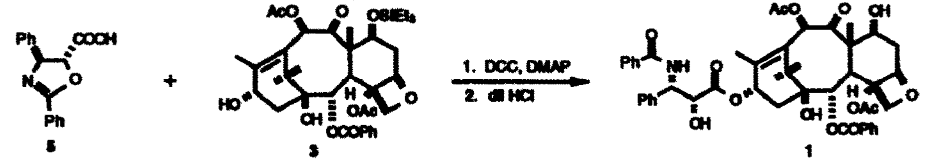
GRAPHICAL ABSTRACTS

Tetrahedron Letters, **1994**, *35*, 4483

SYNTHESIS OF TAXOL FROM BACCATIN III VIA AN OXAZOLINE INTERMEDIATE.

David G. I. Kingston, Ashok G. Chaudhary, A. A. Leslie Gunatilaka, and Mark L. Middleton, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061-0212



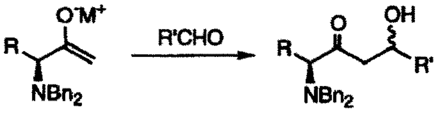
Taxol (1) can be prepared in good yield by coupling the oxazoline carboxylic acid 5 with 7-(triethylsilyl)baccatin III (3), followed by hydrolysis. The oxazolines 7 and 8 can also be prepared directly from taxol.

Tetrahedron Letters, **1994**, *35*, 4485

Surprisingly High Diastereoselection in the Aldol Reactions of Sodium Enolates of α-Amino Methyl Ketones

Bharat R. Lagu and Dennis C. Liotta*
Department of Chemistry, Emory University, Atlanta, GA 30322.

Kinetic enolates of a number of α-(N,N-dibenzyl)amino methyl ketones were allowed to react with a variety of aldehydes. High diastereoselectivity was observed for Na-enolates compared to their lithium counterparts.



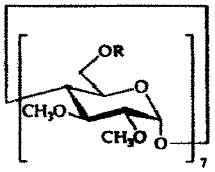
M= Li : 35->96% d.e.
M= Na : 80->96% d.e.

Tetrahedron Letters, **1994**, *35*, 4489

SYNTHESIS AND PER-FUNCTIONALIZATION OF HEPTAKIS(6-O-CARBOXYMETHYL-2,3-DI-O-METHYL)CYCLOMALTOHEPTAOSE.

Karin S. Åkerfeldt[1]* and William F. DeGrado[2]*
[1]Department of Chemistry, Rutgers University, Camden, NJ 08102, USA.
[2]DuPont Merck Pharmaceuticals, Experimental Station, Wilmington, DE 19880-0328, USA.

We describe the synthesis and characterization of the β–cyclodextrin derivatives 3C, 5, and 7.



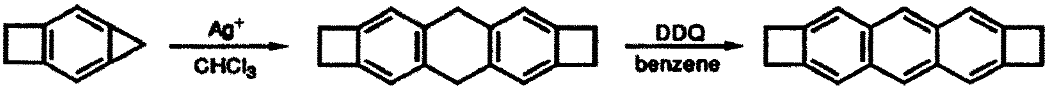
3C R = CH_2-COOH
5 R = CH_2-CONH-Trp-OCH_3
7 R = CH_2-CONH-(WSLSLSL)-$CONH_2$

Tetrahedron Letters, **1994**, *35*, 4493

DIMERIZATION OF CYCLOPROPARENES BY SILVER ION.

W. E. Billups*, Dianne J. McCord and Bob R. Maughon,
Department of Chemistry, Rice University, Houston, TX 77251 USA

Abstract: Cycloproparenes react with silver ion in chloroform to yield dimers which can be aromatized by dichlorodicyanoquinone in benzene to give the corresponding acene.

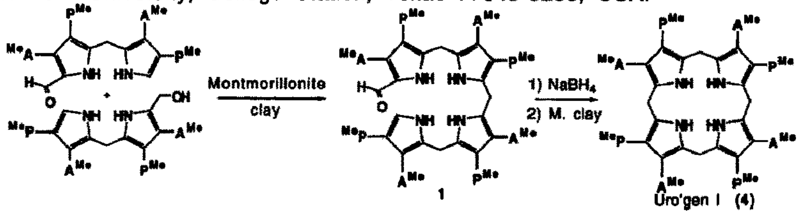


Tetrahedron Letters, **1994**, *35*, 4497

Use of Montmorillonite Clay for the Synthesis of Linear Tetrapyrroles and their Cyclization to Uroporphyrinogens.

Clotilde Pichon and A. Ian Scott*. Center for Biological NMR, Department of Chemistry, Texas A&M University, College Station, Texas 77843-3255, USA.

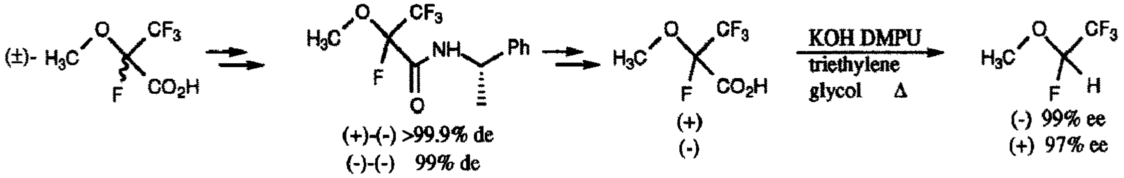
Several linear tetrapyrroles and Uroporphyrinogens have been prepared using Montmorillonite clay as a mild acid catalyst.



