PLQY Calculator

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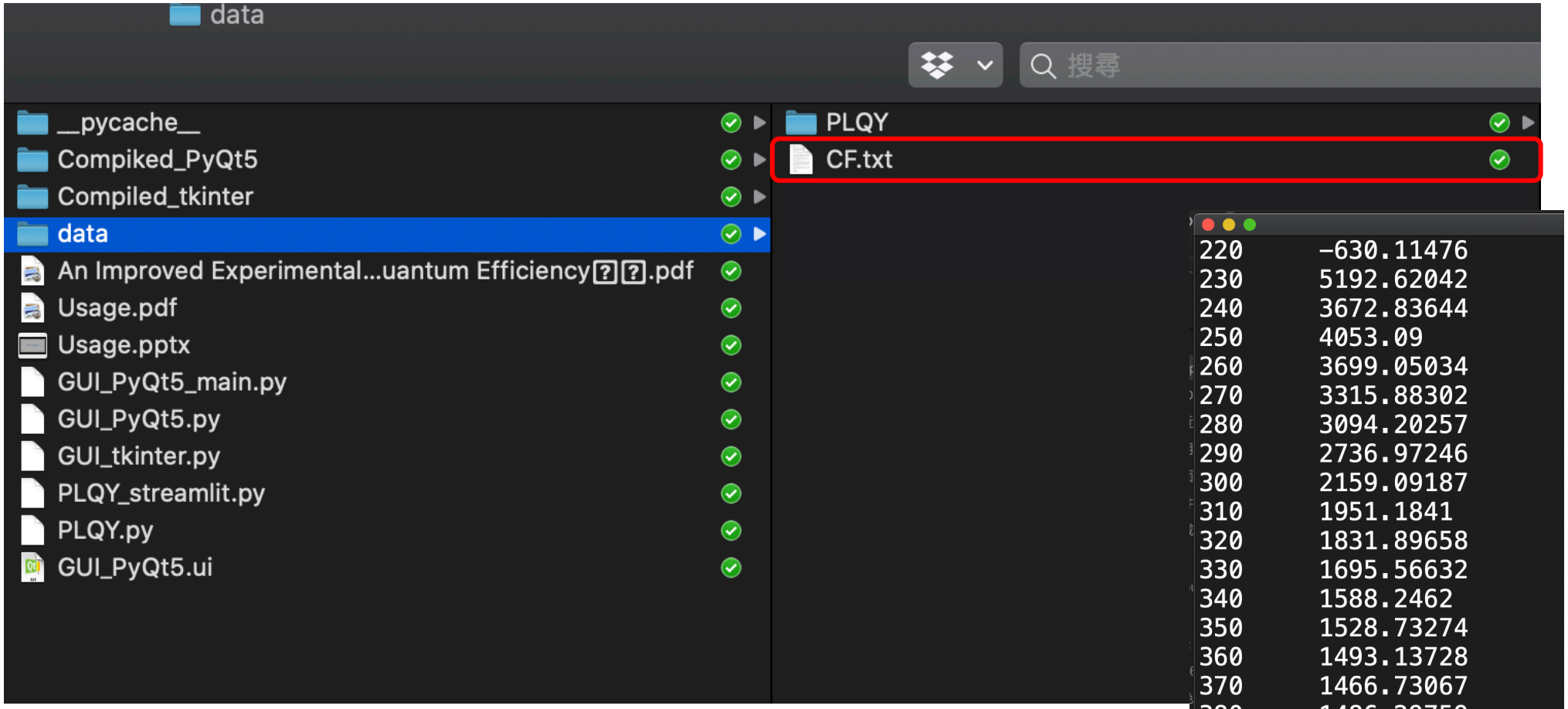
Calibration File (necessary)

