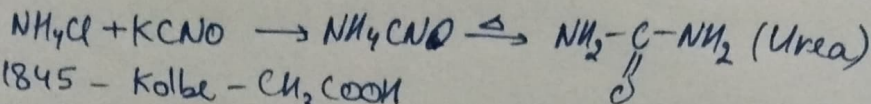


Organic Chemistry: Chemistry of carbon compounds.

Ex: CH_4 , CH_3-CH_3 , $CH_2-(CH_2-CH_2)_n$ (polythene), DNA, proteins, lipids (fats), carbohydrates, etc.

Carbon forms compounds with some some basic elements: H, N, O, S, P, halogens

- Vital Force Theory - 1780 - Berzelius - Organic compound derived from living sources only.
- 1828 - Frederick Wohler - Made 1st Lab synthesised organic compound - Urea



→ 1845 - Kolbe - CH_3COOH

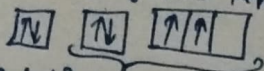
→ 1856 - Berthlot - CH_4 (from Al_4C_3)

→ Applications - Medicines, food, clothing, fuel

* Hybridisation: Mixing of atomic orbitals and redistribution of orbitals in specific orientation.

- 1) Necessary Condition: orbitals in valence shell, low energy difference; promotion of e^- is not necessary, both half filled & fully filled orbitals can undergo hybridisation.
- 2) Outcomes: (i) No. of orbitals that are hybridized = No. of hybridized orbitals obtained. (ii) Hybrid orbitals formed are degenerate & orient in specific directions.

3) $C = 1s^2 2s^2 2p^2$, Tetravalency



sp, sp^2, sp^3 Hybridization

sp : $H-C \equiv C-H$ Linear (180°)

sp^2 : $H-C=C-H$ Trigonal (120°)

sp^3 : $H-C-C-H$ Tetrahedral (109.5°)

