

ARTICLES FOR CHEMICAL REVIEWS

SUGGESTIONS TO AUTHORS

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I. GENERAL STATEMENT

Articles for *Chemical Reviews* are to be authoritative, critical, and comprehensive reviews of recent research—both theoretical and applied—in the various fields of chemistry. Mere compilations of data, patent searches, or historical recitations of events are not suitable. The subject should be carefully selected and the scope defined in order to provide unity of thought and logical arrangement of ideas. The subject should not have been reviewed during the previous eight to ten years in *Chemical Reviews* or in any other publication (journal, monograph, or book either domestic or foreign).

The readers of *Chemical Reviews* are teachers, students (undergraduate and graduate), practicing chemists, research chemists, and scientists in fields closely related to chemistry. In writing the article, the author should assume that these readers are competently trained in fundamentals but that they have no extended knowledge of the specialized topic.

II. PRELIMINARY SURVEY AND APPROVAL OF ARTICLES

An effort is made to arrange a publication schedule about a year in advance; hence the Editor will gratefully accept suggestions for timely reviews and will discuss with prospective authors the suitability of their manuscripts.

In order to assist the Editor in evaluating a subject suggested for *Chemical Reviews*, authors are requested to send to him the material listed below:

- (a) A two- or three-page detailed topical outline. This should be complete so that it may be checked against other outlines in the Editor's files to guard against duplication of effort.
- (b) The last date of a previous review in the field.
- (c) An estimate of the number of references (i.e., 50, 100, 200).
- (d) An estimate of the number of double-spaced typewritten pages (25, 50, 100, etc.).
- (e) A tentative date when the author could submit the manuscript (3, 6, 9, or 12 months).

This material will be examined by the Editor with advice from the referees and Editorial Board. After receiving preliminary approval, the author should proceed with the writing of the review. He will have the assurance that the article will be accepted, providing of course that he does a good job of writing.

At the time when the Editor sends his preliminary

approval of the review, a definite date will be set for receipt of the manuscript.

Review manuscripts which are sent to the Editor without preliminary approval will be carefully examined and, if acceptable, will be placed at the end of the pre-arranged publication schedule.

III. DIVISIONS OF THE MANUSCRIPT

A prospective author should examine previous issues of *Chemical Reviews* and read one of the review articles in the same general field as that in which he proposes to write. All articles should have:

Title	Introduction
Author's name	The body of the review
Name of institution	References
Table of contents (see previous issues for format)	

A. Title

The title should be selected with great care. It must be precise and suitable for accurate indexing.

B. Introduction

This should be about one or two pages long and should state precisely the scope and limitations of the review and the years covered. The nomenclature (organic or inorganic) or notation system used should be clearly and specifically stated. The names and numbering systems used by *Chemical Abstracts* in the recent indexes as well as common or trivial names should be given. The names used in the article should be consistent and unambiguous. In general, the official *Chemical Abstracts* names are preferred. It is the author's responsibility to select the proper nomenclature before the main body of the review is written and then to use the chosen notation consistently throughout.

C. The review

The material in the review should be clearly and logically arranged, with main divisions and subdivisions. It should be organized according to the reactions or theories involved and usually not according to purely historical sequence. Some historical developments should be given in proper subdivisions, but in general the entire article should not be chronological.

The length of an article should be determined by the character of the material, the amount of material, and the number of references. The Editorial Board does not

dictate the exact length. However, this does not mean that authors should take up excessive space by using a lot of unnecessary words or phrases. Repetition and redundant phrases should be avoided. The style should be clear and concise. Do not give an historical development and then repeat this material later. Weave in the history of the topic under the proper scientific heading. If the development up to a certain year has been given in an article, book, or monograph, do not repeat this material, even if it never appeared in *Chemical Reviews*. Cite the reference.

Try to make each sentence and paragraph convey definite information to the reader. The comments above should not be interpreted to mean hazy, superficial, nonspecific writing. The facts, laws, and theories should be so clearly presented that the reader does not have to examine the original literature to get a picture of the results. Do not give experimental details, but do state the general method. Compare the results such as percentage yields, order of kinetic reactions, accuracy, precision, and reproducibility. The readers are supposed to go to the original references to obtain exact experimental procedures.

