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ANNIVERSARIES AND DATES

SEVENTIETH BIRTHDAY OF PROFESSOR LEONID ISAAKOVICH BELEN'KII

On February 9, 2001 Leonid Isaakovich Belen'kii, distinguished heterocyclic chemist and regional editor of "Chemistry of Heterocyclic Compounds," celebrates his seventieth birthday. The scientific and administrative activities of Prof. L. I. Belen'kii have received wide recognition in specialist circles, and he himself won universal respect and affection for his profound erudition, his undeviating benevolence, his devotion to principles, and his diligence. Several generations of organic chemists internally and extramurally have expressed their gratitude to him for their scientific training, for an introduction to scientific methodology, and for the authorship of authentic and elegant papers.

L. I. Belen'kii, who was born in Moscow in 1931, became a member of the Moscow school of organic chemists, the scientific activity of which was largely connected with the N. D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences. In 1948, having become a student at the Chemical Faculty of M. V. Lomonosov Moscow State University, he was engaged in scientific work in the laboratory of Prof. A. P. Terent'ev (1892-1970) under the leadership of L. A. Yanovskaya (1919-1994). His first student work resulted in two papers – on the halogenation and thiocyanation of 2-methylindole with dichloramine T and the bromination of phenols with dioxane dibromide.

In 1953 Belen'kii finished with distinction at the Chemical Faculty of Moscow State University, having completed under the leadership of A. P. Terent'ev a diploma paper on "Low-temperature asymmetric synthesis with catalysts based on barium tartrate." This paper included as an extension the results of research into the iodination of phenols by a complex of dioxane with iodine chloride.

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In 1953-1955 Leonid Isaakovich worked in the laboratory of the Kur'yanovsk Aeration Center, and from 1955 he worked in the laboratory of heterocyclic compounds at the N. D. Zelinsky Institute of Organic Chemistry under guidance of Prof. Ya. L. Gol'dfarb (1901-1985). Prof. Gol'dfarb, who became Belen'kii's principal mentor and advisor, introduced him to the synthesis of thiophenes and other heterocyclic compounds.

In 1963 Belen'kii defended a candidate's thesis on "A new method for the synthesis of macrocyclic compounds" and, in 1974, a doctoral thesis on "Investigation of the direction of electrophilic substitution in the thiophene and furan series."

A professorship was conferred on L. I. Belen'kii in 1991.

Professor Belen'kii is a leading scientist at the Institute of Organic Chemistry, the research of which has been maintained by grants from the Ministry of Science of the Russian Federation, The International Scientific Fund (the Soros Fund), and the Russian Fundamental Research Fund. (In 1994 he received a state scientific stipend.)

His principal achievements in the field of organic chemistry include the following.

1. A fundamentally new method was developed for the synthesis of numerous alicyclic compounds, based on the construction of a macrocycle containing one or several thiophene rings, followed by reductive desulfurization with the removal of the sulfur "bridges."

2. The most important factors determining the course of aromatic electrophilic substitution and, in particular, the effect of complex formation between the substrates and reagents and protic and aprotic acids and also the stability of the α-complexes formed in the course of the reaction were investigated. The obtained data were used to create new effective methods for the synthesis of aromatic and heteroaromatic compounds and also to realize the ionic hydrogenation of thiophenes. Original syntheses of difficultly obtainable β-substituted thiophenes and furans were proposed. Uncondensed tricyclic systems that contain two oxazole rings and are luminophores important for practical purposes were synthesized for the first time. Methods were developed for the synthesis of sterically hindered aromatic dialdehydes and their use in the production of stable bisnitrile oxides, employed as hardeners for unsaturated rubber.

3. New reactions of trichloromethylarenes with N-nucleophiles – the formation of arenecarbonitrile oxides and reductive condensation – were discovered and investigated. The last reaction can be regarded as an alternative to the Sommelet synthesis of aldehydes, and the specific oxidation–reduction processes on which it is based open up prospects for the creation of new methods for the synthesis of 4-substituted pyridines. New methods were found for the production of various nitrogen-, oxygen-, and sulfur-containing heterocycles, including those possessing physiological activity, from the accessible products of the radical addition of carbon tetrachloride to vinyl ethers and methylene vinyl ketone.

Syntheses of new photochromes, promising for the optical recording, storage, and processing of data, have now been developed.

Belenkii's researches are well known from his numerous lectures and reports at conferences and educational establishments, his papers in leading journals, and his other publications. He is the author of about 400 scientific works (including 160 papers, 21 author's certificates, and 27 reviews) and coauthor of eight monographs. Six monographs have been prepared and published under his editorship. Eleven candidate's theses were produced and presented under his guidance.

L. I. Belen'kii is a member of the Dissertation Council at the Russian University of the Friendship of Peoples, the Bureau of the Scientific Council on the Chemistry and Technology of Organosulfur Compounds at the Ministry of Science of the Russian Federation, deputy head of the laboratory and section member of the Academic Council of the Institute of Organic Chemistry of the Russian Academy of Sciences, and member of the editorial board of "Izvestiya Akademii Nauk. Seriya Khimicheskaya" (Bulletin of the Academy of Sciences. Chemistry Series).

His involvement in the work of the editorial team of "Chemistry of Heterocyclic Compounds" merits special acknowledgment – in fact he has carried on the work of his tutor Prof. Ya. L. Gol'dfarb and Prof. A. N. Kost, who was deputy chief editor of our common journal published in Riga. After the decease of these brilliant chemists Belen'kii took over the leadership (in conjunction with M. A. Yurovskaya) of the "Moscow section" of the journal, devoting himself to establishing teamwork among the scientific editors and the laborious task of editing and scrutinizing the papers. This made it possible to maintain the high scientific standard of the journal under the extremely complex conditions of its operation, for he was a highly competent editor, capable of attracting and directing authors. Belen'kii paid special attention to the establishment of a meticulous bibliography, which he used to further the education of generations of chemists. The editorial team felt that it was desirable to append to this short jubilee article a bibliography of the Belen'kii's major papers, singling out the general papers, the chapters published in monographs, and the scientific reviews written by him.

It gives us great pleasure to highlight our mutual harmonious work and contacts. The experience of many years has convinced us that working with L. I. Belen'kii is pleasant, easy, and fruitful.

We wish him well, fruitful contemplation, vitality for many years to come, good health, many new scientific opinions, many new ideas, and opportunities for their rational implementation.

E. Lukevics, J. Stradins, and A. Skorova

THE MAJOR PUBLICATIONS OF L. I. BELEN'KII

Original Papers of Experimental and Theoretical Nature

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GENERAL PAPERS, REVIEWS, CHAPTERS IN MONOGRAPHS

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