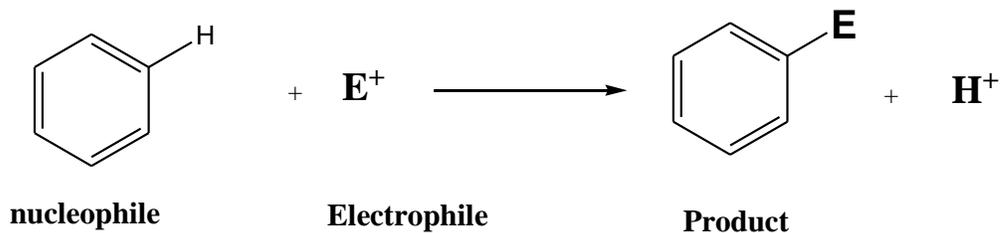


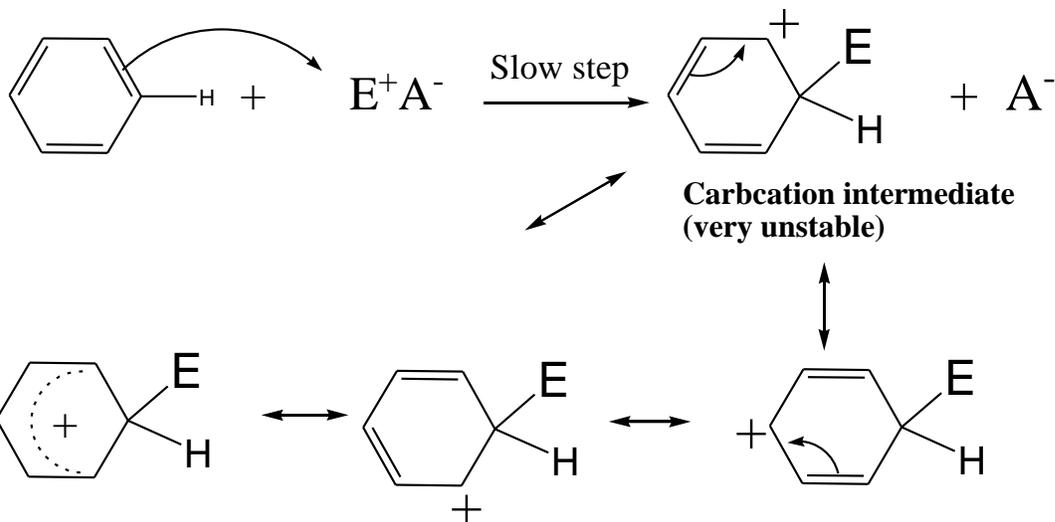
Electrophilic Aromatic Substitution Reactions

In General:

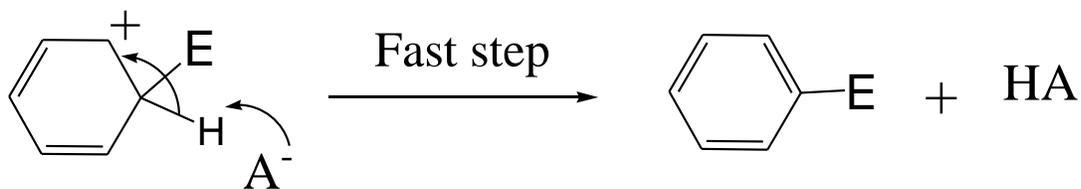


Mechanism

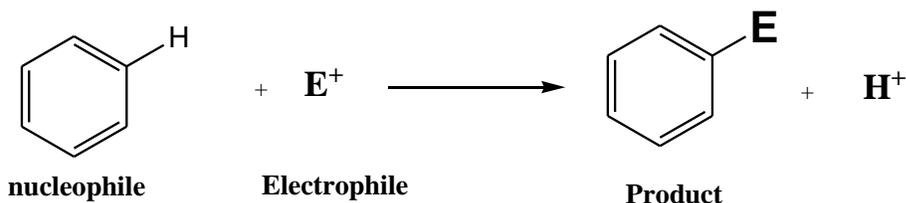
Step 1



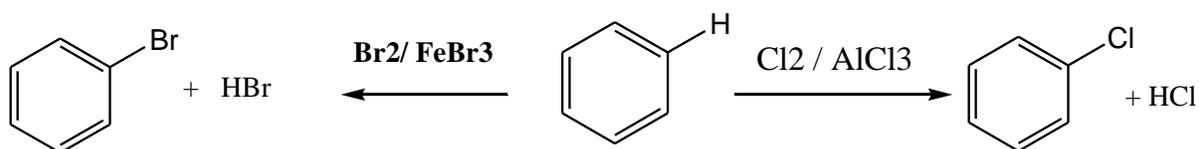
Step 2



Types of Electrophilic Aromatic Substitution Reactions

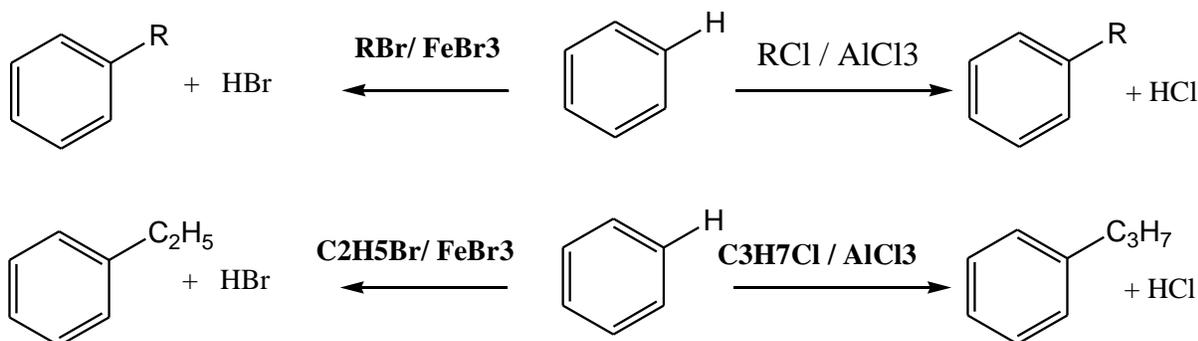


1- Halogenation: Reaction with halogens (X₂) such as Cl₂ or Br₂ in presence of the catalyst AlCl₃ or FeBr₃

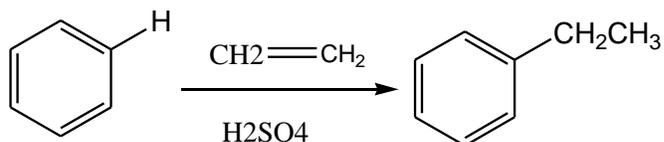


2- Alkylation:

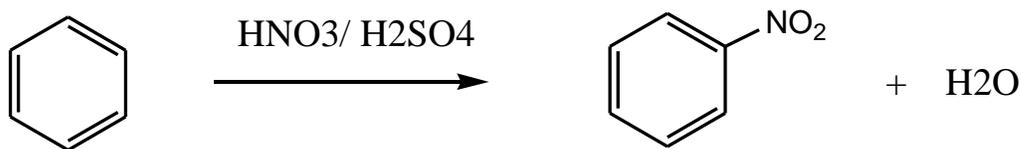
A- Reaction with alkylhalides (RX) such as RCl or RBr in presence of the catalyst AlCl₃ or FeBr₃



B- Reaction with alkenes in presence of acid catalyst such as H₂SO₄



3- Nitration: Reaction with HNO₃ in presence of H₂SO₄ as catalyst



4- Sulfonation: Reaction with SO₃ in presence of H₂SO₄ as catalyst to give benzenesulfonic acid



5- Acylation: Reaction with Acyl Halide in presence of AlCl₃ as catalyst to give aromatic ketones

