

TENTH ANNIVERSARY OF KHIIMIYA GETEROTSIKLICHESKIKH
SOEDINENII (THE CHEMISTRY OF HETEROCYCLIC
COMPOUNDS)

All-Union journal entitled Khimiya Geterotsiklicheskih Soedinenii appeared 10 years ago in January, 1965. Its task was to consolidate publications of Soviet scientists engaged in research in diverse branches of the chemistry of heterocyclic compounds. From the very first, the Institute of Organic Synthesis of the Academy of Sciences of the Latvian SSR was entrusted with the publication of the journal. The director of this institute, Professor S. A. Giller, is the editor-in-chief of the journal.

The editorial board of the journal is composed of scientists engaged in research in the chemistry of heterocyclic compounds from various scientific centers of the USSR (Moscow, Leningrad, Riga, Sverdlovsk, Irkutsk, and Rostov-on-Don). Outstanding Soviet organic chemists - G. Ya. Vanag, Yu. K. Yur'ev, A. L. Mndzhyan, and A. A. Ponomarev - have been members of the editorial board of the journal.

The principal portion of the research in the chemistry of heterocyclic compounds accomplished in the Soviet Union in the last 10 years has been printed in the journal, and the journal has actually become the focal point for publications of scientific papers of this sort. The principal trends in the development of the chemistry of heterocycles in the USSR and the quantitative and qualitative growth of research efforts in this direction are traced distinctly through the journal.

Shortly after the publication of the first issues of the journal it became apparent that the planned volume and periodicity of the journal (six issues per year and 10 quires per issue) were clearly inadequate and could not insure publication of all of the material received from the authors. At that time, the manuscripts were delayed in the files of the editorial office for up to two and a half years, despite the fact that a considerable number of papers devoted to heterocyclic compounds by tradition continued to be received by other journals also. The editorial boards found it necessary to limit somewhat the problems encompassed by the journal, excluding from it almost entirely the chemistry of natural and heteroorganic compounds of the heterocyclic series, inasmuch as other specialized journals deal with publications of papers involving these themes. A very large amount of work was done by the reviewers and scientific editors of the journal, particularly Leningrad chemists, who already had many years of experience in editing and reviewing papers received in the oldest chemical journal in the Soviet Union, the Journal of General Chemistry. The requirements for the quality of the manuscripts, precise language, substantiation of conclusions, and the correctness of the very formulation of the research were raised, and manuscripts of insufficient value were rejected. This made it possible to achieve an increase in the quality of the published papers. The activity of the editorial board of the journal, which is particularly important for authors working in collectives without developed scientific traditions and in peripheral areas, proved to be useful for raising the level of research and consolidation of the scientific energies in the chemistry of heterocyclic compounds.

However, certain restrictions on the acceptance of manuscripts did not make it possible to dispose of the backlog in the files of the editorial office. The editorial board therefore strove to expand the volume of the journal.

In 1967 the volume of an issue was increased to 12 quires with the same periodicity, and in 1970 the journal began to be issued monthly with a volume of nine quires in each issue.

After 10 years of existence, the journal has published 90 issues and three supplementary thematic collections - "Nitrogen-Containing Heterocycles" (1967), "Oxygen-Containing Heterocycles" (1970), and

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TABLE 1. Number of Papers and Letters to the Editor Received and Published

Year	Received		Published	
	papers	letters to the editor	papers	letters to the editor
1965	473	27	179	14
1966	477	25	181	26
1967*	357	25	271	27
1968	403	40	285	33
1969	359	56	286	31
1970†	324	79	492	50
1971‡	495	48	455	53
1972	452	63	378	44
1973	400	65	389	52
1974	405	78	350	60

* A total of 108 papers were published in the collection "Nitrogen-Containing Heterocycles."

† A total of 83 papers were published in the collection "Oxygen-Containing Heterocycles."

‡ A total of 61 papers were published in the collection "Sulfur-Containing Heterocycles."

TABLE 2. Scientific Centers That Publish Papers in the Journal

City	No. of papers for various years									
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Moscow	67	87	121	121	151	124	280	120	177	136
Rostov-on-Don	10	12	16	33	28	18	26	30	36	40
Kiev	3	5	22	17	29	16	14	24	28	29
Riga	31	26	29	27	26	12	30	20	25	23
Leningrad	7	12	15	28	21	30	19	13	29	24
Sverdlovsk	21	9	9	16	15	12	14	10	12	12
Donetsk	—	1	4	10	11	4	8	6	22	10
Irkutsk	1	—	3	14	11	6	3	5	9	14
Novosibirsk	7	7	5	7	6	3	5	3	7	4
Kazan	6	3	8	5	5	3	3	2	8	8
Saratov	4	5	7	5	13	5	10	8	3	3
Yerevan	—	2	2	4	3	5	4	4	5	8
Tashkent	2	1	1	4	6	7	5	6	7	4

"Sulfur-Containing Heterocycles" (1971). During this period 3520 papers and 390 letters to the editor were published. All of this made it possible to reduce the time necessary for processing of a manuscript to one year. Data on the trend of the receipt of papers are presented in Table 1.

