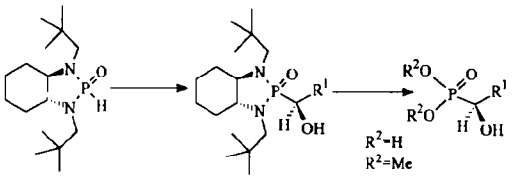
GRAPHICAL ABSTRACTS

Tetrahedron: Asymmetry **1994,** *5,* 499

ASYMMETRIC SYNTHESIS OF α-HYDROXY- PHOSPHONAMIDES, PHOSPHONATES AND PHOSPHONIC ACIDS

Vincent J Blazis, Kevin J. Koeller, and Christopher D. Spilling* *Department of Chemistry, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121-4499.*

The addition of the chiral phosphorous acid diamide (1a) to aldehydes gave 1-hydroxy phosphonamides in good yield and with good diastereoselectivity (54-93% de). Hydrolysis of the phosphonamides gave the phosphonic acids, which were methylated to yield the dimethyl phosphonates

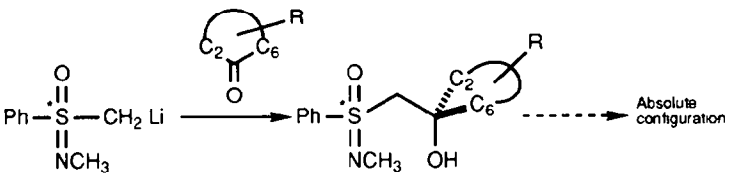


Tetrahedron: Asymmetry **1994,** *5,* 503

(*N*-Methylphenylsulfoximidoyl)methyllithium: A Versatile Reagent for the Determination of Absolute Configuration of Six-Membered Ring Ketones

Marcelo D. Preite, Manuel González-Sierra,* Juan Zinczuk and Edmundo A. Rúveda*
Instituto de Química Orgánica de Síntesis (CONICET-UNR) Facultad de Ciencias Bioquímicas y Farmacéuticas, Casilla de Correo 991, 2000 Rosario, Argentina

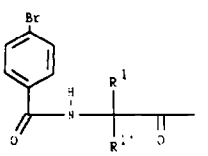
Determination of the absolute configuration of six-membered ring ketones by ^{1}H and ^{13}C NMR analysis of the diastereoisomeric pairs of their sulfoximine adducts



Tetrahedron: Asymmetry **1994,** *5,* 507

The pBromobenzamido Chromophore as a Circular Dichroism Probe for the Assignment of the Screw Sense of Helical Peptides

Claudio Toniolo,[1] Fernando Formaggio,[1] Marco Crisma,[1] Hans E. Schoemaker,[2] and Johan Kamphuis[2]
[1]*Biopolymer Research Centre, C.N.R., Department of Organic Chemistry, University of Padova, 35131 Padova, Italy;* [2]*DSM Research, Bioorganic Chemistry Section, 6160 MD Geleen, The Netherlands*

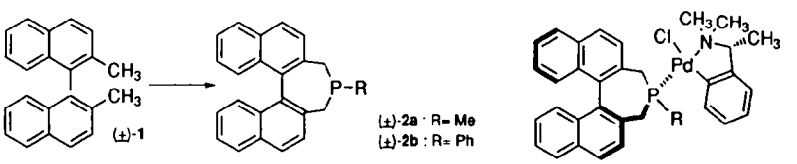


The *para*-bromobenzoyl group linked to the N-terminus of a helical peptide chain is a sensitive CD probe of peptide helix screw sense, irrespective of the configuration of the constituent α-amino acids.

Tetrahedron: Asymmetry **1994,** *5,* 511

Novel Atropisomeric Phosphorus Ligands: 4,5-Dihydro-3H-dinaphto[2,1-c; 1',2'-e]phosphepine

S. Gladiali[a], A. Dore[a], D. Fabbri[a], O. De Lucchi[b] and M. Manassero[c]
[a]Dipartimento di Chimica, Università di Sassari, via Vienna 2, 07100 Sassari, Italy, [b]Dipartimento di Chimica, Università di Venezia, Dorsoduro 2137, Venezia, Italy; [c]Istituto di Chimica Strutturistica Inorganica, Università di Milano, Via Venezian 21, 20133 Milano, Italy



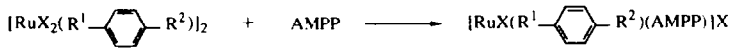
Synthesis, resolution and utilization in Rh-catalysed asymmetric hydroformylation of new dinaphthophosphepine ligands 2 is described

Tetrahedron: Asymmetry **1994**, *5*, 515

Synthesis of New Chiral Arene Ruthenium(II) Aminophosphine phosphinite Complexes and Use in Asymmetric Hydrogenation of a Activated Keto Compound

Frédéric Hapiot, Francine Agbossou and André Mortreux
Laboratoire de Catalyse Homogène et Hétérogène, URA CNRS 402, Groupe de Chimie Organique Appliquée, Université des Sciences et Technologies de Lille, BP 108, 59652 Villeneuve d'Ascq Cedex, France

The reactions of dimeric $[RuX_2(arene)]_2$ complexes with aminophosphinephosphinite ligands (AMPP) give, in two steps, the corresponding [RuX(arene)(AMPP)]X species. These are catalyst precursors for the asymmetric hydrogenation of ketopantolactone to the corresponding pantolactone with up to 42% ee.



Tetrahedron: Asymmetry **1994**, *5*, 519

Synthetic Studies of a Constrained Ring Didemnin Analog

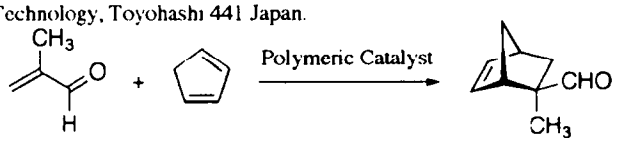
Scott C. Mayer, Amy J. Pfizenmayer, Richard Cordova, Wen-Ren Li and Madeleine M. Joullié*
Department of Chemistry, University of Pennsylvania
Philadelphia, PA 19104-6323

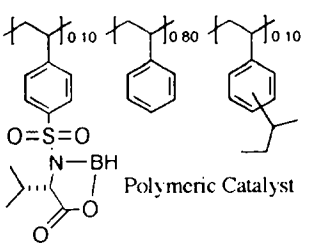
An asymmetric Diels-Alder reaction in the presence of 3.0 M lithium perchlorate-diethyl ether was used to generate the initial stereochemistry for a cyclohexane amino acid (**3**), a key intermediate in the preparation of a fused ring didemnin analog. This constrained ring macrocycle should provide insight into the binding site conformation of the bioactive species.

Tetrahedron: Asymmetry **1994**, *5*, 523

Polymer-supported Chiral Lewis Acids as Asymmetric Catalysts for Diels-Alder Reactions of Methacrolein with Cyclopentadiene

Shinichi Itsuno, Koichi Kamahori, Katsuhiro Watanabe, Takahiro Koizumi, and Koichi Ito
Department of Materials Science, Toyohashi University of Technology, Toyohashi 441 Japan.



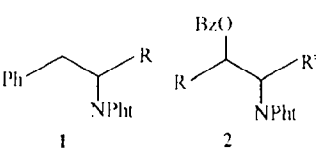


Tetrahedron: Asymmetry **1994**, *5*, 527

EXCITON COUPLING OF THE PHTHALIMIDE CHROMOPHORE APPLICATION TO CONFIGURATIONAL ASSIGNMENTS

F. Kaźmierczak, K. Gawrońska, U. Rychlewska and J. Gawroński*
Department of Chemistry, A. Mickiewicz University, 60-780 Poznań, Poland

CD spectra of exciton coupled phthalimide - phenyl or phthalimide - benzoate chromophores allow determination of the absolute configuration of derivatives of primary amines having structures **1** or **2**



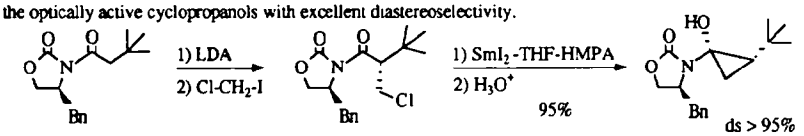
Tetrahedron: Asymmetry **1994**, *5*, 531

OPTICALLY ACTIVE CYCLOPROPANOLS BY SAMARIUM(II) IODIDE INDUCED INTRAMOLECULAR REDUCTIVE CYCLISATION OF β - CHLORO-SUBSTITUTED AMIDES.

Antoine Fadel
Laboratoire des Carbocycles, Associé au C.N.R.S., Institut de Chimie Moléculaire d'Orsay, Bât. 420
Université de Paris-Sud, 91405 ORSAY (France)

β-Chloro amides, readily prepared from oxazolidinones, underwent reductive cyclisation induced by samarium(II) iodide in the presence of HMPA to the optically active cyclopropanols with excellent diastereoselectivity.

example :



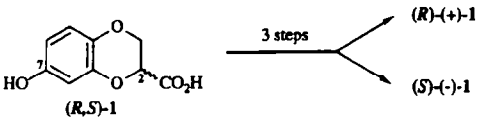
Tetrahedron: Asymmetry **1994**, *5*, 535

SYNTHESIS OF ENANTIOMERICALLY PURE 7-HYDROXY-2-SUBSTITUTED-2,3-DIHYDRO-1,4-BENZODIOXIN DERIVATIVES

Mostafa Khouili, Saïd Lazar, Gérald Guillaumet and Gérard Coudert*

Laboratoire de Chimie Bioorganique et Analytique, associé au CNRS, Université d'Orléans, BP. 6759, 45067 Cedex 2, France

A rapid and simple procedure for the preparation of the two pure enantiomers of 7-hydroxy-2-substituted-2,3-dihydro-1,4-benzodioxin derivatives was described.

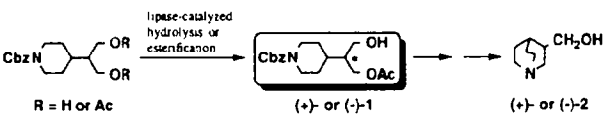


Tetrahedron: Asymmetry **1994**, *5*, 537

Enzymatic Preparation of Homochiral 2-(N-Carbobenzyloxypiperid-4-yl)-1,3-propanediol Monoacetate. A Facile Entry to Both Enantiomers of 3-Hydroxymethylquinuclidine.

Giuseppe Guanti,* Luca Banfi, Stefano Brusco, Enrica Narisano - *Istituto di Chimica Organica dell'Università & C N R, Centro di Studio per la Chimica dei Composti Cicloalifatici ed Aromatici, Corso Europa 26, I-16132 Genova (Italy)*

Both enantiomers of **1** were obtained in high ee by lipase catalyzed asymmetrization of the corresponding diol and diacetate. (+)-1 was then converted into both enantiomers of 3-hydroxymethylquinuclidine **2** in ee up to 98%.

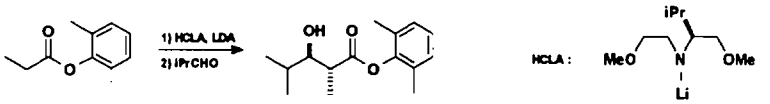


Tetrahedron: Asymmetry **1994**, *5*, 541

ENANTIOSELECTIVE ALDOL REACTIONS USING HOMOCHIRAL LITHIUM AMIDES AS NON-COVALENTLY BOUND CHIRAL AUXILIARIES.

Yannick Landais* and Philippe Ogay
Institut de Chimie Organique, Université de Lausanne. Rue de la Barre 2, 1005 Lausanne, Switzerland.

Syn and *anti* aldols have been prepared with relatively high enantiomeric excesses, using a homochiral lithium amide possessing two co-ordinating sites, as non-covalently bound chiral auxiliary.



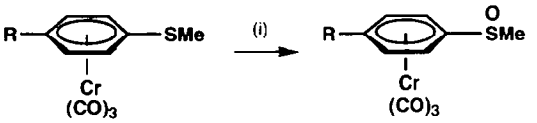
Tetrahedron: Asymmetry **1994**, *5*, 545

Asymmetric Oxidation of Sulfenyl Substituted Tricarbonyl(arene)chromium(0) Complexes

Siân L. Griffiths, Stéphane Perrio and Susan E. Thomas*
Department of Chemistry, Imperial College, South Kensington, London, U.K.

(i) $Ti(OPr^i)_4$ / L-(+)- or D-(-)-DET / H_2O / cumene hydroperoxide (2:4:2:1.3)

a. R = H; **b**: R = Me; **c**: R = MeO

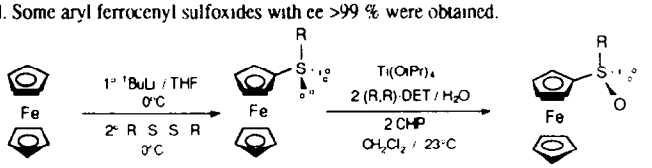


Tetrahedron: Asymmetry **1994**, *5*, 549

HIGHLY ENANTIOSELECTIVE OXIDATION OF FERROCENYL SULFIDES

Patrick Diter, Odile Samuel, Stefan Taudien, Henri B. Kagan*
Laboratoire de Synthèse Asymétrique, Institut de Chimie Moléculaire d'Orsay F-91405 Orsay, France.

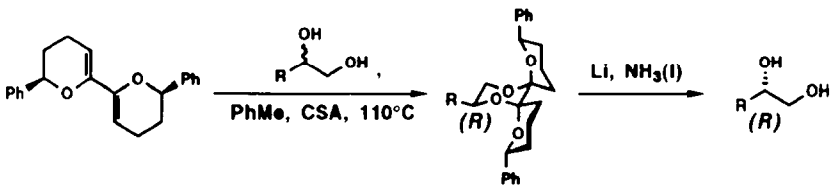
A highly enantioselective oxidation route of aryl or alkyl ferrocenyl sulfides by cumene hydroperoxide in the presence of a chiral titanium complex is described. Some aryl ferrocenyl sulfoxides with ee >99 % were obtained.



Tetrahedron: Asymmetry **1994**, *5*, 553

DISPIROKETALS IN SYNTHESIS (PART 9): RESOLUTION OF 1,2-DIOLS USING A C_2-SYMMETRIC DIPHENYLTETRAHYDROBIPYRAN.

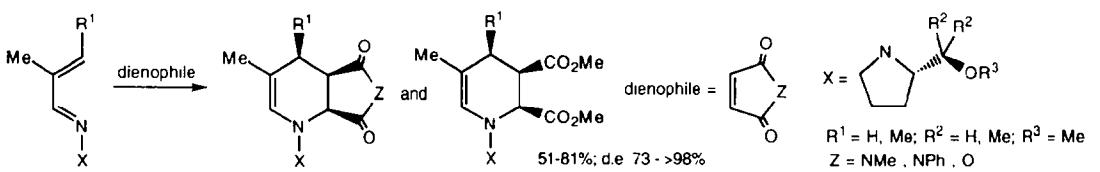
Paul J. Edwards, David A. Entwistle, Steven V. Ley,* Dafydd R. Owen and Emily J. Perry,
Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge CB2 1EW, UK.



