TRIANIONIC NCN^{3-} PINCER COMPLEXES OF CHROMIUM: Kevin P. McGowan, Khalil A. Abboud, and Adam S. Veige. Center for Catalysis, University of Florida, P.O. Box 117200, Gainesville, Florida 32611.

A series of Cr(II), Cr(III), and Cr(IV) complexes supported by a trianionic NCN^{3-} pincer ligand were synthesized by treating {[2,6-^{i}PrNCHN]Li_2} with $CrMeCl_2(THF)_3$. Disproportionation provides the Cr(IV) and Cr(II) complexes. Single crystal X-ray experiments indicate a rare Cr(IV) methyl complex is stable at room temperature. Upon thermolysis in benzene-d_6, the Cr(IV) methyl complex undergoes a C-C bond forming reaction with benzene to provide $C_6D_5CH_3$ and $(C_6D_5)_2$. The metal containing product from the thermolysis is the same Cr(II) species formed during metallation except a one of the protons is substituted for a deuterium from benzene-d_6. The thermolysis results indicate the active species in the regioselective isomerization of 1-alkenes to 2-alkenes is the Cr(II) species. Details of the synthesis and mechanistic study will be presented.