CONCEPT: BEER'S LAW

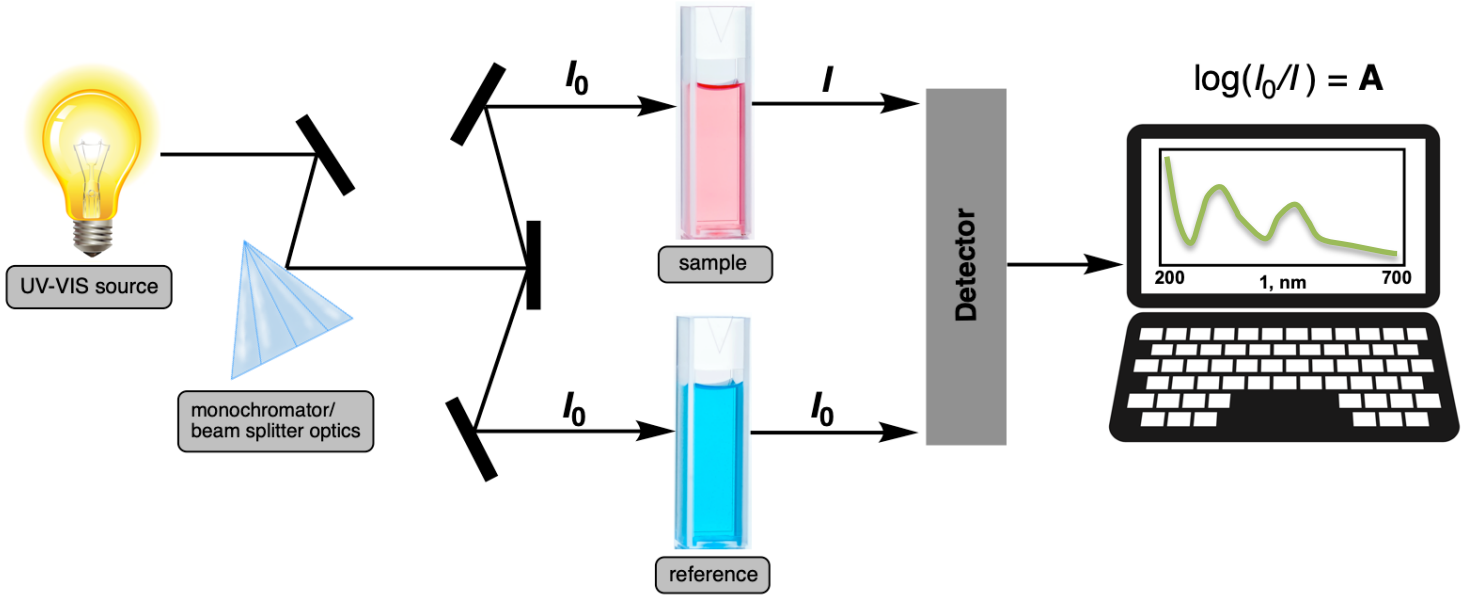
Beer's Law represents a theoretical model that forms a correlation between a substance's absorbance, A, and its concentration, c:

$A = \varepsilon \cdot c \cdot l$ $\varepsilon =$ _____ $A = \log \frac{I_0}{I}$ $I_0 =$ _____

$c =$ _____ $I =$ _____

$l =$ _____

The application of Beer's Law can be seen with the use of a UV-Vis spectrophotometer with a conjugated compound.



When a conjugated system such as butadiene is irradiated with UV light a pi electron can be promoted to a higher energy level and produce the UV-Vis absorption spectrum below: