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Scope of the Journal

The scope of [ACS Earth and Space Chemistry](#) includes the application of analytical, experimental, and theoretical chemistry to investigate research questions relevant to the Earth and space. The journal encompasses the highly interdisciplinary nature of research in this area while emphasizing chemistry and chemical research tools as the unifying theme. The journal publishes broadly in the domains of high and low-temperature geochemistry, atmospheric chemistry, marine chemistry, planetary chemistry, astrochemistry, and analytical geochemistry. *ACS Earth and Space Chemistry* publishes Articles, Letters, and Reviews to provide flexible formats to readily communicate all aspects of research in these fields.

Among the areas the journal covers are:

Earth Interior

- High pressure experiments
- Core and mantle investigations
- Studies of planetary interiors
- Mineral-melt phase equilibria, partitioning, and kinetics
- Mineralogy and mineral physics
- Igneous and metamorphic petrology, petrogenesis, and geochronology

Earth Surface

- Mineral-microbe-water reactions, thermodynamics, and kinetics
- Reactive transport modeling and colloid transport
- Multiscale science and scaling of geochemical and biogeochemical reactions

Atmosphere

- Atmospheric composition and reaction pathways
- Chemistry-climate interactions
- Biogeochemical cycles

Ocean

- Chemical fluxes and marine trace element chemistry
- Effects of global change on marine chemistry and the cryosphere
- Chemistry of the paleo-environment

Space

- Chemistry of planetary atmospheres and surfaces
- Investigations of meteorites and tektites
- Properties of cometary and interstellar materials
- Spectroscopy and chemistry of stars, interstellar clouds, and planetary formation

Analytical

- Analytical methods for characterization of Earth and Space materials

Manuscript Types

ACS Earth and Space Chemistry publishes peer-reviewed manuscripts including Articles, Letters, Comments, and Reviews that highlight recent developments and that further the understanding of earth and space chemistry.

- **Articles.** (~10,000 words) Articles are original works presenting an advance of broad scientific significance. Originality is defined as new experimental data, new interpretation of existing data, or new theoretical analyses of phenomena. Significance will be judged with respect to the breadth of impact of the reported findings.
- **Letters.** (~3,000 words) Letters are a *brief* original works presenting an advance of broad scientific significance that merit faster publication time. Originality is defined as new experimental data, new interpretation of existing data, or new theoretical analyses of phenomena. Significance will be judged with respect to the breadth of impact of the reported findings. Letters should be approximately 3 formatted Journal pages or less in length, including the abstract, body text, methods, references, and figure/scheme legends
- **Comments.** A Comment presents important comments on the work of others already published in *ACS Earth and Space Chemistry*; *ACS Earth and Space Chemistry* will not accept comments concerning research published elsewhere. The authors of the work being discussed will ordinarily be allowed a chance to reply.
- **Reviews.** (~14,000 words) Reviews are often invited but can also be initiated by authors. Suggested topics for Reviews will also be considered and any topic proposals **must** be emailed in advance to the Editor-in-Chief at eic@earthspacechem.acs.org. A good review critically evaluates existing work of multiple groups in a field or across disciplines, provides a logical organization, and makes the material more easily accessible to those who are not experts in the area through clear text and figures. Reviews should lay out challenges and future opportunities and should be broad rather than narrowly focused. Reviews should contain an abstract and appropriate references.
- **Perspectives.** (length limit: 4,000 word-equivalents) These contributions are personal reviews of a field or area, and they are focused, rather than comprehensive. Perspective authors are asked to assess the current status of a chosen field with an emphasis toward identifying key progress being made and research that is needed to advance a sub-discipline, theory, or technology. Perspectives should be based on scientifically sound statements with sufficient references and scientific underpinning to substantiate the views expressed. Perspectives will undergo peer review. Perspective articles can be submitted directly through the ACS Earth Space Chem. submission site without prior approval.

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 ACS Paragon Plus, ACS Publications' manuscript submission and peer review environment, including details on

- selecting the applicable [Journal Publishing Agreement](#).
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 - [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 ACS Paragon Plus. Information for manuscripts generated from [TeX/LaTeX](#) is also available.

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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.

For *ACS Earth and Space Chemistry*, the following elements are expected to be included in the cover letter:

- Full manuscript title
- Name and complete contact information (mailing address, phone, and email) of the corresponding author
- Name(s) of any other author(s)
- A statement of why the paper is appropriate for *ACS Earth and Space Chemistry* which must include a clear statement of the objective of the study
- A description of any Supporting Information for Publication and/or for Review Only Material

Manuscript Text Components

Title. Titles should clearly and concisely reflect the emphasis and content of the paper. Titles of manuscripts may not contain words like “First” or “Novel”. Titles are of great importance for current awareness and information retrieval and should be carefully constructed for these purposes.

Authorship. Provide **authors’ full names**, the complete mailing address of each author’s affiliation when the work was completed. Current addresses of the authors can be provided as Author Information notes and will appear in the back of the article. Indicate the corresponding author by an asterisk and provide an email address for that person.

Abstract. Abstracts are required for all submissions (150-250 words). Abstract examples are available [here](#). The Table of Contents graphic will appear with the abstract text. The abstract serves multiple purposes and should be developed, with the graphic, to clearly and succinctly describe the objectives and outcome(s) of the study. The abstract will be the most widely read portion of the paper and will be used by abstracting services.

Keywords. All Articles, Letters, Reviews, and Perspectives should include 5-8 keywords. These keywords will appear in the PDF version of the article and will also be used as search terms in the HTML version of the article.

