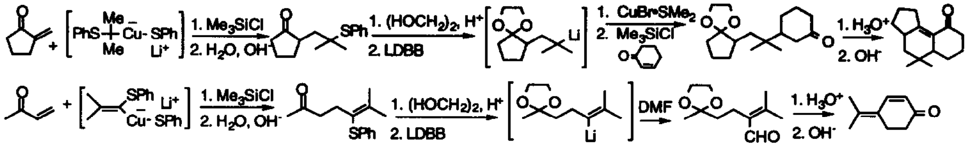
GRAPHICAL ABSTRACTS

Tetrahedron, **1994**, *50*, 11569

A General Preparative Method for Carbonyl-Protected γ-Lithioketones via Reductive Lithiation. Synthetic Uses of the Bishomoenolate Equivalents

Theodore Cohen,* Birong Zhang, and John P. Cherkauskas
Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260

I°, II°, III°, and vinylic carbonyl-protected γ-lithioketones are prepared by reductive lithiation (RL), using lithium 4,4'-di-*tert*-butylbiphenylide (LDBB), of acetals of γ-(phenylthio)ketones from addition to enones of cuprates derived by RL of thioacetals.

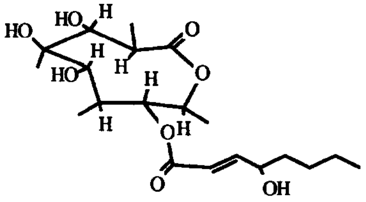


Tetrahedron, **1994**, *50*, 11585

Structure and Solution-State Conformation of Botcinolide, a New Biologically Active Metabolite from the Fungus *Botrytis cinerea*

John M. Jacyno,[a] John S. Harwood,*[,b] Horace G. Cutler,[c] Deanne M. Dulik[d]
a. College of Pharmacy, Ohio Northern University, Ada, OH 45810
b. Department of Chemistry, University of Illinois, Chicago, IL 60607
c. USDA, ARS, Russell Research Center, Athens, GA 30613
d. Department of Drug Metabolism, Smith Kline Beecham Pharmaceuticals, King of Prussia, PA 19406

The structure of botcinolide, a new, phytotoxic, trihydroxylated nona-lactone, esterified with 4-hydroxy-2-octenoic acid, has been elucidated using spectroscopic and chemical techniques. Botcinolide is a metabolite of the mould *Botrytis cinerea*.

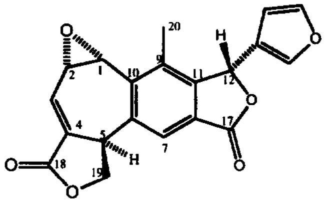


Tetrahedron, **1994**, *50*, 11593

SALVIGENANE AND ISOSALVIPUBERULAN DITERPENOIDS FROM *SALVIA LEUCANTHA*.

Baldomero Esquivel*, Rosa María Domínguez, Simón Hernández- Ortega, R.A. Toscano and Lydia Rodríguez-Hahn .
Instituo de Química de la Universidad Nacional Autónoma de México, Circuito Exterior, Ciudad Universitaria, Coyoacán 04510, México D.F.

From the aerial parts of *Salvia leucantha* Cav. the rearranged neo-clerodane diterpenoid salvileucantholide (1) was isolated. Its structure was established by spectral means, chemical transformation and X-ray diffraction analysis. The salvigenane diterpenoid salviandulin E and salvifaricin were also isolated.



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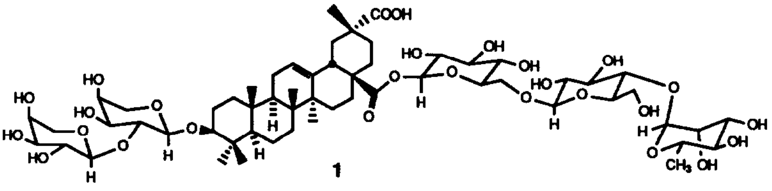
Tetrahedron, **1994**, *50*, 11601

A NEW TRITERPENOID SAPONIN FROM THE CHINESE TRADITIONAL MEDICINE *NOTHOPANAX DAVIDII* HARMS

Shi-Shan Yu and Zhuo-yin Xiao*, West China University of Medical Sciences, School of Pharmacy, Chengdu, Sichuan, PRC
Ping Cai, Tian-Yi Jiang and John K. Snyder, Dept. of Chemistry, Boston University, 590 Commonwealth Ave., Boston, MA 02215

3-O-[α-L-Arabinopyranosyl-(1-2)-α-L-arabinopyranosyl]-olean-12-ene-28,29-dioic acid-28-[O-α-L-rhamnopyranosyl-(1-4)-β-D-glucopyranosyl-(1-6)-β-D-glucopyranoside [1], was isolated from the bark of *N. davidii*, used to prepare the antiinflammatory Chinese traditional medicine Shu Wu Jia.



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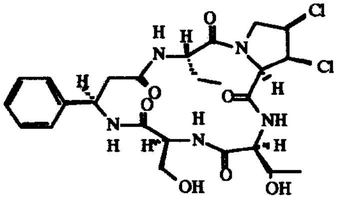
Tetrahedron, **1994**, *50*, 11613

Conformational Analysis of an Antitumour Cyclic Pentapeptide, Astin B, from *Aster tataricus*

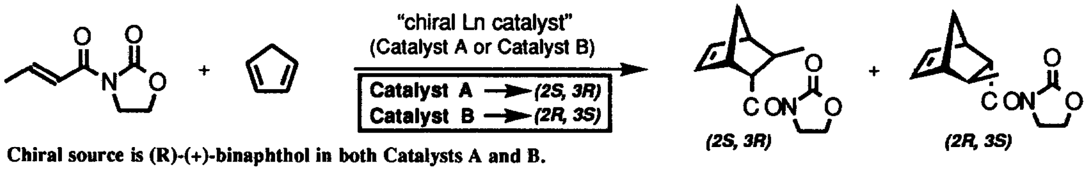
Hiroshi Morita, Shinji Nagashima,
Koichi Takeya, and Hideji Itokawa



Tetrahedron, **1994**, *50*, 11623

Asymmetric Diels-Alder Reactions Catalyzed by Chiral Lanthanide(III) Trifluoromethanesulfonates. Unique Structure of the Triflate and Stereoselective Synthesis of Both Enantiomers Using a Single Chiral Source and a Choice of Achiral Ligands.

Shū Kobayashi,* Haruro Ishitani, Iwao Hachiya, and Mitsuharu Araki
Department of Applied Chemistry, Faculty of Science, Science University of Tokyo (SUT), Kagurazaka, Shinjuku-ku, Tokyo 162



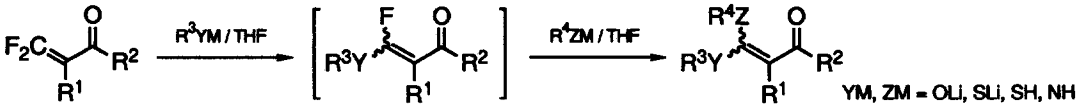
Chiral source is (R)-(+)-binaphthol in both Catalysts A and B.

Tetrahedron, **1994**, *50*, 11637

REACTION OF 2,2-DIFLUOROVINYL KETONES WITH HETEROATOM NUCLEOPHILES: A GENERAL ONE-POT SYNTHESIS OF α-OXOKETENE ACETALS

Junji Ichikawa,* Masakuni Kobayashi, Naoyuki Yokota, Yasuharu Noda, and Toru Minami*
Department of Applied Chemistry, Kyushu Institute of Technology, Sensui-cho, Tobata, Kitakyushu 804, Japan

The stepwise replacement of two fluorine atoms by heteroatom nucleophiles is effected *via* conjugate addition–elimination process to afford α-oxoketene *S,S*-, *N,S*-, *N,N*-, *O,S*-, and *O,O*-acetals.

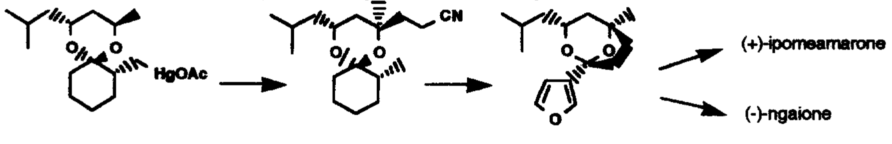


Tetrahedron, **1994**, *50*, 11647

Total Syntheses of (+)-Ipomeamarone and (-)-Ngaione via Novel Intramolecular Hydrogen Abstraction

Takashi Sugimura,* Akira Tai* and Kiyoto Koguro,+
Faculty of Science, Himeji Institute of Technology, Kanaji, Kamigori, Ako-gun, Hyogo 678-12, Japan
+Chemical Research Laboratory, Toyo Kasei Kogyo Co., Ltd., 2900 Sone, Takasago, Hyogo 676, Japan

(+)-Ipomeamarone and (-)-ngaione were synthesized through stereocontrolled tandem reaction of intramolecular hydrogen abstraction/olefin addition, and *syn* and *anti* hydride addition to bicyclic acetal as shown below.

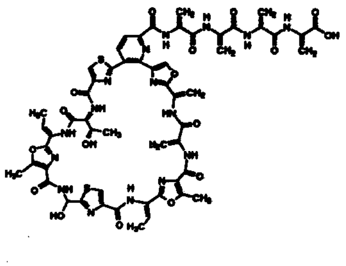


Tetrahedron, **1994**, *50*, 11659

THIOTIPIN, A NOVEL THIOPEPTIDE WITH A *tipA* PROMOTER INDUCING ACTIVITY PRODUCED BY *STREPTOMYCES* SP. DT31.

