

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032921\  
 Data File : VL036545.D  
 Acq On : 29 Mar 2021 18:50  
 Operator : SY/AP  
 Sample : M1760-09  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Mar 30 06:41:56 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Mar 25 09:42:40 2021  
 QLast Update : Thu Mar 25 09:42:40 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.66  | 49   | 1520698  | 10.00 | ppbv  | -0.01    |
| 33) 1,4-Difluorobenzene | 7.17  | 114  | 3377295  | 10.00 | ppbv  | -0.01    |
| 55) Chlorobenzene-d5    | 12.08 | 117  | 3053876  | 10.00 | ppbv  | -0.02    |

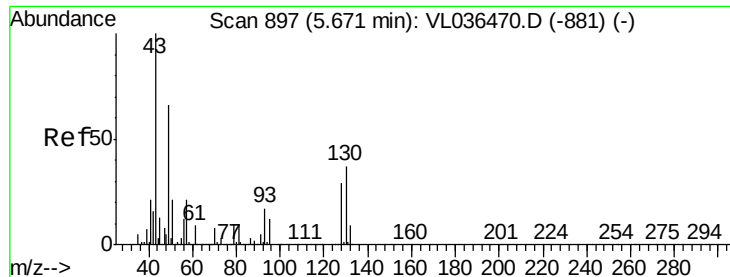
System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.41  | 95    | 2445055  | 10.05    | ppbv | -0.02   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 100.50% |

| Target Compounds               | R.T.  | QIon | Response | Conc   | Units  | Ovalue |
|--------------------------------|-------|------|----------|--------|--------|--------|
| 2) Dichlorodifluoromethane     | 3.04  | 85   | 55437    | 0.224  | ppbv   | 93     |
| 3) Chlorodifluoromethane       | 2.98  | 51   | 87682    | 0.309  | ppbv # | 91     |
| 4) Chloromethane               | 3.13  | 50   | 46181    | 0.460  | ppbv   | 100    |
| 9) Propene                     | 3.02  | 41   | 62381    | 0.689  | ppbv   | 95     |
| 10) Heptane                    | 8.11  | 43   | 12374    | 0.054  | ppbv   | 87     |
| 11) Trichlorofluoromethane     | 3.94  | 101  | 51721    | 0.205  | ppbv   | 90     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.48  | 101  | 9124     | 0.056  | ppbv # | 73     |
| 13) Ethanol                    | 3.60  | 45   | 521587   | 48.357 | ppbv   | 96     |
| 15) Acetone                    | 3.84  | 43   | 1187261  | 7.932  | ppbv   | 96     |
| 16) 1,3-Butadiene              | 3.29  | 39   | 15536    | 0.149  | ppbv # | 70     |
| 19) Isopropyl Alcohol          | 3.97  | 45   | 262970   | 3.194  | ppbv # | 94     |
| 20) Methylene Chloride         | 4.34  | 84   | 681534   | 9.725  | ppbv   | 96     |
| 21) Allyl Chloride             | 4.34  | 41   | 9769     | 0.082  | ppbv # | 17     |
| 23) Vinyl Acetate              | 5.07  | 43   | 7327     | 0.029  | ppbv # | 57     |
| 25) Ethyl Acetate              | 5.68  | 43   | 780679   | 2.194  | ppbv # | 79     |
| 26) Hexane                     | 5.68  | 57   | 1036604  | 6.278  | ppbv # | 48     |
| 29) Chloroform                 | 5.75  | 83   | 5806     | 0.022  | ppbv   | 91     |
| 30) Cyclohexane                | 7.12  | 84   | 2723     | 0.020  | ppbv # | 1      |
| 34) 2-Butanone                 | 5.24  | 43   | 86517    | 0.525  | ppbv   | 99     |
| 35) Carbon Tetrachloride       | 7.01  | 117  | 10523    | 0.041  | ppbv # | 94     |
| 36) Benzene                    | 6.89  | 78   | 28922    | 0.093  | ppbv # | 81     |
| 39) 1,2-Dichloropropane        | 7.17  | 63   | 944154   | 7.472  | ppbv # | 24     |
| 41) Tetrahydrofuran            | 5.68  | 42   | 438823   | 5.773  | ppbv # | 53     |
| 44) 2,2,4-Trimethylpentane     | 7.85  | 57   | 35486    | 0.065  | ppbv # | 66     |
| 53) Toluene                    | 9.80  | 91   | 793594   | 2.392  | ppbv   | 99     |
| 58) Ethyl Benzene              | 12.70 | 91   | 11967    | 0.027  | ppbv   | 97     |
| 60) o-Xylene                   | 13.68 | 91   | 9551     | 0.025  | ppbv # | 1      |

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

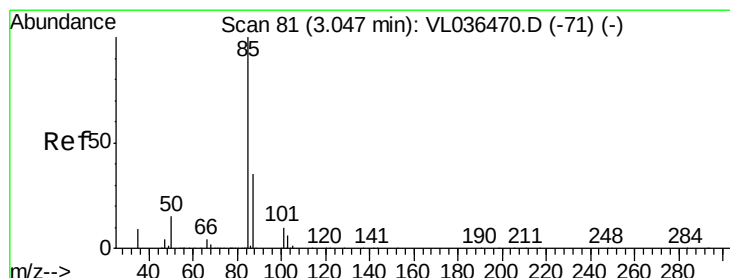
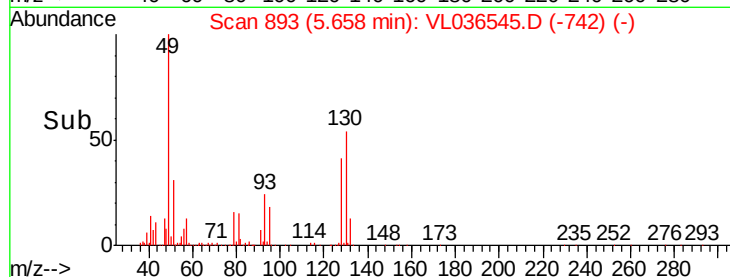
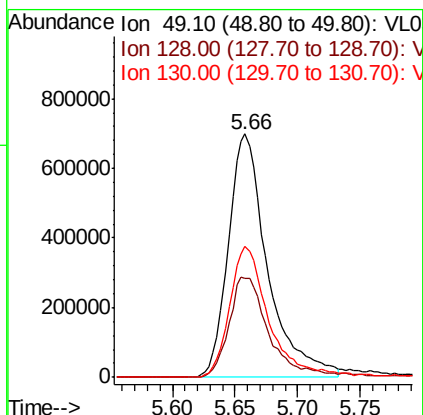
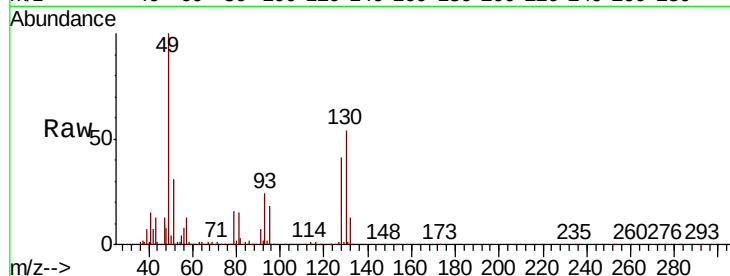




#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 5.66 min Scan# 893  
 Delta R.T. -0.01 min  
 Lab File: VL036545.D  
 Acq: 29 Mar 2021 18:50

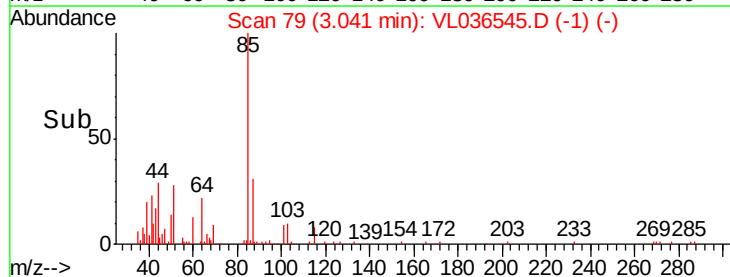
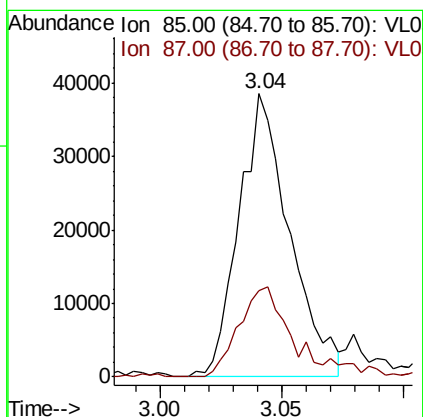
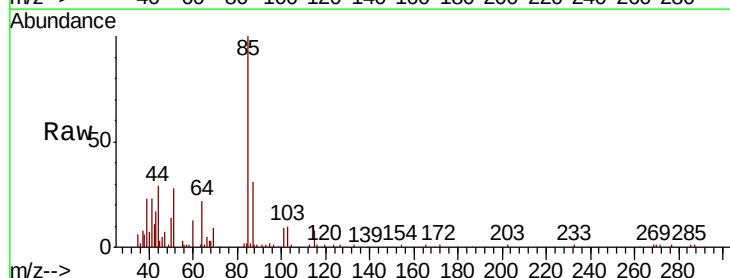
Instrument :  
 MSVOA\_L  
 ClientSampleId :

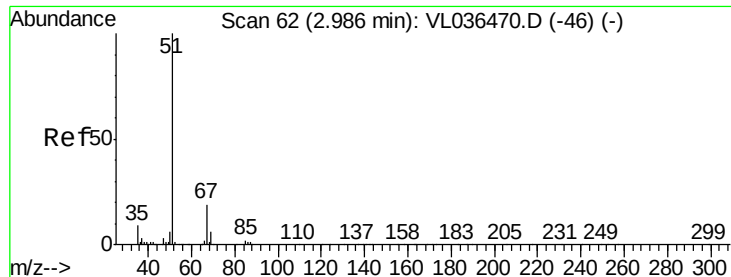
Tot Ion: 49 Resp: 1520698  
 Ion Ratio Lower Upper  
 49 100  
 128 43.6 23.5 70.6  
 130 55.7 29.1 87.4



#2  
 Dichlorodifluoromethane  
 Concen: 0.224 ppbv  
 RT: 3.04 min Scan# 79  
 Delta R.T. -0.01 min  
 Lab File: VL036545.D  
 Acq: 29 Mar 2021 18:50

