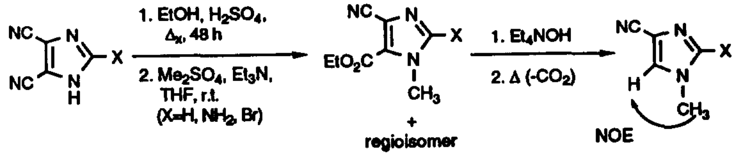
GRAPHICAL ABSTRACTS

Synthesis and Assignments of Regioisomeric Cyanoimidazole Esters

Tetrahedron, **1994**, *50*, 2641

Ramachandran P. Subrayan[†], Ernest L. Thurber[‡] and Paul G. Rasmussen[*]
Department of Chemistry[†] and Macromolecular Science and Engineering[‡]
The University of Michigan, Ann Arbor, MI 48109

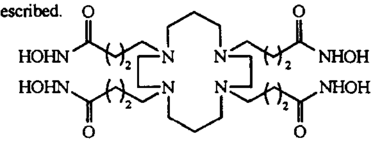


DESIGN AND SYNTHESIS OF ACTINIDE SPECIFIC CHELATORS: SYNTHESIS OF NEW CYCLAM TETRAHYDROXAMATE (CYTROX) AND CYCLAM TETRAACETONYLACETONE (CYTAC) CHELATORS

Tetrahedron, **1994**, *50*, 2657

Nirmal Koshti[a], Vincent Huber[a], Paul Smith[*b] and Aravamudan S. Gopalan[*a]
[a] Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM 88003-0001, USA
[b] INC-1, MS-C346, Los Alamos National Laboratory, Los Alamos, NM 87545, USA

The results of molecular modeling and the synthesis of two new chelators, CYTROX, **1**, and CYTAC, **2**, designed to bind Pu(IV) are described.



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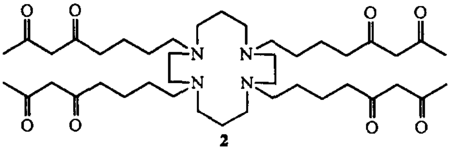


2

The Functionalization of Saturated Hydrocarbons Part XXIX. Application of *tert*-Butyl Hydroperoxide and Dioxygen Using Soluble Fe(III) and Cu(II) Chelates.

Tetrahedron, **1994**, *50*, 2665

Derek H. R. Barton, Stéphane D. Bévière and David R. Hill[*]
Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, USA.

$$R_2C{=}O + R_2CH\text{-}OH \xleftarrow{\text{Fe(III)}} R_2CH_2 \xrightarrow{\text{Cu(II)}} R'_2C{=}CR'_2$$

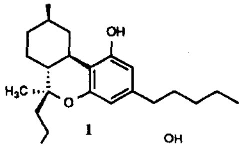
New methodology for the selective transformation of saturated hydrocarbons into ketones/alcohols and alkenes is described.

CONFORMATIONALLY RESTRICTED HYBRIDS OF CP-55,940 AND HHC: STEREOSELECTIVE SYNTHESIS AND ACTIVITY

Tetrahedron, **1994**, *50*, 2671

Marcus A. Tius,[*a] Alexandros Makriyannis,[*b]
Xiang Long Zou[a] and V. Abadji[b]
[a]Department of Chemistry, University of Hawaii, 2545 The Mall,
Honolulu, Hawaii 96822, U.S.A.; [b]Department of Medicinal Chemistry,
School of Pharmacy, The University of Connecticut, Box U-92,
Room R-103, 372 Fairfield Road, Storrs, Connecticut 06268, U.S.A.

C6-Hydroxyethyl analogs of HHC 1 and 2 were each prepared through a stereoselective intramolecular oxymercuration reaction. Compound 1 showed considerable affinity to the cannabinoid receptor.



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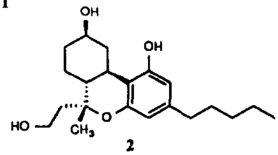

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Tetrahedron, **1994**, *50*, 2681

THE PREPARATION OF A HEXACYCLIC INTERMEDIATE FOR THE SYNTHESIS OF STRYCHNOS ALKALOIDS

George A. Kraus and Dan Bougie, Department of Chemistry and Program in Toxicology, Iowa State University, Ames, IA 50011

Hexacyclic intermediate 17 has been synthesized in nine steps from aldehyde 3. Key steps include the selective reduction of aldehyde 3, the stereoselective introduction of an allyl group via the Sakurai reaction and the ozonolysis/dehydrative cyclization to afford bridgehead enamine 17.

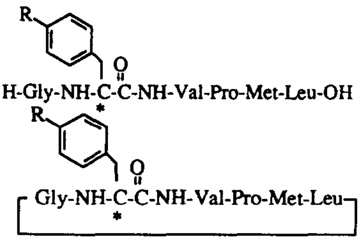
Tetrahedron, **1994**, *50*, 2691

SYNTHESIS OF PHOSPHONOMETHYL-PHENYLALANINE AND PHOSPHOTYROSINE CONTAINING CYCLIC PEPTIDES AS INHIBITORS OF PROTEIN TYROSINE KINASE / SH2 INTERACTIONS.

Motoyoshi Nomizu, Akira Otaka, Terrence R. Burke, Jr., and Peter P. Roller*
Laboratory of Medicinal Chemistry, Developmental Therapeutics Program, DCT,
National Cancer Institute, NIH, 37/5C02, Bethesda, MD 20892

Linear and cyclic 6-mer peptide analogs of PDGF receptor ß-subunit autophosphorylation segment (Tyr-751) were synthesized using Fmoc SPPS methods, and characterized by CD spectroscopy.

R = OH [* = L and D]
R = OPO_3H_2 [* = L]
R = $CH_2PO_3H_2$ [* = L and D]

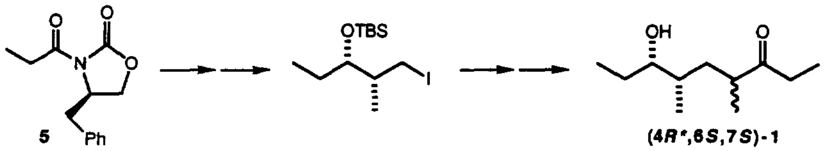


Tetrahedron, **1994**, *50*, 2703

A PRACTICAL ENANTIOSELECTIVE SYNTHESIS OF THE CIGARETTE BEETLE SEX PHEROMONE SERRICORNIN

Philip C.-M. Chan, J. Michael Chong,* and Karim Kousha
Department of Chemistry, University of Waterloo, Waterloo, Ontario, Canada N2L 3G1

(4*RS*,6*S*,7*S*)-7-hydroxy-4,6-dimethyl-3-nonanone (serricornin and its C4-epimer) may be prepared from oxazolidinone 5 in 8 steps with an overall yield of 33%.



5

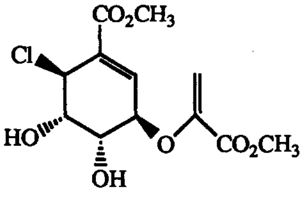
(4*R**,6*S*,7*S*)-1

Tetrahedron, **1994**, *50*, 2715

SYNTHESIS OF CYATHIFORMINES A-C: UNUSUAL FUNGAL METABOLITES DERIVED FROM CHORISMIC ACID

Rose-Marie Meier and Bruce Ganem*
Department of Chemistry, Baker Laboratory
Cornell University
Ithaca, New York 14853-1301 USA

Expeditious syntheses of the title compounds are reported which lend credence to the apparent biogenetic relationship between the cyathiformines and (-)-chorismic acid.



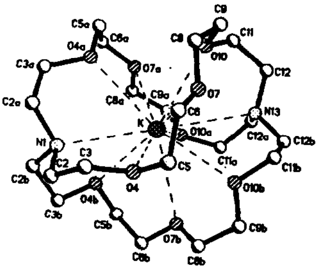
cyathiformine C

Tetrahedron, **1994**, *50*, 2721

CRYSTAL STRUCTURE OF THE CRYPTAND [3.3.3] - POTASSIUM IODIDE COMPLEX: A LARGE COORDINATION NUMBER FOR POTASSIUM ION.

N. Kent Dalley, Krzysztof E. Krakowiak, Jerald S. Bradshaw, Mark M. England, Xiaolan Kou and Reed M. Izatt.
Department of Chemistry and the Harold B. Lee Library, Brigham Young University, Provo, UT 84602 and
IBC Advanced Technologies, Inc., P.O. Box 656, Provo, UT 84606, USA.

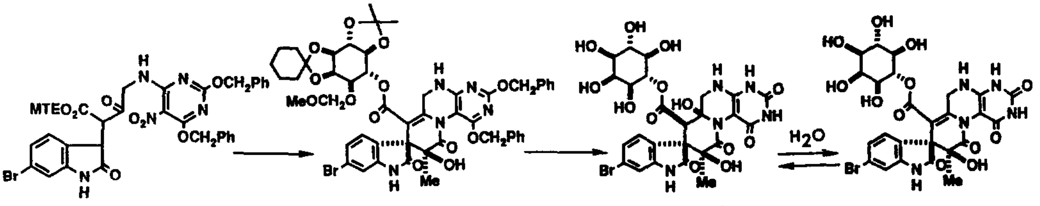
An X-ray crystal study of the [3.3.3]-KI complex shows that all cryptand donor atoms are directed towards the encapsulated K$^+$.



Tetrahedron, **1994**, *50*, 2729

TOTAL SYNTHESIS OF (±)-SURUGATOXIN

Shoji Inoue,* Kunisuke Okada, Hideo Tanino,
Kiyomatsu Hashizume, and Hisae Kakoi
Faculty of Pharmacy, Meijo University, Tenpaku, Nagoya 468, Japan

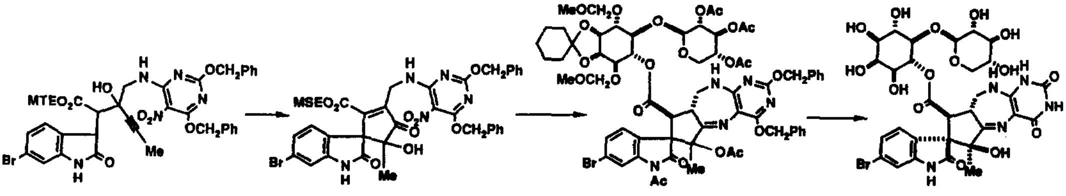


Surugatoxin

Tetrahedron, **1994**, *50*, 2753

TOTAL SYNTHESIS OF NEOSURUGATOXIN

Shoji Inoue,* Kunisuke Okada, Hideo Tanino, and Hisae Kakoi
Faculty of Pharmacy, Meijo University, Tenpaku, Nagoya 468, Japan



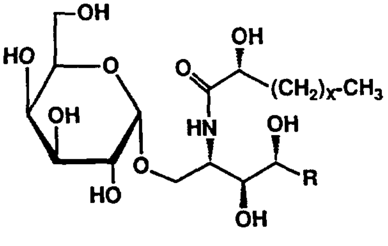
Neosurugatoxin

Tetrahedron, **1994**, *50*, 2771

AGELASPHINS, NOVEL ANTITUMOR AND IMMUNOSTIMULATORY CEREBROSIDES FROM THE MARINE SPONGE *AGELAS MAURITIANUS*

Takenori Natori,* Masahiro Morita, Kohji Akimoto, and Yasuhiko Koezuka

Pharmaceutical Research Laboratory, Kirin Brewery Co., Ltd.,
3 Miyahara-cho, Takasaki, Gunma 370-12, Japan

