

Resource List

Department of Chemistry and Biochemistry Facilities

Biochemistry Instrumentation Facility - 5062 Young Hall

(See Martin Phillips, X62205, Phillips@mbi.ucla.edu)

- Analytical centrifuge
- Biacore X
- CCD gel system
- Circular dichroism spectrometer
- DNA synthesizer
- Liquid scintillation counters
- Precision density meter
- Protein purification system
- Spectrofluorimeter
- Stopped-flow reaction analyzer
- UV/vis spectrometer

Magnetic Resonance

(See handout for checkout schedule; See Jane Strouse (X5984, strousej@chem.ucla.edu) for any questions not covered in handout)

- AC200 NMR spectrometer - 3104 Mol. Sci. Bldg.
- ARX400 NMR spectrometer -1421 Mol. Sci. Bldg.
- ARX500 NMR spectrometer - 1421 Mol. Sci. Bldg.
- Avance500 NMR spectrometer - 1421 Mol. Sci. Bldg.
- Avance600 NMR spectrometer - 1416 Mol. Sci. Bldg.
- Avance300 solid-state NMR spec. - 1429 Mol. Sci. Bldg.
(see Bob Taylor X62074, taylor@chem.ucla.edu)
- EMX EPR spectrometer - 1416 Mol. Sci. Bldg.
(see Bob Taylor X62074, taylor@chem.ucla.edu)

Mass spectrometers - 1434 Mol. Sci. Bldg

(See Kym Faull, X67881, faull@chem.ucla.edu)

- 2- API IIIIR triple quadrupole mass spectrometers
- Autospec magnetic sector (EI/CI) mass spectrometer
- DE-STR high resolution MALDI-TOF mass spectrometer
- GCT Gas chromatograph/mass spectrometer (TOF)
- LCQ electrospray-ion trap LC mass spectrometer
- Ultima Fourier transform (7 T magnet) mass spectrometer
- Voyager RP laser desorption time-of flight mass spectrometer
- ZAB-SE (FAB) high resolution mass spectrometer

MCTP Lab - 1033 Young Hall

Agilent Technologies 4284A precision LCR Meter
Differential Scanning Calorimeter
First 10 Ångstroms Contact Angle Goniometer
Hummer VI.2 Sputtering System for Au and Pt
Iris Inductively coupled plasma-AES spectrometer
JASCO Fourier Transform Infrared Spectrophotometer
Keithley 2000 Multimeter
Keithley 2400 Sourcemeter
Lindberg CN 9400 Tube Furnace
Ocean Optics USB 2000 Fluorescence spectrometer
PAR Potentiostat/Galvanostat model 263A
Shimadzu UV/visible/near IR spectrophotometer

MCTP Lab - 1033 Young Hall (continued)

Speedline Technologies Spincoat G3 and G3P
Vacuum oven
Zeiss Axiotech Materials Microscope
New in 2003:
Beckman-Coulter LS13 320 Laser Diffraction Particle Size Analyzer
Beckman-Coulter N4 Plus Submicron Particle Size Analyzer
Dymatron MEGAPACT Multi-Role Vibratory Mill
JEOL JSM-67 Field Emission Scanning Electron Microscope (FESEM)

New in 2004:

*Dymatron Megapact Mill
Newport 1830-C Picowatt Meter and UV Sensitive Si Sensor Head
Quantum Design MPMS XL 5 - 5 Tesla SQUID based Magnetometer*

High Pressure Reaction Facility - 4104 Mol. Sci. Bldg

Autoclave Engineers High Pressure Reaction Vessels

X-ray Crystallography - 1416 Mol. Sci. Bldg:

(See Saeed Khan, X55940, khan@chem.ucla.edu)

HuberS single crystal X-ray diffractometer
Locally constructed powder X-ray diffractometer
Single crystal rotating anode X-ray diffractometer
Smart1000 single crystal CCD X-ray diffractometer