The papers of more than 1300 authors (as compared with 915 in 1974) engaged in research in the Institutes of the Academy of Sciences of the USSR and the Academies of Sciences of the Union Republics, the Academy of Medical Sciences of the USSR, departmental Scientific-Research institutes, in the laboratories of various universities (VUZ), and above all in universities and pharmaceutical, medicinal, chemical-engineering, and agricultural institutes will be published in 1975. Table 2 gives an idea of the geographical distribution of the scientific centers where research involving the chemistry of heterocyclic compounds is done.

In addition to the cities indicated in Table 2, papers from another 48 cities of the Soviet Union have been and are being submitted to the journal. In particular, in the last 2 years, five to eight manuscripts have been received annually from Vladivostok, Kishinev, Kharkov, Perm, Minsk, and Uzhgorod.

Of course, publications from such major centers of chemical science in our country as Moscow, Leningrad, Kiev, Riga, Rostov-on-Don, Sverdlovsk, Novosibirsk, Irkutsk, Donetsk, etc. are primarily presented in the journal. The relatively small number of manuscripts received from individual scientific centers is due to the fact that Leningrad chemists traditionally prefer to publish their papers in Zhurnal Organicheskoi Khimii (The Journal of Organic Chemistry), and, correspondingly, scientists from Novosibirsk make extensive use of Izvestiya Sibirskogo Otdeleniya AN SSSR (The Bulletin of the Siberian Branch of the Academy of Sciences of the USSR), whereas papers by Yerevan chemists are usually printed in Armyanskii Khimicheskii Zhurnal (The Armenian Chemical Journal).

In 1974 the journal began to print not only experimental and theoretical papers but also review papers which, it is true, are restricted in volume (no more than one quire). These reviews (24 have already

been published) examine the state of a given problem with an exhaustive analysis of all of the literature or are author correlations of a series of studies in a given important area. The editorial board enlists the aid not only of Soviet scientists but also of prominent specialists from other countries as authors of these reviews (particularly reviews of the second type). The published reviews are of considerable interest for our readers, inasmuch as a number of them are devoted to individual classes of heterocyclic compounds or new methods for their synthesis, to mechanisms of chemical reactions, and also to ways to use modern physicochemical methods for the study of the structures and transformations of heterocycles.

The editorial board throughout this 10-year period has engaged in systematic work with authors, stimulating extensive mastery of physical methods for the investigation of heterocyclic compounds. In particular, with this end in mind, a special school on the use of physical and physicochemical methods in the chemistry of heterocyclic compounds was held in Riga in 1972 upon the initiative of the editorial board of the journal. The fact that of the 625 papers of recent years published in the journal, problems of physical-organic chemistry are examined in 140 of them and problems of a structure-correlation or physical-organic character are solved in them serves as evidence of the ever-increasing use of physical methods in the study of heterocyclic compounds. It is obvious that use of physicochemical methods does not, all by itself, guarantee the necessary theoretical level of the studies, and the editorial office must therefore systematically point out to authors instances of purely illustrative utilization of physicochemical methods and direct their attention to the superficial character of the conclusions drawn from the results of physicochemical investigations.

In 1965 the number of papers in which research was accomplished with the use of one physical or physicochemical method constituted 60% of the total number of papers, whereas two or more physical methods were used in only 10% of the publications. In contrast, in 1973-1974 papers of the two indicated types constituted 93 and 64%, respectively, of the total number of papers.

In 1965, 40% of the papers were purely preparative in nature, and attempts to give an evaluation of the fine structure and configuration of a molecule were frequently not made in them. Moreover, data regarding the degree of purity of the substances obtained were not presented, except for the results of elementary analysis; in 1973-1974, the percentage of such publications dropped to 7%. The proportion of physical and physicochemical methods used to evaluate the structures of substances also changed.

In addition to the extensive use of such methods as IR, UV, NMR, and ESR spectroscopy, mass spectrometry, dielcometry, and polarography, publications in which spectral polarimetry, luminescence, x-ray diffraction analysis, and kinetic methods for the investigation of processes are used are appearing more and more frequently. In addition, a considerable number of the studies were made with the aid of chromatography in a thin layer of a sorbent and on paper and by means of gas-liquid chromatography.

In recent years the journal has begun to print information regarding conferences and congresses in which problems in the chemistry of heterocycles are discussed.

The journal *Khimiya Geterotsiklicheskikh Soedinenii* has held a stable position among Soviet scientific periodical publications, and the publication of its English translation in the United States constitutes evidence for the authoritative character of the journal.

The journal unites a large body of authors and gives them the possibility for correlation of the scientific data contained in the various studies, to exchange ideas, achievements, and experience, and to contemplate prospects for further research.