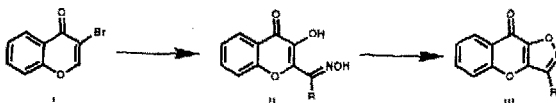


*Tetrahedron Lett.* 1992, 33, 993

**THE SYNTHESIS AND CHEMISTRY OF FUNCTIONALIZED FUROCHROMONES.<sup>4</sup>  
ADDITION OF NITRONATE ANIONS TO 3-BROMOCHROMONE AND 6-BROMOFUROCHROMONE.  
AN EXPEDIENT ROUTE TO FURO(3',2':6,7)-BENZOPYRANO(2,3-d)-1SOXAZOLONES  
AND CHROMONO(2,3-d)1SOXAZOLONES.**

Ronald B. Gammill,\* Sharon A. Nash and William Watt  
Upjohn Laboratories, The Upjohn Company, Kalamazoo, MI 49001 USA

Addition of nitronate anions to 1 yield products containing functionalized  $\gamma$ -pyrone rings.

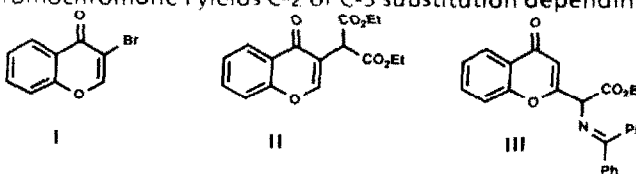


*Tetrahedron Lett.* 1992, 33, 997

**A NOVEL ENTRY TO SUBSTITUTED CHROMONES AND FUROCHROMONES THROUGH CYCLOPROPANE INTERMEDIATES**

Ronald B. Gammill,\* Sharon A. Nash, Larry T. Bell, and William Watt  
Upjohn Laboratories, The Upjohn Company, Kalamazoo, MI 49001 USA

Addition of carbon nucleophiles to bromochromone I yields C-2 or C-3 substitution depending on the nucleophilic species.

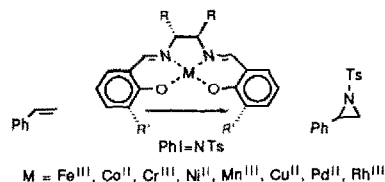


*Tetrahedron Lett.* 1992, 33, 1001

**ALKENE AZIRIDINATION AND EPOXIDATION CATALYZED BY CHIRAL METAL SALEN COMPLEXES.** Kenneth J. O'Connor

Shiow-Jyi Wey and Cynthia J. Burrows,\* Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794-3400, USA.

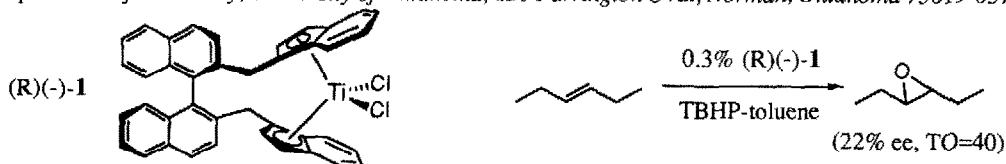
Metal(salen) complexes have been compared as catalysts for alkene aziridination and epoxidation. While several metal complexes catalyzed epoxidation, only the Mn<sup>III</sup> complex catalyzed aziridination, and this occurred without enantioselectivity.



*Tetrahedron Lett.* 1992, 33, 1005

**Asymmetric Epoxidation of Unfunctionalized Alkenes Using the New C<sub>2</sub>-Symmetrical 1,1'-Binaphthyl-2,2'-Dimethylene-Bridged *ansa*-Bis(1-indenyl)Titanium Dichloride Catalyst**

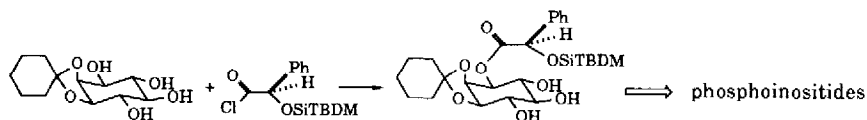
Steven L. Colletti and Ronald L. Halterman\*  
Department of Chemistry, University of Oklahoma, 620 Parrington Oval, Norman, Oklahoma 73019-0370



