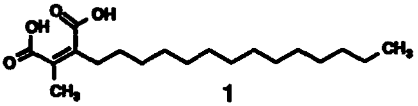
GRAPHICAL ABSTRACTS

Tetrahedron, **1993**, *49*, 5917

ISOLATION AND STRUCTURE OF CHAETOMELLIC ACIDS A AND B FROM *CHAETOMELLA ACUTISETA*: FARNESYL PYROPHOSPHATE MIMIC INHIBITORS OF RAS FARNESYL-PROTEIN TRANSFERASE

Sheo B. Singh*, Deborah L. Zink, Jerrold M. Liesch, Michael A. Goetz, Rosalind G. Jenkins, Mary Nallin-Omstead, Keith C. Silverman, Gerald F. Bills, Ralph T. Mosley, Jackson B. Gibbs and Russell B. Lingham, Merck Research Laboratories, P. O. Box 2000, Rahway, New Jersey 07065 (U S A).

Farnesyl-Protein transferase catalyses a post-translational modification of Ras that is obligatory for the cell transforming activity of this oncogene protein. The screening of natural products to identify inhibitors of this enzyme as a potential anticancer agent, has led to the isolation of two novel dicarboxylic acids, named chaetomellic acids from *Chaetomella acutiseta*, as potent and selective inhibitors which appears to be the first example of non-phosphorous containing FPP mimics.



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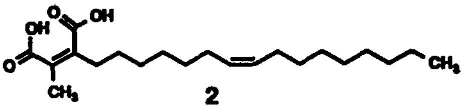

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Tetrahedron, **1993**, *49*, 5927

Crystal Structure, Conformational Analyses, and Charge Density Distributions for *Ent*-Epifisetinidol: an Explanation for Regiospecific Electrophilic Aromatic Substitution of 5-Deoxyflavans

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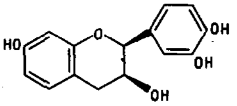
[b] Southern Forest Experiment Station, USDA Forest Service, Pineville, LA 71360, U.S.A.
[c] Department of Chemistry, Pacific Lutheran University, Tacoma, WA 98447, U.S.A.



Molecular modeling and molecular orbital analyses closely approximate the conformation of *ent*-epifisetinidol in the crystal state. MNDO and AM1 analyses show HOMO frontier orbital charge densities that explain the regiospecific electrophilic aromatic substitutional C(6) in 5-deoxyflavans.

Tetrahedron, **1993**, *49*, 5941

Computational Studies of Calix[4]arene Homologs: Influence of 5,11,17,23- and 25,26,27,28-Substituents on the Relative Stability of Four Conformers

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c Toyohashi University of Technology, Tempaku-cho, Toyohashi 441, Japan
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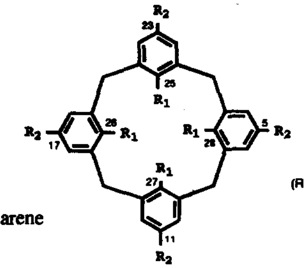


(R$_2$)

	H	Me	t-Bu
(R$_1$) H	1a	1b	1c
Me	2a	2b	2c
OH	3a		
OMe	4a	4b	4c

The effects of substituents on the relative stability of four conformers of calix[4]arene are discussed on the basis of molecular mechanics (MM3) calculation method.

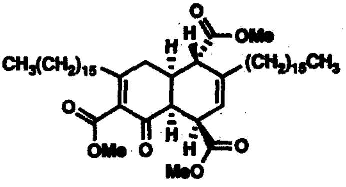
Tetrahedron, **1993**, *49*, 5955

Manzamenones G and H, New Dimeric Fatty-Acid Derivatives from the Okinawan Marine Sponge *Plakortis* Sp.

Jun'ichi Kobayashi*, Sachiko Tsukamoto, Shinji Takeuchi, and Masami Ishibashi

Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo 060, Japan

Manzamenone G (**1**)*, a novel dimeric fatty-acid derivative with a new carbon-skeleton, was isolated from the Okinawan marine sponge* Plakortis *sp. together with manzamenone H, a new tyramine-containing metabolite.*



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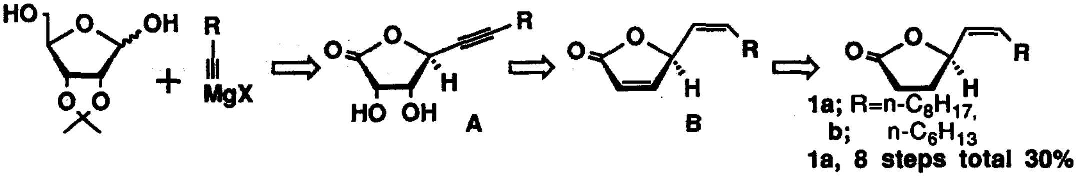
Tetrahedron, **1993**, *49*, 5961

