**Standard Operating Procedure: UV/VIS/NIR Spectrometer (Lambda 1050)**

**Last Updated: 10/27/2016 by Bryan Paulus**

PerkinElmer Lambda 1050 General Operation Description:

1. When starting, only the Lambda 1050 may be plugged into the two outlets along the west wall. Flip the toggle switch on top of the instrument to turn the instrument on and place the "Shut down computer program before turning off" sign over the power toggle.
2. Once the instrument is on, the computer may be plugged in and turned on.
3. Allow the instrument to warm up for at least 20 minutes before use.
4. While starting up the computer, you will be prompted for a password. Currently, there is no password so hitting the enter key will bring you to the desktop.
5. On the desktop screen, double click the PerkinElmer UV WinLab shortcut to begin. A PerkinElmer Login screen will pop up and ask you to select your username from a list of usernames. If you do not have a username, one can be created for you by first selecting the "Administrator" username and selecting the "Setup Users and Groups…" link under the Administration tab at the top of the window.
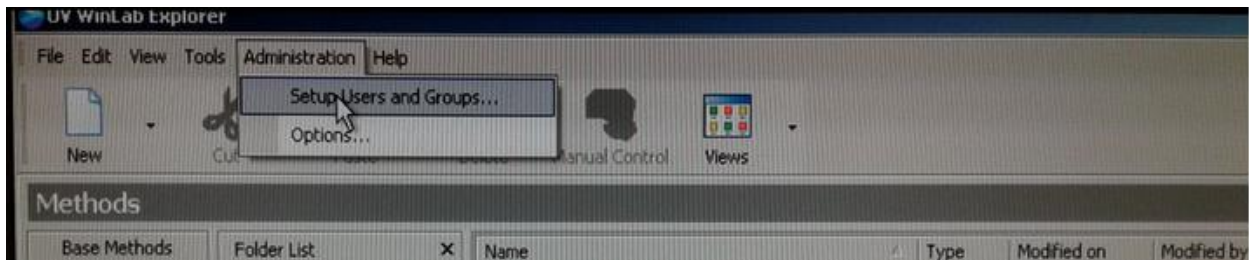
6. Once logged in under the desired username, select an instrument method. If this is your first time using the instrument, select "Scan PE".
7. After selecting "Scan PE" you will be brought to the sample info screen. This is where you will input the number of samples you wish to run. You may also select the type of sample (Blank, Control, or Sample), type a small sample description, or change the Sample ID.
8. Click "Data Collection" under the folder list on the left hand side of the screen. This screen allows you to note and change several data collection parameters such as the data interval and wavelength range as well as wavelengths at which there is a lamp or detector change. Change these to meet the needs of your experiment (note that the instrument can measure up to 3300 nm). The data collection speed is dependent on the wavelength range and interval. If you expect to use your newly input settings in the future, you can save your method now by clicking "File" → "Save Settings" → "As New Method".
9. When ready to continue, select the orange start button at the top of the screen. You will be prompted to remove samples to perform a 100%T or 0A correction. Remove any samples from the instrument, close the lid and press OK.

10. Once complete you will be prompted to insert your sample. The Lambda 1050 is a double pass instrument and has a cuvette holder for both a blank and a sample. Place the blank in the holder nearest to the center of the instrument and the sample in the holder nearest to the front of the instrument. Close lid and hit OK to acquire a scan.
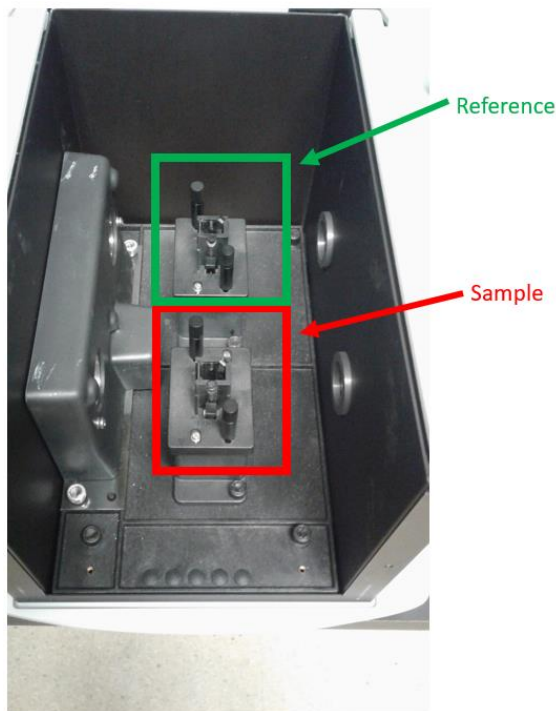
11. When all samples have been run you can save the results in either of two ways:
    a. File→Save Results→To Task
    b. File→Export
        i. select Spectrum Export File (raw) and
        ii. XY Data (raw)
12. Close out of UV WinLab software.
13. Shut down Lambda 1050 and computer.
14. Unplug computer from outlet.

Personal Protective Equipment:

Safety glasses, gloves (when handling blank and sample—gloves should not touch computer) and lab coat.

Hazards:

Solvents and samples could be dangerous to you.

Cuvettes could break and provide sharp objects.

Waste Disposal:

Dispose of solvent blank and sample solution in appropriate waste container(s).

Material Safety Data Sheets:

Call the ORCBS (355-0153) or see lab copy for sample in question if available.