



Wisconsin Centers for Nanoscale Technology

Soft Materials Characterization Laboratory

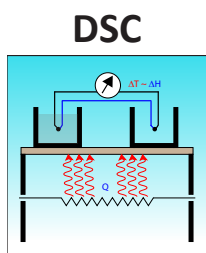
The Soft Materials Characterization Laboratory (SMCL) at the University of Wisconsin-Madison provides a research facility for analysis and characterization of synthetic polymers, soft materials and polymer devices.

The SMCL is equipped with nearly 50 instruments that support leading-edge research programs, give students access to a state-of-the-art education facility and provides services to industrial clients. Access to the lab and to all instrumentation is available to qualified users from the University of Wisconsin, other education institutions, or industry.

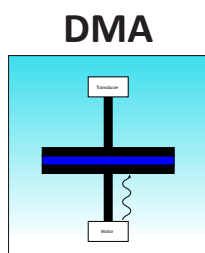
The SMCL is located on the basement floor of the Engineering Hall Building on the University of Wisconsin-Madison Campus.

Techniques offered

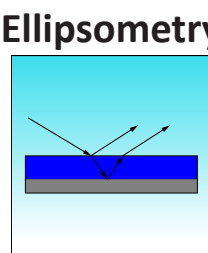
- Differential Scanning Calorimetry
- Dynamic Mechanical Analysis
- Ellipsometry
- Fourier Transform Infrared Spectroscopy
- Gel Permeation Chromatography
- Dynamic and Static Light Scattering
- Mass measurement
- Raman Spectroscopy
- Rheometry
- Thermogravimetric Analysis
- UV-Visible Spectroscopy



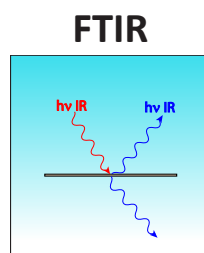
DSC



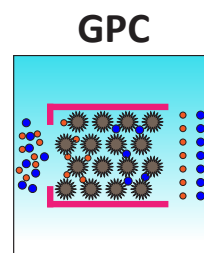
DMA



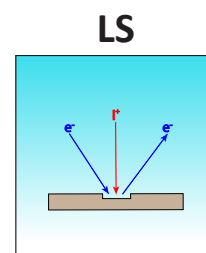
Ellipsometry



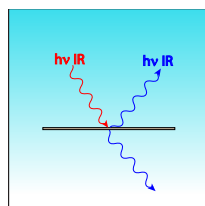
FTIR



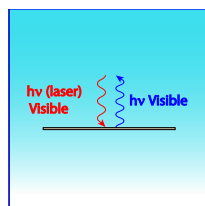
GPC



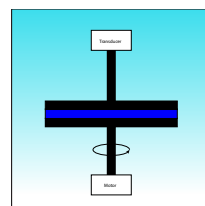
LS



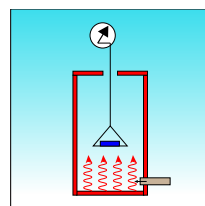
Mass



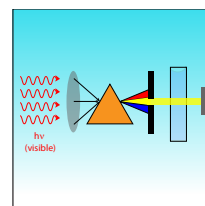
Raman



Rheometry



TGA



UV/Vis



Instrumentation Available

THERMAL ANALYSIS

- Differential Scanning Calorimeter (DSC) PerkinElmer 8000
- Differential Scanning Calorimeter (DSC) TA Instruments Q100
- Thermogravimetric Analyzer (TGA) TA Instruments Q500
- Advanced Rheometric Expansion System (Rheometer) TA Instruments ARES
- Dynamic Mechanical Analyzer (DMA) TA Instruments RSA III

SEPARATION BASED TECHNIQUES

- Gel Permeation Chromatograph (GPC) Beckman Gold
- Gel Permeation Chromatograph (GPC) Viscotek GPC-max
- Gel Permeation Chromatograph (GPC) Waters
- Gel Permeation Chromatograph (GPC) Waters Alliance

SAMPLE PREPARATION TECHNIQUES

- 60C Oven
- Spincoater Laurell
- Tube Furnace Thermocraft
- Vacuum Oven E1
- Parylene Coater LabTop 3000
- Crosslinker XL-1500 254 nm
- Crosslinker XL-1500 365 nm
- Glove Box VAC Nexus One
- Gold Chrom Evaporator Veeco CNTech
- Gold Sputterer
- Hot Plate CEE 1100
- Microblaster Comco MB1002
- Vacuum Oven Labline
- Plasma Etch System Plasma

MICROSCOPY

- Scanning Electron Microscope (SEM) Zeiss LEO 1550VP
- Raman Imaging Microscope Thermo Scientific DXRxi

OPTICAL BASED TECHNIQUES

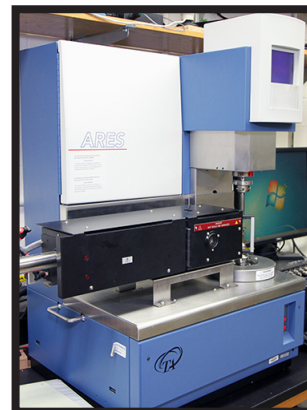
- Ellipsometer Rudolph AutoEl NIR 3
- Ellipsometer Rudolph AutoEl VIS 3
- Ellipsometer Woollam IR-VASE
- Ellipsometer Woollam V-VASE
- Ellipsometer Verity
- Contact Angle Measurement System OCA 15/20
- Malvern Zetasizer Nano ZSP
- Thin Film Measurement System Filmetrics F20
- UV VIS Spectrometer Perkin-Elmer Lambda 10
- UV VIS NIR Spectrometer Perkin-Elmer Lambda 19
- FTIR Nicolet Magna 550
- FTIR Nicolet Magna 860
- FTIR Nicolet iS50R with PM-IRRAS
- Raman Imaging Microscope Thermo Scientific DXRxi
- Refractometer Leica AR600
- Lightscattering Brookhaven

OTHER TECHNIQUES

- Quartz Crystal Microbalance Biolin Scientific Q-Sense E4
- Tensiometer Kruss K10T
- Vacuum Tensiometer SMCL
- Capillary Viscometer Schott
- Analytical Balance



**Thermo DXRxi Raman
Microscope**



ARES Rheometer