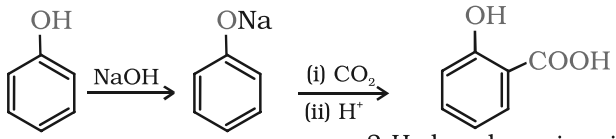
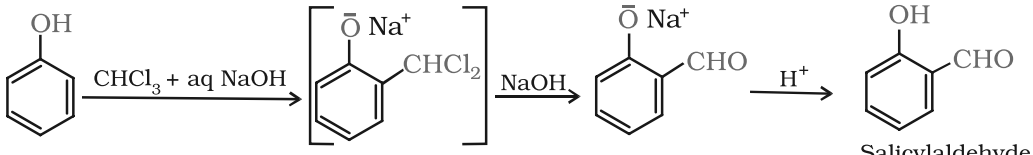


2-Hydroxybenzoic acid
(Salicylic acid)

3. *Reimer-Tiemann reaction*

On treating phenol with chloroform in the presence of sodium hydroxide, a –CHO group is introduced at *ortho* position of benzene ring. This reaction is known as *Reimer - Tiemann reaction*.

The intermediate substituted benzal chloride is hydrolysed in the presence of alkali to produce salicylaldehyde.

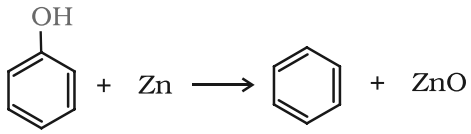


Intermediate

Salicylaldehyde

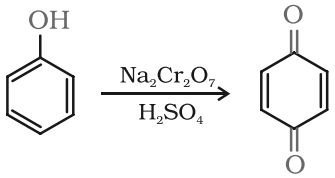
4. *Reaction of phenol with zinc dust*

Phenol is converted to benzene on heating with zinc dust.



5. *Oxidation*

Oxidation of phenol with chromic acid produces a conjugated diketone known as benzoquinone. In the presence of air, phenols are slowly oxidised to dark coloured mixtures containing quinones.



benzoquinone

Intext Questions

11.6 Give structures of the products you would expect when each of the following alcohol reacts with (a) HCl –$ZnCl_2$ (b) HBr and (c) $SOCl_2$.
(i) Butan-1-ol (ii) 2-Methylbutan-2-ol

11.7 Predict the major product of acid catalysed dehydration of
(i) 1-methylcyclohexanol and (ii) butan-1-ol

11.8 *Ortho* and *para* nitrophenols are more acidic than phenol. Draw the resonance structures of the corresponding phenoxide ions.

11.9 Write the equations involved in the following reactions:
(i) Reimer - Tiemann reaction (ii) Kolbe's reaction