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Alexei Vsevolodovich Bogatsky (1929-1983)

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ALEXEI VSEVOLODOVICH BOGATSKY
(1929–1983)

Alexei Vsevolodovich Bogatsky—Academician of the Academy of Sciences of the Ukrainian SSR—was a prominent scientist and organizer of investigations in the branches of fine organic synthesis, structure and stereochemistry of organic compounds and chemistry of physiologically active compounds. His scientific activities cover a wide domain of the synthesis of organic compounds of the aliphatic and heterocyclic series, study of their structure, stereochemistry and mesogeneity, as well as questions of physiologic activity. He was concerned also with the establishment of the connection between the structure and the properties of these compounds. In his scientific and organizing activities A. V. Bogatsky succeeded in combining fundamental investigations and the application of their results in different fields of the national economy.

A. V. Bogatsky was born in 1929, August 25, in Odessa in the family of the well known chemist V. D. Bogatsky.

V. D. Bogatsky—a graduate of the Novorossiisk University—was a pupil of P. I. Petrenko-Kritchenko, a corresponding member of the USSR Academy of Sciences; he was the head of the chair of organic chemistry at the Odessa State University for 10 years; and carried out a number of theoretical and applied investigations in the domain of organic synthesis. His activity, as well as that of A. V. Bogatsky's mother—Z. D. Bogatskaya who worked in the same department for many years, influenced the formation of the professional interests of their son.

A. V. Bogatsky was educated in Odessa. Here, in 1946 he completed his schooling, and in 1951 graduated from the chemical faculty of I. I. Mechnikov Odessa State University.

As a post-graduate A. V. Bogatsky, under the guidance of professor A. K. Plisov, prepared his dissertation and in 1954 defended his candidate dissertation "Synthesis and Properties of Stereoisomeric Crotonic Acids and Their Ethers".

After his post-graduate course A. V. Bogatsky was appointed a lecturer of the chair of organic chemistry of Odessa University and then received the post of head instructor of the same chair.

These were the years when the creative independence of A. V. Bogatsky became apparent. In continuation of his works in the field of unsaturated carboxylic acids he began to search for novel ways for the synthesis of unsaturated carboxylic acids with different position of substituents in the carbon chain. This work resulted in the technique of synthesis of alkylcrotonic acids based on malonic ether. Based on substituted alkyl- α -alkoxyethylmalonic ethers, alkyl-alkoxyacetoacetic ethers and acetylacetones the methods were worked out for the synthesis of a great number of different organic compounds such as barbituric acids, pyrazolidinediones, substituted propandiole-1,3, substituted 1,3-dioxanes and 1,3-dithianes.

Working out the techniques for the synthesis of the above compounds was accompanied by the study of the mechanism of the reactions, quantitative estimation of the effect of different factors on the reactivity of these compounds, and the study of their structure.

During this period A. V. Bogatsky showed talent for organization and lectureship. In 1959 he became a deputy and from 1962 the head of the chair of organic chemistry at Odessa State University. The staff of the chair increased. The scientific research sector was organized aimed at the solution of different application problems based on theoretical studies. They included first of all working out methods for the synthesis of reagents and preparations. One of the essential results of the applied research was the working out of the method of obtaining metatartaric acid—an effective stabilizing agent of champagne wines.

A. V. Bogatsky's talent for organization showed also in the fact that his scientific activity was carried out in close cooperation with the key Academic institutes, laboratories and enterprises. Thus, the cooperation with professor Yu. Yu. Samitov from Kazan State University was very fruitful, as well as with doctor A. L. Liberman from the N. D. Zelinsky Institute of Organic Chemistry, USSR Academy of Sciences, etc.

At the end of '60 and in '70 A. V. Bogatsky proceeded to the investigation of stereochemistry and conformational analysis. This stage of professor Bogatsky's scientific activities was the logical continuation of his previous studies. A large series of alkoxy- and alkylsubstituted 1,3-dioxanes, 1,3-dithianes and oxepanes were investigated to clear up a number of fundamental questions of configuration and preferred conformation in these compounds as well as the stereochemistry of their formation. In close connection with the observed characteristics of the fine structure of 1,3-heterocycles their physiological activity was studied. It was found that the effect of these

compounds on the central nervous system depended on the configuration of a molecule and, to a less degree, on its conformation.

Results of the investigations of professor Bogatsky's above scientific activities represented the foundation for his doctoral dissertation "Synthesis of Some Alkoxycompounds Based on Alkoxyalkylsubstituted Malonic and Acetoacetic Ethers, Acetylacetones and 1,3-Diols and Study of Their Stereochemistry, Properties and Transformations" which he brilliantly defended in 1967. For the series of works in the branch of stereochemistry and conformational analysis of 1,3-heterocycles A. V. Bogatsky was awarded the L. V. Pisarzhevsky Prize of the Academy of Sciences of the Ukrainian SSR.

Data from the study of the physiologic activity of 1,3-dioxanes were the precondition for the development of the new direction of A. V. Bogatsky's scientific activities in the domain of the chemistry of tranquilizers. Compounds of the benzodiazepine series—1,4-benzodiazepine-2-ones were selected as the objects of investigation. A. V. Bogatsky, S. A. Andronati et al., worked out original methods for the synthesis of compounds of this type, studied their structure and its connection with the physiological activity. A comprehensive study was carried out of the biotransformation of a number of this class of compounds characterized by high activity in animal organisms. Some regularities were found connecting the physiological activity with structural characteristics.

A. V. Bogatsky's university activity is characterized by intensive pedagogic work. He was a brilliant lecturer and popularizer of chemical knowledge. Possessing enormous erudition professor Bogatsky used widely the data on the progress of all the natural sciences in his lectures combining their scientific depth with simplicity for understanding by the students. His pedagogic activity with students was not limited to the lecture-hall. Thus, first of all one should note the organization of the students scientific circles, and the meetings for scientific discussion, where the students got acquainted with the progress and problems of different branches of science. As a dean of the chemical faculty, pro-rector on scientific work and then the rector of Odessa State University Professor Bogatsky contributed greatly to the rise of the level and intensification of scientific research at the University chairs, and to their connection with industry—considered one of the most important conditions of providing a high level of training to specialists.

Beginning from 1974 Professor Bogatsky was working at the Laboratories of the Institute of General and Inorganic Chemistry, Academy of Sciences of the Ukrainian SSR. This was an important stage

in his life. In 1977, on the base of the Laboratories, the Physico-Chemical Institute of the Academy of Sciences of the Ukrainian SSR was founded in Odessa.

This period was characterized by a change of his scientific interests—he began to study the chemistry, structure and properties of macroheterocyclic compounds, synthetic analogs of natural complexones. During a brief period original methods were worked out for the synthesis of a large group of different crown-ethers, cryptands containing various functional groups either within the cycle or outside; their structure and properties were studied. Selectivity was found in these compounds towards alkaline and alkaline-earth ions. Rather small quantities of some of them are able to increase the efficiency and selectivity of certain pesticides.

During this period investigations were also started in the field of liquid crystalline compounds. Regarding liquid crystals as the objects of supramolecular chemistry—a novel branch of science—A. V. Bogatsky noted their importance and prospects. He attached specific importance to the fundamental investigations of liquid crystals, to the study of the dependence of their mesogenic ability both on the compounds structure and on their stereochemical characteristics.

Under the direct leadership of A. V. Bogatsky more than 150 mesomorphogens of the cholesteric type were synthesized, the majority of them had not been reported before; their mesomorphic properties were studied, and some regularities were found concerning the effect of chemical structure, conformation and configuration of the molecules upon their mesogenic ability.

Results of the many-sided scientific activities of A. V. Bogatsky are reported in numerous publications. He is the author of about 600 papers.

Working at the Academy of Sciences of the Ukrainian SSR A. V. Bogatsky continued his pedagogic activities at the University regarding this as the significant link with the training of personnel and the selection of talented young people for research work.

During the short period of his creative life A. V. Bogatsky trained many young specialists, 52 candidates and 5 doctors of chemistry. At conferences and other scientific meetings, and simply in his talks with the students and researchers, A. V. Bogatsky always shared his profound knowledge and experience convincing them of the necessity of a complex approach to the problems of modern organic and bioorganic chemistry.

In spite of his being a busy Academician Bogatsky always took

part in social work considering this obligatory for a scientist.

In 1972 he was elected a corresponding member and in 1976—an Academician of the Academy of Sciences of the Ukrainian SSR.

A. V. Bogatsky took an active part in the work of UNESCO—a specialized organization of the U.N. In 1972 he was a leader of a section of the IV International Conference on Chemistry and Chemical Education (Wroclaw, Poland), participated in the work of VI Conference on Chemical Education (1979, Dublin, Ireland), worked at UNESCO as a consultant, was a member of the Bureau of European Seminar on Chemistry and Chemical Education (1982, Nice, France). In 1982 he was elected a member of the International Committee of the Symposia on Macrocyclic Chemistry.

For his services in scientific and public activities Alexei Vsevolodovich Bogatsky was awarded three Orders of the Red Banner of Labour and some medals, USSR State Prize Laureate.

The activities of A. V. Bogatsky were highly fruitful. He always suggested original ideas, treated those of the other researchers attentively, promoted in every possible way the realization of everything reasonable. A. Bogatsky created around himself the atmosphere of real scientific creation. His high principles and exactness combined with benevolence, high capacity for work and self-discipline won him respect and well deserved authority.

*Professor
A. I. Gren*

SELECTED BIBLIOGRAPHY OF A. V. BOGATSKY

1957. A. K. Plisov and A. V. Bogatsky. Configuration and properties of unsaturated acids and their derivatives. VI. On the reactivity of stereoisomeric crotonic acids and their ethers. *Zhurn. obsch. khimii*, **27**, N 2, p. 360, 1957.
1960. A. V. Bogatsky. Interaction of α -chloroethylmethyl ether with sodiumalkylmalonic ethers. *Zhurn. obsch. khimii*, **30**, N 10, p. 3500, 1960.
1961. A. V. Bogatsky and A. K. Plisov. Configuration and properties of unsaturated acids and their derivatives. XIV. On the properties of ethers of cis- and trans-petrolatum acids. *Zhurn. obsch. khimii*, **31**, N 10, p. 3324, 1964.
A. V. Bogatsky and N. A. Goryachuk. On β -alkoxyethylisopropylmalonic ethers. *Ibid.*, N 7, p. 2419, 1961.
1962. A. V. Bogatsky and G. V. Pyankova. Synthesis and transformations of alkyl- α -alkoxyethylmalonic ethers. II. On the synthesis of alkyl- α -propoxyethylmalonic and alkyl- α -isopropoxyethylmalonic ethers. *Ibid.*, **32**, N 6, p. 1762, 1962.
