

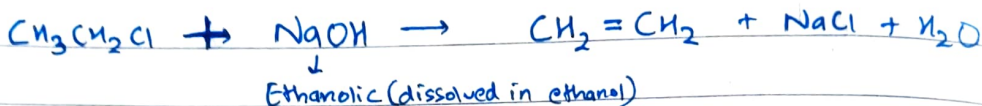
Halogenoalkanes

Example - $C_5H_{10}Cl_2$

→ it forms optical isomerism

→ it forms structural isomerism

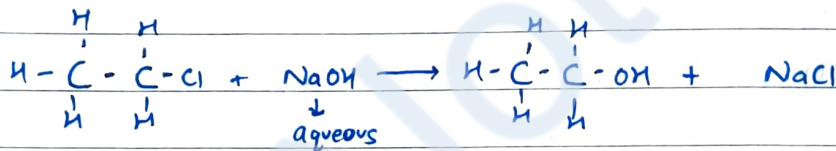
→ Elimination reaction



~~hydrolysis~~

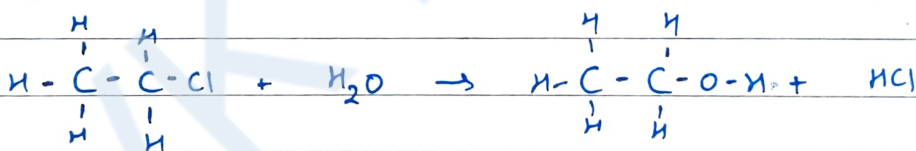
Condition - Heat, Cl and H both are removed.

→ Hydrolysis of Haloalkanes using aqueous OH^- ions



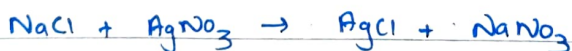
Condition - heat under reflux

→ Hydrolysis of Haloalkanes using water

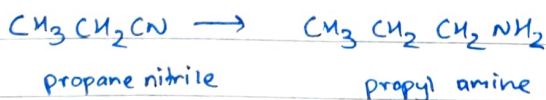


condition - heat under reflux.

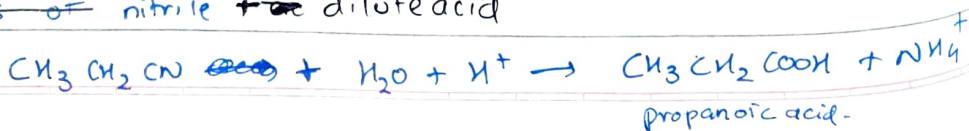
→ if you want to find rate of hydrolysis of haloalkanes, add $AgNO_3$ to the mixture and clock the time until you see a precipitate
white - chloro, ~~grey~~ cream - bromo, yellow - iodo.



→ Reduction of nitrile



→ ~~Hydrolysis~~ of nitrile + dilute acid



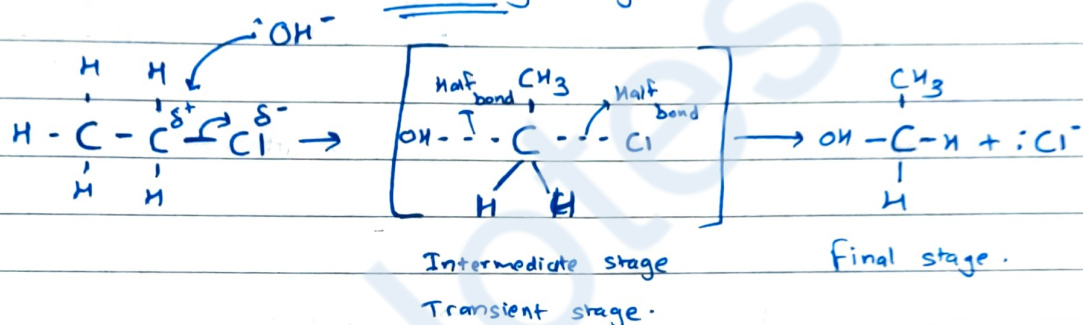
→ Substitution with ammonia



Condition - Heat, high pressure

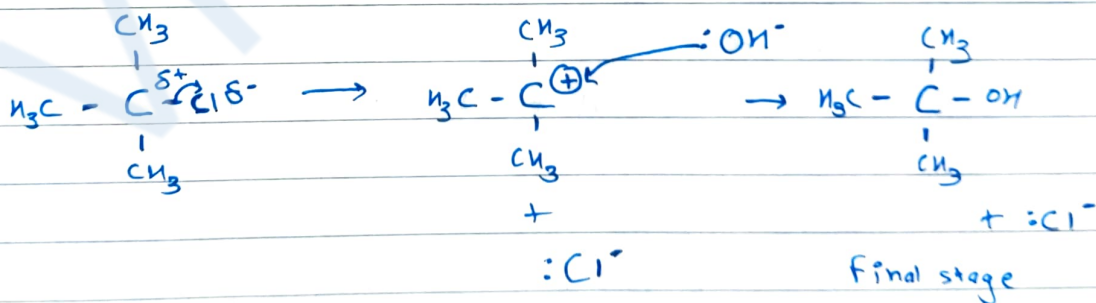
⇒ Nucleophilic substitution mechanism $\text{S}_\text{N}2$

$\text{S}_\text{N}2$ only takes place with ^{only} primary halogenoalkanes



⇒ Nucleophilic substitution mechanism $\text{S}_\text{N}1$

only in tertiary haloalkanes



⇒ Uses of halogenoalkane

- Propellants in aerosols
- Refrigerants in fridges
- Anaesthetics
- PVC - pipes
- Poly (tetrafluoroethene) - non-stick pans, known as Teflon.

Problems with halogenoalkanes

CFC's cause ozone layer to break down

Solution - HFC - hydro fluoro carbons

HFE - hydro fluoro ethers