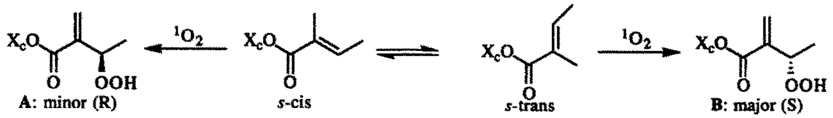
GRAPHICAL ABSTRACTS

Tetrahedron, **1994**, *50*, 8929

STEREOSELECTIVE DIOXYGENATION OF ENOATES

Patrick H. Dussault*, Kevin R. Woller and Michael C. Hillier
Department of Chemistry, University of Nebraska-Lincoln, Lincoln, NE 68588-0304

The auxiliary-directed reaction of singlet oxygen with tiglate esters furnishes an asymmetric synthesis of 3-hydroperoxy-2-methylidene butenoates and provides insight into the relative reactivities of the enoate conformers.

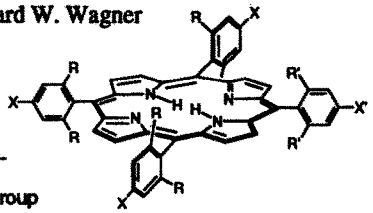


Tetrahedron, **1994**, *50*, 8941

PORPHYRIN BUILDING BLOCKS FOR MODULAR CONSTRUCTION OF BIOORGANIC MODEL SYSTEMS

Jonathan S. Lindsey*, Sreedharan Prathapan, Thomas E. Johnson, and Richard W. Wagner
Department of Chemistry, Carnegie Mellon University,
4400 Fifth Avenue, Pittsburgh, PA 15213 USA

24 porphyrin building blocks have been synthesized as part of a modular approach for preparing porphyrin model systems. Coupling strategies are explored in the synthesis of 13 porphyrin dimers linked by amide, thiourea, butadiyne, or ethyne groups.



R, R' = CH_3- or H-

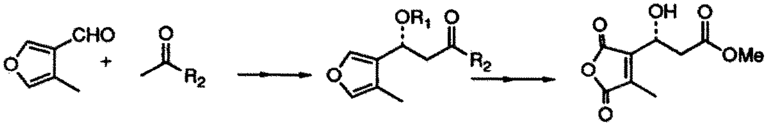
X, X' = functional group

Tetrahedron, **1994**, *50*, 8969

Synthetic Studies on Tautomycin
Synthesis of 2,3-Disubstituted Maleic Anhydride Segment

Atsushi Naganawa, Yoshiyasu Ichikawa and Minoru Isobe*
Laboratory of Organic Chemistry, School of Agricultural Sciences, Nagoya University, Chikusa, Nagoya 464-01, Japan

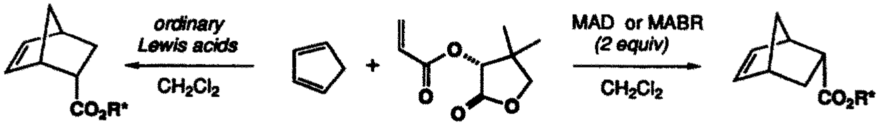
The 2,3-disubstituted maleic anhydride segment of tautomycin has been synthesized in optically active form by Evans asymmetric aldol reaction and oxidation of 3,4-disubstituted furan employing singlet oxygen.



Tetrahedron, **1994**, *50*, 8983

Methylaluminum Bis(4-substituted-2,6-di-*tert*-butylphenoxide) as an Efficient Nonchelating Lewis Acid: Application to Asymmetric Diels-Alder Reaction and Diastereoselective Alkylation to Alkoxy Cyclic Ketones

Keiji Maruoka, Masataka Oishi, Kei Shiohara, and Hisashi Yamamoto*
School of Engineering, Nagoya University Chikusa, Nagoya 464-01, Japan

