PHYTOCHEMISTRY LETTERS
An Official Journal of the Phytochemical Society of Europe

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DESCRIPTION

Phytochemistry Letters invites rapid communications on all aspects of natural product research including:

- Structural elucidation of natural products
- Analytical evaluation of herbal medicines
- Clinical efficacy, safety and pharmacovigilance of herbal medicines
- Natural product biosynthesis
- Natural product synthesis and chemical modification
- Natural product metabolism
- Chemical ecology
- Biotechnology
- Bioassay-guided isolation
- Pharmacognosy
- Pharmacology of natural products
- Metabolomics
- Ethnobotany and traditional usage
- Genetics of natural products

Manuscripts that detail the isolation of just one new compound are not substantial enough to be sent out of review and are out of scope. Furthermore, where pharmacology has been performed on one new compound to increase the amount of novel data, the pharmacology must be substantial and/or related to the medicinal use of the producing organism.

For more details please follow this link: IMPORTANT INFORMATION FOR AUTHORS.

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Introduction
Phytochemistry Letters invites rapid communications on all aspects of natural product research including: structural elucidation of natural products, biotechnology, pharmacology of natural products, ethnomedicine and traditional usage, genetics of natural products, analytical evaluation of herbal medicines, clinical efficacy, safety and pharmacovigilance of herbal medicines, bioassay-guided isolation, natural product synthesis and chemical modification, natural product biosynthesis, metabolomics, natural product metabolism and chemical ecology.

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Manuscripts that detail the isolation of just one new compound are not substantial enough to be sent out of review and are out of scope. Furthermore, where pharmacology has been performed on one new compound to increase the amount of novel data, the pharmacology must be substantial and/or related to the medicinal use of the producing organism.

Submissions from any field of natural product research are encouraged and the following list is not exhaustive:
- Structural elucidation of natural products
- Analytical evaluation of herbal medicines
- Clinical efficacy, safety and pharmacovigilance of herbal medicines
- Natural product biosynthesis
- Natural product synthesis and semi-synthesis
- Chemical ecology
- Biotechnology
- Bioassay-guided isolation
- Pharmacognosy
- Pharmacology of natural products
- Metabolomics
- Ethnobotany and traditional usage
- Natural product metabolism
- Genetics of natural products

**Taxonomic issues - essential checklist**
In the context of Phytochemistry Letters taxonomic issues need to be addressed in a variety of ways.

- It is general practice that voucher specimens should be deposited in a recognized herbarium. These voucher specimens need to be fully cited within the article (with collector, collector number and herbarium). In the case of lesser known plants, we encourage authors to include electronic scans of the specimens as part of their supplementary data.
- As an essential step, authors will have to check the taxonomic validity of the plant names using one of the international databases, and preferably [http://www.theplantlist.org](http://www.theplantlist.org)
- In future, such a check will be built into the submission and review process and authors will only be able to submit manuscripts, after the validation of the species' taxonomy.
- A particular problem are complex preparations, especially those containing plant extracts. Here detailed evidence on the authentication during the production needs to be ascertained. In addition fingerprints of the preparations tested are advisable.
• Very commonly these questions have been ignored in clinical studies of herbal preparations. The following two papers make it clear that a correct taxonomic nomenclature is an essential requirement in such studies:

**PREPARATION**

**Manuscript Submission**
The following item should be submitted via the online submission page:

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Subsections on the Experimental Procedures should be italicized and inserted as part of the first line of the text to which they apply. Phytochemistry Letters encourages an extensive use of abbreviations (these are below, 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.

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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; 1H NMR; 13C NMR; MS. For all new compounds, either high-resolution mass spectral or elemental analysis data are required. See later section for method of data presentation.

Nomenclature: 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.

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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.

Gas chromatography

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

(b) Carrier gas and flow rate should be given, e.g. N2 at 30 ml min-1.

(c) Operating conditions, such as injector and detector heater temperatures etc., 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 should be specified, e.g. WCOT (wall coated open tubular), SCOT (support coated open tubular). The split ratio used in the injection system and the injection volume for the sample should also be included.

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) Labelling of proteins and nucleic acids-use of labelled 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 labelled precursor is incorporated without prior catabolism.

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Abbreviations
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Aqueous:aq.
Circular dichroism: CD
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Concentrations: ppm (never ppb!), M, mM, M, %, mol
Dry weight: dry wt; fresh weight: fr. wt
Electricity: V, mA, eV
Force due to gravity (centrifugation): g; rpm (revolutions min-1)
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 spectrophotometry: IR
Length: nm, m, mm, cm, m
Literature: lit.
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, ð
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, x3, x4, 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
Temperature: temp.
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), l, ml
Weight: wt, pg, ng, g, mg, kg

Inorganics, e.g. AlCl3 (aluminum chloride), BF3 (boron trifluoride), Cr-, CO2, H2, HCl, HClO4 (perchloric acid), HNO3, H2O, H2O2, H2SO4, H3BO3 (boric acid), He, KHCO3 (potassium bicarbonate), KMnO4 (potassium permanganate), KOH, K-Pi buffer (potassium phosphate buffer), LiAlH4 (lithium aluminium hydride), Mg2+, MgCl2, N2, NH3, (NH4)2SO4, Na+, NaBH4 (sodium borohydride), NaCl, NaIO4 (sodium periodate), NaOH, Na2SO3 (sodium sulphite), Na2SO4 (sodium sulphate), Na2S2O3 (sodium thiosulphate), O2, PPI (inorganic phosphate), SO, Tris (buffer).
Organics, e.g. Ac2O (acetic anhydride), n-BuOH (butanol), C6H6 (benzene), CCl4 (carbon tetrachloride), CH2Cl2 (methylene chloride), HOAc (acetic acid), CH3COCl (chloroform), CH2N2 (diazo-methane), CM (carboxymethyl), DEAE (diethylaminoethyl), DMF (dimethylformamide), DMSO (dimethyl sulphoxide), EDTA (ethylene-diaminetetra-acetic acid), Et2O (diethyl ether), EtOAc (ethyl acetate), ETOH (ethanol), HCO2H (formic acid), HOAc (acetic acid), iso-ProH (iso-propanol), Me2CO (acetone), MeCOEt (methyl ethyl ketone), MeOH (methanol), NaOAc (sodium acetate), NaOMe (sodium methoxide), petrol (not light-petroleum or petroleum ether), PhOH (phenol), PrOH (propanol), PVP (polyvinylpyrrolidone), TCA (trichloroacetic acid), TFA (trifluoroacetic acid), THF (tetrahydrofuran). 1H NMR solvents and standards: CDCl3 (deuterochloroform), D2O, DMSO-d6 [deuterodimethylsulphoxide, not (CD3)2SO], pyridine-d5 (deuteropyridine), TMS (tetramethylsilane).

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