Manuscript Submission Requirements Checklist

Correspondence to the Editor-in-Chief should be addressed to:
Professor Bryan Brooks, Editor-in-Chief, ES&T Letters
EIC@estlett.acs.org

- Cover letter
- Title: Titles should be clear and concise; they must match between manuscript file and electronic submission.
- Author list with affiliations: must match between electronic entry and manuscript file
- Abstract
- Keywords and Synopsis
- Manuscript File: Clean with no highlighting or comments and all changes accepted.
- (Highly encouraged) Have a colleague in another field read as test for accessibility.
- Tables/Schemes/Figures: Text should be clear and legible, with fonts no smaller than 8 pt.
- Figures: must be labeled sequentially and match numbered references in article (manuscript and Supporting Information). Where appropriate, label all subsections by letter.
- Supporting Information (if any) must be included in the electronic submission.
- Table of Contents Graphic
- References: no specific format is required, but it must be sufficient to aid referees in their reviewing duties

Scope of the Journal

ES&T Letters is a cutting-edge journal for the rapid disclosure of urgent and impactful research results where immediate availability is of importance to the environmental science, engineering and health community. It publishes papers that describe significant scientific advances or novel technologies in the broad field of environmental science and technology. The journal invites brief communications (Letters) of experimental or theoretical results in all aspects of environmental science, both pure and applied. The journal also publishes brief reviews, highlighting urgent, timely and new and emerging themes in environmental research that may not yet have an extensive literature base but are gathering momentum and warrant greater exposure with the identification of further research needs. Finally, Global Perspectives is a new and unique article type providing rapid exposure, insights, critiques, syntheses and recommendations on urgent, timely and new global strategic directions, topics and ambitions in environmental science and technology. For all article types, authors should provide enough background information to place their work in context and to justify the rapid publication format. The editors place strong emphasis on the urgency, originality, and quality of the work.

The scope of ES&T Letters is broad, covering all areas of environmental science and technology including characterization of natural and affected environments, environmental processes, fate, transport and transformation in natural and engineered systems, environmental measurement methods, environmental aspects of nanotechnology, novel remediation and control technology, biogeochemical cycling, ecotoxicology and human environmental health, sustainability and energy and the environment. ES&T Letters focuses particularly on the chemistry of processes in the
environment, including those affected by human activities. This includes biological and physical phenomena that are specifically relevant to the understanding and management of the environment. *ES&T Letters* also publishes papers that describe significant scientific advances or novel technologies for remediation, control, and pollution prevention. The journal appeals to a multidisciplinary and diverse audience of scientists, policy makers and the broad environmental community.

Prospective authors are encouraged to review recent issues of *ES&T Letters* to gain an understanding of the topics that are of greatest interest to the journal’s readers, and they are expected to establish in their cover letters the relevance of their submissions to the community.

Note: Due to the volume of manuscripts we receive, *ES&T Letters* is unable to accept pre-submission inquiries.

**Thematic Section Headings**

Current *ES&T Letters* topical categories are as follows:

- Anthropogenic Impacts on the Atmosphere
- Biogeochemical Cycling
- Contaminants in Aquatic and Terrestrial Environments
- Data Science
- Ecotoxicology and Public Health
- Energy and Climate
- Sustainable Systems
- Treatment and Resource Recovery

These categories are periodically reviewed and may be changed.

**Manuscript Types**

*ES&T Letters* accepts the following manuscript types: Letters, Brief Reviews, Global Perspectives, Correspondence/Rebuttals and Additions and Corrections. A full description of each manuscript type is shown below:

**Letters** (length limit: 3,000 word-equivalents).

The length of a Letter can be up to 3,000 word equivalents and this includes 200 words for each graphic element such as a table or figure. For example, a document with two figures and one table (for a total of 600 word equivalents) could have 2400 written words in the manuscript and meet the 3000 word equivalent requirement. The abstract, figure captions, TOC art, acknowledgments, and references are not included in the word count. Manuscripts should not contain large tables of data or more than a few plots or schematics in a single figure.

*ES&T Letters Expectations*: *ES&T Letters* strives to publish Letters reporting only original research of broad scientific significance and environmental importance that is expected to have a definable impact on the advancement of environmental chemistry, science, technology, health and policy. Originality is defined as new experimental data, new interpretations of existing data, or new theoretical analyses of environmental phenomena. Significance will be judged with respect to the breadth of impact of the reported findings. *Manuscripts that report data of a routine nature will*
not be accepted. For example, studies that describe only the outcomes of standard laboratory tests, or field tests of limited scope, are not appropriate. Letters must state the relevance of the research to natural and/or engineered environmental systems and technologies, and papers that fail to demonstrate their environmental relevance will be rejected without external review. For example, it is not sufficient that the paper describe work on a compound that may occur in the environment if the study does not provide information that is clearly related to that compound’s fate, transport, transformation, or effects in the environment. Manuscripts that emphasize analytical chemistry research must provide a meaningful yet concise argument that the method represents a significant advance in the environmental field. Manuscripts that do not include results from the application of the method either to real environmental samples or to samples that simulate environmental samples in a meaningful manner will be declined. Authors should show that a new analytical method has been thoroughly developed and its quality ensured.

