



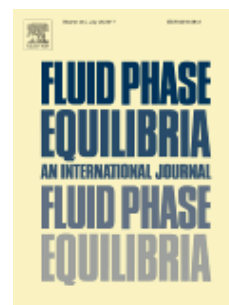
FLUID PHASE EQUILIBRIA

An International Journal

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

●	Description	p.1
●	Audience	p.2
●	Impact Factor	p.2
●	Abstracting and Indexing	p.2
●	Editorial Board	p.2
●	Guide for Authors	p.4



ISSN: 0378-3812

DESCRIPTION

Fluid Phase Equilibria publishes high-quality papers dealing with experimental, theoretical, and applied research related to equilibrium and transport properties of fluids, solids, and interfaces. Subjects of interest include physical/phase and chemical equilibria; equilibrium and nonequilibrium thermophysical properties; fundamental thermodynamic relations; and stability. The systems central to the journal include pure substances and mixtures of organic and inorganic materials, including polymers, biochemicals, and surfactants with sufficient characterization of composition and purity for the results to be reproduced. In all cases, enough detail must be given to permit independent verification, and authors are also expected to provide physical or chemical interpretations of the results.

Experimental research can include measurements under all conditions of temperature, pressure, and composition, including critical and supercritical. Measurements are to be associated with systems and conditions of fundamental or applied interest, and may not be only a collection of routine data, such as physical property or solubility measurements at limited pressures and temperatures close to ambient, or surfactant studies focussed strictly on micellisation or micelle structure. Papers reporting common data must be accompanied by contemporary or new theory or techniques. All data reports and analyses will be examined by NIST for consistency with the requirements posted at <http://trc.nist.gov/FPE-Support.html>

Theoretical studies can include equations of state; correlations or predictive models; molecular dynamics and Monte Carlo simulations; statistical thermodynamics; quantum chemistry; and applied mathematical and computational approaches. Research reporting new theories and models is expected to show adequate comparisons of predictive ability and accuracy with both applicable data and contemporary existing models. Contributions on artificial neural networks and similar approaches will only be considered when full details of the methodology are provided and comparisons of accuracy are made with existing physically-based models, or if no thermodynamic models are available.

The journal publishes full research papers and also short communications to describe emerging ideas for which rapid publication is essential. Critical reviews are encouraged and should be prepared in consultation with the Editor-in-Chief. The journal will not publish articles that have appeared partially, or completely, in other journals, that plagiarize other works, or that are incompletely referenced; verification will be made using the software at <http://www.ithenticate.com/products/crosscheck>. The text must be in English and should be clear, in a well-structured style, and be free of grammatical and spelling errors.

AUDIENCE

Researchers and Applied Scientists, particularly those in chemical and metallurgical engineering, concerned with the properties or applications of fluid phase equilibria.

IMPACT FACTOR

2015: 1.846 © Thomson Reuters Journal Citation Reports 2016

ABSTRACTING AND INDEXING

ASCA
Chemical Engineering Biotechnology Abstracts
Current Contents/Engineering, Computing & Technology
Current Contents/Physics, Chemical, & Earth Sciences
Engineering Index
GEOBASE
INSPEC
Physics Abstracts
Science Citation Index
Scopus

EDITORIAL BOARD

Editor-in-Chief

C. McCabe, Dept. of Chemical & Biomolecular Engineering, Vanderbilt University, Nashville, Tennessee, USA

Editors

I. Economou, Chemical Engineering Program, Texas A&M University at Qatar, Education City, PO Box 23874, Doha, Qatar

Y. Iwai, Dept. of Chemical Engineering, Kyushu University, 744, Motoooka, 819-0395, Nishi-ku, Fukuoka, Japan

G. Kontogeorgis, Dept. of Chemical and Biochemical Engineering, Danmarks Tekniske Universitet (DTU), Søltofts Plads, Building 229, DK-2800, Lyngby, Denmark

