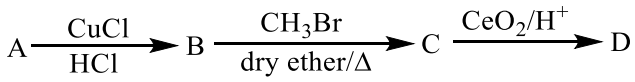
13.2 AROMATIC ALDEHYDES AND KETONES- SQ

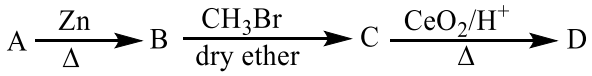
1. How do you prepare Benzaldehyde from Toluene in the lab? 2
2. Write an example of a Friedel-Crafts acylation reaction. 2
3. Give the reactions of Benzaldehyde with
   a. acidified solution of $K_2Cr_2O_7$. b. HCN c. NH_2NH_2 d. $LiAlH_4$ 3
4. Write a short note on Benzoin condensation. 2
5. What happens when Benzaldehyde is treated with Acetic anhydride in the presence of sodium acetate? 1
6. Show your acquaintance with Perkin's reaction. 2
7. What happens when Benzaldehyde is refluxed with alcoholic KCN? 2

Conversions

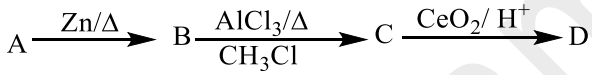
8. Identify the major products A, B, C and D in the following reaction sequences.



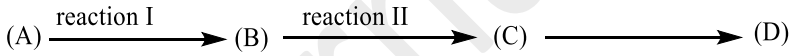
   The compound D undergoes Clemenson reduction to give Toluene. 4
9. Identify A, B, C, D in the following reaction sequences:



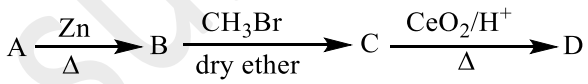
   Compound D, when reacted with zinc amalgam in the presence of acid, gives toluene.
10. Identify the major products A, B, C and D in the following reaction sequences.



   Compound D gives methylbenzene when heated with alc. KOH and hydrazine. 5
11. For the following hypothetical reaction



   The compound (A) is an unsaturated aliphatic hydrocarbon, and the compound (B) can be obtained by reduction of Chlorobenzene with hydrogen in the presence of Ni-Al/ alkali on oxidation of (C) with CeO_2/H^+ give (D) is obtained as an aromatic aldehyde.
   i) Use suitable reagents and conditions in reaction I and reaction II.
   ii) Identify (A), (B), and (C), giving proper conditions. 5
12. Identify A, B, C, D in the following reaction sequences:



   Compound D, when reacted with zinc amalgam in the presence of acid, gives toluene. 4
13. Make a correct sequence of reactions using suitable reagents and conditions for the following compounds.
   Sodium benzoate, benzoic acid, cinnamic acid, toluene, benzaldehyde, benzene 5

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