

UV/VISIBLE SPECTROSCOPY

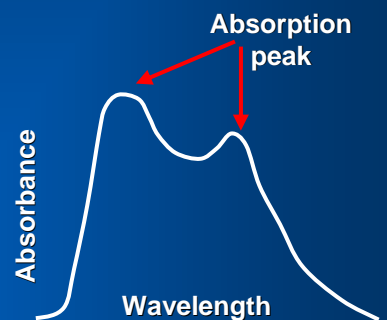
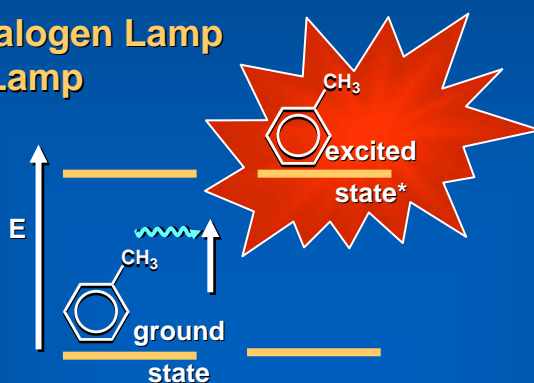


SOURCE

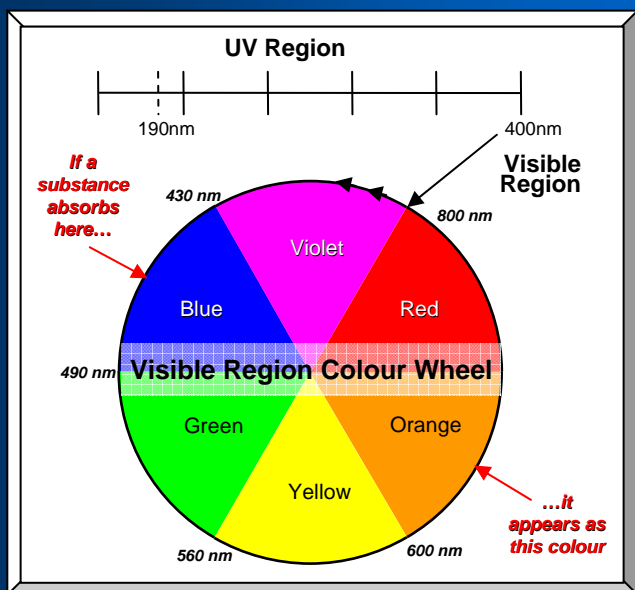
Visible – Tungsten/Halogen Lamp
 UV – Deuterium Lamp



Frequency 1.5×10^{15} Hz
 to 3.7×10^{14} Hz approx.
 Wavelength 190 nm to 800 nm.



Absorption due to transitions between electronic levels in molecules



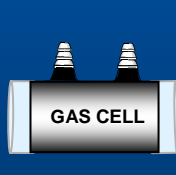
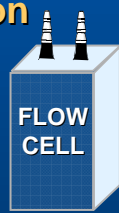
The Beer-Lambert Law

The plot of **absorbance v concentration** is linear if the Beer-Lambert law is obeyed

$$A = \epsilon c L$$

Absorbance = molar extinction coefficient $(\text{dm}^3 \text{mol}^{-1} \text{cm}^{-1})$ \times concentration (mol dm^{-3}) \times path length (cm)

Sample Preparation



Solution Cuvettes

- Variable path length
- Typically silica for UV
- Glass or Polystyrene for visible

UV/VIS Spectrum of Potassium Permanganate

