## Organic chemistry (basics)

| | |
|---|---|
| >organic chemistry- | 'chemistry of specific carbon compound' |
| >nature of carbon atom | - tetra valency, catenation, isomerism |
| *[catenation | tendency of an element to form chains of identical atoms] |
| *[isomerism | -same molecular formula but different structural formula] |
| *Hyrocarbons | -organic compounds containing 'C' and 'H' atoms only |
| *Nomenclature | -system of assignment of names to organic compunds |
| *Homologous series | -series of organic compounds where the successive members follow a regular structural pattern differing by a 'CH2' group |

## organic v/s inorganic

| ORGANIC | INORGANIC |
|---|---|
| ➢covalent | ➢electrovalent (ionic) |
| ➢low melting/boiling points | ➢high melting/boiling points |
| ➢insoluble in water/ soluble in organic solvents | ➢soluble in water/ insoluble in organic solvents |
| ➢non-conductors of electricity | ➢good conductors of electricty |
| ➢combustible | ➢non-combustible |
| ➢volatile | ➢non-volatile |
| ➢exhibits catenation and isomerism | ➢doesn't exhibit catenation and isomerism |

## CLASSIFICATION

| *ALIPHATIC* (hydrocarbons)- open chains/straight chain | *ATROMATIC* (cyclic)- closed chains |
|---|---|
| >saturated (cannot take up more alkanes) | >homocyclic (only carbon and hydrogen atoms) |
| >unsaturated (double bond/triple bond-can take up more alkanes) | >heterocyclic (C,O,N,H, and S atoms) |

## NOMENCLATURE

| **STEM** | **number of carbons** |
|---|---|
| meth- | 1 |
| eth- | 2 |
| prop- | 3 |
| but- | 4 |
| penta- | 5 |
| hexa- | 6 |
| hepta- | 7 |
| octa- | 8 |
| nona- | 9 |
| deca- | 10 |
| **stem/suffix** | . |
| -ane | Alkanes (single bonds) |

## NOMENCLATURE (cont)

| | |
|---|---|
| -ene | Alkenes (double bonds) |
| -yne | Alkynes (triple bonds) |

## ISOMERISM

*chain arrangment* *position of functional groups* *geometrical arrangement of atoms around double bond*

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