2. New multidentate thioethers

Inspired by our success with poly(pyrazolyl)silane ligands, we have also introduced new families of
tetradentate, tridentate, and bidentate thioethers of general formula \( \text{Me}_n\text{Si}(\text{CH}_2\text{SR})_{4-n} \) \((n = 0, 1, 2; \text{R} = \text{Me, Bu, Ph})\). We have explored and continue investigating the coordination chemistry of these ligands
and have prepared many new complexes, including zerovalent group 6 metal derivatives \( \text{LM(CO)}_3 \) \((\text{M} = \text{Cr, Mo, W})\) and several interesting coordination polymers of Cu(I), Ag(I), Zn(II), Cd(II), Hg(II), and Bi(III).

An interesting new application of some of these thioethers is their ability to control the growth \(i.e.,\) size and shape of unusual gold nanoparticle assemblies, a project that is carried out in collaboration with
Prof. Chuan-Jian ("CJ") Zhong (SUNY-Binghamton).

Some recent publications:


