# GC/MS Maintenance Log

**Instrument:** GCMS-S

<table>
<thead>
<tr>
<th>Date</th>
<th>He Tank Pressure</th>
<th>Air Tank Pressure*</th>
<th>H₂ Water Level*</th>
<th>Auto Tune</th>
<th>Septum Change</th>
<th>Wash Vials Filled</th>
<th>Syringe Washed</th>
<th>Rough Pump Oil Level Checked</th>
<th>Liner Change</th>
<th>Gold Seal Replaced</th>
<th>Column Cut</th>
<th>Output*</th>
<th>Comments</th>
<th>Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/3/2020</td>
<td>80</td>
<td>90</td>
<td>80</td>
<td>✔</td>
<td>X</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>0.4</td>
<td>mh</td>
</tr>
<tr>
<td>9/3/2020</td>
<td></td>
<td>130</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.073</td>
<td>mh</td>
</tr>
</tbody>
</table>

*For GC/MS-NPD instrument (GCMS-S).

**Signature:** [Signature]

**Date Completed:** 9/3/2020

LAB-24
Issued By: Manager - Toxicology
Issue Date: 2019-12-16
**Extraction Source Autotune - 5977**

Tune timestamp: 9/2/2020 10:58 AM (UTC-05:00)

```markdown
D:\MASSHUNTER\GCMS\etune.u
```

<table>
<thead>
<tr>
<th>Ion Polarity</th>
<th>Pos</th>
<th>Mass Gain</th>
<th>155</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission</td>
<td>34.6</td>
<td>Mass Offset</td>
<td>-24</td>
</tr>
<tr>
<td>Electron Energy</td>
<td>70.0</td>
<td>Amu Gain</td>
<td>2633</td>
</tr>
<tr>
<td>Filament</td>
<td>2 Amu Offset</td>
<td>137.81</td>
<td></td>
</tr>
<tr>
<td>Repeller</td>
<td>4.98</td>
<td>Width219</td>
<td>-0.021</td>
</tr>
<tr>
<td>Ion Focus</td>
<td>89.8</td>
<td>DC Polarity</td>
<td>Pos</td>
</tr>
<tr>
<td>Entrance Lens</td>
<td>17.6</td>
<td>HED Enable</td>
<td>On</td>
</tr>
<tr>
<td>Ent Lens Offset</td>
<td>12.36</td>
<td>EM Volts</td>
<td>1061.5</td>
</tr>
<tr>
<td>Ion Body</td>
<td>5.25</td>
<td>Extractor Lens</td>
<td>0.20</td>
</tr>
<tr>
<td>Post Extractor 1</td>
<td>0</td>
<td>Scan Speed</td>
<td>3</td>
</tr>
<tr>
<td>Post Extractor 2</td>
<td>0</td>
<td>Averages</td>
<td>3</td>
</tr>
<tr>
<td>PFTBA</td>
<td>Open</td>
<td>Step Size</td>
<td>0.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actual m/z</th>
<th>Abund</th>
<th>Rel Abund</th>
<th>Pw50</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.00</td>
<td>435,213</td>
<td>100.0%</td>
<td>0.61</td>
</tr>
<tr>
<td>218.90</td>
<td>492,986</td>
<td>113.3%</td>
<td>0.62</td>
</tr>
<tr>
<td>502.00</td>
<td>34,744</td>
<td>8.0%</td>
<td>0.59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperatures and Pressures</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Source</td>
</tr>
<tr>
<td>MS Quad</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
<th>Step</th>
<th>Speed</th>
<th>Threshold</th>
<th>Peaks</th>
<th>Base</th>
<th>Abundance</th>
<th>Total Ion</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00</td>
<td>701.00</td>
<td>0.10</td>
<td>3</td>
<td>100</td>
<td>142</td>
<td>219.00</td>
<td>473,600</td>
<td>1,748,609</td>
</tr>
</tbody>
</table>

**Target m/z**

<table>
<thead>
<tr>
<th>Target m/z</th>
<th>Actual m/z</th>
<th>Abund</th>
<th>Rel Abund</th>
<th>Iso m/z</th>
<th>Iso Abund</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.00</td>
<td>69.00</td>
<td>418,944</td>
<td>100.0%</td>
<td>70.00</td>
<td>4,716</td>
</tr>
<tr>
<td>219.00</td>
<td>219.00</td>
<td>473,600</td>
<td>113.0%</td>
<td>220.00</td>
<td>22,144</td>
</tr>
<tr>
<td>502.00</td>
<td>502.00</td>
<td>33,880</td>
<td>8.1%</td>
<td>503.10</td>
<td>3,900</td>
</tr>
</tbody>
</table>

Air/Water Check: H2O ~1.5% N2 ~8.1% O2 ~0.6% CO2 ~0.1% N2/H2O ~526.3%

Column(1) Flow: 3.29 Column(2): 0.00 ml/min Interface Temp: 300

**Ramp Criteria:**

- Ion Focus maximum 90 volts using ion 502; Electron Multiplier Gain 191174.744
- Repeller maximum 35 volts using ion 219; Gain Factor 1.9117

