

## 2017 Chemistry Department –Spectroscopy Instrumentation

### Padnos Hall, Allendale campus

---

#### ***Nuclear Magnetic Resonance Spectrometry***

Varian Unity Inova 400 MHz FTNMR with tunable, broad-band dual probe,  $^1\text{H}$ - $^{19}\text{F}$ /X capability  
Jeol Eclipse 300 MHz FTNMR with auto-tune, broad-band dual probe,  $^1\text{H}$ - $^{19}\text{F}$ /X capability  
(This unit to be retired June 2017)  
Jeol 400 MHz FTNMR JNM-ECZ400S  $^1\text{H}$ - $^{19}\text{F}$ /X capability (to be installed June 2017)

#### ***UV-VIS Spectrometry***

Shimadzu 1601 Double Beam Spectrometer (3 units)  
Shimadzu Bio-Mini Single Beam Spectrometer (3 units)  
Shimadzu 2450 Double Beam Spectrometer with UV Probe and software control  
Shimadzu TCC 240A Temperature Controller  
Applied Photophysics RX 200 Rapid Kinetics Spectrometer Stopped-Flow Kinetics System

#### ***Infrared Spectrometry***

Thermo Scientific Nicolet iS5 FTIR Spectrometer (2 units)  
All possess iD7 diamond ATR accessory  
Jasco 4100 FTIR Spectrometer (3 units)  
All possess diamond cell, single-bounce ATR accessory

#### ***Atomic Spectrometry***

Perkin-Elmer Sciex Elan 6000 ICP-MS  
Varian SpectrAA 200 Atomic Absorption Spectrometer, acetylene flame  
Varian GTA-97 Graphite Furnace accessory  
Buck Scientific PFP-7 Flame Photometer (2 units)

#### ***Fluorescence Spectrometry***

Horiba Scientific FluoroMax-4 Spectrofluorometer  
Data station utilizing FluorEssence  
Includes  $\text{N}_2$  Dewar, solids accessory, and temp. controlled cell holder  
Perkin Elmer LS-50b Luminescence Spectrofluorometer

#### ***Mass Spectrometry***

Thermo Electron Focus DSQ with GC, EI source, and Quadrupole detector (2 units)  
(see *Gas Chromatography* under 'Separation Technology')

#### ***Polarimetry***

Perkin Elmer Model 241 Polarimeter  
Atago AP-100 Automatic Polarimeter (2 units)

### **Cook-DeVos Center for Health Sciences (Grand Rapids, MI)**

---

Agilent Cary 60 UV-Vis spectrophotometer  
Agilent Cary 100 UV-Vis spectrophotometer  
Agilent 8453 UV-Vis photodiode array spectrophotometer  
Beckman Coulter DU-800 UV-Vis spectrophotometer  
Photon Technologies Inc QM-7/2003 SE fluorimeter (temperature controlled, enhanced sensitivity  
with T-format monochromators and motorized polarizers)  
BioTek Synergy H1 Hybrid Plate Reader

Leica M205A Stereomicroscope with camera

Leica M80 Stereomicroscope