Ministry of Higher Education and Scientific Research

Al-Muthanna University

Organic chemistry

For the 1st year students of the «faculty of Pharmacy»

Lecture (2)

Hydrocarbons

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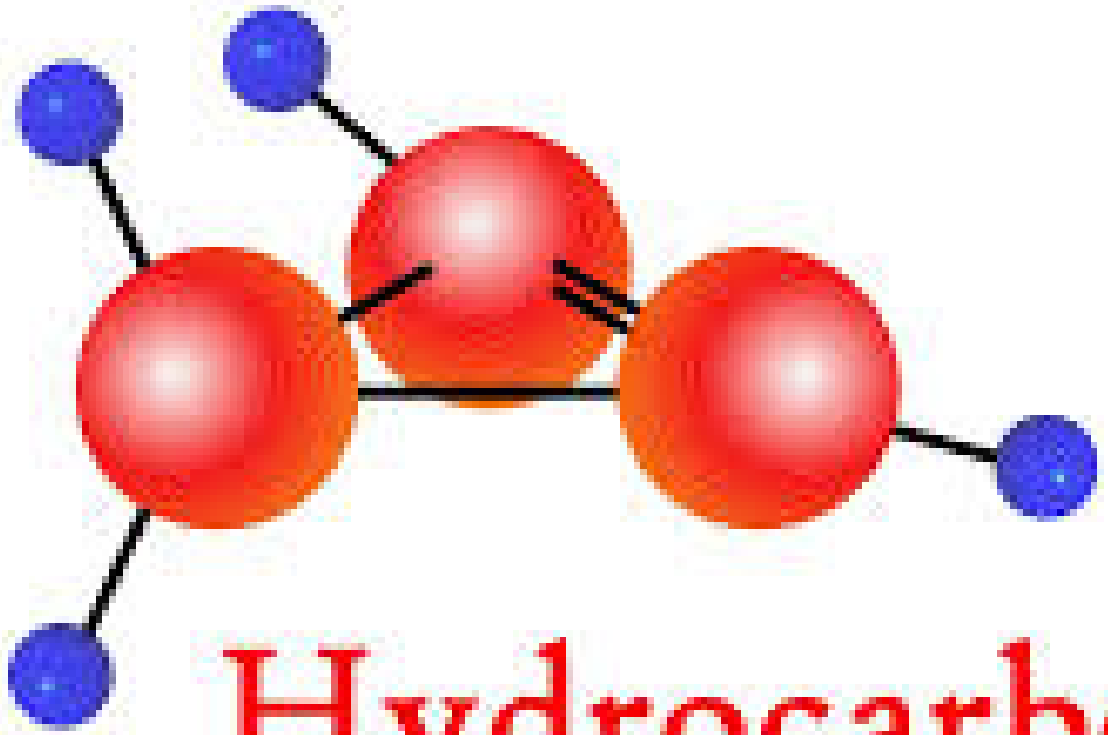

Hydrocarbons

Hydrocarbons

Hydrocarbons are organic compounds that consist only of carbon and hydrogen atoms.

- Their characteristic feature is the absence of functional groups.
- The properties of hydrocarbons are determined by the structure of the hydrocarbon radical.

Types of hydrocarbons

- **Saturated hydrocarbons:**

1. Alkanes (C_nH_{2n+2}), series of carbon atoms in the state of sp^3-hybridization, **they have single bonds in the molecule**

2. Cycloalkanes (C_nH_{2n}), cyclic of carbon atoms in the state of sp^3-hybridization, **they have single bonds in the molecule**

- **Unsaturated hydrocarbons:**

1. Alkenes (C_nH_{2n}), series of carbon atoms in the states SP^2 and sp^3-hybridization, **they have single and double bonds in the molecule.**

2. Alkadienes (C_nH_{2n-2}), series of carbon atoms in the states SP^2 and sp^3-hybridization, **there are two double bonds in the molecule.**

3. Alkyne (C_nH_{2n-2}), series of carbon atoms in the states of sp and sp^3-hybridization, **they have single and triple bond in the molecule.**

Aromatic hydrocarbons:

Arenes (C_nH_{2n-6}) :cyclic carbon atoms in the state of SP^2-hybridization, the molecule has a conjugated system of **double bonds.**


Best Regards!
Thank you!