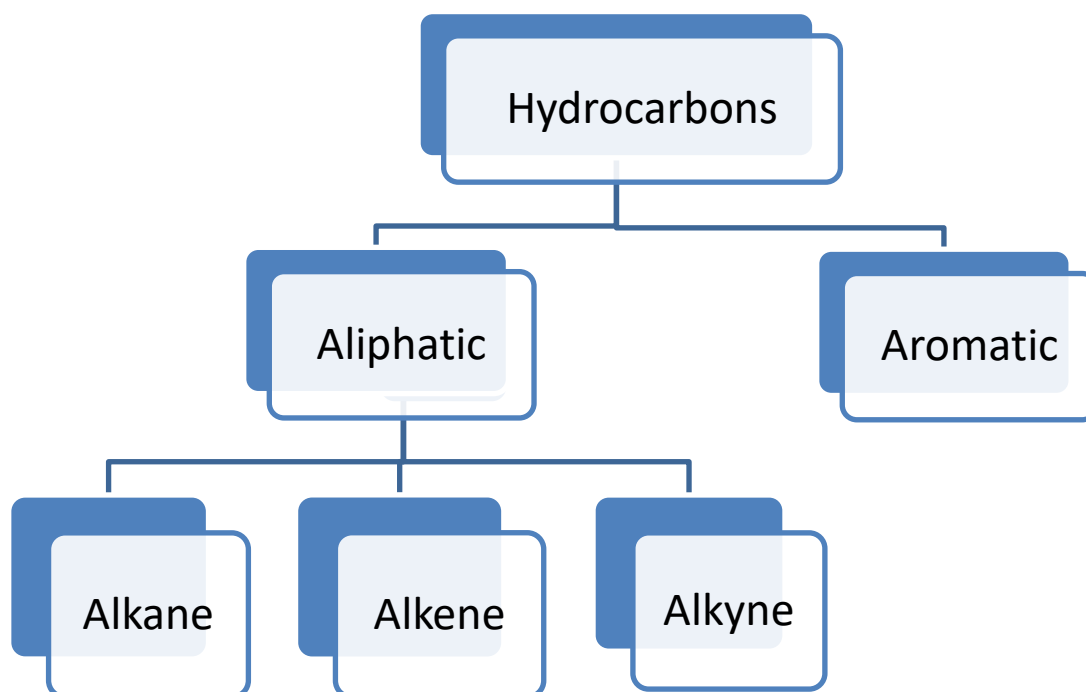


Hydrocarbons

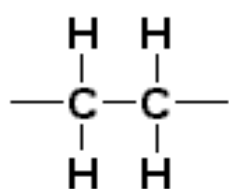
Certain organic compounds contain only two elements, hydrogen and carbon, and hence are known as hydrocarbons. On the basis of structure, hydrocarbons are divided into two main classes, **aliphatic** and **aromatic**. Aliphatic hydrocarbons are further divided into families: **alkanes**, **alkenes**, **alkynes**, and their cyclic analogs (cycloalkanes, etc.). We shall take up these families in the order given.



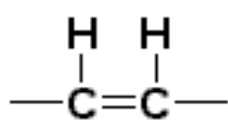
The simplest member of the alkane family and, indeed, one of the simplest of all organic compounds is methane, CH_4 .

Functional Groups:

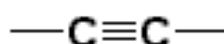
Organic molecules can be very complex, not only for their ability to branch off but also for specialized groupings of atom each of which give molecules special properties. Most any of these groupings, named organic functional groups, can attach themselves to any organic molecule in most any location. One molecule may have more than one of these groups giving the molecule different properties. In our studies of “Organic Chemistry” the reactivity of these functional groups will be a main focus.



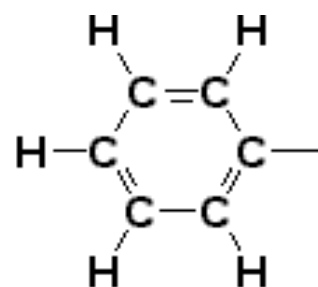
alkane



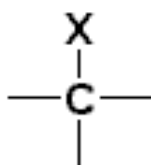
alkene



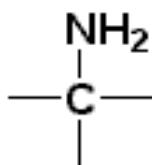
alkyne



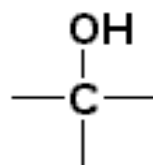
phenyl



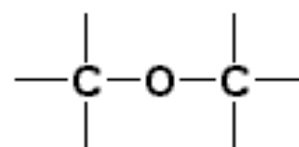
alkyl halide
(X = F, Cl, Br, I)



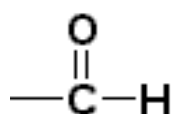
amine



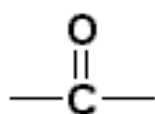
alcohol



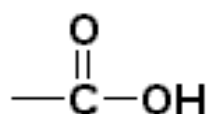
ether



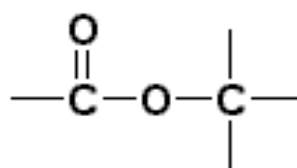
aldehyde



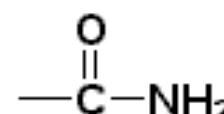
ketone



carboxylic acid



ester



amide