1963. A. Bogatsky, N. Goryachuk, O. Tischenko and A. Goryachuk. Synthesis and transformations of alkyl- α -methoxyethylmalonic ethers. *Ibid.*, **33**, N 1, p. 42, 1963.
A. V. Bogatsky and L. P. Mikhailova. Syntheses on the base of alkoxyalkylmalonic ethers. V. On the synthesis and some transformations of β -methoxyethylpropylmalonic and β -methoxyethylisopropylmalonic ethers. *Ibid.*, **33**, N 9, p. 2894, 1963.
A. V. Bogatsky, Yu. Yu. Samitov, G. F. Tantsura and S. G. Soboleva. Synthesis and acidic hydrolysis of methyl- α -methoxyethylacetoacetic ether. *Ibid.*, **33**, N 10, p. 3445, 1963.
1964. G. V. Pyankova and A. V. Bogatsky. Synthesis on the base of alkoxyethylalkylmalonic ethers. VI. On saponification of alkyl- α -propoxyethylmalonic and alkyl- α -isopropoxyethylmalonic ethers. *Zhurn. obsch. khimii*, **34**, N 4, p. 1196, 1964.
A. V. Bogatsky and N. L. Garkovik. Synthesis of some alkoxy-substituted 1,3-dioxanes. *Ibid.*, **34**, N 5, p. 1689, 1964.
A. V. Bogatsky and G. V. Pyankova. Syntheses on the base of alkoxyethylmalonic ethers. IX. On transformations of alkyl- α -propoxy- and alkyl- α -isopropoxyethylmalonic ethers at the effect of alcohol caustic potash and hydrochloric acid. *Ibid.*, **34**, N 9, p. 2939, 1964.
Yu. Yu. Samitov, A. V. Bogatsky, N. A. Goryachuk and G. V. Pyankova. Syntheses on the base of alkoxyethylalkylmalonic ethers. X. N(P)MR spectra of alkyl- α -alkoxyethylmalonic ethers and products of their transformation. *Ibid.*, N 9, p. 2942, 1964.
1965. A. V. Bogatsky and G. V. Pyankova. Alkoxycompounds. XIV. Pyrolysis and catalytic dealkoholysis of methyl- α -propoxyethyl- and α -isopropoxyethylmalonic acids. *Ibid.*, **35**, N 4, p. 619, 1965.
A. V. Bogatsky, Yu. Yu. Samitov, G. F. Tantsura and S. G. Soboleva. Alkoxycompounds. XV. On methyl- α -methoxyethylacetoacetic ether. *Ibid.*, **1**, N 11, p. 1987, 1965.
A. V. Bogatsky, N. A. Goryachuk, G. L. Kamalov, Yu. Yu. Samitov, L. P. Mikhailova and S. G. Soboleva. Syntheses on the base of alkoxyethylalkylmalonic ethers. XI. Dealkoholysis of alkoxyacids on aluminium hydroxide. *Ibid.*, **1**, N 2, p. 248, 1965.
1966. N. L. Garkovik, A. V. Bogatsky, S. A. Andronati and L. V. Basalaeva. Alkoxycompounds. XVII. Synthesis and physiologic activity of 2-alkyl(aryl)-5-alkyl-5- α -alkoxyethyl-1,3-dioxanes. *Khimiya geterocikl. soedinenii*, N 5, p. 674, 1966.
A. V. Bogatsky, Yu. Yu. Samitov and N. L. Garkovik. Alkoxycompounds. XVIII. Configuration and conformation of some 2,5-dialkyl-5- α -alkoxyethyl-1,3-dioxanes. *Zhurn. org. khimii*, **2**, N 8, p. 1336.

