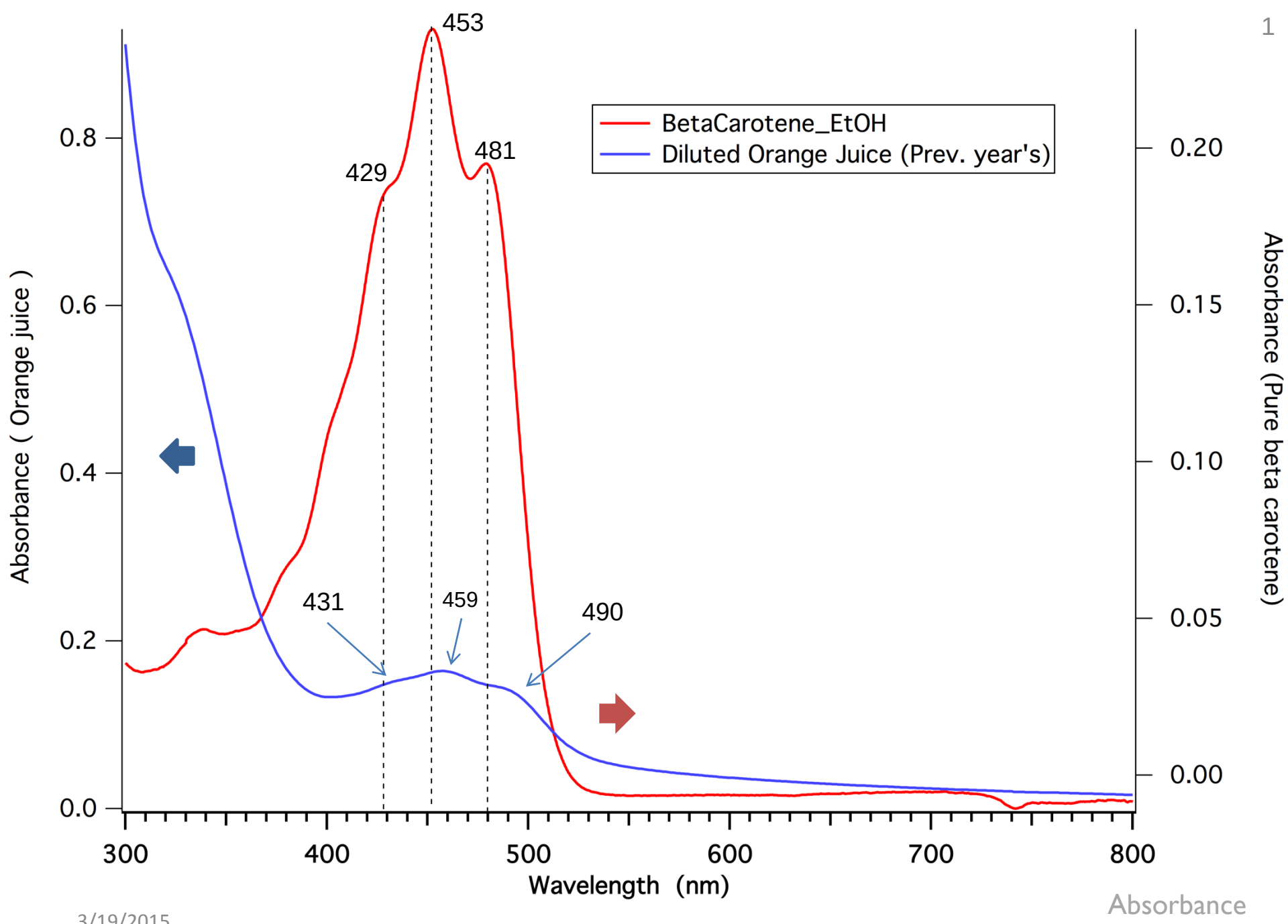

453
481
429
431
459
490
BetaCarotene_EtOH
Diluted Orange Juice (Prev. year's)
Absorbance (Orange juice)
Absorbance (Pure beta carotene)
Wavelength (nm)
0.0
0.2
0.4
0.6
0.8
0.00
0.05
0.10
0.15
0.20
300
400
500
600
700
800

Absorbance

Using Beer Lambert Law to find concentration in unknown sample (orange juice):

$$A = \epsilon c l$$

Pure Beta Carotene (97% pure) in ethanol

Concentration (after twice dilution) = ~ $2.6 * 10^{-6}$ M
Absorbance *(at 453 nm)* = 0.23801
Path length = 1.00 cm
ε = unknown

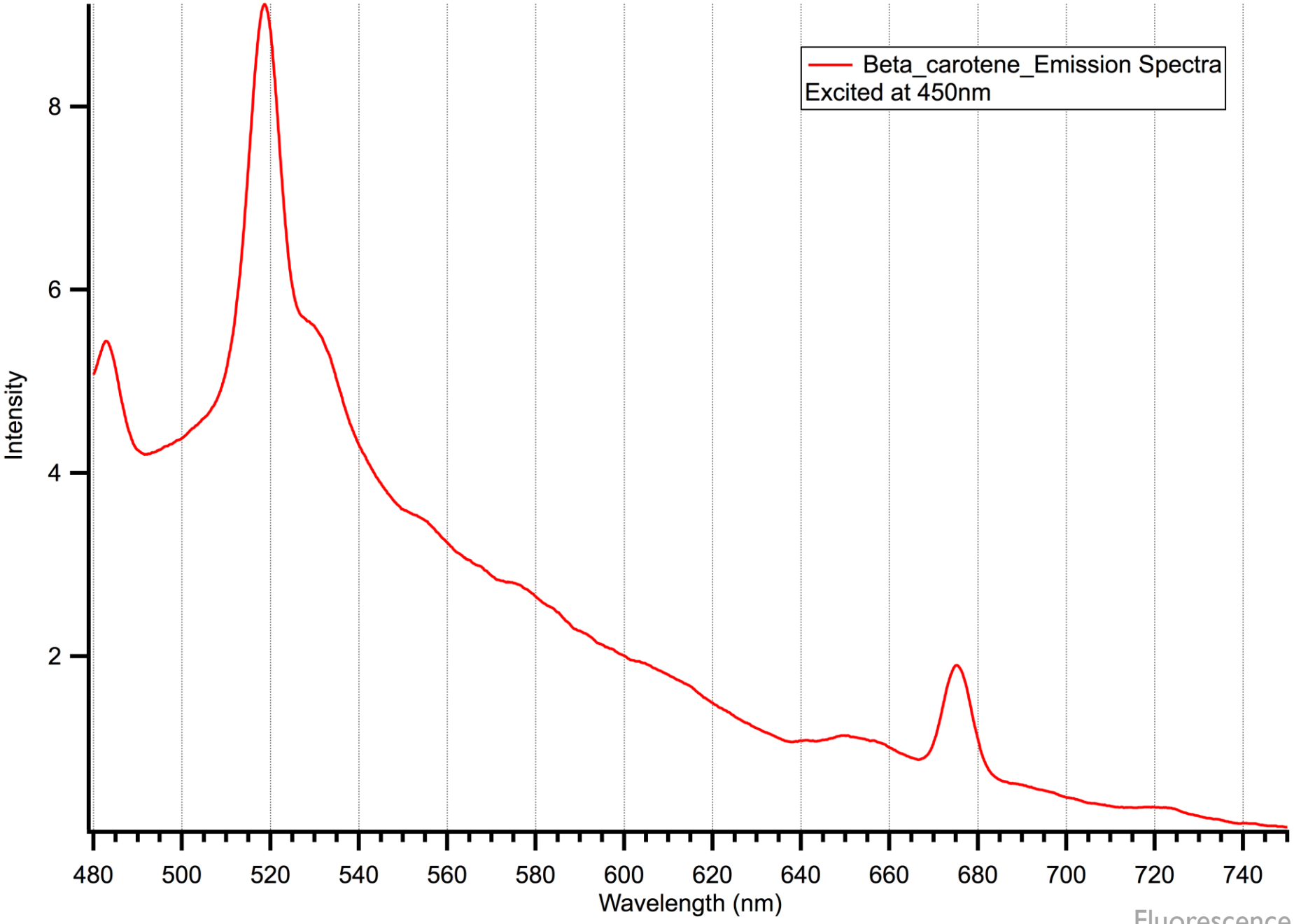
ε = ~ 92000 $M^{-1}cm^{-1}$

Orange juice (previous year's measurement)

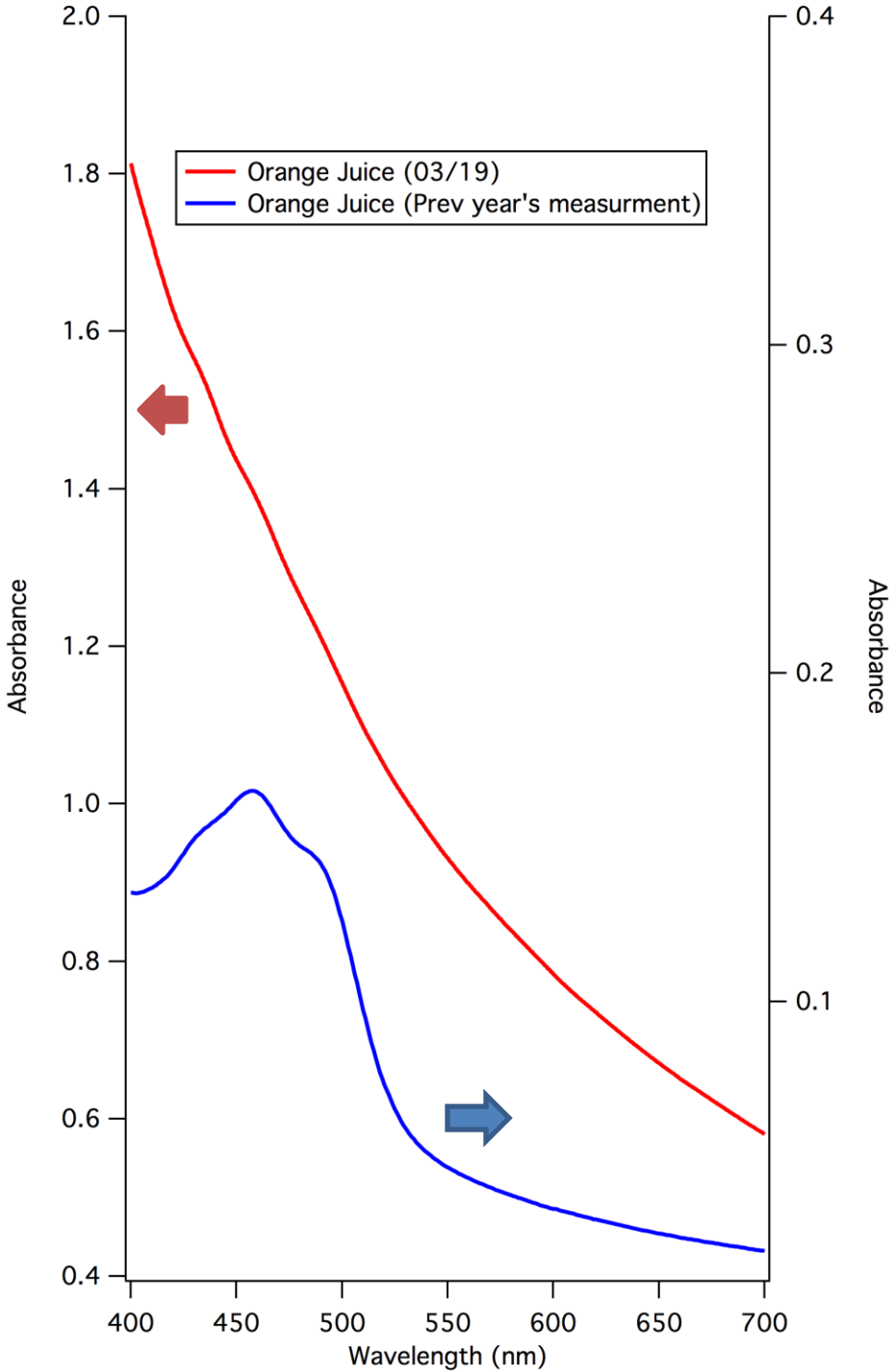
Absorbance *(at 459 nm)* = 0.19514
Path length = 1.00cm
c=unknown

