

GRAPHICAL ABSTRACTS

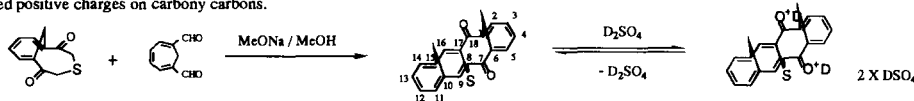
Tetrahedron Letters, 1997, 38, 8291

SYNTHESIS AND PROPERTIES OF *anti*, *anti*-8,17-EPITHIA-1,6;10,15-BIS-METHANO[18]ANNULENE-7,18-DIONE AND ITS DICATIONIC SPECIES

Shigeyasu Kuroda,* Mitsunori Oda,* Shin-ya Kuramoto, Atsushi Fukuta, Yoshihiro Mizukami, Yoshihiko Nozawa, Ryuta Miyatake, Mayumi Izawa, and Ichiro Shimao.

Department of Applied Chemistry, Faculty of Engineering, Toyama University, Gofuku 3190, Toyama 930, Japan

The titled quinone compound has been synthesized, and its ¹H and ¹³C NMR spectra in D₂SO₄ indicate that the cationic species formed by protonation has localized positive charges on carbonyl carbons.

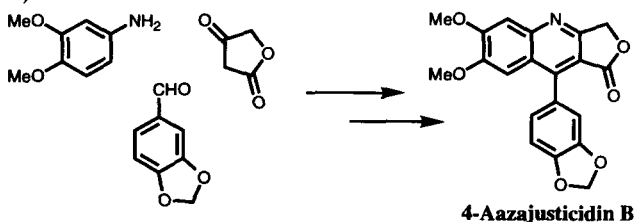


A FACILE SYNTHESIS OF THE 4-AZA-ANALOGS OF 1-ARYLNAPHTHALENE LIGNANS CHINENSIN, JUSTICIDIN B, AND TAIWANIN C

Tetrahedron Letters, 1997, 38, 8295

Yukio Hitotsuyanagi, Masatsugu Kobayashi, Masamoto Fukuyo, Koichi Takeya and Hideji Itokawa*

Tokyo University of Pharmacy and Life Science, 1432-1 Horinouchi, Hachioji, Tokyo 192-03, Japan



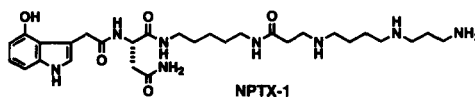
TOTAL SYNTHESIS OF NEPHILATOXIN-1 (NPTX-1), A JORO SPIDER (*Nephila clavata*) TOXIN HAVING A 4-HYDROXYINDOLE NUCLEUS

Tetrahedron Letters, 1997, 38, 8297

Masaaki Miyashita,^a Hiroaki Saito,^a Masayuki Matsushita,^a Masahiro Miyazawa,^a Yasuhiro Itagaki,^b and Terumi Nakajima^b

^aDivision of Chemistry, Graduate School of Science, Hokkaido University, Sapporo 060, Japan

^bSuntory Institute for Bioorganic Research, Wakayamadai, Shimamoto-cho, Osaka 618, Japan



The first total synthesis of NPTX-1 has been achieved by using two key azide intermediates.

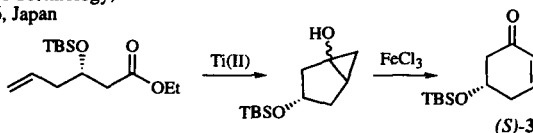
EFFICIENT AND PRACTICAL SYNTHESIS OF OPTICALLY ACTIVE 5-*t*-BUTYLDIMETHYLSILOXY-2-CYCLOHEXENONE AS A CONVENIENT CHIRAL 2,5-CYCLOHEXADIENONE SYNTHON

Tetrahedron Letters, 1997, 38, 8299

Shinichi Hikichi, Georges P.-J. Hareau and Fumie Sato*

Department of Biomolecular Engineering, Tokyo Institute of Technology, 4259 Nagatsuta-cho, Midori-ku, Yokohama, Kanagawa 226, Japan

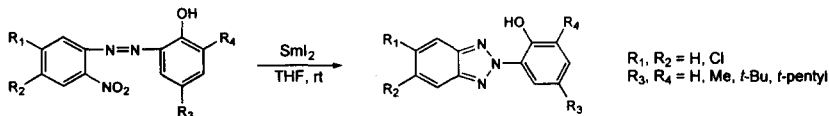
The optically active compound **3** was readily prepared in excellent overall yield from the ethyl[(3*S*)-*t*-butyl dimethylsiloxy]hex-5-enoate, both enantiomers of which can be readily synthesised from the commercially available starting material.



