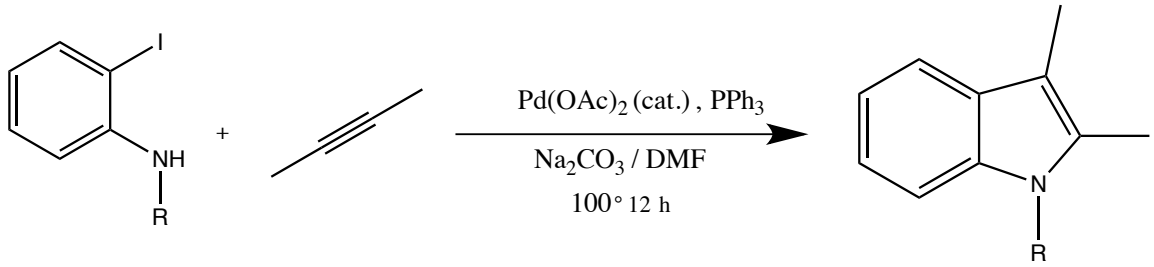
Engle Lab Problem Set # 2
8/27/15

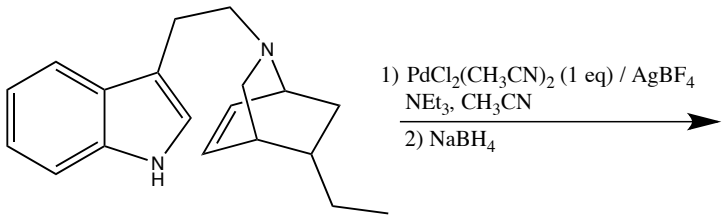
1. Provide the Name Reaction and the mechanism for the following transformation, including the formation of the active catalyst:

(Hint: The active catalyst is Pd^0)



JACS **1991** 113 (17)

2. Provide the product for the following reaction along with a detailed mechanism.



JACS **1978** (100) 3930

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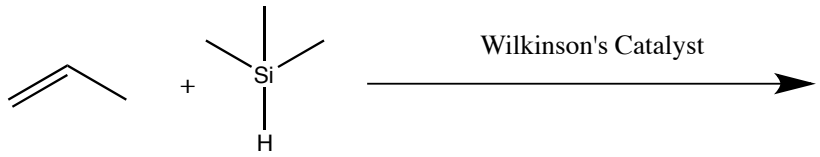
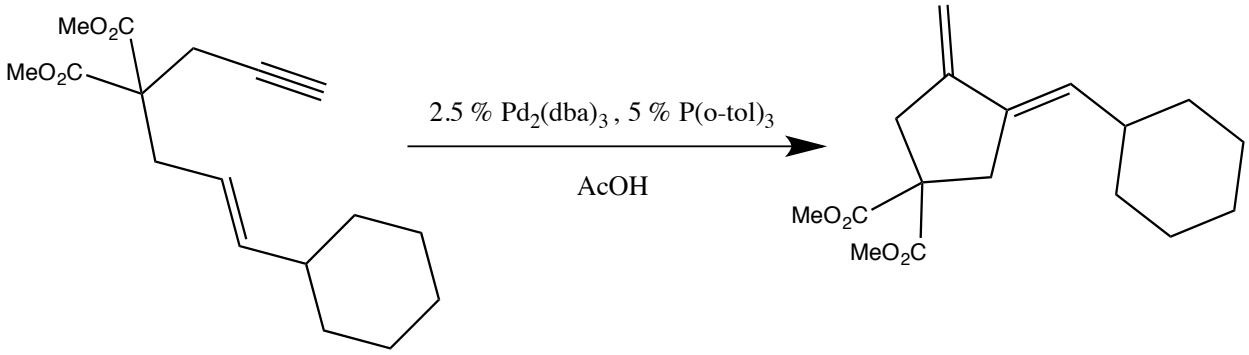
3. Provide the structure of the catalyst, the reaction mechanism, and the major product.



4. Provide a plausible mechanism for the following reaction (you may skip activation of the catalyst):



OM **1990** (9) 2877.

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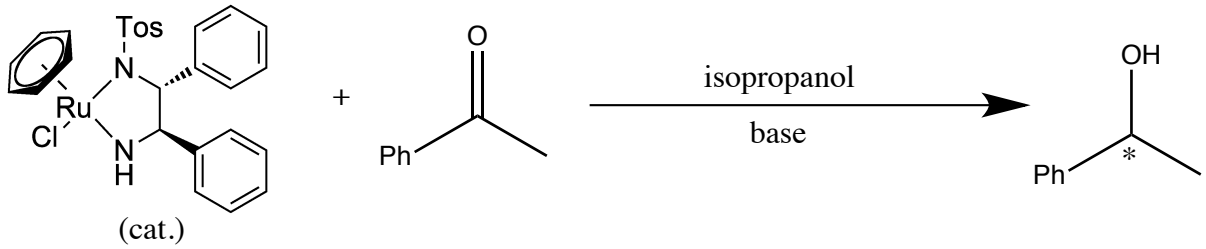
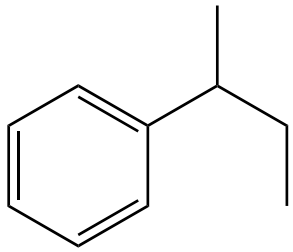
5. Provide the Name Reaction and a plausible reaction mechanism for the following reaction:



JOC **2001** (66) 7931.

6. Provide a retrosynthesis for the compound below from commercially available starting materials (preferably using one organometallic process), and provide the mechanism for the key step.



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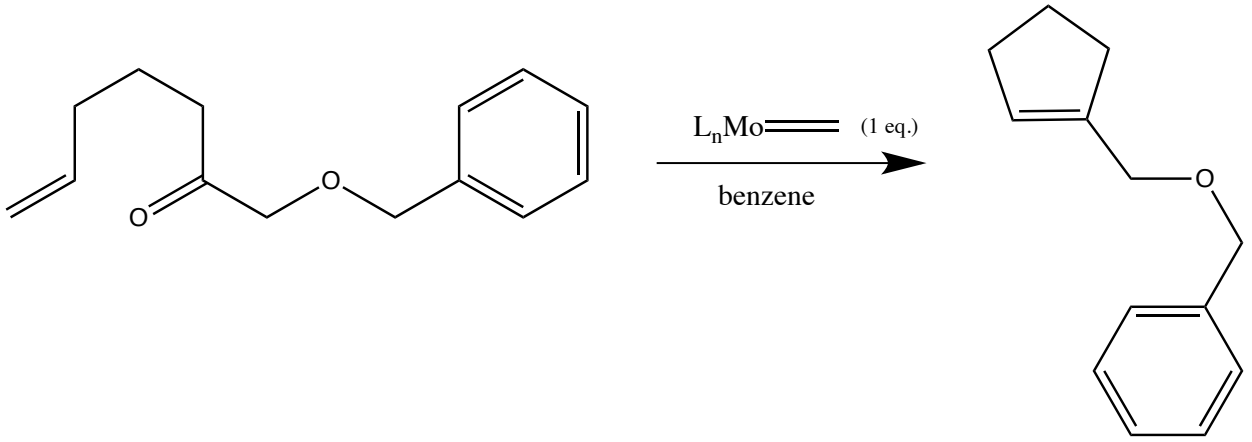
7. Provide a plausible mechanism for the following reaction:



JACS **1990** (112) 3875.