

# Biochemistry

Revised January 2001

BIOC 463A: READ THE SECTIONS  
MARKED w/\*!

## Instructions to Authors

### \* OBJECTIVES OF THE JOURNAL

The purpose of *Biochemistry* is to publish the results of original research that contribute significantly to the understanding of the mechanism of biological phenomena in terms of molecular structure and/or function. Preference will be accorded to manuscripts that develop new concepts or experimental approaches, particularly in the advancing areas of biochemical science. Manuscripts that are primarily theoretical in nature or in the field of bioinformatics must be directed toward explaining important results previously not understood, making important predictions that can be experimentally tested, or developing significant advances in theory of general interest to biochemists. Publication of preliminary or inconclusive results is discouraged, as is the simultaneous publication of manuscripts of overlapping content. Submission of a manuscript to *Biochemistry* implies that the same work has not been published nor is under consideration for publication elsewhere. This policy also applies to material submitted for publication in an electronic data base system of a public nature, which we consider to constitute prior publication. In addition, no legal restrictions must exist, e.g., those associated with the filing of patents.

In addition to regular research reports, *Biochemistry* publishes three types of special articles: *Accelerated Publications*, *New Concepts*, and *Current Topics*. These are described below in detail.

### EDITORIAL ORGANIZATION AND REVIEWING PROCESS

The Editor is appointed by the American Chemical Society and has the final responsibility for all editorial decisions. Associate Editors, together with the Editor, process all manuscripts received. Members of the Editorial Advisory Board are usually appointed for a three-year term and may be reappointed.

\* When a manuscript is received, the Editors first judge whether its content falls within the scope of *Biochemistry*. Manuscripts that are primarily descriptive, confirmative of previous work, or of a highly specialized nature, or do not address fundamental biochemical questions, or those that in the judgment of the Editors are not of sufficient interest to the general readers of *Biochemistry* will be returned to the author without review. These decisions are reached with the participation of at least two Editors or an Editor and an Editorial Advisory Board member and should be considered final. After this preliminary review, manuscripts are sent to two independent reviewers for evaluation. Reviewers are selected for their competence in specialized areas of biochemistry from a computer file of qualified specialists. They are expected to disqualify themselves if they have a conflict of interest, such as association with the author's laboratory or preconceived opinions about the work. Authors are urged to

Editor = JTH  
Reviewers = TA's  
Editorial Decision = YOUR GRADE!

recommend six qualified reviewers other than members of the Advisory Board; they may also request that certain (but not more than three) reviewers not be chosen. Members of the Editorial Advisory Board cannot be disqualified from participating in the final disposition of a manuscript. The reviewers are advisory to the Editor, and their reports are used to reach the editorial decision. If the reviewers disagree, or if in the judgment of the Editor the manuscript has not received adequate consideration, the manuscript and the reviewers' opinions are submitted to a member of the Editorial Advisory Board for arbitration. Editorial decisions that result from this process are usually final. Reviews will normally be faxed to authors unless the authors request otherwise.

When a manuscript is returned to the author for revision, the author should reply to the specific recommendations of the reviewers and in an accompanying letter indicate those recommendations that have been incorporated into the revision and the reasons any have been disregarded. Usually only one major revision will be considered. Handwritten corrections will not be accepted. The revised manuscript, in triplicate, should be returned to the assigned Editorial Office within 60 days. A revised manuscript received beyond the 60-day period will be considered as a new submission, will receive a new number, and usually will undergo a new review process.

Notice: Documents accepted for publication in ACS Journals will be posted in the World Wide Web edition of the Journal as soon as they are ready for publication, that is when galley proofs are corrected and all author concerns are resolved. This can occur anywhere from 2 to 11 weeks in advance of the cover date of the printed issue. Authors should take this into account when planning their intellectual and patent activities related to a document. The actual date on which the document is posted on the Web is recorded in a separate line at the bottom of the first page of the document in the printed issue.

### SUBMISSION OF MANUSCRIPTS

Manuscripts sent by mail should be addressed to Gordon G. Hammes, Editor, *Biochemistry*, Box 3673, Duke University Medical Center, Durham, North Carolina 27710. Manuscripts sent by express courier should be addressed to Gordon G. Hammes, Editor, *Biochemistry*, Room 081 Yellow Zone, Duke South, Duke University Medical Center, Durham, North Carolina 27710. Telephone: (919) 681-3250.

