GRAPHICAL ABSTRACTS

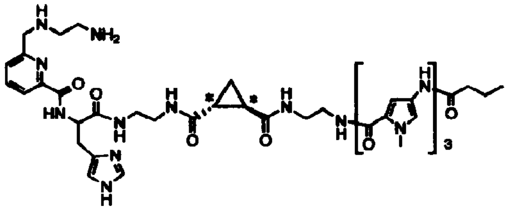
Tetrahedron Letters, **1994**, *35*, 5323

DESIGN AND SYNTHESIS OF DNA CLEAVING BLEOMYCIN MODELS: 1,2-TRANS-DISUBSTITUTED CYCLOPROPANE UNITS AS NOVEL LINKERS

Liren Huang, James C. Quada, Jr. and J. William Lown*

Department of Chemistry
University of Alberta, Edmonton, Alberta, T6G 2G2 Canada

The synthesis of simple models for bleomycin, in which 1,2-trans-disubstituted cyclopropane units are used as linkers is achieved and their effective cleavage of DNA is demonstrated.

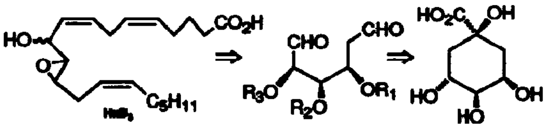


Tetrahedron Letters, **1994**, *35*, 5327

HEPOXILINS B_3: SYNTHESIS OF ALL FOUR STEREOISOMERS AND A GLUTATHIONE ADDUCT

Y.Y. Belosludtsev[1], R.O. Kollah[1], J.R. Falck*[1], J.H. Capdevila[2]
[1]Depts. of Molecular Genetics and Pharmacology, UT Southwestern, Dallas, TX 75235
[2]Depts. of Medicine and Biochemistry, Vanderbilt University Med. School, Nashville, TN 37205

Utilizing (-)-quinic acid as a differentiated bis-aldehyde chiron, both pairs of hepoxilin B_3 enantiomers and a glutathione adduct were synthesized by regiospecific functionalization of an acyclic *vic*-diol.

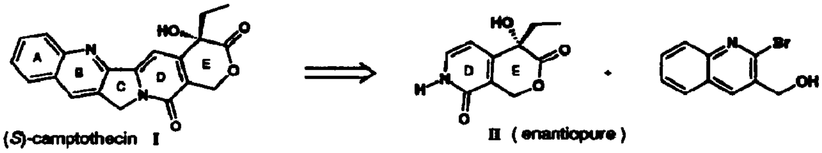


Tetrahedron Letters, **1994**, *35*, 5331

ASYMMETRIC SYNTHESIS OF CAMPTOTHECIN ALKALOIDS: A NINE-STEP SYNTHESIS OF (*S*)-CAMPTOTHECIN.

Daniel L. Comins*, Hao Hong, and Gao Jianhua, Department of Chemistry, North Carolina State University, Raleigh, NC 27695-8204 USA

DE Ring camptothecin intermediate II was prepared enantioselectively in six steps and used in a nine-step synthesis of (*S*)-camptothecin.

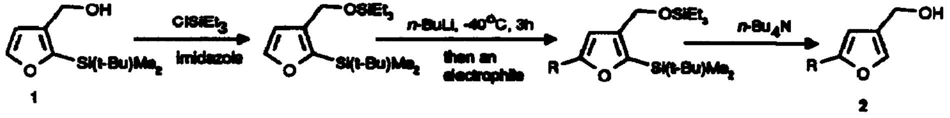


Tetrahedron Letters, **1994**, *35*, 5335

A FACILE PREPARATION OF 2,4-DISUBSTITUTED FURANS

James A. Nieman and Brian A. Keay*
Department of Chemistry, University of Calgary, Calgary, Alberta, Canada, T2N 1N4

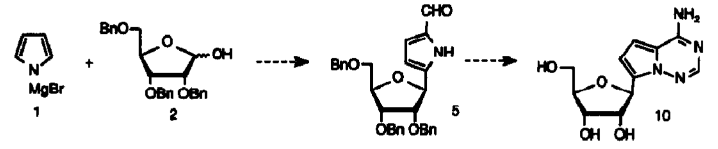
A new approach to the synthesis of 2,4-disubstituted furans 2 is presented beginning with furan 1.



Tetrahedron Letters, **1994**, *35*, 5339

4-AZA-7,9-DIDEAZAADENOSINE, A NEW CYTOTOXIC SYNTHETIC C-NUCLEOSIDE ANALOGUE OF ADENOSINE.

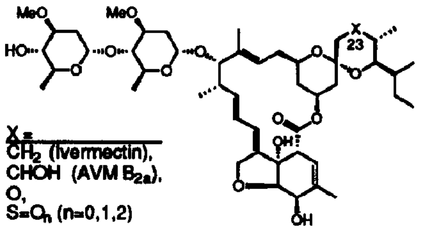
Shirish A. Patil, Brian A. Otter and Robert S. Klein, Albert Einstein College of Medicine Cancer Center and Medicinal Chemistry Laboratory, Department of Oncology, Montefiore Medical Center, 111 East 210th St., Bronx, NY 10467, USA.



A new C-nucleoside analogue of adenosine, 10, was prepared by the direct ribosylation of pyrrole-MgBr followed by C-formylation, N-amination, ring-closure and debenzylation.

Tetrahedron Letters, **1994**, *35*, 5343

Synthesis of Spiroketal-Modified Avermectin Analogs: 23-Nor-23-Oxa- and 23-Nor-23-Thia-Avermectins



P. T. Meinke,* S. P. O'Connor, M. H. Fisher and H. Mrozik;
Merck Research Laboratories, Dept. of Basic Medicinal Chemistry,
PO Box 2000, Rahway, NJ 07065-0900

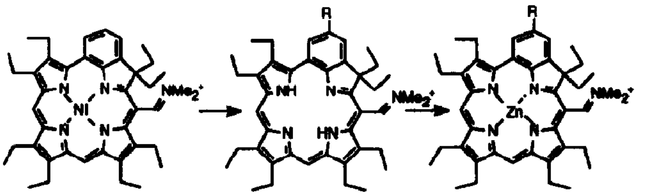
Abstract: The synthesis of avermectin analogs wherein the C23 carbon has been excised and replaced with an oxygen or sulfur atom is described. The new, heteroatom-substituted avermectins represent isosteres of Ivermectin and, in the case of the sulfoxides and sulfones, are isosteric to avermectin B_{2a} (AVM B_{2a}).

Tetrahedron Letters, **1994**, *35*, 5347

SYNTHESIS OF BENZOCHLORIN IMINIUM SALTS WITH IMPROVED PHOTOSENSITIZING PROPERTIES

Alan R. Morgan, Sapna Gupta, Department of Chemistry, University of Toledo, Toledo, Ohio 43606.

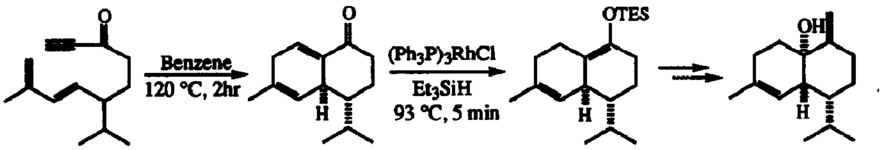
Treatment of a nickel benzochlorin iminium salt with conc. sulfuric acid results in formation of the free-base derivative and the corresponding sulfonate (R=H, SO_3^-). Zinc insertion proceeds smoothly in both cases. Both free-base and zinc iminium salts show increased photoactivity when compared to the copper analog which is being studied *in vivo* for use in Photodynamic Therapy.



Tetrahedron Letters, **1994**, *35*, 5351

TOTAL SYNTHESIS OF (±)-EPICUBENOL

David E. Cane, Manish Tandon
Department of Chemistry, Box H, Brown University, Providence, RI 02912, U. S. A.

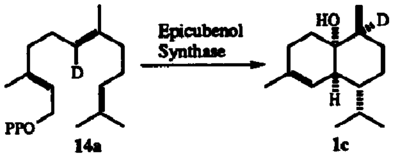


Total synthesis of (±)-Epicubenol using an intramolecular Diels-Alder reaction is described.

Tetrahedron Letters, **1994**, *35*, 5355

BIOSYNTHESIS OF (+)-EPICUBENOL

David E. Cane, Manish Tandon
Department of Chemistry, Box H, Brown University, Providence, RI 02912, U. S. A.



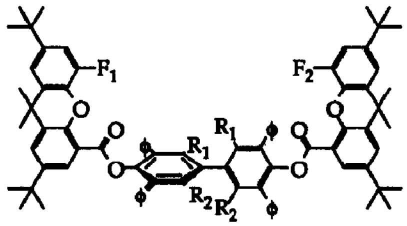
Enzymatic cyclization of [6-^{2}H]farnesyl diphosphate (14a) to epicubenol (1c) is shown to involve a 1,2-hydride shift.

Tetrahedron Letters, **1994**, *35*, 5359

SYNTHESIS AND ROTATIONAL PROPERTIES OF A SERIES OF POLYAROMATIC CLEFTS.

Amalia Galán[a], Andrew J. Sutherland[a], Pablo Ballester[b] and Julius Rebek, Jr.[a]*
[a]Department of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts, 02139, USA.
[b]Departament de Quimica, Universitat de les Illes Balears, 07071 Palma de Mallorca, Spain.

A series of molecular clefts containing convergent functional groups has been developed. Their rotational properties have been investigated by dynamic NMR spectroscopy and molecular modelling.



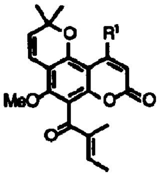
Tetrahedron Letters, **1994**, *35*, 5363

SYNTHESIS OF THE CALOPHYLLUM COUMARINS

Christopher J. Palmer* and Jonathan L. Josephs
ISK Mountain View Research Center, Inc., 1195 W. Fremont Avenue, Sunnyvale, California 94087, USA

Synthetic routes leading to the synthesis of the natural coumarins isolated from *Calophyllum sp.* are reported, together with some structural corrections.

(1)



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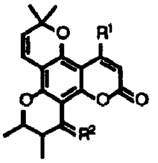

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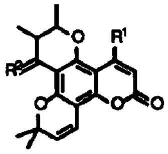


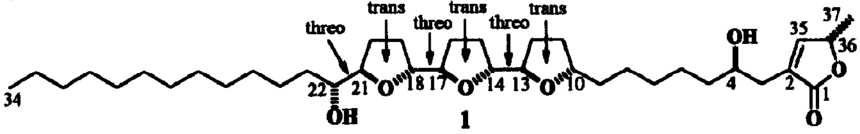
R^1 = ^{n}Pr, Ph, Me
R^2 = O, R^2 = H, OH

Tetrahedron Letters, **1994**, *35*, 5367

Goniocin from *Goniothalamus Giganteus*: The First Tri-THF Annonaceous Acetogenin.

Zhe-ming Gu, Xin-ping Fang, Lu Zeng, and Jerry L. McLaughlin*, Department of Medicinal Chemistry and Pharmacognosy, School of Pharmacy and Pharmacal Sciences, Purdue University, West Lafayette, Indiana 47907

A novel cytotoxic component, goniocin (1), the first tri-tetrahydrofuran (THF) Annonaceous acetogenin, has been isolated from *Goniothalamus giganteus*.



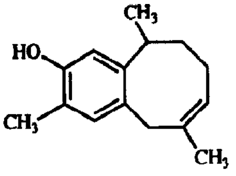
1

Tetrahedron Letters, **1994**, *35*, 5369

Total Synthesis of (±)-Parvifoline

Erich L. Grimm*, Sylvain Levac and Michel Coutu
Merck Frosst Centre for Therapeutic Research, P.O. Box 1005 Pointe Claire-Dorval, Quebec H9R 4P8 Canada

(±) -Parvifoline (1) has been synthesized via intramolecular cyclization of a sulfone-stabilized carbanion.

