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TEACHING CHEMISTRY AND POLYMER CHEMISTRY AT THE UNIVERSITY OF MODERN TECHNOLOGY

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Abstract:

This article is devoted to the synthesis of chemicals and methods of teaching university students. Today it is necessary to create a new methodology of chemistry at the world level. The article also considers the preparation of 1,3-dialkoxy-2-arylamine by the interaction of arlamine hydrochloride with dialkoxypraponol in various ratios. The structure of the obtained organic compound was proved by chemical studies using physical IR, UV, PMR.

Keywords: methods of teaching, interaction, a new methodology of chemistry, various ratios, critical and creative thinking, theoretical and practical knowledge, scientific novelty, research results.

PF-4947 Decree of the President of the Republic of Uzbekistan "On the Action Strategy for the Further Development of the Republic of Uzbekistan" dated February 7, 2017, October 8, 2019 "On Approval of the Concept for the Development of the Higher Education System of the Republic of Uzbekistan for the Period up to 2030", September 5, 2018 UP 5538 the Decree of the Republic of Uzbekistan "On additional measures to improve the system of public education" on improving the quality of education in higher educational institutions and their implementation in the country came into force, to a certain extent will contribute to improving the quality of education through the introduction of modern principles for the development of the education system, defined in others regulatory legal acts relating to this activity.[1,9]

In our republic, a serious attention is paid to improving the system of continuous education, strengthening the material and technical base of educational institutions, providing them with modern information and communication technologies (ICT), the use of interactive teaching methods in the educational process and the work of competent personnel in the educational institutions.

In the course of the study, the improvement of professional competence through the motivation of critical and creative thinking in the course of the professional activities of physics teachers in the system of continuous education, the constant improvement of theoretical and practical knowledge, skills and abilities in the application of advanced pedagogical experience, information technologies, as well as interactive teaching methods were confirmed. [2]

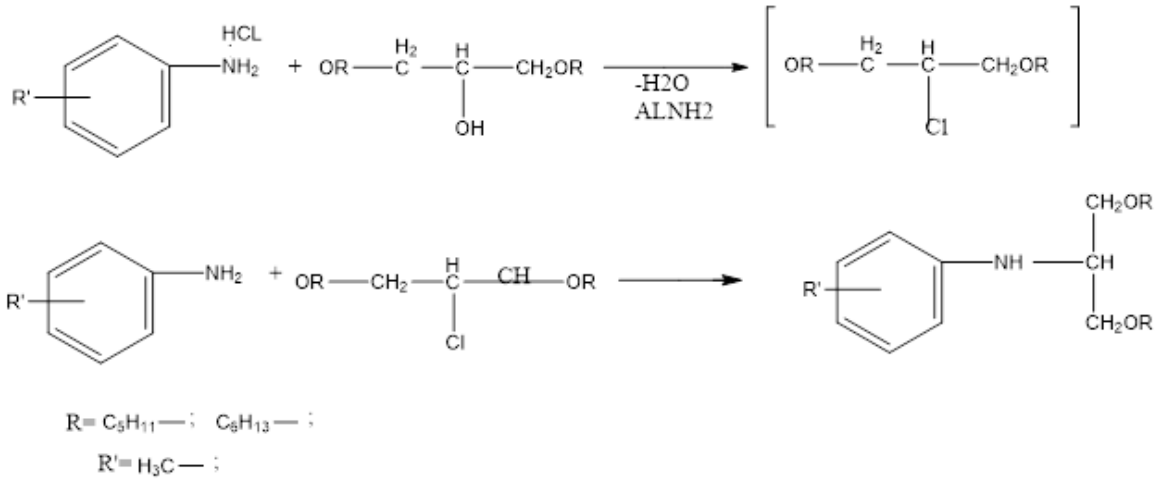
The introduction substantiates the relevance and necessity of the study, defines the purpose, objectives, object and subject of the study, shows the compliance of the work with priority areas for the development of science and technology in the Republic of Uzbekistan, provides information on scientific novelty, practical results, reliability of the results, theoretical and practical significance, implementation of the results in practice, published research results and the structure of the work.

Teaching the section "General Chemistry" in the system of continuous education has many opportunities for organizing independent work of students, where it is advisable to recommend them the use of the Periodic Table of Chemical Elements.