SYNTHESIS OF SEX PHEROMONES OF THE JAPANESE BEETLE AND CUPREUS CHAFER BEETLE

Koshi Koseki,* Takashi Ebata, Teruyuki Kadokura,† Hiroshi Kawakami, Mikio Ono,†† Hajime Matsushita; Japan Tobacco Life Science Research Laboratory, 6-2 Umegaoka, Midori-ku, Yokohama, Kanagawa 227 Japan. † Nihon University, College of Industrial Technology, 1-2-1 Izumi-cho, Narashino, Chiba 275 Japan.; †† Fuji Flavor Co. Ltd., 3-5-8 Midorigaoka, Hamura-machi, Nishitama-gun, Tokyo 190-11 Japan

Abstract: The pheromone **1a** was synthesized via **A** and **B** in 8 steps (30% yield). The same chemistry was demonstrated for the synthesis of **1b**.

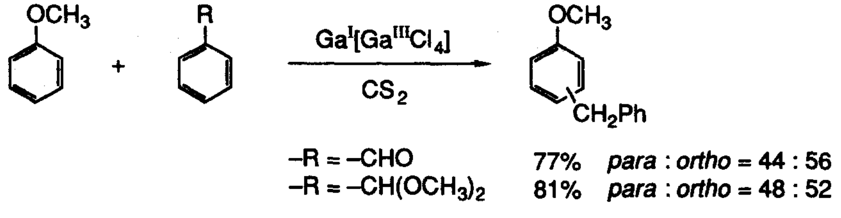


Tetrahedron, **1993**, *49*, 5969

Gallium Dichloride-Mediated Reductive Friedel-Crafts Reaction

Yukihiko Hashimoto, Kazuyuki Hirata, Hirotaka Kagoshima, Nobuhiro Kihara, Masaki Hasegawa, and Kazuhiko Saigo,*
Department of Synthetic Chemistry, Faculty of Engineering, The University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan

In the presence of gallium dichloride, the reaction of carbonyl compounds or their dimethylacetals with aromatic compounds afforded the Friedel-Crafts alkylated adducts in good yields.

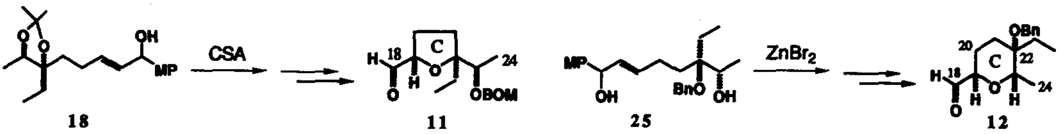


Tetrahedron, **1993**, *49*, 5979

STEREOSELECTIVE TOTAL SYNTHESIS OF POLYETHER IONOPHORE ANTIBIOTICS, ISOLASALOCID A AND LASALOCID A. PART 1. STEREOCONTROLLED CONSTRUCTION OF THE C-RINGS (C_{18}-C_{24}) BY ACID-CATALYZED CYCLIZATION OF *P*-METHOXYPHENYLALLYL ALCOHOLS

Kiyoshi Horita,* Ichio Noda, Kazuhiro Tanaka, Tamaki Miura, Yuji Oikawa, and Osamu Yonemitsu*
Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo 060, Japan

The subunits corresponding to C18~C24 of isolasalocid A and lasalocid A, 11 and 12, were stereoselectively synthesized *via* acid-catalized cyclization of *p*-methoxyphenylallyl alcohols (18, 25)



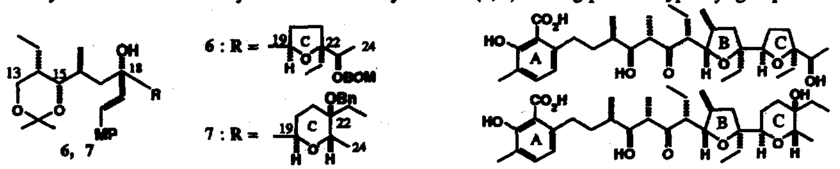
18 11 25 12

Tetrahedron, **1993**, *49*, 5997

STEREOSELECTIVE TOTAL SYNTHESIS OF POLYETHER IONOPHORE ANTIBIOTICS, ISOLASALOCID A AND LASALOCID A. PART 2. THE TOTAL SYNTHESIS VIA STEREOSELECTIVE CONSTRUCTION OF THE B-RINGS BY CHELATION-CONTROLLED CYCLIZATION UNDER THERMODYNAMIC CONDITIONS.