Tgt Ion: 85 Resp: 55437  
 Ion Ratio Lower Upper  
 85 100  
 87 30.7 27.8 41.8





#3

Chlorodifluoromethane

Concen: 0.309 ppbv

RT: 2.98 min Scan# 60

Delta R.T. -0.01 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

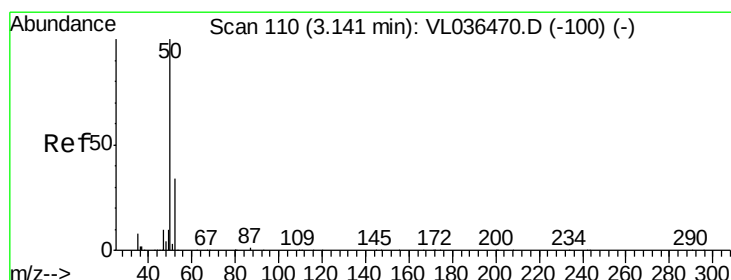
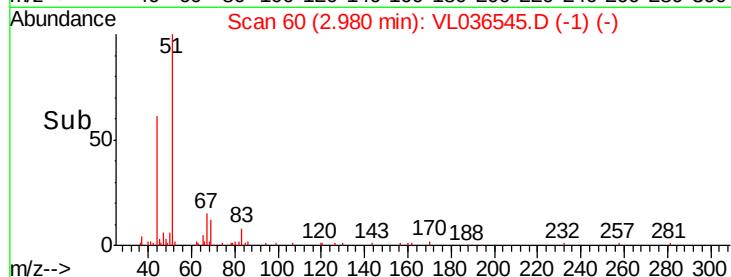
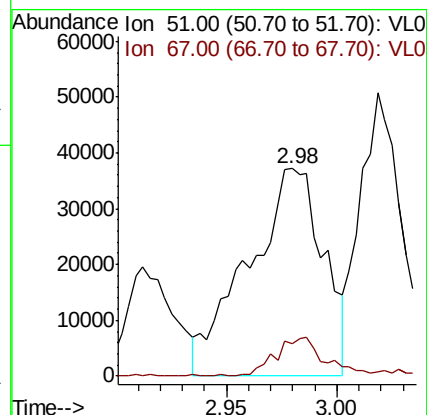
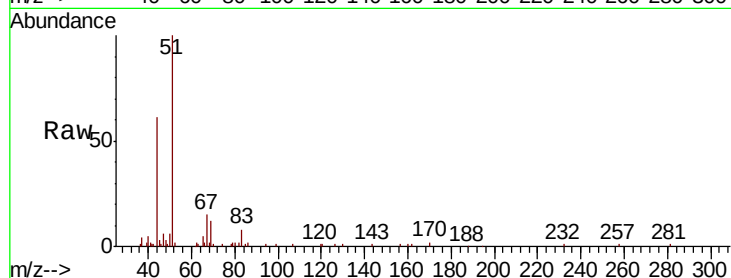
ClientSampled :

Tot Ion: 51 Resp: 87682

Ion Ratio Lower Upper

51 100

67 14.5 14.7 22.1#



#4

Chloromethane

Concen: 0.460 ppbv

RT: 3.13 min Scan# 108

Delta R.T. -0.01 min

Lab File: VL036545.D

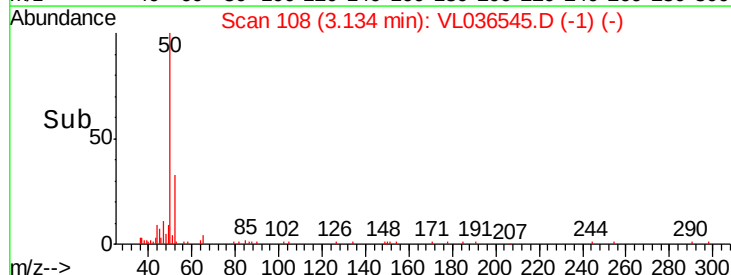
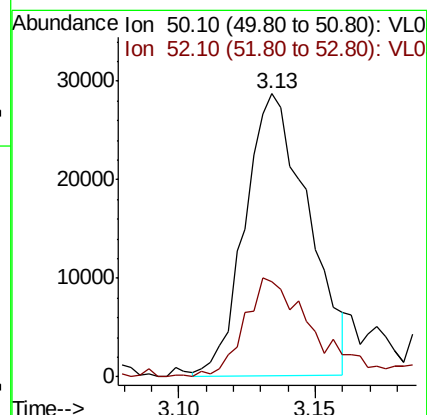
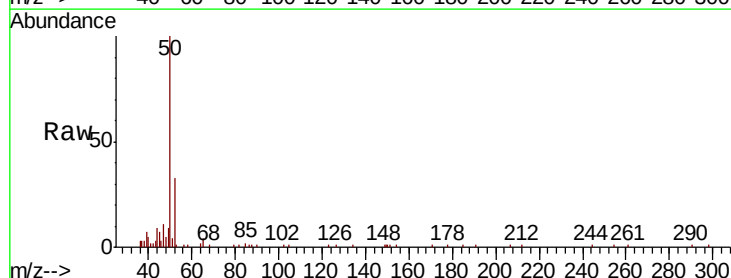
Acq: 29 Mar 2021 18:50

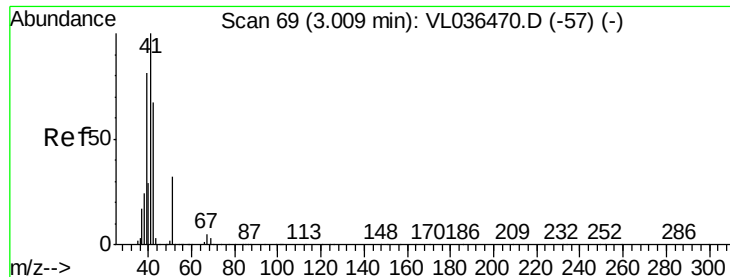
Tgt Ion: 50 Resp: 46181

Ion Ratio Lower Upper

50 100

52 33.9 27.0 40.6





#9

Propene

Concen: 0.689 ppbv

RT: 3.02 min Scan# 71

Delta R.T. 0.01 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

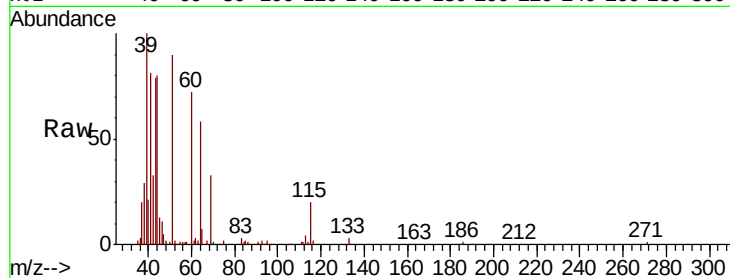
ClientSampleId :

Tot Ion: 41 Resp: 62381

Ion Ratio Lower Upper

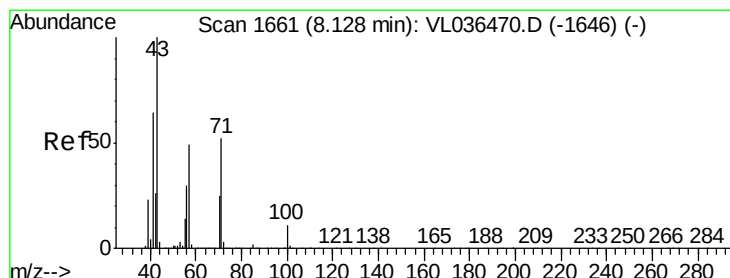
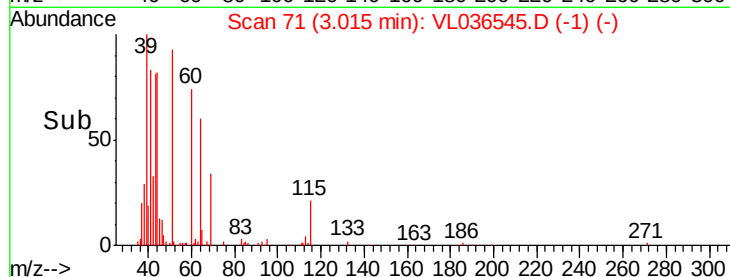
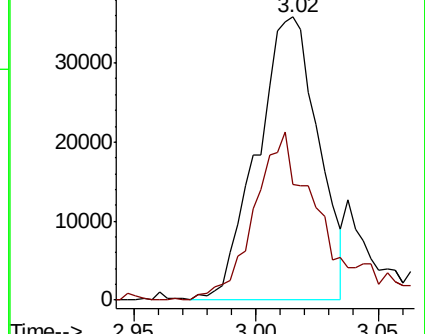
41 100

42 67.1 57.0 85.4



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0



#10

Heptane

Concen: 0.054 ppbv

RT: 8.11 min Scan# 1657

Delta R.T. -0.01 min

Lab File: VL036545.D

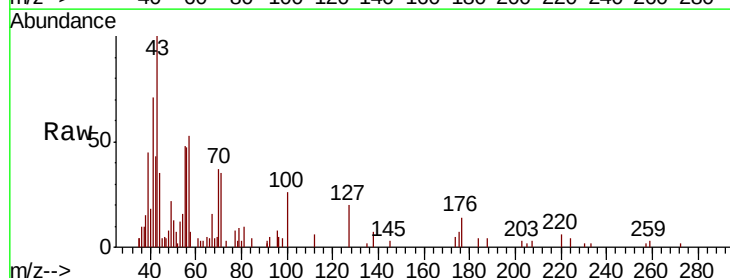
Acq: 29 Mar 2021 18:50

Tgt Ion: 43 Resp: 12374

Ion Ratio Lower Upper

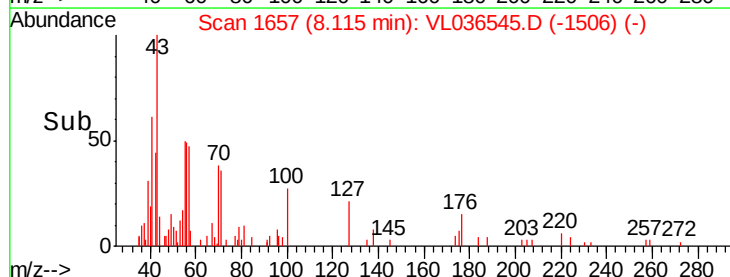
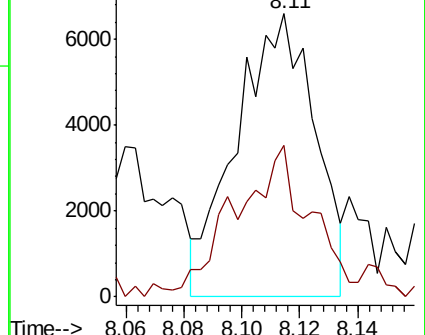
43 100

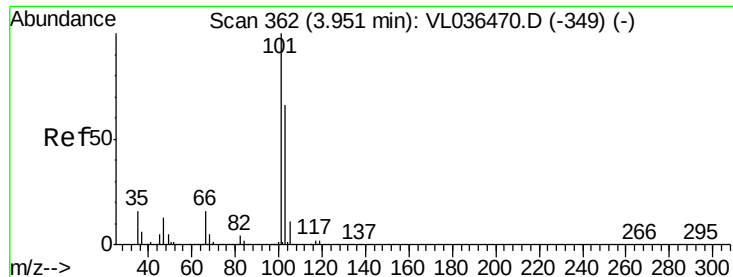
57 57.6 39.0 58.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#11

Trichlorofluoromethane

Concen: 0.205 ppbv

RT: 3.94 min Scan# 360

Delta R.T. -0.01 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

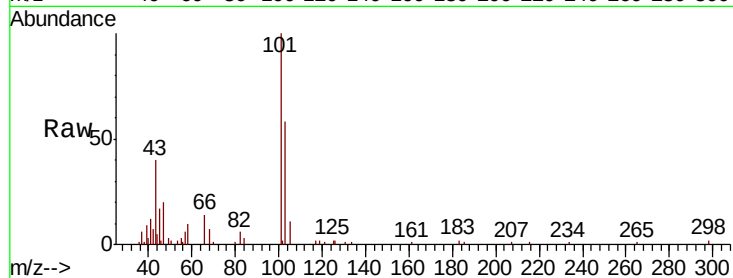
ClientSampleId :