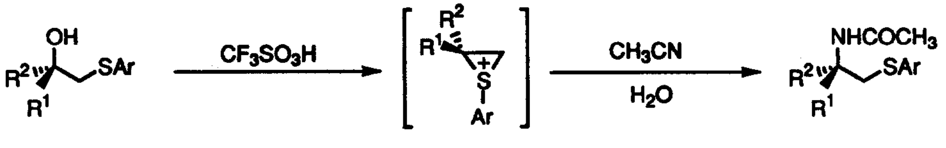


Tetrahedron, **1994**, *50*, 8997

RETENTION OF CONFIGURATION IN THE RITTER-TYPE SUBSTITUTION REACTION OF CHIRAL β-ARYLTHIO ALCOHOLS THROUGH THE ANCHIMERIC ASSISTANCE OF THE ARYLTHIO GROUP

Akio Toshimitsu,* Chitaru Hirosawa, and Kohei Tamao
Institute for Chemical Research, Kyoto University, Uji, Kyoto 611, Japan

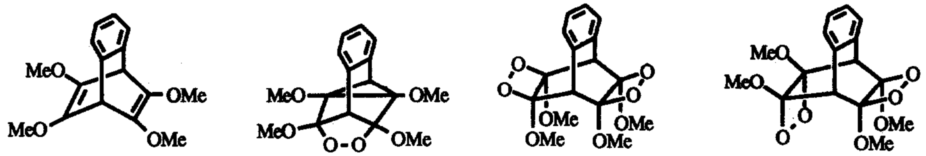
The hydroxy group is replaced by nitriles with retention of configuration through the anchimeric assistance of the arylthio group.



Tetrahedron, **1994**, *50*, 9009

PHOTOOXYGENATION OF TETRAMETHOXYBENZOBARRELENE: SYNTHESIS AND THERMAL DECOMPOSITION OF BISDIOXETANE AND ENDOPEROXIDE

W. Adam*[a], M. Balci*[b], O. Çakmak[a], K. Peters[c], C. R. Saha-Möller[a], M. Schulz[a]; Universität Würzburg[a], Germany; Atatürk University[b], Turkey; Max- Plank- Institut für Festkörperforschung[c], Germany



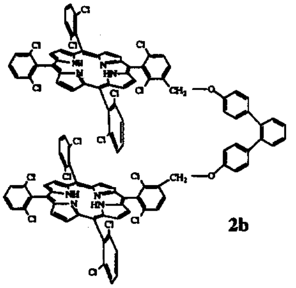
Tetrahedron, **1994**, *50*, 9025

DIMERIC Mn(III)-TETRAARYLPORPHYRINS AS CATALYSTS FOR H_2O_2-PROMOTED OLEFIN EPOXIDATION

Stefano Banfi[a], Fernando Montanari[a]*, Gianluca Pozzi[b]* and Silvio Quici[a]

[a] Centro CNR and Dipartimento di Chimica Organica e Industriale dell'Università, 20133 Milano, Italy. [b] Laboratoire de Chimie des Substance Naturelles, associé au CNRS, Centre de Neurochimie, Université Louis Pasteur, 67084 Strasbourg, France.

The synthesis of four dimeric Mn(III)-tetraarylporphyrins (e.g. Mn(III) complex of **2b**) able to catalyze cyclooctene epoxidation by 30% H_2O_2 is reported. Their catalytic activity in the presence of a bidentate lipophilic nitrogen base is discussed.

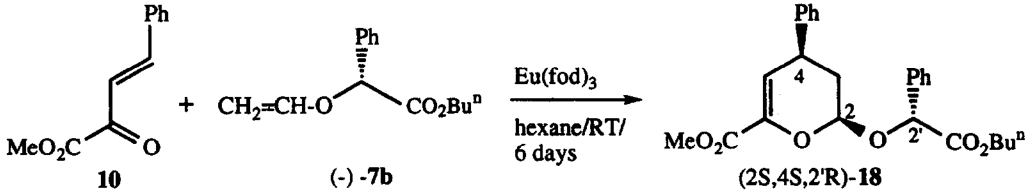


2b

Tetrahedron, **1994**, *50*, 9037

Asymmetric Synthesis and Absolute Configuration of Substituted Dihydropyrans, by Intramolecular Heterocycloaddition of Chiral Vinyl Ethers

G. Dujardin, S. Rossignol, S. Molato and E. Brown
Laboratoire de Synthèse Organique, Université du Maine, avenue Olivier Messiaen, BP 535, F-72017 Le Mans (France)



10 (-) -**7b** (2S,4S,2'R)-**18**

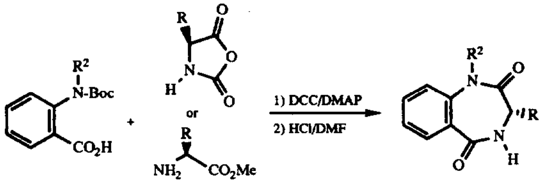
78% yield ; d.r. = 97/3

New Routes to 1,4 Benzodiazepine-2,5-diones

Tetrahedron, **1994**, *50*, 9051

M. Akssira*, M. Boumzebra, H. Kasmi, A. Dahdouh ,Université Abdelmalek Essaadi, BP2121 Tetouan - Maroc -
M.-L. Roumestant, Ph. Viallefont ,Université Montpellier II, Place E. Bataillon, 34095 Montpellier Cédex 5 - France -

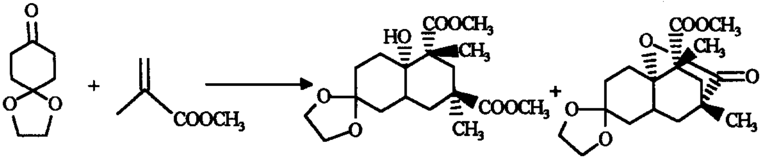
Two routes have been explored.



TANDEM SYNTHESES OF CYCLOHEXANE DERIVATIVES VIA SEQUENTIAL MICHAEL-MICHAEL-ALDOL REACTION

Tetrahedron, **1994**, *50*, 9061

Bin Ye, Li-Xin Qiao, Yi-Bing Zhang, and Yu-Lin Wu*
State Key Laboratory of Bio-organic and Natural Products Chemistry
Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, CHINA

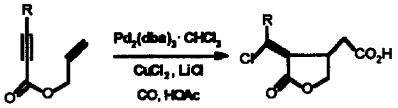


Palladium Catalyzed Cyclization-Carbonylation of Allylic 2-Alkynoates

Tetrahedron, **1994**, *50*, 9067

Jianguo Ji and Xiyan Lu*
Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 354 Fenglin Lu, Shanghai 200032, China

α-(Z)- and (E)- Chloroalkylidene-γ-butyrolactone β-acetic acid derivatives were prepared from easily available acyclic allylic 2-alkynoates using $Pd_2(dba)_3$ $CHCl_3$ as catalyst under 1 atm of CO in the presence of $CuCl_2$ and LiCl in high stereoselectivity.

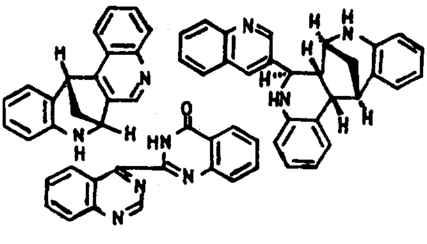


STUDIES ON SINGLE-ELECTRON TRANSFER REAGENTS. PART IV. REACTION OF NITROGEN HETEROCYCLES WITH SODIUM NAPHTHALENIDE

Tetrahedron, **1994**, *50*, 9079

AVIJIT BANERJI* and SUKLA MAITI (née JANA), Centre of Advanced Studies on Natural Products, Department of Chemistry, Calcutta University, University College of Science, 92, Acharya Prafulla Chandra Road, Calcutta 700 009, India.

The reactions of quinoline, 4-quinazolinone, Isoquinoline and N-methyloxindole with the SET reagent, 'sodium naphthalenide' was investigated in ether solvents. 'Dimeric' and 'Trimeric' products were obtained and Characterised by 2D-NMR studies.



