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Scope of the Journal

ACS Sustainable Chemistry & Engineering publishes content that address challenges of sustainability in the chemical enterprise and advance principles of Green Chemistry and Green Engineering. Examples of topics in the journal's scope include Green Chemistry, Green Manufacturing and Engineering, Biomass or Wastes as Resources, Alternative Energy, and Life-Cycle Assessment.

Potential authors are encouraged to read the following Editorial articles for guidance on scope:

- [Why Wasn't My ACS Sustainable Chemistry & Engineering Manuscript Sent Out for Review? Shaping Effective Practices for Incorporating Sustainability Assessment in Manuscripts Submitted to ACS Sustainable Chemistry & Engineering: An Initiative by the Editors](#)
- [Shaping Effective Practices for Incorporating Sustainability Assessment in Manuscripts Submitted to ACS Sustainable Chemistry & Engineering: Biomaterials](#)
- [Shaping Effective Practices for Incorporating Sustainability Assessment in Manuscripts Submitted to ACS Sustainable Chemistry & Engineering: Catalysis and Catalytic Processes](#)
- [Effective Assessment Practices for Using Sustainability Metrics: Biomass Processing](#)
- [Nanotechnology for Sustainability in ACS Sustainable Chemistry & Engineering: Some Pointers](#)
- [Advancing the Use of Sustainability Metrics in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Papers on Photochemistry, Photoelectrochemistry, and Electrochemistry for Energy Conversion and Storage in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Papers on Sustainable Materials in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts on Catalysis in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts with Nanoscience and Nanotechnology Elements in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts on Industrial Ecology in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts on Biomass Feedstocks and Processing in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts Contributing to the Field of Solvents in ACS Sustainable Chemistry & Engineering](#)
- [Expectations for Manuscripts Contributing to the Field on Management of Synthetic Chemicals in ACS Sustainable Chemistry & Engineering](#)

Correspondence should be addressed to the Editor-in-Chief at eic@sustain.acs.org.

Manuscript Types

Authors are reminded to heed the noted word limits and avoid unnecessary delays in manuscript handling. Write concisely. Heed the word limits; a request to exceed them will result in critical editorial review. Do not repeat information, graphics, or tables that have appeared elsewhere. Use illustrative data rather than complete data where appropriate. Shorten manuscript text by designating appropriate material as Supporting Information (see below).

Letters. These manuscripts, with a 3000 word-equivalent limit, are preliminary but original works of broad scientific significance that merit faster publication time. Originality is defined as new experimental data, new interpretations of existing data, or new theoretical analyses of 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. Read this [Editorial](#) that encourages Letters from emerging scholars, which are submissions where the first author is a doctoral student or postdoctoral fellow. The first author's status must be specified in the cover letter.

Articles. These manuscripts, with a 7000 word-equivalent limit, are original works of broad scientific significance. Originality is defined as new experimental data, new interpretations of existing data, or new theoretical analyses of 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.

Viewpoints. These 1,000 word-equivalent maximum manuscripts are a type of written content that expresses the author's opinion on a particular topic or issue. Do not include an abstract, only 5-6 keywords, a short synopsis (~30 words) and a graphical abstract, plus the 1,000 words Viewpoint article on the subject under discussion. Viewpoints are inherently subjective, and they reflect the writer's personal views, beliefs, and interpretations. In a Viewpoint, the author often argues for or against a specific idea, policy, or position, and persuasive language and evidence may be used to support their viewpoint offering diverse perspectives and encourage critical thinking among readers. Authors may be invited by the Editor to submit Viewpoints but unsolicited Viewpoints will be considered as well. Authors interested in submitting a Viewpoint are strongly encouraged to contact the Editor with a query prior to document preparation and submission: admin@resource.acs.org.

Note: Viewpoints are NOT peer-reviewed but are reviewed internally by at least 2 members of the Editorial team.

Perspectives. *ACS Sustainable Chemistry & Engineering* welcomes perspectives from all researchers and practitioners of the field. Please read our detailed editorial outlining our [Expectations for Perspectives](#). Perspectives are thoroughly documented assessments of selected areas of the sustainable chemistry and engineering research literature. Perspectives go beyond reviewing a research topic and *critique* the reviewed literature in the context of sustainable chemistry and engineering: delineating research gaps, highlighting debate and disagreement, and emphasizing the remaining challenges. Perspectives should increase readers' knowledge through discriminating comparisons and insightful organization of the material. These manuscripts are limited to 10,000 word-equivalents. Where appropriate, we encourage authors to consider assembling an international team with complementary aptitude or expertise to critically cover and assess the science, technology, and sustainability aspects of the reviewed topic. Criteria for acceptability include current importance of the field under review, thoroughness of the literature coverage, clarity, and clear identification of research needs. We *strongly encourage* authors to submit an outline document of their proposed Perspective to Executive Editor Bala Subramaniam at admin@sustain.acs.org for feedback prior to submitting a fully developed version of their manuscript. The proposal outline document should show clear evidence of the desired attributes stated our [editorial](#) to solicit feedback that either encourages or discourages the submission of a full version of the Perspective manuscript. Note that encouragement to submit a full version does not guarantee its acceptance. Rather, it means that the submitted full version is more likely to be sent for external review if it possesses the requisite attributes and clearly addresses any feedback. All authors should note that the opportunity to provide feedback on a proposed Perspective prior to submission is reserved *only* for Perspectives and *not* for other manuscript types.

Letters to the Editor. Readers are encouraged to comment on all article types. Contributions are limited to 500 words + author affiliations. They should be submitted within 18 months of the ASAP publication date of the original material. The author(s) of the original material will be allowed to reply to Letters to the Editor, provided they do so rapidly.

ACS Researcher Resources

While this document 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 [ACS Researcher Resources](#) 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](#) to the ACS Publications manuscript submission and peer review system, including details on selecting the applicable [Journal Publishing Agreement](#).
- [Sharing your research](#) with the public through the ACS Publications open access program.
- [ACS Reviewer Lab](#), a free online course covering best practices for peer review and related ethical considerations.
- [ACS Author Lab](#), a free online course that empowers authors to prepare and submit strong manuscripts, avoiding errors that could lead to delays in the publication process.
- [ACS Inclusivity Style Guide](#), a guide that helps researchers communicate in ways that recognize and respect diversity in all its forms.

Manuscript Preparation

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 for initial consideration must adhere to these standards:

- 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.
- When required by a journal's structure or length limitations, manuscript templates should be used.
- 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 must be submitted as a separate file(s).

Document Templates and Format

The templates facilitate the peer review process by allowing authors to place artwork and tables close to the point where they are discussed within the text. Learn more about document templates [here](#).

General information on the preparation of manuscripts may also be found in the [ACS Guide to Scholarly Communication](#).

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 the submission system. Information for manuscripts generated from [TeX/LaTeX](#) is also available.

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 *ACS Sustainable Chemistry & Engineering* cover letter must include:

- A rationale for publication in the journal, which will be considered by the editors. Tell us why you think your manuscript is appropriate for publication in *ACS Sustainable Chemistry & Engineering*, particularly with respect to its originality, scientific merit, and environmental importance.
- Authors are strongly encouraged to describe how the research demonstrates the Principles of Green Chemistry and/or the Principles of Green Engineering
- Authors and their affiliations
- Manuscript title
- List of 5–8 keywords
- For Letters manuscripts, specify if the first author is a doctoral student or postdoctoral fellow, as described in this [Editorial](#) for the Letters from emerging scholars initiative
- Contact information for all authors (mailing address, email address, and phone numbers where available)
- Preprint disclosure details, if applicable (see Prior Publication Policy)
- Compelling argument that exceeding the word limit is essential, if applicable (see Word Counts and Limits below)
- Previous submission details and manuscript IDs, if applicable. Authors are encouraged to identify changes made to the manuscript in a cover letter for the journal.

Manuscript Text Components

The remarks that follow are most relevant to articles or letters but should be read by all authors. NOTE: Letters are not required to be divided into sections (e.g., Introduction, Results, etc.), but authors can include them if they wish.

Title. Use specific and informative titles. Titles should briefly convey the subject of the paper. For example, a 20-word title is too long. If trade names are used, give generic names in parentheses. Keywords in titles assist in effective literature search retrieval.

Authorship. List the 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 section labeled "Present Address" close to the Acknowledgments Section.

In papers with more than one author, the name of the Corresponding author, to whom post-publication inquiries should be addressed, carries an asterisk (*). Provide an e-mail address for the Corresponding author on the first page of the manuscript file and include telephone numbers, if possible. There should be no more than three corresponding authors per paper. If there is more than one Corresponding author, please provide the contact information (e-mail, phone) for each Corresponding author on a separate line under the affiliations on the first page.

