

In a paper entitled "Structure of organophosphorus compounds" (V. D. Cherepinski-Malov, V. G. Andrianov, and Yu. T. Struchkov, Moscow, Kazan) the results of structural studies of heterocyclic compounds of phosphorus in its various valence states were set forth.

Of the papers pertaining to the structures of biologically active and natural compounds, one should mention those devoted to the study of the crystal and molecular structures of cyclic depsipeptides (B. K. Vainshtein, G. N. Tishchenko, et al., Moscow) and alkaloids (S. M. Nasirov, V. T. Andrianov, et al., Moscow, Tashkent).

A paper by Ya. L. Gol'dfarb, S. Z. Taits, F. D. Alashev, et al. (Moscow) was devoted to the problems of the conformations of molecules of macrocyclic ansa-ketolactones that include a thiophene ring.

Interesting data on the structures of sterically strained 3,3'-disubstituted bis-sym-triazolopyridazines, which are heterophenanthrenoid compounds, were presented in a paper by Z. K. Sadybakasov and co-workers (Moscow).

The papers presented in the second section reflected the achievements of Soviet scientists in the realm of conformational calculations of carbocyclic and heterocyclic molecules. A number of them were devoted to the solution of problems associated with the formation of the tertiary structure of globular proteins, the relationship between structure and properties, the calculation of thermodynamic functions, and the analysis of intermolecular interactions by the method of atom-atom potentials.

It was resolved that the Second All-Union Conference on Organic Crystal Chemistry would be held in Moscow in 1977.

FOURTH ALL-UNION CONFERENCE ON THE CHEMISTRY OF DICARBONYL COMPOUNDS

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The Fourth All-Union Conference on the Chemistry of Dicarboxyl Compounds, devoted to the 85th birthday of Academician of the Academy of Sciences of the Latvian SSR Gustav Wanag, was held March 16-18, 1976, in Riga. The conference was organized by the Riga Polytechnic Institute in collaboration with the Institute of Organic Synthesis of the Academy of Sciences of the Latvian SSR and the Latvian Republic Board of the D. I. Mendeleev All-Union Chemical Society.

Approximately 200 individuals representing 42 different scientific organizations and universities of Moscow, Leningrad, Minsk, Kiev, Kazan, Rostov-on-Don, Ufa, Vladivostok, Sverdlovsk, etc., as well as the Szczecin Polytechnic Institute (Poland), participated in the conference.

In the five-year period between the third and fourth conferences, the theoretical level of the studies of dicarbonyl compounds with extensive involvement of modern physicochemical methods and quantum chemical calculations has risen significantly. The broad possibilities of the synthetic utilization of dicarbonyl compounds to obtain physiologically active substances, analytical reagents, complex catalysts, and substances with semiconductor properties and high photosensitivities have been demonstrated. A number of aromatic bis-1,2-diketones are finding practical application as monomers for the production of heat-resistant polymeric materials — polyphenylquinoxalines (V. V. Korshak, E. S. Krongauz, and O. Ya. Neiland).

In the category of the most interesting communications one may note the following. Professor V. I. Minkin (Rostov-on-Don) presented a correlational paper on carbonotropic tautomeric transformations of the O-derivatives of enols of diketones and the N-derivatives

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of their nitrogen analogs. Corresponding Member of the AS of the USSR I. P. Beletskaya examined the reactivities of the ions and ion pairs in alkylation reactions of alkaline enolates of acetoacetic ester. The quantitative evaluation of the polar effect of the 1,3-indanedionyl group as a substituent in the aromatic ring was reported in a paper by Academician of the AS of the Latvian SSR Ya. P. Stradyn'.

The papers pertaining to the chemistry of heterocyclic compounds can be divided into three groups. The broad possibilities of the use of 1,2-, 1,3-, and 1,5-dicarbonyl compounds for the construction of various heterocyclic systems were revealed in a considerable portion of the papers of the first group.

Extensive material on the use of carbocyclic and heterocyclic triacylmethanes for the total synthesis of 8-azasteroids, alkaloids of the berberine and yohimban group, glutarimide antibiotics and their analogs was presented in papers by F. A. Lakhvich and co-workers presented in the name of the collective under the supervision of Academician of the AS of the Belorussian SSR A. A. Akhrem (Minsk). In this connection, new methods for the synthesis of 2-acyl-1,3-cyclohexanedione with diverse acyl chains were recorded. A paper by A. Ya. Strakov (Riga) was devoted to the chemical transformations of 4-oxotetrahydrobenzazoles, also obtained from 2-acyl-1,3-cyclohexanediones. The synthesis of pyridine, quinoline, and isoquinoline derivatives by condensation of 1,3-dicarbonyl compounds with malononitrile was reported in a paper by Corresponding Member of the Academy of Sciences of the Latvian SSR Ē. Yu. Gudrinietse (Riga). The reactions of 1,5-diketones and the synthesis from them of six-membered oxygen- and nitrogen-containing heterocycles were discussed in papers by V. I. Vysotskii and A. P. Kriven'ko presented in the name of collectives under the supervision of Professors M. N. Tilichenko (Vladivostok) and V. G. Kharchenko (Saratov).

The second group of papers pertaining to the chemistry of heterocyclic compounds was devoted to problems of the tautomerism and reactivity of heterocyclic 1,3-dicarbonyl compounds such as dioxo derivatives of hydrogenated pyrazoles (B. L. Moldaver, Leningrad), hydrogenated 1,3-thiazines, pyrimidines, and condensed pyrimidines (L. B. Dashkevich, V. G. Geilin, B. P. Tarasov, and B. A. Ivin, Leningrad) etc. 2-Carbethoxy-3-oxoquinuclidine was presented as an interesting system of a heterocyclic 1,3-dicarbonyl compound existing in a dipolar structure (L. N. Yakhontov, Moscow).

The theme of the third group of papers pertained to 1,3-dicarbonyl compounds containing heterocyclic substituents. A paper by Professor O. Ya. Neiland (Riga) was devoted to the structure, chromaticity, and chemical properties of heterocyclic onium betaines of 1,3-dicarbonyl compounds. A new class of organic compounds with high photosensitivities was discovered as a result of a study of the electrophysical and photoelectrical properties of thin films of these betaines (Ē. A. Silin'sh, Riga).

The participants at the conference resolved that the fifth conference will be held in 1981 in Riga.