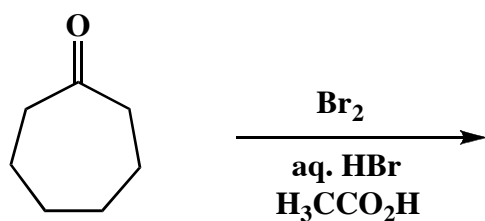


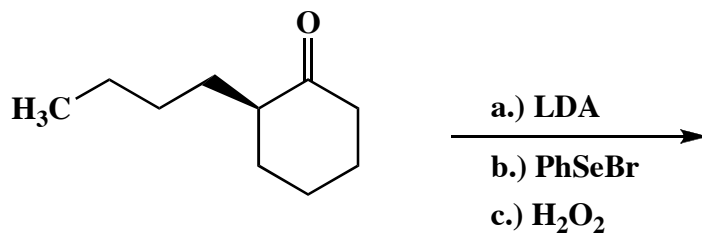
Problem Set 11

1. Draw the structure of the expected major organic product for each of the following five questions. Specify stereochemistry clearly, if relevant.

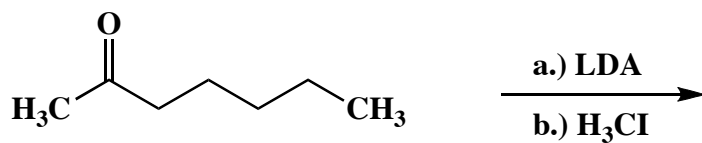
A.



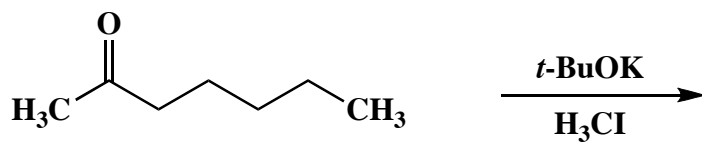
B.



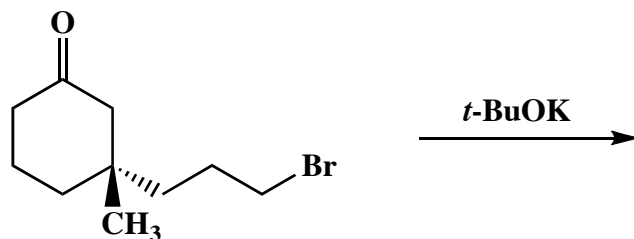
C.



D.



E.



2. Draw the mechanism of reaction 1A, using the curved-arrow notation to indicate the reorganization of electron density. Denote **all** intermediates, lone pairs, nonzero formal charges, countercharges, and reversibility or nonreversibility. Describe what would be observed if hydrobromic acid was accidentally omitted. Finally, explain the mechanistic basis for this observation.

3. Draw the mechanism of reaction 1E, using the curved-arrow notation to indicate the reorganization of electron density. Denote **all** intermediates, lone pairs, nonzero formal charges, countercharges, and reversibility or nonreversibility. Draw three other compounds derived from the starting material that could be formed in this reaction. Explain why these alternative products are not observed.