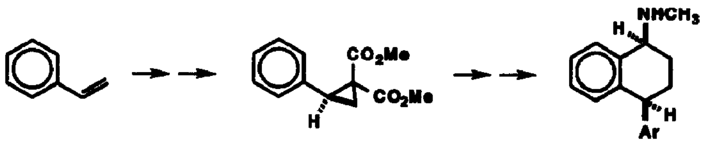


(±)-1

Tetrahedron Letters, **1994**, *35*, 5373

A Catalytic Enantioselective Synthetic Route to the Important Antidepressant Sertraline

E. J. Corey* and Thomas G. Gant
Department of Chemistry, Harvard University, Cambridge, Massachusetts 02138

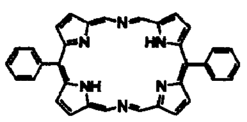


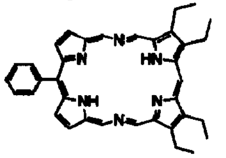
sertraline
Ar = 3,4-dichlorophenyl

Tetrahedron Letters, **1994**, *35*, 5377

MESO-PHENYL SUBSTITUTED PORPHOCYANINES: A NEW CLASS OF FUNCTIONALIZED EXPANDED PORPHYRINS. Ross W. Boyle, Lily Yun Xie and David H. Dolphin*, Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, B.C., Canada, V6T 1Z1

Porphocyanines bearing phenyl substituents at both or one of the available *meso* positions have been synthesized.





Tetrahedron Letters, **1994**, *35*, 5381

A SIMPLE METHOD TO PREPARE UNSYMMETRICAL DI-TRI-AND TETRASULFIDES

Gerard Derbesy and David N. Harpp*
Department of Chemistry
McGill University
Montreal, Quebec, Canada, H3A 2K6

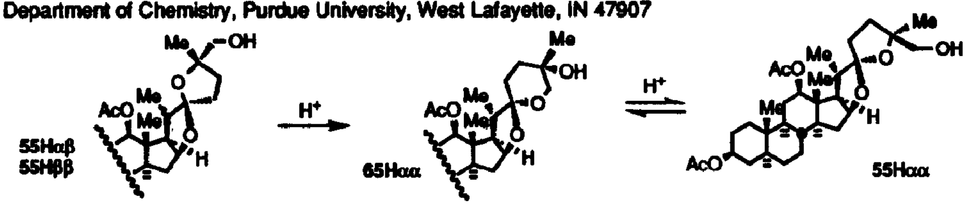
Unsymmetical di- tri- and tetrasulfides can be prepared in a one-pot reaction using SO_2Cl_2, SCl_2 and S_2Cl_2 respectively to permit coupling of the appropriate thiols. Yields of isolated, pure product range from 25%-quantitative.

$$\text{R-SH} + \text{SCl}_2 \longrightarrow [\text{R-S-S-Cl}] \xrightarrow{\text{R'-SH}} \text{R-S-S-S-R'}$$

Tetrahedron Letters, **1994**, *35*, 5385

SPIROKETAL EQUILIBRATION: INTERCONVERSION OF 1,6-DIOXASPIRO[4.4]NONANES AND 1,6-DIOXASPIRO[4.5]DECANES. IMPLICATIONS FOR THE SYNTHESIS OF CEPHALOSTATIN 7.

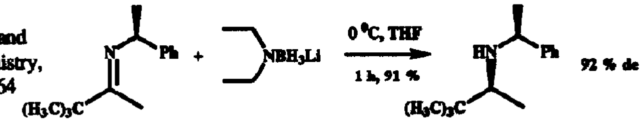
Jae Uk Jeong, P. L. Fuchs*
Department of Chemistry, Purdue University, West Lafayette, IN 47907



Tetrahedron Letters, **1994**, *35*, 5389

Aminoborohydrides 6. Diastereoselective Reduction of the Carbon-Nitrogen Double Bond in Chiral Imines Using Lithium Diethylaminoborohydride and Lithium Diisopropylaminoborohydride.

Joseph C. Fuller, Christopher Belisle, Christian T. Goralski and Bakthan Singaram*, Department of Chemistry and Biochemistry, University of California, Santa Cruz, Santa Cruz, Calif. 95064



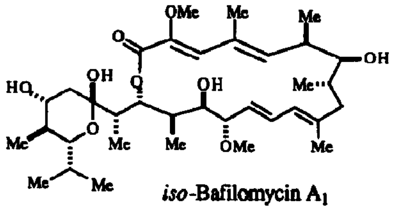
Lithium diethylaminoborohydride and lithium diisopropylaminoborohydride reduce chiral aliphatic and aromatic imines, derived from α–methylbenzylamines, to give the corresponding enantiomerically enriched secondary amines. The yields of secondary amines from this procedure range from very good to essentially quantitative. The diastereomeric induction in the reduction of the carbon-nitrogen double bond ranged from moderate to very good.

Tetrahedron Letters, **1994**, *35*, 5393

AN UNPRECEDENTED RING EXPANSION IN THE MACROLIDE SERIES – SYNTHESIS OF *ISO*-BAFILOMYCIN A1

Stephen Hanessian* Qingchang Meng and Eric Olivier
Department of Chemistry, Université de Montréal, P.O. Box 6128, Succ. Centre-ville, Montréal, P.Q., Canada, H3C 3J7

Treatment of 7,21-di-O-TMS-bafilomycin A_2 with a reagent prepared from equimolar quantities of methyllithium and cuprous iodide in THF leads to a ring expanded 18-membered lactone isomer. The structure was confirmed by X-ray crystallography. Functional group manipulation gives isobafilomycin A_1.

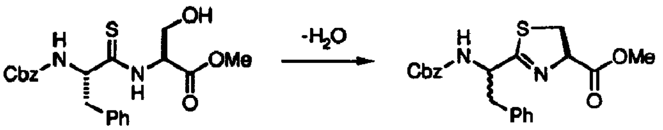


iso-Bafilomycin A_1

Tetrahedron Letters, **1994**, *35*, 5397

SYNTHESIS OF PEPTIDE THIAZOLINES FROM β-HYDROXY-THIOAMIDES. AN INVESTIGATION OF RACEMIZATION IN CYCLODEHYDRATION PROTOCOLS

Peter Wipf* and Paul C. Fritch
Department of Chemistry
University of Pittsburgh
Pittsburgh, Pennsylvania 15260, U.S.A.



