

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_L\Data\VL041025\  
 Data File : VL042305.D  
 Acq On : 10 Apr 2025 13:01  
 Operator : SY/MD  
 Sample : Q1772-01 4X  
 Misc : 400mL/MSVOA\_L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV1

Quant Time: Apr 11 01:57:59 2025  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_L\methods\VL032725AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Aug 26 06:05:16 2022  
 QLast Update : Fri Mar 28 02:00:52 2025  
 Response via : Initial Calibration

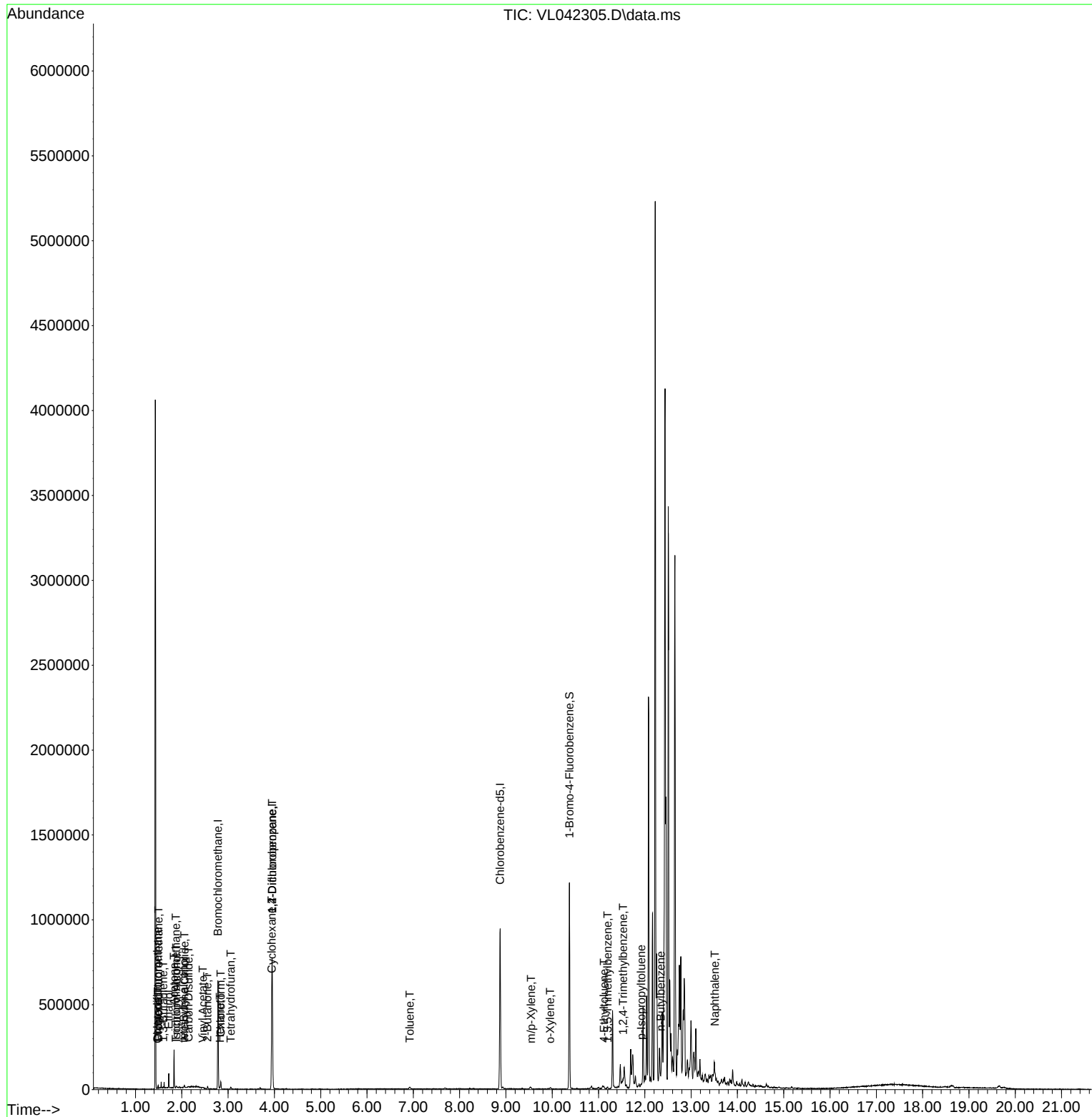
| Compound                    | R.T.   | QIon  | Response | Conc     | Units  | Dev(Min) |
|-----------------------------|--------|-------|----------|----------|--------|----------|
| -----                       |        |       |          |          |        |          |
| Internal Standards          |        |       |          |          |        |          |
| 1) Bromochloromethane       | 2.781  | 49    | 177842   | 10.000   | ppbv   | 0.00     |
| 33) 1,4-Difluorobenzene     | 3.953  | 114   | 440171   | 10.000   | ppbv   | 0.00     |
| 55) Chlorobenzene-d5        | 8.875  | 117   | 367459   | 10.000   | ppbv   | 0.00     |
| System Monitoring Compounds |        |       |          |          |        |          |
| 68) 1-Bromo-4-Fluorobenzene | 10.371 | 95    | 284923   | 9.442    | ppbv   | 0.00     |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =      | 94.400%  |
| Target Compounds            |        |       |          |          |        |          |
|                             |        |       |          |          | Qvalue |          |
| 2) Dichlorodifluoromethane  | 1.496  | 85    | 3211     | 0.122    | ppbv   | 90       |
| 3) Chlorodifluoromethane    | 1.473  | 51    | 2147     | 0.080    | ppbv   | 99       |
| 9) Propene                  | 1.486  | 41    | 1583     | 0.129    | ppbv   | 94       |
| 11) Trichlorofluoromethane  | 1.875  | 101   | 1645     | 0.064    | ppbv   | 91       |
| 13) Ethanol                 | 1.719  | 45    | 27883    | 23.990   | ppbv   | 84       |
| 15) Acetone                 | 1.833  | 43    | 91216    | 3.667    | ppbv   | 96       |
| 16) 1,3-Butadiene           | 1.599  | 39    | 1159     | 0.095    | ppbv # | 57       |
| 17) tert-Butyl alcohol      | 2.043  | 59    | 1285     | 0.041    | ppbv # | 66       |
| 19) Isopropyl Alcohol       | 1.884  | 45    | 3888     | 0.277    | ppbv # | 1        |
| 20) Methylene Chloride      | 2.059  | 84    | 1806     | 0.195    | ppbv   | 95       |
| 23) Vinyl Acetate           | 2.454  | 43    | 4750     | 0.441    | ppbv # | 90       |
| 26) Hexane                  | 2.823  | 57    | 1165     | 0.047    | ppbv # | 28       |
| 27) Carbon Disulfide        | 2.146  | 76    | 1989     | 0.074    | ppbv # | 72       |
| 29) Chloroform              | 2.842  | 83    | 15456    | 0.424    | ppbv   | 89       |
| 30) Cyclohexane             | 3.940  | 84    | 1374     | 0.063    | ppbv # | 4        |
| 34) 2-Butanone              | 2.554  | 43    | 9947     | 0.312    | ppbv   | 93       |
| 39) 1,2-Dichloropropane     | 3.953  | 63    | 112496   | 7.079    | ppbv # | 22       |
| 41) Tetrahydrofuran         | 3.056  | 42    | 1338     | 0.073    | ppbv # | 59       |
| 53) Toluene                 | 6.924  | 91    | 3046     | 0.059    | ppbv # | 1        |
| 59) m/p-Xylene              | 9.542  | 91    | 1985     | 0.038    | ppbv # | 31       |
| 60) o-Xylene                | 9.956  | 91    | 3174     | 0.061    | ppbv   | 90       |
| 69) p-Isopropyltoluene      | 11.921 | 119   | 3268     | 0.038    | ppbv # | 89       |
| 70) n-Butylbenzene          | 12.342 | 91    | 3499     | 0.040    | ppbv   | 93       |
| 72) 4-Ethyltoluene          | 11.122 | 105   | 2044     | 0.031    | ppbv # | 71       |
| 73) 1,3,5-Trimethylbenzene  | 11.199 | 105   | 2235     | 0.039    | ppbv # | 83       |
| 74) 1,2,4-Trimethylbenzene  | 11.533 | 105   | 15291    | 0.234    | ppbv # | 67       |
| 79) Naphthalene             | 13.510 | 128   | 2857     | 0.040    | ppbv # | 35       |
| -----                       |        |       |          |          |        |          |

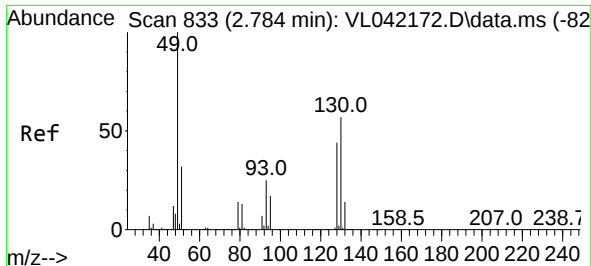
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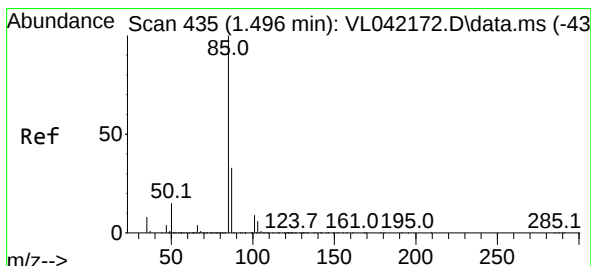
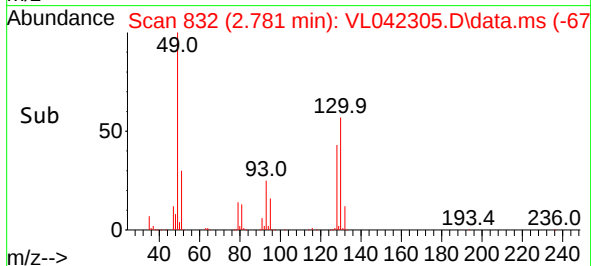
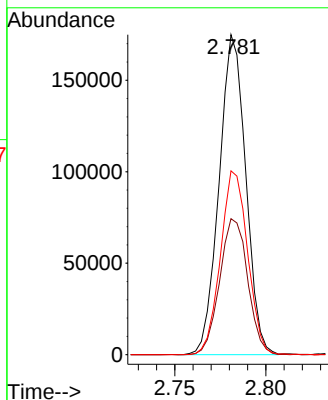
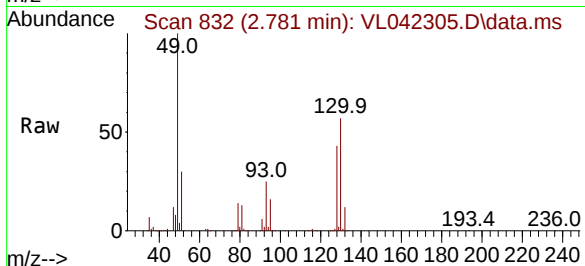




#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 2.781 min Scan# 81  
 Delta R.T. -0.003 min  
 Lab File: VL042305.D  
 Acq: 10 Apr 2025 13:01

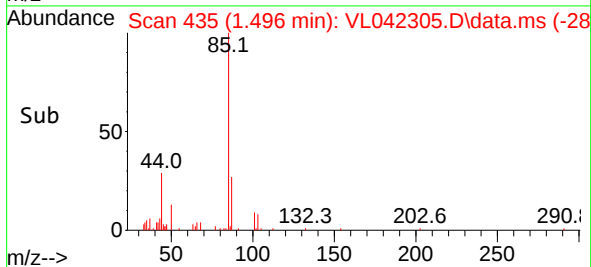
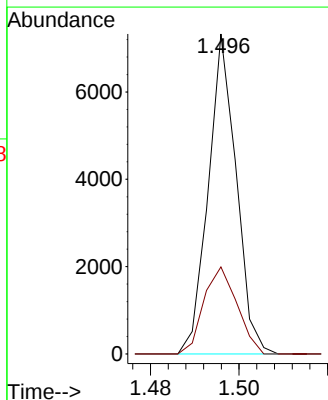
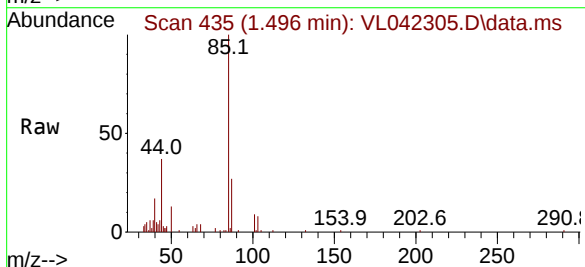
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV1

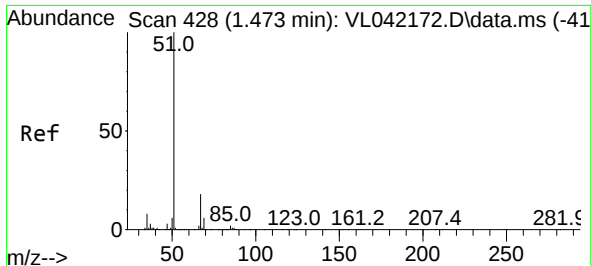
Tgt Ion: 49 Resp: 177842  
 Ion Ratio Lower Upper  
 49 100  
 128 44.8 22.9 68.5  
 130 58.6 28.8 86.4



#2  
 Dichlorodifluoromethane  
 Concen: 0.122 ppbv  
 RT: 1.496 min Scan# 435  
 Delta R.T. 0.000 min  
 Lab File: VL042305.D  
 Acq: 10 Apr 2025 13:01

Tgt Ion: 85 Resp: 3211  
 Ion Ratio Lower Upper  
 85 100  
 87 27.2 26.1 39.1

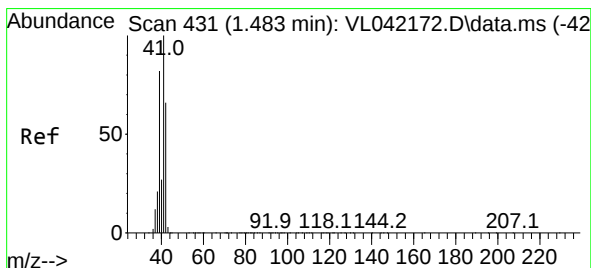
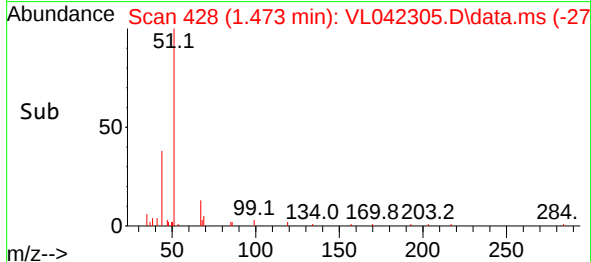
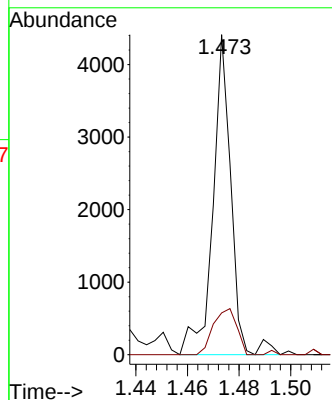
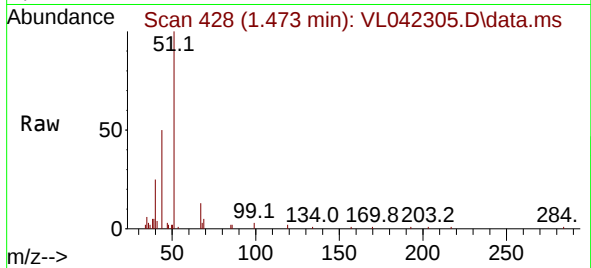




#3  
Chlorodifluoromethane  
Concen: 0.080 ppbv  
RT: 1.473 min Scan# 41  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

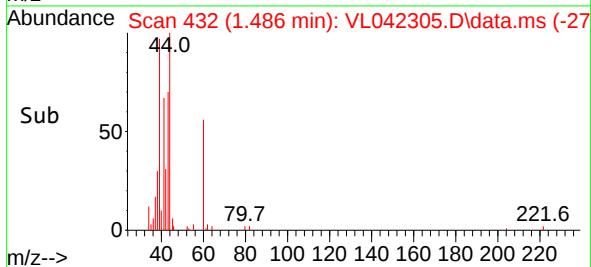
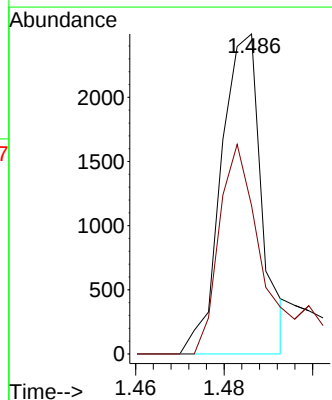
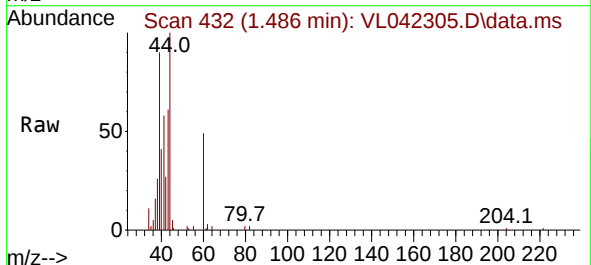
Instrument :  
MSVOA\_1  
ClientSampleId :  
SV1

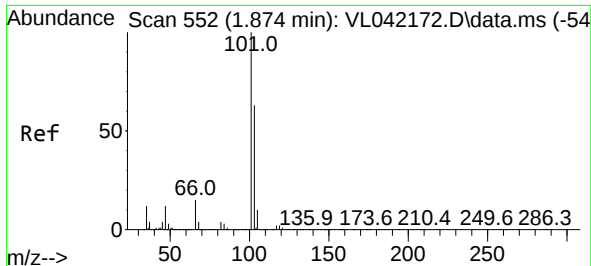
Tgt Ion: 51 Resp: 2147  
Ion Ratio Lower Upper  
51 100  
67 19.3 15.0 22.6



#9  
Propene  
Concen: 0.129 ppbv  
RT: 1.486 min Scan# 432  
Delta R.T. 0.003 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Tgt Ion: 41 Resp: 1583  
Ion Ratio Lower Upper  
41 100  
42 74.4 55.4 83.2

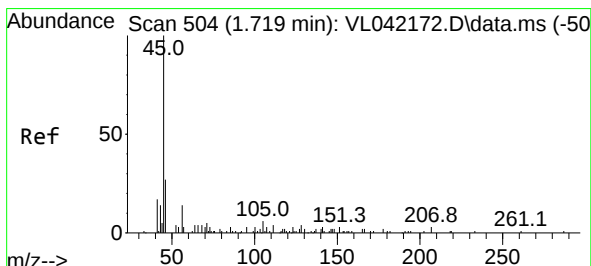
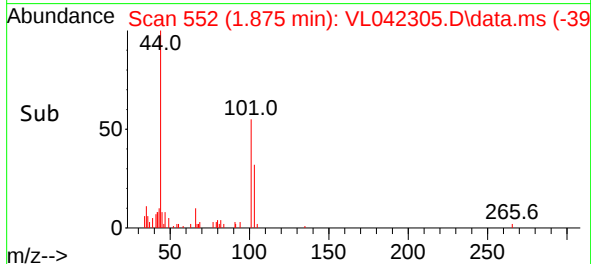
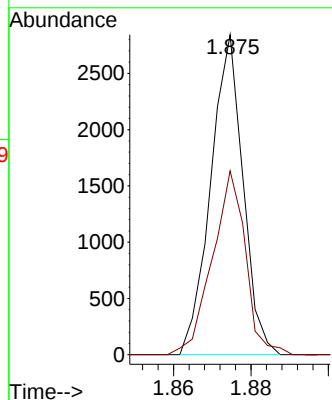
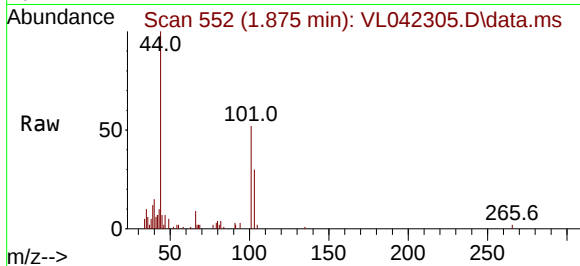