Tetrahedron Letters, **1994**, *35*, 4501

ASYMMETRIC PREPARATION OF 1,2,2,2-TETRAFLUOROETHYL METHYL ETHER, AN INTERMEDIATE IN THE SYNTHESIS OF VOLATILE ANESTHETICS

Leonid A. Rozov, Keith Ramig,* Ohmeda Inc., Pharmaceutical Products Division, 100 Mountain Ave., Murray Hill, NJ 07974

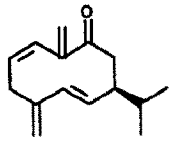


Tetrahedron Letters, **1994**, *35*, 4505

PERIPLANONE TOTAL SYNTHESIS via INTRAMOLECULAR PINACOL COUPLING

John E. McMurry and Nathan O. Siemers
Department of Chemistry, Baker Laboratory, Cornell University, Ithaca, NY 14853

We have carried out an enantioselective synthesis of (–)-periplanone C using a titanium-induced intramolecular pinacol coupling reaction of a 1,10 keto aldehyde as the key step. The coupling occurs with predictable stereochemistry.



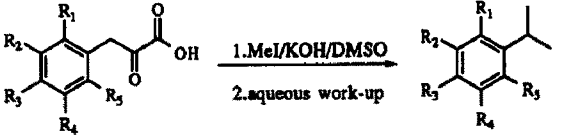
Periplanone C

Tetrahedron Letters, **1994**, *35*, 4509

AN EXPEDIENT SYNTHESIS OF ISOPROPYL ANISOLES AND VERATROLES.

Jari T. Yli-Kauhaluoma and Kim D. Janda*,
The Scripps Research Institute, The Departments of Molecular Biology and Chemistry, MB-20, 10666 North Torrey Pines Road, La Jolla, California 92037, U. S. A.

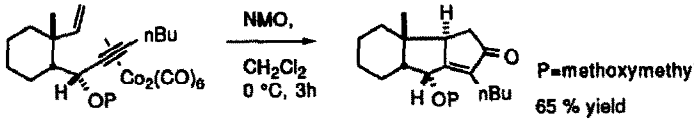
Isopropylanisoles and veratroles were obtained in high yields by the reaction of 2-oxopropanoic acids with MeI/KOH in DMSO.



Tetrahedron Letters, **1994**, *35*, 4511

SYNTHESIS OF A MODEL FOR THE XESTOBERGSTEROL D AND E RINGS USING THE PAUSON-KHAND REACTION

Marie E. Krafft* and Xavier Chirico
Department of Chemistry, The Florida State University, Tallahassee, FL 32306-3006



An intramolecular Pauson-Khand reaction has been used to illustrate the incorporation of proper stereochemistry at the C/D/E rings of a xestobergsterol model system.

Tetrahedron Letters, **1994**, *35*, 4515

CIS-3,5-DIMETHYL-3,5-PIPERIDINEDICARBOXYLIC ACID, AN AMINO DIACID VARIANT OF KEMP'S TRIACID.

Timothy P. Curran*, Michael B. Smith and Michael P. Pollastri, Department of Chemistry, College of the Holy Cross, Worcester, MA 01610-2395 USA

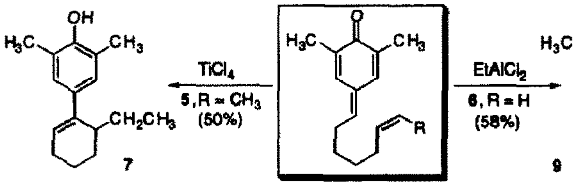
The title compound, which assumes a conformation with two axial carboxyls, is prepared starting from 3,5-pyridinedicarboxylic acid.

Tetrahedron Letters, **1994**, *35*, 4519

Mechanism of *p*-Quinone Methide Initiated Cyclization Reactions Terminated By Alkenes: 1,2- vs. 1,3-Hydrogen Migration.

Steven R. Angle* and M. Azad Hossain, Department of Chemistry, University of California, Riverside, California 92521-0403

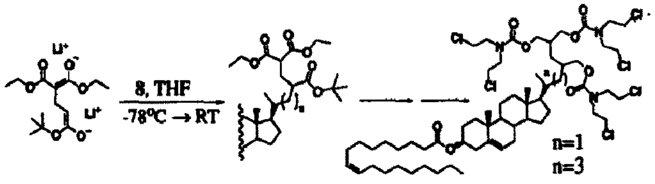
Intramolecular cyclization of benzylic cations derived from *p*-quinone methides 5 and 6, afforded the corresponding 6- or 7-membered ring products 7 or 9. Deuterium labeling experiments indicated that formation of 9 occurred via a 1,3-hydrogen shift, whereas formation of 7 proceeded via two sequential 1,2-hydride transfers.



Tetrahedron Letters, **1994**, *35*, 4523

The Synthesis of Branched Steroidal Prodrugs of Nitrogen Mustard for Antitumor Targeting via Reconstituted LDL

Gene M. Dubowchik* and Raymond A. Firestone
Bristol-Myers Squibb Pharmaceutical Research Institute, P.O. Box 5100, Wallingford, CT 06492-7660



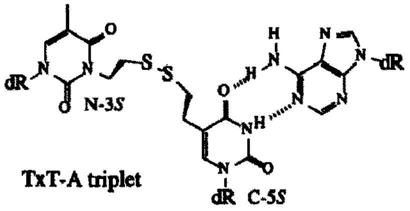
Bis and tris nitrogen mustard oleoyl-steroid carbamates were synthesized from commercially available cholenic acids for antitumor drug targeting via the LDL pathway. The tris-mustards were prepared through triester intermediates made from selective alkylation of the dianion of t-butyl 3-(diethyl malonyl)-propionate 10 with steroid iodides 8.

Tetrahedron Letters, **1994**, *35*, 4527

SYNTHESIS OF A DISULFIDE CROSS-LINKED DNA TRIPLE HELIX

Jay T. Goodwin, Scott E. Osborne, Patrick C. Swanson and Gary D. Glick*
Department of Chemistry, University of Michigan
Ann Arbor, Michigan, 48109-1055, U.S.A.

An intramolecular DNA triple helix incorporating a disulfide cross-link has been synthesized. Potassium permanganate footprinting and UV melting analysis demonstrate that the cross-link increases the conformational stability of this novel triplex at physiological pH and [Mg^{2+}] relative to the unmodified sequence.

