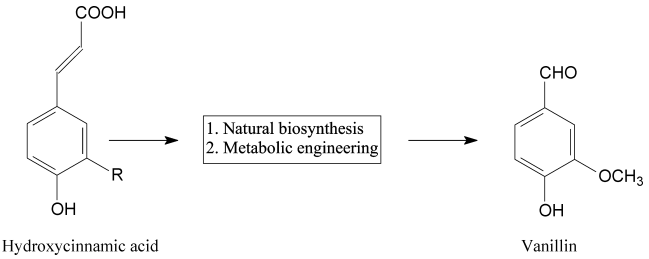
Phytochemistry, 2003, **63**, 505

Vanillin

Nicholas J. Walton, Melinda J. Mayer, Arjan Narbad

Food Safety Science Division, Institute of Food Research, Norwich Research Park, Colney, Norwich NR4 7UA, UK

The relationships between vanillin and hydroxybenzaldehyde biosynthesis and phenylpropanoid metabolism, and the outlook for pathway engineering, are reviewed.



Phytochemistry, 2003, **63**, 517

The patatin-like protein from the latex of *Hevea brasiliensis* (Hev b 7) is not a vacuolar protein

Peter A. Jekel[a], Jan Hofsteenge[b], Jaap J. Beintema[a]

[a]*Biochemisch Laboratorium, Rijksuniversiteit Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands*
[b]*Friedrich Miescher-Institut, PO Box 2543, CH-4002 Basel, Switzerland*

Patatin is a vacuolar protein isolated from potatoes. The homologous protein isolated from the lutoid-body fraction of latex of *Hevea brasiliensis* has not the structural features expected for a vacuolar protein.

N-terminal peptide:

```
     2                  12
Acetyl A T G S T T L T Q G K
```

C-terminal peptide:

```
   382          388
(E) R K L R Q L K
```

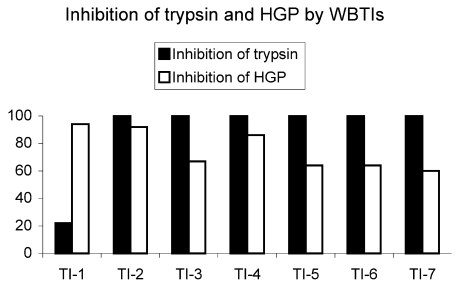
Phytochemistry, 2003, **63**, 523

Identification of potent inhibitors of *Helicoverpa armigera* gut proteinases from winged bean seeds

Ashok P. Giri[a], Abhay M. Harsulkar[a], Maurice S.B. Ku[a], Vidya S. Gupta[b], Vasanti V. Deshpande[b], Prabhakar K. Ranjekar[b], Vincent R. Franceschi[a]

[a]*School of Biological Sciences, Washington State University, Pullman, WA 99164-4236, USA*
[b]*Plant Molecular Biology Unit, Division of Biochemical Sciences, National Chemical Laboratory, Pune 411 008, India*

Seven major trypsin inhibitors (TIs) isolated from winged bean seed revealed differential inhibition when individually assessed for their potential to inhibit the *Helicoverpa armigera* gut proteinases, which is a mixture of six major and several minor trypsin/chymotrypsin-like serine proteinases. We suggest that such inhibitors are a good target for future work aimed at enhancing resistance of crop plants to *H. armigera*, a major devastating field pest.



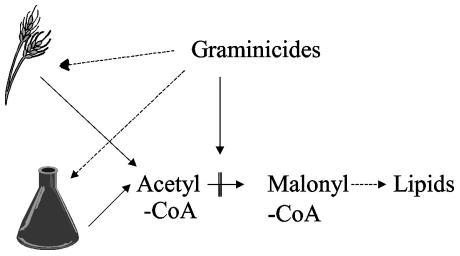
Phytochemistry, 2003, **63**, 533

Use of plant cell cultures to study graminicide effects on lipid metabolism

Lindsey J. Price[a], Derek Herbert[a], David J. Cole[b], John L. Harwood[a]

[a]*School of Biosciences, Cardiff University, PO Box 911, Cardiff CF10 3US, UK*
[b]*Aventis Crop Science UK Ltd. (formerly Rhone-Poulenc Agriculture Ltd.), Ongar, Essex CM5 0HW, UK*

Tissue cultures from grass species have proven very useful as test systems to study graminicide activity.