Tot Ion:101 Resp: 51721

Ion Ratio Lower Upper

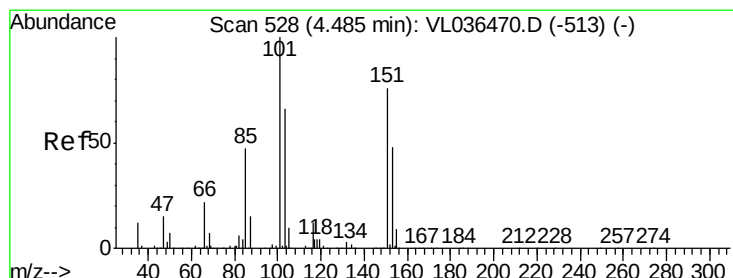
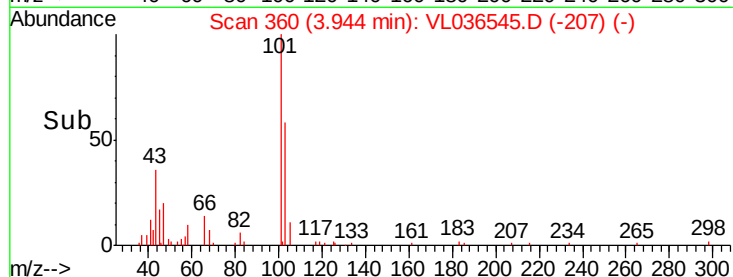
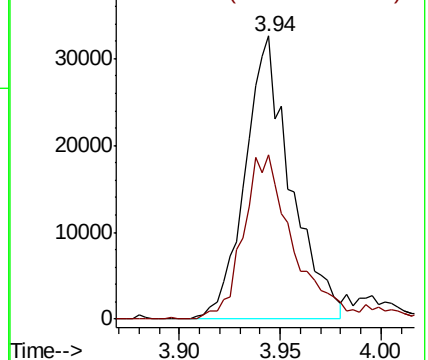
101 100

103 58.0 52.5 78.7



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.056 ppbv

RT: 4.48 min Scan# 527

Delta R.T. -0.00 min

Lab File: VL036545.D

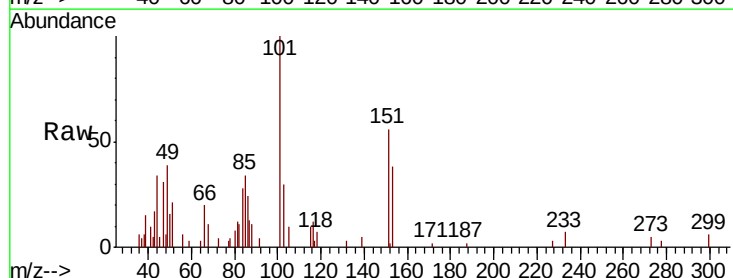
Acq: 29 Mar 2021 18:50

Tgt Ion:101 Resp: 9124

Ion Ratio Lower Upper

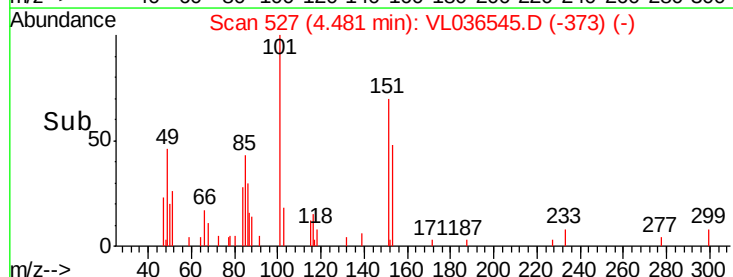
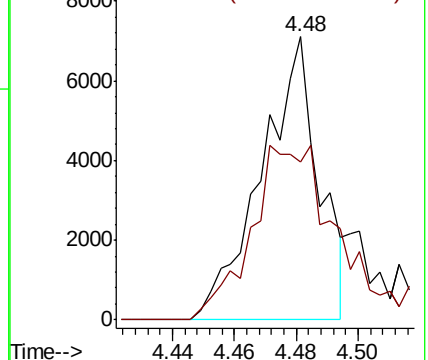
101 100

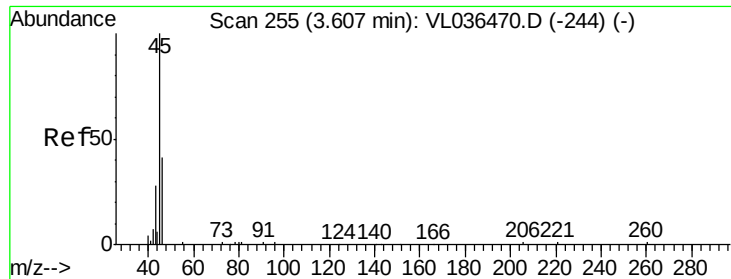
151 98.9 60.9 91.3#



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V

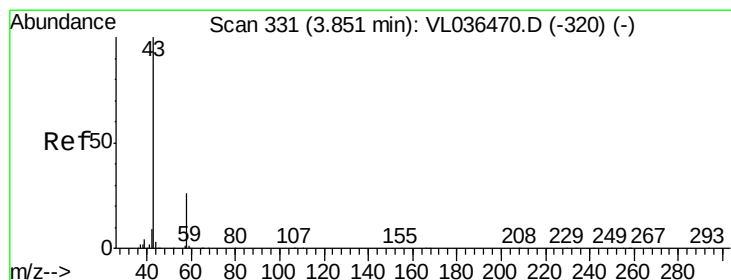
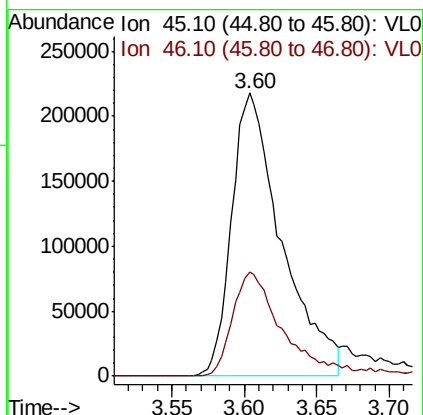
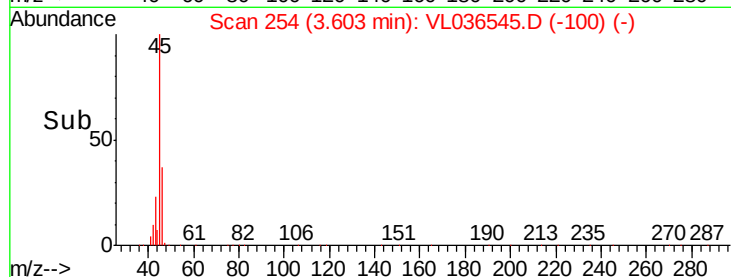
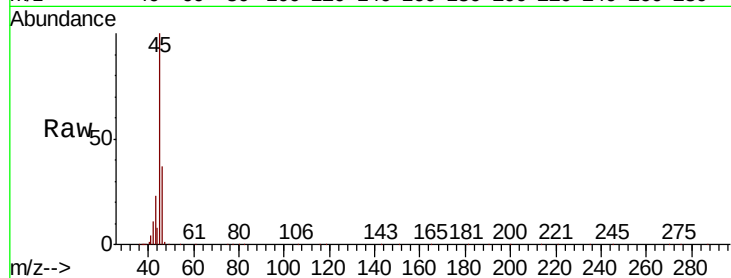




#13  
Ethanol  
Concen: 48.357 ppbv  
RT: 3.60 min Scan# 254  
Delta R.T. -0.00 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

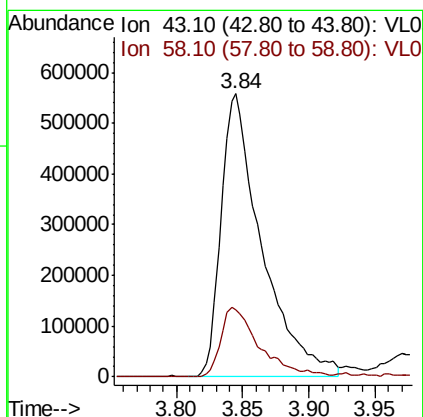
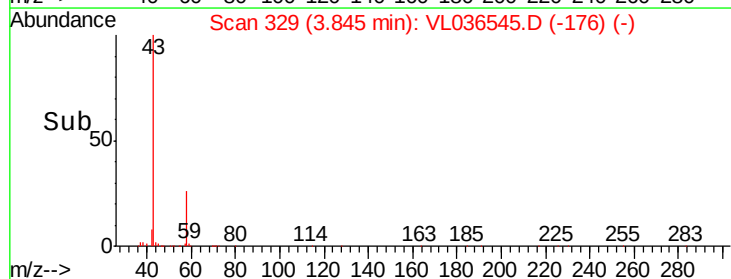
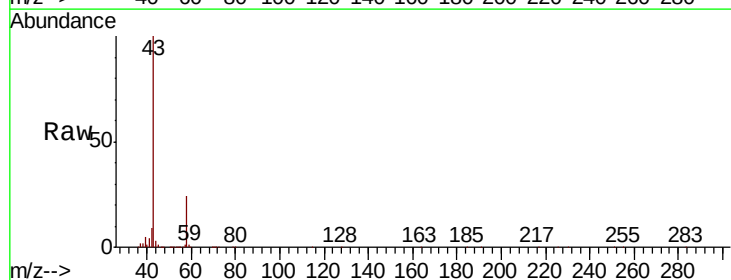
Instrument :  
MSVOA\_L  
ClientSampleId :

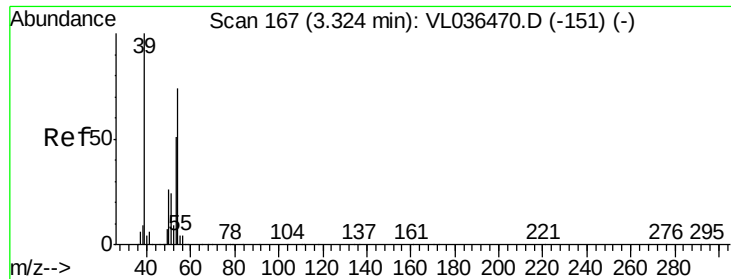
Tot Ion: 45 Resp: 521587  
Ion Ratio Lower Upper  
45 100  
46 38.7 16.6 66.2



#15  
Acetone  
Concen: 7.932 ppbv  
RT: 3.84 min Scan# 329  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

Tgt Ion: 43 Resp: 1187261  
Ion Ratio Lower Upper  
43 100  
58 24.3 21.2 31.8

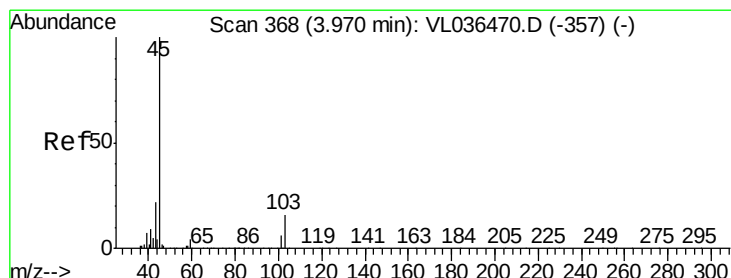
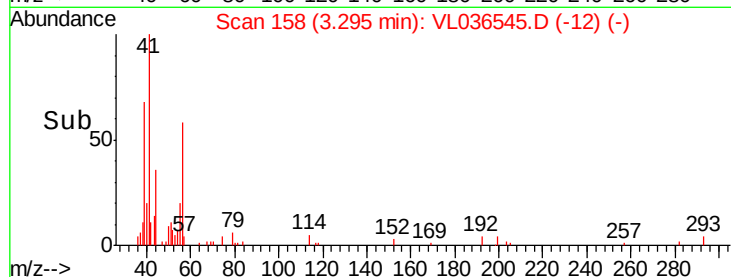
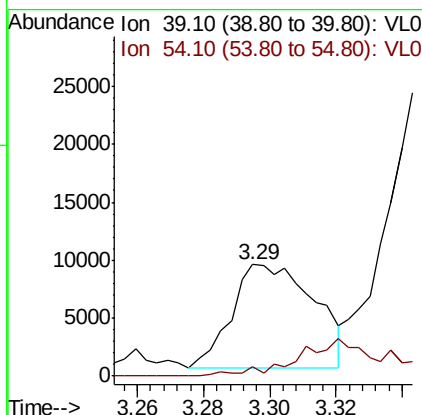
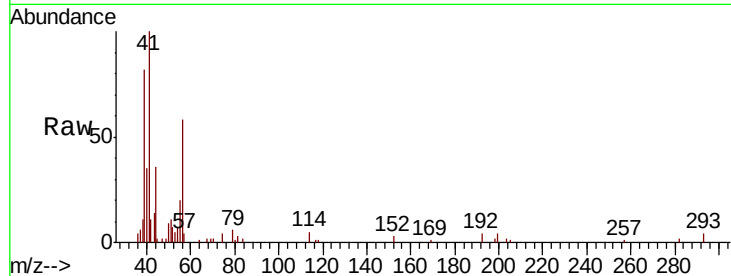




