UV-vis Spectroscopy

- Ultraviolet-visible, or UV-Vis, spectroscopy is one of the most popular analytical techniques in the laboratory.
- Light is passed through a sample at a specific wavelength in the UV or visible spectrum.
- UV-Vis spectroscopy is used to quantify the amount of DNA or protein in a sample
- Used for water analysis
- Used as a detector for many types of chromatography.
- Used to measure Kinetics of chemical reactions by taking repeated UV-Vis measurements over time.

Three UV light ranges:

- UVA, or near UV (315–400 nm)
- UVB, or middle UV (280–315 nm)
- UVC, or far UV (180–280 nm)

Principle of UV spectroscopy

Spectroscopy is based on the interaction between light and matter.

- UV-Visible Spectroscopy is based on the absorption of ultraviolet light or visible light by chemical compounds, which results in the production of diverse and different spectra.
- The ultraviolet region falls in the range between 190-380 nm
- The visible region fall between 380-750 nm.
- Spectrophotometry is a method to measure how much a chemical substance absorbs light by measuring the intensity of light as a beam of light passes through sample solution.
- The basic principle is that each compound absorbs or transmits light over a certain range of wavelength.