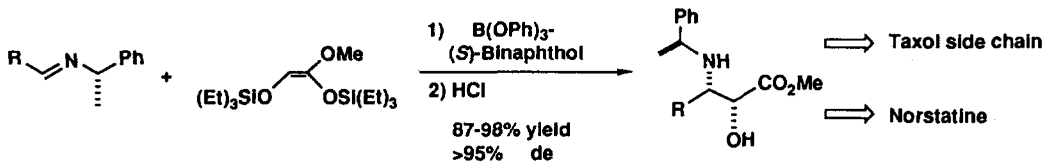


New glycosphingolipids, named agelasphins, have been isolated by antitumor and immunostimulatory bioassay-guided purification from an extract of a marine sponge, *Agelas mauritianus*. Strongly active agents in agelasphins had characteristic α-galactosylceramide structures. The absolute configurations of agelasphins were elucidated by the total synthesis.

Tetrahedron, **1994**, *50*, 2785

Practical Preparation of α-Hydroxy-β-Amino Ester Units; Stereoselective Synthesis of Taxol Side Chain and Norstatine

Kouji Hattori and Hisashi Yamamoto*
School of Engineering, Nagoya University, Chikusa, Nagoya 464-01, Japan

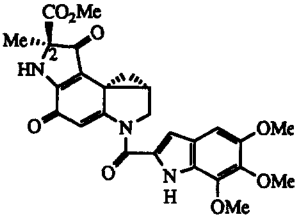


Tetrahedron, **1994**, *50*, 2793

SYNTHETIC STUDIES ON DUOCARMYCINS. 1. TOTAL SYNTHESIS OF *dl*-DUOCARMYCIN A AND ITS 2-EPIMER

Yasumichi Fukuda, Yoshio Itoh, Kazuhiko Nakatani, and Shiro Terashima*
Sagami Chemical Research Center, Nishi-Ohnuma, Sagamihara, Kanagawa 229, Japan

The title synthesis was first achieved by employing novel methoxycarbonylation of the C_4-position of the 5-aminoindoline by way of the isatin and subsequent Dieckmann cyclization as key steps. *In vitro* cytotoxicity assay disclosed that cytotoxicity of the title compounds are comparable and almost half of that of natural (+)-duocarmycin A.



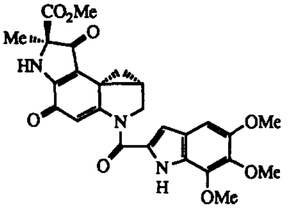
duocarmycin A

Tetrahedron, **1994**, *50*, 2809

SYNTHETIC STUDIES ON DUOCARMYCINS. 2. SYNTHESIS AND CYTOTOXICITY OF NATURAL (+)-DUOCARMYCIN A AND ITS THREE POSSIBLE STEREOISOMERS

Yasumichi Fukuda,[a] Kazuhiko Nakatani,[b] and Shiro Terashima[b]*
Central Research Laboratories, Kyorin Pharmaceutical Co., Ltd., Mitarai, Nogi, Tochigi 329-01, Japan[a]
Sagami Chemical Research Center, Nishi-Ohnuma, Sagamihara, Kanagawa 229, Japan[b]

The title synthesis was achieved by featuring the optical resolution of two types of the tricyclic synthetic intermediates and the established synthetic scheme. *In vitro* cytotoxicity assay showed that the absolute configuration of cyclopropane moiety of (+)-duocarmycin A [(+)-1] is closely related to its prominent cytotoxicity.



