

	Instrument	Vendor/Model	Year acquired	Location
<b>Major Instrumentation</b>				
<b>NMR</b>	400 MHz NMR	Bruker Avance III HD-Nanobay 400 with tuneable multinuclear probes (PABBO BB/19F-1H/D Z-GRD Z108618) and SampleXpress (60 positions) autosampler	2015*	319
	45 MHz	PicoSpin 45 NMR x 2	2013	109
<b>Mass Spectrometry</b>	GC-MS	Agilent 7890A GC/5975C MSD with CTC Combipal autosampler and Solid Phase Microextraction (SPME) accessory	2009	109
	LC-MS (2) with ESI and APCI probes	(1) ThermoFinnigan LCQ Advantage Max with Surveyor LC and autosampler	2006**	338
		(2) ThermoFinnigan Velos Pro with Dionex LC and autosampler	2013*	338
<b>Atomic and Molecular Spectrometers and Spectrophotometers</b>	EPR*** /****	Bruker ELEXSYS-II E580 with liquid helium cryostat	1999	330
	Flame AAS/AES	Thermo Scientific iCE 3300 with CTC autosampler	2009	323
	FT-IR (5)	(1) Perkin Elmer Spectrum 100 with gas cell		329
		(5) Bruker Alpha P with ATR	2009	105, 109, 333
		(2) Nicolet Impact 410 with ATR		
	UV/VIS spectrometers (7)	(4) Varian 50 Conc	2010	311
		Perkin Elmer Lambda 35	2015	329
		(2) Hitachi U-2001	1997	125
		(1) Molecular Devices Spectramax 340		
	Luminescence Spectrometer	Perkin Elmer LS-50B	1991	321
Raman Spectrometer	PeakSeeker Agiltron/Ocean Optics	2012	329	

\* acquired with NSF-MRI grant

\*\* acquired with NIH-INBRE grant

\*\*\*acquired with NIH instrumentation grant S10RR13005

\*\*\*\*acquired with CHE Research Initiative Award

<b>Chromatography and Separations</b>	HPLC (4)	Agilent 1200 with DAD and RI detectors and autosampler	2008*	349
		(2) Agilent 1220 with VWD detector and autosampler**	2014	115
		Shimadzu with DAD	2015	
	GC (5)	(2) HP 5890 Series II with FID	pre-1991	330
		(4) SRI 310C with FID	pre-1991	105, 109
		(2) GOW-MAC Series 150 with TCD	pre-1991	103
GPC				
<b>Lasers</b>	Nitrogen Laser	VSL-337 NSD, Laser Science, Inc.		321
	Argon Ion Laser	Innova 70, Coherent		
	Nd:YAG Laser	Minilite, Continuum	2011	331
<b>Electrochemical Systems</b>	Potentiostat	BASi Epsilon with C3 cell stand	2007	321
	(36+) potentiometers	Mettler for pH and mV measurements		323
	(26) Cl- ISE	Cole Parmer		323
<b>Light Scattering</b>	DLS**	Mavern Zetasizer Nano ZSP	2013	329
<b>Microscopy</b>	Laser Scanning Confocal Microscope	Microsystems LSM with Zeiss Axiovert 100	2010	331
	AFM	TT-AFM model	2013	331
<b>Optical Rotation</b>	Polarimeter	AUTOPOL IV with six wavelengths	2003	344

\*\*acquired with HHMI grant

Other Major Equipment				
<b>Water Systems</b>	Distilled Water Systems (2)	Barnstead 210	2010	323
	Water Filtration Systems (2)	Barnstead Nanopure Diamond		329
<b>Reactors, Furnaces and other Energy Sources</b>	Microwave Reactors (2)	Mars synthesis, CEM	2009	109
		Discover	2006	334
	Muffle Furnace	Isotemp Programmable Muffle Furnace, Fisher Scientific		
	Sonication Bath	Branson	2009	349
	Benchtop Photostability chamber	ES2000, Environmental Sciences	2007	349
	(2) Thermal Cycling chamber	Cincinatti SubZero Microclimate	2010, 2016	349, 115

<b>Biochemistry Instrumentation</b>	FPLC for protein separations (2)	Pharmacia Biotech	1997	317
	FPLC (4)**	GE Healthcare Akta Prime Plus protein purification systems	2008	311D
	PCR thermocycler	Eppendorf Master Cycler	~2010	311
	Autoclave	Steris	2010	311B
	Floor refrigerated centrifuge	Sorvall	~2002	311
	Floor refrigerated centrifuge	Sorvall Lynx Centrifuge Operation	2016	311
	Thermo Incubation floor shakers	New Brunswick EXCELLA E-25R W UNIV. PLAT 120V 60HZ, Refrigerated	2015	311
	Cold Room			
	Phosphorimager – Fluorescence Imager	Storm 865, GE Healthcare		
	-80 C freezer (Jennings \$)	ULT TSU 600BX 115V + W/RACKS	2016	311
	Gel driers (2)	Biorad		
	Speed-vac	Savant		
	Gel Electrophoresis, vertical and horizontal			

\*\*acquired with HHMI grant