# Operating Procedure – PerkinElmer LAMBDA 750

1. Before switching ON the UV/VIS system, first switch on the AC (Air Conditioner) unit.

2. Switch ON the power supply for the system

3. Switch ON the lamp of the UV/VIS which is located on the top-right of the system.

4. **Wait for 20 to 30 minutes** after switching on the lamp of the system as stated in step 3

5. Switch on the PC monitor and CPU

6. Enter the login ID and password disclosed during the training session.

7. Once the desktop is up, click the software icon "PerkinElmer UV WinLab" to get the page <UV WinLab Explorer>

FOR absorption/Transmission measurement continue from Step 8.

FOR Reflectance measurement, follow the calibration procedure stated below (A to G)

8. Goto FILE→NEW→METHOD to create a new method.
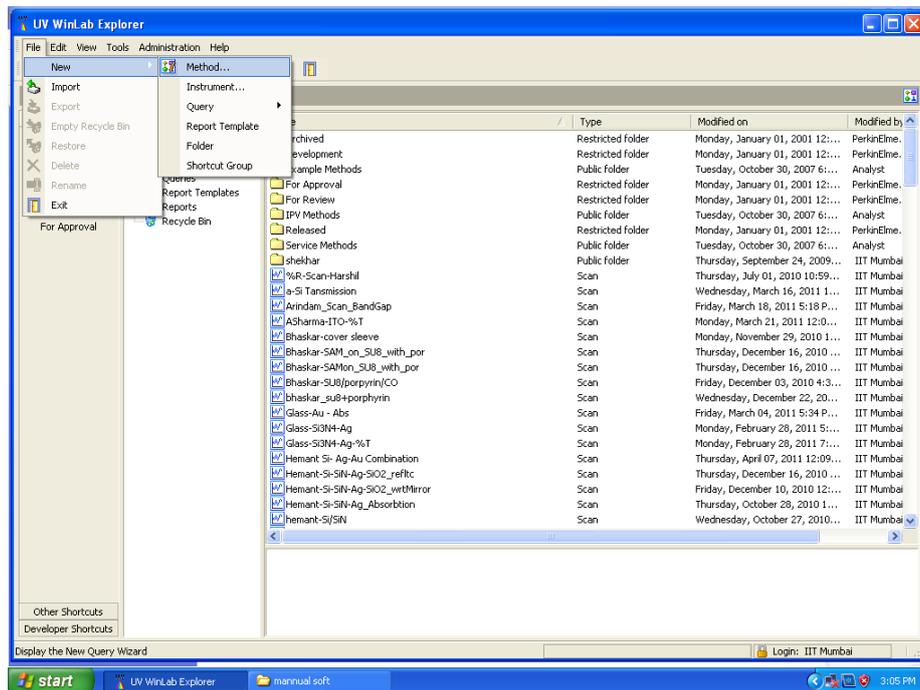
9. Once you are in the "New Method Wizard", select 'High Performance UV/VIS NIR Instrument', and click next.
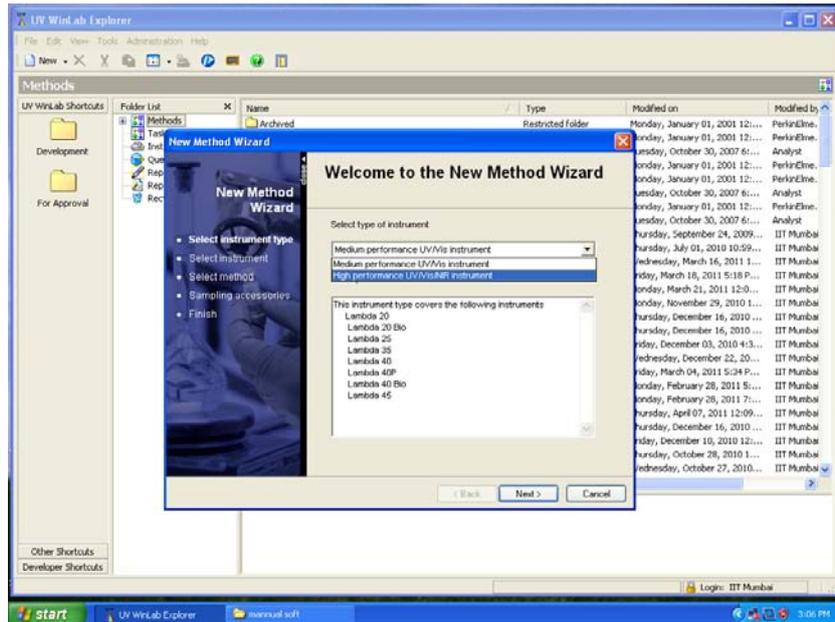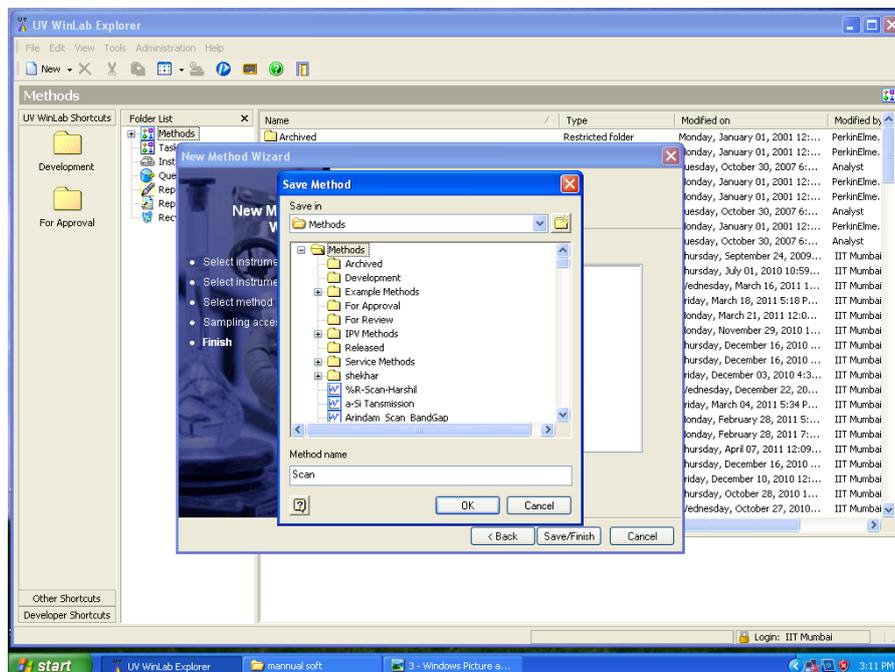
10. Choose the instrument 'Lambda 750' ,and click next

11. Choose the method 'Scan', and click next

12. Then you will be in the 'Select Accessories' page, click next (no changes to be made)

13. Then click 'Save/Finish', to get another pop-up page 'Save Method'

14. Enter your method name in the given format <NAME_Sample Name> eg: Peter_SiN_on_Silicon, and click OK. Now you will be in the 'UV WinLab – Edit- <METHOD NAME>' page.
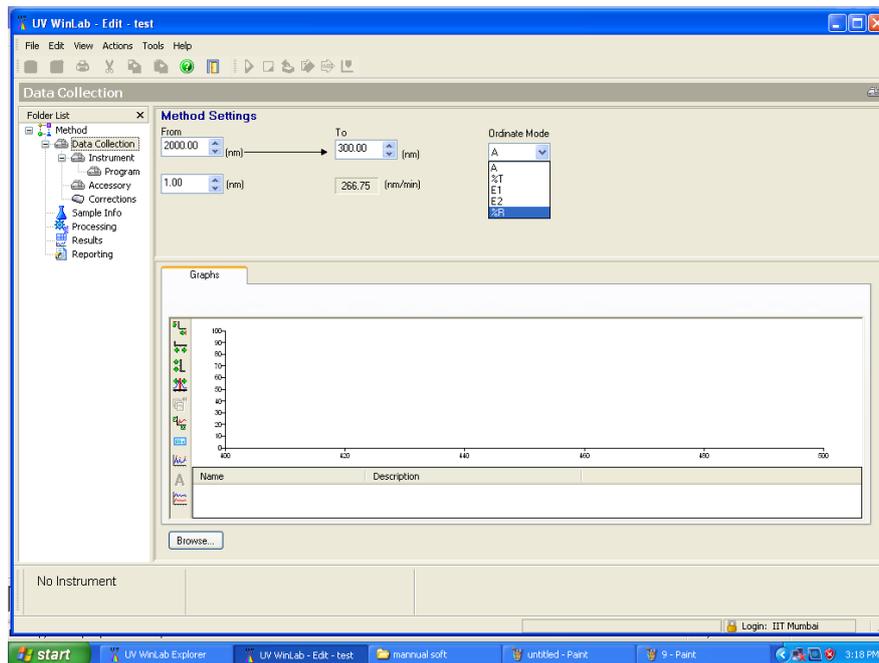

15. Expand all the Folder list and edit them in sequence.

16. Click 'Data Collection', and edit the method settings as follows:

Range – Higher wavelength to lower wavelength, eg: From(2000nm) to To(300nm)

Ordinate Mode – Select either A (Absorption) or %T (tansmission) or %R (reflectance)

17. Then click 'Instrument', check if the range mentioned is as per your requirement. Please do not change any settings in this page.

18. Goto 'Sample Info', put the number of samples you have for measurement (do not include your reference sample in this) and press Enter. Now you can name your samples in the 'Sample ID' column.
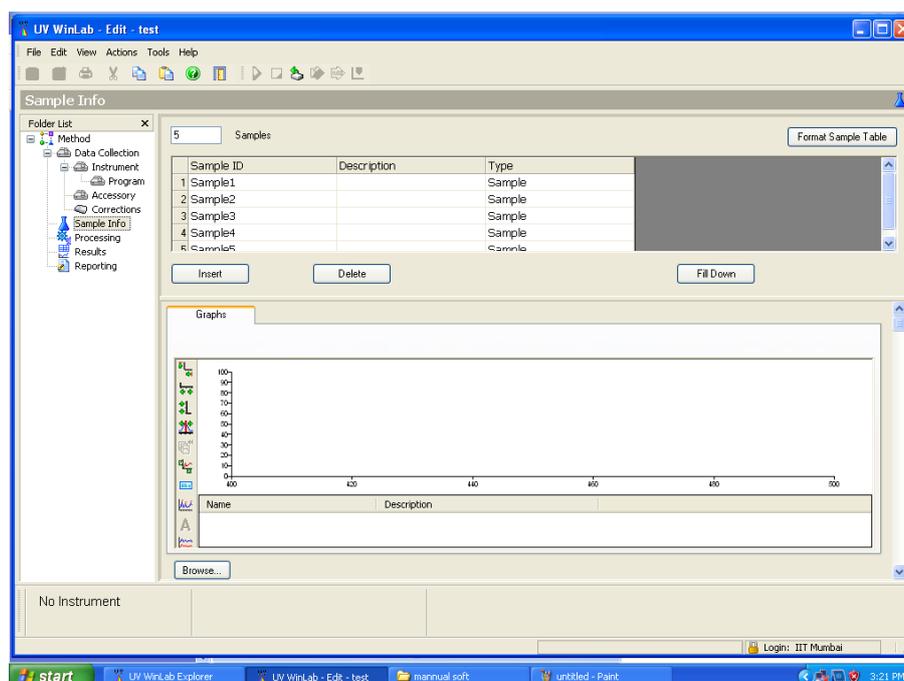
19. Now goto 'Reporting', Tick the 'Print to file' and 'Output to file'. Here click the setup option next to the 'Output to File'. You will now get a pop-up page 'Export Data'. Please tick all the boxes as shown. Please change the 'Spectrum Export File(Raw)' and 'Spectrum Export File (Processed)' from .SP to .ASC

