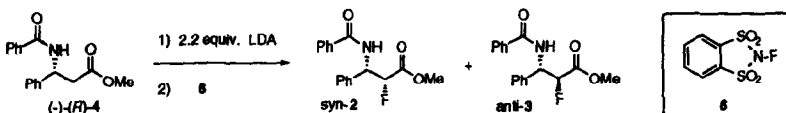


GRAPHICAL ABSTRACTS

Synthesis of (2*R*, 3*S*)-Methyl-2-fluoro-3-(*N*-benzoylamino)-3-phenylpropanoate: Modified Side Chain of Taxol

Franklin A. Davis* and Rajarathnam E. Reddy, Department of Chemistry, Drexel University, Philadelphia, PA 19104

Methyl-2-fluoro-3-(*N*-benzoylamino)-3-phenylpropanoate **2** and **3**, fluorine analogs of the C-13 side chain of taxol, were synthesized by electrophilic fluorination of the dianion of methyl (*R*)-(-)-(*N*-benzoyl)-3-amino-3-phenylpropanoate (**4**) with NFOBS **6**.

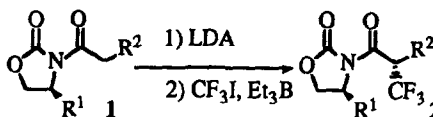


Tetrahedron: Asymmetry **1994**, *5*, 955

DIASTERESELECTIVE TRIFLUOROMETHYLATION OF CHIRAL IMIDE ENOLATES WITH IODOTRIFLUOROMETHANE MEDIATED BY TRIETHYLBORANE

Katsuhiko Iseki,* Takabumi Nagai and Yoshiro Kobayashi*, MEC Laboratory, Daikin Industries, Ltd., Miyukigaoka, Tsukuba, Ibaraki 305, Japan

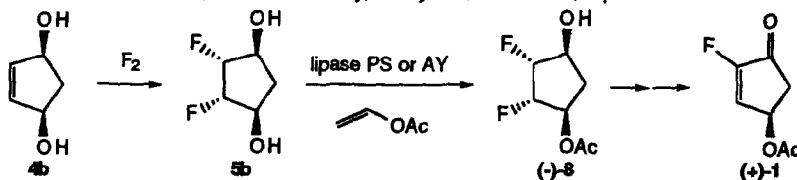
The trifluoromethylation of lithium enolates of chiral imides **1** with iodotrifluoromethane mediated by triethylborane proceeds with good diastereomeric excess.



Tetrahedron: Asymmetry **1994**, *5*, 961

SYNTHESIS OF ENANTIOMERICALLY PURE 4-ACETOXY-2-FLUORO-2-CYCLOPENTEN-1-ONE. Masayuki Sato,* Taiko Hirokawa, Hanae Hattori, Akemi Toyota, and Chikara Kaneko

Pharmaceutical Institute, Tohoku University, Aobayama, Sendai 980, Japan

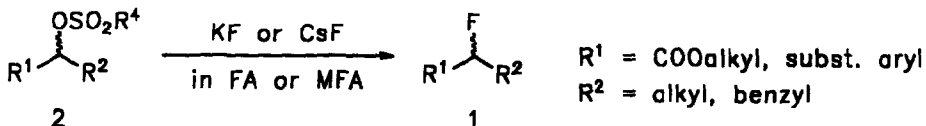


Tetrahedron: Asymmetry **1994**, *5*, 975

Alkali Metal Fluorides as Efficient Fluorinating Agents. Enantiocontrolled Synthesis of 2-Fluoroalkyl Carboxylates and 1-Fluoroalkyl Benzenes

Elke Fritz-Langhals, Consortium für Elektrochemische Industrie GmbH, Central Research Company of Wacker-Chemie GmbH, Zielstattstraße 20, D-81379 München, Germany

The high fluorination potential of KF and CsF in formamide (FA) and *N*-methylformamide (MFA) is used to convert **2** into **1** in high optical yield.



