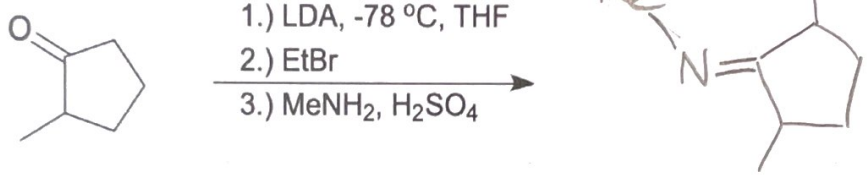
Enols, Enolates, and More #4: Challenging Alpha Carbon Rxn and Synthesis Practice

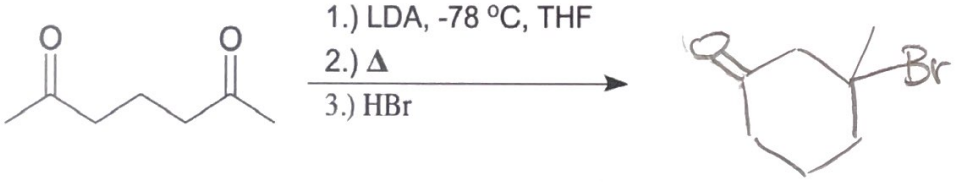
Ok, gang. This worksheet is meant to be done after the Aldol/Michael/Robinson Practice and Synthesis Practice worksheets. This sheet is designed to have more challenging problems, putting together all of this wonderful new alpha carbon knowledge with our every growing organic knowledge base.

1.) Complete the problems below by either: predict the major organic product, fill in the reagents, or provide the necessary reactants.

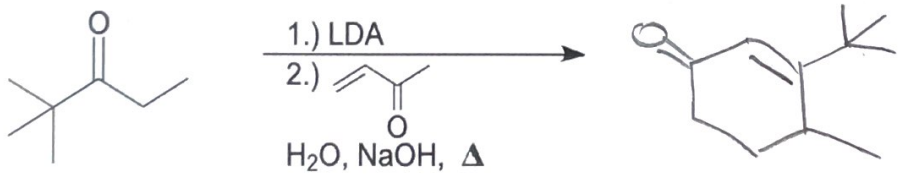
SN2 + imine formation

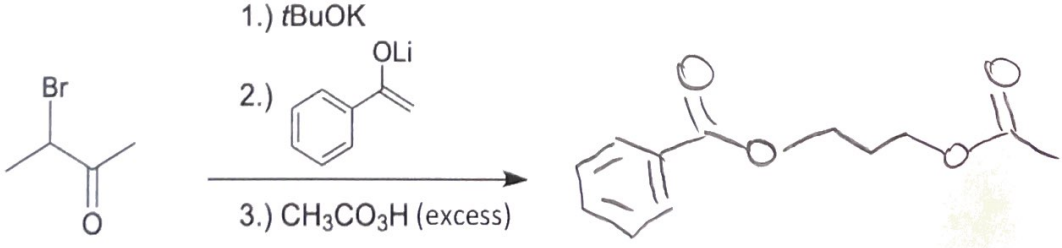


intramolecular aldol cond. (base)



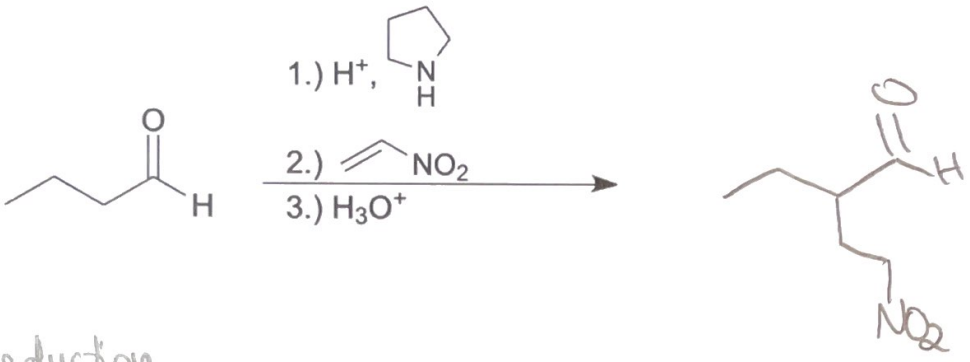
Robinson ann.