#11  
 Trichlorofluoromethane  
 Concen: 0.064 ppbv  
 RT: 1.875 min Scan# 511  
 Delta R.T. 0.000 min  
 Lab File: VL042305.D  
 Acq: 10 Apr 2025 13:01

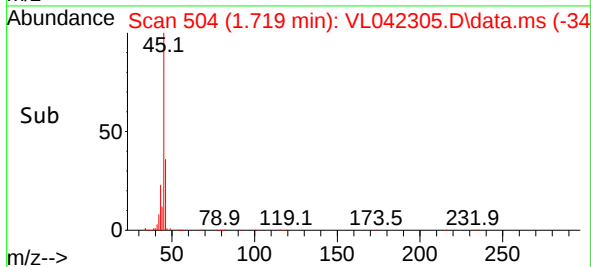
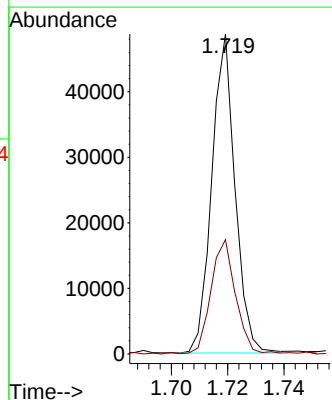
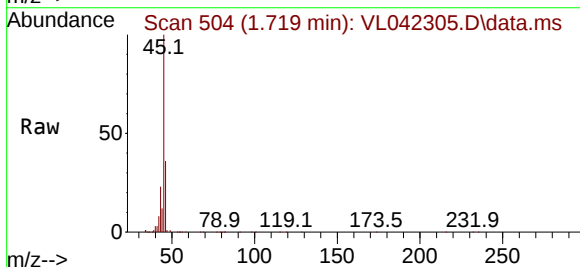
Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 SV1

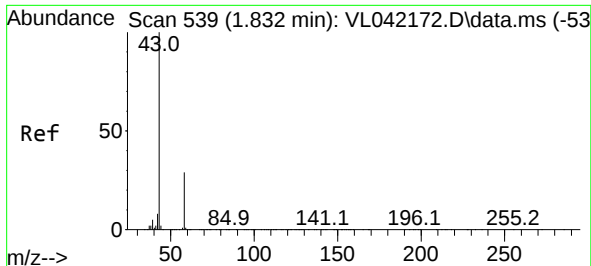
Tgt Ion:101 Resp: 1645  
 Ion Ratio Lower Upper  
 101 100  
 103 55.4 50.2 75.2



#13  
 Ethanol  
 Concen: 23.990 ppbv  
 RT: 1.719 min Scan# 504  
 Delta R.T. 0.000 min  
 Lab File: VL042305.D  
 Acq: 10 Apr 2025 13:01

Tgt Ion: 45 Resp: 27883  
 Ion Ratio Lower Upper  
 45 100  
 46 39.5 20.2 80.8





#15

Acetone

Concen: 3.667 ppbv

RT: 1.833 min Scan# 51

Delta R.T. 0.000 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

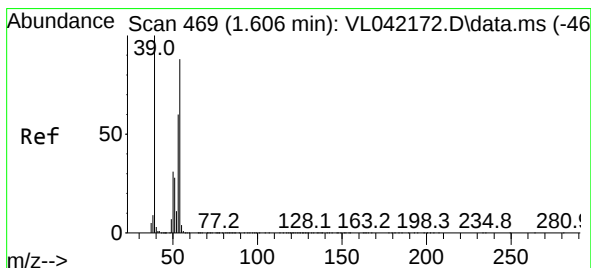
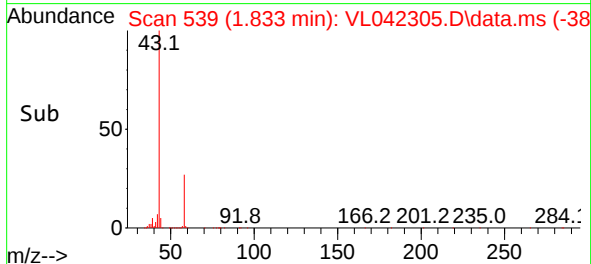
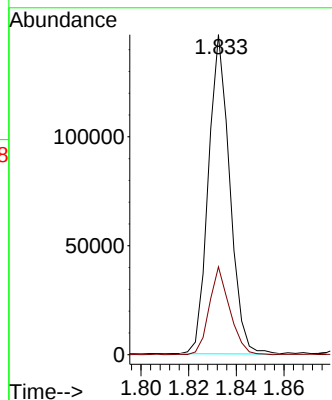
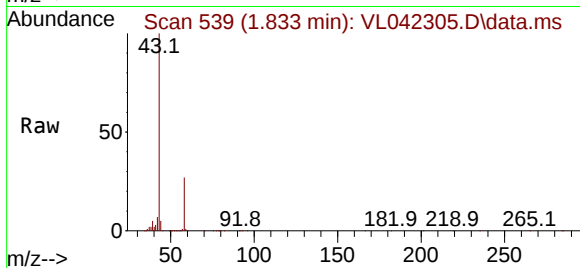
SV1

Tgt Ion: 43 Resp: 91216

Ion Ratio Lower Upper

43 100

58 26.7 23.2 34.8



#16

1,3-Butadiene

Concen: 0.095 ppbv

RT: 1.599 min Scan# 467

Delta R.T. -0.006 min

Lab File: VL042305.D

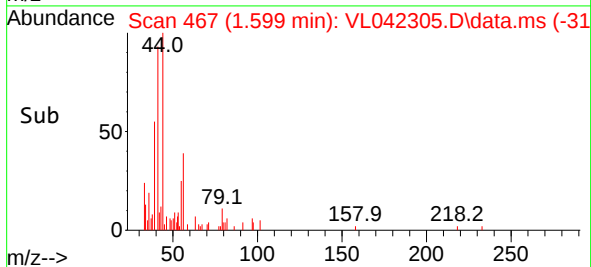
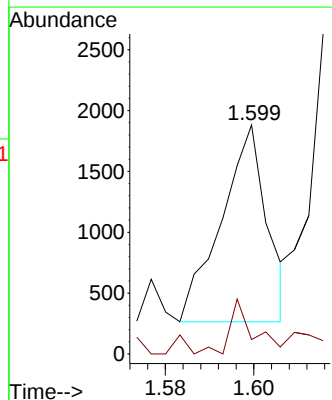
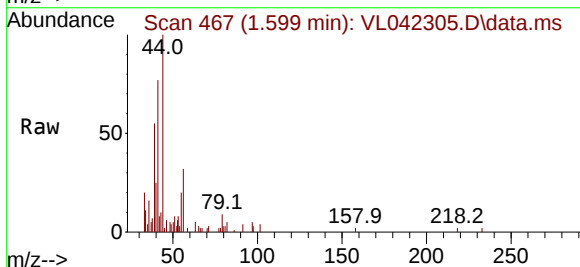
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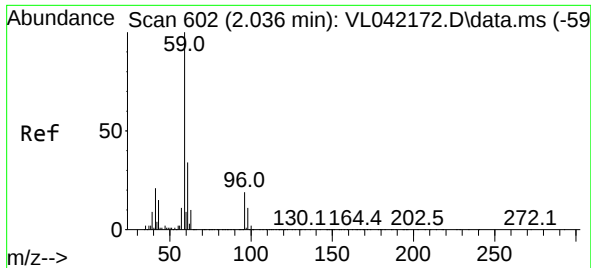
Tgt Ion: 39 Resp: 1159

Ion Ratio Lower Upper

39 100

54 38.9 60.7 91.1#

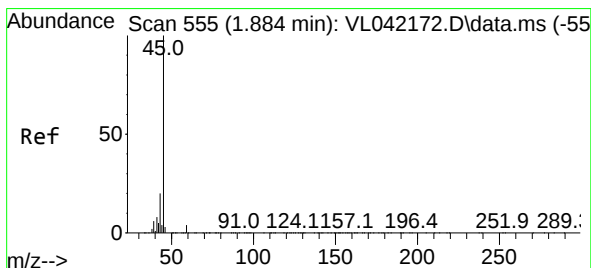
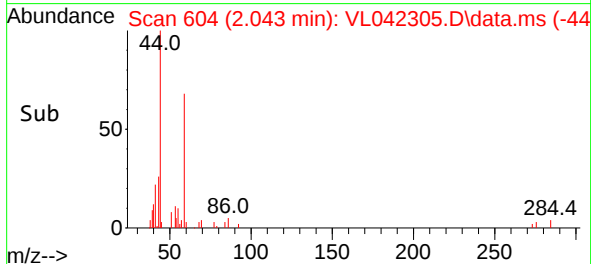
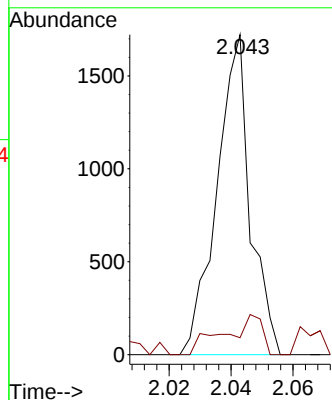
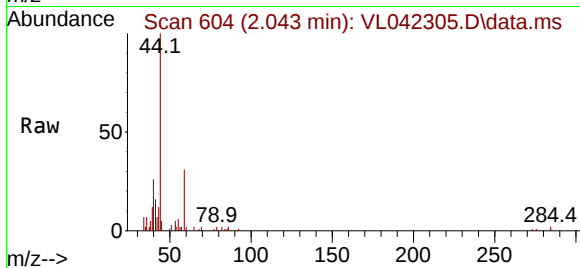




#17  
tert-Butyl alcohol  
Concen: 0.041 ppbv  
RT: 2.043 min Scan# 602  
Delta R.T. 0.007 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

