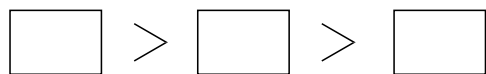
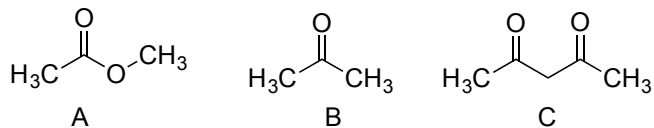


Midterm 2, Chem 51C, Jarvo, Spring 14

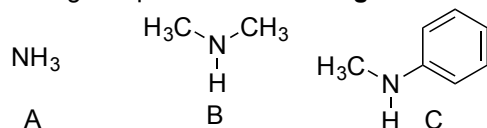
Initials: _____

1 (24 points).

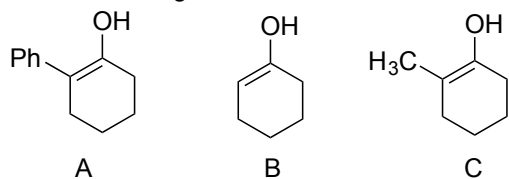
a. Rank the following compounds from **most to least** acidic.



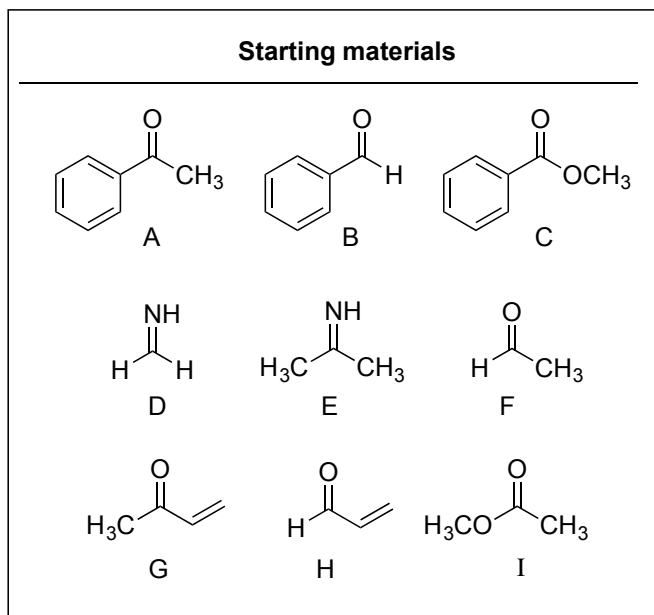
b. Rank the following compounds from **strongest to weakest** base.



c. Rank the following enols from **most to least** stable:



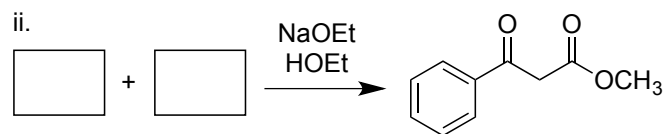
d. Which starting materials would you combine in the presence of NaOEt and HOEt to complete the syntheses?



Name of reaction:



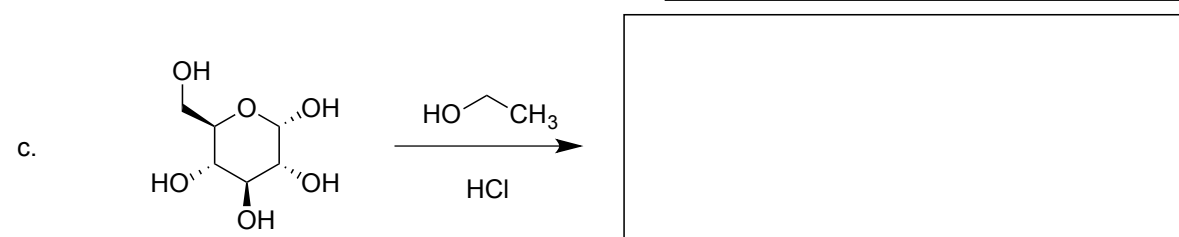
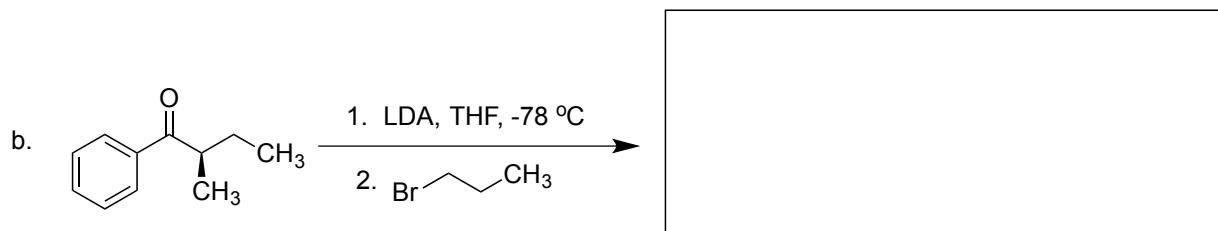
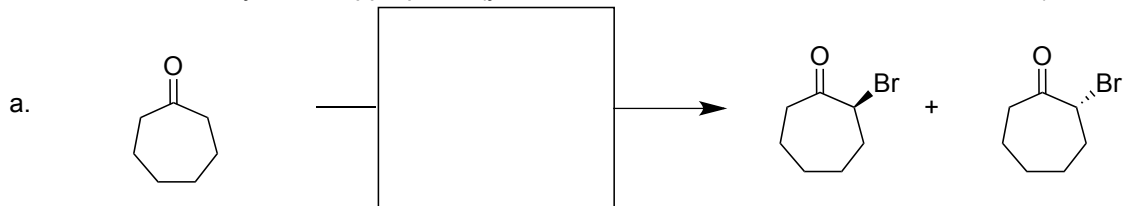
Name of reaction:



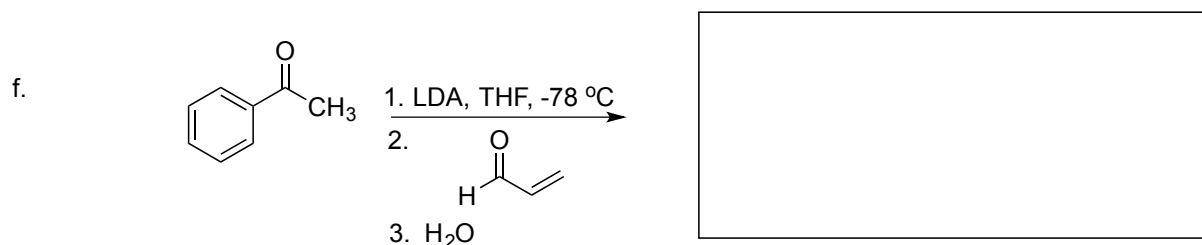
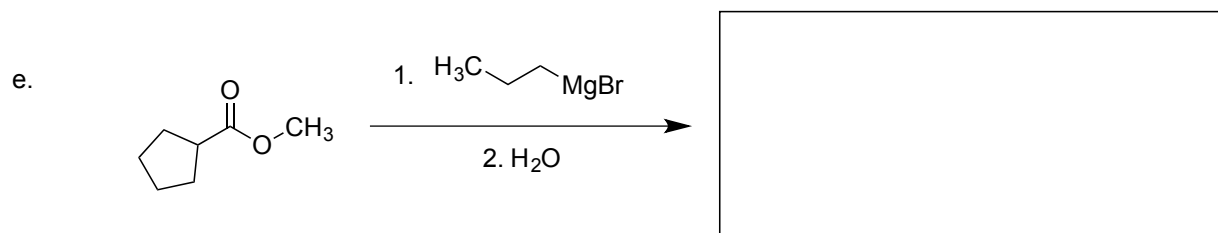
Name of reaction:

2. Fill in the boxes with the appropriate starting material, reagent or major product (27 points).
 Show stereochemistry where appropriate (you must DRAW the enantiomers/diastereomers)

Initials: _____



Is this carbohydrate: D or L: α or β :

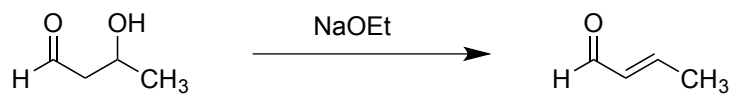


What is the name of this reaction?

