

HydroCarbons

→ Alkanes

→ General formula- C_nH_{2n+2}

→ Saturated Hydrocarbons

→ straight chain alkanes have higher MP and BP compared to branched.

→ Combustion of alkanes

→ Complete combustion



→ Incomplete combustion



→ CO and oxides of nitrogen are released from car exhausts.

→ Catalytic Converters - CO is oxidised to CO_2 $[2CO + 2NO \rightarrow 2CO_2 + N_2]$

↓
made of Platinum

- NO/NO₂ is reduced to N₂

Palladium and
rhodium in a

- Unburnt hydrocarbons are oxidised to form CO₂ and H₂O
honeycomb structure.

→ Free radical substitution mechanism

Step 1: Initiation



Step 2: Propagation



Step 3: Termination



⇒ Alkenes

→ General formula = C_nH_{2n}

→ They are unsaturated hydrocarbons.

→ isomers

→ it can form structural isomers (chain isomers) (change double bond location)

→ it can form geometric isomers (cis trans)

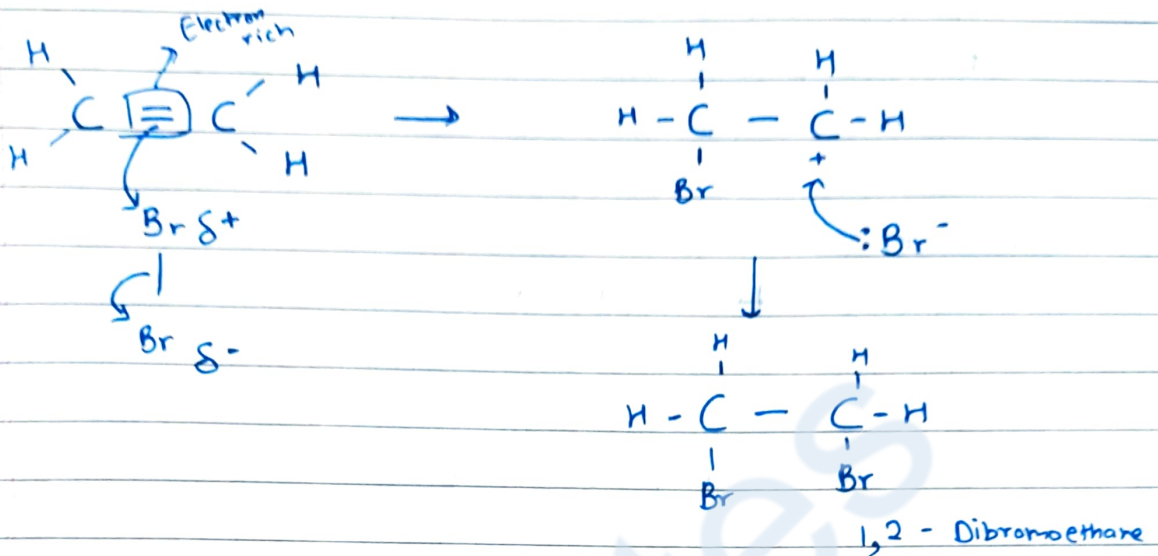
→ it can form cycloalkanes



addition reaction

platinum catalyst.

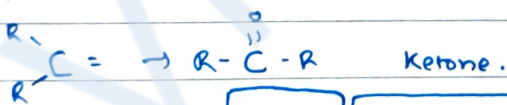
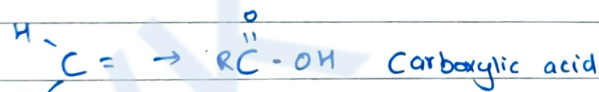
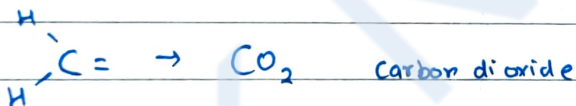
⇒ Electrophilic addition mechanism



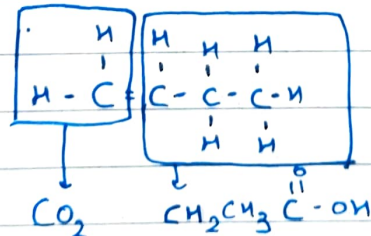
⇒ Oxidation of Alkenes

Alkene + KMnO_4 (acidified solution)

(~~HEAT~~) (hot and concentrated)



Example 1:



Example 2:

