INSTRUMENT FACILITIES AVAILABLE AT THE INDIVIDUAL SAIFs

Sophisticated Analytical Instrument Facility, Bose Institute, Kolkata

Sl. No.	Instrument	Make/ Model	Major Specifications/ Accessories available	Type of measurement/analysis available
1.	Atomic Absorption Spectrometer	Varian Tech AA 575 ABQ	Detection limit: ~1ppm	Trace element analysis of about 40 elements in rock/ore, oil, plants, biological samples etc.
		Elico S1-93	Detection limit: ~1ppm	
2.	Spectrofluorimeter	Perkin Elmer MPF 44B	Wave length range: 200 nm to 800 nm with bandpass selection 0.2 nm to 20 nm; Polarization, phosphorescence and solid sample attachments	Fluorescence studies of variety of organic & bio-chemical species.
3.	EPR Spectrometer	Varian E-112	X-band, 9.5 GHz with 12 ″ magnet; Sensitivity: 10^{10} spins/ Gauss (approx); TM-110, dual, cylindrical & optical transmission cavities; Aqueous solution cells	EPR studies including detection of stable free radicals, transition paramagnetic metal complexes; triplet states and study of stereo chemistry.
4.	Mass Spectrometer	AEI MS 30	Mass range: upto 600 amu; Resolution: upto 1000	Analysis of organic molecules upto 600 amu; EI mode.
5.	X-ray Diffractometer (Single crystal)	Enraf Nonius MACH 3	Cu (Kα) & Mo (Kα) sources; Polarising Microscope	Single crystal X-ray diffraction data at room temp.; data processing and structure analysis.
6.	Transmission Electron Microscope	Jeol JEM 200 CX	Resolution: upto 3 ^{0}A; Magnifi.: upto 3,00,000; Acc. voltage: upto 160 kV; Electron diffraction; Ultramicrotome; Low speed saw; Twin-jet electropolisher	Study of Ultrastructures of both biological (animal & plant cells/tissues) and non-biological (e.g. rubber, thin films etc.) samples; Electron diffraction studies of crystalline specimen.
7.	GLC	Pye Unicam GC 104	Dual column dual FID temp. programmed chromatograph; Operation temp.: 50^0 C-200^0 C; Both metal & glass column analysis	Separation of closely related chemical species for qualitative identification & quantitative estimation of separated species etc.
8.	HPLC	Waters 501	Binary pumping; Scanning fluorescence detector 470 nm & UV detector 486 nm with millennium software; Reverse phase C18 column	Separation of different components of drugs/metabolites in serum/plasma/ synthesing mixes, trace organics, pesticides, etc.