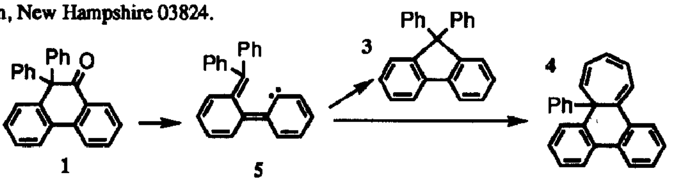
Cyclodehydration of hydroxythioamides with $TsCl/Et_3N$, $SOCl_2$, and Mitsunobu conditions, but not with the Burgess protocol, leads to extensive epimerization at the C(2) *exo* methine position of thiazolines.

Tetrahedron Letters, **1994**, *35*, 5401

The Argon Laser-Jet Initiated, Multiple-Photon (Reluctant), Electrocyclic Ring Opening of 10,10-Diphenyl-9-(10*H*)-phenanthrenone: A Carbene and Biradical Modeling Study.

R. Marshall Wilson,* Tatiana N. Romanova, Ardeshir Azadnia, Jeanette A. Krause Bauer, Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 45221-0172, Richard P. Johnson*, Department of Chemistry, Univesity of New Hampshire, Durham, New Hampshire 03824.

High-intensity laser-jet irradiation of 1 affords 3 and 4 via collapse of the singlet and triplet carbenes ^{1}5 and ^{3}5, respectively.



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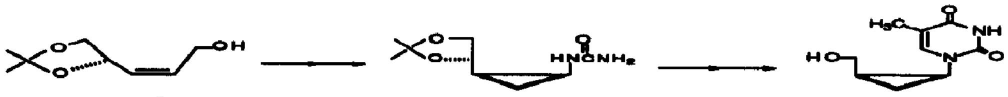
Tetrahedron Letters, **1994**, *35*, 5405

SYNTHESIS OF ENANTIOMERICALLY PURE CYCLOPROPYL CARBOCYCLIC NUCLEOSIDES.

Yufen Zhao,† Te-Fang Yang,† Migyoung Lee,† Byoung K. Chun,† Jinfa Du,† Raymond F. Schinazi,‡ Doowon Lee,# M. Gary Newton,# and Chung K. Chu,*†
†Department of Medicinal Chemistry, College of Pharmacy and #Department of Chemistry, The University of Georgia, Athens, GA 30602, USA and ‡Emory University, School of Medicine/V.A. Medical Center, Decatur, GA 30033. USA.

The enantiomeric synthesis of cyclopropyl carbocylic nucleosides has been achieved and the key intermediate was characterized by X-ray crystallography.

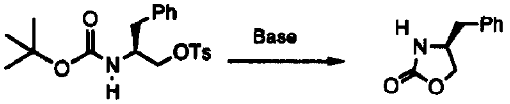


2 7 11

Tetrahedron Letters, **1994**, *35*, 5409

LOSS OF THE *tert*-BUTYLOXYCARBONYL (Boc) PROTECTING GROUP UNDER BASIC CONDITIONS

Timothy P. Curran[a,b]*, Michael P. Pollastri[a], Susan M. Abelleira[b], Renee J. Messier[b], Theresa A. McCollum[a] and Campbell G. Rowe[a]. [a]Department of Chemistry, College of the Holy Cross, Worcester, MA 01610-2395 USA, [b]Alkermes, Inc., 64 Sidney Street, Cambridge, MA 02139-4136 USA



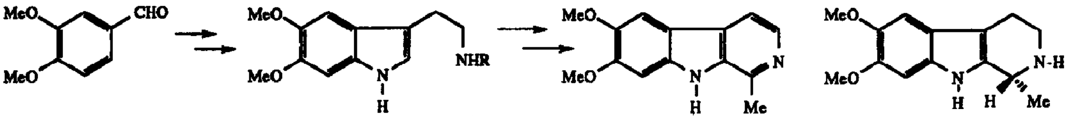
Several examples where the Boc group is lost under basic conditions are reported.

Tetrahedron Letters, **1994**, *35*, 5413

THE SYNTHESIS OF ROEHARMINE AND (-)-1,2,3,4-TETRAHYDRO-ROEHARMINE.

M. Sreenivasa Reddy and J. M. Cook,* Department of Chemistry, UW-Milwaukee, Milwaukee, WI 53201.

The total synthesis of roeharmine 1 as well as an enantiospecific synthesis of (-)-1,2,3,4-tetrahydroroeharmine 2 has been achieved via the Pictet-Spengler reaction. The optical rotation of synthetic (-)-2 was found to be higher than that reported for the natural product. A possible mechanism for the racemization of 2 upon exposure to acid has been proposed.



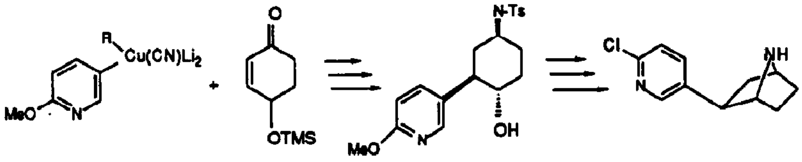
5 3, R= (-)-α-methylbenzyl 1 2

Tetrahedron Letters, **1994**, *35*, 5417

SYNTHESIS OF EPIBATIDINE

Kazimir Sestanj*, Edward Melenski and Ivo Jirkovsky
Wyeth-Ayerst Research, Princeton, NJ 08540

A six-step synthesis of epibatidine is described:

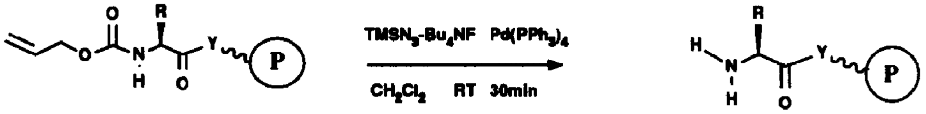


Tetrahedron Letters, **1994**, *35*, 5421

MILD AND RAPID AZIDE-MEDIATED PALLADIUM CATALYZED CLEAVAGE OF ALLYLESTER BASED PROTECTING GROUPS

Gideon Shapiro* and Dieter Buschler
Preclinical Research, Sandoz Pharma Ltd., CH-4002 Basel, Switzerland

Under palladium catalysis various allylester protecting groups are rapidly cleaved in high yield with the reagent 8:3 $TMSN_3$-$Bu_4NF(3H_2O)$ in CH_2Cl_2. The efficiency of this method makes it particularly useful for solid phase deprotections

