JOURNAL OF CATALYSIS

AUTHOR INFORMATION PACK

TABLE OF CONTENTS

- **Description** **p.1**
- **Impact Factor** **p.1**
- **Abstracting and Indexing** **p.2**
- **Editorial Board** **p.2**
- **Guide for Authors** **p.3**

ISSN: 0021-9517

DESCRIPTION

Journal of Catalysis is the premier scholarly publication in the field of **catalysis** and an indispensable source of information for chemists and chemical engineers in both industrial and academic fields. Over the last decade, *Journal of Catalysis* has been ranked among the top five **chemical engineering** journals in terms of impact and relevance. During this period, it has published some of the most important contributions to **physical chemistry** and the science and applications of catalysis.

Journal of Catalysis publishes original, rigorous, and scholarly contributions in the fields of **heterogeneous catalysis** and **homogeneous catalysis**. These include studies that relate **catalytic function** to fundamental chemical processes at surfaces and in **metal complexes**, novel concepts in **surface chemistry**, the **synthesis** and catalytic function of novel **inorganic solids** and **complexes**, spectroscopic methods for structural characterization, and theoretical methods of direct interest and impact in the science and applications of **catalysts** and **catalytic processes**.

Journal of Catalysis publishes manuscripts of archival value because of their significant fundamental and conceptual contributions to our understanding and practice of catalytic chemistries. The journal features authoritative articles, priority communications, research notes, and letters to the Editors.

Journal of Catalysis also publishes Priority Communications and Research Notes. Priority Communications contain unique, exciting, and novel results that provide compelling evidence for rapid publication; while results in such communications may be of a preliminary nature, experimental details must be fully documented and the results reliably reproduced. Research Notes typically contain data and concepts that resolve in a concise but rigorous manner issues raised in previous publications.

IMPACT FACTOR

2013: 6.073 © Thomson Reuters Journal Citation Reports 2014

ABSTRACTING AND INDEXING

Chem Inform
Chemical Abstracts
Chemical Engineering Abstracts
Current Contents/Physics, Chemical, & Earth Sciences
Engineering Index
Research Alert
Science Citation Index
Biological Abstracts
Literature Abstracts/Catalysts and Catalysis
Scopus

EDITORIAL BOARD

Editor-in-Chief:

J.A. Lercher, Technische Universität München, Garching, Germany

Editors:

C. Copéret, Eidgenössische Technische Hochschule (ETH) Zürich, Zürich, Switzerland
G.J. Hutchings, Cardiff University, Cardiff, Wales, UK
M. Neurock, University of Virginia, Charlottesville, Virginia, USA
J.W. Niemantsverdriet, Cardiff University, Cardiff, Wales, UK
S.T. Oyama, University of Tokyo, Tokyo, Japan
F.H. Ribeiro, Purdue University, West Lafayette, Indiana, USA
J. Sauer, Humboldt-Universität Berlin, Berlin, Germany

Editorial Board:

C.R. Apesteguia, Instituto de investigaciones en Catálisis y Petroquím (INCAPE), Santa Fe, Argentina
J.N. Armor
M.A. Barteau, University of Michigan, Ann Arbor, Michigan, USA
A.T. Bell, University of California at Berkeley, Berkeley, California, USA
A. Corma Canós, Universitat Politècnica de València, Valencia, Spain
R. J. Davis, Virginia Commonwealth University, Charlottesville, Virginia, USA
K.P. de Jong, Utrecht University, Utrecht, Netherlands
W.N. Delgass, Purdue University, West Lafayette, Indiana, USA
K. Domen, University of Tokyo, Tokyo, Japan
J. Dumesic, University of Wisconsin at Madison, Madison, Wisconsin, USA
H.-J. Freund, Fritz Haber Institut der Max Planck Gesellschaft, Berlin, Germany
B.C. Gates, University of California, Davis, Davis, California, USA
E. Iglesia, University of California at Berkeley, Berkeley, California, USA
I. Ivanova, Lomonosov Moscow State University, Moscow, Russian Federation
J.S. Lee, Pohang University of Science and Technology, Pohang, South Korea
C. Li, Chinese Academy of Sciences (CAS), Dalian, China
J.K. Nørskov, Stanford University, Menlo Park, California, USA
D.E. Resasco, University of Oklahoma, Norman, Oklahoma, USA
S.L. Soled, Exxonmobil Research & Engineering Company, Annandale, New Jersey, USA
H. Topsøe, Haldor Topsoe A/S, Lyngby, Denmark
H. Toulhoat, Institut Français du Pétrole (IFP), Rueil Malmaison, France
B. Wichterlova, Academy of Sciences of the Czech Republic, Prague 8, Czech Republic

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.

INTRODUCTION

The *Journal of Catalysis* publishes original, rigorous, and scholarly contributions in the fields of heterogeneous and homogeneous catalysis. These include studies that relate catalytic function to fundamental chemical processes at surfaces and in metal complexes, novel concepts in surface chemistry, the synthesis and catalytic function of novel inorganic solids and complexes, spectroscopic methods for structural characterization, and theoretical methods of direct interest and impact in the science and applications of catalysts and catalytic processes.

Journal of Catalysis publishes manuscripts of archival value because of their significant fundamental and conceptual contributions to our understanding and practice of catalytic chemistries. The journal features authoritative articles, priority communications, research notes, and letters to the Editors. Journal of Catalysis is the premier scholarly publication in the field of catalysis and, over the last decade, it has been ranked among the top ten chemistry journals in terms of impact and relevance. During this period, it has published some of the most important contributions to the science and applications of catalysis and throughout its fifty-year history, it has been an indispensable source of information for chemists and chemical engineers in both industrial and academic fields.

Journal of Catalysis does not accept preliminary publications. It prefers full articles of scholarly in-depth studies and publishes short articles only in special cases, as Priority Communications or Research Notes. Priority Communications contain unique, exciting, and novel results that provide compelling evidence for rapid publication; while results in such communications may be of a preliminary nature, experimental details must be fully documented and the results reliably reproduced. Research Notes typically contain data and concepts that resolve in a concise but rigorous manner issues raised in previous publications

Types of Paper

Research Notes, Letters to the Editor, and Priority Communications should have a maximum of 14 double-spaced typewritten manuscript pages (including tables and figures). Accepted Research Notes will not receive publication priority over regular articles. All Research Notes should include an abstract of 60-100 words.

Letters to the Editor will be considered for priority publication under the following conditions: (a) Letters must be related to some statement made in a recently published article in this journal; (b) in cases of conflicting views on any topic, no more than one letter from each author will be accepted.

The handling editor will evaluate the suitability of an article for consideration as a Priority Communication according to the following criteria: (a) The article contains unique, exciting, and obviously novel results with a clear requirement for rapid publication; (b) articles may be of preliminary nature, but experimental details of the preparation and conditions must be fully documented so that the experiment can be repeated. Priority Communications should include an abstract of 60-100 words; Introduction, Methods, Results, and Discussion sections; a maximum of 3 figures and/or tables in total; and a References section with only the most essential references included. Manuscripts submitted for publication as Priority Communications must be accompanied by a letter explaining why the material deserves rapid publication. Manuscripts accepted as Priority Communications will be printed as quickly after acceptance as possible. Manuscripts that are judged not to warrant priority publication may be considered for publication as Research Notes.

BEFORE YOU BEGIN

Ethics in publishing

For information on Ethics in publishing and Ethical guidelines for journal publication see http://www.elsevier.com/publishingethics and http://www.elsevier.com/journal-authors/ethics.

Conflict of interest

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also http://www.elsevier.com/conflictsofinterest. Further information and an example of a Conflict of Interest form can be found at: http://help.elsevier.com/app/answers/detail/a_id/286/p/7923.

Plagiarism

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), 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, without the written consent of the copyright-holder.

Articles and any other material published in the *Journal of Catalysis* represent the opinions of the author(s) and should not be construed to reflect the opinions of the editor(s) or the publisher. Manuscripts that do not meet the general criteria or standards for publication in the *Journal of Catalysis* will be immediately returned to the authors, without detailed review. At their discretion, editors may request from the corresponding author a statement describing specific original contributions made by each co-author.

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 http://www.elsevier.com/sharingpolicy), 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 http://www.elsevier.com/editors/plagdetect.

Changes to authorship

This policy concerns the addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts:
Before the accepted manuscript is published in an online issue: Requests to add or remove an author, or to rearrange the author names, must be sent to the Journal Manager from the corresponding author of the accepted manuscript and must include: (a) the reason the name should be added or removed, or the author names rearranged and (b) written confirmation (e-mail, fax, 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. Requests that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure as described above. Note that: (1) Journal Managers will inform the Journal Editors of any such requests and (2) publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.
After the accepted manuscript is published in an online issue: Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (for more information on this and copyright, see http://www.elsevier.com/copyright). 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 (please consult http://www.elsevier.com/permissions). 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: please consult http://www.elsevier.com/permissions.

For open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (for more information see http://www.elsevier.com/OAauthoragreement). Permitted third party reuse of open access articles is determined by the author's choice of user license (see http://www.elsevier.com/openaccesslicenses).

Author rights
As an author you (or your employer or institution) have certain rights to reuse your work. For more information see http://www.elsevier.com/copyright.

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 authors may also be reimbursed for associated publication fees. To learn more about existing agreements please visit http://www.elsevier.com/fundingbodies.

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 (http://www.elsevier.com/access).
• 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 3300**, excluding taxes. Learn more about Elsevier's pricing policy: http://www.elsevier.com/openaccesspricing.

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 (http://webshop.elsevier.com/languageediting/) or visit our customer support site (http://support.elsevier.com) for more information.

Submission
Submission to this journal proceeds totally online. Use the following guidelines to prepare your article. Via the homepage of this journal (http://ees.elsevier.com/jcat/) 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.

Referees
Please submit the names and institutional e-mail addresses of several potential referees. For more details, visit our Support site. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional Information
Manuscripts must be submitted by the senior author, who must accept responsibility on behalf of all authors for all ethical requirements. The author submitting the manuscript will be listed as the corresponding author in the published version of each accepted manuscript.

There are no submission fees or page charges. Each manuscript must be accompanied by a letter addressed to the specific editor and outlining the basic findings of the paper and its significance. If the manuscript refers to recently submitted manuscripts or papers in press (with the *Journal of Catalysis* or other journals), then a copy of each manuscript must be supplied so that the reviewers can judge the new manuscript in its proper context.

Revised manuscripts should be returned including revision notes. The revision notes should address the issues raised in the referee report and clearly state per page (indicate paragraph and line) which changes have been made. Additional materials may be requested at the discretion of the editor.

Authors requested to revise their submission to *Journal of Catalysis* will be given 4 weeks in which to submit the revised submission. Revised submissions received after 4 weeks from the time at which the revision was requested will be considered as new submissions.

We also ask that for all manuscripts with 7 or more authors to include in the cover letter a list of each author's individual contribution to the manuscript.

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.
Use line numbering throughout your paper.

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.

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: http://www.elsevier.com/guidepublication). 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.

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

Experimentals and methods should be sufficiently detailed to enable the experiments to be reproduced. Authors should draw attention to any particular chemical or biological hazards that may be involved in carrying out the experiments described. Any relevant safety precautions should be described; if an accepted code of practice has been followed, a reference to the relevant standards should be given.

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. Results and Discussion may be combined and may be organized into subheadings.

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.

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 and, if available, the e-mail address of each author.

• ***Corresponding author.*** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that the e-mail address is given 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 **(maximum length: 150 words)**. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separate from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, they must be cited in full, without reference to the reference list. 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
Authors must supply a graphical abstract at the time the paper is first submitted. The abstract should summarize the contents of the paper in a concise, pictorial form designed to capture the attention of a wide readership and for compilation of databases. Authors must provide images that clearly represent the work described in the paper. The content of the graphical abstract will be typeset and should be kept within an area of 5 cm by 17 cm. Authors must supply the graphic separately as an electronic file.

Highlights
Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See http://www.elsevier.com/highlights for examples.

Keywords
Immediately after the abstract, provide a maximum of 10 keywords, 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.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

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 proofreading the article, etc.). Include information on grants received.

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
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 on our website:
http://www.elsevier.com/artworkinstructions.
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.

Color Artwork
Please make sure that artwork files are in an acceptable format (TIFF, EPS or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable colour figures then Elsevier will ensure, at no additional charge, that these figures will appear in colour on the Web (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in colour in the printed version. For colour reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for colour in print or on the Web only. For further information on the preparation of electronic artwork, please see http://www.elsevier.com/artworkinstructions.
Please note: Because of technical complications which can arise by converting colour figures to "grey scale" (for the printed version should you not opt for colour in print) please submit in addition usable black and white versions of all the colour illustrations. Color figures should not be submitted unless the Authors are willing to assume all costs associated with color reproduction. If color reproduction is essential and the authors intend to argue for a waiver of charges, the Editor should be consulted upon manuscript submission.

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.

References
Citation in Text; Proof of 'in press' required
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 and a copy of the title page of the relevant article must be submitted.

Authors must supply a full-text copy of all unpublished references (including "Personal Communications" and papers "in press"). These references will be included in your submission and will be verified by the reviewers of your manuscript. Any submission that does not comply with this requirement will be rejected by the Editors.

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.

Reference management software
Most Elsevier journals have a standard template available in key reference management packages. This covers packages using the Citation Style Language, such as Mendeley (http://www.mendeley.com/features/reference-manager) and also others like EndNote (http://www.endnote.com/support/enstyles.asp) and Reference Manager (http://refman.com/support/rmstyles.asp). Using plug-ins to word processing packages which are available from the above sites, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style as described in this Guide. The process of including templates in these packages is constantly ongoing. If the journal you are looking for does not have a template available yet, please see the list of sample references and citations provided in this Guide to help you format these according to the journal style.

