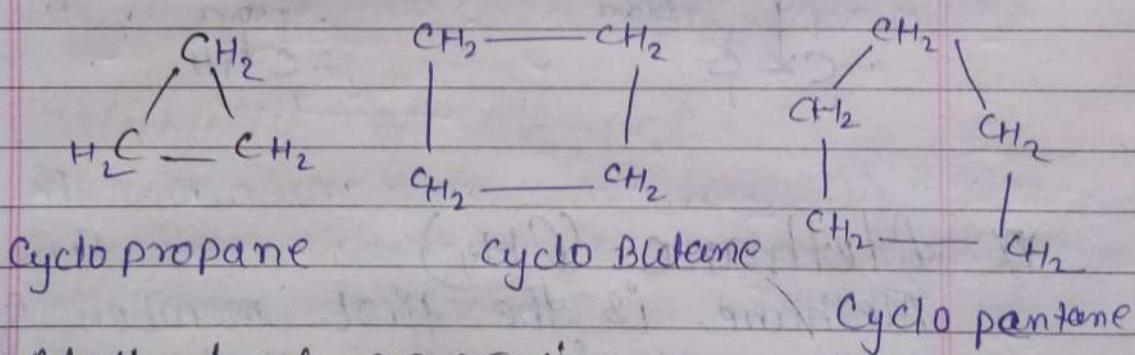


~~17/12/21~~ ★ Cyclo alkane:-

Cyclo alkane or, Cyclo paraffin are saturated hydrocarbons in which the carbon atoms are joined by single co-valent bond to form a ring.

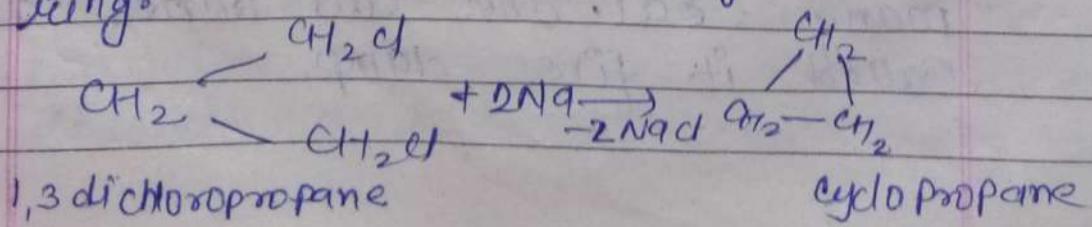
- They are also called ali-cyclic Compounds
  - The prefix - ali is added because of their similarity to aliphatic compounds.
  - The unsubstituted cyclo alkane form a homologous Series with general formula (C<sub>n</sub>H<sub>2n</sub>)
  - The first member of these series is cyclo propane C<sub>3</sub>H<sub>6</sub>
  - Nomenclature



## ~~6/10/122~~ Method of preparation —

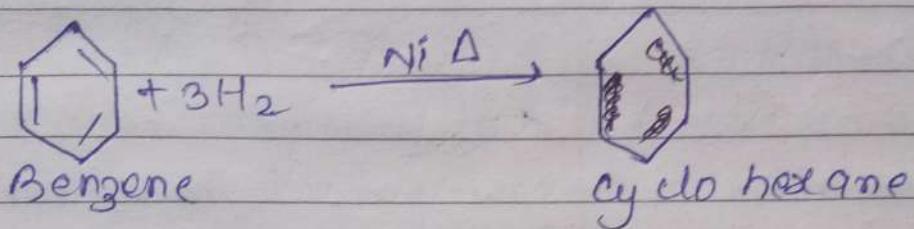
(i) From dihalide:-

Terminal dihalid when treated with Sodium (Na) or Zink (Zn) from cyclo alkane. This reaction is an extension of the Wurtz reaction and it is useful for the preparation of 3- to membered rings.



ii) From aromatic hydrocarbon —

6 membered cyclo alkane can be prepared by catalytic reduction of benzene and its derivative.



Physical properties -

i) Cyclo pro alkane

(i) Cyclo propane & cyclo Butane are gaseous at room temperature the remaining cyclo alkanes are liquid.

(ii) Melting point and boiling point of Cyclo alkane are gradually increase with the increase in molecular wt.

(iii) Cyclo alkane are insoluble in water but dissolve in ethanol & ether.

\* Alkene Chemical properties.

D

### \* Alkene :-

- Alkenes are hydrocarbon that contain a C=C double bond in their molecules.
- They have the general formula -  
 $\boxed{C_nH_{2n}}$

- In comparison to  $C_nH_{2n+2}$  of alkane.
- Alkenes contain two hydrogen atom less than alkane.

### - Structural :-

- Let us consider  $CH_2 = CH_2$  (C=C) of illustrating the orbital makeup of alkene.
- In ethylene the carbon atom are  $sp^2$  hybridized.
- They are attached to each other by  $\sigma$  bond and  $\pi$  bond.
- The sigma bond results from the