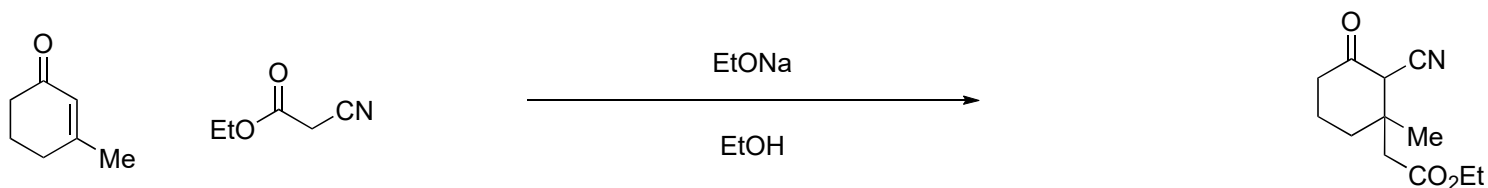


**Provide a reasonable mechanism for the following transformations. Rationalize the stereochemistry when necessary**

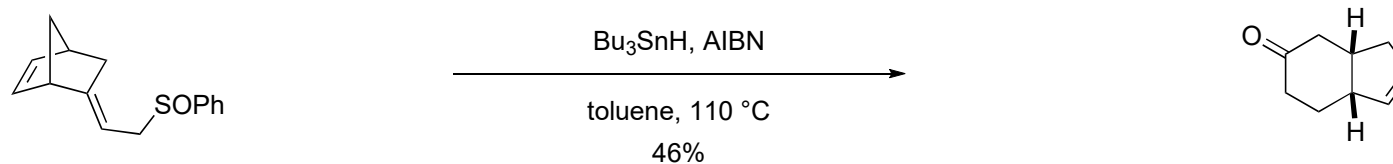
**A**

Assume that you have a rapidly equilibrating mixture of two conformers A and B (rate constants  $k_A$  and  $k_B$  with  $k_B > k_A$ ) from which two products  $P_A$  (rate constant  $k_1$ ) and  $P_B$  (rate constant  $k_2$ ) are produced. Draw an energy diagram that reflects the situation where the equilibrium population of conformers is the same as the product ratio.

**B**



**C**



**D**