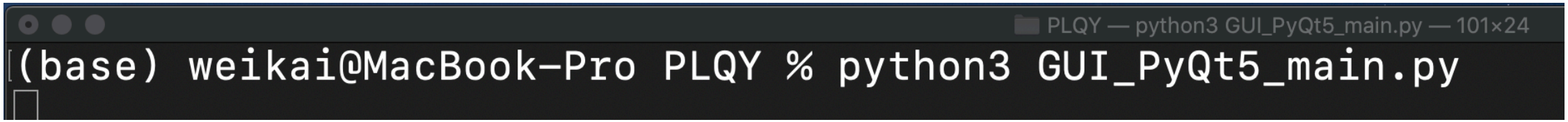


real intensity = measured intensity X calibration factor

PyQt5 or tkinter

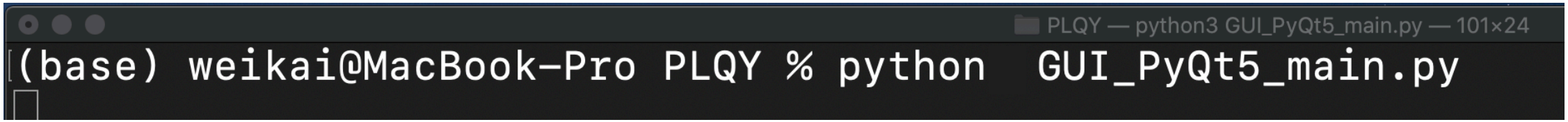
How to execute the GUI (PyQt5 or tkinter)

For mac/linux



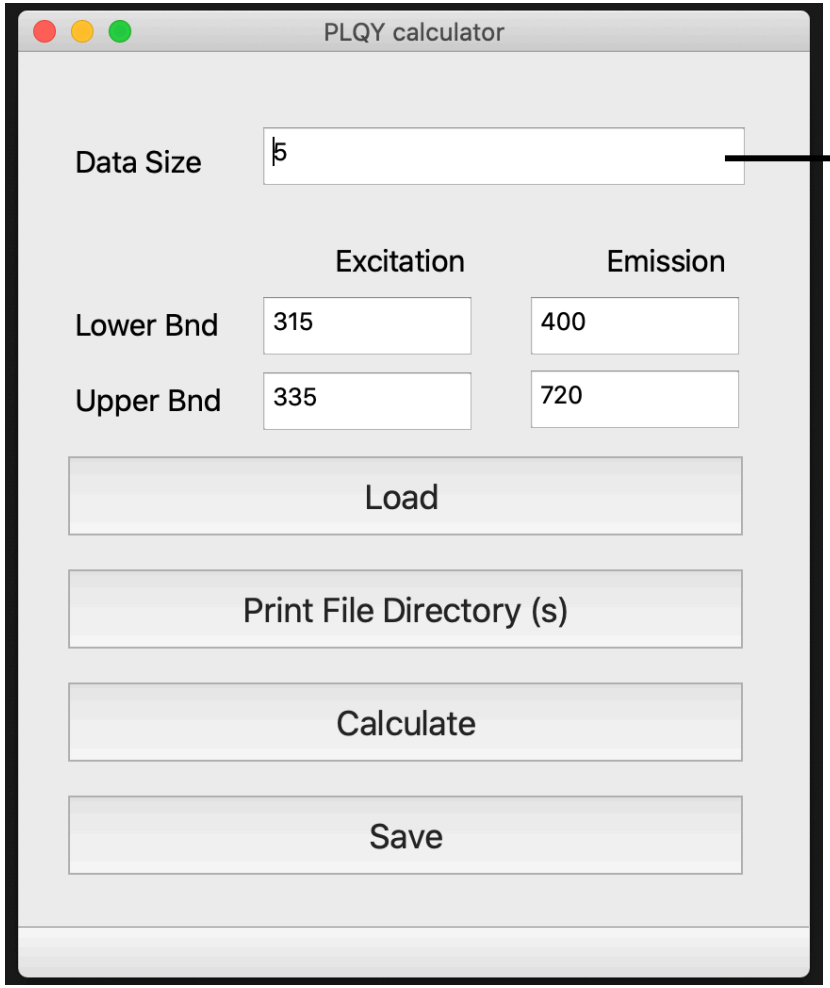
or “GUI_tkinter.py”

