

UV-VIS Terminology

Red Shift or Bathochromic Effect: A change in absorbance to a longer wavelength (λ).

Auxochrome: A substituent on a chromophore that leads to a red shift.

Blue Shift or Hypsochromic Effect: A change in absorbance that leads to a shorter wavelength.

λ_{max} : The "top" (i.e., point of maximum absorbance) of any absorbance peak in a UV or VIS spectrum.

Hypochromic Effect: A decreased absorption intensity.

Hyperchromic Effect: An increase absorption intensity.

ϵ (Epsilon): This is the extinction coefficient or molar absorptivity constant. They both mean the same thing and are often reported in \log_{10} values. ($A=bc\epsilon$)

$E^{1\%}$: Absorbance of a 1% solution when the molecular weight of the compound is not known.

Isobestic point: A point common to all curves when a spectrum for a compound is acquired at different pH's.

Cuvette: The sample tubes used in UV-VIS spectroscopy. They are usually 1 cm in diameter and will be made of quartz if the spectrum to be obtained is in the UV region. Always read the top of the cuvette when obtaining a spectrum. It will tell you whether it is Pyrex or Quartz. Note that the latter cannot be used for UV.

Chromophore: This is the part (functionality) of the compound that is responsible for absorbing the UV or VIS light.

ORD (Optical Rotatory Dispersion) : This is the measurement of the amount of rotation of plane polarized light as a function of wavelength. UV -VIS is the wavelengths used in these experiments.

CD (Circular Dichroism): This is the measurement of the amount of rotation of elliptically polarized light as a function of wavelength. UV-VIS wavelengths are used in these experiments.