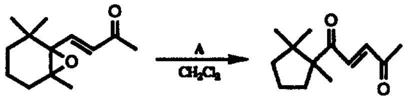
Tetrahedron, **1994**, *50*, 9097

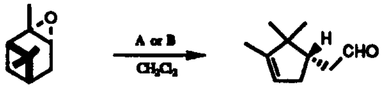
AMINIUM SALTS CATALYZED REARRANGEMENT OF α-PINENE AND β-IONONE OXIDES

Luigi Lopez, Giuseppe Mele, Vito Fiandanese, Cosimo Cardellicchio and Angelo Nacci

Centro C.N.R. "M.I.S.O."Dipartimento di Chimica, Università di Bari, Trav. 200 Re David,4 70126 Bari Italy

Aminium salts A,B selectively induce the rearrangement of β-ionone and α-pinene oxides.



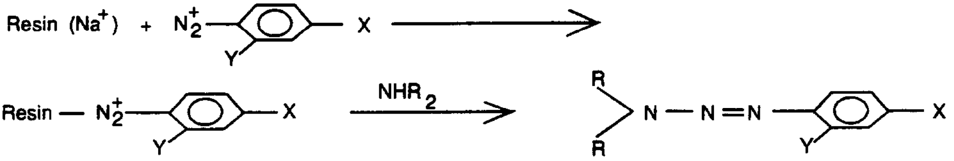


Tetrahedron, **1994**, *50*, 9107

SYNTHESIS OF 1-ARYL-3, 3-DISUBSTITUTED TRIAZENES ON ION-EXCHANGE RESIN SUPPORT

Pranab J. Das* & Susanta Khound, Department of Chemistry, Gauhati University, Guwahati - 781 014, INDIA.

Diazonium ions have been immobilized on a cation exchanger followed by N—coupling on a 2°-amine to give 1,2,3—triazenes.

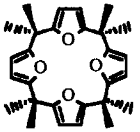


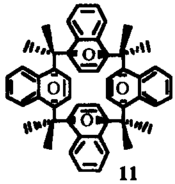
Tetrahedron, **1994**, *50*, 9113

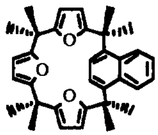
ACENAPHANE DERIVATIVES FROM FURAN MACROCYCLES

Franz H. Kohnke,* Melchiorre F. Parisi and Françisco M. Raymo
Dipartimento di Chimica Organica e Biologica, Università di Messina, Salita Sperone 31, 98166 - S. Agata - Messina, Italy
Paul A. O'Neil and David J. Williams - Department of Chemistry, Imperial College, London SW7 2AY, United Kingdom

Multiple aryne cycloaddition to **1** occurs with high facial and regio selectivity giving single bis- tris- and tetra-addition products. Only the mono-adduct could be aromatised to give **17**, whose conformational behaviour has been investigated by means of dynamic ^1H NMR. Both **11** and **17** have been studied by X-ray crystallography. The tetra-adduct **11** selectively entraps *p*-xylene when crystallised from a mixture of xylenes.


1


11

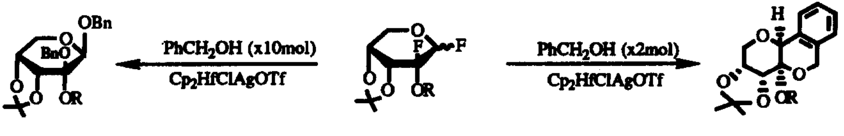

17

Tetrahedron, **1994**, *50*, 9125

ISOCHROMANE "VERSUS" O-GLYCOSIDE SYNTHESIS. A STUDY OF THE REACTION OF 2-ALKOXY-2-FLUORO-GLYCOSYL FLUORIDES WITH ALCOHOLS

Raouf Echarri, Mª Isabel Matheu, Sergio Castillón*.
Departament de Química, Universitat Rovira i Virgili, Plza Imperial Tarraco 1, 43005 Tarragona, Spain.

2-Alkoxy-2-fluoro-glycosyl fluorides react with benzyl alcohol derivatives in the presence of the fluorine activating system $Cp_2HfCl_2/AgOTf$ giving diacetal or isochromane derivatives through a series of consecutive reactions.