The format of the author's names and affiliations on the first page of the manuscript should be as follows: All author names should be in a row with the symbol used for their affiliation superscript to the right of their name (see below).

Author 1[†], Author 2[‡], and Author 3^{†,‡}

[†]Affiliation 1: Department, Institution, Street Address, City, State, Postal Code, Country

[‡]Affiliation 2: Department, Institution, Street Address, City, State, Postal Code, Country

Abstract. A 150–200 word abstract must accompany Letters, Articles, Perspectives, and Viewpoint article manuscripts. Describe the purpose, methods or procedures, significant new results, and conclusions. Do not break the abstract into sections. Define any abbreviations used in the abstract. Write for literature searches as well as journal readers. Include major quantitative data if they can be stated briefly, but do not include background material. Do not include reference numbers in the abstract. For Viewpoints, include an abstract written at a level comprehensible to the scientifically literate general public.

Keywords. All Articles, Letters, Perspectives, and Viewpoints 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.

TOC/Abstract Graphic. The TOC/Abstract graphic appears next to the abstract in publication and is mandatory for Letters, Articles, Perspectives, and Viewpoint article manuscripts. The TOC/Abstract graphic presents a “visual abstract” of the research and must accompany the manuscript at submission. The graphic can be illustrative or photographic. The TOC/Abstract graphic should be on the last page of the manuscript file, along with the synopsis.

Synopsis. A brief nontechnical synopsis (~20 words) explaining how your paper relates to sustainability in the chemistry and/or engineering fields is mandatory for Letters, Articles, Perspectives, and Viewpoints. **The synopsis should be a complete sentence.** The synopsis is NOT a description of the TOC/Abstract graphic.

Divide the article into sections; three are often sufficient: Introduction, Experimental Section, and Results and Discussion (see below). However, if other section titles are more relevant for the material, authors are encouraged to use alternatives. Do not number sections. Do not use footnotes; include the information in the text. Number all pages of the manuscript.

Introduction. Clearly state the purpose and significance of the research and put it into the context of earlier work in the area. Do not attempt a complete survey of the literature. If a recent article has summarized work on the subject, cite that article only and not the sources it cites. In general, the Introduction should be no more than two double-spaced pages without figures or tables and should include fewer than 20 references (except for Perspectives papers).

Experimental Section (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 the Supporting Information. Do not submit drawings of standard apparatus that can be succinctly described in the text. List and describe preparation of special reagents only. Omit details of procedures that are common knowledge to those in the field or that you have published previously. A brief mention of published procedures may be included; leave details to the literature cited. Authors must emphasize any unexpected, new, and/or significant hazards or risks associated with the reported work. This information should be in the experimental details section of the full article or communication.

Results and Discussion. Here you can discuss your findings, postulate explanations for data, elucidate models, and compare your results with those of others. Be complete but concise. Avoid irrelevant comparisons or contrasts, speculations unsupported by the new information presented in the paper, and verbose discussion. Results and Discussion may be combined or separated.

Tables. Tables should be furnished with appropriate titles of one phrase or sentence; details or definitions should be placed at the bottom. Tables should be numbered consecutively with Arabic numbers (i.e., 1, 2, . . .). Double space them with wide margins, and prepare tables in a consistent format. Tables should be made using the table format feature. Ensure that each data entry is in its own table cell.

Graphics. See below for instructions as to formatting graphics properly for submission.

Nomenclature. Nomenclature should conform to current American usage. When possible, authors should use systematic names similar to those used by Chemical Abstracts Service (CAS) or IUPAC. Chemical Abstracts (CA) nomenclature rules are contained in Appendix IV of the current Chemical Abstracts Index Guide. The ACS website has links to nomenclature recommendations at www.acs.org. IUPAC recommended nomenclature is available at <http://www.chem.qmul.ac.uk/iupac.html>. For CA nomenclature advice, contact answers@cas.org. Use SI units as much as possible; if you must use Imperial or U.S. units, place the SI equivalent in parentheses after the first use.

For specialized nomenclature, include a nomenclature section at the end of the paper, giving definitions and dimensions for all terms. We suggest that you provide the CAS numbers of less familiar compounds.

If subscripts and superscripts are necessary, place them accurately. Avoid trivial names. Trade names should be defined at the point of first use (registered trade names should begin with a capital letter).

Formulas and Equations. Chemical formulas should correspond to the ACS Style Guide. Chemical equations should be balanced and numbered with Arabic numerals (1, 2, 3, etc.) consecutively along with mathematical equations. Mathematical arguments should be as brief as possible.

Safety. Please call special attention, both in your manuscript and in your correspondence with the Editors, to safety considerations such as explosive tendencies, precautionary handling procedures, and toxicity.

Acknowledgments. Include essential credits in an Acknowledgment section at the end of the text. Meeting presentation data or other information regarding the work reported are included here. Sources of financial support must be acknowledged.

References. Literature references must be numbered with Arabic numerals (1, 2, 3, etc.) in the order of their first citation in the text as superscript closed up to the last character and outside any punctuation marks. Each article, book, etc. cited in a manuscript should receive its own numeral. Compound references are not permitted. ACS highly prefers that the authors include Digital Object Identifiers (DOI) for references when a DOI is available.

Supporting Information

This information is provided to the reviewers during the peer-review process (for Review Only) and is available to readers of the published work (for Publication). Supporting Information must be submitted at the same time as the manuscript. See the list of [Acceptable Software by File Designation](#) and confirm that your Supporting Information is [viewable](#).

If the manuscript is accompanied by any supporting information files for publication, these files will be made available free of charge to readers. A brief, nonsentence description of the actual contents of each file, including the file type extension, is required. This description should be labeled Supporting Information and should appear before the Acknowledgement and Reference sections. Examples of sufficient and insufficient descriptions are as follows:

Examples of sufficient descriptions: “Supporting Information: ^1H NMR spectra for all compounds (PDF)” or “Additional experimental details, materials, and methods, including photographs of experimental setup (DOC)”.

Examples of insufficient descriptions: “Supporting Information: Figures S1-S3” or “Additional figures as mentioned in the text”.

When including supporting information for review only, include copies of references that are unpublished or in-press. These files are available only to editors and reviewers.

Research Data Policy

All ACS journals strongly encourage authors to make the research data underlying their articles publicly available at the time of publication.

Research data is defined as materials and information used in the experiments that enable the validation of the conclusions drawn in the article, including primary data produced by the authors for the study being reported, secondary data reused or analyzed by the authors for the study, and any other materials necessary to reproduce or replicate the results.

The [ACS Research Data Policy](#) provides additional information on Data Availability Statements, Data Citation, and Data Repositories.

Data Requirements

Sustainability Metrics

The Editors wish to encourage authors to utilize quantitative sustainability metrics in their submitted work. General guidelines for authors wishing to incorporate quantitative metrics are as follows:

- Whenever possible, place the contribution in the context of the life cycle or supply chain of the relevant product, process, or chemical function. Although a quantitative life cycle assessment will be beyond the scope of most manuscripts, framing the paper's contribution in the context of product and process life cycles will be a valuable addition.
- Cite or briefly describe relevant property data such as environmental persistence or toxicity.
- In describing chemical pathways or processes, consider using metrics such as those associated with the principles of green chemistry, such as atom economy, mass efficiency, E-factor, C efficiency, emission rates, or others.
- When using well-established sustainability metrics (e.g., atom economy), detailed methodological descriptions are not necessary; however, if novel metrics are used, the method of their calculation should be described in the manuscript or Supporting Information.
- Authors who incorporate quantitative sustainability metrics are encouraged to highlight their results in the TOC/Abstract graphic.

Please refer to the [Scope of The Journal](#) section above for further discussion.

Directions for Data Deposition, Computer Codes, and Other Material

A primary research report should contain sufficient detail and reference to public sources of information to permit the author's peers to repeat the work. When requested, the authors should make a reasonable effort to provide samples of unusual materials unavailable elsewhere, including, but not limited to, clones, microorganism strains, antibodies, computer codes, etc., to other researchers, with appropriate material transfer agreements to restrict the field of use of the materials so as to protect the legitimate interests of the authors.

Computer Codes. When computer codes are developed or used and are an essential part of a manuscript, sufficient detail must be given, either within the paper or in the Supporting Information. Types of

languages that are used in the computer codes, compiler/interpreter, and operating system with a specific version must be provided or properly cited. Upon request, after appropriate material transfer agreements to restrict the use of the materials so as to protect the legitimate interests of the authors, codes and input data must be made available for others to validate the calculations. Regardless of the fact that the source code is open or closed source, it must be properly cited in the References and footnotes.

Computational Chemistry Calculations. When computational chemistry calculations are performed, input data must be given either within the paper or in the Supporting Information, including force field parameters, equations defining the model (or references to where such material is available in the open literature), methods and approaches, and basis sets. If the software used for calculations is generally available, it must be properly cited in the References and footnotes. References to the methods upon which the software is based must also be provided.

Language and Editing Services

A well-written paper helps share your results most clearly. ACS Publications' [English Editing Service](#) is designed to help scientists communicate their research effectively. Our subject-matter expert editors will edit your manuscript for grammar, spelling, and other language errors so your ideas are presented at their best.

Preparing Graphics

The quality of illustrations in ACS journals and partner journals depends on the quality of the original files provided by the authors. Figures are not modified or enhanced by journal production staff. All graphics must be prepared and submitted in digital format.

Graphics should be inserted into the main body whenever possible. Please see Appendix 2 for additional information.

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.

Figure and Illustration Services

The impact of your research is not limited to what you can express with words. Tables and figures such as graphs, photographs, illustrations, diagrams, and other visuals can play a significant role in effectively communicating your findings. Our [Artwork Editing](#) and [Graphical Abstract](#) services generate publication-ready figures and Table of Contents (TOC) graphics that conform to your chosen journal's specifications. For figures, this includes changes to file type, resolution, color space, font, scale, line weights, and layout (to improve readability and professional appearance). For TOC graphics, our illustrators can work with a rough sketch or concept or help extract the key findings of your manuscript directly for use as a visual summary of your paper.

Preparing for Submission

Manuscripts, graphics, supporting information, and required forms, as well as manuscript revisions, must all be submitted in digital format through [ACS Publishing Center](#), which requires an ACS ID to log in. Registering for an ACS ID is fast, free, and does not require an ACS membership. Please refer to Appendix 1 for additional information on preparing your submission

Prior Publication Policy

ACS Sustainable Chemistry & Engineering authors are allowed to deposit an initial draft of their manuscript in a preprint service such as [ChemRxiv](#), bioRxiv, arXiv prior to submission to the journal. However, authors must note any use of a preprint server in the cover letter and include a link to the preprint, and as appropriate, state how the manuscript has been adjusted/updated between deposition and submission. All other prior/redundant publication is forbidden.

Upon publication in *ACS Sustainable Chemistry & Engineering* authors are advised to add a link from the preprint to the published paper via the Digital Object Identifier (DOI). Some services, such as ChemRxiv and bioRxiv, add this link for authors automatically after publication.

Editorial Policies

For queries and information prior to submission, please contact the Editorial office below.

General Contact

General questions and inquiries can be sent to the Journal Office Assistant of *ACS Sustainable Chemistry & Engineering* by emailing admin@sustain.acs.org.

Special Issues. Special issues are by invitation only. As you submit your manuscript for a special issue, please be certain to select the appropriate special issue title in the pull-down menu during the submission process.

Word Counts and Limits. The manuscript types in this journal will have specific word limits. Unless explicitly stated otherwise, **word counts INCLUDE tables, figures, and schemes but not references.**

- Count all text except the title page, references, figure and table captions (captions are considered part of the figure or table), TOC/Abstract graphic, and synopsis. This includes the Abstract, the body of the manuscript, the Acknowledgments, and the description of Supporting Information. (Do not count the Supporting Information itself.)
- To the text count, add the count for figures, schemes, and tables. Small figures, schemes, and tables usually count as 300 word equivalents; large figures, schemes, and tables count as 600 or more word equivalents. Table of Contents (TOC) and Abstract art (required for Letters, Articles, Viewpoints, Perspectives) are not included in the word count. For example, a research article with 6000 words, excluding references, and containing four small figures is considered a 7200 word article.
- Manuscripts that exceed the word limit may be returned with a request to shorten. Authors who believe that exceeding the word limit is essential must include a compelling argument in their cover letter. Please note that this does not guarantee a decision in the author's favor— ultimately, the decision lies with the Editor.
- We note that manuscript text can often be shortened by 10% with no loss of context.
- Place tables and figures that augment the article but are otherwise unessential to the major themes in Supporting Information (which is freely accessible on the Web).