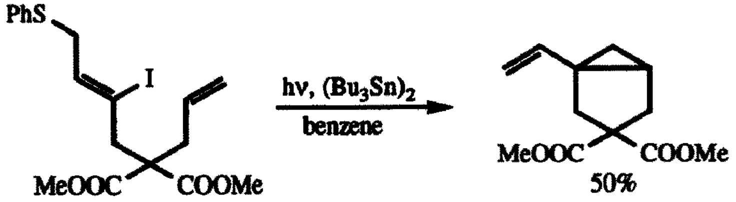


TxT-A triplet

Tetrahedron Letters, **1994**, *35*, 4531

NEW ACCESS TO FUSED VINYLCYCLOPROPANES BY RADICAL CYCLIZATION

R. C. Denis and D. Gravel*, Département de chimie, Université de Montréal, C. P. 6128, Montréal Québec, Canada, H3C 3J7.

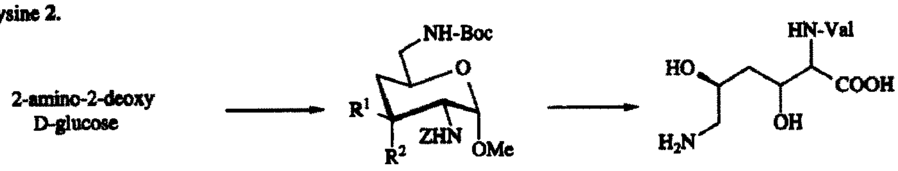


Tetrahedron Letters, **1994**, *35*, 4535

The Revised Structure of the Antibiotic Tü 1718 B Confirmed by Synthesis

Hans-Thomas Postels and Wilfried A. König*
Institut für Organische Chemie, Universität Hamburg, Martin-Luther-King Platz 6, D-20146 Hamburg, Germany.

The revised structure of the dipeptide antibiotic Tü 1718 B was confirmed by synthesis of two possible diastereomers of L-valyl-dihydroxylysine **2**.

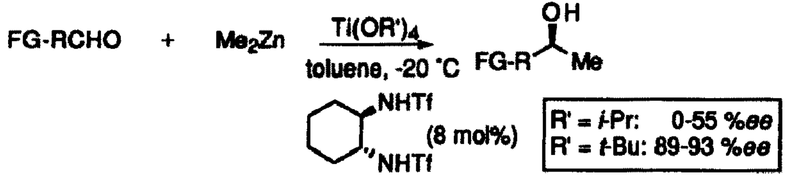


2

Tetrahedron Letters, **1994**, *35*, 4539

Dramatic Titanium Alkoxide Effect in the Catalytic Enantioselective Addition of Dialkylzincs to Aldehydes.

Stefan Nowotny, Stephan Vettel and Paul Knochel*
Fachbereich Chemie der Philipps-Universität Marburg, D - 35032 Marburg, Germany

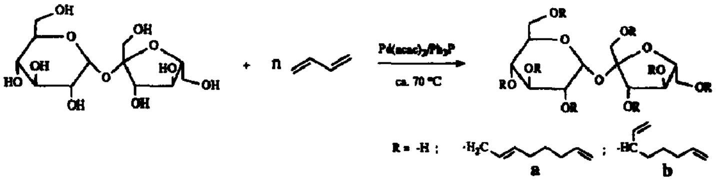


Tetrahedron Letters, **1994**, *35*, 4541

Palladium Catalyzed Telomerization of Butadiene with Sucrose: A Highly Efficient Approach to Novel Sucrose Ethers

Karlheinz Hill,* Bert Gruber, and Kenneth J. Weese, Henkel KGaA, D-40191 Düsseldorf, F.R.G.

The telomerization of butadiene with sucrose to sucrose octadienyl ethers at turn over numbers of 40000 is described.

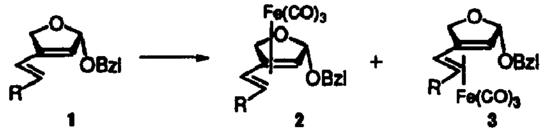


Tetrahedron Letters, **1994**, *35*, 4543

AN APPROACH TO CHIRAL η^4-BUTADIENE-Fe(CO)$_3$ COMPLEXES *VIA* DIASTEREOSELECTIVE COMPLEXATION OF NONRACEMIC 2-ALKOXY-4-VINYL-2,5-DIHYDROFURAN DERIVATIVES.

Hans-Günther Schmalz*, Erik Heßler, Jan W. Bats, and Gerd Dürner,
Institut für Organische Chemie der Universität, Marie-Curie-Str. 11, D-60439 Frankfurt am Main, GERMANY

Complexation of dienes 1 (R = H or CO_2Et), which are accessible from (+)-*L*-arabinose, with $Fe_2(CO)_9$ leads to complexes 2 and 3 in a diastereomer ratio of ca. 1 : 3.

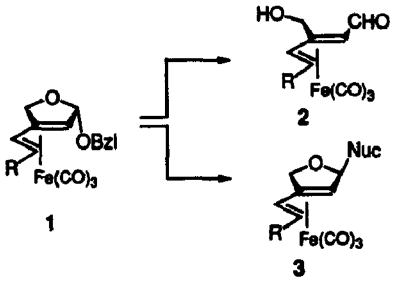


Tetrahedron Letters, **1994**, *35*, 4547

CHIRAL η^4-BUTADIENE-Fe(CO)$_3$ COMPLEXES FOR ORGANIC SYNTHESIS: REACTIONS OF (η^4-2-ALKOXY-4-VINYL-2,5-DIHYDROFURAN)-Fe(CO)$_3$ DERIVATIVES.

