

# Major Chemistry Department Instrumentation

Updated Oct. 2011

<b>Instrument</b>	<b>Number</b>	<b>Make</b>	<b>Model</b>	<b>Year of Acquisition</b>
<b>Aerogel Fabrication Characterization and Application Laboratory</b>				
50 ton, 15" x 15" hydraulic press system	1	Accudyne Engineering		2003
Critical Point Dryer w/water circulator and heater/chiller	1	Energy Beam Sciences	E3100	2003
Thermal Constants Analyzer	1	Hot Disk	HD-01	2003
UV/VIS/NIR dual monochromator spectrophotometer	1	Perkin-Elmer	Lambda 900	2003
Automatic Physisorption Analyzer	1	Micrometrics	ASAP 2010	2003
Steady-state fluorometry subsystem and solid sample holder	1	PTI	Timemaster C-700	2003
<b>Biochemistry</b>				
Protein Electrophoresis Cells	5	Bio-Rad		2001
Fraction Collectors	5	Gilson		1994
Shaker/Incubator	1	Lab-Line		1992
Centrivap Concentration	1	Labconco		2002
Centrifuge	1	Beckman Allegra	X22R	2003
-80°C Freezer	1	Thermoelectron	Forma ULT	2004
PCR	1	Bio-Rad	iCycler	2004
<b>Chromatography &amp; Separations</b>				
GC/MS with autosampler (chemical ionization and electron impact)	1	Agilent	6890/5973	2003
GC/MS (electron impact)	1	Hewlett-Packard	5890	1990
GC-Flame Ionization Detectors (FIDs)	2	Perkin-Elmer Autosystem		1994
LC-MS/MS, binary gradient HPLC with variable wavelength UV/Vis detection and autosampler; triple quadrupole mass spectrometer with ESI and APCI sources	1	Agilent	6410	2009
HPLC, quaternary gradient with diode array UV/Vis detection, fluorescence detection, and autosampler	1	Agilent	1100	2003
HPLC, quaternary gradient with UV/VIS detection	1	Hewlett-Packard	1100	1999
Capillary Electrophoresis with diode array detection	1	Hewlett-Packard	3D	1999
				1997
				(new anion chromatograph in 2010)
Access to ion chromatograph in the geology department	2	Dionex	DX-500	
Access to ICP/MS with laser ablation unit in the geology department	1	Perkin-Elmer	Sciex Elan 6100 DRC	
<b>Electrochemistry</b>				
Voltammetric Analyzer	1	Bioanalytical Systems	CV50W	1992
Voltammetric Analyzer	1	PAR	VersaSTAT3	2009
<b>Environmental Chemistry</b>				
MaxQ 2000 Open-Air Shaker, analog, 120V (SHKA 2000) - with Universal 18" x 24" Platform		Lab Line/Barnstead		2006
Branson 3510DTH sonicating/heating bath		Branson		2006
Atlas Suntest XLS+ Solar Simulator		Atlas		2006
<b>Inorganic Chemistry</b>				
Glove Box with freezer	1	Mbraun		2002
Magnetic Susceptibility Balance	1	Johnson-Matthey	MSB-Auto	2001
<b>Kinetics</b>				
Flash Photolysis System	1	Xenon	457	1981

with infrared Diode Laser detector Stopped Flow System	1	Laser Photonics Applied Photophysics	L5820 RX1000	1990 1992
<b>Microscopy</b>				
Scanning Electron Microscope (variable pressure with energy dispersive X-ray, cathodoluminescence and backscattered electron detectors)	1	Zeiss	EVO50XVP	2007
Atomic Force Microscopes	1	VEECO	Dimension V	2005
	1	Asylum Research	MFP-SD-SA	2010
FTIR Microscope	1	Bruker	Tensor 27	2010
RAMAN Microscope	1	Bruker	SENTERRA	2010
<b>NMR</b>				
Nuclear Magnetic Resonance 400 MHz NMR with variable temperature and broadband multinuclear probes	1	Bruker	Avance	2010
<b>Optical Spectroscopy</b>				
Diode-Array UV/VIS, Spectrophotometers with kinetics software	1	Hewlett-Packard	8452A	1992, 1993, 1994
Diode-Array UV/VIS, Spectrophotometers with kinetics software	5	Hewlett-Packard	8453	1998 - 2010
Fluorometer	1	Photon Technology	QuantaMaster	1998
Fluorescence Lifetime System	1	Photon Technology	LS-100	1990
FTIR	1	Thermoelectron	Avatar 330	2004
FTIR	1	Thermoelectron	IR 200	2004
FTIR	1	Thermoelectron	IR 200	2007
FTIR	3	Perkin-Elmer	1605, 1615	1992, 1994
Atomic Absorption Spectrometer	1	Perkin-Elmer	3100	1992
Raman Spectrometer	1	DeltaNu	Advantage 633	2009
UV/Vis Microplate Reader	1	Molecular Devices	SpectraMax 190	2009
UV/Vis Fluorescent Microplate Reader	1	Molecular Devices	SpectraMax	2010
<b>Physical Chemistry</b>				
Innova 70C Spectrum, Argon-Krypton Mixed Gas Ion Laser System		Coherent Inc Coherent Inc		2003 2003
<b>Polymer Chemistry</b>				
Differential Scanning Calorimeter	1	Perkin-Elmer	DSC-7	1989, upgraded 2000
Thermogravimetric Analyzer	1	Perkin-Elmer	TGA-7	1989, upgraded 2000
Gel Permeation Chromatograph	1	Perkin-Elmer	250	1989
Membrane Osmometer	1	UIC	90	1989
Vapor-Phase Osmometer	1	UIC	70	1989
<b>Solid State Chemistry</b>				
Convection Oven	1	Carbolite	PF120	1998
Tube Furnace	1	Carbolite	HST 12/50/400	1998
Box Furnace	1	Carbolite	CWF 11/13	1998
<b>Cell Culture Lab</b>				
Class II, type A2 biological laminar flow hood, 4 ft	1	ThermoScientific	1300 series	2011
Water-jacketed CO2 incubator for mammalian cells	1	Fisher	Isotemp	2011
Benchtop refrigerated centrifuge, swinging bucket rotor for conical tubes	1	Sorvall	Legend ST16	2011
Inverted light microscope	1	Nikon	TMS	2011
Compound light microscope	1	Nikon	Alphaphot YS-2T	2011
Automated cell counter	1	Invitrogen	Countess	2011