

WWU Chemistry Department Instrument List 11-06-2007

<u>General Area of Use</u>	<u>#</u>	<u>Supplier</u>	<u>Instrument</u>
NMR:	1	Varian	Unity Inova Actively Shielded 500 MHz FT-NMR Spectrometer with: <ul style="list-style-type: none"> - High-Field Triple Resonance Pulse Field Gradient (3 axes) Probe - Dual Broadband Gradient Probe - High-Field Indirect Detection Pulse Field Gradient Probe - FTS -40 °C Cryogen System - Variable temperature capability
	1	Varian	Mercury 300 MHz FT-NMR Spectrometer with: <ul style="list-style-type: none"> - Autoswitchable Probe - SMS 100 position autosampler - Variable temperature capability - Instrument has CPMAS (solid) capability
GC and GC/MS:	1	Varian	Saturn 2000 GC-MS with EI/CI MS/MS - and Chromatoprobe accessory
	1	Varian	3800 Gas Chromatograph + 8200 Autosampler
	1	Varian	3900 Gas Chromatograph + 8200 Autosampler
	1	Hewlett Packard	5890 Series II Gas Chromatograph with Autoinjector
	2	Hewlett Packard	5890 Gas Chromatograph
	1	Shimadzu	GC-17A Gas Chromatograph with data station
	1	Agilent	6890N Gas Chromatograph with 8 sample autosampler
IR:	1	Mattson	Research Series FT-IR
	1	Mattson	Galaxy Series 5000 FT-IR with low pressure crystal deposition capability
	2	Mattson	Genesis Series FT-IR
	1	ThermoNicolet	Nexus 470 FT-IR with microscope
UV/Vis:	5	Hewlett Packard	Diode Array UV/Visible Spectrophotometer
	1	Hewlett Packard	8453 UV/VIS Spectrophotometer with HP 89090A (Peltier temperature control device)
	1	Beckman	DU@ 640 UV/VIS Spectrophotometer
CD:	1	OLIS	DSM-10 Circular Dichroism Spectrometer with titrator, stopped flow, and thermal module accessories
AFM/STM:	1	Digital Instruments	Nanoscope IIIa Atomic Force Microscope/Scanning Tunneling Microscope
	2	RHK	Scanning Tunneling Microscope

<u>General Area of Use</u>	<u>#</u>	<u>Supplier</u>	<u>Instrument</u>
Atomic Absorption:	1	Varian	SpectrAA 220 FS Flame AA Spectrometer with Auto Sampler System
	1	Varian	SpectrAA 220 Z Zeeman Graphite Furnace Atomic Absorption Spectrometer with Auto Sampler System
HPLC, MPLC, etc.:	1	Varian	ProStar HPLC Dual Pump with UV/Vis and refractive index detectors
	1	custom built	Preparative-Scale MPLC
	1	Chromatotron	Radial Chromatograph
	2	Waters	650E LC Advanced Protein Purification System
	1	Biorad	Econo Gradient Pump with Econo UV monitor, Model 2110 Fraction Collector, and Model 1327 Econo Recorder
Polarimeter:	1	Rudolph Digital	Digital Polarimeter
Pulse Chemisorb:	1	Micrometrics	Pulse Chemisorb 2700 Instrument
	1	Micrometrics	ASAP 2020 Surface Area/Porosimeter
Bomb Calorimeter:	1	Parr	1261 Isoperibol Bomb Calorimeter
Centrifuge:	1	Sorvall	RC5B Refrigerated SuperSpeed Ultracentrifuge
	1	Sorvall	RC5B Plus Centrifuge
	1	Beckman	LB-70M Ultracentrifuge
	1	Beckman	GS-6R LowSpeed Centrifuge
	1	Beckman	J2-M1 LowSpeed Centrifuge
Fluorimeter:	1	PTI	Fluorometer with temperature control and Microlab500
Voltammetric Analyzer:	1	BAS	CV-50W Voltammetric Analyzer
Microwave Synthesizer:	1	CEM	Discover LabMate Research Scale Microwave Synthesizer -with Explorer 24 place autosampler
Other Lab Equipment:	1	Air Products	CSW-202 Displex Cryogenic Refrigerator
	1	Barnstead	NANOpure ultrapure water system
	1	Branson	Sonifier 450
	1	Braun	Labmaster 130 Controlled Atmosphere Box
	1	Carver	Pressure Cell (aka French Press)

<u>General Area of Use</u>	<u>#</u>	<u>Supplier</u>	<u>Instrument</u>
Other Lab Equipment (Cont'd):	1	EGC	Cold room
	2	Hanovia	Photochemical Irradiation Systems
	1	Innovative Tech.	PureSolv™ Solvent Purification System
	1	Johnson Matthey	MSB-1 Magnetic Susceptibility Balance
	1	Lab-Line	Floor Model Incubator-Shaker
	1	Market Forge	Sterilmatic Autoclave
	1	Parr	370-4 Electrochemical System
	1	ThermoElectron	Forma -86 °C ULT Freezer
	1	Cooke	CVE301 Vacuum Coater System for organic films
	2	HP	370A Programmable Curve Tracers
	1	Olympus	BX51 Metallurgical microscope

Instrumentation also available through WWU Scientific Technical Services:

GC and GC/MS:	1	Hewlett Packard	Model 5890 GC Quadrapole Mass Spectrometer
	1	Varian	CP3800 Gas Chromatograph with Saturn 2000 Ion Trap Mass Spectrometer
	1	Varian	3800 GC with flame ionization (FID) and electron capture (ECD) detectors
UV/Vis:	1	Hewlett Packard	Model 8452 Diode Array UV/Vis Spectrophotometer
Atomic Absorption:	1	Varian	SpectrAA 220 FS Flame AA Spectrometer with Auto Sampler System
	1	Varian	SpectrAA 220 Z Zeeman Graphite Furnace Atomic Absorption Spectrometer with Auto Sampler System
HPLC, MPLC, etc.:	1	Varian	240 Prostar HPLC Programmable UV/Vis Detector
	1	Dionex	Model 2010i High Performance Ion Chromatograph (HIPC) with simple anion and cation columns and a conductivity detector
	1	Applied Biosystems	API2000 Liquid Chromatograph / Mass Spectrometer (LC/MS)
SEM:	1	Vega	TS 5136MM Scanning Tunnel Microscope
Scintillation Counter:	1	Packard	Model 1900 CA Tricarb Liquid Scintillation Counter

Instrumentation also available through the Advanced Materials Science and Engineering Center (AMSEC)

<u>General Area of Use</u>	<u>#</u>	<u>Supplier</u>	<u>Instrument</u>
X-Ray Diffraction:	1	PANalytical	X'Pert Pro MRD - Grazing Angle and Powder X-ray Diffraction
Thermal Vacuum Coater System	1	Denton	Vacuum Explorer 14 - Thermal Vacuum Coater System
Differential Scanning Calorimetry	1	TA Instruments	
Thermal Gravimetric Analyzer	1	TA Instruments	