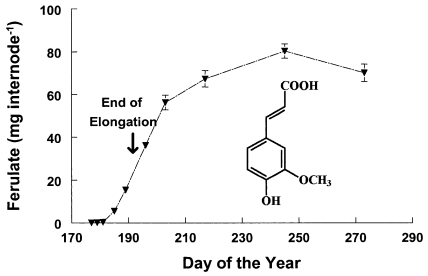
Phytochemistry, 2003, **63**, 543

Maize stem tissues: ferulate deposition in developing internode cell walls

Hans-Joachim G. Jung

United States Department of Agriculture–Agricultural Research Service, St. Paul, MN 55108, USA
Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN 55108, USA

The deposition of ester- and ether-linked ferulates in maize cell walls was quantified during internode elongation. Ferulates were incorporated into both primary and secondary walls of maize stem tissues.



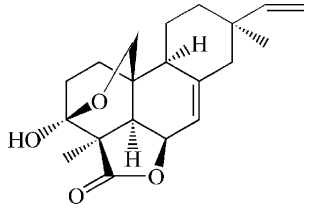
Phytochemistry, 2003, **63**, 551

Rice seedlings release momilactone B into the environment

Hisashi Kato-Noguchi, Takeshi Ino

Department of Biochemistry and Food Science, Faculty of Agriculture, Kagawa University, Miki, Kagawa 761-0795, Japan

Rice seedlings may actively release momilactone B into the neighboring environment and this release level may be enough to cause growth inhibition of neighboring plants.



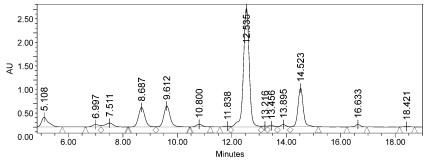
Phytochemistry, 2003, **63**, 555

Chemical profiling of *Ocimum americanum* using external flavonoids

Roberto F. Vieira[a,b], Renée J. Grayer[b], Alan J. Paton[b]

[a]*Embrapa, Cenargen, Caixa Postal 02372, Brasilia, DF, 70770-900, Brazil*
[b]*Royal Botanical Gardens, Kew, Richmond, Surrey, TW9 3AB, UK*

The external flavonoids of many herbarium specimens of *Ocimum americanum* were surveyed by HPLC to establish the flavonoid profiles of this species over the full range of its geographic distribution for authentication purposes.



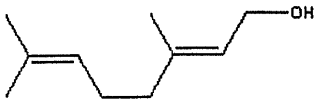
Phytochemistry, 2003, **63**, 569

Antimicrobial action of palmarosa oil (*Cymbopogon martinii*) on *Saccharomyces cerevisiae*

Anjali Prashar[a], Pauline Hili[b], Robert G. Veness[a], Christine S. Evans[a]

[a]*School of Biosciences, University of Westminster, 115 New Cavendish Street, London W1W 6UW, UK*
[b]*Neal's Yard Remedies Ltd, Ingate Place, Battersea, London, UK*

Geraniol in palmarosa oil led to changes in composition of the yeast cell membrane, with leakage of K^+ and Mg^{2+} ions from cells.



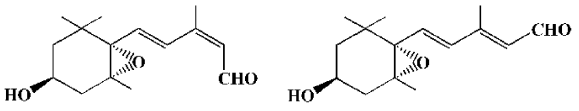
Phytochemistry, 2003, **63**, 577

Allelopathic substances in *Pueraria thunbergiana*

Hisashi Kato-Noguchi

Department of Biochemistry and Food Science, Faculty of Agriculture, Kagawa University, Miki, Kagawa 761-0795, Japan

The putative compounds causing the growth inhibitory effect of *P. thunbergiana* leaves were isolated and the structures were determined as *cis,trans*-xanthoxin and *trans,trans*-xanthoxin.



