

Data Path : Z:\voasrv\HPCHEM1\MSVOA_L\Data\VL112425\
 Data File : VL043284.D
 Acq On : 24 Nov 2025 16:09
 Operator : SY/MD
 Sample : Q3696-06
 Misc : 400mL/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Nov 24 23:41:57 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)

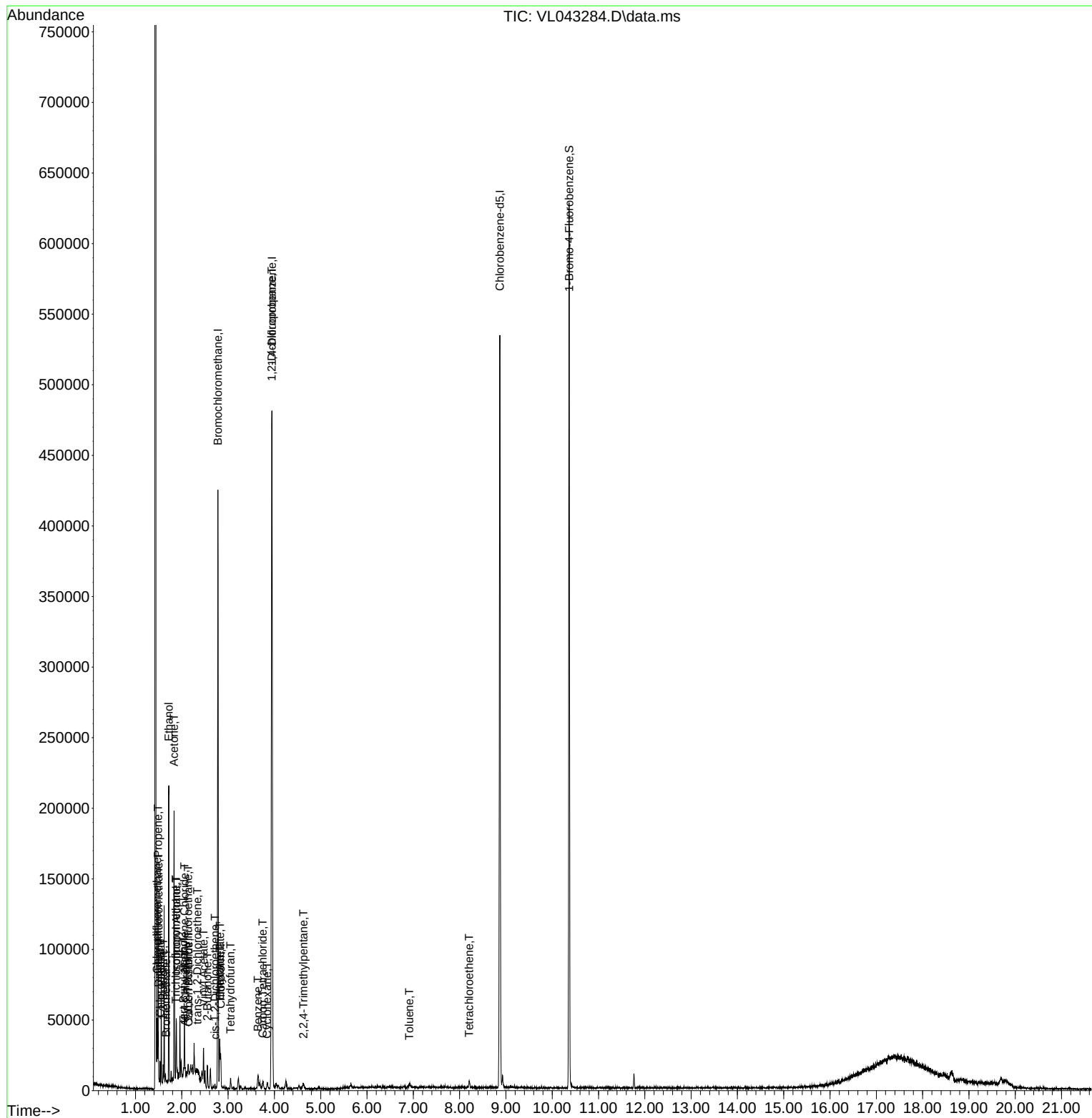
Internal Standards						
1) Bromochloromethane	2.781	49	109479	10.000	ppbv	0.00
33) 1,4-Difluorobenzene	3.946	114	279354	10.000	ppbv	0.00
55) Chlorobenzene-d5	8.869	117	212021	10.000	ppbv	0.00
System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	10.364	95	146433	9.422	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	94.200%
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	1.496	85	7796	0.505	ppbv	91
3) Chlorodifluoromethane	1.463	51	13368	0.880	ppbv #	79
4) Chloromethane	1.531	50	4629	0.802	ppbv	92
6) Bromomethane	1.661	94	166	0.054	ppbv #	34
9) Propene	1.486	41	10165	1.576	ppbv #	1
11) Trichlorofluoromethane	1.874	101	4256	0.284	ppbv	99
12) 1,1,2-Trichlorotrifluo...	2.133	101	922	0.079	ppbv #	75
13) Ethanol	1.719	45	74123	32.689	ppbv	100
15) Acetone	1.832	43	83602	5.496	ppbv	98
16) 1,3-Butadiene	1.599	39	1755	0.259	ppbv #	61
17) tert-Butyl alcohol	2.036	59	2274	0.114	ppbv #	81
19) Isopropyl Alcohol	1.881	45	16706	1.944	ppbv #	1
20) Methylene Chloride	2.059	84	6632	0.754	ppbv	89
21) Allyl Chloride	2.078	41	444	0.043	ppbv #	21
22) trans-1,2-Dichloroethene	2.337	96	469	0.075	ppbv #	62
23) Vinyl Acetate	2.467	43	6022	0.328	ppbv #	29
25) Ethyl Acetate	2.823	43	5825	0.178	ppbv #	78
26) Hexane	2.819	57	7152	0.497	ppbv #	45
27) Carbon Disulfide	2.146	76	458	0.031	ppbv #	1
29) Chloroform	2.839	83	8627	0.422	ppbv	94
30) Cyclohexane	3.842	84	438	0.036	ppbv #	1
31) cis-1,2-Dichloroethene	2.716	61	1050	0.073	ppbv	91
34) 2-Butanone	2.554	43	10550	0.535	ppbv	95
35) Carbon Tetrachloride	3.748	117	1224	0.058	ppbv #	58
36) Benzene	3.645	78	5586	0.209	ppbv #	90
39) 1,2-Dichloropropane	3.943	63	73150	7.471	ppbv #	24
41) Tetrahydrofuran	3.052	42	2261	0.208	ppbv	93
44) 2,2,4-Trimethylpentane	4.625	57	1401	0.030	ppbv #	1
52) Tetrachloroethene	8.202	164	385	0.039	ppbv #	59
53) Toluene	6.911	91	1009	0.032	ppbv #	9

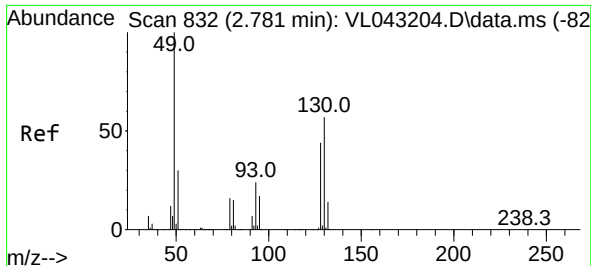
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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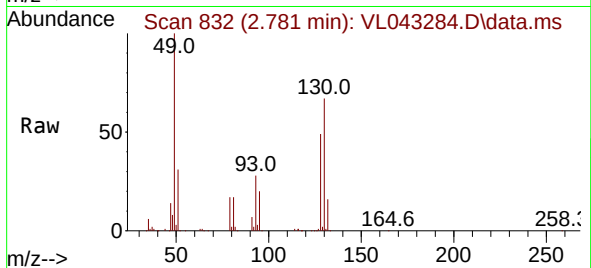
Quant Time: Nov 24 23:41:57 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_L\methods\VL11825AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Aug 26 06:05:16 2022
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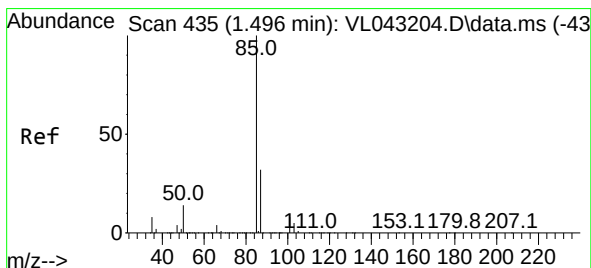
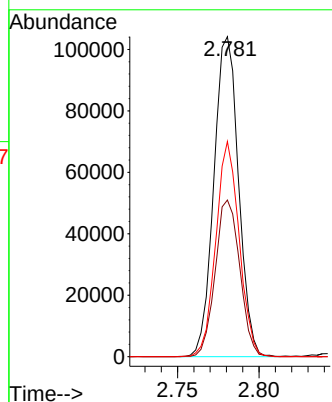
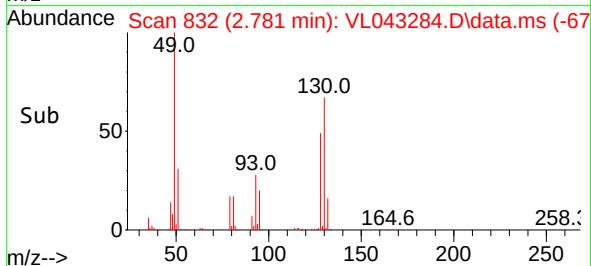


#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 2.781 min Scan# 832
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Instrument :
MSVOA_L
ClientSampleId :

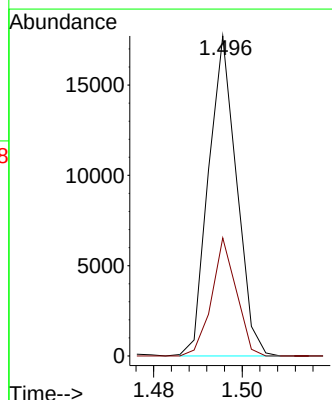
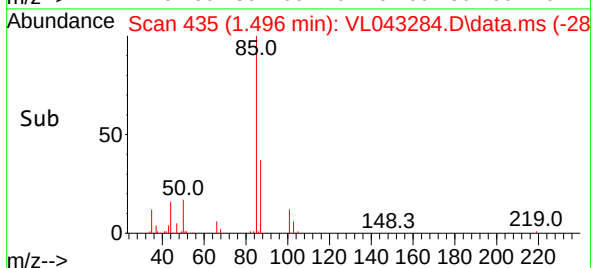
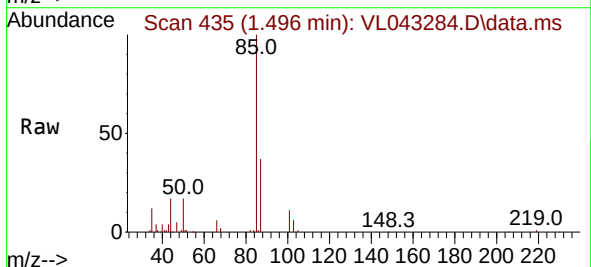


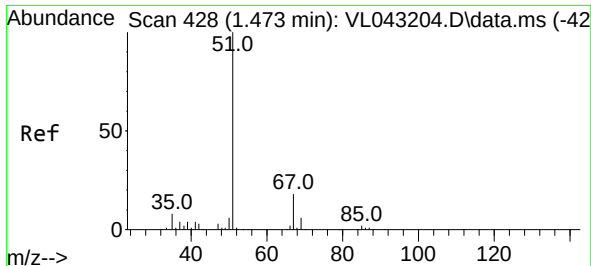
Tgt Ion: 49 Resp: 109479
Ion Ratio Lower Upper
49 100
128 48.8 23.0 69.0
130 63.5 29.9 89.7



#2
Dichlorodifluoromethane
Concen: 0.505 ppbv
RT: 1.496 min Scan# 435
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 85 Resp: 7796
Ion Ratio Lower Upper
85 100
87 36.9 25.4 38.2

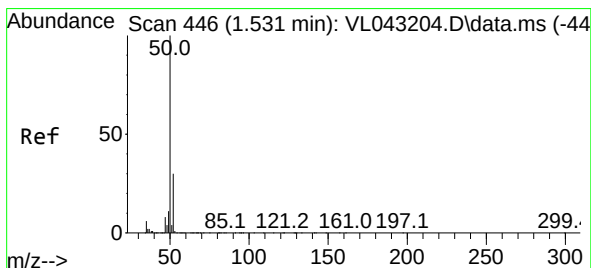
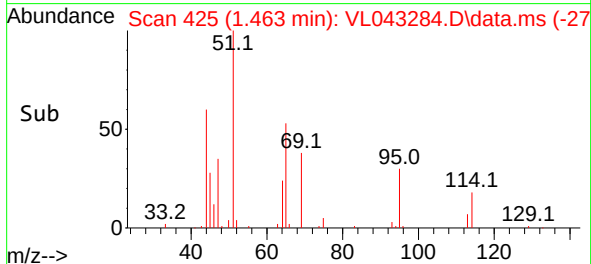
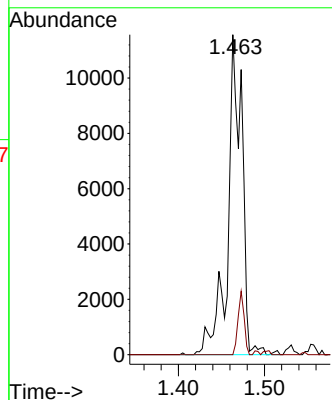
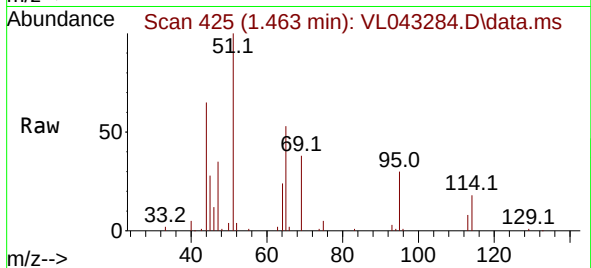




#3
Chlorodifluoromethane
Concen: 0.880 ppbv
RT: 1.463 min Scan# 41
Delta R.T. -0.010 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

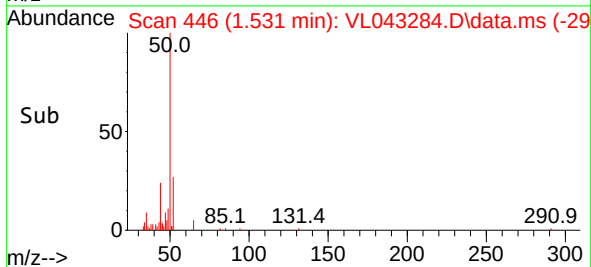
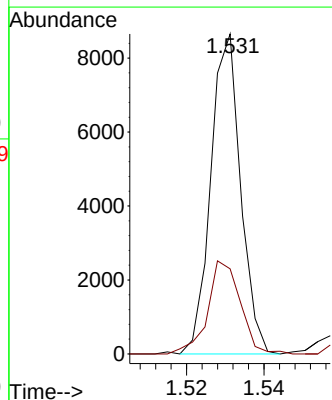
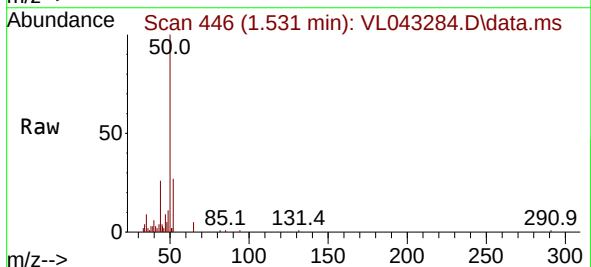
Instrument :
MSVOA_L
ClientSampleId :

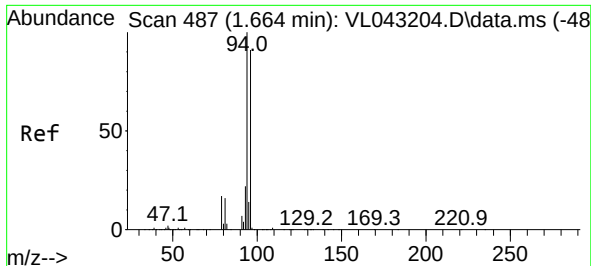
Tgt Ion: 51 Resp: 13368
Ion Ratio Lower Upper
51 100
67 9.4 14.9 22.3#



#4
Chloromethane
Concen: 0.802 ppbv
RT: 1.531 min Scan# 446
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 50 Resp: 4629
Ion Ratio Lower Upper
50 100
52 25.8 24.1 36.1

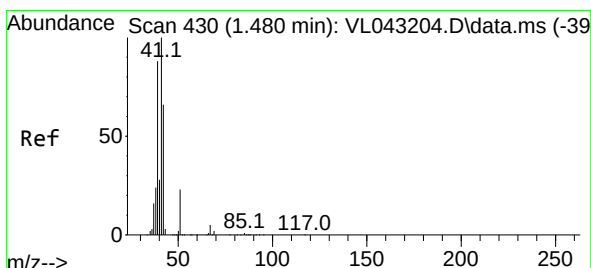
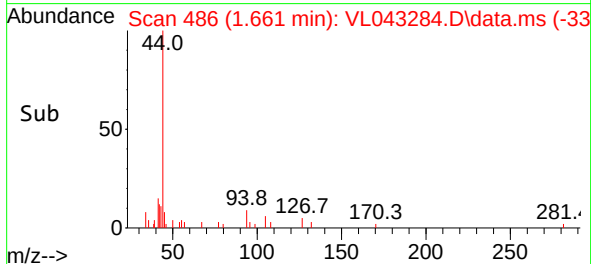
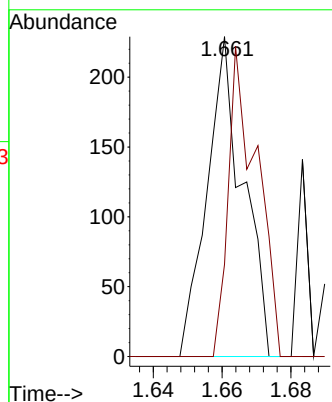
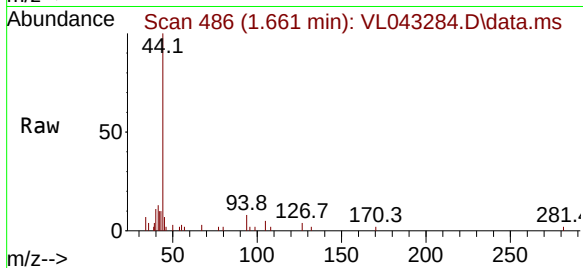




#6
Bromomethane
Concen: 0.054 ppbv
RT: 1.661 min Scan# 41
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

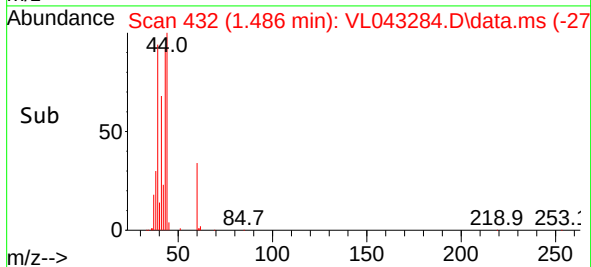
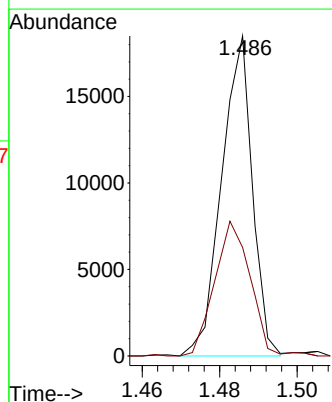
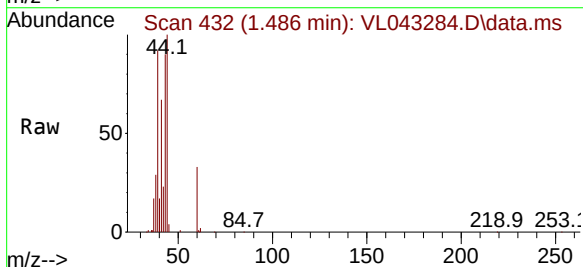
Instrument :
MSVOA_L
ClientSampleId :

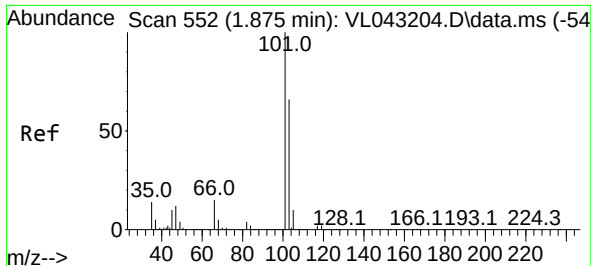
Tgt Ion: 94 Resp: 166
Ion Ratio Lower Upper
94 100
96 28.8 72.9 109.3#



#9
Propene
Concen: 1.576 ppbv
RT: 1.486 min Scan# 432
Delta R.T. 0.006 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

