

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL111220\  
 Data File : VL035912.D  
 Acq On : 12 Nov 2020 14:06  
 Operator : SY/AP  
 Sample : L4720-01  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 CVS-1

Manual Integrations  
 APPROVED

MMDadoda  
 11/16/2020 2:28:06 PM

Quant Time: Nov 13 02:52:23 2020  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL110320AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LWed Nov 04  
 QLast Update : Wed Nov 04 02:40:06 2020  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.66  | 49   | 1267298  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.17  | 114  | 4412536  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.09 | 117  | 4020218  | 10.00 | ppbv  | 0.00     |

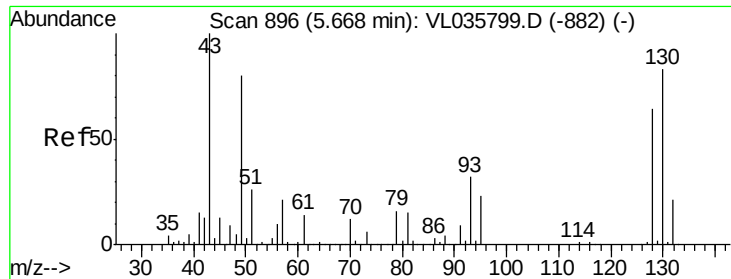
System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.42  | 95    | 3037277  | 10.63    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 106.30% |

| Target Compounds           | R.T.  | QIon | Response  | Conc     | Units  | Ovalue |
|----------------------------|-------|------|-----------|----------|--------|--------|
| 2) Dichlorodifluoromethane | 3.04  | 85   | 55733     | 0.234    | ppbv   | 94     |
| 3) Chlorodifluoromethane   | 2.96  | 51   | 229636m   | 1.513    | ppbv   |        |
| 4) Chloromethane           | 3.13  | 50   | 39377     | 0.534    | ppbv   | 94     |
| 9) Propene                 | 3.01  | 41   | 112434m   | 2.024    | ppbv   |        |
| 10) Heptane                | 8.12  | 43   | 29876     | 0.195    | ppbv   | 93     |
| 11) Trichlorofluoromethane | 3.94  | 101  | 70052     | 0.234    | ppbv   | 94     |
| 13) Ethanol                | 3.63  | 45   | 16503589m | 1369.522 | ppbv   |        |
| 15) Acetone                | 3.84  | 43   | 3967200   | 29.281   | ppbv   | 97     |
| 19) Isopropyl Alcohol      | 4.01  | 45   | 8697677m  | 104.464  | ppbv   |        |
| 20) Methylene Chloride     | 4.34  | 84   | 199797    | 2.095    | ppbv   | 96     |
| 26) Hexane                 | 5.68  | 57   | 177044    | 1.203    | ppbv   | 81     |
| 29) Chloroform             | 5.74  | 83   | 32297m    | 0.112    | ppbv   |        |
| 30) Cyclohexane            | 7.13  | 84   | 68640m    | 0.428    | ppbv   |        |
| 34) 2-Butanone             | 5.24  | 43   | 111806    | 0.781    | ppbv   | 100    |
| 35) Carbon Tetrachloride   | 7.02  | 117  | 27032     | 0.115    | ppbv   | 89     |
| 36) Benzene                | 6.89  | 78   | 138519    | 0.422    | ppbv   | 97     |
| 44) 2,2,4-Trimethylpentane | 7.87  | 57   | 131619    | 0.303    | ppbv # | 74     |
| 52) Tetrachloroethene      | 11.23 | 164  | 8605m     | 0.055    | ppbv   |        |
| 53) Toluene                | 9.81  | 91   | 904722    | 2.286    | ppbv   | 98     |
| 58) Ethyl Benzene          | 12.72 | 91   | 90767     | 0.185    | ppbv   | 90     |
| 59) m/p-Xylene             | 12.98 | 91   | 299945    | 0.724    | ppbv   | 100    |
| 60) o-Xylene               | 13.69 | 91   | 125410m   | 0.311    | ppbv   |        |
| 61) Styrene                | 13.53 | 104  | 43285m    | 0.147    | ppbv   |        |
| 74) 1,2,4-Trimethylbenzene | 16.77 | 105  | 104824    | 0.219    | ppbv # | 68     |

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





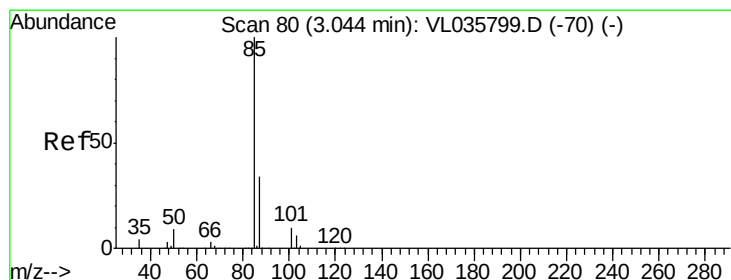
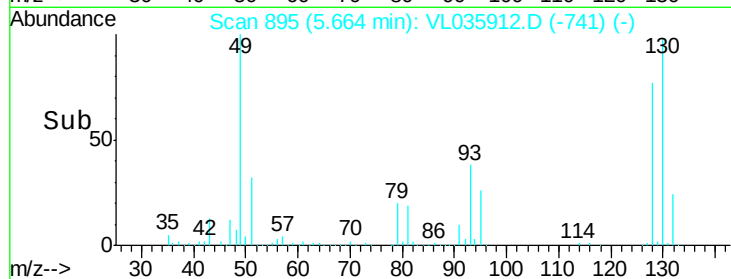
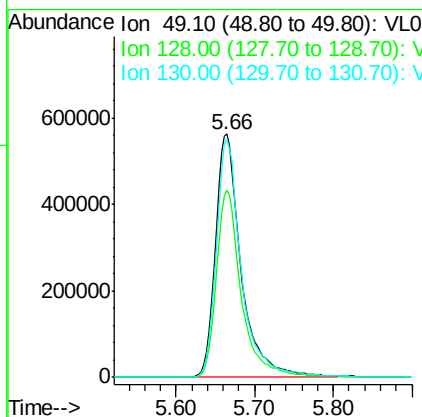
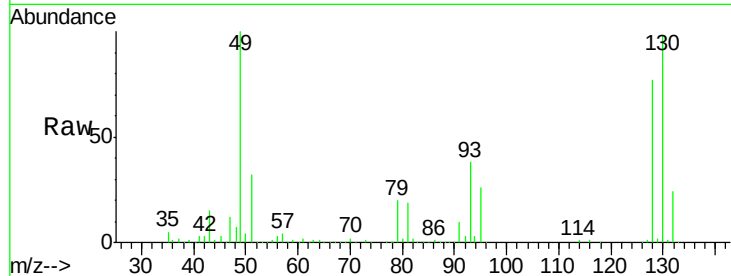
#1  
 Bromochloromethane  
 Concen: 10.000 ppbv  
 RT: 5.66 min Scan# 895  
 Delta R.T. -0.00 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Instrument :  
 MSVOA\_L  
 ClientSampled :  
 CVS-1

Tot Ion: 49 Resp: 1267298  
 Ion Ratio Lower Upper  
 49 100  
 128 75.4 41.5 124.6  
 130 95.7 53.7 161.1

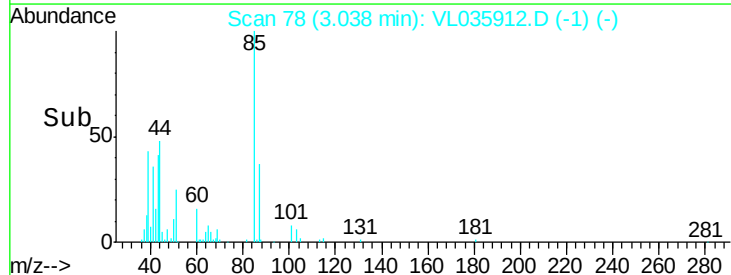
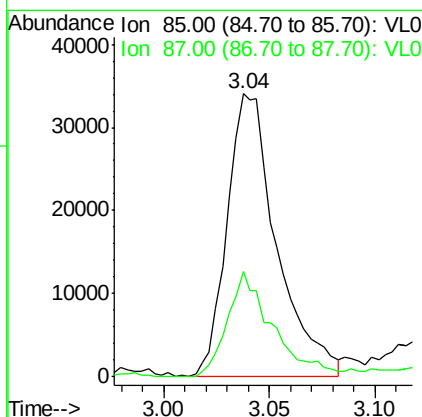
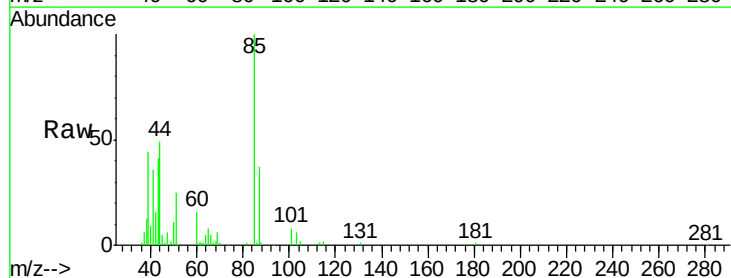
Manual Integrations  
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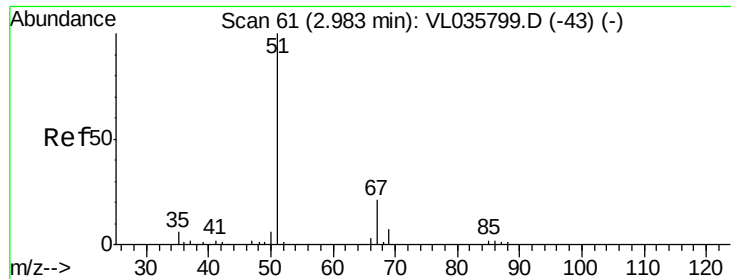
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#2  
 Dichlorodifluoromethane  
 Concen: 0.234 ppbv  
 RT: 3.04 min Scan# 78  
 Delta R.T. -0.01 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Tgt Ion: 85 Resp: 55733  
 Ion Ratio Lower Upper  
 85 100  
 87 37.2 27.1 40.7





#3

Chlorodifluoromethane

Concen: 1.513 ppbv

RT: 2.96 min Scan# 54

Delta R.T. -0.02 min

Lab File: VL035912.D

Acq: 12 Nov 2020 14:06

Instrument :

MSVOA\_L

ClientSampleId :