#16  
 1,3-Butadiene  
 Concen: 0.149 ppbv  
 RT: 3.29 min Scan# 158  
 Delta R.T. -0.03 min  
 Lab File: VL036545.D  
 Acq: 29 Mar 2021 18:50

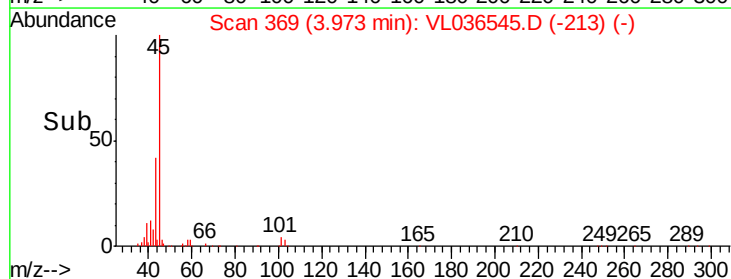
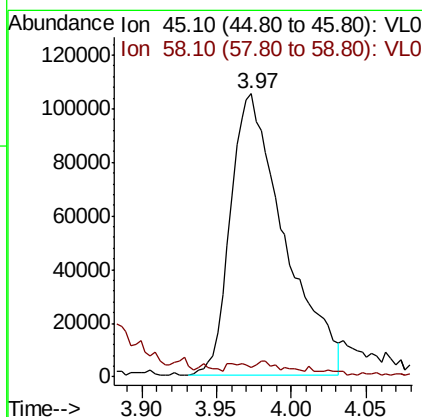
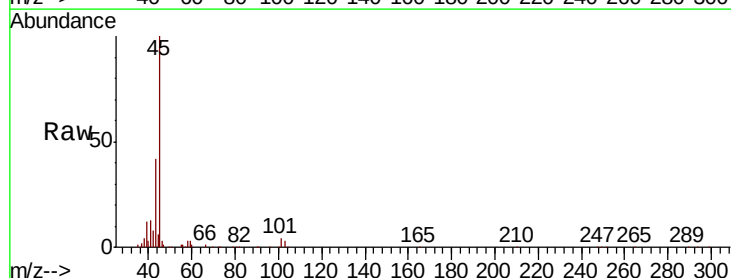
Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tot Ion: 39 Resp: 15536  
 Ion Ratio Lower Upper  
 39 100  
 54 48.4 58.8 88.2#

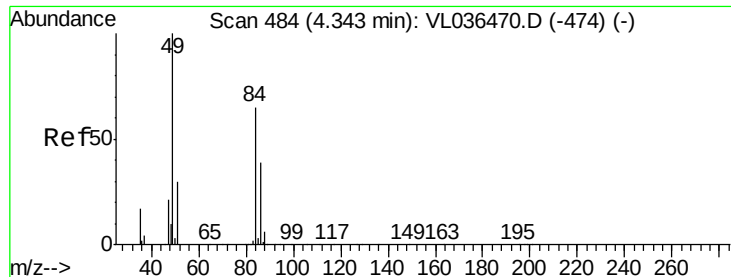


#19  
 Isopropyl Alcohol  
 Concen: 3.194 ppbv  
 RT: 3.97 min Scan# 369  
 Delta R.T. 0.00 min  
 Lab File: VL036545.D  
 Acq: 29 Mar 2021 18:50

Tgt Ion: 45 Resp: 262970  
 Ion Ratio Lower Upper  
 45 100  
 58 5.5 2.9 4.3#



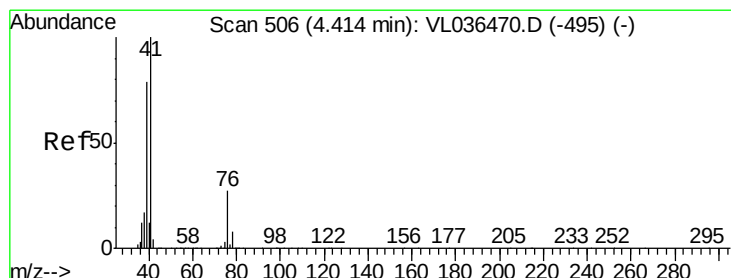
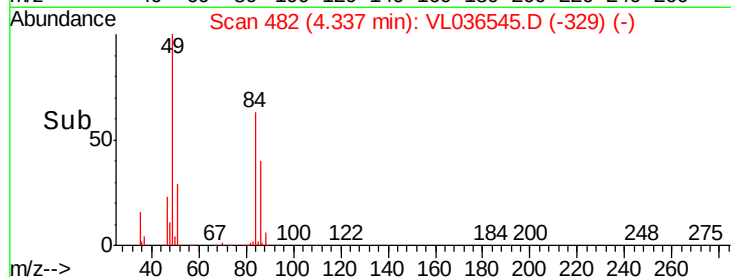
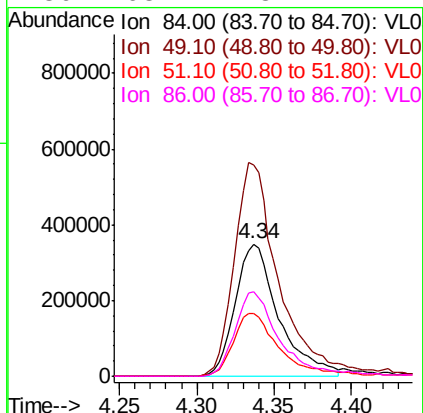
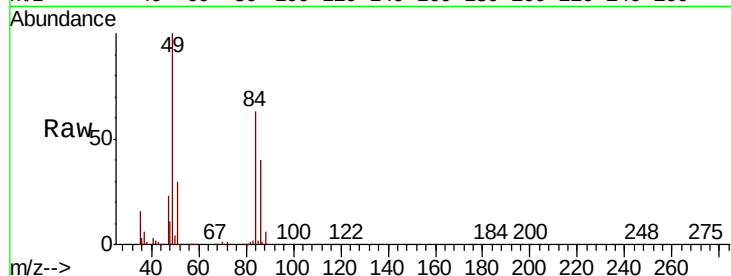




#20  
Methylene Chloride  
Concen: 9.725 ppbv  
RT: 4.34 min Scan# 482  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

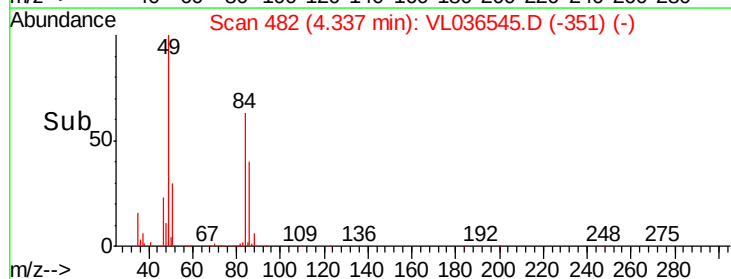
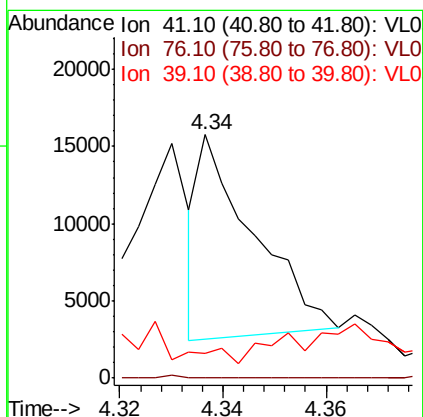
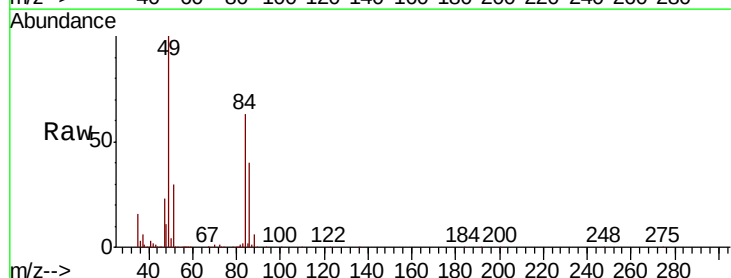
Instrument :  
MSVOA\_L  
ClientSampled :

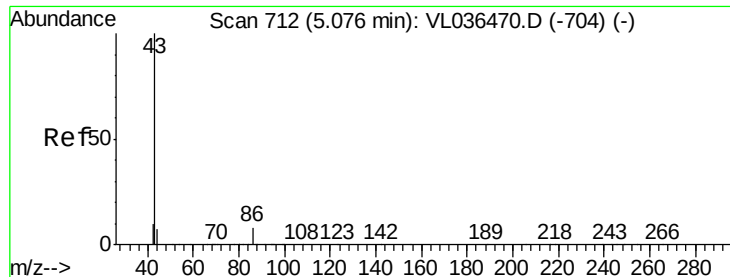
|          |       |       |        |
|----------|-------|-------|--------|
| Tot Ion: | 84    | Resp: | 681534 |
| Ion      | Ratio | Lower | Upper  |
| 84       | 100   |       |        |
| 49       | 159.3 | 122.9 | 184.3  |
| 51       | 47.1  | 36.9  | 55.3   |
| 86       | 63.7  | 48.2  | 72.4   |



#21  
Allyl Chloride  
Concen: 0.082 ppbv  
RT: 4.34 min Scan# 482  
Delta R.T. -0.08 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 41    | Resp: | 9769   |
| Ion      | Ratio | Lower | Upper  |
| 41       | 100   |       |        |
| 76       | 0.4   | 22.9  | 34.3#  |
| 39       | 0.0   | 67.3  | 100.9# |