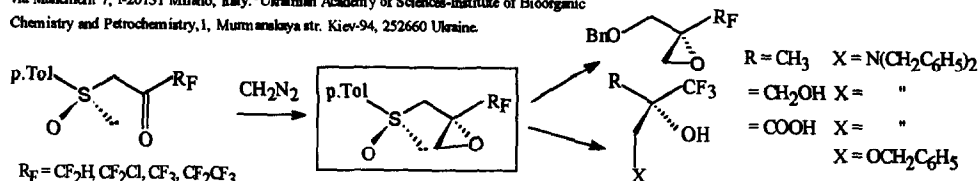
Tetrahedron: Asymmetry **1994**, *5*, 981

New Fluorinated Chiral Synthons

Tetrahedron: Asymmetry **1994**, *5*, 987

P. Bravo^a, A. Farina^a, M. Frigerio^a, S.V. Meille^a, V. Soloshonok^b and F. Viani^a

^aC.N.R.-Centro Studio Sostanze Organiche Naturali, Dipartimento di Chimica Politecnico di Milano, via Mancinelli 7, I-20131 Milano, Italy. ^bUkrainian Academy of Sciences-Institute of Bioorganic Chemistry and Petrochemistry, 1, Murmanskaya str. Kiev-94, 252660 Ukraine.



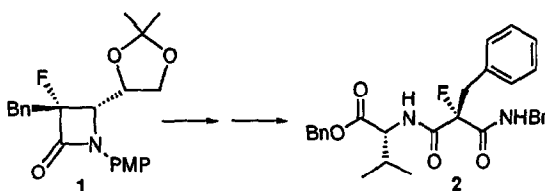
Optically Active Fluorinated β -Lactam Building Blocks:

Tetrahedron: Asymmetry **1994**, *5*, 1005

A Novel Fluorinated Retroamide Isostere.

Ahmed Abouabdellah and John T. Welch
State University of New York at Albany

The synthesis of optically active α -fluoromalonamide derivatives such as **2** from enantiomerically pure (3*R*)-3-benzyl-3-fluoro-2-azetidinone **1** is described.

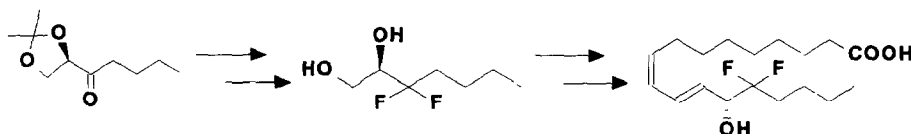


Stereoselective synthesis of 14,14-difluorocoriolic acid

Tetrahedron: Asymmetry **1994**, *5*, 1015

Andrew M. Kornilov, Alexander E. Sorochinsky, Valery P. Kukhar

Institute of Bioorganic Chemistry and Petrochemistry, Academy of Sciences, Kiev, Ukraine.



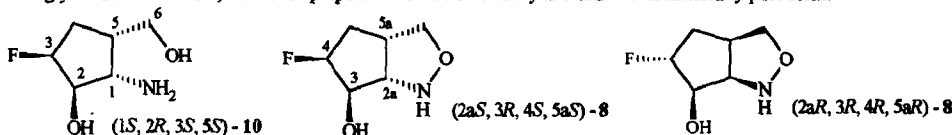
Treatment of (R)-1,2-dihydroxyheptan-3-one 1,2-acetonide (prepared from D-glyceraldehyde acetonide) with DAST followed by acidic hydrolysis of acetonide protection afforded (R)-3,3-difluoro-1,2-dihydroxyheptane, which was converted to (R)-14,14-difluorocoriolic acid.

An Enantiospecific Entry to Fluoro Substituted Aminocyclopentanols through Intramolecular Nitrile Oxide, Nitron, and Oxime Cycloaddition Reactions

Tetrahedron: Asymmetry **1994**, *5*, 1019

Alberto Arnone, Marcello Cavicchioli, Alessandro Donadelli, Giuseppe Resnati^{*} - C.N.R.-Centro Studio Sostanze Organiche Naturali, Dipartimento Chimica, Politecnico, 7 via Mancinelli, I-20131 Milano, Italy

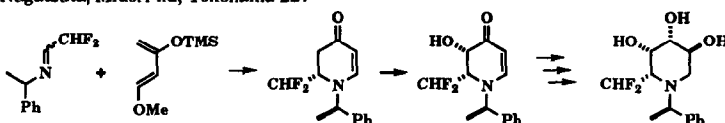
2-Hydroxy-3-fluoro-5-hydroxymethylcyclopentyl amine **10** and corresponding cyclic analogues **8**, which are structurally similar to some glycosidase inhibitors, have been prepared in enantiomerically and diastereoisomerically pure form.



**A HIGHLY STEREOCONTROLLED SYNTHETIC
APPROACH TO 1,8-DIDEOXY-6,6-DIFLUOROSUGAR**

Tetrahedron: Asymmetry **1994**, 5, 1029

DERIVATIVES. Tomoya Kitazume^{*}, Kouichi Murata, Akiko Okabe, Youichiro Takahashi, and Takashi Yamazaki, Department of Bioengineering, Tokyo Institute of Technology Nagatsuta, Midori-ku, Yokohama 227

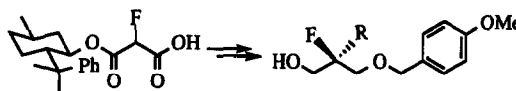


Enantiocontrolled Synthesis of Chiral Propane-1,3-diol Derivatives Possessing Fluorinated Quaternary Stereogenic Centers

Tetrahedron: Asymmetry **1994**, 5, 1041

Masataka Ihara, Tatsuo Kawabuchi, Yuji Tokunaga and Keiichiro Fukumoto
Pharmaceutical Institute, Tohoku University, Aobayama, Sendai 980, Japan

Chiral propane-1,3-diols possessing fluorine atom at the C2 position were synthesized through diastereoselective alkylation of 8-phenylmenthyl hydrogen fluoromalonate.



**Asymmetric Synthesis of α -Trifluoromethyl Substituted Aminoacids
via 3-Hydroxy-3-trifluoromethyl-2,5-diketopiperazines**

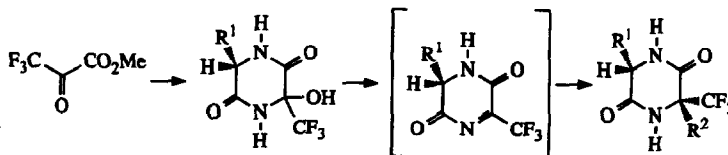
Tetrahedron: Asymmetry **1994**, 5, 1051

Norbert Sewald^a, Liza C. Seymour^a, Klaus Burger^a, Sergey N. Osipov^b, Alexey F. Kolomiets^b, and Alexander V. Fokin^b

^a Technical University Munich, Organic Chemistry Department, Lichtenbergstr. 4, D-85747 Garching, FRG;

^b Russian Academy of Sciences, INEOS, Vavilov Str. 28, GSP-1, V-334, RUS-117813 Moscow, Russia

The diastereoselective reaction of organo-metallic compounds (R^2MgX , R^2_2Cd) with *in situ* generated trifluoromethyl substituted cyclic acyl imines gives 3-alkyl-3-trifluoromethyl-2,5-diketopiperazines. The corresponding homochiral dipeptide esters are obtained on acidolysis in methanol.

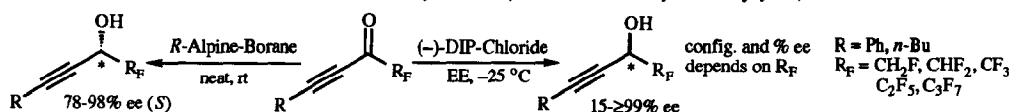


**Selective Reductions. 52. Efficient Asymmetric Reduction
of α -Acetylenic α' -Fluoroalkyl Ketones with Either *B*-Chloro-
disopinocampheylborane or *B*-Isopinocampheyl-9-borabicyclo[3.3.1]nonane
in High Enantiomeric Purity. The Influence of Fluoro Groups in Such Reductions**

Tetrahedron: Asymmetry **1994**, 5, 1061

P. V. Ramachandran, Baoqing Gong, Aleksandar V. Teodorovic and Herbert C. Brown

Herbert C. Brown and R. B. Wetherill Laboratories of Chemistry, Purdue University, West Lafayette, IN 47907-1393

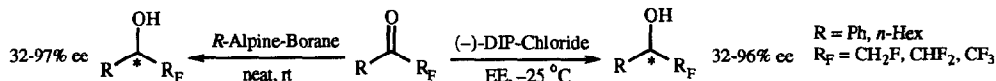


Selective Reductions. 53. Asymmetric Reduction of α -Fluoroalkyl Ketones with *B*-Chlorodisopinocampheylborane and *B*-Isopinocampheyl-9-borabicyclo[3.3.1]nonane. Combined Electronic and Steric Contributions to the Enantiocontrol Process

Tetrahedron: Asymmetry **1994**, 5, 1075

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

A systematic study of the asymmetric reduction of aryl and alkyl fluoroalkyl ketones with DIP-Chloride and Alpine-Borane reveals the influence of the fluorine atom on the % ee and configuration of products.



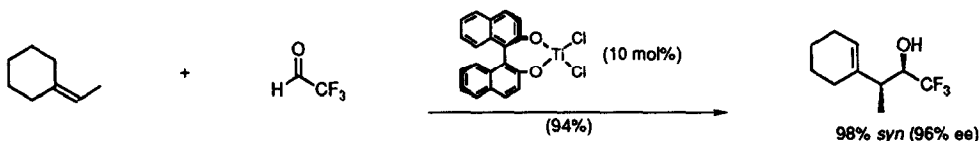
Diastereoselective and Enantioselective Catalysis of the Carbonyl-Ene Reaction with Fluoral

Tetrahedron: Asymmetry **1994**, 5, 1087

Koichi Mikami,* Tomoko Yajima, Masahiro Terada, Etsuko Kato† and Masamichi Maruta†

Department of Chemical Technology, Tokyo Institute of Technology, Meguro-ku, Tokyo 152, Japan

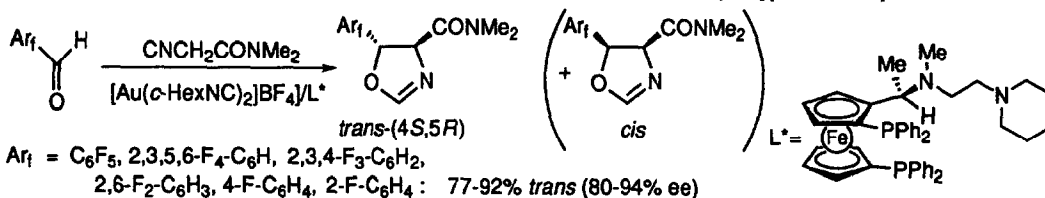
†Tokyo Research Center, Central Glass Co. Ltd., Kawagoe, Saitama 350-11, Japan



Gold(I)-Catalyzed Asymmetric Aldol Reactions of Fluorinated Benzaldehydes with an α -Isocyanoacetamide

Tetrahedron: Asymmetry **1994**, 5, 1091

V. A. Soloshonok and T. Hayashi,* *Catalysis Research Center, Hokkaido University, Sapporo 060, Japan*



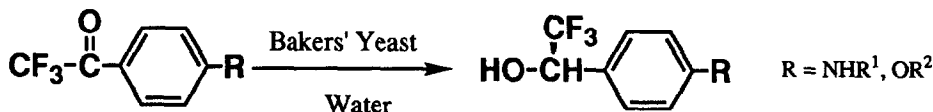
The use of *N,N*-dimethyl- α -isocyanoacetamide instead of methyl α -isocyanoacetate was found to improve both diastereo- and enantioselectivity in the formation of *trans*-oxazolines.

Highly Stereocontrolled Access to Trifluoromethylbenzylic Alcohols Possessing *p*-Substituents by the Baker's Yeast Reduction

Tetrahedron: Asymmetry **1994**, 5, 1095

Tamotsu FUJISAWA,* Tetsuya SUGIMOTO, and Makoto SHIMIZU

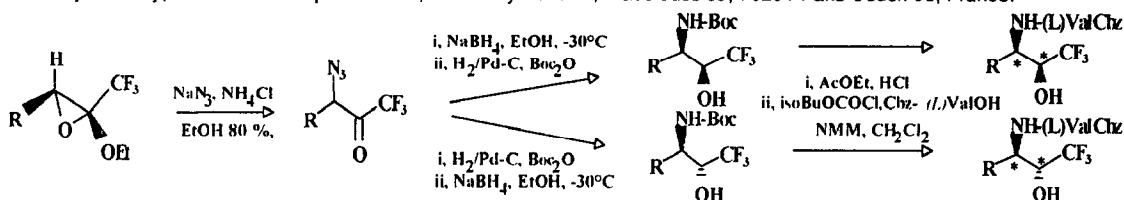
Department of Chemistry for Materials, Mie University, Tsu, Mie 514, Japan



**STERESELECTIVE SYNTHESIS AND INHIBITOR PROPERTIES
TOWARDS HUMAN LEUCOCYTE ELASTASE OF CHIRAL
β-PEPTIDYL TRIFLUOROMETHYL ALCOHOLS**

Tetrahedron: Asymmetry **1994**, *5*, 1099

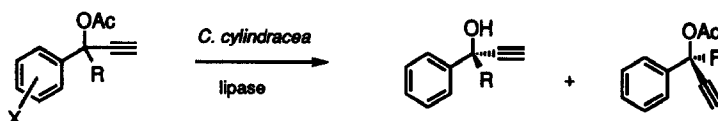
J.P. Bégue, * D. Bonnet-Delpon, N. Fischer-Durand, M. Reboud and A. Amour. BioCIS-CNRS, Faculté de Pharmacie, 92296 Châtenay-Malabry, and Institut Jacques Monod, University Paris VI, Place Jussieu, 75251 Paris Cedex 05, France.



**The Resolution of Tertiary α-Acetylene- Acetate Esters
by the Lipase from *Candida Cylindracea*.**

Tetrahedron: Asymmetry **1994**, *5*, 1111

David O'Hagan* and Naveed A. Zaidi. University of Durham, Department of Chemistry, Science Laboratories, South Road, Durham, DH1 3LE.



R = Me, Et; X = F, CF₃, NO₂

Biocatalytic Resolution of β-Fluoroalkyl-β-Amino Acids

Tetrahedron: Asymmetry **1994**, *5*, 1119

V. A. Soloshonok,* *Catalysis Research Center, Hokkaido University, Sapporo 060, Japan*; A. G. Kirilenko, N. A. Fokina, I. P. Shishkina, S. V. Galushko and V. P. Kukhar, *Institute of Bioorganic Chemistry and Petrochemistry, Ukrainian Academy of Sciences, Kiev 253160, Ukraine*; V. K. Švedas* and E. V. Kozlova, *A. N. Belozersky Institute of Physical-Chemical Biology, Moscow State University, Moscow 119899, Russia*.

Biocatalytic resolution of β-fluoroalkyl-β-amino acids was achieved via Penicilline acylase-catalyzed hydrolysis of corresponding *N*-phenylacetyl derivatives

