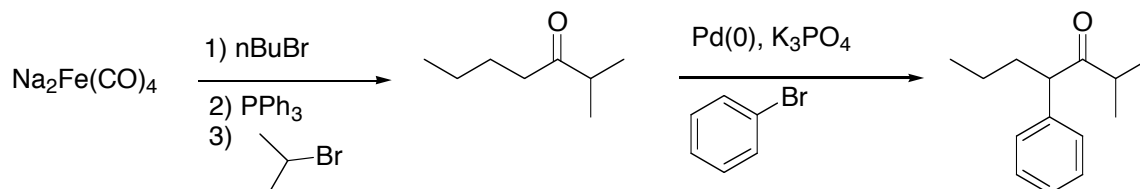
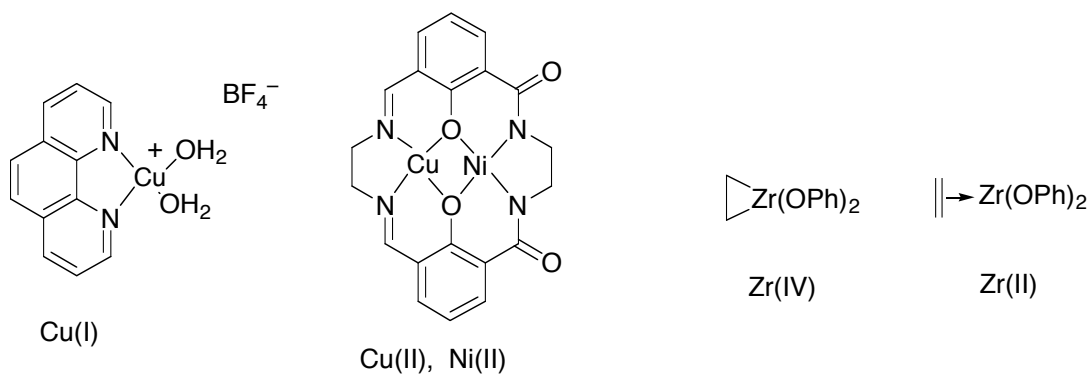


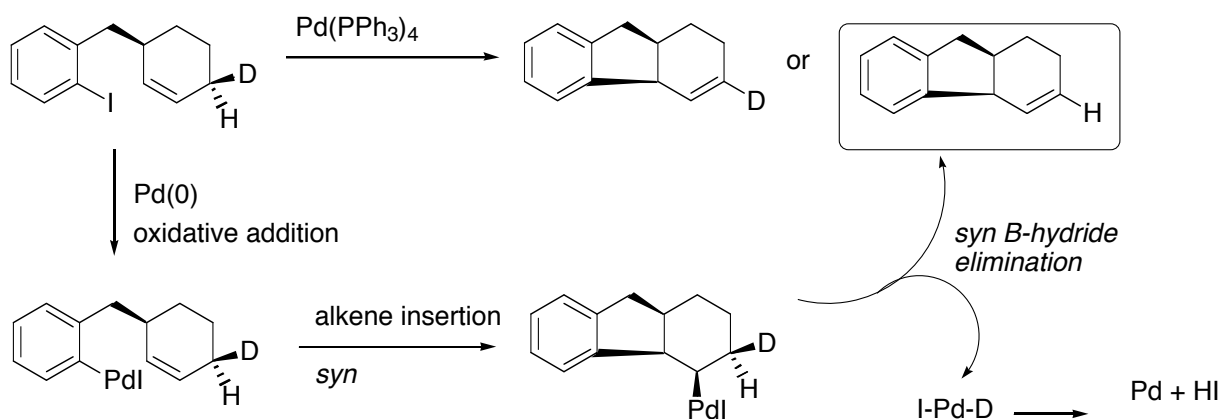
1. Propose a synthesis from bromobenzene and any materials with 4 carbons or less  
*a possible solution not discussed in class*



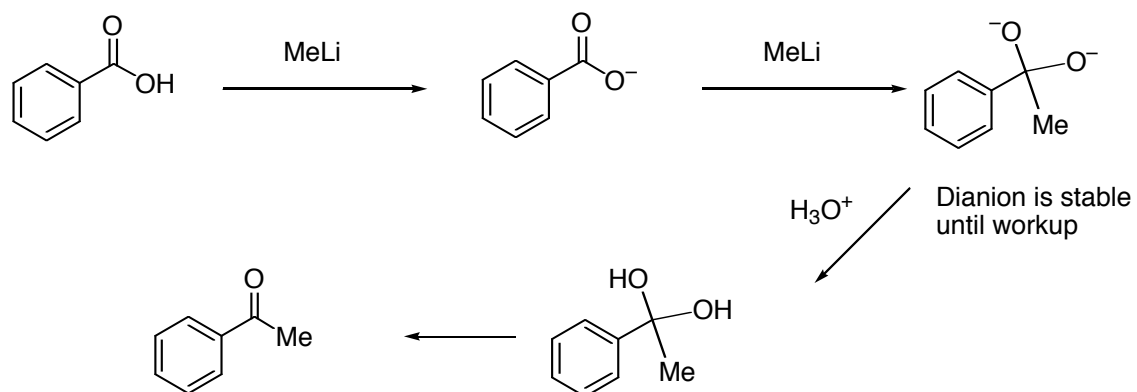
2. Indicate the formal oxidation state of the metals in each complex



3. Predict the product. Explain with a detailed mechanism



4 Ethyl benzoate is straightforward. For benzoic acid:



5. Esters can be directly converted into ketones, however, in the presence of excess LDA. Rationalize this observation



LDA enolizes the intermediate ketone. Thus, it cannot react further with MeLi