Now browse the 'Data Export' file to your destination folder. Your destination folder will usually be My Computer/USER's Documents/<Folder with your name> and press OK.
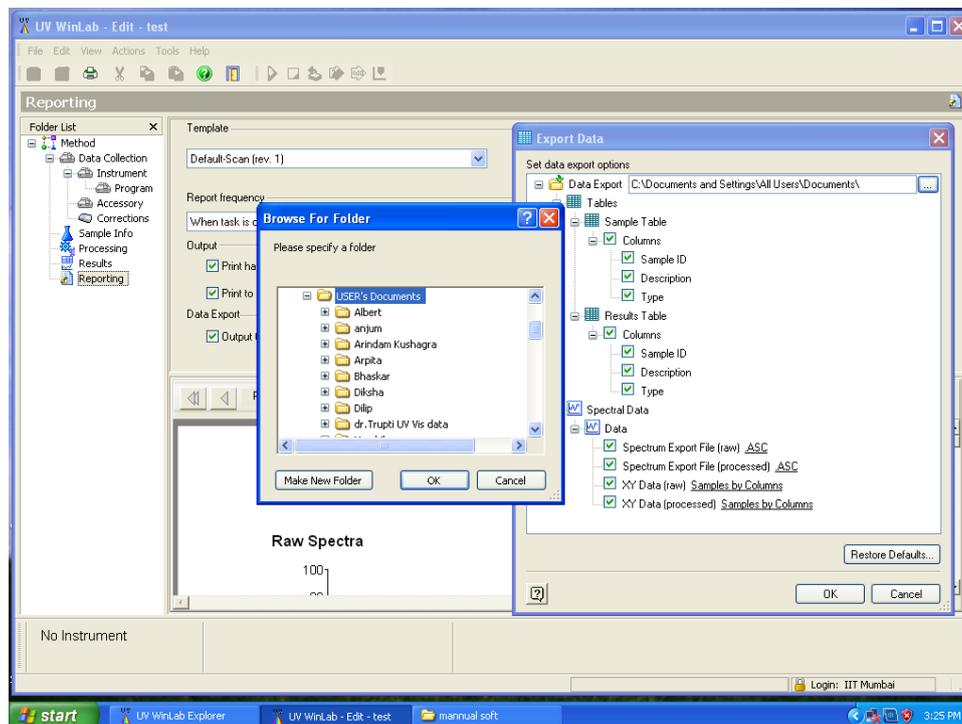
20. Your software is now ready.

21. Load your reference sample on both the sample and reference compartment. Make sure you sample is fully covering the slit window.

22. Now click RUN, which is located on the top- middle of the software window. You will now get a pop-up message "Remove Sample and press OK to perform a 100% T/0A correction (Autozero)". Click OK to proceed with the experiment. Once the Auto correction is done, replace the reference sample in the SAMPLE compartment with your first sample. And do not remove your reference sample in the REFERNCE compartment. Please do not remove your sample from the compartment unless prompted by the software. After running all your sample, there will be a pop-up message saying "All sample have been run", then press OK.

23. Close this page by click the 'X' (located on top-right corner). Now you will be prompted to save your method. Press YES, and then click save in the following Pop-up. Your page will now close.

24. Now switch off the PC monitor and CPU, followed by switching OFF the system by pressing the button located on the top-right corner of the system.