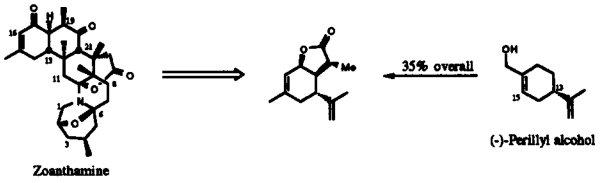


Tetrahedron, **1994**, *50*, 9135

A SYNTHETIC APPROACH TO THE ZOANTHAMINE ALKALOIDS

David Tanner[a]*, Pher G. Andersson[a], Lars Tedenborg[a], Peter Somfai[b]

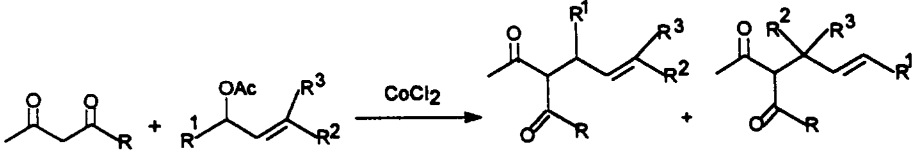
[a]Department of Organic Chemistry, University of Uppsala, Box 531, S-751 21 Uppsala, Sweden
[b]Organic Chemistry 2. Lund Institute of Technology, University of Lund, Box 124, S-221 00 Lund, Sweden



Tetrahedron, **1994**, *50*, 9145

Cobalt Catalyzed Regioselective Allylation of 1,3-Dicarbonyl Compounds

Golak C . Maikap, M. Madhava Reddy , Manoj Mukhopadhyay , Beena Bhatia and Javed Iqbal*
Department of chemistry , Indian Institute of Technology , Kanpur , INDIA , 208 016

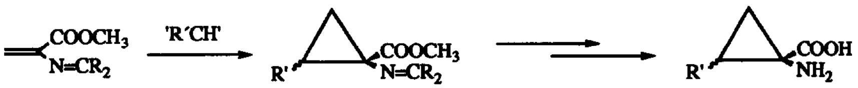


Tetrahedron, **1994**, *50*, 9157

NEW α,β-DIDEHYDROAMINO ACID DERIVATIVES AS PRECURSORS IN THE SYNTHESIS OF 1-AMINOCYCLOPROPANECARBOXYLIC ACIDS

Carlos Cativiela*, María D. Díaz-de-Villegas and Ana I. Jiménez
Instituto de Ciencia de Materiales de Aragón. Departamento de Química Orgánica. Universidad de Zaragoza-CSIC. 50009 Zaragoza. Spain.

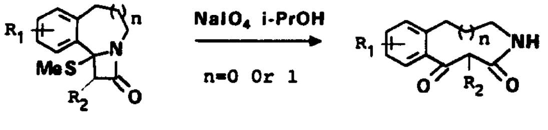
New synthetic approaches to valuable cyclopropyl amino acids from readily available starting materials are described.



Tetrahedron, **1994**, *50*, 9167

A NOVEL ENTRY INTO 1,2,3,4,5,6-HEXAHYDRO-3-BENZAZOCINE-4,6-DIONE AND 2-SUBSTITUTED-2,5,6,7-TETRAHYDRO-4-BENZAZONINE-1,3-(4H)-DIONE

Bansi Lal ,* D.N.Bhedi, Ramesh M.Gidwani and C.Sankar
Department of Chemistry, Hoechst Centre for Basic Research, Mulund,
Bombay-400 080, India.

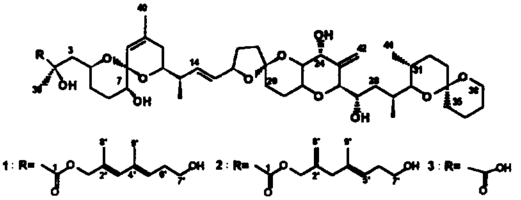


Tetrahedron, **1994**, *50*, 9175

STRUCTURAL DETERMINATION AND BIOSYNTHETIC ORIGIN OF TWO ESTER DERIVATIVES OF OKADAIC ACID ISOLATED FROM *PROROCENTRUM LIMA*.

