

L. Mechanisms of Organometallic Reactions

In collaboration with the Knochel group, we are investigating structure-reactivity relationships in organometallic reactions. Competition experiments on magnesium/halide exchange reactions in haloarenes with *i*PrMgCl–LiCl (# 246, 269, 274) and in Negishi cross-couplings (# 279) have revealed the different transition states in the corresponding metallation steps (Figure 9); furthermore, we have quantified the difference in reactivity between carbanions and organometallics (#371).

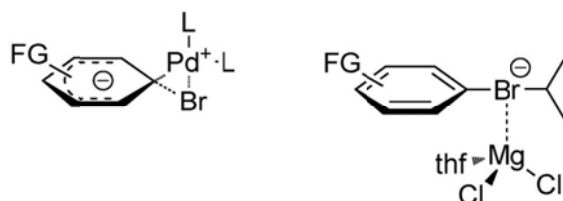


Figure 9. Comparison of the transition states of the oxidative addition of PdL₂ and of the Br–Mg exchange with *i*PrMgCl·LiCl.