Guide for Authors

The International Journal of Plant Chemistry, Plant Biochemistry and Molecular Biology.
An Official Journal of the Phytochemical Society of Europe and the Phytochemical Society of North America.

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 Professor Bolwell 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.

Before You Begin

Ethics in Publishing

For information on Ethics in Publishing and Ethical guidelines for journal publication see http://www.elsevier.com/publishingethics and http://www.elsevier.com/ethicalguidelines.

Conflict of interest

All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations within three years of beginning the submitted work that could inappropriately influence, or be perceived to influence, their work. See also http://www.elsevier.com/conflictsofinterest.

Submission declaration

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere including electronically in the same form, in English or in any other language, without the written consent of the copyright-holder.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (for more information on this and copyright see http://www.elsevier.com/copyright). Acceptance of the agreement will ensure the widest possible dissemination of information. An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.
Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations (please consult http://www.elsevier.com/permissions). If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases: please consult http://www.elsevier.com/permissions.

Retained author rights

As an author you (or your employer or institution) retain certain rights; for details you are referred to: http://www.elsevier.com/authorsrights.

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 paper for publication. If the funding source(s) had no such involvement then this should be stated. Please see http://www.elsevier.com/funding.

Funding body agreements and policies

Elsevier has established agreements and developed policies to allow authors whose articles appear in journals published by Elsevier, to comply with potential manuscript archiving requirements as specified as conditions of their grant awards. To learn more about existing agreements and policies please visit http://www.elsevier.com/fundingbodies.

Language and language services

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who require information about language editing and copyediting services pre- and post-submission please visit http://www.elsevier.com/languageediting or our customer support site at http://epsupport.elsevier.com/ for more information.

Submission

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

Referees
Please submit, with the manuscript, the names, addresses and e-mail addresses of 4 potential referees. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional Information

Please submit regular articles to the appropriate Regional Editor for your geographical region.
For UK, Africa, The Commonwealth and Rest of the World: Professor G. P. Bolwell.
For the Americas and East Asia: Professor N. G. Lewis.
For Continental Europe and Russia: Professor D. Strack.

- Regular articles go to the appropriate geographical editor.
- MOIs go to Professor Bolwell.
- Special Issue Papers go to the Organizing Editor/Editors.
- Solicited/Commissioned Reviews go to the editor who commissioned them.

Preparation

Use of wordprocessing software

It is important that the file be saved in the native format of the wordprocessor 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 wordprocessor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. Do not embed "graphically designed" equations or tables, but prepare these using the wordprocessor's facility. 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: http://www.elsevier.com/guidepublication). Do not import the figures into the text file but, instead, indicate their approximate locations directly in the electronic text and on the manuscript. See also the section on Electronic illustrations.
To avoid unnecessary errors you are strongly advised to use the "spell-check" and "grammar-check" functions of your wordprocessor.

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.

Specific names (genus, species, authority for the binomial) of all experimental plants must be given at first mention according to the *Index Kewensis* (searchable online at http://www.ipni.org/) or similar authority (The Plant-Book: A Portable Dictionary of the Vascular Plants, by D.J. Mabberley, 2nd ed., June 1997, Cambridge University Press; ISBN: 0521414210), and preferably be in the form recommended by the International Code of Botanical Nomenclature. Named varieties of cultivars are given, e.g. *Lactuca sativa* cv. Grand Rapids. (The official printed version of the International Code of Botanical Nomenclature has been published as International Code of Botanical Nomenclature {Tokyo Code}. Regnum Vegetabile 131. Koeltz Scientific Books, Konigstein. ISBN 3-87429-367-X or 1-878762-66-4 or 80-901699-l-0.)

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. The abstract should not contain compound numbers which refer to other parts of the manuscript, full chemical or known trivial names of compounds should be given.

Graphical abstract
Please provide, when submitting your article, a graphical abstract. This comprises the title, authors, identical to the article itself, a summary of about 25 words, and a pictogram: one figure representative of the work described. Maximum final dimensions of the pictogram are 5 x 5 cm: bear in mind readability after reduction, especially if using one of the figures from the article itself. Compound numbers can be given in the graphical abstract if they refer to a graphic also shown there. Graphical abstracts will be collated to provide a contents list for rapid scanning.