Letters that describe advances in environmental technologies may include works on remediation and control processes and on new processes for sustainability. These manuscripts should include evaluations performed under environmentally realistic conditions. Letters that describe laboratory-scale studies should make meaningful and unbiased comparisons to existing approaches but should not make claims about the economics or relative advantages of the technology without pilot- or full-scale validation studies or properly validated models. Papers describing advances in treatment technologies for remediation of contaminated environments or control of emissions should go beyond kinetics and treatability studies by exploring the mechanisms of the technology or developing process models to describe the technique. Routine treatability studies will not be considered for publication. Papers in the area of ecotoxicology and human environmental health should provide novel information on effects of chemicals or lead to new insights into the mechanisms and processes underlying effects of chemicals and other stressors. ES&T Letters also encourages submission of studies that address challenges associated with the "Replacement, Reduction and Refinement" of animal studies. At submission, authors must provide a short synopsis statement (approximately 20 words), placed after the abstract, stating the environmental relevance and significance of their research work. Authors are also expected to provide an explanation in their cover letter why they believe the manuscript belongs in ES&T Letters and why their research will interest our readers with an emphasis on the novelty and environmental relevance of the contribution.

ES&T Letters Minimum Requirements:

- All studies must clearly articulate the environmental relevance of the study to the broad ES&T Letters community.
- Studies should provide novel insights into relevant environmental processes or mechanisms, i.e. studies that only describe the outcomes of standard laboratory or field tests or commercially available products are not appropriate for publication in ES&T Letters.
- An assessment of uncertainty or sensitivity analysis should be included in reported data where applicable, with adequate quality assurance/quality control reported. New analytical methods should be thoroughly developed and quality ensured.
- Manuscripts should include evaluations performed under environmentally realistic conditions and concentrations. Concentrations and treatment levels should be reported as measured and not nominal. Ensure that key variables are measured and reported if relevant (e.g., pH).
- Manuscripts on toxicity and ecotoxicity should include positive and negative controls, and consider multiple concentrations relevant to environmental exposures and/or a time-course study. Results should inform AOPs or mechanisms of action.
- The scope of the reported data in ambient monitoring studies must yield conclusions applicable to more than the particular site or time when the data were taken, i.e. findings
should not be location specific representing a case study, but rather generalizable and/or transferable to other contexts.

- Studies on environmental contaminants should provide information that is clearly related to that compound’s fate, transport, transformation and/or effects in the environment.
- Manuscripts on adsorption should consider kinetics as well as isotherms. First-principle models of mass transfer are preferred over purely empirical models.
- Manuscripts that emphasize chemical engineering, new catalysts synthesis or analytical chemistry must provide a concise argument that the research represents an advance that is of primary importance to the environmental field, and include comparison to state-of-the-art approaches where appropriate.
- Manuscripts on novel materials (e.g. sorbents or catalysts) should demonstrate the materials have been tested under at least one environmental condition using relevant concentrations of target contaminant.
- Manuscripts on air quality and particulate matter should include adequate characterization of the particles relevant to the study.
- Articles describing advances in treatment technologies for remediation of contaminated environments or control of emissions should go beyond kinetics and treatability studies by exploring the mechanisms of the technology, or develop process models to describe the technique.
- If a manuscript proposes a new application, a general energy analysis or life-cycle assessment should be provided and compared against conventional methods.
- Articles that describe laboratory-scale studies should make meaningful and unbiased comparisons to existing approaches but should not make claims about the economics or relative advantages of the technology without pilot- or full-scale validation studies or properly validated models.

Manuscripts that report on findings of a less urgent nature may be submitted to Environmental Science & Technology (ES&T) as a full research article.

Letters are reviewed initially by the Editor-in-Chief, then, if appropriate, by an assigned editor and then, if appropriate, by other scientists who assess the significance, originality, and validity of the work. The Editor-in-Chief and associate editors, listed in the ES&T Letters masthead, make final decisions about all research material published in ES&T Letters.

**Brief Reviews** (length limit: 5,000 word-equivalents).

Brief Reviews are intended to highlight urgent, timely and new and emerging themes that may not yet have an extensive literature base but are gathering momentum and warrant greater exposure and the consideration of forward research needs. Brief Reviews should improve readers’ knowledge through discriminating comparisons and insightful organization of the material. Criteria for acceptability include the current importance of the field under review, the thoroughness of the literature coverage, clarity, and clear identification of research needs.

