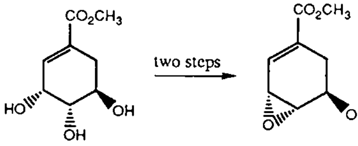
Tetrahedron Lett. 30, 6257 (1989)

ON THE STRUCTURE OF NATURALLY-OCCURRING (+)-METHYL 3,4-ANHYDROSHIKIMATE

Harold B. Wood and Bruce Ganem*
Department of Chemistry, Baker Laboratory, Cornell University, Ithaca, New York 14853 USA

A short synthesis of the title natural product 2 is described from (-)-methyl shikimate



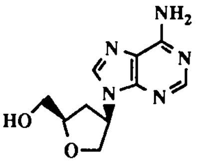
2

Tetrahedron Lett. 30, 6259 (1989)

SYNTHESIS OF ISO-DDA, MEMBER OF A NOVEL CLASS OF ANTI-HIV AGENTS

Donna M. Huryn,* Barbara C. Sluboski, Steve Y. Tam, Louis J. Todaro and Manfred Weigele
Roche Research Center, Hoffmann-La Roche, Inc. New Jersey 07110

The synthesis of iso-ddA, a novel, acid stable anti-HIV agent is described.

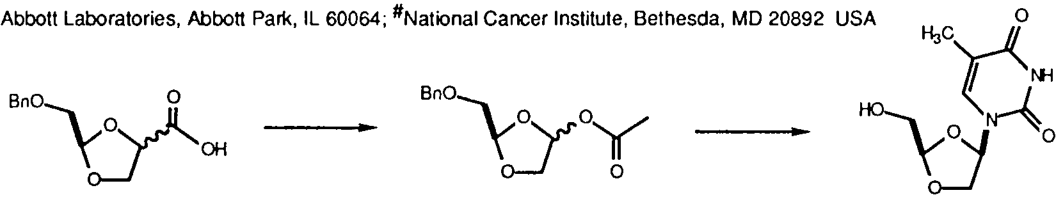


Iso-ddA

Tetrahedron Lett. 30, 6263 (1989)

(±)-DIOXOLANE-T: A NEW 2',3'-DIDEOXYNUCLEOSIDE PROTOTYPE WITH *IN VITRO* ACTIVITY AGAINST HIV

Daniel W. Norbeck,*[+] Stephen Spanton,[+] Hiroaki Mitsuya,[#] and Samuel Broder[#]
[+]Abbott Laboratories, Abbott Park, IL 60064; [#]National Cancer Institute, Bethesda, MD 20892 USA



Tetrahedron Lett. 30, 6267 (1989)

A NOVEL SYNTHESIS OF AROMATIC α-DIKETONES FROM ELECTRON TRANSFER REACTIONS OF AROMATIC ACIDS WITH EITHER LITHIUM 4,4'-DI-*T*-BUTYLBIPHENYL RADICAL ANION OR LITHIUM METAL

Rafik Karaman and James L.Fry
Bowman-Oddy Laboratories, Department of Chemistry, The University of Toledo, Toledo, OH 43606-3390

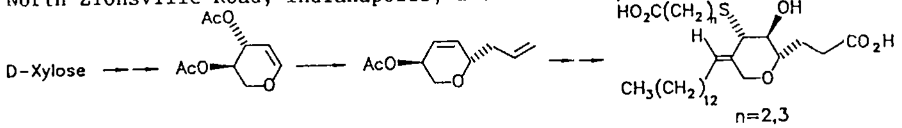
$$\boxed{2\,Ar-COOH \xrightarrow[Li^+DBB^{-\cdot}]{Li\ or} Ar(CO)(CO)Ar}$$

Aromatic acids may be converted directly to α-diketones using lithium metal and ultrasonication in THF. Use of a catalytic amount of DBB enhances the coupling rate.

Tetrahedron Lett. 30, 6271 (1989)

CONFORMATIONALLY RESTRICTED LEUKOTRIENE ANTAGONISTS. SYNTHESIS OF SOME LEUKOTRIENE D_4 ANALOGS FROM D-XYLOSE.

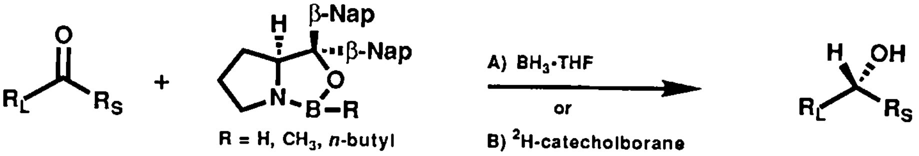
Jeffrey S. Sabol*, Merrell Dow Research Institute
2110 East Galbraith Road, Cincinnati, Ohio 45215, U.S.A.
Robert J. Cregge, Merrell Dow Research Institute
9550 North Zionsville Road, Indianapolis, Indiana 46268, U.S.A.