Tetrahedron: Asymmetry **1994**, *5*, 557

Asymmetric Diels-Alder Reactions with Chiral 1-Azadienes

Renaud Beaudegnies and Léon Ghosez*
Laboratoire de Chimie Organique de Synthèse, Université Catholique de Louvain
place Louis Pasteur 1, B - 1348 Louvain-la-Neuve, Belgium

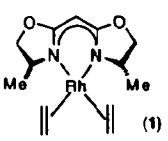


Tetrahedron: Asymmetry **1994**, *5*, 561

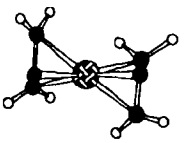
Chirality and the Metal-alkene Bond; Distortions in the Solution and Solid-state Structures of η^2-Ethene Rhodium *bis*-Oxazolinylmethane Complexes

John M. Brown*, Patrick J. Guiry, and David W. Price The Dyson Perrins Laboratory, South Parks Road, Oxford, OX1 3QY, U K
Michael B. Hursthouse and S. Karaulov.School of Chemistry, University of Wales, Cardiff, P.O. Box 912, Cardiff CF1 3TB, U.K

The structure of compound (1) indicates a distortion of the alkenes out of the coordination plane.



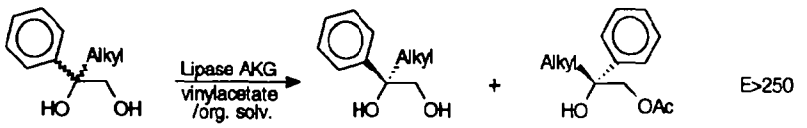
(1)



Tetrahedron: Asymmetry **1994**, *5*, 565

Lipase Catalyzed Resolutions of Some α,α-Disubstituted 1,2-Diols in Organic Solvents; Near Absolute Regio and Chiral Recognition.

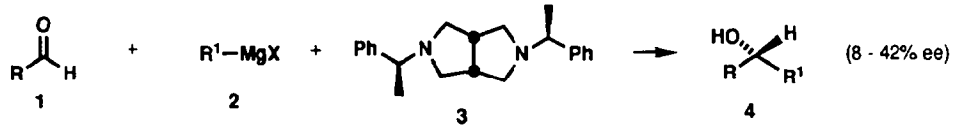
Robert P. Hof, Richard M. Kellogg; *University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands.*



Tetrahedron: Asymmetry **1994**, *5*, 569

Asymmetric Grignard Addition to Aldehydes. An Example of Inverse Temperature Dependence of Enantiomeric Excess

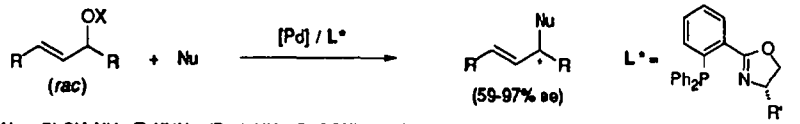
István E Markó,* Antony Chesney and David M Hollinshead†
Université Catholique de Louvain, Louvain-La-Neuve, Belgium and †*Zeneca Pharmaceuticals, Macclesfield, UK*



Tetrahedron: Asymmetry **1994**, *5*, 573

Enantioselective Allylic Amination with Chiral (Phosphino-oxazoline)Pd Catalysts.

P. von Matt, O. Loiseleur, G. Koch, and A. Pfaltz
Institut für Organische Chemie, Universität Basel, St. Johanns-Ring 19, CH-4056 Basel, Switzerland.
C. Lefeber, T. Feucht, and G. Helmchen
Institut für Organische Chemie der Universität, Im Neuenheimer Feld 270, D-69120 Heidelberg, Germany.

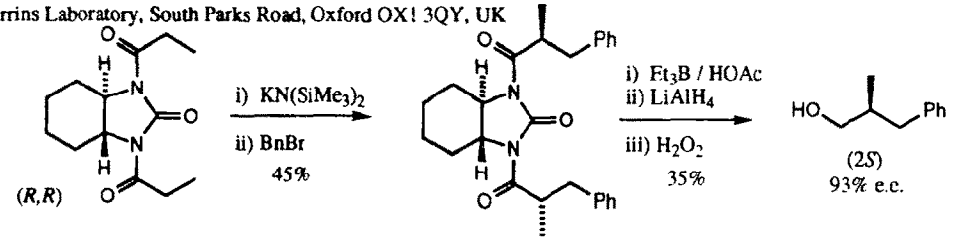


Nu = $PhCH_2NH_2$, TsNHNa, $(Boc)_2NNa$, $PhCONHNH_2/Na$

Tetrahedron: Asymmetry **1994**, *5*, 585

Bifunctional Chiral Auxiliaries 6: Alkylations of Enolates Derived from 1,3-Diacylimidazolidine-2-thiones and 1,3-Diacylimidazolidin-2-ones

Stephen G. Davies*, Gary B. Evans and Andrew A. Mortlock
The Dyson Perrins Laboratory, South Parks Road, Oxford OX1 3QY, UK

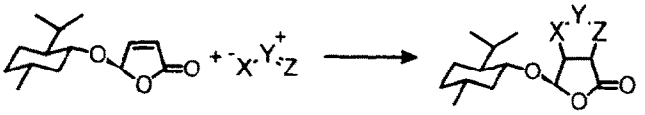


Tetrahedron: Asymmetry **1994**, *5*, 607

Asymmetric 1,3-Dipolar Cycloadditions to 5(R)-Menthyloxy-2(5H)-furanone

Minze T. Rispens; Erik Keller; Ben de Lange; Zijlstra, Robert, W.J. and Ben L. Feringa *
Department of Organic and Molecular Inorganic Chemistry, Groningen Center for Catalysis and Synthesis, *University* of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands.

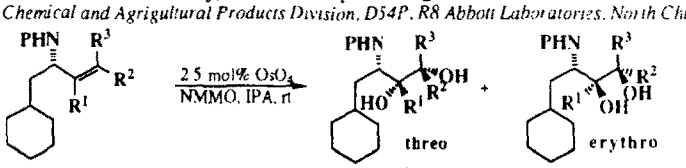
The 1,3-dipolar cycloaddition of several diazomethane derivatives, nitrile oxides, nitrones, and azomethine ylides to 5(R)-menthyloxy-2(5H)-furanone were examined. Furthermore AM1 calculations were performed in order to rationalize the observed regiochemistry.



Tetrahedron: Asymmetry **1994**, *5*, 625

Diastereoselectivity in the Osmium-Catalyzed Dihydroxylation of Allylic Amides and Carbamates

Damian J. Krysan,* Todd W. Rockway, and Anthony R. Haight
Process Research, Chemical and Agricultural Products Division, D54P, R8 Abbott Laboratories, North Chicago, IL 60064

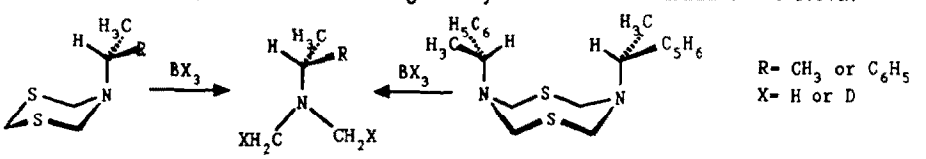


The diastereoselectivity of the osmium catalyzed dihydroxylation of a series of chiral, allylic amides and carbamates has been studied and found to proceed with moderate preference for the *threo* isomers.

Tetrahedron: Asymmetry **1994**, *5*, 633

New Chiral Heterocycles: 5-[(R)-(+)-1'-methylbenzyl]-1,3,5-dithiazine and 3,7-di-[(R)-(+)-1'-methylbenzyl]-3,7-diaza-1,5-dithiacyclooctane. Conformational studies and their reactions with Borane.

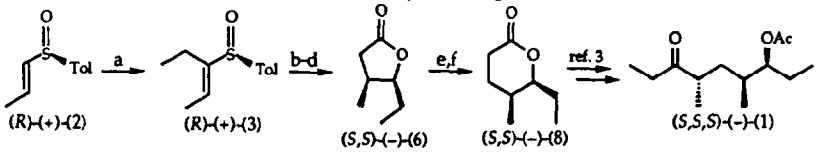
G. Cadenas-Pliego, M.-J. Rosales-Hoz, R. Contreras and A. Flores-Parra*.
Departamento de Química, Centro de Investigación y de Estudios Avanzados del I.P.N.



Tetrahedron: Asymmetry **1994**, *5*, 641

A Formal and Enantioselective Synthesis of (–)-Serricornin, the Sex Pheromone of the Cigarette Beetle (*Lasioderma serricorne* F.)

J. Tercio B. Ferreira, Jacqueline A. Marques - Departamento de Quimica - UFSCar - Brazil
J. P. Marino - Department of Chemistry - University of Michigan - USA

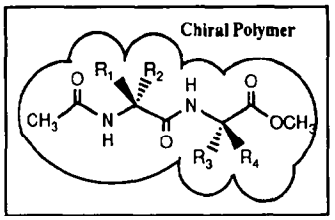


(a) i. LDA,THF,HMPA, ii. EtI; (b) Cl_3CCOCl,Zn(Cu),THF; (c) Al(Hg),THF; (d) RaNi,EtOH; (e) LAH,Et_2O; (f) i. *p*-TsCl,Py, ii. NaCN,DMSO, iii. KOH,EtOH then benzene, *p*-TsOH

Tetrahedron: Asymmetry **1994**, *5*, 649

Synthetic Peptide Receptor Mimics: Highly Stereoselective Recognition in Non-covalent Molecularly Imprinted Polymers

Olof Ramström, Ian A. Nicholls and Klaus Mosbach
Department of Pure and Applied Biochemistry, University of Lund, Sweden



Methacrylic acid - ethylene glycol dimethacrylate copolymer

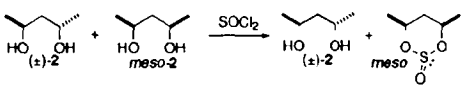
	R_1	R_2	R_3	R_4	K_{diss} (mM)
1	Phe	H	Trp	H	1.64 ± 0.7
2	H	Phe	H	Trp	2.00 ± 0.7

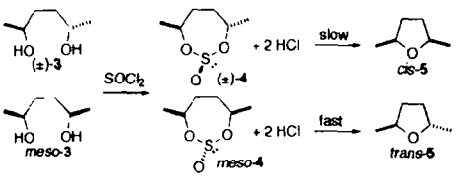
Tetrahedron: Asymmetry **1994**, *5*, 657

ISOLATION OF RACEMIC 2,4-PENTANEDIOL AND 2,5-HEXANEDIOL FROM COMMERCIAL MIXTURES OF RACEMIC AND MESO ISOMERS BY WAY OF CYCLIC SULFITES.

Gaétan Caron and Romas J. Kazlauskas,* Department of Chemistry, McGill University, 801 Sherbrooke St. W., Montréal, Québec H3A 2K6, Canada

Racemic diastereomers of **2** and **3** were isolated from commercial mixtures by way of stereoselective reactions involving cyclic sulfites. For **2**, the meso isomer formed a cyclic sulfite faster than (±)-**2**, while for **3**, the meso cyclic sulfite rearranged faster to a dimethyltetrahydrofuran.

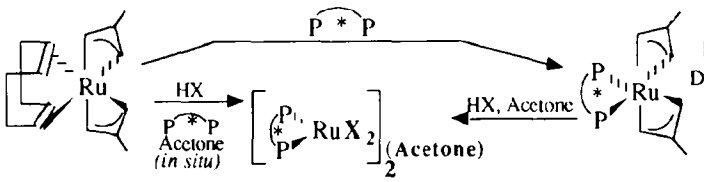




Tetrahedron: Asymmetry **1994**, *5*, 665

Novel, general synthesis of the chiral catalysts diphosphine-Ruthenium(II) complexes and a new practical *in situ* preparation of chiral $Ru^{(II)}$ catalysts

J.P. Genêt*, C. Pinel, V. Ratovelomanana-Vidal, S. Mallart, X. Pfister, M.C. Cano De Andrade and J.A. Laffitte
Laboratoire de Synthèse Organique, E.N.S.C.P., 11 rue P.&M. Curie, 75231 Paris CEDEX 05, FRANCE

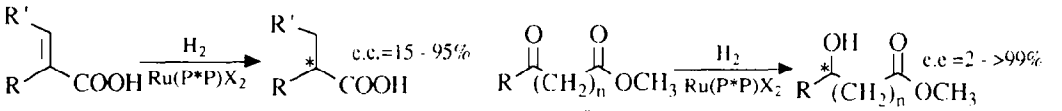


P*P = Chiraphos,Duphos,Bdpp,ß-Po-op, DipampSi,Dipamp,Prophos,Dimpc,Bppm, Deguphos,Diop,Cbd,Binap,Biphemp

Tetrahedron: Asymmetry **1994**, *5*, 675

Enantioselective hydrogenation reactions with a full set of preformed and prepared in situ chiral diphosphine-Ruthenium (II) catalysts

J.P.Genêt, C.Pinel, V.Ratovelomanana-Vidal, S.Mallart, X.Pfister, L.Bischoff, M.C.Cano De Andrade, S Darses, C.Galopin, J.A.Laffitte ; ENSCP - laboratoire de synthèse organique - 11, rue P.&M. Curie 75231 Paris CEDEX 05



R=Ar,CH_2COOH,Me R'=H,Me X=Br or 2-methylallyl n = 0,1

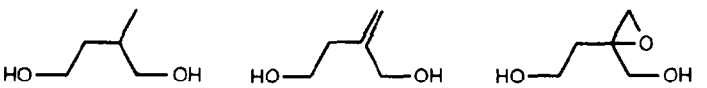
P*P = Chiraphos,Duphos,Bdpp,Deguphos,Diop,Bppm,Cbd,Binap,Biphemp,MeO-Biphep,Dipamp,DipampS1,Prophos,Dimpe

- Asymmetric hydrogenation of ß-ketoesters can be conducted under mild conditions (4 atm-50°C) - e.e. approaching 100%
- ß-ketoesters having a disubstituted double bond are also reduced chemoselectively to unsaturated chiral alcohols e.e.>99 %

Tetrahedron: Asymmetry **1994**, *5*, 691

REGIO- AND ENANTIOSELECTIVITY OF *Pseudomonas cepacia* LIPASE IN THE TRANSESTERIFICATION OF 2-SUBSTITUTED-1,4-BUTANEDIOLS

P.Ferraboschi, P. Grisenti, A. Manzocchi, E. Santaniello
Dipartimento di Chimica e Biochimica Medica, Universita' di Milano, Italy.



1a 2a 3a

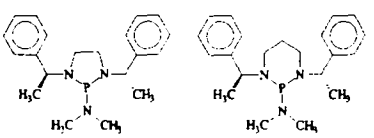
The transesterification of the diols **1a**, **2a** and **3a** catalyzed by the lipase PS in organic solvent regioselectively afforded the 1-acetates and the epoxydiol **3a** was enantioselectively resolved [86% ee for the unreacted (S)-**3a**].

Tetrahedron: Asymmetry **1994**, *5*, 699

α-Phenylethylamine based chiral phospholidines; new agents for the determination of the enantiomeric excess of chiral alcohols, amines and thiols by means of ^{31}P NMR

Ron Hulst[1], N Koen de Vries[2] and Ben L. Feringa[1]*
[1]Department of Organic and Molecular Inorganic Chemistry, Groningen, The Netherlands; [2]DSM Research, Geleen, The Netherlands.

The synthesis and use of two new trivalent phosphorus derivatizing agents **1** and **2**, based upon cheap (*S*)-α-phenylethylamine for the enantiomeric excess determination of alcohols, amines and thiols using ^{31}P NMR, is presented.

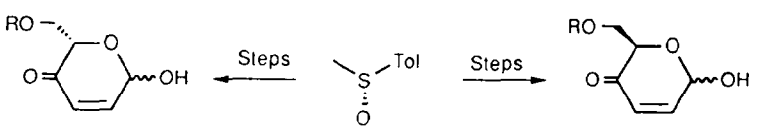


1 2

Tetrahedron: Asymmetry **1994**, *5*, 709

A Short Route to Homochiral *D*- and *L*-Hexose Precursors from (*R*)-Methyl-*p*-Tolylsulfoxide

José-Manuel Llera*, Mariana Trujillo, María-Eugenia Blanco and Felipe Alcudia*
Departamento de Química Orgánica y Farmacéutica, Facultad de Farmacia, Universidad de Sevilla, 41071 Sevilla (Spain).

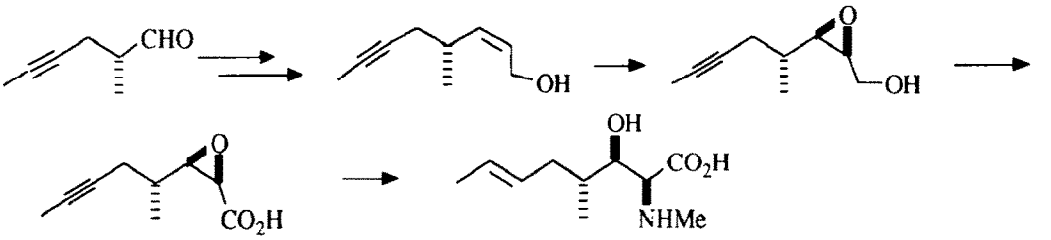


6b 3 6a

A Short Synthesis of the Unusual Amino Acid of Cyclosporine (4R)-4-[(E)-2-butenyl]-4,N-Dimethyl-L-Threonine (MeBmt)

Tetrahedron: Asymmetry **1994**, *5*, 717

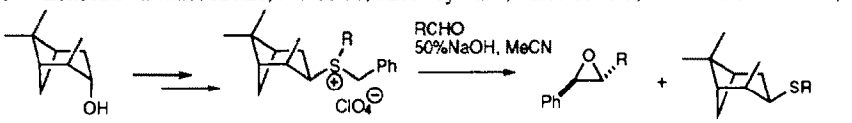
Monique Savignac, Jean-Olivier Durand and Jean-Pierre Genêt
Laboratoire de Synthèse Organique, E.N.S.C.P., 11 rue P.&M. Curie, 75231 Paris CEDEX 05, FRANCE



Asymmetric Epoxidation Using Chiral Sulfur Ylides.

Tetrahedron: Asymmetry **1994**, *5*, 723

Varinder K. Aggarwal,[a*] Marilena Kalomiri,[a] Andrew Thomas.[b]
a Department of Chemistry, University of Sheffield, Sheffield S3 7HF, UK.
b Zeneca Pharmaceuticals, Mereside, Alderley Park, Macclesfield, Cheshire SK10 4TG, UK.



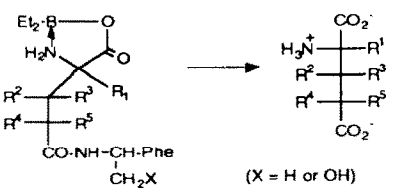
2 **5a-c** R = Me, iPr **5a-c** 5-67% yield 0-43% ee **4a-c** 0-75% return of sulfide

Resolution and Regioselective Protection of Glutamic Acid Analogues
I - Resolution of Diastereomeric α-Boroxazolidone Derivatives

Tetrahedron: Asymmetry **1994**, *5*, 731

F.Acher and R.Azerad, Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques, Université René Descartes, 45 rue des Saints-Pères, 75270 - Paris Cedex 06, France.

Alkyl-substituted glutamic acid analogues (R_1, or R_2, or R_3, or R_4, or R_5= CH_3, or R_4, R_5= CH_2) or cycloglutamic acids were resolved through the chromatographic separation of the corresponding diastereomeric α-boroxazolidone-γ-(R)-phenylethylamide (or phenylglycinolamide) derivatives.

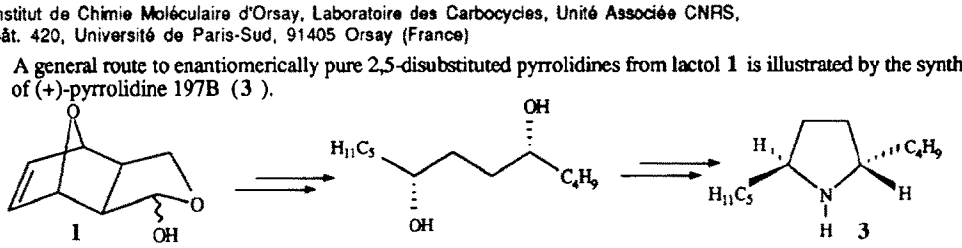


A new route to enantiomerically pure 2,5-disubstituted pyrrolidines. Total synthesis of (+)-pyrrolidine 197B.

Tetrahedron: Asymmetry **1994**, *5*, 745

Robert Bloch, Cécile Brillet-Fernandez, Gérard Mandville
Institut de Chimie Moléculaire d'Orsay, Laboratoire des Carbocycles, Unité Associée CNRS, Bât. 420, Université de Paris-Sud, 91405 Orsay (France)

A general route to enantiomerically pure 2,5-disubstituted pyrrolidines from lactol **1** is illustrated by the synthesis of (+)-pyrrolidine 197B (**3**).

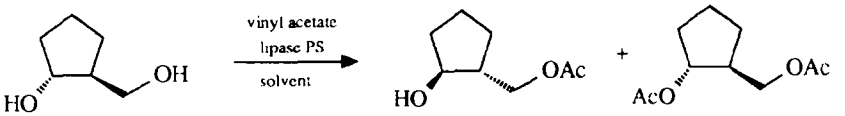


Kinetic Resolution of *(1RS,2SR)*-2-(Hydroxymethyl)cyclopentanol by a Biocatalytic Transesterification Using Lipase PS

Tetrahedron: Asymmetry **1994**, *5*, 751

J. Weidner, F. Theil, H. Schick

Institut für Angewandte Chemie Berlin-Adlershof, Rudower Chaussee 5, D-12484 Berlin, Germany



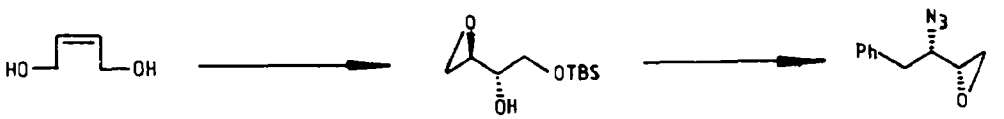
(1RS,2SR)-**1** *(1S,2R)*-**2** *(1R,2S)*-**3**

An Expedient Approach to (2R,3S)-3-Azido-1,2-epoxy-4-phenyl butane : A key intermediate for HIV protease Inhibitors

Tetrahedron: Asymmetry **1994**, *5*, 755

Mukund K Gurjar* and N Rama Devi

Indian Institute of Chemical Technology, Hyderabad 500 007, India

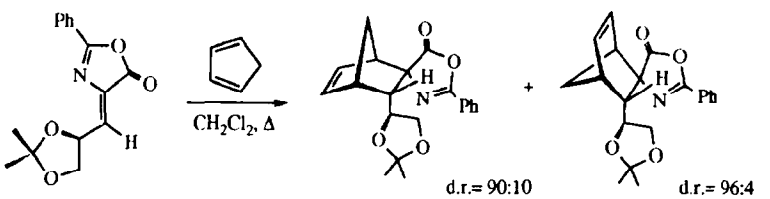


STUDY OF THE ASYMMETRIC DIELS-ALDER REACTION OF A CHIRAL AZLACTONE

Tetrahedron: Asymmetry **1994**, *5*, 759

Elena Buñuel, Carlos Cativiela*, Maria D. Diaz-de-Villegas and José I. Garcia

Instituto de Ciencia de Materiales de Aragón. Departamento de Química Orgánica. Universidad de Zaragoza-CSIC. Zaragoza. Spain.



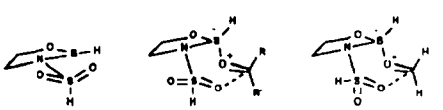
d.r.= 90:10 d.r.= 96:4

Tetrahedron: Asymmetry 1994, 5, 767

Quantum Chemical Modeling of Chiral Catalysis. Part 18. Conformational Studies on Chiral *N*-Sulfonylated 1,3,2-Oxazaborolidines and Related Aldehyde Complexes Potentially Involved in the Catalytic Asymmetric Diels-Alder Reactions

Vesa Nevalainen, Division of Organic Chemistry, P.O. Box 6, SF-00014 University of Helsinki, Finland

Abstract: The structure of *N*-sulfonylated oxazaborolidine (**1'**) and energetics of the formation of its H_2CO adducts **2'a-b** and acrolein adducts **3'a-b** (*s-trans*) was studied by means of *ab initio* MO methods (RHF). Conformational analyses of **1'** revealed only one minimum (both [illegible] the ring). The energy of **3'b** [illegible] higher than that of **3'a**. On the basis of the orientation of the vinyl moiety of **3'a-b** π-stacking was proposed to be involved in the case of 4-arylmethylene and 5-aryl derivatives of **3'a-b**.



1' **2'a** R, R' = H; **3'a** R = H, R' = $CHCH_2$; **3'b** R = $CHCH_2$, R' = H **2'b**