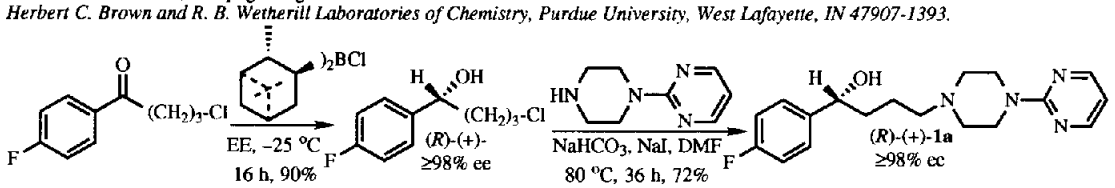
Tetrahedron: Asymmetry **1993,** *4,* 2399

Asymmetric Synthesis of Both Enantiomers of α-(4-Fluorophenyl)-4-(2-pyrimidinyl)-1-piperazinebutanol: Potential Antipsychotic Agents

P. V. Ramachandran*, Baoqing Gong and Herbert C. Brown
Herbert C. Brown and R. B. Wetherill Laboratories of Chemistry, Purdue University, West Lafayette, IN 47907-1393.

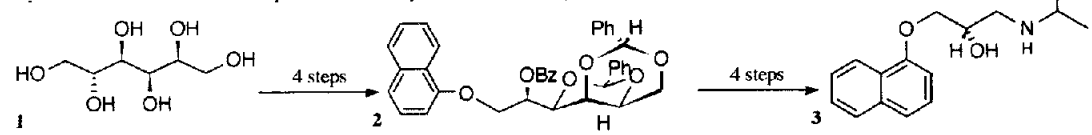


Tetrahedron: Asymmetry **1993,** *4,* 2401

SYNTHESIS OF ENANTIOMERICALLY PURE (S)-(-)-PROPRANOLOL FROM SORBITOL

Ronald A. Veloo and Gerrit-Jan Koomen*.
Organic Chemistry Laboratory, University of Amsterdam, Nieuwe Achtergracht 129, 1018 WS Amsterdam.

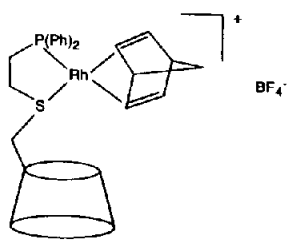
(S)-(-)-Propranolol, **3**, a more potent optical isomer of the widely used beta-blocker, was conveniently synthesized in eight steps, via key intermediate **2**, from the inexpensive and easily accessible carbohydrate sorbitol, **1**.



Tetrahedron: Asymmetry **1993,** *4,* 2405

Synthesis of a Phosphine-Modified Cyclodextrin and its Rhodium Complex

Manfred T. Reetz and Joachim Rudolph
Max-Planck-Institut für Kohlenforschung
Kaiser-Wilhelm-Platz 1
D-45470 Mülheim/Ruhr, Germany

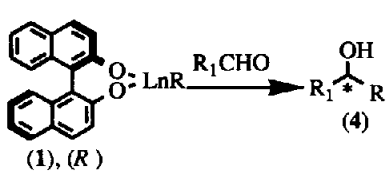


Tetrahedron: Asymmetry **1993,** *4,* 2407

NEW HOMOCHIRAL BINAPHTHOL-MODIFIED ORGANOLANTHANIDE REAGENTS FOR THE ENANTIOSELECTIVE ADDITION TO ALDEHYDES

Kelly Chibale, Nicholas Greeves,* Lisa Lyford, and J. Elizabeth Pease
Robert Robinson Laboratories, Department of Chemistry, University of Liverpool, P.O. Box 147, Liverpool L69 3BX, UK.

Moderate to high enantioselectivity has been observed in the reaction of lanthanide reagents (**1**) with aldehydes to give alcohols (**4**)



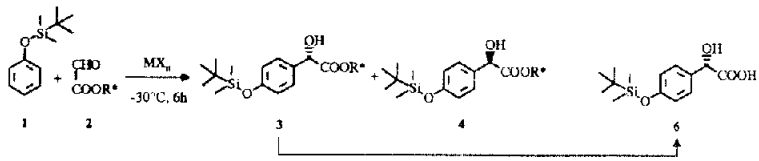
Tetrahedron: Asymmetry **1993**, *4*, 2411

SYNTHESIS OF OPTICALLY ACTIVE 4-HYDROXYMANDELIC ACID AND DERIVATIVES *VIA* REGIO- AND STEREOSELECTIVE FRIEDEL-CRAFTS ALKYLATION

Franca Bigi*, Giovanni Sartori, Raimondo Maggi, Edo Cantarelli and Gianni Galaverna
Dipartimento di Chimica Organica e Industriale dell'Università, Viale delle Scienze, I-43100 Parma, Italy

Synthesis of 4-hydroxymandelic acid **6** and derivatives **3** and **4** *via* hydroxylation of **1**.

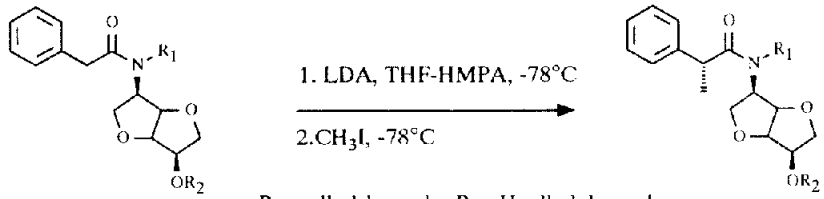
R* = (-)-menthyl
(-)-8-phenylmenthyl
(-)-*trans*-phenylcyclohexyl



ASYMMETRIC SYNTHESIS WITH NEW CHIRAL AUXILIARIES DERIVED FROM STARCH

Tetrahedron: Asymmetry **1993**, *4*, 2415

Rodolphe TAMION, Francis MARSAIS, Pierre RIBEREAU and Guy QUEGUINER
URA CNRS 1429 - IRCOF-INSA de ROUEN- BP08- 76131 Mont Saint Aignan Cedex- FRANCE.



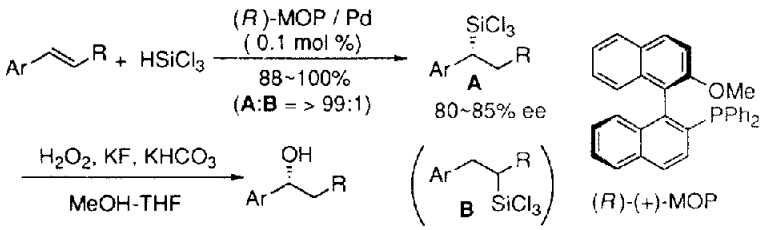
R_1= alkyl, benzyl. R_2= H, alkyl, benzyl.

Regio- and Enantioselective Hydrosilylation of 1-Arylalkenes by Use of Palladium-MOP Catalyst

Tetrahedron: Asymmetry **1993**, *4*, 2419

Y. Uozumi, K. Kitayama, and T. Hayashi,* *Catalysis Research Center, Hokkaido University, Sapporo 060, Japan*

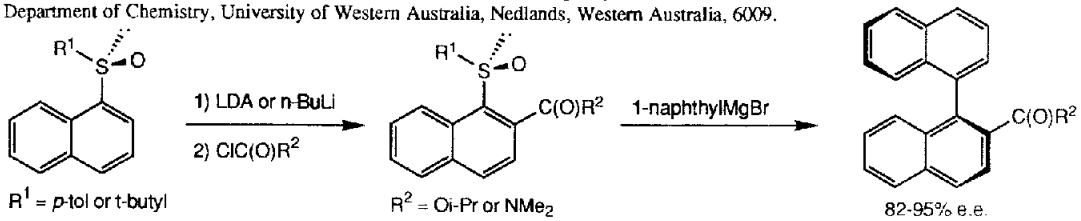
Asymmetric hydrosilylation of β-substituted styrenes catalyzed by palladium-MOP catalyst gave optically active benzylic silanes with high regio- and enantioselectivity.



Directed Metalation/Ligand Coupling Approach to the Enantioselective Synthesis of 1,1'-Binaphthyls

Tetrahedron: Asymmetry **1993**, *4*, 2423

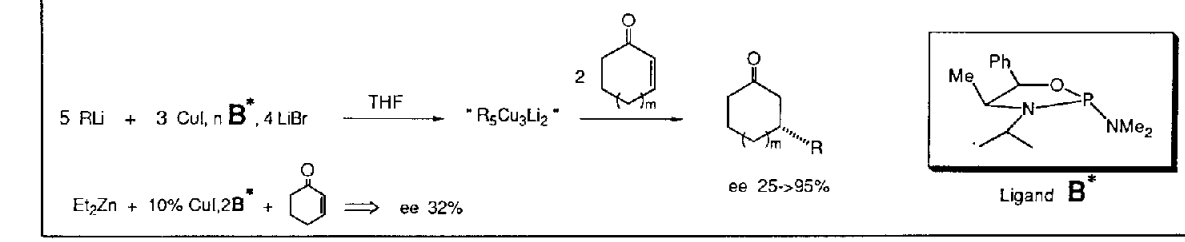
R.W. Baker,* G.R. Pocock, M.V. Sargent* and E. Twiss (née Stanojevic)
Department of Chemistry, University of Western Australia, Nedlands, Western Australia, 6009.



Tetrahedron: Asymmetry **1993**, *4*, 2427

CHIRAL PHOSPHORUS LIGAND FOR THE ASYMMETRIC CONJUGATE ADDITION OF ORGANOCOPPER REAGENTS

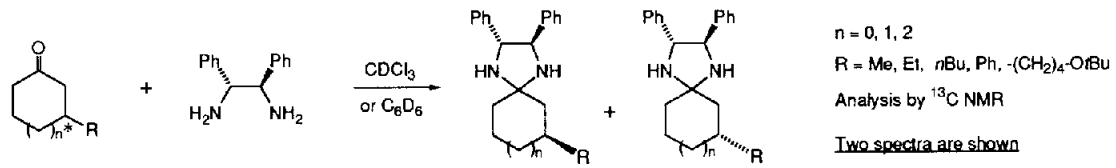
A. Alexakis*, J. Frutos and P. Mangeney
Laboratoire de Chimie des Organo-Eléments, CNRS UA 473, Université P. et M. Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France



Tetrahedron: Asymmetry **1993**, *4*, 2431

AN EASY AND FAST WAY TO DETERMINE THE ENANTIOMERIC PURITY OF SUBSTITUTED CYCLANONES

A. Alexakis*, J. Frutos and P. Mangeney
Laboratoire de Chimie des Organo-Eléments, CNRS UA 473, Université P. et M. Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France



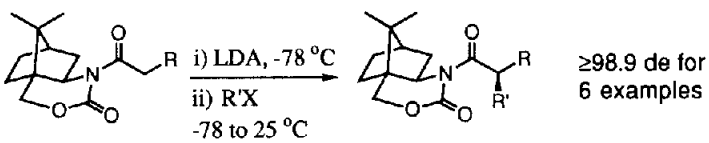
The formation of diastereomeric aminals is very fast, particularly with 3-substituted cyclohexanones, allowing the whole process to be done directly into the NMR tube in less than 5 min.

Tetrahedron: Asymmetry **1993**, *4*, 2435

Diastereoselective Alkylation Reactions Employing a Camphor-Based Chiral Oxazinone Auxiliry

Kyo Han Ahn,* Ankee Lim, and Seungkyu Lee
Department of Chemistry, POSTECH, Pohang 790-600, South Korea

A nearly complete π-face selectivity is obtained in alkylation reactions employing the oxazinone auxiliary.

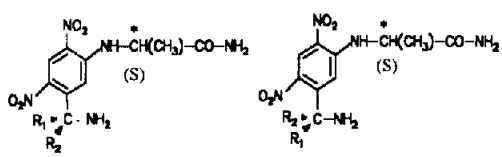


Tetrahedron: Asymmetry **1993**, *4*, 2437

Determination of the chiral purity of benzylic amines using Marfey's reagent

Monique Calmes, Jacques Daunis, Ahmad Hanouneh, Robert Jacquier - URA 468 - Aminoacides et peptides, Université Montpellier II, Place E. Bataillon, 34095 Montpellier Cedex 05- France

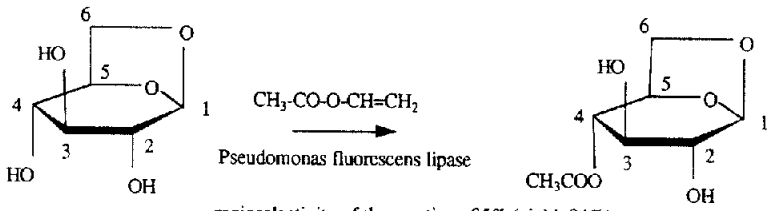
1-Fluoro-2,4-dinitrophenyl-5-alanine amide (Marfey's reagent) was used as a chiral derivatizing agent for benzylic amines in order to determine optical purities.



Regioselective acylation of 1,6-anhydro-β-D-glucopyranose catalysed by lipases

Tetrahedron: Asymmetry **1993**, *4*, 2441

C. Chon, A. Heisler, N. Junot, F. Levayer and C. Rabiller*
Laboratoire de RMN et de Réactivité Chimique, URA CNRS 472, 2 rue de la Houssinière , F-44072 NANTES Cédex 03 (FRANCE)

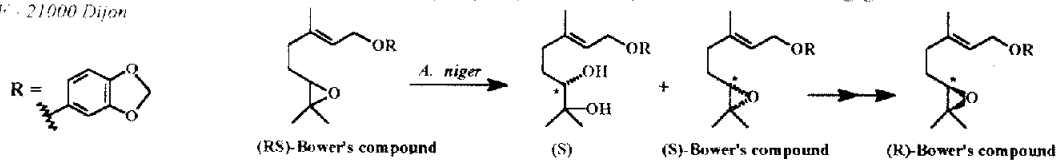


regioselectivity of the reaction : 85% (yield: 84%)

Microbiological Transformations. 30. Enantioselective Hydrolysis of Racemic Epoxides : the Synthesis of Enantiopure Insect Juvenile Hormone Analogs (Bower's compound).

Tetrahedron: Asymmetry **1993**, *4*, 2445

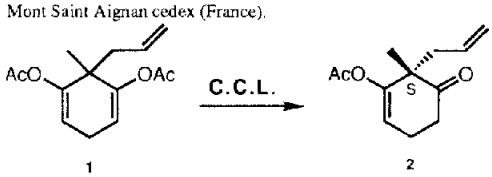
A. Archelas[a], J.-P. Delbecque[b] and R. Furstoss[a]*
[a] *Groupe de Chimie Organique et Bioorganique, URA CNRS 1320, Faculté des Sciences de Luminy, case 901, 163, av. de Luminy, F - 13288 Marseille Cedex 9 ;* [b] *Laboratoire de Zoologie Cytologie des Arthropodes, Université de Bourgogne, 6, Boulevard Gabriel, F - 21000 Dijon*



Asymmetric Synthesis by Enzymatic Hydrolysis of Prochiral Dienol Diacetate.

Tetrahedron: Asymmetry **1993**, *4*, 2447

Pierre Duhamel*, Albert Yebga, Dominique Cahard, Philippe Renouf and Jean-Marie Poirier Université de Rouen
Unité de Recherche Associée au CNRS, Faculté des Sciences et Institut de Recherche en Chimie Organique Fine (IRCOF) F-76821 Mont Saint Aignan cedex (France).



1 2

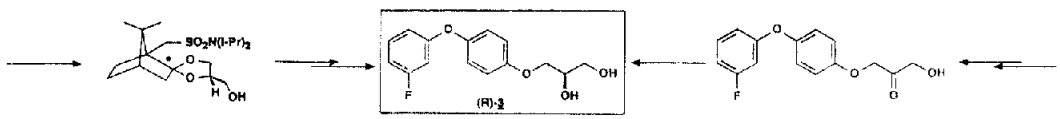
Enzymatic hydrolysis of prochiral dienol diacetate **1** by *Candida cylindracea* lipase (CCL) leads to the keto enol acetate **2** in high yield with an enantiomeric excess > 98 %. The S configuration of the asymmetric center was assigned.

TWO ENANTIOSELECTIVE SYNTHESES OF THE DIOL PRECURSOR OF THE BIOLOGICALLY MOST ACTIVE ISOMER OF AN INSECT GROWTH REGULATOR

Tetrahedron: Asymmetry **1993**, *4*, 2451

Hans-Peter Buser*, Felix Spindler
Plant Protection Division and Central Research Services, CIBA-GEIGY Ltd., CH-4002 Basel, Switzerland

The chiral glycerol derivative (R)-3 was synthesized enantioselectively via the following two conceptually different routes.



approach via resolution

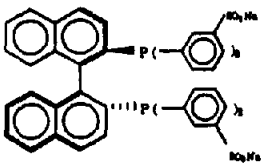
approach via enantioselective catalytic hydrogenation

Tetrahedron: Asymmetry **1993**, *4*, 2461

Ruthenium (II)-Sulfonated BINAP:
A Novel Water-Soluble Asymmetric Hydrogenation Catalyst

Kam-to Wan and Mark E. Davis*
Division of Chemistry and Chemical Engineering
California Institute of Technology, Pasadena, CA 91125.

A water-soluble ruthenium (II)-sulfonated BINAP was synthesized to examine the enantioselectivity in the asymmetric hydrogenation of prochiral alkenes in aqueous medium.

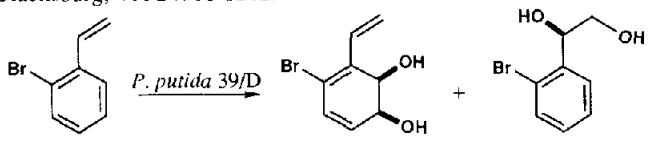


BINAP-4SO_3Na

Tetrahedron: Asymmetry **1993**, *4*, 2469

Microbial Oxidation of 2-Bromostyrene by *Pseudomonas putida* 39/D. Isolation and Identification of Metabolites

Kurt Königsberger and Tomas Hudlicky*
Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0212.



3a 4a 5a

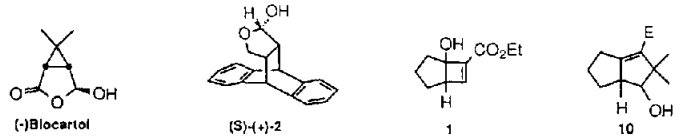
Microbial oxidation of o-bromostyrene **3a** gave a 1:4 mixture of ring and sidechain hydroxylated compounds **4a** and **5a**, respectively.

Tetrahedron: Asymmetry **1993**, *4*, 2475

SYNTHESIS OF POLYQUINANES
VIA BICYCLO [2.1.0] PENTANE INTERMEDIATES.
AN EASY ACCESS TO OPTICALLY PURE DIQUINANE
ALCOHOLS OF KNOWN ABSOLUTE CONFIGURATION.

Michel Franck-Neumann*, Michel Miesch, Alain Cotté, Laurence Gross, Bernard Metz**
** Laboratoire de Chimie Organique Synthétique, associé au CNRS , Institut de Chimie, Université Louis Pasteur, 1, rue Blaise Pascal 67000 - STRASBOURG (France). ** Laboratoire de Chimie Minérale, associé au CNRS, E.H.I.C.S. et UPR de Biologie Structurale 9004, I.B.M.C. CNRS, rue Descartes 67000 - STRASBOURG (France).*

The resolution of the cyclobutene ester 1 using chiral lactols [(-) Biocartol, (S)-(+)-2] is described. After a stereospecific reaction sequence, the optically pure diquinanes 10 are obtained (Absolute configurations determined by crystal X-ray analysis).



