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II. PHYSICS, CHEMICAL AND MATHEMATICAL SCIENCES

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THE ROLE OF ORGANIC CHEMISTRY IN PEOPLE'S LIVES

Introduction. Chemistry is one of the oldest sciences which has an incredible impact on our lives. It plays a vital role in modern world helping to understand scientific facts, having a great influence on different processes and discoveries in various fields: medical, industrial, commercial and others.

The aim of the paper is to consider organic chemistry as a science, organic compounds, properties of organic compounds, role of organic chemistry in industry.

Results of research. Nobody draws their attention to the fact that every second our eyes are using organic compounds – retinal, which converts light energy into nerve impulses; while sitting in a comfortable position, back muscles maintain good posture through chemical breakdown of glucose to release energy.

Chemistry as a science emerged in the late nineteenth century. It has different aims from receiving food to treating millions of people who even do not understand of the role of chemistry in their lives. Organic chemistry is a study of organic compounds which has the ability to create new substances, structures and matters.

As for organic compounds, they can be got either from living organisms or from fossil materials. For examples, substances from natural sources are essential oils - menthol (mint flavor) and cis-jasmone (fragrance of jasmine flowers).

In the 20th century the chemical industry was divided into mass and thin. The first is engaged in the production of paints, polymers - substances that do not have a complex structure, however, produced in huge quantities. A thin organic synthesis deals with the production of medicines, flavors and in much smaller amounts.

At present, about 16 million organic compounds are known. It must be noted that in this field, organic synthesis has no limitations. There are a lot of ways to create the longest alkyl chain by adding more than carbon atom. This process is endless. But it should be said that all these millions of compounds aren't the same.

Describing properties of organic compounds, we paid attention to the fact that they can be a crystalline like sugar, or plastic like paraffin, explosive as isooctane, volatile as acetone. However organic substances have a smell that helps them

differentiate. A curious example is the protective reaction of skunks. The smell of skunks causes sulfur compounds – thiols.[1] However, the unpleasant smell has its field of application. The natural gas that enters our homes contains a small part of tert-butyl thiol. Researches proved that people are able to feel one part of the thiol in 50 billion parts of methane. Some other compounds have delicious smells. For example, truffle that pigs can smell through a meter of soil and whose taste and smell is so delicious that they cost more than gold. Damascenons are responsible for the aroma of roses.[2] It is well-known that cats love to sleep at any time. Recently, scientists have received from the cats bones a substance that allows them to quickly fall asleep. It also acts on a person.

Worldwide volumes of the organic industry are estimated as millions of tons. This is good news for organic students. For example, ethyl alcohol is used as a material for the production of rubber, plastics, other organic compounds. The production of synthetic fibers has a turnover of more than 25 million tons per year. Sweeteners, such as classic sugar, are produced on a large scale. Other sweeteners, like aspartame (1965) and saccharin (1879) are produced in similar amounts.

Conclusion. Organic chemistry is the basis of our understanding of life, where substances are created naturally and artificially. The knowledge of Organic chemistry, organic compounds and their properties will help new generation to create new materials, discover new medicines and ways of their usage, develop our industry and economics.

References

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THE USE OF MODERN DIGITAL EQUIPMENT AND PC IN PHYSICAL EXPERIMENTS

Introduction. Taking into account the existing equipment of the physical laboratories of universities and higher education institutions, the problem of visualization of optical spectra and obtaining spectral characteristics is still relevant.