Thermo Nicolet 380 FT-IR instructions

To launch the software click on the **OMNIC** icon on the desktop

Collecting a spectrum

1) All parameters for collection are located under **Collect → Experiment Setup**
2) Students should only change **No. of Scans** and **Resolution** and nothing else.
    a. The default No. of Scans is 32 and the default Resolution in 2
3) Collect a background spectrum
    a. Background collection only needs once to be done at the beginning of each class period
    b. If you want to collect a background before every sample it is ok to do so
    c. To collect a background make sure the crystal is clean and dry (the sample press does not need to be over it) then press the **Col Bkg** button  or go **Collect → Collect Background…**
    d. When background collection is done it will ask you if you want to *Add to Window#*, press **NO**, you do not need to view it (but it does store it as a background internally)
4) Collect a Sample Spectrum
    a. Place a small amount of sample on the ATR crystal
    b. If your sample is dissolved in a volatile solvent you can also place a drop of sample on the crystal and let it evaporate
    c. The ATR only reads a few micrometers into your sample, adding more sample **will not** give you a better signal, increase the number of scans
    d. Place the sample press over the sample and tighten
    e. Press the **Col Smp** button  or go **Collect → Collect Sample…**
    f. Give your sample a name and press **ok**, press **OK** again at the next window
    g. When data collection is done the software will ask you if you want to Add to Window#, click **Yes**
5) Save the data
    a. Go to **File → Save As…**
    b. All data should be saved in the folder ~/My Documents/IR_CLASS_DATA and <u>no where else</u>

Data Processing

1) If you have multiple spectrum on your screen the active spectrum is color coded Red

2) To make a spectrum active click on it or select it from the drop down menu near the ***i***

3) To label peaks click the Large ***T*** button  near the bottom-left of the screen, then click and drag to label peaks (control-left click to force a label to be at the top of a peak) then press Enter
    i. To get rid of a label, click on it, and press the **Delete** key and then press the **Enter** key on the keyboard
4) To get out of annotate/label mode click on the arrow button  in the lower left-hand corner
5) To remove a spectrum from the screen select it by clicking on the spectrum and then press **Control-Delete** on the keyboard or Click the **Clear** button 
6) To expand on an area drag a box around it and click in the box, to unzoom double-click anywhere in the second spectrum window at the bottom of the software screen

7) To adjust spectrum x and y axis use the roll/zoom window, go to View → Roll/Zoom Window… and/or click **Full Sc** button 

Cleaning
Move up arm using the knob
Wipe off crystal using methanol and paper towel, trying not to get methanol on beige case
After methanol evaporates you're ready for the next sample.

Rules
1) Do not let the students install anything on the computers

2) The beige case of the FT-IR is not solvent resistant. Only get solvents on the black plate or stainless steel ring.

3) Only enough sample is needed to cover the ATR crystal. If students make a mess remove the plate from the instrument and clean it off.

4) Use methanol and a paper towel to clean the surface.

5) Do not over tighten the sample press knob. Finger tight only, as soon as you feel any resistance stop.