

Instructions for the Thermo UV-Vis spectrometers (Building H2)

Instructor: Machine setup

- 1) Instructors must connect one of the laptops from the laptop cart to the Thermo UV-Vis spectrometer (**Figure 1**). The procedure is for use from the laptop only.

Username: .\ggcuser

Password: Password#123!



Figure 1: Thermo UV-Vis spectrometer with laptop connected.

- 2) The spectrometer *should be powered on at the back*. Press the power button on the right front to turn it on. It takes several minutes for the machine to warm up.
- 3) Open the Thermo Insight software using the icon on the desktop (**Figure 2A**). If the icon is not on the desktop, it can be found in the “Start” menu, under Thermo Scientific INSIGHT (**Figure 2B**).
- 4) Check the instrument status at the bottom of the Thermo Insight window. If it says “LC control” hold the 2 and 4 buttons *on the spectrometer* together for ~4 seconds to switch control to the laptop. It should say “PC control”.

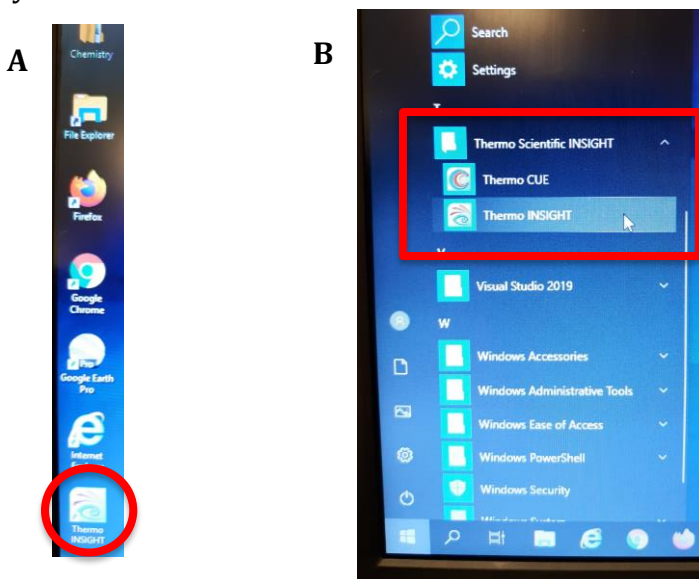
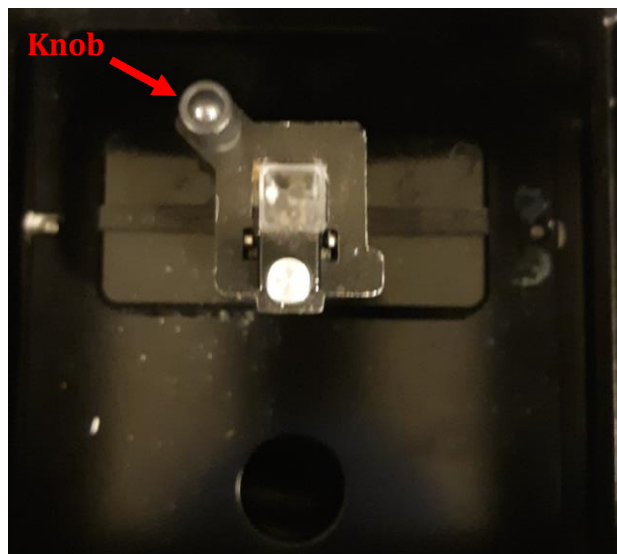


Figure 2: (A) Thermo desktop icon. (B) Pathway to Thermo Insight software from start menu.

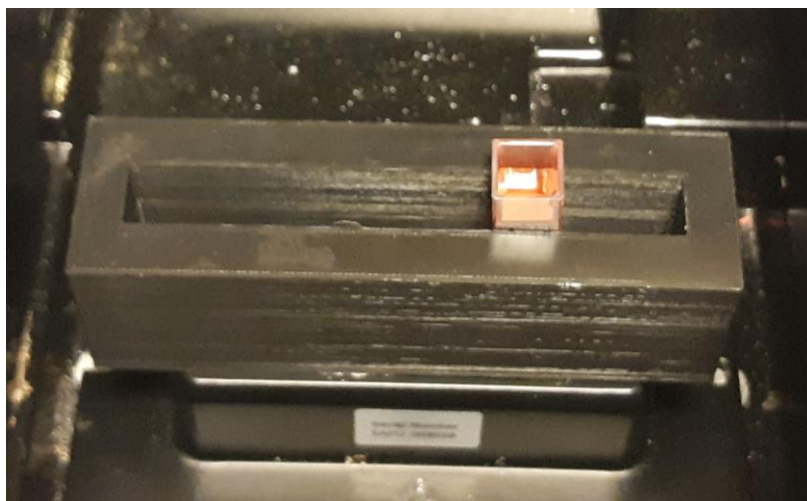
Updated 10/2/2020

Student: Cuvette/Sample Handling

- 1) Push the large blue button on the top of the instrument to open the chamber (**Figure 1**).
- 2) The beam travels \leftrightarrow parallel with the instrument so place the cuvette in the beam path accordingly. The cuvette should go into the sample holder (**Figure 3**) without a lot of force. You may need to wiggle it or adjust the angle of approach slightly to get it to go in.



