DESCRIPTION

*Phytochemistry* is a leading international journal publishing studies of plant chemistry, biochemistry, molecular biology and genetics, structure and bioactivities of phytochemicals, including '-omics' and bioinformatics/computational biology approaches. *Phytochemistry* is a primary source for papers dealing with phytochemicals, especially reports concerning their biosynthesis, regulation, and biological properties both *in planta* and as bioactive principles. Articles are published online as soon as possible as Articles-in-Press and in 12 volumes per year. Occasional topic-focussed special issues are published composed of papers from invited authors.

**Article types**

Full papers are original research papers reporting new discoveries that lead to a deeper understanding of any aspect of plants covered by the journal. Full papers are invited in the following sections, but these are not exclusive.

**Molecular Genetics and Genomics** contains papers which demonstrate novelty and/or biological significance in relation to all aspects of gene structure and expression, and their role in plant function, regulation, comparative genomics, and reconstitution of biochemical pathways. This section may also contain studies of genetically modified plants that have been analysed for changes in their profiles of phytochemical production.

**Protein Biochemistry and Proteomics** contains reports on plant proteins, including their purification directly from the organism or as a result of heterologous expression. This section includes studies of the macromolecular structure of proteins, protein function, enzyme mechanism, and proteomics, including in relation to changed genetics, environment or metabolism.

**Metabolism and Metabolomics** contains papers reporting new discoveries in all aspects of plant metabolism, both primary and specialized (secondary). Contributions are encouraged that report the elucidation of metabolic pathways, metabolic regulation, or the biosynthesis and roles of macromolecules. Reports improving our understanding of how phytochemicals act *in planta* are particularly welcomed, as are studies of transgenic organisms or of metabolic variation.

**Ecological Biochemistry and Chemistry** contains papers on how plants interact with their environment, including adaptation to environmental stress, symbiosis, interactions with other
organisms, phytoalexins, phytotoxins, pollination (bio)chemistry, and the use of phytochemicals by other organisms.

**Chemistry and Bioactive Products** contains papers on structural elucidation and in planta and in vitro activities of newly identified phytochemicals, including studies that elucidate their role and mode of action in nutritional, pharmacological, medical or therapeutic use. Studies of the biological activity of known compounds will only be considered when they add significant insight to the way in which the biological action of the phytochemical(s) is manifest.

**Chemotaxonomy** contains papers on the comparative phytochemistry of plants, in particular their role as a taxonomic tool.

**Reviews** are an authoritative and timely overview in a defined area and are intended to catch the interest of the general reader. A Review is a critical analysis of the current state of knowledge, pointing out strengths and weaknesses, weighing the significance of the studies conducted, how these fit into the more general subject area, and what are the key areas for further work. Authors should consult the Editor-in-Chief before preparing such articles.

**Molecules of Interest** are short, focussed reviews (3-5 printed pages) of individual compounds or macromolecules that are currently attracting significant applied, commercial or biological interest. Authors should consult the Editor-in-Chief before preparing such articles.

**Viewpoints** are articles that advance new ideas and conclusions concerning any area of plant biology and phytochemistry pertinent to the journal. Examples include the re-analysis of data using a new mathematical model, the reassessment of a pathway, or a new hypothesis to explain existing data. Authors should consult the Editor-in-Chief before preparing such articles.

**Editorial Comment** is an occasional series covering comment on topics of global interest to all domains of phytochemistry and to stimulate debate. Examples include nomenclature issues, ways of expressing data, suggestions for standardising experimental procedures or any other topic that should stimulate debate.

Further details of these categories are given in the *Guide for Authors.*

**Preparation of papers**

Authors are advised to prepare their paper directly into the *Phytochemistry* format. Details of this are given in the *Guide to Authors* and can be seen in recently published papers. Submissions must be in good quality scientific English.

**Submission**: papers must be submitted online at [www.ees.elsevier.com/phytochem](http://www.ees.elsevier.com/phytochem) to the Editor-in-Chief. The Editor-in-Chief will designate an Associate Editor to handle the paper depending on the subject are in which the work reported was conducted. The author may propose a preferred Associate Editor in their cover letter.

*Phytochemistry* is an official journal of The Phytochemical Society of Europe (PSE), The Phytochemical Society of North America (PSNA), and The Phytochemical Society of Asia (PSA). Society announcements are published at the discretion of the Publisher.

**AUDIENCE**

Organic Chemists, Plant Chemists, Plant Biochemists, Plant Molecular Biologists, Chemical Ecologists and Natural Product Chemists.

**IMPACT FACTOR**

2017: 3.186 © Clarivate Analytics Journal Citation Reports 2018
ABSTRACTING AND INDEXING

AGRICOLA
BIOSIS Previews
Chemical Abstracts
Commonwealth Agricultural Bureau (CAB) Abstracts
Cambridge Scientific Abstracts
Elsevier BIOBASE
Current Contents/Agriculture, Biology & Environmental Sciences
Current Contents/Life Sciences
EMBASE
MEDLINE®
Medicinal and Aromatic Plant Abstracts
PASCAL/CNRS
Plant Science Database (Elsevier)
Reference Update
Science Citation Index
Scopus

EDITORIAL BOARD

Editor-in-Chief
Richard Robins, Faculty of Sciences, CEISAM CNRS UMR6230, Université de Nantes, 2 rue de la Houssiniere, F-44322, Nantes, France
Biochemistry and biosynthesis of specialized products

Associate Editors
De-an Guo, Shanghai Inst. of Materia Medica, Chinese Academy of Sciences (CAS), Shanghai, China
Chemistry and Bioactive Products
John Hamill, Centre for Regional and Rural Futures (CeRRF), Deakin University, Geelong, Victoria, Australia
Molecular Genetics and Genomics
Nicholas J. Kruger, Dept. of Plant Sciences, University of Oxford, Oxford, UK
Metabolism and Metabolomics
Soledade Pedras, Dept. of Chemistry, University of Saskatchewan, Saskatoon, Canada
Ecological Biochemistry and Chemistry

Editorial Board
Niels Agerbirk, Frederiksberg, Denmark
Yoshinori Asakawa, Tokushima-Shi, Japan
Pawel Bednarek, Poznan, Poland
Young Hae Choi, Leiden, Netherlands
Geoffrey Cordell, Chicago, Illinois, USA
Katrina Cornish, Wooster, Ohio, USA
Rohan Davis, Nathan, Queensland, Australia
Vincenzo De Luca, St. Catherines, Ontario, Canada
William Fenical, La Jolla, California, USA
Alisdair Fernie, Potsdam-Golm, Germany
Daneel Ferreira, University, Mississippi, USA
Gelsomina Fico, Milano, Italy
Mary Garson, Brisbane, Queensland, Australia
Jonathan Gershenzon, Jena, Germany
Peter Hedden, Hertfordshire, England, UK
Reinhart Jetter, Vancouver, British Columbia, Canada
Massuo Kato, Sao Paulo, Brazil
Douglas Kinghorn, Columbus, Ohio, USA
Marie-Aleth Lacaille-Dubois, Dijon, France
Virginia Lanzotti, Naples, Italy
Marc Litaudon, Gif-sur-Yvette, France
Yoshihiro Mimaki, Tokyo, Japan
Birger L. Moller, Frederiksberg C, Denmark
Caroline Müller, Bielefeld, Germany
Nicholas Oberlies, Greensboro, North Carolina, USA
Sarah O’Connor, Norwich, UK
Reuben Peters, Ames, Iowa, USA
John Pickett, Hertfordshire, England, UK
Emerson F. Queiroz, Geneva 4, Switzerland
Michel Rohmer, Strasbourg, France
Bernd Schneider, Jena, Germany
Dieter Strack, Halle, Germany
Alvaro Viljoen, Pretoria, South Africa
Daniele Werck-Reichhart, Strasbourg, France
Jean-Luc Wolfender, Genève 4, Switzerland
GUIDE FOR AUTHORS

INTRODUCTION

*Phytochemistry* invites research articles on all aspects of pure and applied plant chemistry, plant biochemistry, plant molecular biology and chemical ecology. The Journal is currently divided up into the following sections:

Editorial Comment, Molecules of Interest, Review Articles, Structural Elucidation and Full Papers.

