Jasco FP-6500 Spectrofluorimeter

Updated November 14, 2017

Instrument instructions can be found at:

http://academic.bowdoin.edu/chemistry/resources/instructions.shtml

4. Sensitivity (voltage going to the PMT) ó uxctv́y kj "ŏNqy 0ƅ

5. Excitation WL or Emission WL ó Excitation WL (wavelength used to excite sample: 200.0 to 900.0). Emission WL (Em detecting wavelength: 200.0 to 900.0).

6. Start óWavelength where the scan will start.

7. End ó Wavelength where the scan will stop.

8. Data Pitch (resolution) ó

h.

7. Normalize ó If you have two or more spectra on the same graph, this will normalize the scale.
    iv. Peak Mark ó There are several options on this menu. A bar is a line that is displayed at the top of the peak. A data number is a value displayed at the top of a peak. X and Y data are the values for where the peak is located. There are several combinations to choose from.
    v. Property ó adjust how the Result box is displayed.
    vi. Legend- inserts a legend for your spectrum/spectra.
    vii. Information ó displays a big box with all the information about your spectrum, including any processing that has been done.
    viii. Result ó lets you choose to display the results from the processing that has been done on the spectrum. Only one result can be displayed per graph and spectrum. If you want to display more than one result, you will have to draw another graph, insert the spectrum, and then display those results.
    ix. Once you are done, you can save the file, print the file, or save the template. Saving the template is useful because future spectra can be opened (or dragged) into the template and the information will be displayed the same. You still have to process the spectrum (in Spectra Analysis) if you want the result boxes to contain information.

5. How do I run a fixed wavelength measurement?

a. **In Spectra Manager on the Measurement side, double click on "Fixed Wavelength Measurement".**
b. **Open parameters** (Measurement > Parameters).
    i. Enter values for Bandwidth, Response and Sensitivity.
    ii. In the Wavelength section, select either Excitation, Emission, or Free.
        1. Excitation ó excite at up to four different wavelengths using only one emission wavelength.
        2. Emission ó excite at one wavelength using up to four different emission wavelengths.
        3. Free ó use four different wavelengths for excitation and emission. Each excitation wavelength will use the emission wavelength that is entered directly across from it in the table.
c. **Autozero** (Measurement > Autozero).
d. **Run a blank** (Measurement > Blank).
e. **Run sample** (Measurement > Sample).
f. **Save data** (Data > Save As).
    i. Ucxg"cu"õEUX"'gz vö0"'Kf"{ qw'gzr qtv'y ku"to Excel, select commas as the type of delimiters.

6. How do I run a 3D Spectrum?

a. **In Spectra Manager on the Measurement side, double click on "3D Fluorescence Measurement".**
b. **Open parameters** (Measurement > Parameters).
c. **If you don't know what range to scan, do a full scan, but don't collect a lot of detail.** You can follow these parameters as guidelines (a scan with these parameters will take abut 20 minutes).

Note: Collecting a UV/Vis spectrum will be useful in narrowing down the Ex scanning range.

Note: These parameters are just guidelines, be aware that your sample may not excite or emit in these ranges.

   i.   Measurement mode ó Emission (this will increment the Ex and show the Em spectrum).
  ii.   Bandwidth Ex & Em ó 5 nm
 iii.   Response ó 0.1 sec
  iv.   Sensitivity ó low
   v.   Ex Scanning Range ó 220 nm to 600 nm
  vi.   Em Scanning Range ó 230 nm to 600 nm

i. **Em Search View** (Graph > Em Search View).
    i. This program will find the maximum intensity for Ex and Em. This is the best program to use to quickly analyze 3D spectra.

Jasco Quick Guide

1. Power on the Jasco (switch on front right of Jasco)
2. Write name and sample information on log sheet
3. Log into PC and create a folder with your name within the **C:\Jasco Data** folder (data in this folder is regularly backed up to microwave)
4. Open **Spectra Manager** and then **Spectrum Measurement Program**
5. Enter parameters under **Measurement** tab
    a. List of general parameters, autosave (make sure data is getting sent to the correct folder), and properties
6. Load sample, open **EX shutter**, start run
7. After spectrum is collected, **Analyzer window** will open. **Find Peaks** under **Processing**
8. Perform spectrum corrections if necessary.

To Shut Down:

1. Close both shutters via the **Spectrum Measurement** program.
2. Remove sample
3. Go to **Environment** in **Spectra Manager** and select **Hardware Setting**
    a. Turn **OFF** Xe lamp
4. Close **Spectra Manager** and log off the PC
5. Power off the Jasco after letting the fans cool for about ten minutes