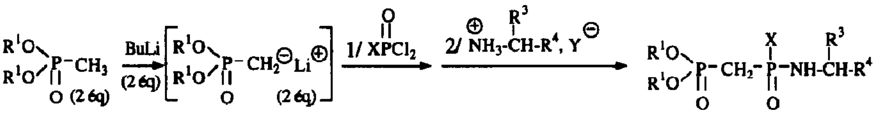


Tetrahedron Letters, **1994**, *35*, 5425

SYNTHESE DE PRECURSEURS D'ANALOGUES D'ETATS DE TRANSITION DE REACTIONS ENZYMATIQUES DE TRANSCARBAMYLATION

C. Grison*, F. Charbonnier, Ph. Coutrot
Institut Nancéien de Chimie Moléculaire, Laboratoire de Chimie Organique II, associé au CNRS,
Université de Nancy I, BP 239, 54506 Vandoeuvre-les-Nancy, France

An efficient synthesis of immediate precursors of new transition state analogues of enzymatic transcarbamylation reactions, N-[(phosphinylmethyl)phosphonate]-L-aspartate and N-[(phosphinylmethyl)phosphonate]-L-ornithine is described.

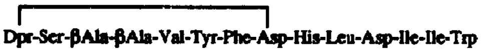


Tetrahedron Letters, **1994**, *35*, 5429

SYNTHESIS OF AN ENDOTHELIN CYCLIC ANALOGUE USING AN ORIGINAL MULTIDIMENSIONAL PROTECTION SCHEME.

Christiane Mendre*, Robert Pascal and Bernard Calas, Centre de Recherches de Biochimie Macromoléculaire, CNRS and INSERM, route de Mende, BP 5051, 34033 Montpellier, France

The endothelin cyclic analogue 1 with an amide bond mimicking the disulphide bridge between Cys^1-Cys^{15} has been synthesized using Fmoc-chemistry from the synthon 2.


Dpr-Ser-βAla-βAla-Val-Tyr-Phe-Asp-His-Leu-Asp-Ile-Ile-Trp

1


Z-Dpr-CAM Fmoc-Asp

2

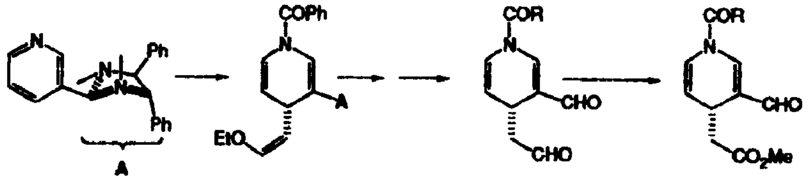
CAM = O-CH_2-$CONH_2$
Dpr = L-2,3-diaminopropionic acid

Tetrahedron Letters, **1994**, *35*, 5433

REGIO AND ENANTIOSELECTIVE SYNTHESIS OF 4-CARBOMETHOXYMETHYL-1,4-DIHYDROPYRIDINES.

Sabine Raussou, Romain Gosmini, Pierre Mangeney*, Alexandre Alexakis, Monique Commerçon

Laboratoire de Chimie des Organoéléments, CNRS UA 473, Université P. et M. Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France



Tetrahedron Letters, **1994**, *35*, 5437

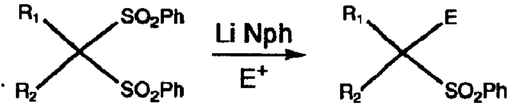
REDUCTIVE LITHIATION OF BIS-PHENYLSULFONES

J. Yu[1], H.-S. Cho[1], S. Chandrasekhar[1], J. R. Falck[1], C. Mioskowski[2]

[1]Depts. of Molecular Genetics/Pharmacology, Univ. of Tx Southwestern, Dallas, Texas 75235 U.S.A.;

[2]Laboratoire de Synthèse Bio-Organique associé au CNRS, Université Louis Pasteur, F-67401 Illkirch

Reductive cleavage of geminal bis-phenylsulfones using lithium naphthalenide in THF at -78°C selectively affords α-sulfonyl carbanions which participate in typical reactions with electrophiles.



Tetrahedron Letters, **1994**, *35*, 5441

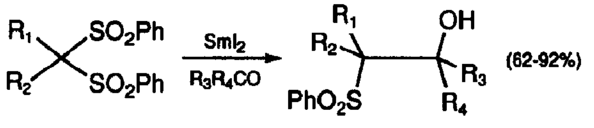
SmI_2 MEDIATED REDUCTIVE ADDITION OF BIS-PHENYLSULFONES TO KETONES

S. Chandrasekhar[1], J. Yu[1], J. R. Falck[1], C. Mioskowski[2]

[1]Depts. of Molecular Genetics/Pharmacology, Univ. of Tx Southwestern, Dallas, Texas 75235;

[2]Laboratoire de Synthèse Bio-Organique associé au CNRS, Université Louis Pasteur, 67401 F-Illkirch

SmI_2 mediates the *in situ* reductive addition of geminal bis-phenylsulfones to unhindered ketones affording β-hydroxyphenylsulfones in good to excellent yields.



Tetrahedron Letters, **1994**, *35*, 5445

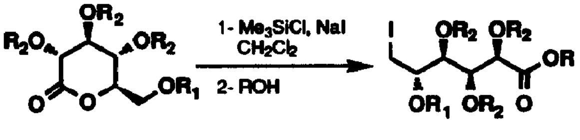
UNEXPECTED OUTCOME IN THE REACTION OF SUGAR LACTONES WITH IODOTRIMETHYLSILANE

M.P. Heck[a], S. Monthiller[a], C. Mioskowski[a,b], J.P. Guidot[b], T. Le Gall[b]

a- Univ. Louis Pasteur, Faculté de Pharmacie, Illkirch (France)

b- CEA; CE Saclay; SMM; Gif sur Yvette (France)

The reaction of iodotrimethylsilane with sugar lactones protected by ester groups led to primary iodides of the same configuration.