For windows



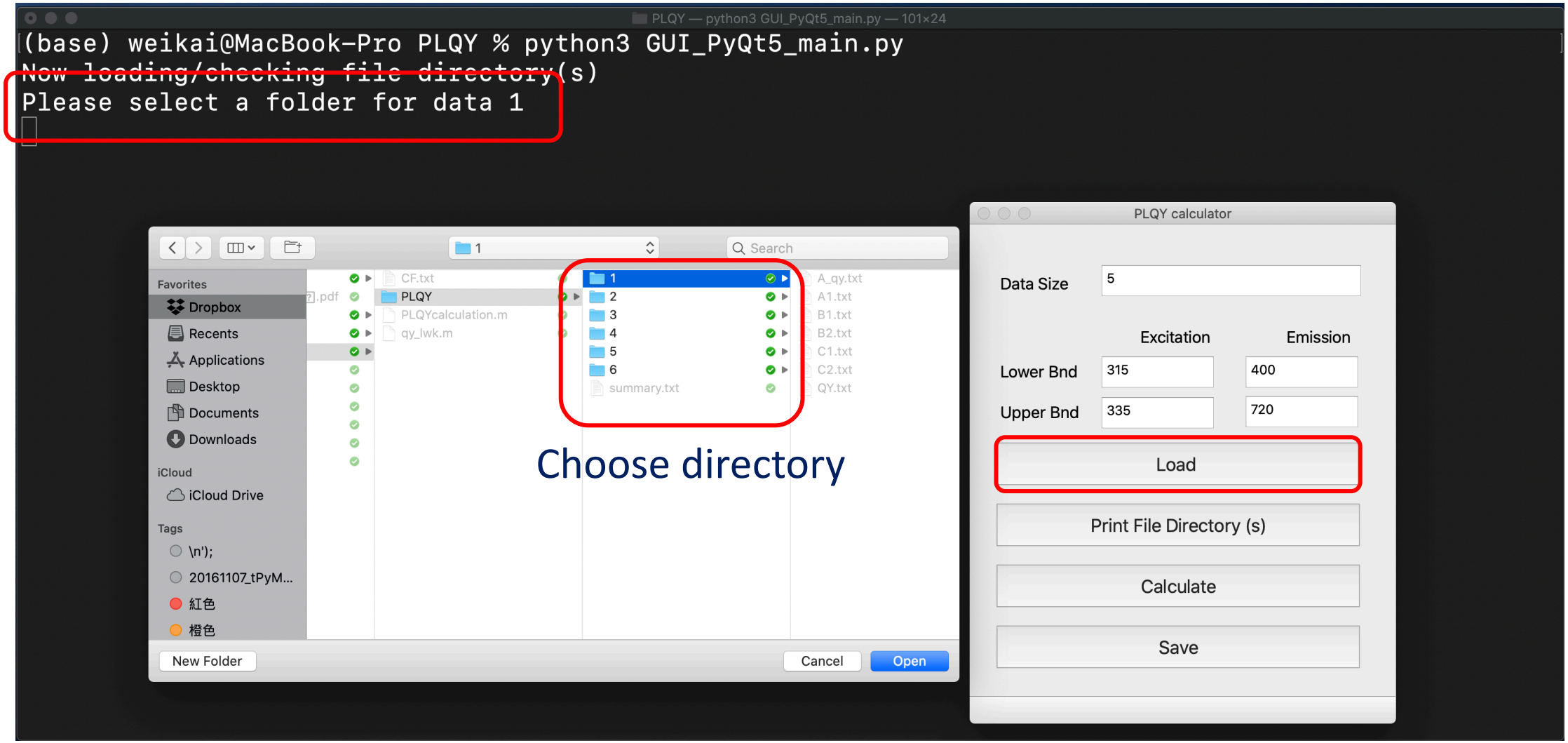
or “GUI_tkinter.py”