1967. A. V. Bogatsky, Yu. Yu. Samitov, N. L. Garkovik and S. A. Andronati. Alkoxycompounds. XIX. On stereoisomerism of some 2,5-dialkyl-5-alkoxyethyl-1,3-dioxanes. *Khimia geterocikl. soedinenii*, N 2, p. 195, 1967.
- A. I. Gren, A. V. Bogatsky and Yu. Yu. Samitov. Alkoxycompounds. XXIV. 1,3-dioxanes and pyrazolidindiones-3,5 on the base of alkyl- α -alkoxyethylmalonic ethers and 2-allyl-2- α -alkoxyethylpropandioles-1,3. *Zhurn. org. khimii*, 3, N 6, p. 1016, 1967.
- A. V. Bogatsky, A. A. Kolesnik, Yu. Yu. Samitov and T. D. Butova. Alkoxycompounds. XXVI. Synthesis and some questions of stereochemistry of alkoxy-alkylsubstituted 1,3,2-dioxaphospharines. *Zhurn. obsch. khimii*, 37, N 5, p. 1105, 1967.
- A. V. Bogatsky, A. A. Kolesnik and Yu. Yu. Samitov. On a new example of sin-anti isomerism due to the stability of phosphor pyramid. *Ibid.*, 37, N 4, p. 960, 1967.
1968. L. K. Yuldasheva, A. V. Bogatsky, R. P. Arshinova and L. I. Spirina. Alkoxycompounds. XXIX. Dipole moments and conformation of 2,5-dialkyl-5-alkoxy-methyl- and 2,2-dimethyl-5- α -alkoxyalkyl-1,3-dioxanes. *Zhurn. org. khimii*, N 11, p. 1874, 1968.
- A. V. Bogatsky, A. I. Drozdovskaya and Yu. Yu. Samitov. Alkoxycompounds. XXXI. Synthesis of some alkoxycompounds on the base of acetylacetone. In: *Biological Active Compounds*. L.: Nauka, p. 125, 1968.
- A. V. Bogatsky and N. L. Garkovik. Progress of chemistry of 1,3-dioxanes. *Uspekhi khimii*, 37, N 4, p. 581, 1968.
1969. A. V. Bogatsky, A. I. Gren, Yu. Yu. Samitov and N. L. Garkovik. Alkoxycompounds. XXXVIII. On some questions of stereochemistry in the series of 2-substituted 5-alkyl-5- α -alkoxyethyl-1,3-dioxanes. *Zhurn. org. khimii*, N 11, p. 1967, 1969.
- A. V. Bogatsky, L. Ya. Glinskaya and A. I. Gren. Alkoxycompounds. XL. On tautomerism and some properties of 5-alkyl-5- α - and 5-alkyl-5- β -alkoxyethyl-barbituric acids. *Zhurn. obsch. khimii*, 39, N 11, p. 2568, 1969.
- A. V. Bogatsky and S. A. Andronati. 1,4-benzodiazepines and their derivatives. I. Synthesis of some 1,4-benzodiazepine compounds and study of their structure and tautomerism. *Zhurn. obsch. khimii*, N 2, 39, p. 443, 1969.
1970. G. I. Goryashina, A. V. Bogatsky, Yu. Yu. Samitov, A. I. Gren and O. S. Stepanova. Alkoxycompounds. XLI. On some stereochemical regularities within the series of 2-substituted-5-alkyl-5-alkoxymethyl-1,3-dioxanes. *Riga, Zinatne*, p. 263, 1970.
- A. V. Bogatsky, A. I. Gren, Yu. Yu. Samitov and Z. D. Bogatskaya. Study of 1,3-dioxane systems by conformational analysis and NMR. *Teor. i eksp. khimia*, 6, N 4, p. 630, 1970.
- A. V. Bogatsky and G. A. Filip. Configuration and conformation of substituted oxetanes. *Dokl. AN USSR*, 192, N 1, p. 138, 1970.
- A. V. Bogatsky and S. A. Andronati. Contemporary state of chemistry of 1,4-benzodiazepines. *Uspekhi khimii*, 39, N 12, p. 2217, 1970.
1971. 2,4-Benzodiazepines and their derivatives. IV. On the dependence between chemical structure and pharmacological activity within the series of substituted derivatives of 1,4-benzodiazepine. Yu. I. Vikhlaev, A. V. Bogatsky, S. A. Andronati, T. A. Klygul, Z. I. Zhilina and T. K. Chumachenko. In: *Physiologically active compounds*. Kiev, *Nauk. dumka*, N 3, p. 265, 1971.
- Yu. Yu. Samitov, A. V. Bogatsky and G. A. Filip. Stereochemistry of heterocycles. IX. Configuration and conformation of some 2-alkyl- and 2,3-dialkyl-oxetanes. *Zhurn. org. khimii*, 7, N 2, p. 407, 1971.
- A. V. Bogatsky, Yu. Yu. Samitov, A. I. Gren and S. G. Soboleva. Stereochemistry of heterocycles. XIII. Configuration and conformation of some 4,5-dialkyl-, 4,5,5-trialkyl-2,2,4-trimethyl-5-alkyl and 2,2,4-trimethyl-5,5-dialkyl-1,3-dioxanes. *Khimia geterocikl. soedinenii*, N 7, p. 893, 1971.

