

Using the Vernier Spectrophotometer

Open the data acquisition program on your PC:

Start → All Programs → BE – Ugrad Lab Software → Vernier Software → Logger Pro 3.8.6.1

Collecting Absorbance Measurements

1. Set Spectrophotometer to measure absorbance:
 - a. From the Experiment menu, select “Change Units” > “Spectrometer:1” > “Absorbance.”
NOTE: For best results, allow spectrophotometer to warm up for a minimum of 5 minutes.
2. Set Spectrophotometer to take Absorbance vs. Time Readings
 - a. Select “Configure Spectrometer” icon (Multicolored Spec Curve on Toolbar).
 - b. Select “Absorbance vs. Time” under “Collection Mode.”
 - c. Select Absorbance wavelength.
 - d. Press “OK”
3. Calibrate spectrophotometer for absorbance measures:
 - a. On the top menu bar, click: “Experiment” > “Calibrate.”
 - b. Follow instructions: Wait 90s for lamp to warm up.
 - c. Insert blank, press “Finish Calibration.”
 - d. Press “OK.”
4. Set Collection Time:
 - a. Select the “Data Collection” icon (Axes with Stopwatch on Toolbar).
 - b. Set sampling duration.
 - c. Set sampling rate.
5. Name the data to be collected in the run. Double-Click to rename the column.
6. Press “Collect” (Green Box with ‘Play’ Arrow on Toolbar) to get data.
7. Save your data. Be absolutely certain that your data can be reopened in another program!
8. Be careful. The spectrophotometer is sensitive to hand movements over the port!

Collecting Fluorescence Measurements

1. Set Spectrophotometer to measure fluorescence (excitation at 405nm or 500 nm):
 - a. From the Experiment menu, select “Change Units” > “Spectrometer:1” > “Fluorescence 405 nm” or “Fluorescence 500 nm.”
NOTE: For best results, allow spectrophotometer to warm up for a minimum of 5 minutes.
 - b. Select “Fluorescence vs. Time” under “Collection Mode.”
 - c. Select Fluorescence wavelength.
 - d. Press “OK.”
2. Set Collection Time:
 - a. Select the “Data Collection” icon (Axes with Stopwatch on Toolbar).
 - b. Set sampling duration.
 - c. Set an appropriate sampling rate.
3. Name the data to be collected in the run. Double-Click to rename the column.
4. Press “Collect” (Green Box with ‘Play’ Arrow on Toolbar) to get data.
5. Save your data. Be absolutely certain that your data can be reopened in another program!
6. Be careful. The spectrophotometer is sensitive to hand movements over the port!

To Aggregate, then Export Data:

At the end of each run:

1. On the top menu bar, click: Experiment >> Store Latest Run (Ctrl+L)
2. Take measurements, and repeat the previous step for as many runs as needed.
3. Once all runs have been completed, click: File>>Export As>>CSV...

All runs can be saved on a single .csv file.

To Export Data: (when exporting after each trial)

To Text File:

File>>Export As>>Text...

*In Excel, use the DATA tab to open the text file as a tab-delimited file.

To CSV:

File>>Export As>>CSV...