GUI (PyQt5 or tkinter)

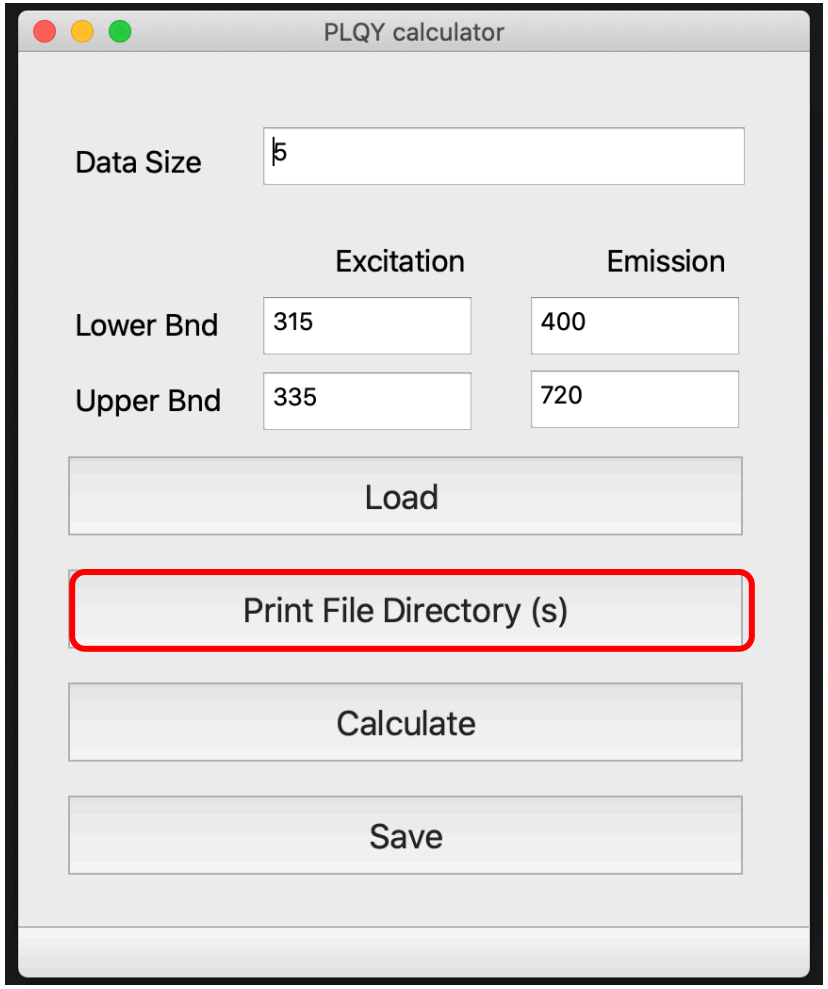


Number of measured data

Load Data (PyQt5 or tkinter)