The length of a Brief Review can be up to 5,000 word equivalents and this includes 200 words for each graphic element such as a table or figure. For example, a document with two figures and one table (for a total of 600 word equivalents) could have 4400 written words in the manuscript and meet the 5000 word equivalent requirement. The abstract, figure captions, TOC art, acknowledgments, and references are not included in the word count. Manuscripts should not contain large tables of data or more than a few plots or schematics in a single figure.
At submission, authors must provide a short synopsis statement (approximately 20 words), placed after the abstract, stating the environmental relevance and significance of their work. Authors are also expected to provide an explanation in their cover letter why they believe the manuscript belongs in *ES&T Letters* and why their research will interest our readers with an emphasis on the novelty and environmental relevance of the contribution.

**Global Perspectives** (length limit: 3,000 to 5,000 word-equivalents).

Global Perspective manuscripts will provide rapid exposure, insights, critiques, syntheses and recommendations on urgent, timely and new global strategic directions, topics and ambitions in environmental science and technology. Global perspective articles will highlight topics gathering global attention and funding. These will be in response to emerging environmental challenges such as chemical and biological impacts of environmental concern, global population expansion, demands for clean water, and food and energy demand increases alongside a context of global climate change. Global Perspectives are peer-reviewed, and may be invited or contributed without invitation.

Please note: Potential authors of Global Perspectives must first submit a proposal and cover letter (via the *ES&T Letters* submission site in the ACS Paragon Plus Environment). The proposal, to be uploaded as a single manuscript file, should include the following details:

1. Proposed title
2. Author names and affiliations
3. Corresponding author’s email address, profile on institutional website (if available), and Google Scholar, Web of Science, or Scopus profile
4. Abstract (length limit: 500 words)
5. Topical outline (length limit: three pages), indicating the headings of sections and subsections, a brief discussion of the proposed content of each section, and key references for each section
6. List of up to five of the authors’ papers related to the Global Perspective topic
7. List of key previous articles on the subject in the past 5 years
8. Justification for the need for a Global Perspective on the topic targeting the broader readership of *ES&T Letters*

An assigned editor will issue a decision on the proposal and if approved, the authors will be invited to submit a full Global Perspective for further consideration. If the full Global Perspective is favorably received by the assigned editor, the manuscript will then undergo peer review.

At submission of the full Global Perspective article, authors must provide a short synopsis statement (approximately 20 words), placed after the abstract, stating the environmental relevance and significance of their Global Perspective. Authors are also expected to provide an explanation in their cover letter why they believe the manuscript belongs in *ES&T Letters* and why their research will interest our readers with an emphasis on the novelty and environmental relevance of the contribution.

**Correspondence/Rebuttal** (length limit: 1,000 word-equivalents each including citations).

Readers are encouraged to provide scholarly comment on papers appearing in the research section (Letters, Brief Reviews, Global Perspectives). Correspondence should be submitted within twelve months of the publication date of the original paper, with some flexibility in exceptional
circumstances, and must raise substantive scientific or technical questions. Correspondence that consists mainly of opinion will not be considered. The author(s) of the original paper will be given an opportunity to prepare a response within one month of receiving the Correspondence. Correspondence on previously published Correspondence will not be considered, and personal invective will not be tolerated. Correspondence/Rebuttal may undergo peer review at the determination of the assigned editor. The correspondence and the rebuttal will be published consecutively in the same issue.

**Additions and Corrections (Errata)** These contributions may be used by the authors of a paper to correct errors and omissions of consequence that are identified after publication. Readers who also detect errors of consequence in the work of others should contact the corresponding author of the paper in question. Additions and Corrections must be approved by all coauthors before submission. All Additions and Corrections are subject to editorial approval, and corrections of minor errors or omissions will not be published.

**ACS Publishing Center**

While these *ES&T Letters* author guidelines will provide basic information on how to prepare and submit the manuscript as well as other critical information about publishing, we also encourage authors to visit the ACS Publishing Center for additional information on everything that is needed to prepare (and review) manuscripts for ACS journals and partner journals, such as

- **Mastering the Art of Scientific Publication**, which shares editor tips about a variety of topics including making your paper scientifically effective, preparing excellent graphics, and writing cover letters.
- Resources on [how to prepare and submit a manuscript](https://pubs.acs.org/doi/pdf/10.1021/acs.est.0c05784) to ACS Paragon Plus, ACS Publications’ manuscript submission and peer review environment, including details on selecting the applicable Journal Publishing Agreement.
- **Sharing your research** with the public through the ACS Publications open access program. There are no fees to publish in *ES&T Letters* unless you opt for the ACS AuthorChoice open access program. The ACS AuthorChoice program allows you to publish your manuscript as open access for a fee, so that readers who do not subscribe to the journal are able to access your publication at no additional cost to them.
- **ACS Reviewer Lab**, a free online course covering best practices for peer review and related ethical considerations.

