

GC-MS QP2010 SE Operation

1. Double-click the “GCMS Real Time Analysis” icon. A dialog box will appear asking for a password. Do **not** enter a password, just click “OK” or enter Return.
2. Click on “Data Acquisition” icon to prepare for a sample run.

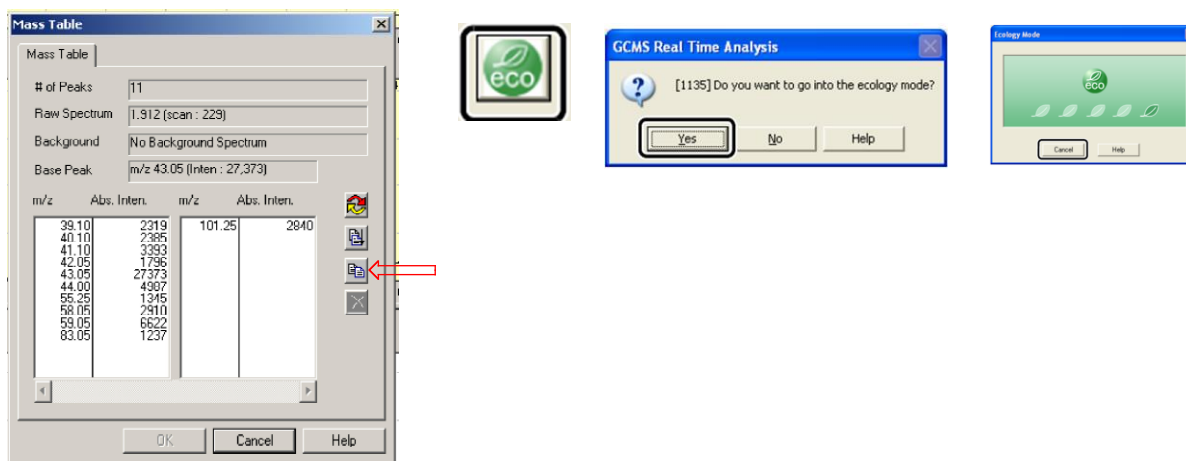


4. To prepare the sample, put a tiny drop (just one!) or a very, very small spatula tip full of your compound in a GCMS vial containing half to $\frac{3}{4}$ full of methanol. Place the vial in the autosampler carousel and remember the vial number.
5. Load the appropriate method by selecting “Open Method” in the “File” dropdown menu. Verify parameters in the method. In the MS tablet, make sure “Acquisition Mode” is “Scan” if you don’t want to collect spectra for selected ions; set “Start Time (min)” at least 2.00min after to prevent overwhelming the detector and “Start m/z” no less than 50.00 if a good signal to noise ratio is desired and your analytes have $m/z > 50.00$.
6. Click on “Sample Login” icon and enter appropriate information: “Date File” is for data directory and file names; vial number is which slot the sample is placed; by default, the most recent “Tuning File” will be used. The filename for the previous sample is the default, so be sure to enter a new filename in the “Data File” box. Also, make sure that you are saving to the appropriate directory. The minimum injection volume is 0.2 μl , which is not good for reproducibility.
7. Click on “Download” icon to get the GCMS ready for your run. It may take a couple of minutes for the machine to get ready, especially for the first run. When it’s ready, on the right side of the window it will indicate that both GC and MS are ready and the run will start automatically—don’t need to click on the “Start” icon.
9. It is not recommended but if you cannot wait till the run is complete, the run can be stopped early by clicking the “Stop” icon and then pressing the STOP button on the GC as well. By stopping the run early, samples injected onto the column may not be completely eluted which creates possibility of carry-over for the next sample.
10. To analyze the data, on the desktop click on “GCMS Postrun Analysis” icon to open the software.
11. Click on “File” and then select “Open Data File”. The GC trace appears with a mass spectrum window below.
12. Select the peaks of interest on the GC trace, one at a time. On the GC trace, you can zoom any peaks by dragging a box around the peak of interest using left mouse button. To undo a zoom, right click the mouse and select “Undo Zoom”. To go back to the full GC trace (if you have zoomed in more than once), right click the mouse and select “Initialize Zoom”.
13. To get the mass spectrum of a GC peak, use the “Average Spectrum” icon on the toolbar that runs across the top of the window: Click and drag the cursor across the peak of interest.
14. To subtract any background (e.g., GC column bleed) from the spectrum, click the “Average and Subtract” icon and then click and drag across a section of the GC trace near the peak, where does not have signal – i.e. just baseline. Your cleanup spectrum should appear.

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15. Print the spectrum: “File”, “Print Image – Print”; or you can just click on the “print” icon.
16. To see small peaks better, change the vertical scale of the mass spectrum by clicking on the + and – buttons on the lower right side of the mass spectrum.
17. To obtain a Mass Table—a table listing all the peaks and their relative and absolute intensities—right click anywhere on the mass spectrum and select “Mass Table”. You can’t directly print this table, but you can copy the data and paste it into the PC’s Notepad program, and then print.

To copy the data, click on the copy to clipboard icon (denoted by the red arrow on the figure) on the right side of the Mass Table window and then paste it to a text document (e.g., Word).



18. When finish running samples, go back to the “GCMS Real Time Analysis” and reduce the helium flow rate by clicking on “eco” icon, followed by “Yes” in the pop window. The [Ecology Mode] window opens and the ecology mode will be switched (i.e., the column oven temperature and total carrier gas flow decrease). The [Ecology Mode] window is displayed when in the ecology mode. When click “Cancel” in the Ecology Mode window, settings before switching to the ecology mode are restored.