

CLASSIFICATION OF ORGANIC CHEMISTRY

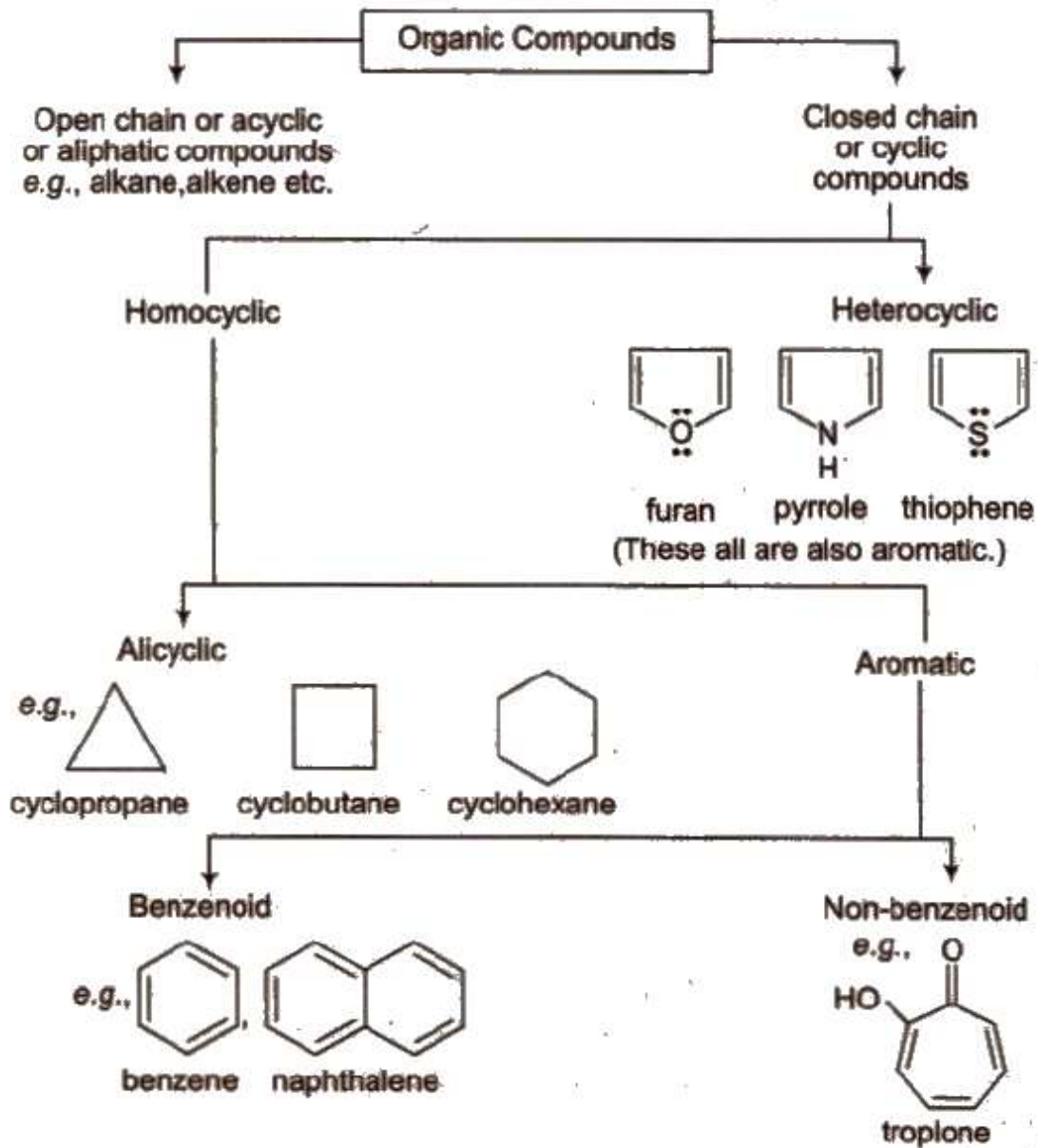
BY:

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CLASSIFICATION OF ORGANIC COMPOUNDS:

Based upon the structure they are classified into two types.

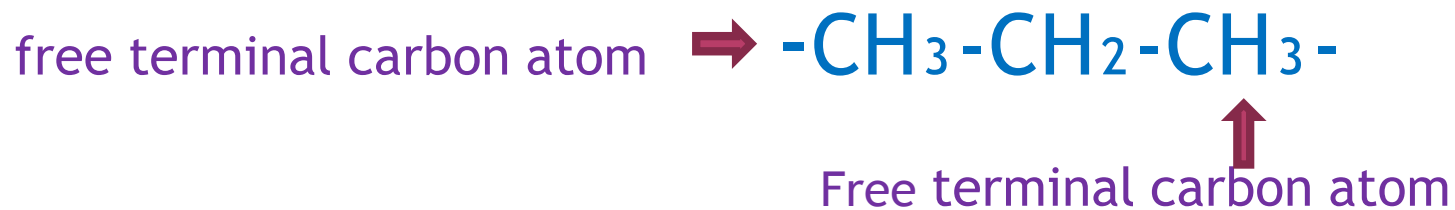
- Acyclic compound (open chain)
- Cyclic compound (closed chain)



✓ ACYCLIC (OR) OPEN CHAIN COMPOUNDS:

These compounds contain open chain of carbon atoms in their molecules.

The terminal carbon atoms are completely free they are not linked with each other. The chain is open so ,it is called as open chain compound.

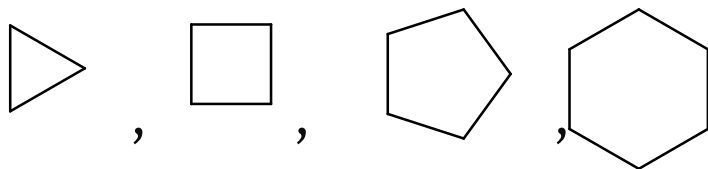


CYCLIC(OR)CLOSED CHAIN COMPOUNDS:

These compounds contain one (or)more closed chains (or) rngs of atoms in their molecules.

In these case two terminal carbon atoms are linked with each other. In order to form a closed ring. It can be either a three ,four, five membered rings.

Eg:



They are divided into two types. 1)homocyclic
2)heterocyclic

1) HOMOCYCLIC (or) CARBOCYCLIC COMPOUNDS:

These compounds contain rings which are made up of atoms of one kind (i.e., carbon atoms only).

It is furtherly divided into 2 types.

- 1) alicyclic compounds
- 2) aromatic compounds

i) Alicyclic(Aliphatic+cyclic):

These are the carbocyclic compounds which resembles aliphatic compounds in most of their properties.

Eg: cyclopropane ,cyclobutane,cyclohexane.

ii) Aromatic compounds:

These are the carbocyclic compounds which contain alternate double and single bonds between the carbon atoms.

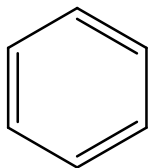
Eg: benzene

It is again divided into 2 types. 1)benzenoid
2)Non-benzenoid.

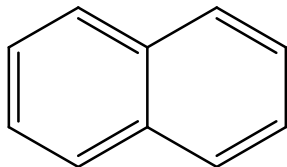
a) Benzenoid compound:

organic compounds containing one (or) more fused benzene rings.

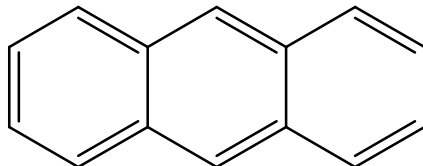
Eg: benzene -



Napthalene -



Anthrecene -



b) Non- benenoid compounds:

Aromatic compounds which donot have contain a benzene ring.

Eg: azulene

2) HETEROCYCLIC COMPOUNDS:

These compounds contain rings made up of one (or) more atoms of nitrogen, oxygen, sulphur etc..., in addition to carbon atoms.

It is again divided into 2 types.

- i) Alicyclic compounds
- ii) Aromatic compounds

i) Alicyclic compounds :

Aliphatic cyclic compounds containing one (or) more hetero atoms in their rings.

Eg: tetrahydrofuran, tetrahydropyrole.

ii) Aromatic compounds:

Aromatic cyclic compounds containing one (or) more heteroatoms in their molecule.

Eg: furan, pyrole, thiopene etc...,

Thank
you



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