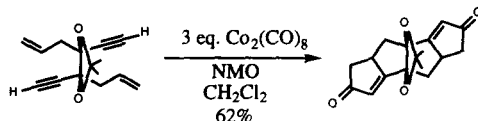


## GRAPHICAL ABSTRACTS

**Formation of Six Carbon-Carbon Bonds in a One Pot Process. Generation of the Dicyclopenta[a,e]pentalene Ring System via the Tandem Pauson-Khand Reaction**  
 Scott G. Van Ornum and James M. Cook\* Department of Chemistry,  
 University of Wisconsin-Milwaukee, Milwaukee, WI 53201

*Tetrahedron Letters*, 1997, 38, 3657

The synthesis of the four five-membered rings of a suitably functionalized parent system of dicyclopenta[a,e]pentalene has been accomplished via a tandem Pauson-Khand reaction in a one pot process.

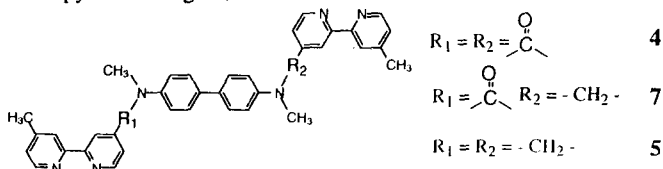


**Synthesis of Bridging Electron Transfer Donor Ligands.**

*Tetrahedron Letters*, 1997, 38, 3659

Sandrine Chodorowski-Kimmes, Thomas J. Meyer\*, Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599-3290, USA.

The syntheses of three bridging electron transfer donor ligands are described based on coupling N, N'-dimethylbenzidine with two bipyridines to give,

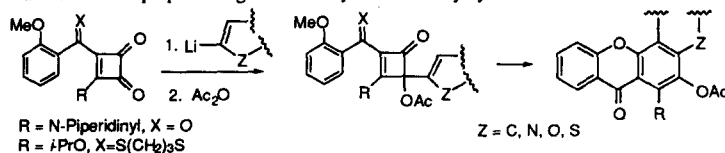


**THE REGIOSPECIFIC SYNTHESIS OF ANGULARLY-FUSED XANTHONES VIA THE BENZANNULATION OF 1,2-ADDUCTS DERIVED FROM 3-(*o*-ANISOYL)-4-SUBSTITUTED CYCLOBUTENEDIONES AND THEIR DITHIANYL DERIVATIVES.**

*Tetrahedron Letters*, 1997, 38, 3663

Lijun Sun and Lanny S. Liebeskind\* Department of Chemistry, Emory University, Atlanta, GA 30322, USA

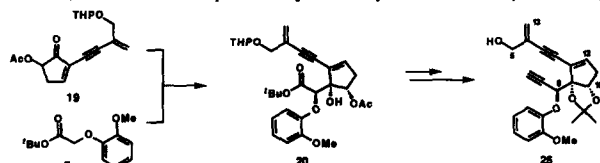
Xanthenes were prepared in good overall yields from acylcyclobutenediones and their dithianyl derivatives.



**Synthetic Studies on Maduropeptin Chromophore 1. Construction of the Aryl Ether and Attempted Synthesis of the [7.3.0] Bicyclic System**  
 K. C. Nicolaou\* and Kazunori Koide

*Tetrahedron Letters*, 1997, 38, 3667

Department of Chemistry and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037 and Department of Chemistry and Biochemistry, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093

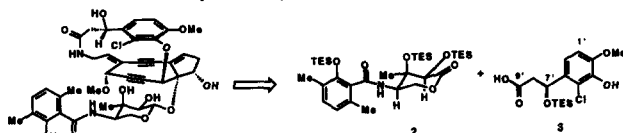


*Tetrahedron Letters*, 1997, 38, 3671

**Synthetic Studies on Maduropeptin Chromophore 2. Synthesis of the Madurosamine Aryl Amide and the C1'-C9' Fragments**

K. C. Nicolaou\* and Kazunori Koide, Jinyou Xu and Mark H. Izraelewicz

Department of Chemistry and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037 and Department of Chemistry and Biochemistry, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093



1: artifact of maduropeptin chromophore

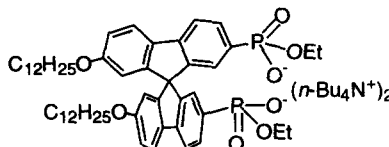
*Tetrahedron Letters*, 1997, 38, 3675

**CARBOHYDRATE RECOGNITION: ENANTIOSELECTIVE SPIROBIFLUORENE DIPHOSPHONATE RECEPTORS.**

Goutam Das and Andrew D. Hamilton,\*

Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260.

The mono- and bis-tetrabutylammonium salts of 2-ethyl-spirobifluorene monophosphonate and ( $\pm$ ) 2,2'-diethyl-7,7'-didodecyloxyspirobifluorene diphosphonate were synthesized and shown to bind strongly to a series of 1-O-octylglycosides in CD<sub>3</sub>CN.



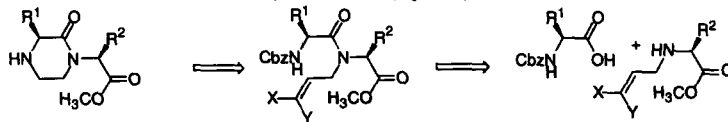
*Tetrahedron Letters*, 1997, 38, 3679

**Derivatized Oxopiperazine Rings From Amino Acids**

Ulhas Bhatt, Nazim Mohamed, Edward Roberts<sup>1</sup> and George Just\*

Department Of Chemistry, McGill University, Montreal, Quebec, Canada H3A 2K6

<sup>1</sup>Astra Research Centre Montreal, Saint-Laurent, Quebec, Canada H4S 1Z9



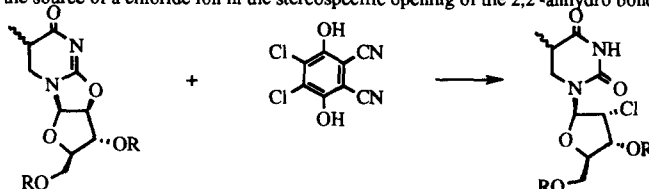
*Tetrahedron Letters*, 1997, 38, 3683

**UNPRECEDENTED CHLORINATION OF 2,2'-ANHYDRO-5,6-DIHYDRO-PYRIMIDINE NUCLEOSIDES DURING DDQ OXIDATION.**

Palle V. P. Pragnacharyulu and Elie Abushanab\*

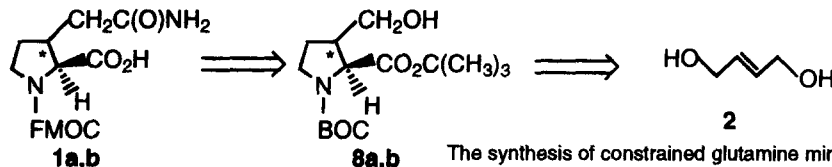
Department of Biomedical Sciences, University of Rhode Island, Kingston, Rhode Island 02881-0809

DDHQ was found to be the source of a chloride ion in the stereospecific opening of the 2,2'-anhydro bond of 5,6-dihydrothymidines.



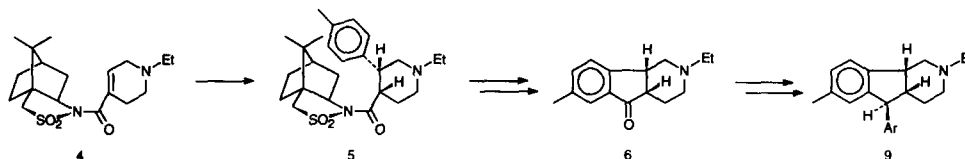
**CONSTRAINED AMINO ACIDS. THE SYNTHESIS OF GLUTAMINE MIMETICS.** Jeffrey S. Sabol,\* Gary A. Flynn,# Dirk Friedrich, Edward W. Huber, Hoechst Marion Roussel Inc., 2110 East Galbraith Rd., Cincinnati, OH 45215; # Selectide Corporation, 1580 East Hanley Boulevard, Tucson AZ 85737.

*Tetrahedron Letters*, 1997, 38, 3687



**Reversal of Expected Stereochemical Outcome in the Oppolzer Reaction of a Cyclic N-Enoylsultam: Enantioselective Synthesis and Absolute Configuration of Antispermatic Hexahydroindeno[1,2-c]pyridines.** Joseph M. Jump and C. Edgar Cook,\* Chemistry and Life Sciences, Research Triangle Institute, P.O. Box 12194, Research Triangle Park, NC 27709 USA. Andrew T. McPhail, P. M. Gross Chemical Laboratory, Duke University, Durham, NC 27708, USA

*Tetrahedron Letters*, 1997, 38, 3691

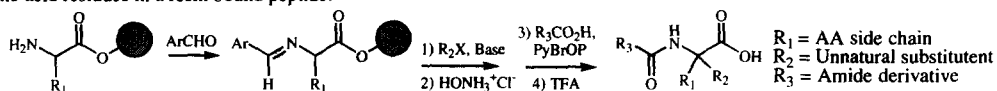


**THE SOLID PHASE SYNTHESIS OF  $\alpha,\alpha$ -DISUBSTITUTED UNNATURAL AMINO ACIDS AND PEPTIDES ("DI-UPS")**

*Tetrahedron Letters*, 1997, 38, 3695

William L. Scott,\*† Changyou Zhou,§# Zhiqiang Fang,§ and Martin J. O'Donnell\*§, †Research Technologies and Proteins, Lilly Research Laboratories, Indianapolis, IN 46285, §Department of Chemistry, Indiana University-Purdue University at Indianapolis, Indianapolis, IN 46202, #Current address: Exploratory Chemistry, Merck Research Laboratories, Rahway, NJ 07065, USA

A new, mild procedure is described for the solid phase synthesis of  $\alpha,\alpha$ -disubstituted amino acids and  $\alpha,\alpha$ -disubstituted terminal amino acid residues in a resin bound peptide.

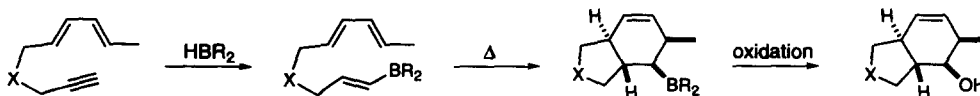


**INTRAMOLECULAR DIELS-ALDER REACTIONS OF ALKENYLBORANES - A STEREOSELECTIVE ROUTE TO FUNCTIONALIZED BICYCLO[4.3.0]NONENES.**

*Tetrahedron Letters*, 1997, 38, 3699

Robert A. Batey,\* Denny Lin, Andrew Wong and Christina L. S. Hayhoe. Department of Chemistry, University of Toronto, Toronto, ON, CANADA, M5S 3H6.

A three-stage reaction of selective alkyne hydroboration of dienyne, intramolecular Diels-Alder reaction, and oxidation, leads to the selective formation of *trans*-fused bicyclo[4.3.0]nonenols.

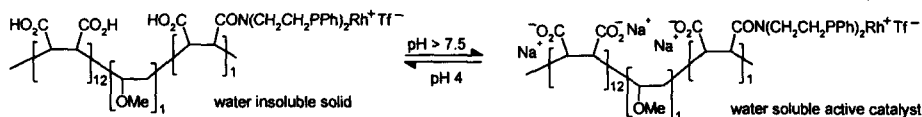


**AMPHOTERIC, WATER-SOLUBLE POLYMER-BOUND HYDROGENATION**

**CATALYSTS.** David E. Bergbreiter\* and Yun-Shan Liu, Department of Chemistry  
Texas A&M University, College Station, TX 77843-3255

*Tetrahedron Letters*, 1997, 38, 3703

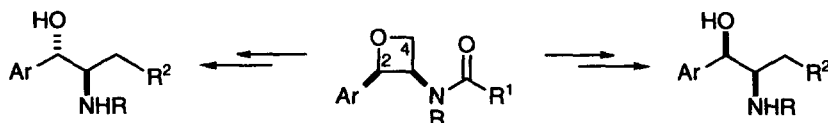
Derivatization of a maleic anhydride-vinyl ether copolymer to form water-soluble ligands and, in turn, water-soluble Rh(I) hydrogenation catalysts is described. Catalyst recovery is effected by changing the pH to form an insoluble polymeric ligand.

**SYNTHESIS OF SYN- AND ANTI-1,2-AMINO ALCOHOLS****BY REGIOSELECTIVE RING OPENING REACTIONS OF CIS-3-AMINOXETANES**

Thorsten Bach\* and Jürgen Schröder, Philipps-Universität Marburg, Fachbereich Chemie, D-35032 Marburg, Germany

*Tetrahedron Letters*, 1997, 38, 3707

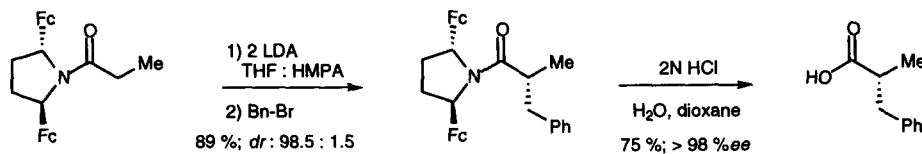
3-Aminoxetanes can be regioselectively cleaved either at the carbon atom C(4) or at C(2) under inversion of configuration.

**New Chiral Ferrocenyl Building Blocks for Asymmetric Reactions**

Lothar Schwink and Paul Knochel\*

Fachbereich Chemie der Philipps-Universität Marburg, Hans-Meerwein-Straße, D - 35032 Marburg, Germany

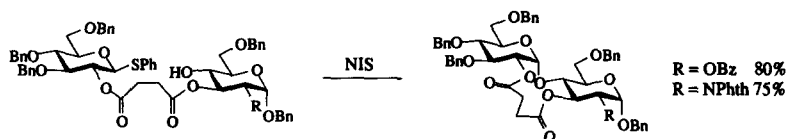
*Tetrahedron Letters*, 1997, 38, 3711

**INTRAMOLECULAR GLYCOSYLATION OF PREARRANGED GLYCOSIDES PART 5.  $\alpha$ -(1 $\rightarrow$ 4)-SELECTIVE GLYCOSYLATION OF GLUCOSIDES AND GLUCOSAMINES**

Thomas Ziegler\*, Axel Ritter and Jürgen Hürtten, Inst. of Organic Chemistry, Univ. of Cologne, Greinstr. 4, 50939 Cologne, Germany

*Tetrahedron Letters*, 1997, 38, 3715

1-Thio-*D*-glucopyranoside that is linked by a succinyl bridge at position 2 to position 3 of *D*-glucoside and *D*-glucosamine derivatives afford exclusively the corresponding  $\alpha$ -(1 $\rightarrow$ 4)-linked disaccharides upon cyclisation with *N*-iodosuccinimide.

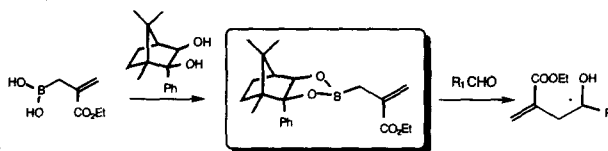


**ASYMMETRIC SYNTHESIS USING A NEW CHIRAL  $\beta$ -FUNCTIONALIZED ALLYLBORONATE DERIVED FROM ENDO-2-PHENYL-EXO-2,3-BORNANEDIOL: PREPARATION AND REACTIONS WITH ALDEHYDES.**

I. Chataigner, J. Lebreton, F. Zammattio and J. Villieras\*.

Laboratoire de Synthèse Organique, associé au CNRS, Faculté des Sciences et des Techniques, 2 rue de la Houssinière, BP 92208, 44322 Nantes Cedex 3, France. Fax 02 40 74 50 00

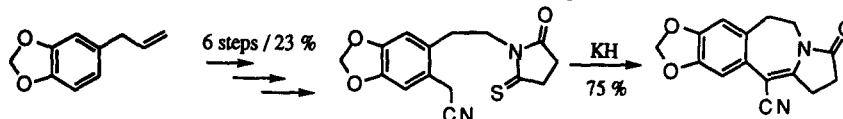
New chiral  $\beta$ -functionalized allylboronate reacts with achiral and chiral aldehydes to give functionalized homoallylic alcohols with good yields and high enantioselectivity.



**A SIMPLE, EFFICIENT ACCESS TO FUNCTIONALIZED PYRROLO-BENZAZEPINES RELATED TO THE ABC CORE OF CEPHALOTAXINE**

Eduardo R. de Oliveira<sup>1</sup>, Françoise Dumas, Jean d'Angelo,\* Unité de Chimie Organique Associé au CNRS, Centre d'Études Pharmaceutiques, Université Paris-Sud, 5, rue J.-B. Clément 92296, Châtenay-Malabry, France

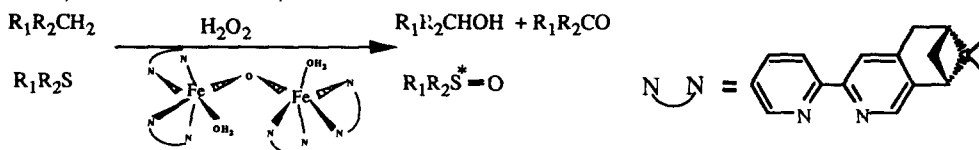
Construction of the ABC core of cephalotaxine, starting from safrole. An efficient ring-closure of thioimides.



**$\mu$ -OXO DIFERRIC COMPLEXES AS OXIDATION CATALYSTS WITH H<sub>2</sub>O<sub>2</sub> AND THEIR POTENTIAL IN ASYMMETRIC OXIDATION**

Carole Duboc-Toia, Stéphane Ménage, Claude Lambeaux and Marc Fontecave.

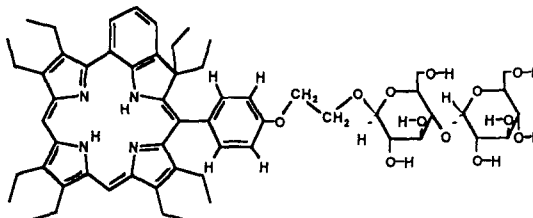
Laboratoire d'Études Dynamiques et Structurales de la Sélectivité, CNRS and Université Joseph Fourier, 301 Rue de la Chimie, 38041 Grenoble Cedex 9, France.



**SYNTHESIS, CHARACTERIZATION AND PHOTOTOXICITY OF A GLYCOCONJUGATED MESO-MONOARYLBENZOCHLORIN**

Philippe Maillard\*, Clotilde Hery, and Michel Momenteau  
Institut Curie, Section de Recherche, CNRS, Bât 112,  
Centre Universitaire, 91405 Orsay, France.

Glycoconjugated benzochlorin, prepared efficiently from *meso*-monoaryl porphyrin and 3-(dimethylamino)acrolein by regiospecific Vilsmeier's reaction followed by cyclisation and glycosylation, displays a good *in vitro* photocytotoxicity on tumor cells after irradiation ( $\lambda > 590$  nm).



**THE CATHODIC CLEAVAGE OF THE S-P BOND. SYNTHESIS AND ELECTROCHEMICAL BEHAVIOUR OF SULFONAMIDE PHOSPHORUS ANALOGUES.**

Jean-François Pilard and Jacques Simonet

Laboratoire d'Electrochimie Moléculaire et Macromoléculaire, UMR 6510, Université de Rennes 1, Beaulieu, 35042 Rennes (France)

P-diphenylarylsulfophosphamides can be obtained by condensation of  $\text{Ph}_2\text{PI}$  on various arylsulfonyl chlorides. These sulfonamide phosphorus analogues exhibit facile cathodic cleavage reaction yielding, after quenching, diphenylphosphinic acid and aryl sulfide.

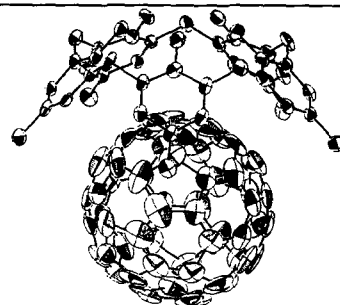


**CRYSTALLINE SUPRAMOLECULAR COMPLEXES OF  $\text{C}_{60}$  WITH CALIX[5]ARENES**

Takeharu Haino, Manabu Yanase, Yoshimasa Fukazawa\*

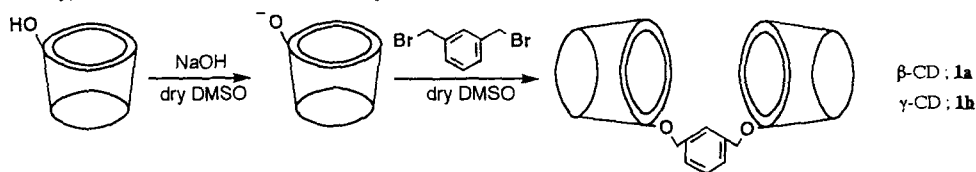
Department of Chemistry, Faculty of Science, Hiroshima University, Higashi-Hiroshima 739, Japan

The structure of the crystalline supramolecular complexes of calix[5]arenes with  $\text{C}_{60}$  is described.



**SYNTHESIS OF SECONDARY FACE-TO-FACE CYCLODEXTRIN DIMERS LINKED AT EACH 2-POSITION.**

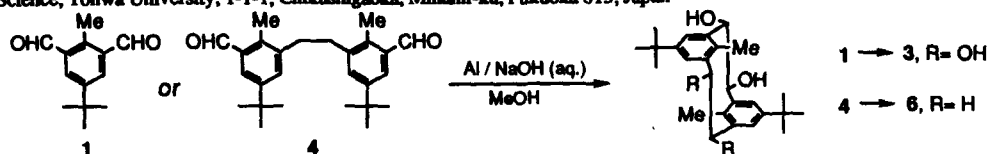
Yoshihiro Ishimaru,\* Taichi Masuda, and Takeaki Iida, Department of Functional Materials Science, Faculty of Engineering, Saitama University, 255 Shimo-ohkubo, Urawa 338, Japan



**[2.2]METACYCLOPHANES HAVING HYDROXY**

**GROUPS ON THE BRIDGE.** Daniel A. Sahade, Tsuyoshi

Sawada,\* Shuntaro Mataka,\* Takehito Tsukinoki,<sup>b</sup> and Masashi Tashiro,\* Department of Molecular Science and Technology, and \*Institute of Advanced Material Study, Kyushu University, 6-1, Kasuga-koh-en, Kasuga-shi, Fukuoka 816, <sup>b</sup>Central Institute for Science, Tohwa University, 1-1-1, Chikushigaoka, Minami-ku, Fukuoka 815, Japan

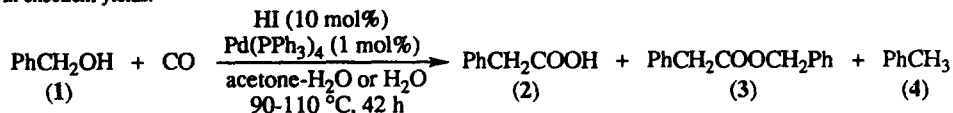


*Tetrahedron Letters*, 1997, 38, 3747

**PALLADIUM-CATALYZED CARBONYLATION OF BENZYL ALCOHOL AND ITS ANALOGS PROMOTED BY HI IN**

**AQUEOUS SYSTEMS.** Yong-Shou Lin and Akio Yamamoto\*, Department of Applied Chemistry, School of Science and Engineering, Advanced Research Center for Science and Engineering, Waseda University, 3-4-1, Ohkubo, Shinjuku, Tokyo 169, Japan

HI-promoted carbonylation of benzyl alcohol (1) to phenylacetic acid (2) catalyzed by a palladium(0) complex can be achieved in aqueous systems in excellent yields.

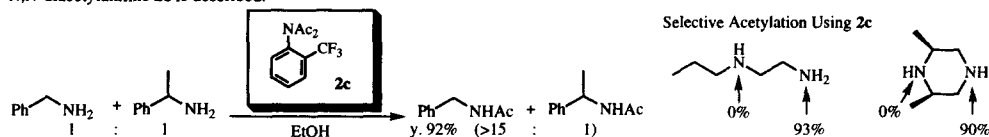


*Tetrahedron Letters*, 1997, 38, 3751

**THE *ortho*-SUBSTITUTED *N,N*-DIACETYLANILINE AS A SELECTIVE ACETYLATED REAGENT.**

Yasuoki Murakami\*, Kazuhiro Kondo, Kazuki Miki, Yoko Akiyama, Toshiko Watanabe, Yuusaku Yokoyama  
School of Pharmaceutical Sciences, Toho University, 2-2-1 Miyama, Funabashi, Chiba 274, Japan

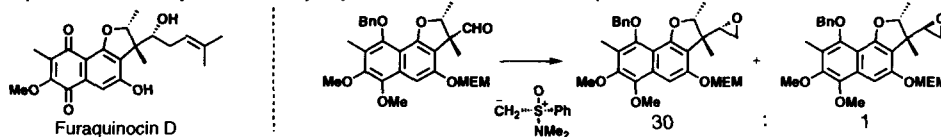
Highly selective acetylation of the less hindered amino group in the presence of the more hindered amino group with the use of 2-trifluoromethyl-*N,N*-diacetylaniline 2c is described.