REDUCTIVE CYCLIZATION OF *o*-NITROPHENYLAZO-BENZENES TO 2-ARYL-2H-BENZOTRIAZOLES BY SmI_2

Byeong Hyo Kim,^{*} Sun Kyong Kim, Yoon Seok Lee, Young Moo Jun, Woonphil Baik,^{*} and Byung Min Lee,^b Department of Chemistry, Kwangju University, Seoul, 139-701, Korea. ^{*}Department of Chemistry, Myong Ji University, Korea. ^bKRICT, Korea.

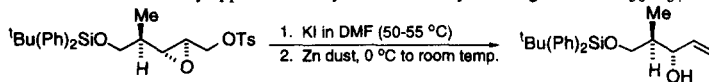
In a mild reaction with SmI_2 , *ortho*-nitro substituted phenylazobenzenes have been converted into 2-aryl-2H-benzotriazoles.

**ONE-POT TRANSFORMATION OF *p*-TOLUENESULFONATES OF 2,3-EPOXY ALCOHOLS INTO ALLYLIC ALCOHOLS**

Hiromu Habashita, Takeshi Kawasaki, Masako Akaji, Hirokazu Tamamura, Tetsutaro Kimachi, Nobutaka Fujii, and Toshiro Ibuka

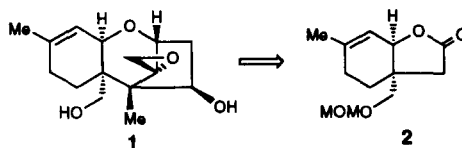
Graduate School of Pharmaceutical Sciences, Kyoto University, Sakyo-ku, Kyoto 606-01, Japan

A convenient and efficient method for the synthesis of allylic alcohols from *p*-toluenesulfonates of 2,3-epoxy alcohols is described. The method has been successfully applied to the synthesis of a key building block of C₃₀-C₃₇ botryococenes.

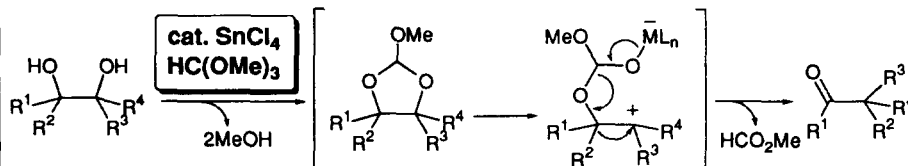
**TOTAL SYNTHESIS OF (-)-VERRUCAROL, A COMPONENT OF NATURALLY OCCURRING VERRUCARIN A**

Jun Ishihara, Rie Nonaka, Yuki Terasawa, Ryota Shiraki, Kazuo Yabu, Hiromi Kataoka, Yuichi Ochiai, and Kin-ichi Tadano^{*}
Department of Applied Chemistry, Keio University, Hiyoshi, Kohoku-ku, Yokohama 223, Japan

Total synthesis of (-)-verrucarol (1), a trichotecene sesquiterpenoid, was accomplished starting from the D-glucose-derived compound 2.

**EFFICIENT PINACOL REARRANGEMENT MEDIATED BY TRIMETHYL ORTHOFORMATE**

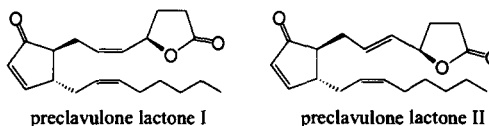
Yasuyuki Kita,^{*} Yutaka Yoshida, Sachiko Mihara, Dai-Fei Fang, Kazuhiro Higuchi, Akihiro Furukawa and Hiromichi Fujioka
Faculty of Pharmaceutical Sciences, Osaka University, 1-6, Yamada-oka, Suita, Osaka, 565, Japan



**NEW MARINE PROSTANOIDS, PRECLAVULONE LACTONES,
FROM THE OKINAWAN SOFT CORAL *CLAVULARIA VIRIDIS***

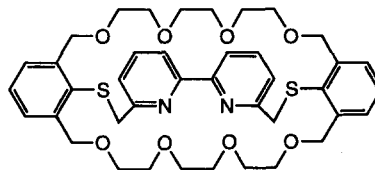
Makoto Iwashima, Kinzo Watanabe and Kazuo Iguchi,* School of Life Science, Tokyo University of Pharmacy and Life Science, Horinouchi, Hachioji, Tokyo 192-03, JAPAN

Two new marine prostanoids, preclavulone lactones I and II were isolated from the Okinawan soft coral, *Clavularia viridis*. Their structures were determined based on spectroscopic analysis and chemical synthesis.