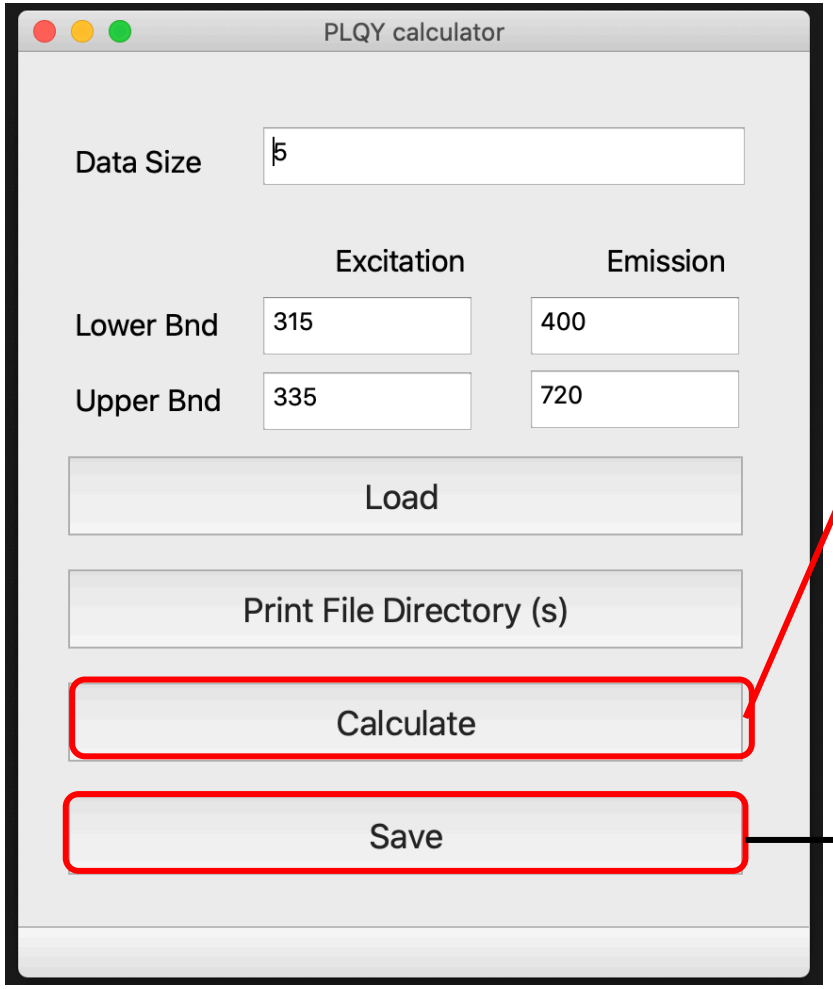


After Loading (PyQt5 or tkinter)




```
Directory for data set 1 : /Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/1
Directory for data set 2 : /Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/2
Directory for data set 3 : /Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/3
Directory for data set 4 : /Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/4
Directory for data set 5 : /Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/5
```

Calculation (PyQt5 or tkinter)




```
Now calculating the absorption and the PLQY.
                | LowerBound UpperBound
=======================================
     Excitation |    315.000    335.000
       Emission |    400.000    720.000



========================== Summary ==========================
  Absorption :    64.6%   64.9%   65.3%   64.7%   66.0%
         Ave. :    65.1%          Std. :     0.5%
Quantum Yield :    93.4%   90.8%   92.6%   92.9%   90.1%
         Ave. :    92.0%          Std. :     1.3%
```

Save summary

streamlit

How to execute the GUI (streamlit)

```
(base) weikai@MacBook-Pro PLQY % streamlit run PLQY_streamlit.py

  You can now view your Streamlit app in your browser.

  Local URL: http://localhost:8501
  Network URL: http://192.168.1.11:8501
```

GUI

PLQY Calculator

This is a calculator to calculate PLQY proposed by prof. Richard H. Friend et. al.

Ref: https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.19970090308

Measurement Condition

A1 : ***activation*** light wavelength range when there is ***no sample*** in the integrating sphere

B1 : ***activation*** light wavelength range when sample is in the sphere but light ***does not*** hit on the sample

B2 : ***emission*** light wavelength range when sample is in the sphere but light ***does not*** hit on the sample

C1 : ***activation*** light wavelength range when sample is in the sphere and light hits on the sample

C2 : ***emission*** light wavelength range when sample is in the sphere and light hits on the sample

Step 1: Load Data

Step 1 : Load Data (Maximum Data Size : 6)

defualt directory : /Users/weikai/Dropbox/PythonModule/PLQY

Insert Data Directory

/Users/weikai/Dropbox/PythonModule/PLQY

File A1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File B1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File C1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File B2.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File C2.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

Insert Data Directory

/Users/weikai/Dropbox/PythonModule/PLQY

File A1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File B1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File C1.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

File B2.txt is not in /Users/weikai/Dropbox/PythonModule/PLQY.

