Simple Organic Compounds

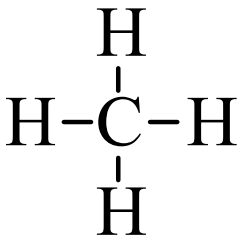
L Naming of organic compounds follows specialized rules, which in general are beyond the scope of this course.

- The simplest organic compounds are **hydrocarbons**, containing only carbon and hydrogen.

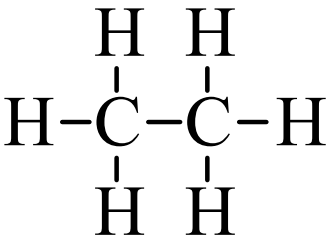
- The most basic class of hydrocarbons is the **alkanes**, in which every carbon atom is surrounded by four other atoms.
  - T All alkanes have a formula C_nH_{2n+2}, where *n* is the number of carbon atoms.

Names of Simple Alkanes

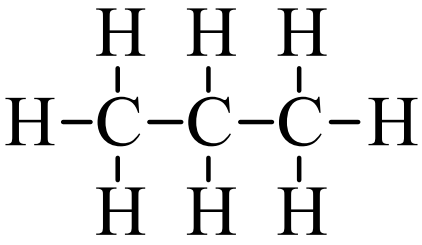
n	Formula	Name
1	CH_4	methane
2	C_2H_6	ethane
3	C_3H_8	propane
4	C_4H_{10}	butane
5	C_5H_{12}	pentane
6	C_6H_{14}	hexane



methane



ethane

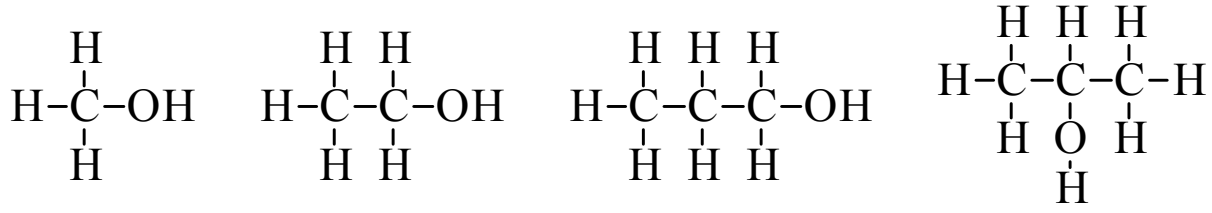


propane

Functional Groups

L Other organic compounds can be formed by replacing one or more hydrogen atoms with other atoms or groups of atoms, called **functional groups**.

T For example, if an -OH group replaces a hydrogen atom the compound is an **alcohol**.



methanol ethanol 1-propanol 2-propanol

T The two propanols are **structural isomers** of each other and have slightly different properties.

T The number in the name indicates the substitent's position on the carbon chain.