

General Organic Chemistry

- Carbon due to its unique properties like catenation. Tetra valency forms large no. of compounds with itself and other elements like Hydrogen (H), Nitrogen (N), and Oxygen (O) etc.
- Berzelius proposed vital force theory, which states that organic compounds are generated by some vital force and can't be synthesised in laboratory.
- This is proved wrong with synthesis of urea from an inorganic compound ammonium cyanate by Wohler

- Later Kolbe synthesized acetic acid, Berthelot synthesized methane, which given an idea that organic compounds can be synthesized.
- Carbon with its s & p orbitals shows hybridizations like sp , sp^2 and sp^3 .
- Hybridisation influences bond length, bond enthalpy etc.

Hybridisation	%S character	%P character
SP	50%	50%
SP ²	33.3%	66.6%
SP ³	25%	75%

%S Character $\propto$ Electronegativity $\propto \frac{1}{\text{Bondlength}}$.

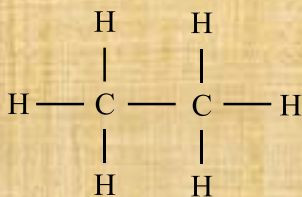
Structural representations of organic compounds:

Organic compounds can be represented by different ways like

- (i) Complete (ii) Condensed (iii) Bond line representations

(i) Complete representation involves writing all atoms present in molecule and writing a dash between bonded atoms.

Ex. Ethane



(ii) Condensed representation involves writing only atoms by omitting bonds.

Ex. Ethane CH_3CH_3 .

(iv) Bond line representation involves showing only carbon atoms as dots and joining them.

Ex. Ethane