Practical Synthesis of Enantiomerically Pure *myo*-Inositol Derivatives

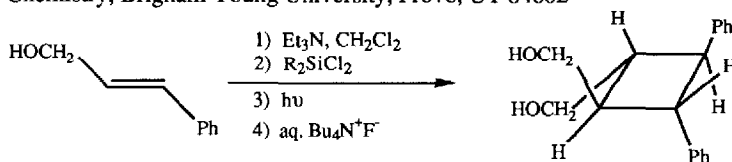
Karol S. Bruzik\*, Jeffrey Myers and Ming-Daw Tsai

Department of Chemistry, The Ohio State University, Columbus, OH 43210

Enantiomerically pure *myo*-inositol derivatives are synthesized using regiospecific protection of cyclohexylidene-*myo*-inositol with a chiral mandelic acid-derived acyl group.STEREOCONTROLLED PHOTOCHEMICAL  
[2 + 2] CYCLOADDITION

Steven A. Fleming\* and Susan C. Ward

Department of Chemistry, Brigham Young University, Provo, UT 84602



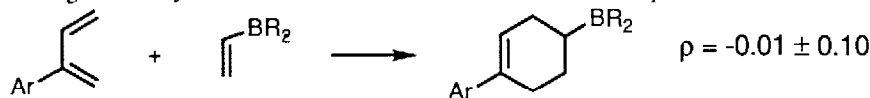
## VINYLBORANES ARE OMNIPHILIC DIENOPHILES.

## SOME UNUSUAL AND USEFUL PROPERTIES OF VINYLBORANES IN DIELS-ALDER REACTIONS

Daniel A. Singleton,\* Jose P. Martinez, and José V. Watson

Department of Chemistry, Texas A&amp;M University, College Station, Texas 77843, USA

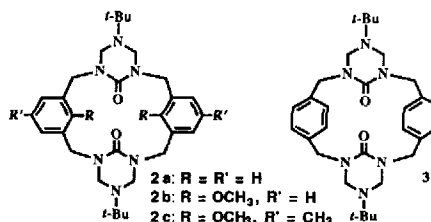
The rate of Diels-Alder reactions with vinyl-9-BBN is uniquely insensitive to diene substituent effects, and high reactivity is observed with both electron-rich and electron-poor dienes.

Synthesis and Structures of a New Class of Calixarene  
Analogs Derived from 5-*tert*-Butyltetrahydro-1,3,5-  
triazine-2(1H)one.P.R. Dave,<sup>a</sup> G. Doyle,<sup>a</sup> T. Axenrod,<sup>b</sup> H. Yazdekhashti<sup>b</sup> and H.L. Ammon<sup>c</sup><sup>a</sup>AGEO-CENTERS, INC. at ARDEC,

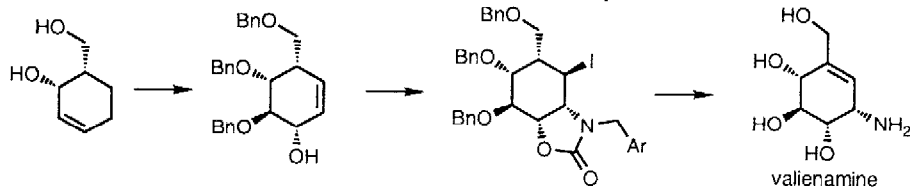
762 Route 15 South, Lake Hopatcong, NJ 07849

<sup>b</sup>Department of Chemistry, The City College of CUNY, New York, NY 10031<sup>c</sup>Department of Chemistry and Biochemistry, Univ. of Maryland,  
College Park, MD 20742

Calixarene analogs 2a-c and 3 have been synthesized and their structures investigated by x-ray crystallography and NMR spectroscopy.

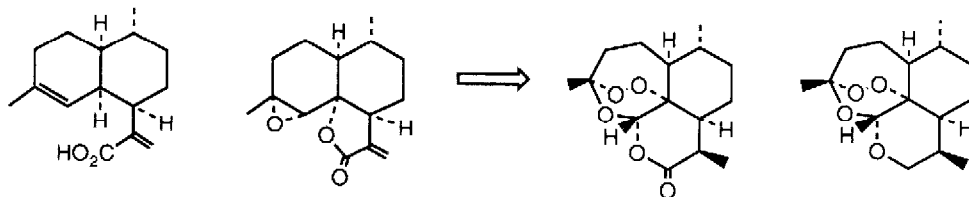


**INTRAMOLECULAR AMINO DELIVERY REACTIONS  
FOR THE SYNTHESIS OF VALIENAMINE AND ANALOGUES**

 Spencer Knapp,\* Andrew B. J. Naughton, and T. G. Murali Dhar  
 Department of Chemistry, Rutgers University, New Brunswick, New Jersey 08903

