

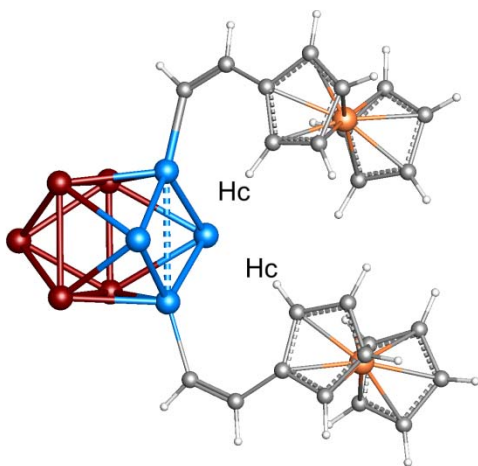
## Germanium Nanoclusters and Organometallic Research

### Experimental Organometallic Chemistry

Dr. Michael Hull

CIE 1410; 660.562.0826: [mhull@nwmissouri.edu](mailto:mhull@nwmissouri.edu)

### Primary Funding: Northwest Applied Research

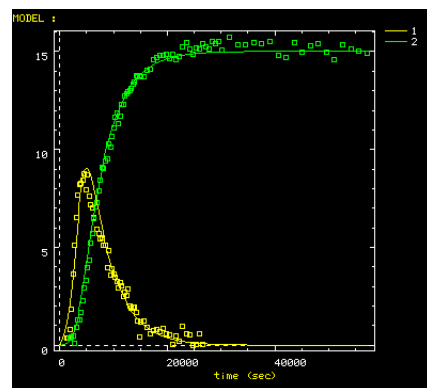


**Description:** Germanium nanoclusters have the potential for a wide range of applications. Germanium—like silicon—is a semiconductor, and these nanoclusters have interesting optical and electronic properties. Our group is interested in incorporating these nanoclusters into polymers and other functional materials, whereby the optical and electronic properties of the germanium nanoclusters can be harnessed. This work is being done in collaboration with researchers at the University of Notre Dame.

Students in Dr. Hull's research group work on individual, interdisciplinary research projects spanning organic, organometallic, and inorganic synthesis. They develop the skills necessary to manipulate air- and moisture-sensitive

chemicals through the use of Schlenk lines, a glovebox, and a solvent purification system. These projects provide the opportunity to learn a variety of techniques and instrumentation, including Nuclear Magnetic Resonance (NMR) spectroscopy, single-crystal X-ray diffraction, electrospray ionization mass spectrometry, Ultraviolet/Visible (UV/Vis) spectroscopy, and infrared spectroscopy.

These research projects give students a broad introduction into the synthetic, mechanistic, and structural investigations that make up molecular chemistry.



### ➤ Student Researchers

- J.R. Robertson (Spring 2011—Present)
- Jay Taylor (Fall 2010—Present)
- Sara Maria Jensen (Spring 2010—Present)
- Jacob Taylor (Spring 2010—Present)
- John Lomax (Spring 2010—Fall 2010)
- Patrick Hallet (Spring 2010)
- Jeremy Blake (Spring 2010)