

3. (a) Using your favorite source (your textbook?) give the Beer's Law equation. Define all symbols you use.

(b) What is the difference between the extinction coefficient, the molar absorptivity, and molar attenuation coefficient?

(c) If the extinction coefficient is $3,500 \text{ M}^{-1} \text{ cm}^{-1}$ and the absorbance is 0.8, what is the concentration?

4. A plant extract was analyzed by UV-vis spectroscopy and the following data were obtained:

Concentration (M)	Absorbance
5×10^{-5}	0.051
10×10^{-5}	0.098
15×10^{-5}	0.157

What is the extinction coefficient of the chromophore? (Hint: plot the data in Excel to figure out the slope.)