DESCRIPTION
The Journal of Fluorine Chemistry contains reviews, original papers and short communications. The journal covers all aspects of pure and applied research on the chemistry as well as on the applications of fluorine, and of compounds or materials where fluorine exercises significant effects. This can include all chemistry research areas (inorganic, organic, organometallic, macromolecular and physical chemistry) but also includes papers on biological/biochemical related aspects of Fluorine chemistry as well as medicinal, agrochemical and pharmacological research. The Journal of Fluorine Chemistry also publishes environmental and industrial papers dealing with aspects of Fluorine chemistry on energy and material sciences. Preparative and physico-chemical investigations as well as theoretical, structural and mechanistic aspects are covered. The Journal, however, does not accept work of purely routine nature.

Benefits to authors
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services.

Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center

AUDIENCE
All scientists wishing to keep abreast of developments in the chemistry of fluorine and its compounds

IMPACT FACTOR
2018: 2.055 © Clarivate Analytics Journal Citation Reports 2019
ABSTRACTING AND INDEXING

FIZ Karlsruhe
Research Alert
Chemical Abstracts
Current Contents
Pascal Francis
Periodicals Digest
Physikalische Berichte
Science Citation Index
Scopus

EDITORIAL BOARD

Regional Editors
Günter Haufe, University of Münster Institute of Organic Chemistry, Corrensstr. 40, 48149, Munster, Germany
Joseph Thrasher, Clemson University Advanced Materials Research Laboratory, 91 Technology Drive, Anderson, South Carolina, 29625, United States
Takashi Yamazaki, Tokyo University of Agriculture and Technology Faculty of Engineering Graduate School of Engineering Department of Applied Chemistry, 2-24-16 Nakacho, 184-8588, Koganei, Japan

Editorial Board
B. Ameduri, Montpellier, France
H. Amii, Kiryu, Japan
O. Boltalina, Fort Collins, Colorado, United States
T. Braun, Berlin, Germany
A.K. Brisdon, Manchester, United Kingdom
D. Cahard, Mont-Saint-Aignan, France
S. Cao, Shanghai, China
A. Dilman, Moskva, Russian Federation
D.A. Dixon, Tuscaloosa, Alabama, United States
W.R. Dolbier Jr., Gainesville, Florida, United States
S. Fustero, Valencia, Spain
M. Gerken, Lethbridge, Alberta, Canada
V. Gouverneur, Oxford, United Kingdom
W. Grochala, Warszawa, Poland
R. Hagiwara, Kyoto, Japan
R.M. Haiges, Los Angeles, California, United States
G.B. Hammond, Louisville, Kentucky, United States
S. Hasenstab-Riedel, Berlin, Germany
J. Hu, Shanghai, China
S.T. Iacono, Colorado Springs, Colorado, United States
E. Kemnitz, Berlin, Germany
P. Kirsch, Darmstadt, Germany
H. Koroniak, Poznan, Poland
M.P. Krafft, Strasbourg, France
J. Kvicala, Strasice, Czech Republic
J-K. Lee, Incheon, Korea, Republic of
Y. Lee, Daejeon, Korea, Republic of
X-Y. Liu, Shenzhen, China
J-A. Ma, Tianjin, China
Y. Matsuo, Hyogo, Japan
D. O’Hagan, St. Andrews, United Kingdom
J-F. Paquin, Quebec, Quebec, Canada
V.A. Petrov, Wilmington, Delaware, USA
G.K.S. Prakash, Los Angeles, United States
F.-L. Qing, Shanghai, China
J. Rábai, Budapest, Hungary
G. Resnati, Milano, Italy
G. Sandford, Durham, United Kingdom
G.C. Saunders, Hamilton, New Zealand
G.J. Schrobilgen, Hamilton, Ontario, Canada
N. Shibata, Nagoya, Japan
V.A. Soloshonok, San Sebastián, Spain
R.G. Syvret, Philadelphia, Pennsylvania, USA
A. Tressaud, Pessac, France
J. Wang, Beijing, China
Yu. L. Yagupolskii, Kyiv, Ukraine
S. Yonezawa, Fukui, Japan
GUIDE FOR AUTHORS

INTRODUCTION
The Journal of Fluorine Chemistry covers organic, organometallic, inorganic, macromolecular and physical chemistry and also includes papers on biochemistry, medicinal, environmental and industrial chemistry. Preparative and physico-chemical investigations as well as theoretical, structural and mechanistic aspects are covered.

Types of Contributions
The Journal of Fluorine Chemistry contains reviews, original papers and short communications describing both pure and applied research on the chemistry and applications of fluorine, and of compounds where fluorine exercises significant effects.
For reviews and special issues on particular topics of fluorine chemistry or from selected symposia, please contact the Regional Editors for further details.

Contact Details for Submission
Europe, Africa and Australia:
Professor Günter Haufe

Japan and Asia:
Professor Takashi Yamazaki

Americas:
Professor Joseph Thrasher

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. Authors should complete the declaration of interest statement using this template and upload to the submission system at the Attach/Upload Files step. If there are no interests to declare, please choose: 'Declarations of interest: none' in the template. This statement will be published within the article if accepted. 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, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' 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 Crossref Similarity Check.

Preprints
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive
language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

**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.

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. [More information.]

**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 gold 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 gold 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.

**Open access**
Please visit our Open Access page for more information.
Elsevier Researcher Academy

Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

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 Author Services.

Submission
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Referees
Please submit, with the manuscript, the names, addresses and e-mail addresses for a minimum of three potential referees. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

PREPARATION

Peer review
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

Use of wordprocessing software
It is important that the file is saved in the native format of the wordprocessor used with embedded schemes, figures and tables at appropriate places in the text. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the wordprocessor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier: https://www.elsevier.com/guidepublication). Note that source files of figures, tables and text graphics will be required in addition to embed items whether in the text. 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 wordprocessor.

Article structure

Subdivision-numbered heads
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, acknowledgements and reference section are not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection should 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.

Results and discussion
Results should be clear and concise. Discussion should explore the significance of the results of the work in the context of state of the art. Avoid extensive citations and discussion of published literature.
Conclusions
The main conclusions of the study should be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section. Avoid a simple summary of your results.

Experimental
Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described. If more appropriate, a Material and Methods section can be included instead. Furthermore, a Theory or Calculation section might represent a practical development from a theoretical basis.

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.** Give full name of the authors. Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lowercase 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 phone numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address. Contact details must be 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.

Highlights
Highlights are optional yet highly encouraged for this journal, as they increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights 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).

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, compound numbers (without compound names) 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 Graphical abstract should summarize the content of the paper in a concise pictorial form designed to capture the attention of a wide readership. Graphical Abstracts have purposefully been given much latitude in their design. For example, the pictorial form could be a chemical structure, a reaction, X-ray structure, or a graph. Ideally the graphic should be no larger than 65 mm wide by 45 mm high. The size of the graphical abstract is 177 mm wide by 53 mm tall. The typesetter will insert the manuscript title, author(s), author(s) affiliation and address(es) and the page number. However, authors should ensure that these items along with the brief synopsis (different from the full textual abstract) and the graphic do not exceed the space defined by the template given at the end of these instructions.

For more information on this please use this link: https://www.elsevier.com/graphicalabstracts
Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Avoid names of specific products. Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
The *Journal of Fluorine Chemistry* encourages extensive use of abbreviations in the experimental section, but not in the Introduction or Results and discussion sections; abbreviations should be employed liberally to economize on space. For the names of reagents, solvents, molecular formulae, abbreviations can be used, and these are preferred over acronyms, e.g., NaHCO$_3$, Et$_2$O, Me$_2$SO (not DMSO), H$^{18}$F, HOAc (not HAc), NaOAc. Abbreviations can also be substituted for common terms such as aqueous (aq), saturated (satd), etc. Units of measure [ml, cm, °, h (hour), etc.] are almost always abbreviated. For a list of allowable abbreviations, consult *The ACS Style Guide* or previous issues of the Journal.

Acknowledgments
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 financial support from foundations or industry, stipends provided, donation of chemicals, support in raising analytical data, and any other help provided 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
Chemical nomenclature, abbreviations and symbols must follow IUPAC rules. Whenever possible, avoid coining new trivial names; **every effort should be made to modify an existing name.** For example, when a new compound is described, it should be given a full systematic name according to IUPAC nomenclature (http://www.chem.qmul.ac.uk/iupac/) and this should be cited in the Abstract or in the Experimental section. Isotopically-labelled substances should be written with the correct chemical name of the compound. The symbol for the isotope should be placed in square brackets and should precede that part of the name to which it refers, e.g. sodium [$_{14}$C]formate, trifluoroacetyl[$_{18}$F]fluoride.

Database linking and Accession numbers
Elsevier aims at connecting online articles with external databases which are useful in their respective research communities. If your article contains relevant unique identifiers or accession numbers (bioinformatics) linking to information on entities (genes, proteins, diseases, etc.) or structures deposited in public databases, then please indicate those entities according to the standard explained below.

Authors should explicitly mention the database abbreviation (as mentioned below) together with the actual database number, bearing in mind that an error in a letter or number can result in a dead link in the online version of the article.

