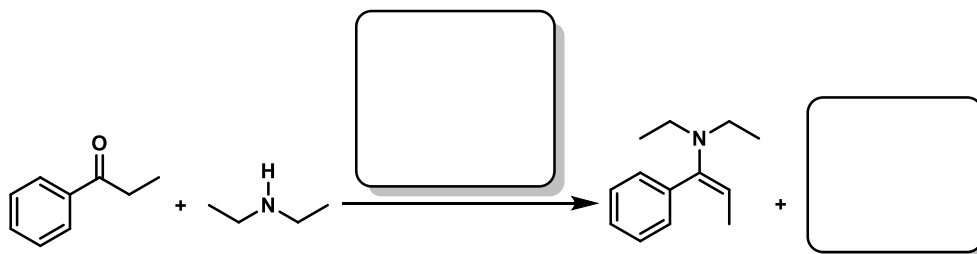


1. **Mechanism.** First, provide the reagent needed above the arrow and the by-product you would expect from the reaction below. Then, give an arrow-pushing mechanism for the transformation. You may use HA and A⁻ if acid / base are needed. (6 points)



Area for drawing the arrow-pushing mechanism.

2. **Synthesis.** Complete the synthesis below by filling in each box with the correct products from each reaction. (4 points)