New, original, experimental and theoretical work should be published in other journals. However, the critical examination and the evaluation of prior work in a review article may lead to hypotheses, theories, or laws which coördinate and clarify apparently disconnected data. Such interpretations are entirely suitable for inclusion.

The material should be treated objectively and critically—avoiding personalities and polemics—because the fundamental purpose of a review is to advance the science of chemistry.

D. Organization and writing

If a considerable number of compounds have been made by one general reaction, these are conveniently summarized in suitable tables with reference numbers. In physicochemical articles the notation and meaning of symbols should be specifically defined at some suitable point. Carefully selected tables of data and graphs may be used to illustrate theories, equations, and laws. Tables and graphs should be numbered consecutively and referred to in the text by number: i.e., use "figure 5", "table 2", etc. and not "the following figure", "the above table," etc. For reasons of saving space in printing, tables should usually be distributed throughout the paper rather than grouped at the end in a special section or an appendix.

In the text when referring to data reported by a number of coauthors, it is courteous to give all of the names on the paper or else to omit all of them (preferable). For example:

Preferred:

"The heat of hydrogenation of styrene to ethyl-

cyclohexane was found to be -77.8 kcal. per mole (164)."

Undesirable:

"Dolliver, Gresham, Kistiakowsky, and Vaughn (164) studied the hydrogenation of styrene and found that complete reduction to ethylcyclohexane involved a heat of hydrogenation amounting to -77.8 kcal. per mole."

Try to avoid expressions such as "Dolliver *et al.*" or "Kistiakowsky and coworkers." The example cited above also illustrates the importance of simple construction and elimination of long, complicated, wordy sentences.

Scan your manuscript for "idle words" and delete them. Various introductory phrases which are quite natural in speech should not be used. For example, "It will be recalled that . . ."; "It is obvious that . . ." are redundant.

Try to avoid the use of personal pronouns: I, we, you, he, she, they. Recasting the sentence without pronouns usually makes for clear precise statements and avoids ambiguity in antecedents. Except in very special instances do not use direct quotations. State the author's data, theories, and conclusions fairly, but avoid selecting a phrase, a sentence, or a paragraph out of its setting in the context of the whole article.

Read the April 23, 1954 issue of *Science*, especially the articles by Struck and by McCartney (*Science* **119**, 522, 525 (1954)). Webster's *New International Dictionary* (unabridged) is an excellent source of information about words, phrases, and sentences.

E. Copyright responsibility

Authors of review articles must exercise great care to avoid infringement of the copyrights of previously published articles in journals, books, monographs, or other reviews. Copyrighted material must not be incorporated in a paper unless specific written permission is obtained from the holder of the copyright—either U.S. or foreign. The United States is a party to the Geneva International Copyright agreement by which the signatory countries agree to respect one another's copyright laws. The bulletin "Copyright Law of the U.S.A." may be obtained at a cost of 20 cents from Copyright Office, The Library of Congress, Washington 25, D.C.

An author *must avoid copying exactly* pages, paragraphs, drawings, or graphs, unless he secures written permission in advance from the prior authors, the society, or the publishing company. The replies to these requests should be kept in his permanent files for his protection. When an author does secure such written permission, he must not only cite the reference and the source but include a statement that "The author wishes to thank XY Co. (or Society) for permission to

reproduce figures 1 and 2, photograph No. 4, and table 2" in the acknowledgment paragraph at the end of the article, just before the references. Alternatively, a "by line" immediately under the drawing, graph, or picture may be inserted stating "Reproduced by permission of XYZ Co. (or Society)."

The copyright laws cover the *exact* reproduction (photographic, tracing, scale drawing, or typesetting) of previously printed material. An author may rewrite text material completely, rearrange tabular material, or change drawings and graphs so that they are quite different from the original.

Securing permission to incorporate copyrighted material in an article is the responsibility of the author(s). Since the editors cannot read the hundreds of references and cross-check these with the manuscript, they must trust the author(s) to follow the above instructions.

Articles in *Chemical Reviews* appearing after January 1, 1960 are copyrighted by The American Chemical Society. Requests for permission to reproduce material appearing in Vol. 60 and all subsequent volumes of *Chemical Reviews* should be addressed to Business Manager, American Chemical Society, 1155 16th St., N.W., Washington 6, D. C.

Articles in *Chemical Reviews* which appeared prior to 1960 are copyrighted by the Williams and Wilkins Co., Baltimore, Maryland, and requests concerning reproduction of all material in Volumes 1 through 59 should be addressed to the above firm.

F. Footnotes

Footnotes should be avoided, since they distract the attention of the reader. Footnotes do have their value but should be used only for auxiliary information extraneous to the subject matter. The inclusion of a reference in a footnote is not desirable, although a number to a reference in the bibliography may be given when necessary.

G. References

The references must be arranged alphabetically according to the names of the authors and also chronologically when there are several references under the same name(s). The official *Chemical Abstracts* abbreviations for the names of the journals should be used and the volume, page number, and year should be given. If a reference is to an obscure or generally unavailable journal, the *Chemical Abstracts* reference should be given in addition to the original. For books, the author(s), the title, the chapter or page(s), the publisher's name and address, and the year of publication should be included. However, regularly published volumes such as *Organic Syntheses*, *Inorganic Syntheses*, *Biochemical Preparations*, *Annual Reports of the Chemical Society*, *Annual Review of Biochemistry*, etc. should be treated as serials. The names of the submitters or au-

thors of chapters and not the editors should be given. For example:

- (27) COOKSON, R. C.: *Ann. Repts. on Progr. Chem.* (Chem. Soc. London) **54**, 174 (1957).
- (28) LEPP, A., AND DUNN, M. S.: *Biochem. Preparations* **4**, 83 (1955).
- (29) REIF, D. J., AND HOUSE, H. O.: *Org. Syntheses* **38**, 26 (1958).
- (30) SIMONS, J. F.: *Inorg. Syntheses* **3**, 184 (1950).
- (31) SURREY, A. R.: *Org. Syntheses, Collective Vol.* **3**, 535 (1955).
- (32) TRUCE, W. E.: *Org. Reactions* **9**, 37 (1957).

Citations of patents should include the author's name (or the name of the company if no individual is named as the patentee), the patent number, and a reference to *Chemical Abstracts*, *Chemisches Zentralblatt*, *Friedländer*, or other source.

Give the names and initials of all the authors. Use a separate number for each reference and repeat the abbreviation of a journal. Never use "ibid." in the typed list of references.

In deciding on the proper alphabetical order, use the first capitalized letter of the last name and then the alphabetical sequence of succeeding letters. Compound names with a prefix such as de, du, la, von, etc. are arranged according to the first capitalized part. If an author is in doubt as to the proper alphabetical sequence of such names, the practice in previous issues of *Chemical Reviews* should be noted. Some examples in proper sequence are:

<i>Under B</i>	<i>Under L</i>	<i>Under M</i>
du Barry	Lake	Mabry
Becker	LaMer	MacBride
von Behring	Lancey	Macginnis
de Bell	von Link	McPerson
		Mellor

If the article is short (3 or 4 pages), give the first page of the article in the reference. If the article is long (over 5 pages), refer to the page on which the reader will find the data mentioned in the text.

Illustrative references:

- (1) Angeli, A.: *Atti accad. Lincei* **19**, I, 793 (1910).
- (2) Angeli, A.: *Atti accad. Lincei* **23**, I, 557 (1914).
- (3) Angeli, A., and Alessandri, L.: *Atti accad. Lincei* **20**, I, 170 (1911).
- (4) Angeli, A., and Valori, B.: *Atti accad. Lincei* **22**, I, 132 (1913).
- (5) Hochwalt, C. A.: U. S. patent 2,390,368; *Chem. Abstracts* **40**, 1878 (1946).
- (6) Jensen, K. A.: *Dansk. Tid. Farm.* **16**, 1-10 (1942); *Chem. Abstracts* **37**, 4375 (1943).
- (7) Meyer, V., and Jacobson, P.: *Lehrbuch der organ-*

- ischen Chemie*, Vol. 2, Part 3, p. 521. Walter de Gruyter and Co., Berlin and Leipzig (1923).
- (8) Perkin, W. H.: *J. Chem. Soc.* 32, 663 (1877).
- (9) Robinson, A., and Waters, W. A.: *J. Chem. Soc.* 1948, 1594.
- (10) Société pour l'industrie chimique à Bâle: French patent 830,125 (July 21, 1938); *Chem. Abstracts* 33, 1416 (1939).
- (11) Sommelet, P., and Marszak, N.: French patent 787,655; *Chem. Zentr.* 1936, I, 3217.

