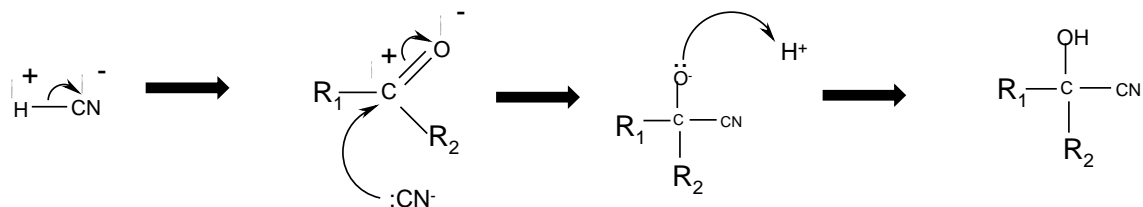


UNIT 4 MECHANISMS

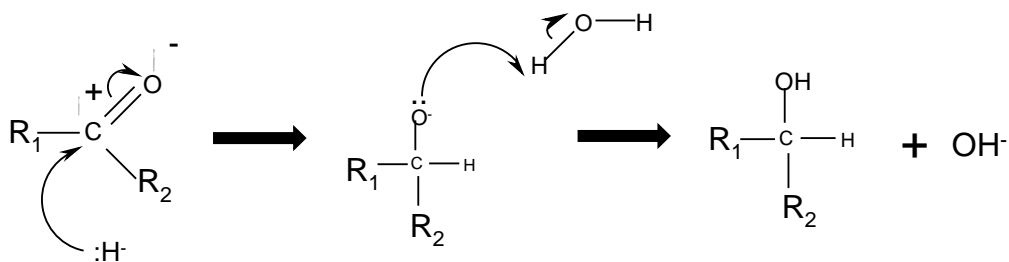
1. Mechanism 1 – Nucleophilic Addition

Carbonyls with HCN and NaBH₄ (H⁻):

a)



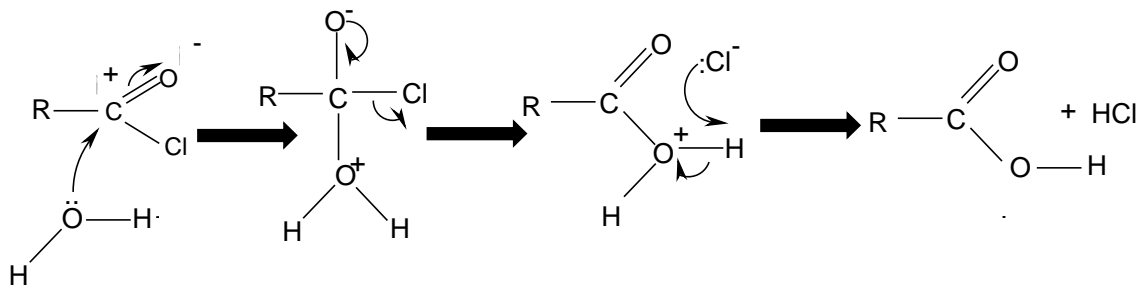
b)



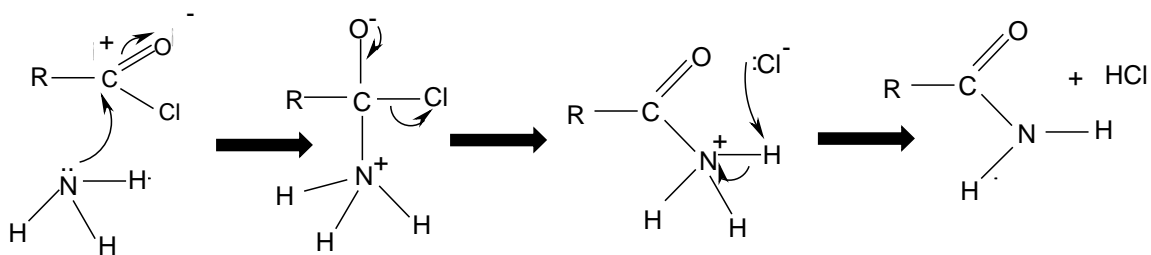
2. Mechanism 2 – Nucleophilic Addition-Elimination