Erik Heßler, Hans-Günther Schmalz*, and Gerd Dürner,
Institut für Organische Chemie der Universität,
Marie-Curie-Str. 11, D-60439 Frankfurt am Main, GERMANY

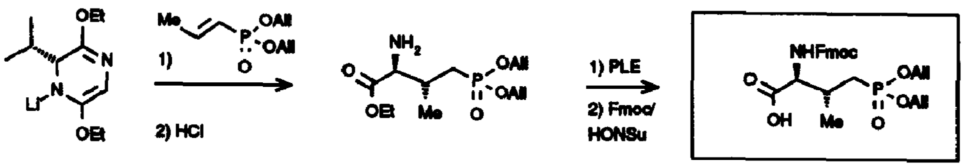
Optically active $Fe(CO)_3$ complexes 1 (R = H, CO_2Et) are hydrolyzed to aldehyde complexes 2. Treatment of 1 with nucleophiles in the presence of Lewis acids gives (diastereoselectively) substitution products of type 3.



Tetrahedron Letters, **1994**, *35*, 4551

ASYMMETRIC SYNTHESIS OF A PROTECTED PHOSPHONATE ISOSTERE OF PHOSPHOTHREONINE FOR SOLID-PHASE PEPTIDE SYNTHESIS

M. Ruiz, V. Ojea, G. Shapiro,* H.-P. Weber and E. Pombo-Villar*; Preclinical Research, Sandoz Pharma Ltd., CH-4002 Basel

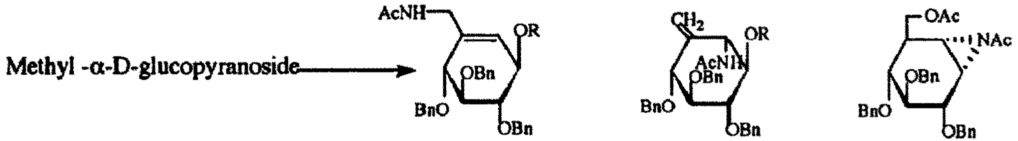


Tetrahedron Letters, **1994**, *35*, 4555

SYNTHESIS OF NEW AMINOCYCLITOLS AS POTENT ENZYMATIC INHIBITORS

Philippe Letellier, Robert Ralainirina, Daniel Beaupère and Raoul Uzan, Laboratoire de Chimie Organique, Groupe de Chimie des Glucides, Faculté des Sciences, 33 rue St Leu - 80039 Amiens (France)

New pseudo-saccharides having an allylic amino moiety or an aziridine group were synthesized

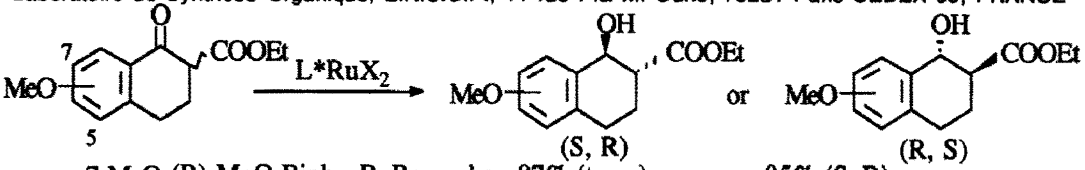


R = H
= 2, 3, 4, 6-tetra-O-acetyl-β-D-glucopyranosyl

Tetrahedron Letters, **1994**, *35*, 4559

DYNAMIC KINETIC RESOLUTION OF CYCLIC β-KETOESTERS WITH PREFORMED OR PREPARED *IN SITU* CHIRAL DIPHOSPHINE-RUTHENIUM (II) CATALYSTS

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

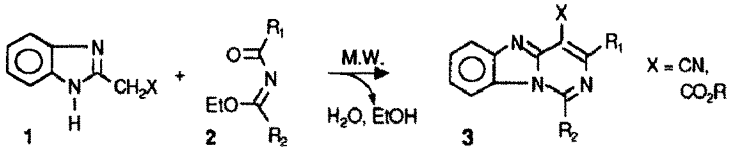


7-MeO (R)-MeO-BiphepRuBr_2 d.e.=97% (trans) e.e.=95% (S, R)
5-MeO (S)-BinapRuBr_2 d.e.=97% (trans) e.e.=92% (R, S)

Tetrahedron Letters, **1994**, *35*, 4563

A New Route to Pyrimido [1,6-a] Benzimidazoles : Reactivity of Activated 2-Benzimidazoles with N-Acyl Imidates as β-Dielectrophiles Under Microwave Irradiation.

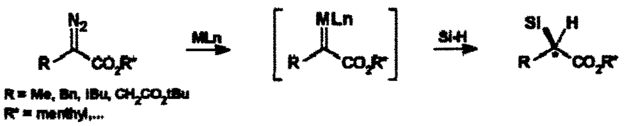
Mustapha Rahmouni[a], Aicha Derdour[b], Jean Pierre Bazureau*[c] and Jack Hamelin[c]
[a] Centre Universitaire de Tiaret [C.U.T.], 14000 - Tiaret, Algérie. [b] Université d'Oran, 31000 - Oran, Algérie. [c] Groupe de Recherches de Physico-Chimie Structurale 3 associé au CNRS, Campus de Beaulieu, 35042 - Rennes, France.



Tetrahedron Letters, **1994**, *35*, 4565

ASYMMETRIC METAL CARBENE INSERTION INTO THE Si-H BOND.

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

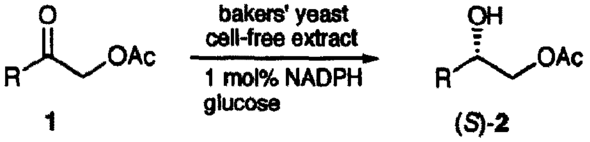


α-Silyl-α-substituted acetic esters have been prepared in good yields and reasonable diastereoselectivities, using an asymmetric metal carbene insertion into the Si-H bond. Optically active 1,2-diols were then prepared after reduction of the ester and conversion of the C-Si bond into a C-OH bond.