Kiyoshi Horita,* Ichio Noda, Kazuhiro Tanaka, Yuji Oikawa, and Osamu Yonemitsu*
Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo 060, Japan

Total synthesis of polyether antibiotics, isolasalocid A (1) and lasalocid A (2) was accomplished via B-rings construction C15~C18 parts by chelation controlled cyclization of the allyl alcohol (6, 7) bearing p-methoxyphenyl group under thermodynamic conditions.



6, 7

isolasalocid A (1)

lasalocid A (2)

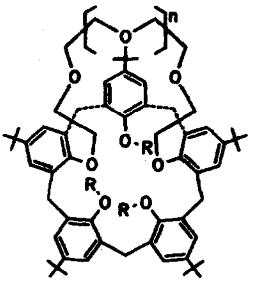
Tetrahedron, **1993**, *49*, 6019

REGIOSELECTIVE SYNTHESIS OF CALIXCROWNS DERIVED FROM *p-tert*-BUTYLCALIX[5]ARENE

Dagmar Kraft, Ralf Arnecke, Volker Böhmer*, Walter Vogt

Institut für Organische Chemie, Johannes Gutenberg Universität Mainz,
J.-J.-Becher Weg 34 SB1, D-6500 Mainz, Germany

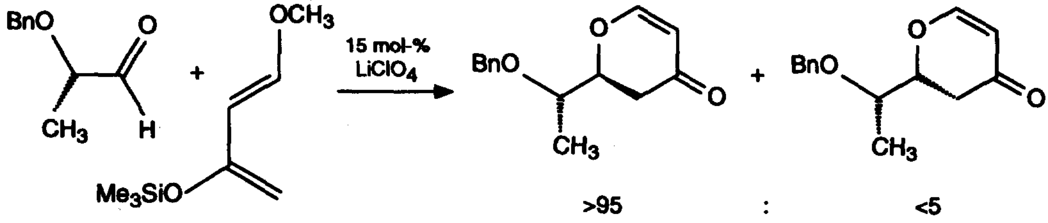
The synthesis of *p-tert*-butylcalix[5]arene crown ethers bridged in 1,3-position and some of their ether derivatives obtained by exhaustive alkylation with MeI and ethyl bromoacetate is reported.



Tetrahedron, 1993, *49*, 6025

CATALYSIS BY LITHIUM PERCHLORATE IN DICHLOROMETHANE: DIELS-ALDER REACTIONS AND 1,3-CLAISEN REARRANGEMENTS

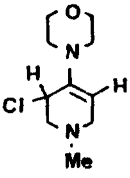
Manfred T. Reetz* and Andreas Gansäuer
Max-Planck-Institut für Kohlenforschung, Kaiser-Wilhelm-Platz 1, 4330 Mülheim/Ruhr, Germany



Tetrahedron, 1993, *49*, 6031

FUNCTIONALIZED CHLOROENAMINES IN AMINOCYCLOPROPANE SYNTHESIS - X. AMINO-AZABICYCLO[3.1.0]-HEXANE DIASTEREOMERS FROM CHLOROENAMINES AND ORGANOMETALLIC COMPOUNDS

Volker Butz and Elmar Vilsmaier*
Fachbereich Chemie der Universität Kaiserslautern, Erwin-Schroedinger-Straße, W-6750 Kaiserslautern, Germany



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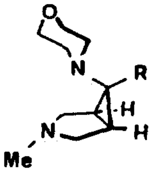

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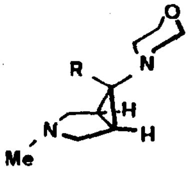

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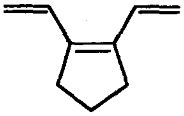
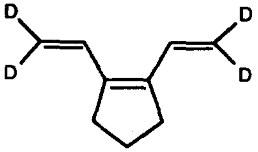
Highly stereoselective approaches to diastereomeric morpholino-3-azabicyclo[3.1.0]hexane derivatives **10** and **11** (R = Me, Bu, Ph) are described by the reaction of organometallic compounds with chloroenamine **4**.

Tetrahedron, 1993, *49*, 6045

SYNTHESIS AND FLUORESCENCE OF A CONFIGURATIONALLY LOCKED Z-HEXATRIENE: 1,2-DIVINYLCYCLOPENTENE

Annemarie ten Wolde, Harry P.J.M. Dekkers and Harry J.C. Jacobs*; Department of Chemistry, Gorlaeus Laboratories, Leiden University, P.O. Box 9502, NL-2300 RA Leiden, The Netherlands. The syntheses and fluorescence of the trienes 1,2-divinylcyclopentene and its terminally tetradeuterated isotopomer are reported.



