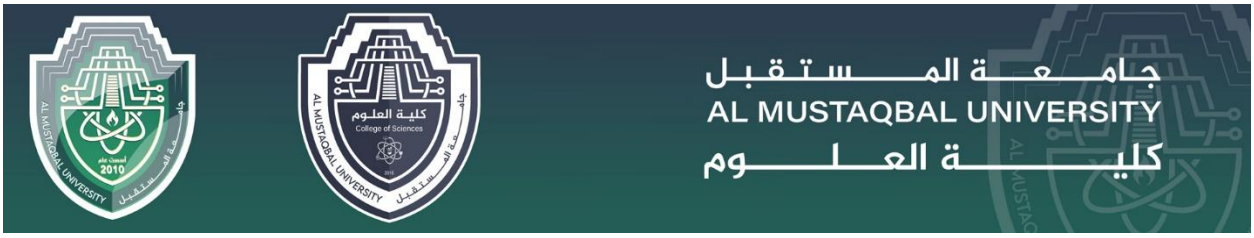

Organic Chemistry

2nd stage

Asst. Lect.Zahraa Hazim Hamid

Lecture 2: Aromatic compound (reaction& preparation)

Department of Bio chemistry

2024-2025

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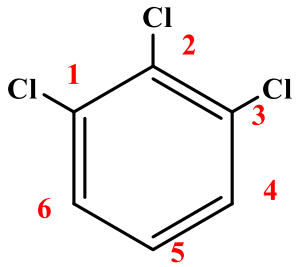
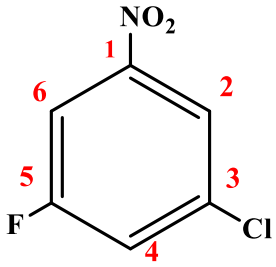
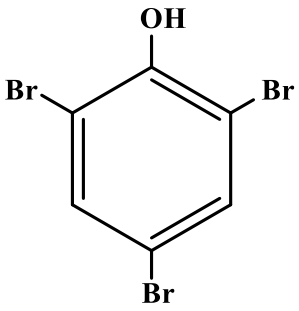
1.1 Naming of aromatic compound



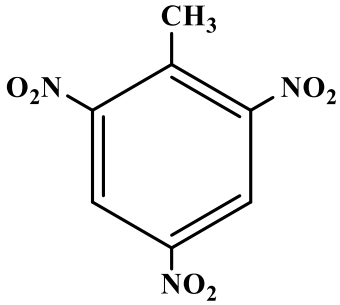
1,2,3-trichlorobenzene



3-chloro-5-fluoronitrobenzene

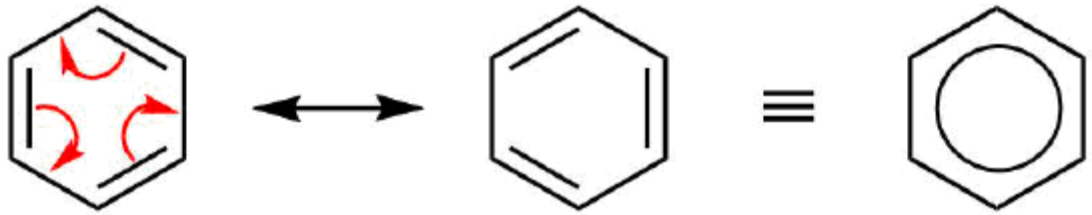


2,4,6-tribromophenol



2,4,6-trinitrotoluene (TNT)

