



ST ALOYSIUS COLLEGE (AUTONOMOUS) MANGALORE – 575003, KARNATAKA

ADVANCED INSTRUMENTATION CENTRE

The scientific research and innovation wing of the college is equipped with various advanced instrumentation facilities. Now we are happy to announce that, we are accepting and analysing external samples too.

Facilities offered:



Perkin Elmer Spectrum Two FT-IR Spectrometer

The spectrum two instrument is suitable for wide range of applications and can be configured to provide the fastest assurance of the quality of any material. The sample is analysed by any one of the modes namely ATR or pellet making. It is quick, non-destructive and enables samples to be examined directly in the solid or liquid state.



BELSORP Mini X BET Surface Area Analyser

BET analysis provides precise specific surface area evolution of materials by nitrogen adsorption. Full BET analysis gives information about porosity of the material (Isotherms). BJH analysis provides information about pore area and specific pore volume using adsorption and desorption techniques.



HEBER Multi Lamp Photocatalytic Reactor

The photocatalytic reactor is used to carry out a photochemical reaction, water splitting, and photochlorination reaction in the presence of photon and catalyst. The instrument can give an idea about the catalytic efficiency of any compound.



PerkinElmer TGA 4000

TGA instrument measures changes in sample mass as a function of temperature with high levels of sensitivity. TGA 4000 has advanced hyphenation technology for better understanding of sample decomposition..



Rigaku MiniFlex XRD

New sixth generation powder diffraction analytical instrument can determine: crystalline phase identification (phase ID) and quantification, percent (%) crystallinity, crystallite size and strain, lattice parameter refinement etc.

To study minerals, zeolites, metal-organic frameworks (MOFs), and identification of unknown crystalline materials.



PerkinElmer Clarus 590 GC

Instrument offers the capabilities for routine analyses as well as those involved in research and development. The intuitive graphical user interface includes a real-time chromatogram display.

Columns: Elite 5 which can cover wide range of applications related to hydrocarbons, Poly aromatic hydrocarbon (PAH), Volatiles, Plant secondary metabolites etc. Elite 23 which is typically for fatty acid analysis.



Cary 60 UV-Vis spectrophotometer

Double-beam instrument with a powerful xenon lamp that flashes 80 times per second.

It has applications in Characterization of unknown or newly synthesized compounds, monitoring kinetics of chemical or biological reactions that occur at sub-second rate, analysing photochemical reactions in-situ during sample irradiation.



Electrochemical workstation GILL AC

Tafel Polarisation studies and electrochemical impedance spectroscopy.

Equipment	Charges per sample	
	Institutions With MoU	Without MoU
FTIR	100	150
BET	1500	2000
PCR	100	200
GC	200	250
Powder XRD	500	750
TGA	300	500
Electrochemical Workstation	100 (per scan)	200 (per scan)
UV Spectroscopy	100 (5 Scans)	200 (5 Scans)

Procedure for sample analysis

- Details of successful payment along with the sample submission form should be sent to the mail id **sac_instrumentation@stalloysius.edu.in**
- The samples for analysis can be sent by post or handed over in person to **Head, Department of PG Chemistry, LCRI Block, St. Aloysius College (Autonomous), Mangalore 575003, Karnataka. Contact No.: 6366277823**
- The institutions are encouraged to propose MoU with St Aloysius College (Autonomous) to avail concessional charges.
- All institutes with MoU should acknowledge St Aloysius College (Autonomous) in their publications.
- Sample analysis will be completed within a week of submission and the report of the same will be sent to the applicant through mail.
- The prescribed fees to be paid in advance to the **UPI ID: qr.sacfees@sib**



