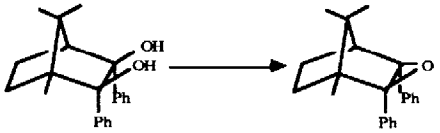
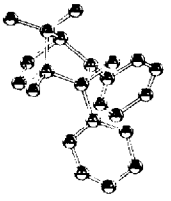
GRAPHICAL ABSTRACTS

Tetrahedron Lett. 30, 6797 (1989)

STRAINED OXIRANES FROM CIS-DIOLS

Eduardo Palomino[1]*, A. Paul Schaap and Mary Jane Heeg
Department of Chemistry, Wayne State University, Detroit, MI 48201



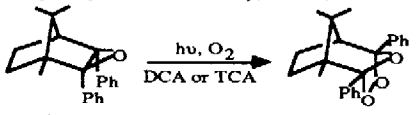


Cis-diols of some strained molecules are converted to epoxides without inversion of configuration by the use of the redox system triphenylphosphine:diethylazodicarboxylate, or by treatment of their dimethylaminodioxolane derivatives with trifluoroacetic anhydride as catalyst.

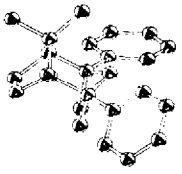
Tetrahedron Lett. 30, 6801 (1989)

PHOTOOXYGENATION OF STRAINED EPOXIDES

Eduardo Palomino[1]*, A. Paul Schaap and Mary Jane Heeg
Department of Chemistry, Wayne State University, Detroit, MI 48201



1 2



Photooxygenation of strained epoxides, type 1, in the presence of DCA or TCA afforded ozonide 2 in different ratios. A mechanism involving trapping of a radical cation by $^3O_2$ is proposed. Trapping of an ylide intermediate by $^1O_2$ is also considered in the DCA-sensitized photooxygenation.

Tetrahedron Lett. 30, 6805 (1989)

TRANS-CYCLOHEPTENE: SPECTRAL CHARACTERIZATION AND DYNAMIC BEHAVIOR

Michael Squillacote*, Adelle Bergman and James De Felippis
Department of Chemistry, Auburn University, Auburn University, AL 36849-5312

We have produced *trans*-cycloheptene via a singlet exciplex of the *cis* isomer and have obtained NMR and UV spectra of this strained cyclic alkene. This ring system undergoes a pseudorotation process with a barrier of 10.0 kcal/mole. The UV spectrum suggests a substantial twist to the double bond, but interestingly the vinyl H-H coupling constant implies a 180° dihedral angle for the vinyl protons.

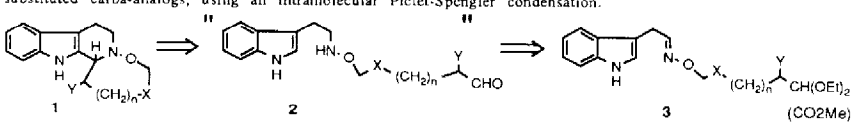
Tetrahedron Lett. 30, 6809 (1989)

A CONCISE ROUTE TO THE OXATHIAZEPINE CONTAINING EUDISTOMIN SKELETON AND SOME CARBA-ANALOGS

Michael P Kirkup*, B.B. Shankar, Stuart McCombie, and Ashit K. Ganguly,
Schering-Plough Corporation, Bloomfield, NJ 07003

Andrew T. McPhail, Paul M. Gross Chemical Laboratory, Duke University, Durham, NC 27706

The unsubstituted Eudistomin skeleton containing the oxathiazepine D ring was prepared along with a series of unsubstituted and amino substituted carba-analogs, using an intramolecular Pictet-Spengler condensation.