Concentration = (A / ε * l)

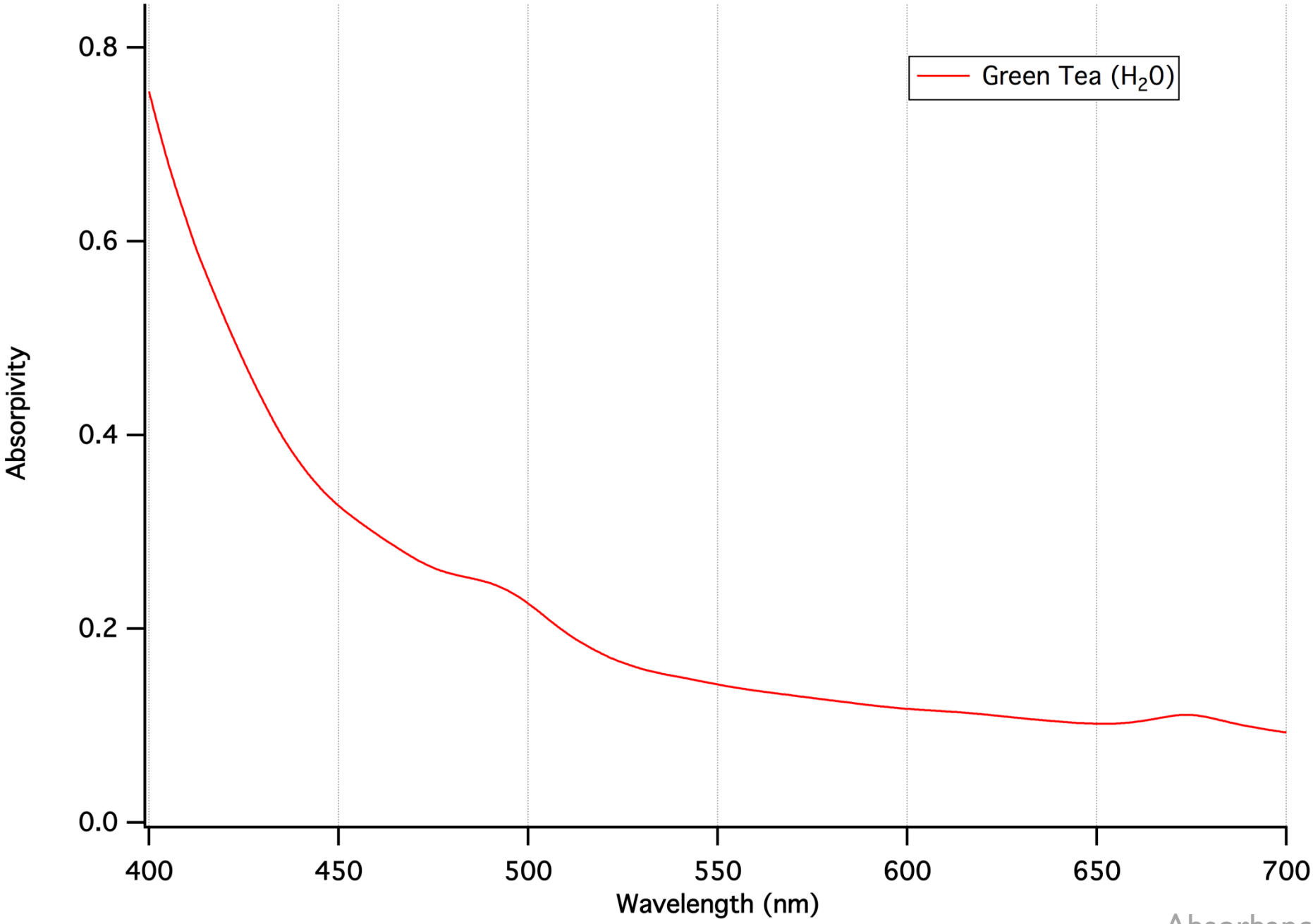
Concentration (of Beta-carotene in Orange juice) = ~ **$2.12 * 10^{-06}$ M**