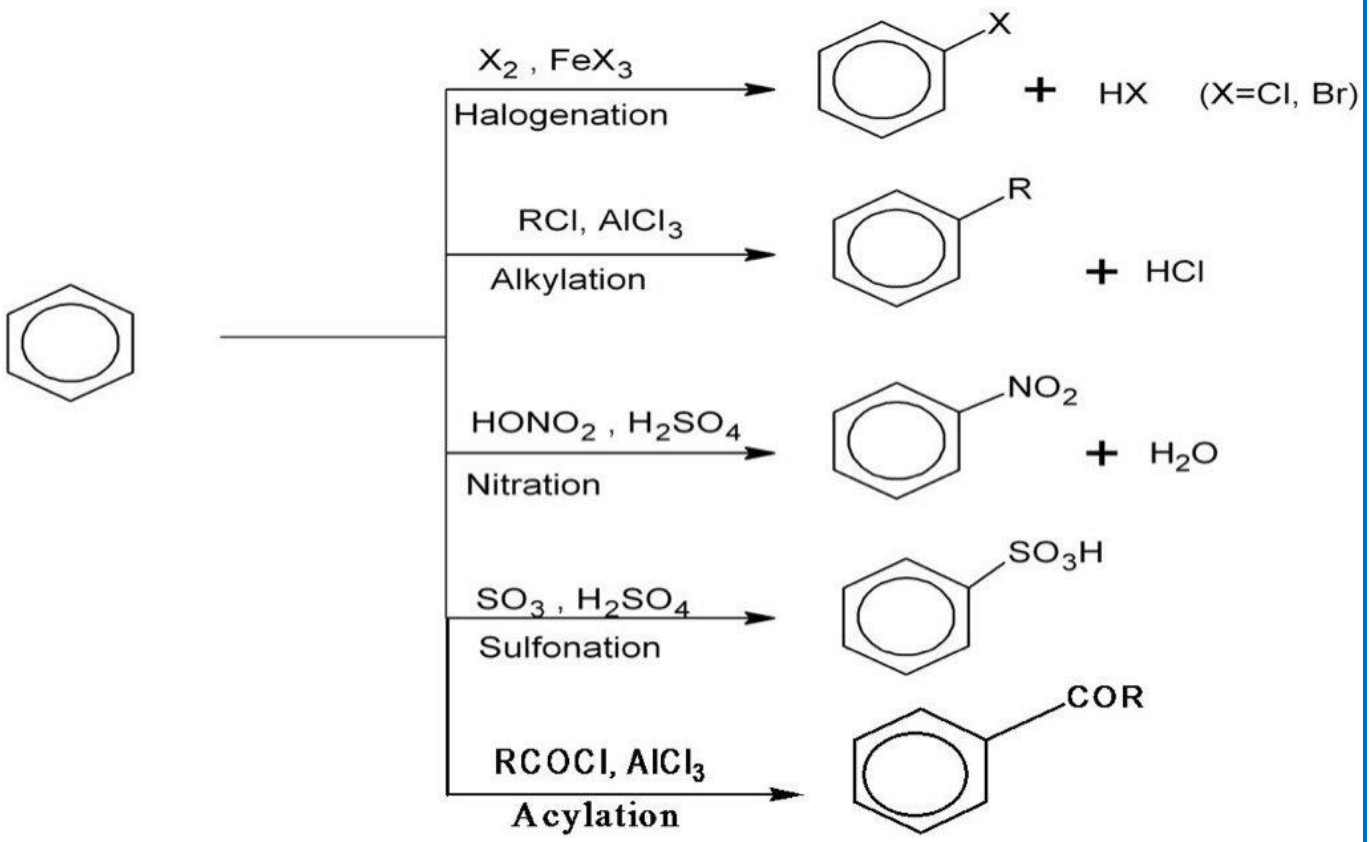
1.2 Resonance of benzene



Benzene has delocalized π-electrons, making it more stable than expected. Instead of alternating single and double bonds, all

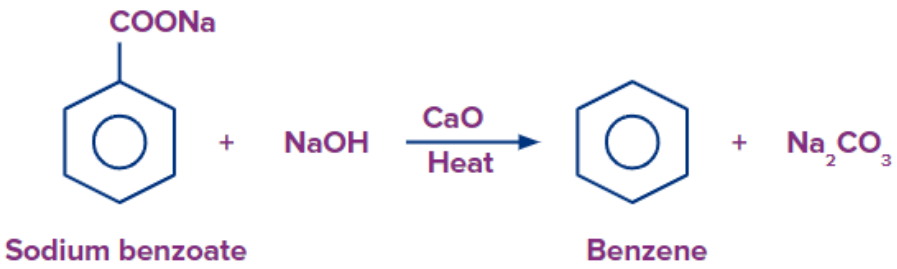
C–C bonds are equal (~1.39 Å). This resonance hybrid lowers benzene's energy by ~36 kcal/mol, explaining its low reactivity in addition reactions and preference for electrophilic aromatic substitution (EAS).

1.3 Reaction of benzene



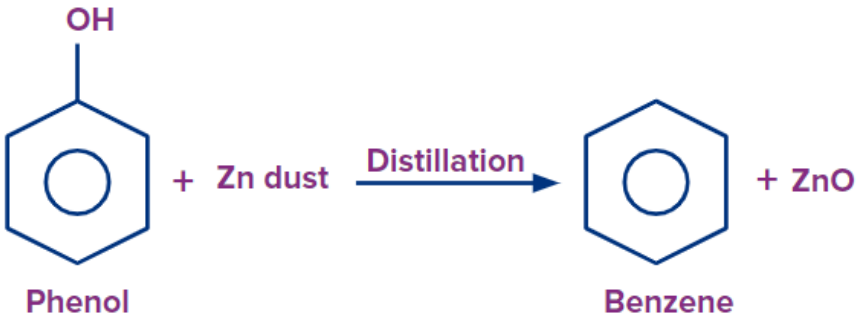
1.4 Preparation of Benzene

1. Preparation of Benzene from Aromatic Acids

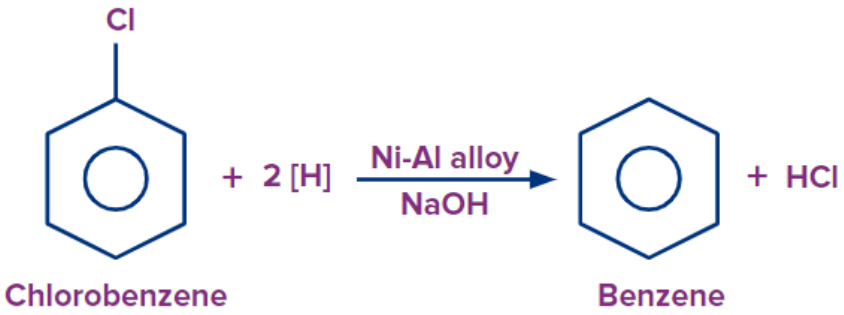


2. Preparation of Benzene from Sulphonic Acid

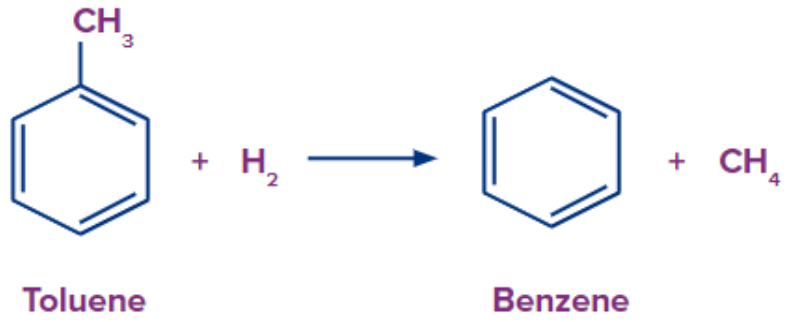
3. Preparation of Benzene from Phenol



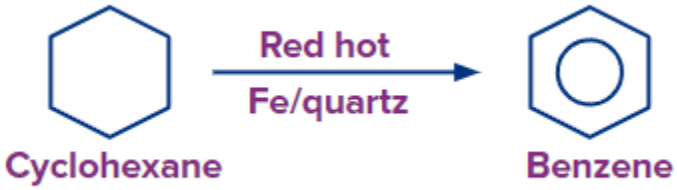
4. Preparation of Benzene from Chlorobenzene



5. Preparation of Benzene by Toluene Hydrodealkylation



6. Preparation of Benzene from Cyclohexane



7. Preparation of Benzene from Grignard Reagent