

**CRE Faculty Name:** Meng Zhou

**Project Title:** "Synthesis, Characterization, and Catalytic Activities of Nanoparticle Catalysts"

**CRE Course:** CHM 3463 – Advanced Synthesis Laboratory

**Student Researcher Name(s) and Major(s):** Xinrui Zhou (Chemical Biology and Business Administration)

**Project Description:**

We synthesized low-oxidation-state iridium nanoparticles using polyvinylpyrrolidone as the stabilizer. The polyvinylpyrrolidone-stabilized 2 nm iridium nanoparticles catalyzed the transfer hydrogenation reactions of acetophenone and nitrobenzene. The nanoparticles and the surface stabilizers were characterized using elemental analysis, XPS, PXRD, FT-IR, and UV-vis spectroscopy. Post-mortem analysis of the catalyst at the end of the reaction was carried out.