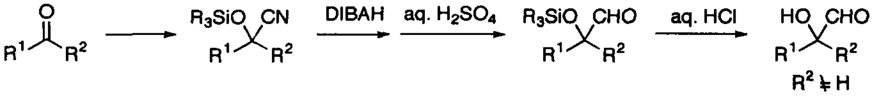
(+)-1; IC_{50} (P388) 0.002 ng/ml
[(-)-1; IC_{50} (P388) 0.3 ng/ml]

Tetrahedron, **1994**, *50*, 2821

Reduction of α-Trialkylsiloxy Nitriles with Diisobutylaluminium Hydride (DIBAH): A Facile Preparation of α-Trialkylsiloxy Aldehydes and their Derivatives

Masahiko Hayashi, Tomoko Yoshiga, Kanako Nakatani, Kazuyuki Ono and Nobuki Oguni*
Department of Chemistry, Faculty of Science, Yamaguchi University, Yamaguchi City, Yamaguchi 753, Japan

The stepwise synthesis of α-trimethylsiloxy aldehydes and α-hydroxy aldehydes could be achieved *via* the reduction of α-trimethylsiloxy nitriles with diisobutylaluminium hydride (DIBAH) starting from ketones or aldehydes.



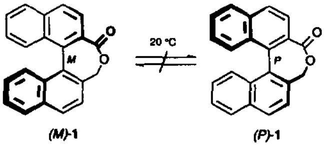
Tetrahedron, **1994**, *50*, 2831

Synthesis and Absolute Stereostructure of Dinaphth[2,1–c:1′,2′–e]oxepin–3–(5*H*)–one

G. Bringmann*[a], T. Hartung[a], O. Kröcher[a], K.–P. Gulden[a], J. Lange[b], and H. Burzlaff*[b]

[a]Institut für Organische Chemie, Universität Würzburg, D–97074 Würzburg, Germany
[b]Institut für Angewandte Physik, Universität Erlangen, D–91054 Erlangen, Germany

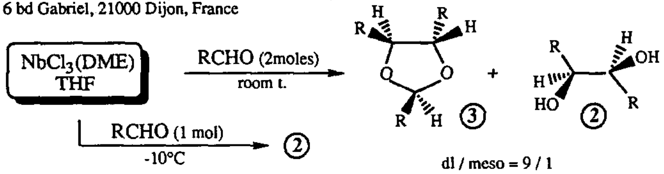
The 2,2'-bridged 1,1'–binaphthalene compound 1 is configuratively stable at room temperature. A chromatographic device for the enantiomer analysis on a chiral phase and the elucidation of the absolute configuration of the helimers (*M*)–1 and (*P*)–1, by CD spectroscopy and by multiple scattering X-ray experiments, is described.



Tetrahedron, **1994**, *50*, 2841

PINACOL COUPLING OF ALIPHATIC ALDEHYDES PROMOTED BY NIOBIUM (III) REAGENT

Jan Szymoniak*, Jack Besançon and Claude Moïse
Laboratoire de Synthèse et d'Electrosynthèse Organométalliques associé au CNRS (URA 1685), Faculté des Sciences, 6 bd Gabriel, 21000 Dijon, France

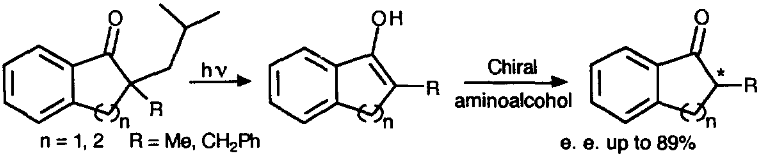


The lack of stereoselectivity was observed in the intramolecular pinacol coupling.

Tetrahedron, **1994**, *50*, 2849

Photoreactivity of α-Tetrasubstituted Arylketones: Production and Asymmetric Tautomerization of Arylenols

F. Hénin, A. M'Boungou-M'Passi, J. Muzart, J.P. Pète, U.A. CNRS n° 459, Université de Reims Champagne-Ardenne, France.

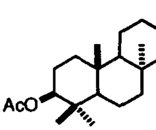


Tetrahedron, **1994**, *50*, 2865

Unambiguous Assignment of ^{13}C Chemical Shifts of Some Hopane and Migrated Hopane Derivatives by 2D NMR

A. K. Chakravarty,[a]* K. Masuda[b], H. Suzuki[b] and H. Ageta[b]*
a Indian Institute of Chemical Biology, Calcutta 700 032, India
b Show College of Pharmaceutical Sciences, Machida, Tokyo 194, Japan

^{13}C-NMR chemical shifts of some migrated hopane derivatives (1-9) have been assigned unambiguously on the basis of 2D-NMR analyses.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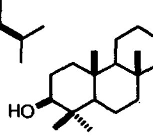
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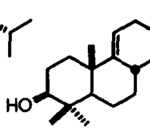
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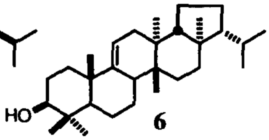
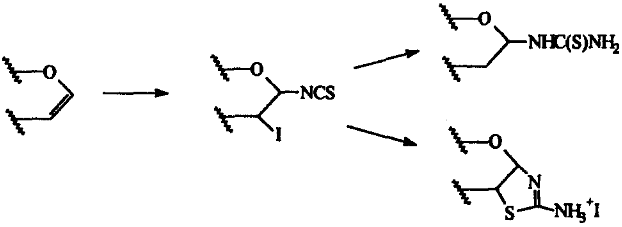

6

SYNTHESIS AND TRANSFORMATIONS OF 2-DEOXY-2-IODO-PYRANOSYL ISOTHIOCYANATES FROM GLYCALS

Tetrahedron, **1994**, *50*, 2877

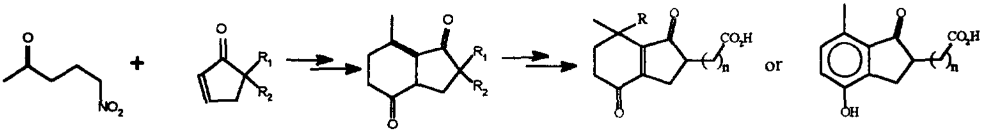
F. Santoyo-González*, F. G. Calvo-Flores, J. Isac-García, F. Hernández-Mateo, P. García-Mendoza and R. Robles-Díaz
Departamento de Química Orgánica, Facultad de Ciencias, Universidad de Granada, E-18071 Granada, SPAIN



A SIMPLE METHOD FOR THE PREPARATION OF VARIOUS 1-OXO-HYDRINDENE-2-ACETIC AND -PROPIONIC ACIDS. VALUABLE PRECURSORS OF STRIGOL AND ITS ANALOGUES

Tetrahedron, **1994**, *50*, 2895

I. Kádas[a], G. Árvai[a], L. Tőke[a,*], G. Tóth[b], Á. Szöllősy[b], Mária Bihari[c]
[a]Department of Organic Chemical Technology and [b]Institute for General and Analytical Chemistry at the Technical University of Budapest, H-1521 Budapest P.O.B. 91, Hungary, [c]Chemical Works Gedeon Richter Ltd. H-1475 Budapest 10 P.O.B 27, Hungary



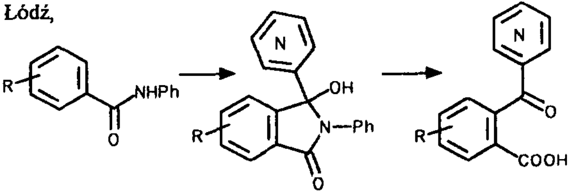
R_1=CO_2Me, R_2=CH_2CO_2Et, $(CH_2)_2CO_2Me$ R=H, Me n=1,2

APPLICATION OF ORGANOLITHIUM AND RELATED REAGENTS IN SYNTHESIS. PART 14. SYNTHETIC STRATEGIES BASED ON AROMATIC METALLATION. A CONCISE REGIOSPECIFIC CONVERSION OF BENZOIC ACIDS INTO THEIR *ORTHO*-PYRIDOYL DERIVATIVES

Tetrahedron, **1994**, *50*, 2907

Jan Epsztajn*, Andrzej Jóźwiak* and Jerzy A. Krysiak
Department of Organic Chemistry, University of Łódź,
90-136 Łódź, Narutowicza 68, Poland

Regiospecific transformation of the benzanilides via 3-hydroxy-3-pyridyl-isoindolin-1-ones into *ortho*-pyridoylbenzoic acids, was developed.

