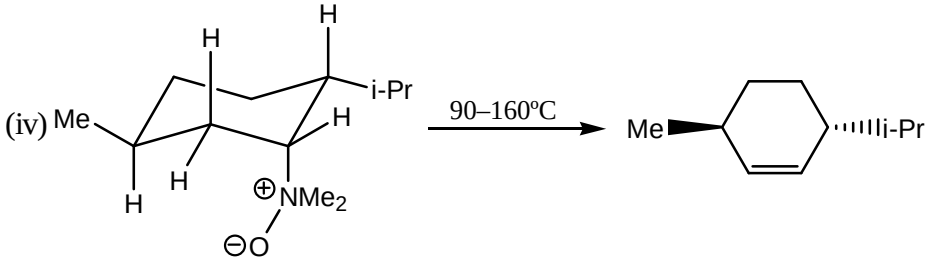
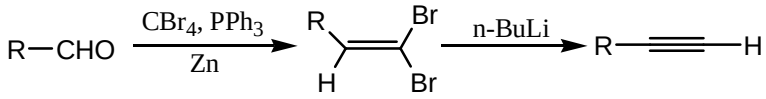
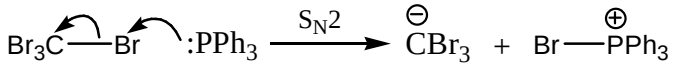
(iv) 

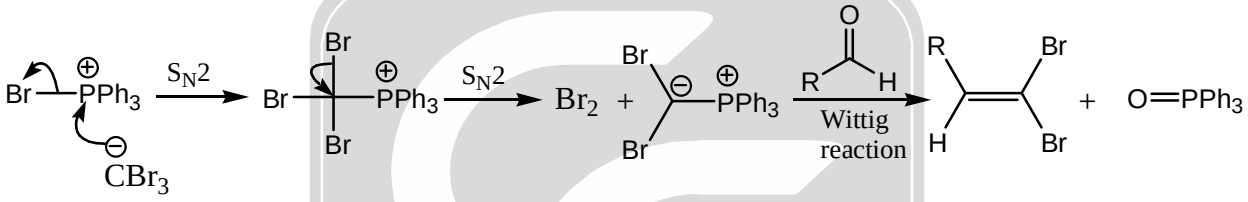
6.11. Corey-Fuchs Reaction:

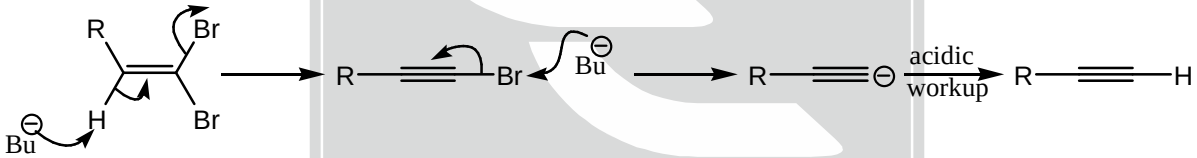
One-carbon homologation of an aldehyde to dibromoolefin, which is then treated with n-BuLi to produce a terminal alkyne.



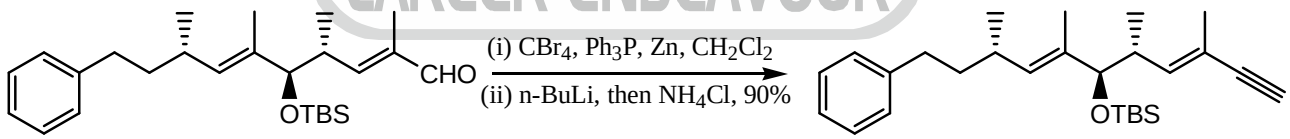
Mechanism:

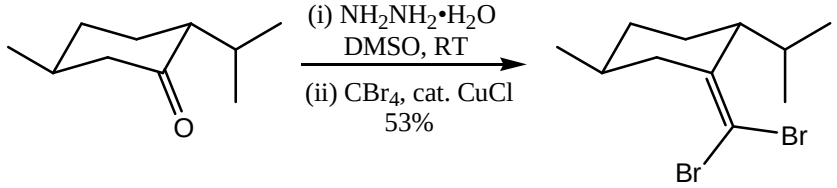


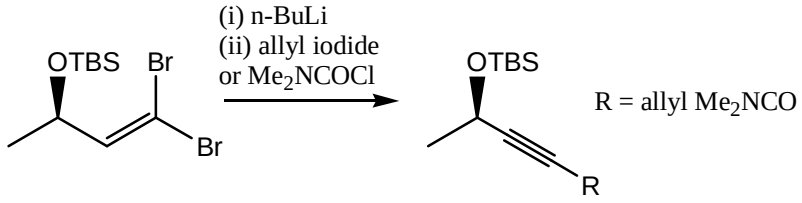


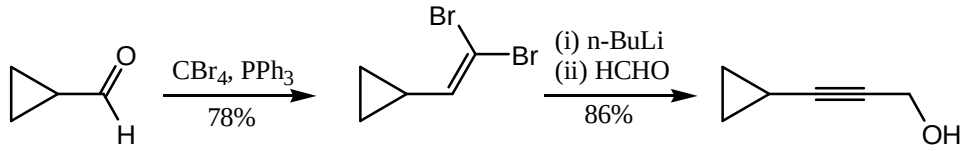


EXAMPLES

1. 