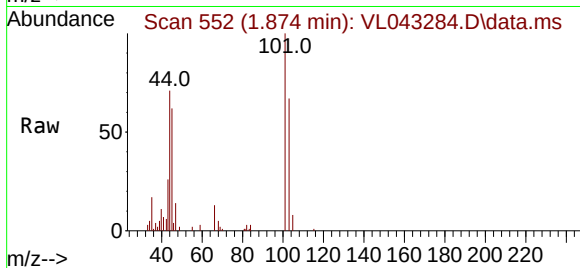
Tgt Ion: 41 Resp: 10165
Ion Ratio Lower Upper
41 100
42 49.4 3.7 5.5#



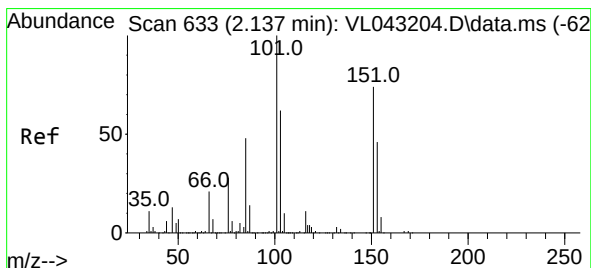
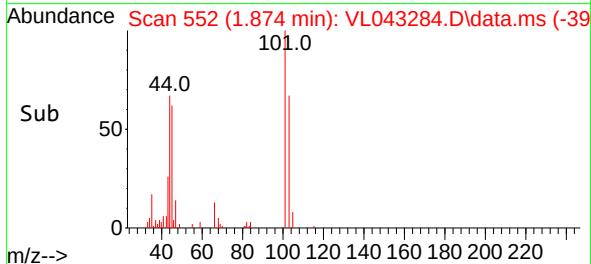
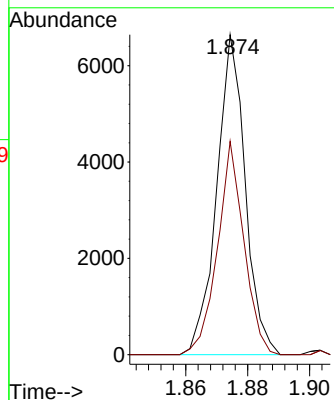


#11
 Trichlorofluoromethane
 Concen: 0.284 ppbv
 RT: 1.874 min Scan# 511
 Delta R.T. -0.000 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

Instrument :
 MSVOA_L
 ClientSampleId :

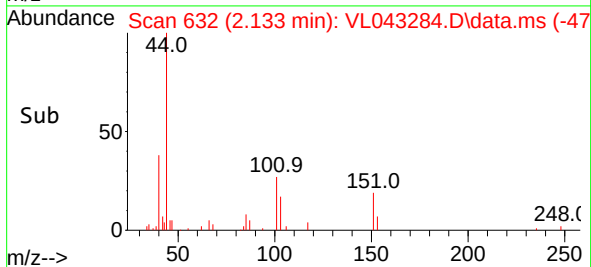
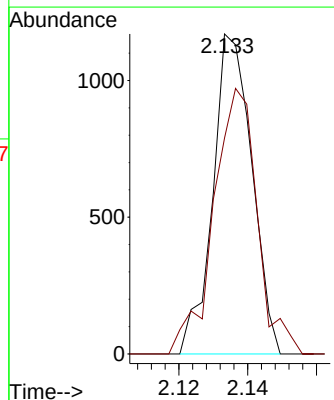
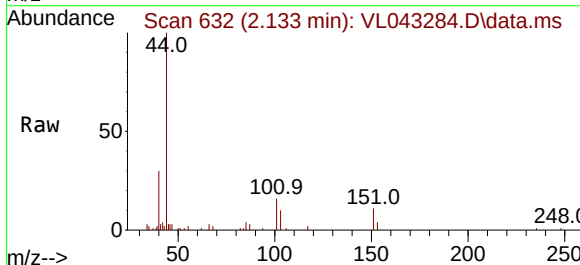


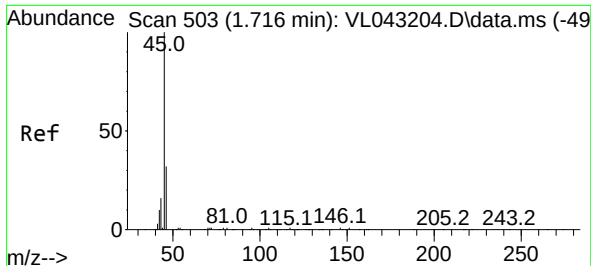
Tgt Ion:101 Resp: 4256
 Ion Ratio Lower Upper
 101 100
 103 66.7 52.6 79.0



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.079 ppbv
 RT: 2.133 min Scan# 632
 Delta R.T. -0.003 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

Tgt Ion:101 Resp: 922
 Ion Ratio Lower Upper
 101 100
 151 95.4 59.2 88.8#

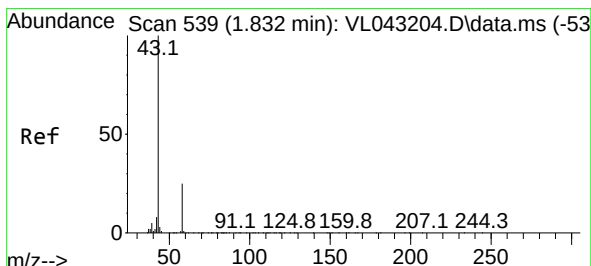
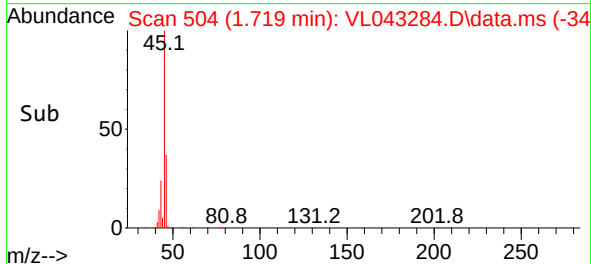
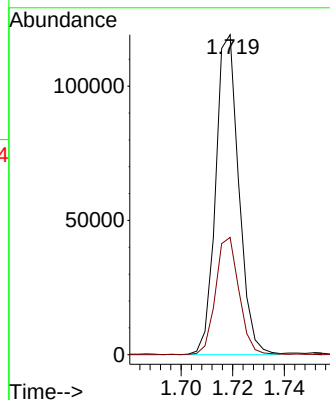
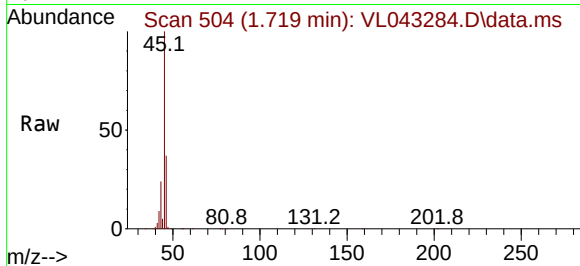




#13
 Ethanol
 Concen: 32.689 ppbv
 RT: 1.719 min Scan# 503
 Delta R.T. 0.003 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

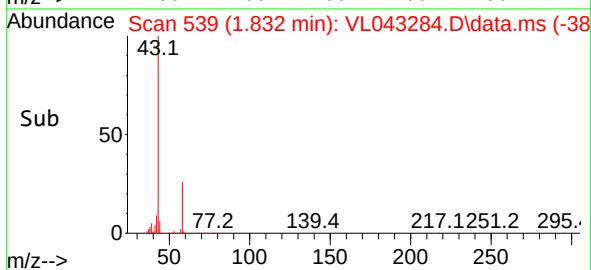
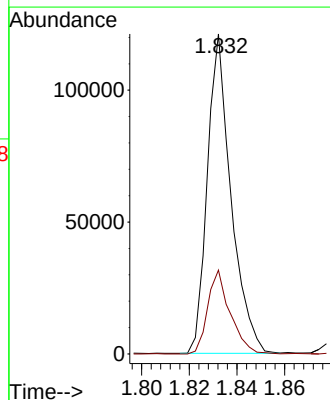
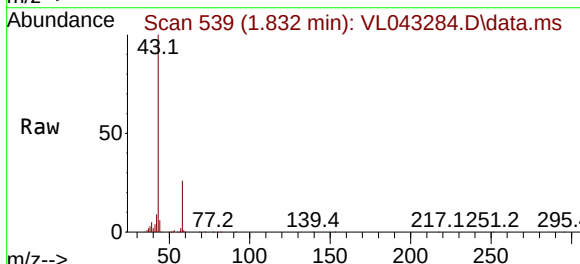
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 ClientSampleId :

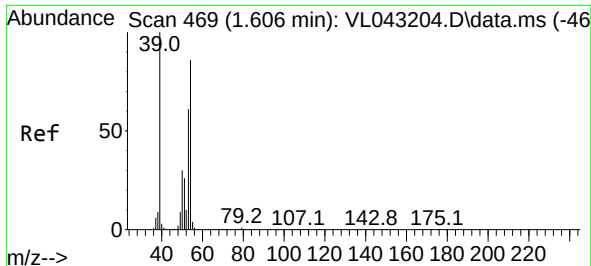
Tgt Ion: 45 Resp: 74123
 Ion Ratio Lower Upper
 45 100
 46 37.6 15.0 59.8



#15
 Acetone
 Concen: 5.496 ppbv
 RT: 1.832 min Scan# 539
 Delta R.T. -0.000 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

Tgt Ion: 43 Resp: 83602
 Ion Ratio Lower Upper
 43 100
 58 25.0 20.7 31.1

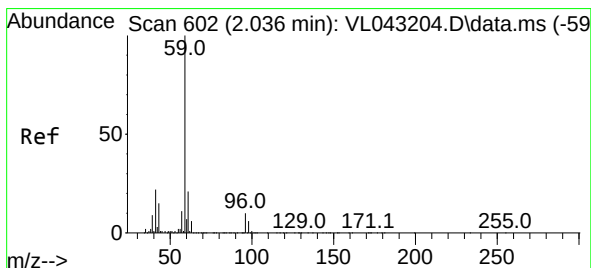
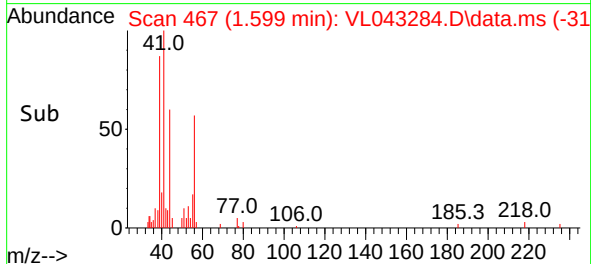
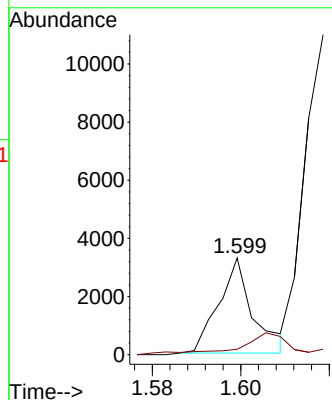
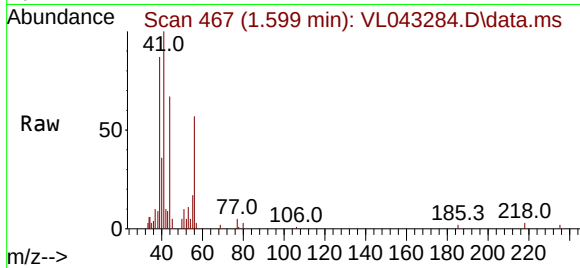