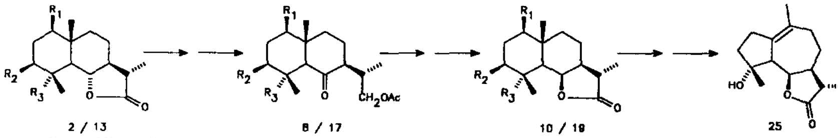


PARTIAL SYNTHESIS OF 6β-EUDESMANOLIDES AND 6β-GUAIANOLIDES FROM 6α-EUDESMANOLIDES: SYNTHESIS OF ANALOGUES OF ARTEPAULIN, COLARTIN AND TANNUNOLIDE D

Tetrahedron, **1994**, *50*, 2917

José L. Bretón. I. P. N. O. (C.S.I.C.). La Laguna. Tenerife. Spain.
Juan J. Cejudo, Andrés Garcia-Granados*, Andrés Parra and Francisco Rivas.
Departamento de Química Orgánica. Facultad de Ciencias. Universidad de Granada. 18071 Granada. Spain.

A general way to epimerize 6α-sesquiterpenolides to 6β-sesquiterpenolides, and subsequent rearrangement to 6β-guaianolides.



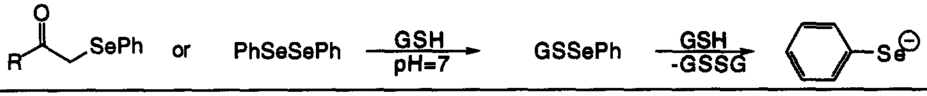
2 (R_1= H, R_2= OH, R_3= H)
13 (R_1= OH, R_2= H, R_3= OH)

EVIDENCE FOR A COMMON SELENOLATE INTERMEDIATE IN THE GLUTATHIONE PEROXIDASE-LIKE CATALYSIS OF α-(PHENYLSELENENYL) KETONES AND DIPHENYL DISELENIDE

Tetrahedron, **1994**, *50*, 2929

Lars Engman,*[a] Claes Andersson,[b] Ralf Morgenstern,[b] Ian A. Cotgreave,[b] Carl-Magnus Andersson[c] and Anders Hallberg.[d] [a]Uppsala University, Institute of Chemistry, Department of Organic Chemistry, Box 531, S-751 21 Uppsala, Sweden ,[b]Institute of Environmental Medicine, Division of Toxicology, Box 210, S-171 77 Stockholm, Sweden,[c]Department of Medicinal Chemistry, Preclinical R & D, Astra Draco AB, P. O. Box 34, S-221 00 Lund, Sweden, [d]Department of Organic Pharmaceutical Chemistry, Uppsala University, Box 574, S-571 23 Uppsala, Sweden

When treated with GSH, α-(phenylselenenyl) ketones or diphenyl diselenide afforded benzeneselenolate. A catalytic mechanism involving benzeneselenolate was proposed to explain the glutathione peroxidase-like catalysis of the title compounds.

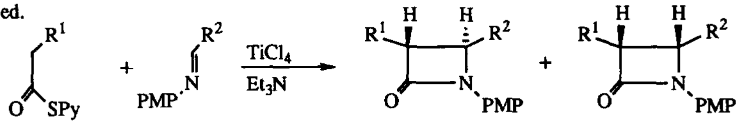


SYNTHESIS OF β-LACTAMS BY CONDENSATION OF TITANIUM ENOLATES OF 2-PYRIDYLTHIOESTERS WITH IMINES. INFLUENCE OF THE IMINE STRUCTURE ON THE TRANS/CIS STEREOSELECTIVITY.

Tetrahedron, **1994**, *50*, 2939

R. Annunziata, M. Benaglia, M. Cinquini, F. Cozzi, F. Ponzini, L. Raimondi.
Centro CNR and Dipartimento di Chimica Organica e Industriale-Universita' di Milano

The dependence on the imine structure of the trans/cis ratios of the β-lactams obtained by the title reaction has been studied.



