

Poster Presentation

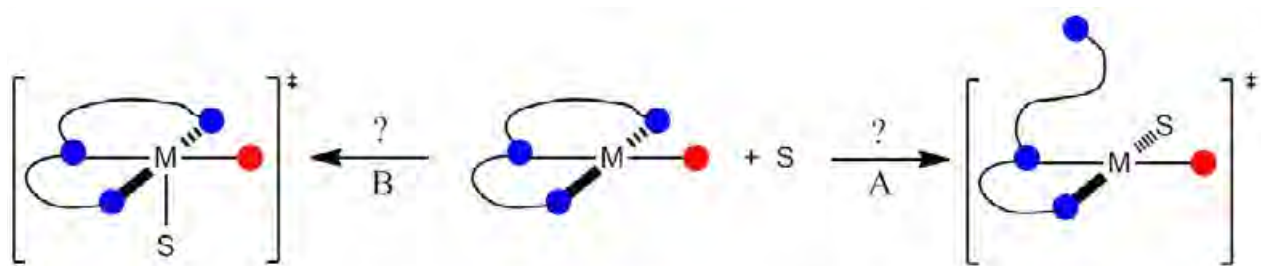
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Synthesis & Xray structures of Rare Pentacoordinate Pincer Complexes of Ni(II)

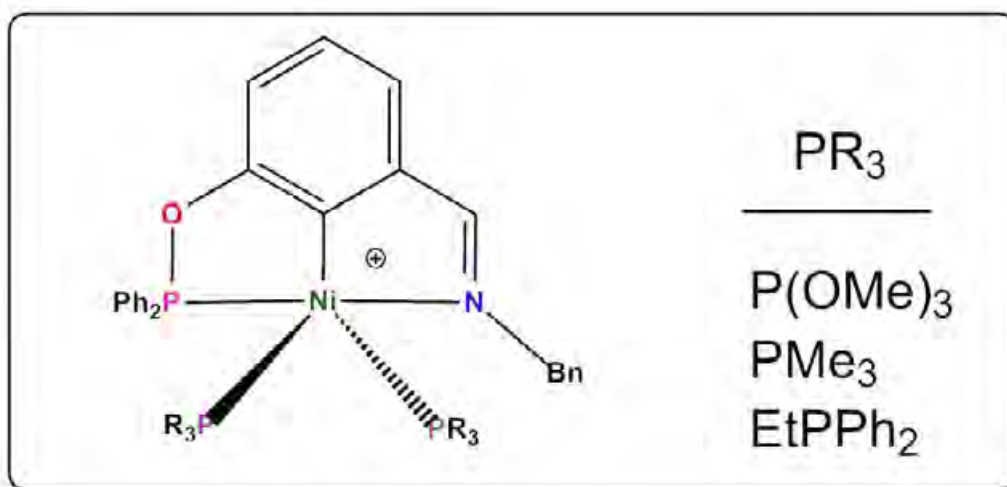
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Pincer complexes have been a major focus in organometallic chemistry over the past four decades due to their important potential in catalysis and materials science. In the case of pincer complexes of d8 metals, a growing number of charge-neutral and cationic derivatives featuring hydrides, alkyls, and other reactive moieties have been shown to catalyze important transformations. Regarding the mechanisms of these catalytic reactions, an important issue that remains unresolved concerns the type of intermediates formed upon substrate uptake, namely: A: Do substrates displace one or more hemi-labile donor moieties of the pincer ligand? Or B: Does the substrate occupy a fifth coordination site while the pincer ligand remains intact (Scheme 1)? In this presentation, Xray crystallography is used to describe the influence of the substitue on the 18-electron species based on POCN-Ni precursors. These new diamagnetic complexes are proposed as models for the intermediates that might be involved in catalytic reactions promoted by this family of complexes (Scheme 2).



Scheme 1: Potential intermediate



Scheme 2: POCN-Ni precursors

Keywords: Nickel Pincer complexes, 18-electron species, Pentacoordinate