

CHAPTER 13

HYDROCARBONS

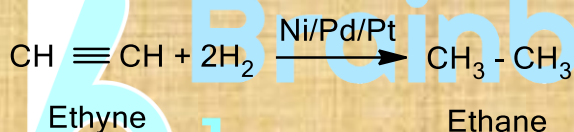
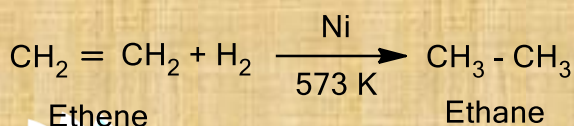
Alkanes preparation:

Preparation:

From unsaturated hydrocarbons:

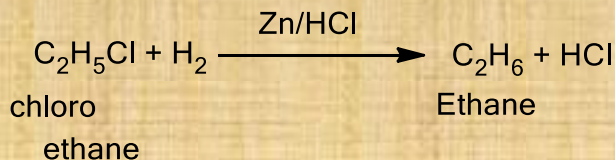
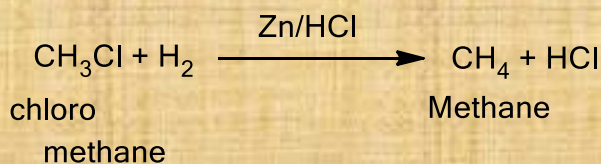
Alkenes or alkynes are hydrogenated by adding hydrogen in presence of catalysts like Ni, Pd, Pt etc.

Ex.



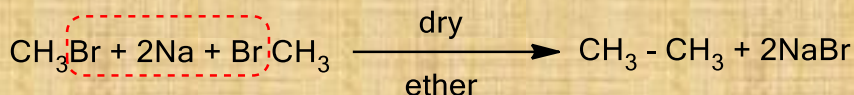
From alkyl halides:

Alkyl halides when treated with zinc in presence of dilute hydrochloric acid undergoes reduction to give alkanes.



Wurtz reaction:

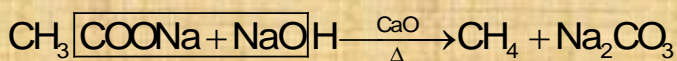
Alkyl halides undergoes coupling reaction when treated sodium in dry ether to give higher alkanes.



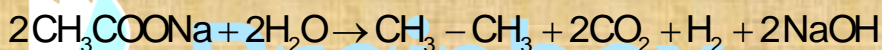
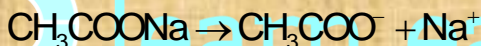
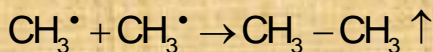
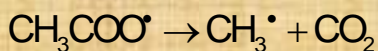
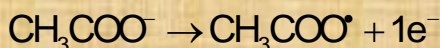
Wurtz reaction gives alkanes with double no. of carbon atoms.

Carboxylic acids:

Sodium salts of carboxylic acids on heating with soda lime, gives alkanes with one carbon less than carboxylic acid.

**Kolbe's electrolysis:**

Aqueous solution of sodium salt of carboxylic acids on electrolysis gives alkanes with even no. of carbon atoms.

**Mechanism:****At anode:****At cathode:**