

## CHRONICLES

### CHEMISTRY OF HETEROCYCLIC COMPOUNDS AT THE 11th MENDELEEV CONFERENCE ON GENERAL AND APPLIED CHEMISTRY

The regular forum of Soviet chemists, which traditionally meets quadrennially, was held in Alma Ata on September 22 to 27, 1975. The enormous scope of chemical science and the development of chemical industry (in addition to other branches of industry that use chemical processes such as petroleum refining, metallurgy, etc.) predetermine the very large number of interested specialists: ~2500 Soviet scientists and ~150 foreign chemists (the delegation from the German Democratic Republic was particularly large) participated in the conference.

The program of the conference included 12 plenary problem papers by leading academicians and ministers of the USSR and 865 papers in 16 sections. It should be noted that the sectional papers were selected from a huge number of applications. Thus, for example, the number of communications for the organic chemistry section constituted less than 8% of the number of papers submitted to the organizing committee of the section.

The problems of the chemistry of heterocyclic compounds were discussed primarily in the section "Organic chemistry and technology of organic substances" and also in other sections (biochemistry, chemistry and technology of high-molecular-weight compounds, petrochemistry, chemical physics, and catalysis). Disregarding the problems of the chemistry of nucleosides, alkaloids, and other natural compounds with heterocyclic structures, as well as material on the heterocyclic compounds that have been found to be the basis of flotation reagents and antioxidants and are used as reagents in inorganic analysis, plasticizers, etc., it may be noted that substantial attention in the conference was directed to problems of the chemical utilization of nitrogen and sulfur compounds from petroleum and coal tar. Principal attention was directed to the problem papers that reveal new methods in organic synthesis.

Communications regarding the new methods for the preparation and processing of epoxides and the chemistry of poly(vinylpyrrolidone) and its complexes and of heat-resistant polyheteroarylenes, etc., are of interest in a technological respect. There were practically no communications regarding the technology of fine organic synthesis (for example, the synthesis of medicinal preparations).

The section entitled "Organic Chemistry and Technology of Organic Substances" was saturated to a considerable degree with papers on the chemistry of heterocyclic compounds, and a special session was devoted to nitrogen-containing heterocycles; this once again emphasizes the vigorous growth of chemistry in this area and the prospects of scientific research associated with models of this sort. Included here are papers on the stereochemistry of piperidines and papers on 2-diazobenzimidazoles, nucleophilic substitution in azines, and the mechanism of the isomerization of dihaloaziridines.

Fundamentally important research on the synthesis of natural compounds and their analogs of medical interest was reported. These reports included the correlation of a large number of studies of Latvian chemists on the synthesis of chemotherapeutic agents based on nitrofurfural and papers on the synthesis of six-, seven-, eight-, and nine-membered structures (elenium analogs), on the synthesis of modified pyrimidine nucleosides as potential antitumorigenic agents, and on the synthesis of azepines from enamines, as well as communications regarding azasteroids and the establishment of the structure of the alkaloids acomonine and ilienazine.

Research involving the mechanisms of the reactions and the chemistry of heteroorganic compounds that in many respects has been based on examples from the chemistry of heterocycles has traditionally played a substantial role in the work of the organic chemistry section.

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A special subsection of physical organic chemistry functioned for the first time in the conference. The problems of the chemistry of heterocyclic compounds found limited reflection in the topics of the papers of this subsection, and only the problems of the mechanisms of the formation and stereochemistry of three-membered heterocycles were touched upon (in communications regarding nitrenes and the complex application of electrical and electrooptical methods for the analysis of electronic and three-dimensional structures).

The excellent organization of the conference by the Academy of Sciences of Kazakhstan with the most active and efficient support of the Party and government organs made the work of the conference not only useful but pleasant.