

More Than Only Ferrocene - Low-coordinate Iron Half-Sandwich Complexes

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Iron centers play a crucial role in many biological processes, consequently iron coordination chemistry is well-documented in the literature in contrast to low-coordinate mono(cyclopentadienyl) iron complexes. The major reason for this is the facile formation of ferrocene. However, sterically demanding alkylcyclopentadienyl ligands allow the isolation and characterization of a broad variety of paramagnetic and diamagnetic, low-coordinate monocyclopentadienyl half-sandwich complexes which have been structurally characterized and investigated with respect to their reactivity, bonding and electronic structure. As one example, the synthesis of the dimeric monocyclopentadienyl iron(IV) nitrido complex, $[\text{Cp}^*\text{FeN}]_2$, and its reactivity will be presented.

