Running samples on Agilent 7820A GCMS

1. Make sure the wash vial A is clean and has at least 2ml of washing solvent (e.g., GC-MS grade methanol) and the waste vial is not full. If a second wash vial (i.e., wash vial B) is desired besides vial A, fill it with at least 2ml of solvent that is GC-MS grade and miscible with your sample and solvent in vial A. If many injections will be made, fill vial A/B to the maximum. The syringe will not go below the 2ml mark. When not enough solvent is in the vial, the syringe will be dry, which reduces its lifetime. Never use water in vial B.

2. Place your GCMS vials in the autosampler, noting the position number that corresponds to each vial.

3. At the GCMS computer open program **7820A GCMS** (there is a shortcut on the desktop). Acknowledge the message about the default printer by clicking **OK**. If the computer should shut down at some point, just restart it.

4. Load a method by selecting **Method | Load Method** (e.g., from D:\MassHunter\GCMS\1\Methods).
   When you load a method, a small window labeled "MS Temperatures" will pop up. Click **Apply** then **Close**.

5. To initiate a **single sample GCMS run,** follow this procedure:
   a. Click the big green arrow in the center of the window (**Method | Run Method**).
   b. In the "Start Run" window, fill in the following items (leave others at their default settings unless absolutely need to change):
      i. **Front Inlet | Data File Name**: This will be the saved name of the data file.
      ii. **Sample Name** (optional): The descriptive name for the sample that will help remember details of the sample.
      iii. **Vial Number**: Make sure this corresponds to the position in the autosampler carousel where the sample is placed.
      iv. **Injection Volume**: Either check "Current Method" using volume specified in the method or "Override using" using a volume different from the method setup.
   c. Click **OK and Run Method**. If the GCMS temperatures are not at the set points of the loaded method, messages will appear indicating each temperature and asking if overriding the set points is preferred. Ignore these messages and let the system achieve the set temperatures.
   d. Once the system is at its set temperatures, the run will commence. Note that during solvent delay (e.g., 2.5min), MS will not acquire data to protect the electronic multiplier. Again, ignore the message asking if overriding this delay is preferred.
   e. The GCMS run will automatically stop after the method finishes its course.

6. To initiate a **batch GCMS run of multiple samples** in an automated fashion, follow this procedure:
   a. Click the icon with a pencil and 3 sample vials (**Sequence | Edit Sequence**).
   b. In the "Sequence Table", delete, insert, or edit rows and add/remove columns as appropriate to ensure one row for each sample run. If a particular sample needs to run twice, using the same or a different method, it should appear in the table twice in two separate rows. Fill the following items for each sample.

      i. **Name** (optional): A descriptive name for the sample to help remember details of the sample.

      ii. **Vial**: Make sure this corresponds to the position in the autosampler carousel.

      iii. **Method Path**: Click "…" to find the folder where the desired method is saved and select it.

      iv. **Method**: Select the actual method file to use for each sample.

      v. Select the **Data Path** for where to save results.

      vi. Enter a filename in the **Data File** column for each entry.

      vii. When the table is completed, click **OK**.

c. Click on the icon with the red disk and 3 vials (**Sequence | Save Sequence**). Navigate to the data folder and click save. This will keep a copy of the sequence table.

d. Click on the icon with the green runner and 3 vials (**Sequence | Run Sequence**). Enter the following:

      i. (Optional) A descriptive comment about the sequence.

      ii. **Data File Directory**: make sure the right sequence is in place.

e. Click **Run Sequence**. Watch to see the instrument do all the work supposedly before leave the instrument unattended.

f. At any time during the sequence run, the sequence table can be viewed and edited. The sequence will finish processing the current sample run but will not continue with the next until the sequence table is closed. If a sample is to be added to or edited in the sequence table, you can do so on any line below the one that is running currently.

7. When finished running samples, in the 7820A GCMS program, load the Maintenance_Cooldown method.

8. Dispose of all samples and standard solutions in the appropriate waste containers. Vials go into the glass waste container and tops in the trash.