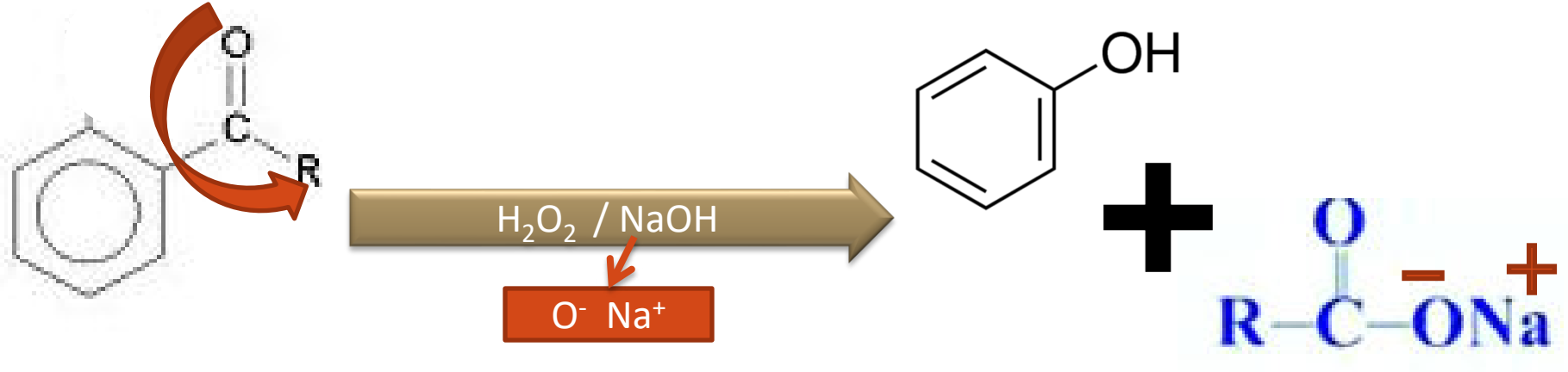
DAKIN REACTION

DEPTH OF BIOLOGY

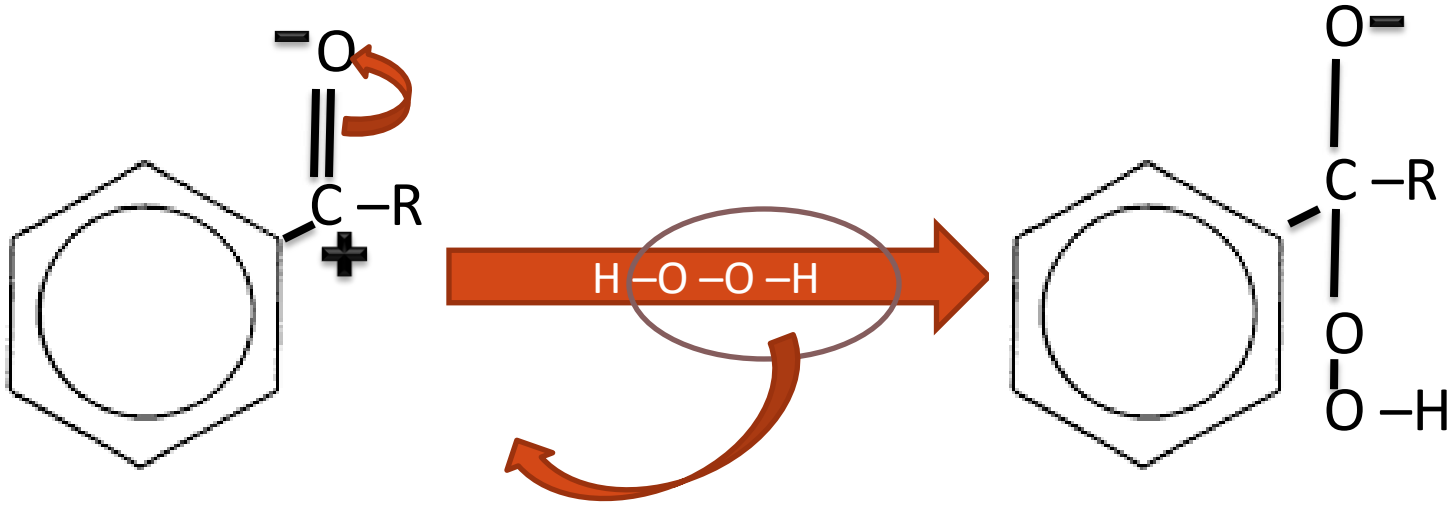
- Conversion of aromatic carbonyl compound [aldehyde/ketone] to phenol/carbolic acid in the presence of hydrogen peroxide H_2O_2 and base like NaOH



