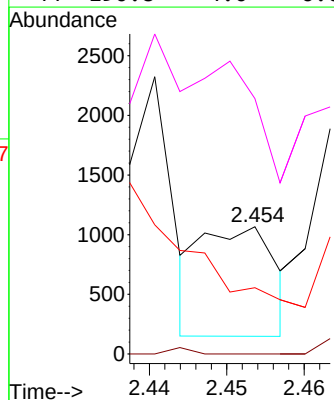
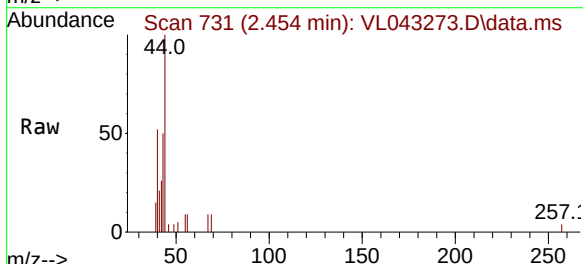
Instrument :
MSVOA_L
ClientSampleId :
SV2

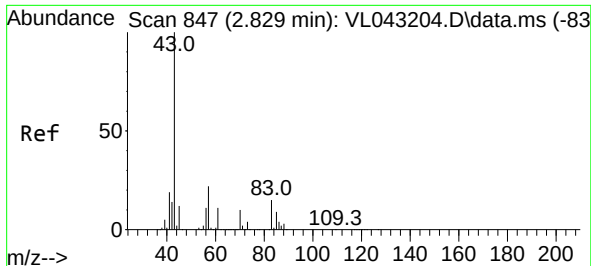
Tgt Ion: 96 Resp: 2244
Ion Ratio Lower Upper
96 100
61 195.4 139.0 208.6
98 63.9 49.4 74.2



#23
Vinyl Acetate
Concen: 0.035 ppbv
RT: 2.454 min Scan# 731
Delta R.T. -0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 43 Resp: 610
Ion Ratio Lower Upper
43 100
86 0.0 6.2 9.2#
42 27.0 8.0 12.0#
44 190.8 4.0 6.0#

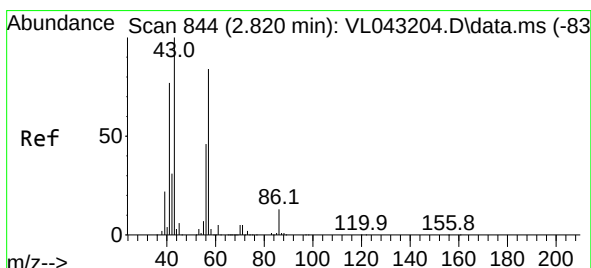
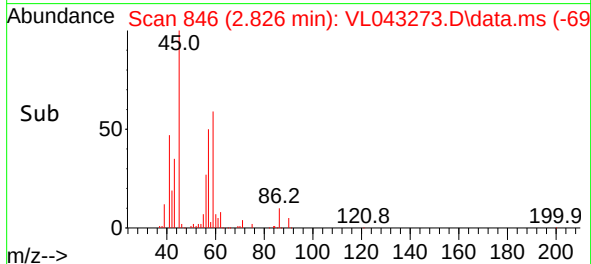
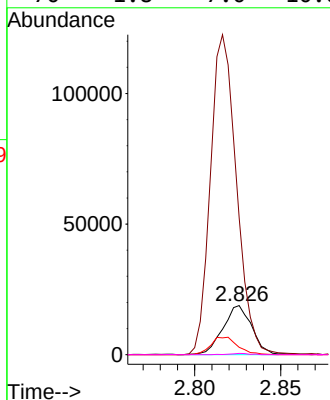
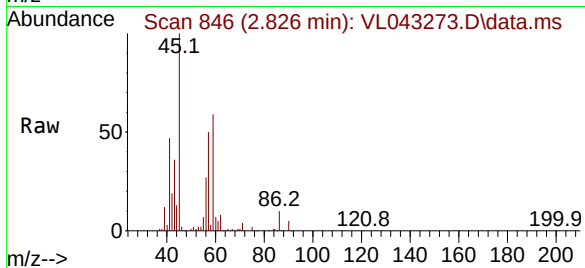




#25
Ethyl Acetate
Concen: 0.695 ppbv
RT: 2.826 min Scan# 846
Delta R.T. -0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

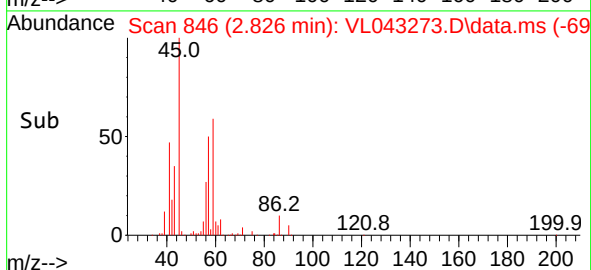
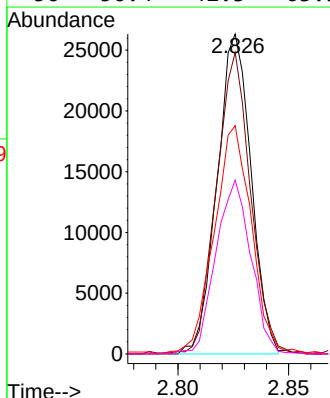
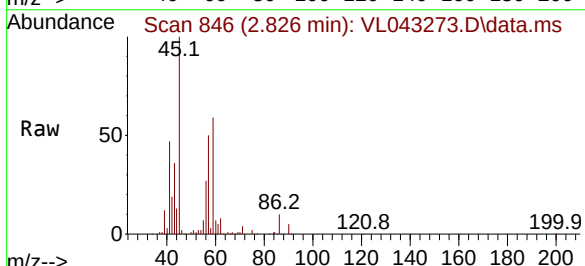
Instrument :
MSVOA_L
ClientSampleId :
SV2