1972. A. V. Bogatsky, O. P. Rudenko, S. A. Andronati and T. K. Chumachenko. 1,4-benzodiazepines, their cyclic homologs. VIII. On a new procedure for synthesis of 1,5-benzodiazepine derivatives. *Ibid.*, N 12, p. 1705, 1972.
A. V. Bogatsky, T. K. Chumachenko, S. A. Andronati, Z. I. Zhilina, O. P. Rudenko and I. A. Starovoi. 1,4-benzodiazepines, their cyclic homologs and analogs. IX. The main properties and structure of dihydroderivatives of 1,4-benzodiazepines. *Zhurn. obsch. khimii*, **42**, N 11, p. 2571, 1972.
1973. A. I. Gren, Nguen Van-diep, A. V. Bogatsky and Yu. Yu. Samitov. Stereochemistry of heterocycles. XX. Synthesis, properties and some questions of stereochemistry within the series of 2,2,5-substituted 2,3-dioxanes. *Khimia geterocikl. soedinenii*, N 9, p. 1240, 1973.
1974. S. A. Andronati and A. V. Bogatsky. Novel Progress of psychopharmacology. Kiev, 1974, Ser. VII, N 5, p. 1-48.
A. V. Bogatsky, G. L. Kamalov, N. G. Lukyanenko, M. Bartok and Y. Tsombosh. Configuration isomerism of 1,3-dioxepanes. *Zhurn. org. khimii*, **10**, N 11, p. 2466, 1974.
A. V. Bogatsky. New problems of modern chemistry. *Visnyk AN UkrSSR*, N 12, p. 16, 1974.
A. V. Bogatsky, Yu. Yu. Samitov, A. I. Gren, L. N. Vostrova, T. I. Davidenko and V. P. Mamontov. Stereochemistry of heterocycles. XXV. Configuration and conformation of stereoisomeric 2,5-dialkyl-1,3-dithianes. *Zhurn. org. khimii*, **10**, N 3, p. 632, 1974.
A. V. Bogatsky, Yu. Yu. Samitov, A. I. Gren and T. I. Davidenko. Stereochemistry of heterocycles. XXVII. Configuration and preferable conformation of stereoisomeric 2,2,4-trialkyl-1,3-dithianes. *Ibid.*, **10**, N 5, p. 1102, 1974.
1975. A. V. Bogatsky, G. L. Kamalov, N. G. Lukyanenko and Yu. Yu. Samitov. Stereochemistry of heterocycles. XXXV. Some aspects of stereochemistry of substituted 1,3-dioxepanes. In: "Application of conformational analysis in synthesis of new organic compounds". Odessa, p. 91, 1975.
A. V. Bogatsky, A. I. Gren, T. I. Davidenko and Yu. Yu. Samitov. Stereochemistry of heterocycles. XXXVI. On preferable conformations of cis- and trans-2,4-dimethyl-2-tert-butyl-1,3-dithianes. *Ibid.*, p. 43.
A. V. Bogatsky, Yu. Yu. Samitov, A. I. Gren and S. G. Soboleva. Stereochemie der heterocyclen. XXXI. Die Konfiguration und bevorzugte konformation substituerter 4-methyl-1,3-dioxane. *Tetrahedron*, vol. 31, p. 489, 1975.
1976. A. V. Bogatsky, Yu. Yu. Samitov, M. Bartok, S. A. Petrash, A. I. Gren and G. Bozoki-Bartok. Stereochemistry of heterocycles. XXXII. On stereochemistry of synthesis, configuration and preferable conformations of stereoisomeric 2,3- and 2,4-dialkyloxetanes. *Zhurn. org. khimii*, N 1, p. 215, 1976.
A. V. Bogatsky, S. A. Petrash, A. I. Gren and Yu. Yu. Samitov. Stereochemistry of heterocycles. XL. Stereochemistry of synthesis of 2,3-dialkyl-oxetanes. *Khimia geterocikl. soedin.*, N 2, p. 164, 1976.
1977. A. V. Bogatsky and N. Ya. Golovenko. In: Voprosy stereokhimii, Kiev, *Vyscha shkola*, N 6, p. 3, 1977.
A. V. Bogatsky, G. L. Kamalov and N. G. Lukyanenko. Stereochemistry of heterocycles. XLVL. Electronodonor properties of substituted 1,3-dioxepanes. *Zhurn. org. khimii*, v. 13, N 11, p. 2437, 1977.
1978. A. V. Bogatsky, N. G. Lukyanenko and V. A. Shapkin. Synthesis of novel macrocyclic esters. *Dokl. AN USSR*, v. 242, N 3, p. 313, 1978.
1979. A. V. Bogatsky, N. G. Lukyanenko and V. N. Pastushok. Crown ethers immobilized on silochrome—a novel heterogeneous catalyst. *Dokl. AN USSR*, v. 247, N 7, p. 1153, 1979.
A. V. Bogatsky, A. I. Galatina and N. S. Novikova. Synthesis and properties of liquid crystalline compounds. I. Cholesteric ethers of some α -, β - and γ -halogensubstituted saturated acids. *Zhurn. org. khimii*, v. 15, N 12, p. 2582, 1979.

