

EQUIPMENT

Bruker D8 Venture Single Crystal X-Ray Diffractometer with DUAL Copper / Molybdenum X-ray Sources

Detector: PHOTON III CPAD

Source: High Brilliance microfocus $1\mu\text{S}$ 3.0 Copper (Cu) and Molybdenum (Mo) MX Source

Optics: HELIOS EF (Cu) and HELIOS (Mo) multilayer optics

Low Temperature: Oxford Cryostream 800 (Temp. Range 80 - 400K)

Applications: Crystallography, Microcrystallography, Cryo-Crystallography, Absolute Configuration

Materials: Single crystals. Inorganics, Organics, Organometallics, Supramolecules, MOFs, Peptides, Proteins



Bruker D8 Venture Single Crystal X-Ray Diffractometer With Single Copper X-ray Source

Detector: PHOTON III CPAD

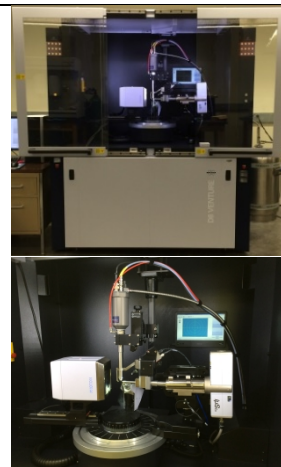
Source: High Brilliance microfocus $1\mu\text{S}$ Copper (Cu) MX Source

Optics: HELIOS multilayer optics with $100\ \mu\text{m}$ beam size

Low Temperature: Oxford Cryostream Plus (Temp. Range 80 - 400K)

Applications: Crystallography, Microcrystallography, Cryo-Crystallography, Absolute Configuration

Materials: Single crystals. Inorganics, Organics, Organometallics, Supramolecules, MOFs, Peptides



Bruker D8 ADVANCE Powder X-Ray Diffractometer with DAVINCI design

Detector: LYNXEYE high-speed 1-D detector
Optics: DAVINCI TWIN-TWIN optics, software controlled for automatic and tool-free switching of the diffraction geometry between Bragg-Brentano and Parallel Beam geometry
Primary Optics - variable slit / Goebel Mirror
Secondary Optics - variable / equatorial slit
Sample Stages:
Rotational sample stage
Capillary Sample Stage
Non-Ambient Sample Stage (Anton-PAAR TTK-450, Temp. Range: 25°C - 450°C)
Applications: very fast collection, phase identification, purity, quantitative analysis, size-strain analysis, structure determination and refinement, strain analysis, thin films analysis, grazing incidence, rocking curve.
Materials: Crystalline Powders, Thin Films

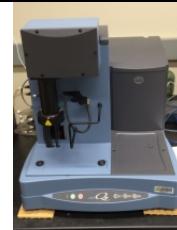


Bruker D2 PHASER Powder X-Ray Diffractometer

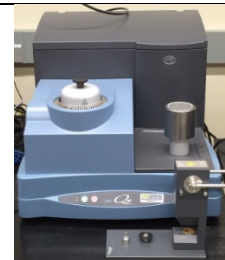
Detector: SSD160-2 1-D compound silicon strip detector
Optics: Plug-in Divergence Slits, Ni-filters
Sample Stages: Rotating sample stage
Applications: phase identification, purity, quantitative analysis, structure determination and refinement, rocking curve.
Materials: Crystalline Powders



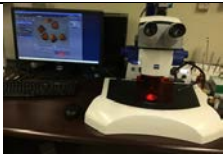


**Thermogravimetric Analyser
TA TGA Q50**



**Differential Scanning Calorimeter
TA DSC Q20**



<p align="center">FT IR Spectrometer Perkin Elmer Spectrum Two</p>	
<p align="center">XRD–Mill McCrone</p> <p>Sample preparation for powder X-ray diffraction analysis (PXRD)</p> <p>The unique grinding action of the XRD-Mill McCrone rapidly reduces 0.5mm particles to submicrometer sizes required for quantitative and qualitative analytical methods. Due to the very gentle size reduction process used by this mill, the crystal lattice of the sample is preserved.</p>	
<p align="center">ZEISS SteREO Discovery.V8</p> <p>Stereo Microscope for transmitted light, polarized, oblique, darkfield and reflected light with CMOS 5mp AxioCam ERc 5s camera for image capture, processing and simple measurements</p>	

SOFTWARE	
Bruker APEX3 SUITE	Data collection and processing software for Single Crystal X-Ray Diffraction
Bruker EVA(LUATION)	Phase analysis and identification from powder diffraction data
Bruker TOPAS	Profile and structure analysis software for Powder Diffraction
Cambridge Structural Database System (CSD)	Database of small molecule organic and metal-organic crystal structures
ICDD-PDF2 Database	Database of Powder Patterns of Inorganic Materials