CVS-1

Tot Ion: 51 Resp: 229636

Ion Ratio Lower Upper

51 100

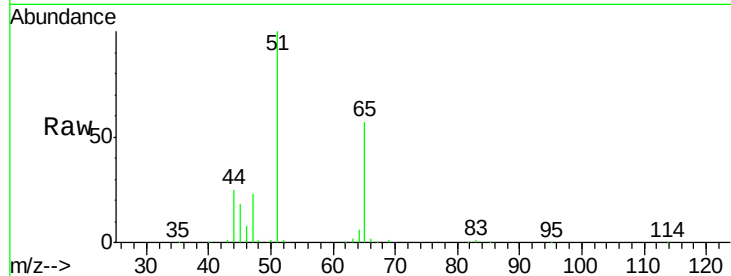
67 7.6 17.0 25.4#

Manual Integrations

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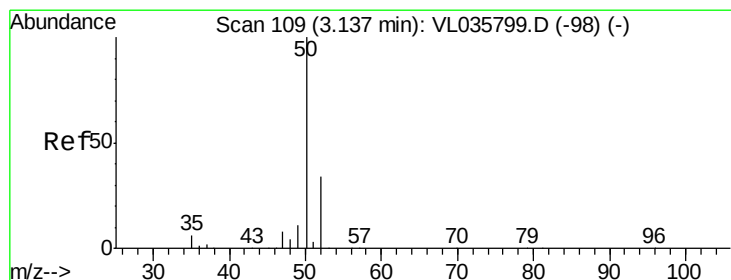
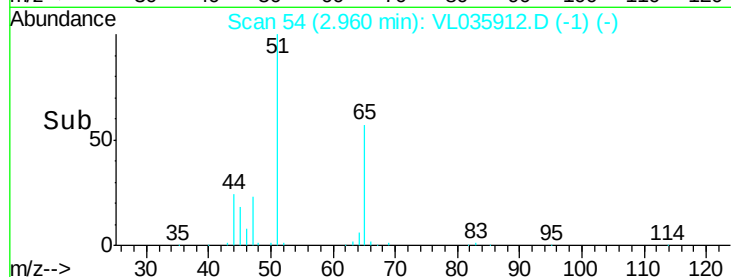
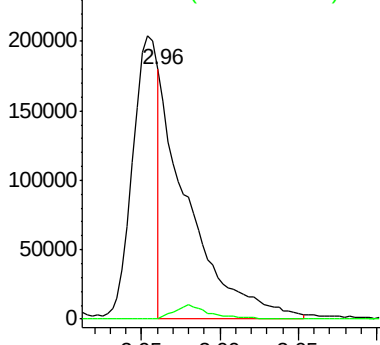
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Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.534 ppbv

RT: 3.13 min Scan# 108

Delta R.T. -0.00 min

Lab File: VL035912.D

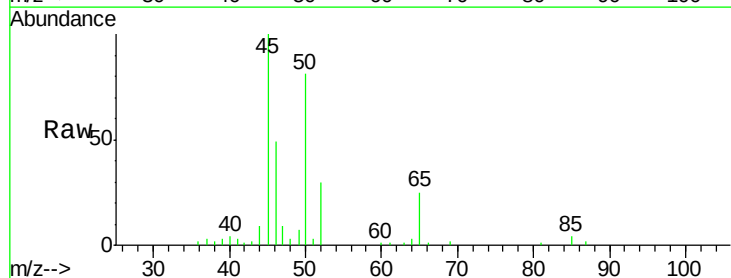
Acq: 12 Nov 2020 14:06

Tgt Ion: 50 Resp: 39377

Ion Ratio Lower Upper

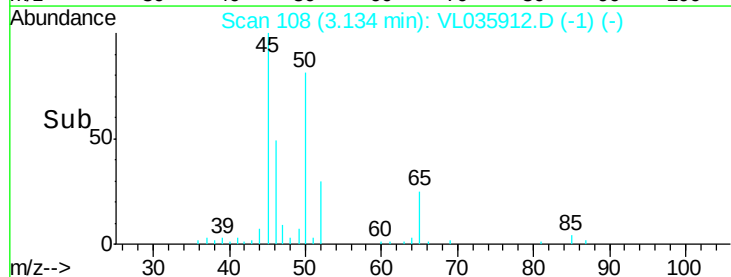
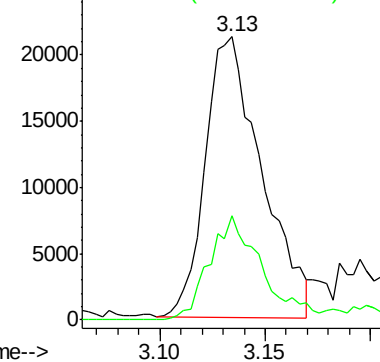
50 100

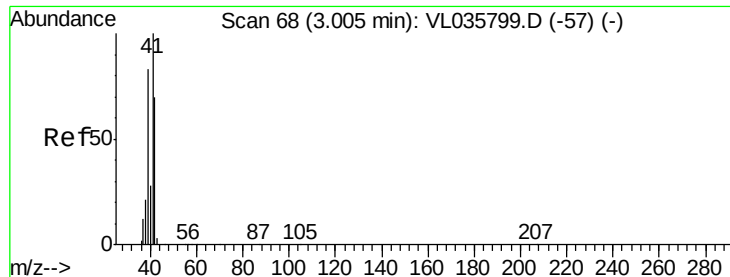
52 37.1 27.1 40.7



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 2.024 ppbv m

RT: 3.01 min Scan# 70

Delta R.T. 0.01 min

Lab File: VL035912.D

Acq: 12 Nov 2020 14:06

Instrument :

MSVOA\_L

ClientSampled :

CVS-1

Tot Ion: 41 Resp: 112434

Ion Ratio Lower Upper

41 100

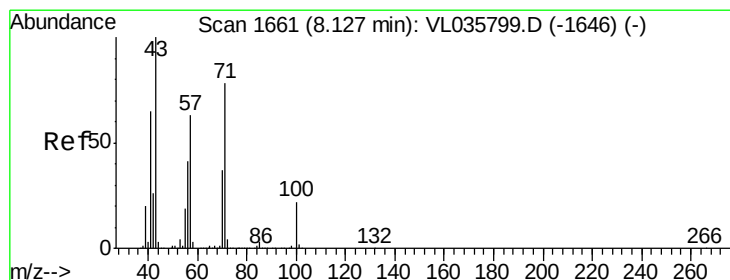
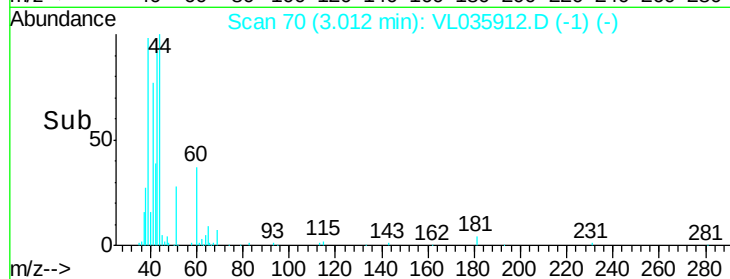
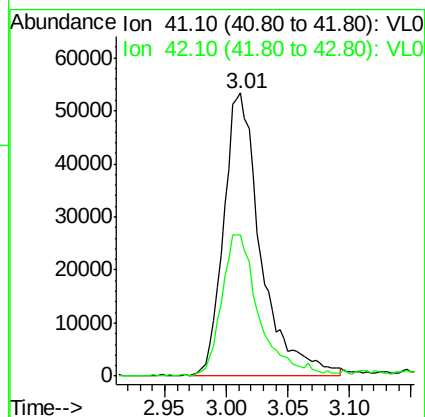
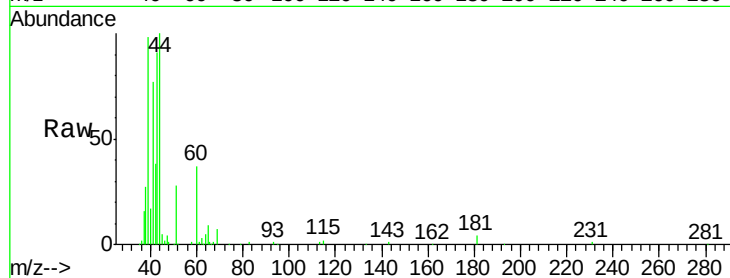
42 121.3 56.2 84.4#

Manual Integrations

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#10

Heptane

Concen: 0.195 ppbv

RT: 8.12 min Scan# 1658

Delta R.T. -0.01 min

Lab File: VL035912.D

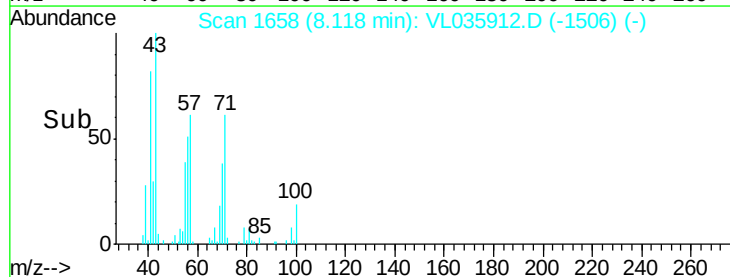
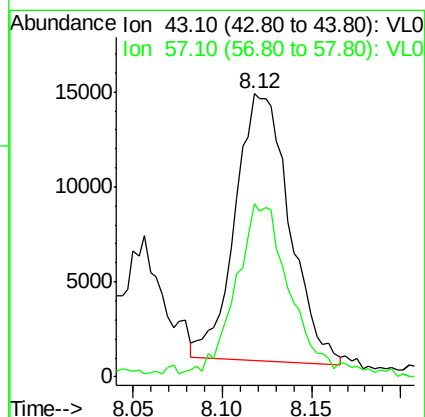
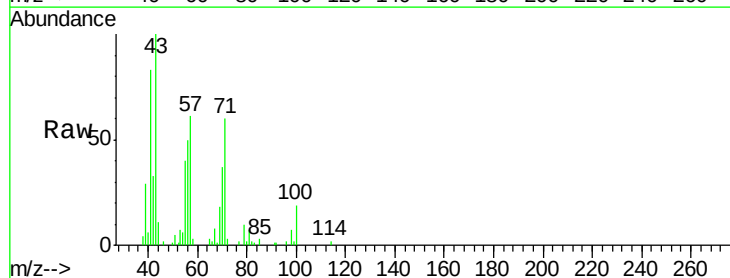
Acq: 12 Nov 2020 14:06

