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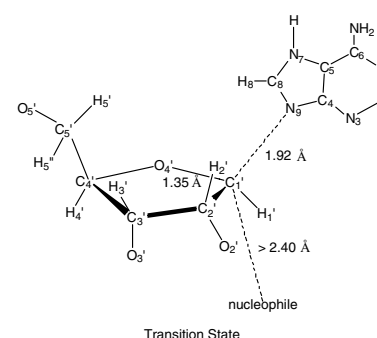
PROTEIN BIOCHEMISTRY

Transition state analysis of adenosine nucleosidase from yellow lupin (*Lupinus luteus*)

pp 5–12

Carl Bates, Zachariah Kendrick, Nancy McDonald, Paul C. Kline \*

The transition state of adenosine nucleosidase from yellow lupin was characterized using kinetic isotope effects.



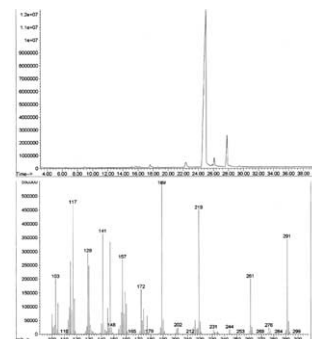
METABOLISM

Detection of uronic oxidase activity in ripening peaches

pp 13–18

Dario Cantu, L. Carl Greve, Susan Lurie \*, John M. Labavitch

Uronic acid oxidase activity was found in an extract from harvested peaches that was incubated with pectin at pH 8.5. The product of this reaction was identified by GC–MS analysis to be galactaric acid, as seen by analysis of the ion chromatogram of galactaric acid (top panel) and its mass spectrum (bottom panel).



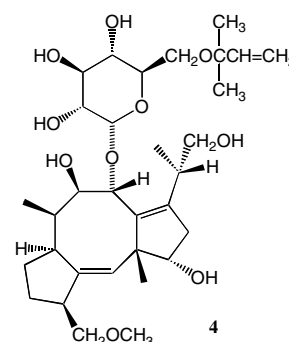
ECOLOGICAL BIOCHEMISTRY

Stimulation of *Orobanche ramosa* seed germination by fusicoccin derivatives: A structure–activity relationship study

pp 19–26

Antonio Evidente \*, Anna Andolfi, Michele Fiore, Angela Boari, Maurizio Vurro

We report the result of a structure–activity relationships study on fusicoccin derivatives and natural analogues on the stimulation of *Orobanche ramosa* seed germination aimed to find a compound as biocontrol agent. The dideacetylfusicoccin (**4**) appear to be the more promising compound in view of potential practical application.

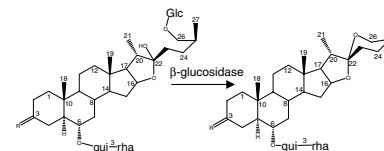


## Furostanol glycoside 26-*O*- $\beta$ -glucosidase from the leaves of *Solanum torvum*

pp 27–33

Dumrongkiet Arthan, Prasat Kittakoop, Asim Esen, Jisnuson Svasti \*

Furostanol glycoside 26-*O*- $\beta$ -glucosidase was purified and characterized from the leaves of *Solanum torvum*.

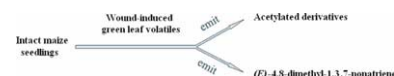


## Wound-induced green leaf volatiles cause the release of acetylated derivatives and a terpenoid in maize

pp 34–42

Zeng-Guang Yan, Chen-Zhu Wang \*

Upon exposure of intact maize seedlings to wound-induced GLVs, (*Z*)-3-hexenyl acetate and (*E*)-4,8-dimethylnona-1,3,7-triene were released. The exogenous application of alcohols, aldehydes and esters to the plants demonstrated that absorption and conversion of exogenous alcohols and aldehydes into acetate esters occurred. Direct adsorption and release of acetate esters might also have taken place. (*E*)-4,8-dimethylnona-1,3,7-triene could be induced by a range of aldehydes and unsaturated alcohols.



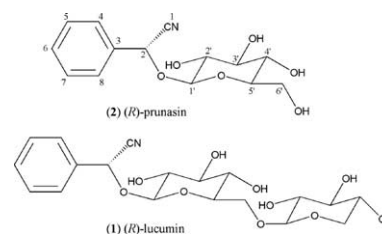
## CHEMOTAXONOMY

### Cyanogenic glycosides from the rare Australian endemic rainforest tree *Clerodendrum grayi* (Lamiaceae)

pp 43–51

Rebecca E. Miller \*, Malcolm J. McConville, Ian E. Woodrow

Cyanogenic glycosides lucumin and prunasin are reported for the first time in the family Lamiaceae, from foliage of the rare Australian endemic rainforest tree *Clerodendrum grayi*. This is the first report of the diglycoside lucumin in vegetative tissue, and the first reported co-occurrence of lucumin and prunasin.