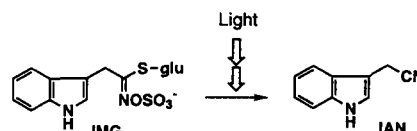

**HIGHLY SELECTIVE TRANSPORT OF Ag⁺ BY A MACROBICYCLIC HOST
CONTAINING A BIPYRIDINE MOIETY**

Tatsuya Nabeshima,* Taizo Aoki,† and Yumihiko Yano†
*Department of Chemistry, University of Tsukuba, Tsukuba, Ibaraki 305, Japan
† Department of Chemistry, Gunma University, Kiryu, Gunma 376, Japan

A macrocyclic polyether bridged by 2,2'-bipyridine group was synthesized and found to exhibit a very high Ag⁺ ion selectivity compared to heavy metal ions in transport through an organic liquid membrane.


**LIGHT-INDUCED AUXIN-INHIBITING SUBSTANCE FROM
CABBAGE (*BRASSICA OLEACEA* L.) SHOOTS**

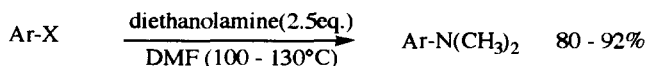
Seiji Kosemura,** Kazuki Niwa,^a Hideyuki Emori,^a
Kaori Yokotani-Tomita,^b Koji Hasegawa^b and Shosuke Yamamura**
^aDepartment of Chemistry, Faculty of Science and Technology,
Keio University, Hiyoshi, Yokohama 223, Japan
^bInstitute of Applied Biochemistry, University of Tsukuba, Ibaragi, 305 Japan



A light-induced auxin-inhibitory substance, indolylacetonitrile (IAN), was isolated from cabbage (*Brassica oleracea* L.) shoots. The IAN content in cabbage shoots increased in response to light. Cabbage hypocotyl elongation is inhibited by 10⁻⁵M of IAN in 90 min but promoted after 48 hr.

**A VERY CONVENIENT DIMETHYLAMINATION
OF ACTIVATED AROMATIC HALIDES USING
N,N-DIMETHYLFORMAMIDE AND ETHANOLAMINES**

Yoon Hwan Cho and Jae Chan Park*
Process Chemistry Group, Hanhyo Institutes of Technology,
Jeonmin-dong 461-6, Yuseong, Taejeon 305-390, Korea

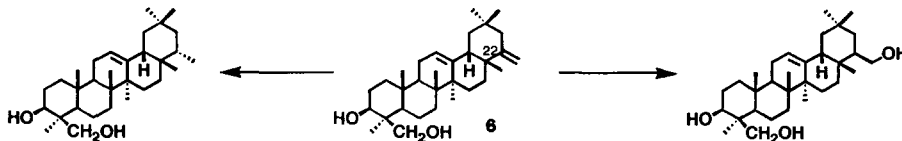


(Ar-X = p-nitrochlorobenzene, 2-halopyridines, 2-chloroquinoline, 2-chloropyrimidine)

**EFFICIENT SYNTHESIS OF C(22) HOMOLOGOUS
DERIVATIVES OF HEPATOPROTECTIVE SOYASAPOGENOL B**

Kazue Sasaki, Nobuto Minowa*, Hiroyuki Kuzuhara, Shoji Nishiyama, and Shoji Omoto

Pharmaceutical Research Center, Meiji Seika Kaisha, Ltd., 760 Morooka-cho, Kohoku-ku, Yokohama 222, Japan