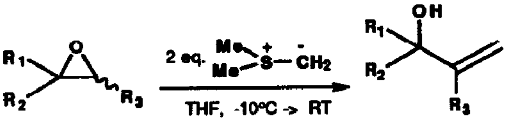


NOVEL CONVERSION OF EPOXIDES TO ONE CARBON HOMOLOGATED ALLYLIC ALCOHOLS BY DIMETHYL SULFONIUM METHYLIDE

Tetrahedron Letters, **1994**, *35*, 5449

L. Alcaraz(a), J.J. Harnett(a), C. Mioskowski(a,b), J.P. Martel(b), T. Le Gall(b), D-S Shin(c), J.R. Falck(c).
(a) ULP Faculté de Pharmacie F-67401 Illkirch. (b) CEA - Saclay, F-91191 Gif sur Yvette. (c) Univ. of Texas, Southwestern Medical Center, Dallas, TX 75235.

The reaction of excess of dimethylsulfonium methylide with terminal, allylic or benzylic epoxides affords good to excellent yields of one carbon homologated allylic alcohols.

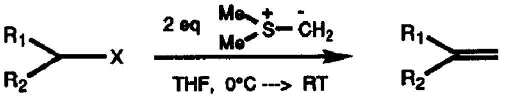


SULFUR YLIDE VINYLATION OF HALIDES AND MESYLATES

Tetrahedron Letters, **1994**, *35*, 5453

L. Alcaraz(a), J.J. Harnett(a), C. Mioskowski(a,b), J.P. Martel(b), T. Le Gall(b), D-S Shin(c), J.R. Falck(c).
(a) ULP, Faculté de Pharmacie, F-67401 Illkirch. (b) CEA-Saclay, F-91191 Gif sur Yvette. (c) Univ. of Texas, Southwestern Medical Center, Dallas, TX 75235.

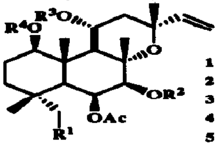
One-carbon homologation of benzylic, allylic, propargylic and primary halides or mesylates with dimethylsulfonium methylide affords terminal olefins in good to excellent yields.



Structures of Five New Highly Oxygenated Labdane-Type Diterpenoids, Ptychantins A-E, Closely Related to Forskolin from the Liverwort *Ptychanthus striatus*

Tetrahedron Letters, **1994**, *35*, 5457

Toshihiro Hashimoto[a], Miho Horie[a], Masao Toyota[a], Zenei Taira[a], Reiji Takeda[b], Motoo Tori[a] and Yoshinori Asakawa[a]*
[a]*Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Yamashiro-cho, Tokushima 770, Japan*
[b]*Suntory Instutite for Bioorganic Research, Shimamoto-cho, Mishima-gun, Osaka 618, Japan*



1 : $R^1=R^2=H$, $R^3=R^4=Ac$
2 : $R^1=H$, $R^2=R^3=R^4=Ac$
3 : $R^1=R^2=R^4=H$, $R^3=Ac$
4 : $R^1=OH$, $R^2=H$, $R^3=R^4=Ac$
5 : $R^1=R^2=R^3=H$, $R^4=Ac$

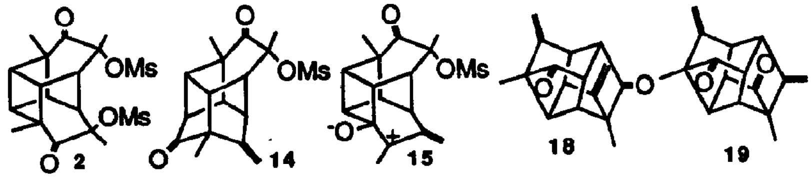
Ptychantins A-E (1-5) have been isolated from the liverwort *Ptychanthus striatus* and their absolute stereostructures were established by a combination of high resolution NMR and CD spectra, and X-ray analysis.

Acid-catalyzed Rearrangement of Pentacyclic Cage Compound *via* a Strange By-path.

Tetrahedron Letters, **1994**, *35*, 5461

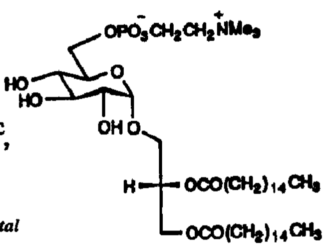
Ken-ichi Hirao,*[a] Hiroki Takahashi,[a] and Kimiko Kobayashi[b] [a]Laboratory of Organic Chemistry, Graduate School of Environmental Earth Science, Hokkaido University, Sapporo 060, Japan [b]The Institute of Physical and Chemical Research (RIKEN), Hirosawa, Wako-shi, Saitama 351-01, Japan

The strange reaction pathway *via* an allyl cation 15 for the acid-catalyzed rearrangement of mesyloxy ketone 2 to diketones 18 and 19 is revealed by an X-ray crystallographic study of the intermediate enone 14.



Tetrahedron Letters, **1994**, *35*, 5465

SYNTHESIS AND ABSOLUTE CONFIGURATION OF 6-*O*-PHOSPHOCHOLINE-α-D-GLUCOPYRANOSYL GLYCEROLIPID ISOLATED FROM HTLV-I-INFECTED CELL LINES



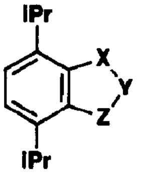
Y. Nishida[a], H. Ohrui[a], H. Meguro[a], M. Ishizawa[b], K. Matsuda[c], T. Taki[c], S. Handa[c] and N. Yamamoto[c]
a) Faculty of Agriculture, Tohoku University, b) UBE Bioscience Laboratory, Science University of Tokyo, c) Faculty of Medicine, Tokyo Medical and Dental University, JAPAN

Tetrahedron Letters, **1994**, *35*, 5469

FIRST SYSTEMATIC SYNTHESIS AND ELECTROCHEMICAL OXIDATION OF 4,7-DIISOPROPYL-1,2,3-BENZOTRICHALCOGENOLES CONTAINING BOTH SULFUR AND SELENIUM ATOMS.

Satoshi Ogawa, Takamasa Kikuchi, Atsuko Sasaki, Shin-ichi Chida, and Ryu Sato,* Department of Applied Chemistry and Molecular Science, Faculty of Engineering, Iwate University, Morioka 020, Japan

New benzotrichalcogenoles containing both sulfur and selenium atoms in the five-membered ring have been synthesized, the cyclic voltammograms of which show the reversible electrochemical oxidation with low oxidation potential.



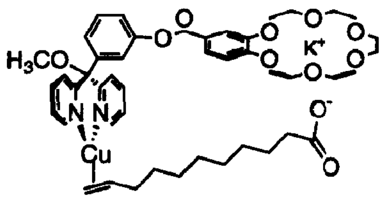
	X	Y	Z
6 :	S	Se	S
7 :	S	S	Se
8 :	S	Se	Se
9 :	Se	S	Se

Tetrahedron Letters, **1994**, *35*, 5473

COMPLEXATION OF A BIFUNCTIONAL SUBSTRATE TO A HETEROBIMETALLIC COMPLEX OF A LIGAND WITH HARD AND SOFT COORDINATION SITES

Magnus Cernerud, Kenneth Wärnmark and Christina Moberg*
Department of Chemistry, Organic Chemistry,
Royal Institute of Technology, S-100 44 Stockholm (Sweden)

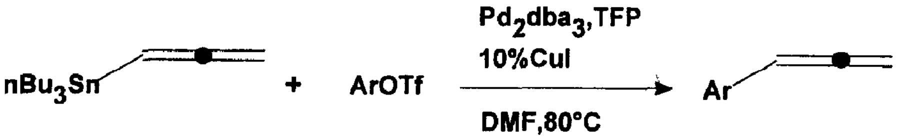
A bimetallic complex of a ligand containing dipyridylmethane and crown ether residues, capable of cooperative binding to a bifunctional substrate, is described.



Tetrahedron Letters, **1994**, *35*, 5477

The Stille coupling reaction of aryl triflates with n-tributylallenyl stannane : a general route to arylallenes.

Domenico Badone*, Rosanna Cardamone and Umberto Guzzi. Research Center Sanofi-Midy SpA via Piranesi,38 20137 Milan Italy

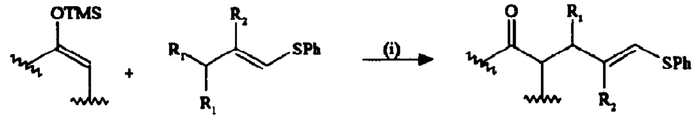


Tetrahedron Letters, **1994**, *35*, 5481

REGIOSELECTIVE ALLYLATION OF ENOL SILYL ETHERS WITH γ-HETEROSUBSTITUTED VINYLTHIONIUM IONS.

Roger Hunter[a]*, Joseph P. Michael[b] and Daryl S. Walter[b]. *a:Department of Chemistry, University of Cape Town, Rondebosch 7700, South Africa; b:Department of Chemistry, University of the Witwatersrand, Johannesburg, 2001, South Africa.*

γ-Heterosubstituted vinylthionium ions regioselectively and diastereoselectively allylate enol silyl ethers.



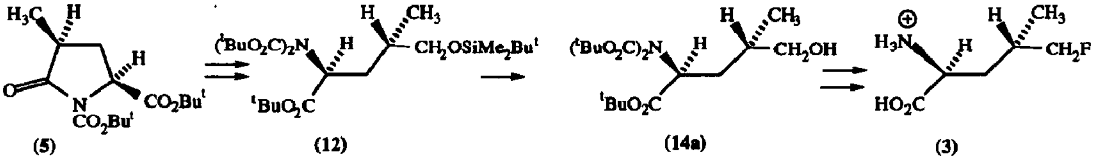
(i) $SnCl_4$ or $TiCl_4$ / CH_2Cl_2 / -78°C

R_1 = OMe, SPh ; R_2 = Me, H.

Tetrahedron Letters, **1994**, *35*, 5485

SYNTHESIS OF (2S,4S)-5-FLUOROLEUCINE

Claire M. Moody, Bernard A. Starkmann and Douglas W. Young*
School of Chemistry and Molecular Sciences, University of Sussex, Falmer, Brighton, BN1 9QJ, U. K.



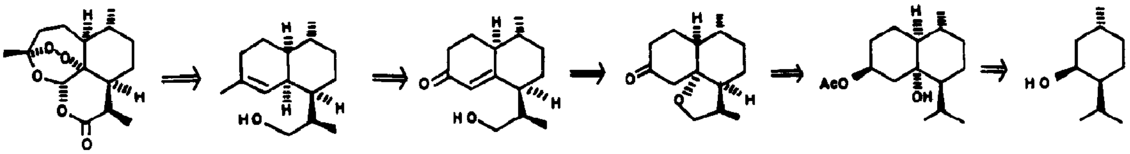
(5) (12) (14a) (3)

Tetrahedron Letters, **1994**, *35*, 5489

NEW SYNTHETIC STRATEGIES TOWARDS (+)-ARTEMISININ

Jayendra B. Bhonsle, Bipin Pandey, Vishnu H. Deshpande and T. Ravindranathan*
Division of Organic Chemistry: Technology, National Chemical Laboratory, Pune-411 008, INDIA.

Novel synthetic strategies for (+)-artemisinin involving OH-assisted chemo- and stereoselective C-H functionalisation and subsequent acid/base induced ring opening have been described, as per the following retrosynthetic analysis.

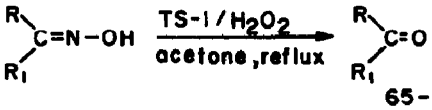


Tetrahedron Letters, **1994**, *35*, 5493

Selective Catalytic Oxidative Cleavage of Oximes to Carbonyl Compounds with H_2O_2 over TS-1

Reni Joseph, A. Sudalai and T. Ravindranathan*
National Chemical Laboratory Pune 411008, India.

$TS\text{-}1\text{-}H_2O_2$ combination efficiently catalyzes oxidative cleavage of oximes to carbonyl compounds



$$\begin{matrix}R\\ \quad C{=}N{-}OH\\ R_1\end{matrix} \xrightarrow[\text{acetone ,reflux}]{TS\text{-}1\,/\,H_2O_2} \begin{matrix}R\\ \quad C{=}O\\ R_1\end{matrix}$$

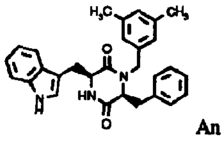
Equation1·

65-86%

Tetrahedron Letters, **1994**, *35*, 5497

The Solution Conformation of 1-(3,5-Dimethylphenyl)methyl-3(S)-(1H-indol-3-yl)methyl-6(S)-phenylmethyl-2,5-piperazinedione (1).

