Fluorescence Spectroscopy

Fluorolog Operations.

- 1. Turn on the Host Computer, Dell Optiplex GX620
- 2. Windows opening Screen
- 3. Select FluoroEsssence



4. Opening Screen for FluoroEsssence Window



Excitation Calibration Check

- 5. Close the lid of the Sample compartment
- 6. On the main FluoroEsssence toolbar, select the Experiment Menu

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System initialization screen.

7.Click on next

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The Fluorescence Main Experiment Menu

8. Select Spectra



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9. Choose Excitation then click on Next.

11. Choose the default parameters or adjust to-

Monochromator	initial wavelength	Final wavelength	Increment	Slit
(bandpass)				
(1200 groove / n	m)			
Excitation	200 nm	600 nm	1 nm	1 nm
Emission	350 nm	-	-	1 nm

Default detector parameters for xenon-lamp scan

Detector (Signal)	Integration	Units
Signal (SI)	100 ms	CPS
Reference (RI)	100 ms	mA

Click on Run Fluorescence Division - Experiment Setup (Spectral Acquisition[Excitation]) Experiment General information-Experiment File M Directory C:\Program Files\Jobin Yvon\Data 🗀 Load 🛛 🔚 Save 📕 Save As .. DfltSpectralExcitation.xml Data Storage DfltEx Data Identifier: Spectral Acquisition[Excitation] Comment: 8 Experiment Type Monos Excitation 1 Activate 🔲 Park 💿 Set as Reference Wavelength Start End Inc nm 200 600 1 N Slit nm 1 Emission 1 Activate Wavelength Park 350 nm Slit 1 nm Status ? M 🔊 6 RTC <u>B</u>un Eull Disclosure <u>H</u>elp Cancel Spectral Acquisition[Excitation] Triggers 🧉 🙆 😒 📲 Flurolog_Operations. 🕵 🧐 🤔 🎦 4:40 PM 🛃 start EluorEssence - C: Pro

The Fluorolog will do an excitation scan on the xenon lamp.



After the scan is complete, the computer will prompt for a file name

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The screen will display the uncalibrated FluoroMax lamp spectrum.

The main peak should be at 467 nm.

Use the data reader to inspect the signal.

You can grab the bottom right corner of the spectra to enlarge the graph.



If the main peak is 467 +/- 1 then proceed to calibrate the emission.

If not then you must proceed to calibrate the excitation

monochromator.

Go to the instruction manual for this procedure.

Emission Calibration

Insert water sample in to the compartment.

Close the lid and select the FluoroEsssence key in the toolbar



Choose Spectra



Select Emission and then Next



Choose the default parameters for the water-Raman scan:

Monochromator parameters for the water-Raman scan: Monochromator initial wavelength Final wavelength Increment Slit (bandpass) (1200 groove / nm) Excitation 350nm - - 5 nm Emission 365nm 450nm 1 nm 5 nm

Default detector parameters for xenon-lamp scan

Detector (Signal)	Integration	Units
Signal (SI)	100 m <i>s</i>	CPS
Reference (RI)	100 ms	mA

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Experiment	General information
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Click on Run



After the scan the screen will display the spectrum and you can use the data reader to inspect the wavelength max.



If the water-Raman peak is not at 397 nm, calibrate the emission monochromator.

Refer to the instrument lab manual for this procedure.

If everything checks, you are now ready to use the instrument for your experiment.