UV-VIS Spectrophotometer
Brief user manual

SAFETY INFORMATION - The UV-VIS spectrophotometer is designed for safe and efficient operation when used properly and in accordance with this manual. Failure to observe the following precautions could result in serious personal injury:

- Do not open the sample compartment during initialization.
- **Do not open the sample compartment during baseline correction. Auto zero and sampling measuring mode.**
- Before placing the cuvettes/films in the sample holder clean the outer surface of the cuvettes with tissue paper.
- **Do not hold the cuvettes from their transparent optical surface.**
- Operate the instrument after proper initialization.
- **Don't use without proper training.**

Operation:-

1. Before operation ensure that the instrument is clean.
2. Turn ON the main power of the spectrophotometer and the computer connected with the spectrophotometer. And allow to warm up for 15 minutes.
3. Login with your net ID and password.
4. UV Probe software is commonly installed to operate the UV VIS spectrophotometer. Start the Cary Win UV software.
5. Wait for 5 minutes for the proper stabilization and illumination of the UV lamp before operation.
6. Do not interrupt the initialization procedure it is important as it performs the checks for the functioning of all instrumental parameters each parameter will be highlighted which functions normally as the initialization proceeds and if

any parameters are not functioning normally and the initialization will stop automatically.

Setup Data Collection and Instrument Parameters

1. Click the Setup button or choose Setup from the Menu line to display the 'Setup' dialog box.
2. In the 'Wavelength' field, enter the relevant wavelength. Range scans from high to low.
3. Set the speed of the data collection by setting the 'Ave. Time' and 'Data Interval'.
   - The Data Interval is the wavelength increment between data points.
   - The 'Scan Rate' will automatically update when selected.
   - In the 'Ave. (averaging) Time' field, enter the required value. A good starting point is 0.1 seconds.
4. In the 'SBW' field, enter the required spectral bandwidth. Unless your method specified another value, use the maximum setting of 2 nm.
5. Select the ordinate mode you require.
   a. Click 'Abs' to specify absorbance mode or '%T' to specify percent transmittance.
   b. Enter an upper and lower range value in the 'Y min.' and 'Y max.' fields
   c. Select 'Min.' or 'Sec.' to set the abscissa (X).
6. Set up lamp (Setup > Options):
   a. Select Auto lamps off to automatically turn off the lamps at the end of the collection.
   b. Click the UV/Vis button to use both lamps.
   c. Enter the wavelength at which you would like the source lamp to change from UV to the visible lamp. The recommended changeover is 350 nm for lamps with a UV cutoff.
   d. Under 'Beam Mode', select double beam.
7. Set up display options (Setup > Options) :
   a. Under 'Display Options', select 'Individual Data' to display the collected data of each sample in individual graph boxes, or
   b. Choose 'Overlay Data' to superimpose the collected data of each sample in the Scan run in one graph box.

- **Set up baseline correction (Setup > Baseline)**

a. Select Baseline Correction to perform a baseline correction on each sample data point.

8. Ensure no accessories are selected (Setup > Accessories)
9. Set up reporting and printing requirements (Setup > Reports)
10. Set up storage of collected data (Setup > Auto Store)
11. Finish setup.
12. After scanning, remove the samples and clean the compartment.
13. Switch off the main power supply.

MAINTENANCE & CLEANING:

1. Handle the instrument carefully.
2. When an instrument is not in use switch off the instrument from the mains.
3. **Before switching off the mains, always remember to switch off the lamps.**
4. Clean the cuvettes after every analysis, wash the cuvettes several times with purified water and then rinse with acetone, dry and store in the box.
5. Clean the outer surface of the instrument.