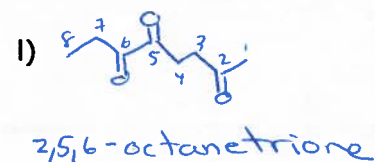
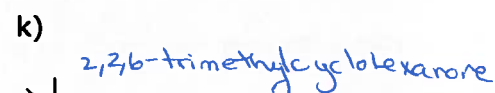
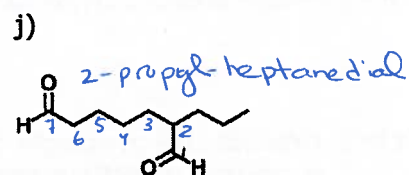
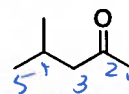
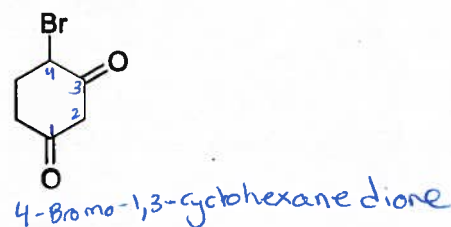
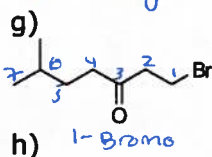
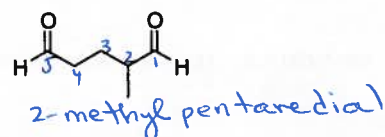
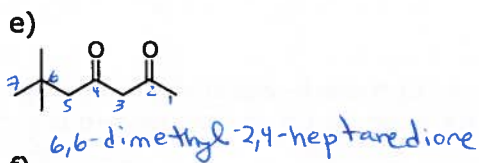
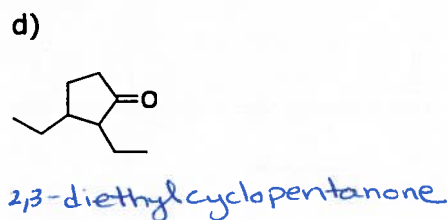
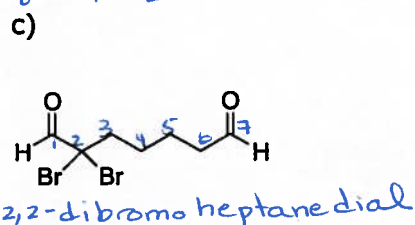
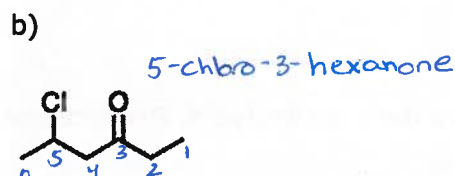
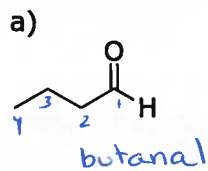


PRACTICE PROBLEMS – UNIT 19

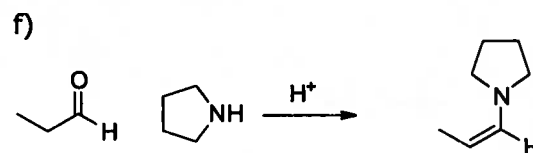
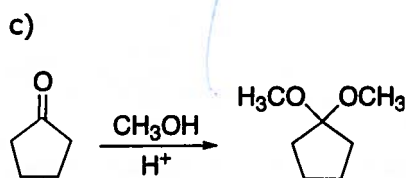
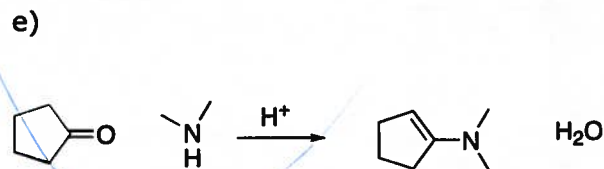
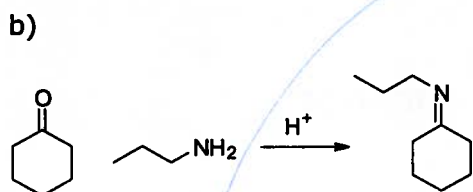
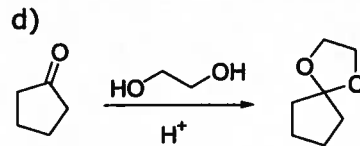
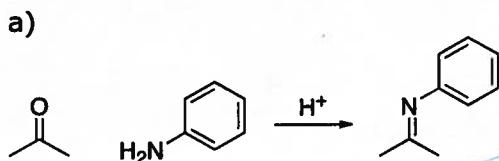
19A.1 Provide systematic names for aldehydes and ketones