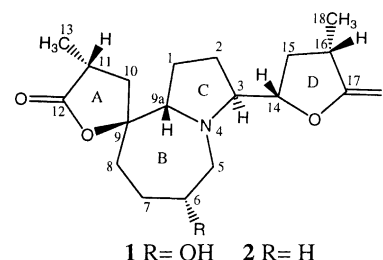


### Isolation and chemotaxonomic significance of tuberostemospironine-type alkaloids from *Stemona tuberosa*

pp 52–57

Ren-Wang Jiang, Po-Ming Hon, Yan-Tong Xu, Yiu-Man Chan, Hong-Xi Xu, Pang-Chui Shaw \*, Paul Pui-Hay But \*

An alkaloid named 6 $\alpha$ -hydroxycroomine (**1**) and the known croomine (**2**), both of the tuberostemospironine-type, were isolated from *Stemona tuberosa*. They offer chemotaxonomic significance in confirming the close relationship between *Stemona* and *Croonia*. Consensus parsimony analyses of *trnL* sequences also favored retaining them in a single family.



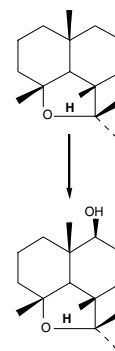
## BIOACTIVE PRODUCTS

Microbial transformation of the sesquiterpenoid (–)-maalioxide by *Mucor plumbeus*

pp 58–61

Yanmei Wang, Teck-Koon Tan, Geok Kheng Tan, Joseph D. Connolly,  
Leslie J. Harrison \*

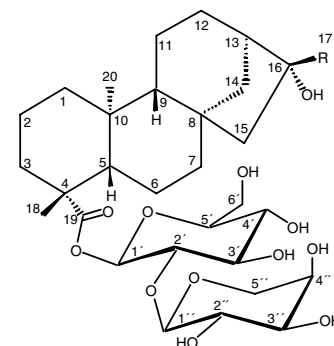
Incubation of (–)-maalioxide with *Mucor plumbeus* gave 9β-hydroxymaalioxide as the major product.

Ent-kaurane glycosides and sesquiterpene lactones of the hirsutinolide type from *Vernonia triflosculosa*

pp 62–69

Olha Kos, Víctor Castro, Renato Murillo, Luis Poveda, Irmgard Merfort \*

Three hirsutinolides, three diterpenes from the *ent*-kaurane type, including two diterpenoid glycosides as well as two flavonoids were isolated from aerial parts of *Vernonia triflosculosa*. Up to now, there have been only three reports on diterpenes in the tribe *Vernonieae* and one in the large genus *Vernonia*. The effects of two hirsutinolides on the transcription factor NF-κB and on IL-8 production were studied.

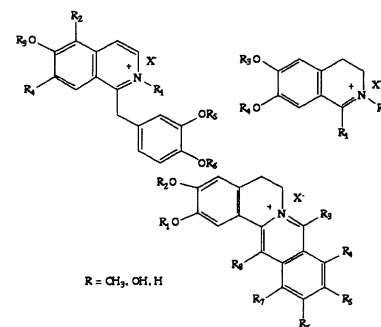


## Potential cancer chemopreventive activity of simple isoquinolines, 1-benzylisoquinolines, and protoberberines

pp 70–79

Wenhua Cui, Kinuko Iwasa \*, Harukuni Tokuda, Akiko Kashihara,  
Yosuke Mitani, Tomoko Hasegawa, Yumi Nishiyama, Masataka Moriyasu,  
Hoyoku Nishino, Miyoji Hanaoka, Chisato Mukai, Kazuyoshi Takeda

Several types of isoquinoline alkaloids were tested for their inhibitory activities against Epstein–Barr virus early antigen activation induced by 12-*O*-tetradecanoyl-phorbol-13-acetate in Raji cells. In addition, these alkaloids were evaluated with respect to their ability to scavenge 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radicals. The results suggest that some of these isoquinoline alkaloids might be valuable as potential cancer chemopreventive agents. For both tests, structure–activity relationships are discussed.



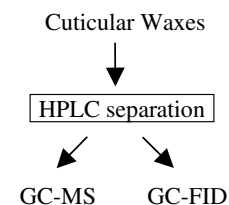
## CHEMISTRY

Cuticular waxes from potato (*Solanum tuberosum*) leaves

pp 80–90

Beata M. Szafranek \*, Elżbieta E. Synak

Alkanes, alcohols, fatty acids, aldehydes, ketones, sterols, wax esters, benzoic acid esters, fatty acid methyl, ethyl, isopropyl and phenylethyl esters were identified. Methyl ketones and free 2-alkanols were found in the waxes.

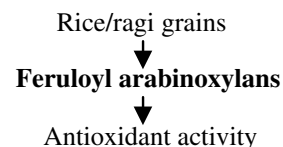


**Water soluble feruloyl arabinoxylans from rice and ragi: Changes upon malting and their consequence on antioxidant activity**

pp 91–99

R. Shyama Prasad Rao, G. Muralikrishna \*

Malting of rice and ragi is shown to bring about dynamic changes in water soluble feruloyl arabinoxylans (feraxans). Feraxans exhibited strong antioxidant activity, several folds higher than the expected activity due to their bound ferulic acid content and this is related to their molecular characteristics.

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