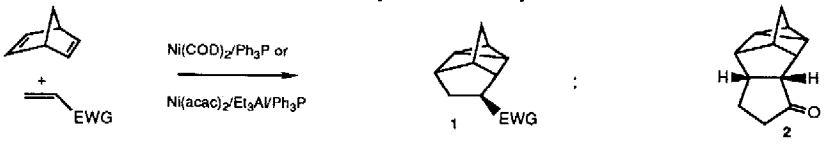


Tetrahedron Lett. 30, 6813 (1989)

STEREOSELECTIVITY IN THE HOMO DIELS-ALDER REACTION

Mark Lautens*, Louise G. Edwards
Department of Chemistry, University of Toronto, Toronto, Canada M5S 1A1

$Ni(COD)_2/Ph_3P$ and $Ni(acac)_2/Et_3Al/Ph_3P$ are effective catalysts for the stereospecific homo Diels-Alder reaction. Reaction with methyl vinyl ketone or phenyl vinyl sufoxide gives predominantly the *exo* isomer **1**. Cyclic enones such as cyclopentenone give the cycloadduct **2** with high *endo* selectivity, i.e. >20:1

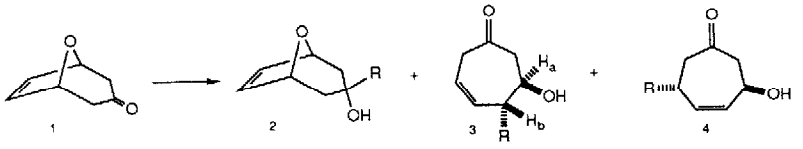


Tetrahedron Lett. 30, 6817 (1989)

RING OPENING REACTIONS OF AN OXABICYCLIC COMPOUND WITH CUPRATES

Mark Lautens*, Carlo Di Felice and Alexandre Huboux
Department of Chemistry, University of Toronto, Toronto, Ontario Canada M5S 1A1

The ring opening reaction of 8-oxabicyclo[3.2.1]oct-6-en-3-one **1**, with cuprates is described. S_N2' attack to give **3** is the predominant pathway giving rise to products isomeric to those derived from opening of vinyl epoxides under similar conditions, e.g. **4.**

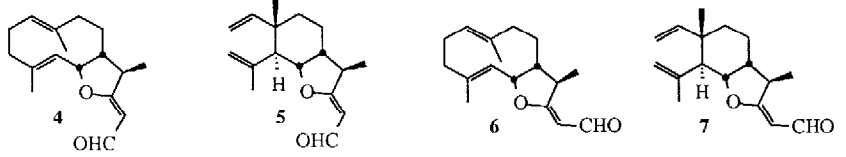


Tetrahedron Lett. 30, 6821 (1989)

NORASPERENALS A-D, UNPRECEDENTED TRISNORDITERPENOIDS FROM THE CARIBBEAN GORGONIAN EUNICEA SP.

Jongheon Shin and William Fenical*
Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA 92093-0228

The structures of four new trisnorditerpenoids, norasperenals A-D (**4-7**) were determined by spectral methods.

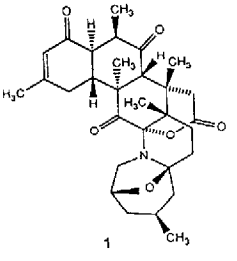


Tetrahedron Lett. 30, 6825 (1989)

ZOANTHAMINONE, A NEW ALKALOID FROM A MARINE ZOANTHID

Atta-ur-Rahman*, K. Ahmed, S. A. Abbas, M. Iqbal Choudhary[1] and J. Clardy[1*]
H. E. J. Research Institute of Chemistry, University of Karachi, Karachi-75270, Pakistan
[1] Department of Chemistry, Cornell University, Ithaca, New York 14853, U. S. A

An unusual alkaloid, zoanthaminone (1) has been isolated from a marine zoanthid. Its structure has been established by using X-ray crystallographic and spectroscopic techniques.

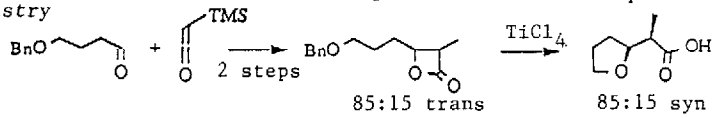


Tetrahedron Lett.30,6829(1989)

A NEW APPROACH TO THE PREPARATION OF 2-SUBSTITUTED TETRAHYDROFURANS WITH ALPHA-SYN SELECTIVITY

Keith T. Mead and Hui-Li Yang
Department of Chemistry, Mississippi State University, Mississippi State 39762

Lewis acid initiated intramolecular 2-oxetanone ring cleavage has been shown to proceed *with inversion of stereochemistry*

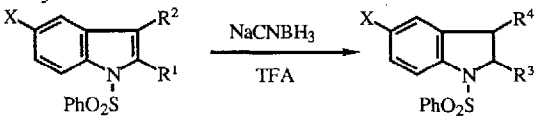


Tetrahedron Lett.30,6833(1989)

THE REDUCTION OF N-(PHENYLSULFONYL)INDOLES WITH SODIUM CYANOBOROHYDRIDE IN TRIFLUOROACETIC ACID.

