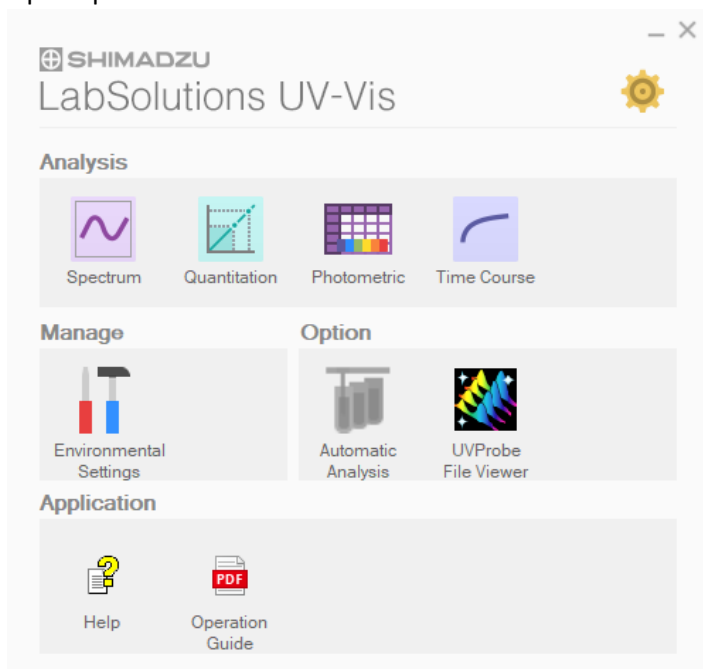


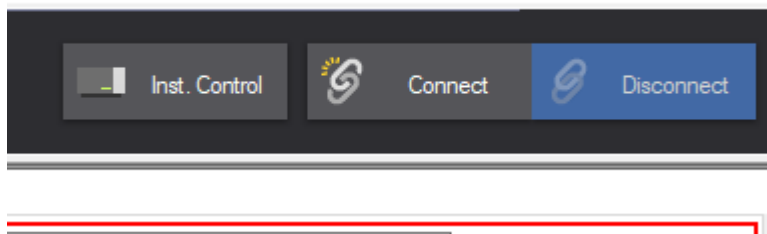
Shimadzu UV-2600i  
UV-vis SOP

I. Basic Instructions

1. Turn on Instrument switch on side of UV-vis Equipment
2. Turn on CPS (If needed. Consult Catalysis Lab Manager for CPS, temperature control 100 °C to < -100 °C, photolysis, stirring, and/or reagent addition)
3. Open Lab solutions Software
4. Open Environmental setting to set location of where you are saving your data and options for plotting data (Set your save directory before connecting to instrument or collecting data)
5. Open Spectrum button to collect data



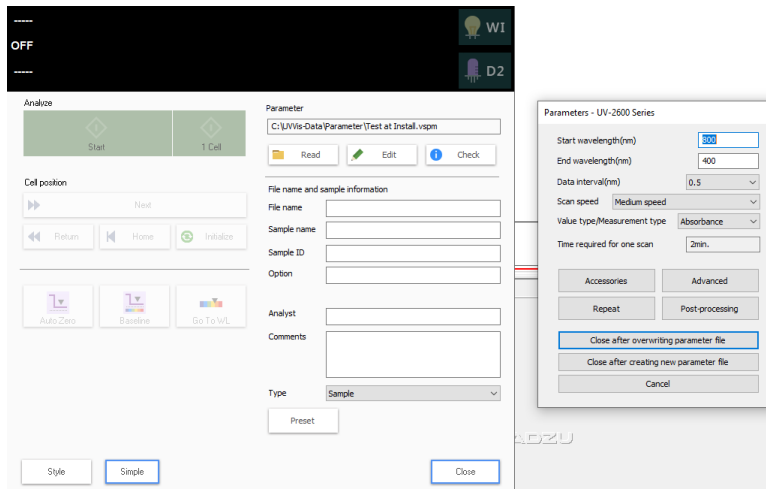
6. Press [Connect] button in right corner of screen and wait for system to go through checks (Upon successful connection, instrument will beep and display solid green light)



7. Open Instrument Control and Press Edit (Press Read to browse directories for your parameter file)

8. Here you can set up the following parameters for your scan:

- Wavelength Start
- Wavelength End
- Scan speed
- Data interval
- Number of repeats
- Post processing settings