Acyl chlorides with water, ammonia, alcohols and primary amines:

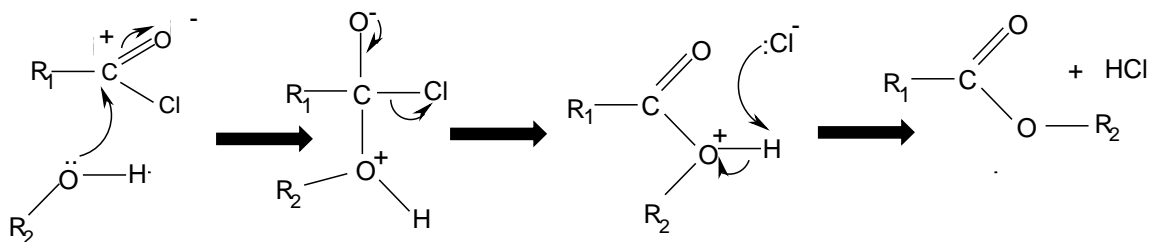
a)



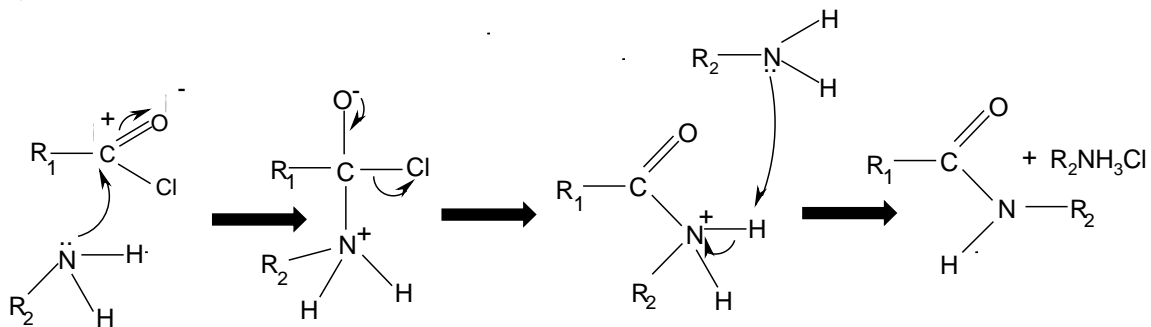
b)



c)

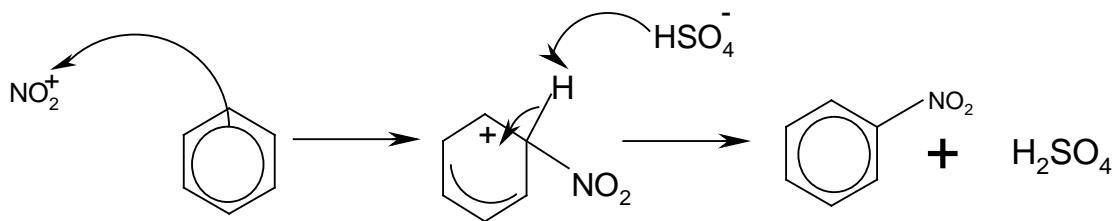
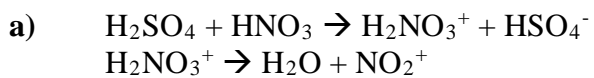


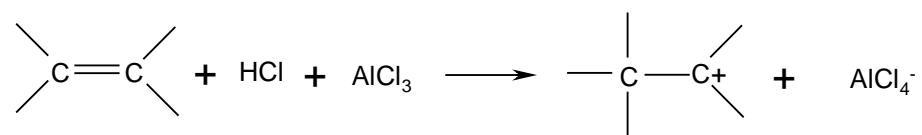
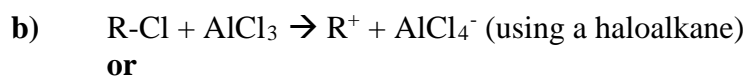
d)



3. Mechanism 3 – Electrophilic Substitution

Nitration, alkylation and acylation of benzene rings:





(using an alkene and HCl)