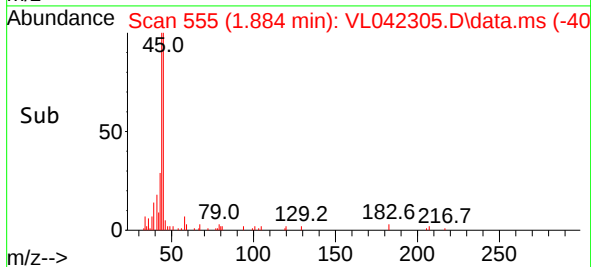
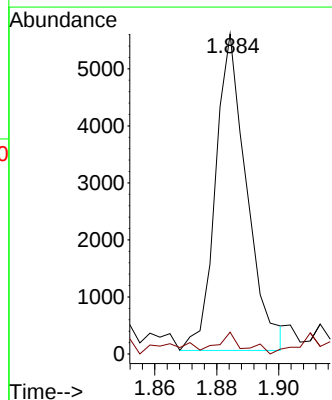
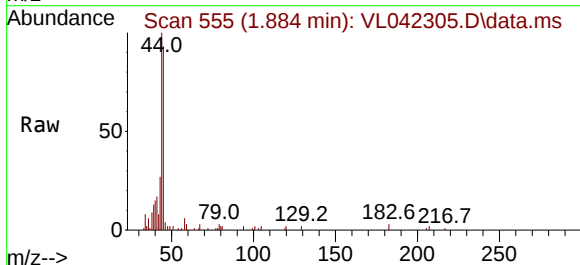
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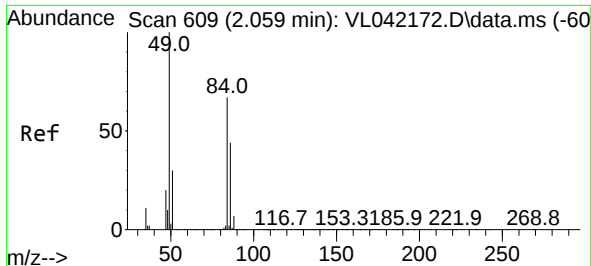
Tgt Ion: 59 Resp: 1285  
Ion Ratio Lower Upper  
59 100  
57 24.0 8.9 13.3#



#19  
Isopropyl Alcohol  
Concen: 0.277 ppbv  
RT: 1.884 min Scan# 555  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Tgt Ion: 45 Resp: 3888  
Ion Ratio Lower Upper  
45 100  
58 631.3 36.9 55.3#

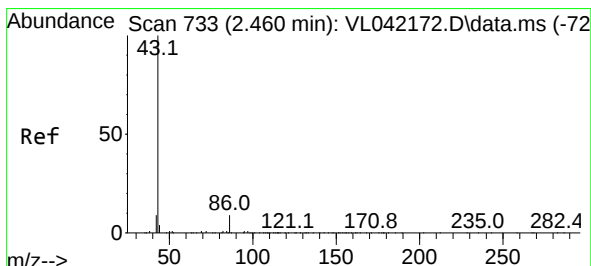
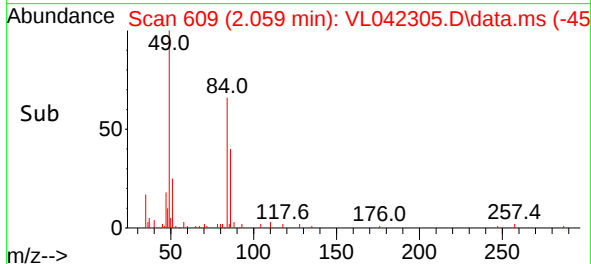
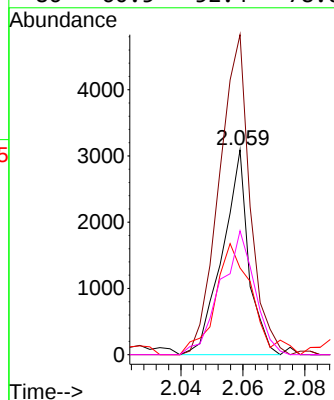
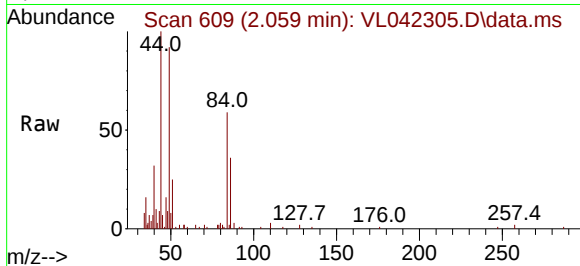




#20  
Methylene Chloride  
Concen: 0.195 ppbv  
RT: 2.059 min Scan# 609  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

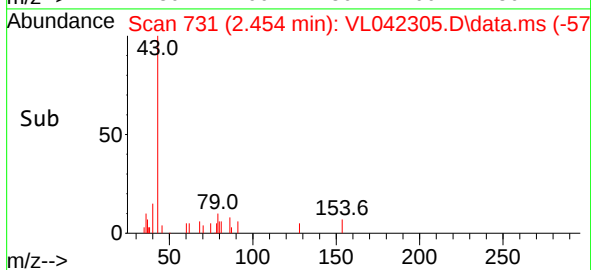
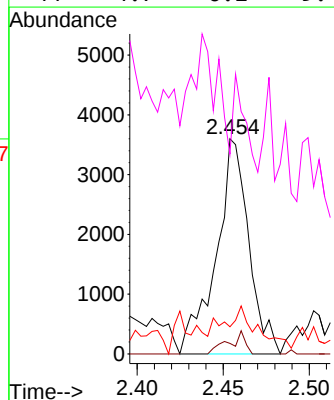
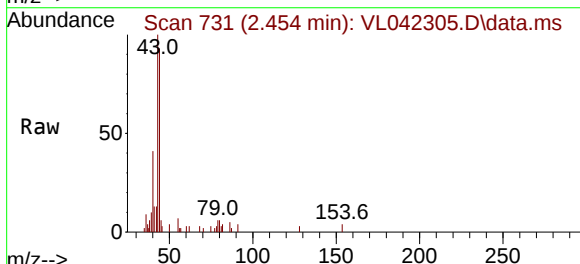
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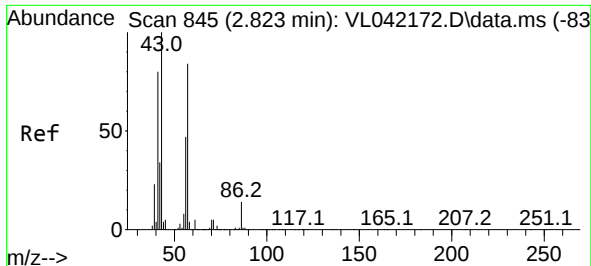
|             |             |
|-------------|-------------|
| Tgt Ion: 84 | Resp: 1806  |
| Ion Ratio   | Lower Upper |
| 84 100      |             |
| 49 156.2    | 120.2 180.4 |
| 51 42.4     | 37.4 56.0   |
| 86 60.5     | 52.4 78.6   |



#23  
Vinyl Acetate  
Concen: 0.441 ppbv  
RT: 2.454 min Scan# 731  
Delta R.T. -0.006 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

|             |             |
|-------------|-------------|
| Tgt Ion: 43 | Resp: 4750  |
| Ion Ratio   | Lower Upper |
| 43 100      |             |
| 86 4.9      | 5.5 8.3#    |
| 42 5.6      | 8.6 13.0#   |
| 44 4.7      | 6.2 9.4#    |

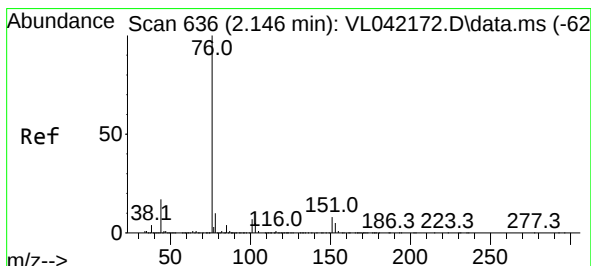
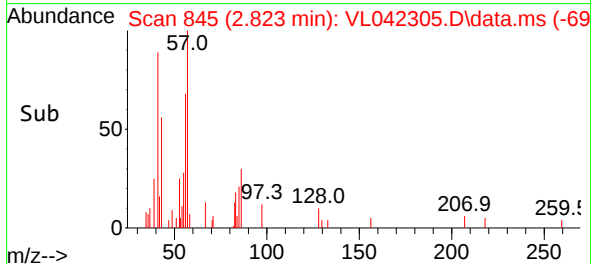
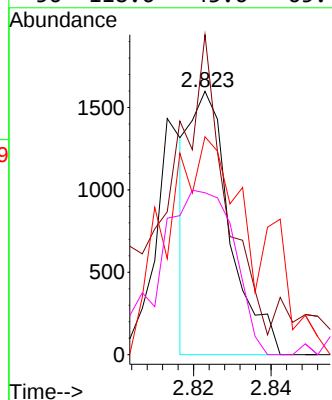
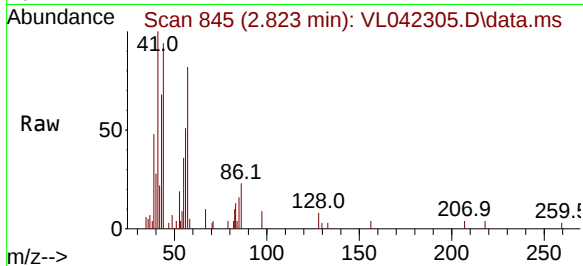




#26  
Hexane  
Concen: 0.047 ppbv  
RT: 2.823 min Scan# 845  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

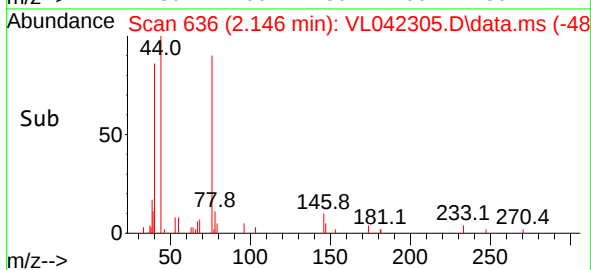
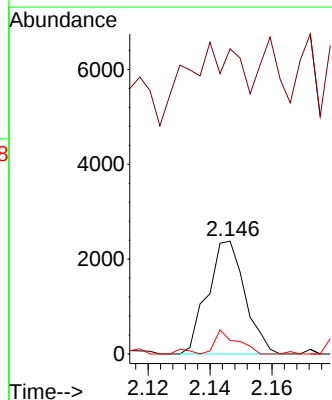
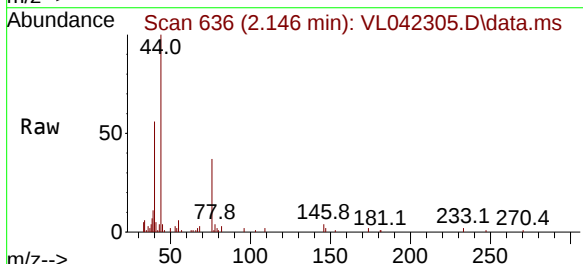
Instrument :  
MSVOA\_L  
ClientSampleId :  
SV1