A.M. Soto, Dept. of Chemical Engineering, School of Engineering, Universidade de Santiago de Compostela, Rúa Lope Gómez de Marzoa s/n, 15782, Santiago de Compostela, Spain

Editorial Board

C. Adjiman, Dept. of Chemical Engineering, Fac. of Engineering, Imperial College London, South Kensington Campus, SW7 2AZ, London, UK

C.-C. Chen, Dept. of Chemical Engineering, College of Engineering, Texas Tech University, 6th and Canton, Lubbock, Texas, 79409, USA

P.T. Cummings, Dept. of Chemical Engineering, Vanderbilt University, VU Station B, Box 351604, Nashville, Tennessee, TN 37235-1604, USA

TH.W. de Loos, Nootdorp, Netherlands

V. Dohnal, Dept. of Physical Chemistry, Institute of Chemical Technology, Technická 5, 16628, Prague 6, Czech Republic

R. Dohrn, Property Data & Thermodynamics, BTS-TD-DP-PDT, Bayer Technology Services GmbH, D-51368, Leverkusen, Germany

S. Enders, Institut für Technische Thermodynamik und Kältetechnik (ITTK), Karlsruhe Institute of Technology (KIT), Engler-Bunte-Ring 21, 76131, Karlsruhe, Germany

E. Filipe, Departamento de Engenharia Química, Centro de Química Estrutural, Instituto Superior Técnico, 1049-001, Lisboa, Portugal

A. Galindo, Dept. of Chemical Engineering, Faculty of Physical Chemistry, Imperial College London, South Kensington Campus, SW7 2AZ, London, UK

J. Gross, Institut für Thermodynamik und Thermische Verfahrenstechnik, Universität Stuttgart, Pfaffenwaldring 9, 70569, Stuttgart, Germany

H. Inomata, Research Ctr. of Supercritical Fluid Technology, Tohoku University, 404-11-6-6 Aoba, Aramaki, Aoba-ku, 980-8579, Sendai, Japan

J. Jacquemin, Faculté des Sciences, Laboratoire PCM2E, Université François-Rabelais de Tours, Parc Grandmont, 37200, Tours, France

X.-H. Lu, Dept. of Chemical Engineering, Nanjing University of Science and Technology, No.5, Xin Mo Fan Ma Lu, 210009, Nanjing, China

E. Maginn, Dept. of Chemical Engineering, University of Notre Dame, 180 Fitzpatrick Hall, Notre Dame, Indiana, IN 46556, USA

G. Maurer, Fachbereich Maschinenbau und Verfahrenstechnik, Lehrstuhl für Technische Thermodynamik, Technische Universität Kaiserslautern, Erwin-Schrodinger-Strasse, Gebäude 44, 67653, Kaiserslautern, Germany

A. Mejía, Department of Chemical Engineering, Edificio Gustavo Pizarro Castro, Universidad de Concepcion, Concepcion, Chile

J.P. O'Connell, Nipomo, CA, USA

C.J. Peters, Dept. of Chemical Engineering, The Petroleum Institute, Bu Hasa Building, Abu Dhabi, United Arab Emirates

J. Potoff, Dept. of Chemical Engineering and Materials Science, Wayne State University (WSU), Detroit, Michigan, MI 48202, USA

J.M. Prausnitz, Dept. of Chemical and Biomolecular Engineering, University of California at Berkeley, 201, Gilman Hall, Berkeley, California, CA 94720-1462, USA

S. Raeissi, School of Chemical and Petroleum Engineering, Shiraz University, Mollasadra Ave., 71348-51154, Shiraz, Iran

D. Richon, Dept. of Biotechnology and Chemical Technology, School of Chemical Technology Aalto University, FI-00076, Aalto, Finland

J.M. Shaw, Department of Chemical and Materials Engineering, Donadeo Innovation Centre for Engineering, University of Alberta, 9211 - 116 Street NW, Edmonton, T6G 1H9, Alberta, Canada

J.I. Siepmann, Dept. of Chemistry, University of Minnesota, 207 Pleasant St. SE, Minneapolis, Minnesota, MN 55455-0431, USA

A.I. Victorov, Dept. of Chemistry, St. Petersburg State University, 26 Universitetsky prosp., Petrodvoretz, 198504, St. Petersburg, Russian Federation

W. Wang, College of Chemical Engineering, Research Center of the Ministry of Education for High Gravity Engineering and Technology, Beijing University of Chemical Technology, 15 Beisanhuandonglu, 100029, Beijing, China

GUIDE FOR AUTHORS

Your Paper Your Way

We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article.

To find out more, please visit the Preparation section below.

Editorial and Introduction

Editorial

New procedures for articles reporting thermophysical properties

Fluid Phase Equilibria, along with other journals in the field, established collaboration with the Thermodynamics Research Center (TRC) of the National Institute of Standards and Technology (NIST) in 2009 for the purpose of ensuring the quality of published experimental data. In a joint statement [1], the editors of the five journals involved set out the rationale for the cooperation in terms of helping to ensure that authors and reviewers were made aware of any previously-published literature values for the properties and systems in question. The process involved NIST 'capturing' the new experimental data, comparing it against existing values in the NIST data archive and providing a report that: (a) listed relevant literature sources; and (b) highlighted any obvious discrepancies in the new data.

In order to streamline the process and to further enhance the quality of published articles, we are now introducing one change to the way in which the NIST cooperation is implemented. Effective in February 2013, responsibility for preparing a *Literature Report* will shift from NIST to the submitting authors. Submitting authors will be able to prepare their own *Literature Report* by using *ThermoLit*, a publicly available (<http://trc.nist.gov/thermolit/>) program. This will eliminate NIST's role in providing this report, and thus speed the review process and provide added benefit to authors who will have literature citation results on hand at a stage when they can do the most good. Please, note that use of *ThermoLit* is designed as an aid to the traditional required literature review and must not be used as a substitute.

NIST will continue to provide a data evaluation at the end of the review process, immediately prior to final acceptance of the article. This data evaluation will compare the reported experimental data with that existing in the NIST Data Archive and highlight any unexpectedly large discrepancies, such as those arising from typographical errors. Though the data evaluation step has not changed, we will use this opportunity for a reminder that experimental results and their uncertainties must be tabulated in the way described in the Guide for Authors. A key feature is that tables be self-contained and include the uncertainties of all reported quantities (variables, constraints, and properties). In addition, we have incorporated new standards relating to the description of chemical samples and we encourage authors to present details of their samples in an easily-readable tabular form. To assist authors, a large number of example tables have been prepared by NIST and are available (<http://trc.nist.gov/FPE-Support.html>).

The new procedures will provide literature citations to authors before submission of their manuscript and speed the review process. Indeed, authors are encouraged to use *ThermoLit* in advance of experiments to help minimize duplication of effort. In 2012, new IUPAC guidelines for the reporting of phase equilibrium measurements were published (Pure Appl. Chem. 2012, 84(8), 1785-1813), and the requirements of this journal are consistent with these recommendations. Prior to submission, authors are strongly encouraged to review a checklist based on these recommendations, which is available (<http://trc.nist.gov/FPE-Support.html>). We are certain that the new Literature Report tool and the procedures described here will further enhance the already high quality of articles published in *Fluid Phase Equilibria*.

References

1. P.T. Cummings, Th.W. de Loos, J.P. O'Connell, *Fluid Phase Equilibria* 276 (2009) 1165-1166.

Aims and Scope

Fluid Phase Equilibria publishes high-quality papers dealing with experimental, theoretical, and applied research related to equilibrium and transport properties of fluids, solids, and interfaces. Subjects of interest include physical/phase and chemical equilibria; equilibrium and nonequilibrium thermophysical properties; fundamental thermodynamic relations; and stability. The systems central to the journal include pure substances and mixtures of organic and inorganic materials, including polymers, biochemicals, and surfactants with sufficient characterization of composition and purity for the results to be reproduced. In all cases, enough detail must be given to permit independent verification, and authors are also expected to provide physical or chemical interpretations of the results.