Bong-Sik Yun[1], Tomomi Hidaka[1], Kazuo Furihata[2] and Haruo Seto*[1].
[1]Institute of Molecular and Cellular Biosciences, University of Tokyo, Bunkyo-ku, Tokyo 113, Japan. [2]Division of Agriculture and Agricultural Life Sciences, University of Tokyo, Bunkyo-ku, Tokyo 113, Japan

Thiotipin was isolated from the mycelium of *Streptomyces* sp. DT31 as a *tipA* promoter inducing substance. Its structure was determined as shown by various NMR studies including a new NMR technique, phase-sensitive ^{13}C-decoupled HMBC. Minimum induction concentration for *tipA* promoter of thiotipin was 80 ng/ml.

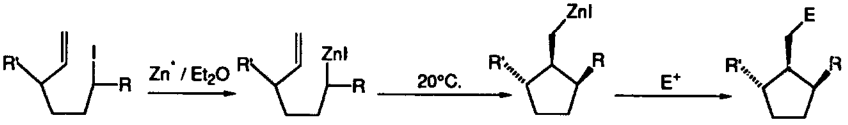


Tetrahedron, **1994**, *50*, 11665

Intramolecular Carbometallation of Organozinc Reagents.

Christophe Meyer, Ilane Marek* , Gilles Courtemanche, Jean-F. Normant*
Laboratoire de Chimie des Organoéléments, CNRS UA 473, Université P. et M. Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France

The intramolecular carbocyclization of primary and secondary organozinc derivatives leads to polysubstituted cyclopentylmethylzinc derivatives in an easy and straightforward way.

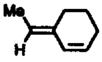


Tetrahedron, **1994**, *50*, 11693

RELATIVE THERMODYNAMIC STABILITIES OF 3-ETHYLIDENECYCLOHEXENES AND ISOMERIC ETHYLCYCLOHEXADIENES

Esko Taskinen and Kari Nummelin , Department of Chemistry, University of Turku, FIN-20500 Turku, Finland

Relative thermodynamic stabilities of 1–5 were determined by chemical equilibration in DMSO solution.



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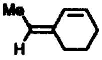

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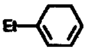

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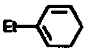

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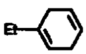

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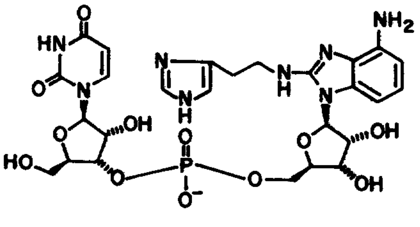
Tetrahedron, **1994**, *50*, 11699

SELF CLEAVAGE OF C8-HISTAMINO-r(UpA) PROMOTED BY ZINC CHLORIDE: MECHANISTIC STUDIES ON A DESIGNED RIBONUCLEASE MIMIC

T. P. Prakash, S. S. Kunte and K. N. Ganesh*
Bioorganic Chemistry Unit, Organic Chemistry Division,
National Chemical Laboratory, Pune 411008, India.

In an attempt to mimic ribonuclease, it is shown that the imidazole conjugated ribodinucleotide hydrolyzed in presence of $ZnCl_2$. An acceleration of 10-15 times in rate of hydrolysis of modified ribodinucleotide was observed compared to unmodified ribonucleotide. The mechanism of hydrolysis of designed ribonucleotide is similar to that of the first step in hydrolysis of RNA by RNase A.

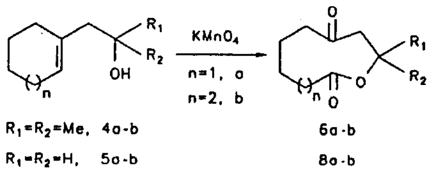


Tetrahedron, **1994**, *50*, 11709

HETEROGENEOUS PERMANGANATE OXIDATIONS: SYNTHESIS OF MEDIUM RING KETOLACTONES *VIA* SUBSTITUENT DIRECTED OXIDATIVE CYCLISATION

Jagattaran Das & Srinivasan Chandrasekaran*
Department of Organic Chemistry
Indian Institute of Science
Bangalore 560 012, INDIA

Compounds **4** & **5** undergo smooth oxidative cyclisation under heterogeneous permanganate oxidation conditions.

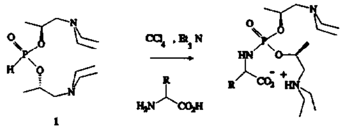


Tetrahedron, **1994**, *50*, 11721

The Rational Design and Application of New Chiral Phosphonates for the Enantiomeric Excess Determination of Unprotected Amino Acids. Remarkable pH Dependency of the Diastereomeric Shift Differences.