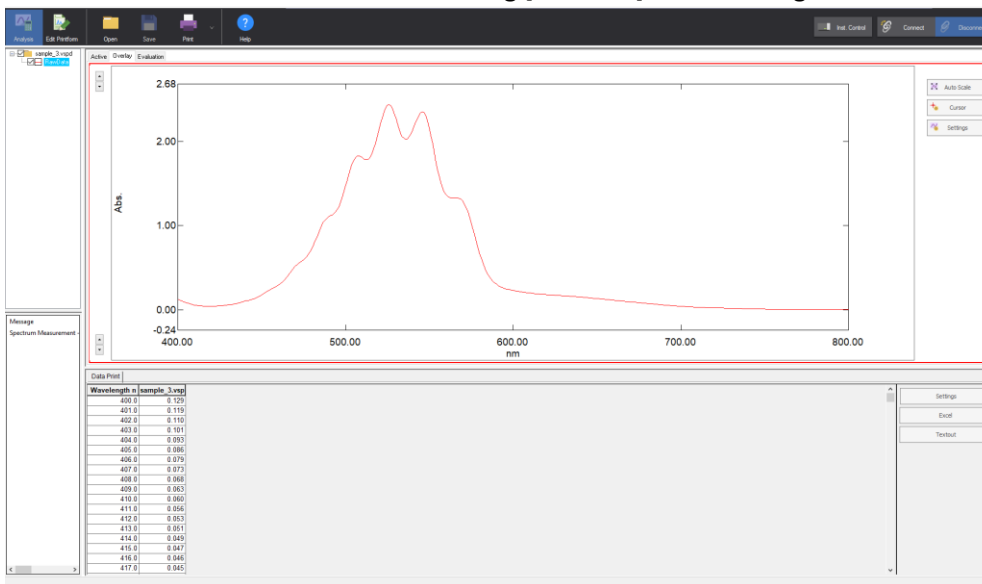
9. In Instrument Control and Edit, press Accessories. Make sure the CPS is chosen and set the number of cells you plan to use (if 1 set to 1) (If needed)

10. Once settings are set, place a blank solution in the sample port, cover the sample holder and click [Baseline]. (Tip: Baselines cannot be saved as files and retrieved for later use. Consider skipping the [Baseline] step and collecting/saving your blank baseline spectrum - solvent and cuvette, for example - as a data set that can be manually subtracted from sample data in excel, MATLAB, etc.)

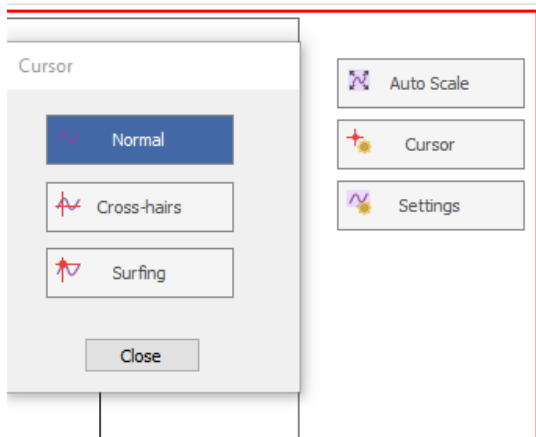
11. Place a sample(s) in the sample port, cover the sample holder and click [Start]. (The reference port should be kept empty or place another blank solution there in both steps.)

12. In the overlay tab, multiple spectra can be compared and overlapped.

13. Data can be saved in text or excel file using [Text Out] in bottom right



14. Pressing “Cursor” allows option to find data intersections.

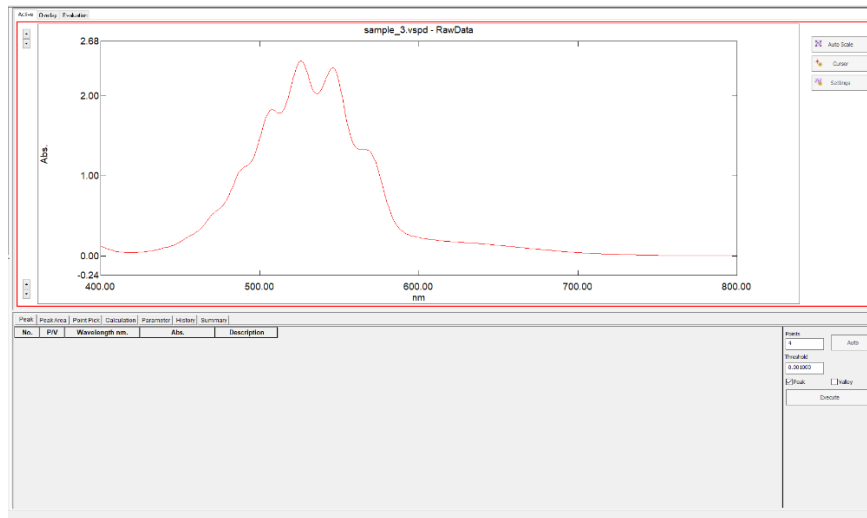


(Cross-hairs tool is useful for reading wavelength and absorbance)

Extended Instructions

15. In the active tab, one data set at can be viewed with the following data analysis possibilities:

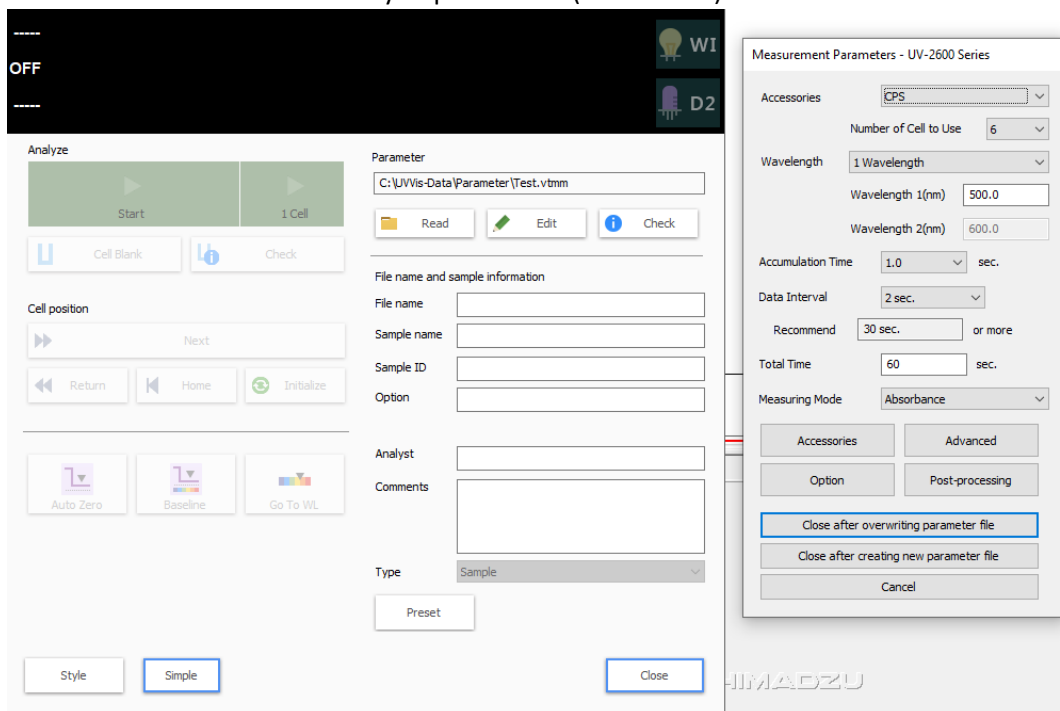
- Peak: lists peaks at specified threshold
- Peak area from specified points
- Point pick intersects absorbance at specific points
- Calculations allow mathematic operation on data
- Parameters lists the settings when the data was collected
- History lists operations done on data
- Summary specifies what was saved



16. In the evaluation tab, go to table settings to include what analyzed parameters show up in the table. Save the file info to replicate this analysis selection the future. Drag the data down to the table to add to data to table.

Evaluation					
Filename: _____					
AV				Average Value	
SD				Standard Deviation	
RSD				Variation Factor	
	Legend	Type	File Name	General Judgment	Comments

17. Edit print form allows print out of data in the form of report
18. Choose the Quantitation option on the first screen of the Lab solutions Menu if you would like to create a calibration
19. Choose Time Course option on the first screen of the Lab solutions Menu if you would like to monitor your sample over time such as in kinetic measurements
20. In Time Course, open [Instrument control] and Press [Edit]. Here you can set up the following parameters for your scan:
  - The Wavelength to monitor or the difference between 2 Wavelengths or the ratio between 2 Wavelengths.
  - Time for Accumulation
  - Data Interval
  - Total time for measurement
  - Post processing settings
  - In Instrument Control and Edit, press Accessories and make sure the CPS is chosen and set the number of cells you plan to use (if 1 set to 1)



## 21. Shut Down Procedure:

- Press the [Disconnect] button in software
- **Turn off the UV-vis switch**
- Turn off the CPS (If applicable)
- Exit the software
- Remove and clean cuvettes