3. (16.5 points) Provide an arrow-pushing mechanism.

Initials: _____

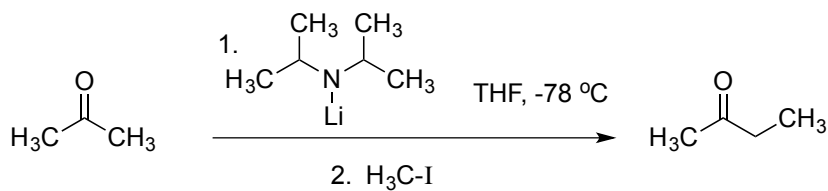
a.



What is the name of this mechanism?

Mechanism:

b.



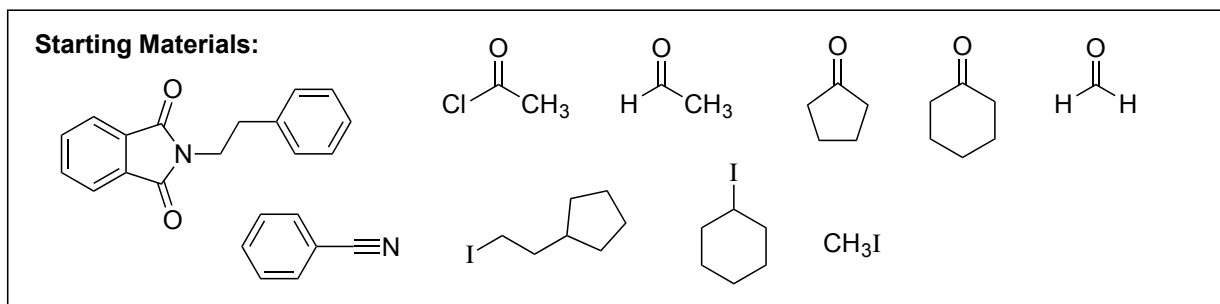
What is the pK_a of acetone (the starting material)?

Mechanism:

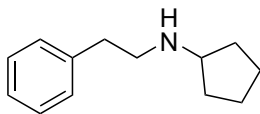
4. (14 points) Propose syntheses of the targets below.

Initials: _____

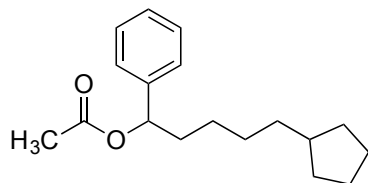
All carbons must come from the starting materials provided, you can use any reagent you wish.
YOU CAN IGNORE STEREOCHEMISTRY.



Target A.



Target B.

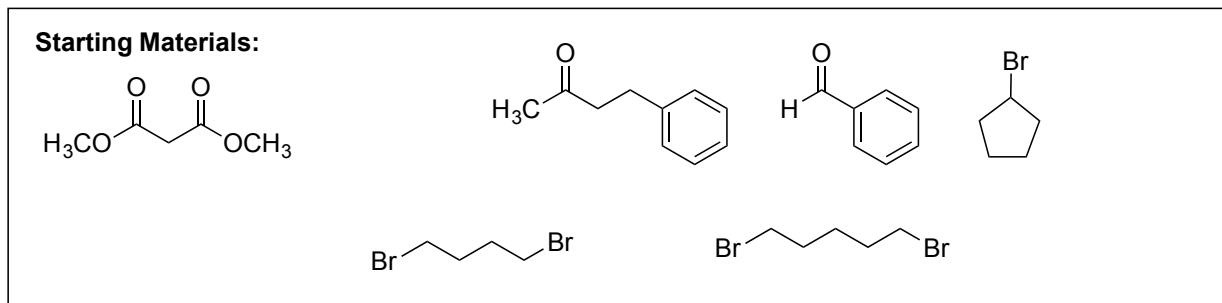


5. (12 points) Propose syntheses of the targets below (10 points).

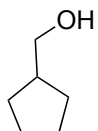
Initials: _____

All carbons must come from the starting materials provided, you can use any reagent you wish.

YOU CAN IGNORE STEREOCHEMISTRY.



Target A.



Target B.