#16
1,3-Butadiene
Concen: 0.259 ppbv
RT: 1.599 min Scan# 41
Delta R.T. -0.007 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

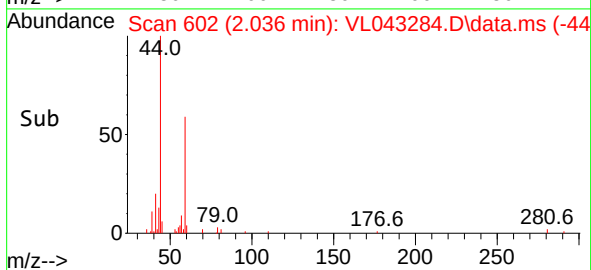
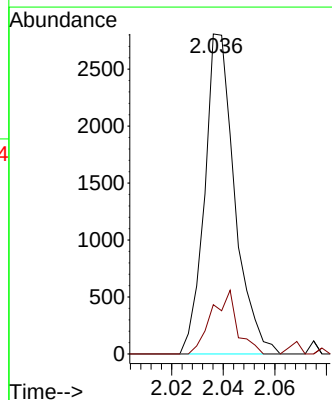
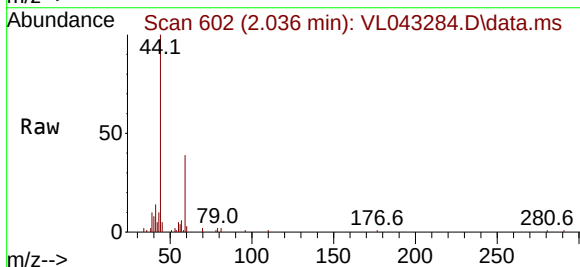
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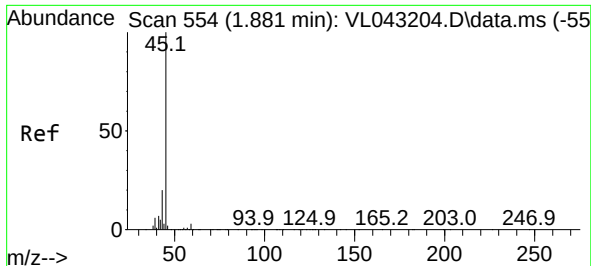
Tgt Ion: 39 Resp: 1755
Ion Ratio Lower Upper
39 100
54 41.7 59.4 89.2#



#17
tert-Butyl alcohol
Concen: 0.114 ppbv
RT: 2.036 min Scan# 602
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 59 Resp: 2274
Ion Ratio Lower Upper
59 100
57 18.5 9.0 13.4#

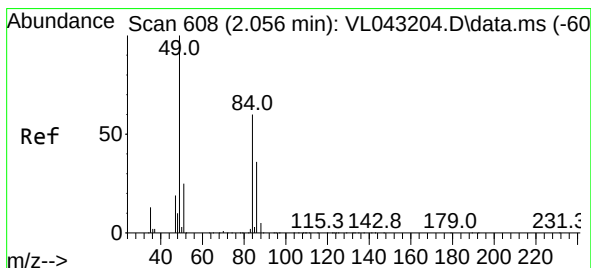
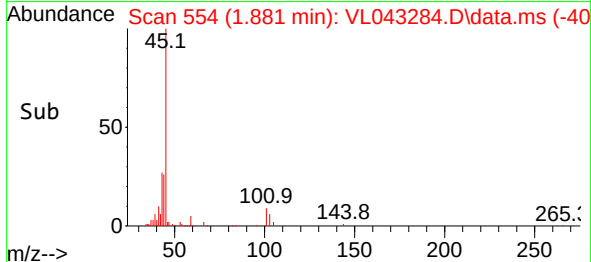
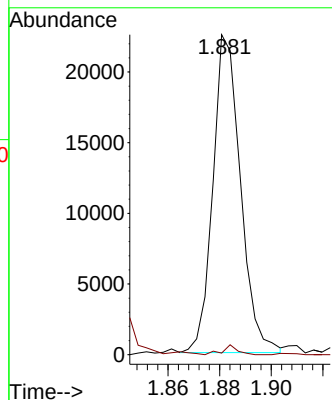
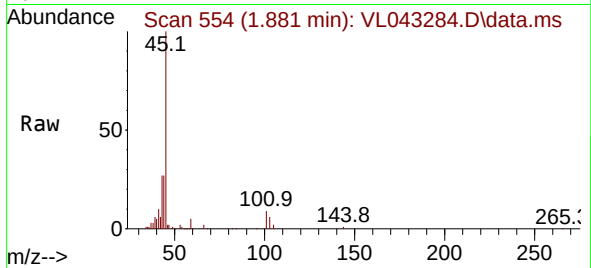




#19
Isopropyl Alcohol
Concen: 1.944 ppbv
RT: 1.881 min Scan# 51
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

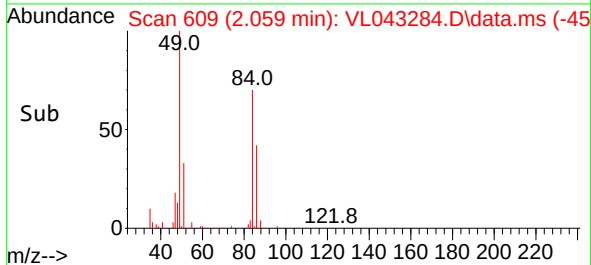
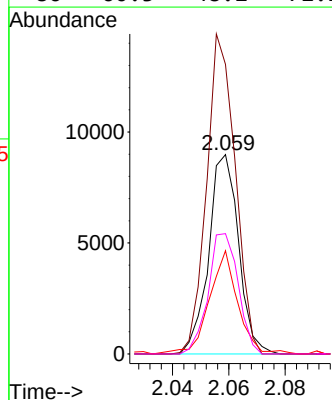
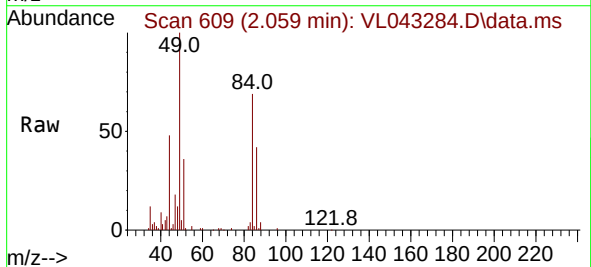
Instrument :
MSVOA_L
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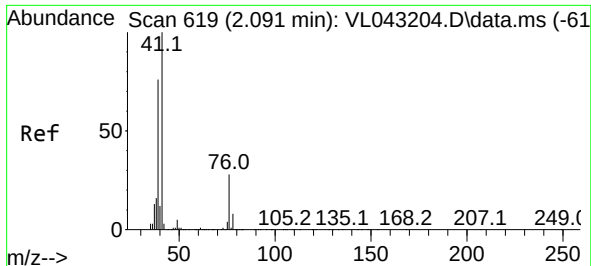
Tgt Ion: 45 Resp: 16706
Ion Ratio Lower Upper
45 100
58 124.9 31.3 46.9#



#20
Methylene Chloride
Concen: 0.754 ppbv
RT: 2.059 min Scan# 609
Delta R.T. 0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 84 Resp: 6632
Ion Ratio Lower Upper
84 100
49 145.2 132.9 199.3
51 50.1 34.8 52.2
86 60.3 48.2 72.2





#21

Allyl Chloride

Concen: 0.043 ppbv

RT: 2.078 min Scan# 61

Delta R.T. -0.013 min

Lab File: VL043284.D

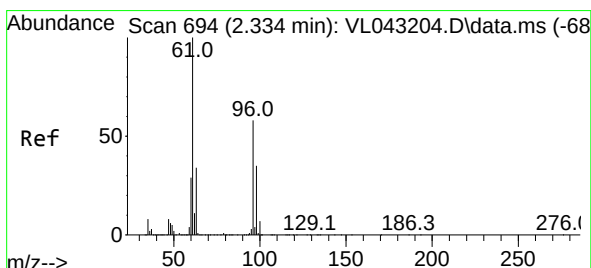
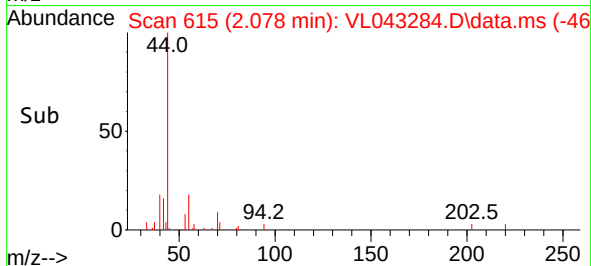
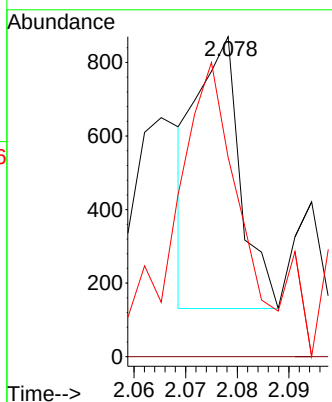
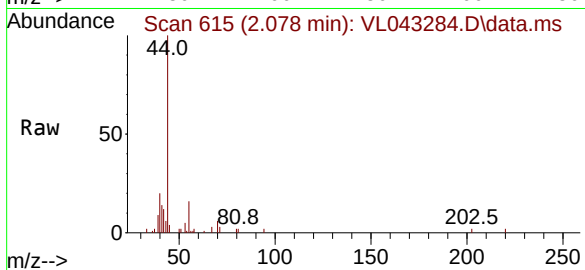
Acq: 24 Nov 2025 16:09

Instrument :

MSVOA_L

ClientSampleId :

Tgt Ion: 41	Resp: 444
Ion Ratio	Lower Upper
41	100
76	0.0 22.1 33.1#
39	152.3 61.0 91.4#



