Reagents and conditions

Reactant	Product	Reagent	Conditions	Reaction type
Alkane	Halogenoalkane	Whichever halogen	uv light RT	Radical substitution
Alkene	halogenoalkane	e.g. HBr	Concentrated (aq) RT	Electrophilic addition
Alkene	alkane	Hydrogen gas	Pt catalyst RT Or Ni catalyst 150'C 5atm	Electrophilic addition
Alkene	alcohol	steam	Conc phosphoric acid catalyst, 300'C 60atm	Electrophilic addition
halogenoalkane	alcohol	NaOH(aq)	reflux	Nucleophilic substitution
halogenoalkane	amine	ammonia	Heat in sealed tube with concentrated ammonia	Nucleophilic substitution
halogenoalkane	nitrile	NaCN dissolved in ethanol	reflux	Nucleophilic substitution
Primary alcohol	aldehyde	Acidified potassium dichromate solution	Heat and distill off as formed	oxidation
Primary alcohol	Carboxylic acid	As above	reflux	oxidation
Secondary alcohol	ketone	As above	reflux	oxidation
alcohol	alkene	Aluminium oxide, 300'C	Pass vapour over heated catalyst	Elimination or dehydration
alcohol	chloroalkane	Conc HCl (aq)	RT	Nucleophilic substitution