Major Equipment

Small Molecule X-ray Diffraction Core Facility: (Directed by Professor Orion B. Berryman; Managed by Assistant Research Professor Daniel Decato) The X-ray Diffraction Core Facility is in the basement of the newly renovated ISB (Rm 016). The small molecule facility came online in 2014 and was made possible by NSF MRI grant CHE1337908. The Core serves as a regional facility servicing users at University of Montana, Washington State University, Utah State University, University of Idaho, Boise State University, Western Washington University, Carrol College, Montana State University and University of Wisconsin, Eau Claire. Since its inception, the facility has collected >1000 data sets for over 21 labs resulting in over 55 publications, 2 patents and numerous grant applications. The facility houses a Bruker D8 Venture dual source (Triumph Mo, Cu microfocus (IμS) Kα radiation fixed-chi goniometer) X-ray diffractometer with PHOTON 2 7 CPAD detector. The diffractometer also integrates with an Oxford Cryostream 700 Plus liquid nitrogen cryo-cooling system permitting data collection across a wide range of temperatures (80-400K). The facility is also equipped with a Nikon SMZ1270 Stereo microscope (> 100x magnification) with DS-Fi3 camera (5.9-megapixel CMOS image sensor) and L4 camera control unit for imaging crystals. The facility also maintains a Mettler Toledo HS84 DSC hot-stage system offering precise temperature control of samples with the ability to conduct DSC measurements with simultaneous observation of samples. The facility provides all necessary crystal harvesting and mounting materials (e.g. mounting loops and bases, oils, slides, crystal manipulators, etc.) The core maintains two Dell workstations with access to the Cambridge Crystal Structure Database.