

INSTRUMENT FACILITIES AVAILABLE AT THE INDIVIDUAL SAIFs

Sophisticated Analytical Instrument Facility, STIC, Cochin

Sl. No.	Instrument	Make/ Model	Major Specifications/ Accessories available	Type of measurement/analysis available
1.	UV-VIS-NIR Spectrometer	Varian Carry 5000	Range: 190-3200 nm; Resolution: 0.05 nm in UV, 0.2 nm in NIR Wavelength Accuracy: ± 0.1 nm (UV-VIS) ± 0.4 nm (NIR) Wavelength reproducibility: 0.025 nm	Usual analysis in the region. Absorption, transmittance and quantitative analysis
2.	FT-IR Spectrometer	Thermo Nicolet Avtar 370 DTGS	Range: 4000- 400 cm^{-1} FT-IR database for identification of unknown compounds HATR Assembly	FT-IR spectra of solid and liquid samples
3.	GC-Mass Spectrometer	Varian 1200L MS	Single quadrapole, EI Mass range: 10-800 amu NIST library	Separation/identification of organic compounds
4.	CHNSO Elemental Analyzer	Elementar Vario EL III	Precision $>0.1\%$ abs, Auto sampler, Ultra microbalance	Estimation of CHNS, O in solid and liquid samples
5.	ICP Atomic Emission Spectrometer	Thermo Elemental IRIS INTREPID II XPS DUO	Spectral range: 165-1000 nm Resolution: 0.005 nm at 200 nm Microwave digester (Milestone) for sample digestion	Elemental analysis of almost all elements
6.	X-ray Diffractometer (powder)	Bruker AXS D8 Advance	Max. usable angular range: 3° to 135° Diffrac plus software Wavelength: 1.5406 \AA PDF 2 Available	X-ray powder diffractograms
7.	Thermal Analysis System (DTA/TGA & DSC)	Perkin Elmer Diamond TGA/DTA Mettler Toledo DSC 822e	TG Sensitivity : 200 mg DTA Sensitivity: $\pm 1000 \mu\text{V}$ Temperature range: Ambient to 1200°C Temperature range: -150°C to 700°C Temp. Accuracy: $\pm 0.2^{\circ}\text{C}$	All types of thermal analysis studies/testing