FEATURES OF ORGANIC CHEMISTRY

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Annotation: this scientific article contains the properties of organic chemistry. And it has also been scientifically proven.

Keywords: chemistry, organics, labaratory, physico-chemical properties.

Organic chemistry is the branch of chemistry that involves the scientific study of organic compounds (compounds containing covalently bonded carbon atoms). This branch of chemistry deals primarily with the structure and chemical composition of organic compounds, the physicochemical properties of organic compounds, chemical reactions that are accompanied by these compounds. Advances in organic chemistry have made many contributions to human society, such as the synthesis of several drugs, polymers and other natural products. Synthetic organic chemistry is an important part of organic chemistry that deals with the design and construction of organic compounds for practical purposes.

The term "organic" came about because the field of organic chemistry was originally limited to compounds produced by living organisms. This was due to the "vital force" present in organic matter, which contained what inanimate matter did not occur. The above theory was rejected after Urey Miller synthesized urea from inorganic substances, but the classification is still in use.

Organic chemistry is a broad science due to the fundamental property shown by the carbon element, which is called carbon catenation. Carbon has the ability to form very stable bonds with other carbon atoms, which gives it the ability to form stable molecules with relatively complex structures. Catenation is the ability of an element to bind to atoms of the same type. Hence, the greatness of organic chemistry can be associated with this property of carbon.

Importance of organic chemistry:

The importance of organic chemistry in modern times is as great as it has been since its creation. This plays an important role in our daily lives, because food, medicines, paper, clothing, soap, perfumes, etc.play an important role in our lives. The study of organic chemistry is important for chemists and pharmacists in the synthesis of drugs that relieve human pain.

Reagents in organic chemistry:

Reagents are chemicals that add to an organic molecule to make specific changes. Any general reaction in organic chemistry can be written as:

Substrate + Reagent → Product

The substrate is an organic molecule to which we add a reagent. Depending on the ability to give or receive electrons, reagents can be classified into:

- Electrophiles
- Nucleophiles
- Electrophiles

Electrophiles are electron-deficient organic reagents. It can be generalized that all types containing positive charges are electrophilic. For example, H+, NO2+, CH3+, Cl+ .

Neutral molecules lacking electrons can also act as electrophiles. Lewis acids such as AlCl3 and bf3 are examples of neutral electrophiles.

Nucleophiles

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Nucleophiles are electron-rich organic reagents. They search for binding centers with other nuclei, and therefore have the name nucleophile. Species whose composition is negatively charged can be called nucleophiles. For example, H–, CH3–, and Cl–.

In a heteroatom, neutral molecules with a pair of electrons can play the role of Nucleophiles. For example, H2O, NH3, CH3OH.

Types of reactions in organic chemistry:

Organic reactions are reactions that occur between organic compounds. Reactions in organic chemistry are broadly divided into six categories. Let's study in detail these different reactions and their products.

Substitution reactions

RX + Y → RY + X

Where RX is the substrate, Y is called the reagent (can be electrophilic or nucleophilic) and X is called the outgoing group. The term replacement refers to the replacement of one group by another.

Types of substitution reactions:

Nucleophilic substitution (SN1, SN2, SNi

Electrophilic substitution (SE

Nucleophilic aromatic substitution (SNAr

Coupling reactions

Fusion reactions can be divided into:

Electrophilic additive

Nucleophilic coupling

Elimination reactions

Elimination reactions

These reactions can be said to be the opposite of the addition reaction, in which a simple molecule (HX, H2O) is removed from the substrate, i.e. the molecule is said to be removed from the substrate.

Such a suture mainly goes under the action of is~IQ in concentrated solutions of polymerization, and as a result, the solubility of the coupling is much reduced. When using an item made of such polymers and during polymeranalogical changes, gradual decay of the ulami occurs. This process is called polymer degradation. In this case, the physical and mechanical properties of polymerization deteriorate. Therefore, lower molecular compounds---stabilizers are added to Arnal to prevent degradation when polymer items are obtained. Lower molecular compounds (phenyl-, j3-naphthylamine) are commonly used as stabilizers. But the process of degradation in natural polymers is of great importance, from which it is possible to obtain products of industrial importance every xii. For example, cotton sheluchas are subjected to hydrolytic degradation, and every xii monosaccharides and other products used in the production of (waste) such as alcohols, furfurol, wood, straw and poxol are obtained.

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