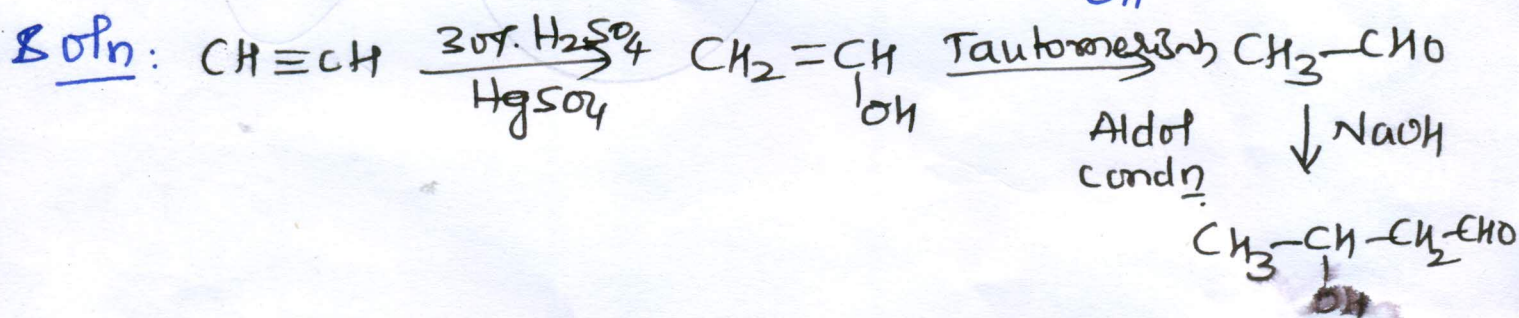
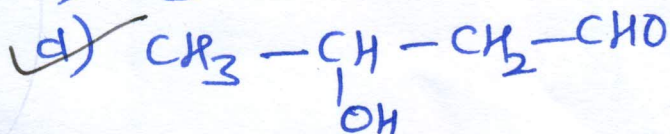
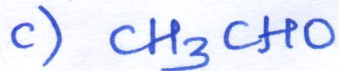
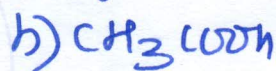
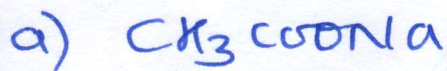
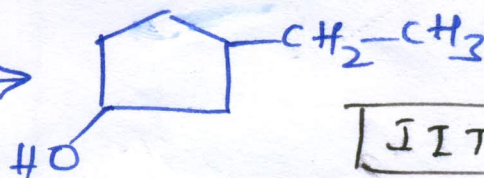
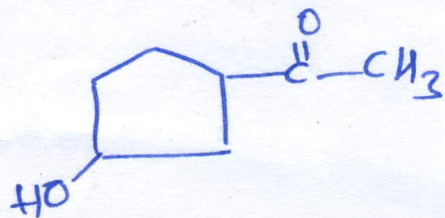


Aldehydes & Ketones

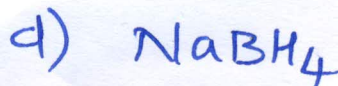
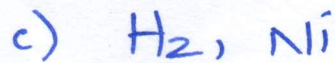
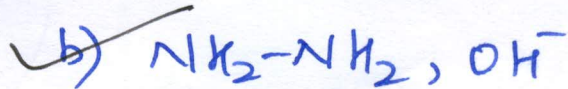
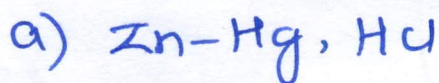
① Predict the product 'B' in the sequence of reaction $\text{CH}\equiv\text{CH} \xrightarrow[\text{HgSO}_4]{30\% \text{ H}_2\text{SO}_4} \text{A} \xrightarrow{\text{NaOH}} \text{B}$



② The appropriate reagent for the transformation



IIT 2000



Soln

Both Zn-Hg/HCl & $\text{NH}_2\text{-NH}_2/\text{OH}^-$ can reduce

$\text{CH}_3\text{-CO-}$ to $\text{CH}_2\text{-CH}_2\text{-}$, But HCl will

reacts with -OH group

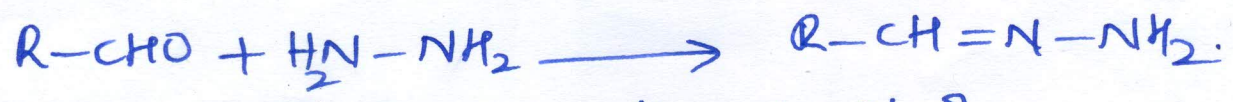
$\therefore \text{NH}_2\text{-NH}_2/\text{OH}^-$ is more effective

Arrange the following compounds in increasing order of their reactivity in nucleophilic addition reactions. Ethanal (I), Propanal (II), Propanone (III), Butanone (IV).

- a) $\text{III} < \text{II} < \text{I} < \text{IV}$ b) $\text{II} < \text{I} < \text{III} < \text{IV}$
 ✓ c) $\text{IV} < \text{III} < \text{II} < \text{I}$ d) $\text{I} < \text{II} < \text{III} < \text{IV}$

Soln: Reactivity of carbonyl (C=O) gr. decreases with size of alkyl groups & no. of alkyl gr.
 CH_3CHO (I), $\text{CH}_3\text{CH}_2\text{-CHO}$ (II), CH_3COCH_3 (III), $\text{CH}_3\overset{\text{O}}{\text{C}}\text{-CH}_2\text{-CH}_3$ (IV)
 Butanone < Propanone < Propanal < Ethanal

Q. Consider the reaction: AIPMT main 2012



What sort of reaction is it?

- a) Electrophilic addition - Elimination rxn.
 b) Free radical addition - Elimination rxn.
 c) Electrophilic substitution - Elimination rxn.
 ✓ d) Nucleophilic addition - Elimination rxn.