Daniel M. Ketcha* and Brett A. Lieurance
Department of Chemistry, Wright State University, Dayton Ohio 45435

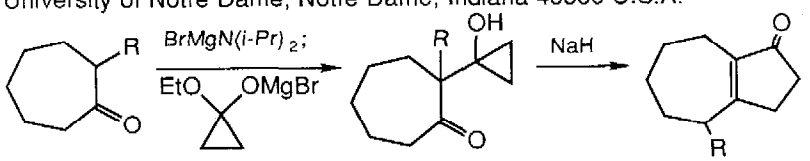
A variety of N-(phenylsulfonyl)indoles can be reduced to the corresponding N-protected indolines using sodium cyanoborohydride in trifluoroacetic acid.



Tetrahedron Lett.30,6837(1989)

SUBSTITUTED HYDRAZULENONES VIA CYCLOPROPANONE ADDITION, CYCLOPROPANOL REARRANGEMENT, AND A RETROALDOL/RE-ALDOL SEQUENCE

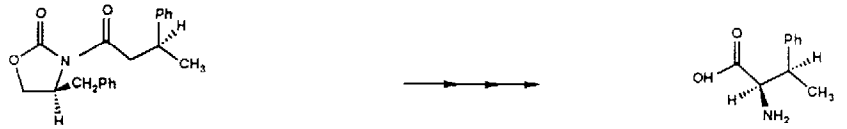
Valérie Reydellet and Paul Helquist*, Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, Indiana 46556 U.S.A.



Tetrahedron Lett.30,6841(1989)

ASYMMETRIC SYNTHESIS OF UNUSUAL AMINO ACIDS: SYNTHESIS OF OPTICALLY PURE ISOMERS OF β-METHYLPHENYLALANINE.

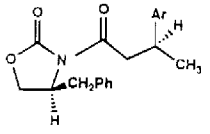
Ramalinga Dharanipragada, Ernesto Nicolas, Geza Toth and Victor J. Hruby,
Department of Chemistry, University Of Arizona, Tucson, AZ 85721 USA.

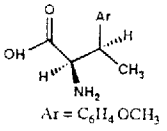


Tetrahedron Lett.30,6845(1989)

ASYMMETRIC SYNTHESIS OF UNUSUAL AMINO ACIDS: SYNTHESIS OF OPTICALLY PURE ISOMERS OF β-METHYLTYROSINE.

Ernesto Nicolas, Ramalinga Dharanipragada, Geza Toth and Victor J. Hruby*.
Department of Chemistry, University Of Arizona, Tucson, AZ 85721 USA.





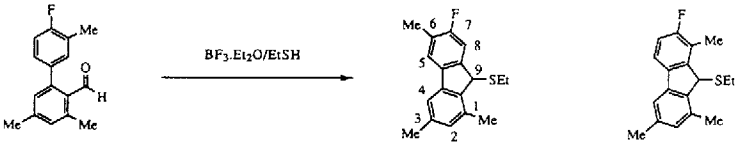
Ar = $C_6H_4OCH_3$

Tetrahedron Lett.30,6849(1989)

THE PREPARATION OF 9-ALKYLTHIOFLUORENES FROM BIPHENYL-2-CARBOXALDEHYDES

Jack D. Leber and John D. Elliott*, Department of Medicinal Chemistry, Smith Kline and French Laboratories, P.O. Box 1539, King of Prussia, PA 19406-0939

Treatment of the biphenyl 2-carboxaldehyde **3** with $BF_3.Et_2O$/EtSH produces 9-alkylthiofluorenes **4a**/**4b** through a thionium ion induced cyclization.



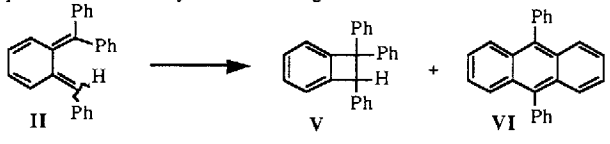
3 **4a** **4b**

Tetrahedron Lett.30,6851(1989)

PHOTOCHEMISTRY OF 1,1,3-TRIPHENYL-2-INDANONE. SPONTANEOUS AND PHOTOCHEMICAL DECAY OF *ortho*-XYLYLENES

*J. C. Netto-Ferreira, Véronique Wintgens and J. C. Scaiano**
Division of Chemistry, National Research Council of Canada, Ottawa, Canada K1A 0R6 and Ottawa-Carleton Chemistry Institute, University of Ottawa, Ottawa, Canada K1N 6N5.

Xylylene **II** decays by a competition of two processes ultimately leading to **V** and **VI**. Two-photon processes favor the cyclization leading to **VI**.



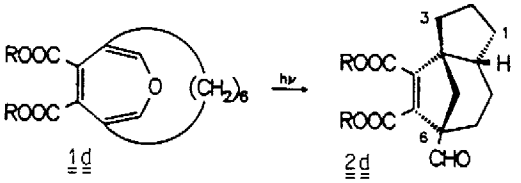
II **V** **VI**

Tetrahedron Lett.30,6855(1989)

CHIRALE INDUKTION BEI DER PHOTOCHEMISCHEN UMLAGERUNG VON 3,6-HEXANOOXEPIN-4,5-DICARBONSÄUREESTERN

W. Tochtermann*, U. Schlösser und B. Popp
Institut für Organische Chemie der Universität Kiel
Olshausenstr. 40, D-2300 Kiel, F.R.G.
E.-M. Peters, K. Peters und H.G. von Schnering
Max-Planck-Institut für Festkörperforschung
Heisenbergstr. 1, D-7000 Stuttgart 80, F.R.G.

Irradiation of an aqueous suspension of the crystalline diacetone glucose diester **1d** affords (+)-(3a*S*,6*R*,8a*R*)-**2d** in 45% yield with 83% de.



1d **2d**

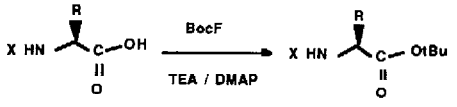
Tetrahedron Lett. 30, 6859 (1989)

TERT-BUTYL ESTERS OF N-PROTECTED AMINO ACIDS WITH TERT-BUTYL FLUOROCARBONATE (Boc-F)

A. Loffet [a], N. Galeotti [b], P. Jouin [b]* and B. Castro [b].

[a] *PROPEPTIDE, B. P. 12, 91710 VERT-LE-PETIT, FRANCE.*

[b] *Centre CNRS-INSERM de Pharmacologie-Endocrinologie rue de la Cardonille, 34094, MONTPELLIER, FRANCE.*



tert-Butyl fluorocarbonate (Boc-F) is efficiently used in the presence of triethylamine and 4-dimethylamino-pyridine for the synthesis of tert-butyl esters of N-protected amino acids.

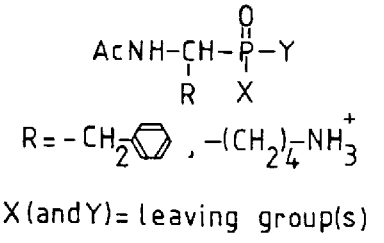
Tetrahedron Lett. 30, 6861 (1989)

SYNTHESIS OF NEW PHOSPHONATE INHIBITORS OF SERINE PROTEASES

Jacques Fastrez[a], Laurent Jespers[a], Dominique Lison[b], Michel Renard[b], and Etienne Sonveaux[a]*

[a]Laboratoire de Biochimie Physique et des Biopolymères, 1, Place Louis Pasteur, B-1348 Louvain-La-Neuve, Belgium.

[b]Unité de Toxicologie Industrielle et de Médecine du Travail, 30, Clos Chapelle-aux-Champs, B-1200, Bruxelles, Belgium, and STFT/CT, B-1800, Vilvoorde, Belgium.

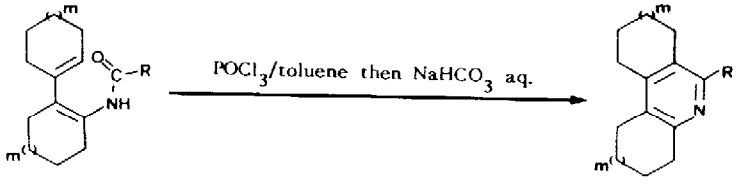


Tetrahedron Lett. 30, 6865 (1989)

DIENAMIDES AS VERSATILE PRECURSORS OF POLYCYCLIC PYRIDINES AND ISOQUINOLINES

Axel Couture*, Christophe Bochu and Pierre Grandclaudon

Laboratoire de Chimie Organique Physique (UA CNRS N° 351) Université des Sciences et Techniques de Lille Flandres-Artois 59655 Villeneuve d'Ascq Cedex, France



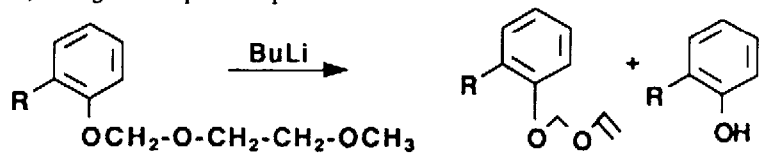
Tetrahedron Lett. 30, 6867 (1989)

An unexpected difficulty in the use of MEM as a protective group for phenolic hydroxyl.

Joëlle MAYRARGUE, Mustapha ESSAMKAOUI et Henri MOSKOWITZ*

Faculté de Pharmacie, Laboratoire de Chimie Organique, associé au CNRS, 92296 Châtenay-Malabry (France).

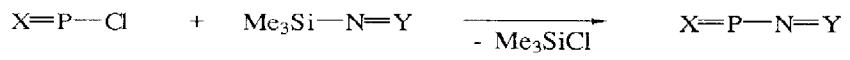
During the *ortho*lithiation of methoxyethoxymethyl protected phenolic hydroxyl, an unexpected deprotection in the basic medium occurs, leading to the deprotected phenol and an unsaturated ether:



Tetrahedron Lett. 30, 6869 (1989)

PHOSPHORUS DIENIC LIKE SYSTEMS

*Anne-Marie Caminade , Christian Roques , Nathalie Dufour, Dominique Colombo , Frédéric Gonce and Jean-Pierre Majoral**
Laboratoire de Chimie de Coordination du CNRS, 205,Route de Narbonne,31077 Toulouse ,France



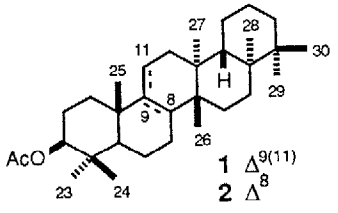
X = $C(SiMe_3)_2$; N-Ar (Ar = $tBu_3C_6H_2$)
Y = CHPh ; C(Me)$OSiMe_3$; CPh_2 ; PPh_3 ; $P(NMe_2)_3$

Tetrahedron Lett. 30, 6873 (1989)

COMPOSITE CONSTITUENTS: NEW MIGRATED GAMMACERANE TRITERPENOIDS FROM ROOTS OF *PICRIS HIERACIOIDES* SUBSP. *JAPONICA*

Kenji Shiojima, Kazuo Masuda, Yuko Ooishi, Hideki Suzuki and Hiroyuki Ageta,* *Showa College of Pharmaceutical Sciences, 5-1-8 Tsurumaki, Setagaya-ku, Tokyo 154, JAPAN*

Pichierenyl acetate (**1**) and isophichierenyl acetate (**2**) were isolated and their structures were established as the members of migrated gammaceane series with a $\Delta^{9(11)}$ and a Δ^8 double bond respectively.

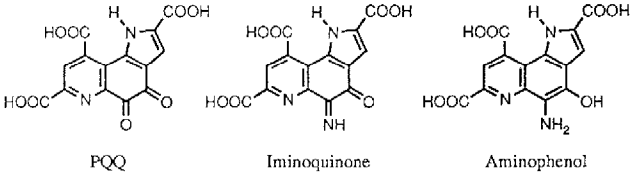


Tetrahedron Lett. 30, 6875 (1989)

PREPARATION AND CHARACTERIZATION OF IMINOQUINONE AND AMINOPHENOL DERIVATIVES OF COENZYME PQQ

Minae Mure, Shinobu Itoh, and Yoshiki Ohshiro*
Department of Applied Chemistry, Faculty of Engineering, Osaka University, Yamadaoka 2-1, Suita, Osaka 565, Japan

5-Iminoquinone derivative of PQQ was easily prepared by treatment with ammonia. Reduction of the iminoquinone with $MeNHNH_2$ gave the aminophenol.

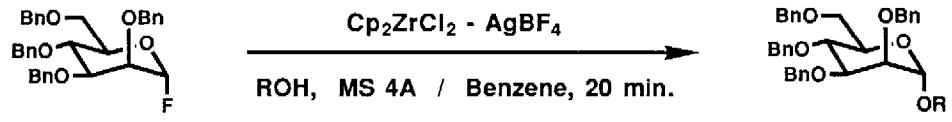


PQQ Iminoquinone Aminophenol

Tetrahedron Lett. 30, 6879 (1989)

Cp_2ZrCl_2-$AgBF_4$ in Benzene: A New Reagent System for Rapid and Highly Selective α-Mannoside Synthesis from Tetra-O-benzyl-D-mannosyl Fluoride

Keisuke Suzuki*, Hideki Maeta, Toshiyuki Suzuki, and Takashi Matsumoto
Department of Chemistry, Keio University, Hiyoshi, Yokohama 223, Japan



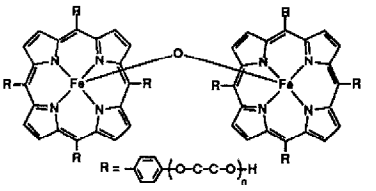
Tetrahedron Lett.30,6883(1989)

Interaction between Cofacially Oriented Metalloporphyrins in Aqueous Media. Unusual Acidolytic Properties of an Amphiphilic Iron Porphyrin μ-Oxo Dimer Carrying Poly(oxyethylene) Side Chains.

Takuzo Aida, Akihiko Takemura, and Shohei Inoue*

Department of Synthetic Chemistry, Faculty of Engineering
University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan.

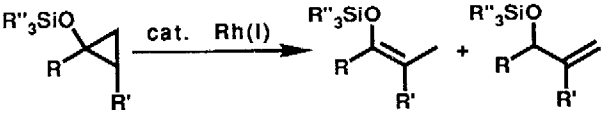
The acid titration of the amphiphilic iron porphyrin μ-oxo dimer carrying poly(oxyethylene) side chains demonstrates the pronounced dependence of the acidolytic property of the internal μ-oxo bridge on the length of the water-soluble polyether side chains.



Tetrahedron Lett.30,6887(1989)

RHODIUM(I)-CATALYZED ISOMERIZATION OF SILOXYCYCLOPROPANES LEADING TO ENOL SILYL ETHERS AND ALLYL SILYL ETHERS

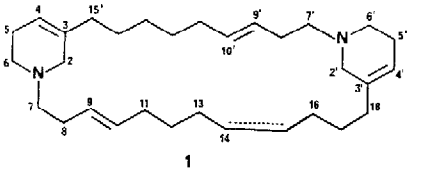
Kiyoshi Ikura, Ilhyong Ryu,* Akiya Ogawa, Nobuaki Kambe, and Noboru Sonoda*
Department of Applied Chemistry,
Faculty of Engineering,
Osaka University, Suita, Osaka 565, Japan



Tetrahedron Lett.30,6891(1989)

HALICLAMINES A AND B, CYTOTOXIC MACROCYCLIC ALKALOIDS FROM A SPONGE OF THE GENUS HALICLONA

N. Fusetani,* K. Yasumuro, S. Matsunaga
Laboratory of Marine Biochemistry, Faculty of Agriculture,
The University of Tokyo, Bunkyo-ku, Tokyo (Japan)
H. Hirota
Department of Chemistry, Faculty of Science,
The University of Tokyo, Bunkyo-ku, Tokyo (Japan)



1
2: Δ^{14}

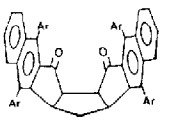
Two cytotoxic alkaloids, haliclamines A and B, have been isolated from a sponge Haliclona sp.

