Perkin Elmer Spectrum Two FT-IR (ST 419)

Setup and Acquire Background

1. Login to the computer using `.\labuser` and `labuser` as the username and password, respectively.
2. Open the FTIR software by double clicking the **Spectrum IR** icon on the desktop.
    - Please select the correct username based on your class; there is no password. You may use the `Analyst` account if you are not associated with a class.
3. Remove the white protective cover from the FT-IR ATR cell (keep the clear one in place).
4. Acquire a background spectrum by clicking **Background** in the FT-IR software ribbon.

Acquire a Sample spectrum

1. Enter a name a for sample in the **Sample ID** field.
    - Leave the default name and enter your name after it. This will make your file easier to find later.
    - An example is `2018 12 4 2018 CHEM 241 Al Fischer`.
2. Click **Scan** (orange play button) in the FT-IR software ribbon to bring up a real-time preview.
3. Ensure the background spectrum is still good and the ATR window is clean by examining the blank spectrum.
4. Load a *small* amount of sample onto the ATR window (just enough to cover the window).
5. If your sample is a solid, rotate the **anvil arm** into place and lower it by rotating the knob on the top of the instrument. (If your sample is liquid you do not need to use the anvil.)
    - Watch the spectrum "grow in" as you lower the anvil; stop when you have applied enough pressure to obtain a good spectrum.
    - The anvil has an internal clutch that prevents over tightening. In general, you will probably want the force gauge in the software to read **50-60** for a good spectrum.
6. Press **Scan** when you are satisfied with the preview spectrum.
    - Your data will be automatically saved as a spectral file , e.g., `2018 12 4 2018 CHEM 241 Al Fischer.sp` and a CSV file, `2018 12 4 2018 CHEM 241 Al Fischer.csv`.
    - The default file path is `C:\Users\labuser\Documents\CHEM241_spectra` for spectral files and `C:\Users\labuser\Documents\CHEM241_spectra\export` for CSV files.
    - If saved by the default name, files will be ordered by date and time of acquisition.
7. When your scan is complete clean your sample off the IR by applying a small amount of ethanol or acetone to a Kimwipe and wiping off the ATR cell.

> ***Do not spray acetone directly on the FTIR! It will damage the plastic and may ruin optics!***

Examine and Print a Spectrum

> The following steps assume your sample is selected in the sample tree and you are looking at the tab matching your sample name (i.e. your spectrum).

1. To label peaks, click **Labels** above your spectrum.
    - You can click and drag or delete specific labels.
    - You can change the labeling parameters by clicking on **Peak Detection** in the **Setup Pane** on the right side of the software.
2. To print only your spectrum, select it from the data explorer tree on the left and ensure the tab matching your sample name is selected above the spectrum window; click **Print**.

Shutdown

1. Please leave the FTIR cleaner than you found it.
    - Wet a Kimwipe with acetone and clean the ATR window and the metal plate surrounding it.
    - Use the Kimwipe to clean the anvil (the tip slides off).
    - Use a brush to dust off any powder from the instrument.
    - Brush or shake off the protective plastic cover on the ATR cell.
    - Replace both protective covers (clear and white) on the ATR cell.
2. Close the software and logoff of the computer.
    - *Do not turn the FT-IR off -- it is designed to be on all the time.*
    - *The button on the front of the instrument is NOT a power button -- it closes the USB connection between the IR and the computer. Please do not press it.*

[v20201209]