Tetrahedron Lett. 30, 6275 (1989)

A NEW CHIRAL CATALYST FOR THE ENANTIOSELECTIVE SYNTHESIS OF SECONDARY ALCOHOLS AND DEUTERATED PRIMARY ALCOHOLS BY CARBONYL REDUCTION

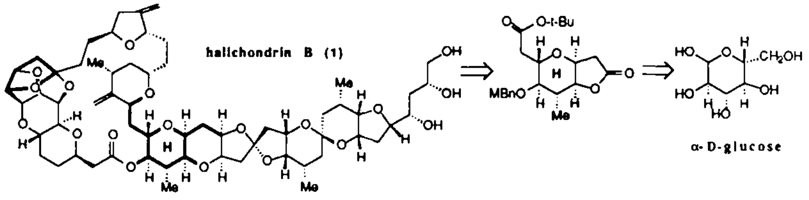
E. J. Corey and John O. Link
Department of Chemistry, Harvard University, Cambridge, Massachusetts, 02138



Tetrahedron Lett. 30, 6279 (1989)

TOTAL SYNTHESIS OF HALICHONDRINS: HIGHLY STEREOSELECTIVE CONSTRUCTION OF A HOMOCHIRAL PENTASUBSTITUTED H-RING PYRAN INTERMEDIATE FROM α-D-GLUCOSE

Seokchan Kim and
Robert G. Salomon*
Department of Chemistry,
Case Western Reserve
University,
Cleveland, OH 44106-2699

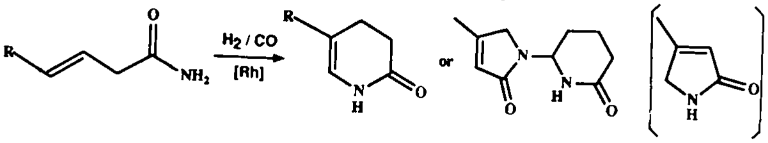


Tetrahedron Lett. 30, 6283 (1989)

NEW ROUTES TO NITROGEN HETEROCYCLES THROUGH INTRAMOLECULAR AMIDOCARBONYLATION OF ALKENAMIDES CATALYZED BY RHODIUM COMPLEXES

Iwao Ojima* and Anna Korda
Department of Chemistry, State University of New York at Stony Brook, Stony Brook, NY 11794

New synthesis of nitrogen heterocycles through intramolecular amidocarbonylation of alkenamides with rhodium catalysts.

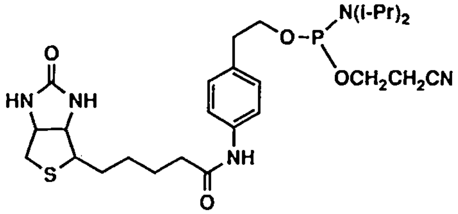


Tetrahedron Lett. 30, 6287 (1989)

A PHOSPHORAMIDITE REAGENT FOR AUTOMATED SOLID PHASE SYNTHESIS OF 5'-BIOTINYLATED OLIGONUCLEOTIDES

Anthony J. Cocuzza
Central Research and Development Department, E. I. duPont de Nemours & Company Inc., Experimental Station, Wilmington, Delaware 19880-0328

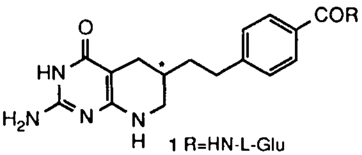
With this reagent 5'-biotinylated oligonucleotides are now as accessible as ordinary oligonucleotides.



Tetrahedron Lett. 30, 6291 (1989)

ASYMMETRIC SYNTHESIS AND ABSOLUTE CONFIGURATION OF 5,10-DIDEAZA-5,6,7,8-TETRAHYDROPTEROIC ACID AND 5,10-DIDEAZA-5,6,7,8-TETRAHYDROFOLIC ACID (DDATHF)

Charles J. Barnett* and Thomas M. Wilson
Chemical Process Research and Development Division
Lilly Research Laboratories, Eli Lilly and Company
Indianapolis, Indiana 46285



1 R=HN-L-Glu
14 R=OH

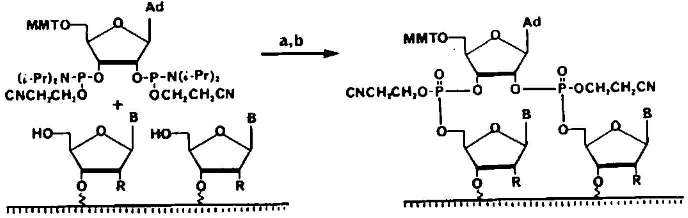
Lipase-catalyzed enantioselective esterification of 2-substituted 1,3-diols has been utilized in the asymmetric synthesis and consequent C-6 configurational assignments of 5,10-dideazatetrahydropteroic acid (**14**) and the antitumor agent DDATHF (**1**).

Tetrahedron Lett. 30, 6295 (1989)

AUTOMATED SOLID PHASE SYNTHESIS OF BRANCHED OLIGONUCLEOTIDES.

Masad J. Damha* and Steve Zabarylo

J. Tuzo Wilson Research Laboratories, Erindale Campus, University of Toronto, Mississauga, Ontario, Canada L5L 1C6



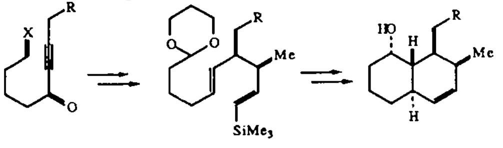
a, tetrazole; b, I_2/H_2O

Tetrahedron Lett. 30, 6299 (1989)

SYNTHESIS OF OPTICALLY ACTIVE MEVINIC ACID SUBUNITS VIA ACETAL INITIATED/VINYLSILANE TERMINATED POLYENE CYCLIZATIONS.

