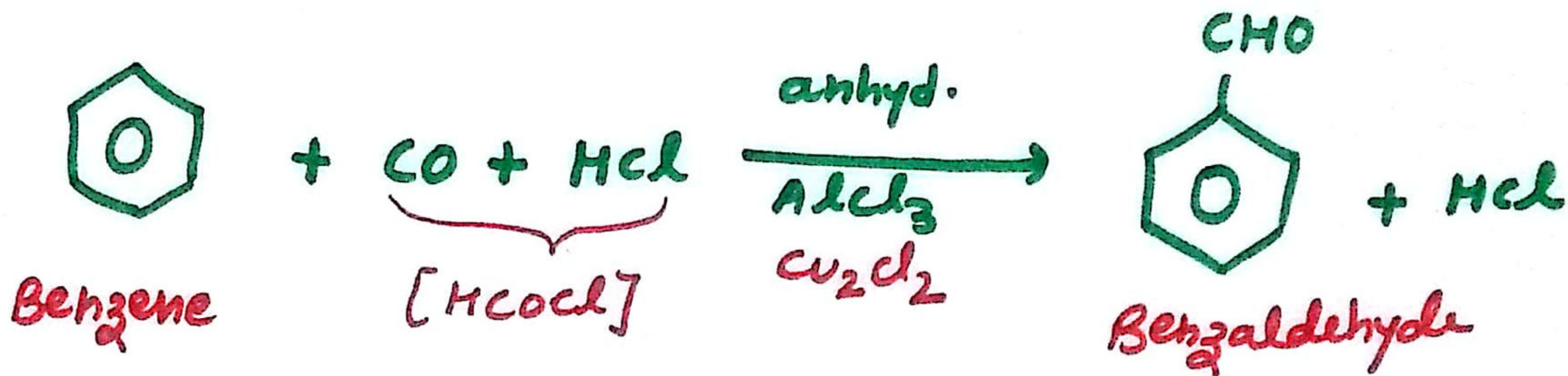


GATTERMAN-KOCH REACTION

Gattermann - Koch Reaction

Benzene is converted into benzaldehyde by passing a mixture of CO and HCl gas at H.P into the ether solution of benzene in the presence of anhyd. $AlCl_3$ and cuprous chloride. (formylation of benzene).



This is an industrial method.

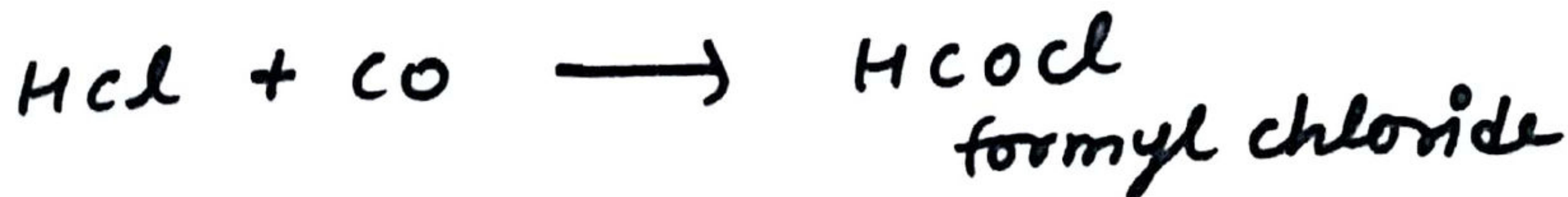


note:

HCl (reactant) and HCl (Product) are different.
H of HCl (reactant) and CO form -CHO in the benzene nucleus. if:



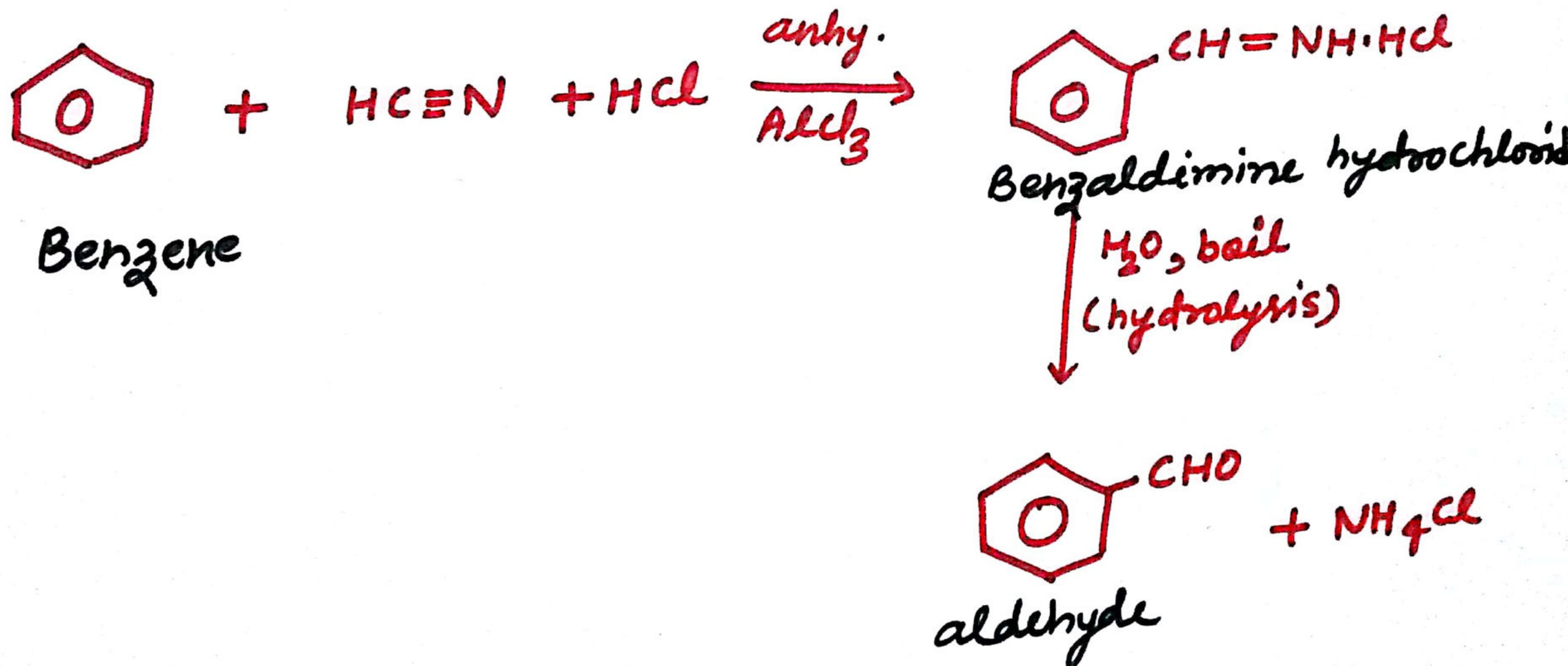
→ This is an Electrophilic substitution in which $(\text{H}-\overset{+}{\text{C}}=\text{O})$ is an electrophile.



GATTERMANN ALDEHYDE SYNTHESIS

Gattermann - aldehyde synthesis

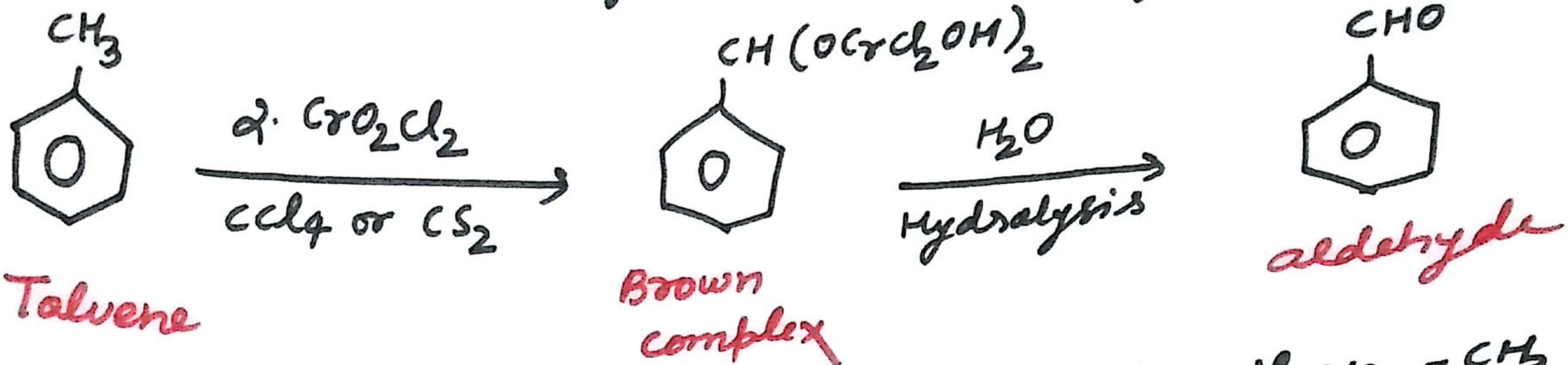
→ In Gattermann-Koch reaction if CO is replaced by HCN, the rxn is c/d Gattermann-aldehyde synth.



ETARD REACTION

Etard's reaction

Partial Oxidation of toluene with chromyl chloride.



in case, the side chain contains group higher than $-\text{CH}_3$ group, the end carbon atom of the chain is oxidised by CrO_2Cl_2 to $-\text{CHO}$ Group.

