INSTRUCTIONS TO AUTHORS

1. GENERAL

1.1. The international journal "Khimiya Geterotsiklicheskikh Soedinenii" ("Chemistry of Heterocyclic Compounds") publishes original papers, letters to the editor, and reviews dealing with 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 citizenship and institution of authors.

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 peculiar, due to a specific effect of the heterocyclic system.

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

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

1.4. Letters to the editor should contain principally new data of urgent interest. Tables and figures in letters are not recommended. Only those experimental data and references should be presented that are necessary for confirmation of the main conclusion. A preliminary account of particular experimental results in the form of a letter to the editor is not acceptable.

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

Reviews should cover topics that are general enough for heterocyclic chemistry or reflect an important aspect of practical application of heterocyclic compounds (in industry, agriculture, medicine, etc.). Reviews that generalize studies carried out by the author or a group of authors during a long period of time and dealing with a topical trend in heterocyclic chemistry are acceptable. The Journal do not accept reviews not involving analysis of the material.

1.6. Manuscripts should not exceed 30–35 typewritten pages for a review and 2 pages for a letter to the editor. An original paper should be not longer than 15 typewritten pages.

Unreasonable division of 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 initials and names of the authors, 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 referring the reader to the preceding 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 in the series "Quinones"; for communication 8, see Ref. 1.

The title of the paper should be followed by a brief abstract where the main results of the study are stated. Then keywords are given. The text of the paper ends with the references list, followed by the full name(s) of institution(s) and its/their location(s) including postal address(es) and e-mail address(es). If the paper is present on behalf of several organizations, 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 reference list, the names of institutions with their locations, postal addresses, e-mail addresses, and, finally the initials and names of the authors.

3. MANUSCRIPT REQUIREMENTS

3.1. All manuscripts must be submitted to the editorial office in duplicate signed by all the authors. They are supplemented by separate sheets containing information on the author to whom correspondence is to be sent, including his (her) official address, 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.

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, 210×297 mm) with 4 cm margins on the left. A page should contain no 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. Headings should not be underlined or typed in capital letters. Please use a PC printer with large and legible type (12–13 pt size); a dot-matrix-printed draft is not acceptable.

3.4. In order to accelerate the publishing of papers and to avoid repetition of operations, the authors are encouraged to submit a copy of the manuscripts as IBM-compatible computer files on diskettes with texts preferably 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 PaintBrush from Windows or Paint from Windows 95 and Microsoft Draw (which comes with Microsoft Word) is not allowed.

The use of Microsoft Graph (which comes together with Microsoft Word) is not recommended.

The text can also be send by e-mail to hgs@osi.lv, preferably as files in MIME codes. The files should be named using Roman letters only and allow easy identification (names such as article, paper, table, etc. should be avoided).

3.5. All pages of the manuscript and 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 3.11) 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 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 duplicate, xero copies of photos being 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 (using lead pencil). 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 expressed 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.

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

3.9. For chemical compounds that are described for the first time or are the main objects of the study, **full systematic names 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 replaced by Arabic numerals.** When a full name of a compound is mentioned for the first time its numerical designations is given in parentheses, then without parentheses. Numeral codes may be combined with letter indices. 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 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. 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 as superscripts (Fe^{II}).

3.10. In the Experimental, it is necessary to note 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") or **references for their synthesis** should be given. Procedures used **for the additional treatment** of reagents and solvents should be described (or references to corresponding publications should be given). **Adequate evidence of the structure** attributed to **newly syhthesized compounds** described the Experimental and data confirming the **identity and degree of purity** of these compounds should be presented. Data of **elemental analysis or high-resolution mass spectra** are to be presented (in the Experimental or in tables) 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 the point.** In molecular formulas, elements should be arranged according to the Chemical Abstracts system: C, H, and then all other elements in alphabetical order. Formulas of molecular adducts and onium salts are given with raised dots, e.g., $C_6H_{12}N_2 \cdot 2HCl$.

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

Physical constants and spectral characteristics should 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, ethanol–ether, 5:1).

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

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

^1H NMR (acetone-d_6): 7.35 (1H, δ, J = 6.7 Hz, CH=N), 6.3 (1H, m, CH=C), 1.05 ppm (9H, s, *t*-Bu).

The device working frequency for the nuclei studied and the standard used should be stated. If the standard in ^1H and ^{13}C NMR is not TMS the chemical shift of the standard used (in δ scale) should be noted. The PMR abbreviation is not recommended to designate NMR ^1H. One of the following proton designation is proposed and subsequently used in the paper: H-3, H(3), C(3)H or $C_{(3)}H$. Protons in the complex groups, to which signal relates, should be underlined below. Chemical shifts in the NMR ^1H and ^{13}C (obtained on the devices with the frequency below 400 (100 MHz for ^{13}C) should be given with an accuracy to one tenth and hundredth; spin coupling constants being measured on such devices are cited with an accuracy to not more than one tenth.

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

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:

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

MS (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.

3.11. The data of X-ray analysis should be presented as a molecule chart (figure) with numbered atoms or crystalline package as well as tables containing the required geometric characteristics of molecules (the basic bond lengths, bond and torsion angles) and crystallographic data (elementary cell parameters, space groups, *etc*.). The Journal will not publish full tables of atomic coordinates and temperature factors. It is desirable to give a reference for the deposit in the Cambridge bank of structural data; 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 English abbreviations. 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 words secondary and tertiary should be written before names as *sec*- and *tert*- while before formulas as *s*- and *t*-. Abbreviations of prefixes *ortho*-, *meta*-, *para*- *etc*. should be written as *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. Only one source should be noted under one reference number. The abbreviations for the titles of journals and handbooks should correspond to those used in Referativnyi Zhurnal Khimiya (Chemistry Journal of Abstracts) or to the style of Kluwer Academic/Plenum Publishers (available from the editorial office).

References to unpublished results and private communications may be given only as footnotes but should neither mentioned in the reference list nor numbered. The only exceptions are papers of the authors previously sent in *Khimiya Geterotsiklicheskikh Soedinenii* but yet not 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). The references are given in the Latin transcription (see *Chem. Abstr.*). The reference section should be written as follows:

Books:

A. F. Pozharskii, A. T. Soldatenkov, and A. R. Katritzky, *Heterocycles in Life and Science*, J. Wiley a. Sons, Chichester, etc., 1997.

L. M. Yagupol'skii, *Aromatic and Heterocyclic compounds with Fluorine-Containing Substituents* [in Russian], Naukova Dumka, Kiev, 1988.

In discussing particular problems, concrete pages or chapters should be cited.

Papers in Collections and Handbooks:

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

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

Journals:

For journals with through volume or annual pagination, the issue number may not be 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:

Kh. M. Minachev, V. I. Avaev, E. S. Shpiro, M. A. Ryashentseva, G. V. Antoshin, in *Nanesennye metallicheskie katalizatory prevrashcheniya uglevodorodov. Tezisy Vsesoyuz. Soveshch.,* Nauka, Novosibirsk, 1978, 131.

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

Author's sertificates, Patents:

O. E Nasakin., E. G. Nikolaev, USSR Author'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).

Theses:

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

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

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

4. THE PUBLISHING PROCESS

4.1. If required, manuscripts and/or proofs are sent to the authors for checking before publication. **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 office 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 duplicate) together with the original version containing editor's remarks. The revised manuscript should be added by a letter of the authors containing requests on all remarks and comments and interpreting all introduced alterations. It is necessary to present (on diskette or by e-mail) a file with revised manuscript. **In the case of delay of receipt of the proof from the author, the Editors reserve the right to print the paper without the author's corrections.**

5. SENDING OF MANUSCRIPTS

Manuscripts for publication should be sent to **the Editorial office of the Journal Khimiya Geterotsiklicheskikh Soedinenii**, Latvian Institute of Organic Synthesis, Aizkraukles, 21, Riga LV-1006, Latvia.

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e-mail: hgs@osi.lv

For speed of publication, authors (especially those from the CIS countries) are advised to send the manuscripts to any of the Regional Editors and to correspond directly with them:

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http:/www.osi.lv/hgs/hgs.html