Steven D. Burke,* Kumiko Takeuchi, C.W. Murtiashaw and D.W.M. Liang, Department of Chemistry, University of South Carolina, Columbia, SC 29208 and Department of Chemistry, University of Wisconsin-Madison, Madison, WI 53706 USA

Efficient routes to optically active dihydrocompactin precursors involving vinysilane-mediated cyclizations are described. Enantioselective alkynone reductions and Ireland-Claisen rearrangements serve to establish and transfer absolute stereochemistry.

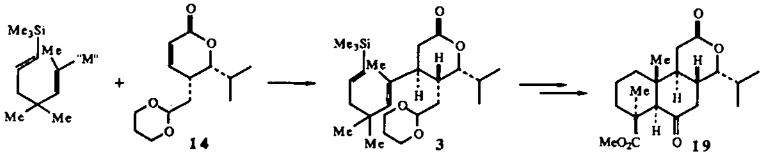


Tetrahedron Lett. 30, 6303 (1989)

ENANTIOSELECTIVE SYNTHESIS OF THE NAGILACTONE RING SYSTEM VIA A VINYLSILANE-MEDIATED POLYENE CYCLIZATION.

Steven D. Burke,* Sharon M.S. Strickland, Helen M. Organ, and Louis A. Silks, III, Department of Chemistry, University of South Carolina, Columbia, SC 29208 and Department of Chemistry, University of Wisconsin-Madison, Madison, WI 53706 USA

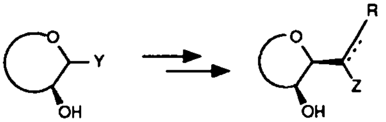
The polyene cyclization substrate 3 was prepared by the indicated addition of an achiral vinylmetallic to the optically active pentenolide 14. Acetal initiated cyclization and regioselective manipulation of oxidation levels gave the nagilactone precursor 19.



Tetrahedron Lett. 30, 6307 (1989)

STEREOSELECTIVE C-C BOND FORMATION IN CARBOHYDRATES BY RADICAL CYCLIZATION REACTIONS-III. STRATEGY FOR THE PREPARATION OF C(1)-GLYCOSIDES.

Alain De Mesmaeker*, Pascale Hoffmann, Beat Ernst, Paul Hug,
Tammo Winkler
Central Research Laboratories, Ciba-Geigy Ltd.,
CH-4002 Basel, Switzerland

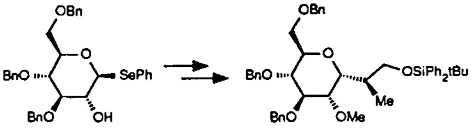


A new strategy for the stereoselective synthesis of α-and β-C(1)-glycosides based on an intramolecular radical cyclization reaction is described.

Tetrahedron Lett. 30, 6311 (1989)

STEREOSELECTIVE C-C BOND FORMATION IN CARBOHYDRATES BY RADICAL CYCLIZATION REACTIONS-IV. APPLICATION FOR THE SYNTHESIS OF α-C(1)-GLUCOSIDES.

Alain De Mesmaeker*, Pascale Hoffmann, Beat Ernst, Paul Hug,
Tammo Winkler
Central Research Laboratories, Ciba-Geigy Ltd.,
CH-4002 Basel, Switzerland



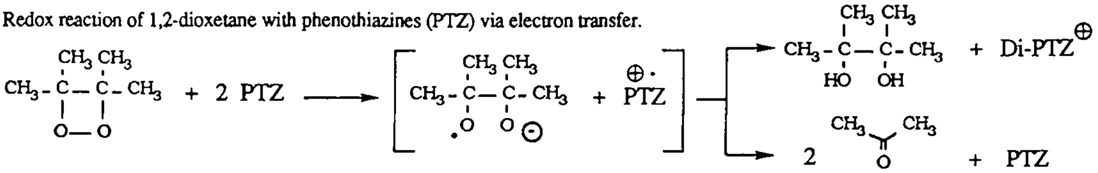
The synthesis of α-C(1)-glucosides is reported using our new strategy for the C-C bond formation at the anomeric center by radical cyclization reactions.

Tetrahedron Lett. 30, 6315 (1989)

Direct Observation of Electron Transfer between Phenothiazines and 1,2-Dioxetanes

Waldemar Adam *, Sabine Hückmann and Franklin Vargas
Institute of Organic Chemistry, University of Würzburg, D-8700 Würzburg, F.R.G.

Redox reaction of 1,2-dioxetane with phenothiazines (PTZ) via electron transfer.