**Mass Gain Values(Scan Speed):** 160(3) 161(2) 175(1) 199(0) 226(FS1) 255(FS2) 244(FS3)

**TARGET MASS:**

<table>
<thead>
<tr>
<th></th>
<th>50</th>
<th>69</th>
<th>131</th>
<th>219</th>
<th>414</th>
<th>502</th>
<th>1050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amu Offset</td>
<td>137.8</td>
<td>137.8</td>
<td>137.8</td>
<td>137.8</td>
<td>137.8</td>
<td>137.8</td>
<td>137.8</td>
</tr>
<tr>
<td>Entrance Lens Offset</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
</tr>
</tbody>
</table>
### Extraction Source Autotune - 5977

**Tune timestamp:** 9/3/2020 8:42 AM (UTC-05:00)  
**GCMS 5**  
**US1609M002**  

#### Ion Polarity and Masses
- **Ion Polarity**: Pos
- **Mass Gain**: 152
- **Mass Offset**: -24
- **Electron Energy**: 70.0 Amu Gain 2630
- **Filament**: 2 Amu Offset 137.06
- **Repeller**: 4.98 Width 219 -0.021
- **Ion Focus**: 89.8 DC Polarity Pos
- **Entrance Lens**: 17.6 HED Enable On
- **Ent Lens Offset**: 12.36 EM Volts 1072.5
- **Ion Body**: 5.00 Extractor Lens 0.20
- **Post Extractor 1**: 0 Scan Speed 3
- **Post Extractor 2**: 0 Averages 3
- **PFTBA**: Open Step Size 0.10

#### Temperatures and Pressures
- **MS Source**: 300 Turbo Speed 100.0  
- **MS Quad**: 150 Hi Vac N/C

#### Actual m/z and Abundances

<table>
<thead>
<tr>
<th>Actual m/z</th>
<th>Abund</th>
<th>Rel Abund</th>
<th>Pw50</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.00</td>
<td>407,676</td>
<td>100.0%</td>
<td>0.63</td>
</tr>
<tr>
<td>218.90</td>
<td>477,194</td>
<td>117.1%</td>
<td>0.63</td>
</tr>
<tr>
<td>501.90</td>
<td>33,023</td>
<td>8.1%</td>
<td>0.61</td>
</tr>
</tbody>
</table>

#### Low, High, Step, Speed, Threshold, Peaks, Base, Abundance, Total Ion
- **Low**: 10.00  
- **High**: 701.00  
- **Step**: 0.10  
- **Speed**: 3  
- **Threshold**: 100  
- **Peaks**: 148  
- **Base**: 219.00  
- **Abundance**: 466,112  
- **Total Ion**: 1,685,250

#### Target m/z and Actual m/z

<table>
<thead>
<tr>
<th>Target m/z</th>
<th>Actual m/z</th>
<th>Abund</th>
<th>Rel Abund</th>
<th>Iso m/z</th>
<th>Iso Abund</th>
<th>Iso Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.00</td>
<td>69.00</td>
<td>391,680</td>
<td>100.0%</td>
<td>70.00</td>
<td>4,445</td>
<td>1.1%</td>
</tr>
<tr>
<td>219.00</td>
<td>219.00</td>
<td>466,112</td>
<td>119.0% ✓</td>
<td>220.00</td>
<td>20,560</td>
<td>4.4% ✓</td>
</tr>
<tr>
<td>502.00</td>
<td>502.00</td>
<td>32,112</td>
<td>8.2% ✓</td>
<td>503.00</td>
<td>3,590</td>
<td>11.2% ✓</td>
</tr>
</tbody>
</table>

#### Air/Water Check
- H2O ~ 1.8% ✓  
- N2 ~ 8.2% ✓  
- O2 ~ 0.7% ✓  
- CO2 ~ 0.1% ✓  
- N2/H2O ~ 518.1%

#### Column(1) Flow: 3.29 Column(2): 0.00 ml/min  
**Interface Temp**: 300

#### Ramp Criteria:
- **Ion Focus maximum**: 90 volts using ion 502; Electron Multiplier Gain 205068.752  
- **Repeller maximum**: 35 volts using ion 219; Gain Factor 2.0507

#### Mass Gain Values (Scan Speed): 161(3) 160(2) 178(1) 195(0) 233(FS1) 260(FS2) 252(FS3)

#### TARGET MASS:

<table>
<thead>
<tr>
<th></th>
<th>50</th>
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<th>131</th>
<th>219</th>
<th>414</th>
<th>502</th>
<th>1050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amu Offset</td>
<td>137.1</td>
<td>137.1</td>
<td>137.1</td>
<td>137.1</td>
<td>137.1</td>
<td>137.1</td>
<td>137.1</td>
</tr>
<tr>
<td>Entrance Lens Offset</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
<td>12.4</td>
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