

Agilent GC-MS system: User information

Mass Spectrometry Research Facility, Department of Chemistry

Trained-user checklist for Agilent GC-MS system:

1. When you arrive at the instrument you should check the following before starting a sequence

- **Autosampler**

- a. Ensure you have suitable wash vials: DCM and MeOH
- b. Ensure the waste vial is not full.
- c. The autosampler is equipped with 15 sample positions; please remove your samples after the finished sequence. Sample will be disposed every Friday after 2pm.
- d. Check syringe
- e. Autosampler methods only inject less than 1ul.

- **Samples**

- a. Ensure the sample concentration is 10µg/ml or less. Dilute as necessary
- b. Do not use non-aqueous solvent, preferably not MeOH.
- c. The aim is to put **100pg** on column.

- **Confirm System running properly**

- a. Run a blank and then a standard sample via GC-MS
- b. The routine standard used is 1ul of a **0.1mg/ml Toluene solution**.
- c. From the analysis of the standard confirm the following:

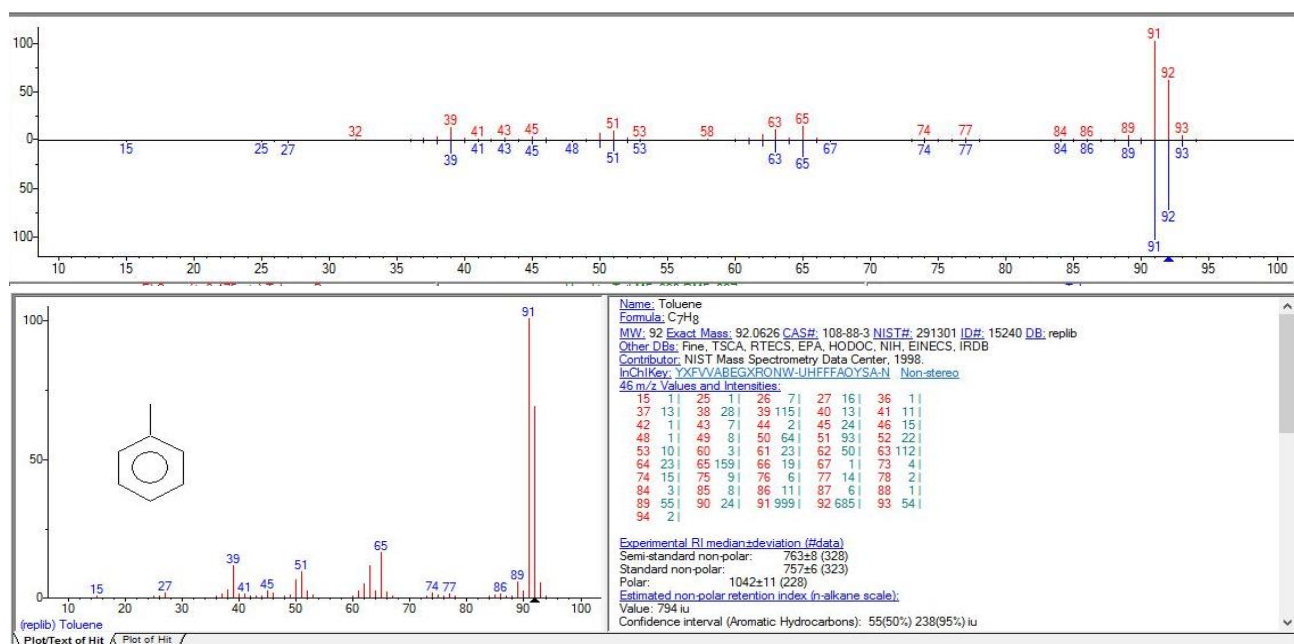


Figure 1-Mass spectrum and NIST database identification

2. Parameters in method that you are allowed to change

- a. Injection volume: less than 1 ul
- b. Inlet: split ratio (what can they change it to 1:10,000?)
- c. Oven: Temperature program
- d. MS: scan or SIM range

3. When you leave the instrument please ensure that:

- a. A blank has been run through the system after your samples.

4. General information about the instruments

- **System description**

- a. Agilent 7820A Gas chromatograph equipped with a 5977B single quad mass spectrometer
- b. Liquid injection autosampler
- c. Single column which cannot be changed: HP5-MS ultra-inert, 30m length, 0.25mm id, 0.25µm film thickness. Temp limit 325°C

- **Software description**

- a. MassHunter by Agilent:
 - 1) Operation: Agilent GCMS SQ
 - 2) Data Browsing: Qualitative Navigator
 - 3) Reports: Unknowns Analysis

- **Data transfer, network set-up and computer hygiene**

- a. Computer is not on the CHEM network; No Antivirus updates
- b. Copy data from PC (D:\drive) to gateway PC (Z:\ drive)
- c. Data reprocessing on reprocessing computers
- d. **No USB drives to be used under any circumstances**
- e. It is your responsibility to transfer data from gateway to MassStore or another long term MS data storage location within 1 week of acquisition. Data older than this is likely to be removed from the instrument computer.
- f. **Do not reboot electronics on the mass spectrometer or LC systems unless a member of the MS staff is present.**