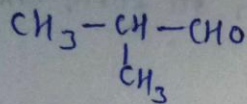
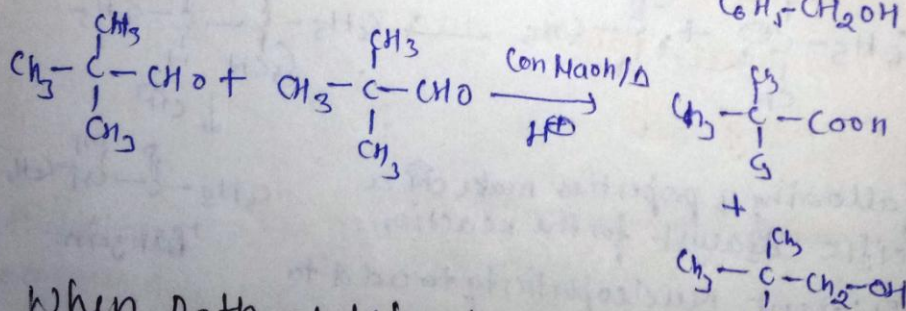
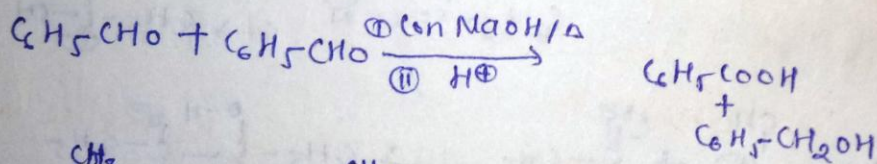
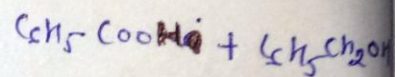
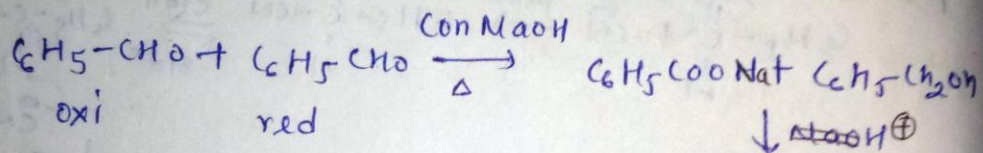


Cannizzaro Reaction: - is a redox reaction given by aldehyde having no α H. except



\Rightarrow The reaction is take place ~~between~~ in presence of Con. NaOH or KOH . above room temp.

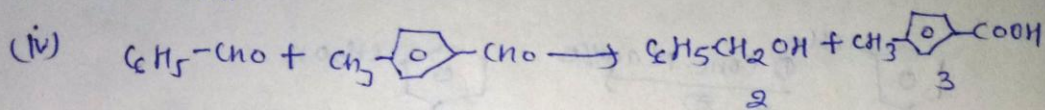
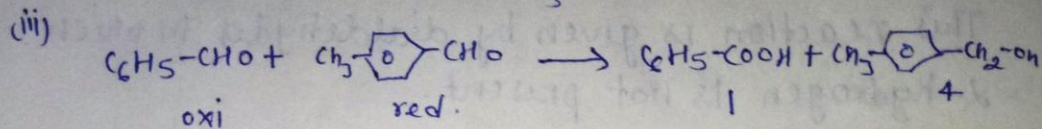
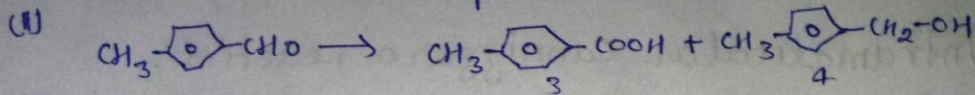
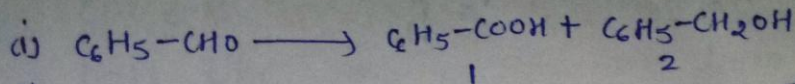
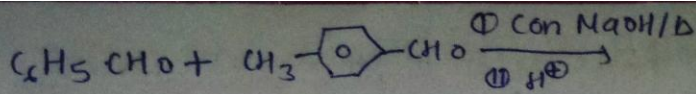
\Rightarrow $\text{C}_6\text{H}_5 - \overset{\text{O}}{\parallel}{\text{C}} - \text{H}$ not give cannizzaro rxn.



