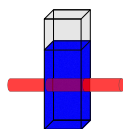# UV Analyser
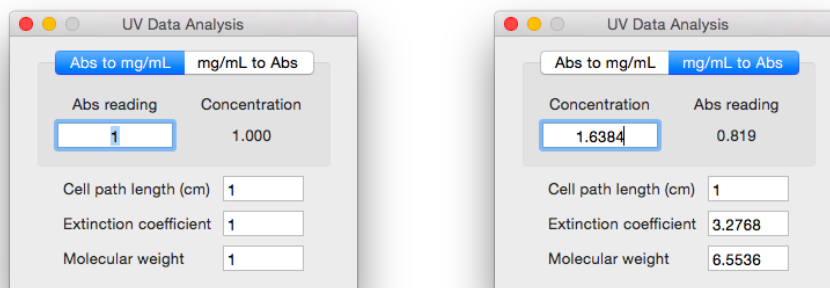

This program has been designed to be small and simple, it uses the Beer-Lambert law, equation 1, to calculate the absorbance, A, for a sample with a known exctinction coefficient, ε, and molecular weight, M_w.

$$A = \varepsilon \times l \times \left(\frac{c}{M_w} \right) \tag{1}$$

It can also calculate the concentration of a sample from its absorbance, using equation 2.

$$c = \left(\frac{A}{l \times \varepsilon} \right) \times M_w \tag{2}$$

It should be noted that usually the output from the Beer-Lambert law is $mol\,L^{-1}$ however this program requests a molecular weight to convert this to $g\,L^{-1}$ which is directly equivilent to $mg\,mL^{-1}$, which is commonly the unit of interest. If a result in $mol\,L^{-1}$ is desired, simply enter 1 as the molecular weight.
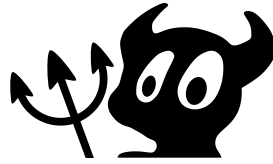

The figure on the left shows the program startup screen. Simply entering numbers, as shown on the figure on the right, will provide the result requested in either Abs or $mg\,mL^{-1}$, depending on which tab is selected by the user, for a given extinction coefficient and molecular weight.

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