

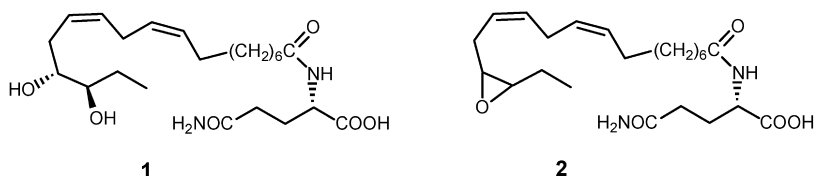
## Graphical abstracts

### ***N*-(15,16-Dihydroxylinoleoyl)-glutamine and *N*-(15,16-epoxylinoleoyl)-glutamine isolated from oral secretions of lepidopteran larvae**

Dieter Spiteller and Wilhelm Boland\*

Max-Planck-Institut für Chemische Ökologie, Winzerlaer Straße 10, D-07745 Jena, Germany

The *N*-acyl glutamines **1** and **2** were isolated from the regurgitant of the lepidopteran larvae *Spodoptera exigua* and *Spodoptera frugiperda*. The structures were confirmed by synthesis.



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### **Natural anti-HIV agents. Part 3: Litseaverticillols A–H, novel sesquiterpenes from *Litsea verticillata***

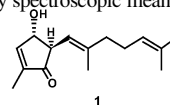
Hong-Jie Zhang,<sup>a</sup> Ghee Teng Tan,<sup>a</sup> Vu Dinh Hoang,<sup>b</sup> Nguyen Van Hung,<sup>b</sup> Nguyen Manh Cuong,<sup>c</sup> Djaja Doel Soejarto,<sup>a</sup> John M. Pezzuto<sup>a</sup> and Harry H. S. Fong<sup>a,\*</sup>

<sup>a</sup>Program for Collaborative Research in Pharmaceutical Sciences, College of Pharmacy, University of Illinois at Chicago, 833 S. Wood Street, Chicago, IL 60612, USA

<sup>b</sup>Institute of Chemistry, National Center for Science and Technology, Hoang Quoc Viet Str., Gua Giay District, Hanoi, Viet Nam

<sup>c</sup>Cuc Phuong National Park, Nho Quan District, Ninh Binh, Viet Nam

Bioassay directed-fractionation led to the identification of litseaverticillols A–H (**1–8**) from the leaves and twigs of *Litsea verticillata* Hance. These new sesquiterpenes possess a unique skeleton that was recently designated as ‘litseane’. The structures of these compounds were determined by spectroscopic means including 1D and 2D NMR data. Structural configurations were determined by ROESY experiments. Mosher ester reactions and optical rotation measurements established the sesquiterpenes **1–8** as racemates. Isolates **1–8** inhibited HIV-1 replication in HOG.R5 cells with IC<sub>50</sub> values ranging from 2 to 15 μg/ml (8–58 μM) while affecting the growth of HOG.R5 at concentrations 2–3-fold higher. Based on this data, structure–activity relationships can be discerned, suggesting compounds of this class are good candidates for analog production.



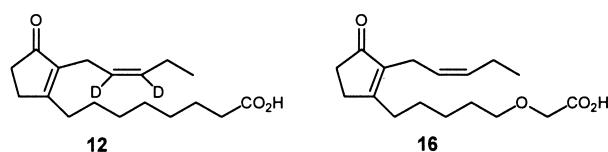
*Tetrahedron* 59 (2003) 141

### **Efficient synthesis of [<sup>2</sup>H<sub>2</sub>]-tetrahydrodicranenone B and a 3-oxa-analogue resistant against β-oxidation**

Ryan Lauchli and Wilhelm Boland\*

Max-Planck-Institut für Chemische Ökologie, Winzerlaer Straße 10, D-07745 Jena, Germany

[<sup>2</sup>H<sub>2</sub>]-Tetrahydrodicranenone B (**12**) and the 3-oxa-analogue **16** are readily available from 2-substituted cyclopentan-1,3-dione by addition of functionalised organo cuprates to the 3-iodocyclopent-2-enone intermediate **9**.

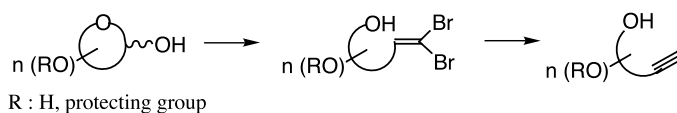


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### **Synthesis of glyco-1-ynitols via 1,1-dibromo-1-alkenes from partially and unprotected aldoses**

Franck Dolhem, Catherine Lièvre\* and Gilles Demailly

Laboratoire des Glucides, Université de Picardie Jules Verne, 33 Rue Saint-Leu, F-80039 Amiens, France



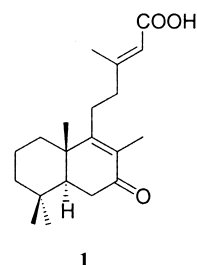
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### An improved synthesis of rhinocerotoic acid

Christopher A. Gray, Michael T. Davies-Coleman and Douglas E.A. Rivett\*

Department of Chemistry, Rhodes University, Grahamstown 6140, South Africa

The stereoselective synthesis of *E*-rhinocerotoic acid (**1**) has been achieved in five steps from (–)-sclareol in an overall yield of 32%. This constitutes a significant improvement on the previous synthesis of this anti-inflammatory compound.



