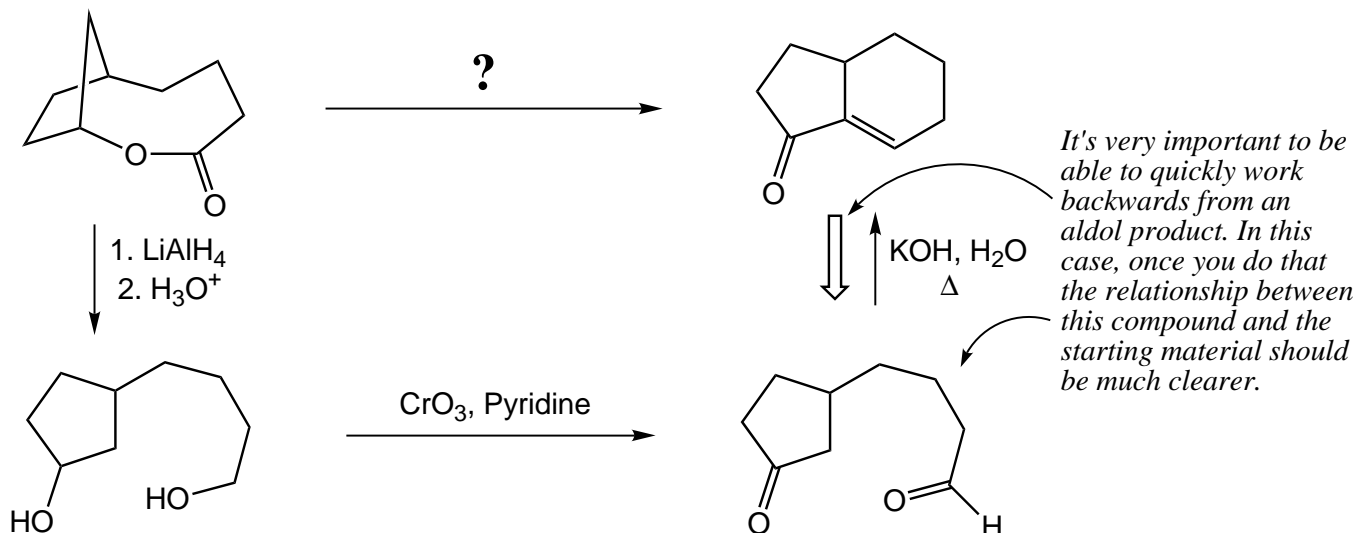


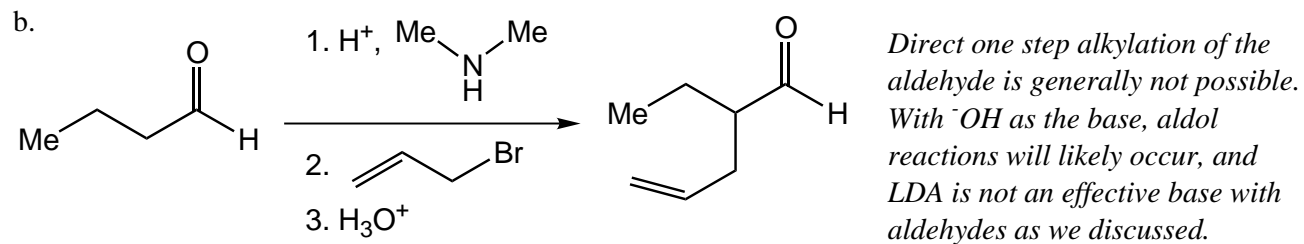
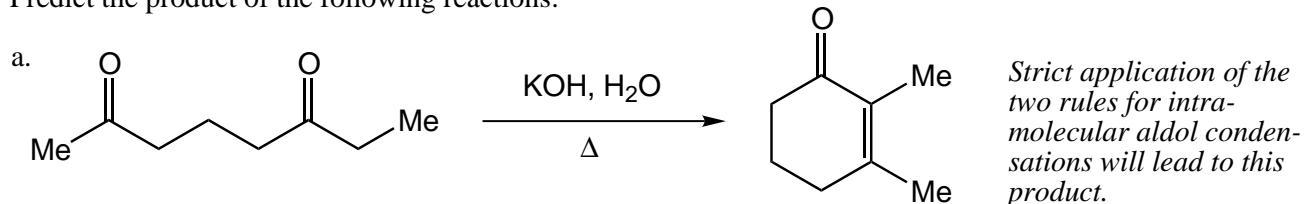
# Organic Chemistry c3444y

## Problem Set 5 - Answer Key

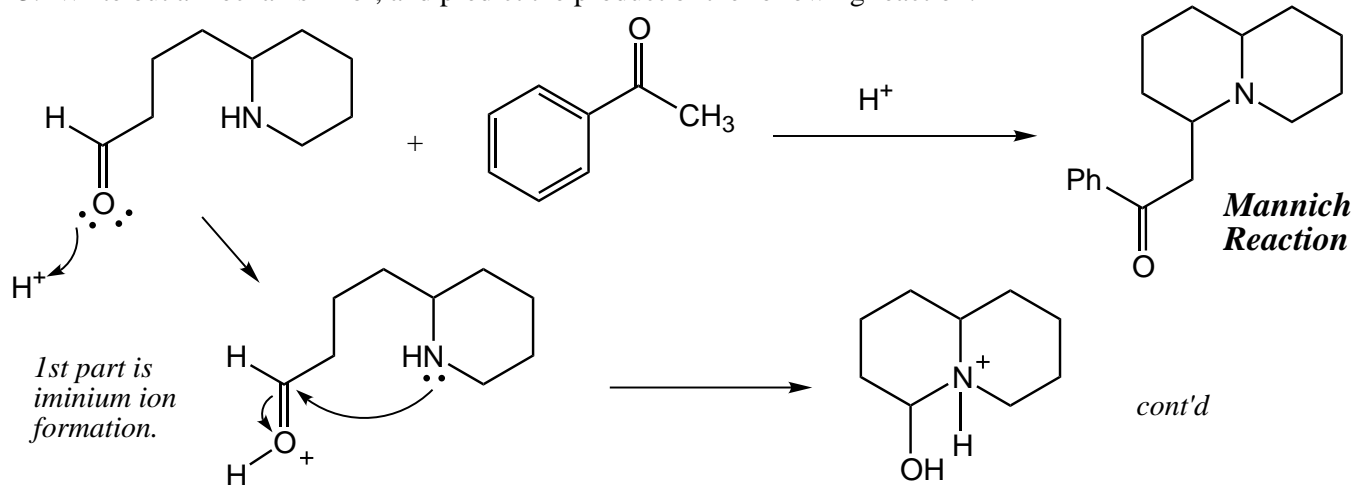
1. Propose a synthesis to accomplish the following transformation:  
 (Hint: Work backwards from the product one step. Then try to find similarities in the carbon atom connectivity between that intermediate and the starting material.)



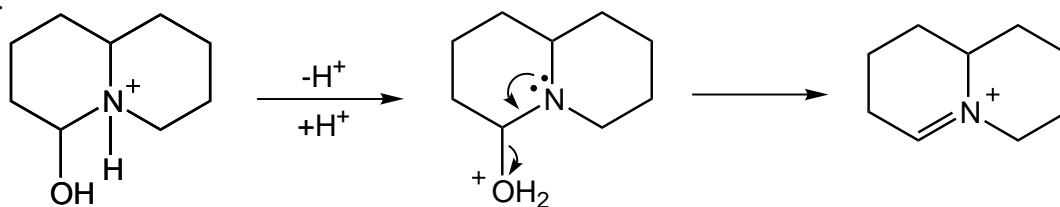
2. Predict the product of the following reactions:



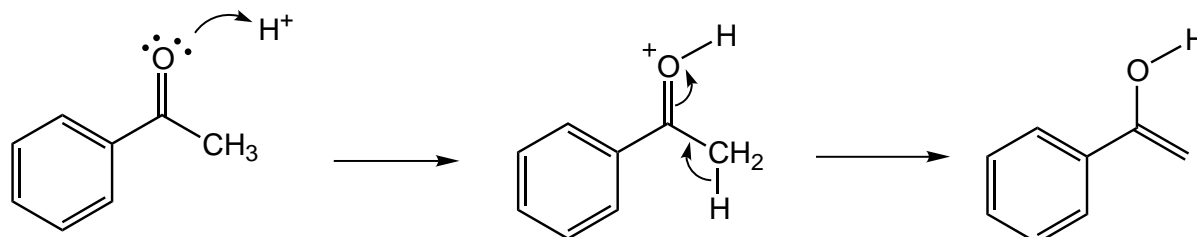
3. Write out a mechanism for, and predict the product of the following reaction:



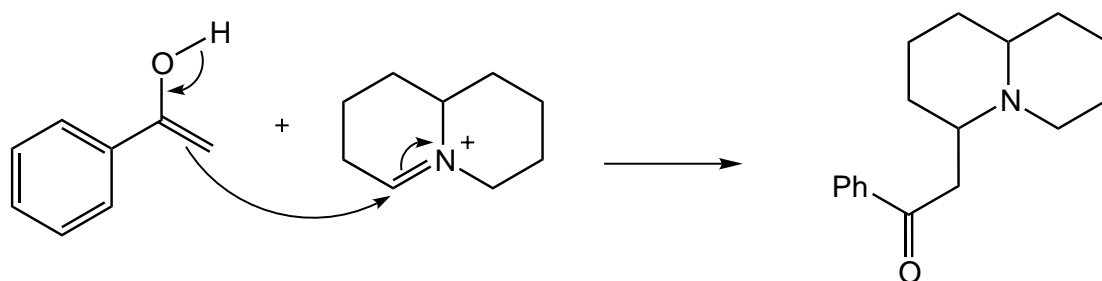
3 cont'd.



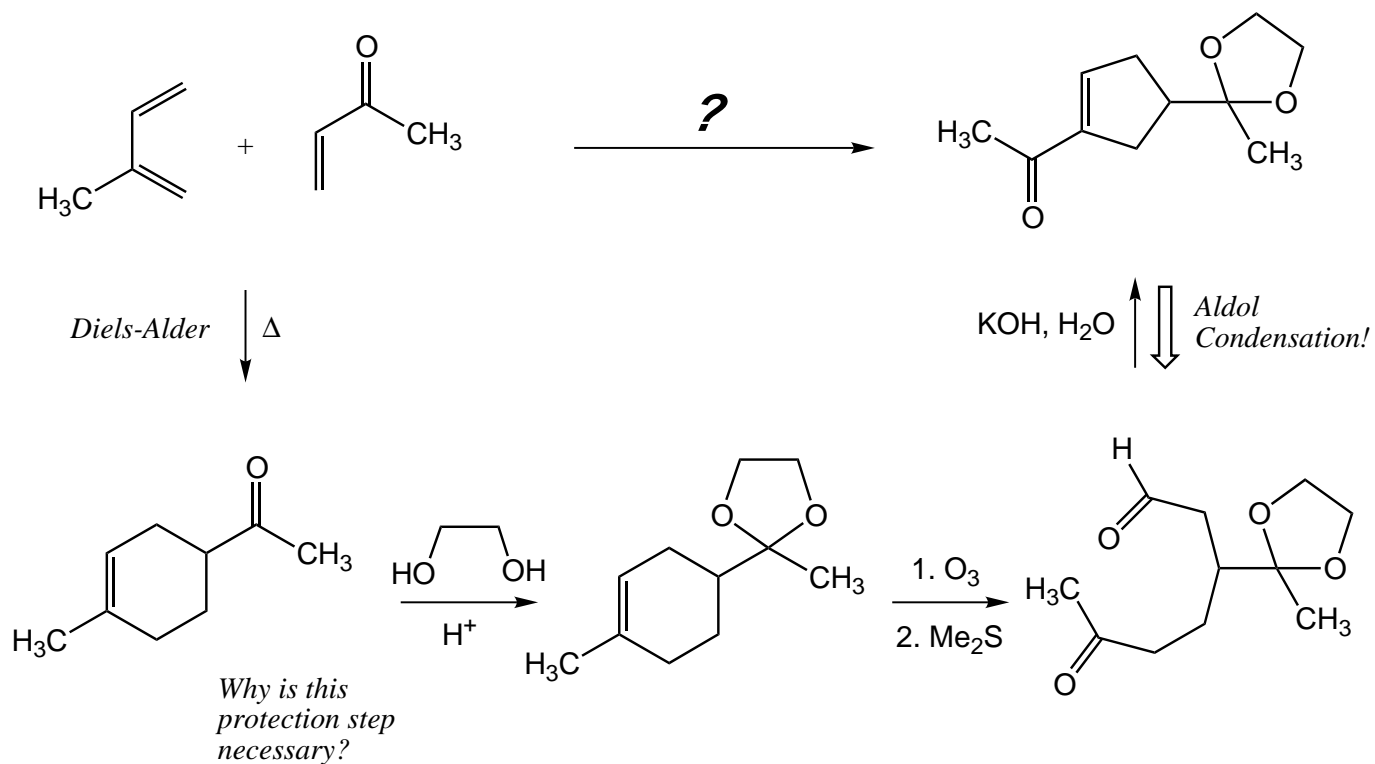
2nd part is enol formation:



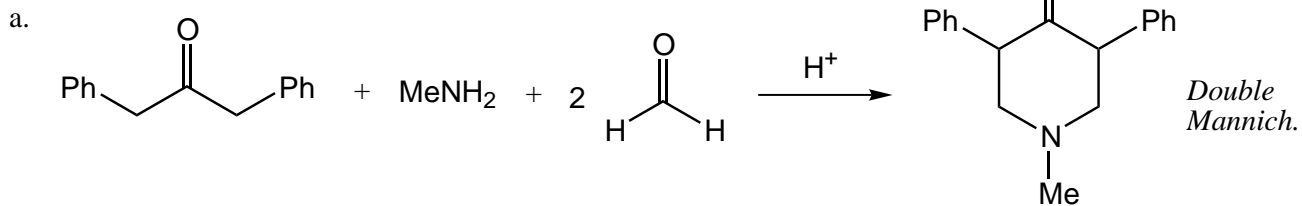
3rd part is attack of enol on iminium ion:



4. Propose a synthesis of the illustrated target from the provided starting materials. It will be helpful to work backward from the product one step and forward from the starting materials one step, and then see if you can link them. The reaction conditions are provided for the first step.



5. Predict the product of the following reactions:



b. This aldol product cannot eliminate to give the condensation product, so it will undergo a retro-aldol and then find an aldol condensation that will work. Just like the Robinson Annulation that we discussed in class.