Keywords. All Articles, Letters, Perspectives, and Viewpoints 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.

Table of Contents (TOC)/Abstract Graphic. The TOC/Abstract graphic appears within the abstract section of the published article and in the table of contents for the journal issue in which the article is published. The TOC/Abstract graphic should give the reader a quick visual representation of the essence of the paper without providing specific details. The best images are simple and relatively free of text and technical characters, while making use of color for visual impact. Imagery can range from a single in-context photograph of a field site to that of a visual schematic explaining the central method or findings of the paper.

Synopsis. The authors should include their nontechnical, 20 word synopsis on the last page of the manuscript file. The synopsis should be a complete sentence and is NOT a description of the TOC /Abstract graphic.

Creating Quality and Representative Graphics. To facilitate the publication process, please submit manuscript graphics using the following guidelines:

1. The preferred submission procedure is to embed graphic files in a Word document. It may help to print the manuscript on a laser printer to ensure all artwork is clear and legible.

2. Additional acceptable file formats are: TIFF, PDF, EPS (vector artwork) or CDX (ChemDraw file). If submitting individual graphic files in addition to them being embedded in a Word document, ensure the files are named based on graphic function (i.e. Scheme 1, Figure 2, Chart 3), not the scientific name. Labeling of all figure parts should be present and the parts should be assembled into a single graphic.

- EPS files: Ensure that all fonts are converted to outlines or embedded in the graphic file. The document settings should be in RGB mode. **NOTE:** *While EPS files are accepted, the vector-based graphics will be rasterized for production.* Please see below for TIFF file production resolutions.

3. TIFF files (either embedded in a Word doc or submitted as individual files) should have the following resolution requirements:

- Black & White line art: 1200 dpi
- Grayscale art (a monochromatic image containing shades of gray): 600 dpi
- Color art (RGB color mode): 300 dpi
- The RGB and resolution requirements are essential for producing high-quality graphics within the published manuscript. Graphics submitted in CMYK or at lower resolutions may be used, however, the colors may not be consistent and graphics of poor quality may not be able to be improved.
- Most graphic programs provide an option for changing the resolution when you are saving the image. Best practice is to save the graphic file at the final resolution and size using the program used to create the graphic.

4. Graphics should be sized at the final production size when possible. Single column graphics are preferred and can be sized up to 240 points wide (3.33 in.). Double column graphics must be sized between 300 and 504 points (4.167 in. and 7 in.). All graphics have a maximum depth of 660 points (9.167 in.) including the caption (please allow 12 pts for each line of caption text).

- Consistently sizing letters and labels in graphics throughout your manuscript will help ensure consistent graphic presentation for publication.

5. A graphic must be submitted for use in the Table of Contents and Abstract. This graphic should give the reader a quick visual representation of the essence of the paper without providing specific details. The best images for these uses are simple, relatively free of text and technical characters, and make use of color for visual impact. Imagery can range from a single in-context photograph of a field site to that of a visual schematic explaining the central method or findings of the paper.

6. TOC and Abstract graphic images are the same image and the same size. The TOC/Abstract graphic images have a smaller depth than graphics that are in the text of the paper because the graphic will be balanced by the text in the abstract, so they cannot be very deep. However, the width is the same as for single column graphic images that are in the text of the paper.

TOC/Abstract graphic size:

- Width: 240 points / 3.33 inches / 8.47 cm
- Depth: 135 points / 1.875 inches / 4.76 cm

TOC/Abstract Graphic Examples:

- <http://pubs.acs.org/doi/abs/10.1021/sc500546e> - visual schematic
- <http://pubs.acs.org/doi/abs/10.1021/sc500256y> - illustration of facility
- <http://pubs.acs.org/doi/abs/10.1021/sc4005185> - quantitative illustration
- <http://pubs.acs.org/doi/abs/10.1021/sc500163h> - photograph of field work
- <http://pubs.acs.org/doi/abs/10.1021/sc5003566> - photograph of environment studied

Specific Advice Regarding TOC/Abstract Graphic Art.