DEPTH OF BIOLOGY

- The R –C =O is released from the benzene ring and R –[C=O] –$O^{-}Na^{+}$ is formed
- OH gets attached to benzene and phenol is formed

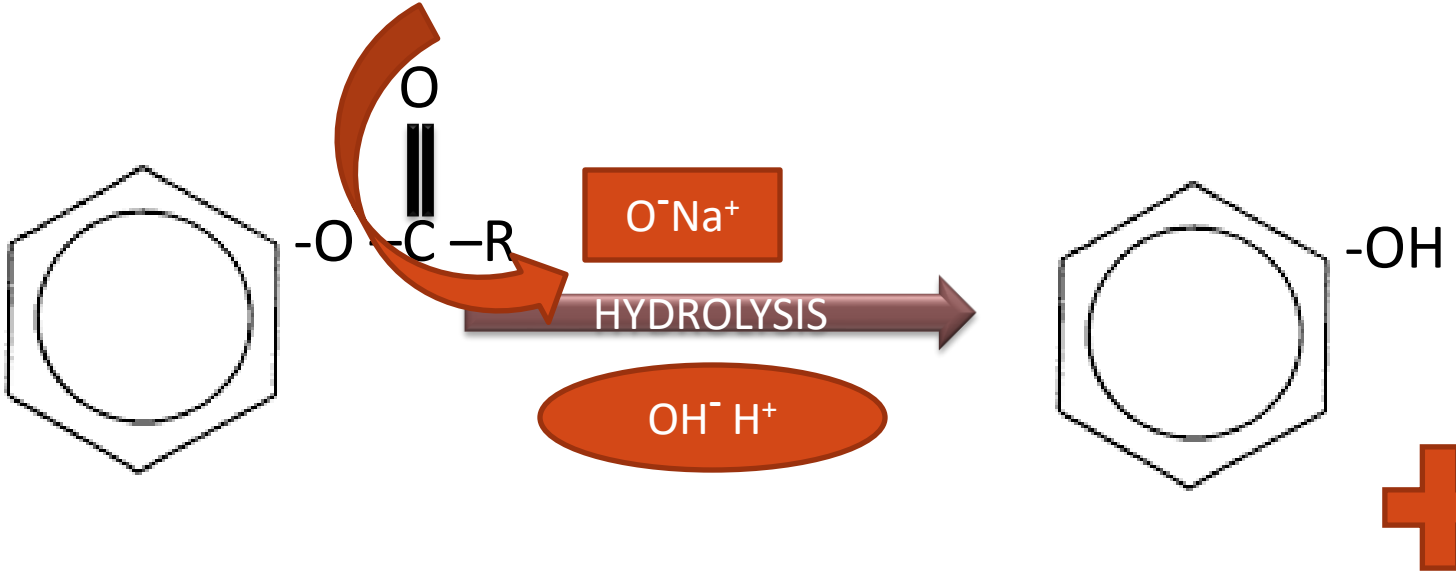
DEPTH OF BIOLOGY

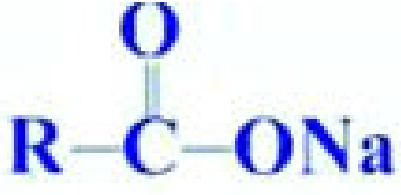


- Oxygen is electronegative element so it will break the double bond with carbon. O will get negative charge and C will get positive charge
- L.P of H_2O_2 will be attracted to C [with + charge]
- Then L.P. of oxygen will also attract benzene ring

DEPTH OF BIOLOGY

- Oxygen will form double bond to maintain valency





DEPTH OF BIOLOGY

- The compound will then react with NaOH and undergo hydrolysis
- O=C-R and O^- Na^+ will together form a compound
- H^+ from H_2O will attach to O^- on benzene and phenol formation will take place

DEPTH OF BIOLOGY