

FACILITIES, EQUIPMENT & OTHER RESOURCES

FACILITIES: Identify the facilities to be used at each performance site listed and, as appropriate, indicate their capacities, pertinent capabilities, relative proximity, and extent of availability to the project. Use "Other" to describe the facilities at any other performance sites listed and at sites for field studies. USE additional pages as necessary.

Laboratory: The PI has dedicated laboratory space of 1200 sq. ft. equipped with: three hoods, two high-vacuum lines, two Schlenk line manifolds, and an Aglient 8453 UV-visible spectrophotometer equipped with a Unisoku cryostat for low-temperature experiments. In addition, the PI has a Vacuum Atmospheres Omni-Lab glovebox system with refrigerator. The glove box is attached a Vacuum Atmospheres solvent purification system that directly supplies three types of dry, degassed solvent.

Clinical:

Animal:

Computer: The PI has three HP 6000 desktop computers for density functional theory (DFT) calculations. In addition, he has access to Marquette's new high performance computing cluster (MU Grid), which consists of a centralized computer cluster (1024 cores) and a distributed pool containing over 500 cores.

Office: The PI has private office space with internet connection, computer, telephone, and access to photocopies, fax machine and scanner.

Other:

MAJOR EQUIPMENT: List the most important items available for this project and, as appropriate identifying the location and pertinent capabilities of each.

- Departmental Varian 300, 400, and 600 MHz NMR instruments, with broadband probe and variable temperature capabilities. The NMR facility has a full-time staff person, Dr. Sheng Cai.
- Departmental single-crystal diffractometer with powder diffraction capabilities. The instrument is an Oxford Diffraction SuperNova kappa-diffractometer equipped with dual microfocus Cu/Mo X-ray sources, X-ray mirror optics, Atlas CCD detector and low-temperature Cryojet device. The diffractometer is operated and maintained by a full-time staff person, Dr. Sergey Lindeman.

OTHER: Provide any information describing the other resources available for the project. Identify support services such as consultant, secretarial, machine shop, and electronics shop, and the extent to which they will be available for the project. Include an explanation of any consortium/contractual arrangements with other organizations.

- The Chemistry Department houses its own electronics shop.
- The Department of Engineering at Marquette University has a fully-equipped machine shop.
- The Chemistry Department has a staff crystallographer (Sergey Lindeman) and an NMR staff person (Sheng Cai).
- The Chemistry Department has a Matteson IR instrument, a Hewlett-Packard GC/MS, UV-vis and steady-state emission spectrometers.

- Resonance Raman experiments will be performed in the laboratory of Prof. James Kincaid at Marquette University (see attached letter of collaboration).
- Electron Paramagnetic Resonance experiments will be performed at the Medical College of Wisconsin in Milwaukee (see attached letter of collaboration).
- Magnetic Circular Dichroism experiments will be performed in the laboratory of Prof. Thomas Brunold at the University of Wisconsin – Madison (see attached letter of collaboration).
- Electrospray Ionization Mass Spectrometry (ESI-MS) will be performed at the Medical College of Wisconsin, Milwaukee or the University of Wisconsin – Madison.
- Elemental analysis will be performed at Midwest Microlab, Indianapolis, IN, on a per fee basis.