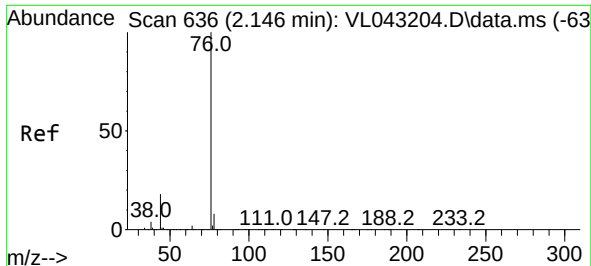
Tgt Ion:	43	Resp:	21895
Ion	Ratio	Lower	Upper
43	100		
45	594.7	8.1	12.1#
61	33.7	7.0	10.4#
70	1.8	7.0	10.6#



#26
Hexane
Concen: 2.034 ppbv
RT: 2.826 min Scan# 846
Delta R.T. 0.006 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion:	57	Resp:	28098
Ion	Ratio	Lower	Upper
57	100		
41	96.1	74.6	111.8
43	80.0	179.0	268.4#
56	56.4	42.3	63.5

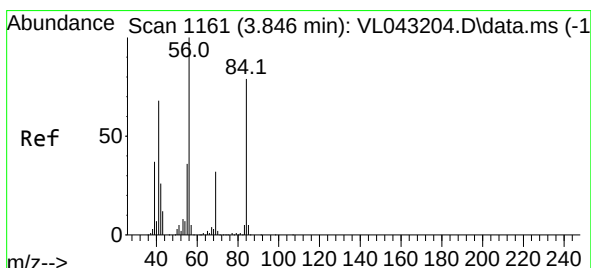
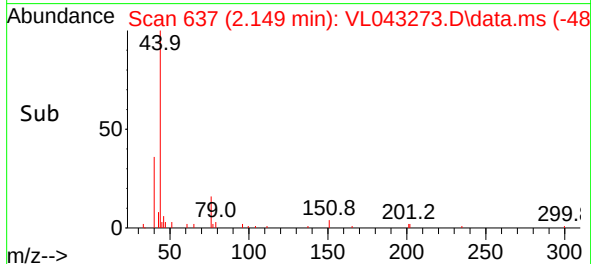
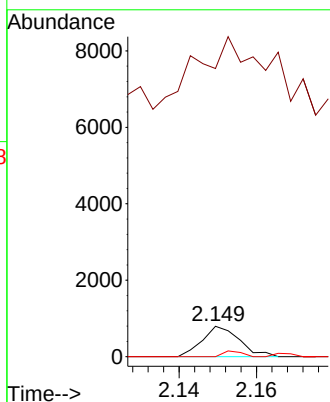
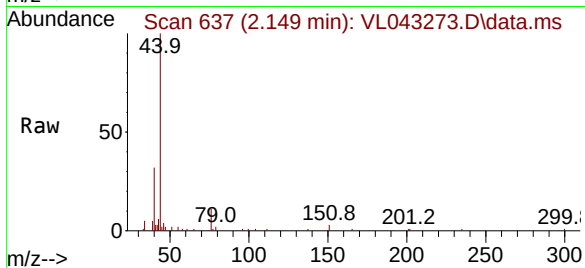




#27
Carbon Disulfide
Concen: 0.038 ppbv
RT: 2.149 min Scan# 61
Delta R.T. 0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

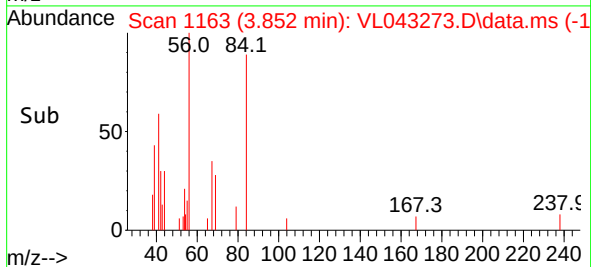
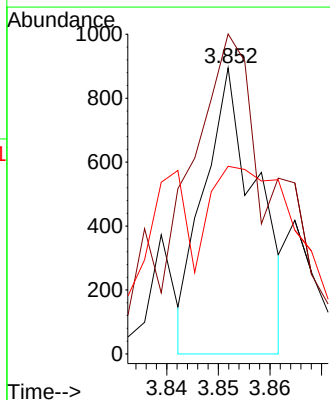
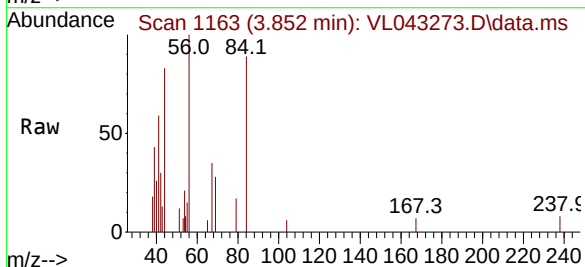
Instrument :
MSVOA_L
ClientSampleId :
SV2

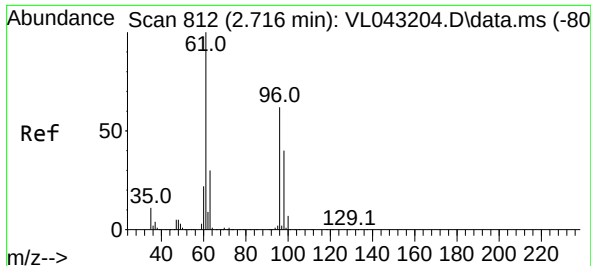
Tgt Ion: 76 Resp: 530
Ion Ratio Lower Upper
76 100
44 457.0 16.1 24.1#
78 15.3 9.6 14.4#



#30
Cyclohexane
Concen: 0.055 ppbv
RT: 3.852 min Scan# 1163
Delta R.T. 0.006 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 84 Resp: 638
Ion Ratio Lower Upper
84 100
56 208.0 104.7 157.1#
41 201.7 69.0 103.6#