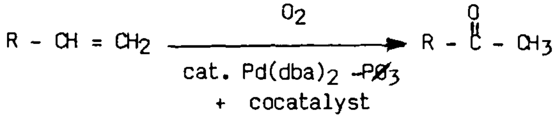


$$\mathrm{CH_3-\overset{CH_3}{\underset{O-}{C}}-\overset{CH_3}{\underset{O}{C}}-CH_3} + 2\ \mathrm{PTZ} \longrightarrow \left[\mathrm{CH_3-\overset{CH_3}{\underset{\cdot O}{C}}-\overset{CH_3}{\underset{O^{\ominus}}{C}}-CH_3} + \mathrm{PTZ}^{\oplus\cdot}\right] \to \begin{cases} \mathrm{CH_3-\overset{CH_3}{\underset{HO}{C}}-\overset{CH_3}{\underset{OH}{C}}-CH_3} + \text{Di-PTZ}^{\oplus} \\ 2\ \mathrm{CH_3COCH_3} + \mathrm{PTZ} \end{cases}$$

Tetrahedron Lett. 30,6319(1989)

OXIDATION OF OLEFINS BY OXYGEN WITH A MIXED PALLADIUM/SILVER NITRITE CATALYST IN ALCOHOLS.

Jean-Marc SAGE[a], Jacques GORE[b*] and Elisabeth GUILMET[a]
[a]ATOCHEM, 69310 PIERRE-BENITE, [b]Université Claude Bernard-Lyon I,69622 VILLEURBANNE, France.



$$R - CH = CH_2 \xrightarrow[\text{cat. } Pd(dba)_2 - P\phi_3 \ + \text{ cocatalyst}]{O_2} R - \overset{O}{\overset{\|}{C}} - CH_3$$

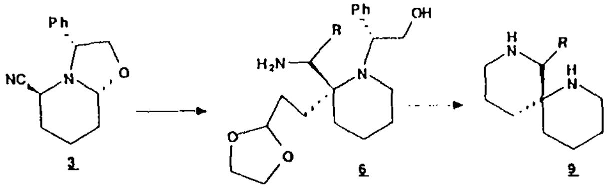
cocatalyst : $AgNO_2$ in primary alcohols , tBuONO in tBuOH - H_2O or HNO_3 + $AgNO_2$ in tBuOH - H_2O
Best results : selectivity 81 % ; Pd turnover 60

Tetrahedron Lett. 30,6323(1989)

Asymmetric Synthesis XX. Preparation of a novel Spiropiperidine System by the CN (R,S) Method

Jieping ZHU, Jean-Charles Quirion, Henri-Philippe Husson
Institut de Chimie des Substances Naturelles du CNRS 91198 GIF/YVETTE Cedex FRANCE

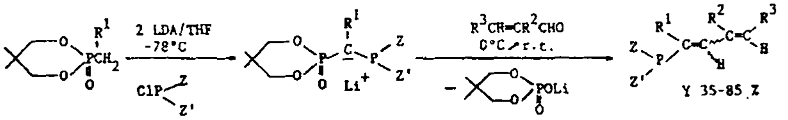
The asymmetric synthesis of the spiropiperidine 9 from synthon 3 is presented.



Tetrahedron Lett. 30,6327(1989)

A GENERAL ONE-POT SYNTHESIS OF 1,3-BUTADIENYL PHOSPHANES

Marie-Paule TEULADE and Philippe SAVIGNAC
Laboratoire de Chimie du Phosphore et des Métaux de Transition
DCPH - Ecole Polytechnique, 91128 PALAISEAU Cedex (France)

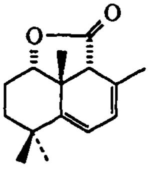


Tetrahedron Lett. 30,6331(1989)

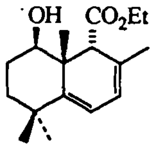
A Simple Access to a Forskolin Precursor.

M. Leclaire, J.Y. Lallemand
Laboratoire de Synthèse Organique, associé au C.N.R.S.
Ecole Polytechnique, 91128 Palaiseau, France

Compounds 2 and 7, which are key intermediates in Forskolin synthesis, have been prepared in two steps from hydroxy-β-ionone by chain elongation and electrocyclisation



2

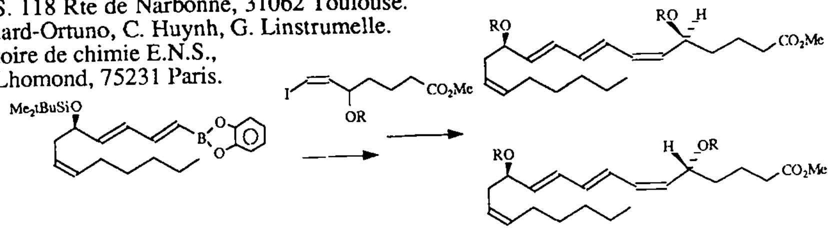


7

Tetrahedron Lett. 30, 6335 (1989)

AN EFFICIENT SYNTHESIS OF LEUKOTRIENE B_4

M. Avignon-Tropis, M. Treilhou, J. Lebreton, J.R. Pougny.
C.N.R.S. 118 Rte de Narbonne, 31062 Toulouse.
I. Fréchard-Ortuno, C. Huynh, G. Linstrumelle.
Laboratoire de chimie E.N.S.,
24 rue Lhomond, 75231 Paris.



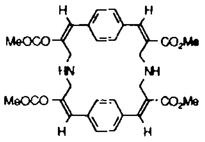
Tetrahedron Lett. 30, 6337 (1989)

Synthesis of diaza [7,7] paracyclophanetetraene and diaza[7,2,7,2] paracyclophane hexaene.

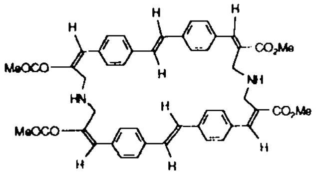
Patrick Bauchat and André Foucaud*

Groupe de Chimie Structurale associé au C.N.R.S., Université de Rennes, 35042 Rennes, France.

The diazabicyclooctane-catalyzed reaction of methyl acrylate with terephtalaldehyde gave hydroxyesters which are converted into paracyclophanes **6** and **9**.



6

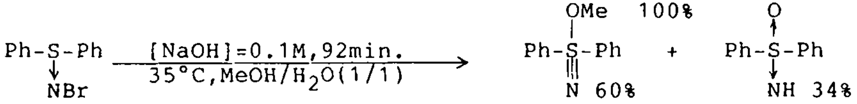


9

Tetrahedron Lett. 30, 6339 (1989)

FORMATION OF S,S-DIPHENYL-S-METHOXYTHIAZYNE $Ph_2S(OMe)(\equiv N)$ IN THE ALKALINE HYDROLYSIS OF S,S-DIPHENYL-N-HALOSULFILIMINES.

Toshiaki Yoshimura,* Eiichi Tsukurimichi, Hiroshi Kita,
Hiroshi Fujii, and Choichiro Shimasaki
Department of Industrial Chemistry, Faculty of Engineering, Toyama University,
Gofuku, Toyama 930, Japan



$$\mathrm{Ph{-}\underset{\underset{NBr}{\downarrow}}{S}{-}Ph} \xrightarrow[35^\circ C, MeOH/H_2O(1/1)]{[NaOH]=0.1M, 92min.} \mathrm{Ph{-}\overset{OMe}{\underset{\underset{N\ 60\%}{|||}}{S}}{-}Ph} \overset{[H^+]\ 100\%}{\longrightarrow} \mathrm{Ph{-}\overset{\overset{O}{\uparrow}}{\underset{\underset{NH\ 34\%}{\downarrow}}{S}}{-}Ph}$$

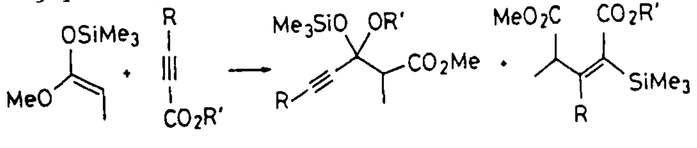
$$\mathrm{Ph{-}\overset{OMe}{\underset{N\ 60\%}{S}}{-}Ph} + \mathrm{Ph{-}\overset{O}{\underset{NH\ 34\%}{S}}{-}Ph}$$

Tetrahedron Lett. 30, 6341 (1989)

THE NOVEL CATALYTIC ACTION OF CLAY MONTMORILLONITE ON THE ADDITIONS OF SILYL KETENE ACETALS TO α,β-ACETYLENIC ESTERS

Makoto Onaka,* Taku Mimura, Ryosuke Ohno, and Yusuke Izumi*
Department of Synthetic Chemistry, Faculty of Engineering,
Nagoya University, Chikusa, Nagoya 464, Japan.

Clay catalyzes [1,2] and [1,4] additions to silyl ketene acetals to ynoates.

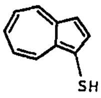


Tetrahedron Lett. 30, 6345 (1989)

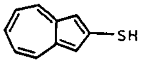
SYNTHESIS OF 1-, 2-, 6-AZULENETHIOLS

Toyonobu Asao,* Shunji Ito, and Noboru Morita
Department of Chemistry, College of General Education, Tohoku University,
Kawauchi, Aobaku, Sendai 980 Japan

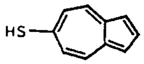
1-Azulenethiol (1) was synthesized by reductive cleavage of di-1-azulyl disulfide. 2- And 6-azulenethiols (2 and 3) were obtained by conversion of the corresponding hydroxyl group to mercapto group via dimethylthiocarbamates.



1



2

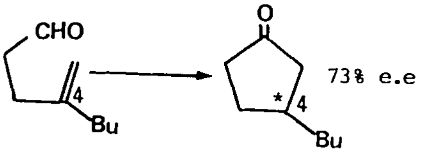


3

Tetrahedron Lett. 30, 6349 (1989)

ASYMMETRIC CYCLIZATION REACTIONS BY Rh(I) WITH CHIRAL LIGANDS

Y.Taura, M.Tanaka, K.Funakoshi, and K.Sakai
Faculty of Pharmaceutical Sciences, Kyushu University, Maidashi 3-1-1,
Higashi-ku, Fukuoka 812, JAPAN

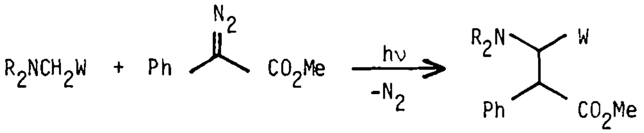


Cyclization of prochiral 4-Bu-4-penten-1-al by Rh(I) with chiral ligand afforded 4-Bu-cyclopentanone with 73%e.e.

