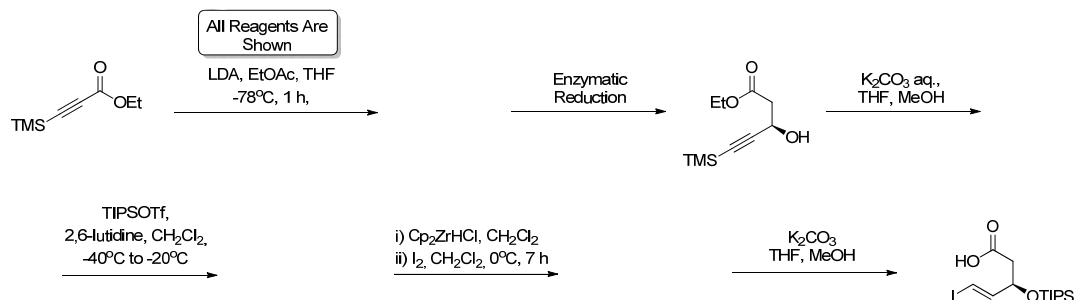


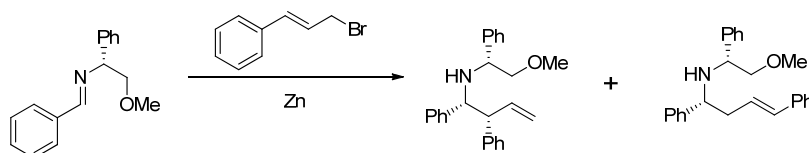


## Problem Set No. 4

1. Fill in the missing structures and provide an arrow pushing mechanism for the reaction using the Schwartz reagent.



2. Provide a mechanism for the following reaction making sure to explain both products and observed stereochemistry.



3. Provide an example from the literature and a mechanism for the following reactions:

a. Corey-Chaykovsky Cyclopropanation

b. Furukawa-Simmons-Smith Cyclopropanation

4. What is the name of the following reaction? Draw the products formed and their stereochemical relationship. Draw the nucleophilic zinc species that is formed.