25. Now switch off power supply button, and the AC before you leave.

CALIBRATION PROCEDURE (for reflectance mode only)

A. Place your reflectance apparatus carefully on the SAMPLE compartment by replacing the SAMPLE holder. And then place the Aluminium mirror on top of the reflectance apparatus

B. Now click 'Instrument', to find LAMBDA 750 on the right side of the page

C. Right click 'LAMBDA 750', and click 'Manual Control' to get page 'UV WinLab – Manual Control'
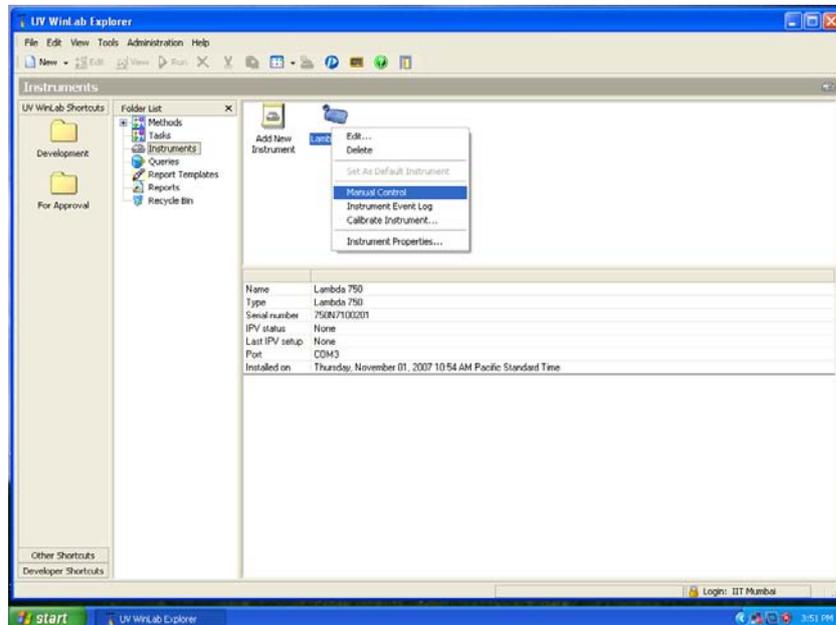
D. Tick 'Alignment mode' and press APPLY (Before pressing APPLY, cover the detector lens with paper)
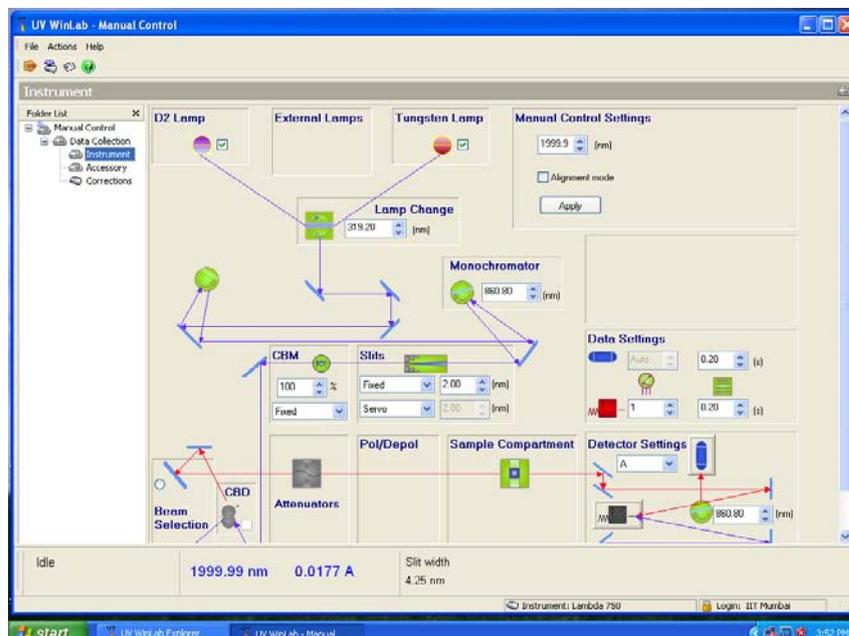
E. You can see light beam following on the detector lens. Calibrate the light beam so that it enters detector lens, and no light should fall on the wall of the chamber.

F. Once the calibration is successful, UNTICK the 'Alignment mode' in the software and press APPLY.

G. Now close the page and continue from Step 8