**AN EFFICIENT PARTIAL SYNTHESIS OF  
(+)-ARTEMISININ AND (+)-DEOXOARTEMISININ**

Peter T. Lansbury\* and Deanne M. Nowak

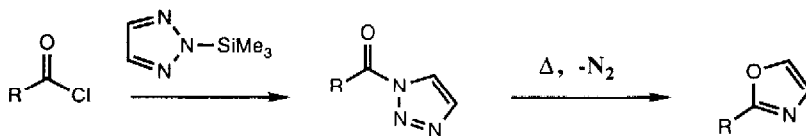
Department of Chemistry, State University of New York at Buffalo, Buffalo N. Y. 14214


**A GENERAL, ONE-POT METHOD FOR THE  
SYNTHESIS OF 2-SUBSTITUTED OXAZOLES**

Eric L. Williams

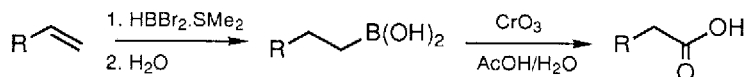
Monsanto Company, Mail Zone T4J, 800 N. Lindbergh, St. Louis, MO 63167

The high yield conversion of an acid chloride to a 2-substituted oxazole has been accomplished through the intermediate 1,2,3-triazole amide.


**A CONVENIENT PROCEDURE FOR THE DIRECT  
CONVERSION OF TERMINAL ALKENES INTO  
CARBOXYLIC ACIDS**

Uday S. Racherla, Vijay V. Khanna and Herbert C. Brown\*

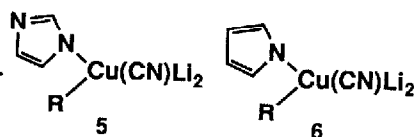
H. C. Brown and R. B. Wetherill Laboratories of Chemistry, Purdue University, West Lafayette, IN 47907

 The oxidation of alkylboronic acids with CrO<sub>3</sub> in 90 % aqueous acetic acid directly provides carboxylic acids in 80-97 % isolated yields.


HIGHER ORDER, MIXED CYANOCUPRATES DERIVED FROM N-LITHIO-  
IMIDAZOLE AND PYRROLE: NEW "DUMMY" LIGAND ALTERNATIVES  
IN ORGANOCOPPER CHEMISTRY

B.H. Lipshutz,\* P. Fatheree, W. Hagen, and K.L. Stevens  
Department of Chemistry, University of California, Santa  
Barbara, CA 93106

Reactions and virtues of cuprates 5 and 6 are discussed.

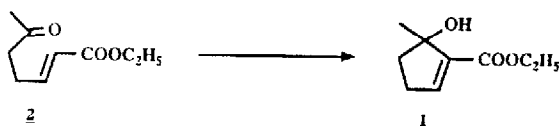


*Tetrahedron Lett.* **1992**, *33*, 1041

### AN INTRAMOLECULAR BAYLIS-HILLMAN REACTION

Fides Roth, Peter Gygax, Georg Fräter\*  
GIVAUDAN-ROURE, Dübendorf, Switzerland

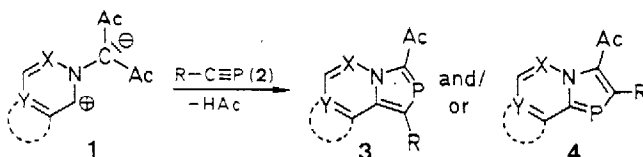
By means of an intramolecular Baylis-Hillman reaction  
the cyclopentenol derivative 1 has been formed from 2



*Tetrahedron Lett.* **1992**, *33*, 1045

### A NEW ACCESS TO PHOSPHINDOLIZINES BY [3+2] CYCLOADDITION OF AZOMETHINE YLIDES ONTO PHOSPHAALKYNES

Uwe Bergsträßer, Andreas Hoffmann and Manfred Regitz,  
Fachbereich Chemie der Universität Kaiserslautern,  
Erwin-Schrödinger-Str.,  
D-6750 Kaiserslautern, Deutschland

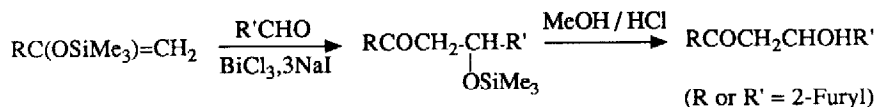


Azomethine ylides of type 1 add onto the triple bond of phosphalkynes 2 followed by elimination of HAc to yield the phosphindolizines 3 and/or 4.

*Tetrahedron Lett.* **1992**, *33*, 1049

### REACTION D'ALDOLISATION CROISEE EN SERIE FURANIQUE PAR L'INTERMEDIAIRE D'ENOLS SILICIÉS.

C. Le Roux, M. Maraval<sup>o</sup>, M.E. Borredon<sup>o</sup>, H. Gaspard-Iloughmane et J. Dubac\*  
Laboratoire des Organométalliques, Université Paul-Sabatier, 118, route de Narbonne,  
31062 Toulouse Cedex et <sup>o</sup>Laboratoire de Chimie des Agroressources, E.N.S.C.T.,  
118, route de Narbonne, 31077 Toulouse Cedex (FRANCE).

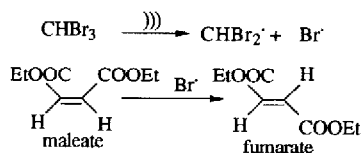


*Tetrahedron Lett.* **1992**, *33*, 1053

## PERFLUOROCARBONS AS INERT GASES IN HOMOGENEOUS SONOCHEMISTRY.

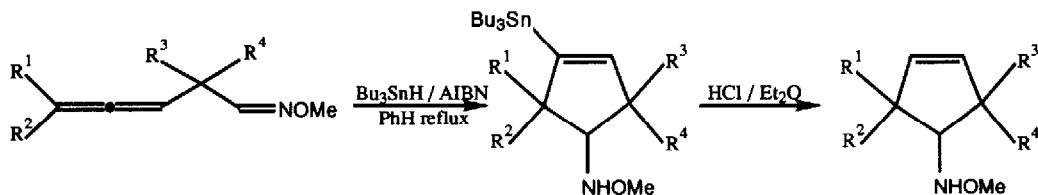
Th. Lepoint<sup>a\*</sup>, F. Mullie<sup>a</sup>, N. Voglet<sup>a</sup>, D.H. Yang<sup>b</sup>, J. Vandercammen<sup>b</sup>, J. Reisse<sup>b\*</sup><sup>a</sup>Institut Meurice, CERIA, 1, avenue E. Gryson, B-1070 Bruxelles; <sup>b</sup>Université Libre de Bruxelles, (CP165), 50, avenue Franklin Roosevelt, B-1050 Bruxelles, Belgique.

The polyatomic inert gases CF<sub>4</sub> and C<sub>2</sub>F<sub>6</sub> are efficient in homogeneous sonochemistry. This observation leads to the conclusion that some analogies could exist between sonochemistry and plasma chemistry.

RADICAL CYCLIZATION OF  $\beta$ -ALLENIC OXIME ETHERS

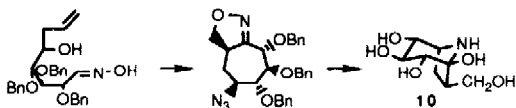
J. Hatem\*, C. Henriet-Bernard, J. Grimaldi and R. Maurin

Laboratoire de Chimie Organique de Synthèse, associé au CNRS, Université de Provence, Case 541, 13397 Marseille Cédex 13, France

Access to Polyhydroxylated Cycloheptane Derivatives by Stereoselective Nitrile Oxide Intramolecular Cycloaddition. Synthesis of an Analogue of Calystegine B<sub>2</sub>

O. Duclos, A. Duréault\*, J.C. Depeyay. Université René Descartes, Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques, associé au CNRS, 45 rue des Saints-Pères, 75270 Paris cedex 06, France.

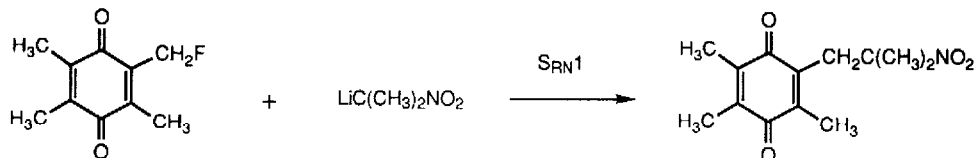
The polyhydroxylated nortropane **10** is synthesized from an olefinic C-8 acyclic carbohydrate oxime.

FLUORIDE AS LEAVING GROUP IN S<sub>RN</sub>1 REACTIONS OF A TETRASUBSTITUTED-1,4-BENZOQUINONE

Michel P. CROZET\*, Luc GIRAUD, Jean-François SABUCO and Patrice VANELLE.

Laboratoire de Chimie Organique B, associé au CNRS, BP 562, 13397 Marseille Cedex 13, France

The C-alkylation reaction of 2-fluoromethyl-3,5,6-trimethyl-1,4-benzoquinone by 2-nitropropane anion is shown to proceed by the S<sub>RN</sub>1 mechanism.

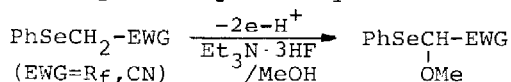


FLUORIDE ION PROMOTED ANODIC SUBSTITUTIONS OF  
CHALCOGENO COMPOUNDS. 2. REGIOSELECTIVE ANODIC  
METHOXYLATION OF 1,1-DIHYDROPERFLUOROALKYL AND CYANOMETHYL SELENIDES.

Kazimierz Surowiec and Toshio Fuchigami\*

Department of Electronic Chemistry, Tokyo Institute of Technology,  
Midori-ku, Yokohama 227, Japan

Anodic  $\alpha$ -methoxylation of 1,1-dihydroperfluoroalkyl and cyanomethyl selenides was successfully carried out in the presence of  $\text{Et}_3\text{N}\cdot 3\text{HF}$  as a supporting electrolyte.

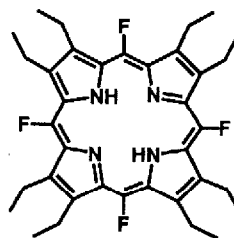


**meso-Perfluorination of Porphyrins with N-Fluoropyridinium Triflate**

Y. Naruta, F. Tani, K. Maruyama

Department of Chemistry, Faculty of Science, Kyoto University,  
Sakyo-ku, Kyoto 606-01, Japan

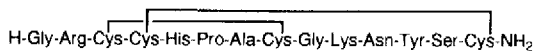
Octaethylporphyrin was efficiently perfluorinated  
at its *meso*-positions with *N*-fluoropyridinium triflate.



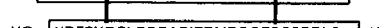
REGIOSELECTIVE DOUBLE DISULFIDE FORMATION USING  
SILYLCHLORIDE-SULFOXIDE SYSTEM

Kenichi Akaji, Kenji Fujino, Tadashi Tatsumi, and Yoshiaki Kiso.

Department of Medicinal Chemistry, Kyoto Pharmaceutical University, Yamashina-ku, Kyoto 607, Japan



Conotoxin M1



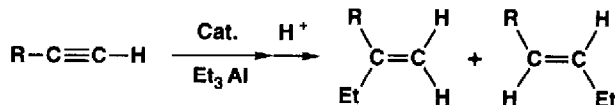
$\beta$ -hANP

Two intramolecular or intermolecular disulfide bonds of conotoxin M1 or  $\beta$ -hANP are formed regioselectively by the combination of silylchloride-sulfoxide method with conventional oxidation methods.

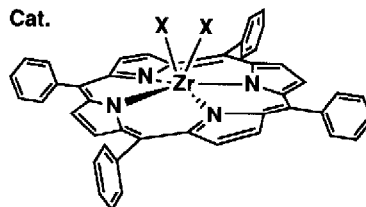
**Zirconium Porphyrins as Novel Active Catalysts  
for Highly Regio- and Stereo-selective Ethylaluminum of Alkynes**

Kenji Shibata, Takuzo Aida and Shohei Inoue\*

Department of Synthetic Chemistry, Faculty of Engineering  
University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan

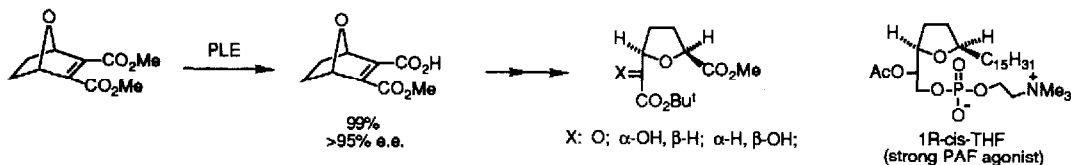


More than 99 % regioselectivities with satisfactorily high turnover numbers were attained when R = <sup>n</sup>C<sub>3</sub>H<sub>7</sub>, <sup>t</sup>C<sub>4</sub>H<sub>9</sub> and <sup>n</sup>C<sub>5</sub>H<sub>11</sub>.