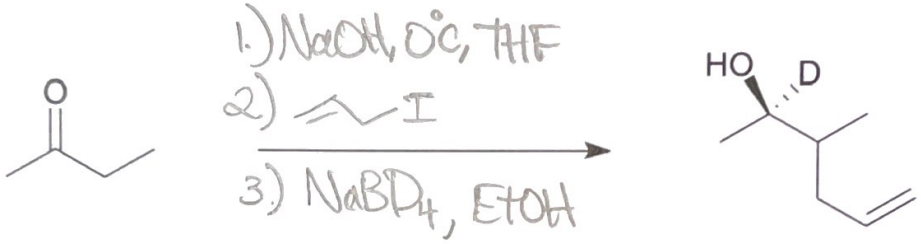


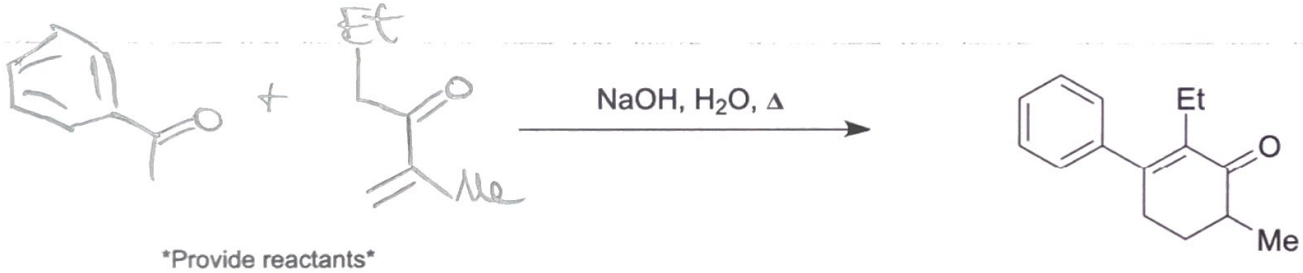
Michael Add. + Baeyer Villiger

1,4-addition

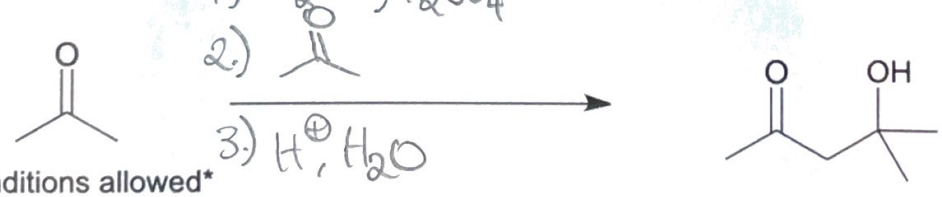


SN2 + Reduction

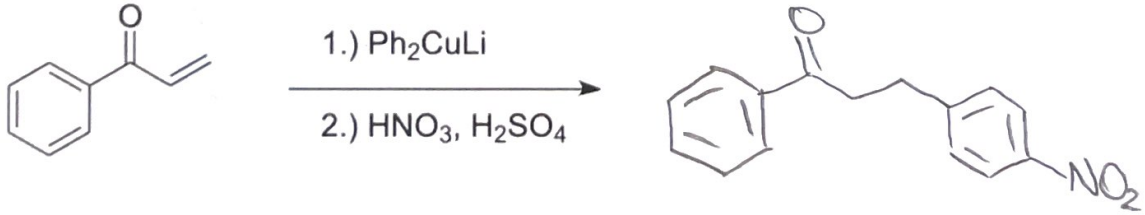




Provide reactants



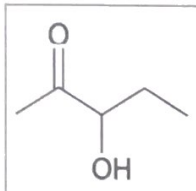
No basic conditions allowed



Moving on from those complete the reaction questions, I have a quick concept question for you. Hint: think about the new functional groups we've encountered.

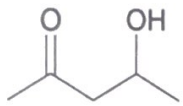
2.) Explain what is observed below, using either diagrams and/or minimal, short written explanations.

A

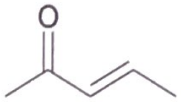


H^+, H_2O → NR

B

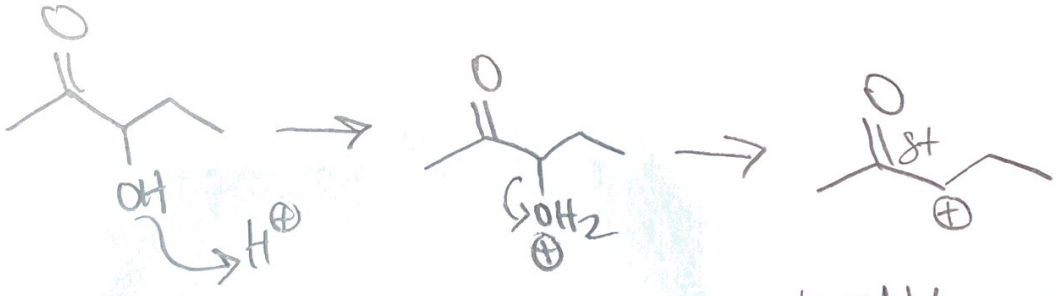


H^+, H_2O →



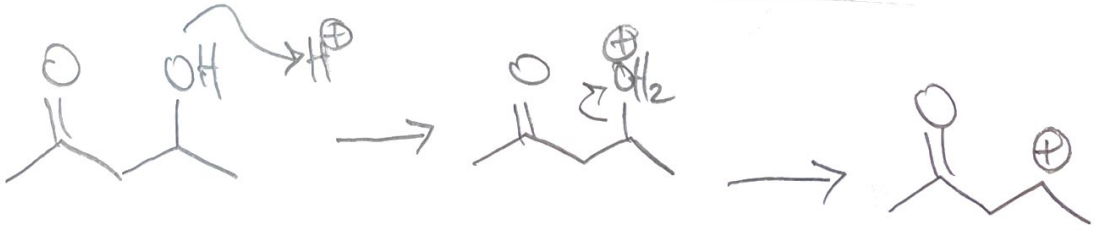
E1 process to create α, β-unsaturated carbonyl

A



unstable carbocation (electronically)

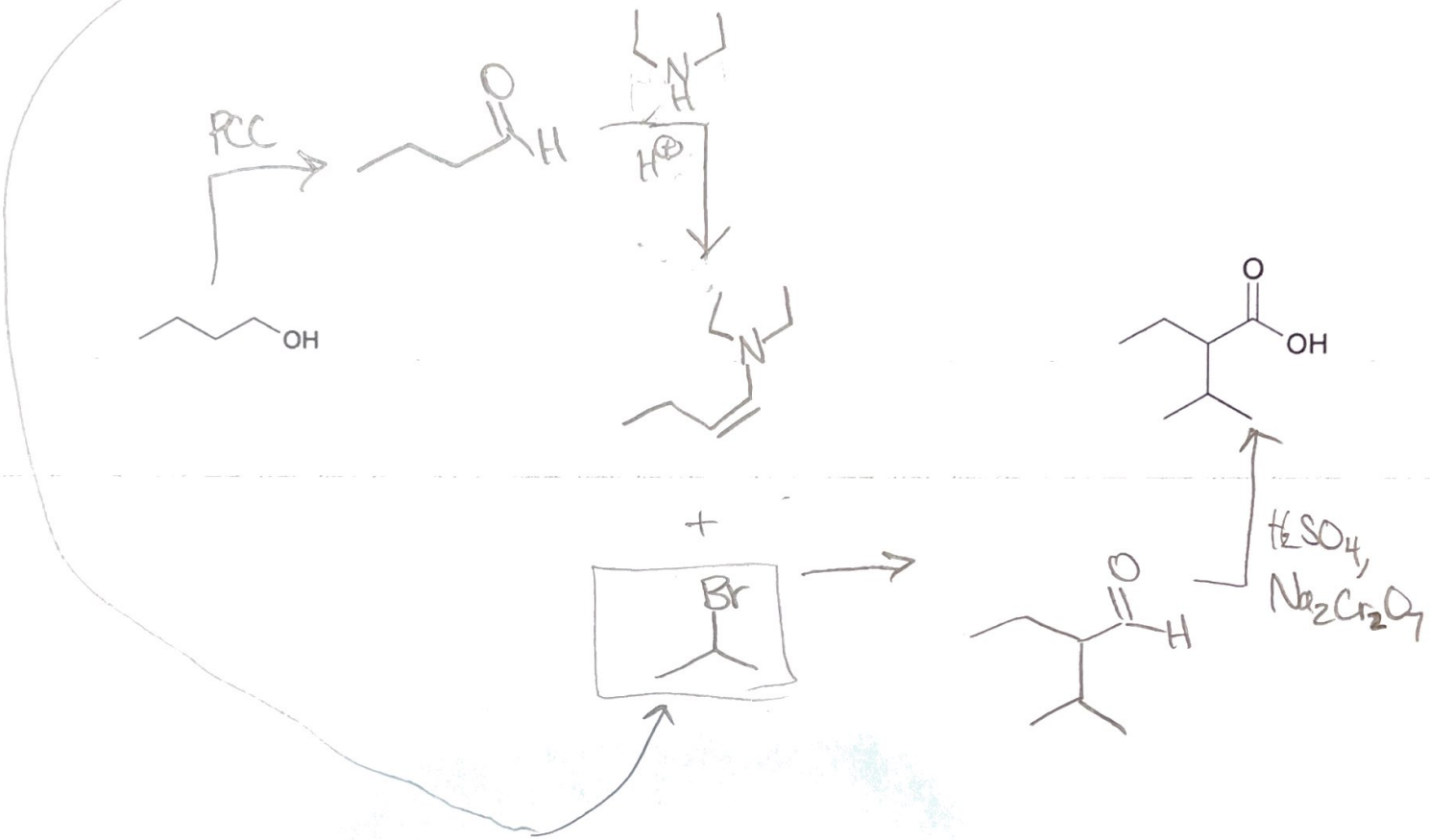
B



More stable ↑↑ carbocation : worths

3.) Ok, to finish out this worksheet, I have a few synthesis problems. Again, these are meant to be a little harder, but I know you're up to the challenge.

a.) Using **any** inorganic and organic reagents, accomplish the following synthesis shown below:



b.) Using **any** inorganic and organic reagents, accomplish the following synthesis shown below: