



Analytical Equipment Available at Johns Hopkins University Homewood Campus

Equipment Type	Department	Contact
JEOL 6700F Scanning Electron Microscope (SEM) with EDAXs composition analysis	Materials Science	Mark Koontz
Phillips X Pert Pro X-ray Diffraction System (XRD) theta-2theta – crystal structure identification, powder samples	Materials Science	
PHI 610 Scanning Auger Microprobe – surface composition and SEM imaging	Materials Science	
Optical Microscope with digital display/cameras	Materials Science	
Confocal Microscope	Materials Science	
Transmission Electron Microscope (TEM) – surface imaging	Earth & Planetary Sciences	Ken Livi
Microprobe compositional analysis	Earth & Planetary Sciences	Ken Livi
Microtomes for sample preparation	Earth & Planetary Sciences	Ken Livi
Nuclear Magnetic Resonance (NMR) for molecule identification (Bruker Avance 400 MHz FT-NMR, Bruker Avance 300 MHz FT-NMR, Varian Mercury 200 MHz FT-NMR)	Chemistry	Ananya Majumdar
X-ray photoelectron (XPS) and Auger (XAES) for surface composition analysis	Chemistry	Howard Fairbrother
VG Instruments VG70S magnetic sector mass spectrometer (MS), with FAB, DCI, EI, and CI ionization – small molecule identification	Chemistry	Dr Phil Mortimer
Finnigan LCQ ion trap mass spectrometer (MS) with electrospray ionization – can be coupled with liquid chromatography and used for multi-stage ionization	Chemistry	Dr Phil Mortimer
Kratos SEQ Kompact Matrix assisted laser desorption ionization – time of flight (MALDI-TOF) mass spectrometer – analysis of high-mass non-volatile molecules	Chemistry	Dr Phil Mortimer
Shimadzu GC17A/QP5050A gas chromatograph – mass spectrometer (GC-MS) with EI ionization – volatile organic analysis	Chemistry	Dr Phil Mortimer
Bruker Vector 33 Fourier transform – infrared (FT-IR) spectrophotometer	Chemistry	

Bruker EMX Electron Paramagnetic Resonance (EPR) spectrometer - structural information	Chemistry	
Jasco P-1010 polarimeter	Chemistry	
Xcalibur3 X-ray diffractometer (XRD) with CCD area detector	Chemistry	Dr. Amy Sarjeant
Atomic force microscope (AFM) – surface topography	Chemistry	

Analytical Equipment Available with Industrial Partners

Equipment Type	Industrial Partner	Contact
Fourier transform infrared (FT-IR) – structural information		
Infrared (IR) Microscope – spatially resolved structural information		
Gas Chromatography Infrared Spectrometry (GC/IR) – volatile organic analysis		
Thermogravimetric analysis (TGA) – change in weight relative to temperature		

Analytical Equipment Available in Conservation Department Lab

Equipment Type	Contact
Zeiss Axiomager Upright Microscope for reflected light Brightfield, Darkfield, C-DIC, Fluorescence with CAM HRC Digital Microscopy Camera and Vision Image Acquisition and Software for Interactive Measurement, Z-Stack and extended focus	
Sepia 70 Spectral Imaging Analyzer—spatially resolved color measurement of paper, papyri, parchment, textiles, etc., recognition of inks and mapping of writing, digitization with full color information, recovery of palimpsest writings	