R. Hulst[1], N.K. de Vries[2] and B.L. Feringa[1]*. [1]Department of Organic and Molecular Inorganic Chemistry, Groningen Center for Catalysis and Synthesis, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands: [2]DSM Research, Base Chemicals and Hydrocarbons, Analytical Section, DSM Geleen, P.O. Box 18, 6160 MD Geleen, The Netherlands.

Diastereomeric amide derivatives of chiral phosphorinane **1** and unprotected amino acids are easily prepared in aqueous solutions, showing well separated signals in the ^{31}P NMR spectra. The obtained diastereomeric shift dispersion appears to be highly pH dependent, indicating the influence of intramolecular ion pair formation on the diastereomeric shift dispersion.

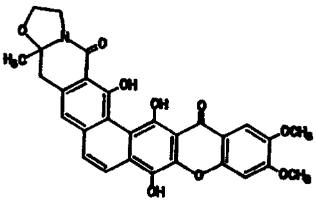


Tetrahedron, **1994**, *50*, 11729

TOTAL SYNTHESIS OF NOVEL XANTHONE ANTIBIOTICS (±)-CERVINOMYCINS A_1 and A_2

G. Mehta,* S.R. Shah and Y. Venkateswarlu
School of Chemistry, University of Hyderabad
Hyderabad 500 134, India

Total synthesis of novel xanthone antibiotics (±)-cervinomycins A_1 and A_2 following a convergent approach is reported.

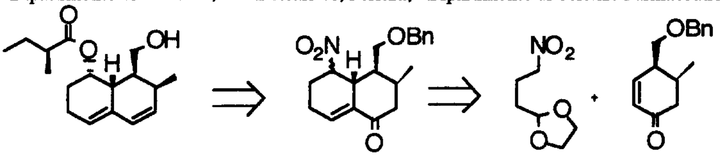


Cervinomycin A_1

Tetrahedron, **1994**, *50*, 11743

ENANTIOSELECTIVE SYNTHESIS OF THE HEXAHYDRONAPHTHALENE NUCLEUS OF (-)-COMPACTIN FROM ETHYL (1R,2S)-2-METHYL-4-OXO-CYCLOHEXANECARBOXYLATE AND 2-(3-NITROPROPYL)-1,3-DIOXOLANE AS FOUR CARBON ANNELATING REAGENT.

A. Barco[a], S. Benetti[a], A. Bianchi[b], A. Casolari[b], G. P. Pollini[b], R. Romagnoli[a], G. Spalluto[b] and V. Zanirato[b].
[a]Dipartimento di Chimica, Via Borsari 46, Ferrara; [b]Dipartimento di Scienze Farmaceutiche, Via Fossato di Mortara, 44100 Ferrara

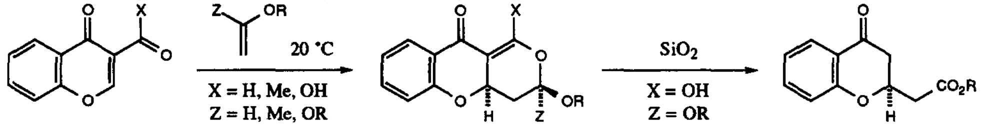


Tetrahedron, **1994**, *50*, 11755

HETERODIENE CYCLOADDITIONS: PREPARATION AND TRANSFORMATIONS OF SOME SUBSTITUTED PYRANO[4,3-*b*][1]BENZOPYRANS

Simon J. Coutts and Timothy W. Wallace*
Department of Chemistry and Applied Chemistry, University of Salford, Salford M5 4WT, U.K.

Chromones with carbonyl substituents at C-3 react with alkoxyalkenes to give [4π + 2π] cycloadducts capable of a variety of transformations (epimerisation, retro-cycloaddition, hydrolysis, alcoholysis, *etc.*), often under mild conditions.

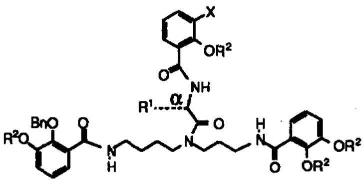


Tetrahedron, **1994**, *50*, 11781

NEW SYNTHETIC PROBES OF THE IRON TRANSPORT SYSTEM OF PARACOCCUS DENITRIFICANS

George M. Buckley, Gerald Pattenden,* and Donald A. Whiting
Department of Chemistry, The University, Nottingham, NG7 2RD

A range of analogues of parabactin and agrobactin were synthesised and their siderophore properties examined.



12; X=H
13; X=OR^2

a; R^1=H **b**; R^1=Me
c; R^1=CHMe$_2$ **d**; R^1=CH$_2$Ph
e; R^1=CH$_2$OH