

**ATTACHMENT A**  
**CORE FACILITIES AND CORE SERVICES LIST**

**UMSL CORE FACILITIES:**

- JEOL 6320F cold-cathode field emission SEM
- Carl Zeiss LSM 700 Laser Scanning Confocal Microscope
- Philips EM430 TEM
- Digital Nanoscope III Scanning Probe Microscope
- Coulter SA3100 Surface Area Analyzer
- Vista Inductively Coupled Plasma Atomic Emission Spectrometer
- Applied Biosystems API 4000 LC/MS/MS
- Perkin Elmer DSC 7
- Perkin Elmer DSC 7 RSe, with low temperature capabilities
- Cahn 2J Automatic Electrobalance
- Mettler H54 AR Balance
- HP 5890 Series II Gas Chromatograph
- 2 HP 5890 Gas Chromatograph
- Hewlett Packard GC-MS System Model 5988A
- JEOL MStation [JMS-700] Mass Spectrometer
- Waters MALDI Micro MX
- Shimadzu LC-MS 2010 A
- Bruker Avance 300MHz NMR
- Varian Unity Plus 300 MHz NMR, wide bore
- Agilent 600 MHz DD2 NMR with triple resonance and broad band capability
- Rigaku Ultima IV X-ray Diffractometer
- Bruker APEX II Kappa diffractometer with a SMART 1KCCD area detector,
- Bruker P4 Scintag PAD-V Powder diffractometer
- Jasco J-1500 circular dichroism/fluorescence/absorbance spectropolarimeter outfitted with a SFS-492T Peltier thermostatted stopped-flow accessory
- Ion Chromatography System

**UMSL CORE SERVICES:**

- Microscope Imaging and Spectroscopy Technology (MIST) Lab  
Manager: Dr. David Osborn  
Phone: 314-516-4761  
Website: <http://www.umsl.edu/chemistry/Facilities/massspect.html>  
Services Available: Scanning and transmission electron microscopy, atomic force microscopy, confocal microscopy, fluorescence optical microscopy, elemental analysis with EDS and ICP-AES, X-ray diffraction, surface area and pore volume measurements, materials and biological specimen preparation. Training in the use of the instruments and specimen preparation.

- High Resolution Nuclear Magnetic Resonance Spectroscopy (NMR) Lab  
Manager: Dr. Rensheng Luo  
Phone: 314-516-5330  
Website: <http://www.umsl.edu/chemistry/Facilities/nmr.html>  
Services Available: High-resolution multinuclear 1D and 2D NMR spectroscopy (solution and solid state) data acquisition on 300 and 600 MHz instruments. Training in sample preparation, use of the instruments, data analysis and interpretation.
  
- X-ray Diffraction Lab  
Manager: Dr. Nigam Rath  
Phone: 314-516-5333  
Website: <http://www.umsl.edu/chemistry/Facilities/xray.html>  
Services Available: Solid-state three-dimensional single crystal and molecular structure determination and powder diffraction for bulk material determination. Training in sample preparation, data analysis and interpretation.
  
- Mass Spectrometry Lab  
Manager: Dr. Rudolph E. K. Winter  
Staff: Mr. Joe Kramer  
Phone: 314-516-5337  
Website: <http://www.umsl.edu/chemistry/Facilities/massspect.html>  
Services Available: Electron Impact (EI) and Chemical Ionization (CI) gas chromatography mass spectrometry (GC-MS) for positive and negative ion detection; Fast Atom Bombardment (FAB), Electrospray Ionization (ESI), and Atmospheric Ion Chemical Ionization (APCI), EI and CI mass spectrometry, all with positive and negative ion detection for both low and high resolution experiments; Liquid Chromatography (LC-MS) for positive and negative ion detection.