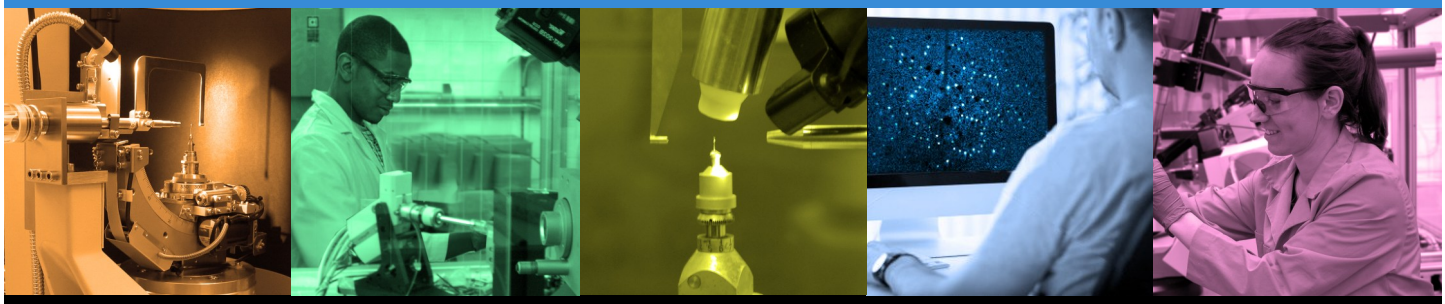

X-RAY CRYSTALLOGRAPHY

Data collection, analysis, training, and consultation.

Quality scientific results require superior instrumentation. The Department of Chemistry at Purdue has long been a leader in advancing measurement science. Our X-ray Crystallography Laboratory is well-equipped to handle all single crystal diffraction experiments – with an emphasis on economical student-use and efficient turnaround.

APPLICATIONS

Single crystal structure studies provide important chemical details including:

- The chemical composition and connectivity of a compound.
- The absolute confirmation of optically active materials
- Inter- and intra-molecular bond distances, angles, and torsional angles which can be used in analyzing bonding.
- Variable temperature data collection to study the effects of temperature on the crystal symmetry and packing.

Rate/ Structure	User Charges	Dept. Subsidy	F&A Charge	Total User Rate
Internal Chemistry	$407.56	$182.56	$0	$225
Internal Non-Chemistry	$407.56	$0	$0	$407.56
Hourly Consultation Fee	User Charges	Dept. Subsidy	F&A Charge	Total User Rate
Internal Users	$70	$0	$0	$70

INSTRUMENTATION

Our laboratory prides itself on providing rapid, quality results – usually within a week or less upon receipt of the crystals.

Our current instrumentation includes:

Rigaku Rapid II
Image plate diffractometer equipped with a MicroMax002+ high intensity copper x-ray source.

Nonius KappaCCD
Diffractometer on a sealed tube molybdenum source.

Oxford Cryosystems
Low temperature device capable of temperatures from 400 to 90K.

Dr. Phillip E. Fanwick is an experienced crystallographer with more than four-thousand citations and extensive experience in both organic and inorganic small molecule crystallography. He can assist in collecting the data, solving the structure, and provide a report suitable for publication. He is also available for consultation with regards to growing crystals, interpretation of data, and other aspects of structural studies.

Phillip Fanwick, Ph.D., *Director*
pfanwick@purdue.edu

www.chem.purdue.edu/xray