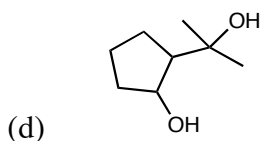
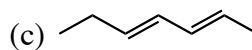
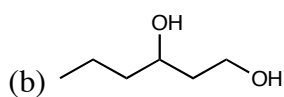
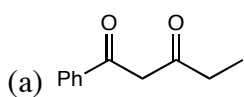


Chem. 218 Problem Set 12

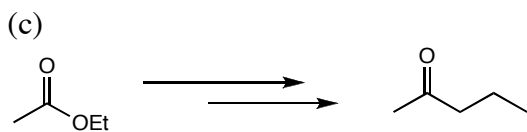
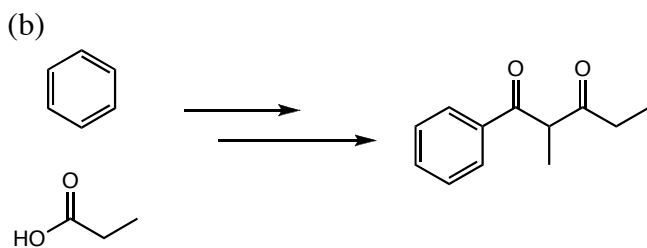
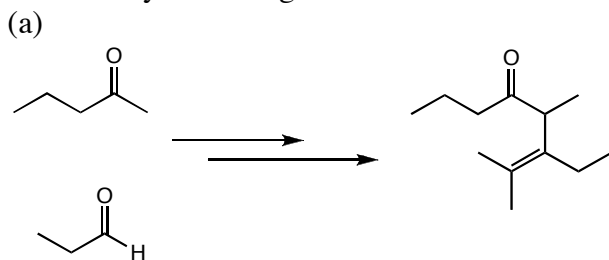
Recommended problems from the book: Any or all of the problems in Ch. 24 (both editions)

I highly recommend doing the problems in Ch. 24, especially those that cover topics you do not understand well.

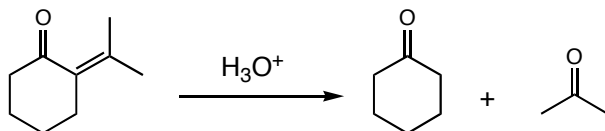
1. Each of the following molecules can be synthesized using an aldol reaction (other steps may also be necessary). Show how.



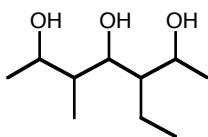
2. Propose a synthesis of the target molecules below, given the starting materials on the left and any other reagent.



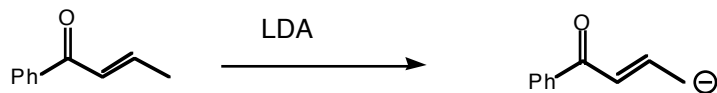
3. The following aldol product can undergo a “retro-aldol” under acidic conditions. In a retro-aldol, the starting material is the typical aldol product and the products are the typical aldol starting materials. Draw a mechanism for the retro-aldol reaction shown below:



5. Propose a synthesis of the following molecule, starting from acetaldehyde and using two aldol reactions.



6. Base treatment of α,β -unsaturated carbonyls results in deprotonation of the γ proton.



- Explain why this proton is acidic.
- Draw all possible enolates of the following molecule:

