

Chemistry 2, HW 18

Summary of the chemical reactions typical for unsaturated and aromatic hydrocarbons:

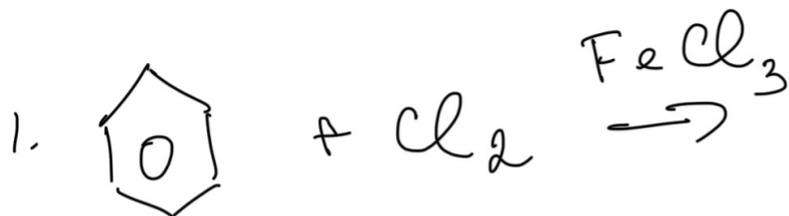
Unsaturated Hydrocarbons				
Alkenes		Alkynes		Aromatic compounds
C=C		Triple bond		Benzene ring
polymerization	Addition reactions: Halogenation (for example + Cl ₂) → haloalkanes; Hydrogenation (+H ₂) → alkanes; Hydration (+H ₂ O) → Alcohols; Hydrohalogenation (for example +HCl) → haloalkanes	Addition reactions: Halogenation (+ Cl ₂) → haloalkenes, haloalkanes; Hydrogenation (+H ₂) → alkenes, alkanes; Hydration (+H ₂ O) → Alcohols; Hydrohalogenation (+HCl) → Haloalkenes, haloalkanes	Substitution reactions For example Halogenation, Nitration, Sulfonation	

Questions:

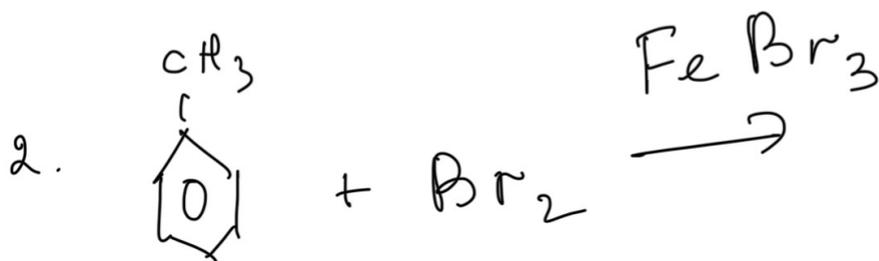
Write the following reactions:

1. addition of HCl to cyclopentene.
2. addition of Br₂ to 2-pentene
3. hydration of propene
4. addition of chlorine to 2-butyne
5. hydration of 1-methylcyclobutene
6. hydrogenation of 3-hexene
7. addition of HBr to 2-methyl-2-butene

Finish the following reactions (if they are possible):



Benzene



Toluene

