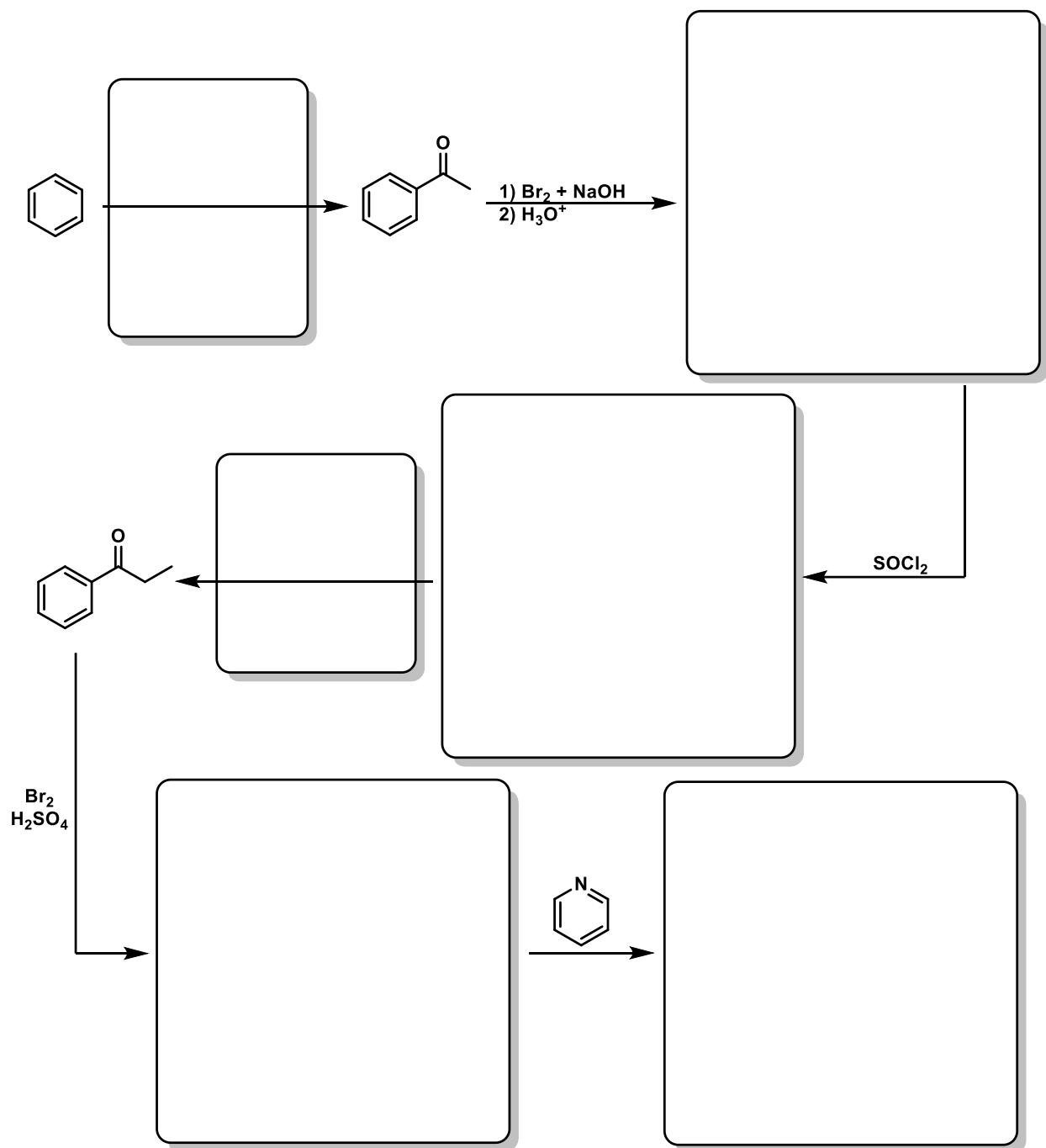
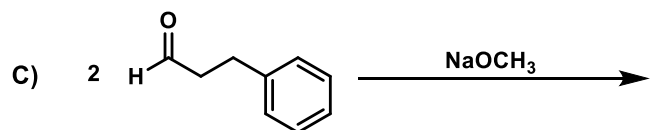
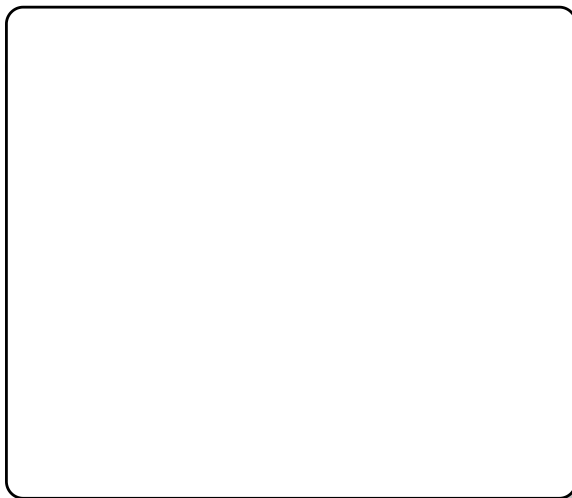
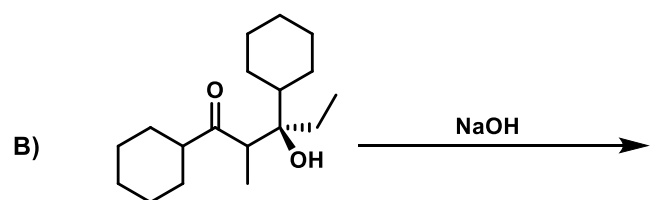
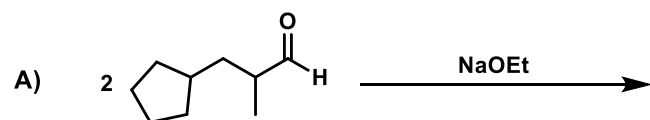