At present, organic compounds of acetanilide derivatives are used in the world in the chemical industry, medicine and pharmaceuticals, agriculture, textile and paint and varnish industries, technology, economy as a jewel of semi-finished products and biological active substances.

For example: The synthesis of pesticide active 1,3-Dialkoxy-2-arylaminopropanes shortens the reaction steps.[3]

The 1,3-dipentoxy-2-hydroxypropome salt of arylamine was used in the reaction at various ratios of -2:1; 1:1 and 1:2. The interaction was carried out by heating the mixture of initial reagents at a temperature of 187-1920 for 6-8 hours. With a ratio of reagents of 2:1, 1,3-dipentoxy-2-arylaminopropane was obtained as the main product with a yield of 70-75%. Analogous reactions were carried out with 1,3-dihexocom-2-hydroxypropane with chlorohydratarylamine and the product 1,3-dihexoxy-2-arylaminopropane was obtained with a yield of 65-70%. The reaction mixture is boiled for 8-9 hours with stirring.



The synthesis was carried out in a two-necked round-bottom flask equipped with a reflux condenser, a thermometer, and a water trap (Dean-Stark apparatus)

Further, 1,3, dialkoxy -2- arylaminopropanes, when acylated with carboxylic acids, as a rule, react with difficulty (they have the properties of secondary amines). During azeotropic distillation of water from a mixture of aminozphyre and acids (usually the latter was taken in double excess) in the presence of high-boiling solvents, the final physiologicalyl active product 1,3-dialkoxy-2- arylamido propane with a 25-30% yield was obtained.[4]

The individuality of the synthesized compounds in both ways was controlled by thin-layer chromatography, the structure of the substance was evaluated according to IR and PRR spectra.

In the IR spectra of amino esters, there were NH-(3400 cm-1), c-o-c (1670 cm-1) bands. In the PMR of 1,3-dipentoxy-2-arylaminopropane, proton signals appeared at δ(ppm)=(4CH3), 1.78(2cm), 3.48-3.16(4OCH2), 4.70(NCH) m 7.12-6.50 (ArH).

Analysis of the literature on the preparation of derivatives of acetylenic alcohols, ethers and esters, their physical and chemical properties, reaction mechanisms and applications. Information about the yield of final products in multistage reactions is given.

The study of psychological, pedagogical and methodological literature used in the teaching of organic chemistry, analysis of existing methods and scientific and methodological justifications and their improvement;

application of innovative methods in teaching organic chemistry in universities;

creation of educational and methodological material in electronic form, containing new innovative methods for improving the process of teaching organic chemistry in universities;

The practical significance of the research results lies in the use of innovations in the teaching of organic chemistry to improve the efficiency of students' knowledge and the formation of knowledge, skills, competencies and the creation of an innovative educational environment. An e-learning resource and a methodological manual have been created.[5,6]

Modern computer technologies make it possible to create educational, pedagogical, language training programs that help organize the educational process and solve any problems. It is necessary to focus on the effective aspects of the use of modern innovative and information technologies in improving the process of teaching organic chemistry.[7,8]

In the world, scientific research is aimed at creating new technologies that ensure the transition of saturated hydrocarbons to unsaturated ones with special properties of monomers based on amides, amines and aldehydes, obtaining polymers with the properties of hydroxy-carboxy and sulfoxy, elastomers of polyfunctional biologically active substances with a nanostructure, pigments, pesticides, anti-corrosion preparations, films, heat stabilizers and the study of their physico-chemical and operational properties.

The creation of theoretical and practical foundations for the use of pedagogical technologies and innovative methods in the process of improving the quality of education in the republic, the theoretical foundations for the use of non-traditional group and individual methods in the educational process were studied by Kh.T. , N.Kh.Khodzhaev, E.U.Eshchanov, U.K.Tolipov, M.Usmonbaeva, M.B. Khattabovs. In the field of application of pedagogical technologies in the educational process, O. Khasanbaev, B. Ziemuhammadov carried out fruitful work. Features of teaching organic chemistry even in universities were studied by some scientists from the countries of the Commonwealth of Independent States as M.S. Pak, G.K. Selevko, E.E. Minchenkov, G.M. Chernobylskaya, T.A. Shiraeva, V.S. , O.I. Gulay, V.A. Kuzurman, I.V. Zadorozhny

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