Agilent Cary Eclipse Spectrometer Operating Instructions

082123MB01

> **For urgent problems please report to Matt Burleson, AP 346, mburleson@wcu.edu, x2239!***

Power On and Setup

1. Turn on the Cary by pressing the on/off toggle switch on the front of the instrument to **On**. Make sure the light under the Agilent logo illuminates. The instrument will take several minutes to warm up and perform a self-test; some clicking and motor noises are normal. Once finished, a beep can be heard and the light should now be green. **Allow the lamp to warm up for 15 minutes.**
2. Open the software by clicking the **Scan** shortcut on the Desktop.
3. Ensure the instrument has had a chance to come online by checking to see that the menu bar says "*Scan - Online*" (NOT "Scan - Offline"). If the instrument is not yet online wait a few minutes for it to finish warming up.
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5. Click the **Setup** button in the upper left corner of the Scan software. The Setup popup will default to "Cary." The "Cary" tab allows the user to set the instrument up for their measurement.
6. Select the Data mode appropriate for the measurement by clicking the dropdown arrow beside "Data mode." You can set up the instrument to perform a fluorescence, phosphorescence or luminescence scan. The following procedure is for a fluorescence scan.
7. Choose the appropriate "Scan setup" option for data collection.
    i. Excitation will perform an excitation (absorption) scan.
    ii. Emission will perform an emission scan.
    iii. Synchronous will scan the excitation and emission monochromators synchronously with a fixed delta (a real number that may be zero) between both monochromators. The option to specify the delta becomes available when a synchronous scan is selected.
8. To set the X-axis data display, click the dropdown arrow by "X Mode." You have the options of angstroms, wavelength, wavenumber and electron volts. This option is **NOT** available if a synchronous scan has been selected.
9. Adjust the excitation wavelength according to the lambda max of your sample.
10. Adjust the starting and stopping wavelength of the scan appropriately. You have the option to adjust the slit width of each monochromator, but five (5) is the default.
11. Under "Scan control", select the appropriate scan speed. Medium is the default.
12. Click **OK** to save your settings.

Performing A Measurement

1. Insert your sample (a cuvette in this case) by sliding the top cover back, and inserting it into the holder. Close the lid once the sample has been loaded.
2. Click the **Zero** button to set the current reading to zero.
3. Click the **Start** button (green traffic light) and choose a Sample Name for the first sample you would like to run and click **OK**. The instrument will begin scanning through the wavelength range selected; to stop it, press the **Stop** button (stop sign).
4. To analyze another sample, click "Start" after loading it in the instrument, and enter a new name and click **OK.**

Saving and Exporting Data

1. Once the collection has stopped, data can be saved by clicking "File" followed by "Save As…"
2. Find your folder within the directory, and change the "Files of type" to "Spreadsheet Ascii (*.CSV)."
3. Click "Save" to export your data.

Shutdown

1. Make sure any data you wish to save has been saved and/or moved to Xenon.
2. Click the **X** to close the program, as with any Windows program.
3. Switch the toggle switch on the front of the instrument to the **Off** position.