

interdisciplinary nature of modern chemical research analyses

Nuclear Magnetic Resonance Spectrometry

Bruker AVANCE NEO-400

Z-Grad BBFO ATM probe: ^1H ; ^{19}F , ^{31}P - ^{15}N
Variable temperature capability

Bruker AV-400

Z-Grad BBFO ATM probe: ^1H ; ^{19}F , ^{31}P - ^{15}N
Automatic sample changer
Variable temperature capability

Bruker DMX-500

Z-Grad $^1\text{H}/^{13}\text{C}/^{15}\text{N}$ TXI probe: triple-resonance
Z-Grad BBI probe: ^1H ; ^{31}P - ^{15}N
Variable temperature capability



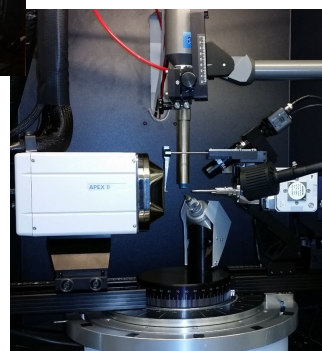
^1H , ^{13}C & multi-nuclear NMR in one and two dimensions including DEPT, 2D ^1H - ^1H COSY & NOESY, 2D ^1H - ^{13}C HSQC and self-diffusion measurements

^1H , ^{13}C and ^{15}N triple resonance in three dimensions for protein structures in solution

Single Crystal X-ray Crystallography



Bruker SMART APEX-II CCD Diffractometer
Mo X-ray source, Apex-II detector & Oxford Cryostream low temperature device (90-300K)



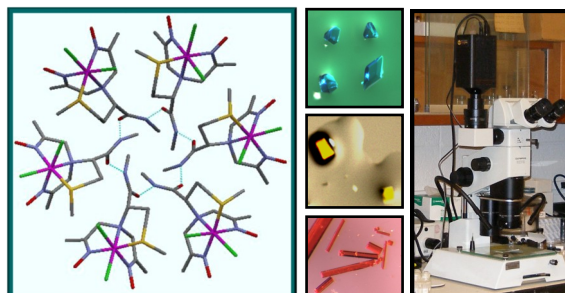
Bruker VENTURE D8 Diffractometer
Mo & Cu microfocus X-ray sources, Photon-II detector & Oxford Cryostream low temperature device (90-500K)



Synchrotron Radiation via SCrALS at ALS

Cambridge Structural Database, Apex3, Shelxtl, Olex2, Diamond & other chemical crystallography resources

Stereomicroscopes by Olympus with video & polarizing capability



Mass Spectrometry

Bruker BiFlex-III MALDI-MS

Thermo-Finnigan LTQ-FTMS



Micromass Q-TOF 2

GCT-Micromass GC-MS

Varian GC-MS and HP6890 GC/MSD Systems



Center for Chemical Sensors & Biosensors

Raman Microscope (Renishaw InVia)
Laser lines: 785, 514, 488, 457 & 442 nm

Nicolet 6700 FT-IR Spectrometer & Microscope

Cary Eclipse Fluorescence Spectrometer

Cary UV/Vis Absorbance Spectrometer

**Philips XL30 Environmental Scanning Electron
Microscope**



Variable Angle Spectroscopic Ellipsometer

MicroCal Isothermal Titration Calorimeter

Netzsch STA 409 PC Simultaneous TGA & DSC

Bio Tek, Synergy 4 Multiplate Reader

Veeco Scanning Probe Microscope
AFM, STM, EFM, MFM

Keyence VHX-100E Digital Light Microscope

**For further information,
Contact the Facility Directors**

Mass Spectrometry

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Department of Chemistry

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