19A.1 Name the following compounds.

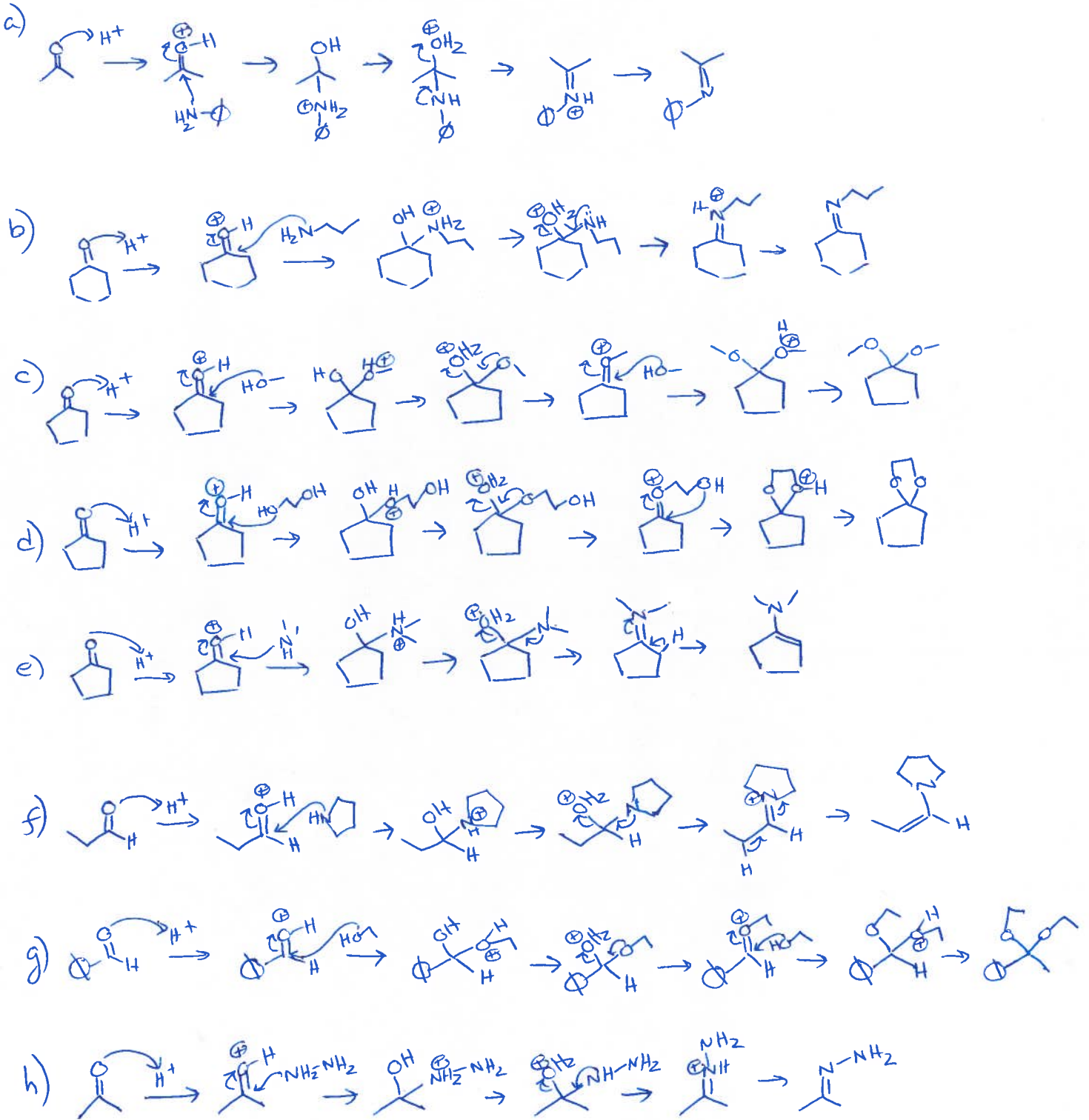


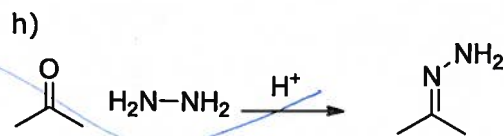
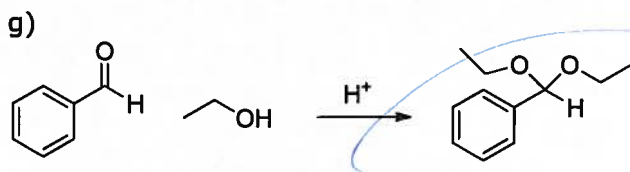
19B. Draw the mechanism of imine, enamine and acetal formation.

19B.1 Provide a mechanism for the following transformations. Show all intermediates and use curved arrows to show electron flow.



19B.1

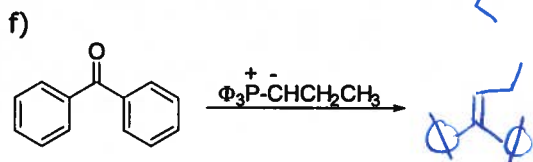
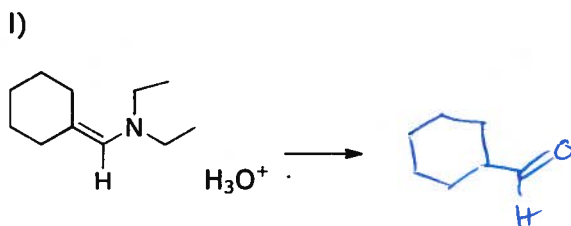