IV. STRUCTURAL FORMULAS, GRAPHS, ILLUSTRATIONS, FIGURES

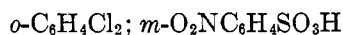
Illustrative material is of two types: pen and ink drawings, which are reproduced by the line engraving process, and photographs, which are reproduced by the halftone process.

All drawings should be made with India ink on tracing cloth or paper, white paper, or blue-lined coordinate paper. The lettering of the numerals and legends at the sides and bottoms of graphs, as well as of any numerals or words appearing on the graph itself, should be large enough to be seen clearly when the drawing is reduced. Most figures can be advantageously drawn for a reduction of from 50 to 75 per cent, i.e., a drawing measuring 6 by 8 in. may be reduced to one measuring 3 by 4 in. or even 1.5 by 2 in.

The printers have difficulty in setting up certain fused-ring structures, coordination structures of complex compounds, stereochemical conformation structures, perspective diagrams, phase diagrams, π -complexes, and polarized structures using curved arrows. These are very expensive to set by hand. Authors should therefore draw these diagrams with India ink on tracing cloth or paper, plain white paper, or blue-lined coordinate paper. A stencil should be used for the lettering, and formulas and letters should be made twice as large as desired in the final cut. These drawings can be reproduced photographically.

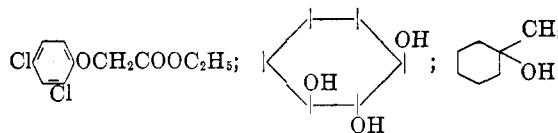
Linear formulas and simple structures where the bond lines make standard angles (90° , 45° , 60°) with each other can be set. Consultation of back issues of the journal will indicate the formulas that can be set in type. The Assistant Editor will answer any queries as to the possibility of setting certain formulas in type.

Use dots only for electronic formulas, lines for covalent linkages, and plus and minus signs for charges on ions. For the unsubstituted phenyl radical, use C_6H_5 ; do not use the hexagon. Even disubstituted benzene derivatives can be typed as follows:



Use the hexagon only when necessary to avoid ambiguity or when discussing certain points concerning mechanism, polarization, or resonance.

The Kekulé formulas should be used for aromatic compounds to distinguish them from the cycloparaffin derivatives, e.g.;



Photographs should be in the form of clear black-and-white prints on glossy paper. Care should be taken to see that they cannot be bent or folded in handling. Paper clips should not be attached to them, since all imperfections in the original copy are reproduced.

V. TYPING

Manuscripts should be typed double-spaced on one side of white bond paper measuring 8.5 x 10 in. Bond paper of 14–16 lb. weight is recommended. The pages should be numbered consecutively in the upper right-hand corner.

Formulas and equations should be separated from the text by a space. Linear formulas may be typed; more complex structures should be neatly and accurately drawn with India ink, using a stencil for any lettering (see the third paragraph of Section IV). The formulas should not be crowded. The copy should be clear, unambiguous, and easily legible, as the manuscript is to be set in type by an operator who is not a chemist.

These items should follow the section of references:

- (1) Page(s) of numbered footnotes. In the text, the footnote numbers are to be small superscripts.
- (2) Page(s) of figure legends, one legend being used for each figure.