- One original and three complete copies, including glossy or clear photocopies of figures, must be submitted. Photocopies of figures are acceptable only if they show all details necessary for critical examination of the data. Manuscripts should be accompanied by
- a submittal letter with original signature and a list of six qualified reviewers

- a signed copyright status form with original signature (form in the first issue in January and on the Web)
- e-mail, fax, and postal addresses
- three copies of related papers submitted for publication or in press (if needed for the review)
- Manuscripts will be returned to the author only if rejected after preliminary review.

Refer to section on Assembly/Preparation of Manuscripts for manuscript order.

#### **ELECTRONIC MANUSCRIPT SUBMISSION**

**NO** The final accepted version of the manuscript must be submitted on disk. Exceptions to this policy require prior approval of the Editor. Manuscripts prepared with the software packages listed below will be used for production, providing the following guidelines are adhered to. Failure to adhere to the following instructions may prevent all or part of the material supplied on disk from being used in production.

A hardcopy version of the manuscript and three clear copies are required for review. The disk should accompany the final accepted version of the manuscript. The version on the disk **MUST** exactly match the final version accepted in hardcopy.

When preparing a manuscript, use the document mode or its equivalent in the word-processing program; i.e., do not save files in "Text Only" (ASCII) mode. If a non-Western version of the word-processing software was used to prepare the manuscript, save the file in rich-text format (RTF). Do not include any page layout instructions such as placement information for graphics in the file. The text should be left justified, and automatic end-of-line hyphenation should be turned off. Use carriage returns only to end headings and paragraphs, not to break lines of text. Do not insert spaces before punctuation. References must conform to the format printed in the Journal. Ensure that all characters are correctly represented throughout the manuscript: for example, 1 (one) and l (ell), 0 (zero) and O (oh), x (ex) and × (times sign). Check the final copy carefully for consistent notation and correct spelling. The Journal Publications office conversion program will faithfully translate any errors to the typeset copy. Check the disk with an up-to-date virus detection program. The presence of a virus will delay publication of the manuscript. Label the disk with the manuscript number and the corresponding author name. Provide the platform, version of software used, and filenames on the Media Description form.

All text (including the title page, abstract, all sections of the body of the paper, figure captions, scheme or chart titles and footnotes, and references) and tabular material should be in *one* file, with the complete text first followed by the tabular material. It is best to use the fonts "Times" and "Symbol". Other fonts, particularly those that do not come bundled with the system software, may not translate properly. Ensure that all special characters (e.g., Greek characters, math symbols, etc.) are present in the body of the text as characters and not as graphic representations. Consult the documentation for the specific software package being used on how to detect the presence of graphics in the files, and replace them with the appropriate text characters.

Tables may be created using a word processor's text mode or table format feature. The table format feature is preferred.

Ensure each data entry is in its own table cell. If the text mode is used, separate columns with a single tab and use a line feed (return) at the end of each row.

Procedures for using graphics are currently being refined, and their use in production cannot be guaranteed at this time. If you are able to provide graphics in electronic form, please save each graphic in a separate file in TIFF. Line art should be saved at 600 dots per inch (dpi) and color and gray scale at 300 dpi. Consult the documentation in your graphics application for more information on how to save your files in this format. The filename for each graphic should be descriptive of the graphic content, for example, figure1 for Figure 1, scheme1 for Scheme 1, etc. While we cannot guarantee that your electronic files will be used in production, providing the files will help our development efforts.

#### • **Currently acceptable word-processing packages**

Macintosh:

- WordPerfect 3.5
- Microsoft Word, up to Word 98
- FrameMaker 5.5

IBM and Compatibles:

- WordPerfect, up to version 8.0
- Microsoft Word, up to Word 2000
- FrameMaker 5.5

TeX users should follow the guidelines given at <http://pubs.acs.org/instruct/texguide.html>.

#### **ACCELERATED PUBLICATIONS**

**NO** *Manuscripts given the status of Accelerated Publications must deal with experimental results of unusual and timely significance and be of interest to the general reader of Biochemistry.* Such manuscripts must contain all elements of a regular manuscript and satisfy the usual criteria governing the publication of papers in *Biochemistry*.