If you manage your research with Mendeley Desktop, you can easily install the reference style for this journal by clicking the link below:
http://open.mendeley.com/use-citation-style/journal-of-catalysis
When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice. For more information about the Citation Style Language, visit http://citationstyles.org.

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

References should be individually numbered in the order in which they are cited in the text (including tables assuming they will be located where they are first mentioned in the text), and listed in numerical sequence on separate sheets at the end of the paper, typed in double spacing. The numbers (no alphabetical characters) should appear in the text at the appropriate places in square brackets [ ]. In the reference list, periodicals [1], books [2], multiauthor books with editors [3], proceedings [4], and patents [5] should be cited in accordance with the following examples:

[1] M. Inoue, H. Kominami, T. Inui, Appl. Catal. A 121 (1995) 1.
[2] Nielsen, An Investigation on Promoted Iron Catalysts for the Synthesis of Ammonia, Jul. Giellerups Forlag, Copenhagen, 1968, p. 72.
[3] M.V. Sargent, F.M. Dean, in: A.R. Katrizky, C.W. Rees (Eds.), Comprehensive Heterocyclic Chemistry, Pergamon Press, Oxford, 1977, p. 599.
[4] F.E. Wagner, M. Karger, F. Probst, B. Schutter, in: P. Jena, C.B. Satterthwaite (Eds.), Electronic Structure and Properties of Hydrogen in Metals, Proc. NATO Int. Symp., Richmond, VA, 4-6 March 1982, Plenum, New York, 1983, p. 581.
[5] J. Ciric, US Patent 3 972 983 (1976), to Mobil Oil Corporation.

Authors' and editors' names should be given as initials followed by surname. The names of all authors (and/or all editors) should be listed in the reference list; "et al." should not be used here. Abbreviations for the titles of journals should follow the system used by Chemical Abstracts. Each reference should be complete in itself; therefore ibid. should not be used in the reference list.

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations: http://www.issn.org/services/online-services/access-to-the-ltwa/.

Video data

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: http://www.sciencedirect.com. 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 at http://www.elsevier.com/artworkinstructions. 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.

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 at http://www.elsevier.com/audioslides. Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

Supplementary material

Elsevier accepts electronic supplementary material to support and enhance your scientific research. Supplementary files offer the author additional possibilities to publish supporting applications, high-resolution images, background datasets, sound clips and more. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at http://www.elsevier.com/artworkinstructions.

Interactive plots

This journal encourages you to include data and quantitative results as interactive plots with your publication. To make use of this feature, please include your data as a CSV (comma-separated values) file when you submit your manuscript. Please refer to http://www.elsevier.com/interactiveplots for further details and formatting instructions.

Submission checklist

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

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, and contain:

- Keywords
- All figure captions
- All tables (including title, description, footnotes)

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)

Printed version of figures (if applicable) in color or black-and-white

- Indicate clearly whether or not color or black-and-white in print is required.
- For reproduction in black-and-white, please supply black-and-white versions of the figures for printing purposes.

For any further information please visit our customer support site at http://support.elsevier.com.

Additional Information

When preparing the manuscript, use double spacing and wide (3 cm) margins. (Avoid full justification; i.e., do not use a constant right-hand margin.) Ensure that each new paragraph is clearly indicated. Present tables and figure legends on separate pages at the end of the manuscript. If possible, consult a recent issue of the journal to become familiar with layout and conventions. Number all pages consecutively.

Chemical reaction data
For heterogeneous catalysis, presentation should include reaction rates normalized by catalyst surface area, surface area of the active phase, or number of active surface atoms or catalytic sites, as appropriate. Typical rate units are mol s-1 m-2 or, in the case of surface atom normalization to produce turnover frequencies, s-1. For homogeneous catalysis, rates should typically be reported as turnover frequencies. Comparisons of selectivities should be made at similar conversions. Catalytic measurements need to be carried out under kinetically limited conditions. Confirming tests need to be carried out and reported, especially for all reactions occurring in the liquid phase.

AFTER ACCEPTANCE

Use of the Digital Object Identifier

The Digital Object Identifier (DOI) may be used to cite and link to electronic documents. The DOI consists of a unique alpha-numeric character string which is assigned to a document by the publisher upon the initial electronic publication. The assigned DOI never changes. Therefore, it is an ideal medium for citing a document, particularly 'Articles in press' because they have not yet received their full bibliographic information. Example of a correctly given DOI (in URL format; here an article in the journal *Physics Letters B*):
http://dx.doi.org/10.1016/j.physletb.2010.09.059
When you use a DOI to create links to documents on the web, the DOIs are guaranteed never to change.

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

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

You can track your submitted article at http://help.elsevier.com/app/answers/detail/a_id/89/p/8045/. You can track your accepted article at http://www.elsevier.com/trackarticle. You are also welcome to contact Customer Support via http://support.elsevier.com.

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