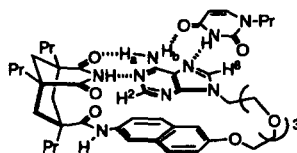
Stereochemical behavior in the addition reactions at C(22) of ketone **5** and exomethylene **6** was studied.
**SYNTHESIS OF A AT BASE PAIR MODEL IN DNA AND
DETERMINATION OF HYDROGEN BONDING STRENGTH
ON THE FORMATION OF BASE TRIPLET T:AT IN CDCl₃**

Young Lag Cho and Kyu-Sung Jeong*

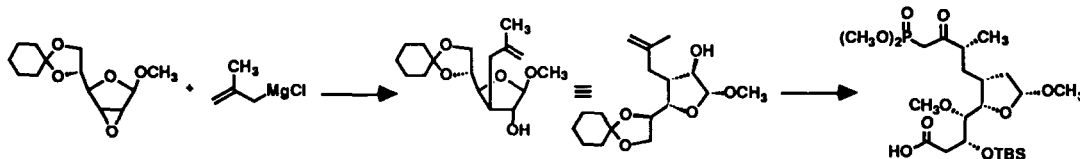
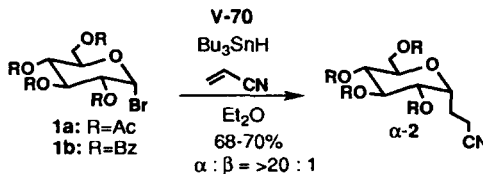
Department of Chemistry, Yonsei University

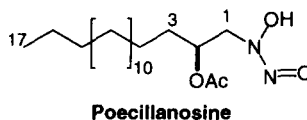
Seoul 120-749, Korea

The hydrogen bonding strength between AT and T(U) has been determined using a synthetic AT base pair model.

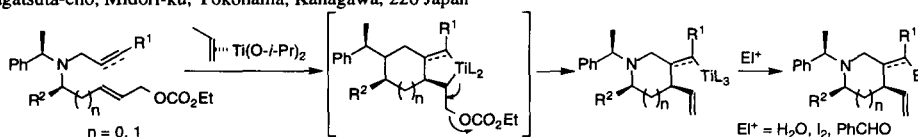

**PREPARATION OF THE C1-C10 FRAGMENT OF CARBONOLIDE B.
A RELAY APPROACH TO CARBOMYCIN B**

Takaaki Shimura, Chiyoko Komatsu, Masakazu Matsumura, Yuzo Shimada, Kazuo Ohta, and Oyo Mitsunobu*, Department of Chemistry, College of Science and Engineering, Aoyama Gakuin University, 6-16-1 Chitosedai, Setagayaku, Tokyo 157, Japan

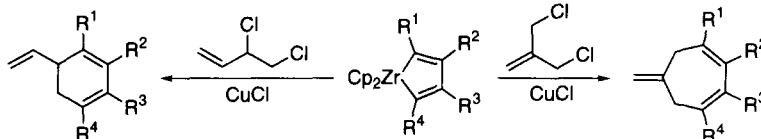
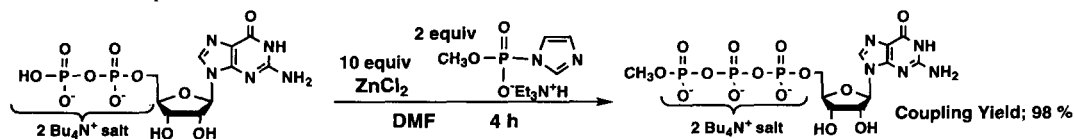

**A HIGHLY STEREOSELECTIVE SYNTHESIS OF α -LINKED
C-GLYCOPYRANOSIDES USING 2,2'-AZOBIS-(2,4-
DIMETHYL-4-METHOXYVALERONITRILE) (V-70)**
Yasuyuki Kita^a, Kentoku Gotanda^a, Atsunori Sano^b, Masahisa Oka^b, Kenji Murata^a, Miki Suemura^a and Masato Matsugi^a^aFaculty of Pharmaceutical Sciences, Osaka University, 1-6 Yamada-oka, Suita, Osaka 565, Japan^bTokyo Research Laboratories, Wako Pure Chemical Industries, Ltd., 1633, Matoba, Kawagoe, Saitama 350-11, Japan α -Linked C-glycopyranosides were obtained effectively by the radical addition reaction using V-70, an effective radical initiator under mild conditions.