Additional criteria for accelerated status:

- The manuscript must not exceed **25 typewritten pages**, printed on one side only, double spaced, inclusive of references, tables, and illustrations (one illustration per page; figures containing  $\geq 2$  panels should appear on the same page). **Manuscripts exceeding the page limit will be returned to the author without review.**
- The manuscript must be accompanied by a transmittal letter justifying the reasons why the author(s) believe(s) the work should receive accelerated publication status.
- The transmittal letter should include the names of at least six knowledgeable scientists who are qualified to act as impartial reviewers.

Every effort will be made to expedite the review of such manuscripts. Except for minor revisions, such manuscripts will be either accepted or rejected. It is intended that these papers be published within 2 months after acceptance. Galley proofs of papers accepted for accelerated publication must be returned to Publishing Operations within 24 hours. Questions regarding the suitability of manuscripts for accelerated publication should be addressed to the Editor *in writing*.

#### **NEW CONCEPTS**

**NO** New ideas, original models, imaginative correlation of data, and controversy all contribute to the progress of science. In order to provide a venue for new concepts and productive

scientific discourse, *Biochemistry* will publish short articles that represent personal views and new ideas about important areas of biochemistry. In areas where controversy exists, opposing views will be published. Both solicited and unsolicited contributions will be considered for New Concepts. Contributions should be a **maximum of 16 typewritten pages**, printed on one side only, double spaced, inclusive of abstract, references, tables, and illustrations, and in the usual *Biochemistry* format except that subheadings are not required. An abstract of no more than 200 words should be provided. **Manuscripts exceeding the page limit will be returned to the author without review.**

### NO CURRENT TOPICS

"Current Topics" are intended to familiarize the general reader with the current knowledge in a biochemical field or a topic of particular interest. Authorship usually is by invitation, but the Editors welcome suggestions of topics and authors. Topics that have been recently reviewed in other journals will not be considered.

Manuscripts must not exceed 30 typewritten pages, double spaced, including references, tables, and illustrations. They should adhere to the general format of regular papers published in this Journal but do not require the subheadings of experimental papers. Manuscripts will be reviewed for accuracy and clarity, and if necessary, returned for revision. It is intended that accepted manuscripts be published within 2 months after acceptance. They will appear in the front of an issue.

### \* ASSEMBLY/PREPARATION OF MANUSCRIPTS

Manuscripts should be written in clear, concise English and should be condensed to the utmost compatible with clarity. Editors, reviewers, and readers may tend to be biased against results reported in complex or excessively verbose language.

#### Manuscript Assembly:

- Title Page
- Abbreviations and Textual Footnotes
- Abstract
- Introduction (no heading)
- Experimental Procedures (Materials and Methods)
- Results
- Discussion
- Acknowledgment
- References
- Tables
- Structures, Charts, Schemes
- Figure Legends
- Figures **(Two Figures/Page)**
- Supporting Information

#### \* Manuscript Preparation:

- Use a type size that is at least 12-pitch, elite (no compressed type), preferably prepared on a laser printer
- Use side margins of not less than 2.5 cm
- Use top and bottom margins of not less than 3 cm
- Use 22 × 28 cm (8.5 × 11 in.) or A4 paper size
- **Double space throughout**
- ~~Print on one side of paper only~~

**Dbl sided**

- **Number all pages of a manuscript consecutively, including the title page and lists of footnotes, references, tables, figure legends, and figures**

#### NO Illustration Preparation:

The quality of the illustrations printed depends on the quality of the originals provided. Journal pages are now produced completely electronically. The chemical structures, graphs, photographs, or other illustrations sent with the manuscript will be scanned into the journal page using a digital scanner. The scanner is very sensitive; it will faithfully copy all flaws such as smudges, uneven lines, incomplete erasures, etc.

In illustrations, contrast is important. Use dark black ink on high quality, smooth, opaque white paper. Ordinary white bond paper works well. Avoid tracing paper or textured "artist" paper.

Illustrations must fit a one- or two-column format on the journal page: **For efficient use of journal space, single-column illustrations are preferred.**

	Single (preferred)	Double
Minimum width		10.50 cm (4.13 in.)
Maximum width	8.25 cm (3.25 in.)	17.78 cm (7 in.)
Maximum height	24.00 cm (9.5 in.)	24.00 cm (9.5 in.)

**For the final revision, illustrations must be submitted in the actual size at which they should appear in the Journal.** Original illustrations which do not need to be reduced to fit a single or double column will yield the best quality. Lettering should be no smaller than 4.5 points. (Helvetica type works well for lettering.) Lines should be no thinner than 0.5 point. Lettering and lines should be of uniform density.

If you must submit artwork that must be reduced, use larger lettering and thicker lines so that, when reduced, the artwork meets the above-mentioned parameters.

Avoid using complex textures and shading to achieve a three-dimensional effect. To show a pattern, choose a simple cross-hatch design.

Submit only **original** artwork or high quality photographic prints of originals; photocopies do not reproduce well.

Artwork produced by a high quality graphics plotter will yield a better printed result than artwork produced on a laser printer or inkjet printer. If your material must be prepared on a laser or inkjet printer, use high quality laser paper and choose the highest resolution available. For example, select 600 dpi rather than 300 dpi.

#### • Photographs

High contrast prints with a smooth or glossy finish work best. Send photographs that are single- or double-column width so that they will not have to be reduced. Do not submit negatives, slides, or overhead transparencies. Avoid photographs produced on a laser printer and prints cut from a printed publication; these do not give good results.

Do not write on the front or back of the image area of the photograph. These marks may show through when the photograph is scanned.

#### • Color

Color photographs and artwork may be printed in the Journal if approved by the Editor. Do not submit color prints to be printed in black and white.

• **Chemical Structures**

Structures should be produced with the use of a drawing program such as ChemDraw. Authors using the current versions of ChemDraw will find the necessary parameters incorporated into this program ("ACS Document 1996").

Authors using older versions of ChemDraw should use the following parameters:

(1) As drawing settings select:

chain angle	120°
bond spacing	18% of width
fixed length	14.4 pt (0.508 cm, 0.2 in.)
bold width	2.0 pt (0.071 cm, 0.0278 in.)
line width	0.6 pt (0.021 cm, 0.0084 in.)
margin width	1.6 pt (0.056 cm, 0.0222 in.)
hash spacing	2.5 pt (0.088 cm, 0.0347 in.)

(2) As text settings select:

font	Helvetica
size	10 pt

(3) Under the preferences choose:

units	points
tolerances	3 pixels

(4) Set the page setup to 100%

(5) Label the drawings:

"Reduce to 75% of current size for publication".

Authors using other drawing packages should, insofar as possible, modify their program's parameters so that they reflect the above guidelines.

\* **Title Page** (page 1). **A. Title.** Provide a *brief* and informative title to assist in the classification and indexing of the paper. Do not use trade names of drugs or abbreviations. Serial numbers may be used only if consecutive papers appear in the same issue of *Biochemistry*. Avoid uninformative titles such as "Studies on ...". **B. Title Footnote** (†). Give acknowledgments of financial aid including the granting agency and the grant award identification number. (*Other acknowledgments should appear in a separate section at the end of the Discussion.*) **C. Byline.** List full names and institutional affiliations of all authors. It is implicit in listing a person as an author that he/she has agreed to coauthor the manuscript and is in full agreement with its content. Footnote references to authors, including present addresses, should be consecutively identified by the following symbols: ‡, §, ||, ⊥. The symbol \* should be used to indicate the author to whom correspondence should be addressed. **D. Running Title.** Provide a brief and informative running title that is easy to index and does not exceed 50 letters and spaces.

\* **Abbreviations and Textual Footnotes** (page 2). List the abbreviations used in the paper in the first footnote. Textual footnotes, numbered consecutively, should be brief and kept to a minimum.

\* **Abstract** (page 3). An abstract of not more than 250 words should succinctly present the problem and experimental approach and state major findings and conclusions. It should be self-explanatory and suitable for reproduction by abstractive services without rewriting. Since the abstract will be published in *Chemical Abstracts*, footnotes or undefined abbreviations

may not be used. If a reference must be cited, complete publication data must be given [White, R. H. (1982) *Biochemistry* 21, 4271-4275].

\* **Introduction** (no heading, page 4). The introduction should state the purpose of the investigation and its relationship to other work in the field. Extensive reviews of the literature should be avoided.

\* **Experimental Procedures** (*Materials and Methods*). The materials should be described in sufficient detail to enable others to repeat the experiments. Names of products and manufacturers should be included only if alternate sources are deemed unsatisfactory. Novel experimental procedures should be described in detail, but published procedures should merely be referred to by literature citation of both the original and any published modifications. In submitting a manuscript to *Biochemistry*, authors agree to make available to interested academic researchers for their own use any materials reported in their manuscript that are not otherwise obtainable. Such requests should respect the purpose for which an author has prepared the materials being requested in order to avoid conflicts of competition with the originating laboratory.