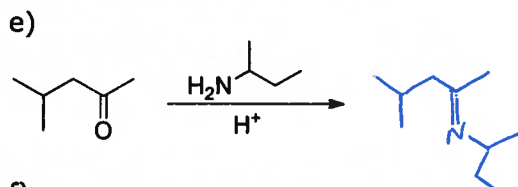
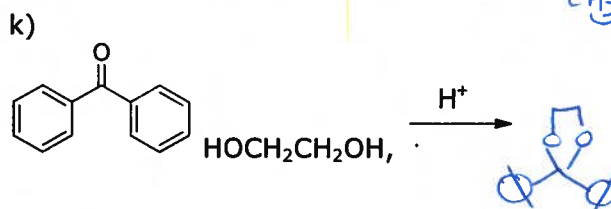
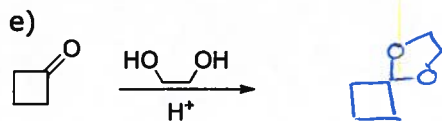
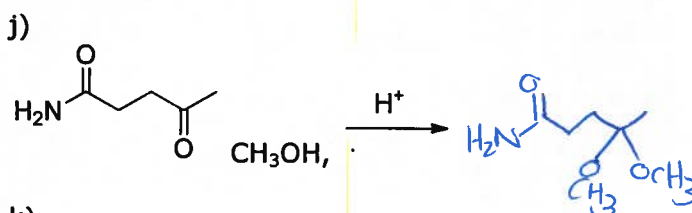
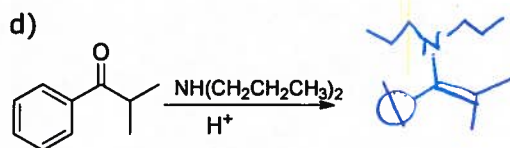
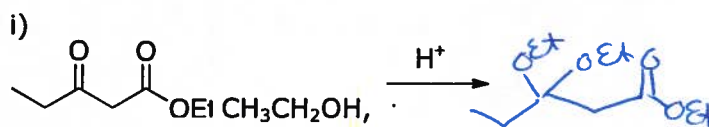
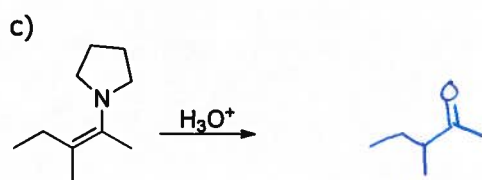
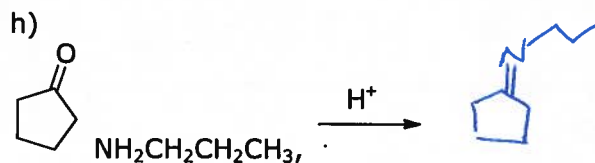
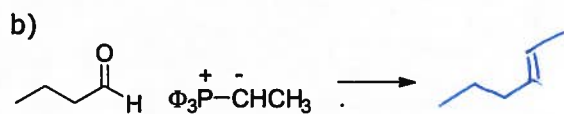
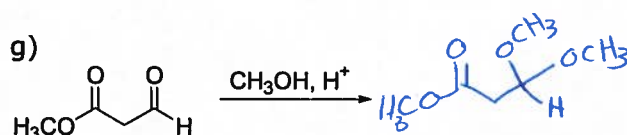
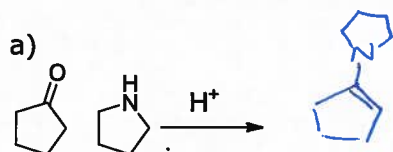