**Manuscript Preparation**

**Quality Expectations**

Clearly articulating the importance of your research and the quality of presentation of your manuscript will have an important impact on the ease with which it can undergo peer review and the impression it gives to reviewers of its overall quality. If your writing is rambling, fails to establish the purpose of the research, provides an incoherent discussion, puzzling figures, or inappropriate scales on graph axes, the technical merits of your research will be less easy to recognize. Please articulate clearly the purpose of your work, write concisely and with clarity, and provide well thought-out and clearly presented figures and tables with appropriate considerations of the magnitude of error. This will significantly increase the likelihood that we will publish your research. *ES&T Letters* is aligned with *ES&T* regarding article quality submission standards ([https://pubs.acs.org/doi/pdf/10.1021/acs.est.0c05784](https://pubs.acs.org/doi/pdf/10.1021/acs.est.0c05784)).
Submit with Fast Format

All ACS journals and partner journals have simplified their formatting requirements in favor of a streamlined and standardized format for an initial manuscript submission. Read more about the requirements and the benefits these serves authors and reviewers here. Manuscripts submitted to *ES&T Letters* for initial consideration must adhere to these standards:

- The preferred format for *ES&T Letters* manuscript files is a Microsoft Word document with the text and all graphics, including Table of Content art (TOC art), embedded within that single Word file.
- The text of all article types should be double-spaced in a single column with the lines numbered consecutively in a separate column at the margin.
- Submissions must be complete with clearly identified standard sections used to report original research, free of annotations or highlights, and include all numbered and labeled components.
- Figures, charts, tables, schemes, and equations should be embedded in the text at the point of relevance. Separate graphics can be supplied later at revision, if necessary.
- References can be provided in any style, but they must be complete, including titles. For information about the required components of different reference types, please refer to the [ACS Style Quick Guide](#).
- Supporting Information should be submitted as a separate file(s).

**Document Templates and Format**

The use of manuscript templates is not required for *ES&T Letters*. They may be useful to consult to approximate how an article will compose. Learn more about document templates:

- [Microsoft Word 2011 Template](#) for Macintosh
- [Microsoft Word 2010 Template](#) for Windows | [README file](#) [PDF]

Additional generic instructions for submission of manuscripts and Supporting Information are available at the [ACS Publishing Center](#). General information on the preparation of manuscripts can also be found in the [The ACS Style Guide](#).

**Length limits.** The length limits for each article type are listed in the Article Types section. Article length can be determined by counting all text, excluding title page, references, and figure/table captions. Next, add 200 words for each small figure, scheme, or table that takes up part of a page. Large multipart figures, extensive tables, detailed maps or chemical pathways taking up a page or more should be counted as 600 words. At the discretion of the assigned editor, some figures or tables may be counted as more than 600 words.

Manuscripts that exceed the length limit will be un-submitted (returned to the Draft section in Paragon Plus) with a request to shorten, or they may be immediately rejected. To reduce length, make the Introduction and Discussion sections more concise. In addition make appropriate use of Supporting Information (SI; see below), which is readily available to all readers of the manuscripts on the *ES&T Letters* website.

Authors who believe that exceeding the length limit is essential must include a compelling argument in their cover letters. Ultimately, however, the decision about whether a manuscript that
exceeds the recommended length is appropriate for review is made by the assigned editor.

**Acceptable Software, File Designations, and TeX/LaTeX**

See the list of [Acceptable Software](#) and appropriate [File Designations](#) to be sure your file types are compatible with ACS Paragon Plus. Information for manuscripts generated from [TeX/LaTeX](#) is also available. Please also see Appendix 3 for a list of copyright-compliant graphics programs and graphics websites in the creation of figures, TOC art, and front cover artwork.

**Cover Letter**

A cover letter must accompany every manuscript submission. During the submission process, you may type it or paste it into the submission system, or you may attach it as a file.

The cover letter should include:

- manuscript title
- corresponding author’s name
- corresponding author’s mailing address
- corresponding author’s phone number, fax number, and e-mail address
- comments on a) the manuscript’s significance and b) the need for urgent publication
- list of related work submitted or published if relevant

Authors should note that a clear statement of the manuscript’s goals and significance can be very helpful to the Editors during the prescreening process. Authors are also expected to provide an explanation in their cover letter why they believe the manuscript belongs in *ES&T Letters* and why their research will interest our readers with an emphasis on the novelty and environmental relevance of the contribution.