\* **Hazardous Procedures.** Whenever hazardous materials or dangerous procedures are utilized, the necessary precautions should be stated.

\* **Results.** The results should be presented concisely. Tables and figures should be used only if they are essential for the comprehension of the data. The same data should not be presented in more than one figure or in both a figure and a table. As a rule, interpretation of the results should be reserved for the Discussion. In the interest of economy of space, Supporting Information (also subject to review) should be placed in a separate section at the end of the manuscript. The policy of the Journal is to publish only representative data. For example, routine gels and linear plots will not be published. However, if such information is important for evaluating the research, it should be included in the submission for the reviewers or as Supporting Information. Numbering for this section should begin with page 1 and be numbered consecutively. The Supporting Information will be included in the World Wide Web edition of the Journal (see section on Supporting Information).

\* **Protein Sequence Data.** These data should be deposited with Protein Identification Resource, National Biomedical Research Foundation, Georgetown University Medical Center, Washington, DC 20007. For the documentation of the sequence analysis of proteins, see *Biochemistry* (1983) 22, 2595. Authors of accepted papers containing nucleotide sequences should submit the sequence data, preferably in computer-readable form, plus information for annotation of the data and a copy of the paper to GenBank Submissions, National Center for Biotechnology Information (NCBI), Building 38A, Room 8N-805, 8600 Rockville Pike, Bethesda, Maryland 20894 [telephone (301) 496-2475; FAX (301) 480-9241; e-mail (submissions) gbsub@ncbi.nlm.nih.gov, (information) info@ncbi.nlm.nih.gov]. Submission to GenBank ensures entry also into the EMBL Nucleotide Sequence Library. A footnote should appear on the title page indicating that such a deposit has been made.

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 Not yet

Manuscripts dealing primarily with the isolation, sequencing, and expression of DNA segments usually are not appropriate for *Biochemistry* unless significant new information is obtained about the structure and/or function of the proteins. Also, manuscripts primarily dealing with protein sequence comparisons and evolutionary considerations are appropriate only if they explain important results not previously understood or make important predictions that can be experimentally tested.

**NOX** *Structural Data.* Manuscripts dealing with structural NMR data of proteins and nucleic acids reporting primarily the resonance assignments of nuclei and the secondary structure elements are not generally appropriate for *Biochemistry* unless significant new information about biological function is presented. Reports of the three-dimensional structure of a protein or nucleic acid fragments, with the global folding pattern resolved, are desired in papers that utilize NMR methods for structural studies. Tables containing resonance assignments should be placed in the Supporting Information section at the end of the paper. Atomic coordinates for structures of proteins determined by X-ray and all macromolecules determined by NMR should be deposited with the Protein Data Bank (PDB; <http://www.rcsb.org/pdb/>; [info@rcsb.org](mailto:info@rcsb.org)) at the Research Collaboratory for Structural Bioinformatics (RCSB; <http://pdb.rutgers.edu/>) or at the European Bioinformatics Institute (EBI; <http://autodep.ebi.ac.uk/>; telephone (732) 445-0103). It is the responsibility of the author to obtain a File Name for the macromolecule; the File Name must appear in a footnote on the title page. A manuscript will be accepted only after receipt from the submitting author of a written statement that the coordinates will be deposited. If a manuscript is accepted for publication, and the PDB File Name has not yet been obtained, it can be added in proof. Coordinates must be released immediately upon publication. Please address all inquiries about deposition to the Protein Data Bank.

Crystal structures of nucleic acids should be deposited with the Nucleic Acid Database (NDB; <http://ndbserver.rutgers.edu/>; [ndbadmin@ndbserver.rutgers.edu](mailto:ndbadmin@ndbserver.rutgers.edu)) at <http://ndbserver.rutgers.edu/NDB/deposition/> or with the RCSB PDB at <http://pdb.rutgers.edu/adit/>. A preprint of the related manuscript should be mailed or faxed to The Nucleic Acid Database, Department of Chemistry, Rutgers, The State University of New Jersey, 610 Taylor Road, Piscataway, New Jersey 08854-8087 [FAX (732) 445-4320].

