

Overview of Organic Reactions

Name	Starting Products	Reaction Conditions/ Reagents	Final Products
Halogenation of alkanes	Alkane + halogen (e.g. Cl ₂)	Heat or UV light	Alkyl halide (e.g. R-Cl) + acid (e.g. H-Cl)
Mechanism:			
Mechanism:			
Mechanism:			
Mechanism:			

Overview of Organic Reaction Types

Name	Description	Specific Examples
Electrophilic aromatic substitution	-One functional group is replaced by another (specifically, C-H bond on benzene is broken and C-Electrophile bond is formed) -Reaction is facilitated by a Lewis acid catalyst	-Halogenation (adding Cl ₂ or Br to benzene)

Organic Reactions Organized by Starting Product

Starting Product/Functional Group: Alcohols (R-OH)

Name	Starting Products	Reaction Conditions/ Reagents	Final Products
Dehydration	Alcohol (R-OH)	Sulfuric/phosphoric acid, heat	Alkene + water
Substitution	Alcohol (R-OH)	Strong acid HX (e.g. HBr)	Alkyl halide (R-X) + water

Organic Reactions Organized by Final Product

Final Product/Functional Group: Ketones R(C=O)R'

Name	Starting Products	Reaction Conditions/ Reagents	Final Products
Oxidation of secondary alcohols	Secondary alcohol	Strong oxidizing agent (e.g. potassium dichromate), heating under reflux	Ketone + water
Hydration of alkynes	Alkyne + water	Strong acid (e.g. sulfuric acid), mercury(II) salts	Ketone