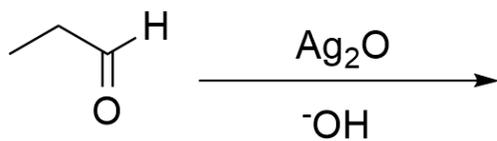
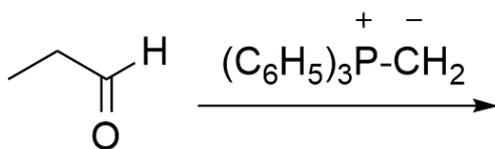
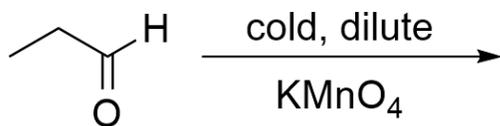
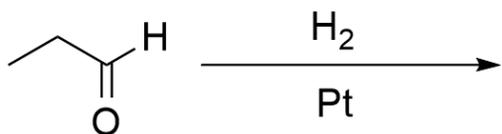
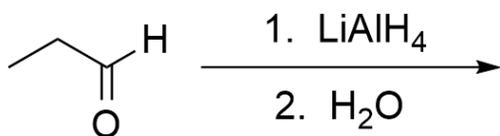
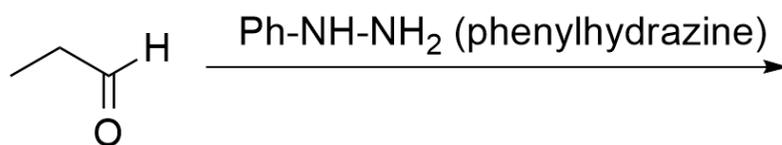
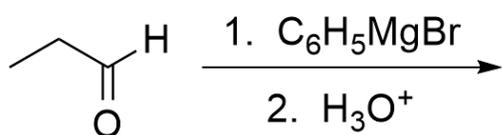
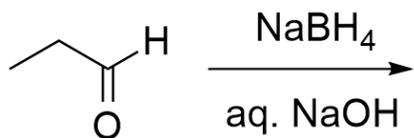
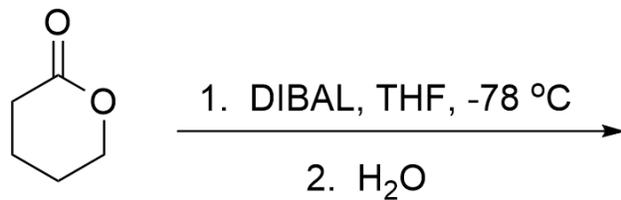
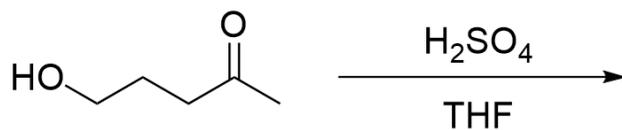
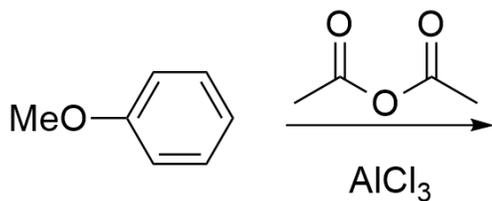
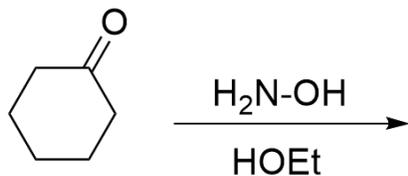
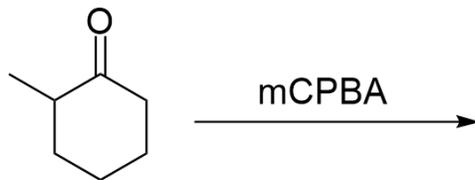


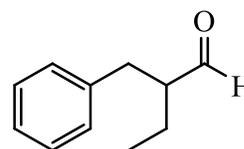
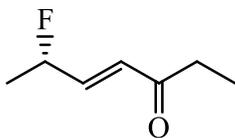
Write out the answers on separate sheets of paper.