#22

trans-1,2-Dichloroethene

Concen: 0.075 ppbv

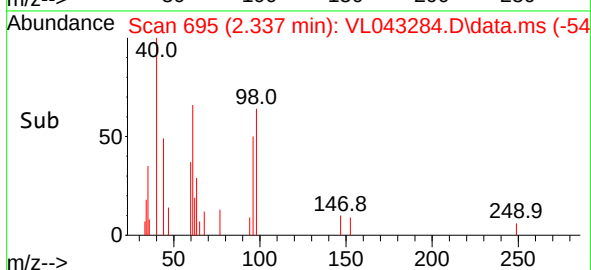
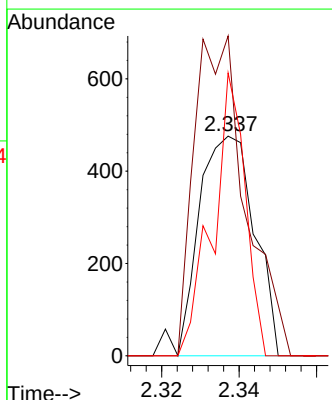
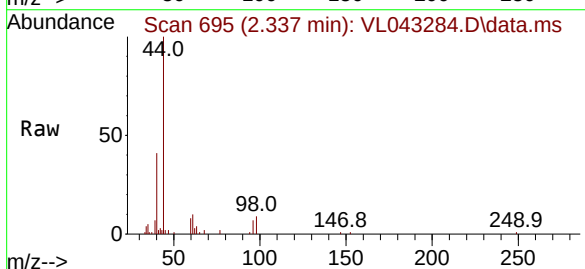
RT: 2.337 min Scan# 695

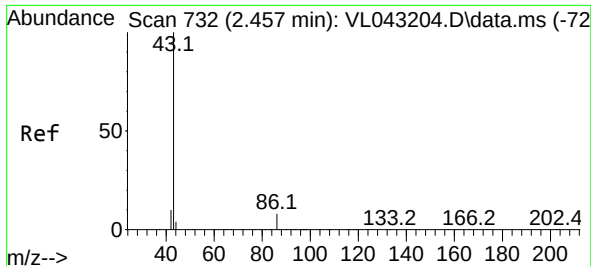
Delta R.T. 0.003 min

Lab File: VL043284.D

Acq: 24 Nov 2025 16:09

Tgt Ion: 96	Resp: 469
Ion Ratio	Lower Upper
96	100
61	145.6 139.0 208.6
98	128.8 49.4 74.2#

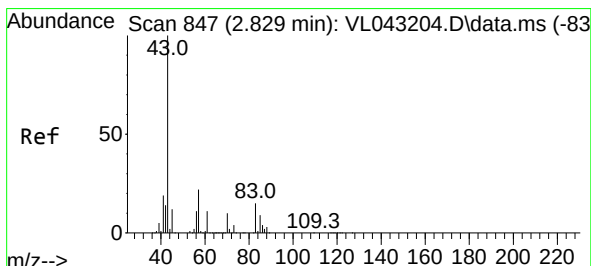
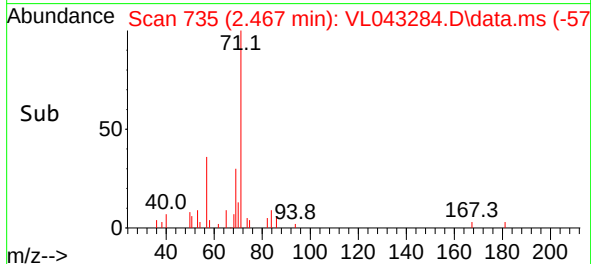
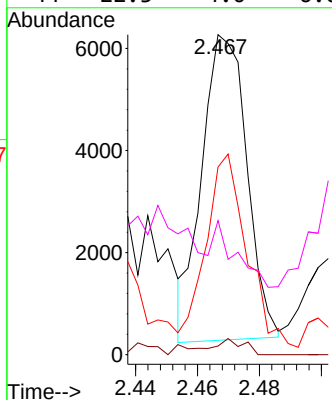
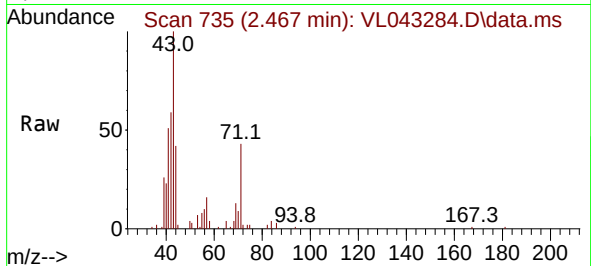




#23
 Vinyl Acetate
 Concen: 0.328 ppbv
 RT: 2.467 min Scan# 71
 Delta R.T. 0.010 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

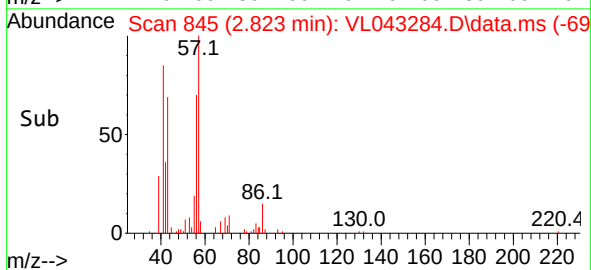
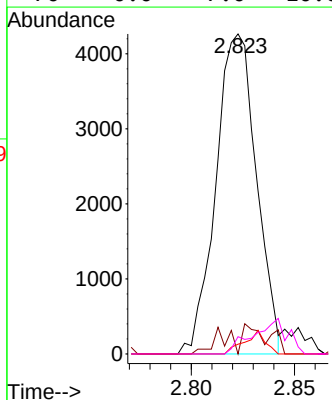
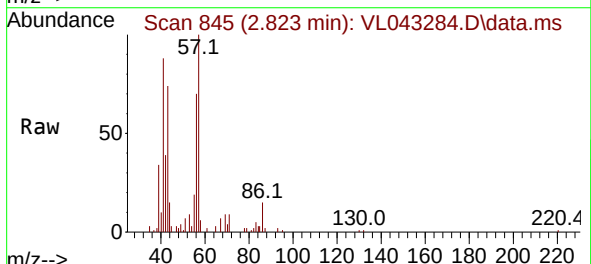
Instrument :
 MSVOA_L
 ClientSampleId :

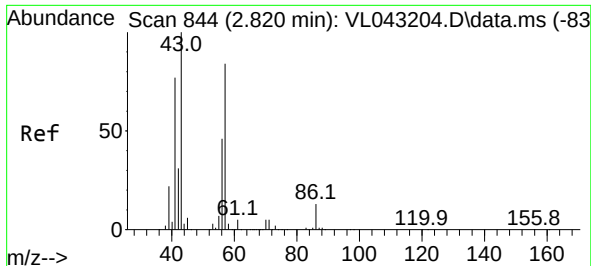
Tgt Ion: 43	Resp: 6022
Ion Ratio	Lower Upper
43	100
86	2.9 6.2 9.2#
42	55.9 8.0 12.0#
44	22.3 4.0 6.0#



#25
 Ethyl Acetate
 Concen: 0.178 ppbv
 RT: 2.823 min Scan# 845
 Delta R.T. -0.007 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

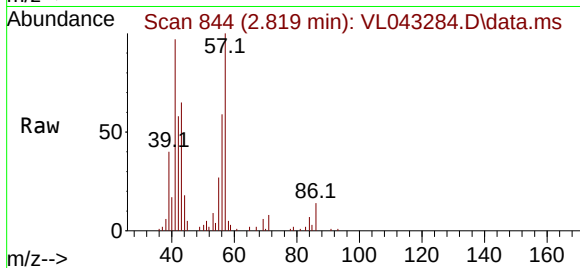
Tgt Ion: 43	Resp: 5825
Ion Ratio	Lower Upper
43	100
45	3.2 8.1 12.1#
61	0.0 7.0 10.4#
70	0.0 7.0 10.6#



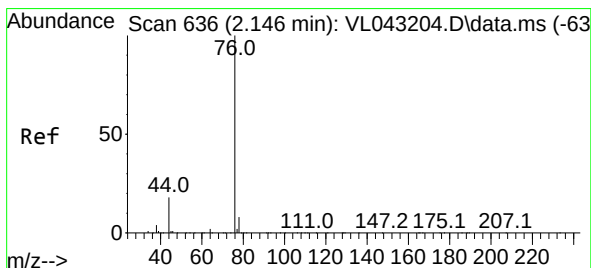
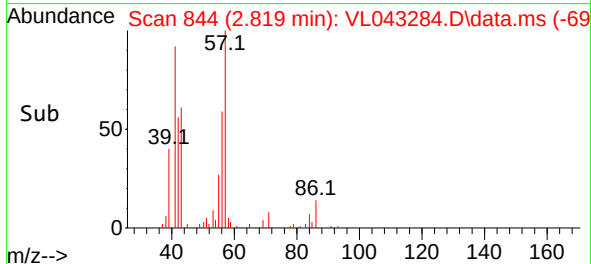
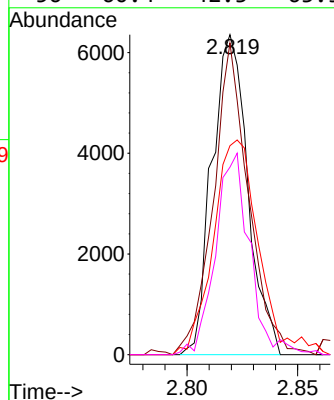


#26
Hexane
Concen: 0.497 ppbv
RT: 2.819 min Scan# 844
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Instrument :
MSVOA_L
ClientSampleId :

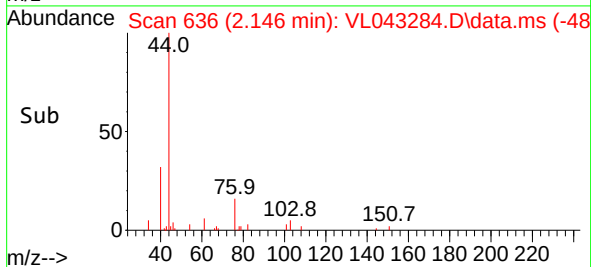
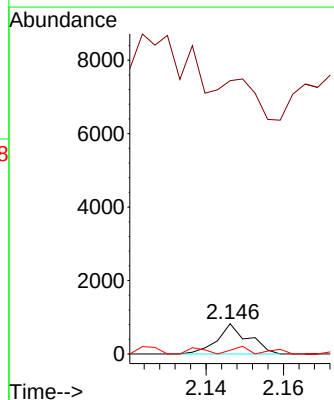
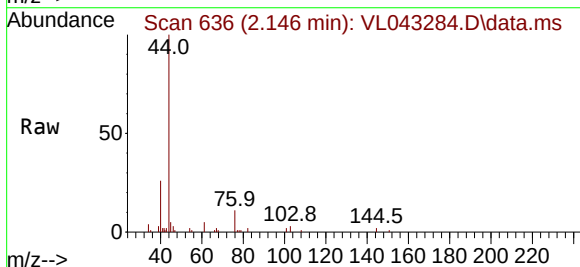


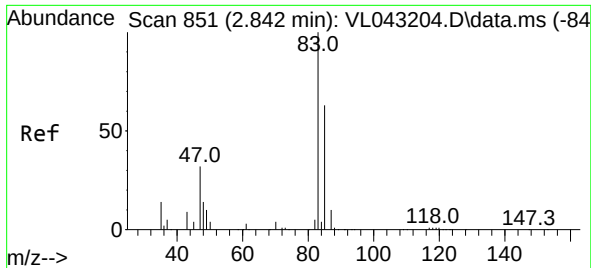
Tgt Ion: 57	Resp: 7152
Ion Ratio	Lower Upper
57 100	
41 101.9	74.6 111.8
43 85.8	179.0 268.4#
56 60.4	42.3 63.5



#27
Carbon Disulfide
Concen: 0.031 ppbv
RT: 2.146 min Scan# 636
Delta R.T. -0.000 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion:	76	Resp:	458
Ion	Ratio	Lower	Upper
76	100		
44	6325.3	16.1	24.1#
78	33.0	9.6	14.4#

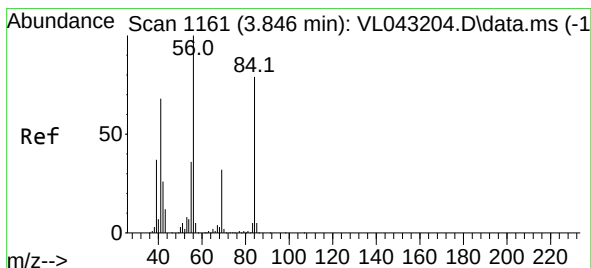
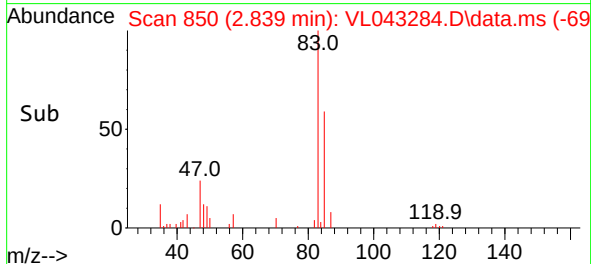
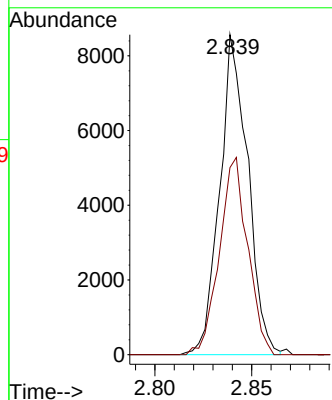
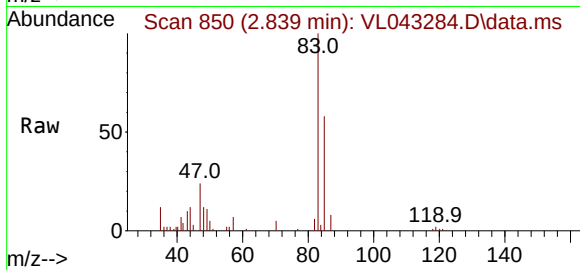




#29
Chloroform
Concen: 0.422 ppbv
RT: 2.839 min Scan# 81
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

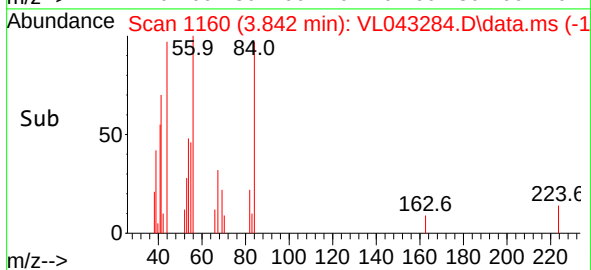
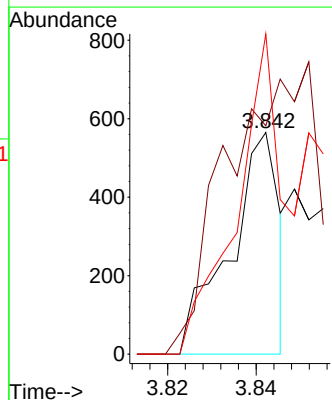
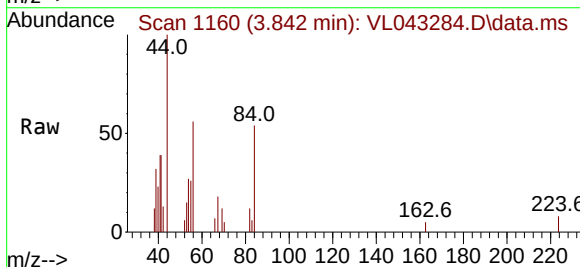
Instrument :
MSVOA_L
ClientSampleId :

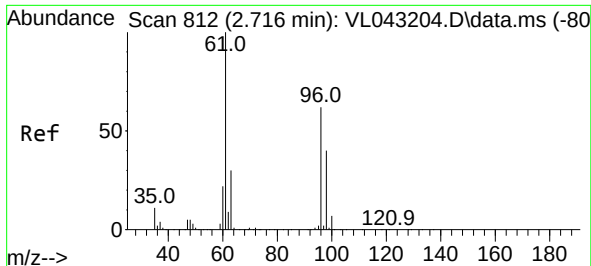
Tgt Ion: 83 Resp: 8627
Ion Ratio Lower Upper
83 100
85 58.4 50.5 75.7



#30
Cyclohexane
Concen: 0.036 ppbv
RT: 3.842 min Scan# 1160
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

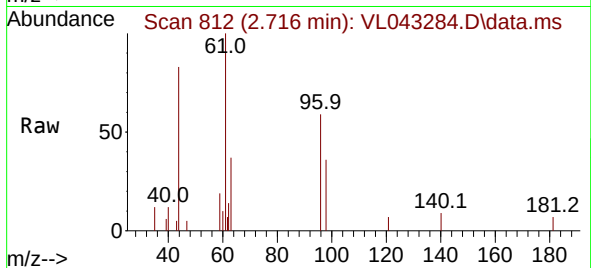
Tgt Ion: 84 Resp: 438
Ion Ratio Lower Upper
84 100
56 0.0 104.7 157.1#
41 248.6 69.0 103.6#



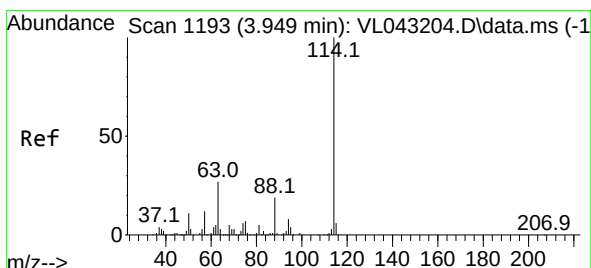
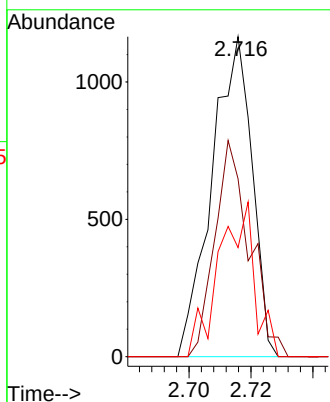
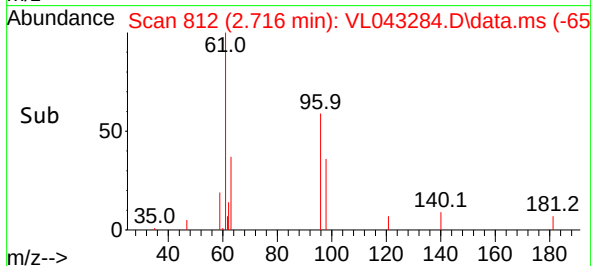


#31
 cis-1,2-Dichloroethene
 Concen: 0.073 ppbv
 RT: 2.716 min Scan# 812
 Delta R.T. -0.000 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

Instrument :
 MSVOA_L
 ClientSampleId :

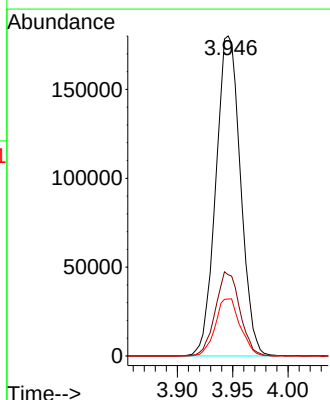
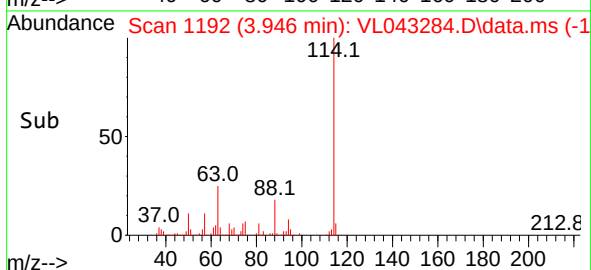
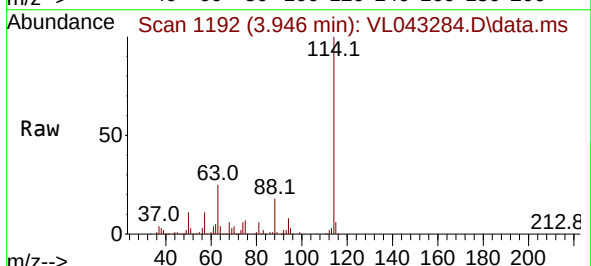


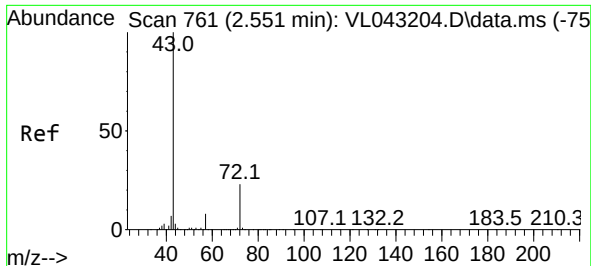
Tgt Ion: 61 Resp: 1050
 Ion Ratio Lower Upper
 61 100
 96 55.6 49.3 73.9
 98 34.1 32.1 48.1



#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 3.946 min Scan# 1192
 Delta R.T. -0.003 min
 Lab File: VL043284.D
 Acq: 24 Nov 2025 16:09

Tgt Ion: 114 Resp: 279354
 Ion Ratio Lower Upper
 114 100
 63 26.2 21.0 31.6
 88 18.0 14.9 22.3

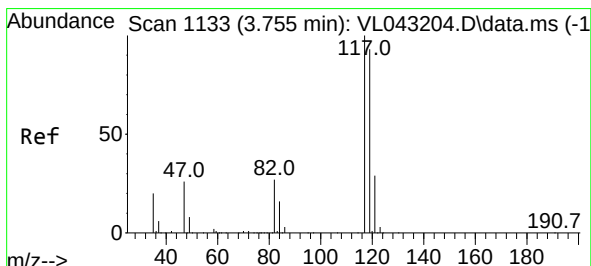
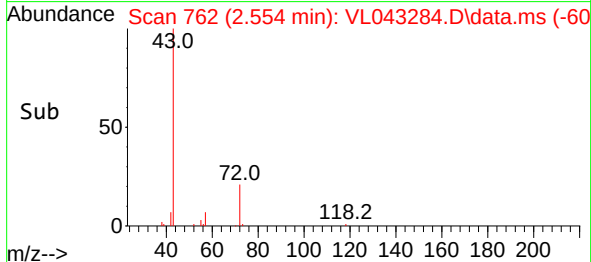
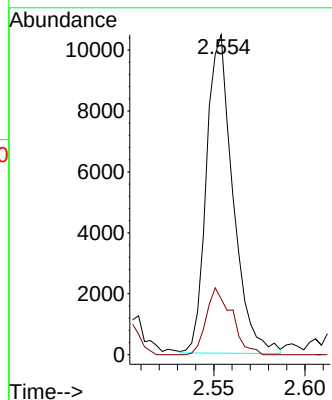
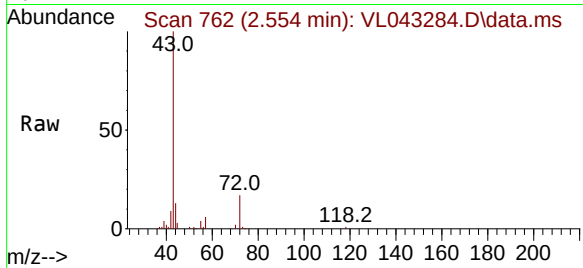




#34
2-Butanone
Concen: 0.535 ppbv
RT: 2.554 min Scan# 762
Delta R.T. 0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

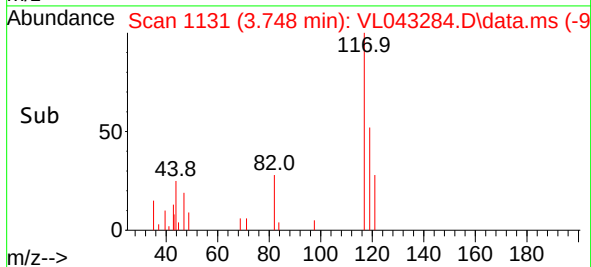
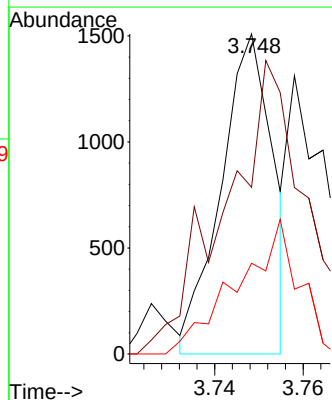
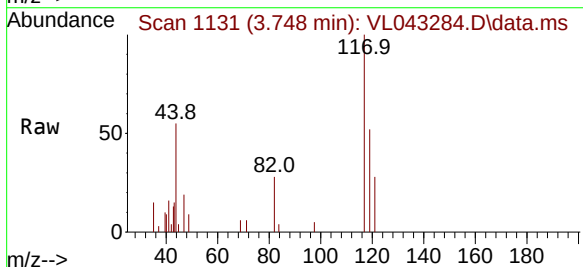
Instrument :
MSVOA_L
ClientSampleId :

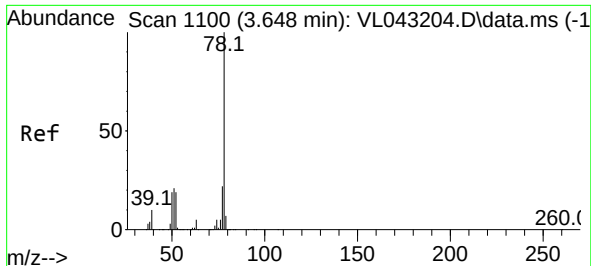
Tgt Ion: 43 Resp: 10550
Ion Ratio Lower Upper
43 100
72 20.3 18.1 27.1



#35
Carbon Tetrachloride
Concen: 0.058 ppbv
RT: 3.748 min Scan# 1131
Delta R.T. -0.007 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 117 Resp: 1224
Ion Ratio Lower Upper
117 100
119 42.7 74.6 112.0#
121 25.9 23.2 34.8

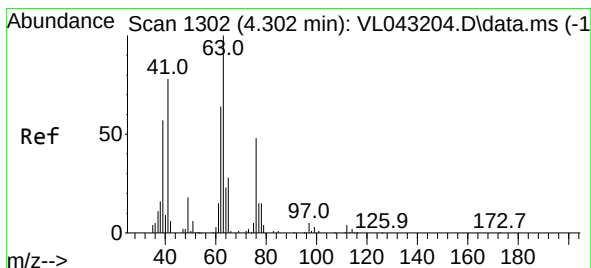
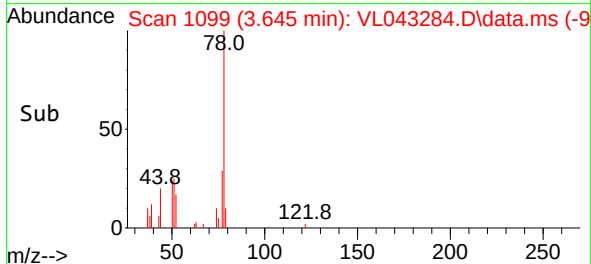
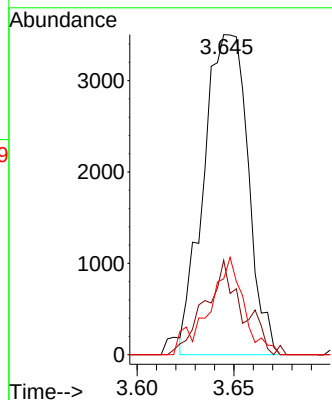
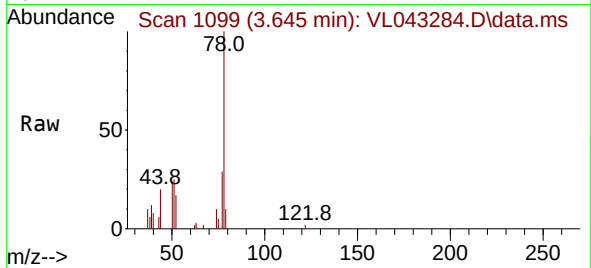




#36
Benzene
Concen: 0.209 ppbv
RT: 3.645 min Scan# 1100
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

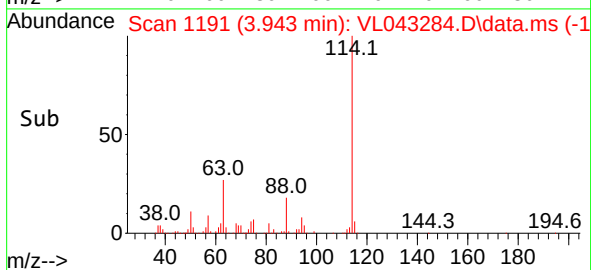
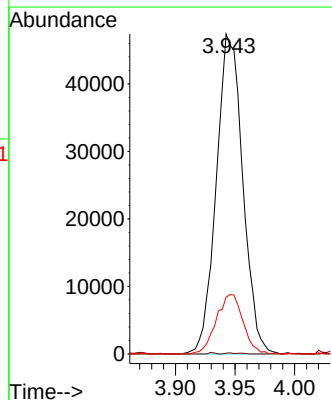
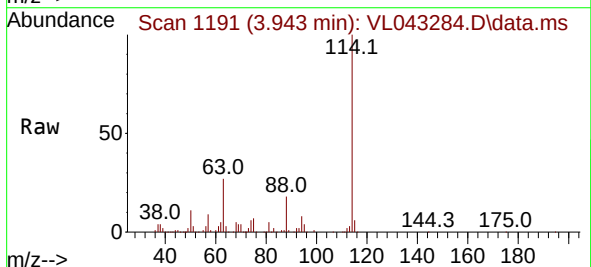
Instrument :
MSVOA_L
ClientSampleId :

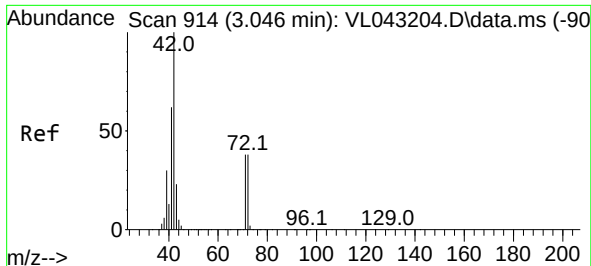
Tgt Ion: 78 Resp: 5586
Ion Ratio Lower Upper
78 100
77 26.6 17.5 26.3#
50 23.7 15.5 23.3#



#39
1,2-Dichloropropane
Concen: 7.471 ppbv
RT: 3.943 min Scan# 1191
Delta R.T. -0.359 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 63 Resp: 73150
Ion Ratio Lower Upper
63 100
41 0.3 62.6 93.8#
62 17.8 51.0 76.6#





#41

Tetrahydrofuran

Concen: 0.208 ppbv

RT: 3.052 min Scan# 914

Delta R.T. 0.006 min

Lab File: VL043284.D

Acq: 24 Nov 2025 16:09

Instrument :

MSVOA_L

ClientSampleId :

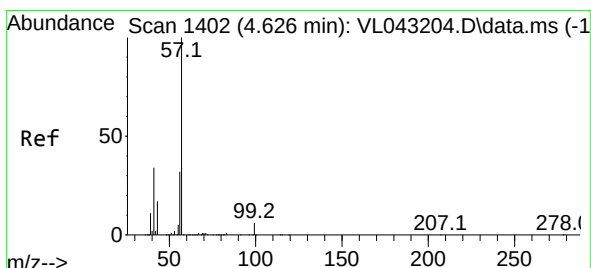
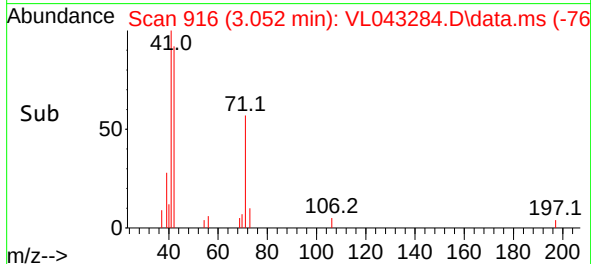
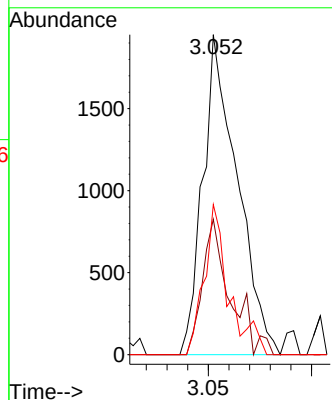
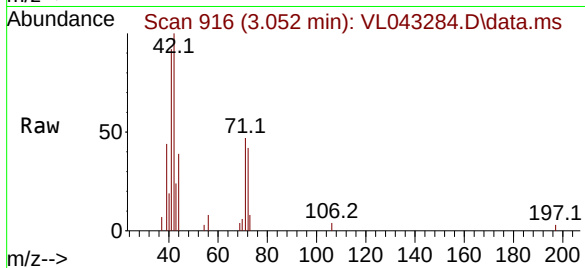
Tgt Ion: 42 Resp: 2261

Ion Ratio Lower Upper

42 100

72 34.1 30.6 46.0

71 33.3 30.5 45.7



#44

2,2,4-Trimethylpentane

Concen: 0.030 ppbv

RT: 4.625 min Scan# 1402

Delta R.T. -0.000 min

Lab File: VL043284.D

Acq: 24 Nov 2025 16:09

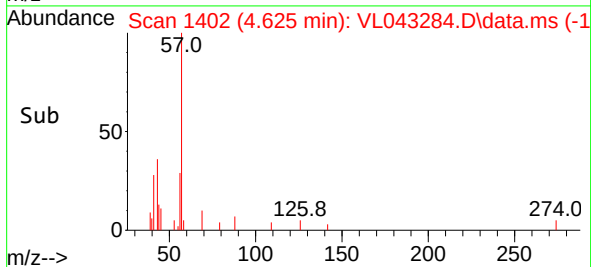
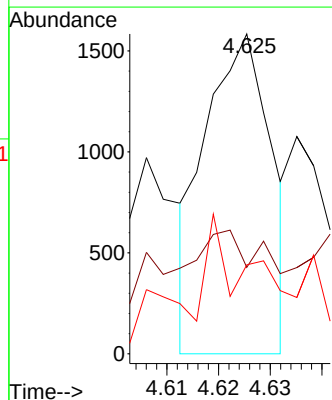
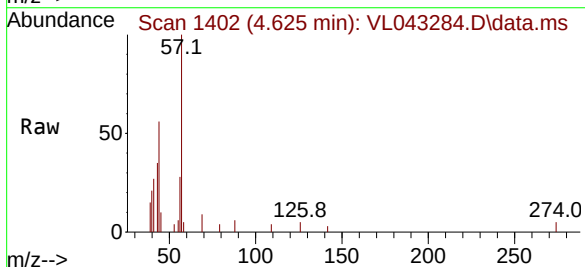
Tgt Ion: 57 Resp: 1401

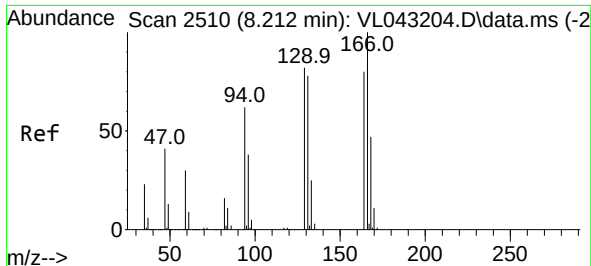
Ion Ratio Lower Upper

57 100

41 122.8 28.0 42.0#

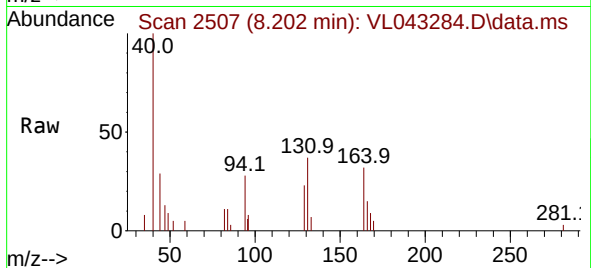
56 73.4 25.6 38.4#



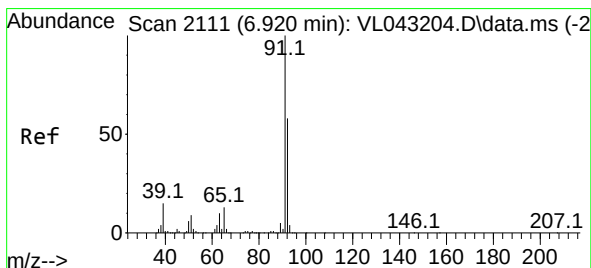
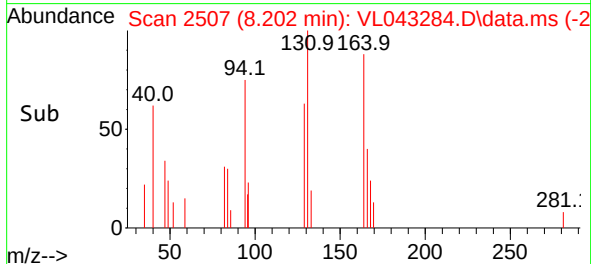
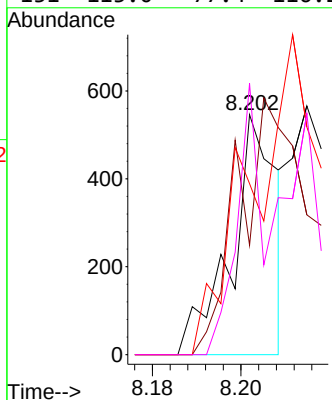


#52
Tetrachloroethene
Concen: 0.039 ppbv
RT: 8.202 min Scan# 2108
Delta R.T. -0.010 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Instrument :
MSVOA_L
ClientSampleId :

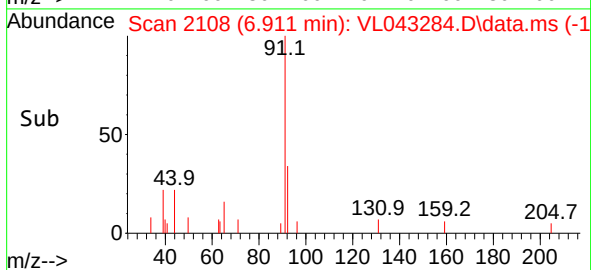
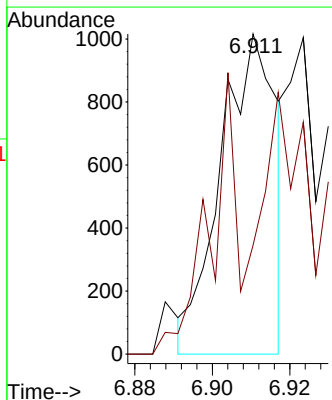
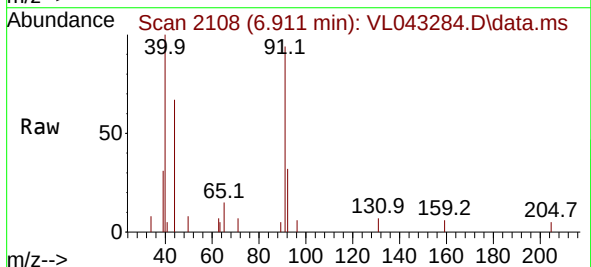


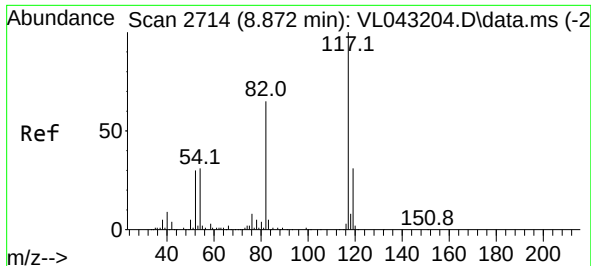
Tgt Ion:164 Resp: 385
Ion Ratio Lower Upper
164 100
166 45.6 99.4 149.2#
129 71.2 81.8 122.8#
131 113.0 77.4 116.2



#53
Toluene
Concen: 0.032 ppbv
RT: 6.911 min Scan# 2108
Delta R.T. -0.010 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 91 Resp: 1009
Ion Ratio Lower Upper
91 100
92 127.3 47.4 71.0#

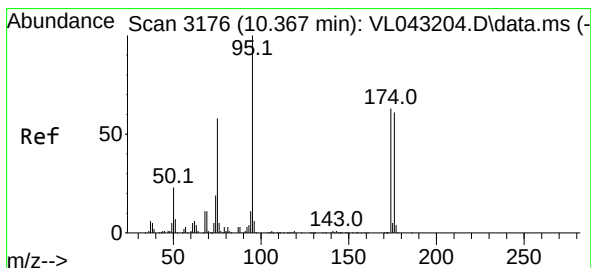
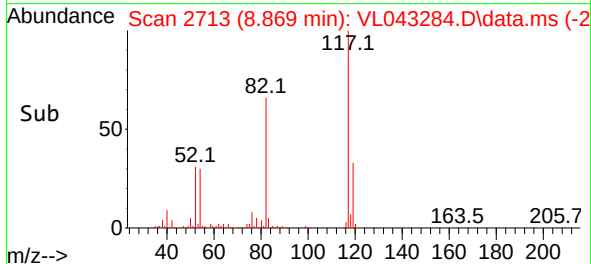
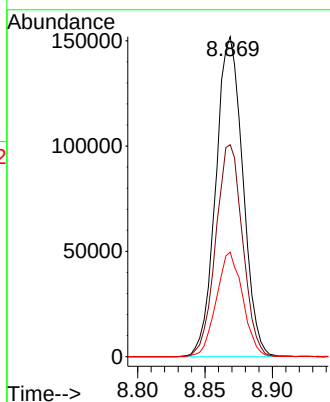
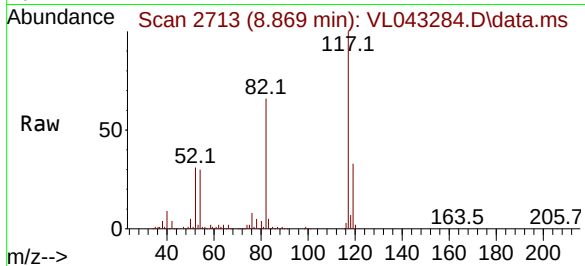




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 8.869 min Scan# 21
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Instrument :
MSVOA_L
ClientSampleId :

Tgt Ion:117 Resp: 212021
Ion Ratio Lower Upper
117 100
82 66.0 56.1 84.1
119 32.1 25.0 37.6



#68
1-Bromo-4-Fluorobenzene
Concen: 9.422 ppbv
RT: 10.364 min Scan# 3175
Delta R.T. -0.003 min
Lab File: VL043284.D
Acq: 24 Nov 2025 16:09

Tgt Ion: 95 Resp: 146433
Ion Ratio Lower Upper
95 100
174 66.1 50.2 75.2
175 4.8 4.1 6.1