- A. V. Bogatsky, T. I. Davidenko, A. I. Gren and Yu. Yu. Samitov. Stereochemistry of heterocycles. L. Stereochemistry of synthesis, configuration and preferable conformations of stereoisomeric 4,5- and 2,2,4,5-alkylsubstituted 1,3-dithianes. *Zhurn. org. khimii*, v. 15, N 10, p. 2195, 1979.
1980. A. V. Bogatsky and N. G. Lukyanenko. Actual problems of the progress of chemistry of macrocyclic complexones and their analogs. *Visnyk AN UkrSSR*, N 4, p. 41, 1980.
- A. V. Bogatsky, N. G. Lukyanenko and T. I. Kirichenko. Macroheterocycles. III. Synthesis, properties and tautomeric transformations of macrocyclic thioureas. *Zhurn. org. khimii*, v. 16, N 6, p. 1301, 1980.
- A. V. Bogatsky, N. G. Lukyanenko, V. A. Shapkin, M. S. Salakhov and M. U. Mamina. Macroheterocycles. IV. Synthesis of macrocyclic esters and study of the extraction of alkaline and alkaline-earth ions. *Ibid.*, v. 16, N 10, p. 2057, 1980.
- A. V. Bogatsky, Z. I. Zhilina and N. I. Danilina. Roofed porphyrins. *Dokl. AN USSR*, v. 251, N 2, p. 361, 1980.
- A. V. Bogatsky. Contemporary state and perspective of the progress of macrocyclic chemistry. *Vestn. AN USSR*, N 2, p. 33, 1980.
- A. V. Bogatsky, N. G. Lukyanenko and T. I. Kirichenko. Macroheterocycles. I. The synthesis and tautomeric transformation of crown ethers containing thiourea moiety. *Tetrahedron Letters*, v. 21, N 3, p. 313, 1980.
- N. Yu. Nazarova, A. V. Bogatsky and P. K. Kintya. Membrane-active effect of steroidal glycosides from *Agave Americana* Leaves. *Planta medica*, v. 39, p. 252, 1980.
1981. S. T. Malinovsky, T. I. Kirichenko, Yu. A. Simonov, N. G. Lukyanenko and A. V. Bogatsky. Crystalline and molecular structure of hydroiodide of 2-methylthio- Δ^2 -6,9-dioxo-1,3-diazacycloundecene. *Dokl. AN USSR*, v. 256, N 4, p. 867, 1981.
- A. V. Bogatsky, N. G. Lukyanenko, Yu. A. Popkov, K. S. Zakharov and V. M. Varava. Macroheterocycles. VIII. Synthesis and complexing ability of tricarbonyl analogs of crown ethers. *Zhurn. org. khimii*, v. 17, N 5, p. 1062, 1981.
- N. G. Lukyanenko, A. V. Bogatsky, T. I. Kirichenko and S. V. Scherbakov. Macroheterocycles. X. Synthesis of novel crown compounds on the base of macrocyclic polyoxyethylthiureas. *Ibid.*, v. 17, N 6, p. 1279, 1981.
- N. G. Lukyanenko, A. V. Bogatsky and Yu. A. Popkov. Macroheterocycles. XII. Synthesis and properties of macrocyclic tetraamides. *Khimia geterocikl. soedin.*, N 8, p. 1132, 1981.
- A. V. Bogatsky, A. I. Galatina, L. G. Derkach and D. Taubert. Synthesis and properties of liquid crystals. III. Cholesteric ethers of cis-trans isomeric unsaturated acids. *Zhurn. organ. khimii*, v. 17, N 11, p. 2320, 1981.
- A. V. Bogatsky, A. I. Galatina and N. S. Novikova. Mesomorphogens. IV. Liquid Crystal Compounds based on Thiocholesterol. *Molec. Cryst. and Liquid Cryst.*, v. 66, p. 561, 1981.
1982. A. V. Bogatsky, N. S. Novikova, Yu. K. Yarovoy, N. L. Kramarenko and A. I. Galatina. Effect of halogen on the parameter of order of α , β and γ -halogen substituted cholesterine alkanoates. *Acta Phys. Polonica*, V. A62, N 5-6, p. 473, 1982.
- A. V. Bogatsky, N. A. Kramarenko, N. S. Novikova, A. I. Galatina and N. M. Shkabara. Effect of halogen on temperatural dependence of cholesteric pitch of halogensubstituted cholesterylalkanoates. *Dokl. AN USSR*, ser. B, N 9, p. 26, 1982.
- A. V. Bogatsky, Z. I. Zhilina, S. P. Krasnoschekaya and R. M. Zakharova. Porphyrins and their derivatives. I. Synthesis and properties of sterically screened porphyrins. *Zhurn. org. khimii*, v. 18, N 11, p. 2304, 1982.
- A. V. Bogatsky and Z. I. Zhilina. Sterically hindered porphyrins. *Uspekhi khimii*, v. 51, N 6, p. 1034, 1982.

