Instructions for the Perkin Elmer IR for Chem 100 IR Lab

1. The IR is **ALWAYS** on. Turn on the computer, monitor and printer (lower or lower right button on each) if they are not on. (Green light signals on.) If you turned on the printer, you should also press the upper button to initialize the printer.

Sample Preparation:

It is simplest to take IR spectra of liquid samples neat, i.e. drops of the pure liquid sandwiched between two salt, sodium chloride (NaCl) plates. (Sodium Chloride does not absorb in the IR.)

Never touch the flat surfaces of the NaCl plates with your fingers. Always hold by the edges.

2. Take out two NaCl plates from the dessicators, and place on a clean Kimwipe. With a clean pasteur pipette, place one or two drops of your unknown on one plate and place the other plate on top, making a sandwich.
3. Now place your sample in the sample holder and slide it in place in the IR spectrophotomer.

The background spectrum of air has already been taken and placed in the computer memory. The computer has been instructed to substract that background spectrum from your sample spectrum.

4. In the **File Menu**, choose **New**.

5. In the **Instrument Menu**, choose **Scan Sample**.

The dialog box will ask for a **filename** and **description**. Your filename should be chgpx001 (chem group x), where x isyour group number, and 001 represents your spectrum number. The first will be 001, the second 002 etc. For description we suggestion unknown y, where y is your unknown number. (The range has been preset to 4000 to 400 cm-1, and one scan.) When that information has been entered click on **OK.**

6. When the spectrum appears, click the **peaks** icon, or in the **View Menu**, chose **Label Peaks.**

7. In the **File Menu,** choose **Print,** or click on the **Print** icon. The printer will take around three minutes to print a spectrum with labelled peaks, or one minute to print spectrum without the peaks labelled. Another person can take a spectrum while the previous spectrum is printed.

Cleaning the salt plates.

8. Using a Kimwipe carefully wipe all the sample off the salt plates. Place a few drops of chloroform on each of the plates and carefully wipe that off as well. Repeat the chloroform wash once more. Replace the salt plates in their tins and place the tins back into a dessicator, unless someone is waiting to use them.