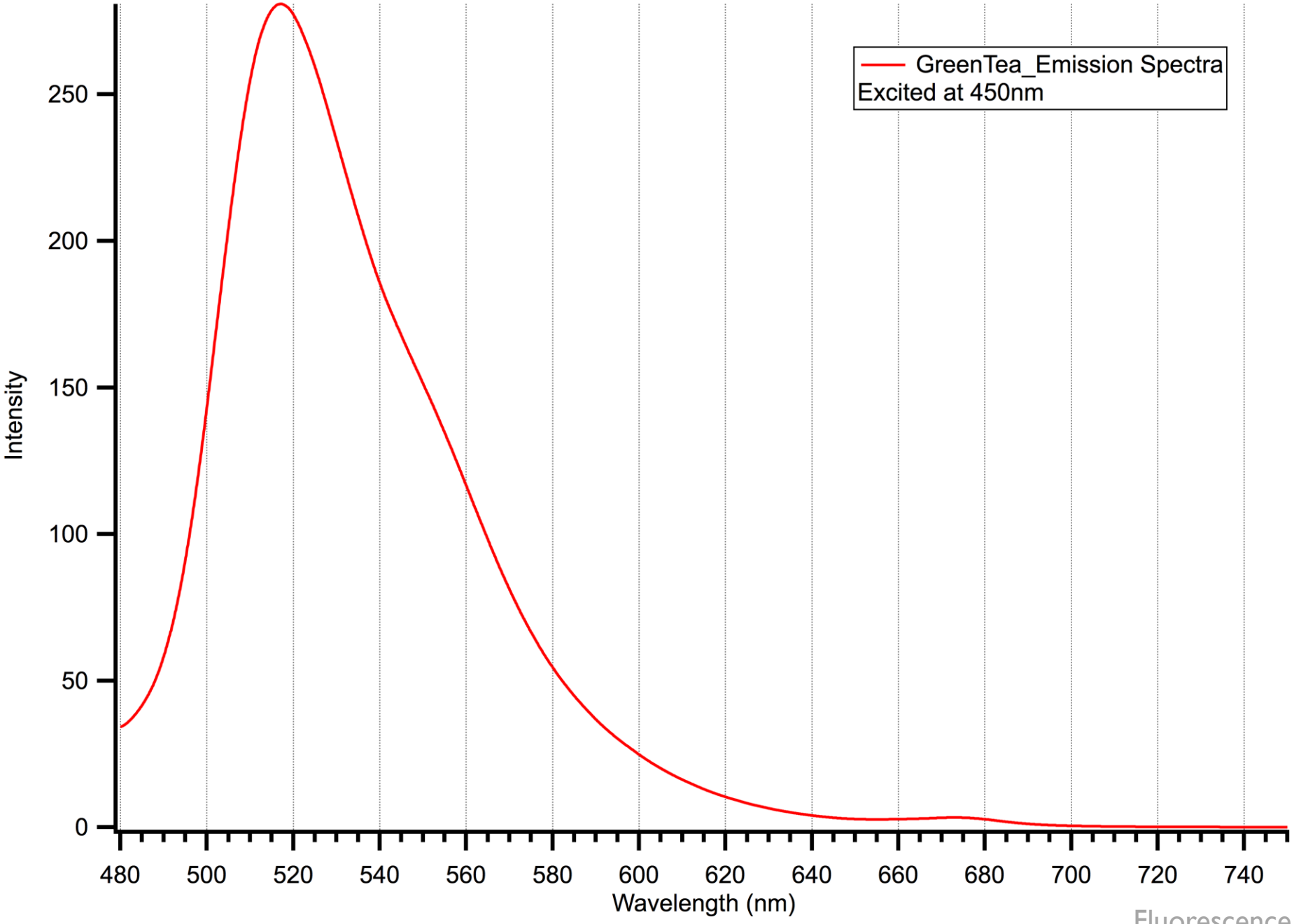
Fluorescence

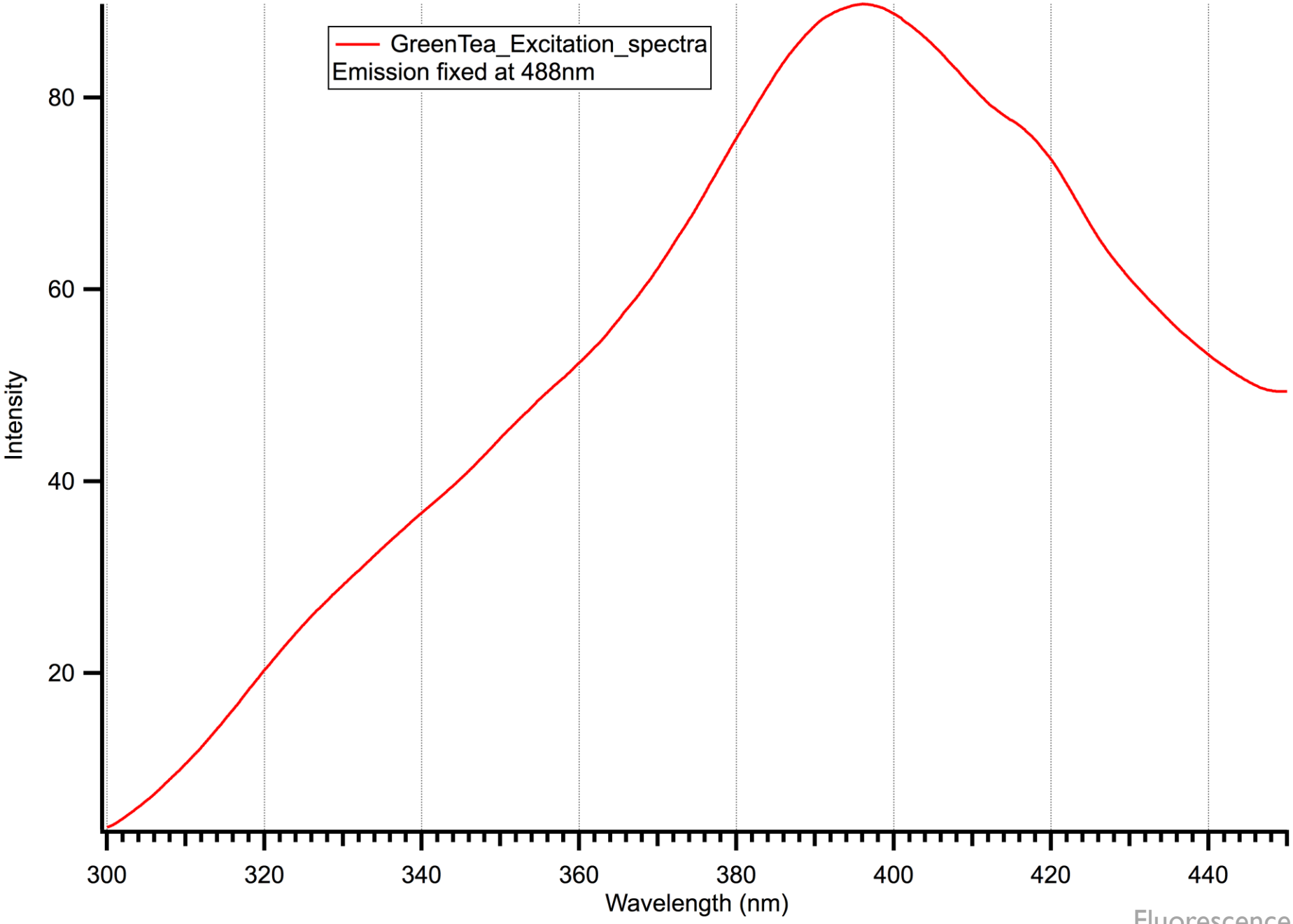

Orange Juice (03/19)
Orange Juice (Prev year's measurment)
Absorbance
Absorbance
Wavelength (nm)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.4
0.3
0.2
0.1
400
450
500
550
600
650
700

Absorbance

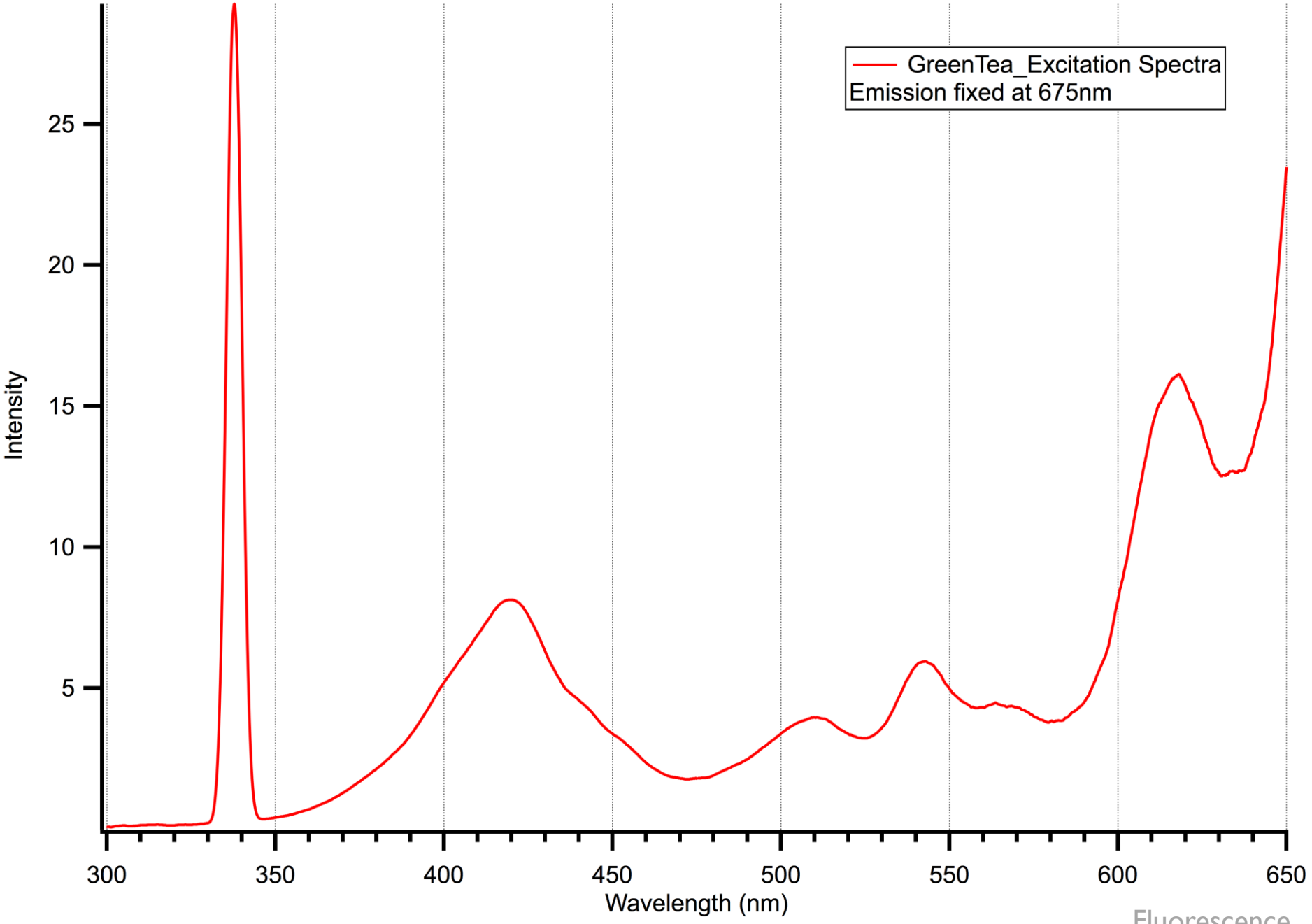

Green Tea (H_2O)
Absorpivity
0.0
0.2
0.4
0.6
0.8
400
450
500
550
600
650
700
Wavelength (nm)

Absorbance

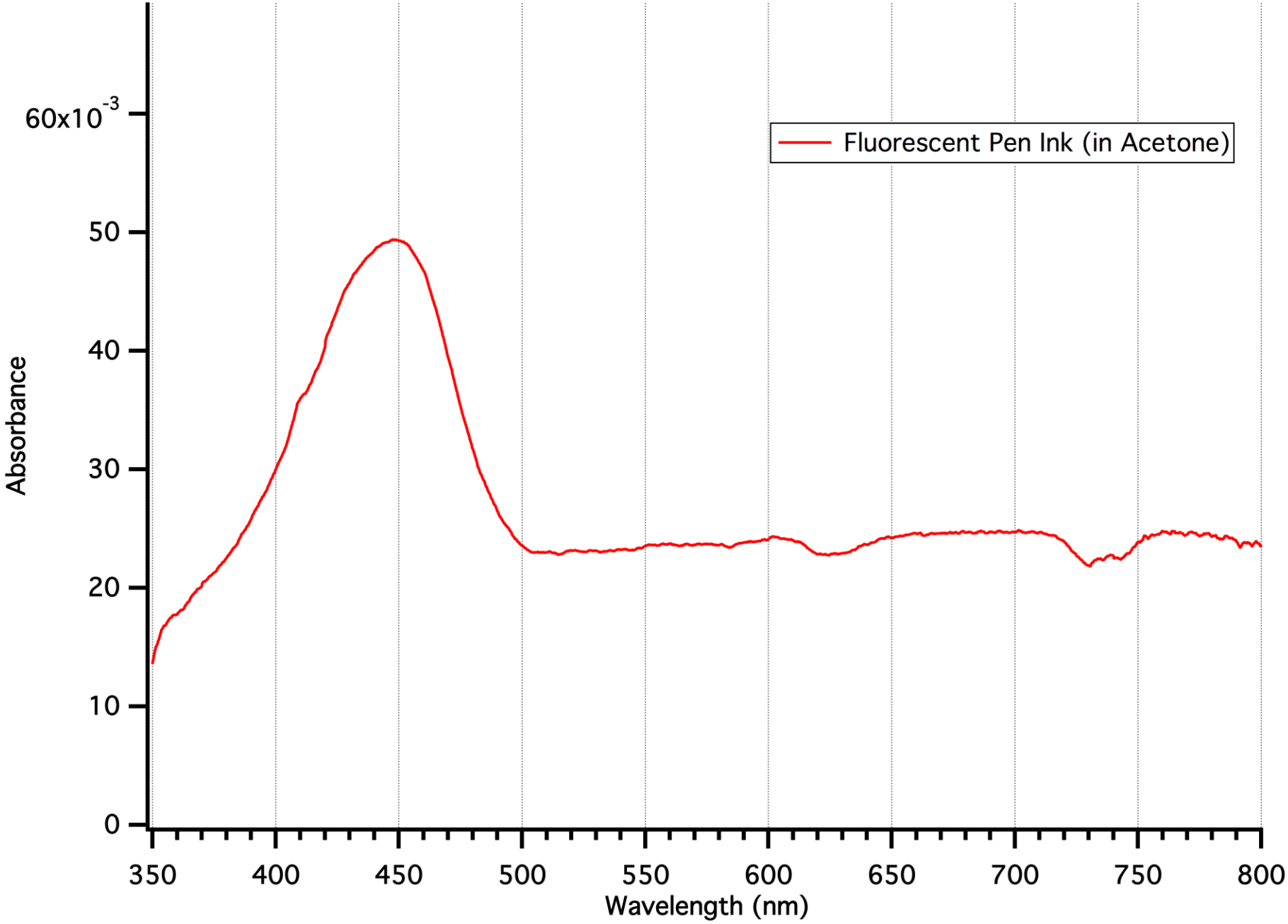

GreenTea_Emission Spectra
Excited at 450nm
Intensity
0
50
100
150
200
250
480
500
520
540
560
580
600
620
640
660
680
700
720
740
Wavelength (nm)

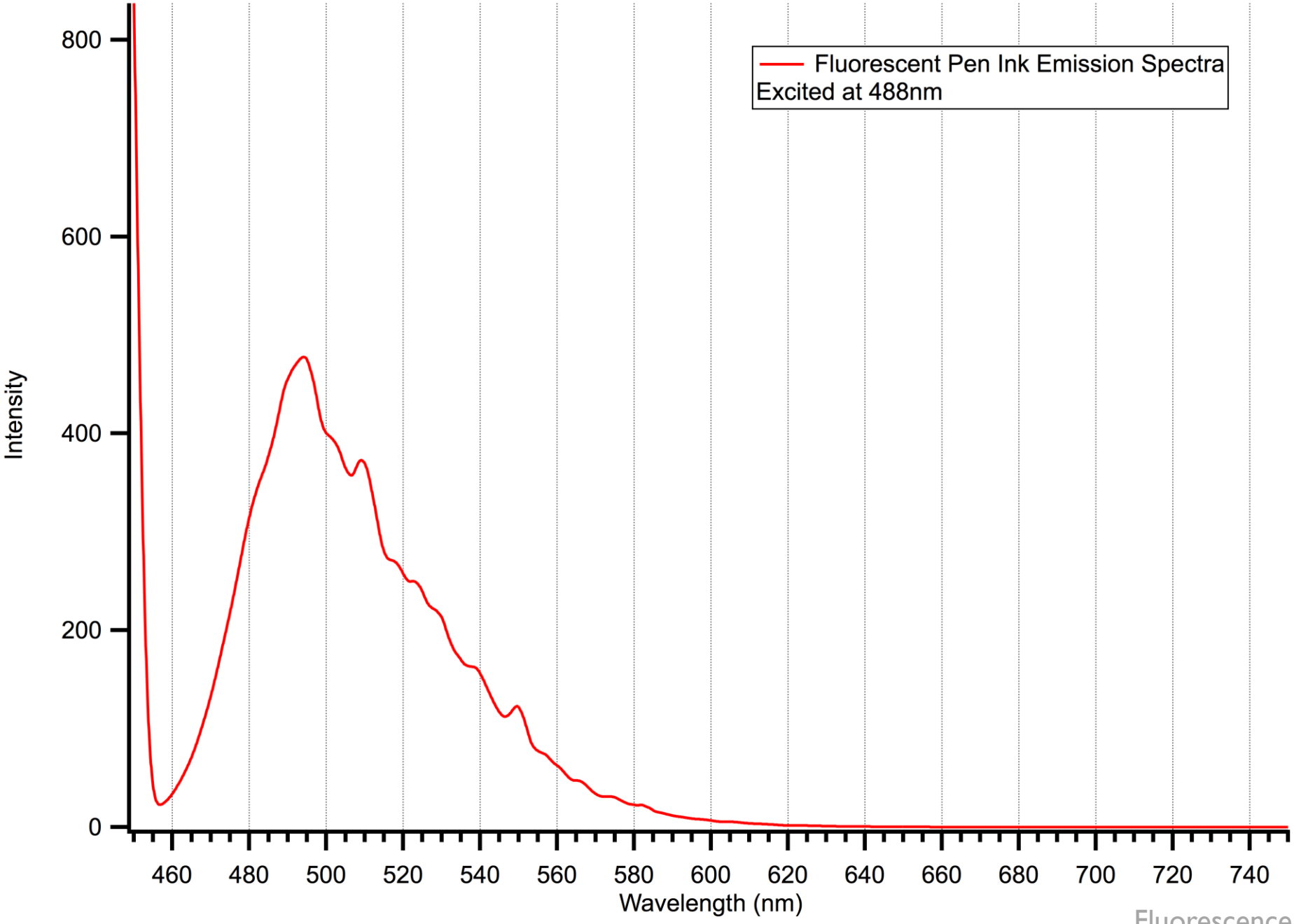


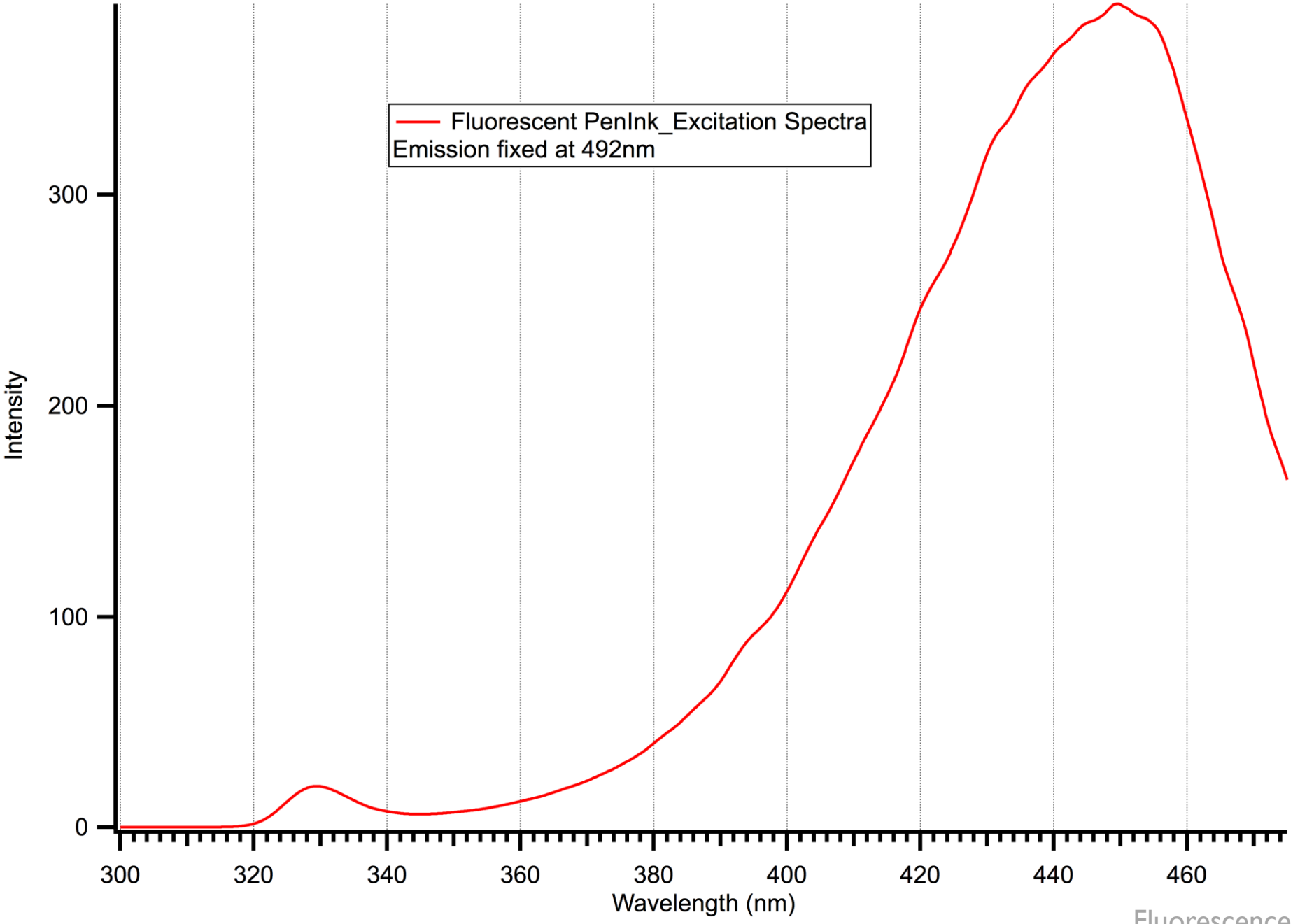
Fluorescence

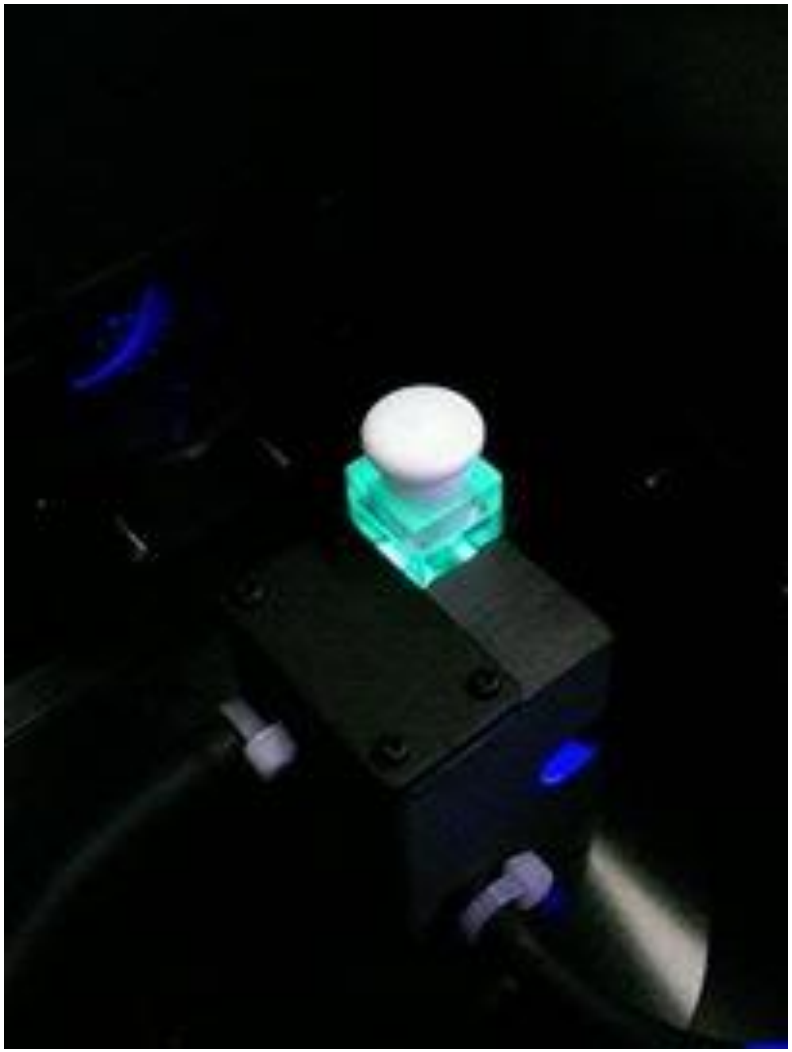


Fluorescence


60x10-3
50
40
30
20
10
0
Absorbance
Fluorescent Pen Ink (in Acetone)
350
400
450
500
550
600
650
700
750
800
Wavelength (nm)


Fluorescent Pen Ink Emission Spectra
Excited at 488nm
Intensity
800
600
400
200
0
460
480
500
520
540
560
580
600
620
640
660
680
700
720
740
Wavelength (nm)


Fluorescent PenInk_Excitation Spectra
Emission fixed at 492nm
Intensity
0
100
200
300
300
320
340
360
380
400
420
440
460
Wavelength (nm)



Fluorescent ink (excited with 488nm)