*Editorial Comment* will be an occasional series where Regional Editors, Board Members or other scientists will be invited to comment on phytochemistry topics of global interest and debate.

*Molecules of Interest* will consist of invited short reviews (3-4) printed pages of individual compounds or macromolecules of plant, fungal or algal origin. These can be novel compounds or newly discovered properties of familiar compounds. Please contact Dr Richard J Robins if you wish to prepare a Molecules of Interest paper.

*Review Articles* are published at regular intervals, ranging in scope from primary metabolism and regulation of plant growth, through plant enzymology to natural product chemistry and the biological activity of plant products. They deal with significant new areas of research and are intended to command the interest of the general reader. Authors should consult their Regional Editors with an outline of their proposed Review before preparing such articles. Published Reviews include a biography and picture of each author.

*Structure Elucidation* papers, accepted as full papers in the Chemistry section, should include either a substantial description of several new compounds without any conclusion as to their significance, or a description of the study of new compounds with expected structures incorporating conclusions. These papers with a minimum of 16 pages of double-spaced manuscript should follow the general style of Full Papers although the Introduction, Results and Discussion may be combined as a single narrative. Brief abstracts must be included, containing significant facts derived from the work. Reports of known compounds, however rare, from new plant sources will not generally be accepted unless they have real chemotaxonomic or other biological significance. Authors are specifically discouraged from submitting papers as fragmented analyses of particular plant constituents.

*Full Papers:* Full journal articles will be drawn from areas described in the Aims and Scope:

- Bioactive Products
- Chemotaxonomy
- Chemistry
- Ecological Biochemistry
- Metabolism
- Molecular Genetics & Genomics
- Protein Biochemistry & Proteomics
- Update in Bioinformatics

They are comprehensive papers, typically 6-8 printed pages in length (a minimum of 20 pages of double-spaced manuscript). Papers on plant chemistry must be substantial and contain convincing justification for undertaking the study, as well as having conclusions (e.g., on the biology, chemotaxonomy, new biosynthetic pathways etc.). Papers submitted under the Bioactive Products area are unlikely to be accepted if the bioactivity is measured on a mixture of compounds without further resolution.

*Submission checklist*

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

**Ensure that the following items are present:**

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

- E-mail address
- Full postal address
All necessary files have been uploaded:

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

**Graphical Abstracts / Highlights files** (where applicable)

**Supplemental files** (where applicable)

Further considerations
- Manuscript has been 'spell checked' and 'grammar checked'
- All references mentioned in the Reference List are cited in the text, and vice versa
- Permission has been obtained for use of copyrighted material from other sources (including the Internet)
- A competing interests statement is provided, even if the authors have no competing interests to declare
- Journal policies detailed in this guide have been reviewed
- Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

**BEFORE YOU BEGIN**

**Ethics in publishing**
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

**Declaration of interest**
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. 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.

Funding body agreements and policies
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

Open access
This journal offers authors a choice in publishing their research:

Subscription
• Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
• No open access publication fee payable by authors.
• The Author is entitled to post the accepted manuscript in their institution’s repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

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

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

For gold 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 gold open access publication fee for this journal is **USD 3300**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

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

This journal has an embargo period of 24 months.

*Elsevier 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 WebShop.

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

**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 word processing software**

It is important that the file be saved in the native format of the word processor used. 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 word processor'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). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures 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 word processor.