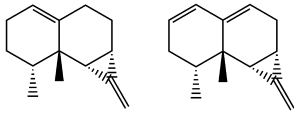
Phytochemistry, 2003, **63**, 581

Sesquiterpene constituents from the liverwort *Bazzania japonica*

Runhua Lu[a], Claudia Paul[b], Simla Basar[c], Wilfried A. König[c], Toshihiro Hashimoto[d], Yoshinori Asakawa[d]

[a]*Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Key Laboratory for Natural Medicine of Gansu Province, 342 Tianshui Road, Lanzhou, 730000, China*
[b]*Thetis-IBN GmbH, Notkestr. 85, D-22607 Hamburg, Germany*
[c]*Institut für Organische Chemie, Universität Hamburg, Martin-Luther-King Platz-6, D-20146 Hamburg, Germany*
[d]*Faculty of Pharmaceutical Sciences, Tokushima Bunri University, 770-8514 Tokushima, Japan*

Three norsesquiterpenes 4-*epi*-11-*nor*-aristola-1(10),11-diene (**1**), 4-*epi*-11-*nor*-aristola-1,9,11-triene (**2**) and 4-*epi*-11-*nor*-aristola-9,11-diene (**3**) together with (−)-aristol-1(10)en-12-ol were identified as new natural compounds from the liverwort *Bazzania japonica* using spectroscopic methodes in conjunction with enantioselective gas chromatography. In addition himachala-2,4-diene and aristol-1(10)-en-12-al were for the first time identified as constituents of liverworts.



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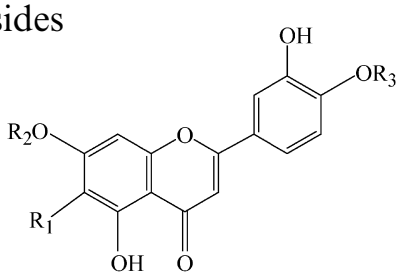
Phytochemistry, 2003, **63**, 589

A "flavone-polysaccharide" redefined as a mixture of 6-methoxyluteolin penta- and hexa-*O*-glycosides

Kenneth R. Markham

Industrial Research Ltd., PO Box 31310, Lower Hutt, New Zealand

The "flavone-polysaccharide" (MF-1) from the liverwort, *Monoclea forsteri*, is shown to be a mixture of penta- and hexa-*O*-glycosides of 6-methoxyluteolin, and luteolin. MF-1a is 6-methoxyluteolin 7-*O*-[2-*O*-α-rhamnosyl-3-*O*-α-arabinosyl-β-glucuronide]-4′-*O*-[2-*O*-α-rhamnosyl-3-*O*-β-xylosyl-β-glucuronide] and MF-1b its de-arabinosyl equivalent. These are the first flavone penta- and hexa-glycosides to be described.



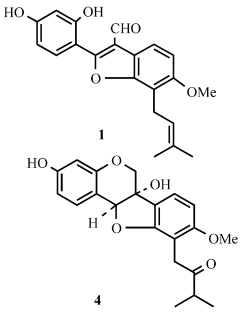
Phytochemistry, 2003, **63**, 597

An arylbenzofuran and four isoflavonoids from the roots of *Erythrina poeppigiana*

Hitoshi Tanaka[a], Tomoko Oh-Uchi[a], Hideo Etoh[b], Magoichi Sako[c], Masaru Sato[d], Toshio Fukai[e], Yoichi Tateishi[f]

[a]*Faculty of Pharmacy, Meijo University, Yagoto, Tempaku-ku, Nagoya 468-8503, Japan*
[b]*Faculty of Agriculture, Shizuoka University, Shizuoka 422-8529, Japan*
[c]*Gifu Pharmaceutical University, 6-1 Mitahora-higashi 5 chome, Gifu 502-8585, Japan*
[d]*Department of Oral Pathology, Asahi University School of Dentistry, 1851-Hozumi, Hozumi-cho, Motosu-gun, Gifu 501-0296, Japan*
[e]*School of Pharmaceutical Sciences, Toho University, Miyama, Funabashi, Chiba 274-8510, Japan*
[f]*Faculty of Education, University of the Ryukyus, Okinawa 903-0129, Japan*

An arylbenzofuran, erypoegin F (**1**) and four isoflavonoids, erypoegins G–I (**2**–**5**) were isolated from the root of *Erythrina poeppigiana*.

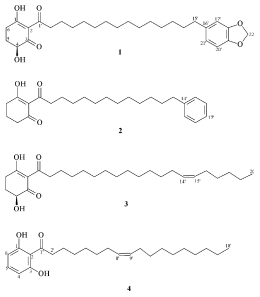


Phytochemistry, 2003, **63**, 603

Chemical and cytotoxic constituents from *Peperomia sui*

Ming-Jen Cheng[a], Shoiw-Ju Lee[b], Ying-Ying Chang[b], Szu-Huei Wu[b], Ian-Lih Tsai[a], Bolleddula Jayaprakasam[a], and Ih-Sheng Chen[a]

[a]*Graduate Institute of Pharmaceutical Sciences, Kaohsiung Medical University, Kaohsiung, Taiwan 807, Republic of China*
[b]*Division of Biotechnology and Pharmaceutical Research, National Health Research Institutes, Taipei, Taiwan 114, Republic of China*



Three polyketide compounds, including surinone A (**1**), surinone B (**2**), surinone C (**3**) and one acylresorcinol, suranone (**4**), along with thirty known compounds, were isolated from the whole plant of *Peperomia sui*. The structures of **1**–**4** were elucidated from spectral analysis. Several compounds showed cytotoxic activity against HONE-1 and NUGC-3 cell lines in vitro.

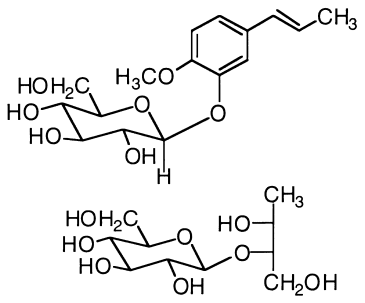
Phytochemistry, 2003, **63**, 609

Aromatic compound glucosides, alkyl glucoside and glucide from the fruit of anise

Eiko Fujimatu, Toru Ishikawa, Junichi Kitajima

Showa Pharmaceutical University, Higashi-Tamagawagakuen 3, Machida, Tokyo 194-8543, Japan

(*E*)-3-hydroxyanethole β-D-glucopyranoside, (*E*)-1′-(2-hydroxy-5-methoxyphenyl)propane β-D-gluco-pyranoside, 3-hydroxyestragole β-D-glucopyranoside, methyl syringate 4-*O*-β-D-glucopyranoside, hexane-1,5-diol 1-*O*-β-D-glucopyranoside and 1-deoxy-L-erythritol 3-*O*-β-D-glucopyranoside were isolated from the fruit of anise.



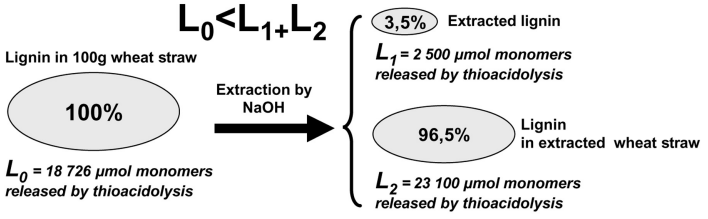
Phytochemistry, 2003, **63**, 617

The unmasking of lignin structures in wheat straw by alkali

Nathalie Durot, François Gaudard, Bernard Kurek

Equipe Parois Végétales et Matériaux Fibreux, UMR de Fractionnement des Agroressources et Emballages, Institut National de la Recherche Agronomique (INRA), 2 Esplanade Roland Garros, F-51686 Reims Cedex 2, France

The unmasking of particular lignin structures after a mild alkali treatment of wheat straw, that are otherwise not available for thioacidolysis analysis, is reported.



Phytochemistry, 2003, **63**, 625

Conodurine, conoduramine, and ervahanine derivatives from *Tabernaemontana corymbosa*

Toh-Seok Kam, Kooi-Mow Sim

Department of Chemistry, University of Malaya, 50603 Kuala Lumpur, Malaysia

Four bisindole alkaloids (e.g., conodurinine) were obtained from the leaf and stem-bark extracts of *Tabernaemontana corymbosa*.