Richard H. Herbert* and Fintan Kelleher, Merck Sharp and Dohme Research Laboratories,
Neuroscience Research Centre, Terlings Park, Eastwick Road, Harlow, Essex, CM20 2QR, UK



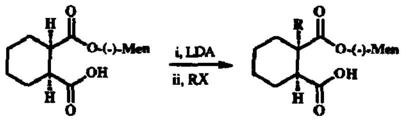
An NMR study of the solution conformation of (1)

Tetrahedron Letters, **1994**, *35*, 5501

THE STEREOSELECTIVE ALKYLATION OF CYCLOHEXANE--1,2-DICARBOXYLIC ACID MONO-(-)-MENTHYL ESTER.

Samantha J. Hulme, Paul R. Jenkins*, John Fawcett and David R. Russell, Leicester University, Leicester, LE1 7RH, U.K.

The dianion of (1*R*),(2*S*)-cyclohexane-1,2-dicarboxylic acid mono-(-)-menthyl ester reacts with alkyl bromides and an iodide to give alkylation with selectivities ranging from 7:1 to 32:1, the configuration of one product has been proved by X-ray crystallography.



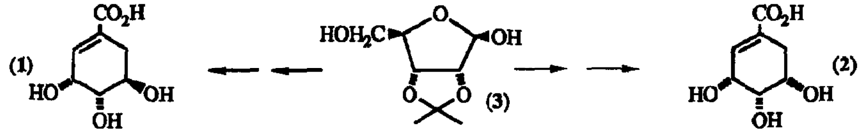
R = *Me*, *Bn*, $-CH_2CH{=}CH_2$, $-CH_2CH{=}CMe_2$, $-CH_2CH{=}CHPh$.

Tetrahedron Letters, **1994**, *35*, 5505

ENANTIOSPECIFIC SYNTHESIS OF (-)-5-*epi*-SHIKIMIC ACID AND A NEW ROUTE TO (-)-SHIKIMIC ACID

Shende Jiang, Boualem Mekki, Gurdial Singh, *School of Science and Technology, University of Teesside, Middlesbrough, TS1 3BA, U.K.*, and Richard H. Wightman, *Department of Chemistry, Heriot-Watt University, Edinburgh EH14 4AS, U.K.*

(-)-Shikimic acid (1) and (-)-5-*epi*-shikimic acid (2) have each been prepared enantiospecifically and with high diastereoselectivity from 2,3-*O*-isopropylidene-D-ribose (3).

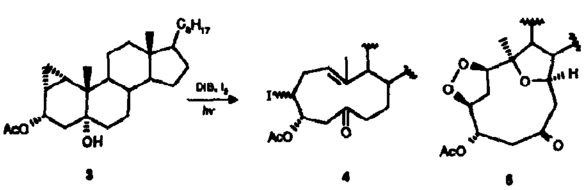


Tetrahedron Letters, **1994**, *35*, 5509

SEQUENTIAL ALKOXY RADICAL FRAGMENTATION-CYCLOPROPYLCARBINYL REARRANGEMENT. SYNTHESIS OF HIGHLY FUNCTIONALIZED ELEVEN-MEMBERED RINGS.

Alicia Boto,[a] Carmen Betancor,[b] Ernesto Suárez*[a]
[a]Instituto de Productos Naturales y Agrobiología del C.S.I.C., Carretera de La Esperanza 2, La Laguna, Tenerife, Spain. [b]Departamento de Química Orgánica, Universidad de La Laguna.

The steroidal alcohol (3) with (diacetoxyiodo)benzene (DIB)-iodine under irradiation with visible light undergoes a tandem alkoxy radical β-fragmentation-cyclopropylcarbinyl rearrangement reaction to give ketone (4). In the presence of oxygen, highly functionalized eleven-membered cyclic ketone (6) is obtained.



3

4

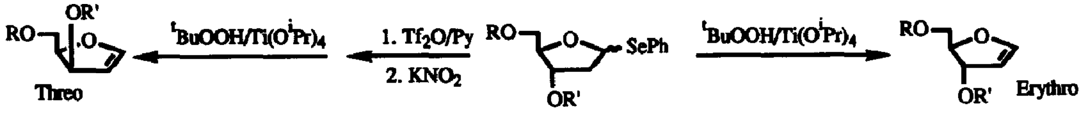
6

Tetrahedron Letters, **1994**, *35*, 5513

EFFICIENT PROCEDURE FOR THE SYNTHESIS OF ERYTHRO AND THREO FURANOID GLYCALS FROM 2-DEOXYRIBOSE

Mohamed Kassou and Sergio Castillón*
Departament de Química, Universitat Rovira i Virgili, Pça. Imperial Tarraco 1, 43005 Tarragona, Spain.

Phenyl 2-deoxy-1-selenofuranosides, easily obtained from 2-deoxyribose, have been efficiently converted into furanoid glycals of erythro and threo configuration.

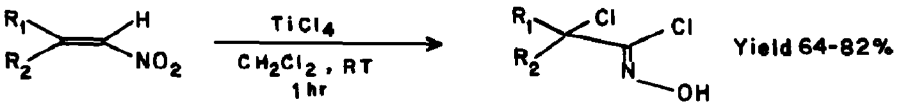


Tetrahedron Letters, **1994**, *35*, 5517

A Facile Conversion of Nitro olefins to Functionalised Hydroximoyl Chlorides As Nitrile Oxide Precursors.

G. Kumaran and Gurunath H. Kulkarni*
Division of Organic Chemistry(Synthesis), National Chemical Laboratory, Pune 411008, India.

Hydroximoyl chlorides bearing α-chloro functionality were prepared from conjugated nitro olefins using $TiCl_4$ at RT in moderate to good yield.

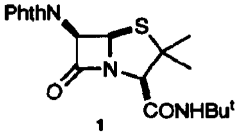


Tetrahedron Letters, **1994**, *35*, 5519

Novel Stereochemical Manipulations of the Penicillin Nucleus

Jack E. Baldwin, Robert Y. Chan and John D. Sutherland
The Dyson Perrins Laboratory and the Oxford Centre for Molecular Sciences, South Parks Road, Oxford OX1 3QY, UK.

The synthesis of a homochiral C2-epipenicillin *tert*-butylamide 1 from 6-β-phthalimidopenicillanic acid *via* a novel ring β-lactam ring opening followed by Ugi reclosure is described.



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