

Shimadzu UV-2600 Spectrometer

Standard Operation Procedure

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1. Personal Protective Equipment

- EYE PROTECTION: Safety glasses
- PROTECTIVE CLOTHING: Laboratory coat and nitrile gloves

2. Guide for UV-2600 use

- Enter your sample and user information into the LOGBOOK
- Always clean up after experiment. Do not leave samples or personal items in the laboratory
- Check that no solution sample is spilled on the sample compartment before and after measurement (Wipe it up immediately, if happens)

3. Guide for Samples




- Liquid sample: All samples must premix to the desired concentration and prepare a blank sample. Note that disposable plastic solution cells are located below the UV-Vis. (If the sample is in the solid state, the sample should be coated with a desired, transparent substrate)
- Please use the appropriate sample cell and holder
- ***Do not dispose used liquid samples in sink***
- ***We don't accept any chemical wastes generated by UV analysis***

4. Basic UV-Vis Procedure




- Power on the UV-2600 (the switch is located on the right corner of instrument) in advance (~30 minutes for the stabilization of lamps); The unit is not operational until the blinking light on the button goes to a solid green color.
- Turn on the computer
- Log onto the computer by select **UV_Guest** account (password will be provided upon request)
- Double-click [UVProbe 2.70]
- Click [Connect] in the bottom tool bar to connect UV to the PC
- Choose a desired characterization method such as scanning spectrum, photometric data measurement, or kinetics from the tool bar
- Data should be saved in **C:\UVProbe-data\data\user\year** (may need to create the folder of your own: recommended folder name → your initial_date; SL_100119)

- Ensure data is saved as data print table (.txt) for further data analysis
- Data should be transferred by using **USB flash drive**; you can easily access your saved data from **user** folder in desktop screen
- Turn off the measurement by click [Disconnect] or [Exit] from file menu
- If measuring, click [Stop] to terminate the measurement
- Turn off the power switch of unit
- Log off the computer



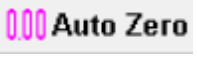
A. Scanning spectrum

1. Select the spectrum mode  from tool bar
2. Enter the required parameters for your experiment in the method manager  ; set the wavelength range (high to low), scan speed, mode or file name
3. Ensure the [active] tab is selected
4. Place two cuvettes (rear: reference, front: sample)
5. Select baseline and ensure the wavelength is correct. Once the baseline is recorded with solvent sample, then the start button will become available
6. Place the sample and click [start] 
7. To overlay multiple spectra on a single graph, you need to select the overlay tab to record of each spectra

B. Photometric data

1. Select the photometric mode  from the tool bar
2. Select go the wavelength  and enter the desired wavelength
3. Press [OK] and the spectrometer will adjust to that wavelength
4. Insert your blank solution in the front cell and then press Auto zero 
5. Place your sample and the spectrometer will give you a live absorbance readout.
6. Note down the value in your lab note

C. Kinetic plot

1. Select the kinetic mode  from the tool bar
2. Select the required parameters for your experiment in the method manager 
3. Ensure single wavelength mode is selected and enter your desired wavelength in the WL1. Adjust the total time and activity region for kinetic measurement
4. Place a blank solution in the front cell holder and click Auto zero 
5. Place a kinetic sample and click [Start] to begin the run

