

ORGANIC MECHANISMS FOR UNIT 2

- Mechanisms required:
1. free radical substitution
 - methane with chlorine
 2. electrophilic addition
 - alkenes with hydrogen bromide
 - alkenes with bromine
 - alkenes with sulphuric acid
 3. nucleophilic substitution
 - haloalkanes with hydroxide ions
 - haloalkanes with cyanide ions
 - haloalkanes with ammonia
 4. elimination
 - hydrogen halides from haloalkanes

Remember: All curly arrows must originate from a lone pair or a bond

The lone pair must be shown

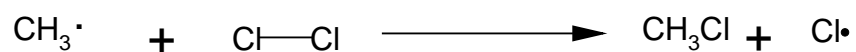
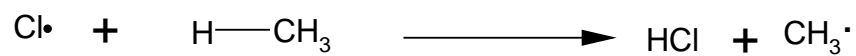
All free radicals must be shown clearly with a dot

1. free radical substitution

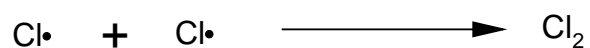
Initiation:



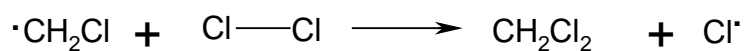
Propagation:



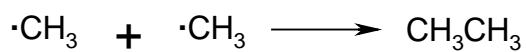
Termination



Further propagation:

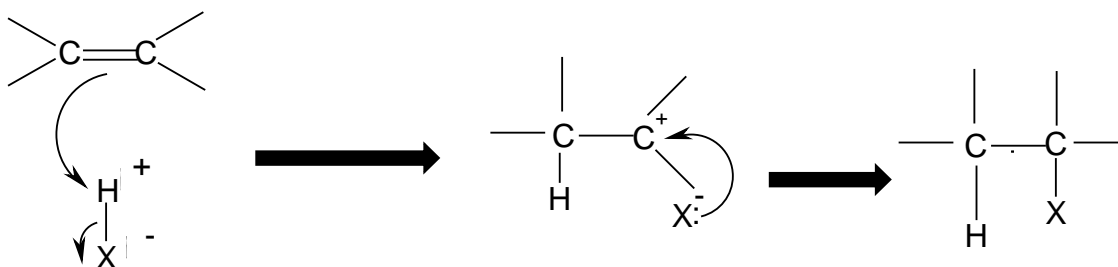


Different termination steps:

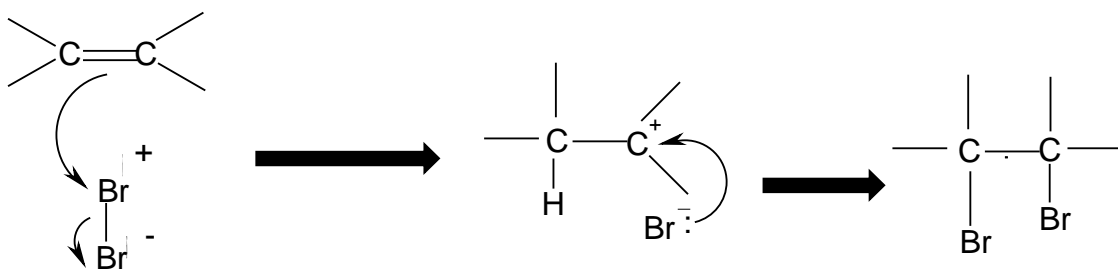


2. electrophilic addition

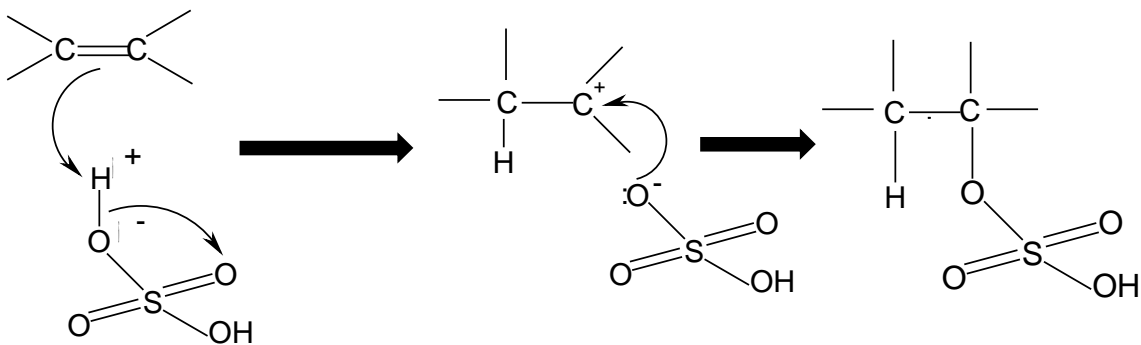
a) with hydrogen bromide



b) with bromine

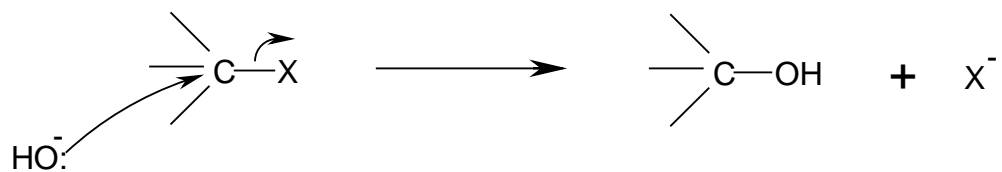


c) with sulphuric acid

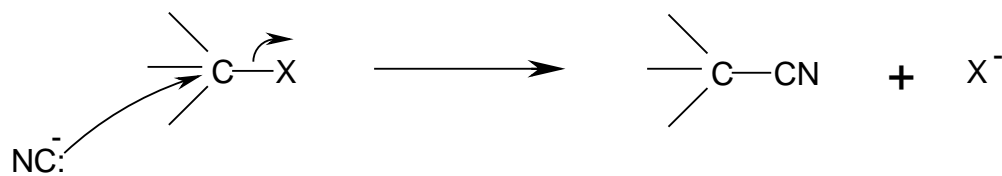


3. nucleophilic substitution

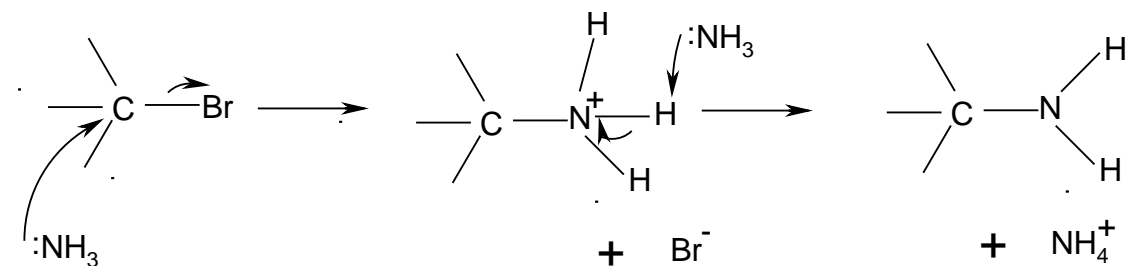
a) with hydroxide ions



b) with cyanide ions



c) with ammonia



4. elimination

a) haloalkanes