1. Submission of a Table of Contents (TOC)/Abstract graphic is required for Letters, Articles, Viewpoints, and Perspectives. The TOC/Abstract graphic must be submitted with the original paper and will go through peer review. The TOC/Abstract graphic will not be considered in the calculation of the word equivalents (See Word Limits under General Formatting). Do not submit a TOC/Abstract graphic for Letters to the Editor or Additions and Corrections.
2. Authors must clearly designate their TOC/Abstract graphic in the original manuscript submission. Failure to do so may delay the production schedule for accepted manuscripts. The TOC/Abstract graphic should be submitted in the same manner as other graphics: within the manuscript file

unambiguously identified as the TOC/Abstract graphic with the label “For Table of Contents Use Only” or as a clearly labeled graphic under the file designation “graphic for manuscript.” Do not submit the TOC/Abstract graphic in your cover letter.

3. The TOC/Abstract graphic could be in the form of a structure, graph, drawing, SEM/TEM photograph, or reaction scheme. The graphic should be submitted with the following dimensions: 3.33 inches (8.47 cm) wide by 1.875 inches (4.76 cm) deep. The type size of labels, formulas, or numbers within the graphic must be legible. Tables or spectra are not acceptable. The TOC/Abstract graphic must be accompanied by a brief nontechnical synopsis (approximately 20 words; complete sentences) that explains how your paper relates to sustainability in the chemistry and/or engineering fields. Along with the TOC/Abstract graphic, the authors should include the synopsis on the last page of the manuscript file.
4. Figures and other material created by the author(s) may be used. A single impactful image makes for the best art, for example, in a TOC/Abstract graphic. On occasion, simple collages containing only material created by the author(s) are suitable. Complex, “busy” graphics make poor TOC/Abstract graphics.
5. Only images created by the author(s) will be accepted as a TOC/Abstract graphic (copyright for the TOC/Abstract graphic is transferred to ACS via the ACS Journal Publishing Agreement). Material created by U.S. Government employees may be used because that material is in the public domain. Material found on websites cannot be used as a TOC/Abstract graphic even if the website (such as Wikipedia) states that the material is in the public domain.
 - The burden of proving public domain status lies with the authors. Include the name of the U. S. Department/agency and the URL or reference citation.
 - Do not use imagery that requires third-party permissions, such as images published in non-ACS journals or images from ACS journals for which credit is given to another source.

Photographs taken by the author(s) may be used; however, if people appear in the photos, model releases must be signed by the individuals in the photos. The parents/guardians of individuals under 18 years of age must sign model releases because minors cannot legally sign their own model releases.

Providing Potential Reviewer Names

Please suggest at least 4 reviewers. Authors are encouraged to avoid suggesting reviewers from the authors’ institutions. Do not suggest reviewers who may have a [real or perceived conflict of interest](#). Whenever possible, suggest academic email addresses rather than personal email addresses.

You may also include the names of people you do not want to review the paper. The Editors try to use at least one reviewer from your list and to comply with your special requests. However, this cannot be ensured. For example, specific reviewers may not be available at the time. Do not suggest as potential reviewers anyone who may have a conflict of interest in reviewing your manuscript, such as former advisers, students, recent collaborators, or persons based at your institution.

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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.

Avoid relying on color alone to represent information. Use indicators such as symbols, text labels, or patterns to ensure the data is accessible to those with color vision deficiency or other visual conditions. If color is necessary to understand data, such as in heat maps or fluorescence images, choose accurate and accessible color combinations. For additional guidance and suggested color schemes, see [How to Make Scientific Figures Accessible to Readers with Color-Blindness](#) and [Coloring Chemistry—How Mindful Color Choices Improve Chemical Communication](#).

Ensure the content within graphics has sufficient contrast against adjacent colors, including the background. Contrast ratios measure the difference in brightness between two adjacent colors, helping make text and images readable. The Web Content Accessibility Guidelines (WCAG) define [minimum contrast requirements](#) of 4.5:1 for text and 3:1 for nontext elements, with [some exceptions](#) for elements like large text.

Two tools to measure contrast are TPGi's [Colour Contrast Analyzer](#) and Web Accessibility in Mind's [Contrast Checker](#). To improve low contrast, increase the saturation of one of the colors, or use borders or other visual separators between adjacent colors. For additional information and examples, see [Color to convey meaning](#) and [Choosing color in data visualizations](#) in the ACS Inclusivity Style Guide.

Type of Graphics

Table of Contents (TOC)/Abstract Graphic

Consult the Guidelines for [Table of Contents/Abstract Graphics](#) for specifications.

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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, so avoid merging or splitting cells.

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.

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