No data in the specified directory.

Step 1: Load Data

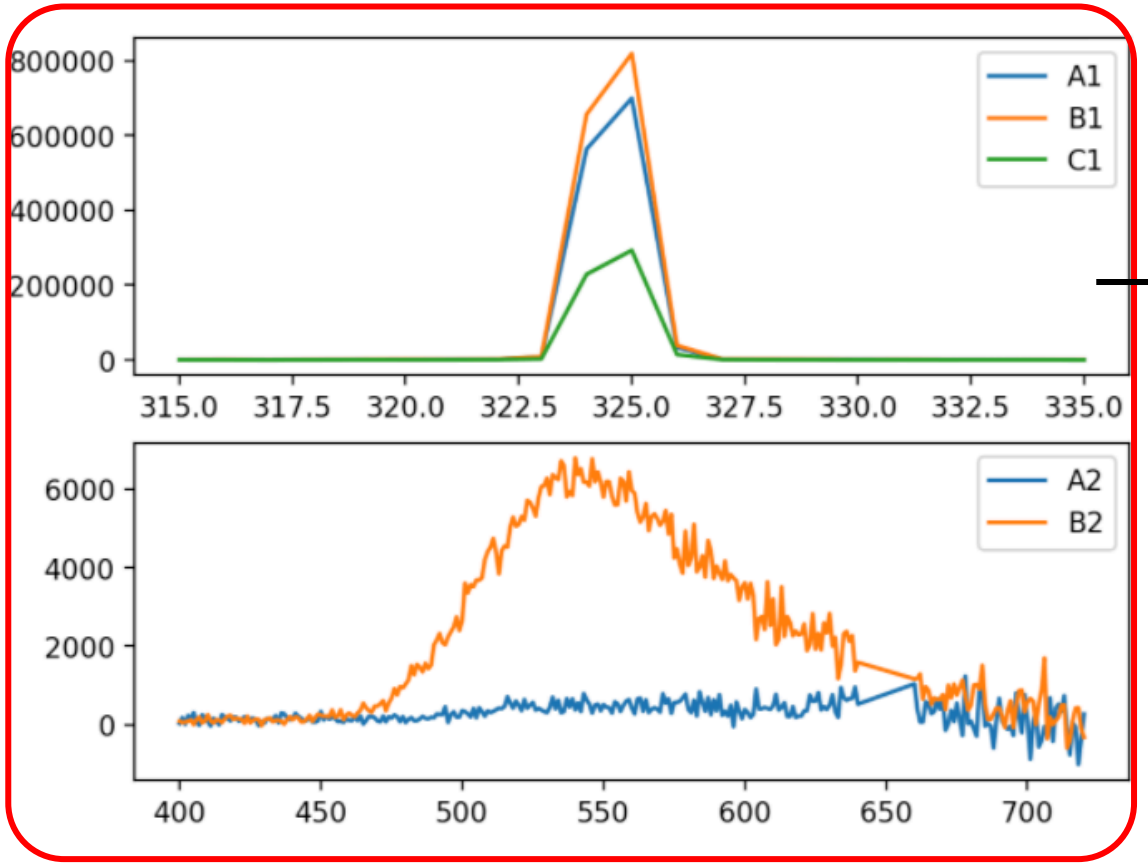
Step 1 : Load Data (Maximum Data Size : 6)

