Phytochemistry, 2004, **65**, 623

Chemosystematics of the Hepaticae

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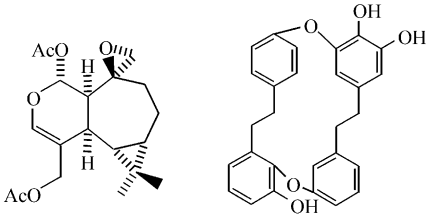
Most liverworts (Hepaticae) contain oil bodies which are composed of lipophilic terpenoid and aromatic compounds. The chemosystematics of 36 families of Jungermannidae and 7 families of Marchantiidae of the Hepaticae are reviewed using terpenoid and aromatic compounds.



Chemical indicators of the Hepaticae

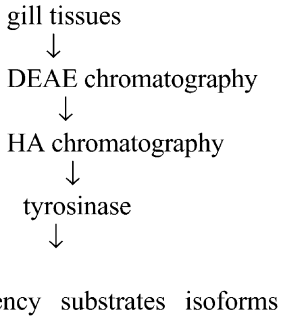
Phytochemistry, 2004, **65**, 671

Purification and characterization of tyrosinase from gill tissue of portabella mushrooms

Yan Fan, William H. Flurkey

Chemistry Department, Science Building, Indiana State University, Terre Haute, IN 47809, USA

A group of tyrosinase isoforms, isoelectric points 4.9–5.2, was isolated from gill tissue and characterized with regard to isoform composition molecular weight, substrate specificity, latency, and kinetic constants.



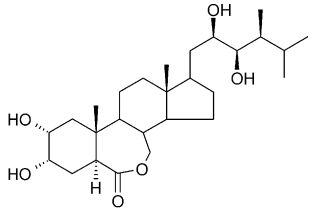
Phytochemistry, 2004, **65**, 679

Cytochrome P450-catalyzed brassinosteroid pathway activation through synthesis of castasterone and brassinolide in *Phaseolus vulgaris*

Tae-Wuk Kim[a], Soo Chul Chang[a], June Seung Lee[b], Baik Hwang[c], Suguru Takatsuto[d], Takao Yokota[e], Seong-Ki Kim[a]

[a]*Department of Life Science, Chung-Ang University, Seoul 156-756, South Korea*
[b]*Department of Biological Science, Ewha Womans University, Seoul 120-750, South Korea*
[c]*Department of Biology, Chunnam National University, Gwangju 500-757, South Korea*
[d]*Department of Chemistry, Joetsu University of Education, Joetsu-shi, Niigata 943-8512, Japan*
[e]*Department of Biosciences, Teikyo University, Utsunomiya 320-8551, Japan*

The biochemical step involving a membrane bound NADPH-dependent cytochrome P450 catalyzing the conversion of castasterone to brassinolide is described.



Brassinolide

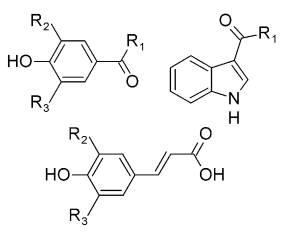
Phytochemistry, 2004, **65**, 691

Universally occurring phenylpropanoid and species-specific indolic metabolites in infected and uninfected *Arabidopsis thaliana* roots and leaves

Jianwen Tan[a,b], Paweł Bednarek[a], Jikai Liu[b], Bernd Schneider[c], Aleš Svatoš[c], Klaus Hahlbrock[a]

[a]*Max-Planck-Institute for Plant Breeding Research, Carl-von-Linne-Weg 10, 50829 Köln, Germany*
[b]*Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650204, China*
[c]*Max-Planck-Institute for Chemical Ecology, Beutenberg Campus, Hans-Knöll-Str. 8, 07745 Jena, Germany*

Nine universally occuring, structually related benzaldehyde, benzoic acid and cinnamic acid derivatives and two species-specific indolic metabolites were identified as major cell wall-bound compounds in *Arabidopsis thaliana*. Some of them were strongly induced upon infection.



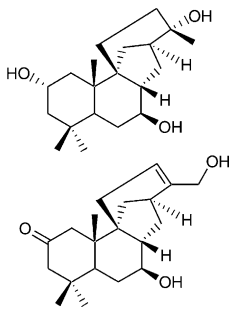
Phytochemistry, 2004, **65**, 701

Investigation of the importance of the C-2 oxygen function in the transformation of stemodin analogues by *Rhizopus oryzae* ATCC 11145

Glenroy D.A. Martin[a], William F. Reynolds[b], Paul B. Reese[a]

[a]*Department of Chemistry, University of the West Indies, Mona, Kingston 7, Jamaica*
[b]*Department of Chemistry, University of Toronto, Toronto, Ontario, Canada, M5S 3H6*

A new stemodinoside, stemodin-α-L-arabinofuranoside, was isolated from the plant *Stemodia maritima*. Stemodin analogues were incubated with *Rhizopus oryzae* ATCC 11145 to yield hydroxylated metabolites. The results provide useful information about the relationship between the functional groups of the substrates and the products of bioconversion.



Phytochemistry, 2004, **65**, 711

Protective role of 20-hydroxyecdysone against lead stress in *Chlorella vulgaris* cultures

Andrzej Bajguz[a], Beata Godlewska-Zylkiewicz[b]

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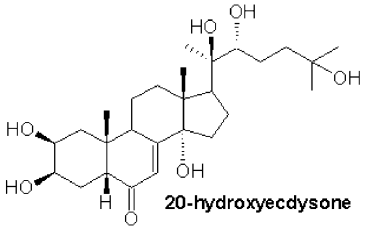
[b]*Institute of Chemistry, University of Bialystok, Hurtowa 1, 15-399 Bialystok, Poland*

Treatment of cultured *Chlorella vulgaris* cells with 10^{-6}–10^{-4} M lead decreased their growth and chemical composition during the first 48 h of cultivation. The effects of 20-hydroxyecdysone (20E) (10^{-10}–10^{-8} M) alone or mixed with lead on the growth and the level of cellular lead, chlorophyll, sugar and protein in *C. vulgaris* are also reported. Application of 20E to *C. vulgaris* cultures reduced the impact of lead stress on growth, prevented chlorophyll, sugar and protein loss and increased phytochelatins synthesis.



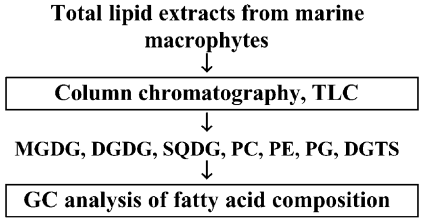
Phytochemistry, 2004, **65**, 721

Fatty acid composition of individual polar lipid classes from marine macrophytes

Nina M. Sanina, Svetlana N. Goncharova, Eduard Y. Kostetsky

Department of Biochemistry and Biotechnology, Far Eastern National University, 690600, Vladivostok, Russia

Fatty acid composition of individual classes of glyco-, phospho- and betaine lipids isolated from 5 species of marine macrophytes were analyzed by GC.



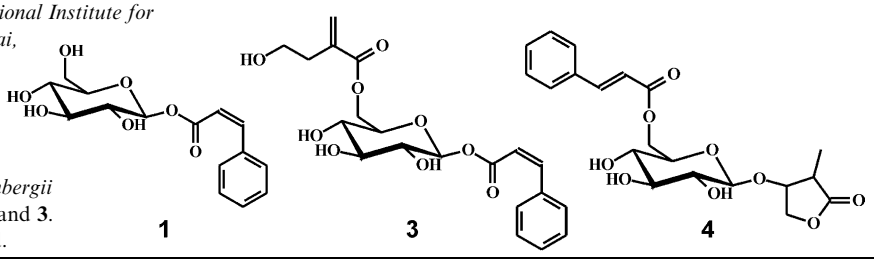
Phytochemistry, 2004, **65**, 731

Phytotoxic *cis*-cinnamoyl glucosides from *Spiraea thunbergii*

Syuntaro Hiradate[a], Sayaka Morita[b], Hajime Sugie[a], Yoshiharu Fujii[a], Jiro Harada[b]

[a]*Department of Biological Safety Science, National Institute for Agro-Environmental Sciences, 3-1-3 Kan-nondai, Tsukuba, Ibaraki 305-8604, Japan*
[b]*Fukui Prefectural University, Kenjyojima 4-1-1, Matsuoka-cho, Yoshida-gun, Fukui, 910-1195, Japan*

Major plant growth inhibitors in *Spiraea thunbergii* were found to be *cis*-cinnamoyl glucosides, **1** and **3**. A *trans*-cinnamoyl glycoside **4** was also found.



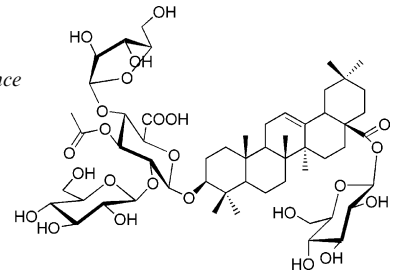
Phytochemistry, 2004, **65**, 741

Acetylated glucuronide triterpene bidesmosidic saponins from *Symplocos glomerata*

Pierre Waffo-Téguo[a], Laurence Voutquenne[a], Odile Thoison[b], Vincent Dumontet[b], Van Hung Nguyen[c], Catherine Lavaud[a]

[a]*Laboratoire de Pharmacognosie, UMR CNRS 6013 Bât. 18, BP 1039, F-51079 Reims Cedex, France*
[b]*ICSN, UPR 2031, Avenue de la Terrasse, F-91198 Gif/Yvette Cedex, France*
[c]*Institute of Chemistry, Hoang Quoc Viet Road, Cau Giay District, Hanoi, Viet Nam*

Eight oleanolic acid 3-*O*-glucuronide bidesmosidic saponins were isolated from the stem bark of *Symplocos glomerata* along with one bidesmosidic saponin of morolic acid and two known saponins, salsoloside C and copteroside E. The structures were established by spectroscopic methods.



Phytochemistry, 2004, **65**, 751

Aryltetralone lignans and 7,8-seco-lignans from *Holostylis reniformis*

Tito da Silva, Lucia M.X. Lopes

Instituto de Química, Universidade Estadual Paulista, UNESP, C.P. 355, 14801-970, Araraquara, SP, Brazil

Aryltetralone lignans and two 7,8-seco-lignans were isolated from the acetone and hexane extracts of the roots of *Holostylis reniformis*, together with (−)-galbacin. The structures of these compounds were determined by spectroscopic methods.