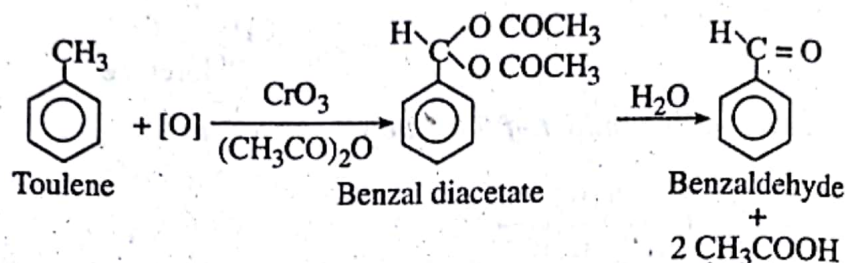


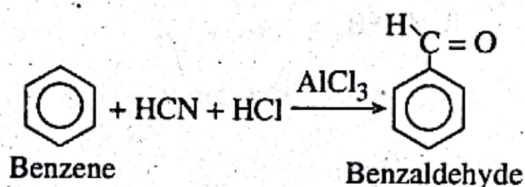
Q.2. What happens when Toluene is reacted with Chromium trioxide?

Ans: When Toluene is reacted with chromium trioxide in presence of acetic anhydride, Toluene is oxidized into Benzal diacetate. When benzal diacetate is hydrolysed, it changes into Benzaldehyde.



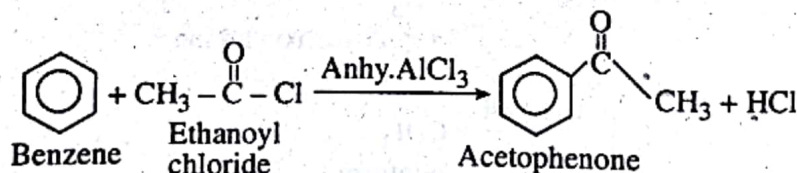
Q.3. Give an example of Gattermann - Formylation reaction?

Ans: The reaction of Benzene with Hydrogen cyanide and dil. HCl in presence of anhydrous AlCl_3 to give benzaldehyde is called as Gattermann - Formylation reaction. Benzaldehyde is obtained as product.



Q.4. How can we get acetophenone from benzene?

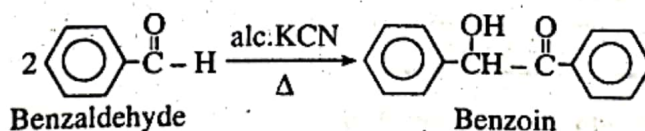
Ans: When Benzene is reacted with ethanoyl chloride in presence of anhydrous AlCl_3 , it undergoes electrophilic substitution reaction to give acetophenone.



This type of chemical reaction is called as Friedel-Craft's acylation reaction.

Q.5. What is Benzoin condensation?

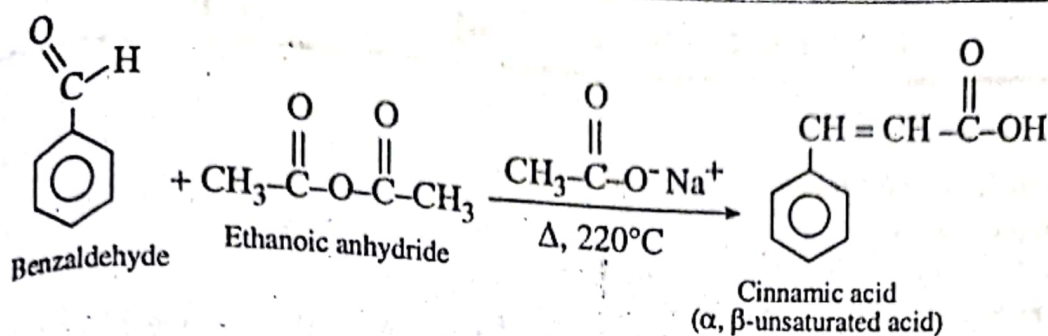
Ans: On heating aromatic aldehyde with ethanolic solution of KCN, two molecules of aromatic aldehyde undergo condensation to form benzoin. It is called benzoin condensation.



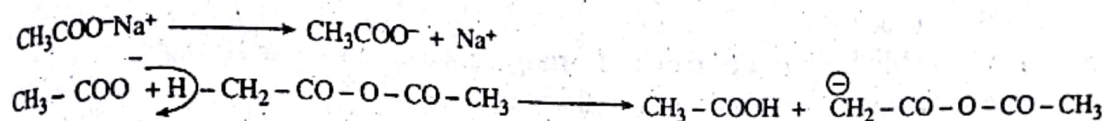
Short Questions-Answers

Q.1. Show your acquaintance with Perkin reaction.

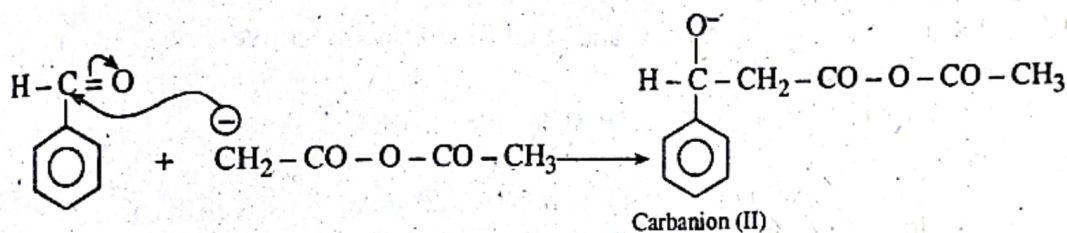
Ans: **Perkin's condensation:** The reaction of aromatic aldehyde with aliphatic acid anhydride in presence of sodium or potassium salt of same acid to produce α, β -unsaturated acid is known as Perkin's condensation. e.g.

**Mechanism:**

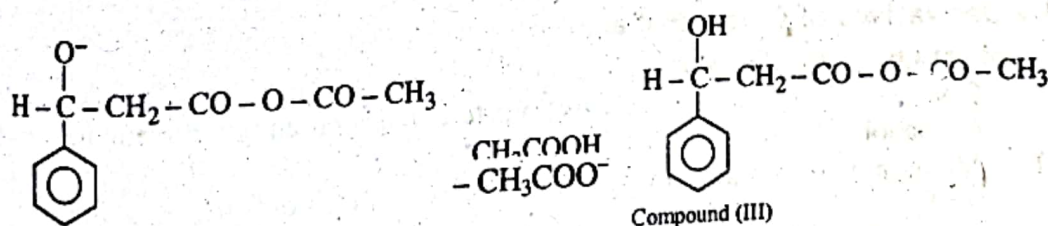
Step I : Acetate ion abstracts α -hydrogen from the anhydride to produce a carbanion (I).



Step II : The carbanion (I) attacks carbonyl C-atom of benzaldehyde to form carbanion (II).



Step III : The carbanion (II) abstracts proton from acid to give aldol type compound (III).



Step IV : The compound (III) undergoes dehydration followed by hydrolysis at 170° to give cinnamic acid.