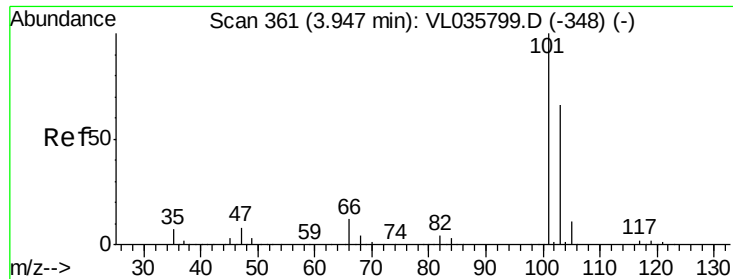
Tgt Ion: 43 Resp: 29876

Ion Ratio Lower Upper

43 100

57 67.9 50.0 75.0





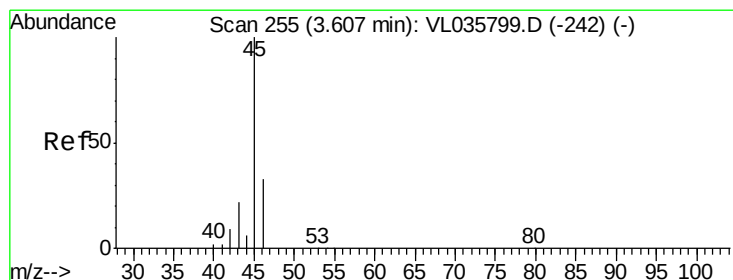
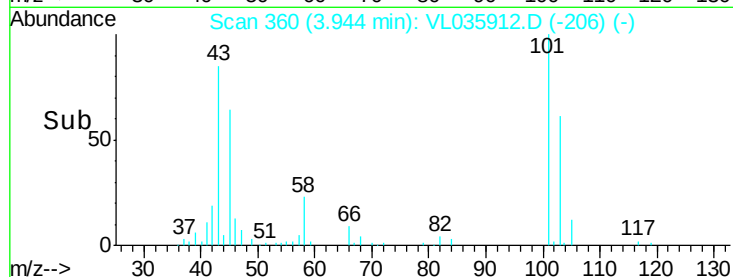
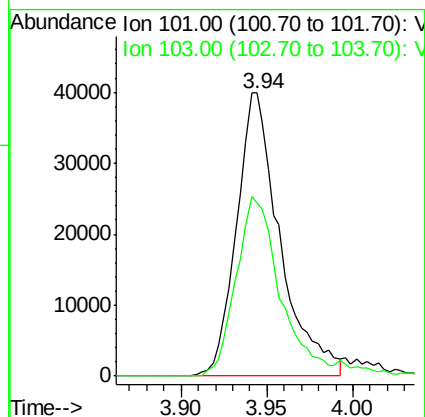
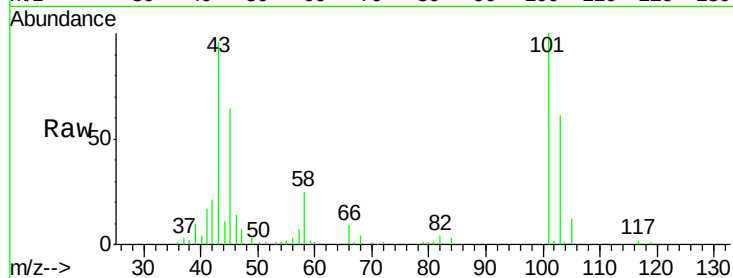
#11  
 Trichlorofluoromethane  
 Concen: 0.234 ppbv  
 RT: 3.94 min Scan# 360  
 Delta R.T. -0.00 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Instrument :  
 MSVOA\_L  
 ClientSampled :  
 CVS-1

Tot Ion:101 Resp: 70052  
 Ion Ratio Lower Upper  
 101 100  
 103 61.1 53.0 79.4

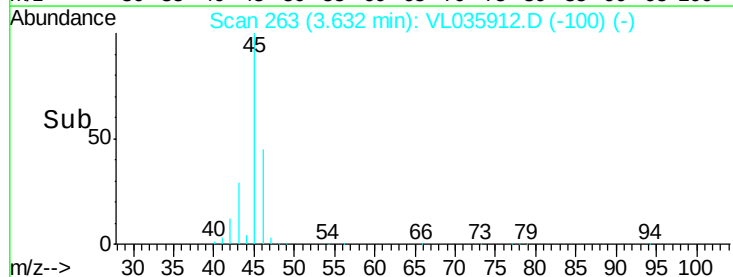
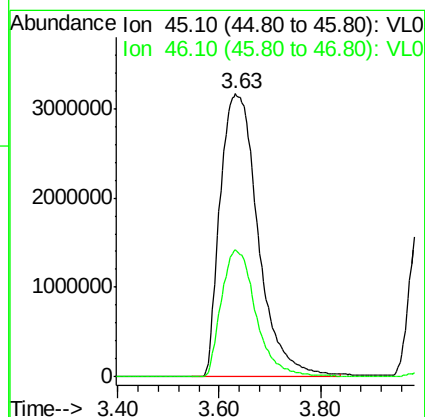
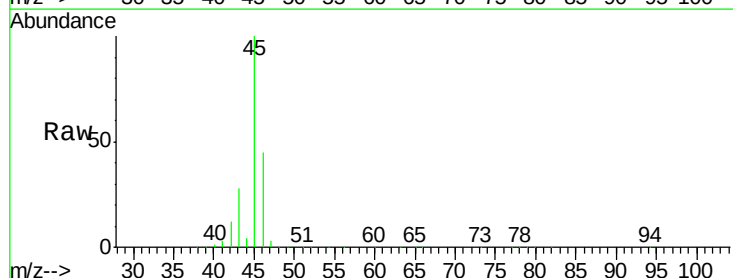
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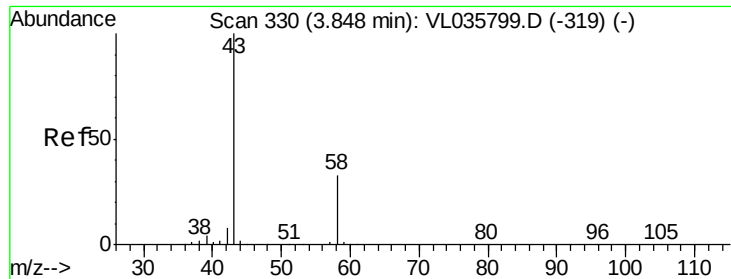
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#13  
 Ethanol  
 Concen: 1369.522 ppbv m  
 RT: 3.63 min Scan# 263  
 Delta R.T. 0.03 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Tgt Ion: 45 Resp:16503589  
 Ion Ratio Lower Upper  
 45 100  
 46 41.2 16.1 64.5





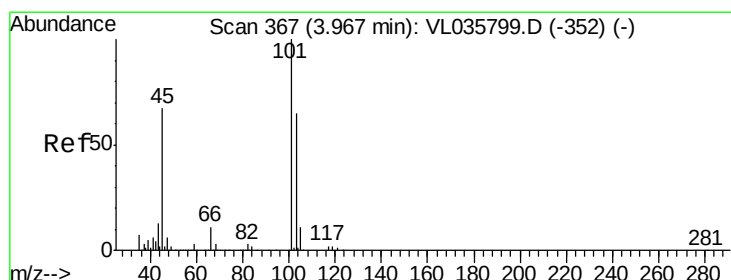
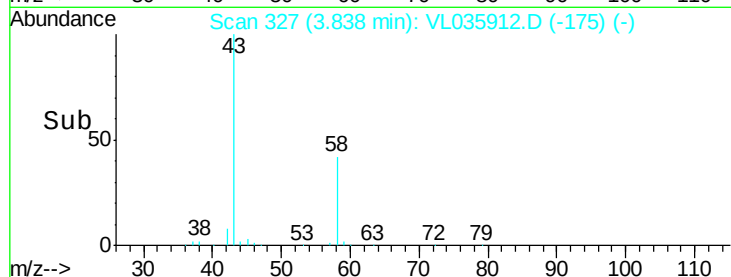
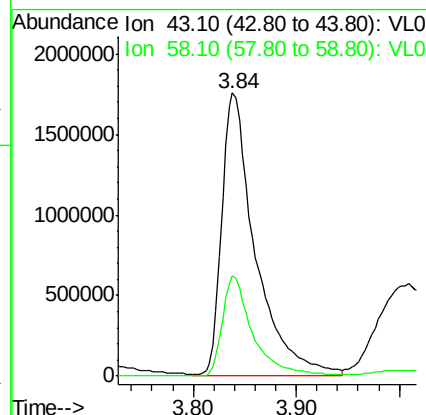
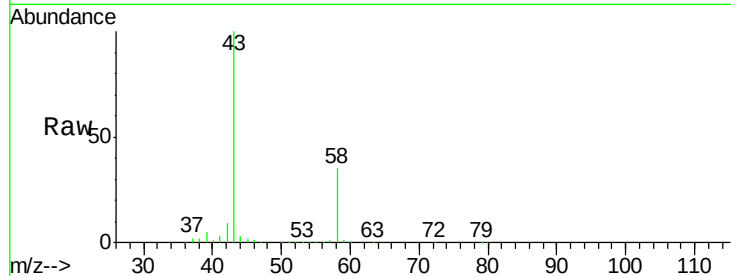
#15  
Acetone  
Concen: 29.281 ppbv  
RT: 3.84 min Scan# 327  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Instrument :  
MSVOA\_L  
ClientSampled :  
CVS-1