POECILLANOSINE, A NEW FREE RADICAL SCAVENGER FROM MARINE SPONGE *POECILLA STRA* SPEC. AFF. *TENUILAMINARIS*.T. Natori*¹, Y. Kataoka¹, S. Kato¹, H. Kawai¹, and N. Fusetani*²¹Pharmaceutical Research Laboratory, Kirin Brewery Co., Ltd., Takasaki, Gunma 370-12²Laboratory of Aquatic Natural Products Chemistry, Graduate School of Agricultural and Life Sciences, University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113, Japan**STEREOSELECTIVE SYNTHESIS OF OPTICALLY ACTIVE SUBSTITUTED PIPERIDINES AND PYRROLIDINES FROM AMINO ACID DERIVATIVES BY TITANIUM(II)-MEDIATED INTRAMOLECULAR CYCLIZATION REACTION.**

Yuuki Takayama, Sentaro Okamoto and Fumie Sato* Department of Biomolecular Engineering, Tokyo Institute of Technology, 4259, Nagatsuta-cho, Midori-ku, Yokohama, Kanagawa, 226 Japan

**TANDEM INTER-INTRAMOLECULAR ALLYLATION OF ZIRCONACYCLOPENTADIENES: PATHWAY TO VINYL-CYCLOHEXADIENES AND METHYLENOCYCLOHEPTADIENES**Martin Kitora, Chisato Umeda, Toyohisa Ishida and Tamotsu Takahashi*^{*}; Catalysis Research Center and Graduate School of Pharmaceutical Sciences, Hokkaido University, Kita-ku, Sapporo 060 Japan

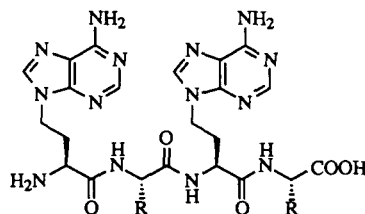
Copper-catalyzed or -mediated reaction of zirconacyclopentadienes with allylic dichlorides afforded vinylcyclohexadienes or methylenecycloheptadienes.

**EFFICIENT SYNTHESIS OF γ -METHYL-CAPPED GUANOSINE 5'-TRIPHOSPHATE AS A 5'-TERMINAL UNIQUE STRUCTURE OF U6 RNA via A NEW TRIPHOSPHATE BOND FORMATION INVOLVING ACTIVATION OF METHYL PHOSPHORIMIDAZOLIDATE USING $ZnCl_2$ AS A CATALYST IN DMF UNDER ANHYDROUS CONDITIONS**Michinori Kadokura, Takeshi Wada, Chihiro Urashima and Mitsuo Sekine*^{*}, Department of Life Science, Faculty of Bioscience and Biotechnology, Tokyo Institute of Technology, Nagatsuta, Midoriku, Yokohama 226, Japan

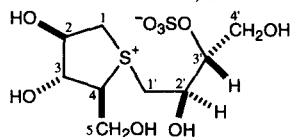
DINUCLEOTIDE-ANALOGOUS TETRAPEPTIDES. SPECIFIC TRIPLEX FORMATION WITH COMPLEMENTARY POLYNUCLEOTIDES

Takahisa Yamazaki,[†] Kazunori Komatsu,[†] Hiroki Umemiya,[†] Yuichi Hashimoto,[‡] Koichi Shudo,[†] and Hiroyuki Kagechika*[†]
[†]Faculty of Pharmaceutical Sciences, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan, and [‡]Institute of Molecular and Cellular Biosciences, University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113, Japan

Several tetrapeptides having two adenyl moieties at the side chains formed stable triplexes with poly (dT) or poly (U).


SALACINOL, POTENT ANTIDIABETIC PRINCIPLE WITH UNIQUE THIOSUGAR SULFONIUM SULFATE STRUCTURE FROM THE AYURVEDIC TRADITIONAL

MEDICINE *Salacia reticulata* IN SRI LANKA AND INDIA. Masayuki Yoshikawa,^{a,*} Toshiyuki Murakami,^a Hiromi Shimada,^a Hisashi Matsuda,^a Johji Yamahara,^b Genzou Tanabe,^c and Osamu Muraoka^c *Kyoto Pharmaceutical University,*^a 5 Nakauchi-cho, Misasagi, Yamashina-ku, Kyoto 607, Japan, *Research Institute for Production Development,*^b 15, Morimoto-cho, Shimogamo, Sakyo-ku, Kyoto 606, Japan, and *Faculty of Pharmaceutical Sciences, Kinki University,*^c and 3-4-1, Kowakae, Higashiosaka, Osaka 577, Japan

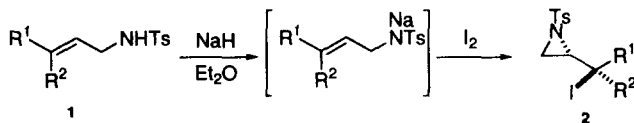


A most potent natural α -glucosidase inhibitor, salacinol, was isolated from an Ayurvedic traditional medicine *Salacia reticulata*. The stereostructure of salacinol was determined by the X-ray crystallographic analysis, which showed the unique spiro-like configuration of the inner salt comprised of 1-deoxy-4-thioarabinofuranosyl sulfonium cation and 1'-deoxyerythrosyl-3'-sulfate anion.

NaH-MEDIATED IODOAZIRIDINATION REACTION OF N-ALLYLIC TOSYLAMIDES

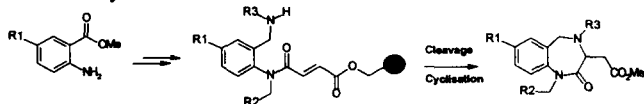
Osamu Kitagawa, Takashi Suzuki and Takeo Taguchi*

Tokyo University of Pharmacy and Life Science, 1432-1 Horinouchi, Hachioji, Tokyo 192-03, Japan


SOLID-PHASE SYNTHESIS OF DIVERSE

TETRAHYDRO-1,4-BENZODIAZEPINE-2-ONES. Gurdip Bhalay,* Paul Blaney, Vanessa H. Palmer and Anthony D. Baxter, Oxford Diversity A Division of Oxford Asymmetry, 57 Milton Park, Abingdon, Oxon, OX14 4RX, UK.

A general procedure for the synthesis of tetrahydro-1,4-benzodiazepine-2-ones on solid-phase has been devised, starting from commercially available anthranilic esters.

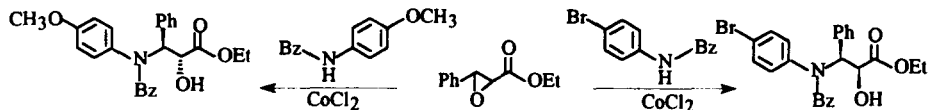


A Remarkable Stereocontrol During Cobalt (II) chloride Catalysed Opening of Cinnamoyl Epoxides with N - Substituted Anilines.

Asit De, Shubhajit Ghosh and Javed Iqbal*

Department of Chemistry, Indian Institute of Technology, Kanpur, 208016, India.

The stereochemistry of the cobalt (II) chloride catalysed-opening of cinnamoyl epoxide with N - substituted anilines is controlled by the para substituent of the aromatic ring directly attached to nitrogen.

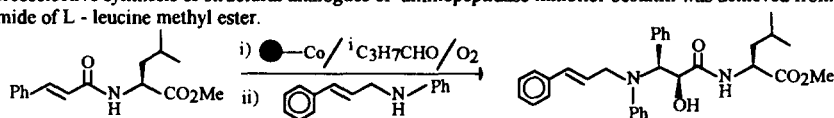


Polyaniline Supported Cobalt Catalysed one pot Stereoselective Synthesis of the Structural Analogues of Aminopeptidase Inhibitor Bestatin

Asit De, Prakriti Basak and Javed Iqbal*

Department of Chemistry, Indian Institute of Technology, Kanpur, 208016, India.

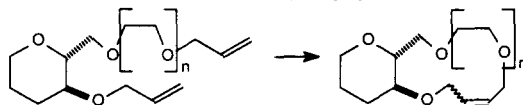
A one pot stereoselective synthesis of structural analogues of aminopeptidase inhibitor bestatin was achieved from the cinnamoyl amide of L - leucine methyl ester.



ORTHO-CONDENSED OXANE/POLYOXYGENATED MACROCORINGS BY RUTHENIUM-CATALYZED RING CLOSING METATHESIS

Mercedes Delgado and Julio D. Martín* Instituto de Investigaciones Químicas, CSIC, Americo Vespucio, s/n, Isla de La Cartuja, 41092 Sevilla, Spain

A highly flexible and versatile method for the construction of macrocyclic polyethers and related systems is described.



