

Organic Compound Reactions

Reaction	Reactants	Products	Conditions
Substitution reaction(alkanes)	alkane + halogen	haloalkane + hydrogen halide	UV light
cracking(catalytic)	long-chain alkanes	alkane + alkene(s) OR alkene(s) + hydrogen	high temperature, catalyst aluminium oxide/silicon(IV) oxide
cracking(thermal)	long-chain alkanes	alkane + alkene(s) OR alkene(s) + hydrogen	high temperature, high pressure
Halogenation(alkenes)	alkene + halogen	dihaloalkane	-
Hydrogenation(alkenes)	alkene + hydrogen	alkane	temperature 200°C, Catalyst Nickel
Hydration(alkenes)	alkene + steam	alcohol	temperature 300°C, pressure 60atms, catalyst conc. phosphoric(V) acid
Fermentation(alcohol)	glucose	ethanol + carbon dioxide	temperature 37°C, catalyst yeast, NO oxygen
Oxidation(alcohols)	ethanol + oxygen*	ethanoic acid + water	heat
Bacterial oxidation(alcohol)	ethanol + oxygen from air	ethanoic acid + water	temperature 37°C, catalyst bacteria
Esterification	carboxylic acid + alcohol	ester + water	heat, catalyst conc. sulfuric acid

* from **acidified potassium manganate(VII)** [purple → colourless]

OR **acidified potassium dichromate(VI)** [orange → green]