**Manuscript Text Components**

Spell out all acronyms on first use in the abstract and in the body of the article. *ES&T* Letters does not allow footnotes, with the exception of an author information footnote on the title page and table detail/definition footnotes.

**Elements of a Manuscript**

The various sections of the manuscript are described in detail below:

- Title and authorship
- Abstract, keywords and synopsis
- Graphic for Table of Contents (TOC)/Abstract Art
- Introduction
- Materials and Methods
- Results and Discussion
- Abbreviations
- Acknowledgment
- Funding Sources
- References
- Tables and Figures
Title. Use a brief, specific, and informative title reflecting the content and emphasis of the paper. Keywords in titles assist in effective literature retrieval. If trade names are used, give generic names in parentheses. Avoid abbreviations or acronyms and spell out in full.

Authorship. List the full first name, middle initial(s), and last name of each author. Omit professional and official titles. An author’s affiliation should be based on where they were when the work was performed. When the present address of an author is different, include the new information in a footnote. In a paper with more than one author, the name of the corresponding author, to whom post-publication inquiries should be addressed, carries an asterisk (*). Provide an email address for the corresponding author.

Many Funders and Institutions require that institutional affiliations are identified for all authors listed in the work being submitted. ACS facilitates this requirement by collecting institution information during the manuscript submission process in ACS Paragon Plus (Step 2 in Paragon Plus: Authors and Affiliations).

Include as co-authors all those who have made a substantial contribution to the work. All authors must have participated in the preparation of the manuscript and must have agreed to the version of the manuscript, supporting information, and all revisions submitted. Addition or deletion of an author(s) after submission of the manuscript requires justification from the corresponding author and is subject to editorial approval. Deceased persons who meet the criteria for inclusion as coauthors should be included, with an Author Information note indicating the date of death.

Abstract, Keywords and Synopsis.
Abstract. All Letters, Brief Reviews and Global Perspectives must contain an abstract, not exceeding 200 words, which should state briefly the purpose of the research, methods or procedures, significant new results and implications. Define any abbreviations or acronyms used in the abstract. Do not include reference numbers in the abstract.

Keywords. Letters, Brief Reviews and Global Perspectives must be accompanied by 5–8 keywords. Authors are encouraged to include keywords that do not appear in the title. Indicate the keywords in the cover letter as well as in the manuscript file.

Synopsis. Letters, Brief Reviews and Global Perspectives should include a synopsis. A synopsis is a brief and succinct statement (~20 words) of the environmental implications and impact of your research work to the environmental research community. The synopsis should be a complete sentence. The synopsis is NOT a description of the TOC/Abstract graphic.

Graphic for Table of Contents (TOC)/Abstract Art. A graphic for the Table of Contents (TOC) must be supplied with each Letter, Brief Review and Global Perspective. This graphic, in conjunction with the manuscript title, should give the reader a summary of the research described in the paper. It should be simple and relatively free of text and technical characters, and make use of color for visual impact. Abstract art may include a photograph of a field site or a schematic
portraying the central findings of the paper. The TOC graphic is published in the Abstract of the manuscript. It is also used in other situation in which a representative graphic is needed (e.g. social media). Avoid using figures of data that are already in the manuscript. Please consult a recent issue of the journal for examples. Guidelines for TOC/Abstract Art specifications are also available. Please also see Appendix 3 for a list of approved graphics programs that have acceptable copyright agreements in place for the commercial use of graphics drawn by the author.

All portions of the TOC graphic must have been created by the authors of the paper. Material not actually created by the authors cannot appear in TOC graphics even if the copyright owner of the material does not want credit.

Size requirement = 240-point width by 135-point height (3.25" x 1.75"; approx. 8.25 cm by 4.45 cm)

Additional specifications:
- Images must be original (not previously published) and created by one of the authors of the paper.
- No copyright, credit, permission, or attribution statements are allowed.
- No captions or legends are permitted.
- Photographs may not show any identifiable individuals unless a model release is provided for ALL identifiable individuals. Any photographs must have been taken by an author of the paper.
- No copyrighted, public domain, Creative Commons license, ClipArt, or stock photo material may be used.
- No postage stamps, currency, or trademarked items (company or institutional logos, images, and products) may appear in the graphic.
- No maps may be used.
- TOC art is subject to final approval by the assigned editor.
- Authors must certify in their cover letters that they have complied with this TOC art policy and confirm that the submitted image was created by an author and has never been published.

Introduction
The introduction should clearly and concisely explain the motivation for the work, its importance and originality, where it fits in the development of the field and why it should be of interest to ES&T Letters readers. Discuss relationships of the study to previously published work, but do not reiterate or provide a complete literature survey. If a recent article has summarized work on the subject, cite that article only, and not the sources it cites. Current findings should not be included or summarized in this section. Introduction sections are typically around 500 words in length.

