Perkin Elmer Luminescence Spectrometer LS50B
FL-WinLab Instruction Manual V3 is saved on desktop in .pdf format as well as this SOP

Computer:
Username: rafail
Password: magnit

Turning ON the Instrument:

The LS50B luminescence spectrometer has a toggle button on the left side towards the back of the instrument. Turn on before starting software.

The Username and PW for the spectrometer computer will be given on a need to know basis by asking the Chemistry dept. secretary.
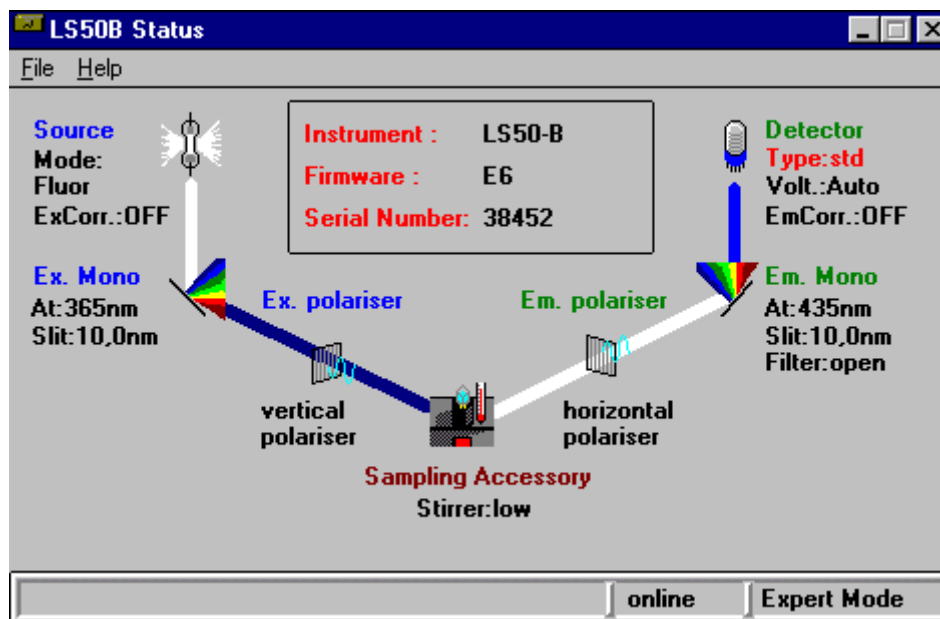
Running the Instrument:

Login to the computer and open the FL-WinLab program

The LS-50B spectrometer has a 4-position stirred cell changer and requires 1.0 cm path length cells. Unlike conventional UV-VIS instruments, the LS50B requires that cells be transparent on all 4 sides.

To view the Instrument status and also access the sampling tray, in the task bar, choose [Application] and then click [Status]. A new window will show that status of the current system.


The page displays a schematic of the LS-50B optical system with icons representing the individual components. The current status of the instrument is described by the text next to the icons. The instrument type, the firmware revision and the serial number of the instrument are also displayed. The colors of the beams between each icon in the optical schematic are an approximate indication of the wavelength. In Expert Mode the setup of the instrument can be modified by clicking on the related icon.

Sample Tray is accessed by choosing the "Sampling accessory" feature under XXX

Data Acquisition:

In the menu of the "Methods" window select [Application] → [Scan}. A new "Scan" dialogue box opens
1. In the FL WinLab window open the **Application** menu: and click on **scan**:
2. Select the scan mode (**single**, 3D, kinetic, accumulation) from the large toolbar icons.
3. Select the scan type (Excitation, Emission, Synchronous or Prescan), enter the parameters on each page of the application. Use the tabs to move between pages.
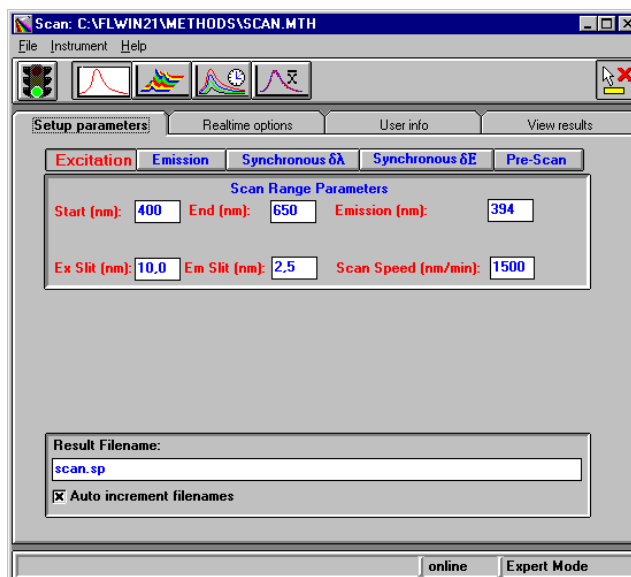
The Scan dialogue box allows the user to define the parameters (by clicking "Setup Parameters" tab) of the scan as well as view the results (by clicking "View Results" tab) of a scan.
      For an emission scan click on the "Emission" button and enter the following
        parameters:

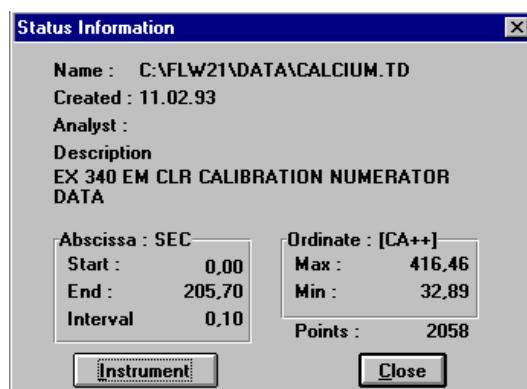|		
Start: 340	End: 480	Emission: 388
Ex Slit: 5	Em Slit: 2.5	Scan Speed: 50
Filename:		

4. Click on the green traffic light (**Start / Stop** button) to start.
5. Use the icons in the toolbar to format the graphic display.
6. To exit the application, open the **File** menu and click on **Exit**.
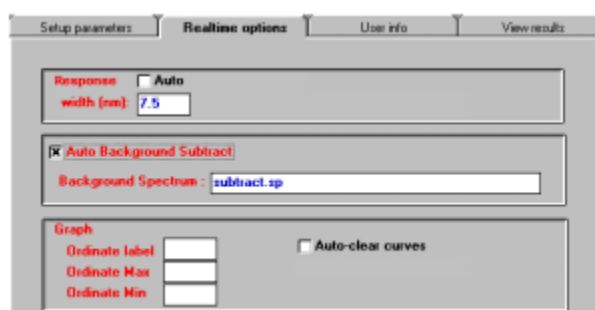
Upon completion of the scan make note of the name assigned to the spectrum, found at the bottom of the "View Results" tab.

Dataset Status Information; Click on the grey button next to a dataset´s name:

Status Information

Name :   C:\FLW21\DATA\CALCIUM.TD
Created : 11.02.93
Analyst :
Description
EX 340 EM CLR CALIBRATION NUMERATOR
DATA

Abscissa : SEC
Start :   0,00
End :   205,70
Interval   0,10

Ordinate : [CA++]
Max :   416,46
Min :   32,89
Points :   2058

[Instrument]   [Close]

Background Spectrum: Double click on the Background spectrum box in **Realtime Options**:

Setup parameters | Realtime options | User info | View results

Response ☐ Auto
width (nm): 7.5

☒ Auto Background Subtract
Background Spectrum : subtract.sp

Graph
Ordinate label
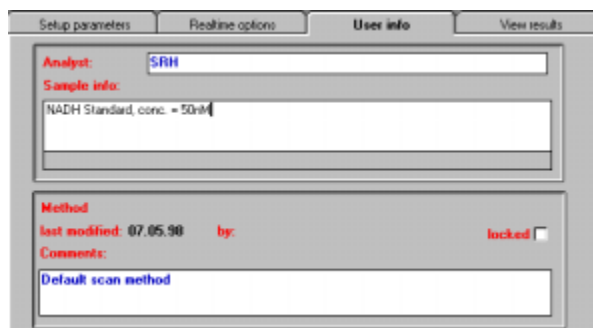Ordinate Max
Ordinate Min
☐ Auto-clear curves

a window will appear for selection of the background spectrum. Double click on the required File name in the file name box or enter the required file name and click the OK button. If the data type or wavelength range of the file in the background spectrum textbox is incompatible with the desired scan range an appropriate error message will appear on **starting** the scan. The name of the background spectrum is stored in the header of the
Data et in the "FL MEMO" field.

Realtime Options:

     Analyst-This textbox contains the name of the current analyst. The name is automatically taken from the benchtop´s configuration dialog, but can be altered for documentation purposes. The name is saved in the dataset header.

     Sample info-The information entered in this textbox is stored in the dataset header. The first line of the information is stored in the "comment" field of the header, which is displayed in all graph windows. The complete information is stored in the "FL memo.

Setup parameters | Realtime options | User info | View results

Analyst: SRH
Sample info:
NADH Standard, conc. = 50nM

Method
last modified: 07.05.98   by: locked ☐
Comments:
Default scan method

Processing data:

Used to show and edit spectral curves via the View menu commands. The graph window Graph1 appears automatically when the benchtop is started. To display another graph window, use the New Graph window command in the View menu.
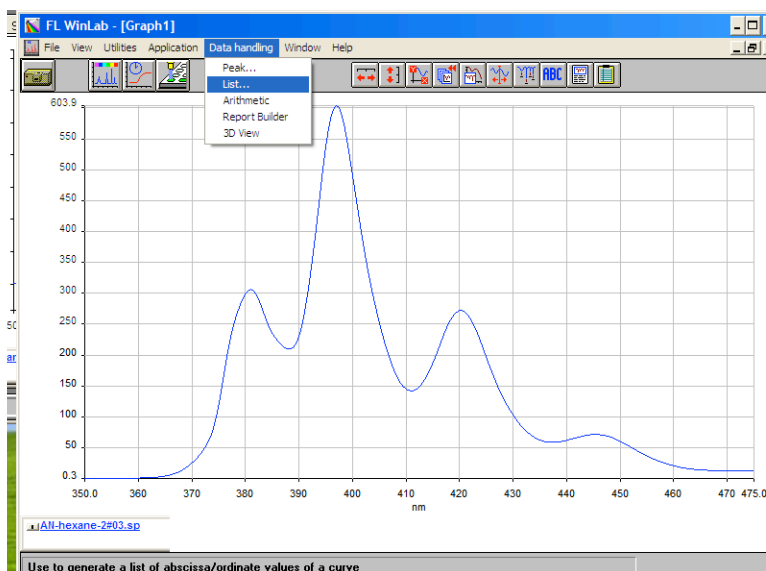
In order to process fluorescence spectra in Excel format, click on the FL WinLab [Graph] tab and in the task bar choose [Data handling] then [List…]. A list of wavelengths verses intensity is given. These can be copied and pasted in Excel to make your own spectra.

Plotting Options:

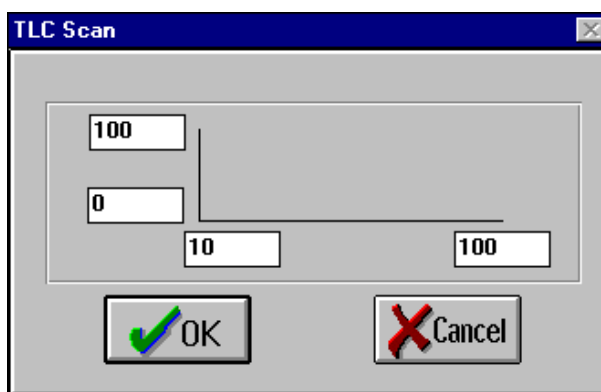*Auto-expansion of X-axis*   *Auto-expansion of Y-axis*

Format graph ranges Click on this button to open a window for the manual formatting of abscissa and ordinate ranges:


Copy to clipboard   Click on the button to transfer a bitmap of the graph window into the windows clipboard for copying into word processors, graphics packages or spreadsheets for report generation.

Label Peaks Use to label the maxima and minima of the selected curves in the active Graph window. While zooming repeatedly, the labels may shift but always show the correct values.
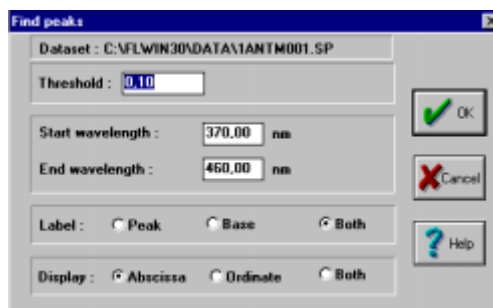
Threshold: Defines the sensitivity of peak detection: If a peak height is less than the threshold, it is not identified. The threshold is the difference in ordinate units between the peak and the bases on either side of it.

Results window is a part of the application window. It appears automatically when you start the List or Peak command. The window displays numerical results in a table. You can copy these results to other programs via the MS Windows clipboard: Select the text you want to copy and in the File menu, select Copy to Clipboard.
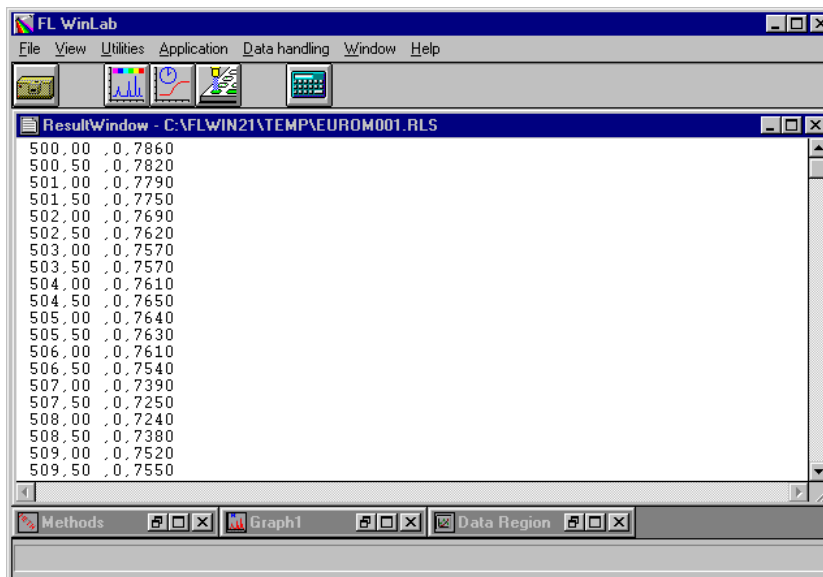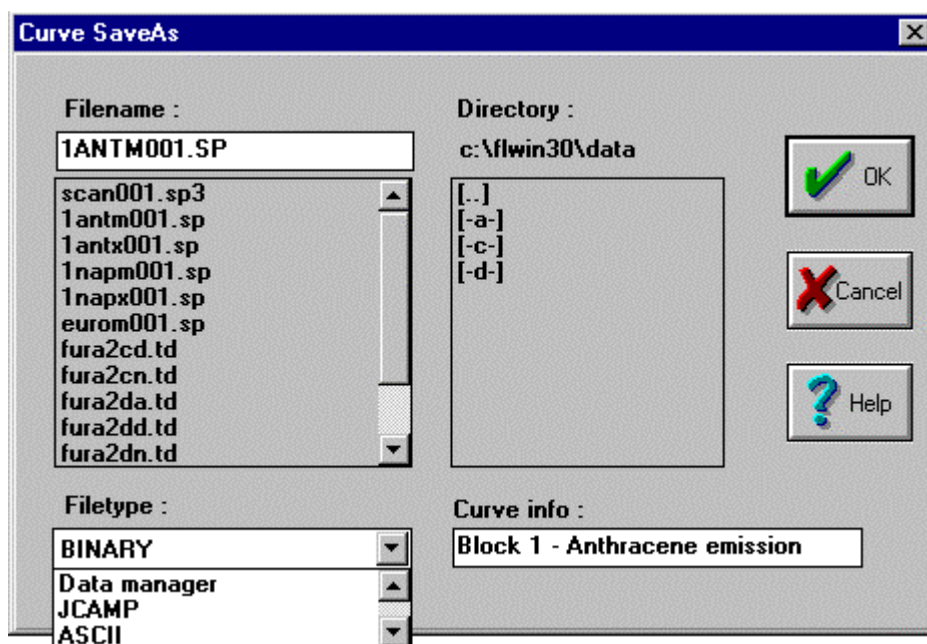
Procedure for Saving Data:

In the "FL WinLab" window select [File]➔[open], and then select your spectra to be saved and click "OK".

This opens the spectra in a new window titled "Graph 1" and now the data can be saved as a text file:
     a) Click File➔Save As➔select file to be saved.
     b) Change the file extension to ".txt".
     c) Change file type to "ASCII".
     d) Select "OK".

Curve SaveAs   ☒

Filename :

`1ANTM001.SP`

```
scan001.sp3
1antm001.sp
1antx001.sp
1napm001.sp
1napx001.sp
eurom001.sp
fura2cd.td
fura2cn.td
fura2da.td
fura2dd.td
fura2dn.td
```

Directory :

`c:\flwin30\data`

```
[..]
[-a-]
[-c-]
[-d-]
```

✔ OK

✗ Cancel

❓ Help

Filetype :

`BINARY`

```
Data manager
JCAMP
ASCII
```

Curve info :

`Block 1 - Anthracene emission`

The files can then be found in c:\ → FL WinLab → Data.