

100 Jahr-Feier der Berner Chemischen Gesellschaft

EDITORIAL

Am 22./23. Februar 1991 feiert die *Berner Chemische Gesellschaft* (laut Statuten: «mit Sitz in Bern ein am 22. Dezember 1890 gegründeter Verein») ihr 100jähriges Bestehen. Aus Anlass dieses Jubiläums stellen die Berner Kolleginnen und Kollegen in 17 Kurzmitteilungen aktuelle Ergebnisse der «Chemie in Bern» vor. Die meisten dieser Beiträge stammen aus den Chemischen Instituten der Universität.

Die Berner Chemieschule weist eine lange, bis in das Jahr 1810 zurückreichende Tradition auf (vgl. dazu den Artikel von *H. Nitschmann*: «Die Chemischen Institute der Universität Bern – Gestern und Heute», *Chimia* 1978, 32, 20). Sie hat heute 28 Forschungsgruppen (vgl. «*Department of Chemistry, University of Berne, Directory of Graduate Research 1990*») und etwa 150 Diplomanden, Doktoranden und Postdoktoranden.

Wir wünschen unseren Berner Kolleginnen und Kollegen weiterhin Erfolg.



Camille Ganter
(Redaktor/Editor der CHIMIA)

Instructions to Authors

1. General

CHIMIA, a scientific journal for chemistry in the broadest sense, covers the interests of a wide and diverse readership. Contributions from all fields of chemistry and related areas are considered for publication in the form of *review articles* and *short communications* under the headings of Editorial, Research, Technology/Applied Chemistry, Columna, Information, and CHIMIA Report. Membership in the Association of Swiss Chemists (ASC), publisher of CHIMIA, or in one of the organizations named in the masthead (impressum), is not a prerequisite for the acceptance of a manuscript. The decision to accept a contribution rests with the Editorial Committee of CHIMIA. Copyright laws apply and no payment will be made for contributions.

2. Forwarding Address

Manuscripts should be submitted in *triplicate* (original and two copies) together with a transmittal letter signed by the author to whom correspondence should be addressed to:

CHIMIA
Prof. C. Ganter
Laboratorium für Organische Chemie
ETH-Zentrum
CH 8092 Zürich
Switzerland

Correspondence concerning submitted manuscripts should be mailed to the same address, quoting the manuscript reference number.

3. Types of Manuscripts

The authors should consider the fact that the heterogeneous readership of CHIMIA, although trained in fundamentals, may not have extended knowledge of specialized topics.

3.1. *Review Articles*. Preference will be given to creative reviews that are timely, critical and comprehensive. For clarity, divisions and subdivisions should be used like 1. ... 1.1. ... 1.1.1. ... with appropriate titles. A short scientific portrait of the author is also requested (text and photo).

3.2. *Short Communications*. Only contributions that have not been (except in the form of an abstract or a brief preliminary remark) and are not to be published elsewhere will be considered. For clarity, they should be subdivided into labeled sections e.g. **Introduction, Results, Discussion, Experimental**.

4. Preparation of Manuscripts

4.1. *General Considerations*. Manuscripts may be submitted in German, French, or English. They must be typewritten, double-spaced, on substantial paper of A4 or similar format. Authors are requested to reserve margins of at least 3 cm at the top and bottom of each page and at least 4 cm on the left-hand side. Copies made by a clearly legible duplication process are preferred.

Pages should be numbered consecutively beginning with the title page. References, tables, figure legends, formula collections, schemes, and figures must be grouped together in this order at the end of the manuscript and numbered accordingly. Original drawings of formulae, schemes, and figures should be furnished together with the manuscript.

Special types of print should be indicated as follows:

Specification of Typeface

Type	Mark	Symbol	Example	Example (printed)
Boldface ^{a)}	Single underline	—	Introduction	Introduction
Italic ^{b)}	Wave-like underline	~~~~~	<i>in vitro</i>	<i>in vitro</i>
Small capital ^{c)}	Double underline	====	0.5M	0.5M
Boldface italic ^{d)}	Underline with wavy line	~~~~~	R	R

^{a)} Headings, designated numbers of chemical compounds.

^{b)} Subheadings, configurational prefixes (*(R)*-, *(S)*-, *cis*-, *trans*-, etc.), Latin words or abbreviations, words in languages other than English, trade names of chemical compounds (first letter should be capitalized), names of authors if mentioned in the text.

^{c)} Symbols of molar and normal concentrations (M and N), D- and L-, the names or initials of the nomenclature of genera, species, or varieties.

^{d)} The italicized terms and prefixes in headings.

Special characters not available on a typewriter should be clearly indicated in ink and explained unambiguously in the margin on their first appearance.

4.2. *Title Page*. A current issue of CHIMIA should be consulted.

Attention is drawn to the following points:

a) The title of a manuscript should reflect concisely the purpose and findings of the work in order to provide maximal information for a

computerized title search. Abbreviations, symbols, chemical formulae, references, and footnotes should be avoided. First letters of nouns and adjectives are capitalized.

b) The authors' full first names, middle initials, and last names should be given, followed by the address (or addresses) of the contributing laboratory (laboratories). The author to whom correspondence and/or inquiries should be directed should be indicated by an asterisk (*).

The complete address, including phone number (telex number if any), of the correspondence author should also be given.

4.3. *Abstract*. The second page of the manuscript should be reserved for a summary in English, independent of the language of the main text. If this is German or French, the summary should be preceded by an English translation of the title. The summary should be self-explanatory and intelligible without reference to the text and should not exceed 200 words for manuscripts in English.

4.4. *References and Footnotes* should be numbered sequentially in the order they are cited in the text. The numbers should be set in brackets, thus [2] or [3] [14]. References and footnotes typed with double spacing are to be collected in numerical order at the end of the main text. Titles of journals must be abbreviated according to Chemical Abstracts (cf. Chemical Abstracts Service Source Index (CASSI)).

Attention is drawn to the following conventions:

a) Names of all authors of cited publications should be given. Use of 'et al.' in the list of references is not acceptable.

b) Only the initials of first and middle names should be given.

c) The name of the journal and volume number cited should be underscored with a wavy line (italics).

d) Whenever possible, composite references should be used, instead of a series of individual ones. The abbreviation 'ibid.' may only be used within such a composite reference.

e) In references described as 'personal communications', an affiliation should follow the name(s) of the person(s).

In the text, reference to author(s) of cited works should be made without giving initials, e.g. '... as shown by Jones and Smith [7]'. If the reference carries the names of three or more authors it should be quoted as '... Smith et al. [3]', if Smith is the first author, or as 'Jones and coworkers [3]', if Jones is the senior author.

4.5. *Tables*. Tables should be used only in case they will present information more effectively than running text. Numbered tables with suitable captions at the top should be typed on separate sheets and placed after the references. Each table must be referred to in the text. Column headings should be as short as possible but must define units unambiguously. When necessary, an abbreviated or symbolic column heading should be used and explained in the table-heading or in a footnote. Footnotes to tables should be labeled a), b), c), etc., and typed at the bottom of the table.

4.6. *Structural Formulae, Schemes, and Figures*. Line drawings or sharp glossy photographs (no Xerox or similar copies) of the figures and structural formulae should be submitted

with the manuscript. Copies must be included with each copy of the manuscript. Original drawings of standard size A4 are preferred. In any case drawings should not exceed the standard size A3 (about 30 × 40 cm) and must contain all necessary symbols and lettering, i.e. they must be usable without additional art work by the CHIMIA printers.

Line thickness, line spacings, and size of lettering should be planned for optimal reproduction

(cf. Appendix I). Computer-plotted drawings must satisfy the same criteria.

Original drawings or photographs should be identified with the author's name and numbered to agree with the figure legends.

Structural formulae will not be type-set and must, therefore, be provided by the authors ready for reproduction. They should be combined in suitable schemes to reduce the cost of block-cutting. In general, only displayed formulae should be given key numbers; compounds mentioned only in the text should be referred to by name.

For authors using the *ChemDraw* program, the following preference items are recommended: fixed length, 25 pt; line width, 1 pt; bold width, 3 pt. Single-width bold and dashed lines are preferred for stereochemical notation; 14-pt *Helvetica* font should be used for text material, and 12-pt *Helvetica* font for atom labels. Drawings should be prepared with the page setup at 70% and printed in this manner with a laser printer on a good quality white paper.

4.7. *Chemical Equations and Physical or Mathematical Expressions*. Chemical equations and physical or mathematical expressions should be numbered sequentially on the right-hand side with arabic numerals in parentheses. Physical quantities and variables that have to be defined in the text should be written in *italics* (wavy line). It is recommended to use the symbols proposed by IUPAC (cf. *Pure Appl. Chem.* 1979, 51, 1).

Fractional expressions should be written using a slant, e.g. $h\nu/kT$.

5. Nomenclature

All new compounds should be named in accordance with IUPAC rules. As an additional guideline the *Index Guide of Chemical Abstracts* should be consulted. Some special conventions peculiar to CHIMIA are:

For common solvents, reagents, or other compounds, the molecular formulae or accepted abbreviations may be used: e.g. CHCl₃, NaCl, SOCl₂, CH₃OH (or MeOH), DMF, DMSO, THF, Py.

Different alkyl or arylalkyl radicals should be designated by superscripts: R¹, R², R³ etc. (Subscripts denote the number of radicals.) Aryl radicals should be designated by Ar¹, Ar², etc., all others by X, Y, etc. (e.g. X = O, Y = NH₂, Z = Br).

Individual atoms should be referred to as C(2), N(5) (not C-2 and N-5), etc. For 'hydrogen atom attached to carbon atom 4', etc., CHIMIA prefers the notation H-C(4).

An *ad hoc* abbreviation may be used for a name or formula that occurs repeatedly. This

has to be clearly defined, e.g. THC = tetrahydrocannabinol.

Some symbols and abbreviations are listed in Appendix II.

6. Units and Their Symbols

SI units are to be used, especially in contributions dealing with physical chemistry. However, some non-SI units are acceptable, e.g. ml, min, h, d, Hz, g, mg, bar, Torr, eV, °C.

7. Proofs and Corrections

Authors will be provided with two sets of proofs, one of which should be returned to the editor within the indicated deadline.

Corrections of errors other than those due to the printers or editors will be charged. Standard correction marks should be used.

Together with the proofs the authors will receive a form for key words. The completed form must be returned with the proofs.

Key-words are entries in the annual subject index. Well-chosen key-words will help a reader to find articles of potential interest. Key-words should consist of not more than three words. Very general words or phrases (e.g. organic compounds, synthesis, instability, color, etc.) are clearly unsuitable as key-words.

Appendix I. Line Thickness and Size of Lettering for Original Drawings

The thinnest lines in a printed figure or formula should not be narrower than 0.15 mm. The following table will serve as a guide in preparing original drawings.

Line thickness required [mm]

Format of original drawing [cm × cm]	Main part of drawing	Emphasized lines	Secondary lines
7.5 × 10.5	0.3-0.5	0.5-0.9	0.25-0.3
10.5 × 14.8	0.4-0.6	0.6-1.2	0.3-0.4
14.8 × 21	0.6-0.9	0.9-1.8	0.5-0.6
21 × 30.5	0.8-1.2	1.2-2.4	0.6-0.8
30.5 × 42	1.0-1.5	1.5-3.0	0.8-1.0

Distances between parallel lines or between letters should not be smaller than the line thickness.

The minimum height of lettering depends on the required linear reduction, as indicated in the following table.

Format of original drawing [cm × cm]	Height of capitals	
	Main lettering [mm]	Secondary lettering [mm]
7.5 × 10.5	3	2
10.5 × 14.8	4	2.5
14.8 × 21	6	4
21 × 30.5	8	5
30.5 × 42	10	6

Appendix II. Some Symbols and Abbreviations Used by CHIMIA

Designation	Symbol	Remarks
Amount-of-substance concentration or 'molarity' ^{a)}	M	in mol·dm ⁻³ ; ex.: 1M NaOH
Molality ^{b)}	m	in mol·kg; ex.: 1m HCl
Normality ^{b)}	N	in equiv.·dm ⁻³ ; ex.: 1N H ₂ S
Percentage by mass	%	e.g. 15%
Percentage by volume	% (v, v)	e.g. 20% (v, v)
Melting point	m.p.	e.g. m.p. 157-158°
Boiling point	b.p.	e.g. b.p. 111-112°
Boiling point under a certain pressure	b.p., Torr	e.g. b.p. 65°/4 Torr
Freezing point	f.p.	e.g. f.p. 3°
Refractive index	n	e.g. n _D ²⁰ = 1.643
Relative density	d	e.g. d ₄ ²⁰ = 1.1811
Optical rotation ^{c)}	α	e.g. α _D ²⁰ = 0.73 (l = 0.1, neat)
Specific optical rotation ^{b)}	[α]	e.g. [α] _D ²⁰ = 108 (c = 3.42, CHCl ₃)
Molecular optical rotation ^{b)}	[M]	e.g. [M] ₅₈₉ ²⁰ = 380 (c = 1.52, H ₂ O)
Thin-layer chromatography	TLC	
Gas-liquid chromatography	GLC	
Liquid chromatography	LC	
Column chromatography	CC	
High-pressure (performance) liquid chromatography	HPLC	
Paper chromatography	PC	
Ultraviolet	UV	
Visible	VIS	
Circular dichroism	CD	
Optical rotatory dispersion	ORD	
Infrared (absorption) spectrum	IR	
Nuclear magnetic resonance of ¹ H	¹ H-NMR	
Nuclear magnetic resonance of ¹³ C	¹³ C-NMR	
Electron paramagnetic resonance	EPR	
Electron spin resonance	ESR	
Mass spectrum	MS	
Photoelectron spectroscopy	PES	
X-Ray photoelectron spectroscopy	XPES, ESCA	
Shoulder	sh	
Broad	br.	
Strong IR absorption	s	
Medium IR absorption	m	
Weak IR absorption	w	
Singlet	s	
Doublet	d	
Triplet	t	
Quadruplet	q	
Quintuplet	quint.	
Sextuplet	sext.	
Septuplet	sept.	
Multiplet	m	

^{a)} For a comprehensive discussion on the usage of the terms 'equivalent' and 'normal', see IUPAC, *Pure Appl. Chem.* 1978, 50, 325.

^{b)} The symbol l is used in connection with the specific optical rotation $[\alpha]$; it is defined as mass of substance (in g) in 100 ml of solution. The quantities l and d in $[\alpha] = 100 \cdot \alpha / l \cdot c$ or $[\alpha] = \alpha / l \cdot d$ are given in dm and g/ml (kg/m³), respectively.