Manuscripts dealing with the development of structures from sequence homology are generally not considered unless significant experimental tests of the model also are presented.

**\*** *Discussion.* The purpose of the discussion is to interpret the results and to relate them to existing knowledge in the field. In general, observe the utmost brevity consistent with clarity and avoid personal polemics. Information given elsewhere in the manuscript should not be repeated in the Discussion. Exhaustive reviews of the literature should be avoided.

*Acknowledgment.* Acknowledgments in this section should include technical assistance, advice from colleagues, gifts, etc. Prior permission must be obtained from persons whose contribution to the work is acknowledged in the manuscript. (Financial support should be acknowledged in the footnote to the title on the title page.)

~~Appendix~~ *Appendix* (begin new page following the Acknowledgment or end of text). An appendix contains necessary background information not included in the text. Its use is optional.

**\*** *References* (begin new page following the Acknowledgment). References should clearly identify the original contributor to the work being cited. The accuracy of the references is the responsibility of the author. Because subscribers to the Web edition of the Journal are now able to click on the "CAS" tag following each reference to retrieve the corresponding CAS abstract, reference accuracy is critical. Textual references should be cited by number (in italics) in order of appearance and put in the text in parentheses. Citations in the reference list at the end of the manuscript should be arranged and numbered (1., 2., etc.) in order of appearance. Please follow the punctuation pattern given in these examples: Wegner, A. (1979) *J. Mol. Biol.* 108, 839-853. Kossiakoff, A. A., and Spencer, S. A. (1981) *Biochemistry* 20, 6462-6474. Johnson, G. L., Mac Andrew, V. I., and Pilch, P. F. (1981) *Proc. Natl. Acad. Sci. U.S.A.* 78, 875-878. Inclusive pagination is optional, and authors may elect to cite the first page of an article only. Titles of journals are abbreviated according to *Chemical Abstracts Service Source Index*. Serial publications such as *Advances in Protein Chemistry*, *Methods in Enzymology*, and *The Proteins* should be listed in the same form as journals. References to chapters and monographs are listed as follows: Nelsestuen, G. L., Resnick, R. M., Kimm, C. S., and Pletcher, C. H. (1980) in *Vitamin K Metabolism and Vitamin K-Dependent Proteins* (Suttie, J. W., Ed.) pp 28-38, University Park Press, Baltimore, MD. Cite papers that have been accepted for publication as in press. Papers that are in preparation or have been submitted but not yet accepted should be cited in the text as unpublished experiments or personal communications. The author must obtain written permission to cite unpublished work of others or to use material taken directly from a copyrighted publication.

*Tables* (begin new page following the References). Use tables only when the data cannot be presented clearly otherwise. Tables should be numbered consecutively with Arabic numerals. Tables and footnotes should be double spaced and presented one per page. Provide a brief title for each table and a brief heading for each column. Clearly indicate the units of measure (preferably SI). Data should be rounded to the nearest significant figure. Give standard deviations if appropriate. Explanatory material referring to the whole table is to be included as a footnote to the title (\*). Table footnotes are always identified by superscript letters, lower case and italicized. Tables comparing amino acid or nucleotide sequences and any table that requires special treatment, such as insertion of arrows or other special symbols under or over alphanumeric characters, or contains many structures should be submitted as scanner-ready copy (single spaced). All tables and figures should be cited in the text and their approximate positions should be indicated in the margins of the text.

*Structures, Charts, and Schemes* (begin new page following the Tables). Scanner-ready copy with all components intact should be submitted with the manuscript. Structures may be represented in hand-drawn artwork or as prints produced using a drawing package. Each chart and scheme should be submitted on a separate page.

if you wish to show the Love!

\* **Figure Legends** (begin new page following the Structures). Submit the figure legends separately from the artwork, typed double spaced, all on a page together. The legend should include the figure number and a brief description, preferably one or two sentences or descriptive phrases. It should be understandable without reference to the text and should not include new material that is not in the text. Explain all symbols and abbreviations used in the illustrations. Simple symbols such as O, ■, and △ should be used. The use of error bars on the data points is recommended.