**Article Structure**

The content of manuscripts must be arranged as follows: (1) a Graphical Abstract; (2) a Title Page with authors name(s) and address(es); (3) and Abstract, in which contents are briefly stated; (4) Keywords; (5) Introduction, and (6) the Results and Discussion (preferably combined). Although each section may be separated by headings, they should form one continuous narrative and only include details essential to the arguments presented. If a discussion is separately provided, it should not include a repetition of the results, but only indicate conclusions reached on the basis of them, and those from other referred works; (7) Conclusions or Concluding Remarks; (8) the Experimental should include brief details of the methods used such that a competent researcher in the field may be able to repeat the work; (9) Acknowledgments; (10) Figures and Legends, Formulae, Tables and References. Authors have to include pagination.

**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.


**Theory/calculation**

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

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

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.
Subsections on the Experimental Procedures should be italicized and inserted as part of the first line of the text to which they apply. Phytochemistry encourages an extensive use of abbreviations (these are listed at the back of the Instructions to Authors, or the reader is referred to other sources). The Experimental should begin with a subsection entitled General Experimental Procedures. This subsection will typically contain brief details of instruments used, and identification of sources of specialized chemicals, biochemicals and molecular biology kits.
The next subsection describes the source(s) and documentation of biological materials used, whether in reference to whole plants or parts therefrom, crude drugs, or any other plant material from which identifiable chemical substances are obtained for the first time. Documentation must also include a reference to voucher specimen(s) and voucher number(s) of the plants or other material examined. If available, authors should quote the name and address of the authority who identified each non-cultivated plant investigated. Specimens should preferentially be deposited in a major regional herbarium where the collection is maintained by state or private institution and which permits loan of such materials.
With other microorganisms, the culture collection from which they were either accessed and/or deposited should be included, together with identification of the strain designation code. The Experimental Procedures employed should be concise but sufficiently detailed that a qualified researcher will be able to repeat the studies undertaken, and these should emphasize either truly new procedures or essential modifications of existing procedures. Experimental details normally omitted include: (1) method of preparation of common chemical and biochemical derivatives, (2) excessive details of separation of compounds, proteins and enzymes, e.g. preparation of columns, TLC plates, column and fraction size.
Compound characterization: Physical and spectroscopic data for new compounds must be comprehensive, and follow the order shown below: compound name (and assigned number in text); physical state of compound (e.g. oil, crystal, liquid, etc.), melting and/or boiling point; optical rotation and/or circular dichroism measurements, if optically active; UV; IR, $^1$H NMR; $^{13}$C NMR; MS. For all new compounds, either high-resolution mass spectral or elemental analysis data are required.

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.

Essential title page information
• **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. "New" and "novel" are not allowed within title and abstract.
• **Author names and affiliations.** 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 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 (marked by an asterisk) who will handle correspondence at all stages of refereeing and publication, also post-publication. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**
• **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a "Present address" (or "Permanent address") may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.
Abstract
A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

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

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). You can view example Highlights on our information site.

Keywords
Authors must give 3-10 keywords or phrases, which identify the most important subjects covered by the paper. They should be placed at the beginning of the manuscript in the following order: name of plant species examined (Latin binomial); plant family; common epithet (where applicable); type of investigation; class of compound; protein or gene; name of compound(s); protein(s) and gene(s).

Abbreviations
About, approximately: ca.
Anhydrous: dry (not anhyd.)
Aqueous: aq.
Circular dichroism: CD
Concentrated (or mineral acids): conc.
Concentrations: ppm (never ppb!), μM, mM, M, %
Dry weight: dry wt; fresh weight: fr. wt
Electricity: V, mA, eV
Force due to gravity (centrifugation): g; rpm (revolutions/min)
Gas chromatography: GC
Gas chromatography-mass spectrometry: GC-MS
trimethylsilyl derivative: TMSi (TMS cannot be used as this refers to the internal standard tetramethylsilane used in 1H NMR)
High performance liquid chromatography: HPLC
Infrared spectroscopy: IR
Length: nm, μm, mm, cm, m
Literature: lit.
Mass: pg, ng, μg, mg, g, kg
Mass spectrometry: m/z [M]+ (molecular ion, parent ion)
Melting points: uncorr. (uncorrected)
Molecular mass: Da (daltons), kDa
Molecular weight: Mr
Nuclear magnetic resonance: 1H NMR, 13C NMR, Hz, δ
Numbers: e.g. 1, 10, 100, 1000, 10,000: per or -1
Optical rotatory dispersion: ORD
Paper chromatography: PC
Precipitate: ppt.
Preparative thin-layer chromatography: prep. TLC
Radioactivity: dpm (disintegrations per min), Ci (curie), sp. act (specific activity), Bq (1 becquerel = 1 nuclear transformation/sec)
Repetitive manipulations: once, twice, ×3, ×4, etc.