Experimental research can include measurements under all conditions of temperature, pressure, and composition, including critical and supercritical. Measurements are to be associated with systems and conditions of fundamental or applied interest, and may not be only a collection of routine data, such as physical property or solubility measurements at limited pressures and temperatures close to ambient, or surfactant studies focussed strictly on micellisation or micelle structure. Papers reporting common data must be accompanied by contemporary or new theory or techniques. All data reports and analyses will be examined by NIST for consistency with the requirements posted at <http://trc.nist.gov/FPE-Support.html>

Theoretical studies can include equations of state; correlations or predictive models; molecular dynamics and Monte Carlo simulations; statistical thermodynamics; quantum chemistry; and applied mathematical and computational approaches. Research reporting new theories and models is expected to show adequate comparisons of predictive ability and accuracy with both applicable data and contemporary existing models. Contributions on artificial neural networks and similar approaches will only be considered when full details of the methodology are provided and comparisons of accuracy are made with existing physically-based models, or if no thermodynamic models are available.

The journal publishes full research papers and also short communications to describe emerging ideas for which rapid publication is essential. Critical reviews are encouraged and should be prepared in consultation with the Editor-in-Chief. The journal will not publish articles that have appeared partially, or completely, in other journals, that plagiarize other works, or that are incompletely referenced; verification will be made using the software at <http://www.ithenticate.com/products/crosscheck>. The text must be in English and should be clear, in a well-structured style, and be free of grammatical and spelling errors.

Important announcement regarding submission of manuscripts reporting experimental results [Click here](#)

Submission checklist

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

Ensure that the following items are present:

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded:

Manuscript:

- Include keywords
- All figures (include relevant captions)
- All tables (including titles, description, footnotes)
- Ensure all figure and table citations in the text match the files provided
- Indicate clearly if color should be used for any figures in print

Graphical Abstracts / Highlights files (where applicable)

Supplemental files (where applicable)

Further considerations

- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- Relevant declarations of interest have been made
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our [Support Center](#).

BEFORE YOU BEGIN

Ethics in publishing

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

Declaration of interest

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. If there are no conflicts of interest then please state this: 'Conflicts of interest: none'. [More information](#).

Submission declaration and verification

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see '[Multiple, redundant or concurrent publication](#)' section of our ethics policy for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service [CrossCheck](#).

Changes to authorship

Authors are expected to consider carefully the list and order of authors **before** submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only **before** the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the **corresponding author**: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors **after** the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see [more information](#) on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. [Permission](#) of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has [preprinted forms](#) for use by authors in these cases.

For open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' ([more information](#)). Permitted third party reuse of open access articles is determined by the author's choice of [user license](#).

Author rights

As an author you (or your employer or institution) have certain rights to reuse your work. [More information](#).

Elsevier supports responsible sharing

Find out how you can [share your research](#) published in Elsevier journals.

Role of the funding source

You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Funding body agreements and policies

Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the Open Access Publication Fee. Details of [existing agreements](#) are available online.

Open access

This journal offers authors a choice in publishing their research:

Open access

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- An open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Subscription

- Articles are made available to subscribers as well as developing countries and patient groups through our [universal access programs](#).
- No open access publication fee payable by authors.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For open access articles, permitted third party (re)use is defined by the following [Creative Commons user licenses](#):

Creative Commons Attribution (CC BY)

Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)

For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The open access publication fee for this journal is **USD 2100**, excluding taxes. Learn more about Elsevier's pricing policy: <https://www.elsevier.com/openaccesspricing>.

Green open access

Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our [green open access page](#) for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. [Find out more](#).

This journal has an embargo period of 24 months.

Elsevier Publishing Campus

The Elsevier Publishing Campus (www.publishingcampus.com) is an online platform offering free lectures, interactive training and professional advice to support you in publishing your research. The College of Skills training offers modules on how to prepare, write and structure your article and explains how editors will look at your paper when it is submitted for publication. Use these resources, and more, to ensure that your submission will be the best that you can make it.

Language (usage and editing services)

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the [English Language Editing service](#) available from Elsevier's WebShop.

Submission

The only method of submission to this journal is through the online Elsevier Editorial System (EES). Submission to this journal proceeds totally online. Use the following guidelines to prepare your article. Via the online submission site of this journal (<http://ees.elsevier.com/fluid>) you will be guided stepwise through the creation and uploading of the various files. The system automatically converts source files to a single Adobe Acrobat PDF version of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail and via the author's homepage, removing the need for a hard-copy paper trail.

[Special instructions for manuscripts reporting experimental results](#)

Referees

Please submit the names, full affiliations (department, institution, city and country) and email addresses of five potential Referees. Appropriate reviewers should be knowledgeable about the subject but have no close connection with any of the authors. At least three reviewers must be from outside the lead author's geographical region. Suggested reviewers must not be former co-authors or colleagues and must be from institutions other than those of any of the Authors. You may also name reviewers that you do not want to review your manuscript and state your reasons for doing so.

PREPARATION

NEW SUBMISSIONS

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

References

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Formatting requirements

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions.

If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

Figures and tables embedded in text

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

REVISED SUBMISSIONS

Use of word processing software

Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the [Guide to Publishing with Elsevier](#)). See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

LaTeX

You are recommended to use the Elsevier article class [elsarticle.cls](#) to prepare your manuscript and [BibTeX](#) to generate your bibliography.

Our [LaTeX site](#) has detailed submission instructions, templates and other information.

Article structure

Subdivision - numbered sections

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

Introduction

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Materials and Methods

Provide sufficient detail to allow the work to be reproduced. In the case of experimental papers the numerical purity (mass fraction or mole fraction) of the investigated substances should be indicated, as well as the method of purity determination, if known. Any subsequent purification of the sample, such as distillation, crystallization, drying, etc., should be described.

Methods already published should be indicated by a reference: only relevant modifications should be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

Nomenclature

Authors must provide a Nomenclature, to be published between the text of the paper and the list of references. The Nomenclature should be a list of all mathematical symbols in one column and their definitions with units, preferably including the equation number of first use, in an adjacent column. The symbols should follow the notation of the IUPAC, "Quantities, Units, and Symbols

in Physical Chemistry, 2nd Ed.", http://old.iupac.org/publications/books/gbook/green_book_2ed.pdf. In addition, all unusual abbreviations and acronyms used in the paper should be included in the Nomenclature. Authors should also consider defining symbols and acronyms when first used within the paper.

Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name. If an institutional affiliation is given for an author, a corresponding institutional e-mail address will need to be provided, otherwise the manuscript will not be considered for publication. Next to the institutional e-mail address a personal e-mail address may be provided for each author as a secondary address.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. Note that the corresponding author needs to be a senior member of the research team and not a student. **Ensure that an institutional e-mail address is given if the corresponding author is affiliated to an institute, and that contact details are kept up to date by the corresponding author.**
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical abstract

Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view [Example Graphical Abstracts](#) on our information site.

Authors can make use of Elsevier's Illustration and Enhancement service to ensure the best presentation of their images and in accordance with all technical requirements: [Illustration Service](#).

Highlights

Highlights are a short collection of bullet points that convey the core findings of the article. Highlights are optional and should be submitted in a separate file in the online submission system. Please include 3 to 5 bullet points (max. 85 characters per bullet point including spaces). See <http://www.elsevier.com/researchhighlights> for examples.

Note: for Asian authors, interpreting a character as a word, max 85 characters per bullet point corresponds with approx. 20 words max per bullet point.

Keywords

Immediately after the abstract, provide a maximum of 5 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Nomenclature and units

Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI. You are urged to consult [IUPAC: Nomenclature of Inorganic Chemistry](#) for further information.

Math formulae

Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes

Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

Artwork

Image manipulation

Whilst it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable if and as long as they do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Indicate per figure if it is a single, 1.5 or 2-column fitting image.
- For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
- Please note that individual figure files larger than 10 MB must be provided in separate source files. A detailed [guide on electronic artwork](#) is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats

Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):

EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.

TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.

TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.

TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not:

- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

Figure captions

Ensure that each illustration has a caption. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References

Citation in text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Reference links

Increased discoverability of research and high quality peer review are ensured by online links to the sources cited. In order to allow us to create links to abstracting and indexing services, such as Scopus, CrossRef and PubMed, please ensure that data provided in the references are correct. Please note that incorrect surnames, journal/book titles, publication year and pagination may prevent link creation. When copying references, please be careful as they may already contain errors. Use of the DOI is encouraged.

A DOI can be used to cite and link to electronic articles where an article is in-press and full citation details are not yet known, but the article is available online. A DOI is guaranteed never to change, so you can use it as a permanent link to any electronic article. An example of a citation using DOI for an article not yet in an issue is: VanDecar J.C., Russo R.M., James D.E., Ambeh W.B., Franke M. (2003). Aseismic continuation of the Lesser Antilles slab beneath northeastern Venezuela. *Journal of Geophysical Research*, <https://doi.org/10.1029/2001JB000884>. Please note the format of such citations should be in the same style as all other references in the paper.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support [Citation Style Language styles](#), such as [Mendeley](#) and [Zotero](#), as well as [EndNote](#). Using the word processor plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:

<http://open.mendeley.com/use-citation-style/fluid-phase-equilibria>

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Reference formatting

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

Reference style

Text: Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result'

List: Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

Examples:

Reference to a journal publication:

[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13.03.03).

Reference to a dataset:

[dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, *Mendeley Data*, v1, 2015. <https://doi.org/10.17632/xwj98nb39r.1>.

Journal Abbreviations Source

Journal names should be abbreviated according to

Chemical Abstracts Service (CAS): <http://www.cas.org>

Video

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a preferred maximum size

of 150 MB. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including [ScienceDirect](#). Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our [video instruction pages](#). Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

Supplementary material

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

Data linking

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that give them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the [database linking page](#).

For [supported data repositories](#) a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

AudioSlides

The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. [More information and examples are available](#). Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

Interactive plots

This journal enables you to show an Interactive Plot with your article by simply submitting a data file. [Full instructions](#).

AFTER ACCEPTANCE

Online proof correction

Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.

If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.

We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints

At the time the issue which includes your article is about to be printed, you will receive your offprint in an electronic form at, i.e. a PDF file, via e-mail. Not only should an electronic offprint mean ease of use to you, but more so it will significantly decrease delivery time, and therefore we would hope you receive a better service from us. Authors wishing to order additional paid reprints should indicate the number of reprints required when returning proofs.

The corresponding author, at no cost, will be provided with a personalized link providing 50 days free access to the final published version of the article on [ScienceDirect](#). This link can also be used for sharing via email and social networks. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's WebShop (<http://webshop.elsevier.com/myarticleservices/offprints>). Authors requiring printed copies of multiple articles may use Elsevier WebShop's 'Create Your Own Book' service to collate multiple articles within a single cover (<http://webshop.elsevier.com/myarticleservices/booklets>).

AUTHOR INQUIRIES

Visit the [Elsevier Support Center](#) to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.

You can also [check the status of your submitted article](#) or find out [when your accepted article will be published](#).

© Copyright 2014 Elsevier | <http://www.elsevier.com>