REACTIONS OF 1-ARYL-2-PROPANONES WITH CHLORO-METHYLENEIMINIUM SALT.

Josemin, K.N. Nirmala

and C. V. Asokan* School of Chemical Sciences, Mahatma Gandhi University, Kottayam-686560, India.

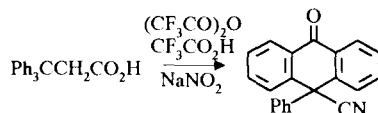
The reaction of benzyl alkyl ketones with chloromethyleneiminium salt prepared from POCl₃ and DMF lead to the formation of 4-pyrones. 3-Formyl-4-pyrones could be prepared in good yields from benzyl methyl ketones.



A Novel One-Step Conversion of 3,3,3-Triphenylpropionic Acid To 10-Cyano-10-phenyl-9-anthrone.

Y.I. Smushkevich, V.Y. Smushkevich and P. G. Kislitsin, Department of Organic Chemistry, D. Mendeleev University of Russia, Miusskaja 9, Moscow, 125 047 Russia

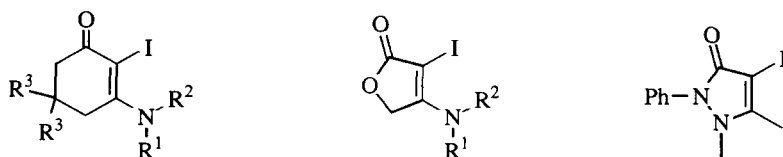
Reaction of 3,3,3-triphenylpropionic acid with $(CF_3CO)_2O$ and $NaNO_2$ led to 10-cyano-10-phenyl-9-anthrone



α -IODINATION OF ENAMINONES WITH BIS(PYRIDINE)-IODONIUM(I) TETRAFLUOROBORATE. Pedro J. Campos,*

Joaquín Arranz, Miguel A. Rodríguez, Departamento de Química, Universidad de La Rioja, 26071 Logroño, Spain

Primary, secondary and tertiary enamminones react with $I(py)_2BF_4$ to give α -iodo enamminones in almost quantitative yields.

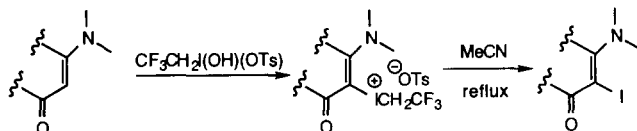


NOVEL TRIFLUOROETHYL IODONIUM SALTS FROM CYCLIC ENAMINONES AND THEIR THERMAL DECOMPOSITION

Ioannis Papoutsis^a, Spyros Spyroudis^{a*}, Anastasios Varvoglis^{a*}, Jeffrey A. Callies^b and Viktor V. Zhdankin^b

^aLab. of Organic Chemistry, Chemistry Department, University of Thessaloniki 54006, Greece.

^bDepartment of Chemistry, University of Minnesota-Duluth, Duluth MN 55812, USA.



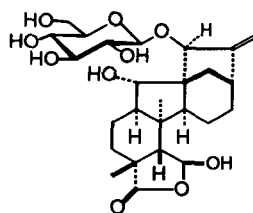
A NOVEL DITERPENE GLYCOSIDE FROM THE SEEDS OF ACACIA FARNESIANA

Niranjan P. Sahu,^{*1} Kazuo Koike,² Sukdeb Banerjee,¹

Basudeb Achari,¹ Zhonghua Jia,² and Tamotsu Nikaido^{*2}

¹Indian Institute of Chemical Biology, 4, Raja S.C. Mullick Road Calcutta-700032, India; ²School of Pharmaceutical Sciences Toho University, 2-2-1 Miyama, Funabashi, Chiba 274, Japan

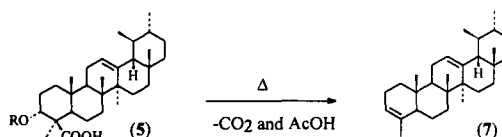
Structure of farnesiaside, the glycoside of a diterpene bearing a novel skeleton [formally a 7(6 \rightarrow 1)-abeo-ent-kaurene], has been deduced from spectral studies.