#23

Vinyl Acetate

Concen: 0.029 ppbv

RT: 5.07 min Scan# 711

Delta R.T. -0.00 min

Lab File: VL036545.D

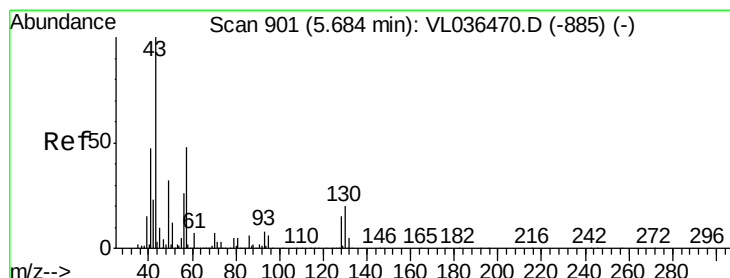
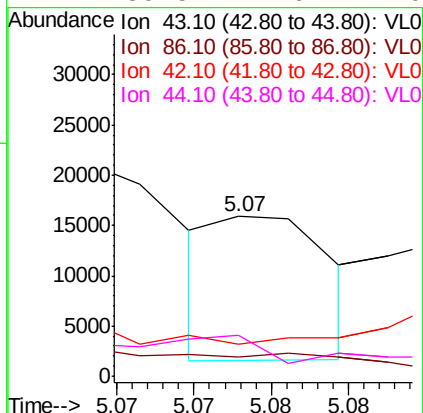
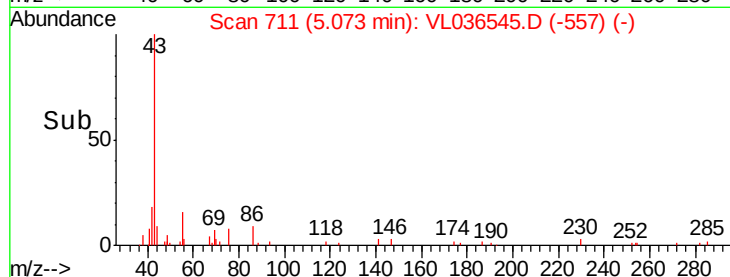
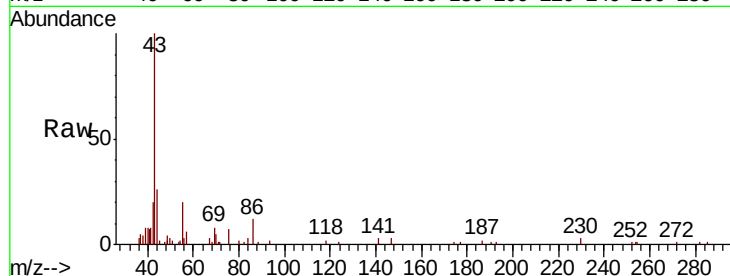
Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

ClientSampled :

|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 43    | Resp: | 7327  |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 86       | 1.1   | 5.4   | 8.0#  |
| 42       | 0.0   | 8.5   | 12.7# |
| 44       | 39.5  | 4.6   | 7.0#  |



#25

Ethyl Acetate

Concen: 2.194 ppbv

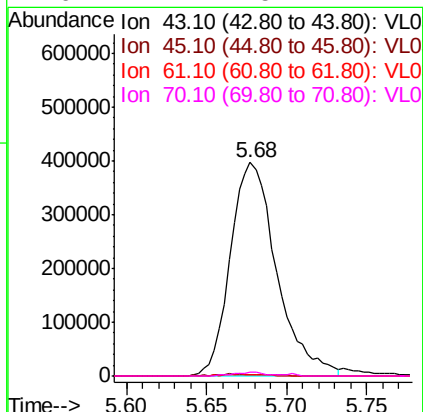
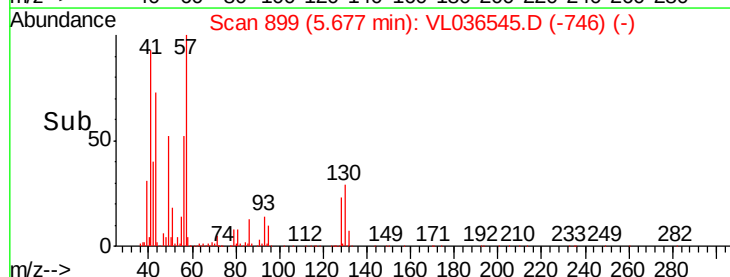
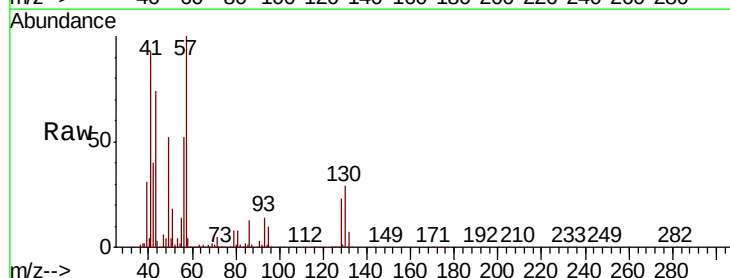
RT: 5.68 min Scan# 899

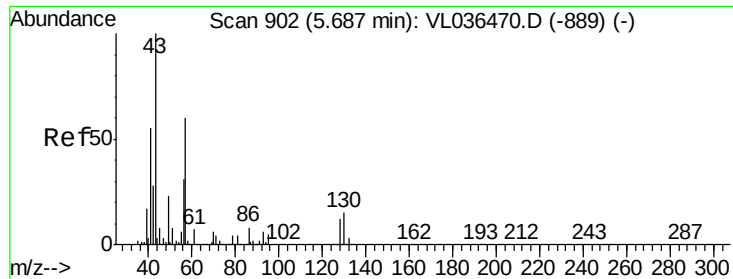
Delta R.T. -0.01 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 43    | Resp: | 780679 |
| Ion      | Ratio | Lower | Upper  |
| 43       | 100   |       |        |
| 45       | 1.3   | 7.9   | 11.9#  |
| 61       | 0.8   | 7.4   | 11.2#  |
| 70       | 1.7   | 5.1   | 7.7#   |

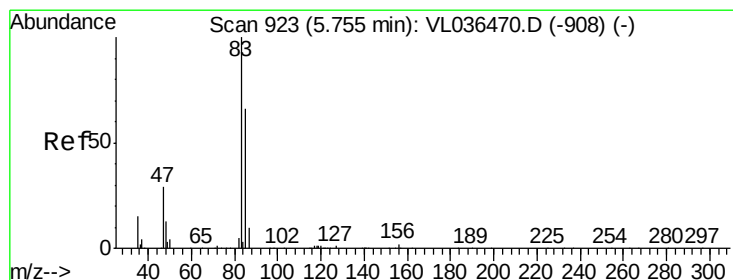
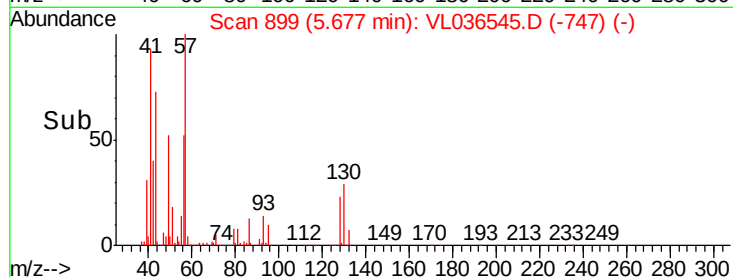
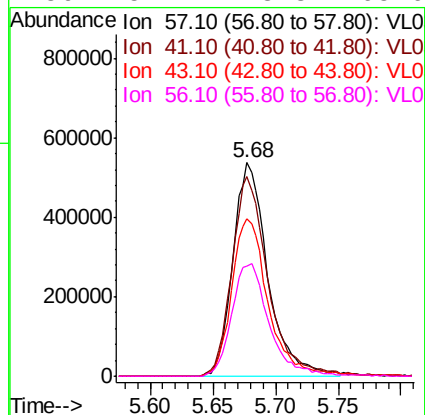
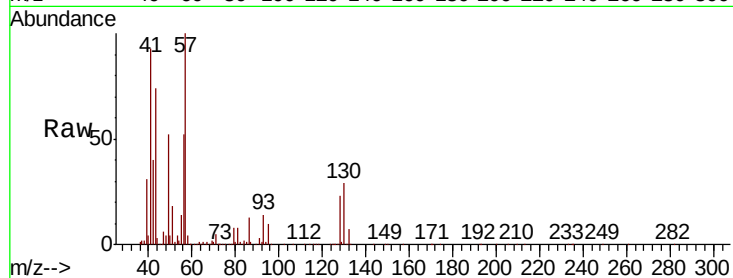




#26  
Hexane  
Concen: 6.278 ppbv  
RT: 5.68 min Scan# 899  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

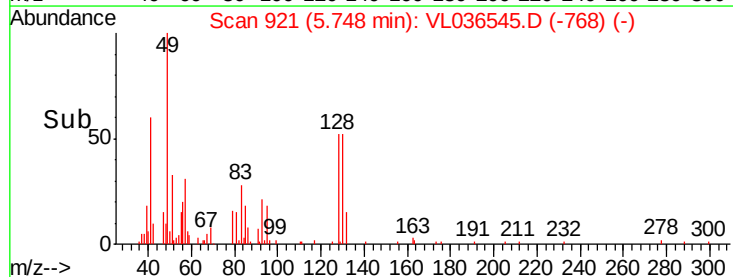
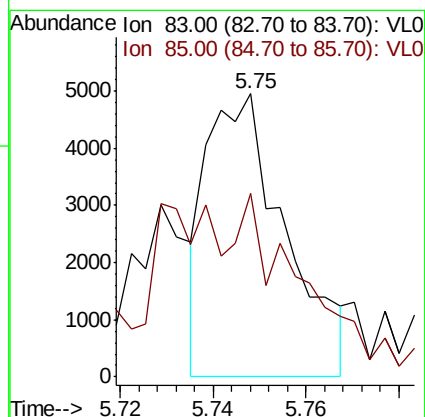
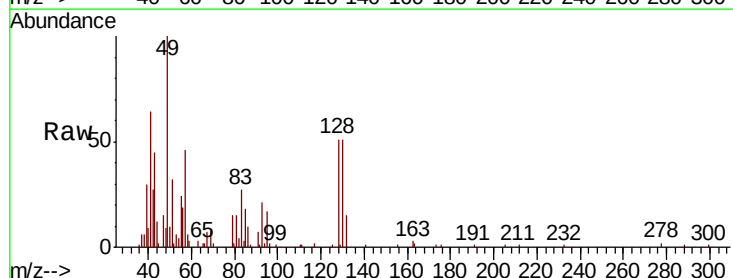
Instrument :  
MSVOA\_L  
ClientSampleId :

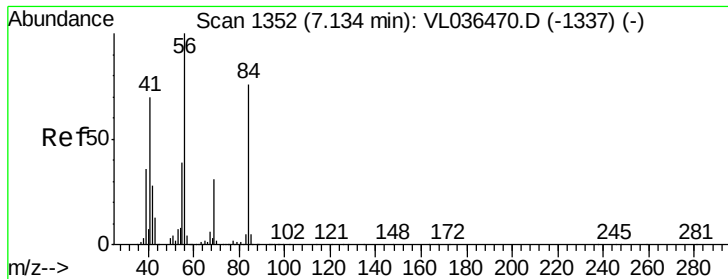
Tot Ion: 57 Resp: 1036604  
Ion Ratio Lower Upper  
57 100  
41 97.4 77.2 115.8  
43 78.0 173.8 260.6#  
56 57.2 43.8 65.6



#29  
Chloroform  
Concen: 0.022 ppbv  
RT: 5.75 min Scan# 921  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

Tgt Ion: 83 Resp: 5806  
Ion Ratio Lower Upper  
83 100  
85 58.2 52.6 78.8

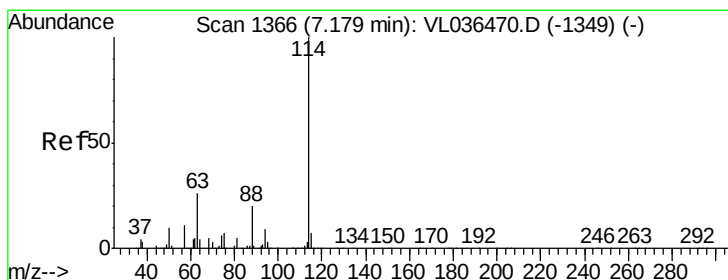
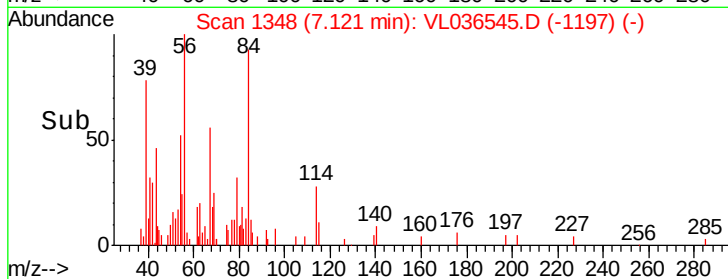
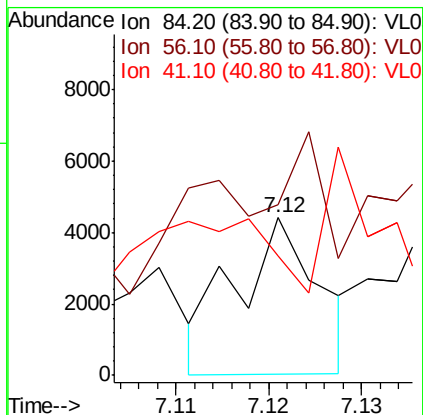
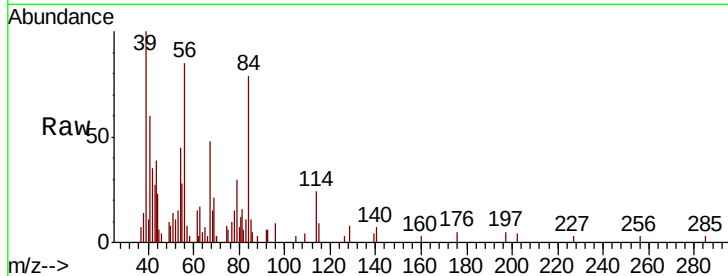




#30  
Cyclohexane  
Concen: 0.020 ppbv  
RT: 7.12 min Scan# 1348  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

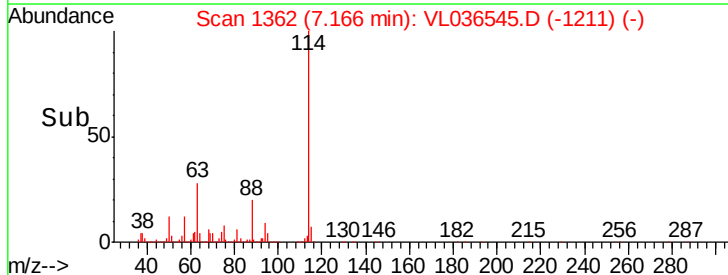
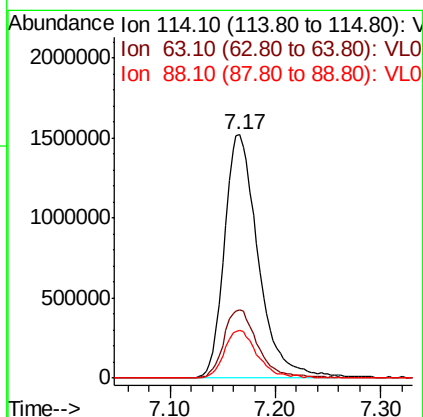
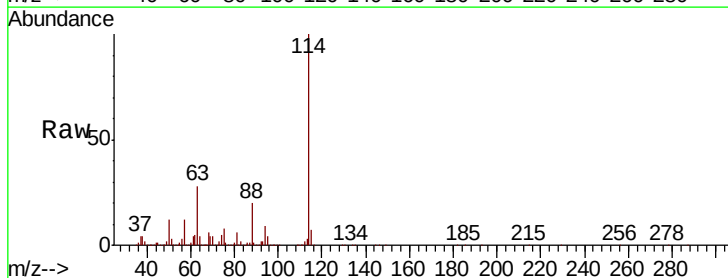
Instrument :  
MSVOA\_L  
ClientSampleId :

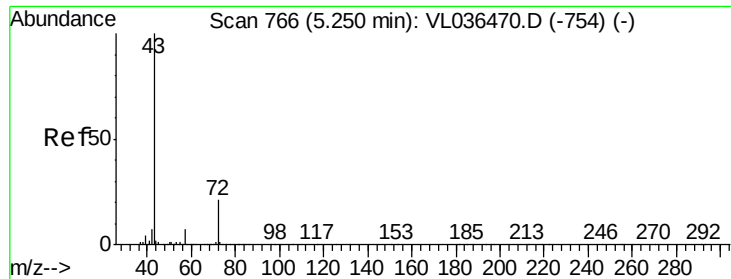
Tot Ion: 84 Resp: 2723  
Ion Ratio Lower Upper  
84 100  
56 0.0 114.6 171.8#  
41 564.1 75.3 112.9#



#33  
1,4-Difluorobenzene  
Concen: 10.000 ppbv  
RT: 7.17 min Scan# 1362  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

Tgt Ion: 114 Resp: 3377295  
Ion Ratio Lower Upper  
114 100  
63 28.6 22.4 33.6  
88 19.3 15.4 23.0

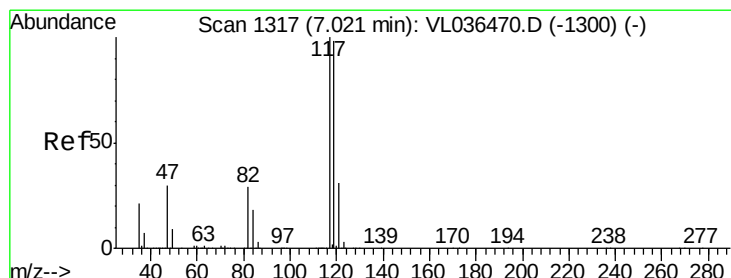
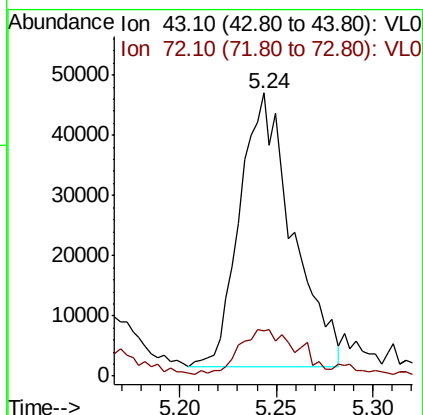
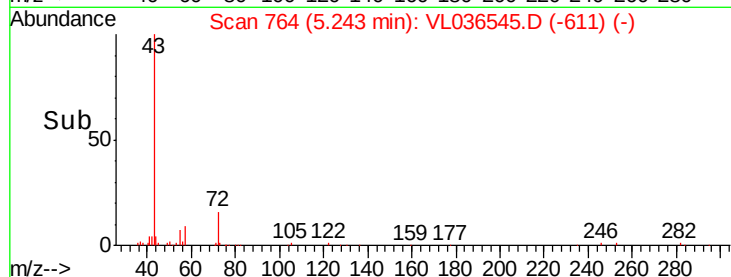
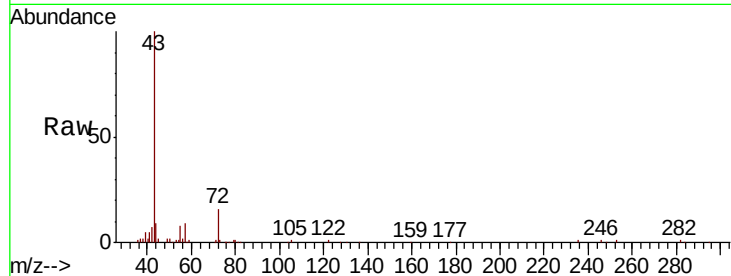




#34  
2-Butanone  
Concen: 0.525 ppbv  
RT: 5.24 min Scan# 764  
Delta R.T. -0.01 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

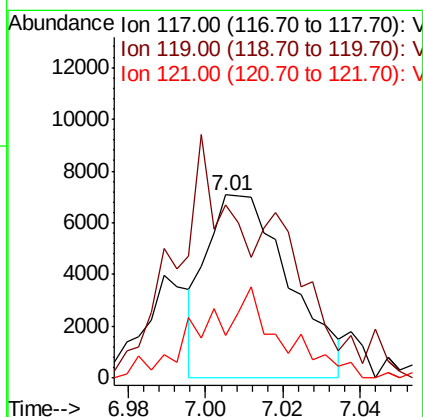
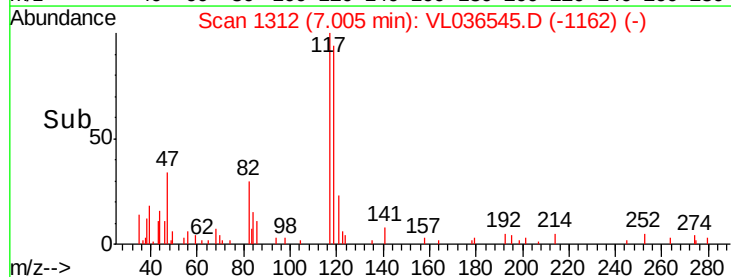
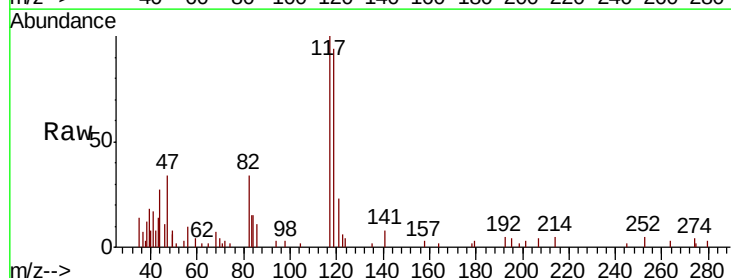
Instrument :  
MSVOA\_L  
ClientSampleId :

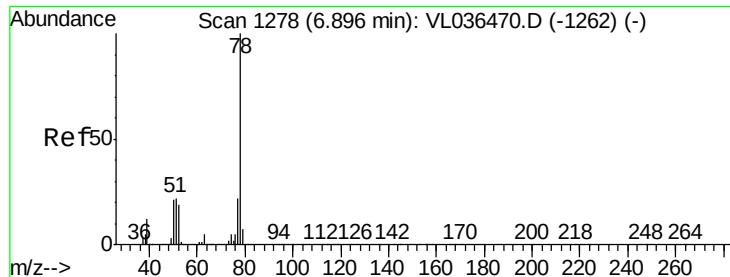
Tot Ion: 43 Resp: 86517  
Ion Ratio Lower Upper  
43 100  
72 21.9 17.0 25.6



#35  
Carbon Tetrachloride  
Concen: 0.041 ppbv  
RT: 7.01 min Scan# 1312  
Delta R.T. -0.02 min  
Lab File: VL036545.D  
Acq: 29 Mar 2021 18:50

Tgt Ion: 117 Resp: 10523  
Ion Ratio Lower Upper  
117 100  
119 100.1 78.2 117.2  
121 20.4 24.5 36.7#





#36

Benzene

Concen: 0.093 ppbv

RT: 6.89 min Scan# 1275

Delta R.T. -0.01 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

ClientSampleId :