Text. Consult *The ACS Style Guide* for suggestions on the general writing style. It is not necessary to include information and details or techniques that should be common knowledge to those in the field. The use of acronyms, apart from established acronyms well known in the field, is discouraged.

Section Headings. Informative section headings and subheadings are encouraged for Articles and Reviews. Keep all information pertinent to a particular section and avoid repetition.

Introduction. The Introduction should state the purpose of the investigation and must include appropriate citations of relevant preceding work but should not include an extensive review of marginally related literature. The purpose statement should clearly outline how the work relates to the advancement of the field. If the manuscript describes a new concept, indicate why it is preferable to existing technologies and concepts in the field. If the manuscript describes an improvement in a specific area, the current state-of-the-art must be referenced and compared. Absence of appropriate literature references may be grounds for rejection of the manuscript.

Experimental Section. 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. Include a clear, unambiguous description of materials,

methods, and equipment in sufficient detail to permit repetition of the work elsewhere. Be consistent in voice and tense. For apparatus, list only devices of a specialized nature. List and describe preparation of special reagents only. Do not list those normally found in the laboratory or preparations described in standard handbooks and texts. Because procedures are intended as instructions to permit work to be repeated by others, give adequate details of critical steps. Describe all safety considerations, including any procedures that are hazardous, any reagents that are toxic, and any procedures requiring special precautions, in enough detail so that workers in the laboratory repeating the experiments can take appropriate safety measures. Procedures and references for the neutralization, deactivation, and ultimate disposal of unusual byproducts should be included. Published procedures should be cited but not described, except where the presentation involves substantial modifications. While an experimental section is required to be in the main article and should provide sufficient detail to understand the experiments, additional details and procedures may be presented in the Supporting Information.

Results and Discussion. The results may be supported by tables and figures; however, tables or figures are not required. The discussion should be concise and deal with the interpretation of the results. Results and discussion can appear under separate distinct section heads or as a combined section, as best fits the content.

Conclusion. Use the conclusion section for interpretation and not to summarize information already presented in the text or abstract.

References. The reference list must be numbered sequentially by order of mention in the text with each reference individually numbered (no multiple part references). Reference citations in the text must be superscripted. Use *Chemical Abstracts Service Source Index* abbreviations for journal names (<http://cassi.cas.org/search.jsp>) and provide article title, publication, year, volume, and inclusive pagination. References should include the Digital Object Identifier (DOI) unique for each citation.

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1. Cuartero, M.; Crespo, G. A.; Bakker, E. Paper-Based Thin-Layer Coulometric Sensor for Halide Determination. *Anal. Chem.* **2015**, *87*, 1981–1990.
2. Bard, A. J.; Faulker, L. R. *Electrochemical Methods*, 2nd ed.; Wiley: New York, 2001.
3. Francesconi, K. A.; Kuehnelt, D. In *Environmental Chemistry of Arsenic*; Frankenberger, W. T., Jr., Ed.; Marcel Dekker: New York, 2002; pp 51–94.
4. Safaei, T. S.; Mohamadi, R. M.; Sargent, E. H.; Kelley, S. O. In Situ Electrochemical ELISA for Specific Identification of Captured Cancer Cells. *ACS Appl. Mater. Interfaces* **2015**, DOI: 10.1021/acsami.5b02404.

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If the article is dedicated to another scholar, a brief statement, such as “This article is dedicated to [name]”, may be included in the acknowledgement. Dedications do not appear as footnotes or in other sections of the work.

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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”.

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

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- **Citation Diversity Statement:** The citation diversity statement should appear in the Acknowledgements section of the manuscript. ACS recommends including the following: (1) the importance of citation diversity, (2) the proportion of citations by gender and race/ethnicity for the first and last authors, (3) the method used to determine those proportions and its limitations, and (4) steps taken to by the authors to improve citation diversity in the article. We recognize that one limitation of the current methods is that it cannot account for intersex, non-binary, and transgender people, or Indigenous and mixed-race authors. (Adapted from [BMES/Springer Guidelines](#))
- **Land acknowledgment:** The land acknowledgment statement should appear in the Acknowledgements section of the manuscript. The statement should link to the institutions' formal land acknowledgments on which the research took place, if possible. Further guidance for creating these statements can be found here: <https://nativegov.org/news/a-guide-to-indigenous-land-acknowledgment/>.

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.

Our team of subject-matter experts and graphical designers can also help generate a compelling TOC graphic to convey your key findings. Learn more about our [Graphical Abstract service](#).

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

ACS Earth and Space Chemistry encourages authors to submit images to be considered for use on the journal's front cover or [Supplementary Covers](#). Images can be submitted at the time of the submission of their revised manuscript. If your article is accepted for publication, your 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. Images chosen for the front cover will be published at no cost to the author.

Your cover image submissions should be colorful and visually engaging, with minimal text. The cover image should be an artistic and scientifically accurate representation of your manuscript - it should not resemble a graphical abstract or data figure. Submit your cover image, along with a clear caption (less than 50 words) explaining the image, as supplementary files to ACS Paragon Plus with your revised 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 wide × 10.00 in high (or 20.80 cm × 25.40 cm). The journal title will obscure a 4 in. × 4 in. (or 10.16 cm × 10.16 cm) section in the upper left corner of the image.

If you wish to be considered only for the free front cover, and not a paid supplementary cover, please respond NO accordingly to the Journal Covers question in ACS Paragon Plus. For more information on the Supplementary Covers program, please [see this webpage](#). All art submitted for consideration for a supplementary cover will also be considered for a front cover.

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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.

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