2. 

3. 

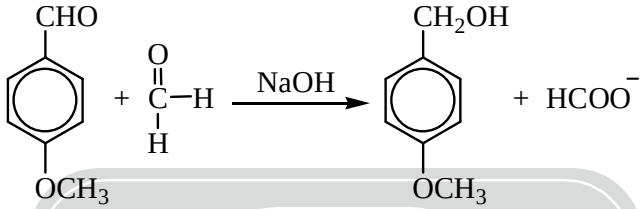
4. 

6.12. *Crossed Cannizzaro Reaction*

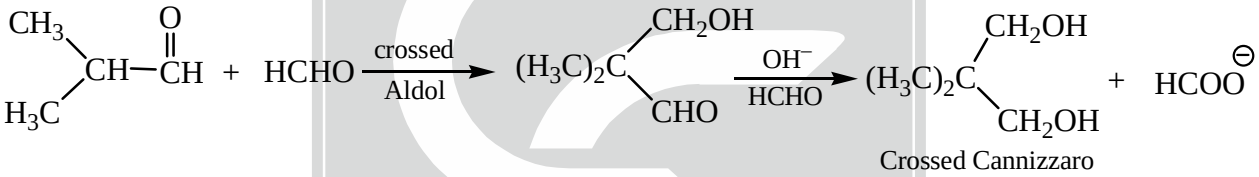
Reaction between different aldehyde

$$PhCHO + HCHO \xrightarrow[NaOH]{Conc.} PhCH_2OH + H{-}COO^-$$

1. When formaldehyde undergoes a cannizzaro reaction with other aldehyde without a α-H, then it is observed that the formaldehyde is oxidised and other is reduced. This is because the nucleophilic attack occurs on formaldehyde much easily than on any other aldehyde.

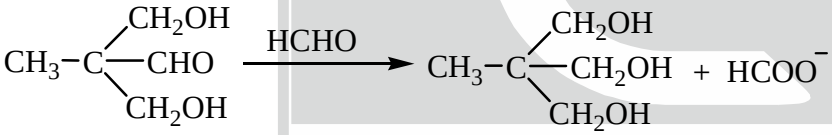


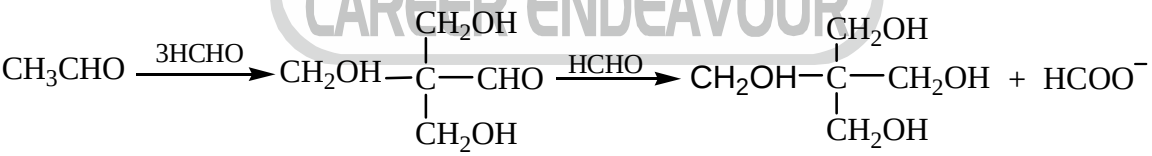
2. When HCHO reacts with other aldehyde with α-H then first the cross aldol reaction takes place followed by cross-cannizzaro reaction.

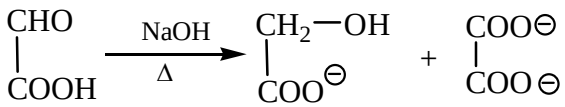


Crossed Cannizzaro

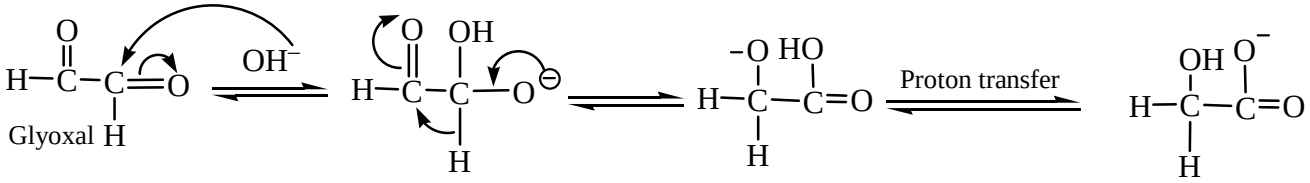
***Example*:**

(i) 

(ii) 

(iii) 

Intramolecular Cannizaro Reaction: Dialdehyde and α-keto aldehyde undergo suitable I.C.R.



$$\text{rate} = K\left[\begin{matrix}CHO\\|\\CHO\end{matrix}\right]\left[OH^-\right] \quad 2^{nd} \text{ order reaction}$$