R^1= Me, Et, Pr-i, CH(OTBDMS)Me; R^2= Ph, HC=CHPh, Pr-n, $CH_2OTBDPS$, CH_2OBn, CH(OTBDMS)Me, CH(OBn)Me

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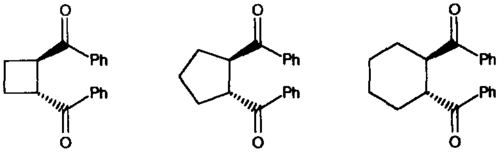
ZINC-PROMOTED REACTIONS. 8. THE EFFECT OF RING STRAIN IN THE REDUCTION OF 1,2-DIBENZOYLCYCLOALKANES

Tetrahedron, **1994**, *50*, 2949

M. L. Di Vona, L. Luchetti, V. Rosnati
Dipartimento di Scienze e Tecnologie Chimiche, Università degli Studi di Roma"Tor Vergata", 00133 Roma, Italia

The reductions of 1,2-dibenzoylcycloalkanes were investigated under several experimental conditions.



SYNTHESIS AND STEREOCHEMICAL BEHAVIOUR OF 8-ALKYL-3-(1'-PHENYLETHYL)-7-OXA-1,3-DIAZABICYCLO-[3.2.1]-OCTANE-4,6-DIONES DIRECTED TOWARDS THE SYNTHESIS OF α-SUBSTITUTED β-AMINO ACIDS

Tetrahedron, **1994**, *50*, 2955

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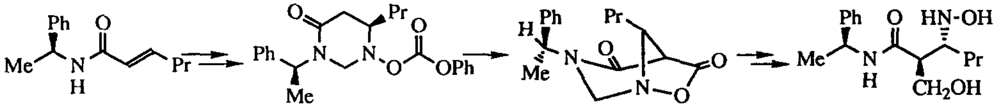
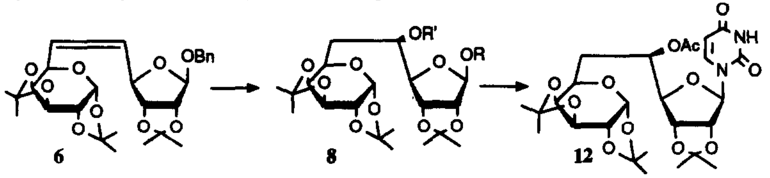
A diastereoselective synthesis of α-hydroxymethyl β-amino acid derivatives is described starting from α,β-unsaturated acids, through the formation of enantiomerically pure 7-oxa-1,3-diazabicyclo-[3.2.1]-octane-4,6-diones.



SIMPLE APPROACH TO *O*-PROTECTED DEAMINOTUNICAMINYLURACIL

Tetrahedron, **1994**, *50*, 2965

Wojciech Karpiesiuk and Anna Banaszek
Institute of Organic Chemistry, Polish Academy of Sciences, Kasprzaka 44, 01-224 Warsaw, POLAND



The unsaturated undecose **6** was obtained by Wittig reaction of the appropriate D-galactose and D-ribose derivatives. Addition to the double bond of one hydroxy group *via* hydroboration-oxidation procedure gave deaminotunicamine **8** which, upon condensation with an uracil derivative, led to the title compound **12**.

Tetrahedron, **1994**, *50*, 2975

REACTION OF SUGAR THIOCYANATES WITH GRIGNARD REAGENTS. NEW SYNTHESIS OF THIOGLYCOSIDES

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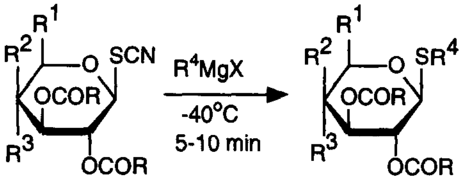

$R = CH_3, C_6H_5$
$R^1 = CH_2OCOR$, H
R^2, R^3 = H, OCOR or OCOR, H