

## SPECTROSCOPY

- 600 MHz Fourier transform nuclear magnetic resonance (NMR) spectrometer (with cryogenic HCN and MAS solid-state probes);
- 300 MHz Fourier transform NMR (broadband solution and solid-state probes);
- Fourier transform electron paramagnetic resonance (EPR) spectrometer
- Bruker MALDI- time of flight mass spectrometer
- Ion trap electrospray ionization LC-MS system
- Gas chromatography-mass spectrometers (one with Environmental Science)
- Liquid chromatography-mass spectrometer
- Circular Dichroism Spectrometer;
- Three Fourier transform infrared spectrometers including one vacuum spectrometer (Bruker Vertex 70v, with wide-band DTGS and highly sensitive MCT detectors)
- Perkin Elmer Model 650 UV-visible spectrometer with reflectance attachment
- Two Fluorescence spectrometers
- Fourier transform-Raman spectrometer (Bruker Multi-Ram) with remote fiber sensor and temperature controller
- Dispersive Raman Spectrophotometer with imaging capabilities (with Physics and Engineering Science)

## MOLECULAR SIZE

- Gel permeation chromatography (High Temperature)
- Vapor pressure and membrane osmometers;
- Static and dynamic light scattering (2 systems)

## ADVANCE MICROSCOPES

- [Asylum MFP 3D BIO Atomic Force Microscope](#)
- Fluorescence microscope;
- [Leica SP2 AOBS Confocal Microscope](#)
- [AMRAY 1910 Field Emission Scanning Electron Microscope](#) with EDS
- [Fei Tecnai Spirit Transmission Electron Microscope](#)
- [Live Cell Imager](#)

## **SURFACE ANALYSIS**

- Omicron X-ray photoelectron spectrometer
- ramé-hart Contact Angle Goniometer with motorized tilt stage and environmental chamber

## **THERMAL ANALYSIS**

- Differential scanning calorimeters (with low temp. capabilities)
- Thermogravimetric analysis
- TA Instruments RSA III Dynamic Mechanical Analyzer, from LN2 to 600°C with dielectric analyzer and film, immersion, and 3-point bending probes.

## **ELECTROCHEMICAL ANALYSIS**

- Potentiostat (PARSTAT 2273, capable of carrying out all modern electrochemical analysis experiments and with high voltage and high current capacity for electrochemical synthesis and battery work)

## **STRUCTURAL ANALYSIS**

- Small-angle/wide-angle X-ray scattering system (Bruker Nanostar, with a high brilliance rotating-anode generator, highly sensitively Vantec 2000 detector for small-angle and an image plate for the wide-angle region as well as a sample stage that enables temperature to be controlled from room temperature to 300 °C)

## **ELECTROPHYSIOLOGY**

- Planar lipid bilayer electrophysiology workstation with noise isolation table, Faraday cage, high-sensitivity, low-noise clamp amplifier, high-resolution low-noise digitizer and data acquisition computer and software.
- Several workstations for patch-clamp and whole cell electrophysiology are available for collaborative use in the Biology and Psychology departments.