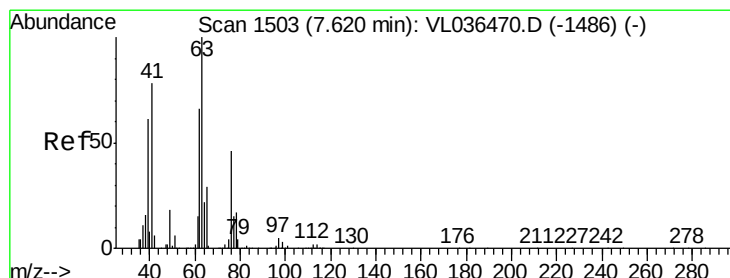
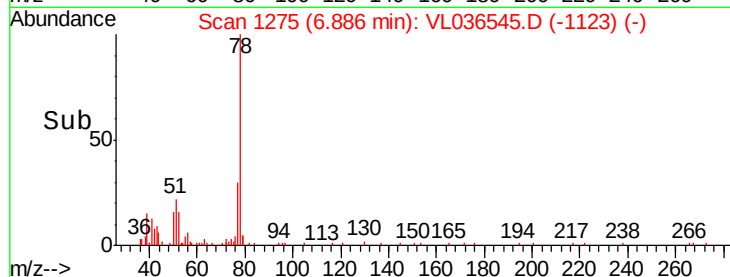
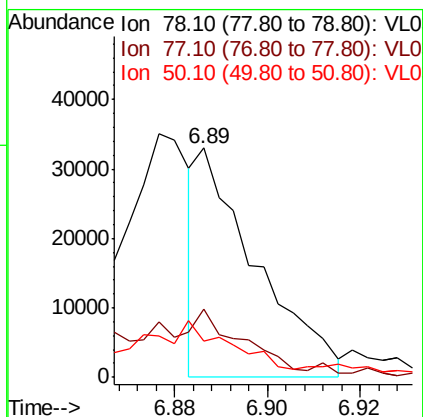
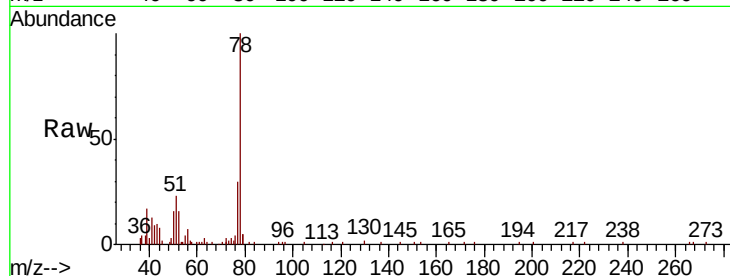
Tot Ion: 78 Resp: 28922

Ion Ratio Lower Upper

78 100

77 30.3 18.0 27.0#

50 10.8 16.5 24.7#



#39

1,2-Dichloropropane

Concen: 7.472 ppbv

RT: 7.17 min Scan# 1362

Delta R.T. -0.45 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

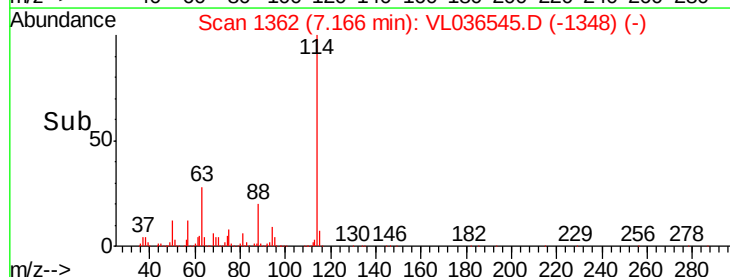
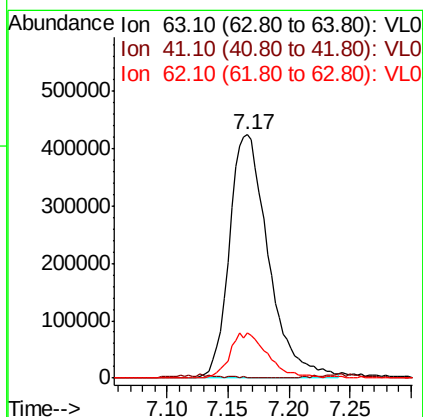
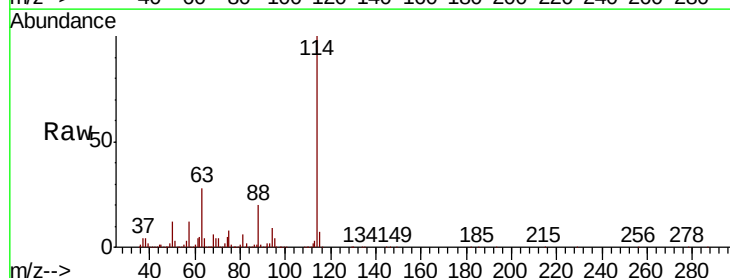
Tgt Ion: 63 Resp: 944154

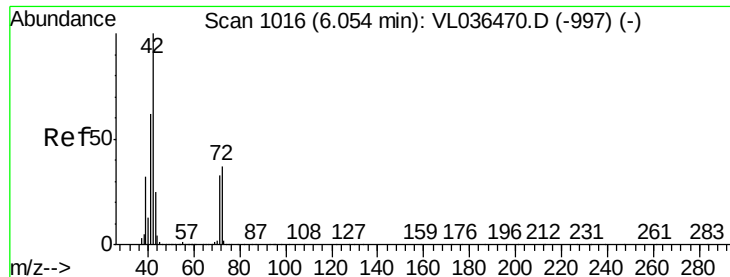
Ion Ratio Lower Upper

63 100

41 0.0 62.4 93.6#

62 18.5 52.8 79.2#





#41

Tetrahydrofuran

Concen: 5.773 ppbv

RT: 5.68 min Scan# 899

Delta R.T. -0.38 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

ClientSampleId :

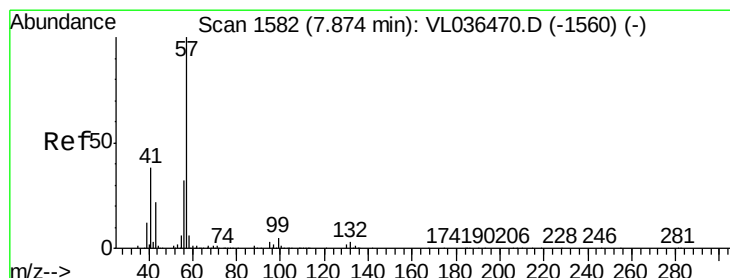
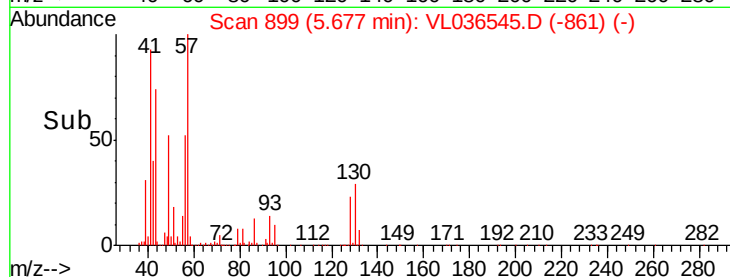
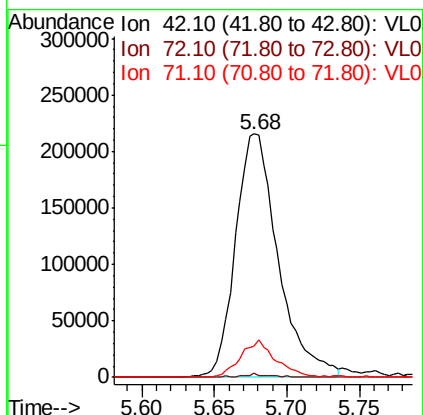
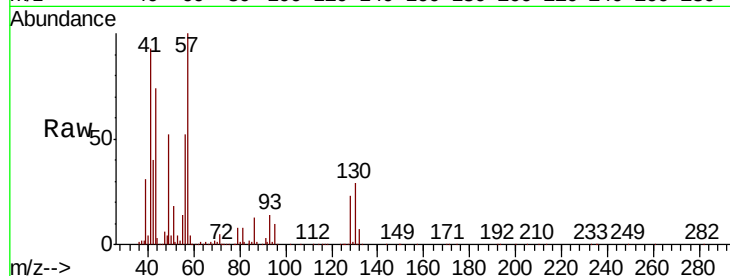
Tot Ion: 42 Resp: 438823

Ion Ratio Lower Upper

42 100

72 1.0 27.6 41.4#

71 13.1 27.0 40.4#



#44

2,2,4-Trimethylpentane

Concen: 0.065 ppbv

RT: 7.85 min Scan# 1576

Delta R.T. -0.02 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

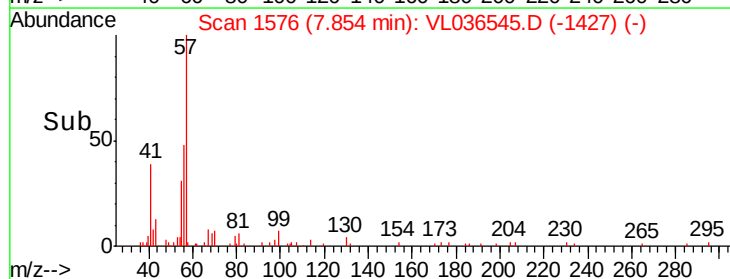
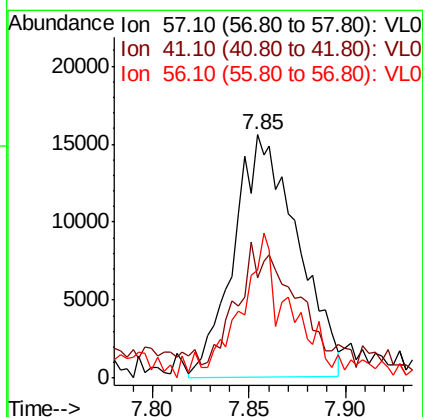
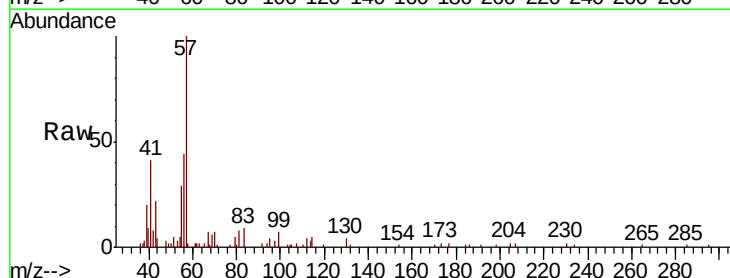
Tgt Ion: 57 Resp: 35486

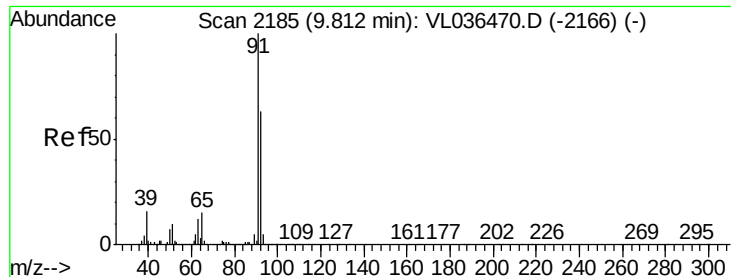
Ion Ratio Lower Upper

57 100

41 60.2 28.8 43.2#

56 47.7 26.1 39.1#





#53

Toluene

Concen: 2.392 ppbv

RT: 9.80 min Scan# 2180

Delta R.T. -0.02 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

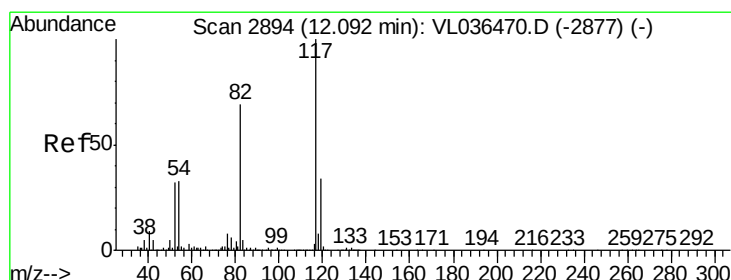
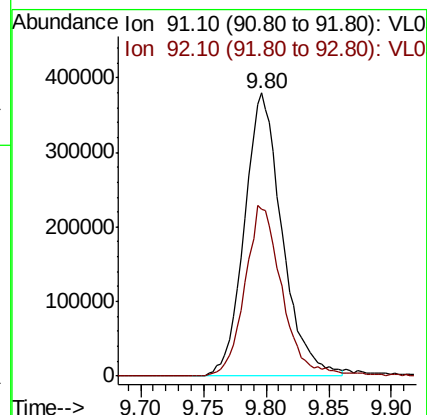
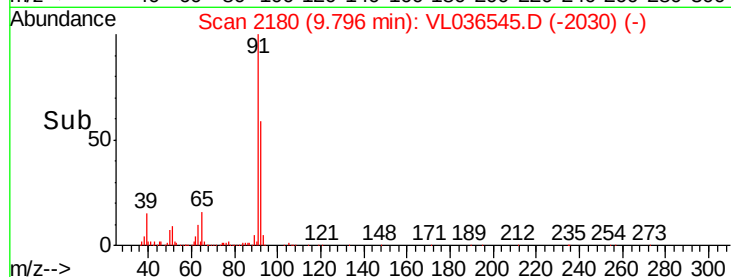
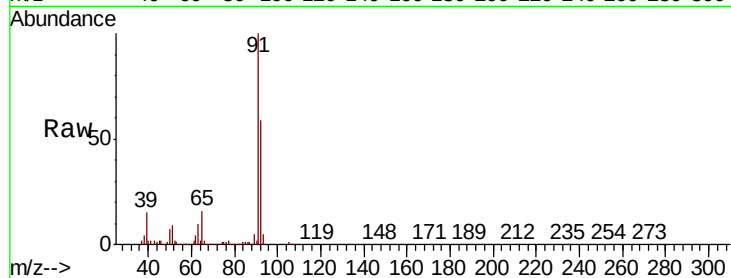
ClientSampleId :