RRt (relative retention time), Rt (Kovat's retention index), ECL (equivalent chain length - term frequently used in fatty acid work)

Saturated: satd.
Solution: soln.
Solvent mixtures including chromatographic solvents: abbreviate as follows n-BuOH–HOAc–H2O (4:1:5)
Statistics: LSD (least significant difference), s.d. (standard deviation), s.e. (standard error)
Temperature: (with centigrade), mp, mps, mmp, bp
Thin-layer chromatography: TLC, Rf
Time: s, min, h, day, week, month, year
Ultraviolet spectrophotometry: UV, A (absorbance, not OD - optical density)
Volume: l (litre), μl, ml
Weight: wt

For preparation of Inorganics and Organics please see the full instructions to authors, including all special characters, available for download as a pdf file. pdf link

For further terms used in biochemistry and molecular biology the authors should see the websites of the nomenclature committees. http://www.chem.qmul.ac.uk/iubmb/.

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

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

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

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

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

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

Nomenclature and Units
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 and this should be cited in the Abstract or in the Experimental section. Isotopically-labeled 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 [14C]formate.

In Table headings and legends on graph axes numerical data should be identified in the form data name/units.

For Presentation of Data please see the full instructions to authors, including all special characters, available for download as a pdf file. pdf link

Mass spectral data should be presented in full as Supplementary Information for all newly identified compounds. If the data are already published elsewhere then relevant references should be quoted. Presentation of mass spectral data should in general follow the recommendations given in Int. J. Mass
Spectrom. Ion Processes, 142, 211-240 (1995), and must indicate the method used (EIMS, CIMS, GC-MS, TOFMS, FABMS, SIMS, APCI etc.) and the relevant experimental details (ionizing energy, voltages etc.). 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 (probe) 70 eV, \( m/z \) (rel. int.): 386 [M]+ (36), 368 [M - H2O]+ (100), 353 [M - H2O - Me] + (23), 275 [M - 111] + (35), etc. CIMS (iso-butane, probe), 200 eV, \( m/z \) (rel. int.): 387 [M + H] + (100), 369 [(M + H) - H2O] + (23), etc. High-resolution spectra can be given in more detail if necessary for [M] + and the more important fragment ions.

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 (see [http://www.ccdc.cam.ac.uk](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. "CCDC...contains the supplementary crystallographic data for this paper. These data can be obtained free of charge via [http://www.ccdc.cam.ac.uk/conts/retrieving.html](http://www.ccdc.cam.ac.uk/conts/retrieving.html) (or from the CCDC, 12 Union Road, Cambridge CB2 1EZ, UK; fax: +44 1223 336033; e-mail: deposit@ccdc.cam.ac.uk)". Crystal structures of proteins should be submitted to the Protein Data Bank (see [http://www.rcsb.org/pdb](http://www.rcsb.org/pdb); e-mail: info@rcsb.org). Please submit a copy of the CIF data when you submit your manuscript.

Elemental analysis results for compounds which have been adequately described in the literature must be given in the form: (Found: C, 62.9; H, 5.4. Calc. for C13H13O4N: C, 63.2; H, 5.3%). New compounds must be indicated by giving analytical results in the form: (Found: C, 62.9; H, 5.4. C13H13O4N requires: C, 63.2; H, 5.3%).

Thin-layer chromatography

(a) For analytical TLC, dimensions of the plates can be deleted if layer thickness is 0.25 mm.

(b) Abbreviate common adsorbents: (but use silica gel, not SiO2 as this does not describe the material accurately), Al2O3 (alumina).

(c) Preparative forms of the technique should include details of (i) layer thickness (preparative TLC only), (ii) amount of sample applied to the layer, (iii) method of detection used to locate the bands and (iv) the solvent used to recover the compounds from the adsorbent after development.

(d) Special forms of TLC on impregnated adsorbents can be abbreviated, e.g. AgNO3-silica gel (1:9), by wt can be assumed.

(e) Solvent mixtures should be specified as under **Abbreviations** above.

Gas chromatography

(a) Detector used should be specified, e.g. dual FID, EC, etc.

(b) Carrier gas and flow rate or inlet pressure should be given, e.g. N2 at 3 ml min-1/10 psi.

(c) Operating conditions, such as injector and detector heater temperatures, oven temperature programme, should be included.

(d) Packed columns, e.g. 6 m x 3 mm (i.d. measurement only) packed with 1% SE-30 (support material and mesh size can be omitted unless unusual).

(e) Capillary columns the type (e.g. WCOT, SCOT), manufacturer’s designation (e.g. DB5) and dimensions (length, internal/external diameter, film thickness) should be specified.

High performance liquid chromatography

(a) Solvent or solvent gradients used together with flow rate should be given.

(b) Column dimensions (length x i.d. only) and packing used.

(c) Method of detection employed, e.g. UV or refractive index.

Biochemical conventions

Unless a common biochemical term (e.g. ATP, NADH), biochemicals that are abbreviated should be spelled out in full (in brackets) immediately following their first usage in the text.

Enzyme names are typically not abbreviated, unless there are accepted abbreviations, such as ATPase. Where possible, E.C. numbers should be used for enzymes, and the recommendations of the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology (IUBMB) should be used (see below).
Enzyme characterization
(a) Enzyme activity is expressed in units of katals (symbol kat), the conversion of one mol of substrate per sec. It should be made clear that the measurements were made under specified optimum conditions and were not seriously affected by losses during extraction and analysis.
(b) pH optima should be given together with pH values for half maximal activity.
(c) Kinetic parameters should be expressed as Vmax, Km etc.
(d) Enzyme inhibitors-effectiveness should be expressed as Ki or concentration for half-maximal activity.
(e) Optimal temperature of enzymes should not be given. This should be expressed in terms of "Energy of Activation" and "Energy of Activation for Denaturation".
(g) Labeling of proteins and nucleic acids-use of labeled precursors in assessing the rate of synthesis of macromolecules must be validated by evidence of real, direct incorporation. The possibility of occlusion or adsorption of isotopic material should be noted and it should be shown that the labeled precursor is incorporated without prior catabolism.

Protein and nucleotide sequences
The Experimental must contain explicit documentation of the ends of nucleotide probes used in the study if previously unpublished, or by appropriate reference to published nucleotide numbers and/or restriction map. In manuscripts to be published in Phytochemistry, any new protein and/or nucleotide sequence must have been submitted to EMBL, GenBank™ or DNA Data Bank of Japan databases, with designated accession number(s) obtained prior to paper acceptance by the Regional Editor. The Author(s) must ensure access to this database information by timely release of data prior to publication, as well as providing necessary documentation to those already in the databases.