Please use the following format: Database **ID: xxxx**

Typically links can be provided in your online article to the following databases (examples of citations are given in parentheses):

- **CCDC**: Cambridge Crystallographic Data Centre (CCDC ID: AI631510)
• **ICSD**: Inorganic Crystal Structure Database, FIZ Karlsruhe
• **PDB**: Worldwide Protein Data Bank (PDB ID: 1TUP)

**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 can build footnotes into the text, and this feature may be used. Otherwise, please indicate the position of footnotes in the text and list the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

**Artwork**

**Electronic artwork**

**General points**
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.

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**
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format. Regardless of the application used other than Microsoft Office, 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 all used fonts.
- **TIFF** (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
- **TIFF** (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
- **TIFF** (or JPEG): Combinations bitmapped line/halftone (color or grayscale), keep to a minimum of 500 dpi.

**Please do not:**
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• 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 (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article.** Please indicate your preference for color: in print or online only. Further information on the preparation of electronic artwork.

**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.

PLEASE NOTE: The figures, tables should be provided in between the text not separately in the last
few pages . The captions should also be provided right after the figures and tables.

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.

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 should 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. Using citation 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. If you use
reference management software, please ensure that you remove all field codes before submitting
the electronic manuscript. More information on how to remove field codes from different reference
management software.

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/journal-of-fluorine-chemistry

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

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 with an article number:
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 file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. 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.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

Supplementary data
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, spectra copies 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 https://www.elsevier.com/artworkinstructions.

Research data
This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.
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 gives 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).

Mendeley Data
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, Data in Brief. Please note an open access fee of 600 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

MethodsX
You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the MethodsX website. Please use this template to prepare your MethodsX article.

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

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
• Telephone and Fax numbers
All necessary files have been uploaded, and contain:
• Cover letter
• List of minimum three potential reviewers
• Graphical abstract
• Highlights
• Statement of significance
• Manuscript with embedded Schemes, Figures and Tables
• Separate files with Schemes and Figures
• Scheme and figure captions
• Tables (including title, description, footnotes)
• Supplementary Information (for Online Publication and Review Purposes)
• Mol files and Video (in case)

Further considerations
• Manuscript has been 'spell-checked' and 'grammar-checked'
• References are in the correct format for this journal
• 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 Web)
• Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print, or to be reproduced in color on the Web (free of charge) and in black-and-white in print
• If only color on the Web is required, black-and-white versions of the figures are also supplied for printing purposes

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

Additional information
Preparation
Characterization of new compounds
All new organic, organometallic and macromolecular compounds should be fully characterized with relevant physical and spectroscopic data. Microanalyses should be included whenever possible. Under appropriate circumstances, high-resolution mass spectra may serve in lieu of microanalysis, if accompanied by suitable NMR criteria for sample homogeneity, e.g. spectra copies in the Electronic Supplementary Data.

For new inorganic compounds and solid state materials single-crystal or powder diffraction results are not, except special cases, sufficient as the only means of characterization. Appropriate for the particular sample spectroscopic and analytical methods such as IR spectroscopy, NMR spectroscopy, mass spectrometry, electronic spectroscopy, electron microscopy (TEM and SEM) and elemental analysis must prove the bulk composition. Some sort of surface analysis might be appropriate, e.g. XPS, EDAX, AFM and SFM.

Compound characterization must be comprehensive, and follow the order shown below for organic compounds: compound name (and assigned number in text); physical state of compound (e.g. crystal, amorphous, liquid, oil), melting and/or boiling point (if applicable); optical rotation [α]D and/or circular dichroism measurements (if optically active); UV, IR, 1H NMR, 13C NMR, 19F NMR, MS. “...gave colorless liquid: bp 82–83°C (12 mbar); or ...white needles: mp 83–85°C; [α]D25 −110 (c 1.4, CHCl3); IR (KBr); v 1730 (s) and 1260 (ester), 860 and 840 (Me3Si), and 710(m) cm−1 (Ph); 1H NMR..."

NMR spectral data should only be presented in full if they have not been published separately elsewhere, in which case only relevant references should be quoted. Data must be specified as 1H NMR, 13C NMR or 19F NMR and should indicate the frequency of the instrument, the solvent used and the (internal) standard. Chemical shifts should be quoted in δ units relative to TMS (1H and 13C) or CCl3F (in lieu TFA) (19F) with indication of whether the signal is a singlet s, doublet d, doublet of doublets dd, triplet t, multiplet m, etc. 1H NMR, 13C NMR and 19F NMR spectral data should specify the hydrogen, carbon or fluorine concerned, using the recommended IUPAC numbering, and should be given to two decimal places (1H, 19F NMR) or one decimal place (13C NMR). For example: 1H NMR (300 MHz, CDCl3): δ 1.74 (d, 3H, 3JHF = 22 Hz, CH3), 3.57 (AB, 1H, 2JHH = 11 Hz, 3JHF = 23 Hz, CH2Br), 3.61 (AB, 1H, 2JHH = 11 Hz, 3JHF = 16 Hz, CH2Br), 7.27 (m, 5H, arom. H). 13C NMR (75 MHz,
CDCl$_3$): $\delta$ 14.1 (s, C-5), 115.2 (d, $^2J = 21$ Hz, C-3), 131.9 (d, $^3J = 8$ Hz, C-2), 135.2 (d, $^4J = 3$ Hz, C-1), 161.7 (d, $^1J = 245$ Hz, C-4). $^{19}$F NMR (282 MHz, CDCl$_3$): $\delta$ −81.50 (t, 3F, $^3J_{FF} = 9$ Hz, CF$_3$), −105.74 (m, 2F, CF$_2$), −124.52 (m, 2F, CF$_2$), −126.24 (m, 2F, CF$_2$).

**Mass spectral data**

Mass spectral data should only be presented in full if they have not been published separately elsewhere, in which case only relevant references should be quoted. Presentation of mass spectral data indicate the method used (EIMS, CIMS, GC-MS, HRMS, etc.) and the ionizing energy. The data should give only diagnostically important ions, the character of the fragmentation ions in relation to the molecular ion and the intensity relative to the major ion. For example: EIMS, 70 eV, $m/z$ (rel. int.): 386 (36) [M]$^+$, 368 (100) [M-H$_2$O]$^+$, 353 (23) [M-H$_2$O-Me]$^+$, 275 (35) [M-111]$^+$; HRMS (ESI), $m/z$: calcd. for C$_{16}$H$_{15}$F$_3$N$_2$O$_3$Na$^+$ 363.0927 [M+Na]$^+$; found 363.0918.

**Elemental analysis results** must be given in the form: “Anal. calcd for C$_{16}$H$_{15}$F$_3$N$_2$O$_3$: C, 56.47; H, 4.44; N, 8.23; found: C, 56.25; H, 4.37; N 8.28.”

**X-ray crystallography.** Only essential data (e.g. a three-dimensional structural drawing with bond distances) should be included in manuscripts. A complete list of data in CIF (Crystallographic Information File) format should be prepared separately and deposited with the Cambridge Crystallographic Data Centre (http://www.ccdc.cam.ac.uk for further information), before the paper is submitted. A footnote indicating this fact is to be included in the manuscript, e.g. “crystallographic data (excluding structure factors) for the structures in this paper have been deposited with the Cambridge Crystallographic Data Centre as supplementary publication nos. CCDC...... Copies of the data can be obtained, free of charge, on application to CCDC, 12 Union Road, Cambridge CB2 1EZ, UK, (fax: +44 1223 336033 or e-mail: deposit@ccdc.cam.ac.uk).”

**Chemical formula charts and schemes**

Structural formulae should be grouped for insertion in the text at appropriate points. Such group need not have a caption, but those showing reaction sequences (i.e., containing arrows) should be designated Scheme 1, Scheme 2, etc. Compound numbers should be in boldface and run sequentially through the manuscript. In charts and schemes the general progression of the formula numbers must be in sequence from left to right across the page, regardless of the order of appearance of the formulae in the text. Where a single structure with R groups represents two or more compounds, the sequence follows the listing below the structure, then resumes its rightward progression, Multiple listings under a single formula should be in ‘tabular’ format, as in the following example: (see PDF file for graphic). Authors using ChemDraw or ISISDraw for scheme / figure preparation are encouraged to use the ACS preference settings (font 10 pt Helvetica, chain angle 120°, bond spacing 18% of length, fixed length 14.4 pt (0.508 cm), bold width 2.0 pt (0.071 cm), line width 0.6 pt (0.021 cm), margin width 1.6 pt (0.056 cm), and hash spacing 2.5 pt (0.088 cm)). Authors using ChemIntosh or ChemWindow should use the ‘JOC style’.

**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. The correct format for citing a DOI is shown as follows (example taken from a document in the Journal of Fluorine Chemistry): https://doi.org/10.1016/j.jfluchem.2011.06.030.

When you use the DOI to create URL hyperlinks to documents on the web, the DOIs are guaranteed never to change.

**Online proof correction**

To ensure a fast publication process of the article, we kindly ask authors to provide us with their proof corrections within two days. 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 will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. 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 Author Services. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

**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.