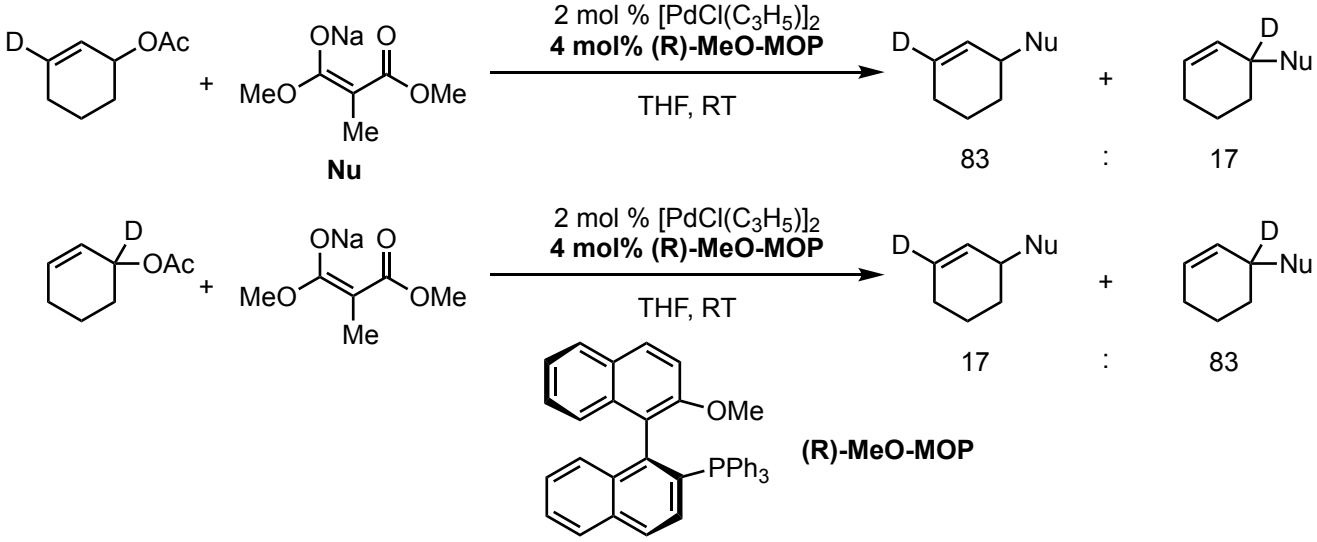
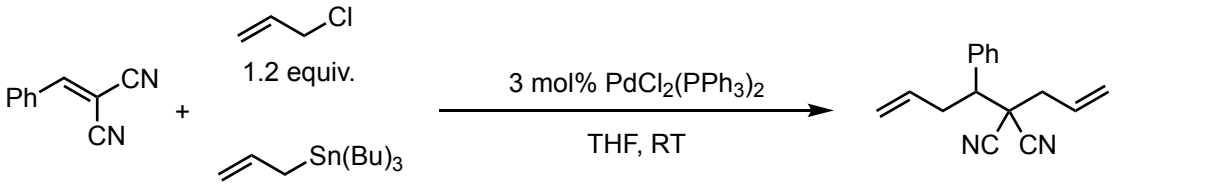
**Problem Set #012 (Griffin)**

**(1)** *Allylic substitutions with Pd-complexes can be regioselective**. Propose a cause for the divergence in selectivity:***



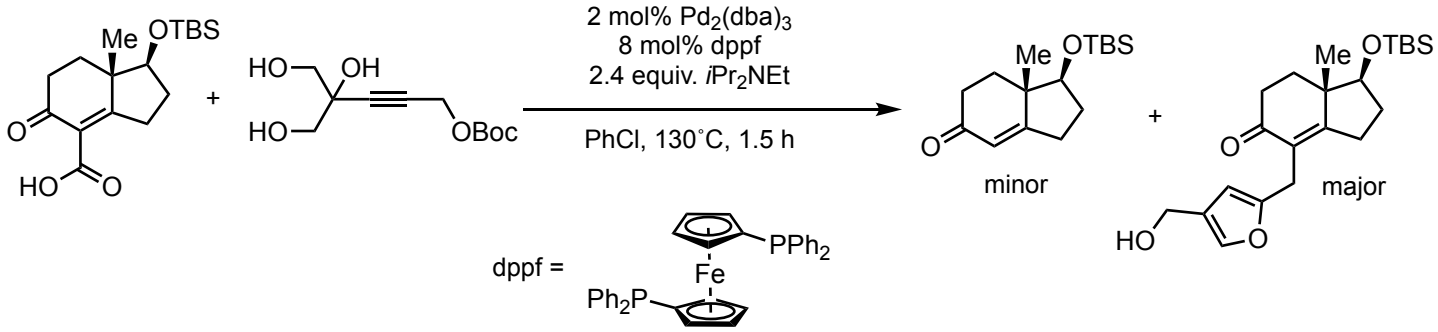

*J. Am. Chem.* **1998**, *120*, 1681-1687.

**(2)** ***Mechanism:*** *Easiest to begin assuming Pd(0) is formed initially. Draw out Pd complex in each step. What causes the divergence in reactivity in the Pd-allyl complexes formed?*




*J. Am. Chem. Soc.,* **1997**, *119*, 8113-8114.

**(3)** ***Mechanism for both products:***




*J. Am. Chem. Soc.,* **2017**, *139*, 6815-6818.