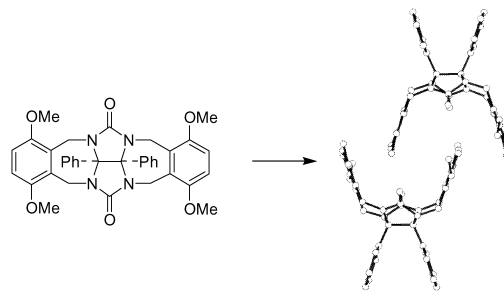
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### Self-association and self-assembly of molecular clips in solution and in the solid state

Joost N. H. Reek,<sup>a</sup> Johannes A. A. W. Elemans,<sup>a,\*</sup> René de Gelder,<sup>b</sup> Paul T. Beurskens,<sup>b</sup> Alan E. Rowan<sup>a,\*</sup> and Roeland J. M. Nolte<sup>a</sup>

<sup>a</sup>Department of Organic Chemistry, NSRIM, University of Nijmegen, Toernooiveld, 6525 ED Nijmegen, The Netherlands

<sup>b</sup>Crystallography Laboratory, Department of Inorganic Chemistry, NSRIM, University of Nijmegen, The Netherlands



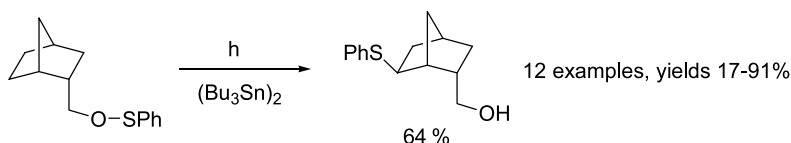
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### Regioselective free radical phenylsulfonation of a non-activated $\delta$ -carbon atom by the photolysis of alkyl benzenesulfonate

Goran Petrović,<sup>a,b</sup> Radomir N. Saičić<sup>a,b</sup> and Živorad Čeković<sup>a,b,\*</sup>

<sup>a</sup>Faculty of Chemistry, University of Belgrade, Studentski trg 16, P.O. Box 158, 11000 Belgrade, Serbia, Yugoslavia

<sup>b</sup>Center for Chemistry, Institute for Chemistry, Metallurgy and Technology, Njegoseva 12, 11000 Belgrade, Serbia, Yugoslavia

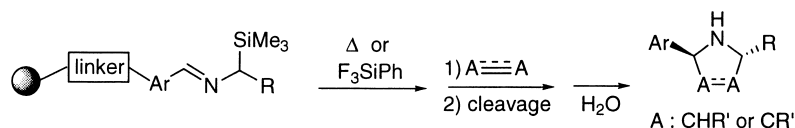


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### Generation and cycloaddition of polymer-supported azomethine ylide by utilizing the characteristics of silicon: a facile route to pyrrolidines and pyrroles from $\alpha$ -silylimines bound to resin

Hirofumi Okada, Tatsuo Akaki, Yoji Oderaotoshi, Satoshi Minakata and Mitsuo Komatsu\*

Department of Applied Chemistry, Graduate School of Engineering, Osaka University, Yamadaoka 2-1, Suita, Osaka 565-0871, Japan



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## The application of vinylogous iminium salt derivatives to the synthesis of Ningalin B hexamethyl ether

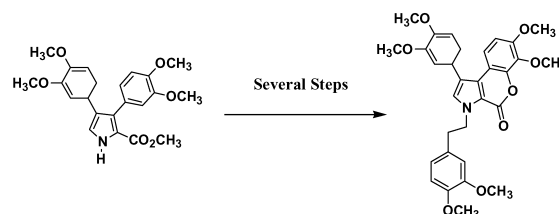
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John T. Gupton,<sup>a,\*</sup> Stuart C. Clough,<sup>a</sup> Robert B. Miller,<sup>a</sup> John R. Lukens,<sup>a</sup> Charlotte A. Henry,<sup>a</sup> René P. F. Kanters<sup>a</sup> and James A. Sikorski<sup>b</sup>

<sup>a</sup>Department of Chemistry, University of Richmond, Richmond, VA 23173, USA

<sup>b</sup>AtheroGenics Inc., 8995 Westside Parkway, Alpharetta, GA 30004, USA

A vinylogous iminium salt derivative has been used to prepare a 2,3,4-trisubstituted pyrrole synthon in a regioselective, efficient and convenient manner. This pyrrole synthon was subsequently converted to the multidrug-resistant (MDR) reversal agent, Ningalin B hexamethyl ether, via alkylation, hydrolysis and oxidative lactonization steps. This methodology provides an alternative pathway to this important class of pyrrole containing marine natural products.

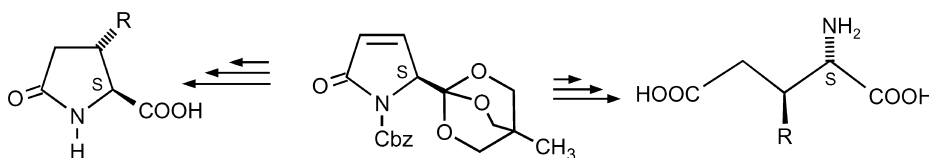


## A stereoselective synthesis of 3-substituted (S)-pyroglutamic and glutamic acids via OBO ester derivatives

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Claus Herdeis\* and Bernd Kelm

Institut für Pharmazie und Lebensmittelchemie der Universität Würzburg, Am Hubland, 97074 Würzburg, Germany



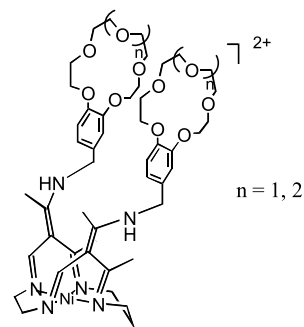
## Metal-containing ditopic receptors for molecular recognition of diammonium cations

Tetrahedron 59 (2003) 231

Olga P. Kryatova, Alexander G. Kolchinski and Elena V. Rybak-Akimova\*

Department of Chemistry, Tufts University, 62 Talbot Avenue, Medford, MA 02155, USA

The synthesis of two new ditopic receptors for the recognition of the length of  $\alpha,\omega$ -alkanedioldiammonium cations and thermodynamic studies of the host-guest interaction are reported.

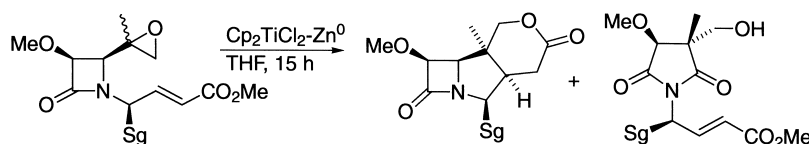


## Cyclization and rearrangement of 4-(2-methyloxiranyl)- $\beta$ -lactams promoted by titanocene dichloride/ $Zn^0$

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Josefa Anaya, Alfonso Fernández-Mateos, Manuel Grande,\* Justo Martiáñez, Gema Ruano and M<sup>a</sup> Rosa Rubio-González

Departamento de Química Orgánica, Facultad de Ciencias Químicas, Universidad de Salamanca, E-37008 Salamanca, Spain



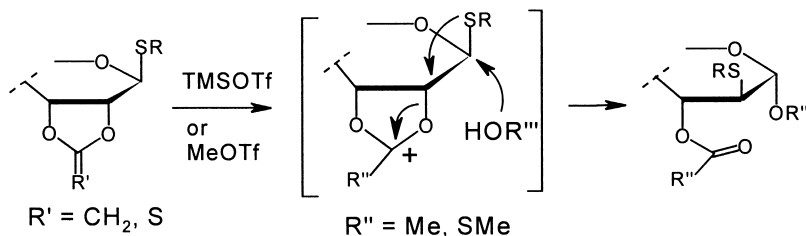
### 1→2 Migration and concurrent glycosidation of phenyl 1-thio- $\alpha$ -mannopyranosides via 2,3-*O*-cyclic dioxonium intermediates

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Zunyi Yang,<sup>a</sup> Hongzhi Cao,<sup>a</sup> Jie Hu,<sup>a</sup> Renli Shan<sup>b</sup> and Biao Yu<sup>a,\*</sup>

<sup>a</sup>State Key Laboratory of Bio-organic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, People's Republic of China

<sup>b</sup>Shanghai University and Goodway Chemicals Joint Research Centre, Shanghai 200436, People's Republic of China

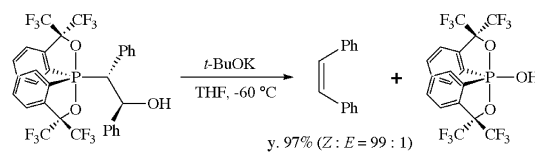


### Stereospecific stilbene formation from $\beta$ -hydroxy- $\alpha,\beta$ -diphenylethylphosphoranes. Mechanistic proposals based upon stereochemistry

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Satoshi Kojima, Kazuhiro Kawaguchi, Shiro Matsukawa and Kin-ya Akiba\*

Department of Chemistry, Graduate School of Science, Hiroshima University, Higashi-Hiroshima 739-8526, Japan



### Studies on taxol biosynthesis. Preparation of 5 $\alpha$ -acetoxytaxa-4(20),11-dien-2 $\alpha$ ,10 $\beta$ -diol derivatives by deoxygenation of a taxadiene tetra-acetate obtained from Japanese yew

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Tohru Horiguchi,<sup>a</sup> Christopher D. Rithner,<sup>a</sup> Rodney Croteau<sup>b</sup> and Robert M. Williams<sup>a,\*</sup>

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<sup>b</sup>Institute of Biological Chemistry, Washington State University, Pullman, WA 99164, USA

