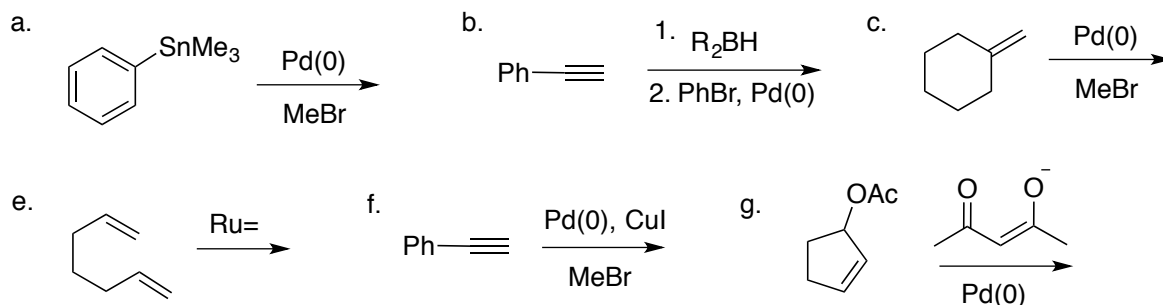
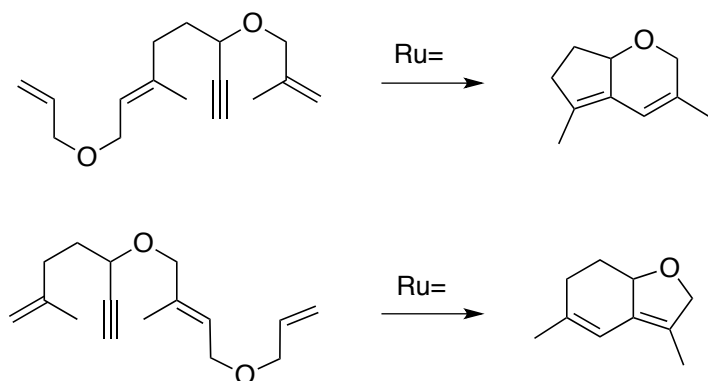


Metal Catalyzed C-C Bond Formation

1. Predict the Products of the Following Reactions and Show a Mechanism



2. The following reactions are known as relay metathesis reactions developed by Tom Hoyer and coworkers at U of Minnesota (JACS, 2004, 10210). Depending on where the relay starts, they can lead to two different reactions. Propose a mechanism and provide a rationale for the relative product formations.



3. Propose a possible synthesis for the following molecules starting with molecules of 3 carbons or less.

