Measurement of: Absorbance / Reflectance / Transmittance of in the UV Visible Spectral Region

Equipment: Perkin Elmer- LAMBDA 950, UV-Vis-NIR spectrophotometer.

Property Measured: Coefficient of Absorption and Band Gap Determination of synthesized materials.

Photograph (small size)

Basic Principle:

The Instrument measures the intensity of light passing through a sample and compares it to the intensity of light before it passes through the sample. It occurs as a result when molecules containing π-electrons or non-bonding electrons (n-electrons) can absorb the energy in the form of ultraviolet or visible light to excite these electrons to higher anti-bonding molecular orbitals. With the increase in double bonds, the absorption shifts towards the longer wave length.

Capabilities:

This model gives ultra-high UV/Vis/NIR performance for wavelengths up to 3,300 nm, high precision measurements, and for applications such as highly reflective and anti-reflective coatings, color correction coatings, bandpass characteristics of UV, Vis and NIR filters,

Model Name : LAMBDA 950

Interface: Tungsten-halogen and Deuterium

Wavelength Range: 175 - 3300 nm

Sample Requirement: Either Solution samples (very diluted) or Thin Films.