

## High Pressure (High Performance) Liquid Chromatography

Our HPLC with GPC 1260 INFINITY II is a best technique to separate, identify and quantify compounds in a mixture that are dissolved in a solution. It involves the injection of a small volume in column packed with stationary phase with a liquid mobile phase under high pressure and gets separated according to affinity with column and detected by detector.

- ❖ HPLC equipped with Quaternary Solvent Pump, Autosampler and Column compartment.
- ❖ Capable of working in both isocratic and gradient operations with flow rates (0.001-10) ml/min & accuracy  $\pm 1\%$
- ❖ Sample capacity: 100 or more vials of 1.5/2 ml with advanced features like auto dilution, derivatization, auto addition.
- ❖ Accommodates minimum four Columns of 30 cm having Temperature controlled range:  $10^{\circ}$  below ambient to  $80^{\circ}\text{C}$
- ❖ Detector Configurations in the HPLC system:

Detector (HPLC)	Specifications
PDA (Photo Diode Array Detector)	Wavelength range 190-900nm & Light source: Deuterium lamp & Tungsten Lamp also has wavelength accuracy: $\pm 1\text{ nm}$ A PDA detector records full UV-Visible spectra (typically 190–800 nm) as compounds elute from the HPLC column. Monitor multiple wavelengths at once Verify peak purity Identify and confirm analytes by their spectral fingerprints <b>Limitation: Does not detect non-UV active compounds (needs chromophores)</b>
ELSD (Evaporative Light Scattering Detector)	ELSD detector with LED light source for when analytes lack chromophores (i.e., they don't absorb UV light well). It's particularly useful for non-volatile and semi-volatile compounds like lipids, sugars, surfactants, polymers, and certain pharmaceuticals.