VI. SUGGESTED PROCEDURE FOR PREPARATION OF MANUSCRIPT

The problem of writing the review and arranging the references without errors may be solved in a number of ways. One of the writing techniques which involves the minimum amount of labor and which eliminates reference errors utilizes the following steps:

1. Complete the literature survey, recording the material in any fashion you happen to prefer: punched cards, index cards, or paper sheets. Then sort the material according to the main divisions and subdivisions in the outline.
2. In the first hand-written draft of the review, insert the references throughout the article (separated by double horizontal lines) at the specific point to which each reference applies. Write each reference as a separate line and use no numbers. Rearrange the pages, assembling the topics under the proper headings and sub-headings and being careful to move the references with the discussion.

3. Have two copies of this draft typed double-spaced. These two typed copies have the references still intermingled with the text but separated from the text by lines which run clear across the paper. Corrections and revisions may now be made on these copies. Read the discussion given above concerning the writing of the review (Section III, C and D). Rewrite and polish the article, retyping any pages with the interlined references.

It is a good idea to put the whole article away for a week and then reread it critically. Ask one of your friends to read it and to mark questionable places.

This is the stage at which you may do any last-minute literature work. References can be added easily now, and divisions and subdivisions of the text with the accompanying references can be rearranged.

If there are large numbers of changes and additions it is best to have the manuscript retyped, again making two copies.

4. The carbon copy from Step 3 above is used to prepare the bibliography. The references are cut apart from the text with shears and the strips arranged alphabetically according to the authors' names (see III, G) and clipped or pasted to sheets of paper. Duplicate references are deleted. The alphabetized list is then numbered sequentially. This list is then retyped, making two copies and showing the proper number before each reference.
5. The proper reference numbers are now written in on the revised typed copy prepared in Step 3. This copy still has the authors' names and references in the text; hence they are easily located by referring to the alphabetical list. Reference numbers are always placed in parentheses and on the same line as the text in *Chemical Reviews*. After inserting the reference numbers, cross out the references on this copy, and retype it with the reference numbers but without the references, again making two copies. The original of this, plus the retyped alphabetized reference list, should be sent to the Editor. The carbon copy and the original handwritten copy should be kept until the galley proofs of the article have been read. The proofs should be checked against this original copy to eliminate errors.
6. Before mailing the manuscript it should be read very carefully to make sure that perfect copy is being submitted. If a number of errors are found on one page, that page should be retyped. A clean, clear copy of text, formulas, and equations is needed by the printer.

7. The manuscript should be placed between two sheets of cardboard and inserted in a strong manila envelope for mailing. Thick manuscripts (100–300 pp.) are best placed in a cardboard box and wrapped securely.

VII. CORRESPONDENCE

All correspondence, outlines of proposed reviews, and manuscripts should be sent by first-class mail to the Editor:

Dr. Ralph L. Shriner
Department of Chemistry
State University of Iowa
Iowa City, Iowa

After an article has been accepted for publication, it is edited and prepared for the printers by the Assistant Editor:

Dr. Louise Kelley
115 Prospect Street
Franklin, New Hampshire

VIII. PROOFS

About two months before the article is to appear, galley proofs will be mailed to the senior author. If there are two or more authors, usually only one will serve as proof reader. The proofs should be read carefully and checked against the carbon copy of the manuscript. Corrections should be made according to the instructions sent with the proofs. Authors must be careful to limit changes to the correction of errors. They should *not* rewrite the material or add more material at this stage. Even though articles pertinent to the review may have appeared since the mailing of the manuscript, the author is protected by the date of its submission and by the statement in the introduction to his review.

The corrected galley proofs should be mailed to Dr. Louise Kelley *within three days*.

IX. REPRINTS

A reprint order form is sent with the galley proofs. Reprints must be ordered at that time in accordance with the instructions printed on the order blank from:

National Publishing Co.
301 N Street, N.E.
Washington 2, D. C.

All business matters concerning subscriptions are handled by:

Business Manager
American Chemical Society
1155 16th St., N.W.
Washington 6, D. C.

There are no free reprints. Instead, twenty-five copies of the issue containing the article will be sent *gratis* to the author or to the senior author.

Review articles are designed to save the time of chemists and advance the science of chemistry. Au-

thors, editors, printers, and business manager must cooperate to furnish this service at the lowest possible cost. This is the reason for specifying certain editorial rules and for the change in publication format.

Copies of these suggestions to authors may be obtained from the Editor.