Tetrahedron Lett.30,6895(1989)

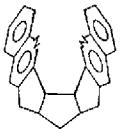
FROM CAGES TO WEDGES AND CLEFTS: DESIGN OF SOME NOVEL HOSTS BASED ON cis, syn, cis-TRIQUINANE FRAMEWORK

G. Mehta*, C. Prabhakar, School of Chemistry, University of Hyderabad, Hyderabad - 500 134, India, N. Padmaja, S. Ramakumar and M.A. Viswamitra*, Department of Physics and ICMR Centre on Genetics and Cell Biology, Indian Institute of Science,Bangalore-560 012,India.

Summary: Annulation of aromatic rings on the folded cis, syn, cis-triquinane backbone has led to the design of potential host systems 4 and 6.



4



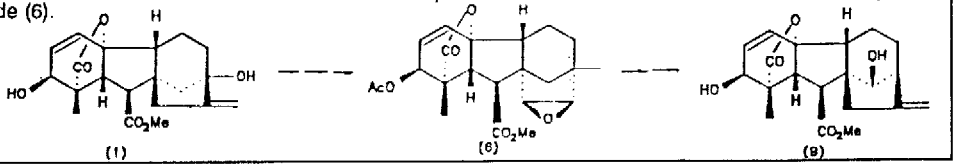
6

THE FIRST PARTIAL SYNTHESIS OF 14-HYDROXYGIBBERELLIN ESTERS. A TITANIUM (IV)-AMIDE CATALYSED REARRANGEMENT OF EPOXIDES.

Tetrahedron Lett.30,6899(1989)

Braulio M. Fraga[a], James R. Hanson[b], Melchor G. Hernández[a] and Fernando G. Tellado[a].
[a]Instituto Productos Naturales Orgánicos, CSIC, La Laguna, Tenerife, Spain.
[b]School of Molecular Sciences, University of Sussex, Brighton BN1 9QJ, UK.

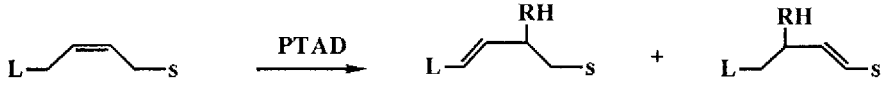
GA_3 methyl ester (1) has been efficiently transformed into 14β-OH GA_7 methyl ester (9) via a titanium (IV)-amide catalysed rearrangement of epoxide (6).



Tetrahedron Lett.30,6903(1989)

REACTIONS OF TRIAZOLINEDIONES WITH CIS-ALKENES. A HIGHLY REGIOSELECTIVE ENE REACTION

Yiannis Elemes, Manolis Stratakis and Michael Orfanopoulos*
Department of Chemistry, University of Crete, 71110 Iraklion, Crete, Greece

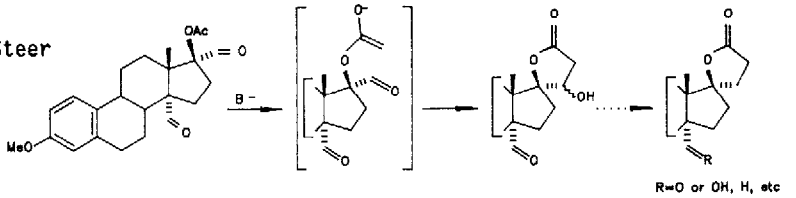


L = large, s = small

Tetrahedron Lett.30,6907(1989)

INTRAMOLECULAR CONDENSATION OF STEROIDAL 17α-FORMYL-17β-ACETATES: SYNTHESIS OF 14-HYDROXYMETHYL-3-OXO-19-NOR-17α-PREGN-4-ENE-21,17-CARBOLACTONE

James R. Bull* and Lynne M. Steer
Department of Chemistry,
University of Cape Town,
Rondebosch 7700,
South Africa



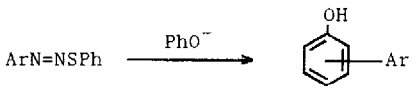
R=O or OH, H, etc

Tetrahedron Lett.30,6911(1989)

UNSYMMETRICAL BIARYLS FROM ARYLOXIDE ANIONS AND ARYLAZO PHENYL SULFIDES IN DMSO.

