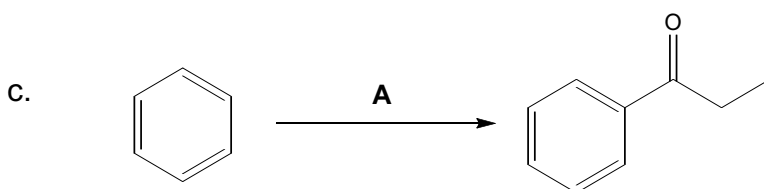
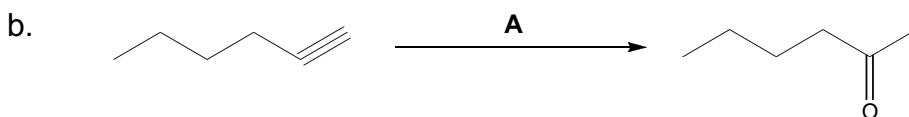
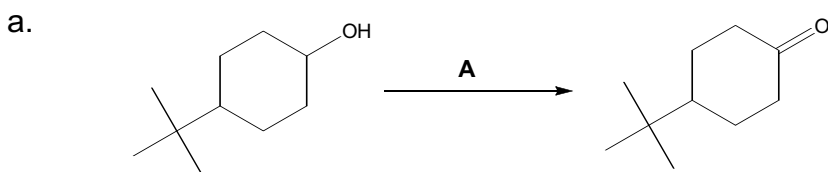


ALDEHYDES AND KETONES

1. Draw **structures** corresponding to the following IUPAC names.
 - a. 3-methylbutanal.
 - b. 2,2-Dimethylcyclohexanecarbaldehyde.
 - c. Cyclohexane-1,3-dione.
 - d. 4-Chloropentan-2-one.
 - e. 3-Methylbut-3-enal.
 - f. 3,5-Dinitrobenzaldehyde.
 - g. (S)-2-Hydroxypropanal.
2. Draw **structures** of molecules that meet the following description.
 - a. A cyclic ketone.
 - b. An aryl ketone.
 - c. A 2-bromo aldehyde.
 - d. A diketone.
3. How could you prepare **pentanal** from the following **starting materials**?
 - a. Pentan-1-ol.
 - b. Pentanoic acid.
4. Identify the **reagents (A)** in the following reactions.



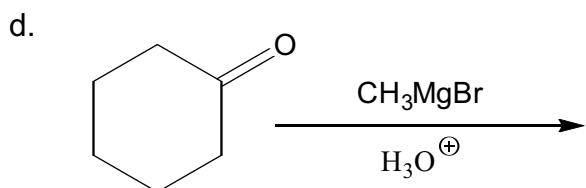
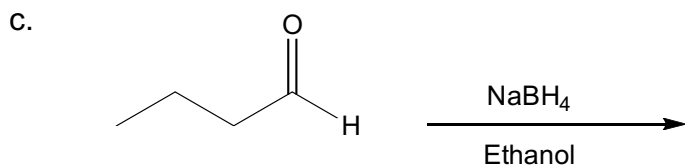
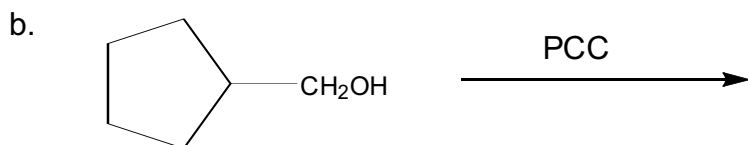
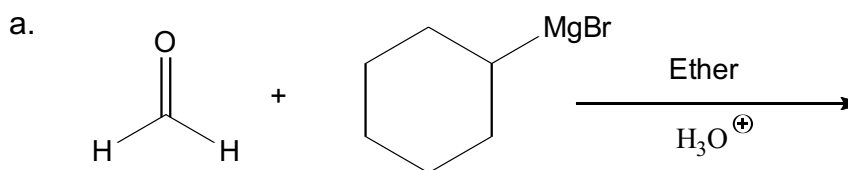
5. Predict the **products** of the reaction of **phenylacetaldehyde (C₆H₅CH₂CHO)** with the following **reagents**.

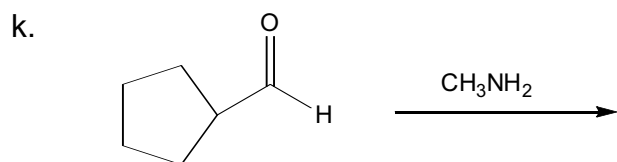
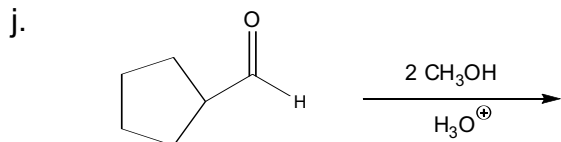
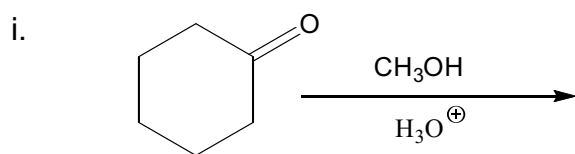
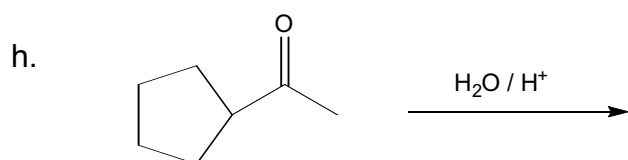
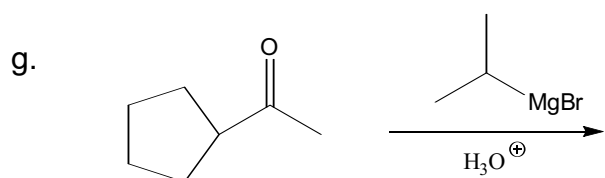
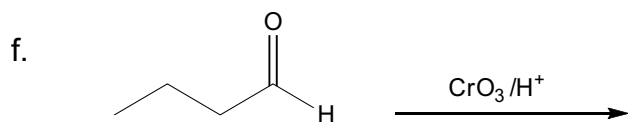
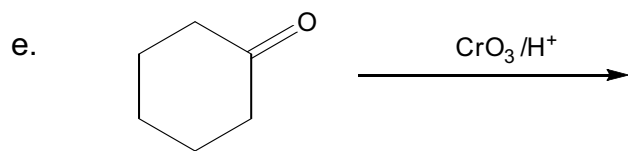
- NaBH₄/H₃O⁺
- CrO₃/H⁺
- CH₃MgBr/H₃O⁺
- CH₃OH/ H⁺
- 2CH₃OH/H⁺

6. Predict the **products** of the reaction of **phenylmagnesiumbromide (C₆H₅MgBr)** with the following **starting materials**.

- CH₃CHO
- CH₃COCH₃
- C₆H₅COCH₃
- CH₃CH₂CH₂CHO

7. Predict the **major products** formed in the following reactions.





8. Identify **A**, **B**, **C** and **D** in the following organic synthesis.