Nucleotide sequence data can be submitted either electronically (e-mail) or in computer-readable format, GenBank™, EMBL and the DNA Data Bank of Japan addresses are:
GenBank Submissions, National Center for Biotechnology Information, Building 38A, Room 8N-803, Bethesda, MD 20894. Tel.: +1 301 496-2475; e-mail (submissions): gb-sub@ncbi.nlm.nih.gov; e-mail (information): info@ncbi.nlm.nih.gov
EMBL Nucleotide Sequence Submissions, European Bioinformatics Institute, Hinxton Hall, Hinxton, Cambridge CB10 1SD, UK. Tel.: +44 (0) 1223-494401; fax: +44 (0) 1223-494472; e-mail: datasubs@ebi.ac.uk; world wide web: http://www.ebi.ac.uk/embl
DNA Data Bank of Japan, Center for Information Biology, National Institute of Genetics, Mishima, Shizuoka 411-8540, Japan. Tel.: (+81) 559-81-6853; fax: (+81) 559-81-6849; e-mail: ddbjsub@ddbj.nig.ac.jp (for data submissions); world wide web: http://www.ddbj.nig.ac.jp.
Contributors must obtain the designated accession number, which will be incorporated into the paper, prior to printing.

Only novel DNA sequences will be published. Sequences that show close similarity to known coding or other sequences such as promoters will not be published and will be cited by accession number. Translated protein sequence information should be published as alignments against other gene family members. Papers containing such information about genes already known in other species should have sufficient novelty and biological significance. Sequence only papers or papers which duplicate work in another species will not be published.
Genes known by three letter names should be written in italics. The corresponding cognate protein should be written in capital, non-italic text.

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**

*Image manipulation*

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

*Electronic artwork*

*General points*

- Make sure you use uniform lettering and sizing of your original artwork.
- 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.

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/half-tone (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.

*Illustration services*

Elsevier's WebShop offers Illustration Services to authors preparing to submit a manuscript but concerned about the quality of the images accompanying their article. Elsevier's expert illustrators can produce scientific, technical and medical-style images, as well as a full range of charts, tables and graphs. Image 'polishing' is also available, where our illustrators take your image(s) and improve them to a professional standard. Please visit the website to find out more.

*Figure captions*

Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.
Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

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

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

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

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

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

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

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

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/phytochemistry

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: All citations in the text should refer to:
1. *Single author*: the author's name (without initials, unless there is ambiguity) and the year of publication;
2. *Two authors*: both authors' names and the year of publication;
3. *Three or more authors*: first author's name followed by 'et al.' and the year of publication.

Citations may be made directly (or parenthetically). Groups of references can be listed either first alphabetically, then chronologically, or vice versa.

Examples: 'as demonstrated (Allan, 2000a, 2000b, 1999; Allan and Jones, 1999).... Or, as demonstrated (Jones, 1999; Allan, 2000).... Kramer et al. (2010) have recently shown ....'

List: References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', 'c', etc., placed after the year of publication.

Examples:
Reference to a journal publication:

Reference to a journal publication with an article number:

Reference to a book:

Reference to a chapter in an edited book:

Reference to a website:

Reference to a dataset:

Journal Abbreviations Source

Journal names should be abbreviated according to the List of Title Word Abbreviations.

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 material

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

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 500 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.

**Additional Information**
Is the subject matter really appropriate to Phytochemistry?
Is the work described both new and significant?
Have you supplied a Graphical Abstract?
Is the Title both short and informative?
Does the Abstract fully represent your scientific contribution? Is it self-contained? (Avoid formulae, numbers and abbreviations given in the text.)
Have you avoided repeating yourself? Have you avoided presenting the same data more than once?
Can you really justify writing separate 'Results' and 'Discussion' sections?
Have you checked plant names? Are you sure of the identity of the plants examined? Have you indicated the part of the plant you extracted? Have you deposited a voucher specimen and given access information?
Have you remembered to add the accepted IUPAC systematic names for new plant products?
Have you used all the suggested abbreviations in the Experimental?
Have you remembered to enclose with (or cite in) your manuscript and other relevant papers (e.g. reprint of previous paper in a series, any manuscripts of papers in press referred to in the paper, etc.)?
Is your manuscript double-spaced throughout with adequate margins and consists of one file containing all your text, figures and tables with a file name extension, plus separate original graphic files ready for online submission?

**AFTER ACCEPTANCE**

**Online proof correction**
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

**Offprints**
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 Webshop. 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.