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 ^{1}H 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: M_r
Nuclear magnetic resonance: ^{1}H NMR, ^{13}C 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^{-1})
Repetitive manipulations: once, twice, ×3, ×4, etc.
RR_t (relative retention time), R_t (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–H_2O (4:1:5)
Statistics: LSD (least significant difference), s.d. (standard deviation), s.e. (standard error)
Temperature: (with centigrade), mp, mps, mmp, bp
Temperature: temp.
Thin-layer chromatography: TLC, R_f
Time: s, min, h, day, week, month, year
Ultraviolet spectrophotometry: UV, *A* (absorbance, not OD—optical density)
Volume: l (litre), μl, ml
Weight: wt

Inorganics, e.g.
$AlCl_3$ (aluminum chloride), BF_3 (boron trifluoride), CO_2, H_2, HCl, $HClO_4$ (perchloric acid), HNO_3, H_2O, H_2O_2, H_2SO_4, H_3BO_3 (boric acid), He, $KHCO_3$ (potassium bicarbonate), $KMnO_4$ (potassium permanganate), KOH, K-Pi buffer (potassium phosphate buffer), $LiAlH_4$ (lithium aluminium hydride), Mg^{2+}, $MgCl_2$, N_2, NH_3, $(NH_4)_2SO_4$, Na^+, $NaBH_4$ (sodium borohydride), NaCl, $NaIO_4$ (sodium periodate), NaOH, Na_2SO_3 (sodium sulphite), Na_2SO_4 (sodium sulphate), $Na_2S_2O_3$ (sodium thiosulphate), O_2, Pi (inorganic phosphate), PPi (pyrophosphate), Tris (buffer).

Organics, e.g.
Ac_2O (ethanoic [acetic] anhydride), *n*-BuOH (butanol-1-ol), C_6H_6 (benzene), CCl_4 (tetrachloromethane), CH_2Cl_2 (dichloromethane), $CHCl_3$ (trichloromethane), CH_2N_2 (diazomethane), CM (carboxymethyl), DEAE (diethylaminoethyl), DMF (dimethylformamide), DMSO (dimethyl sulphoxide), EDTA (ethylenediaminetetraacetic acid), Et_2O (diethyl ether), EtOAc (ethyl acetate), EtOH (ethanol), HCO_2H (methanoic acid), HOAc (ethanoic [acetic] acid), *iso*-PrOH (propan-2-ol), Me_2CO (acetone), MeCOEt (methyl ethyl ketone), MeOH (methanol), NaOAc (sodium acetate), NaOMe (sodium methoxide), pet-ether b.p. X-Y (petroleum ether, b.p. range specified), PhOH (phenol), PrOH (propan-1-ol), PVP (polyvinylpyrrolidone), TCA (trichloroacetic acid), TFA (trifluoroacetic acid), THF (tetrahydrofuran).

^{1}H NMR solvents and standards: $CDCl_3$ (deuterochloroform), D_2O, DMSO-d_6 [deuterodimethylsulphoxide, not $(CD_3)_2SO$], pyridine-d_5 (deuteropyridine), TMS (tetramethylsilane), DSS [(3-trimethylsilyl)-1-propanesulphonic acid sodium salt], TSP [(3-trimethylsilyl)propionic acid sodium salt].

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.).

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 [^{14}C]formate.

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

Presentation of Data

Specific optical rotation should be presented as $[\alpha]_{\lambda}^{T}$ (c xxx, solvent) where T is the temperature in deg C , λ is the wavelength of the measuring radiation (typically D) and xxx is the concentration of the sample in g 100 cm^{-3} in the stated solvent.
ORD curves usually described as a series of values based on [α] or [θ] (molecular rotation) at various wavelengths.
CD values may be expressed as molecular ellipticity values [θ], e.g., $[\theta]_{256}$ + 21 780, $[\theta]_{307}$ – 16 113 or as differential dichroic absorption, e.g. $\delta_{\varepsilon 253}$ – 1.0 (MeOH; *c* 0.164).
Ultraviolet–visible spectra: ε values are given as log values in parentheses, e.g. λ nm (log ε): 203 (4.7), etc. $EtOH_{max}$
Infrared spectra: Data should be presented in the established form, e.g. ν cm^{-1}: 1740, etc.
Absorption should be expressed only in wave-numbers and structural assignments should be indicated when possible in parentheses after the relevant wave-number, e.g. 1740 (>C=O), etc. The following abbreviations should be used if the intensity of absorption bands are included: w - weak intensity, m - medium intensity, v - variable intensity, s - strong intensity, vs - very strong intensity.

NMR 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. Data must be specified as ^{1}H NMR or ^{13}C 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 with indication of whether the signal is a singlet *s*, doublet *d*, doublet of doublets *dd*, triplet *t*, multiplet *m*, etc. ^{13}C NMR spectral data should specify the carbon concerned, using the recommended IUPAC numbering (e.g. C-l, C-2), and should be given to one decimal place. ^{1}H NMR spectral data should indicate the number of hydrogens involved and their position of attachment based on the numbering of the carbon atoms, preferably according to IUPAC rules. For example, ^{13}C NMR spectral data (25.15 MHz, $CDCl_3$): δ 30.1 (*t*, C-5), 74.1 (*d*, C-6), 121.7 (*d*, C-3), 144.2 (*s*, C-4), etc. ^{1}H NMR spectral data (100 MHz, $CDCl_3$): δ 0.68 (3H, *s*, H-18), 0.88 (6H, *d*, *J*=6 Hz, C26-H and C27-H), 0.90 (3H, *d*, *J*=5 Hz, C21-H), 4.34 (1H, *q*, $J_{6\alpha,7\alpha}$=4.5 Hz, $J_{6\alpha,7\beta}$=2Hz, C6-H), 4.21 (1H, *m*, $W_{1/2}$ 18 Hz, C3-Hα). COSY, TOCSY and NOESY correlations can be presented as figures containing the relevant structures and inter-nuclear interactions.

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 - H_2O]+ (100), 353 [M - H_2O - Me] + (23), 275 [M - 111] + (35), etc. CIMS (*iso*-butane, probe), 200 eV, *m/z* (rel. int.): 387 [M + H] + (100), 369 [(M + H) - H_2O] + (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/ 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 (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; 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 $C_{13}H_{13}O_4N$: 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. $C_{13}H_{13}O_4N$ 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 SiO_2 as this does not describe the material accurately), Al_2O_3 (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. $AgNO_3$-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. N_2 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 V_{max}, K_m etc.
(d) Enzyme inhibitors-effectiveness should be expressed as K_i 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".
(f) Enzyme nomenclature is now given in "Enzyme Nomenclature, Recommendations", Academic Press (1992) (∃➧http://www.chem.qmul.ac.uk/iubmb).
(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, Shizuuoka 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.

Accession numbers

Accession numbers are unique identifiers in bioinformatics allocated to nucleotide and protein sequences to allow tracking of different versions of that sequence record and the associated sequence in a data repository [e.g., databases at the National Center for Biotechnical Information (NCBI) at the National Library of Medicine ('GenBank') and the Worldwide Protein Data Bank]. There are different types of accession numbers in use based on the type of sequence cited, each of which uses a different coding. Authors should explicitly mention the *type of accession number together with the actual 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: accession number type ID: xxxx (e.g., MMDB ID: 12345; PDB ID: 1TUP). Note that in the final version of the *electronic copy*, accession numbers will be linked to the appropriate database, enabling readers to go directly to that source from the article.

Artwork

Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Save text in illustrations as "graphics" or enclose the font.
- Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Produce images near to the desired size of the printed version.
- Submit each figure as a separate file.

A detailed guide on electronic artwork is available on our website:
http://www.elsevier.com/artworkinstructions
You are urged to visit this site; some excerpts from the detailed information are given here.

Formats

Regardless of the application used, when your electronic artwork is finalised, 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: Vector drawings. Embed the font or save the text as "graphics".
TIFF: color or grayscale photographs (halftones): always use a minimum of 300 dpi.
TIFF: Bitmapped line drawings: use a minimum of 1000 dpi.
TIFF: Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.
DOC, XLS or PPT: If your electronic artwork is created in any of these Microsoft Office applications please supply "as is".
Please do not:

- Supply embedded graphics in your wordprocessor (spreadsheet, presentation) document;
- Supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low;
- Supply files that are too low in resolution;
- Submit graphics that are disproportionately large for the content.

Color Artwork

Colour in print: The charge for printed colour will be given on request by contacting authors@elsevier.com.
Colour on the web: Any figure can appear free of charge in colour in the web version of your article, regardless of whether or not this is reproduced in colour in the printed version. Please note that if you do not opt for colour in print, you should submit relevant figures in both colour (for the web) and black-and-white (for print).

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

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

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. Citation of a reference as "in press" implies that the item has been accepted for publication.

Reference management software
This journal has standard templates available in key reference management packages EndNote (http://www.endnote.com/) and Reference Manager (http://www.refman.com/). Using plug-ins to wordprocessing packages, authors only need to select the appropriate journal template when preparing their article and the list of references and citations to these will be formatted according to the journal style which is described below.

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 should be listed first alphabetically, then chronologically.
Examples: "as demonstrated (Allan, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer et al. (2000) 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:
Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2000. The art of writing a scientific article. J. Sci. Commun. 163, 51-59.
Reference to a book:
Strunk Jr., W., White, E.B., 1979. The Elements of Style, third ed. Macmillan, New York.
Reference to a chapter in an edited book:
Mettam, G.R., Adams, L.B., 1999. How to prepare an electronic version of your article, in: Jones, B.S., Smith , R.Z. (Eds.), Introduction to the Electronic Age. E-Publishing Inc., New York, pp. 281-304.

Journal Abbreviations Source

Journal titles should be abbreviated (e.g. Carbohydr. Res.) following the Chemical Abstracts Service Source Index (CASSI) style (a list of abbreviated journal titles is available online at http://www.cas.org/sent.html).

Video data

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the files in one of our recommended file formats with a maximum size of 30 MB and running time of 5 minutes. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com/. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages at http://www.elsevier.com/artworkinstructions. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

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, sound clips and more. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: http://www.sciencedirect.com/. In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at http://www.elsevier.com/artworkinstructions.

Submission checklist

It is hoped that this list will be useful during the final checking of an article prior to sending it to the journal's Editor for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:

One Author designated as corresponding Author:

- E-mail address
- Full postal address
- Telephone and fax numbers

All necessary files have been uploaded

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

Further considerations

- Manuscript has been "spellchecked" 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://epsupport.elsevier.com/.

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

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 *Physics Letters B*):
doi:10.1016/j.physletb.2003.10.071
When you use the DOI to create URL hyperlinks to documents on the web, they are guaranteed never to change.

Proofs

One set of page proofs (as PDF files) will be sent by e-mail to the corresponding author (if we do not have an e-mail address then paper proofs will be sent by post) or, a link will be provided in the e-mail so that authors can download the files themselves. Elsevier now provides authors with PDF proofs which can be annotated; for this you will need to download Adobe Reader version 7 (or higher) available free from http://www.adobe.com/products/acrobat/readstep2.html. Instructions on how to annotate PDF files will accompany the proofs (also given online). The exact system requirements are given at the Adobe site: http://www.adobe.com/products/acrobat/acrrsystemreqs.html#70win.
If you do not wish to use the PDF annotations function, you may list the corrections (including replies to the Query Form) and return them to Elsevier in an e-mail. Please list your corrections quoting line number. If, for any reason, this is not possible, then mark the corrections and any other comments (including replies to the Query Form) on a printout of your proof and return by fax, or scan the pages and e-mail, or by post. 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. We will do everything possible to get your article published quickly and accurately. Therefore, it is important to ensure that all of your 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. Note that Elsevier may proceed with the publication of your article if no response is received.

Offprints

The corresponding author, at no cost, will be provided with a PDF file of the article via e-mail. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. The PDF file is a watermarked version of the published article and includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use.

Author Inquiries

For inquiries relating to the submission of articles (including electronic submission where available) please visit this journal's homepage. You can track accepted articles at http://www.elsevier.com/trackarticle and set up e-mail alerts to inform you of when an article's status has changed. Also accessible from here is information on copyright, frequently asked questions and more. Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher.

Top of Page

Printer-friendly version