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Opinion Article

Adsorption of Organic Compounds in Activated Carbons and Body Proteins

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DESCRIPTION

Organic chemistry is the study of structural properties, composition, reactions and preparation of carbon-containing compounds. Most of the organic compounds contains carbon and hydrogen, but they include number of other elements like nitrogen, oxygen, halogens, phosphorus, silicon, sulfur. Originally the study of compounds produced by living organisms, include human-made substances. (e.g., plastics).

Many modern materials are composed by organic compounds. They have importance for the economic growth and basis of the fields in biochemistry, biotechnology and medicine. Examples of organic compounds include pesticides, cosmetics, detergents, dyes, foods, fuels, petrochemicals, pharmaceuticals, plastics and rubber. Today, organic industrial chemistry is mainly based on petroleum and natural gas. Because these are finite raw materials, which focuses how to convert renewable resources into industrial organic chemicals.

The pharmaceutical industry develops, produces, and markets the drugs which are used for medications of humans or animals. Some companies deal with brand-name and/or generic medications and medical devices. These pharmaceutical and medical devices are subjected to many country-specific laws and regulations regarding patenting, testing, safety assurance, efficacy, monitoring, and marketing.

Organic compounds typically consist of groups of carbon atoms covalently bonded to hydrogen and oxygen, and other elements as well. In living things, they are found throughout the world, like soils and seas, commercial products, and every cell of the human body. The compounds that are essential for human functioning include carbohydrates, lipids, proteins, and nucleotides. They are said to be organic because they contain both carbon and hydrogen.

Carbon is the most common element in the human body, about 18% of body mass. Its role is involving in structural and forming of "backbone" for many organic molecules. Carbon and hydrogen groups are said to be hydrocarbons. Many combinations are possible to carbon's four "vacancies." It shares the electrons with oxygen, nitrogen or other atoms in a particular region of an organic compound. The atoms which are bonded to carbon atoms be a part of functional group. Group of atoms that are bound by strong covalent bonds and tend to function as units of chemical reactions. In human physiology, five functional groups are important: hydroxyl group, carboxyl group, amino group, methyl group and phosphate group.

Hydroxyl groups are polar. They are four types of organic compounds which involved in dehydration synthesis and hydrolysis reactions. Carboxyl groups are found within fatty acids, amino acids, and many other acids. Amino groups are found within amino acids, which are known as "building blocks of proteins." Methyl groups are found within amino acids. Phosphate groups are found within phospholipids and nucleotide.

Carbohydrate means "hydrated carbon" (hydro- indicates water). A carbohydrate is a molecule composed of carbon, hydrogen, and oxygen which are found in same two-to-one relative proportions they have in water. In fact, the chemical formula for "generic" molecule of carbohydrate is $(CH_2O)n$. It is referred to saccharides, which means "sugars." Three forms are important in the body. Monosaccharides are the monomers of carbohydrates. Disaccharides are made up of two monomers. And polysaccharides are the polymers, which consists of hundreds to thousands of monomers.

Disaccharide is a pair of monosaccharides. They form *via* dehydration synthesis, and the bond linking is referred to as a glycosidic bond. Three disaccharides which are important to humans are sucrose, commonly referred to as table sugar, lactose or milk sugar, and maltose or malt sugar which we consume in our diet; however, your body cannot use them directly. In the digestive tract, they split into their component of monosaccharide *via* hydrolysis.

Proteins are critical components of all body tissues. They are made up of monomers called amino acids, which contain nitrogen, joined by peptide bonds. Protein shape is critical in its function. Most body proteins are globular. An example, is enzymes which catalyses the chemical reactions. Nucleotides are

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the compounds with three building blocks: one or more phosphate groups, a pentose sugar, and a nitrogen-containing base. DNA and RNA are nucleic acids that function in protein synthesis. ATP is the body's fundamental molecule of energy transfer. Removal or addition of phosphates releases or invests energy. All body cells use glucose for fuel it is converted to oxidation or reduction reactions to ATP.