GCD Instructions

Click on **GCD Top** to start program

- To tune, go to **Maintenance**, **System Verification**. Then you want to do a **Tune**, but *NOT* **Acquisition and Review Data**.
- To set a method, go to **Method**, then **Edit**.
  Do not set any temperatures above 250°C!!!
  - Set parameters.
    - Injection temperature: Temperature of the injection port.
    - Initial temperature: Temperature of the oven upon injection.
    - Initial time: Amount of time that the oven stays at the initial temperature. (For an isothermal run, you don't need to set any other temps. Make sure all rates are zero.)
    - Rate box: For use with gradient temperature runs. Set a final temperature, a rate of temperature increase (ramp) (0-70°C/min), and a hold time for the final temperature. All of these go across on one row of the table. You can set more than one step of the gradient.
    - Flow rate: The rate of the gas flow through the column. Generally keep it around 1.0 mL/min.
    - Mass range: The range of mass to charge ratios the mass spectrometer detects (45 to 200 amu).
    - Solvent delay should be set to a reasonable time usually 2-3 minutes.
  - Save the method.
- Go to **Acquire Data**, then **One Sample**.
  You need to provide a name for the data file.
  For Chem 205L students use this format: Save as "**C:\Ochem\2008###+.d**" where ### is your lab locker number either 2 or 3 digits followed by a letter (+) indicating run number: a - first run, b – second run, etc. So if I was doing a third run and my lab locker was 78, I would name the data file **C:\Ochem\200878c.d**
- Click run method, then prepare your sample for injection as the chromatograph gets ready.
- Rinse the syringe with your sample several times. Pull up about 1 µL of sample into the syringe (are you sure there is liquid in the syringe?).
- When the red light on the GC goes off, you can inject your sample. Hold the syringe in the injector port for ~5 s, then push down plunger to inject sample and push the start button on the GC keypad. The green run light should go on. Hold the syringe in place for ~5 s, then remove.
- Rinse out the syringe several times with solvent.
- On the computer monitor you should say NO to overriding the solvent delay.

Review Data to see the chromatogram.

- To zoom in on a peak, click and drag a box with the left mouse button.
- To view the mass spectrum of the peak, double click with the right mouse button at the center of the peak.
- To identify the peak, go to **Identify**, then **Search Spectrum**.