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ORGANIC CHEMISTRY

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ORGANIC CHEMISTRY - BASICS

- Organic chemistry is a branch of chemistry that deals with the study of hydrocarbons and their derivatives
- Catenation of Carbon : Self linking property of an element to form long chains and rings
- Tetravalence of carbon
- Covalent bonding in organic compounds

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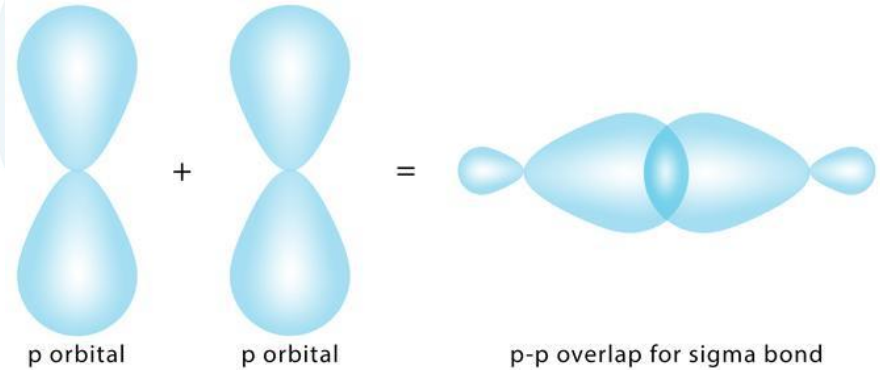
Types of bonds

1. Sigma (σ) bonds : Formed by the head on overlapping of orbitals



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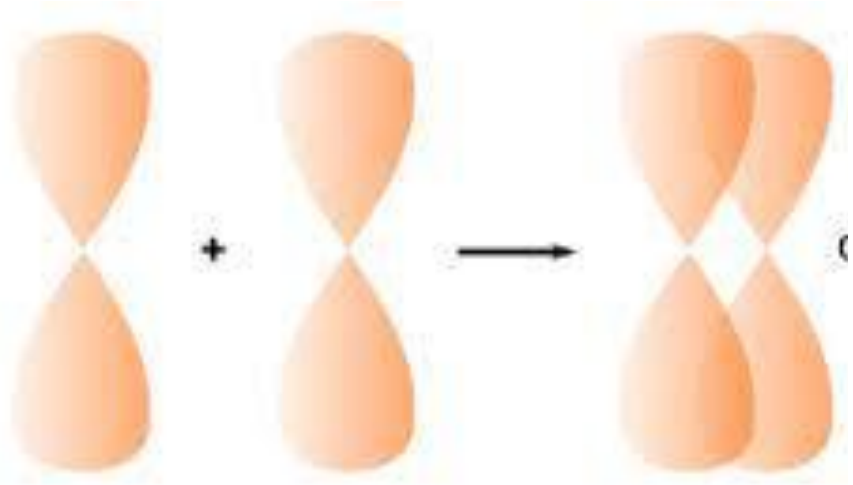
2. Pi (π) bonds : Sidewise overlapping of orbitals



σ bonds are stronger than π bonds

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Hybridisation of Carbon

- Hybridisation is phenomenon of combining atomic orbitals to give a set of new degenerate hybrid orbitals which have same energy and identical shape.

- Hybridisation increases the stability of bond formation than unhybridized orbitals.

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Hybridisations of Carbon

- sp^3 hybridisation :- 4 σ bonds
- sp^2 hybridisation :- 3 σ bonds + 1 π bond
- sp hybridisation :- 2 σ bonds + 2 π bond

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Types of Carbon

- Primary Carbon : Carbon which is attached to one carbon atom only
- Secondary Carbon : Carbon which is attached to two carbon atoms
- Tertiary Carbon : Carbon which is attached to three other carbon atoms
- Quaternary Carbon : Carbon which is attached to four other carbon atoms

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THANK YOU