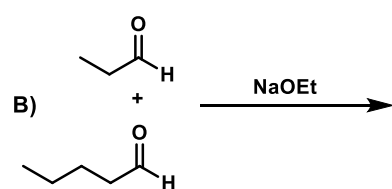
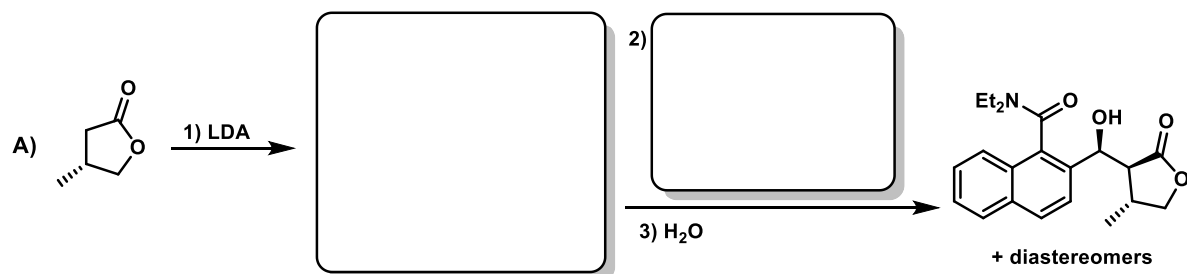
1. Fill in the boxes with the correct intermediates / reagents / products for the following synthesis.



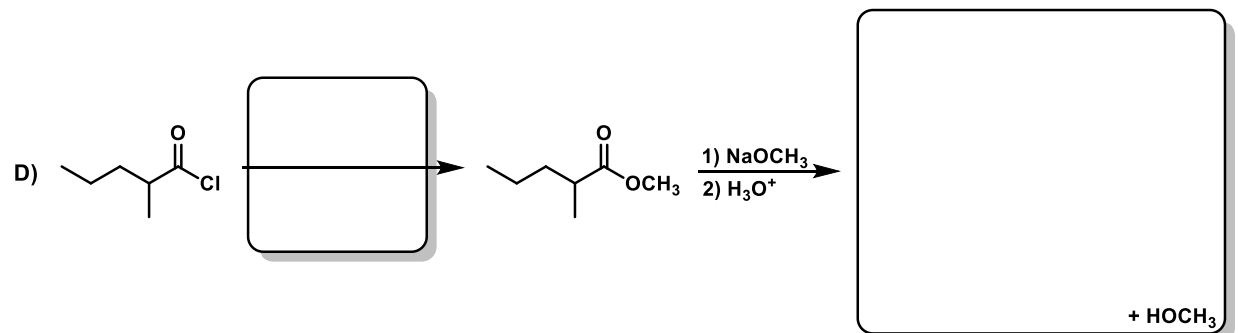
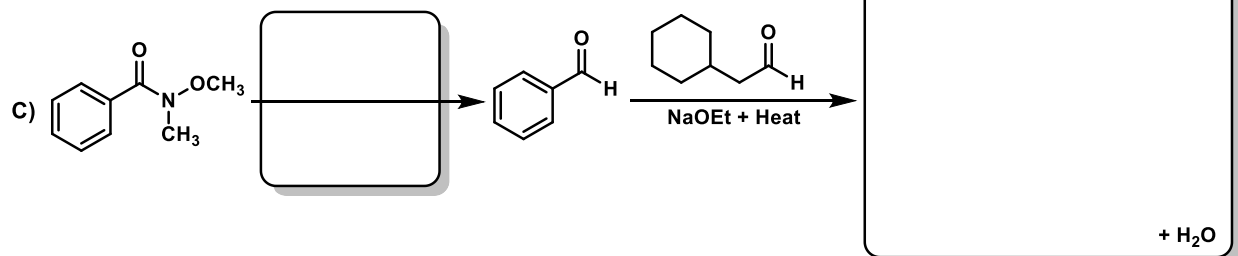
2. Fill in the final products you would expect from the following Aldol and Retro Aldol reactions.



3. Fill in the boxes with the correct intermediates / reagents / products for the following syntheses.



List All Possible Products



4. **Mechanisms.** Provide a step-wise mechanism for the following transformations.

