INSTRUCTIONS TO AUTHORS

1. GENERAL

1.1. The international Journal "Khimiya Geterotsiklicheskikh Soedinenii" is included in the databases of Chemical Abstract Science, Chemistry Database, SCOPUS, ISI WEB of Science, Chemweb, as well as in the list of journals recommended by VAK (Higher Certifying Commission, Russia). The Journal English translation "Chemistry of Heterocyclic Compounds" is published by Springer Science+Business Media, Inc. The on-line version is also available.

The Journal publishes original papers, letters to the editor, and reviews dealing with the problems of heterocyclic chemistry in Russian and English. The Journal also publishes reviews and annotations on new books as well as brief information on scientific congresses, symposia, conferences, etc. in the field of heterocyclic chemistry.

The Journal publishes works independently of authors' citizenship and institutions.

1.2. **Original papers** may concern synthesis, structure, reactions, and properties of heterocyclic compounds. Transformations of substituents in a heterocycle may be considered when their character is unique, due to a specific effect of the heterocyclic system.

1.3. Owing to the existence of many specialized journals, the Editorial Board limits publication of data dealing with the industrial technology of heterocyclic compounds, macromolecular chemistry, etc.

The materials published and those submitted for publication in other journals are not considered.

1.4. **Letters to the Editor** should contain principally new results requiring establishment and fixation of their priority. Tables and figures in letters are not recommended. Only those experimental data (obligatory elemental analyses) and references to the literature should be presented that are necessary for confirmation of the main conclusion. A preliminary account of particular experimental results in the form of Letters to the Editor is not acceptable.

1.5. The topic of a **review** should be submitted preliminarily for approval by the Editors in the form of a detailed (1–2 pages) annotation.

Reviews should cover topics that present sufficiently general interest for heterocyclic chemistry or reflect an important aspect of practical application of heterocyclic compounds in industry, agriculture, medicine, etc. Reviews that generalize long-term studies carried out by the author or a group of authors and deal with a topical trend in heterocyclic chemistry are acceptable. The Journal does not accept reviews concerning a simple listing of the literature data without their generalization and analysis.

1.6. Manuscripts should not exceed 30–35 typewritten pages for a review and 3 pages for a letter to the Editor. An original paper should not be longer than 15 typewritten pages.

Unreasonable division of the data dealing with the same question into several papers is not recommended. The Editors reserve the right to combine such materials.

The author is **fully responsible** for the reliability of experimental data presented in his paper.

2. FORMAT

2.1. The text of the paper should begin with the authors' initials and names followed by the title of the paper (**maximum information fully disclosing the essence of the work should be given**). When a publication is a serial communication, a footnote is added (to the ordinal number of communication) referring to the preceding

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paper. Serial communications are numbered by arabic numerals. If the topic of the series does not correspond to the Journal profile, its title should be given in a footnote, e.g., "Communication 9, series "Quinones"; for communication 8 see [1]."

The title of the paper should be followed by a brief abstract where the main results of the study are stated. The abstract should not contain codes of the compounds and experimental details. Then keywords are given (5–10) reflecting the general type of the compounds under study and the character of reactions. The text of the paper ends with a list of references and lower to the left – the full name(s) of institution(s) where the work was performed and its/their location(s) including postal address(es) and **e-mail address(es)**. If the paper is presented on behalf of several organizations, the authors' affiliation should be mentioned.

2.2. All tables and captions to figures are to be typed on separate sheets.

2.3. **Letters to the Editor** require no abstracts but should contain the title of the paper, keywords, the text, a list of references, the names of institutions where the work was carried out, their locations, postal addresses, **e-mail address(es)**, and, finally, the the authors' initials and names.

3. MANUSCRIPT REQUIREMENTS

3.1. All typed manuscripts must be submitted to the Editorial Board in **one** copy signed by all the authors. This is supplemented by a separate sheet containing information on the author to whom correspondence is to be sent, including his (her) official and home address, telephone, fax, and e-mail addresses.

3.2. The paper should be concisely written but thoroughly drawn up and edited. It should be easy to understand, and the results should be reproducible. It is not recommended to give literature data on the schemes of reaction in the Introduction.

The Editors reserve the right to condense any manuscript irrespective of its size.

3.3. Manuscripts should be typed **double space** (without corrections and inserts) on white paper of standard size (A4 format) with 4 cm margins on the left. A page should contain not more than 30 lines of 60–65 characters each. The text of the first page should begin 4 cm below the top of the sheet. Please use a **PC printer with large and legible type** (12–13 pt size); a dot-matrix-printed draft is not acceptable.

3.4. Together with the typed text the authors should present to the Editors or to one of the regional Editors the text of the paper in the form of text and graphical files on IBM-compatible diskette or send the text by e-mail as files, which must be named using **Roman letters only** and allow easy identification avoiding names of such a type as *article*, *paper*, *table*, *pyridine*, *stat, hgs*. The texts should preferably be in ASCII codes or RTF format using word processors such as Microsoft Word for Windows.

Chemical formulas should be written using **ISIS Draw**, font Times New Roman, type size 9, bond length 0.5 cm. Formulas should be incorporated in the text, the scheme width being no greater than 12.5 cm. Cumbersome schemes (12.5 × 22.5 or 22.5 × 12.5 cm) may be presented on separate sheets.

The use of the following programs is not allowed: Paint Brush from Windows or Paint from Windows 95, Microsoft Draw (which comes with Microsoft Word), and Microsoft Graph (which comes together with Microsoft Word).

3.5. All pages of the manuscript including a list of all references, tables, and figure captions should be numbered. Equations, schemes, tables, and figures are numbered strictly in the order of their mention in the text. Each table should have a caption and be typed on a separate page, and its location in the text should be indicated in the margin. **Data should not be repeated in text, tables, and figures.**

3.6. Abbreviations other than those given below (see 3.12, 3.13) should not be used in the text and in columns and headings of tables. The values mentioned in columns should be identified in the headings, and a comma is used to separate the quantity from its unit of measure (e.g., "Yield, %").

3.7. The number of figures should be kept to a minimum. The size of a figure should allow one to see it in detail (minimum size is 9.0 × 12.0, maximum size is 12.0 × 22.5 or 22.5 × 12.0 cm). Figures and figure captions should be enclosed separately in one copy; xero copies of photos are not allowed. On the back of each figure

the authors' names, the number of the figure, and the number of the corresponding page in the manuscript must be written, and in the manuscript text on margins – the place of the corresponding figure. Whenever possible, use numbers, instead of labels, to identify items in a figure, and give the corresponding explanation of these numbers in the figure caption.

It is not advisable to present as figures data that can be concisely reflected in tables or within the text. Figures of neccessary spectra should not be handwritten.

For figures drawn using a computer, the corresponding graphic files should be included in .jpg format.

Only black-white figures are accepted.

3.8. Chemical as well as physical and mathematical symbols used in the text should be entered into the computer file or clearly handwritten with black ink or Indian ink. Cumbersome mathematical designations should be avoided. **Only those formulas and equations to which references in the text are given should be numbered**.

In handwritten equations subscript and superscript indices should be noted by arcs below or above. Special attention should be paid to the differences in the Russian, Roman, and Greek alphabets, in capital and small letters. Greek letters should be underlined by a red pencil, Roman capital letters – to be underlined by a simple pencil by two lines below, small letters – by two lines above. Mathematical symbols should be marked by a square bracket below. *Italics are underlined by a wavy line with a pencil.* The difference between O and 0 (zero is not underlined) should be also shown. Similar letters must be written carefully.

3.9. For chemical compounds that are described for the first time or are the main objects of the study, **the full name according to IUPAC rules** should be given along with the formulas. Compounds repeatedly mentioned in the text should be encoded with numbers; chemical terms should be replaced by their abbreviations typed in capital letters. **The formulas of compounds mentioned several times are normally coded with Arabic numerals.** When a full name of a compound is mentioned for the first time, its numerical designation is given in parentheses. Codes without a generalizing word should not be used (for example, "the reaction of compound **2**" – not "the reaction of **2**". When combining numeral codes with letter indices, Roman letters have to be used. Related compounds are marked by the same number, e.g., RX (**2**), the corresponding number with a letter index being used for derivatives containing various substituents, for example, alcohol X = OH (**2a**), acetate X = OAc (**2b**), tosylate X = OTs (**2c**). The numbers of compounds should be given thoroughly in the order of their mention. Stereochemical and structural symbols characterizing structural peculiarities or the substituent position in a molecule are composed in *Italic* or underlined in the manuscript with a wave-like line: "*R*-enantiomer," "*tert*-butyl," "*p*-xylene." Structural formulas for chemical compounds are to be drawn with maximum clarity. Cumbersome names of simple compounds should be replaced by their chemical formulas, e.g., NaBr should be used instead of "sodium bromide." The oxidation numbers of elements with their names should be typed in small caps and enclosed in parentheses (iron(II)) and the oxidation numbers with the symbols of elements are given in line (Fe II).

3.10. In the Experimental, it is necessary to note the types of instruments used for obtaining physicochemical characteristics of compounds; either **the sources of the nontrivial reagents used** should be specified (e.g., "commercial preparations, name of the company") or **references for their synthesis** should be given. Procedures used **for the additional treatment** of reagents and solvents should be described (or references to the corresponding publications should be given). **Adequate evidence of the structure** attributed to **newly synthesized compounds** described in the Experimental and data confirming the **identity and degree of purity** of these compounds should be presented. Particularly, **the data of elemental analysis or high-resolution mass spectra** are to be presented for all compounds synthesized for the first time. Literature data for known compounds should be presented only in cases of substantial discrepancies of found values with those in the literature. **The decimal digits in numbers should be separated by a period.** In molecular formulas, elements should be arranged according to the *Chemical Abstracts* system: C, H, and then all other elements in Roman alphabetical order. Formulas of molecular adducts and onium salts are given with raised dots (e.g., $C_6H_{12}N_2 \cdot 2HCl$).

The weight of a reagent introduced into a reaction is accompanied by its molar quantity, e.g., ...2-ethynylpyridine (0.103 g, 1 mmol).

The Experimental should be written in the present tense (is boiled, dried, etc.). The procedure of the text should not begin with a figure. Vulgarisms should be avoided. ("isopropyl alcohol" or "2-propanol" should be written instead of "isopropanol"). If possible, unnecessary words and unnecessary experimental details should also be omitted. So the phrase "is refluxed at a temperature of 100°C for 6 h" should look like "is refluxed at 100°C for 6 h".

Physical constants and spectral characteristics are recommended to be tabulated. For separate compounds these data are presented in the Experimental according to the following format: mp 16–17.5°C (from pentane), bp 127–128°C (10 mm Hg), n_D^{20} 1.5126, d_4^{20} 0.8534; R_f 0.45 (Silufol UV-254, alcohol–ether, 5:1).

UV spectrum (EtOH), λ_{max} (log ε): 250 nm (2.8); or λ_{max} (ε): 250 nm (631).

IR spectrum (thin layer), ν, cm^{-1}: 1650 (C=N), 3200–3440 (O–H).

^{1}H NMR spectrum. ^{1}H NMR spectrum (90 MHz, $CDCl_3$), δ, ppm (*J*, Hz): 1.75 (3H, s, 3-CH_3); 3.31–4.00 (8H, m, 4CH_2 morpholine); 3.80, 4.00 (2H, two d, AB-system, ^2J = 18, SO_2CH_2); 4.88 (1H, br.s, H-6; 5.31 (1H, d, ^3J = 1.0, H-7).

The device working frequency for the nuclei studied and the standard used should be stated. If the standard in ^{1}H and ^{13}C NMR is not TMS, the chemical shift of the standard used should be noted in δ scale. The abbreviation PMR is not recommended to designate ^{1}H NMR. The protons in the complex groups to which a signal relates should be underlined below.

For proton designation it is proposed to use in the paper the designations of the type H-3. Protons in the complex groups, to which a signal relates, should be underlined below [3.17–3.55 (4H, m, N($C\underline{H}_2CH_3)_2$)]. It is necessary to mark substituents as 3-CH_3; to mark positions of atoms: C-3, N-4, etc.

Chemical shifts in the ^{1}H and ^{13}C NMR spectra (obtained on devices with frequency below 400 (100 MHz for ^{13}C) should be given with an accuracy to hundredths; spin coupling constants measured on such devices are cited with an accuracy to not more than tenths.

If a signal in the spectrum is described as doublet, triplet, etc. (rather than a singlet or a multiplet), it is necessary to present the corresponding number of spin-spin coupling constants (one for a doublet, a triplet, two for a doublet of doublets and a doublet of triplets).

Mark the multiplicity of signals with letters without periods: s – singlet, d – doublet, q – quadruplet, qu – quintet.

Lower indices indicating which protons are interacting with each other in spin-spin coupling constants should be separated by a comma ($J_{5,6}$).

Mass spectra should be presented as numerical *m* /*z* values and relative ion currents either as plain text or as a table. The ionization method used, ionization energy, mass numbers of characteristic ions, genesis of these ions, and the intensity with respect to the major ion should be given.

Examples:

Mass spectrum (EI, 70 eV), *m*/*z* (I_{rel} ,%): 386 $[M]^+$ (36), 368 $[M - H_2O]^+$ (100), 353 $[M - H_2O - Me]^+$ (23), etc.

Mass spectrum (CI, 200 eV), *m*/*z* (I_{rel} ,%): 387 $[M+H]^+$ (100), 369 $[M +H – H_2O]^+$ (23), etc.

In papers devoted to mass spectrometry, mass spectra should correspond to the form recommended by *Org. Mass Spectrom.,* **14**, 1 (1979).

An example for the data of high-resolution mass-spectrum: Found: *m*/*z* 292.1684 $[M]^+$. $C_{17}H_{24}O_4$. Calculated: M = 292.1675.

An example for the data of elemental analysis: Found, %: C 55.42; H 5.60. $C_{17}H_{20}O_9$. Calculated, %: C 55.43; H 5.47.

The literature data for earlier prepared substances should not be mentioned without a special necessity; a reference to the original source is sufficient.

3.11. **The data of X-ray analysis** should be presented as a molecule chart (figure) with numbered atoms or crystall package as well as tables containing the required geometric characteristics of molecules (the basic bond lengths, valence (ω) and torsion (τ or θ) angles) (the atom number is given in parenthesis on line C(2), N(5), etc.) and crystallographic data (solvent for the crystal growth, elementary cell the parameters; for triclinic crystals, give the values of α, β, γ, space group, the final factor of consumption (*R*-factor), Bragg's maximum angle (or $\theta_{max.}$), survey temperature, irradiation type, the number of reflections used, etc.). The Journal will not publish full tables of atomic coordinates and temperature factors.

It is desirable to give a reference to the deposit in the Cambridge structural data bank and give the corresponding reference; otherwise the authors should be ready to present not found data on readers' requests.

3.12. Standard physicochemical methods and related terms as well as common reagents are designated by generally accepted capital letters.

All nontrivial terms and abbreviations must be explained when mentioned for the first time.

The following common abbreviations should be used: μ - microgram; mg - milligram; g - gram; nm - nanometer; μm - micrometer; mm - millimeter; cm - centimeter; ml - milliliter; °C - degree centigrade; K - Kelvin scale; J - joule; kJ - kilojoule; A - ampere; mA - milliampere; V - volt; mV - millivolt; Hz - hertz; MHz - megahertz; W - watt; mol - mole; mmol - millimole; mol/l - molar concentration; 1N - one-normal (solution); M - molecular mass; eq. - equivalent; mp and bp - melting point and boiling point (before numerals and in headings of tables); h - hour; min - minute; s - second.

Abbreviations of the words "secondary" and "tertiary" as well as abbreviations of prefixes *ortho*-, *meta*-, *para*-., etc. should be written in formulas with Roman letters: as *s*-, *t*-, *o*-, *m*-, *p*-, *i*-, *cis*-, *trans*-.

3.13. The following abbreviations may be used:

Solvents: AcOH - acetic acid; Ac_2O - acetic anhydride; AcOEt (or EtOAc) - ethyl acetate; BuOH - butyl alcohol; *s*-BuOH - *sec*-butyl alcohol; *t*-BuOH - *tert*-butyl alcohol; DMF - dimethylformamide; DMSO - dimethyl sulfoxide; EtOH - ethyl alcohol; Et_2O - diethyl ether; MeOH - methyl alcohol; Me_2CO - acetone; MeCN - acetonitrile; PhOH - phenol; PhCl - chlorobenzene; PhMe - toluene; *i*-PrOH - isopropyl alcohol; THF - tetrahydrofuran, etc.

Reagents, radicals, ligands, protecting groups: Ac - acetyl; acac - acetylacetonate; Ad - adamantyl; Alk - alkyl; All - allyl; Ar - aryl; Bn - benzyl ($PhCH_2$); Bu - butyl (*s*-Bu, *i*-Bu, *t*-Bu, respectively), Bz - benzoyl (PhCO); Cbm - carbamoyl; Cp - cyclopentadienyl; en - ethylenediamine (as ligand only); Et - ethyl; Hacac - acetylacetone; Hal - halogen; Het - hetaryl; Me - methyl; Mes - mesityl (1,3,5-trimethylphenyl); Ph - phenyl; Pr - propyl; *i*-Pr - isopropyl; Py - pyridine; Tf - trifluoromethanesulfonyl; Ts - *p*-toluenesulfonyl (tosyl); Vin - vinyl as well as common designations for amino acids, carbohydrates, and protecting groups.

3.14. Reference citations in the text should be given in square brackets; the numbering of references in the list should correspond to the order in which they are mentioned in the text.

References to unpublished results and private communications may be given only as footnotes but should be neither mentioned in the reference list nor numbered. The only exceptions may be papers by the authors previously sent to *Khimiya Geterotsiklicheskikh Soedinenii* (*Chemistry of Heterocyclic Compounds*) but not yet published. These may be included in the reference list with full title of the paper mentioned.

3.15. The list of references should be on a separate sheet and should include the names and initials of **all authors** ("*et al.*" is not allowed). Only **one** source should be noted under **one** reference number. The conventional abbreviations for the titles of journals and handbooks should correspond to those used in *Chemical Abstracts*. The reference section should be written as follows:

Books

A. F. Pozharskii, *Theoretical Fundamentals of the Chemistry of Heterocyclic Compounds* [in Russian], Khimiya, Moscow, 1985.

Comprehensive Organic Chemistry, D. Barton, W. D. Ollis (Eds.), [Russian translation], Khimiya, Moscow, 1985, Vol. 9, p.45.

A. R. Katritzky, A. F. Pozharskii, *Handbook of Heterocyclic Chemistry*, Pergamon, Amsterdam, etc., 2000.

A specific page or chapter should be indicated when discussing particular topics.

Papers in Collections and Handbooks

A. K. Sarkar, in: *Rodd's Chemistry of Carbon Compounds*, S. Coffey (Ed.), Elsevier Science Publishers Co, Amsterdam, 1974, Vol. IIIb, p. 236.

H. Glaser, in: *Houben-Weil Methoden der Organischen Chemie*, Georg Thieme Verlag, Stuttgart, 1957, B. XI, Teil 1, S.108.

Journals

For journals with through volume or annual pagination, the issue number is not noted.

O. Neilands, *Khim*. *Geterotsikl*. *Soed*., 1763 (2003).

N. S. Zefirov, *Dokl. Akad. Nauk,* **252**, 111 (1980).

E. Lukevics, N. P. Erchak, L. E. Demicheva, *Khim*.*-Farm*. *Zh.*, **26**, No. 1, 45 (1992).

V. Yu. Kotov, A. B. Nikol'skii, A. M. Popov, *Vestn*. *Leningrad Univ*., **25**, issue 4, 39 (1985).

R. Maroni, G. Melloni, G. Modena, *J. Chem*. *Soc*. *Perkin Trans*. *1*, 353 (1974).

T. Sato, *Yakugaku zasshi*, **77,** 771 (1957); *Chem*. *Abstr*., **51**, 17941 (1957).

Abstracts of Papers

A. Yu. Egorova, in: *Oxygen and Sulfur-containing Heterocycles*, V. G. Kartsev (Ed.), IBS PRESS, Moscow, 2003, Vol. 2, p.80.

L. Brandsma, B. A. Trofimov, N. A. Nedolya, A. Malkina, in: *Abstracts of the 17th International Symposium on the Organic Chemistry of Sulfur*, Tsukuba, Japan, 1996, p. 233.

Author's Certificates, Patents

O. E Nasakin, E. G. Nikolaev, USSR Inventor's Certif. 1168554; *Byul. Izobret*., No. 27, 90 (1985) (in Russian).

J. E. Dunbar, J. W. Zemba, US Pat. 3764608; *Chem*. *Abstr*., **80**, 14852 (1974).

Internet websites may be given for patents.

Theses

D. A. Maiboroda, Abstract of Diss. Cand. Sci. (Chem.), Moscow, 1998.

L. A Rodinovskaya, Theses Dr. Sci. (Chem.), Moscow, 1994.

Manuscripts that do not follow the above rules will not be accepted.

4. THE PUBLISHING PROCESS

4.1. If required, manuscripts are sent to the authors for checking and corrections and/or proofs. **Manuscripts retained for correction for more than two months or those requiring another revision will be considered as new manuscripts.** The date when a manuscript was received by the Editorial Board and the date when the manuscript was accepted for publication after revision are indicated at the end of the paper.

Upon receipt of the proof, a thorough checking of figures and captures, formulas, equations, and all numeral data is recommended. References should be checked against the original publications. A manuscript sent to the authors for revision should be returned in the revised form (in one copy). The revised manuscript

should be accompanied by a letter from the authors containing responses to all remarks and comments and explaining all introduced alterations. It is necessary to present (on diskette or by e-mail) a file with the revised manuscript.

In the case of delay of receipt of the proof from the author, the Editors reserve the right to publish the paper without the author's corrections.

5. SENDING OF MANUSCRIPTS

Sending to the Editors of papers already published or already sent for publication to other Editorial Boards is not allowed.

Manuscripts for publication should be sent to
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http:/www.osi.lv/hgs/hgs.html

http://www.springer.com/chemistry/organic/journal/10593