

Metal-Ligand and Metal-Metal Cooperativity in Fe/Cu Catalyzed Hydrogenation Reactions

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One of the rapidly growing areas of research involves the development of first-row transition metal-based catalysts for chemical transformations. The need for such efforts has been motivated by the fact that precious metals, which are widely used today for synthesizing commodity and specialty chemicals, are expensive, limited in supply, and sometimes difficult to remove from organic products. In this talk, I will present our efforts in developing hydrogenation catalysts based on iron, copper, or both. The success of these catalysts relies on the synergistic action between the ligand and the metal or two different metals.