Materials and Methods. In this section, describe pertinent and critical factors involved in the experimental work but avoid excessive description. In many cases, details not essential for understanding the paper can be placed in Supporting Information (SI). However, placing all the experimental methods, or critical aspects of the methods, in the Supporting Information is not permitted. Specific experimental methods should be sufficiently detailed for others to repeat the experiments unequivocally. List and describe preparation of special reagents only. List devices of a specialized nature or instruments that may vary in performance or affect the quality of the data obtained (e.g. spectroscopic resolution), including the vendor. If the procedures are already published, provide citations to previous publications and expand only on differences in the current
work. Authors must emphasize any unexpected, new, and/or significant hazards or risks associated with the reported work and this safety information must be included in the Materials and Methods section.

**Results and Discussion.** Here you can discuss your findings, postulate explanations for the data, elucidate models and compare your results with those of others. Be complete but concise. Avoid irrelevant comparisons or contrasts, any speculation unsupported by the data presented and verbose discussion.

Results and discussion may be combined or separated into separate sections. Do not include a Conclusions or Summary section. Include major conclusions in the body of the Results and Discussion sections.

**Abbreviations.** Specialized abbreviations may be used provided they are placed in parentheses after the word(s) at first point of use. Do not include a separate Abbreviations list. Use SI units, and consult the [The ACS Style Guide](https://www.acs.org/content/acs/en/home/style-guides/acs-style-guide.html) for lists of SI units and preferred forms of commonly used abbreviations.

**Acknowledgment.** Include only essential credits to acknowledge financial or professional assistance to the conduct of research. Sources of financial support must be acknowledged. Omit academic and social titles.

**Funding Sources.** Authors are required to report ALL funding sources and grant/award numbers relevant to their manuscript. To meet this requirement, the submitting author must enter all sources of funding for ALL authors relevant to the submission in BOTH the Open Funder Registry tool in ACS Paragon Plus submission site, and in the manuscript. See [http://pubs.acs.org/page/4authors/funder_options.html](http://pubs.acs.org/page/4authors/funder_options.html) for complete instructions. In the manuscript, funding should be acknowledged in the acknowledgment section.

**Institution Indentification** Many funders and institutions require that institutional affiliations be identified for all authors listed in the work being submitted. ACS facilitates this requirement by collecting institution information during manuscript submission under Step 2: Authors and Affiliations in ACS Paragon Plus.

**References.** All article types in *ES&T Letters* use the same reference style. Authors are encouraged to cite peer-reviewed works and books. Any references in publications that would be difficult for most reviewers to obtain or are unpublished should be uploaded into the *ES&T Letters* Paragon Plus submission site as Information for ‘Review Only’.

References should be numbered in order of appearance in the text, and the corresponding numbers placed at the appropriate locations in the text as superscripted numerals without parenthesis.

For work published online but not yet in an issue (ASAP) and work submitted for publication (e.g., submitted; in press), the digital object identifier (DOI) of the paper should be furnished in addition to the standard bibliographic information. DOI is an accepted form of citation before and after the article appears in an issue. The title of a journal article should be in sentence format (first letter capitalized, with the remaining title in lower case).

In the Web edition of the Journal, references will be linked to various electronic sources (e.g., the corresponding abstract from Chemical Abstracts Service, full text from other American Chemical...
Society journals, etc.; therefore, the accuracy of the references is critical. Authors are responsible for the accuracy of the references.

Examples of reference formats are available [here](#). Authors can also consult [The ACS Style Guide](#) for additional information on reference style and format. In literature references, article titles must be included and journal abbreviations should be those used in the [Chemical Abstracts Service Source Index (CASSI)](#). Examples of journal and book citations are:


**Tables and Figures**

Tables and figures should be carefully designed to maximize presentation and comprehension of the experimental data with superfluous information excluded. Please see Appendix 3 for a list of approved graphics programs and websites that have acceptable copyright agreements in place for commercial use of graphics and images.

**Tables.** Tables should be simple, concise, and supplement, not duplicate, information presented in the text and figures. Tables should be embedded in the text at the point of relevance, and be furnished with appropriate titles of one phrase or sentence. The title should be understandable without reference to the text. Details or definitions should be placed at the bottom as footnotes. Tables should be numbered consecutively with Arabic numbers (i.e., 1, 2, …). Double-space them with wide margins, ensure that each data entry is placed in its own cell, and prepare tables in a consistent format, preferably using a word processor’s table format feature.

**Figures.** Please see Appendix 2 for further details on how to prepare your figure graphics, and Appendix 3 for a list of approved graphics programs and websites that have acceptable copyright agreements in place for the commercial use of drawn graphics and copied images. All figure graphics must be prepared and submitted in digital format and preferably embedded in the text at the point of relevance. Graphics should be numbered consecutively with Arabic numbers (i.e., 1, 2, …) and accompanied by a caption. It is also acceptable to submit separate TIFF, PDF, EPS (vector artwork), or CDX (ChemDraw file) files. If separate graphic files are submitted, they should be named in a manner clearly identifying their function (e.g., Scheme 1, Figure 1). Each separate graphic file must also include the caption for the respective graphic in the manuscript itself.

Each figure graphic should have good resolution, be clear, concise, and complete and use legible font. Colors may be used to enhance graphics. Graphics must meet the journal’s minimum quality standards or will be returned to authors for improvement. Any graphic (figure, chart, scheme or equation) that has appeared in an earlier publication should include a [Credit Line](#) citing the original source. Authors are responsible for obtaining [written permission](#) to re-use this material.
Special requirements for EPS and TIFF files graphics (both when embedded in a Word file and when submitted separately):

- EPS files: All fonts must be converted to outlines or embedded in the graphic file. The document settings should be in RGB mode.
- TIFF files: Black & white line art must have a resolution of 1200 dpi; grayscale art (a monochromatic image containing shades of gray) must have a resolution of 600 dpi; and color art (RGB color mode) must have a resolution of 300 dpi.

In addition, ACS Authoring Services can prepare your figures, tables and illustrations to the exact specifications of the journal on your behalf. This includes changes to file type, resolution, color, space, font, scale, line weights and layout (to improve readability and professional appearance).

Formulae and Equations. Chemical formulas should be embedded in the text at the point of relevance and should correspond to the ACS Style Guide. Chemical equations should be balanced and numbered consecutively along with mathematical equations. Mathematical arguments should be as brief as possible.

Chemical Structures. Chemical structures should be produced with the use of a drawing program such as ChemDraw.

Web Enhanced Objects (WEO)
The web editions of ACS journals allow readers to review multimedia attachments such as animations and movies that complement understanding of the research being reported. WEOs should be uploaded in ACS Paragon Plus with ‘Web Enhanced Object’ selected as the file designation. Consult the list of compatible WEO formats.

Supporting Information. Ancillary data and material of interest mainly to specialists is placed in Supporting Information to shorten the length of text in research manuscripts. Please see the section on Supporting Information (SI) (Optional) for further details below.

Front Cover Artwork. ES&T Letters features a different image on the front cover of each issue. The cover art image is usually related to work that is published in that particular issue of the journal. Authors are encouraged to submit images to be considered for use on future front covers at the time of their initial submissions.

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Appendix 1: PREPARING FOR SUBMISSION

We’ve developed ACS’ publishing and editorial policies in consultation with the research communities that we serve, including authors and librarians. Browse our policies below to learn more.

Ethical Guidelines

ACS editors have provided Ethical Guidelines for persons engaged in the publication of chemical
research—specifically, for editors, authors, and reviewers. Each journal also has a specific policy on prior publication.

Safety Considerations

Authors must emphasize any unexpected, new, and/or significant hazards or risks associated with the reported work. This information should be in the Experimental Section of a full article and included in the main text of a letter. Statement examples can be found in the Safety Statement Style Sheet and additional information on communicating safety information from the ACS Guide to Scholarly Communication is freely available here.

Conflict of Interest Disclosure

A statement describing any financial conflicts of interest or lack thereof is published in each ACS journal and partner journal article.

During the submission process, the Corresponding Author must provide a statement on behalf of all authors of the manuscript, describing all potential sources of bias, including affiliations, funding sources, and financial or management relationships, that may constitute conflicts of interest. If the manuscript is accepted, the statement will be published in the final article.

If the manuscript is accepted and no conflict of interest has been declared, the following statement will be published in the final article: “The authors declare no competing financial interest.”

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In publishing only original research, ACS is committed to deterring plagiarism, including self-plagiarism. ACS Publications uses CrossCheck's iThenticate software to screen submitted manuscripts for similarity to published material. Note that your manuscript may be screened during the submission process.

Further information about plagiarism can be found in Part B of the Ethical Guidelines to Publication of Chemical Research. See also the press release regarding ACS' participation in the CrossCheck initiative.

Author List and Coauthor Notification

Authors are required to obtain the consent of all their coauthors prior to submitting a manuscript. The submitting author accepts the responsibility of notifying all coauthors that the manuscript is being submitted.

If any change in authorship is necessary after a manuscript has been submitted, the Corresponding Author must e-mail a signed letter to the Editor-in-Chief confirming that all of the original coauthors have been notified and have agreed to the change. If the change involves the removal of a coauthor’s name, the Corresponding Author must, in addition, arrange for the coauthor involved to e-mail a separate signed letter to the Editor-in-Chief consenting to the change. No changes in the author list will be permitted after a manuscript has been accepted.