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

Isolation, structural elucidation and biosynthetic origin of two ester derivatives, **1** and **2** of okadaic acid **3** on the basis of their spectroscopical data. Its biosynthetic origin was indicated by addition of labelled sodium [1-$^{13}C_1$], [2-$^{13}C_1$] and [1,2-$^{13}C_2$] acetate to artificial cultures of the dinoflagellate.



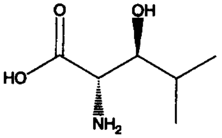
Tetrahedron, **1994**, *50*, 9181

A PRACTICAL NEW ASYMMETRIC SYNTHESIS OF (*2S,3S*)- AND (*2R,3R*)-HYDROXYLEUCINE

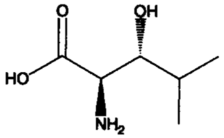
Karl J. Hale,* Soraya Manaviazar, and Vern M. Delisser

The Christopher Ingold Laboratories,
Department of Chemistry,
University College London,
20 Gordon Street,
London WC1H 0AJ, England.

A high yielding 6-step asymmetric synthesis of the enantiomers of *erythro*-3-hydroxyleucine has been developed.



(*2S,3S*)-(+)-3-Hydroxyleucine



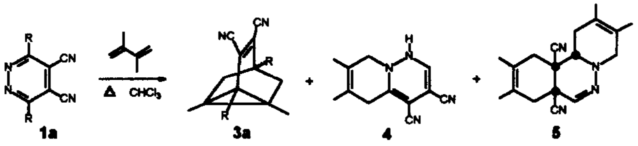
(*2R,3R*)-(-)-3-Hydroxyleucine

Tetrahedron, **1994**, *50*, 9189

[4+2]- AND [2+4]-CYCLOADDITION PROCESSES OF 4,5-DICYANOPYRIDAZINE WITH 2,3-DIMETHYLBUTA-1,3-DIENE.

Rodolfo Nesi*, Donatella Giomi*, and Stefania Turchi, Dipartimento di Chimica Organica 'Ugo Schiff' dell'Università - Centro di Studio del CNR sulla Chimica e la Struttura dei Composti Eterociclici e loro Applicazioni, Via Gino Capponi 9, I-50121 Firenze, Italy
Paola Paoli, Dipartimento di Energetica dell'Università, Via di Santa Marta 3, I-50139 Firenze, Italy

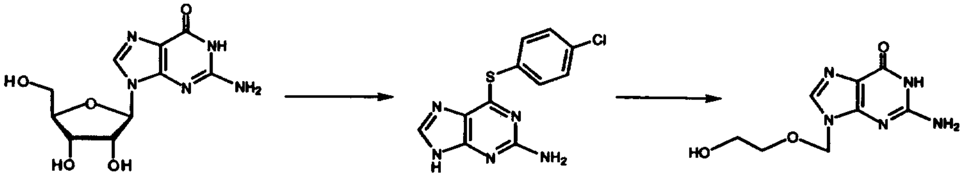
Treatment of **1a** with DMB afforded the polycyclic systems **3a**, **4**, and **5** through different cycloaddition reactions.



Tetrahedron, **1994**, *50*, 9195

Conversion of Guanosine into Acyclovir and its 6-Deoxy Derivative

Ildiko M. Buck, Alessandra Eleuteri and Colin B. Reese*
Department of Chemistry, King's College London, Strand, London WC2R 2LS, UK.



Tetrahedron, **1994**, *50*, 9207

PREPARATION AND CONFORMATIONAL STUDY OF *Z*- AND *E*-ISOSITSIRIKINE EPIMERS AND MODEL COMPOUNDS. DETERMINATION OF THEIR C-16 CONFIGURATIONS.

Mauri Lounasmaa*, Reija Jokela*, Pirjo Hanhinen, Jari Miettinen, and Jaana Salo
Laboratory for Organic and Bioorganic Chemistry,
Technical University of Helsinki, FIN-02150 Espoo, Finland

Syntheses are reported for isositsirikine isomers **1** - **6** and 17-deoxy-*E*-isositsirikines **9** and **10**. Predominant conformations of the compounds and of their C-16 configurations were determined on the basis of nmr measurements, especially NOE difference spectroscopy.