- A. A. Dvorkin, Yu. A. Simonov, I. I. Malinowsky, S. A. Andronati, A. V. Bogatsky and V. V. Danilin. 8-Chloro-1-methyl-6-phenyl-1,2,3,4-tetrahydro-1,5-benzodiazochin-2-one. *Acta Crystal.*, **B38**, p. 638, 1982.
- Macroheterocycles. VI. Convenient Synthesis of Cyclic *N,N*-Dialkylureas. A. V. Bogatsky, N. G. Lukyanenko and T. I. Kirichenko. *Synthesis*, N 6, p. 464, 1982.
- A. V. Bogatsky. Progress in chemistry of synthetic macrocyclic complexones and their analogues. *Proc. Indian natn. Sci. Acad.*, **48A**, N 1, p. 65, 1982.
1983. O. S. Timofeyev, N. G. Lukyanenko, T. I. Kirichenko, V. S. Kalishevich, A. V. Bogatsky, A. I. Gren and Yu. S. Nekrasov. Ion-molecule reactions of thiourea macrocyclic derivatives with ions of acetylacetonates of some rare-earth elements in gaseous phase. *Inorganica Chim. Acta*, v. 77, p. 245, 1983.
- A. V. Bogatsky, N. G. Lukyanenko, V. N. Pastushok and R. G. Kostyanovsky. Macroheterocycles. XIV. A convenient synthesis of azacrown ethers derivatives via aminomethylation. *Synthesis*, N 12, p. 992, 1983.
1984. A. V. Bogatsky, N. G. Lukyanenko, V. N. Golubev, N. Yu. Nazarova, L. P. Karpenko and Yu. A. Popkov. Cation selectivity of liquid-membrane electrodes based on macrocyclic lactones and lactone-lactams. *Analit. Chim. Acta*, v. 157, p. 151, 1984.
- A. V. Bogatsky, N. G. Lukyanenko, A. V. Lobach, N. Yu. Nazarova and L. P. Karpenko. Macroheterocycles. XVIII. Synthesis of Binuclear Chiral Crown Ethers on the Base of *L*-Tartaric Acid. *Synthesis*, N 2, p. 139, 1984.
- A. V. Bogatsky, N. G. Lukyanenko, T. I. Kirichenko and V. V. Limich. Macroheterocycles. XIX. A Convenient Synthesis of *N*-Alkylated Thioureas. *Synthesis*, N 2, p. 136, 1984.
- N. G. Lukyanenko, A. V. Bogatsky, T. I. Kirichenko, S. V. Scherbakov and N. Yu. Nazarova. Macroheterocycles. XX. Synthesis of cryptands containing urea and thiourea moieties. *Synthesis*, N 2, p. 136, 1984.
- A. V. Bogatsky, N. G. Lukyanenko, S. S. Basok and L. K. Ostrovskaya. Macroheterocycles. XXI. The Transfer Synthesis of Azacrown Ethers. *Synthesis*, N 2, p. 138, 1984.