**Development of Tetrahydrofuran Chiral Synthons by Enzymatic Approach:  
Improved Synthesis of a Strong Agonist of Platelet Activating Factor**

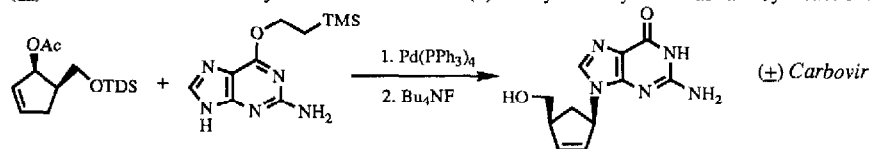
S. Kobayashi\*, M. Sato, Y. Eguchi, and M. Ohno, Faculty of Pharmaceutical Sciences,  
University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan



**Pd(0)-Catalyzed Allylic Alkylation in the  
Synthesis of ( $\pm$ ) Carbovir.**

Lise-Lotte Gundersen, Tore Benneche\* and Kjell Undheim  
Department of Chemistry, University of Oslo, N-0315 Oslo 3, Norway.

( $\pm$ ) Carbovir has been synthesized with a Pd(0)-catalyzed allylation as a key reaction.



**NEW MARINE CYTOTOXIC BISPYRONES. ABSOLUTE  
STEREOCHEMISTRY OF THE ONCHITRIOLS I AND II**

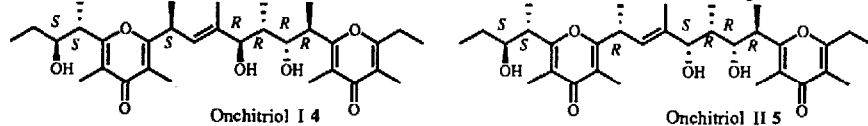
Jaime Rodríguez, Ricardo Riguera\*

Depart. de Química Orgánica, Fac. de Química, Univ. de Santiago de Compostela, Santiago de Compostela. 15706. España

Cécile Debitus

Centre ORSTOM, B. P. A5, Nouméa Cedex, Nouvelle Calédonie.

The complete absolute stereochemistry of two new cytotoxic marine polypropionates isolated from the saponified extract of the pulmonate mollusc *Onchidium* sp., onchitriol I and II (4, 5), was established using Mosher-Trost's methodology.

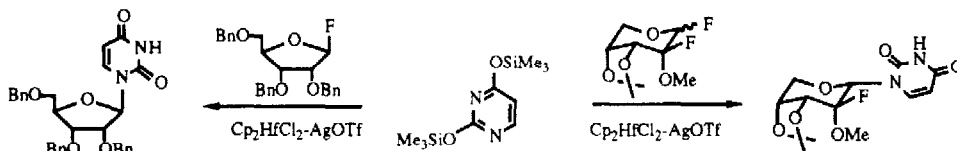


**STEREOSELECTIVE SYNTHESIS OF NUCLEOSIDES  
BY METALLOCENE PROMOTED ACTIVATION OF GLYCOSYL FLUORIDES**

M.I. Matheu, R. Echarrí, S. Castellón\*

Departament de Química, Facultat de Ciències Químiques de Tarragona, Universitat de Barcelona

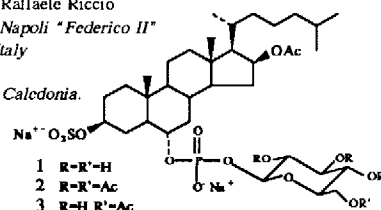
Pça. Imperial Tàrraco 1. 43005 Tarragona, Spain



The First Occurrence of Polyhydroxylated Steroids with Phosphate  
Conjugation from the Starfish *Tremaster novaecaledoniae*

Francesco De Riccardis, Maria Iorizzi, Luigi Minale\* and Raffaele Riccio  
Dipartimento di Chimica delle Sostanze Naturali, Università di Napoli "Federico II"  
Via Domenico Montesano 49, 80131 Napoli, Italy  
Cecile Debitus  
ORSTOM, Centre de Nouméa, BP. A5, Nouméa, New Caledonia.

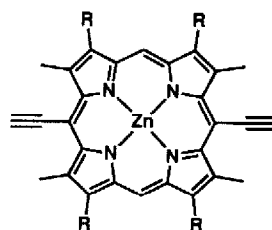
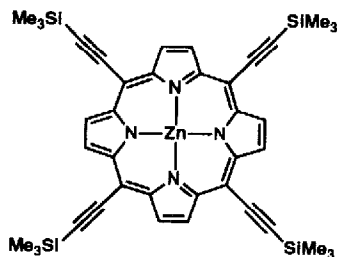
The first occurrence of three polyhydroxylated steroids with phosphate conjugation is reported from the starfish *Tremaster novaecaledoniae*. The structures were characterized by <sup>1</sup>H, <sup>13</sup>C and <sup>31</sup>P NMR and chemical degradation.



Meso-Alkynyl Porphyrins

Harry L. Anderson

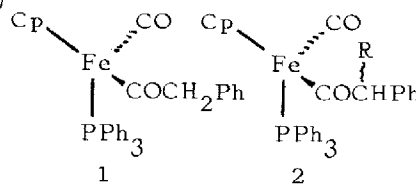
University Chemical Laboratory,  
Lensfield Road, Cambridge,  
CB2 1EW (UK)



BASE-DEPENDENT STEREOSELECTIVITY IN  
REACTIONS OF ACYL LIGAND IN PHENYLACETYL-  
IRON COMPLEX ( $\eta^5\text{-C}_5\text{H}_5$ )<sub>2</sub>Fe(CO)(PPh<sub>3</sub>)(COCH<sub>2</sub>Ph)

Zhong-Wu Guo and Aleksander Zamojski  
Institute of Organic Chemistry, Polish Academy of  
Sciences, 01-224 Warszawa, Poland

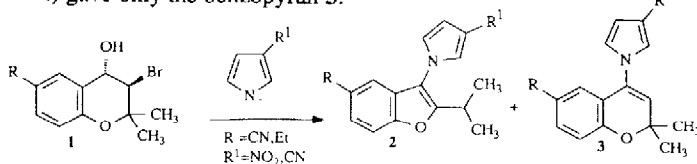
Proportion of stereoisomeric products **2** obtained from  
the complex **1** depends on the base used for generation  
of the anion.



AN UNUSUAL BASE-MEDIATED RING CONTRACTION REACTION OF  
BENZOPYRANS TO BENZOPYRANS

D.R. Buckle,\* A. Faller, I.L. Pinto and D.G. Smith SmithKline Beecham Pharmaceuticals, Yew Tree  
Bottom Road, Epsom, Surrey, KT18 5XQ.

**1** (R=CN) with electron deficient pyrrole and pyrazole anions gave benzofurans **2**. Corresponding  
reaction of **1** (R=Et) gave only the benzopyran **3**.



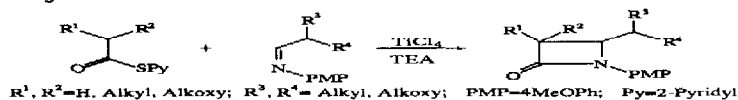


**HIGHLY DIASTERESELECTIVE SYNTHESIS OF  $\beta$ -LACTAMS BY ADDITION OF TITANIUM ENOLATES OF 2-PYRIDYL THIOESTERS TO CHIRAL IMINES.**

R. Annunziata, M. Cinquini\*, F. Cozzi\*, P.G. Cozzi

Dipartimento di Chimica Organica e Industriale - Università di Milano - Italy.

Addition of titanium enolates of 2-pyridyl thioesters to chiral imines gives  $\beta$ -lactams with good diastereofacial control.



**BIFUNCTIONAL CHIRAL AUXILIARIES 4: ALKYLATION OF ENOLATES DERIVED FROM 1,3-DIACYL-TRANS-4,5-TETRAMETHYLENEIMIDAZOLIDIN-2-ONES**

S.G. Davies\* and A.A. Mortlock, The Dyson Perrins Laboratory, South Parks Road, Oxford, OX1 3QY, U.K.