Giovanni Petrillo,* Marino Novi, and Carlo Dell´Erba
Istituto di Chimica Organica dell'Università, C.N.R. Centro di Studio sui Diariloidi e loro Applicazioni, Corso Europa 26, I-16132 Genova, Italy.

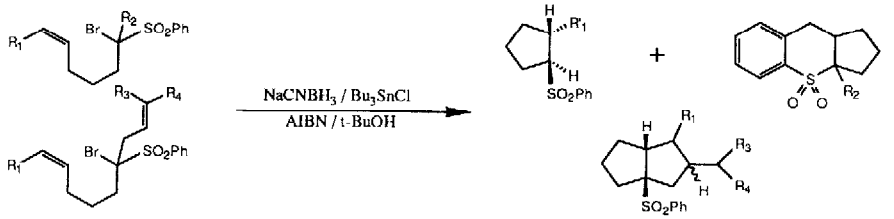
Hydroxybiaryls can be conveniently obtained in DMSO at room temperature by reaction of arylazo phenyl sulfides and aryloxide anions:



Tetrahedron Lett.30,6913(1989)

α-Sulfonyl Radical Initiated Intramolecular Tandem Radical Cyclization

V. Reutrakul*, C. Poolsanong and M. Pohmakotr, Department of Chemistry,
Mahidol University, Rama VI Rd., Bangkok 10400, Thailand.

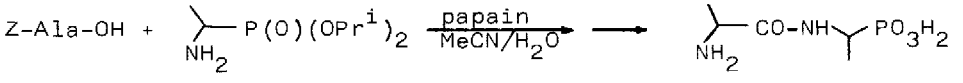


Tetrahedron Lett.30,6917(1989)

STEREOSELECTIVE PAPAIN-CATALYZED SYNTHESIS OF ALAFOSFALIN

V.A.Solodenko, V.P.Kukhar

Institute of Bioorganic Chemistry of the Ukrainian Academy of Sciences, Murmanskaya Str., 5, Kiev 252660, USSR



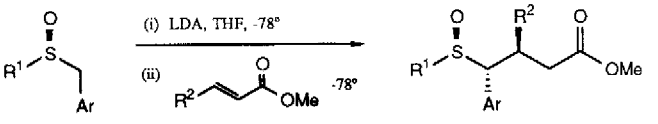
(L) (L,D) (L) (L)

Tetrahedron Lett.30,6919(1989)

Stereoselective Conjugate Additions of Benzyl Sulphoxides to α,β-Unsaturated Esters

M. Casey,* A.C. Manage, and R.S. Gairns
Department of Chemistry and Applied Chemistry, University of Salford, Salford. M5 4WT

The reaction of lithiated benzyl t-butyl sulphoxides with α,β-unsaturated esters gives conjugate addition products in good yield, with high stereoselectivity.

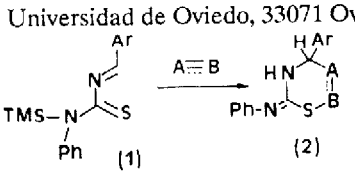


Tetrahedron Lett.30,6923(1989)

CYCLOADDITION REACTIONS OF HETEROAZADIENES: [4+2] CYCLOADDITION OF 1-THIA-3-AZABUTADIENES WITH ELECTRON-POOR DIENOPHILES.

José Barluenga*, Miguel Tomás, Alfredo Ballesteros, and Luis A. López
Dpto. de Química Organometálica, Facultad de Química, Universidad de Oviedo, 33071 Oviedo, Spain

1-Thia-3-azabutadienes (1) react at 25-60°C with dimethyl acetylenedicarboxylate, *N*-phenylmaleimide, methyl propiolate, and diethyl azodicarboxylate, to give cycloadducts (2) in high yield.



(1) (2)

Tetrahedron Lett. 30, 6927 (1989)

A NEW SYNTHESIS OF 10,11-DIHYDRODIBENZ(b,f)OXEPIN-10-ONES: KEY INTERMEDIATES TO CULARINE ALKALOIDS

Carlos Lamas, Alberto García, Luis Castedo* and Domingo Domínguez
Dpto. de Química Orgánica. Facultad de Química y Sección de Alcaloides del C.S.I.C. Santiago de Compostela. Spain

A new synthesis of dihydrodibenzoxepinones is described: