# Procedures for UV Spectrophotometer

Updated 07/27/2022 by Yun Zhu

Prepare the sample solution in advance. All the manipulations, dilution should be done inside the adjacent fume hood. The maximum volume of the cell is 3.5 mL. **Before switch on the spectrophotometer nothing should be in the cavity.**

1. Turn on the monitor, computer, and spectrophotometer. Turn on the isotemp system if needed.
2. Wait for complete "Initialization" of the spectrophotometer. When it's done the spectrophotometer will go to PC automatically.
3. Select Windows Start>Programs>Shimadzu>UVProbe, or double-click the UVProbe icon on the desktop.
4. Enter your user name and password.
5. Click on the "Connect" icon in the bottom.
6. Go to "Instrument">"Configure". In Connection, "Communications Port(COM5)" should be OK. Check both the lamps in Maintenance. Most of the time they are default options.
7. Click on "Method":
   - 7.1 In "Measurement"; select your Wavelength Range of interest. In Scan mode, select the mode of your interest.
   - 7.2 In Instrument Parameters, select the right Measuring Mode in the list.
   - 7.3 In Attachments, click on "None".
8. Place both the UV cells (with white Teflon cap) filled with same solvent in the cavity. Cover the cavities by square shaped metallic head.
9. Click on Baseline at the bottom to perform a Baseline Correction.
10. Save the file in .smd mode for the solvent in subfolder "Method" in the folder "UVProbe".
11. For the measurement of the sample, place the cell containing the sample solution in front side (close to the operator), click the Start button to initiate the scan.
12. To save the data, Select File>Save As; Save the file as .spc extension in your named folder in the "Data" folder.
13. Alternatively the file can also be saved in .txt extension.
14. After the measurements the cells should be thoroughly cleaned with proper solvents, dried and kept in drawer.
15. Extra precaution should be taken to clean the cells when the sample is a suspension/colloidal or sparingly soluble solution. In these cases particles deposit on the cell wall to interfere the measurement of the next user.
16. After all the measurements switch off the monitor, computer, and spectrophotometer and make an entry in the log book.
17. For Calculation: path length of cell = 1 cm.