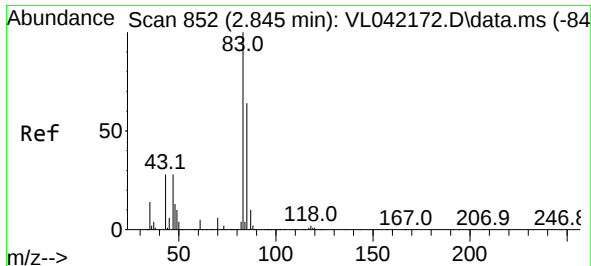
|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 57    | Resp: | 1165   |
| Ion      | Ratio | Lower | Upper  |
| 57       | 100   |       |        |
| 41       | 245.6 | 76.6  | 114.8# |
| 43       | 191.8 | 207.8 | 311.8# |
| 56       | 118.6 | 43.6  | 65.4#  |



#27  
Carbon Disulfide  
Concen: 0.074 ppbv  
RT: 2.146 min Scan# 636  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

|          |       |       |       |
|----------|-------|-------|-------|
| Tgt Ion: | 76    | Resp: | 1989  |
| Ion      | Ratio | Lower | Upper |
| 76       | 100   |       |       |
| 44       | 0.0   | 14.7  | 22.1# |
| 78       | 14.2  | 9.3   | 13.9# |





#29

Chloroform

Concen: 0.424 ppbv

RT: 2.842 min Scan# 81

Delta R.T. -0.003 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

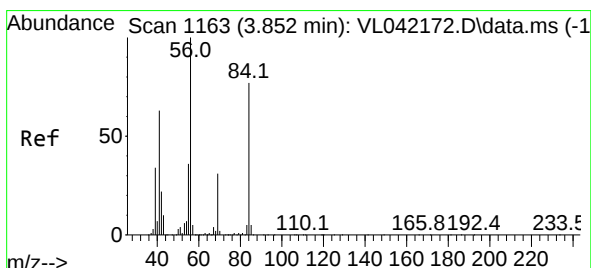
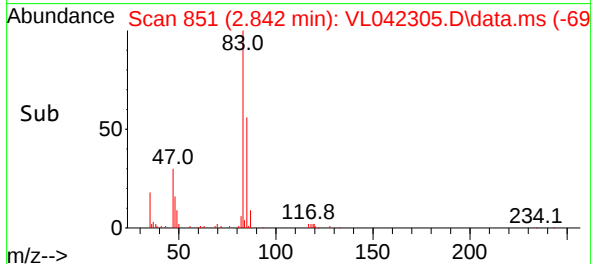
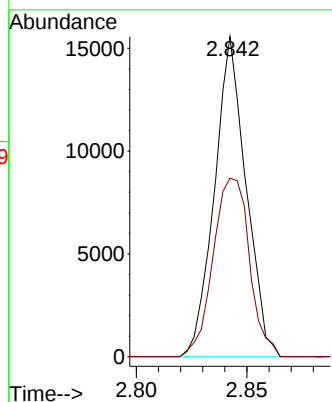
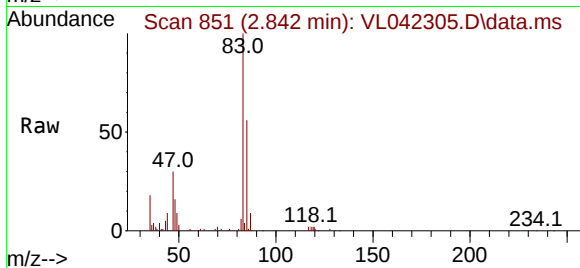
SV1

Tgt Ion: 83 Resp: 15456

Ion Ratio Lower Upper

83 100

85 55.8 51.4 77.2



#30

Cyclohexane

Concen: 0.063 ppbv

RT: 3.940 min Scan# 1190

Delta R.T. 0.088 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

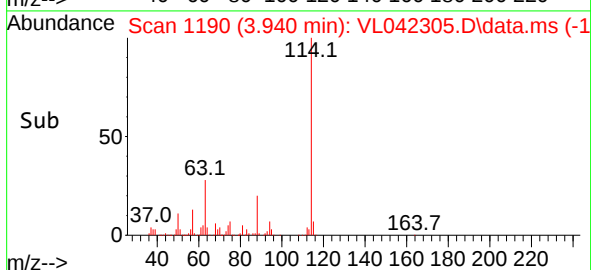
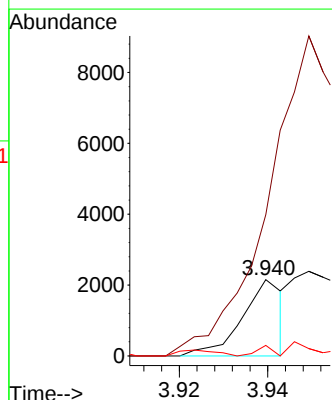
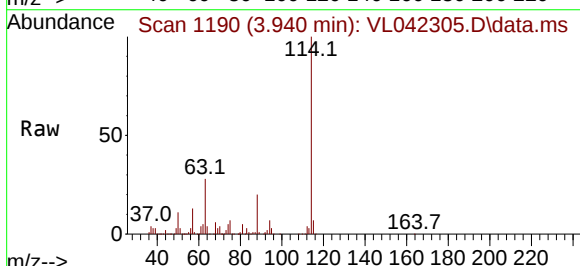
Tgt Ion: 84 Resp: 1374

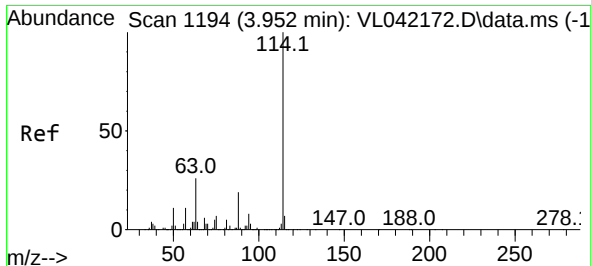
Ion Ratio Lower Upper

84 100

56 0.0 102.8 154.2#

41 17.6 66.5 99.7#

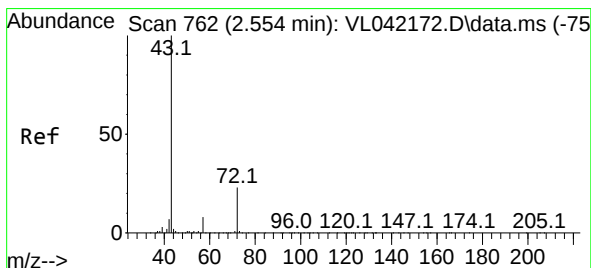
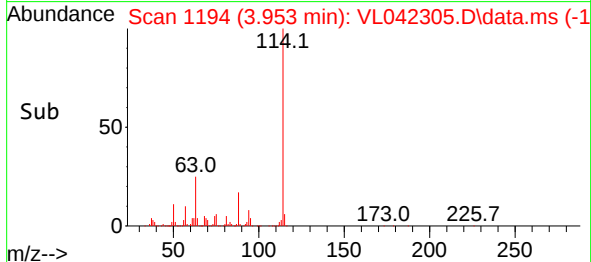
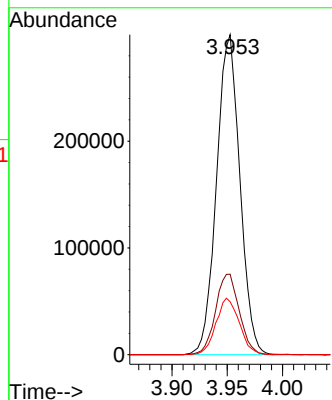
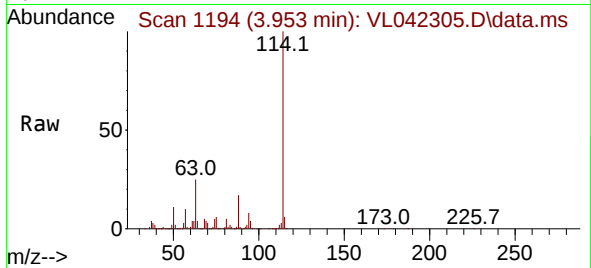




#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 3.953 min Scan# 1194  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

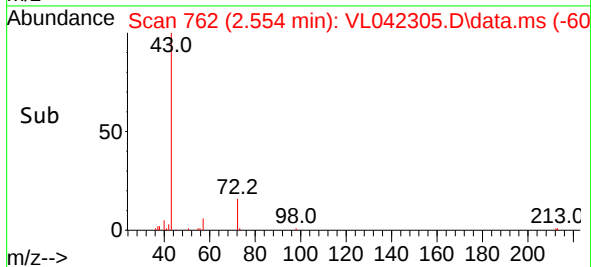
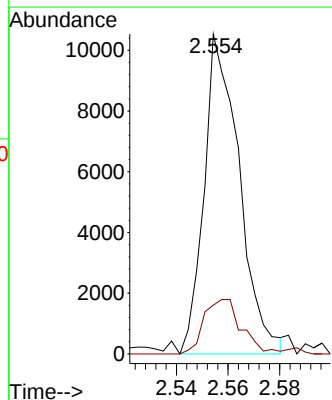
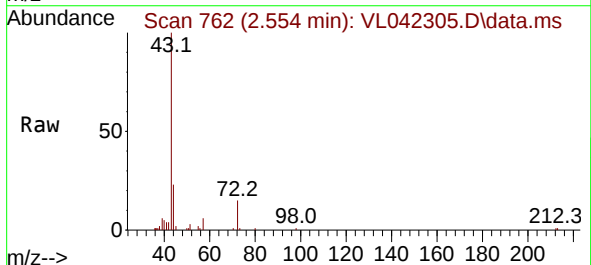
Instrument :  
MSVOA\_L  
ClientSampleId :  
SV1

