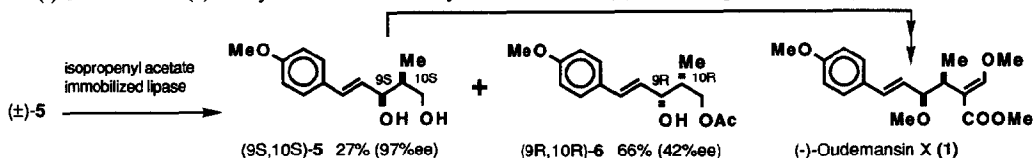


GRAPHICAL ABSTRACTS

Total Synthesis of (-)-Oudemansin X Based on Enzymatic Resolution Using Immobilized Lipase.

Hiroyuki Akita*, Isao Umezawa, Masako Nozawa and Shinji Nagumo, School of Pharmaceutical Science, Toho University, 2-2-1 Miyama, Funabashi, Chiba, 274, Japan

(-)-Oudemansin X (1) was synthesized based on enzymatic resolution of (±)-diol 5 using immobilized lipase.



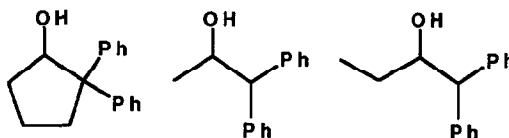
Tetrahedron: Asymmetry 1993, 4, 757

ENZYMATIC RESOLUTION OF HINDERED SECONDARY ALCOHOLS: EFFICIENT ACCESS TO A NEW SIMPLIFIED CHIRAL AUXILIARY

L.R.Randrianasolo-Rakotozafy^a, R.Azerad*^a, F.Dumas^b, D.Potin^b, J.d'Angelo*^b

a) Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques, Université R.Descartes, 45 rue des Saints-Pères, 75270 Paris Cedex 06, France. b) Laboratoire de Chimie Organique, Faculté de Pharmacie, 5 rue J-B Clément, 92296 Châtenay-Malabry Cedex, France

2,2-Diphenylcyclopentanol, an efficient chiral auxiliary, as well as related hindered secondary alcohols, were resolved by enantioselective hydrolysis of their acetate esters with pig liver acetone powder or horse liver acetone powder.



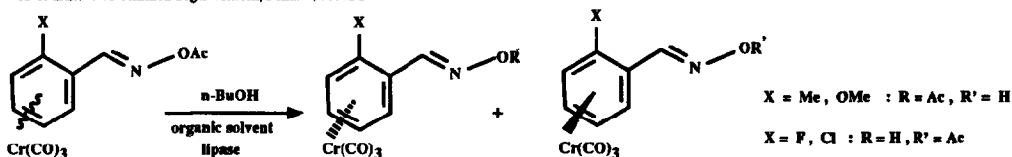
Tetrahedron: Asymmetry 1993, 4, 761

STUDIES ON THE ENZYMATIC RESOLUTION OF CHIRAL TRICARBONYL (BENZALDEHYDE OXIME)CHROMIUM COMPLEXES

C. Baldoli^a, S. Maiorana^a, G. Carrea^b, S. Riva^b

^aCNR- Centro Studio Sintesi Stereochimica Sistemi Organici; Dip. Chimica Organica e Industriale, Università di Milano

^bCNR-Istituto di Chimica degli Ormoni, Milano, ITALY



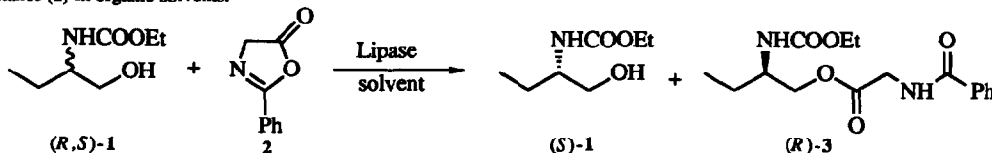
Tetrahedron: Asymmetry 1993, 4, 767

LIPASE CATALYSIS IN ORGANIC SOLVENTS. IN SEARCH OF PRACTICAL DERIVATIZING AGENTS FOR THE KINETIC RESOLUTION OF ALCOHOLS.

H. S. Bevinakatti* and R. V. Newadkar

Alchemie Research Centre, ICI India Limited, Thane-Belapur Road, Thane-400 601, India.

2-Phenylloxazolin-5-one (2) acts as a derivatizing agent in the lipase catalyzed kinetic resolution of N-ethoxycarbonyl-2-amino-1-butanol (1) in organic solvents.



EFFECTS OF CHEMICAL MODIFICATION ON

Tetrahedron: Asymmetry 1993, 4, 777

STERESELECTIVITY OF *Pseudomonas Cepacia* LIPASE.D. Bianchi^{a*}, E. Battistel^a, A. Bosetti^a, P. Cesti and Z. Fekete^b

a) Istituto G. Donegani, ENICHEM, Via Fauser 4 28100 Novara ITALY.

b) Magyar Tudományos Akadémia, Veszprém 8201 HUNGARY.

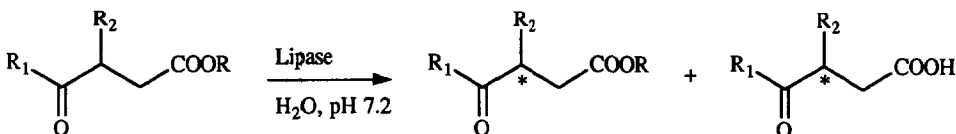
Two chemically modified forms of lipase from *P. Cepacia* were prepared by acylation of the amino groups of the protein. The catalytic activity, the enantioselectivity and the thermal stability of the modified enzyme forms were compared with those of the native form in the hydrolysis of chiral esters.

Enzymatic Resolution of 3-Substituted-4-oxoesters

Tetrahedron: Asymmetry 1993, 4, 783

L. Blanco,* G. Rousseau,* J.-P. Barnier, E. Guibé-Jampel

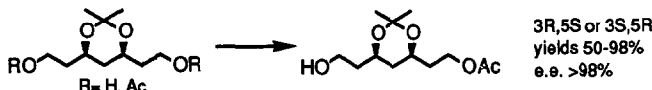
Laboratoire des Carbocycles, ICMO, Bât. 420, Université de Paris-Sud, 91405 Orsay (FRANCE)

ENZYME-CATALYZED DESYMMETRIZATION OF *meso*-SKIPPED POLYOLS TO USEFUL CHIRAL BUILDING BLOCKS

Tetrahedron: Asymmetry 1993, 4, 793

Carlo Bonini*, Rocco Racioppi, Licia Viggiani Dipartimento di Chimica, Università della Basilicata, Via N. Sauro 85, 85100 Potenza, Italy. Giuliana Righi, Leucio Rossi Centro C.N.R. per lo Studio della Chimica delle Sostanze Naturali, c/o Dipartimento di Chimica, Università "La Sapienza", P.le A.Moro 5, 00185 Roma.

The biocatalytic desymmetrization of polyfunctionalized diols in a *meso* form was studied. PFL was found to afford pure enantiomer with opposite absolute configuration. The obtained chiral building block has been utilized for useful synthetic transformations.

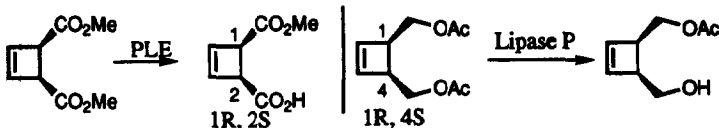
Enzymatic Hydrolysis of *Meso*-cyclobutene Esters.

Tetrahedron: Asymmetry 1993, 4, 807

Ian Harvey and David H.G. Clout.

Department of Chemistry, University of Warwick, Coventry, CV4 7AL.

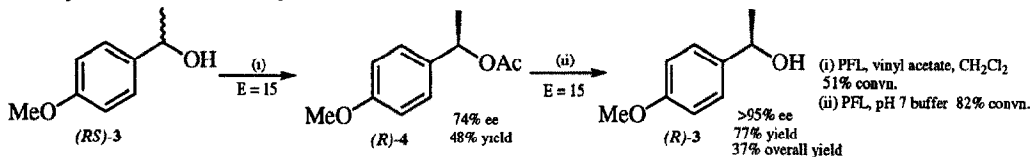
Asymmetrisation of dimethyl *meso*-3-cyclobutene-1,2-dicarboxylate and ((1*R*,4*S*)-4-hydroxymethyl-2-cyclobutenyl)methyl ethanoate.



Kinetic Resolution Strategies II: Enhanced Enantiomeric Excesses and Yields for the Faster Reacting Enantiomer in Lipase Mediated Kinetic Resolutions

S.M. Brown, S.G. Davies and J.A.A. de Sousa

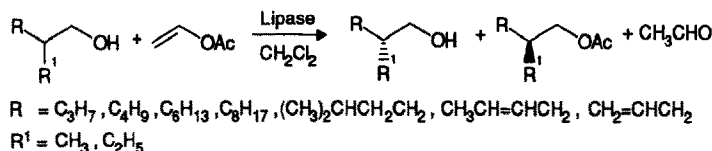
The Dyson Perrins Laboratory, South Parks Road, Oxford OX1 3QY, UK.



LIPASE-CATALYZED RESOLUTION OF RACEMIC 2-ALKYL SUBSTITUTED 1-ALKANOLS

Stefan Barth and Franz Effenberger*, Institut für Organische Chemie, Universität Stuttgart, Germany

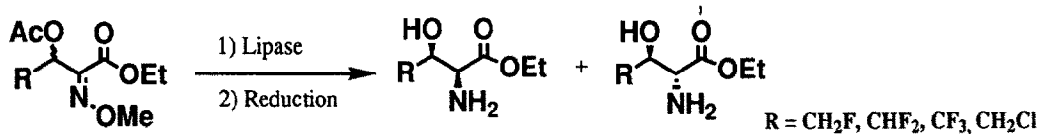
Optically pure (*R*)-2-alkyl-1-alkanols were obtained via lipase-catalyzed transesterification of racemic substrates with vinyl acetate according to the theory of two competing enantiomers. By twofold esterification also the (*S*)-2-alkyl-1-alkanols were received in high optical purity.



Stereodivergent Synthesis of Fluorinated Threonine Derivatives in High Optical Purity

Makoto SHIMIZU, Tetsuya YOKOTA, Kouichi FUJIMORI, and Tamotsu FUJISAWA*

Department of Chemistry for Materials, Mie University, Tsu, Mie 514, Japan

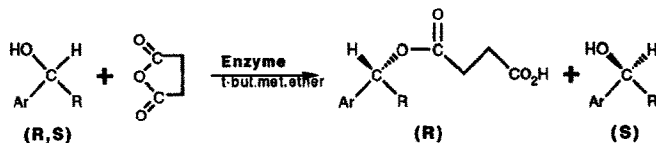


CONVENIENT PRACTICAL RESOLUTION OF RACEMIC ALKYL-ARYL ALCOHOLS VIA ENZYMIC ACYLATION WITH SUCCINIC ANHYDRIDE IN ORGANIC SOLVENTS

Arie L. Gutman,* Dov Brenner and Aviv Boltanski

Department of Chemistry, Technion - Israel Institute of Technology, Haifa 32000, Israel

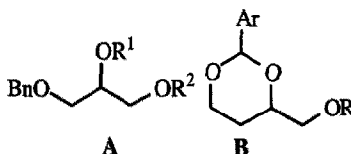
Enantiomerically pure alkyl-aryl secondary alcohols were conveniently obtained on a kilogramme scale by enzymatic acylation with succinic anhydride in organic solvents.



REGIO- AND ENANTIOSELECTIVE ESTERIFICATIONS OF POLYOXYGENATED COMPOUNDS CATALYZED BY LIPASES

Bernardo Herradón,^{a)} Sénida Cueto,^{b)} Anabel Morcuende,^{a)} and Serafín Valverde.^{a)} *a) Instituto de Química Orgánica General, C. S. I. C., C/ Juan de la Cierva 3, 28006 Madrid, Spain. b) Laboratorium für Technische Chemie, Eidgenössische Technische Hochschule, (E. T. H.), Universitätstrasse 6, Zürich, CH-8092, Switzerland.*

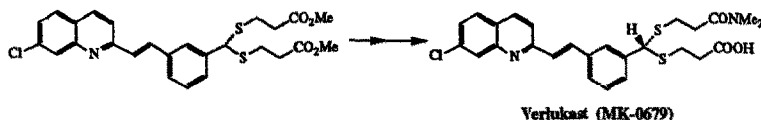
Derivatives of both enantiomers of propane-1,2,3-triol (A) and *cis*-2-aryl-4-hydroxymethyl-1,3-dioxane (B) have been prepared through lipase catalyzed transesterifications.



A PRACTICAL CHEMOENZYMATIC SYNTHESIS OF AN LTD4 ANTAGONIST

D. L. Hughes*, Z. Song, G. B. Smith, J. J. Bergan, G. C. Dezeny, E. J. J. Grabowski, P. J. Reider
Merck Research Laboratories, Box 2000, Rahway, NJ 07065

Enzymatic asymmetric reduction of a prochiral center is the cornerstone of an efficient synthesis of the LTD4 antagonist, MK-0679. Enzyme kinetics and immobilization were studied.

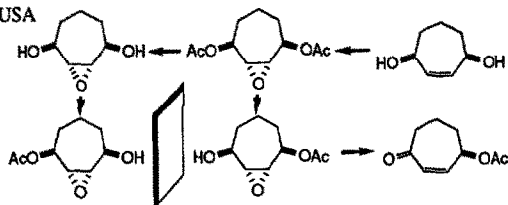


LIPASE ASYMMETRIZATION OF *CIS*-3,7-DIHYDROXYCYCLOHEPTENE DERIVATIVES IN ORGANIC AND AQUEOUS MEDIA

Scott J. Bis, D. Todd Whitaker, and Carl R. Johnson*

Department of Chemistry, Wayne State University, Detroit MI 48202 USA

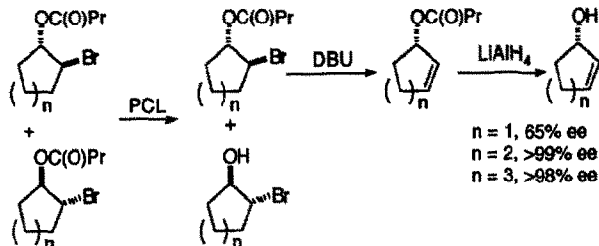
The *meso*-diol and corresponding diacetates of cycloheptene derivatives were subjected to enzymatic asymmetric reductions using lipase from *Pseudomonas cepacia* in organic and aqueous media.



SUBSTRATE MODIFICATION TO INCREASE THE ENANTIOSELECTIVITY OF HYDROLASES. A ROUTE TO OPTICALLY-ACTIVE CYCLIC ALLYLIC ALCOHOLS.

Ajay K. Gupta and Romas J. Kazlauskas,* McGill University, Department of Chemistry, 801 Sherbrooke St. W., Montréal, Québec H3A 2K6 CANADA

trans-2-Bromo-1-(butanoyloxy)cycloalkanes (C₅, C₆, C₇) were resolved with lipase from *Pseudomonas cepacia* and converted to cyclic allylic alcohols.

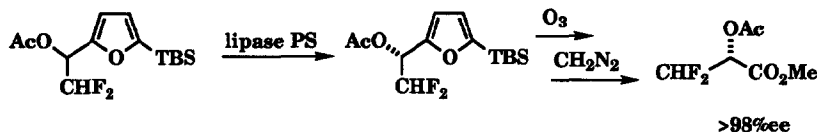


**Asymmetric Synthesis of Both Enantiomers of
Acyloxy Methyl 3,3-Difluorolactate**

Kouichi Murata and Tomoya Kitazume

Department of Bioengineering, Tokyo Institute of Technology
Nagatsuta, Midori-ku, Yokohama 227

Tetrahedron: Asymmetry 1993, 4, 889



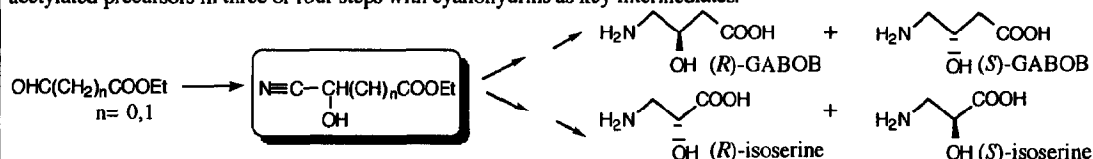
**A SIMPLE TOTAL SYNTHESIS OF NATURALLY
OCCURRING HYDROXY-AMINO ACIDS BY
ENZYMATIC KINETIC RESOLUTION**

Yang Lu, Christine Miet, Nicole Kunesch*, and Jacques E. Poisson, Laboratoire de Chimie des Substances
Thérapeutiques Naturelles

Centre d'Études Pharmaceutiques, 92296 Châtenay-Malabry CEDEX, FRANCE

Both optically pure enantiomers of GABOB and isoserine were obtained by enzymatic kinetic resolution of acetylated precursors in three or four steps with cyanohydrins as key intermediates.

Tetrahedron: Asymmetry 1993, 4, 893

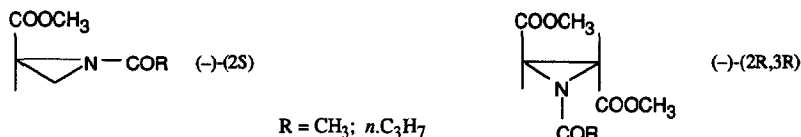


Enzymatic Resolution of Aziridine-Carboxylates.

Maria Bucciarelli, Arrigo Forni, Irene Moretti*, Fabio Prati and Giovanni Torre
Dipartimento di Chimica dell'Università, via Campi, 183, 41100, Modena, Italy.

N-acyl-aziridine-2-carboxylates and N-acyl-aziridine-2,3-dicarboxylates have been resolved with good to excellent stereochemical purity by enzymatic hydrolysis catalyzed by lipase from *Candida cylindracea*.

Tetrahedron: Asymmetry 1993, 4, 903



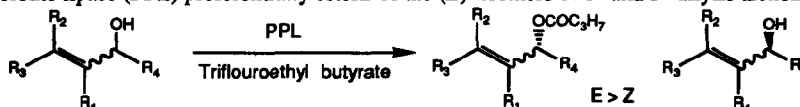
**ENZYME REACTIONS IN APOLAR SOLVENT. 6. THE EFFECT
OF DOUBLE BOND ISOMERISM ON THE RATE OF
PPL-CATALYZED ACYLATION OF ALLYLIC ALCOHOLS**

Brian Morgan ‡* and Allan C. Oehlschlager

Department of Chemistry, Simon Fraser University, Burnaby B.C., Canada V5A 1S6

Tetrahedron: Asymmetry 1993, 4, 907

Pancreatic porcine lipase (PPL) preferentially esterifies the (*E*)- isomers of 1° and 2° allylic alcohols.

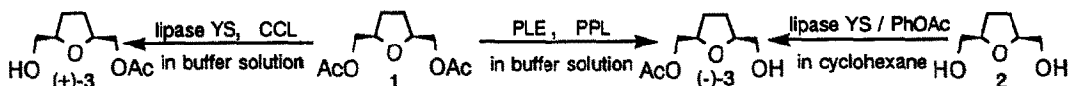


ENZYME-CATALYZED ASYMMETRIC ACYLATION AND HYDROLYSIS OF *cis*-2,5-DISUBSTITUTED TETRAHYDROFURAN DERIVATIVES: CONTRIBUTION TO DEVELOPMENT OF MODELS FOR REACTIONS CATALYZED BY PORCINE LIVER ESTERASE AND PORCINE PANCREATIC LIPASE

Tetrahedron: Asymmetry 1993, 4, 911

Koichiro Naemura,* Ritsuko Fukuda, Nobuo Takahashi, Masayoshi Konishi, Yoshiki Hirose, and Yoshito Tobe
Department of Chemistry, Faculty of Engineering Science, Osaka University, Toyonaka, Osaka 560, Japan

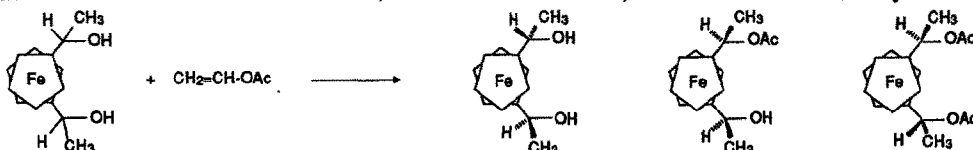
Lipase YS catalyzed acylation of the *cis*-diol 2 in cyclohexane gave the *cis*-monoacetate (-)-3 and PLE, PPL, lipase YS, and CCL catalyzed hydrolyses of the *cis*-diacetate 1 gave also optically active 3.



Separation of Stereoisomeric 1,1'-Bis(α -hydroxyethyl)ferrocenes by Lipase-Mediated Acetylation in Organic Solvent

Tetrahedron: Asymmetry 1993, 4, 919

D. Lambusta, G. Nicolosi,* A. Patti and M. Piattelli
Istituto CNR Studio Sostanze Naturali, Via del Santuario 110, 95028 Valverde CT, Italy



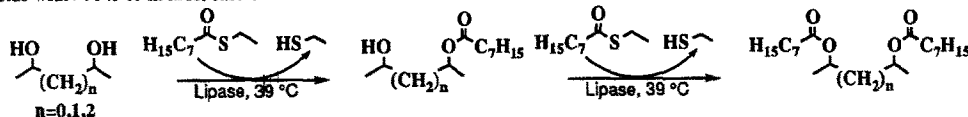
Pseudomonas cepacia lipase in acetone allows the separation of (R,R)-, (S,S)- and (R,S)-isomers of 1,1'-bis(α -hydroxyethyl)ferrocene.

Tetrahedron: Asymmetry 1993, 4, 925

RESOLUTION OF DIOLS WITH C_2 -SYMMETRY BY LIPASE CATALYSED TRANSESTERIFICATION

Anders Mattson¹, Niklas Öhrner², Karl Hult², and Torbjörn Norin¹
Department of Organic Chemistry¹ and Department of Biochemistry and Biotechnology²
Royal Institute of Technology, S-100 44 Stockholm, Sweden

The resolution of diols with C_2 -symmetry by lipase catalyzed transesterification was demonstrated. The diols were obtained in high yields with >99% ee in most cases.

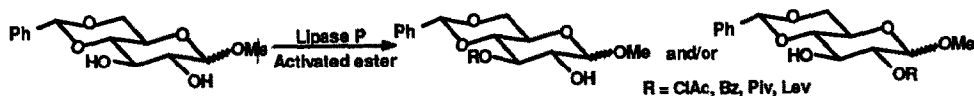


Tetrahedron: Asymmetry 1993, 4, 931

SELECTIVE LIPASE-CATALYZED ACYLATION OF 4,6-O-BENZYLIDENE-D-GLUCOPYRANOSIDES TO SYNTHETICALLY USEFUL ESTERS

Luigi Panza,^a Sara Brasca,^b Sergio Riva^b and Giovanni Russo^a ^aDipartimento di Chimica Organica e Industriale, via Venezian, 21 - 20133 Milano - Italy. ^bIstituto di Chimica degli Ormoni, CNR via Mario Bianco, 9 - 20131 Milano - Italy

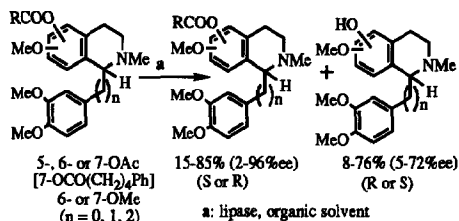
Lipase-catalyzed regioselective acylation of methyl 4,6-*O*-benzylidene- α - and β -D-glucopyranosides is described.



Enzymatic Resolution of Acylates of Prochiral Phenolic 1-Aryl- and 1-Arylalkyl-1,2,3,4-tetrahydroquinolinols, which possess a Guaiaicol-type Moiety, by use of Immobilized Lipase in Organic Solvent

Osamu Hoshino,^a Ruka Tanahashi,^a Mitsuhiro Okada,^a Hiroyuki Akita,^b and Takeshi Oishi^c
 Faculty of Pharm. Sciences, Science University of Tokyo, Shinjuku-ku, Tokyo 162;^a Faculty of Pharm. Sciences, Toho University, Miyama, Funabashi-shi, Chiba 274;^b Meiji College of Pharmacy, Setagaya-ku, Tokyo 154,^c Japan

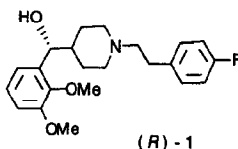
Kinetic resolution using lipase immobilized with celite in organic solvent was carried out.



Immobilization of Substrates in Enzyme-Catalyzed Hydrolysis

Chi-Hsin R. King and Alexey L. Margolin*, Marion Merrell Dow Research Institute, 2110 E. Galbraith Rd., Cincinnati, OH 45215 USA

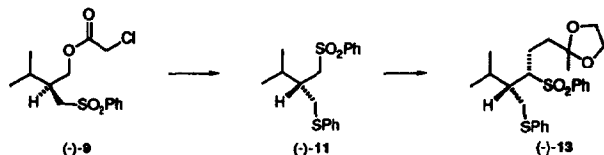
A new technique - immobilization of substrates on solid supports - was applied to the synthesis of a new potent optically pure serotonin receptor antagonist (*R*-1).



An Enzyme-Based Synthesis of (*S*)-(-)-3-Methyl-2-[(phenylsulfonyl)-methyl]butyl Phenyl Sulfide and the Stereochemical Course of its Alkylation

Ronan Guevel and Leo A. Paquette*
 Evans Chemical Laboratories, The Ohio State University, Columbus, Ohio 43210

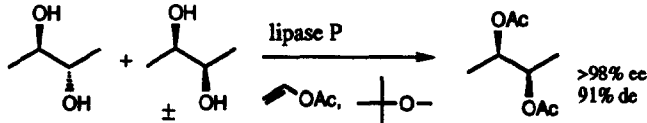
Lipase P-30 hydrolysis of **9** finds the (*S*)-enantiomer to be less reactive. Conversion of this material (>95% e.e.) to (-)-**11** was followed by highly diastereoselective alkylation to give, for example, (-)-**13**.



Diastereo- and Enantioselective Esterification of Butane-2,3-diol Catalysed by the Lipase from *Pseudomonas fluorescens*.

Kirpal S. Bisht and Virinder S. Parmar*
 Department of Chemistry, University of Delhi, Delhi-110 007, India
 David H.G. Crout*
 Department of Chemistry, University of Warwick, Coventry CV4 7AL, U.K.

Enantio- and diastereoselective acetylation of racemic plus meso-butane-2,3-diol.



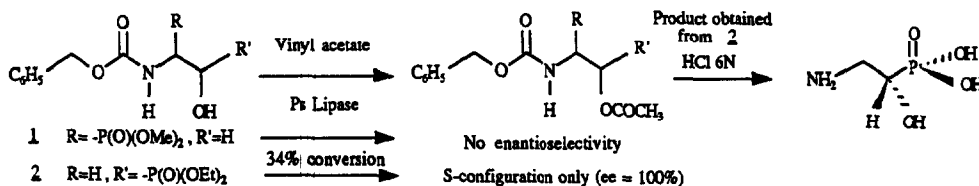
Enzyme catalysed resolution of aminophosphonic acids - I - Serin and Ioserin analogues

Tetrahedron: Asymmetry 1993, 4, 959

A. Heisler^a, C. Rabiller^{a*}, R. Douillard^a, N. Goalou^a, G. Hägele^b and F. Levayer^a

^a Laboratoire de RMN et de Réactivité Chimique, URA CNRS 472, 2 rue de la Houssinière, F-44072 NANTES Cédex 03 (FRANCE)

^b Institut für Anorganische Chemie und Strukturchemie, H. Heine-Universität, Universitätsstraße 1, D-4000 DÜSSELDORF 1 (GERMANY)



Enzymatic Resolution of Bulanoic Esters of 1-Phenylmethyl and 1-[2-Phenylethyl] Ethers of 3-Chloro-1,2-Propanediol

Tetrahedron: Asymmetry 1993, 4, 961

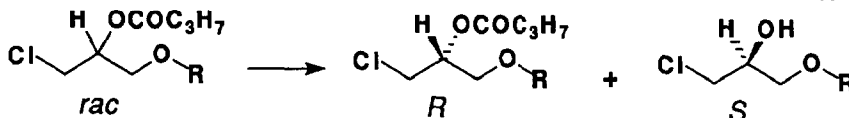
Vassilia Partali¹, Viggo Waagen¹, Thor Alvik² and Thorleif Anthonson¹

¹ Department of Chemistry, The University of Trondheim, N-7055 Dragvoll, Norway

² Borregaard Fine Chemicals, P.O. Box 256, N-1701 Sarpsborg, Norway

R = CH₂Ph, E=15

R = CH₂CH₂Ph, E=25



ENZYME - CATALYSED ESTERIFICATION OF

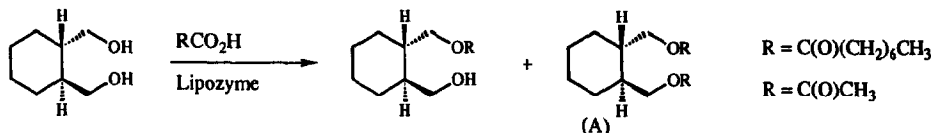
(±) - TRANS - CYCLOHEXANE - 1,2 - DIMETHANOL.

Stanley M. Roberts¹, Veronique G. R. Steukers¹ and Philip L. Taylor²

¹Department of Chemistry, University of Exeter, Exeter EX4 4QD, Devon, UK, ²Research Department, ICI Paints Division, Wexham Road, Slough SL2 5DS, UK

Tetrahedron: Asymmetry 1993, 4, 969

A Lipozyme catalysed esterification process produced diester (A) in ca 83% ee.

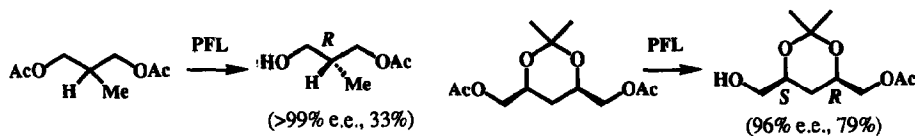


SYNTHESIS OF CHIRAL BUILDING BLOCKS USING PSEUDOMONAS FLUORESCENS LIPASE CATALYZED ASYMMETRIC HYDROLYSIS OF MESO DIACETATES

Zhuo-Feng Xie, Hiroshi Suemune and Kiyoshi Sakai*

Faculty of Pharmaceutical Sciences, Kyushu University, Fukuoka 812, Japan

Tetrahedron: Asymmetry 1993, 4, 973



**Highly Asymmetric Enzymatic Hydrolysis and
Transesterification of *meso*-Bis(acetoxymethyl)-
and Bis(hydroxymethyl)cyclopentane Derivatives:**

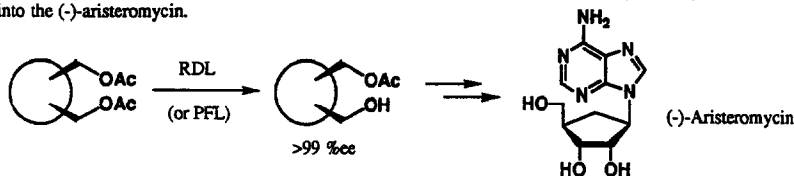
An Insight into the active Site Model of *Rhizopus Delemar* Lipase

Masakazu Tanaka, Miki Yoshioka, and Kiyoshi Sakai*

Faculty of Pharmaceutical Sciences, Kyushu University, Fukuoka 812, Japan

Tetrahedron: Asymmetry 1993, 4, 981

RDL- or PFL-catalysed hydrolysis of *meso*-diacetate afforded the chiral monoacetate (>99 %ee), which was converted into the (-)-aristeromycin.



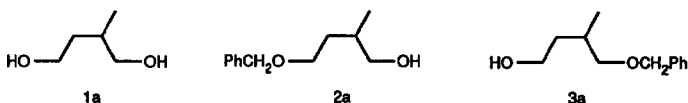
**STUDIES ON THE ENANTIOSELECTIVITY OF
THE TRANSESTERIFICATION OF 2-METHYL-1,4-BUTANEDIOL AND ITS DERIVATIVES
CATALYZED BY *Pseudomonas fluorescens* LIPASE IN ORGANIC SOLVENTS.**

*P. Grisenti, P. Ferraboschi, S. Casati, E. Santaniello**

Dipartimento di Chimica e Biochimica Medica, Università di Milano, 50-I-20133, Milano, Italy

Tetrahedron: Asymmetry 1993, 4, 997

The irreversible transesterification catalyzed by *Pseudomonas fluorescens* lipase has been used for the resolution of racemic 2-methyl-1,4-butanediol **1a** and its benzyl ethers **2a** and **3a**, the best ee having been obtained for **2a** (>98%).

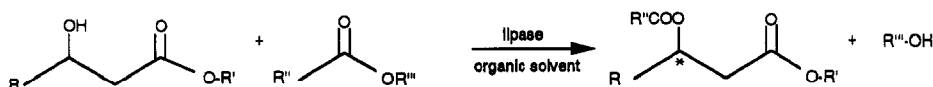


**Factors affecting the lipase catalyzed transesterifi-
cation reactions of 3-hydroxy esters in organic**

solvents. Uwe Bornscheuer, Nagoya University, Dept. of Food Science and Technology, Furo-cho, Chikusa-ku, Nagoya 464-01, Japan, Andrea Herar, Lars Kreys, Volker Wendel, Andreas Capewell, Inst. Tech. Chem. Callinstr. 3, 3000 Hannover 1, Germany, Hartmut H. Meyer, Inst. Org. Chem., Schneiderberg 1B, 3000 Hannover 1, Germany, Thomas Schepfer*, Inst. Biochem. Abt. Biotechnologie, Universität Münster, Wilhelm-Klemm-Str. 2, 4400 Münster, Germany, Fragiskos N. Kolisis, Dept. Chem. Eng., National Technical University of Athens, Zographou Campus, 15700 Athens, Greece.

The enantioselectivity of transesterification reactions with 3-hydroxy esters in several organic solvents could be influenced and changed by solvent, lipase and acylating agent. Reactions were also performed at controlled pH, water content and water activity. Kinetic studies were performed in the optimized system resulting in substrate inhibition caused by an excess of vinyl acetate and the slow reacting enantiomer of the racemic 3-hydroxy ester.

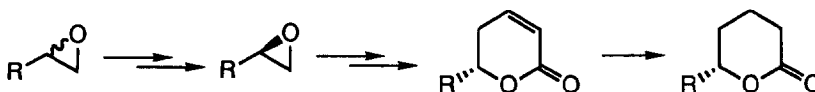
Tetrahedron: Asymmetry 1993, 4, 1007



**Enzyme Assisted Synthesis of Enantiomerically Pure
 δ -Lactones**

Bernhard Haase and Manfred P. Schneider*, FB 9 - Bergische Universität-GH-Wuppertal, D-5600 Wuppertal 1, Germany

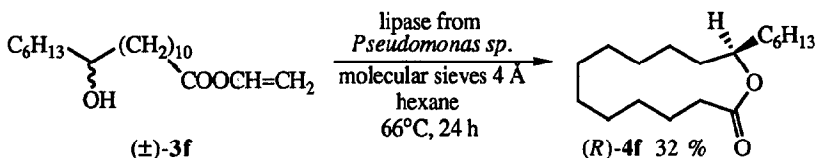
Tetrahedron: Asymmetry 1993, 4, 1017



Lipase Catalyzed Formation of Lactones via Irreversible Intramolecular Acyltransfer

Tetrahedron: Asymmetry 1993, 4, 1027

Mario Lobell and Manfred P. Schneider*, FB 9 - Bergische Universität-GH-Wuppertal, W-5600 Wuppertal 1, Germany



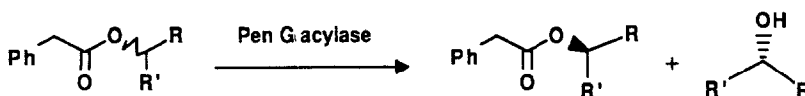
Pen G Acylase Catalyzed Resolution of Phenylacetate Esters of Secondary Alcohols.

Tetrahedron: Asymmetry 1993, 4, 1031

E. Baldaro[§], P. D'Arrigo, G. Pedrocchi-Fantoni, C.M. Rosell[#], S. Servi
A. Tagliani and M. Terreni.

Dipartimento di Chimica, Politecnico di Milano, Italy, [§] Recordati, S.p.A. De.Bi.Milano, Italy,

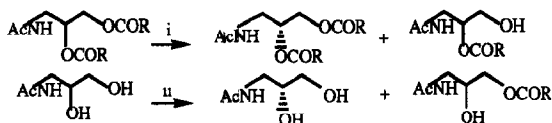
[#]Instituto de Catalisis y Petrolquímica, Madrid, Spain.



Enzymatic resolutions in 3-amino-1,2-propanediol series

M.-A. Mbappé and S. Sicsic

Biois-CNRS, Faculté de pharmacie, Chatenay-Malabry, 92296, France



i: hydrolysis with E30000, ii: acylation with beef liver acetone powder

The resolution of 3-amino-1,2-propanediol derivatives has been carried out by way of enzymatic catalysed hydrolyses or acylations.

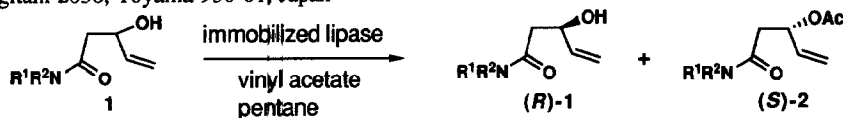
Tetrahedron: Asymmetry 1993, 4, 1041

Enzymatic Resolution of *N,N*-Dialkyl-3-hydroxy-4-pentenamides, Unsuccessful in Resolution by the Katsuki-Sharpless Asymmetric Epoxidation

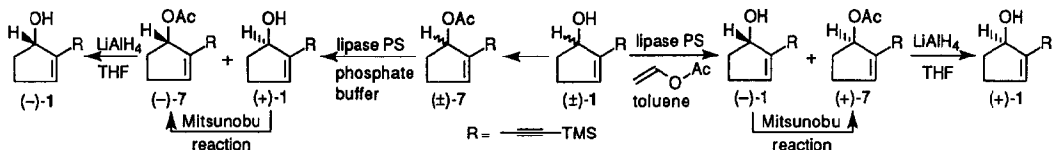
Hiroki Takahata,* Yasuhiro Uchida, Yoshie Ohkawa, and Takefumi Momose*

Faculty of Pharmaceutical Sciences, Toyama Medical & Pharmaceutical University,

Sugitani 2630, Toyama 930-01, Japan



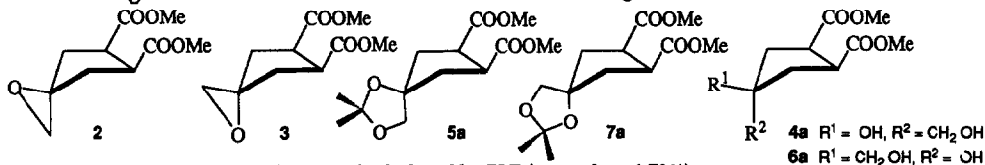
Enantiocomplementary Preparation of Optically Pure 2-Trimethylsilylethynyl-2-cyclopentenol by Homochiralization of Racemic Precursors: A New Route to the Key Intermediate of 1,25-Dihydroxycholecalciferol and Vincamine
 Seiichi Takano,* Mahito Suzuki, and Kunio Ogasawara
 Pharmaceutical Institute, Tohoku University, Aobayama, Sendai 980, Japan



STEREOSELECTIVE HYDROLYSIS of SUBSTITUTED CYCLOPENTANE DIESTERS with PIG LIVER ESTERASE (PLE).

Peter Renold and Christoph Tamm

Institut für Organische Chemie der Universität Basel, St. Johannis-Ring 19, CH-4056 Basel, Switzerland

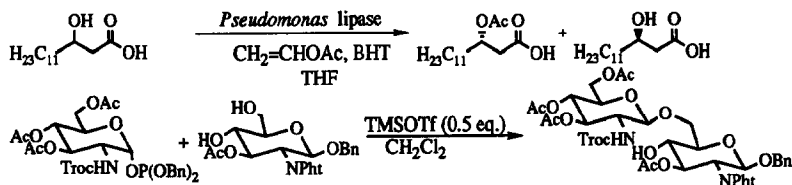


Compounds 2, 3, 4a, 5a, 6a and 7a were hydrolysed by PLE (e. e. values 6-73%).

TOWARDS THE CHEMOENZYMATIC SYNTHESIS OF

LIPID A Takeshi Sugai, Helena Ritzén and Chi-Huey Wong*

10 666 N. Torrey Pines Rd., La Jolla, CA 92 037 USA

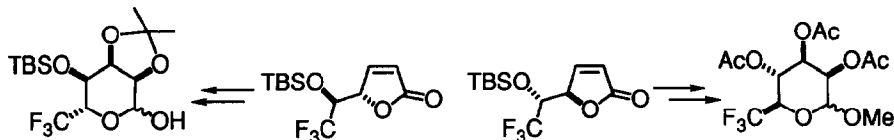


Lipase-catalyzed resolution of 3-hydroxytetradecanoic acid and glycosylation using glucosyl phosphite as reagent.

Preparation of 6-Deoxy-6,6,6-trifluoro-D-mannose and D-Allose from Enzymatically Resolved 2-Butenolides

Takashi Yamazaki,* Kenji Mizutani, and Tomoya Kitazume*

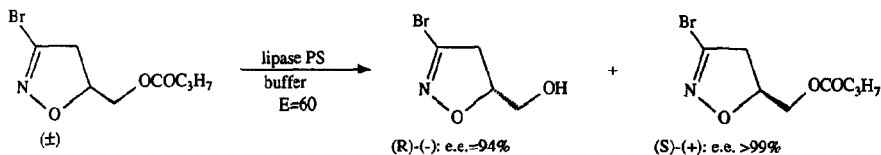
Department of Bioengineering, Tokyo Institute of Technology, Nagatsuta, Midori-ku, Yokohama 227, Japan



NITRILE OXIDES IN MEDICINAL CHEMISTRY. 5. LIPASE PS-CATALYZED RESOLUTION OF A SET OF HETEROCYCLIC DERIVATIVES.

Tetrahedron: Asymmetry **1993**, *4*, 1063

Giacomo Carrea,* Paola Liverani, Sergio Riva, Istituto di Chimica degli Ormoni, C.N.R. - Via Mario Bianco,9 - 20131 MILANO (Italy)
Marco De Amici, Carlo De Micheli, Marta Carnielli, Dipartimento di Scienze Farmaceutiche, Università di Trieste, 34127 TRIESTE (Italy).



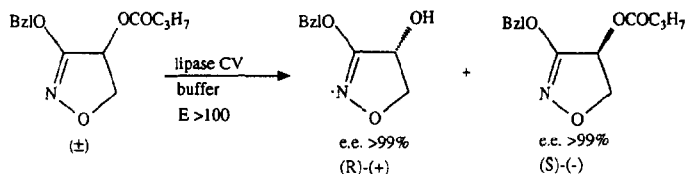
Lipase from *Pseudomonas cepacia* (lipase PS) catalyzed the hydrolysis of a series of butyrates of primary alcohols carrying a Δ^2 -isoxazolinone or an isoxazolidin-3-one nucleus.

CHEMOENZYMATIC SYNTHESIS OF ACETYL (R)-(+)- AND (S)-(-)-CYCLOSERINE

Tetrahedron: Asymmetry **1993**, *4*, 1073

Marco De Amici, Carlo De Micheli,* Francesca Cateni, Dipartimento di Scienze Farmaceutiche, Università di Trieste, 34127 TRIESTE (Italy).

Giacomo Carrea, Gianluca Otolina, Istituto di Chimica degli Ormoni, C.N.R. - Via Mario Bianco,9 - 20131 Milano (Italy).



The two enantiomers of acetyl cycloserine were prepared in e.e. >98% through the hydrolysis of 3-benzyloxy-4-hydroxy- Δ^2 -isoxazolinone butyrate under the catalysis of lipase from *Chromobacterium viscosum*. The reaction spontaneously stopped at 50% conversion of the substrate.