Phytochemistry, 2003, **63**, 243

Pectate lyase activity during ripening of banana fruit

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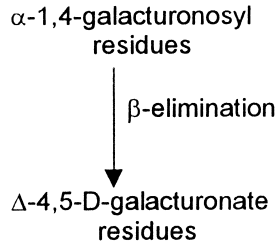
Department of Biochemistry, University of Lucknow, Lucknow-226 007, India

Pectate lyase activity of banana fruit pulp increased with ripening of fruit attaining maximum level at climacteric peak.



Phytochemistry, 2003, **63**, 249

Cys/Gly-rich proteins with a putative single chitin-binding domain from oat (*Avena sativa*) seeds

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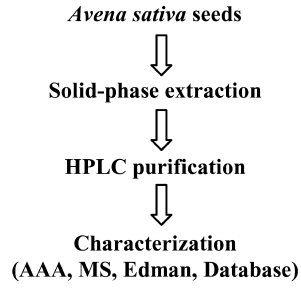
Division of Pharmacognosy, Department of Medicinal Chemistry, Biomedical Center, PO Box 574, Uppsala University, SE-751 23 Uppsala, Sweden

From an antifungal protein fraction of the seeds of *Avena sativa* L., a new protein, avesin A with 37 amino acid residues which contains a single chitin-binding domain, was purified by cation exchange and reverse-phase HPLC. Its sequence (WSGCSPCPGNECCSKYGYCGLGGDYCGAGCQSGPCYG) was unambiguously characterized using the methods of amino acid analysis, MS, and Edman degradation.



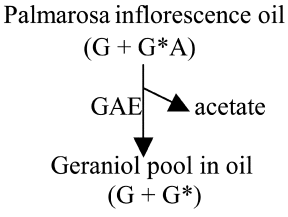
Phytochemistry, 2003, **63**, 257

An esterase is involved in geraniol production during palmarosa inflorescence development

Vinod Shanker Dubey[a], Ritu Bhalla[b], Rajesh Luthra[b,c]

[a]*Neurobiotechnology Center, The Ohio State University, Columbus, OH 43210, USA*
[b]*Central Institute of Medicinal & Aromatic Plants, P.O. CIMAP, Lucknow 226015 (U.P.), India*
[c]*CSIR Complex, Dr. K.S. Krishnan Marg, Pusa, New Delhi 110012, India*

Both in vivo and in vitro studies indicated the role of a geranyl acetate (G*A)-cleaving esterase (GAE) in the production of geraniol (G) during inflorescence development, which improves the quality of palmarosa oil.



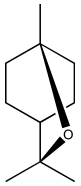
Phytochemistry, 2003, **63**, 265

Fragrance chemistry, nocturnal rhythms and pollination "syndromes" in *Nicotiana*

Robert A. Raguso[a], Rachel A. Levin[b], Susan E. Foose[b,c], Meredith W. Holmberg[a], Lucinda A. McDade[c]

[a]*Department of Biology, Coker Life Sciences Building, University of South Carolina, Columbia, SC 29208, USA*
[b]*Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721, USA*
[c]*Academy of Natural Sciences, 1900 Ben Franklin Parkway, Philadelphia, PA 19103, USA*

Floral emission of 1,8 cineole and related monoterpenoids constitutes a shared-derived trait in species of *Nicotiana* sect. *Alatae*, and is independent of differences in pollination biology.



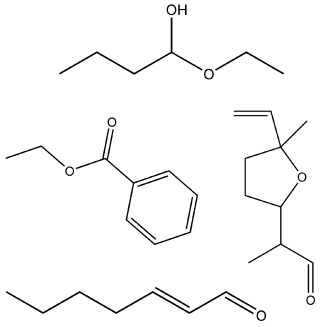
Phytochemistry, 2003, **63**, 285

Actinidia arguta: volatile compounds in fruit and flowers

Adam J. Matich[a], Harry Young[b], John M. Allen[a], Mindy Y. Wang[b], Simon Fielder[a], Mark A. McNeilage[b], Elspeth A. MacRae[b]

[a]*The Horticultural and Food Research Institute of New Zealand Ltd, Private Bag 11030 Palmerston North, New Zealand*
[b]*The Horticultural and Food Research Institute of New Zealand Ltd, Private Bag 92169 Auckland, New Zealand*

More than 240 volatile compounds were detected in extracts of the flowers and fruit from several *Actinidia arguta* genotypes. Aroma impact compounds identified were terpenes, including a group of linalool derivatives, benzene compounds, aldehydes and esters.



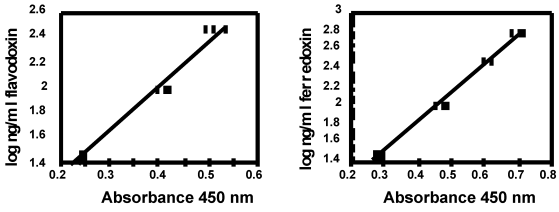
Phytochemistry, 2003, **63**, 303

Development of an ELISA approach for the determination of flavodoxin and ferredoxin as markers of iron deficiency in phytoplankton

Luis A. Inda, M. Luisa Peleato

Departamento de Bioquímica, Facultad de Ciencias, Universidad de Zaragoza, 50009-Zaragoza, Spain

Quantification of the iron-nutritional status of phytoplankton using individual ELISA tests is reported. The assays have a linear response in the range of 30–600 ng/ml of protein in the case of ferredoxin and 30–300 ng/ml for flavodoxin.



