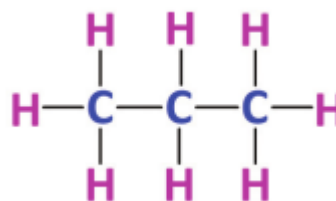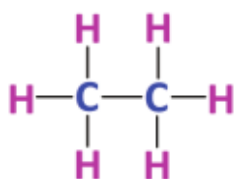# Chemistry- X- Unit -6. Class - 34

Nomenclature of organic compounds and isomerism

Alkanes

The open chain hydrocarbons having only single bond between the carbon atoms are included in the Alkane category.

In alkanes, as all the four valencies of each carbon atom are satisfied by single bonds, they are known as saturated hydrocarbons.

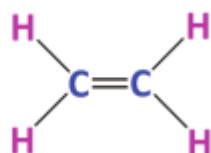Eg :   Ethane – C_2H_6 Propane - C_3H_8

 The relationship between the number of atoms of carbon and hydrogen in alkane is given by a general formula C_nH_{2n+2}.
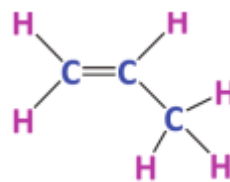
Alkenes

Hydro carbons having a double bond between any two carbon atoms are considered as Alkenes.

Hydrocarbons having double bond or triple bond between carbon atoms are commonly known as unsaturated hydrocarbons.

Eg: Ethene C_2H_4

Propene C_3H_6

 The relationship between the number of atoms of carbon and hydrogen in alkane is given by a general formula C_nH_{2n}
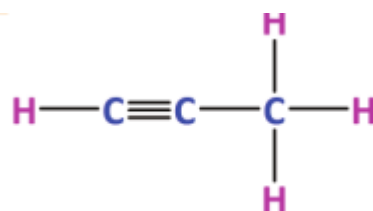
Alkynes

Hydrocarbons having a triple bond between any two carbon atoms are named as alkynes .
They are **unsaturated hydrocarbons.**

Eg: Ethyne C_2H_2

Propyne C_3H_4

 The relationship between the number of atoms of carbon and hydrogen in alkyne is given by a general formula C_nH_{2n-2}

Homologous series

characteristics of a homologous series.

- The members can be represented by a general formula.
- Successive members differ by a – CH_2 - group.
- Members show similarity in chemical properties.

There is a regular gradation in their physical properties.

Questions

1. **Which among the following is an alkane ?**

    (C_2H_4, C_2H_6 , C_2H_2)

2. **What is the molecular formula of an alkane containing 8 carbon atoms ?**

3. **Give the common name of Alkynes .**

4. **Identify the pair which belongs to homologous series ?**

    (CH_4 ,C_2H_6) (C_3H_6 , C_5H_8) , (C_3H_8 ,C_2H_2)

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