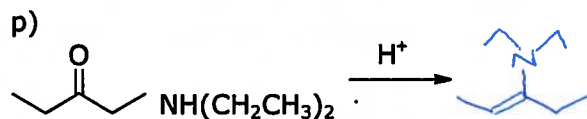
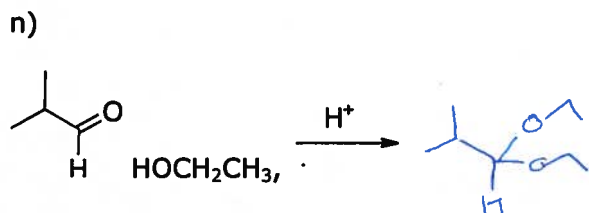
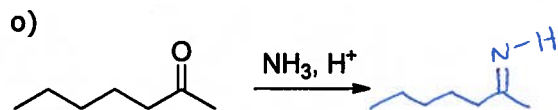
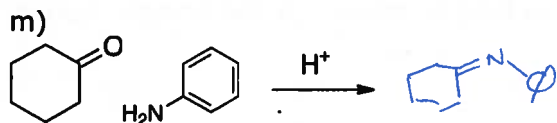


19B.2 If all steps of enamine formation are in equilibrium, how can the reaction be shifted towards the enamine product? How can the reaction be shifted toward the carbonyl starting material?

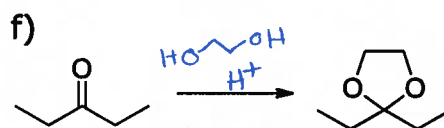
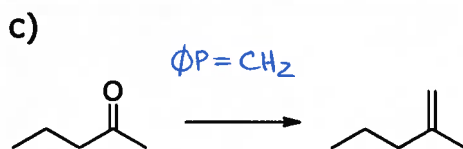
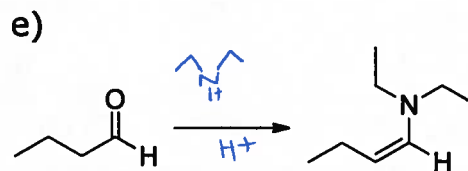
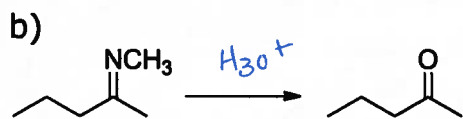
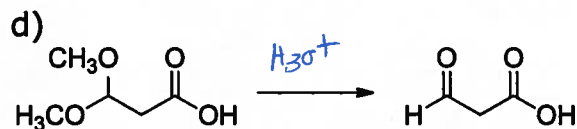
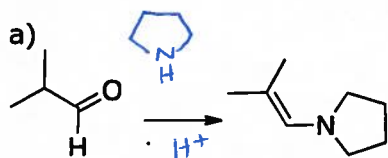
19C. Predict the products of imine, enamine, acetal reactions and their hydrolysis. Predict the products of Wittig reactions.

19C.1 Predict the products of the following reactions.

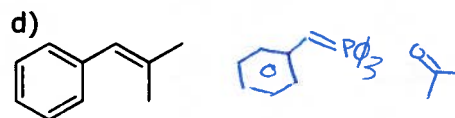
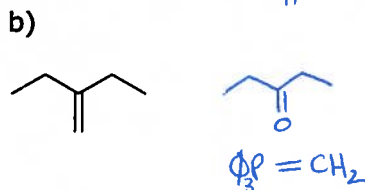
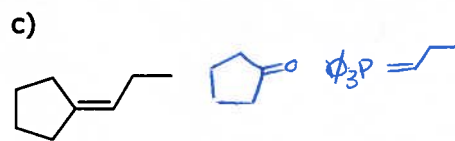
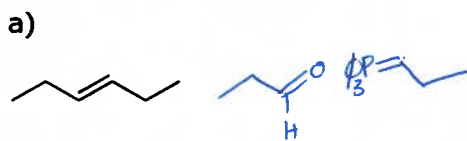




19C.2 Fill in the missing reagents for the following reactions.

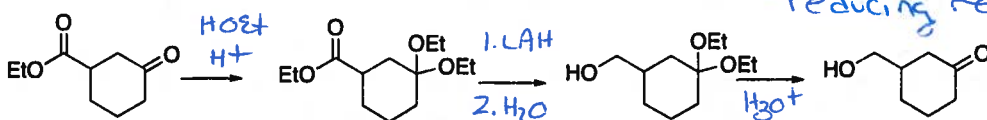


19.C.3 What ylide and carbonyl compound could the following molecules have come from?

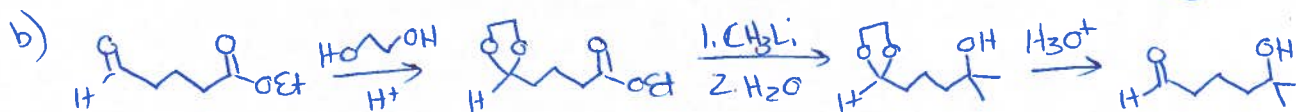


19D. Use aldehyde and ketone addition reactions as part of multistep synthesis.

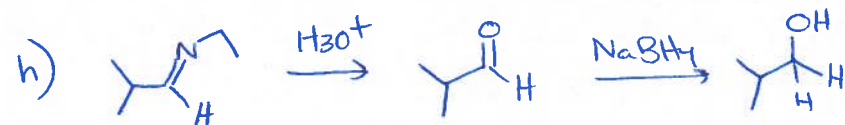
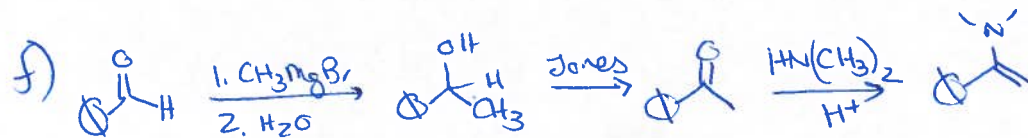
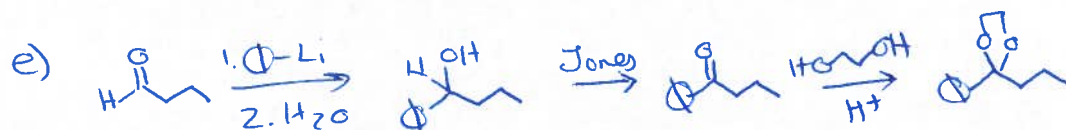
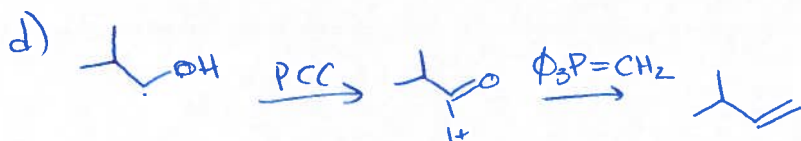
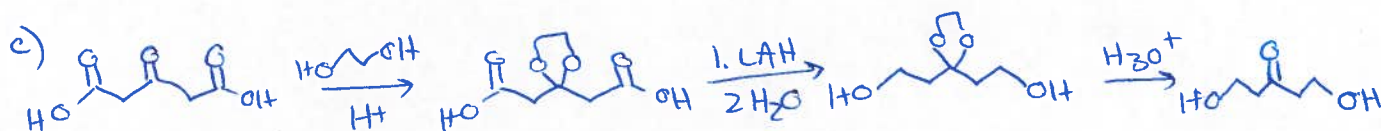
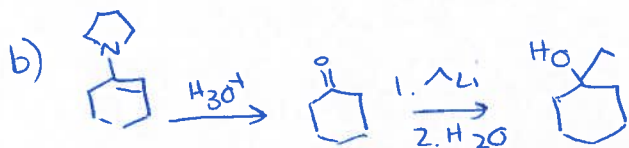
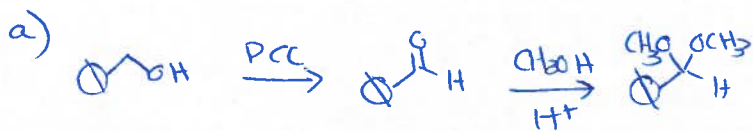
19D.1 a) Explain the purpose of adding then removing the acetal in the synthesis below. b) fill in the appropriate reagents.

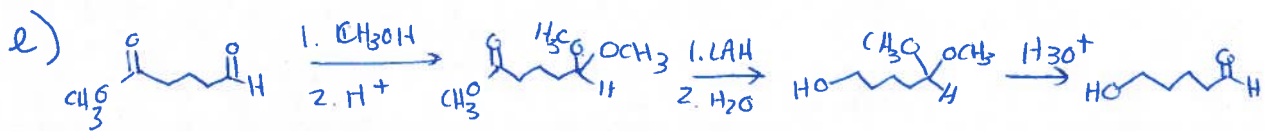
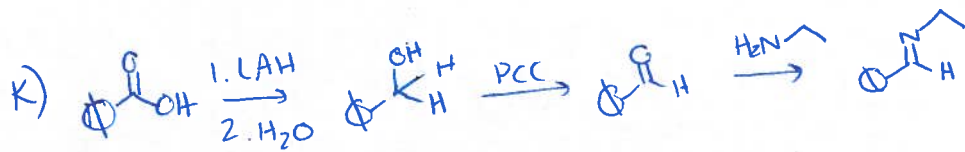
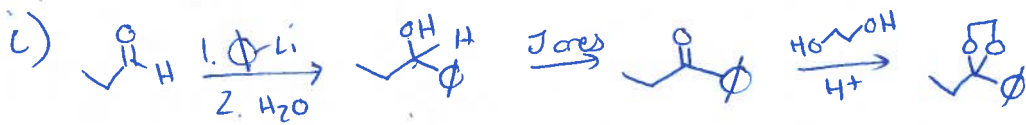


19D.2 a) The lithium reagent will react with the aldehyde first



19D.3





190.4