Tetrahedron Letters, **1994**, *35*, 4569

Highly Efficient Enzymatic Asymmetric Reduction by Use of Regenerating NADPH in Bakers' Yeast Cell-Free Extract

Kohji Ishihara, Takashi Sakai, Sadao Tsuboi, Masanori Utaka*
Department of Applied Chemistry, Faculty of Engineering, Okayama University, Tsushima, Okayama 700, Japan



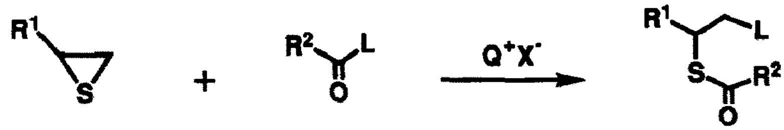
R = CH_3, C_2H_5, n-C_3H_7, n-C_4H_9, n-C_5H_{11}, n-C_6H_{13}, n-C_7H_{15}

Tetrahedron Letters, **1994**, *35*, 4571

NEW RING-OPENING REACTION OF THIIRANES WITH CARBOXYLIC ACIDS DERIVATIVES CATALYZED BY QUATERNARY ONIUM SALTS.

Atsushi Kameyama, Masahiro Kiyota, and Tadatomi Nishikubo, Department of Applied Chemistry, Faculty of Engineering, Kanagawa University, Rokkakubashi, Kanagawa-ku, Yokohama 221, Japan

Reactions of thiiranes with acyl chlorides and *S*-aryl thioesters using quaternary onium salts (Q^+X^-) proceeded smoothly and regioselectively.

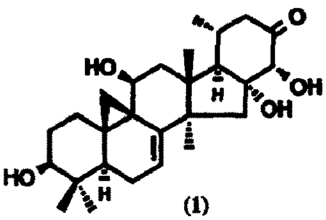


Tetrahedron Letters, **1994**, *35*, 4575

Foetidinol, a new trinor-triterpenoid with a novel carbon skeleton, from a Chinese crude drug "Shengma" (*Cimicifuga foetida* L.)

Jian Xin Li,[a] Shigetoshi Kadota,[a,*] Xu Feng Pu,[b] and Tsuneo Namba[a]

Research Institute for Wakan-Yaku (*Traditional Sino-Japanese Medicines*),[a] Toyama Medical and Pharmaceutical University, 2630 Sugitani, Toyama 930-01, Japan; Chengdu Municipal Institute for Drug Inspection,[b] Chengdu, Sichuan, China



(1)

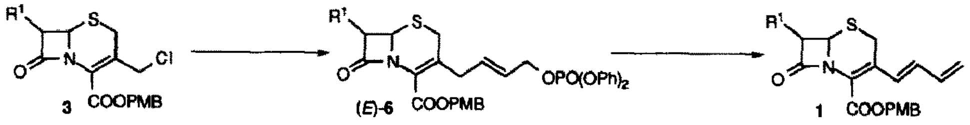
Foetidinol (1), trinor-triterpenoid with a novel carbon skeleton, has been isolated from the rhizoma of *Cimicifuga foetida* L., and its structure was determined based on the 2D NMR spectroscopy including HMBC.

Tetrahedron Letters, **1994**, *35*, 4577

A FACILE SYNTHESIS OF 3-(1,3-BUTADIENYL)-CEPHALOSPORINS.

Noriaki Nagano*, Hirotsune Itahana, Hiroyuki Hisamichi, Kenichiro Sakamoto, Ryuichiro Hara, Infectious Disease and Immunology Research Laboratories, Institute for Drug Discovery Research, Yamanouchi Pharmaceutical Co.,Ltd., 21 Miyukigaoka, Tsukuba city, Ibaraki 305, Japan

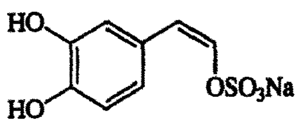
3-(1,3-Butadienyl)cephalosporins **1** were prepared in high yields from readily available **3** via phosphates (*E*)-**6**.



Tetrahedron Letters, **1994**, *35*, 4579

ISOJASPISIN: A NOVEL STYRYL SULFATE FROM A MARINE SPONGE, *JASPIS* SP., THAT INHIBITS HATCHING OF SEA URCHIN EMBRYOS

Shinji Ohta,* Hiroki Kobayashi,[†] and Susumu Ikegami*,[†]
Instrument Center for Chemical Analysis, Hiroshima University, 1-1-89 Higashisenda-machi, Naka-ku, Hiroshima 730, Japan.
[†]Department of Applied Biochemistry, Hiroshima University, 1-4-4 Kagamiyama, Higashi-hiroshima, Hiroshima 724, Japan.

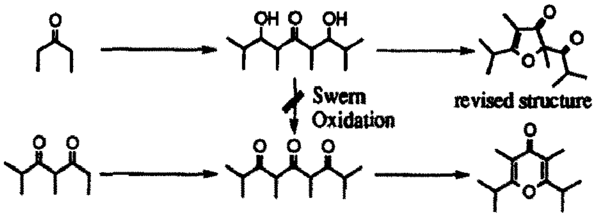


The structure of isojaspisin was determined on the basis of its spectroscopic data.

Tetrahedron Letters, **1994**, *35*, 4581

Chemical Properties of β-Triketones: Reexamination of Albizati's Tandem Aldol Process

H. Arimoto, S. Ohba, S. Nishiyama, and S. Yamamura
Dept. of Chemistry, Faculty of Science and Technology,
Keio University, Hiyoshi, Yokohama, Japan

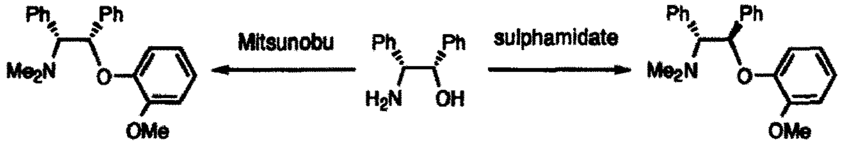


The structure of Albizati's tandem aldol product was revised. Properties of the corresponding β-triketone are also reported.

Tetrahedron Letters, **1994**, *35*, 4585

STEREO- AND REGIOCHEMICAL ASPECTS OF THE MITSUNOBU REACTION IN SYNTHESIS OF CHIRAL AMINO ETHER LIGANDS FOR ASYMMETRIC REACTIONS

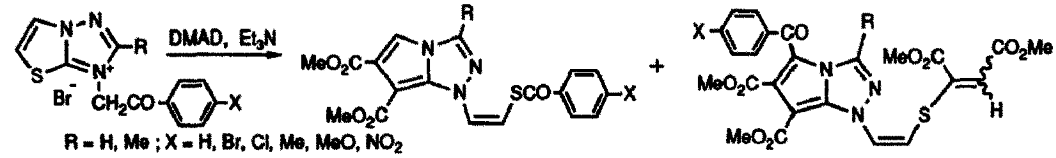
Manabu Okuda and Kiyoshi Tomioka*
The Institute of Scientific and Industrial Research, Osaka University, Ibaraki, Osaka 567, Japan



Tetrahedron Letters, **1994**, *35*, 4587

NOVEL BENZOYL MIGRATION OF THE INTERMEDIARY 1:1 ADDUCTS OF 1,3-DIPOLAR CYCLOADDITION OF THIAZOLO[3,2-*b*][1,2,4]TRIAZOLIUM *N*-PHENACYLIDES WITH DIMETHYL ACETYLENEDICARBOXYLATE.

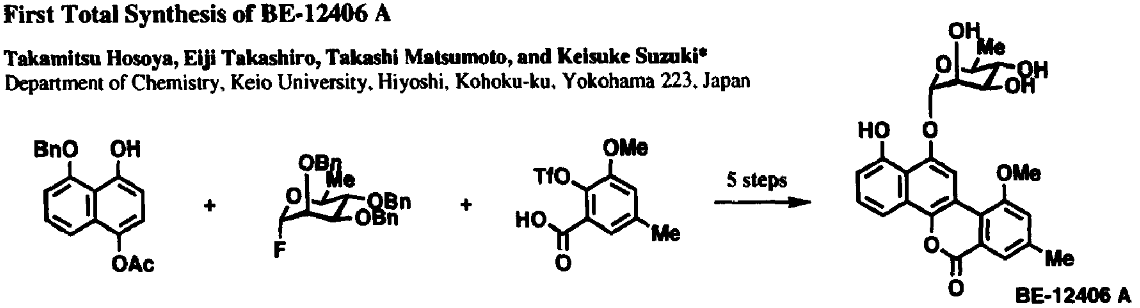
Tatsunori Iwamura, Takashi Ichikawa, Hiroshi Shimizu and Tadashi Kataoka,* Gifu Pharmaceutical University, 6-1, Mitahora-higashi, 5-chome, Gifu 502, Japan
Toshitsugu Kai and Hiroaki Takayanagi, School of Pharmaceutical Sciences, Kitasato University, Shirokane, Minato-ku, Tokyo 108, Japan
Osamu Muraoka, Faculty of Pharmacy, Kinki University, 3-4-1, Kowakae, Higashi-Osaka 577, Japan



Tetrahedron Letters, **1994**, *35*, 4591

First Total Synthesis of BE-12406 A

Takamitsu Hosoya, Eiji Takashiro, Takashi Matsumoto, and Keisuke Suzuki*
Department of Chemistry, Keio University, Hiyoshi, Kohoku-ku, Yokohama 223, Japan



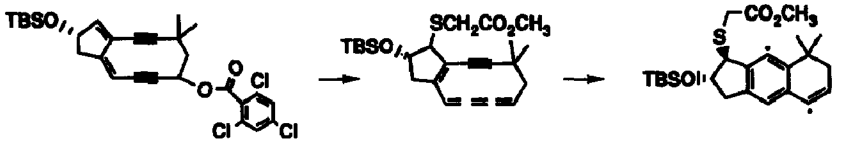
BE-12406 A

Tetrahedron Letters, **1994**, *35*, 4595

Ten-Membered Neocarzinostatin Chromophore Analogs Leading to σ,σ-Biradical via a Cumulene Intermediate

Shinji Kawata, Tohru Oishi, and Masahiro Hirama*
Department of Chemistry, Faculty of Science, Tohoku University, Sendai 980, Japan.

Intermediacy of a cumulene and the subsequent biradical generation as well as DNA cleavage have been clarified.



Tetrahedron Letters, **1994**, *35*, 4599

Highly Active Polymer Anchored Palladium Catalyst For The Hydrodehalogenation Of Organic Halides Under Mild Conditions

Yiping Zhang, Shijian Liao*, Yun Xu
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, P.O.Box 110, Dalian 116023, China

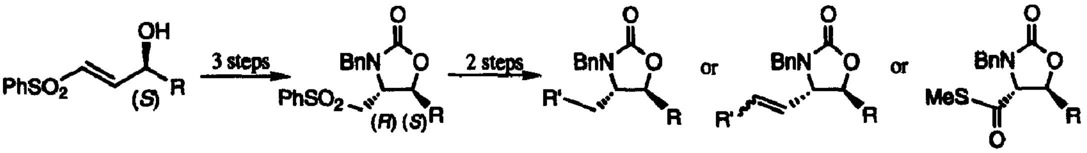
$$\mathrm{RX} + \mathrm{H_2} \xrightarrow[60\ ^{\circ}\mathrm{C},\ \text{normal pressure}]{\mathrm{PVP\text{-}PdCl_2},\ \text{base},\ \mathrm{EtOH}} \mathrm{RH}$$

R = aryl, benzyl, cyclohexyl
PVP = poly(N-vinyl-2-pyrrolidone)

Tetrahedron Letters, **1994**, *35*, 4603

STEREOSELECTIVE APPROACH TO OPTICALLY PURE *syn* 2-AMINO ALCOHOL DERIVATIVES

Jesús de Blas, Juan C. Carretero* and Esteban Domínguez
Departamento de Química. Universidad Autónoma de Madrid. Cantoblanco, 28049-Madrid. Spain



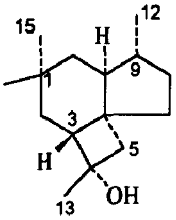
It is described a highly stereoselective procedure for the synthesis of optically pure oxazolidinones of *syn*-2-amino alcohols from (S)-γ-hydroxy-α,β-unsaturated sulfones.