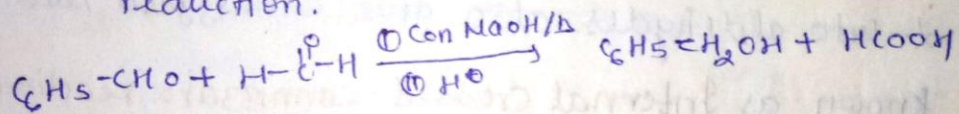
When both aldehyde are different :-
= cross cannizzaro. reaction.

Useless

Case-I:- Both are different but not is formaldehyde.

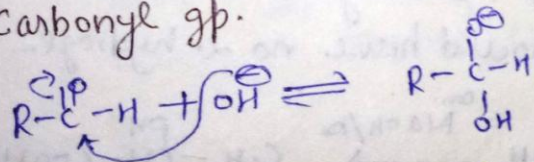


Usefull:-
 Case-2:- Both are different and one is formaldehyde.
 In this case formaldehyde always undergoes oxidation thus other aldehyde undergoes reduction.

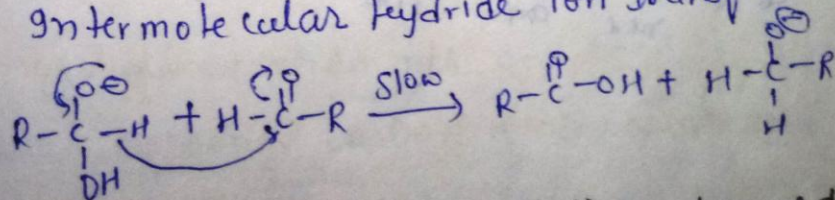


Mechanism:-

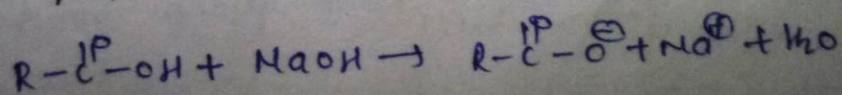
Step-I:- Nucleophilic addition of hydroxide ion to Carbonyl gp.

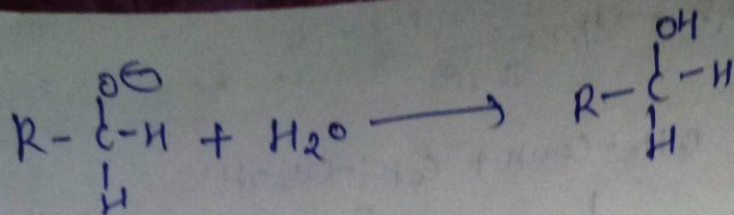


Step II:- Intermolecular hydride ion transfer.

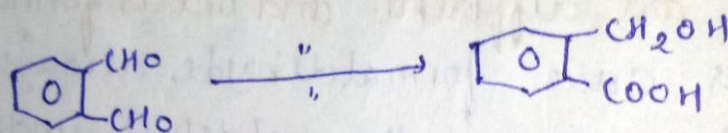
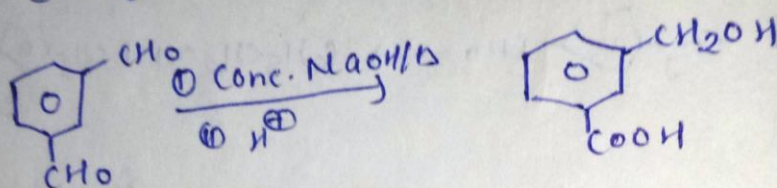


Step-III Acid base reactions yielding observed product





Intramolecular Cannizzaro reaction.
 This reaction is given by dialdehydes in which α -hydrogen is not present.



α -keto aldehydes also give Cannizzaro reaction known as Internal crossed-Cannizzaro reaction. In this case aldehyde group undergoes oxidation and keto group undergoes reduction. In this case keto group should have no α -hydrogen.

