THIRD ALL-UNION CONFERENCE ON STEREOCHEMISTRY AND CONFORMATIONAL ANALYSIS IN ORGANIC AND PETROCHEMICAL SYNTHESIS

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The third all-union conference on stereochemistry and conformational analysis in organic and petrochemical synthesis, in the proceedings of which 200 persons participated, was held June 2-4, 1976, in Sumgait. The proceedings were carried out in two sections, and the papers were devoted to modern problems of stereochemistry, conformational analysis, and the reactivities of petroleum hydrocarbons and their heterocyclic analogs.

Physical chemistry and the conformational analysis of heterocyclic systems were represented by practically all modern physical methods, by means of which the conformational aspects of the structure of the molecules were investigated. The quantum-chemical approach to the solution of stereochemical problems in six-membered heterocyclic compounds of sulfur, oxygen, and phosphorus was reflected in a series of papers of the B. A. Arbuzov School (Kazan). The complex utilization of spectral and electrical methods (dipole moments, the Kerr effect, Rayleigh scattering, and NMR spectroscopy) for the solution of conformational problems in heterocyclic systems in graphical and analytical forms was proposed in them. Also presented was a theoretical study of internal rotation relative to element–element bonds (the gauche effect) by the CNDO/2 (complete neglect of differential overlap) method in the case of heterocycles containing oxygen, sulfur, and phosphorus. It was noted that the gauche effect in all of the examined cases promotes an axial orientation of the substituent (R. P. Arshinova, T. D. Sorokina, and B. A. Arbuzov; Kazan).

The relationship between the three-dimensional structure and the reactivity of heterocycles was examined in the case of 3-methyl-2-thiabicyclo[4.4.0]decane (L. M. Petrova, S. G. Vul'sfon, and Sh. S. Bikeeva; Kazan), 2-thiahydrindanes (E. E. Zaev, N. N. Novitskaya, N. K. Pokoneshchikova, L. '. Khalilov, and G. A. Tolstikov; Ufa), ortho esters of sugars (Ya. V. Voznyi and A. F. Bochkov; Moscow), 3-oxothiophans (F. D. Mikhno, T. M. Filippova, N. S. Kulachkina, S. I. Peretokina, I. G. Sukova, and V. M. Berezovskii; Moscow), and in other classes of heterocyclic compounds. Individual communications were devoted to the conformational analysis of chiral decahydro-4-quinolones (G. V. Grishina, T. A. Liberchuk, and V. M. Potapov; Moscow), chiral open-chain disulfides (A. D. Aliev, I. P. Solomatina, and B. A. Krentsel'; Moscow), and to the study of the properties of optically active selenium acids of phosphorus (I. A. Nuretdinov, N. A. Buina, E. V. Bayandina, and M. A. Giniyatullina; Kazan). The papers presented at the conference demonstrated the increased level of stereochemical studies in the field of heterocyclic compounds.

The fourth conference on the stereochemistry and conformational analysis of organic compounds was scheduled to be held in Odessa in 1977.

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