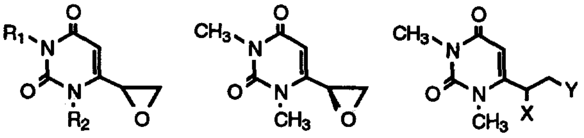


Tetrahedron, **1993**, *49*, 6053

RESEARCHES ON ANTIVIRAL AGENTS. 3. SYNTHESIS AND TRANSFORMATIONS OF RACEMIC AND CHIRAL 6-OXIRANYL PYRIMIDINONES.

Maurizio Botta, Raffaele Saladino, Doriano Lamba and Rosario Nicoletti.
Dipartimento di chimica, Università degli studi di Roma "La Sapienza",
p.le Aldo Moro 5, 00100 Roma, Italy.

The title compounds and their derivatives have been synthesized.

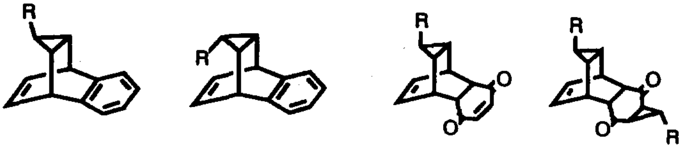


Tetrahedron **1993**, *49*, 6071

CYCLOADDITION REACTIONS OF SUBSTITUTED CYCLOHEPTATRIENES WITH BENZYNE AND QUINONES: AN ENTRY TO THE SUBSTITUTED BENZHOMOBARRELENES

Abdullah Menzek and Metin Balcı*
Department of Chemistry, Faculty of Science, Atatürk University, 25240-Erzurum-Turkey

The cycloaddition reactions of substituted cycloheptarienes with benzyne and quinones results in the formation of the following compounds.

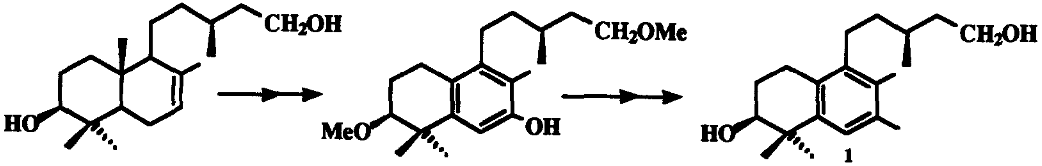


Tetrahedron, **1993**, *49*, 6079

CHEMISTRY OF 7-LABDEN-3β,15-DIOL (I): HOMOCHIRAL SYNTHESIS OF FREGENEDADIOL

J. G. Urones, I. S. Marcos, P. Basabe, N. M. Garrido, A. Jorge, R. F. Moro and A. M. Lithgow
Departamento de Química Orgánica. Universidad de Salamanca.
Plaza de los Caídos 1-5, 37008 Salamanca, SPAIN

Enantiomerically pure fregenedadiol (1) was synthesized and its absolute configuration established as 3*S*, 13*S*.

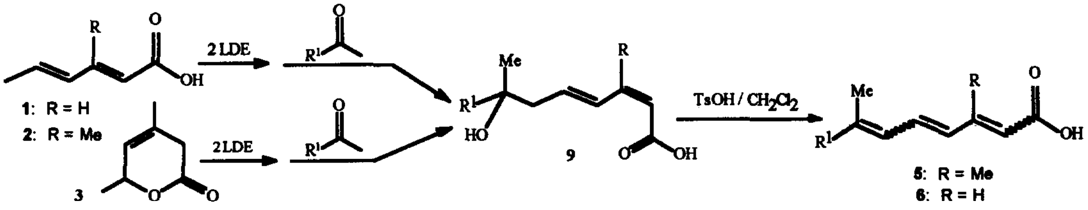


Tetrahedron, **1993**, *49*, 6089

TRIENEDIOLATES OF HEXADIENOIC ACIDS IN SYNTHESIS. SYNTHESIS OF RETINOIC AND NOR-RETINOIC ACIDS.

María J. Aurell, Ismael Carne, José E. Clar, Salvador Gil, Ramon Mestres*, Margarita Parra, and Amparo Tortajada.
Departament de Química Orgànica, Universitat de València, Burjassot, València, Spain.

Ketones and (E,E)-3-methyl-2,4-hexadienoic acid 2, or 4,6-dimethyldihydro-2-pyrone 3 afford ω-hydroxy acids 9 which are easily dehydrated to retinoic acids analogs 5. Similarly, sorbic acid 1 leads to nor-retinoic acid analogs 6.



Tetrahedron, **1993**, *49*, 6101

COBALT(II) CATALYSED REACTION OF ALKENES WITH ALIPHATIC ALDEHYDES AND MOLECULAR OXYGEN: SCOPE AND MECHANISM

Sonika Bhatia, T. Punniyamurthy, Beena Bhatia and Javed Iqbal*
Department of Chemistry Indian Institute of Technology, Kanpur 208 016, INDIA