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Authors are responsible for ensuring that all patent activities and intellectual property issues are satisfactorily resolved prior to first publication (ASAP or in issue). Acceptance and publication will not be delayed for pending or unresolved issues of this nature.

**Open Researcher and Contributor ID (ORCID)**

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Appendix 2: Preparing Graphics

Resolution

Digital graphics pasted into manuscripts should have the following minimum resolutions:

- Black and white line art, 1200 dpi
- Grayscale art, 600 dpi
- Color art, 300 dpi

Size

Graphics must fit a one- or two-column format. Single-column graphics can be sized up to 240 points wide (3.33 in.) and double-column graphics must be sized between 300 and 504 points (4.167 in. and 7 in.). The maximum depth for all graphics is 660 points (9.167 in.) including the caption (allow 12 pts. For each line of caption text). Lettering should be no smaller than 4.5 points in the final published format. The text should be legible when the graphic is viewed full-size. Helvetica or Arial fonts work well for lettering. Lines should be no thinner than 0.5 point.

Color

Color may be used to enhance the clarity of complex structures, figures, spectra, and schemes, etc., and color reproduction of graphics is provided at no additional cost to the author. Graphics intended to appear in black and white or grayscale should not be submitted in color.

Type of Graphics

Table of Contents (TOC)/Abstract Graphic

Consult the Guidelines for Table of Contents/Abstract Graphics for specifications.

Figures

A caption giving the figure number and a brief description must be included below each figure. The caption should be understandable without reference to the text. It is preferable to place any key to symbols used in the artwork itself, not in the caption. Ensure that any symbols and abbreviations used in the text agree with those in the artwork.

Charts

Charts (groups of structures that do not show reactions) may have a brief caption describing their contents.
Tables

Each table must have a brief (one phrase or sentence) title that describes the contents. The title should be understandable without reference to the text. Details should be put in footnotes, not in the title. Tables should be used when the data cannot be presented clearly in the narrative, when many numbers must be presented, or when more meaningful inter-relationships can be conveyed by the tabular format. Tables should supplement, not duplicate, information presented in the text and figures. Tables should be simple and concise.

Schemes

Each scheme (sequences of reactions) may have a brief caption describing its contents.

Chemical Structures

Chemical structures should be produced with the use of a drawing program such as ChemDraw.

Cover Art

*ES&T Letters* authors are encouraged to submit images to be considered for use on the journal’s front cover or Supplementary Covers at the time of the submission of their revised manuscript. If your article is accepted for publication, your artwork suggestion may also be selected for use on one of the journal’s covers. If your art is selected for front cover, ACS will send you information about how to request one complimentary 18” by 24” printed poster featuring your work.

Cover image submissions should be eye-catching, imaginative and original. Unpublished images are encouraged. The cover image should not resemble a graphical abstract or data figure, but rather should be an artistic and scientifically accurate representation of the manuscript.

Image files should be submitted as TIF, JPG, PNG or EPS files with a resolution of at least 300 dpi for pixel-based images. Images should be 8.19 in × 10.00 in. (or 20.80 cm × 25.40 cm). Please note that the journal title will cover the top 3 in. (7.62 cm) of the image. Authors should submit the cover image along with a 5-10 word caption explaining the artwork, and a short, clear legend (less than 50 words) that will appear alongside the front cover explaining the image, as supplementary files to ACS Paragon Plus with their revised manuscript.

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Appendix 3: Approved Graphics Programs

Web Enhanced Objects (WEO)

The Web editions of ACS journals allow readers to view multimedia attachments such as animations and movies that complement understanding of the research being reported.
WEOs should be uploaded in ACS Paragon Plus with ‘Web Enhanced Object’ selected as the file designation. Consult the list of compatible WEO formats.

**Approved Graphics Programs and Websites with Compliant Copyright Licenses for Commercial Use**

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- Adobe (standard license)
- TurboSquid (royalty free license)
- Cinema4D (www.maxon.net)
- Pexels
- Pickit
- Freeimages.com
- Autodesk 3DS Max 2015 software
- Photoshop
- Inkscape
- Dreamstime.com
- ChemDraw
- PyMOL
- Microsoft ClipArt
- Wordclouds.com
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- Megapixel (royalty free license)
- Protein Database
- Visual Molecular Dynamics (VMD)
- gettyimages.com
- Protter
- Shade 3D
- 3D Max
- QGIS software (uses GNU General Public licenses)
- "R" software (uses GNU General Public license)
- SVG Map v 1.5
- GIMP
- Avogadro Software
- 3D Sketchup Software
- Solidworks
• ArcGIS
• Affinity Designer (v 1.7, Serif Europe Ltd.)
• dreamgenerator.com
• XCrySDen
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