**CHEMICAL EVIDENCE FOR ARCHAEOLOGICAL FRANKINCENSE:
BOSWELLIC ACIDS AND THEIR DERIVATIVES IN SOLVENT SOLUBLE
AND INSOLUBLE FRACTIONS OF RESIN-LIKE MATERIALS.**

Pim F. van Bergen, Torren M. Peakman, Elizabeth C. Leigh-Firbank and Richard P. Evershed, School of Chemistry, University of Bristol, Cantock's Close, Bristol BS8 1TS, UK.

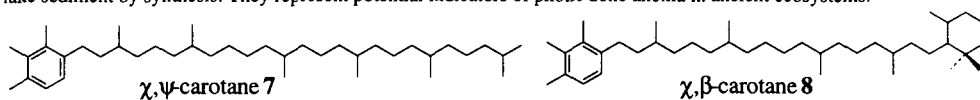
α - and β -boswellic acids and their acetate derivatives dominated the solvent extracts. The corresponding hydrocarbon dienes were detected upon pyrolysis of the insoluble residues.


**NOVEL AROMATIC CAROTENOID DERIVATIVES FROM
SULFUR PHOTOSYNTHETIC BACTERIA IN SEDIMENTS**

Philippe Schaeffer, Pierre Adam, Patrick Wehrung and Pierre Albrecht.

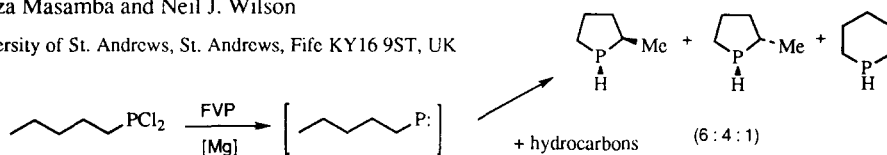
Laboratoire de Géochimie Organique, URA 31 du CNRS, Institut de Chimie, Université Louis Pasteur, 1 rue Blaise Pascal, 67000 Strasbourg, France.

Aromatic hydrocarbons **7** and **8** likely to originate from unreported carotenoids of *Chromatiaceae* have been identified in a lake sediment by synthesis. They represent potential indicators of photic zone anoxia in ancient ecosystems.


**FLASH VACUUM PYROLYSIS OF DICHLORO-
PHOSPHINES OVER MAGNESIUM: GENERATION
AND REACTIVITY OF SIMPLE PHOSPHINIDENES**

R. Alan Aitken,* Wayiza Masamba and Neil J. Wilson

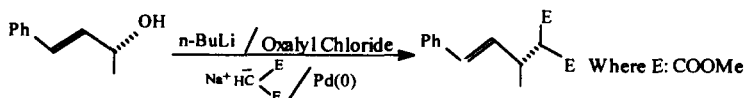
School of Chemistry, University of St. Andrews, St. Andrews, Fife KY16 9ST, UK


**PALLADIUM CATALYSED ALLYLIC SUBSTITUTION VIA
IN SITU ACTIVATION OF ALLYLIC ALCOHOLS.**

R. Kumareswaran and Yashwant D. Vankar*

Department of Chemistry, Indian Institute of Technology, Kanpur-208 016, India.

In-situ activation of allylic alcohols by oxalyl chloride (or hexachlorophosphazene) followed by Pd(0) catalysed reactions with lithio dimethyl malonate leads to regio and stereoselective alkylations in good yields.



A NEW SYNTHESIS OF CARMETHIZOLE AND RELATED**NITROGEN ANALOGUES.** Michael P. Hay* and William A. Denny,

Cancer Society Research Laboratory, University of Auckland School of Medicine, Private Bag 92019, Auckland, New Zealand.

A new efficient six-step synthesis of carmethizole, a novel bis-carbamate alkylating agent, and syntheses of related nitrogen analogues are described, using a key 4,5-substituted imidazole intermediate **8**.

**Intramolecular Homolytic Substitution at Tellurium: Preparation of a Dihydrotellurophene by Alkyltelluride-Mediated S_{RN}1 / S_Hi Reactions.**

Melissa J. Laws and Carl H. Schiesser*

School of Chemistry, The University of Melbourne, Parkville, Victoria, Australia, 3052

Reaction of 1-methyl-1-(2-iodophenyl)oxirane (**4**) with sodium butyltelluroate (NaTeBu) in THF affords the benzo[b]tellurophene (**6**) in 57% yield through a tandem S_{RN}1 / S_Hi sequence.