**Figures** (begin new page following the Figure Legends). Figures should appear one per page with the exception of those figures which contain  $\geq 2$  panels; these should appear on the same page. Figures should be kept to a minimum and should be used only to document experimental results or methods that cannot be adequately described in the text. The same data should not be presented in more than one figure or in a figure and table(s). Simple linear plots (e.g., double-reciprocal kinetic plots or calibration curves for the determination of molecular weights) that can be easily described in the text should be avoided. Diagrams of amino acid sequences should be prepared for efficient utilization of space. When three-letter abbreviations are used, for reduction to single-column width, each line should contain symbols for 15 amino acids, each symbol separated from the next by a hyphen (or comma when applicable). For double-column presentation, each line should contain three-letter symbols for 30 amino acid residues. For the presentation of extended protein sequences, one-letter abbreviations of amino acid residues should be used.

The preferred paper size for illustrations is 20 × 28 cm; this size should not be exceeded. Smaller illustrations, particularly when they are part of the same figure, should be pasted onto a 22 × 28 cm sheet. Photographs should be printed on smooth or glossy, high-contrast paper. Stereo diagrams should be submitted so that they can be reproduced in full size, with the interocular distance between similar points on the original between 5.5 and 6.5 cm. Defocused representations are preferred, and the representation used should be stated in the legend. Graphs should be drawn in India ink or with a high quality graphics plotter on plain white drawing paper. Symbols, letters, and numbers should be large enough to be readable after reduction of the graphs to single-column width. Only one set of original figures is needed; reproductions usually will suffice for other copies. *Photographs of electron micrographs, gels, and similar primary data should be provided in glossy prints for all copies since photocopies are unsatisfactory.* Please indicate if an illustration requires special treatment in order to show essential details that would not be reproduced well on regular stock.

Color illustrations should only be submitted if essential for clarity of communication. Authors should explain and justify the need for color when submitting their manuscript. If the Editor approves the request for use of color, the cost of color reproduction will be absorbed by the Journal. Authors will be informed if the Editor considers the use of such Journal funds unjustified.

**Supporting Information** (begin new section with new page numbering). Four clear copies, one of which should be a

high-contrast original, are required. Computer printouts are acceptable only if individual characters are clearly legible. The optimum size of submitted material is 22 × 28 cm. In no case should the size of the smallest character used be less than 1.5 mm. Captions or other identifying information should be inserted directly onto the scanner-ready material. The nature of the material should be indicated in a paragraph in the text, to follow the Acknowledgment, as follows: "Supporting Information Available" followed by a brief description of the material and the statement "This material is available free of charge via the Internet at <http://pubs.acs.org>". Supporting Information should be clipped together and put at the end of the manuscript with the heading: "Supporting Information for World Wide Web Edition". Figures and tables in the supplement should be numbered consecutively but independently of those in the body of the manuscript. Animated videos can be submitted for the on-line version of *Biochemistry*. Interested authors should consult with the Editor with regard to submission of material.

#### ACCEPTED PAPERS

**Proofs.** Correction of galley proofs is the responsibility of the submitting author. *Corrections other than printer's errors should be avoided because they are expensive and may cause a delay in publication.* Substantive changes will require editorial approval. Corrections should be marked in the margin only, with black or blue pencil. Corrections exceeding one sentence and insertions should be typed on a separate sheet of paper, and their intended location should be noted on the galley proof. It is the responsibility of the submitting author to ascertain that all coauthors agree with the corrections before the proofs are returned. *Galley proofs should be returned within 48 hours of receipt; otherwise, the publication of the manuscript may be delayed.* Do not return the galley proofs by FAX. No paper will be published or assigned to a specific issue until the proofs have been returned. Articles will be posted on the World Wide Web within a few days after receipt of galley proofs.

**Reprints.** Reprints must be ordered when the galley proof is received. A reprint order form, showing the cost of reprints, is included with the galley proof. A surcharge of \$100 per 100 reprints will be added to the cost of reprints containing color illustrations. Please return the reprint order form, with purchase order or check, using the enclosed envelope addressed to Cadmus Professional Communications. Reprints will be shipped within 2 weeks after the printed journal date. Corresponding authors will receive 50 free electronic reprints via an Electronic Reprint URL.

These instructions and the copyright status form are printed in the first issue of each volume. Please conform to these instructions when submitting manuscripts. As additional features become available, these instructions will be updated on the ACS files server. Publication information can be found at <http://pubs.acs.org> (select journals & magazines, then a title, and finally information for authors).

→ *Supplementary Material: Where calculations are to be included. One example of each TYPE of calculation.*

No more than 2 figures per page. Make them Big!!!