defualt directory : /Users/weikai/Dropbox/PythonModule/PLQY

Insert Data Directory

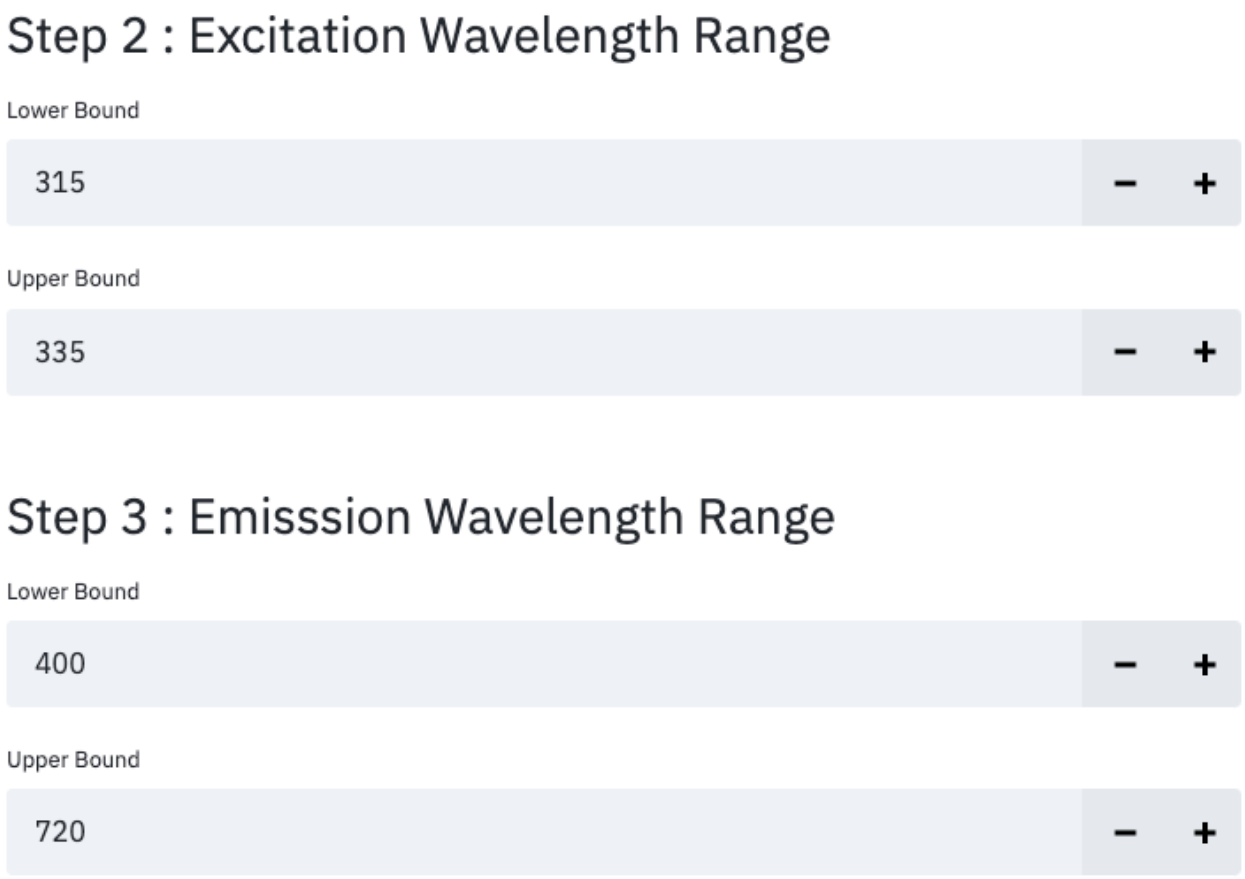
/Users/weikai/Dropbox/PythonModule/PLQY/data/PLQY/1

Insert the path of data



Measured data

Step 2~3: Set Excitation/Emission Range



Step 4: Calculate PLQY

Step 4 : Calculate PLQY

Calculate

Data:

	Absorption (%)	PLQY (%)
0	64.5941	93.3865
1	64.8790	90.8430
2	65.2705	[illegible]
3	64.7492	92.9342
4	65.9743	90.0557

64.5941

Statistics:

	Absorption (%)	PLQY (%)
Average	65.0934	91.9602
Standard Deviation	0.4942	1.2841

Terminate Streamlit