Tetrahedron Lett. 30, 6353 (1989)

FORMAL ACTIVATION OF C-H BONDS TOWARD CARBENE BY CAPTO-DATIVE SUBSTITUENTS

Hideo Tomioka* and Kunihiko Suzuki
Department of Industrial Chemistry, Faculty of Engineering Mie University,
Tsu, Mie 514 Japan

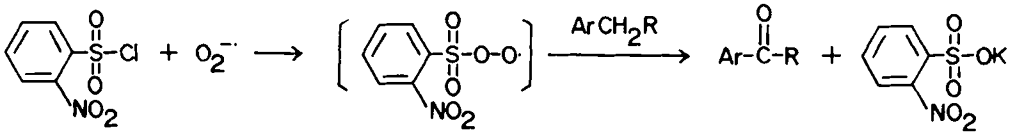


W: CN, CO_2Me, COMe

Tetrahedron Lett. 30, 6357 (1989)

OXIDATION OF BENZYLIC METHYLENE COMPOUNDS TO KETONES WITH 2-NITROBENZENE PEROXYSULFONYL RADICAL FORMED FROM ITS CHLORIDE AND SUPEROXIDE

Yong Hae Kim*, Kyoung Soo Kim and Hyeon Kyu Lee
Department of Chemistry, Korea Advanced Institute of Science and Technology,
P.O. Box 150, Cheongyang-Ni, Seoul 130-650, Korea

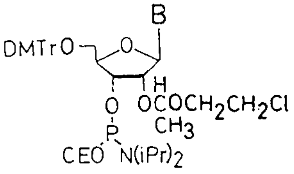


Tetrahedron Lett. 30,6361(1989)

1-(2-CHLOROETHOXY)ETHYL GROUP FOR THE PROTECTION OF 2'-HYDROXYL GROUP IN THE SYNTHESIS OF OLIGORIBONUCLEOTIDES

Shun-ichi Yamakage, Osamu Sakatsume, Eiichi Furuyama, and Hiroshi Takaku*, Laboratory of Bioorganic Chemistry, Chiba Institute of Technology, Tsudanuma. Narashino, Chiba 275, Japan

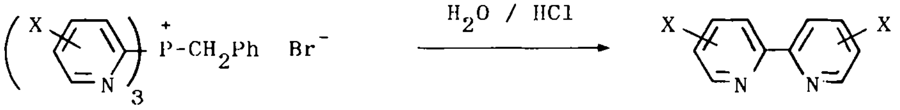
The 1-(2-chloroethoxy)ethyl group is used as the 2'-O-protecting groups for the synthesis of oligoribonucleotides on solid supports.



Tetrahedron Lett. 30,6365(1989)

FORMATION OF 2,2'-BIPYRIDYL BY LIGAND COUPLING ON THE PHOSPHORUS ATOM

Yuzuru Uchida* and Hideaki Kozawa
Department of Applied Chemistry, Osaka Institute of Technology
Asahi-ku, Osaka 535, Japan
Shigeru Oae*
Okayama University of Science, 1-1 Ridai-cho, Okayama 700, Japan

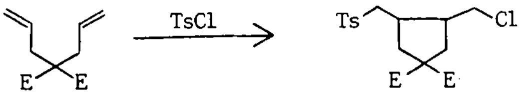


Tetrahedron Lett. 30,6369(1989)

A FREE RADICAL ADDITION-CYCLIZATION OF 1,6-DIENES WITH SULFONYL CHLORIDE

Che-Ping Chuang* and Tak Ho Johnny Ngoi
Dept. of Chem., National Cheng Kung Univ., Tainan, Taiwan, 70101, R.O.C.

Functionalized five-membered ring systems were prepared from 1,6-dienes and p-toluenesulfonyl chloride.



Tetrahedron Lett. 30,6371(1989)

ELECTROCHEMICAL PREPARATION AND REACTIONS OF UNMASKED ACYL-ANION SYNTHONS

Kunihisa Yoshida,* Ei-ichi Kunugita, Masaru Kobayashi, and Sei-ichi Amano
Department of Chemical Engineering, Faculty of Engineering Science, Osaka University, Toyonaka, Osaka 560, Japan

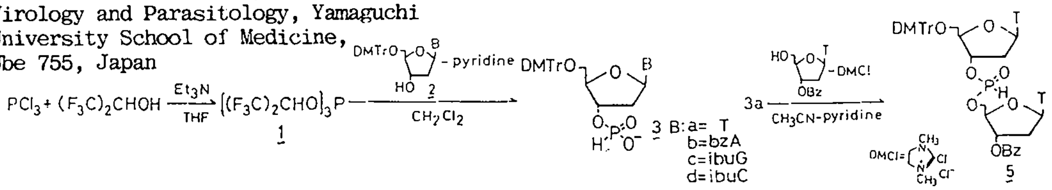
Organic halides can be converted into carbonyl compounds by electroreducing a mixture of them and $Fe(CO)_5$ in acetonitrile first and adding an electrophile to this mixture.