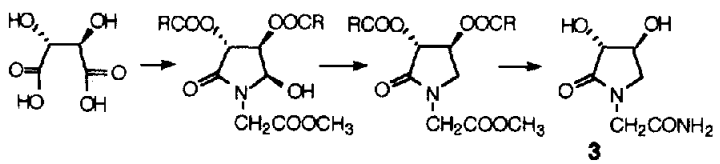
(-)Biocartol (S)-(+)-2 1 10

Tetrahedron: Asymmetry **1993**, *4*, 2483

Synthesis of the 3-Hydroxy Oxiracetam Enantiomers, Potential Nootropic Drugs

Jesús F. Almeida, Manuel Grande, Joaquín R. Morán, Josefa Anaya, Mª Luisa Mussons, and Mª Cruz Caballero
Departamento de Química Orgánica. Universidad de Salamanca, Plaza de los Caidos 1-5, E-37008 Salamanca, Spain.

The enantioselective synthesis of the four 3-Hydroxy Oxyracetam enantiomers (**3-6**) from L-tartaric acid, has been achieved by cyclization, regioselective reduction and suitable isomerization



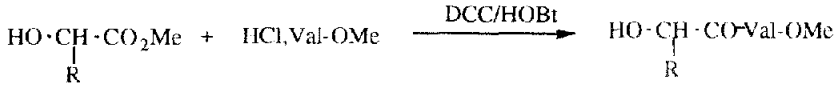
3

Tetrahedron: Asymmetry **1993,** *4*, 2495

DETERMINATION OF THE ENANTIOMERIC EXCESS OF α-HYDROXY ACIDS.

F. Cavelier*, S. Gomez, R. Jacquier, M. Llinares, J-L Mercadier, C. Petrus and J. Verducci.
URA CNRS 0468 - Université Montpellier II - Place E. Bataillon - 34095 MONTPELLIER cedex 05 - FRANCE.

Easy and accurate method to determine by HPLC the optical purity of α-hydroxy acids using a derivatization with valine methyl ester

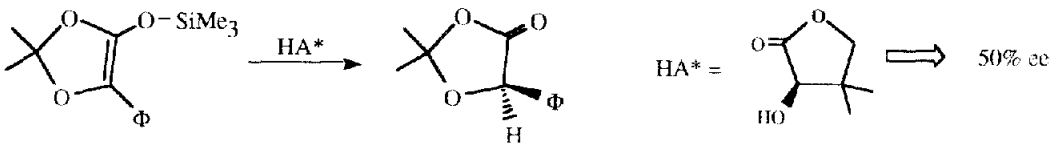


Tetrahedron: Asymmetry **1993,** *4*, 2501

DERACEMIZATION REACTION OF SILYL ENOL ETHERS.

F. Cavelier*, S. Gomez, R. Jacquier and J. Verducci. URA CNRS 0468
Université Montpellier II, Place E. Bataillon34095 - MONTPELLIER cedex 05 FRANCE.

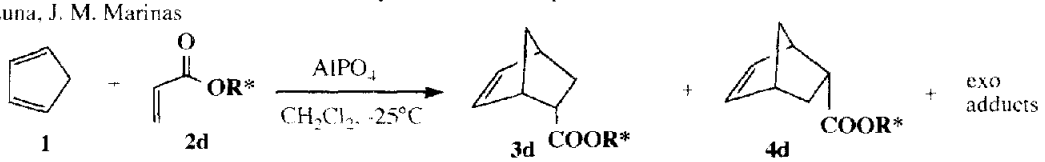
The possibility of deracemization of silyl enol ethers by enantioselective protonation is demonstrated for the example below.



Tetrahedron: Asymmetry **1993,** *4*, 2507

$AlPO_4$-Catalysed Asymmetric Diels-Alder Reactions of Cyclopentadiene with Chiral Acrylates

C.Cativiela, J. M. Fraile, J.I.García, J.A.Mayoral*, J. M. Campelo, D. Luna, J. M. Marinas

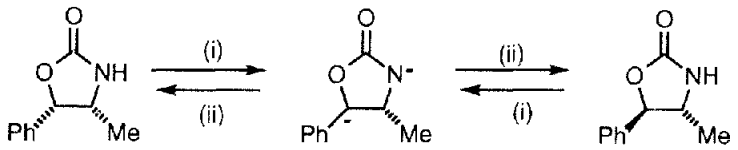


R*=(-)-8-phenylmenthyl, 72% of conversion, *endo/exo*=94:6, **4d/3d**=2.85 (74% d.e.)

Tetrahedron: Asymmetry **1993,** *4*, 2513

Base Induced C-5 Epimerisation of 4-Methyl-5-phenyl Oxazolidinones: Chiral Auxiliaries Derived from Norephedrine and Norpseudoephedrine.

S.G. Davies and G.J.-M. Doisneau
Dyson Perrins Laboratory, South Parks Road, Oxford, UK.



(4*R*,5*S*)-**2** **8** (4*R*,5*R*)-**3**

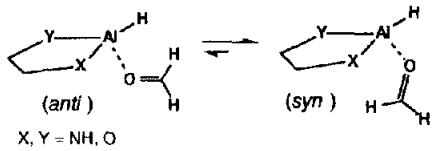
Reagents (i) excess BuLi; (ii) pH 7 buffer solution

Tetrahedron: Asymmetry **1993**, *4*, 2517

Quantum Chemical Modeling of Chiral Catalysis. Part 14. On the Coordination of Carbonyl Compounds to Diaza-, Oxaza- and Dioxaluminolidines of Potential Use as Chiral Controllers in Organic Synthetic Chemistry

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

Syn and *anti* adducts of carbonyl compounds to diaza- (X,Y=NH), oxaza- (X=NH,Y=O) and dioxaluminolidines (X,Y=O) were investigated by means of *ab initio* MO (RHF) methods (H_2C=O as a model of carbonyl compounds). All the *syn* adducts were more stable than the corresponding *anti* ones (all *syn*/*anti* ratios ≥ 99:1, 6-3G//6-31G). The *syn* coordination was favoured most in the case of oxazaaluminolidines. *Syn*/*anti* selectivities of diaza- or dioxaluminolidines were almost equal.

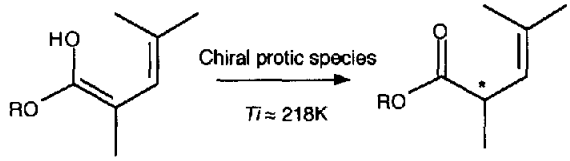


Tetrahedron: Asymmetry **1993**, *4*, 2531

The Isoinversion Principle for the Asymmetric Tautomerization of Photodienols.

J. Muzart, F. Hénin, J.P. Pète, A. M'Boungou-M'Passi. Unité des Réarrangements Thermiques et Photochimiques Associée au C.N.R.S., Université de Reims Champagne-Ardenne, 51062 Reims, France.

The isoinversion temperature of the asymmetric tautomerization of prochiral dienols has been estimated to be -55°C.



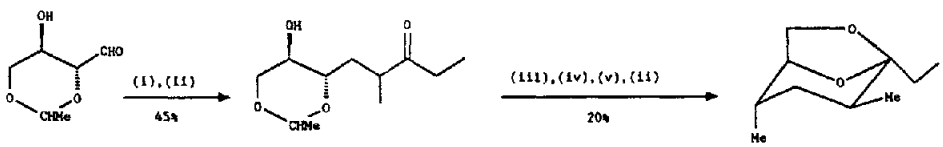
Tetrahedron: Asymmetry **1993**, *4*, 2535

Stereoselective Synthesis of Optically Active (-)-6-Multistriatin From 2,4-O-Ethylidene-D-erythrose

I. Izquierdo, M. Rodríguez, M.-T. Plaza and I. Vallejo

Department of Organic Chemistry, Faculty of Pharmacy

University of Granada, Granada, Spain.



D-erythro-2 (4RS,6S,7R)-5 (1S,2S,4S,5R)-(-)-1

(i) Ph_3P=CMeCOEt; (ii) Pd/C, H_2; (iii) p-TsOH, $MeCHOHCH_2OH$; (iv) PCC; (v) Ph_3P=CH_2