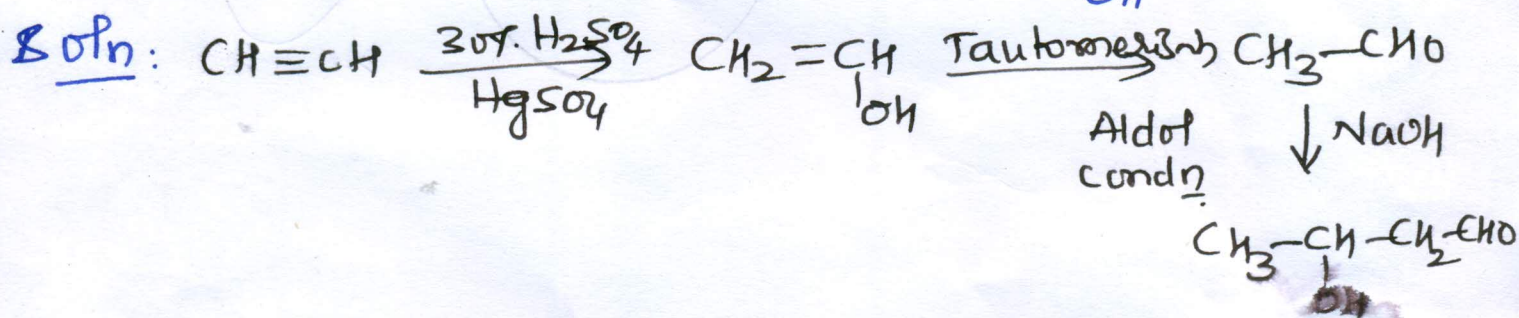
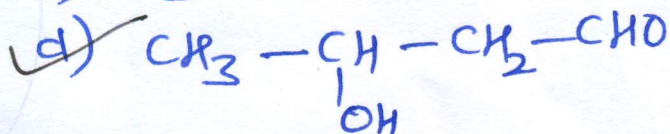
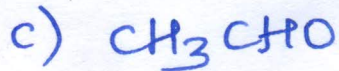
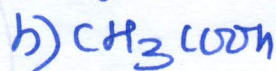
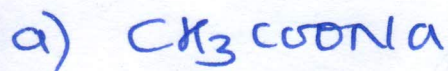
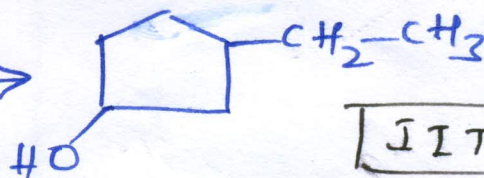
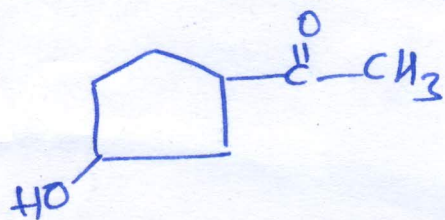


# Aldehydes & Ketones

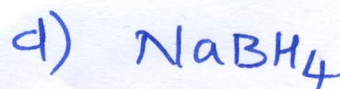
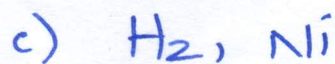
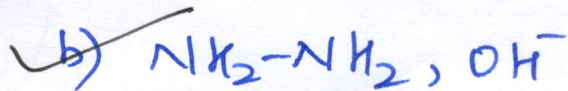
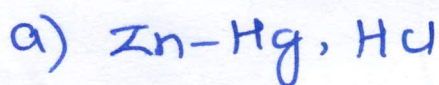
① Predict the product 'B' in the sequence of reaction  $\text{CH}\equiv\text{CH} \xrightarrow[\text{HgSO}_4]{30\% \text{ H}_2\text{SO}_4} \text{A} \xrightarrow{\text{NaOH}} \text{B}$



② The appropriate reagent for the transformation



IIT 2000



Soln

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

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

reacts with  $-\text{OH}$  group

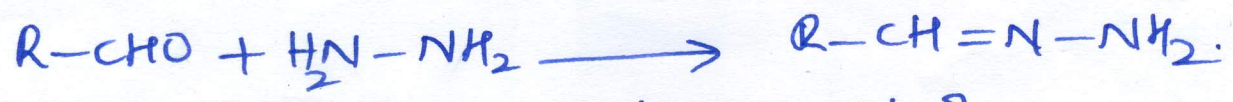
$\therefore \text{NH}_2-\text{NH}_2/\text{OH}^-$  is more effective

Arrange the following compds 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.  
 $\text{CH}_3\text{CHO}$  (I),  $\text{CH}_3\text{CH}_2\text{-CHO}$  (II),  $\text{CH}_3\text{COCH}_3$  (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.