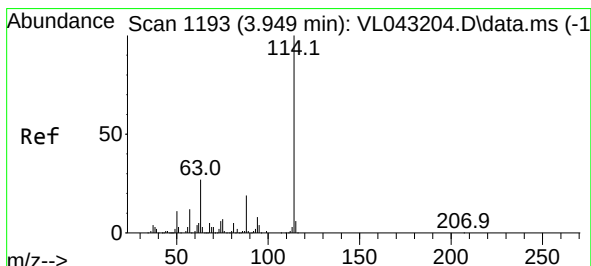
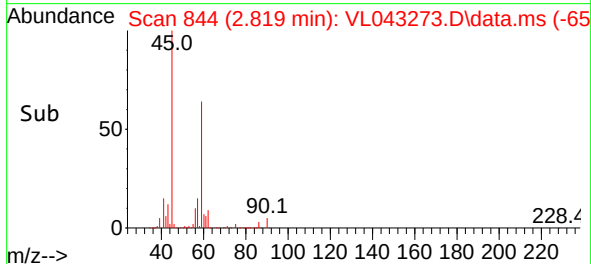
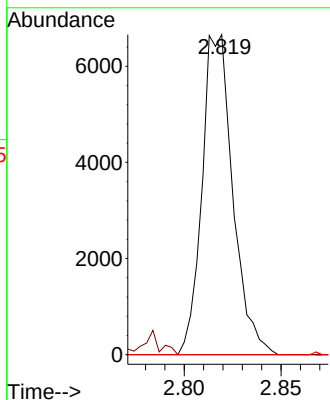
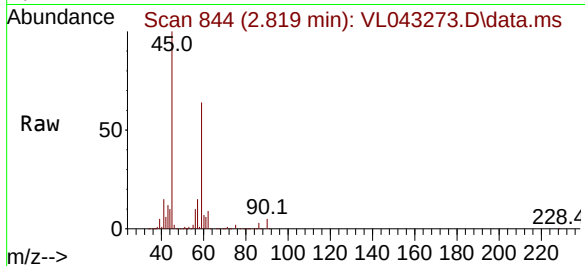




#31
 cis-1,2-Dichloroethene
 Concen: 0.537 ppbv
 RT: 2.819 min Scan# 844
 Delta R.T. 0.103 min
 Lab File: VL043273.D
 Acq: 20 Nov 2025 19:44

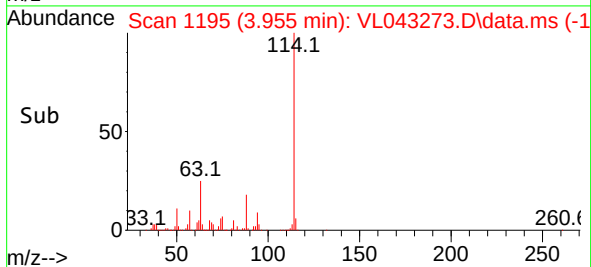
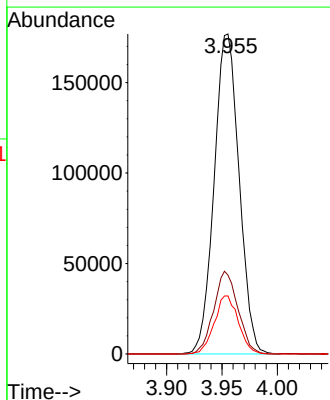
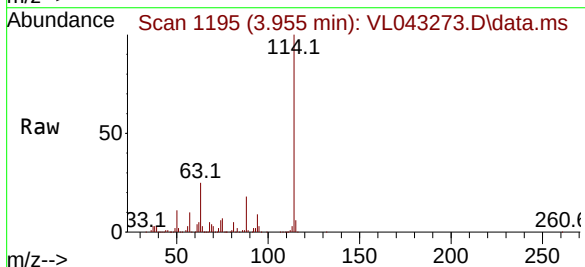
Instrument :
 MSVOA_1
 ClientSampleId :
 SV2

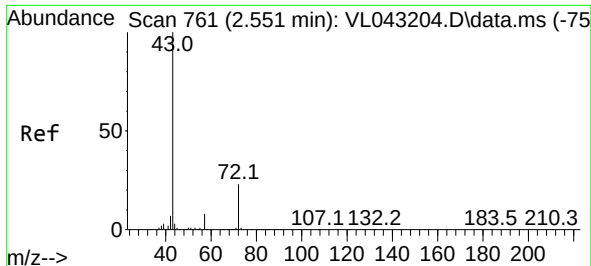
Tgt Ion: 61 Resp: 7375
 Ion Ratio Lower Upper
 61 100
 96 0.0 49.3 73.9#
 98 0.0 32.1 48.1#



#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 3.955 min Scan# 1195
 Delta R.T. 0.006 min
 Lab File: VL043273.D
 Acq: 20 Nov 2025 19:44

Tgt Ion: 114 Resp: 277383
 Ion Ratio Lower Upper
 114 100
 63 25.2 21.0 31.6
 88 17.5 14.9 22.3

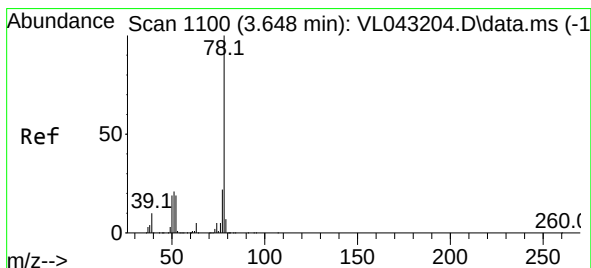
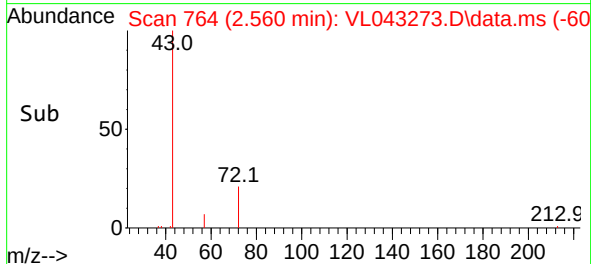
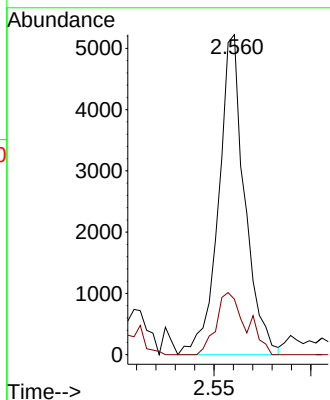
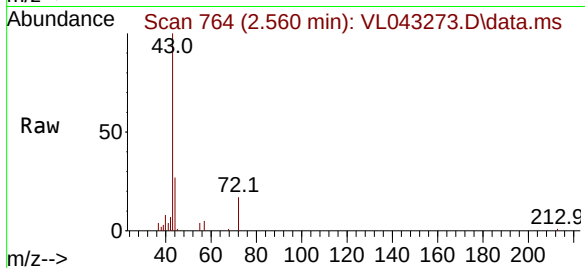




#34
2-Butanone
Concen: 0.251 ppbv
RT: 2.560 min Scan# 764
Delta R.T. 0.009 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

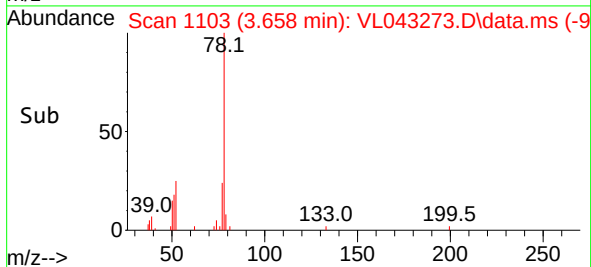
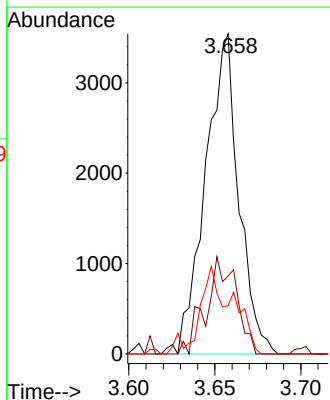
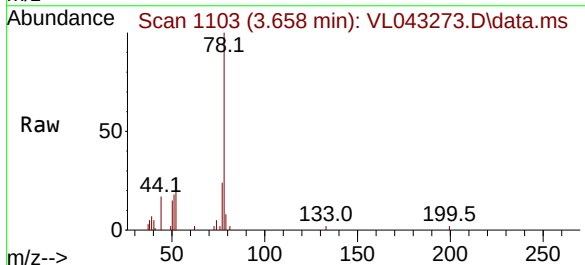
Instrument :
MSVOA_L
ClientSampleId :
SV2

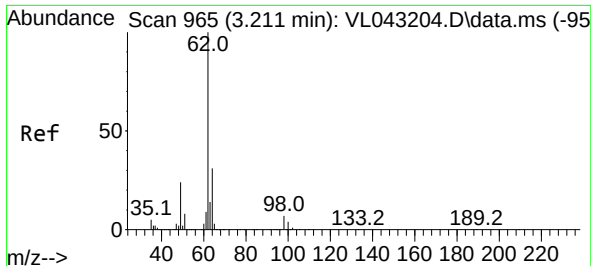
Tgt Ion: 43 Resp: 4908
Ion Ratio Lower Upper
43 100
72 22.3 18.1 27.1



#36
Benzene
Concen: 0.179 ppbv
RT: 3.658 min Scan# 1103
Delta R.T. 0.009 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 78 Resp: 4746
Ion Ratio Lower Upper
78 100
77 24.4 17.5 26.3
50 15.1 15.5 23.3#

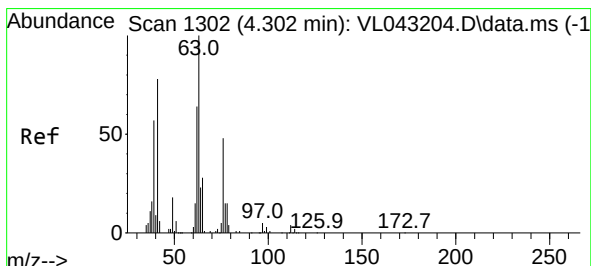
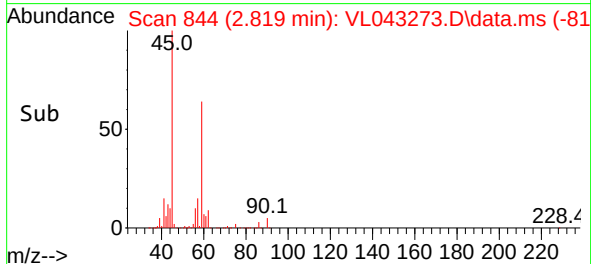
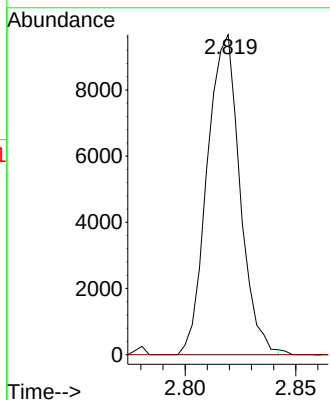
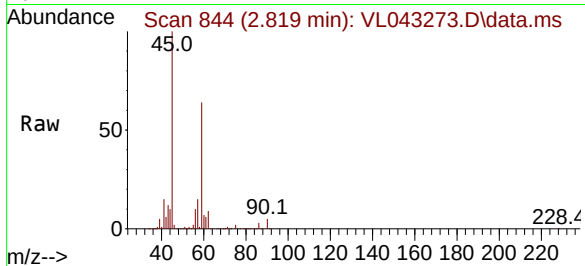




#37
1,2-Dichloroethane
Concen: 0.641 ppbv
RT: 2.819 min Scan# 84
Delta R.T. -0.392 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

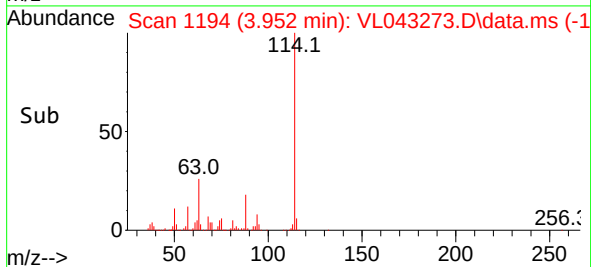
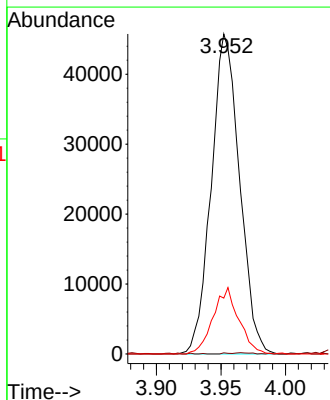
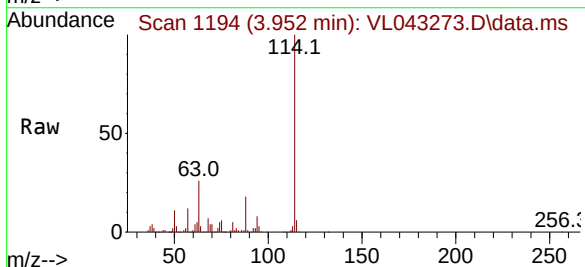
Instrument :
MSVOA_L
ClientSampleId :
SV2

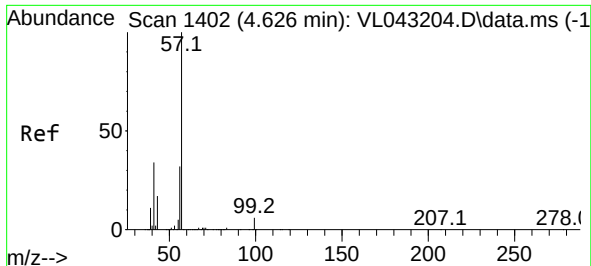
Tgt Ion: 62 Resp: 9954
Ion Ratio Lower Upper
62 100
98 0.0 5.5 8.3#



#39
1,2-Dichloropropane
Concen: 7.177 ppbv
RT: 3.952 min Scan# 1194
Delta R.T. -0.350 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 63 Resp: 69776
Ion Ratio Lower Upper
63 100
41 0.3 62.6 93.8#
62 17.4 51.0 76.6#

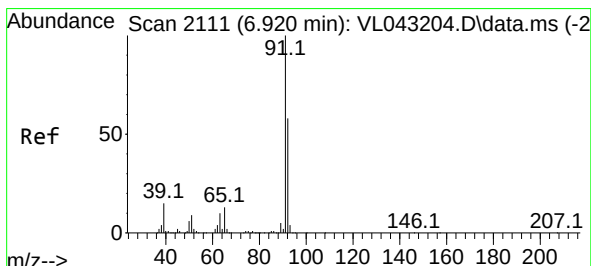
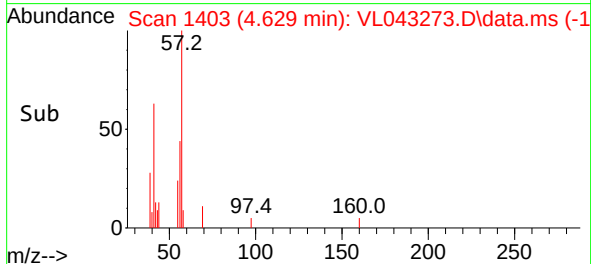
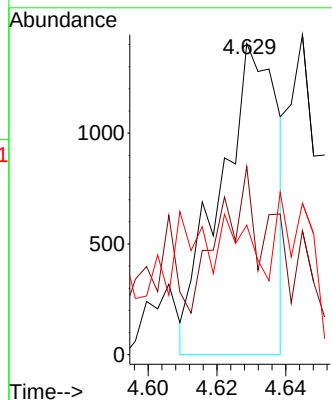
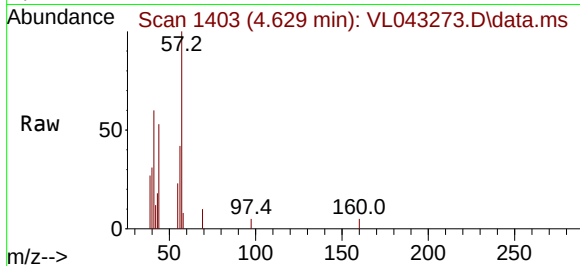




#44
2,2,4-Trimethylpentane
Concen: 0.036 ppbv
RT: 4.629 min Scan# 1403
Delta R.T. 0.003 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

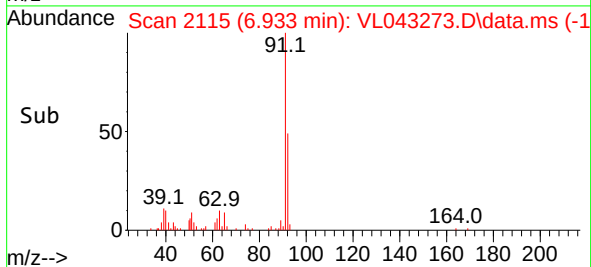
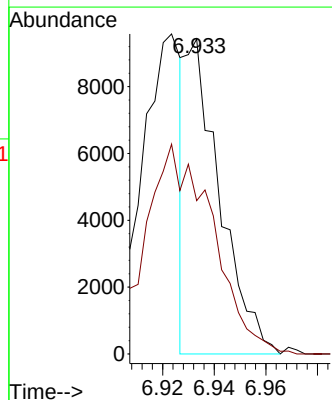
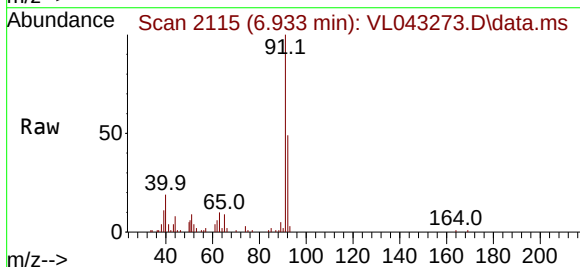
Instrument :
MSVOA_L
ClientSampleId :
SV2

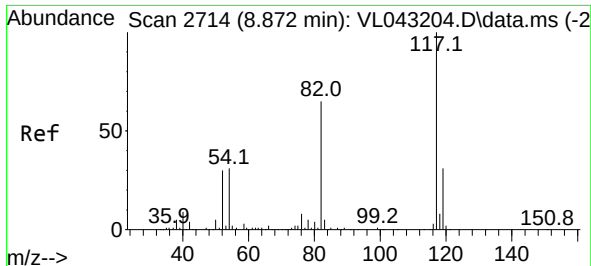
Tgt Ion: 57 Resp: 1623
Ion Ratio Lower Upper
57 100
41 80.7 28.0 42.0#
56 0.0 25.6 38.4#



#53
Toluene
Concen: 0.275 ppbv
RT: 6.933 min Scan# 2115
Delta R.T. 0.013 min
Lab File: VL043273.D
Acq: 20 Nov 2025 19:44

Tgt Ion: 91 Resp: 8648
Ion Ratio Lower Upper
91 100
92 0.0 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: VL043273.D

Acq: 20 Nov 2025 19:44

Instrument :

MSVOA_L

ClientSampleId :

SV2

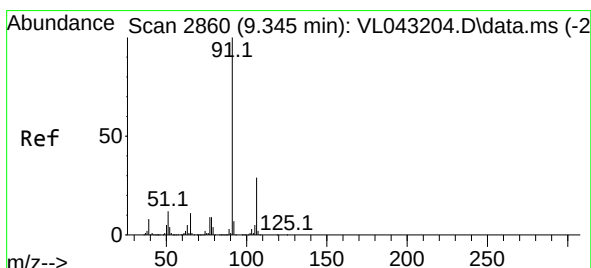
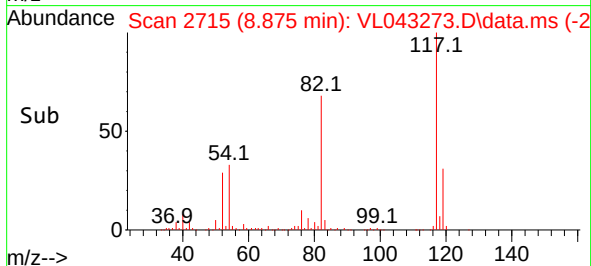
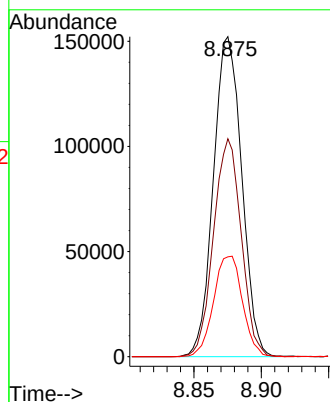
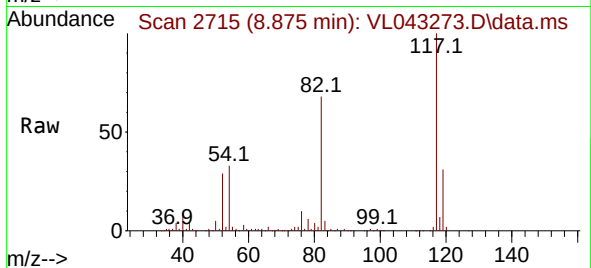
Tgt Ion:117 Resp: 223095

Ion Ratio Lower Upper

117 100

82 66.5 56.1 84.1

119 32.0 25.0 37.6



#58

Ethyl Benzene

Concen: 2.126 ppbv

RT: 9.348 min Scan# 2861

Delta R.T. 0.003 min

Lab File: VL043273.D

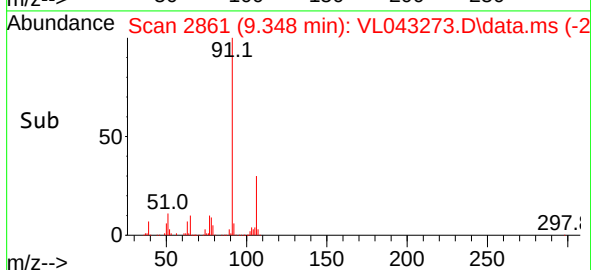
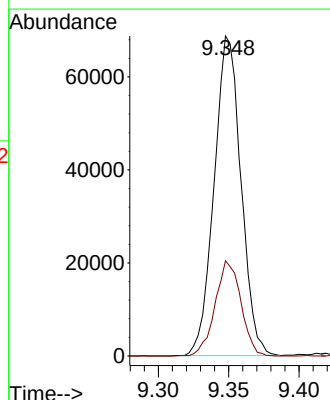
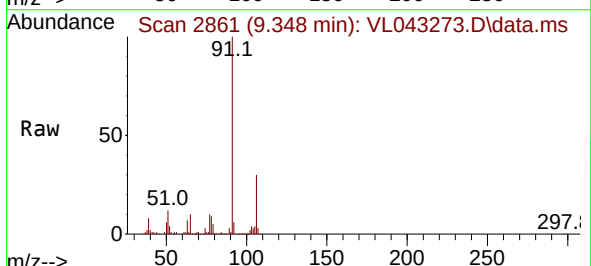
Acq: 20 Nov 2025 19:44

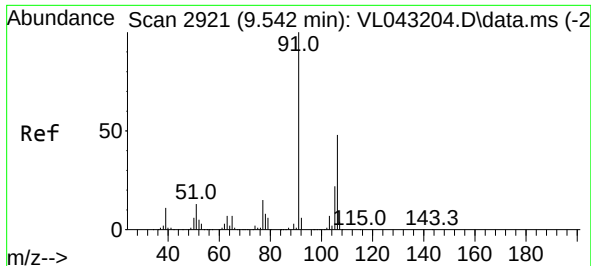
Tgt Ion: 91 Resp: 91292

Ion Ratio Lower Upper

91 100

106 29.8 22.8 34.2





#59

m/p-Xylene

Concen: 10.681 ppbv

RT: 9.526 min Scan# 2921

Delta R.T. -0.016 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Instrument :

MSVOA_L

ClientSampleId :

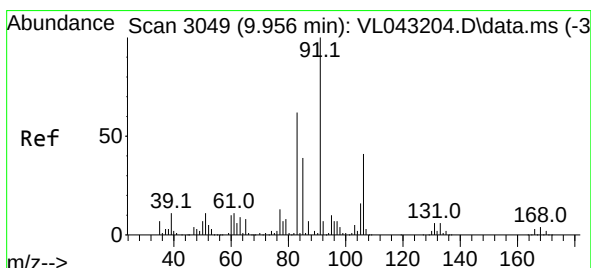
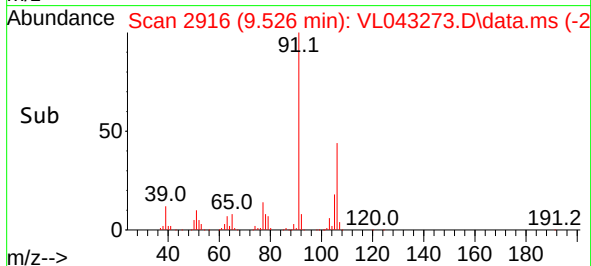
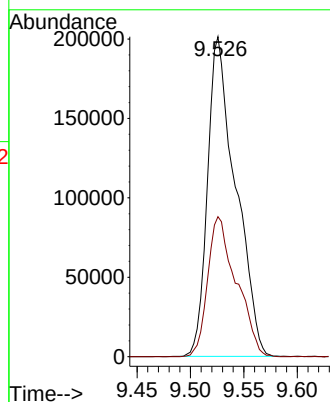
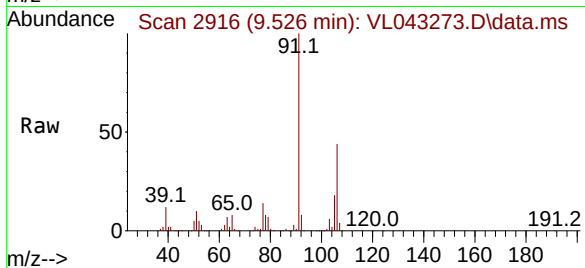
SV2

Tgt Ion: 91 Resp: 367723

Ion Ratio Lower Upper

91 100

106 44.8 36.1 54.1



#60

o-Xylene

Concen: 3.205 ppbv

RT: 9.956 min Scan# 3049

Delta R.T. -0.000 min

Lab File: VL043273.D

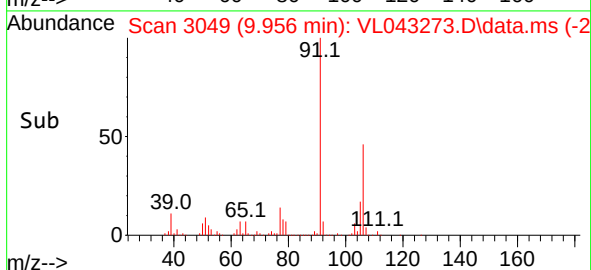
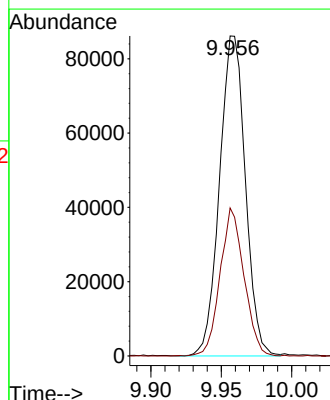
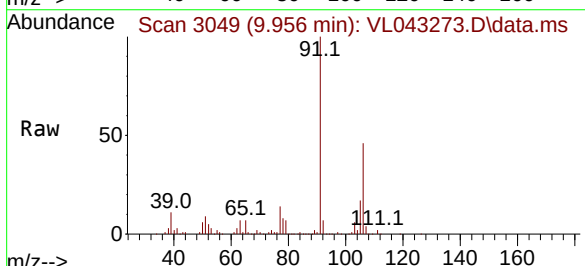
Acq: 20 Nov 2025 19:44

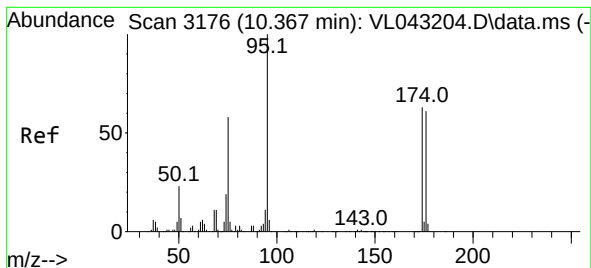
Tgt Ion: 91 Resp: 110225

Ion Ratio Lower Upper

91 100

106 42.9 20.9 62.8





#68

1-Bromo-4-Fluorobenzene

Concen: 10.209 ppbv

RT: 10.370 min Scan# 3176

Delta R.T. 0.003 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Instrument :

MSVOA_1

ClientSampleId :

SV2

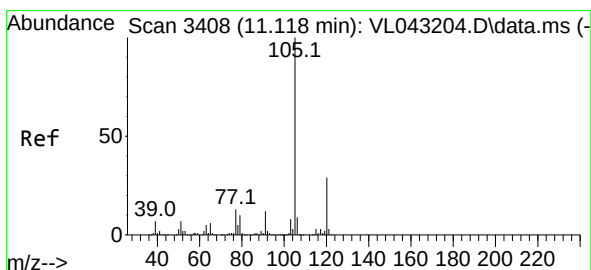
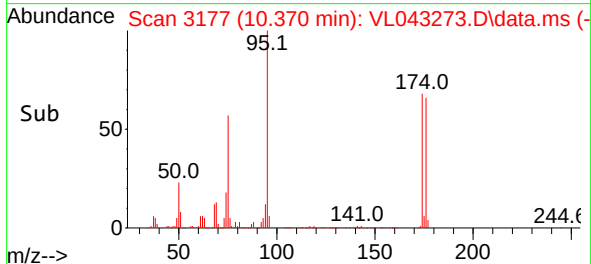
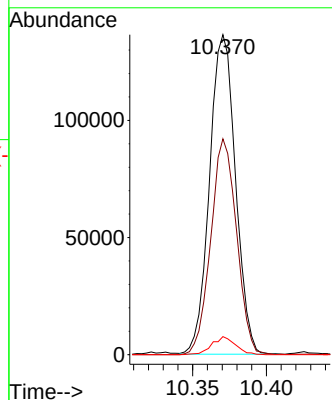
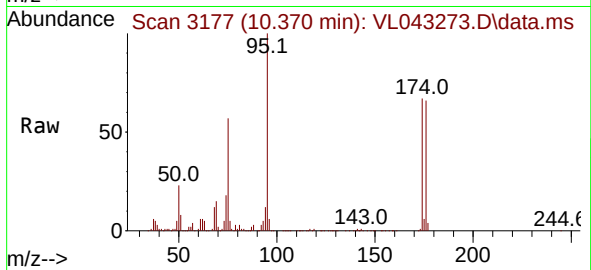
Tgt Ion: 95 Resp: 166954

Ion Ratio Lower Upper

95 100

174 67.3 50.2 75.2

175 5.1 4.1 6.1



#72

4-Ethyltoluene

Concen: 0.033 ppbv

RT: 11.121 min Scan# 3409

Delta R.T. 0.003 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Tgt Ion: 105 Resp: 1384

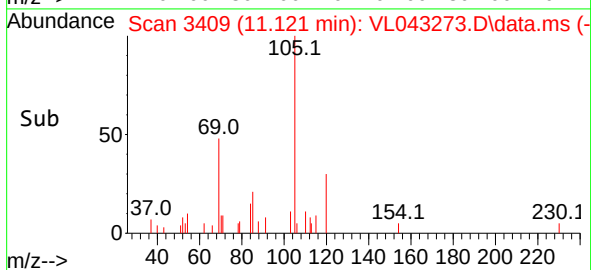
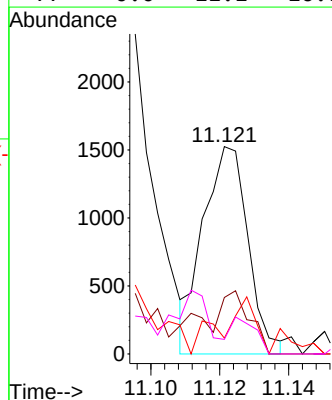
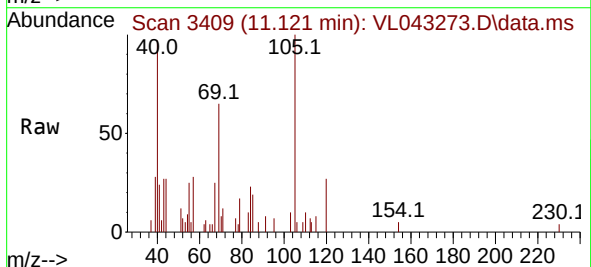
Ion Ratio Lower Upper

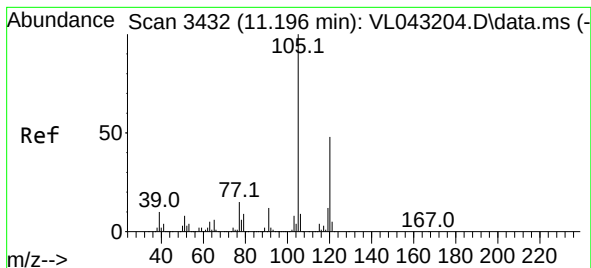
105 100

120 0.0 23.8 35.8#

91 26.5 10.3 15.5#

77 0.0 11.1 16.7#





#73

1,3,5-Trimethylbenzene

Concen: 0.030 ppbv

RT: 11.202 min Scan# 3434

Delta R.T. 0.006 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Instrument :

MSVOA_L

ClientSampleId :

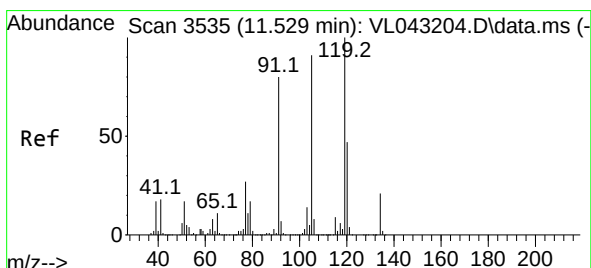
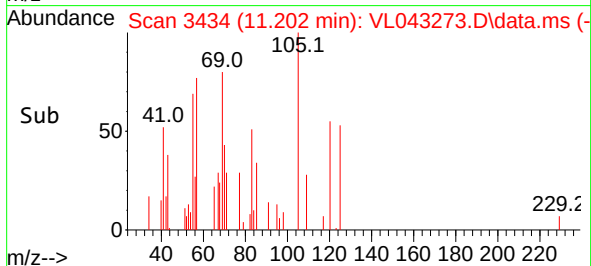
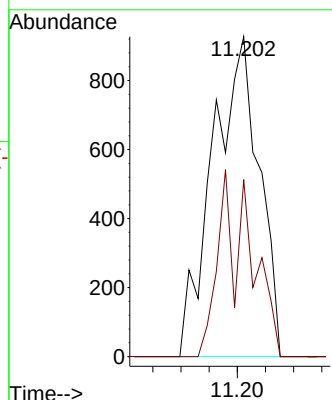
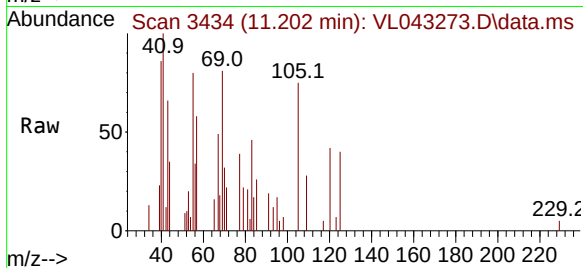
SV2

Tgt Ion:105 Resp: 1058

Ion Ratio Lower Upper

105 100

120 55.3 38.6 57.8



#74

1,2,4-Trimethylbenzene

Concen: 0.095 ppbv

RT: 11.532 min Scan# 3536

Delta R.T. 0.003 min

Lab File: VL043273.D

Acq: 20 Nov 2025 19:44

Tgt Ion:105 Resp: 3659

Ion Ratio Lower Upper

105 100

120 44.5 41.7 62.5

91 17.9 70.0 105.0#

77 17.7 23.8 35.8#