Tetrahedron Letters, **1994**, *35*, 4607

VIRIDIANOL, A REARRANGED SESQUITERPENE WITH A NOVEL CARBON SKELETON FROM *LAURENCIA VIRIDIS*.

Manuel Norte, José J. Fernández, and M. L. Souto. Institute of Bioorganic Chemistry, University of La Laguna, 38206 La Laguna, Tenerife, Spain.

Viridianol, a new rearranged sesquiterpene with a novel carbon skeleton has been isolated from the red seaweed *Laurencia viridis*. The structure was determined through the interpretation of 2D NMR spectra as a 3,6-cycloprecapnellane carbon skeleton. The relative stereochemistry is proposed on the basis of ROESY and NOEDIFF data.

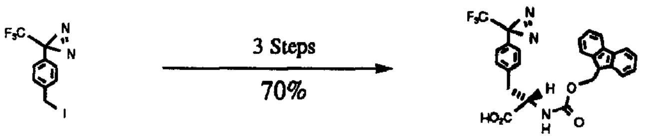


Tetrahedron Letters, **1994**, *35*, 4611

AN EFFICIENT ROUTE TO S-N-(9-FLUORENYLMETHOXY CARBONYL)-4'-(1-AZI-2,2,2-TRIFLUOROETHYL)PHENYLALANINE.

Colin W. G. Fishwick,* John M. Sanderson, University of Leeds, School of Chemistry, Leeds LS2 9JT, U.K.
John B. C. Findlay, University of Leeds, Department of Biochemistry and Molecular Biology, Leeds LS2 9JT, U.K.

An extremely efficient diastereoselective synthesis of an optically pure photoactivatable phenylalanine derivative is described.

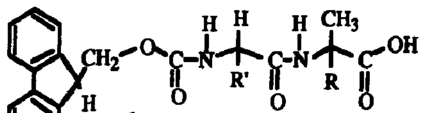


Tetrahedron Letters, **1994**, *35*, 4615

SYNTHESIS OF PEPTIDES CONTAINING α, α DIALKYL AMINO ACIDS.

Frank Bambino, Robert T. C. Brownlee, Francis C. K. Chiu.
Department of Chemistry, La Trobe University,
Melbourne, Victoria, Australia 3083.

The solid phase synthesis of peptides with the sterically hindered α,α-dialkyl amino acids Aminoisobutyric acid (Aib) and α-MethylSerine (α-MeSer) as protected dipeptide units is reported.



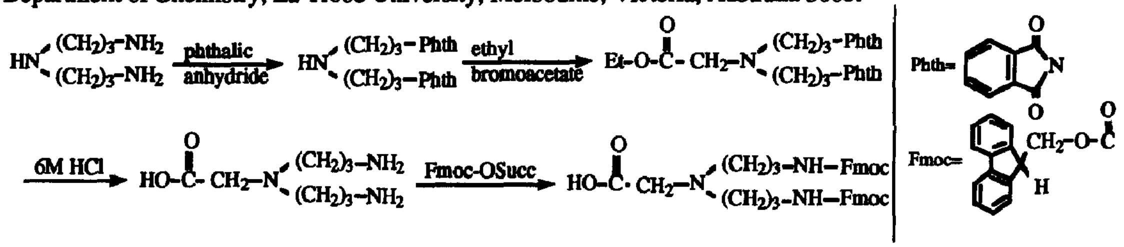
R= { CH_3 (Aib)
CH_2OH (MeSer)

R'= Standard Amino acid side chain

Tetrahedron Letters, **1994**, *35*, 4619

SYNTHESIS OF A SYMMETRICALLY BRANCHED TEMPLATE FOR PARALLEL α-HELIX DIMERS

Frank Bambino, Robert T. C. Brownlee, Francis C. K. Chiu.
Department of Chemistry, La Trobe University, Melbourne, Victoria, Australia 3083.

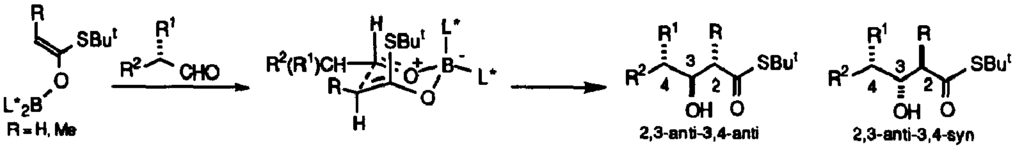


Tetrahedron Letters, **1994**, *35*, 4623

REAGENT CONTROL IN THE ALDOL ADDITION REACTION OF CHIRAL BORON ENOLATES WITH CHIRAL ALDEHYDES

Cesare Gennari, Daniela Moresca, Anna Vulpetti, and Gilles Pain
Dip. di Chimica Organica e Industriale, Universita' di Milano, Centro CNR (Sost.OrgNat.), via Venezian 21, 20133 Milano, Italy

Thioester-derived enolates bearing chiral boron ligands display fair to excellent diastereocontrol in their reactions with chiral aldehydes.

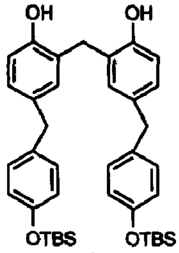


Tetrahedron Letters, **1994**, *35*, 4627

STRATEGIC SYNTHESIS OF MODEL NOVOLAC RESINS

Pauline J. de Bruyn, Audrey S.C. Lim, Mark G. Looney* and David H. Solomon.
School of Chemistry, The University of Melbourne, Parkville 3052, Australia.

Tetramer **8** was the key intermediate in the synthesis of structurally specific model novolac resins containing the maximum number of vacant *ortho* positions.



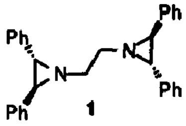
8

Tetrahedron Letters, **1994**, *35*, 4631

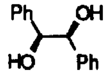
C_2-SYMMETRIC BIS(AZIRIDINES): A NEW CLASS OF CHIRAL LIGANDS FOR TRANSITION METAL-MEDIATED ASYMMETRIC SYNTHESIS.

David Tanner[a]*, Pher G. Andersson[a], Adrian Harden[a] and Peter Somfai[b]
[a]Department of Organic Chemistry, University of Uppsala, Box 531, S-751 21 Uppsala, Sweden.
[b]Organic Chemistry 2, Lund Institute of Technology, University of Lund, Box 124, S-221 00 Lund, Sweden.

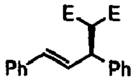
Chiral ligand **1** can be used for both stoichiometric and catalytic asymmetric synthesis mediated by transition metals.



1



95% ee (**1**, OsO_4)



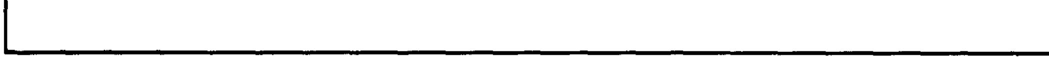
>99% ee (*ent*-**1**, Pd[II])

Tetrahedron Letters, **1994**, *35*, 4635

AN EFFICIENT BIOCATALYZED KINETIC RESOLUTION OF METHYL (Z)-3-ARYLSULPHINYLPROPENOATES

Cosimo Cardellicchio, Francesco Naso, and Antonio Scilimati
C.N.R., Centro Metodologie Innovative di Sintesi Organiche, Dipartimento di Chimica, via Amendola 173, 70126 Bari, Italy
Dipartimento Farmaco-Chimico, Università di Bari, via Orabona 4, 70125 Bari, Italy

Methyl (Z)-3-arylsulphinylpropenoates were biocatalytically resolved by α-chymotrypsin or a lipase.



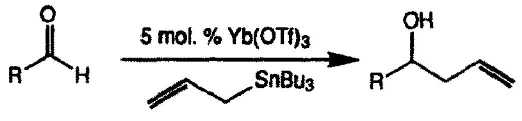
$$\text{Ar-}\overset{\overset{\text{O}}{\|}}{\text{S}}\text{-CH=CH-COOMe} \xrightarrow{\text{Enzyme}} \text{Ar-}\overset{\overset{\text{O}}{\|*}}{\text{S}}\text{-CH=CH-COOH} + \text{Ar-}\overset{\overset{\text{O}}{\|*}}{\text{S}}\text{-CH=CH-COOMe}$$

Tetrahedrpn Letters, **1994**, *35*, 4639

YTTERBIUM TRIFLUOROMETHANESULFONATE (Yb(OTf)3) AS A NOVEL CATALYST FOR THE ALLYLATION OF ALDEHYDES

Helen C. Aspinall,[a] Andrew F. Browning,[a] Nicholas Greeves[a]* and Paul Ravenscroft[b]

a Department of Chemistry, University of Liverpool, PO Box 147, LIVERPOOL, L69 3BX
b Process Research Department, Glaxo Research and Development Ltd., Park Road, WARE, Hertfordshire, SG12 0DP

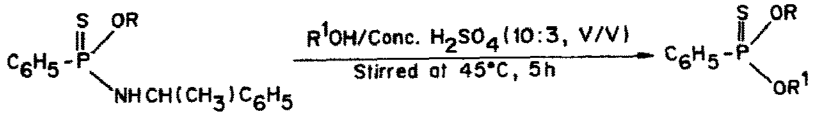


Tetrahedron Letters, **1994**, *35*, 4641

A Simple Route to Chiral Phosphonothionates From Diastereomeric Phosphonamidothionates

Purnanand*, B.S. Batra and G.Lal, Defence Research & Development Establishment, Gwalior-474002, India

Optical isomers of phosphonothionates have been prepared by acid catalyzed alcoholysis of resolved phosphonamidothionates in high optical purity.



Tetrahedron Letters, **1994**, *35*, 4645

THE ADDITION OF ORGANOMETALLIC REAGENTS TO 3-OXABICYCLO[3.2.0]HEPT-6-EN-2-OL: A STEREOSELECTIVE ROUTE TO 6-OXYGENATED (2*Z*,4*E*)-ALKADIENALS

Kevin J. Hodgetts, Christopher J. Wallis, and Timothy W. Wallace*
Department of Chemistry and Applied Chemistry, University of Salford, Salford M5 4WT, U.K.
and Glaxo Research and Development Ltd., Park Road, Ware, Herts. SG12 0DP, U.K.

The additions of various organometallic species to 3-oxabicyclo[3.2.0]hept-6-en-2-ol are diastereoselective; the results are consistent with addition to the less hindered face of a metal-chelated form of the derived γ-hydroxyaldehyde.

Tetrahedron Letters, **1994**, *35*, 4649

SUBSTRATE SPECIFICITY OF PROLINE 4-HYDROXYLASE: CHEMICAL AND ENZYMATIC SYNTHESIS OF 2*S*, 3*R*, 4*S*-EPOXYPROLINE

Jack E. Baldwin, Robert A. Field, Christopher C. Lawerence, Victor Lee, J. Kenneth Robinson, and Christopher J. Schofield. The Dyson Perrins Laboratory and the Oxford Centre for Molecular Sciences, South Parks Road, Oxford OX1 3QY, U.K.