Tot Ion: 43 Resp: 3967200  
Ion Ratio Lower Upper  
43 100  
58 32.5 27.5 41.3

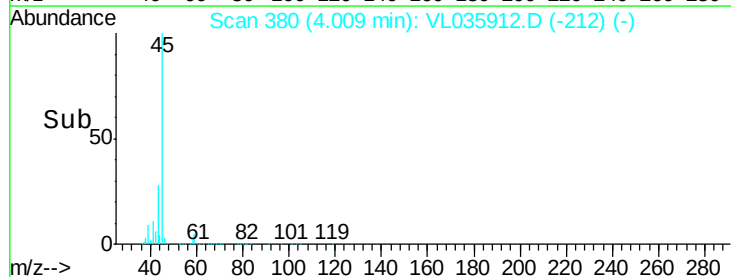
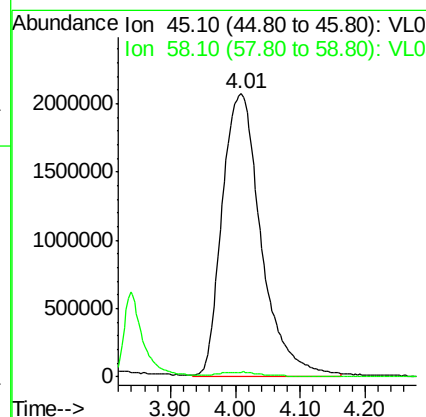
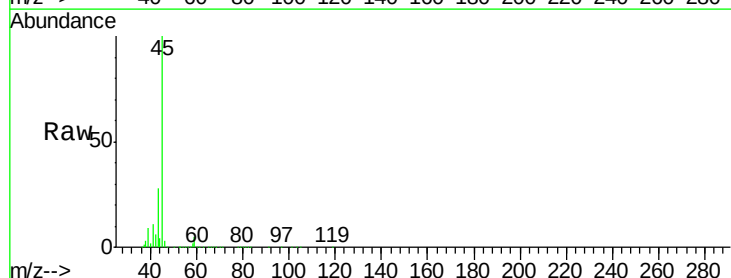
Manual Integrations  
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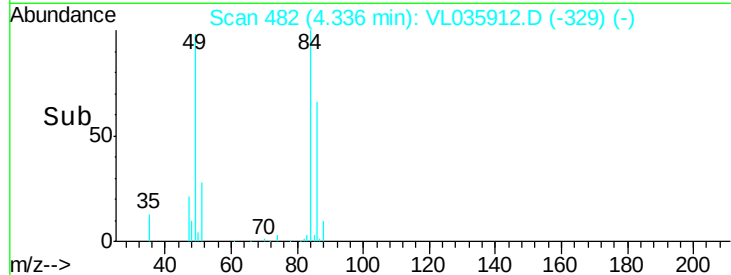
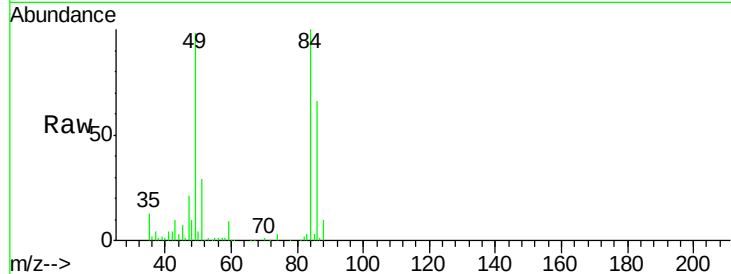
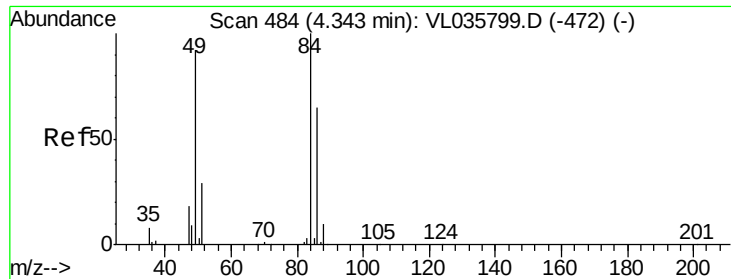
MMDadoda  
11/16/2020 2:28:06 PM



#19  
Isopropyl Alcohol  
Concen: 104.464 ppbv m  
RT: 4.01 min Scan# 380  
Delta R.T. 0.04 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Tgt Ion: 45 Resp: 8697677  
Ion Ratio Lower Upper  
45 100  
58 0.0 2.6 3.8#





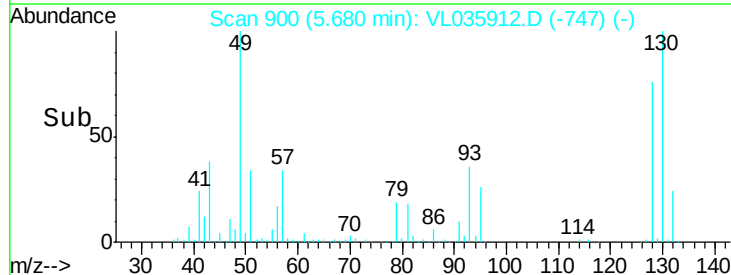
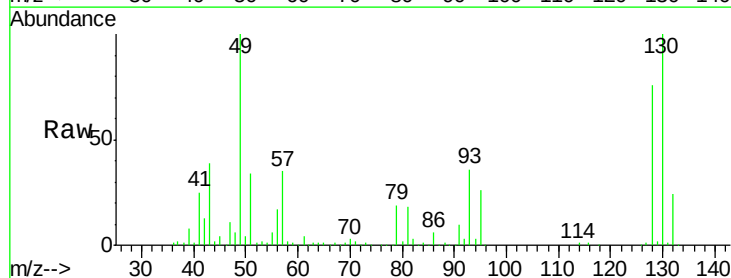
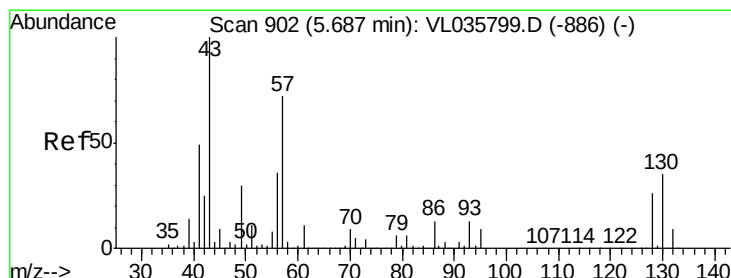
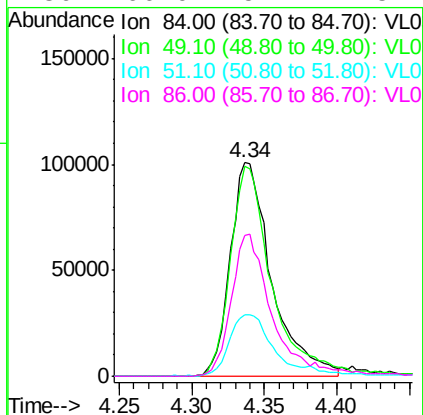
#20  
Methvlene Chloride  
Concen: 2.095 ppbv  
RT: 4.34 min Scan# 482  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

| Tot Ion | Ion  | Ratio | Resp   | Lower | Upper |
|---------|------|-------|--------|-------|-------|
| 84      | 100  |       | 199797 |       |       |
| 49      | 98.1 | 73.8  | 110.8  |       |       |
| 51      | 28.3 | 23.0  | 34.4   |       |       |
| 86      | 66.0 | 52.1  | 78.1   |       |       |

Instrument :  
MSVOA\_L  
ClientSampled :  
CVS-1

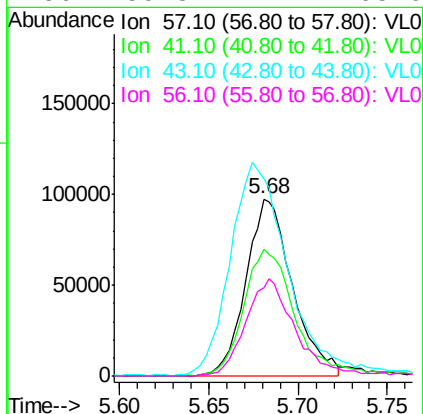
Manual Integrations  
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11/16/2020 2:28:06 PM

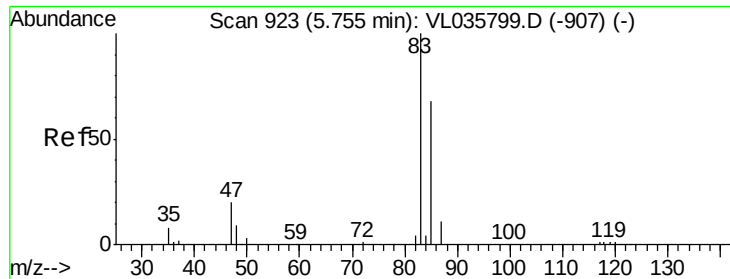


#26  
Hexane  
Concen: 1.203 ppbv  
RT: 5.68 min Scan# 900  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

| Tgt Ion | Ion   | Ratio | Resp   | Lower | Upper |
|---------|-------|-------|--------|-------|-------|
| 57      | 100   |       | 177044 |       |       |
| 41      | 81.8  | 58.9  | 88.3   |       |       |
| 43      | 150.4 | 150.2 | 225.2  |       |       |
| 56      | 59.8  | 42.4  | 63.6   |       |       |







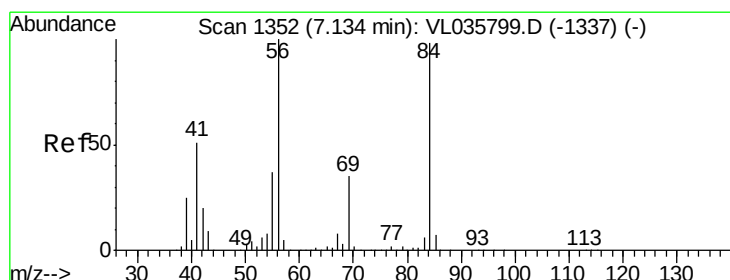
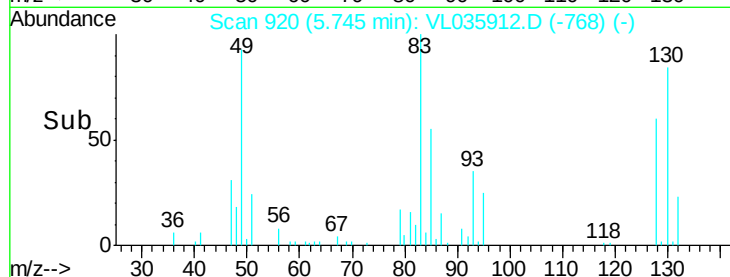
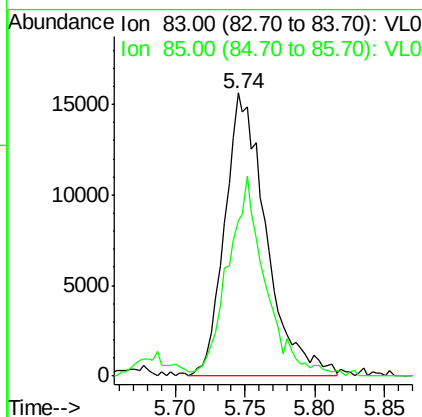
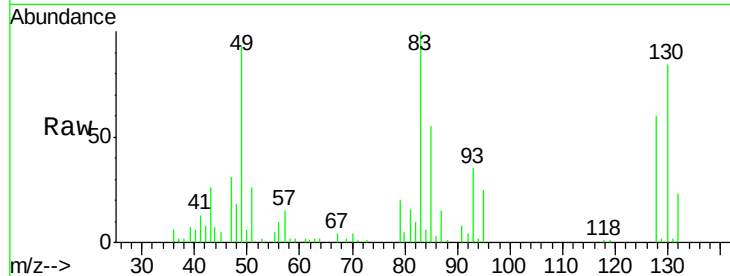
#29  
Chloroform  
Concen: 0.112 ppbv m  
RT: 5.74 min Scan# 920  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Instrument :  
MSVOA\_L  
ClientSampled :  
CVS-1

| Tot Ion   | 83   | Resp  | 32297 |
|-----------|------|-------|-------|
| Ion Ratio | 100  | Lower | Upper |
| 85        | 55.1 | 54.6  | 81.8  |