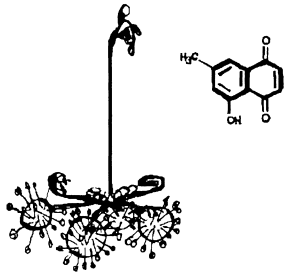
Phytochemistry, 2003, **63**, 309

Regional and habitat differences in 7-methyljuglone content of Finnish *Drosera rotundifolia*

Terttu Kämäräinen[a], Jouko Uusitalo[b], Jorma Jalonen[b], Kari Laine[a], Anja Hohtola[a]

[a]*Department of Biology/Botany, University of Oulu, P. O. Box 3000, FIN-90014 Oulu, Finland*
[b]*Department of Chemistry, University of Oulu, P.O. Box 3000, FIN-90014 Oulu, Finland*

Content of 7-methyljuglone was measured in different populations of *Drosera rotundifolia* L. in Finland and growth place related and annual differences are reported.



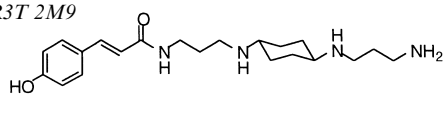
Phytochemistry, 2003, **63**, 315

Preparation and biological assessment of hydroxycinnamic acid amides of polyamines

Solomon Fixon-Owoo[a], Frédéric Levasseur[a], Keith Williams[b], Thomas N. Sabado[b], Mike Lowe[c], Markus Klose[c], A. Joffre Mercier[c], Paul Fields[d], Jeffrey Atkinson[a]

[a]*Department of Chemistry, Brock University, St.Catharines, Ontario, Canada L2S3A1*
[b]*Department of Physiology and Pharmacology, SUNY Downstate Medical Center, Brooklyn, NY 11203-2098, USA*
[c]*Department of Biological Sciences, Brock University, St. Catharines, Ontario, Canada L2S 3A1*
[d]*Cereal Research Centre, Agriculture and Agri-Food Canada, Winnipeg, Manitoba, Canada R3T 2M9*

Hydroxycinnamic acid amides of polyamines are glutamate receptor antagonists at crustacean and mammalian receptors.



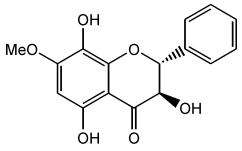
Phytochemistry, 2003, **63**, 335

Activity-guided isolation of the chemical constituents of *Muntingia calabura* using a quinone reductase induction assay

Bao-Ning Su[a], Eun Jung Park[a], Jose Schunke Vigo[b], James G. Graham[a], Fernando Cabieses[b], Harry H.S. Fong[a], John M. Pezzuto[a], A. Douglas Kinghorn[a]

[a]*Program for Collaborative Research in the Pharmaceutical Sciences and Department of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, University of Illinois at Chicago, Chicago, IL 60612, USA*
[b]*Instituto Nacional de Medicina Tradicional (INMETRA), Minesterio de Salud, Jesus Maria, Lima, Peru*

A flavanone with an unsubstituted B ring, (2*R*,3*R*)-7-methoxy-3,5,8-trihydroxyflavanone, as well as 24 known compounds, were isolated from an EtOAc-soluble extract of the leaves of *Multingia calabura*. All isolates were evaluated for their potential cancer chemopreventive properties using a quinone reductase induction assay.



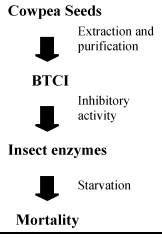
Phytochemistry, 2003, **63**, 343

Effects of black-eyed pea trypsin/chymotrypsin inhibitor on proteolytic activity and on development of *Anthonomus grandis*

Octávio L. Franco[a,b], Roseane C. dos Santos[a,d], João A.N. Batista[a], Ana Cristina M. Mendes[a], Marcus Aurélio M. de Araújo[c], Rose G. Monnerat[a], Maria Fátima Grossi-de-Sá[a], Sonia M. de Freitas[c]

[a]*Embrapa Recursos Géneticos e Biotecnologia, Brasília-DF 70770 900, Brazil*
[b]*Universidade Católica de Brasília, Brasília-DF 70770 900, Brazil*
[c]*Universidade de Brasília, Brasília-DF, 70910 900, Brazil*
[d]*EMBRAPA/Algodão, Campina Grande–PB, Brazil*

A Bowman–Birk inhibitor purified from cowpea seeds demonstrates inhibitory activity against digestive enzymes from botton boll weevil *Anthonomus grandis*, causing a decrease on larval growth and an increase on insect mortality.



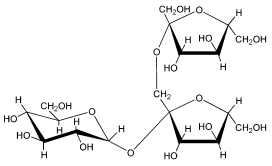
Phytochemistry, 2003, **63**, 351

Structural diversity of fructans from members of the order Asparagales in New Zealand

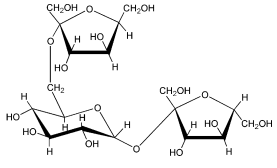
Ian M. Sims

Industrial Research Limited, PO Box 31-310, Lower Hutt, New Zealand

Members of the order Asparagales in New Zealand contain fructans with a wide range of structures, based on the trisaccharides 1-kestotriose and 6_G-kestotriose. Differences in fructan structure between species probably reflects differences in the activities of enzymes involved in fructan metabolism.



A. 1-kestotriose



B. 6_G-kestotriose

Phytochemistry, 2003, **63**, 361

Compound-specific δD–$\delta^{13}C$ analyses of *n*-alkanes extracted from terrestrial and aquatic plants

Yoshito Chikaraishi, Hiroshi Naraoka

Department of Chemistry, Tokyo Metropolitan University, 1-1, Minami-Ohsawa, Hachioji, Tokyo 192-0397, Japan

Stable hydrogen and carbon isotopic compositions of individual *n*-alkanes were determined for various terrestrial and aquatic plants in natural environments from Japan and Thailand.