*Tetrahedron Letters*, 1997, 38, 3755

**IMPLICATION AND IMPROVEMENT OF STEREOSELECTIVE METHYLENATION OF A CHIRAL ALDEHYDE RELATED TO TOTAL SYNTHESIS OF THE FURAQUINOCINS**

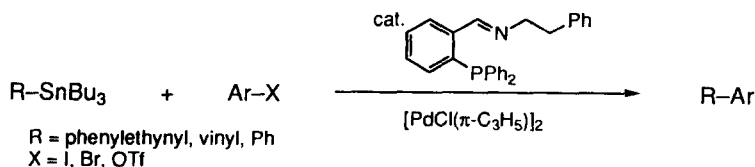
Takeshi Saito, Takao Suzuki, Kazuhiro Takeuchi, Takashi Matsumoto, and Keisuke Suzuki\*  
Department of Chemistry, Tokyo Institute of Technology, Meguro, Tokyo, 152, Japan  
Department of Chemistry, Keio University, Hiyoshi, Kohoku, Yokohama, 223, Japan



*Tetrahedron Letters*, 1997, 38, 3759

**AN IMINOPHOSPHINE-PALLADIUM CATALYST FOR CROSS-COUPLING OF ARYL HALIDES WITH ORGANOSTANNANES**

Eiji Shirakawa,\* Hiroto Yoshida, Hidemasa Takaya  
Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Sakyo, Kyoto 606-01, Japan

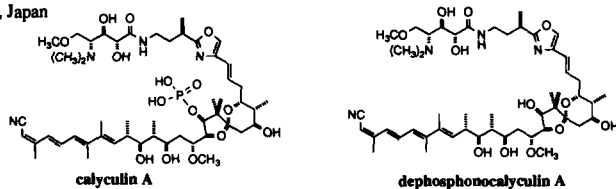


*Tetrahedron Letters*, 1997, 38, 3763

**Isolation of Dephosphonocalyculin A from the Marine Sponge,**

*Dicodermia calyx* Shigeki Matsunaga, Toshiyuki Wakimoto, and Nobuhiro Fusetani\*

Laboratory of Aquatic Natural Products Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Bunkyo-ku, Tokyo 113, Japan



*Tetrahedron Letters*, 1997, 38, 3765

**REDUCTIVE DEFLUORINATION OF POLYFLUOROARENES BY ZINC IN AQUEOUS AMMONIA.**

Sergey S. Laev, Vitalij D. Shteingarts\*

Institute of Organic Chemistry, Siberian Division of the Russian Academy of Sciences, 630090, Novosibirsk, Russia.

Aqueous ammonia has been found to be a good and versatile medium for the reductive defluorination of polyfluoroarenes by zinc. Upon the reduction of some polyfluoroarenes individual products from the removal of one fluorine have been obtained.

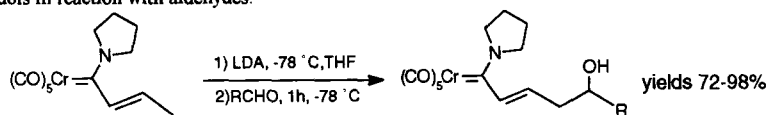


*Tetrahedron Letters*, 1997, 38, 3769

**COMPLETELY REGIOSELECTIVE  $\gamma$ -ADDITION IN ALDOL REACTION OF THE CONJUGATED BASE OF THE PENTACARBONYL(PROPENYL-PYRROLIDINOCARBENE)CHROMIUM(0)COMPLEX WITH ALDEHYDES.**

Clara Baldoli, Paul Hellier, Emanuela Licandro, Stefano Maiorana,\* Raffaella Manzotti, Antonio Papagni; Dipartimento di Chimica Organica e Industriale dell'Universita' e CNR Centro Studi Sintesi e Stereochimica Speciali Sistemi Organici, via Golgi 191-20133 Milano- Italy

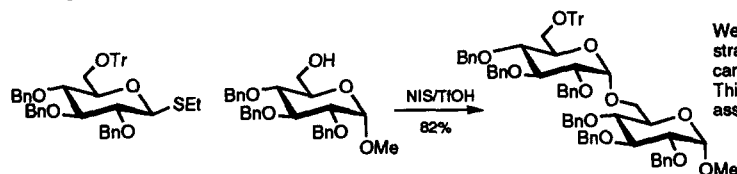
The conjugated base of the pentacarbonyl(propenylpyrrolidinocarbene)chromium(0) complex gives in good yields and completely regioselective  $\delta$ -aldols in reaction with aldehydes.



*Tetrahedron Letters*, 1997, 38, 3773

**TRITYL ETHER IN OLIGOSACCHARIDE SYNTHESIS: A NOVEL STRATEGY FOR THE CONVERGENT ASSEMBLY OF OLIGOSACCHARIDES**

Geert-Jan Boons<sup>a\*</sup>, Simeon Bowers<sup>a</sup>, Diane M Coe<sup>b</sup>, a) School of Chemistry, The University of Birmingham, Edgbaston, Birmingham B15 2TT, UK; b) GlaxoWellcome, Medicines Research Centre, Gunnels Wood Road, Stevenage, SG12 NY, UK.



We have developed a novel glycosylation strategy in which tritylated thioglycosides can act as a glycosyl donor and acceptor. This feature enables highly convergent assembly of oligosaccharide



**SYNTHESIS OF LINEAR AND CYCLIC UNSATURATED CARBOSILOXANES VIA CATALYTIC CONDENSATION OF DIVINYLTETRAMETHYLDISILOXANE**

Bogdan Marciniak\* and Mariusz Lewandowski

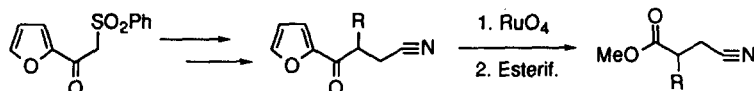
Faculty of Chemistry, Adam Mickiewicz University, Grunwaldzka 6, 60-780 Poznań, Poland

Rhodium and ruthenium complex catalyzed condensation of two molecules of divinyltetramethyldisiloxane provides a facile route to cyclic and linear unsaturated carbotetrasiloxanes.

**RUTHENIUM TETROXIDE CATALYZED OXIDATIONS OF 3-ALKYL-4-(2-FURYL)-4-OXOBUTANENITRILES: SYNTHESIS OF METHYL 2-ALKYL-3-CYANOPROPANOATES**

R.Giovannini and M.Petrini\*

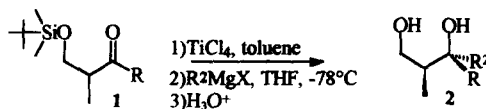
Dipartimento di Scienze Chimiche dell'Università. Via S.Agostino, 1 I-62032 Camerino, Italy.



**1,2-ASYMMETRIC INDUCTION IN THE  $TiCl_4$  MEDIATED ALKYLATION OF  $\alpha$ -METHYL- $\beta$ -SILYLOXYKETONES WITH GRIGNARD REAGENTS.** Giuseppe Bartoli\*, Marcella

Bosco and Letizia Sambri, v.le Risorgimento, 4, Università, I-40136, Bologna, Italy; Enrico Marcantoni, via S. Agostino 1, Università, I-62032, Camerino (MC), Italy

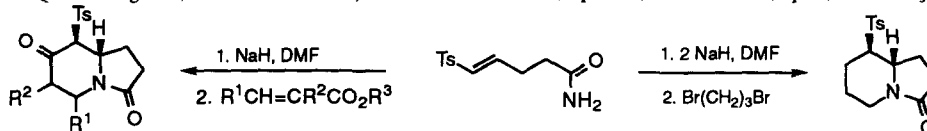
Alkylation of 1- $TiCl_4$  complexes with  $R^2MgX$  gives 2 in high yields and with high diastereoselectivity.



**(E)-5-TOSYL-4-PENTENAMIDE: A VINYL SULFONE FOR THE ONE-POT GENERAL SYNTHESIS OF INDOLIZIDINE DERIVATIVES**

Francisco Caturla and Carmen Nájera\*

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**RADICAL CYCLISATION ONTO IMIDAZOLES  
AND BENZIMIDAZOLES**
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 A new protocol for the synthesis of [1,2-*a*]-fused benzimidazoles and imidazoles has been developed using intramolecular homolytic aromatic substitution via  $\omega$ -alkyl radicals generated from 1-( $\omega$ -benzeneselenenylalkyl)-2-(benzenesulfonyl)-benzimidazoles and -2-tosyl-imidazoles.