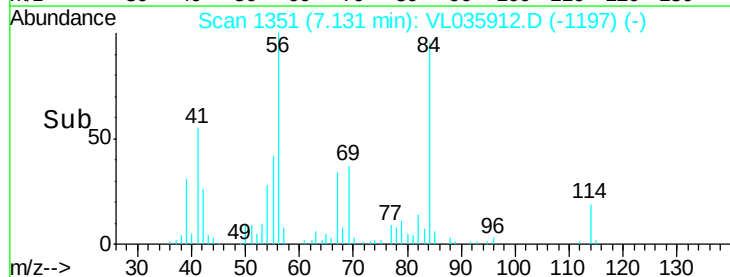
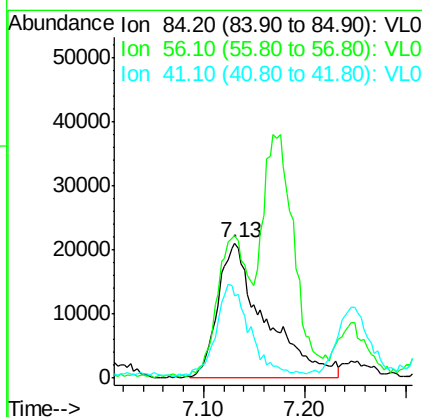
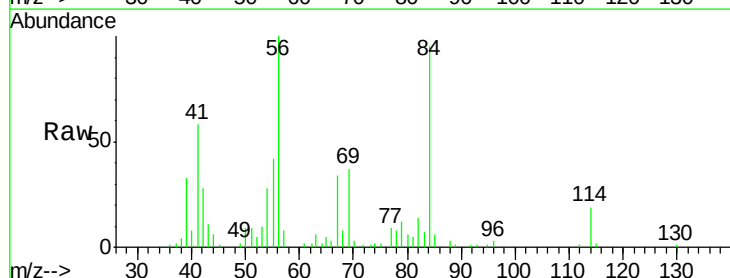
Manual Integrations  
APPROVED

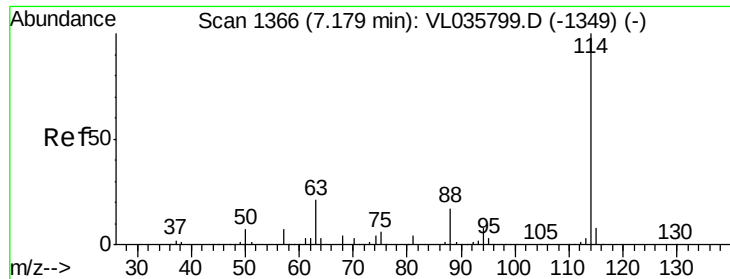
MMDadoda  
11/16/2020 2:28:06 PM



#30  
Cyclohexane  
Concen: 0.428 ppbv m  
RT: 7.13 min Scan# 1351  
Delta R.T. -0.00 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

| Tgt Ion   | 84   | Resp  | 68640  |
|-----------|------|-------|--------|
| Ion Ratio | 100  | Lower | Upper  |
| 56        | 71.7 | 86.4  | 129.6# |
| 41        | 49.4 | 42.1  | 63.1   |





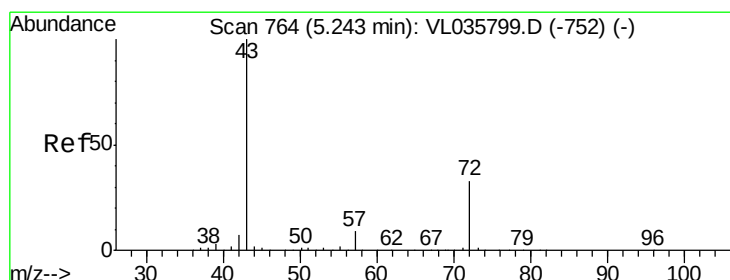
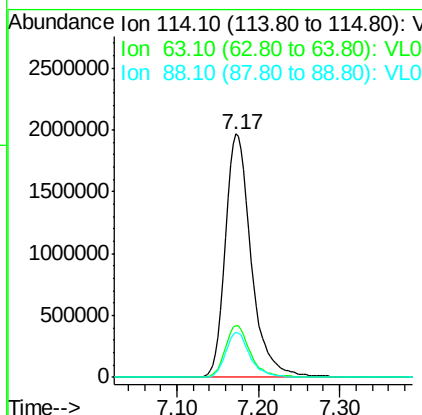
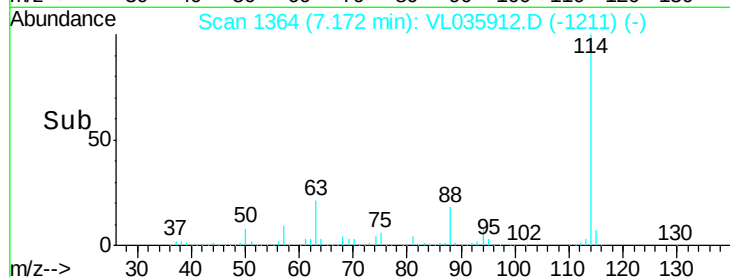
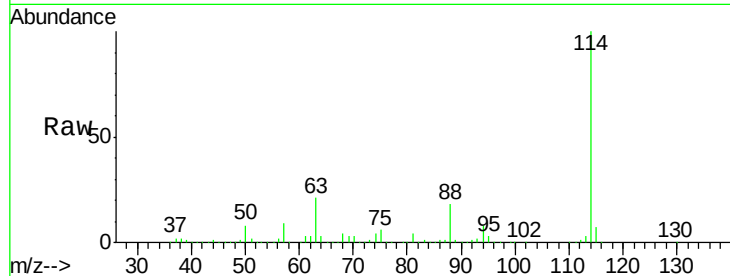
#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.17 min Scan# 1364  
 Delta R.T. -0.01 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 CVS-1

Tot Ion:114 Resp: 4412536  
 Ion Ratio Lower Upper  
 114 100  
 63 20.8 16.1 24.1  
 88 17.5 13.7 20.5

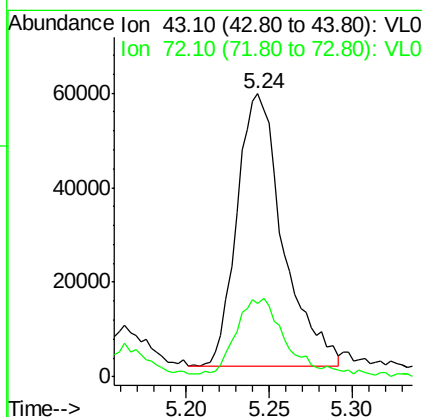
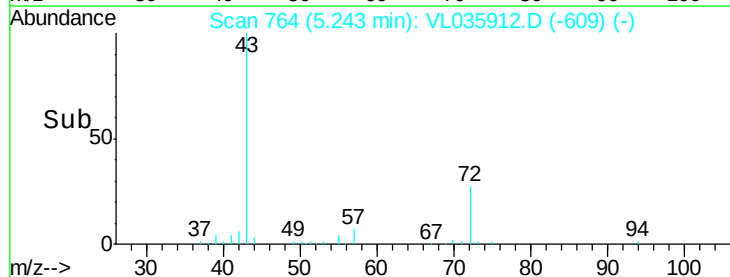
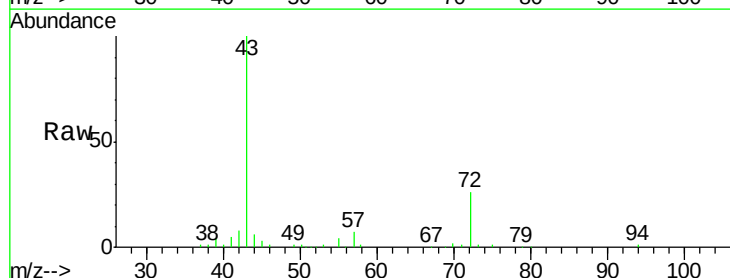
Manual Integrations  
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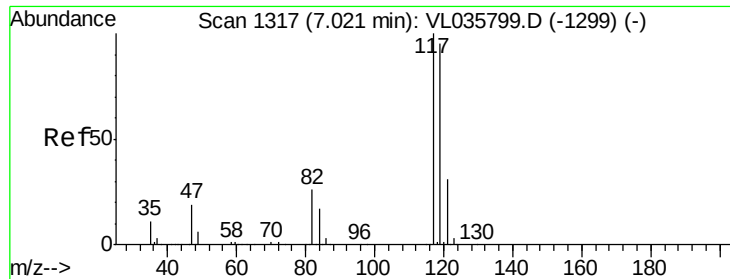
MMDadoda  
 11/16/2020 2:28:06 PM



#34  
 2-Butanone  
 Concen: 0.781 ppbv  
 RT: 5.24 min Scan# 764  
 Delta R.T. -0.00 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Tgt Ion: 43 Resp: 111806  
 Ion Ratio Lower Upper  
 43 100  
 72 33.4 26.5 39.7





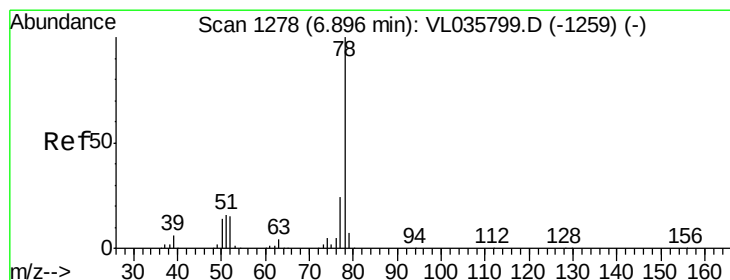
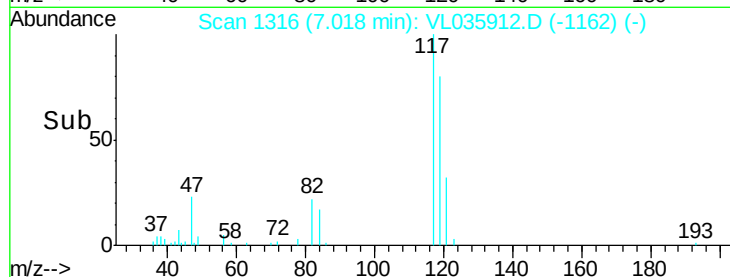
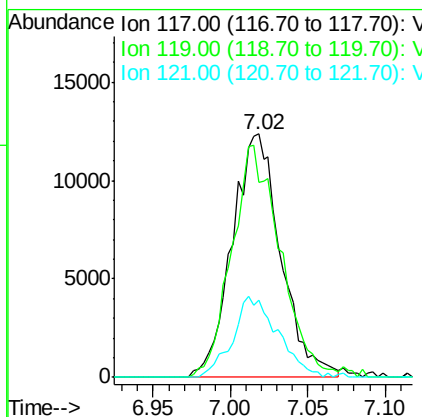
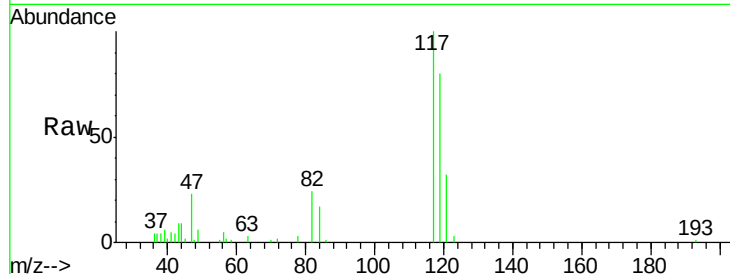
#35  
Carbon Tetrachloride  
Concen: 0.115 ppbv  
RT: 7.02 min Scan# 1316  
Delta R.T. -0.00 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Instrument :  
MSVOA\_L  
ClientSampled :  
CVS-1

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 117     | 100   |       |       |
| 119     | 80.2  | 75.6  | 113.4 |
| 121     | 31.8  | 25.1  | 37.7  |

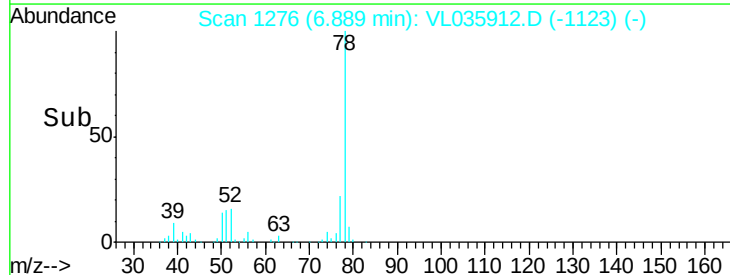
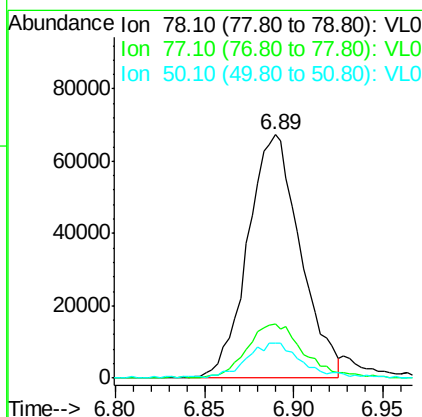
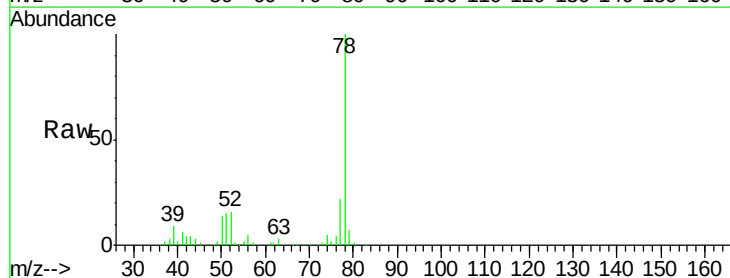
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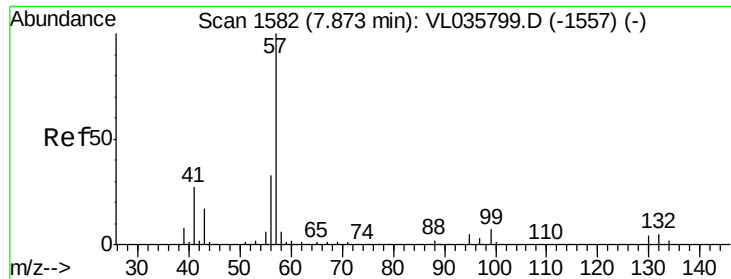
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#36  
Benzene  
Concen: 0.422 ppbv  
RT: 6.89 min Scan# 1276  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 78      | 100   |       |       |
| 77      | 22.1  | 19.3  | 28.9  |
| 50      | 13.3  | 11.4  | 17.2  |





#44

2,2,4-Trimethylpentane

Concen: 0.303 ppbv

RT: 7.87 min Scan# 1580

Delta R.T. -0.01 min

Lab File: VL035912.D

Acq: 12 Nov 2020 14:06

Instrument :

MSVOA\_L

ClientSampleId :

CVS-1

Tot Ion: 57 Resp: 131619

Ion Ratio Lower Upper

57 100

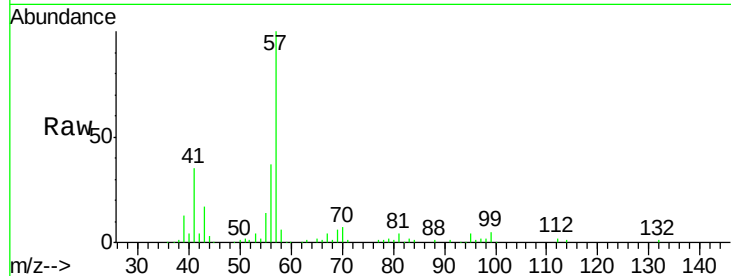
41 43.1 21.0 31.4#

56 43.0 25.4 38.0#

Manual Integrations  
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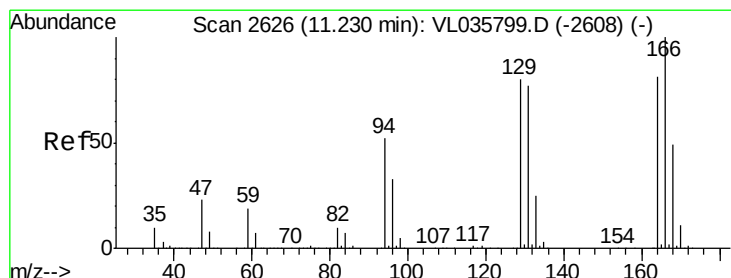
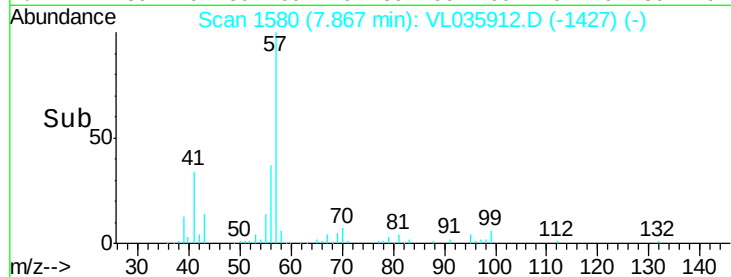
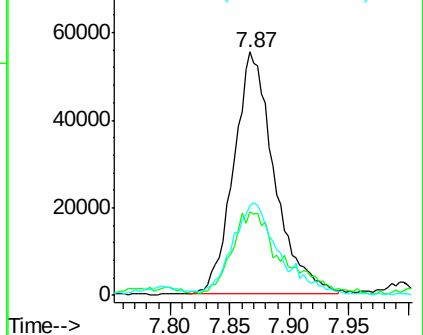
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Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 56.10 (55.80 to 56.80): VL0



#52

Tetrachloroethene

Concen: 0.055 ppbv m

RT: 11.23 min Scan# 2625

Delta R.T. -0.00 min

Lab File: VL035912.D

Acq: 12 Nov 2020 14:06

Tgt Ion: 164 Resp: 8605

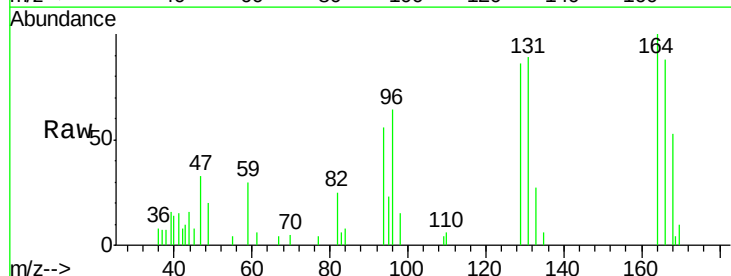
Ion Ratio Lower Upper

164 100

166 87.7 99.3 148.9#

129 86.5 79.3 118.9

131 89.2 76.5 114.7

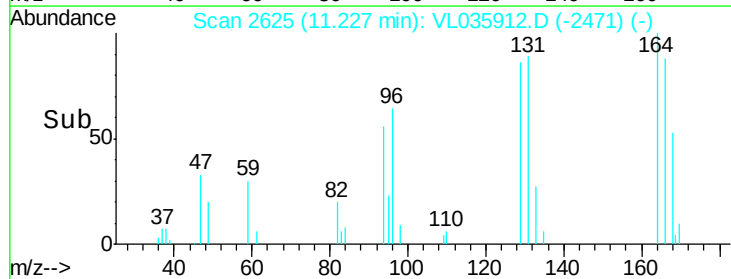
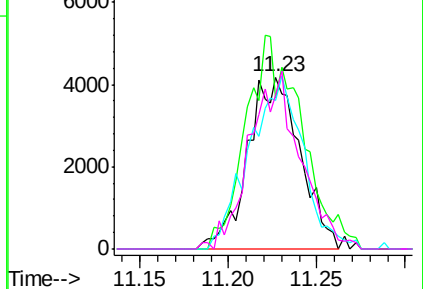


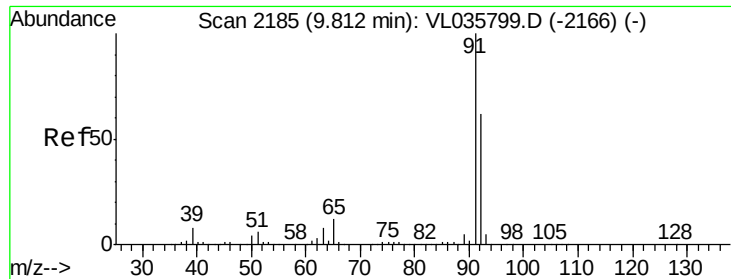
Abundance Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V





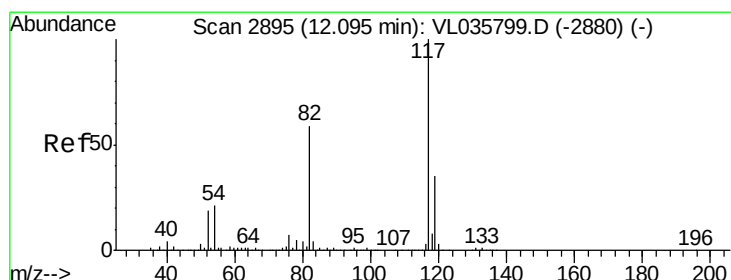
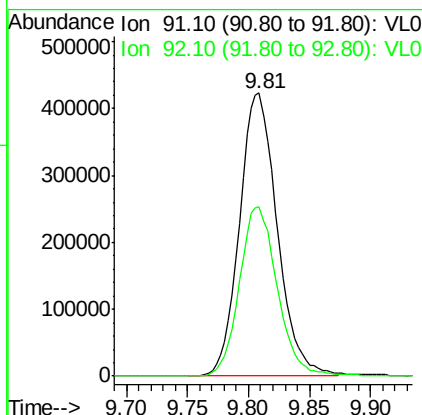
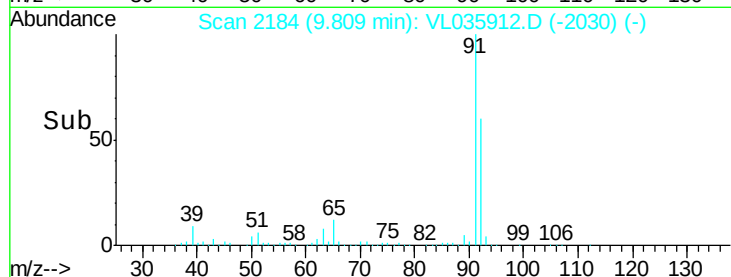
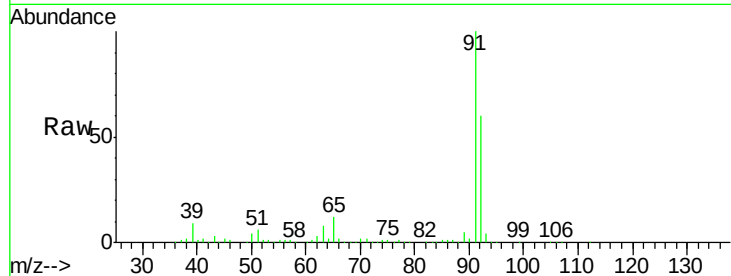
#53  
Toluene  
Concen: 2.286 ppbv  
RT: 9.81 min Scan# 2184  
Delta R.T. -0.00 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Instrument :  
MSVOA\_L  
ClientSampleId :  
CVS-1

Tot Ion: 91 Resp: 904722  
Ion Ratio Lower Upper  
91 100  
92 60.4 49.8 74.6

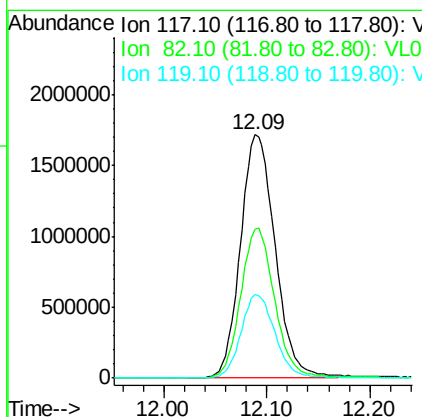
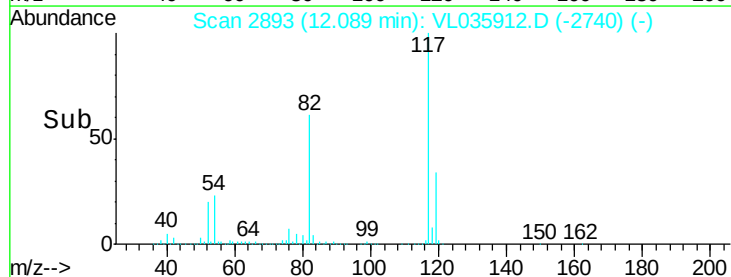
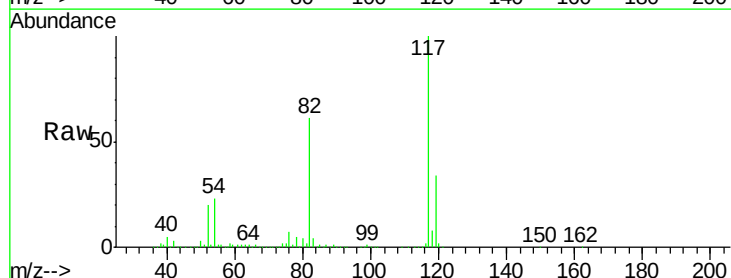
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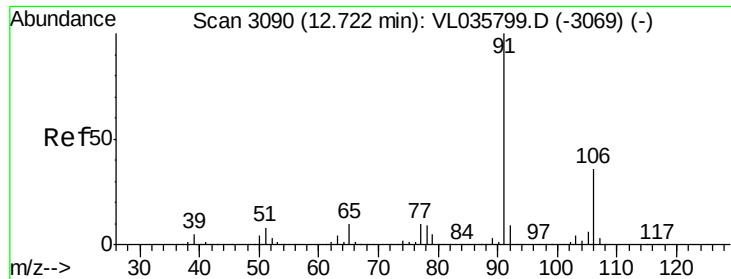
MMDadoda  
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#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 12.09 min Scan# 2893  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Tgt Ion: 117 Resp: 4020218  
Ion Ratio Lower Upper  
117 100  
82 61.6 50.6 76.0  
119 34.1 52.6 78.8#





#58

Ethyl Benzene

Concen: 0.185 ppbv

RT: 12.72 min Scan# 3088

Delta R.T. -0.01 min

Lab File: VL035912.D

Acq: 12 Nov 2020 14:06

Instrument :

MSVOA\_L

ClientSampleId :

CVS-1

Tot Ion: 91 Resp: 90767

Ion Ratio Lower Upper

91 100

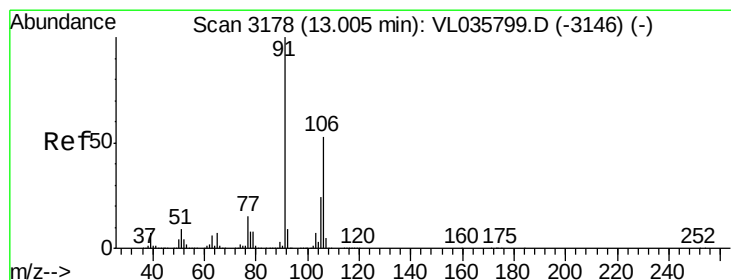
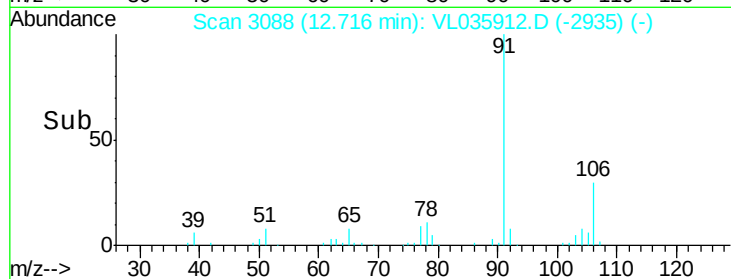
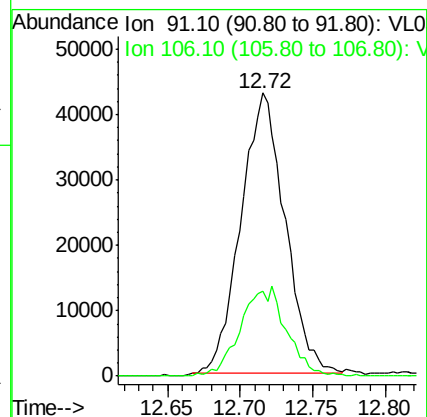
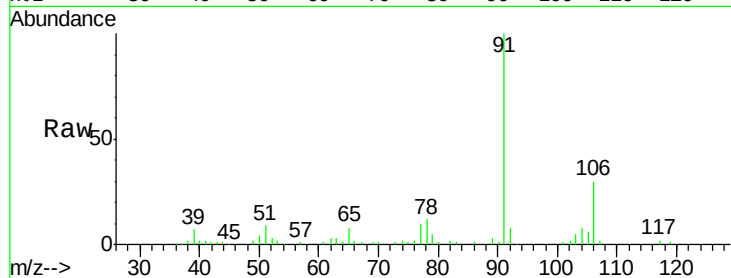
106 30.1 28.6 43.0

Manual Integrations

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11/16/2020 2:28:06 PM



#59

m/p-Xylene

Concen: 0.724 ppbv

RT: 12.98 min Scan# 3169

Delta R.T. -0.03 min

Lab File: VL035912.D

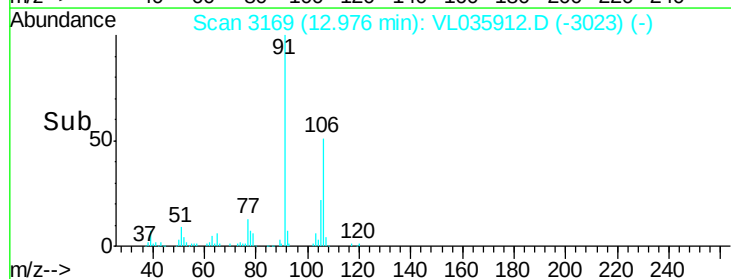
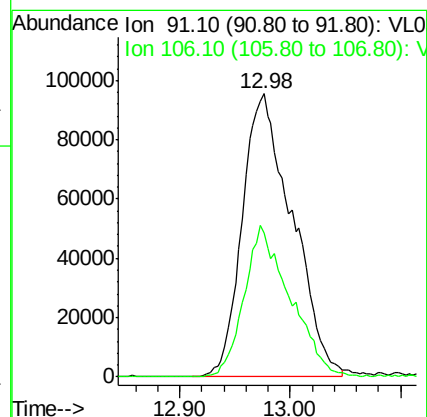
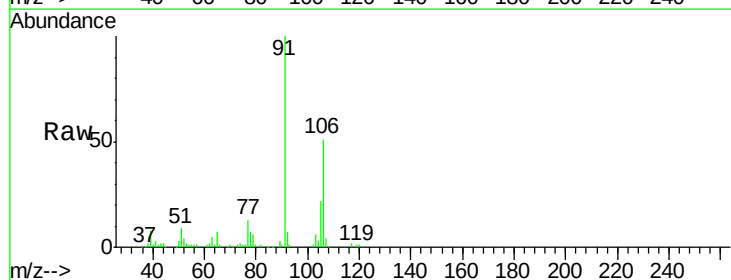
Acq: 12 Nov 2020 14:06

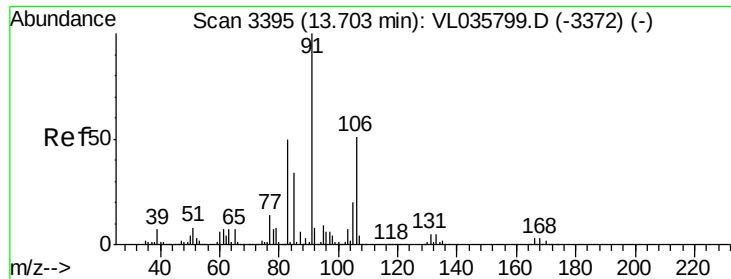
Tgt Ion: 91 Resp: 299945

Ion Ratio Lower Upper

91 100

106 49.1 39.5 59.3





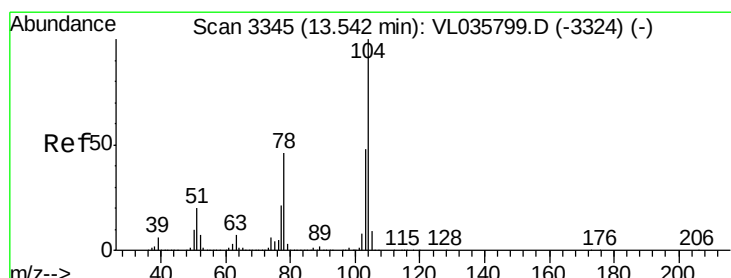
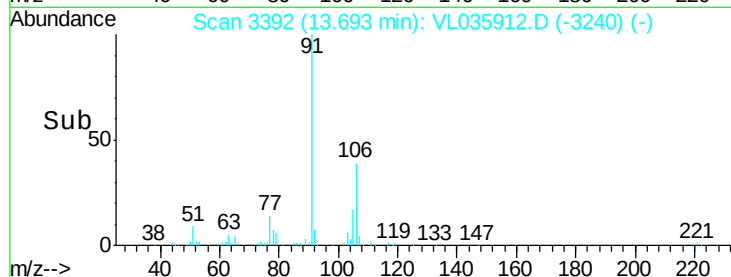
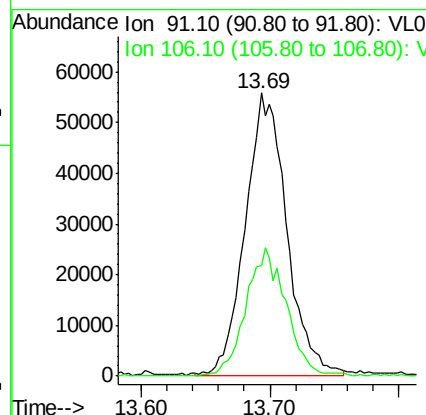
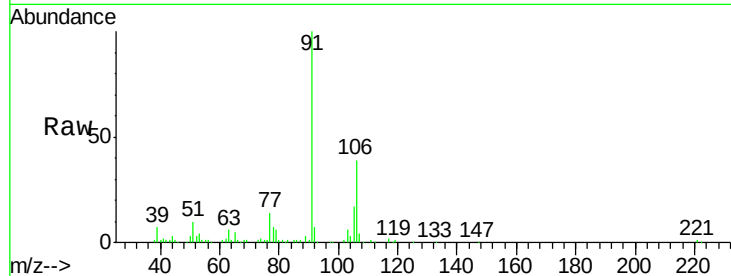
#60  
o-Xylene  
Concen: 0.311 ppbv m  
RT: 13.69 min Scan# 3392  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Instrument :  
MSVOA\_L  
ClientSampled :  
CVS-1

Tot Ion: 91 Resp: 125410  
Ion Ratio Lower Upper  
91 100  
106 0.0 24.8 74.4#

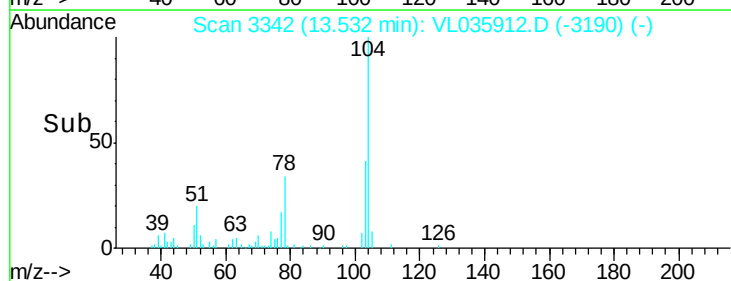
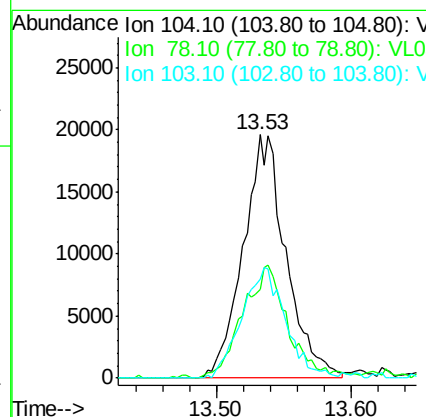
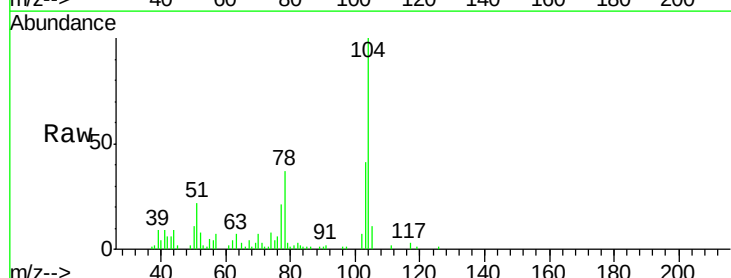
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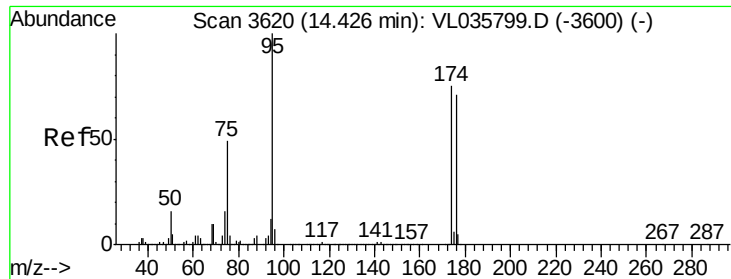
MMDadoda  
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#61  
Styrene  
Concen: 0.147 ppbv m  
RT: 13.53 min Scan# 3342  
Delta R.T. -0.01 min  
Lab File: VL035912.D  
Acq: 12 Nov 2020 14:06

Tgt Ion:104 Resp: 43285  
Ion Ratio Lower Upper  
104 100  
78 0.0 37.1 55.7#  
103 0.0 37.9 56.9#





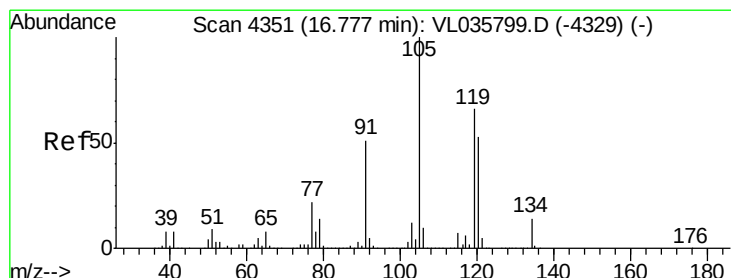
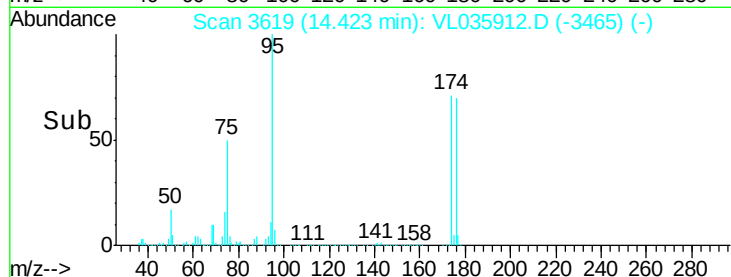
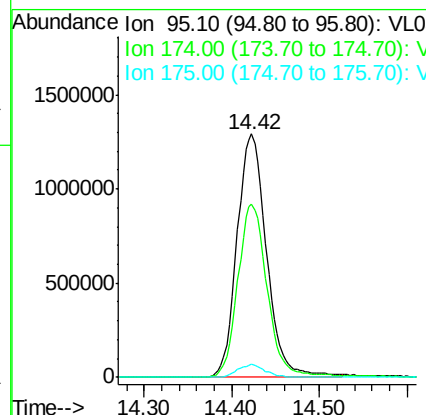
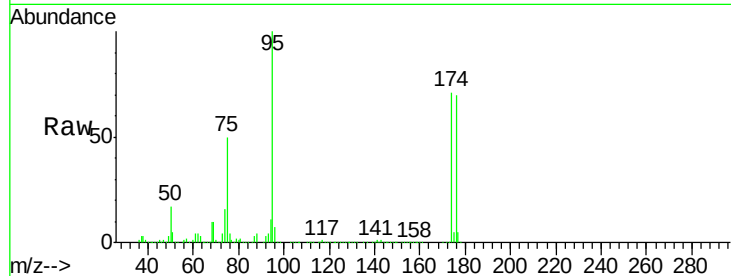
#68  
 1-Bromo-4-Fluorobenzene  
 Concen: 10.634 ppbv  
 RT: 14.42 min Scan# 3619  
 Delta R.T. -0.00 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Instrument :  
 MSVOA\_L  
 ClientSampled :  
 CVS-1

Tot Ion: 95 Resp: 3037277  
 Ion Ratio Lower Upper  
 95 100  
 174 72.2 59.8 89.6  
 175 5.0 4.3 6.5

Manual Integrations  
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#74  
 1,2,4-Trimethylbenzene  
 Concen: 0.219 ppbv  
 RT: 16.77 min Scan# 4349  
 Delta R.T. -0.01 min  
 Lab File: VL035912.D  
 Acq: 12 Nov 2020 14:06

Tgt Ion: 105 Resp: 104824  
 Ion Ratio Lower Upper  
 105 100  
 120 42.6 42.0 63.0  
 91 11.3 41.0 61.6#  
 77 14.7 17.3 25.9#