Tot Ion: 91 Resp: 793594

Ion Ratio Lower Upper

91 100

92 60.2 48.8 73.2



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.08 min Scan# 2889

Delta R.T. -0.02 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

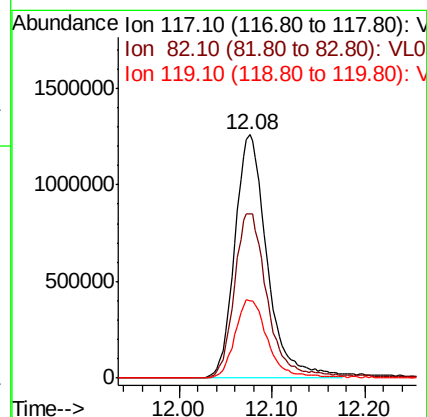
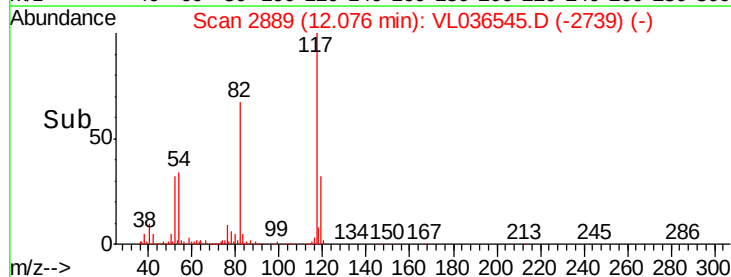
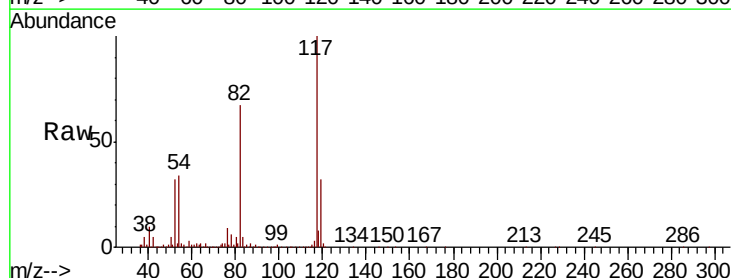
Tgt Ion: 117 Resp: 3053876

Ion Ratio Lower Upper

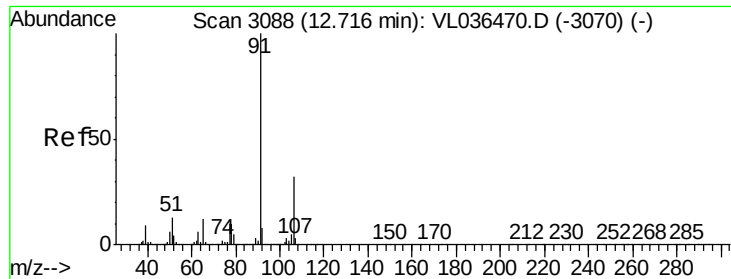
117 100

82 71.3 57.4 86.0

119 33.7 47.4 71.0#







#58

Ethyl Benzene

Concen: 0.027 ppbv

RT: 12.70 min Scan# 3083

Delta R.T. -0.02 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

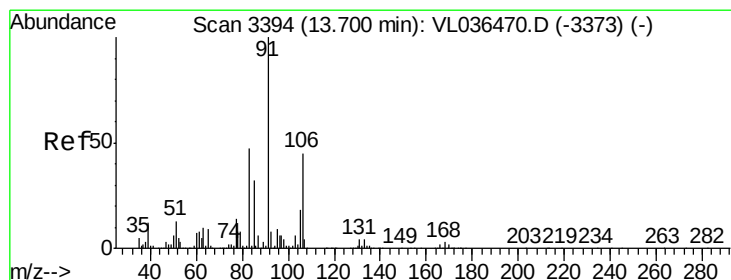
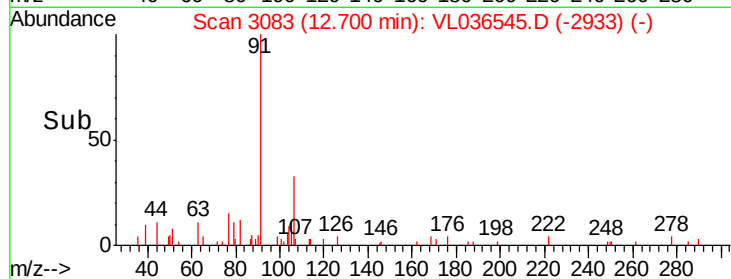
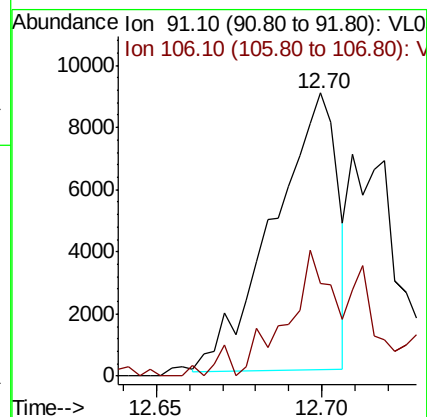
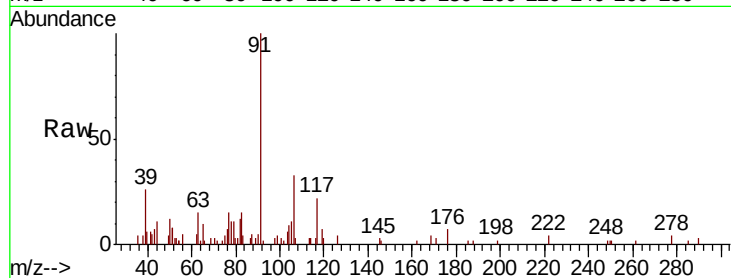
ClientSampleId :

Tot Ion: 91 Resp: 11967

Ion Ratio Lower Upper

91 100

106 29.9 25.3 37.9



#60

o-Xylene

Concen: 0.025 ppbv

RT: 13.68 min Scan# 3387

Delta R.T. -0.02 min

Lab File: VL036545.D

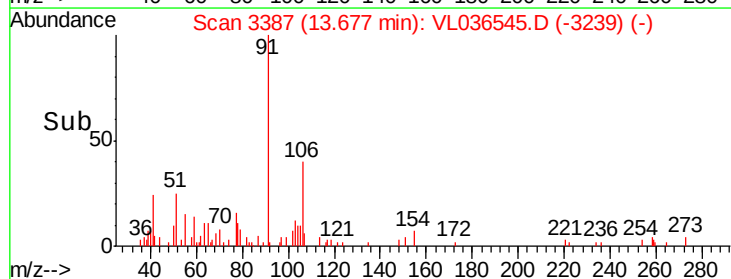
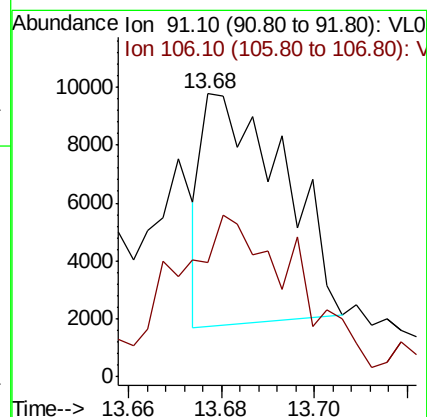
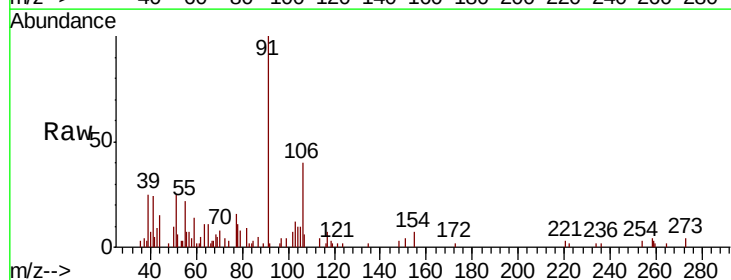
Acq: 29 Mar 2021 18:50

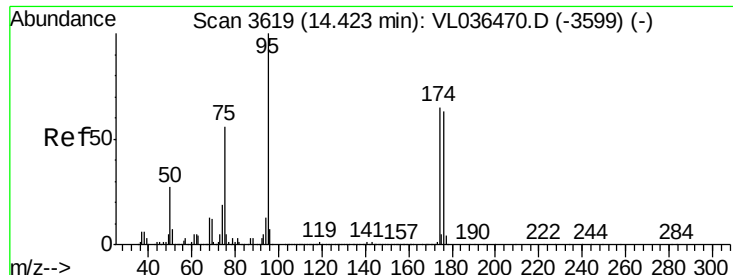
Tgt Ion: 91 Resp: 9551

Ion Ratio Lower Upper

91 100

106 127.0 22.3 66.9#





#68

1-Bromo-4-Fluorobenzene

Concen: 10.046 ppbv

RT: 14.41 min Scan# 3614

Delta R.T. -0.02 min

Lab File: VL036545.D

Acq: 29 Mar 2021 18:50

Instrument :

MSVOA\_L

ClientSampleId :

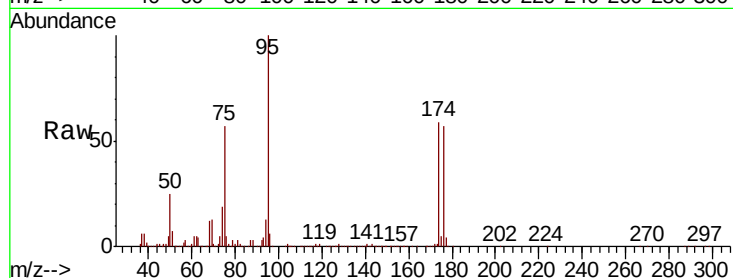
Tot Ion: 95 Resp: 2445055

Ion Ratio Lower Upper

95 100

174 64.0 51.0 76.6

175 4.7 3.9 5.9



Abundance

Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V