1. Predict the major organic product of the following reactions.

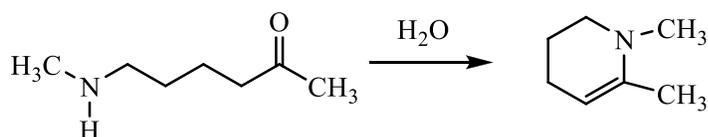
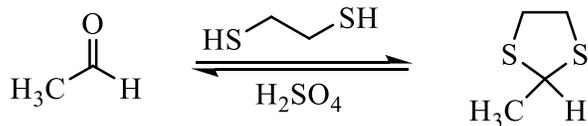




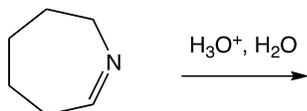
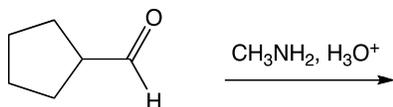
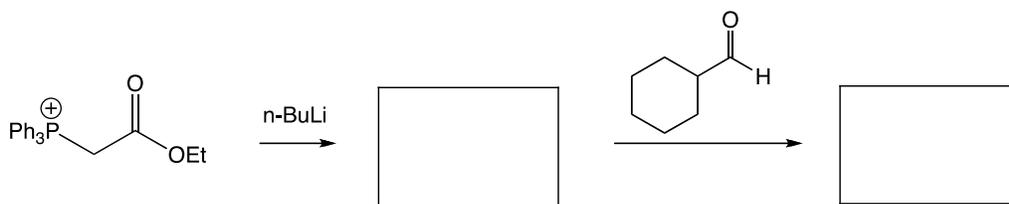
2. Name the following molecules.

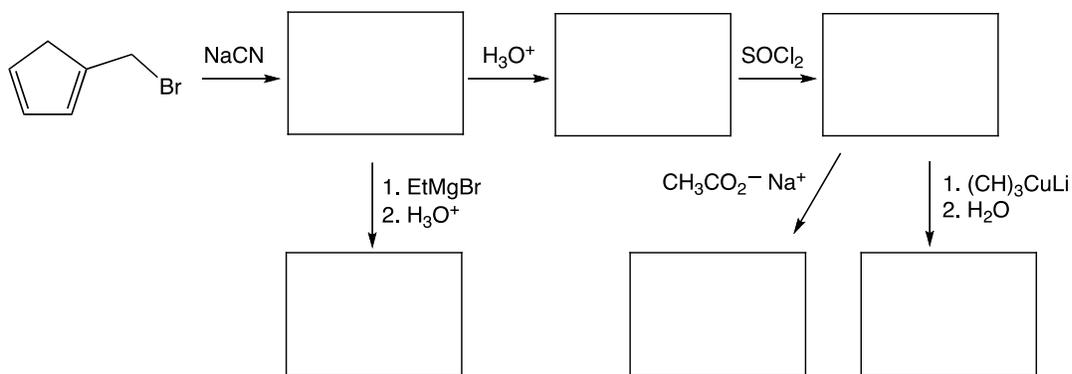
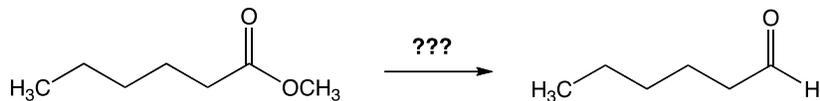
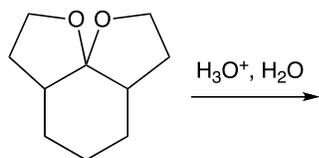
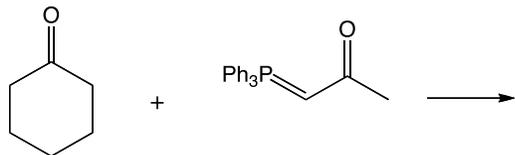


3. Draw step-by-step reaction mechanisms for each of the following reactions. Be sure to include all intermediates, reaction and electron-pushing arrows, and charges for each step.



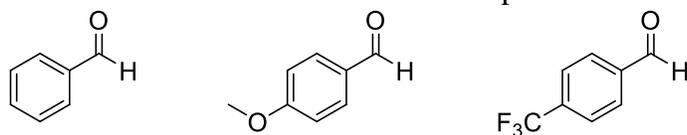
4. Provide the product(s) or reagent(s) for the following reactions.





5. Evaluate each of the following sets of structures according to the given criterion. Circle your choice and give a brief explanation of your reasoning.

a. Which is more reactive towards nucleophiles?



6. Give the structure of the major organic product/products expected from each of the following reactions.