A



B

Figure 3: (A) Small cuvette sample holder. (B) Long rectangular cuvette sample holder.

- 3) To remove the cuvette from the small sample holder (**Figure 3A**), use one hand to hold the sample holder down and gently pull up the left knob on the corner of the cell to elevate the sample for removal. If the sample holder gets lifted up you may need to reset it by aligning the holes in the sample holder with the pegs on the base of the instrument – CONTACT YOUR INSTRUCTOR.

Student: To run your samples

- 1) Depending on which experiment you are running, select the appropriate mode of either “Scan” or “Fixed” next to the Classic Group (**Figure 4**).
 - When working on CURE projects – CONTACT YOUR INSTRUCTOR to determine which name to select under the Classic Group.

(FOR ADVANCED USERS ONLY: you can change settings from the “System Settings” tab at the bottom left-hand side of the window at this point.)

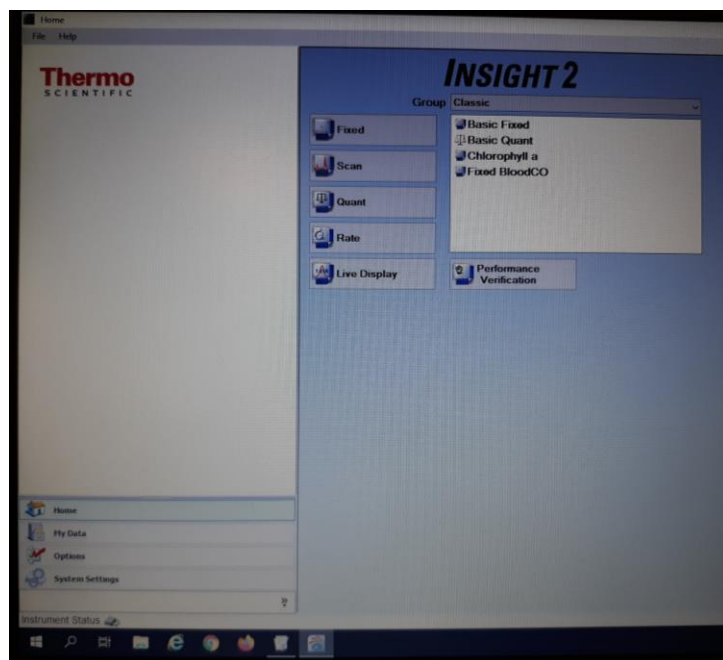


Figure 4: Image of Thermo Insight window.

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- 3) Load your blank sample into the cuvette sample holder. Click on the “Zero” button on the upper left-hand side of the Thermo Insight window (**Figure 5**).
- 4) Click on the “Measure” button on the upper left-hand side of the Thermo Insight window (**Figure 5**) to measure your blank sample.
 - If you are running multiple samples in the “Scan” mode, you should click on the “Overlay data” option under the “Measure” button.

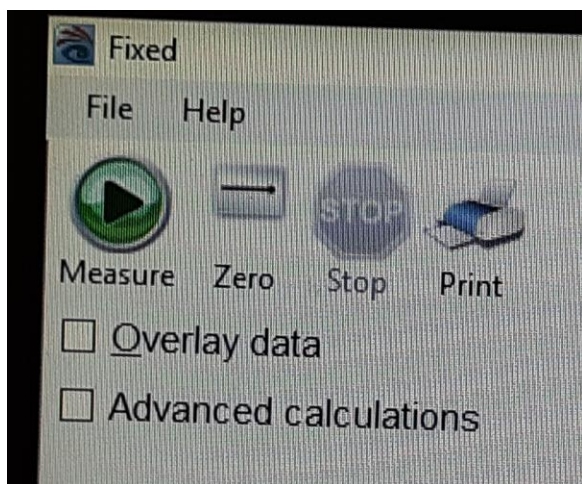


Figure 5: Measure and Zero buttons in the Thermo Insight window.

(At this point you should be able to follow the prompts)

- 5) The “Loading Guide” will tell you to load the blank. Only hit okay after the blank is loaded.
- 6) After the blank is run the sample list will come up. You can make modifications to the number and description of samples. If you only have one sample be sure to load it before hitting continue.
- 7) If you have multiple samples follow the on-screen prompts after hitting continue. Never hit “okay” until you have the next sample loaded.

Student: To save and export data

- 1) To save your workbook go to: **File → Save workbook as**. Don’t save as a template! Save it in the desktop in the folder with the name of your professor. Put your name in the filename.
- 2) To export data that Excel can read, go to the reports tab on the bottom left of the thermo insight window. Highlight all of your spectra in the list on the main center window. Click on the export button at the top.
- 3) **YOU NEED TO CHANGE THE “SAVE AS” TYPE FROM REPORT TO SPECTRUM!!!!** Save it as an excel .xml file. Save the file in the desktop in the folder with the name of your professor. Put your name in the filename.

Student: When you are finished

- 1) Go to **File → Close all worksheets and return to home**

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Instructor: End of Day Procedures

- 1) When completed for the class/session/day, turn off the instrument with the Power button on the right front of the instrument. If it has an LCD, you need to hit okay on the LCD. If there is no LCD you need to hold the power button for a few seconds.
- 2) Close the software and close the lid on the laptop.