

Electronic Tuning of Magnetic Exchange in Phenoxy-bridged Dinuclear Transition Metal Complexes



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Our research is geared toward understanding the connection between the structures of molecules and their physical properties. In particular, we are interested in the extent to which we can use fundamental concepts from the field of organic chemistry to tailor the magnetic properties of inorganic compounds.

We have synthesized a series of copper dimers using a Schiff-base macrocycle scaffolding. X-ray crystallography has confirmed that substituents on the aromatic ring cause minor perturbation of the Cu-O-Cu angle. Work is currently underway to measure the magnetic susceptibility of the Cu(II)₂ complexes.