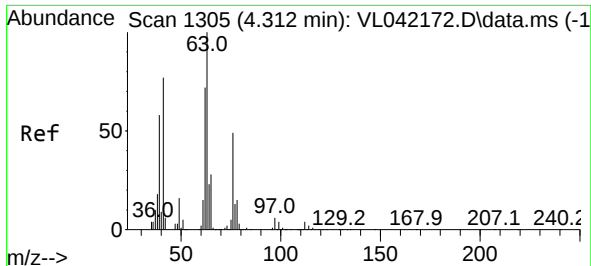
Tgt Ion:114 Resp: 440171  
Ion Ratio Lower Upper  
114 100  
63 25.7 20.7 31.1  
88 17.6 15.0 22.4



#34  
2-Butanone  
Concen: 0.312 ppbv  
RT: 2.554 min Scan# 762  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Tgt Ion: 43 Resp: 9947  
Ion Ratio Lower Upper  
43 100  
72 19.1 18.2 27.2





#39

1,2-Dichloropropane

Concen: 7.079 ppbv

RT: 3.953 min Scan# 1119

Delta R.T. -0.359 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

SV1

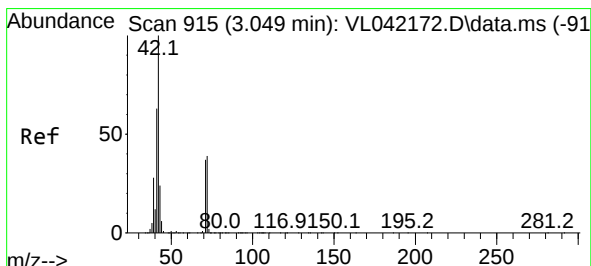
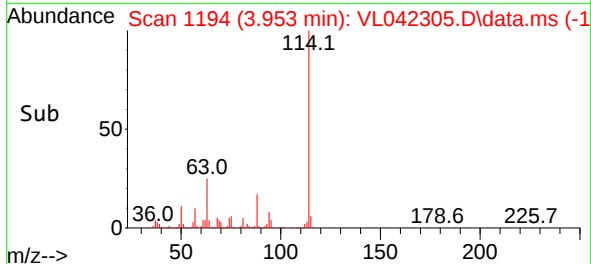
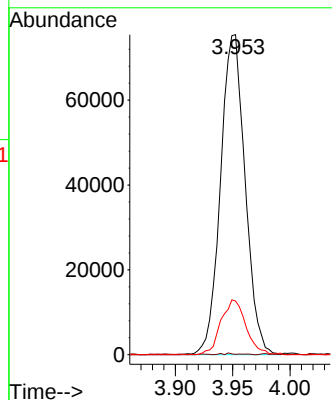
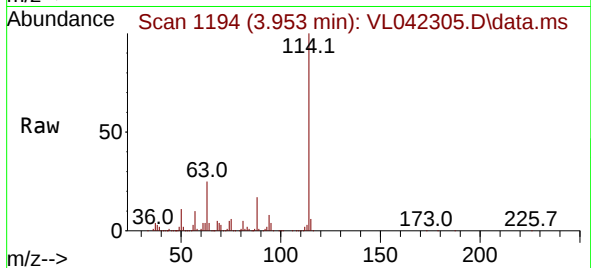
Tgt Ion: 63 Resp: 112496

Ion Ratio Lower Upper

63 100

41 0.1 61.7 92.5#

62 16.8 57.6 86.4#



#41

Tetrahydrofuran

Concen: 0.073 ppbv

RT: 3.056 min Scan# 917

Delta R.T. 0.007 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

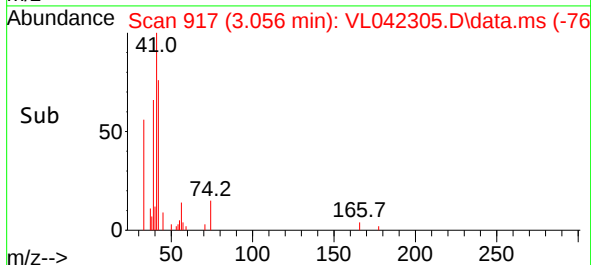
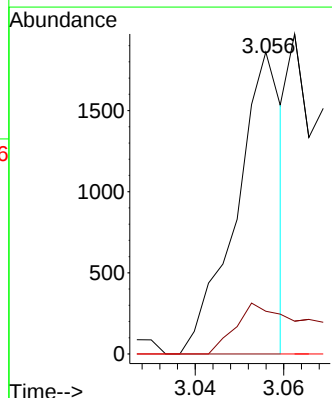
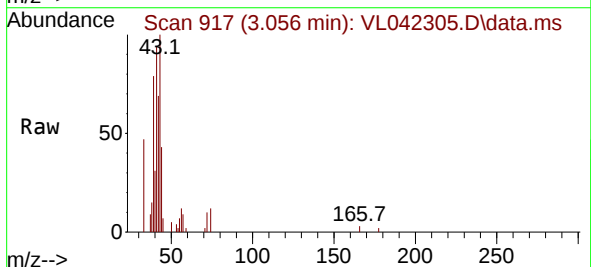
Tgt Ion: 42 Resp: 1338

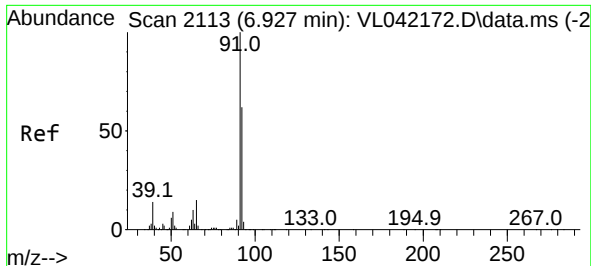
Ion Ratio Lower Upper

42 100

72 27.4 31.4 47.0#

71 0.0 30.2 45.4#

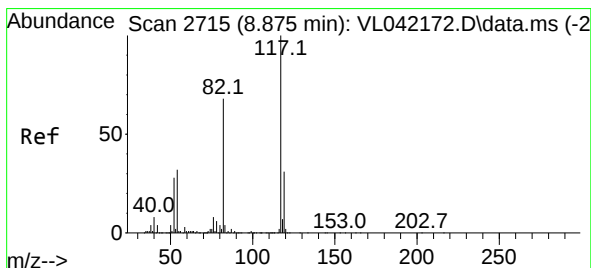
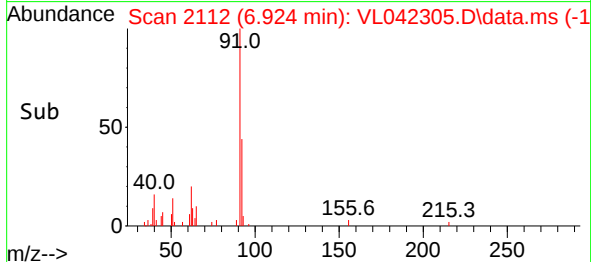
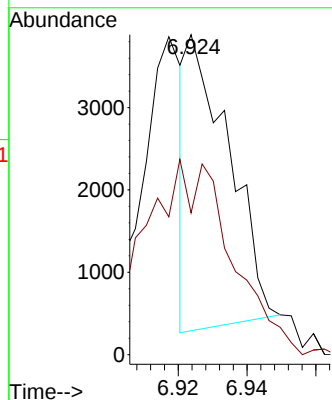
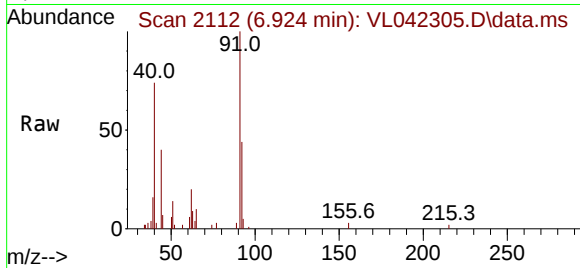




#53  
Toluene  
Concen: 0.059 ppbv  
RT: 6.924 min Scan# 2112  
Delta R.T. -0.003 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

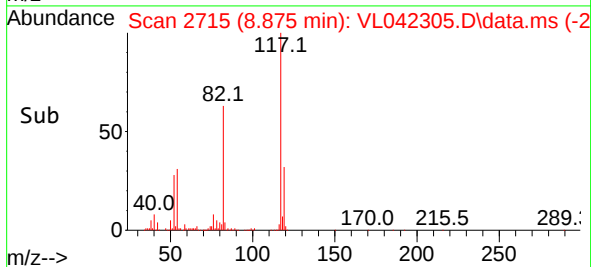
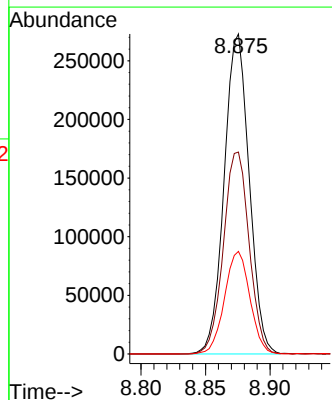
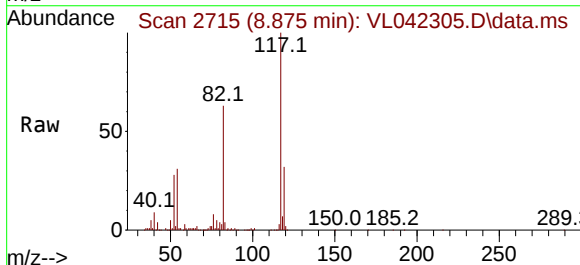
Instrument :  
MSVOA\_L  
ClientSampleId :  
SV1

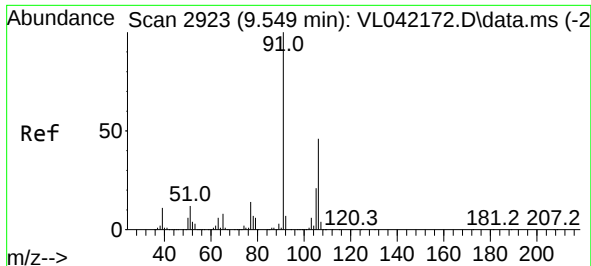
Tgt Ion: 91 Resp: 3046  
Ion Ratio Lower Upper  
91 100  
92 142.1 48.4 72.6#



#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 8.875 min Scan# 2715  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Tgt Ion: 117 Resp: 367459  
Ion Ratio Lower Upper  
117 100  
82 64.9 55.8 83.6  
119 32.6 25.5 38.3





#59

m/p-Xylene

Concen: 0.038 ppbv

RT: 9.542 min Scan# 29

Delta R.T. -0.006 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

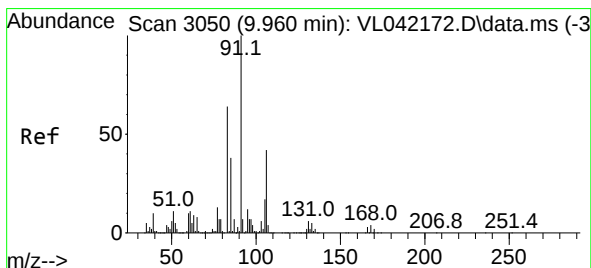
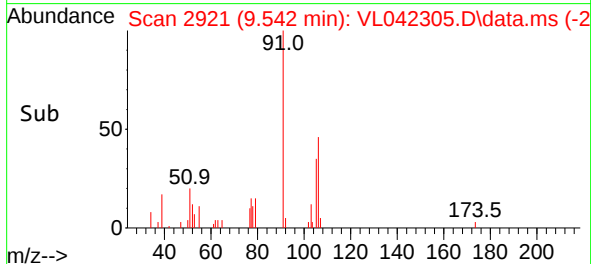
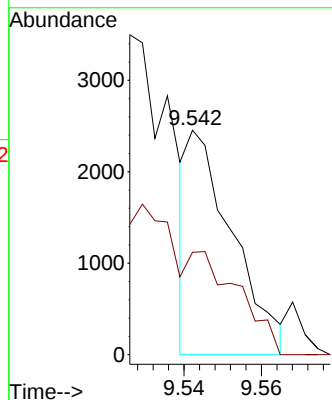
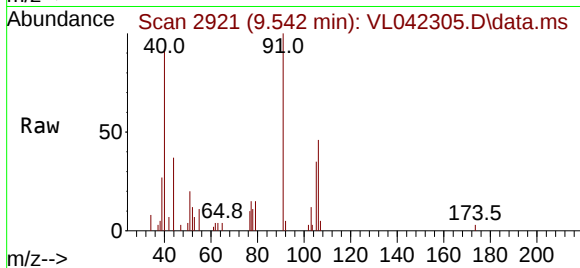
SV1

Tgt Ion: 91 Resp: 1985

Ion Ratio Lower Upper

91 100

106 0.0 36.4 54.6#



#60

o-Xylene

Concen: 0.061 ppbv

RT: 9.956 min Scan# 3049

Delta R.T. -0.003 min

Lab File: VL042305.D

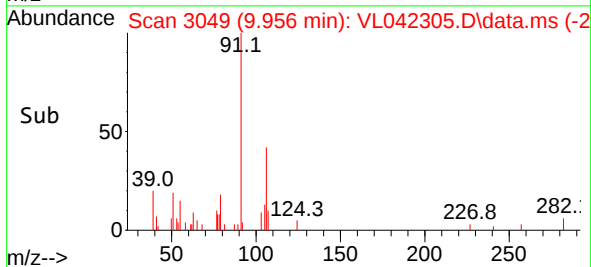
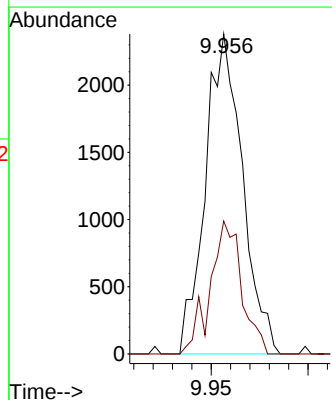
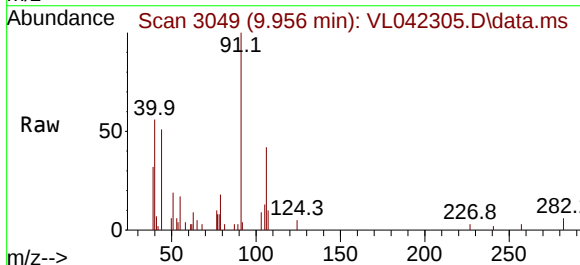
Acq: 10 Apr 2025 13:01

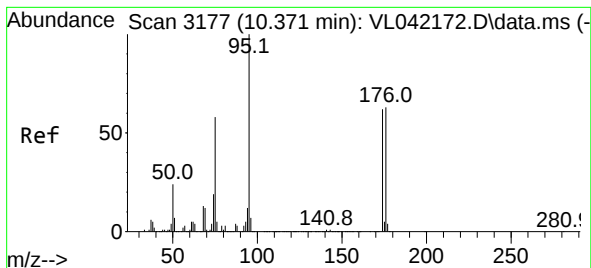
Tgt Ion: 91 Resp: 3174

Ion Ratio Lower Upper

91 100

106 35.2 20.8 62.5

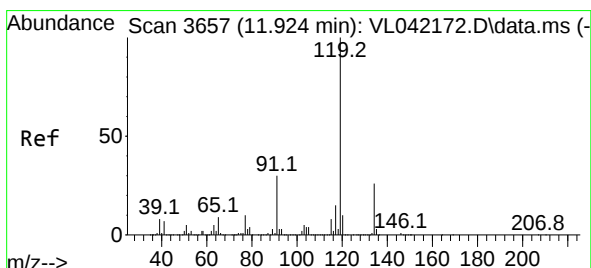
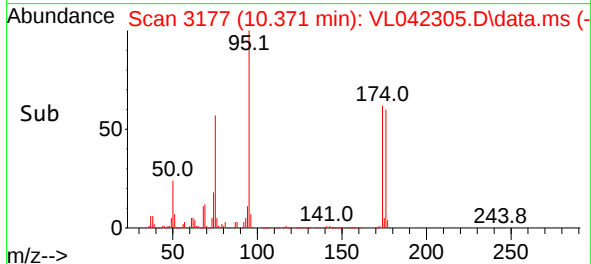
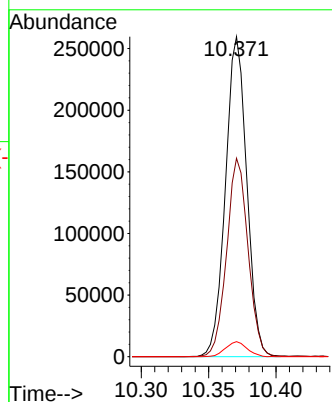
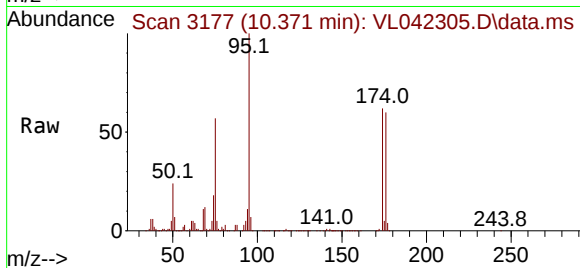




#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.442 ppbv  
RT: 10.371 min Scan# 3177  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

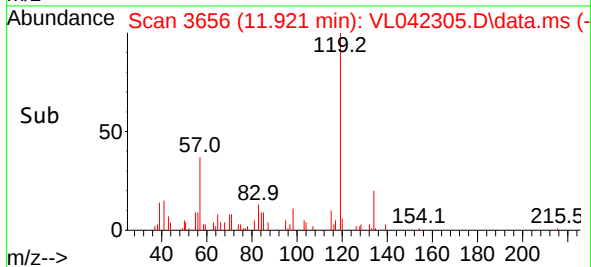
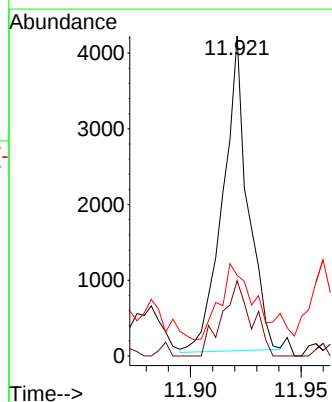
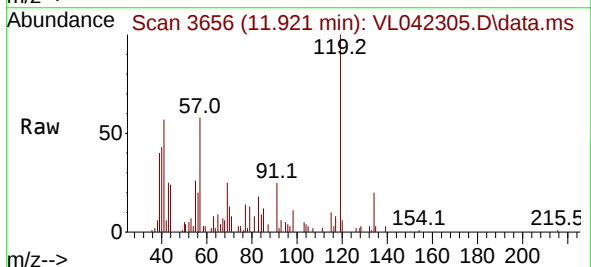
Instrument :  
MSVOA\_L  
ClientSampleId :  
SV1

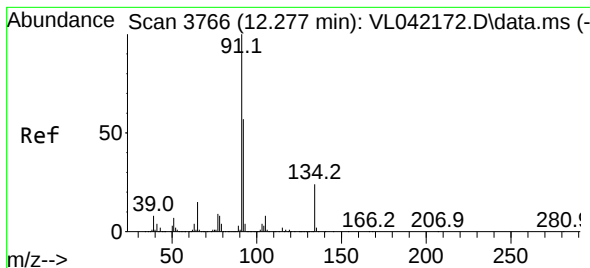
Tgt Ion: 95 Resp: 284923  
Ion Ratio Lower Upper  
95 100  
174 62.5 50.6 76.0  
175 4.8 3.8 5.6



#69  
p-Isopropyltoluene  
Concen: 0.038 ppbv  
RT: 11.921 min Scan# 3656  
Delta R.T. -0.003 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Tgt Ion: 119 Resp: 3268  
Ion Ratio Lower Upper  
119 100  
134 28.3 20.4 30.6  
91 37.9 23.7 35.5





#70

n-Butylbenzene

Concen: 0.040 ppbv

RT: 12.342 min Scan# 31

Delta R.T. 0.065 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

SV1

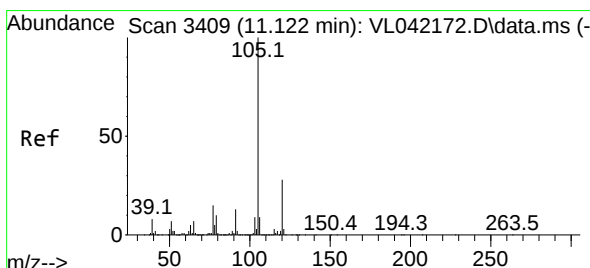
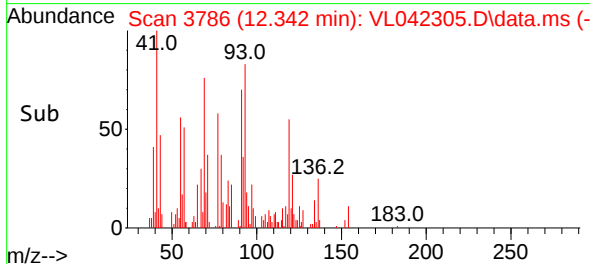
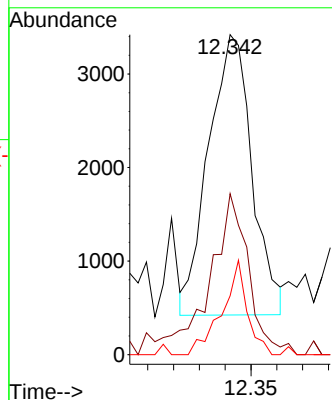
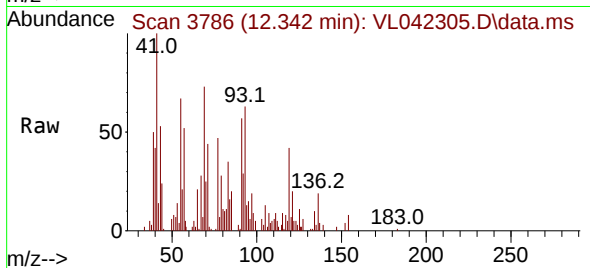
Tgt Ion: 91 Resp: 3499

Ion Ratio Lower Upper

91 100

92 51.4 44.9 67.3

134 19.5 19.2 28.8



#72

4-Ethyltoluene

Concen: 0.031 ppbv

RT: 11.122 min Scan# 3409

Delta R.T. 0.000 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Tgt Ion:105 Resp: 2044

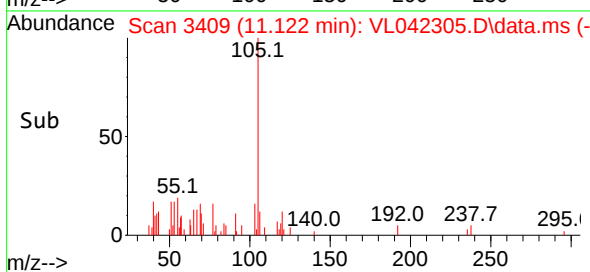
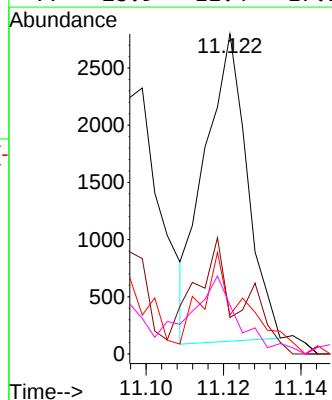
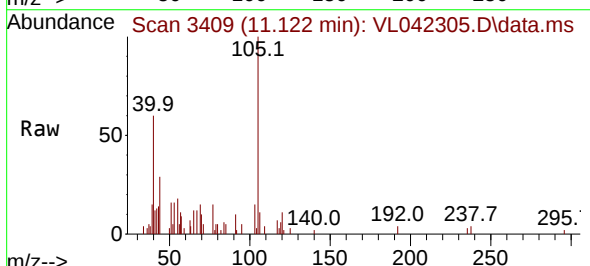
Ion Ratio Lower Upper

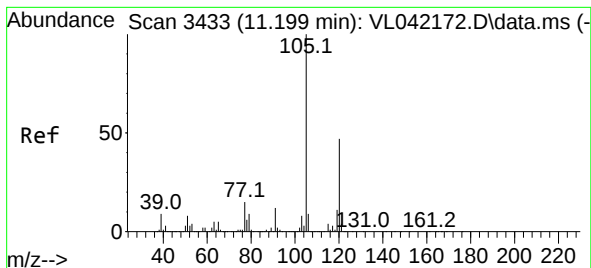
105 100

120 37.0 23.4 35.0#

91 33.8 10.3 15.5#

77 28.9 11.4 17.2#





#73

1,3,5-Trimethylbenzene

Concen: 0.039 ppbv

RT: 11.199 min Scan# 3433

Delta R.T. 0.000 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Instrument :

MSVOA\_L

ClientSampleId :

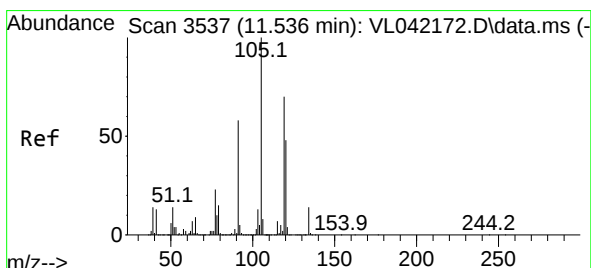
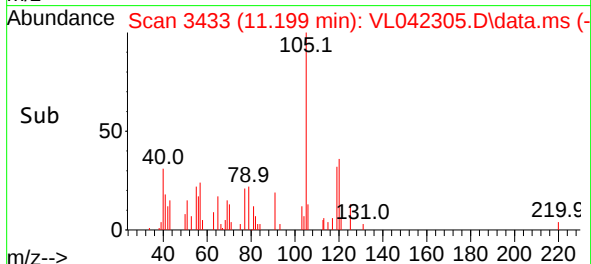
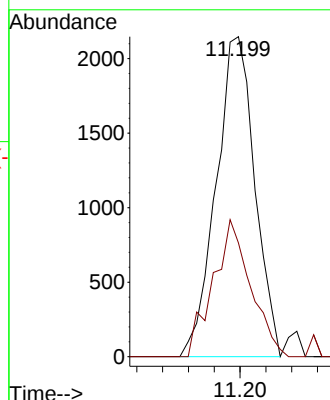
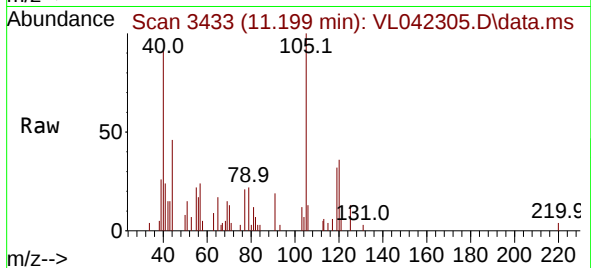
SV1

Tgt Ion:105 Resp: 2235

Ion Ratio Lower Upper

105 100

120 35.6 37.4 56.0#



#74

1,2,4-Trimethylbenzene

Concen: 0.234 ppbv

RT: 11.533 min Scan# 3536

Delta R.T. -0.003 min

Lab File: VL042305.D

Acq: 10 Apr 2025 13:01

Tgt Ion:105 Resp: 15291

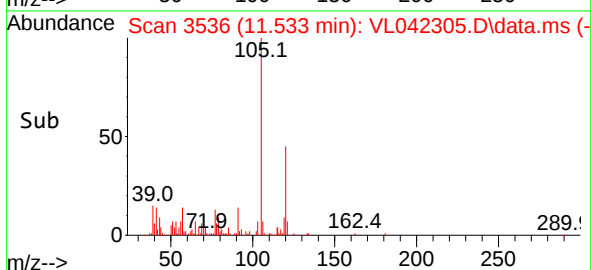
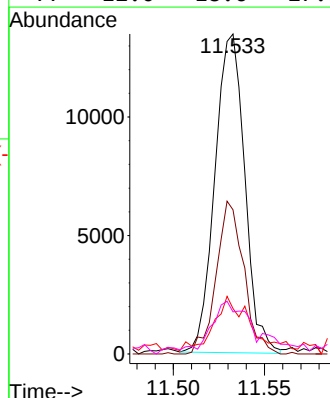
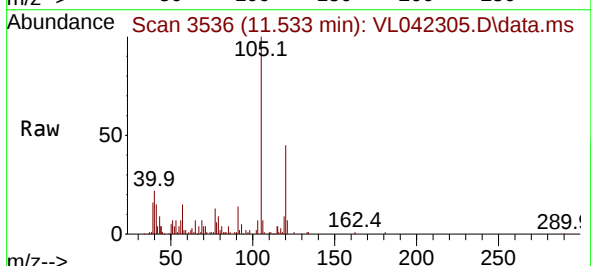
Ion Ratio Lower Upper

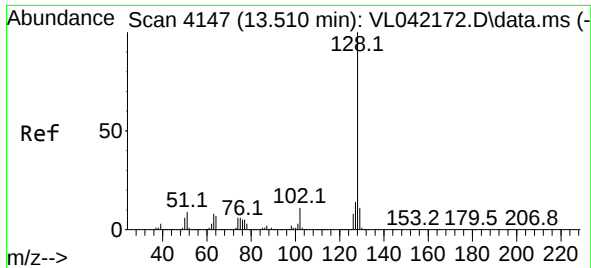
105 100

120 45.3 38.6 58.0

91 13.2 46.2 69.2#

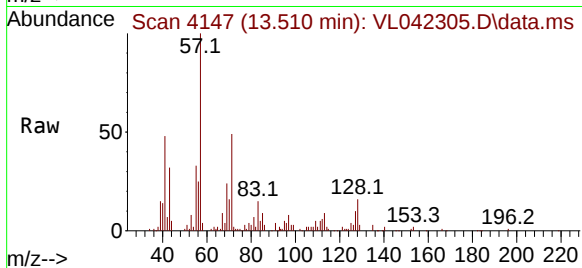
77 12.0 18.6 27.8#





#79  
Naphthalene  
Concen: 0.040 ppbv  
RT: 13.510 min Scan# 4147  
Delta R.T. 0.000 min  
Lab File: VL042305.D  
Acq: 10 Apr 2025 13:01

Instrument :  
MSVOA\_L  
ClientSampleId :  
SV1



Tgt Ion:128 Resp: 2857  
Ion Ratio Lower Upper  
128 100  
127 54.5 10.8 16.2#  
129 18.9 9.0 13.4#