School of Engineering and Applied Science Facilities

Nanoelectronics Research Facility (NRF) - 18-132 Engineering IV

(See <http://nanolab.ucla.edu> for lab orientation schedule and equipment information)

Lithography

Batch-load, vapor HMDS vacuum prime oven
High Temperature (up to 1000°C) nitrogen-purged muffle furnace.
Karl Suss MA6 top and bottom side aligner for contact printing
Leica EBL100 Nanowriter e-beam patterning system

Etching:

Chemically-assisted ion beam etching (CAIBE) using chlorine-based chemistry
Fluorine based Reactive Ion Etching using Technics Micro RIE 800
Oxygen plasma asher (Tegal 421).
Plasma-Therm SLR 770 ICP deep silicon etcher
XeF₂ vapor etcher for deep etching of silicon

Metallization

CHA Mark 40, 6 pocket e-beam evaporator
CVC 601: 3 target sputtering system (2 DC and 1 RF)
E-beam evaporation : Al, Au, Ti etc.
Gold thermal evaporator (can be used for Au/Ge and other compatible compounds)
Small SEM sputter coater (Denton II)

Thermal Processing

Al or gold sinter in ambient controlled furnace tube (400-500°C).
Dry & Wet oxidation and anneals up to 1100°C for 3 and 4 inch substrates
Low Temperature (III-V) steam oxidation furnace for selective oxidation of GaAlAs
LPCVD low temperature (~450°C) oxide
LPCVD silicon nitride (~780°C) using NH₃ and SiCl₂H₂ reactions
LPCVD undoped polysilicon (600-620°C) for 3 and 4 inch substrates
PlasmaTherm 790 PECVD reactor for films of silicon nitride, silicon oxide and amorphous silicon
RTP 610 capable of up to 6 inch substrates
Silicon-dedicated rapid thermal anneal, oxidation and nitridation (NH₃, N₂O, O₂)

Metrology

AMRAY 1610 Turbo-pumped, scanning electron microscope (SEM)
Dektak IIA profilometer
Gaertner L116B automatic ellipsometer (632.8nm)
Nanospec 210 computer controlled Thin Film Measuring System
Nanospec AFT 180 Thin Film Measuring System
Optical microscopes to 1000X , some with DIC, dark field and bright field optics
Prometrix Omnimap RS-35 4 point probe
Tencor Alpha Step 200 profilometer

Department of Electrical Engineering Facilities

Center for High Frequency Electronics (CHFE) - 64-124 Engineering IV

HP 8349B microwave amplifier
HP 8350 Mainframe
HP 8510 Network Analyzer Systems
HP 8720 Microwave Network Analyzer

millimeter wave sources:

Gunn oscillators
impatt oscillators
BWO's
EIO's
YIG-tuned oscillators

Department of Materials Science and Engineering Facilities

Electron Microscopes - 2264 Boelter Hall

(See Dr. Sergey Prikhodko, X59735, sergey@seas.ucla.edu)

Cambridge Stereoscan 250 Scanning Electron Microscope (SEM)
JEOL JEM-100 CX Transmission Electron Microscope (TEM)
JEOL JEM-2000 FX Transmission Electron Microscope (TEM)

X-Ray Diffractometers - 2264 Boelter Hall

(See Prof. Mark Goorsky, X55534, goorsky@seas.ucla.edu)

BEDE D1 Diffractometer
Norelco X-ray Diffractometer (North American Philips Company)

Brain Research Institute Facilities

Carol Moss Spivak Cell Imaging Center - 1524 Gonda (Goldschmied) Center for Neuroscience and Genetics

www.bri.ucla.edu/services_carol.htm

(see Dr. Matt Schibler, X59783, mschibler@mednet.ucla.edu)

Carl Zeiss LSM 310 Laser Scanning Confocal Microscope
Leica TCS SP MP Fixed-Stage Upright Confocal and 2-Photon Laser-Scanning Microscope
Leica TCS SP MP Inverted Confocal and 2-Photon Laser-Scanning Microscope