$$RX + Fe(CO)_5 \xrightarrow{2e} [RCOFe(CO)_4^-] \xrightarrow{E^+} RCOE$$

Tetrahedron Lett. 30, 6375 (1989)

USE OF NEW PHOSPHONYLATING AND COUPLING AGENTS IN THE SYNTHESIS OF OLIGODEOXYRIBONUCLEOTIDES VIA THE H-PHOSPHONATE APPROACH

O.Sakatsume, H.Yamane, H.Takaku, N.Yamamoto+, Department of Industrial Chemistry, Chiba Institute of Technology, Tsudanuma, Narashino, Chiba 275, Japan and +Department of Virology and Parasitology, Yamaguchi University School of Medicine, Ube 755, Japan

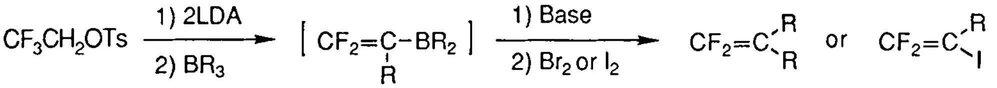


Tetrahedron Lett. 30, 6379 (1989)

REACTIONS OF 2,2-DIFLUOROALKENYLBORANES WITH HALOGENS IN THE PRESENCE OF BASE. A NOVEL SYNTHESIS OF SYMMETRICALLY DISUBSTITUTED 1,1-DIFLUORO-1-ALKENES AND 1,1-DIFLUORO-2-IODO-1-ALKENES

Junji Ichikawa, Takaaki Sonoda, and Hiroshi Kobayashi
Institute of Advanced Material Study, Kyushu University, Kasuga, Fukuoka 816, Japan

Syntheses of the title compounds by the reactions of 2,2-difluoroalkenylboranes with halogens

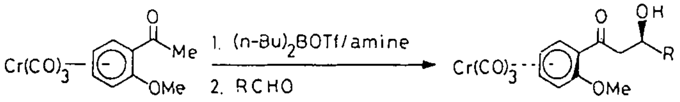


Tetrahedron Lett. 30, 6383 (1989)

DIASTEREOSELECTIVE ALDOL REACTION OF $(\eta^6\text{-X-C}_6H_4COCH_3)$-Cr(CO)$_2$L COMPLEXES

Motokazu Uemura,* Tatsuya Minami, and Yuji Hayashi
Faculty of Science, Osaka City University, Sugimoto, Sumiyosh-ku, Osaka 558, Japan

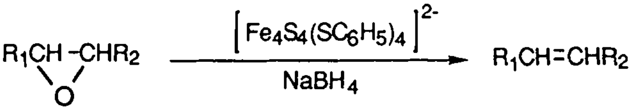
The aldol reaction of (o-methoxyacetophenone)Cr(CO)$_2$L complexes afforded predominantly one diastereomeric complexes via boron enolates.



Tetrahedron Lett. 30, 6387 (1989)

DEOXYGENATION OF OXIRAN COMPOUNDS TO OLEFINS BY $[Fe_4S_4(SC_6H_5)_4]^{2-}$ IN THE PRESENCE OF NaBH$_4$

Takashi Itoh, Tetsuo Nagano, Mitsuo Sato and Masaaki Hirobe*
Faculty of Pharmaceutical Sciences, University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan

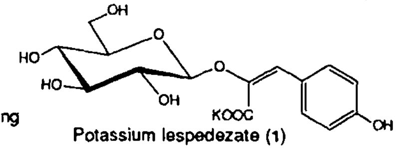


Tetrahedron Lett. 30, 6389 (1989)

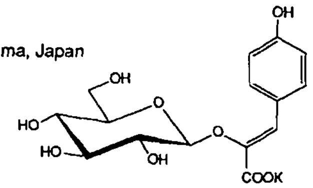
TOTAL SYNTHESES OF POTASSIUM LESPEDEZATE AND POTASSIUM ISOLESPEDEZATE, BIOACTIVE SUBSTANCES CONCERNED WITH CIRCADIAN RHYTHM IN NYCTINASTIC PLANTS

Hideyuki Shigemori, Eiichi Miyoshi, Yoshikazu Shizuri, and Shosuke Yamamura
Department of Chemistry, Faculty of Science and Technology, Keio University, Hiyoshi, Yokohama, Japan

The title compounds 1 and 2 have been synthesized, and these compounds were confirmed to be bioactive substances on leaf-opening of the nyctinastic plants



Potassium lespedezate (1)



Potassium isolespedezate (2)

Tetrahedron Lett. 30, 6393 (1989)

NOVEL AND FACILE SYNTHESES OF T-BUTYL SUBSTITUTED SILANES FROM T-BUTYL MAGNESIUM CHLORIDE AND CHLOROSILANES CATALYZED BY CUPROUS CYANIDE

Akihiko Shirahata
Department of Research, Toray Silicone Co., Ltd.,
2-2 Chigusakaigan Ichihara City, Chiba 299-01 Japan

t-Butyl substituted chlorosilanes were easily obtained by the reaction of t-butyl Grignard reagent with chlorosilanes catalyzed by CuCN.

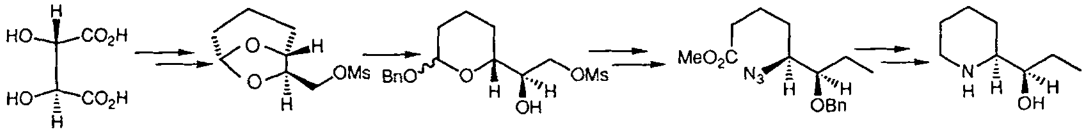
$$R_aSiCl_{4-a} \xrightarrow[\text{cat.CuCN}]{\text{t-BuMgCl}} \text{t-}BuR_aSiCl_{3-a}$$

R=Me,Ph

Tetrahedron Lett. 30, 6395 (1989)

ENANTIOSPECIFIC SYNTHESIS OF OPTICALLY ACTIVE NATURAL (+)-CONHYDRINE FROM (S,S)-TARTARIC ACID

Yukio Masaki,* Toshihiro Imaeda, Kinnosuke Nagata, Hirohisa Oda, and Akichika Ito
Gifu Pharmaceutical University, 5-6-1 Mitahora Higashi, Gifu 502, Japan



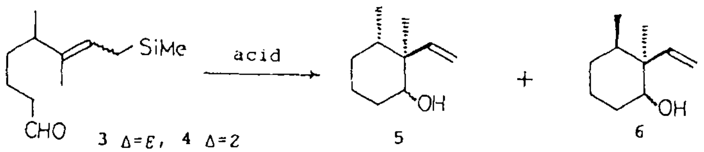
(S,S)-tartaric acid

(+)-conhydrine

Tetrahedron Lett. 30, 6397 (1989)

STEREOSELECTIVE CYCLIZATION OF (*E*)- AND (*Z*)-5,6-DIMETHYL-8-TRIMETHYLSILYL-6-OCTENALS

Kazuhiko Asao, Hideo Iio, and Takashi Tokoroyama
Faculty of Science, Osaka City University, Sumiyoshi-ku, Osaka 558, Japan



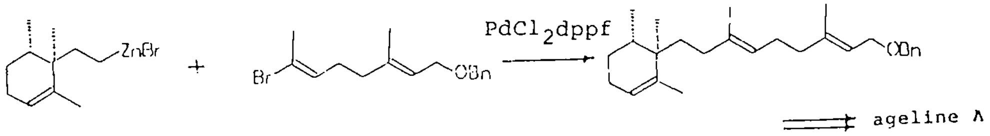
3 Δ=*E*, 4 Δ=*Z* 5 6

The *Z*-substrate 4 afforded *cis*-dimethylcyclohexanols (5) exclusively.

Tetrahedron Lett. 30, 6401 (1989)

TOTAL SYNTHESIS OF (±)-AGELINE A, A PHYSIOLOGICALLY ACTIVE CONSTITUENT OF *AGELAS* SPONGES

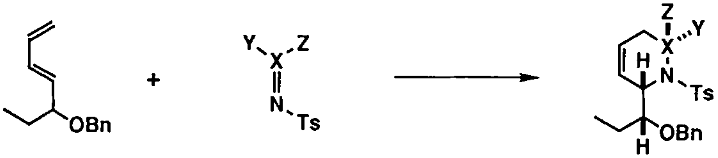
Kazuhiko Asao, Hideo Iio, and Takashi Tokoroyama
Faculty of Science, Osaka City University, Sumiyoshi-ku, Osaka 558, Japan



Tetrahedron Lett. 30, 6405 (1989)

Diels-Alder Reaction of Chiral Dienes. Remarkable Effect of Dienophile Polarity upon Diastereoface Selectivity

Tatsuo Hamada*, Hiroki Sato, Masataka Hikota and Osamu Yonemitsu
Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo, 060, Japan



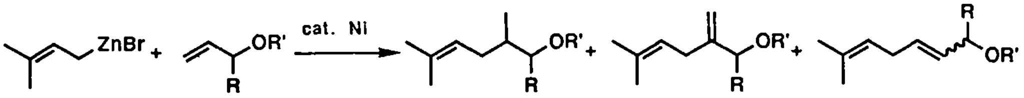
Single isolable diastereomer

X= C or S
Y= CO_2R or O
Z=H or lone pair

Tetrahedron Lett. 30, 6409 (1989)

NICKEL-CATALYZED REGIOSELECTIVE ALLYLATION OF ALLYLIC ALCOHOLS

Akira Yanagisawa, Nobuyoshi Nomura, Shigeki Habaue, and Hisashi Yamamoto*
Department of Applied Chemistry, Nagoya University, Chikusa, Nagoya 464-01, Japan

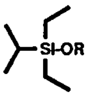


Tetrahedron Lett. 30, 6413 (1989)

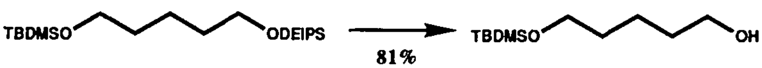
THE DIETHYLISOPROPYLSILYL GROUP: A NEW PROTECTING GROUP FOR ALCOHOLS

Kazunobu Toshima, Satsuki Mukaiyama, Mitsuhiro Kinoshita, and Kuniaki Tatsuta*
Department of Applied Chemistry, Keio University, 3-14-1 Hiyoshi, Kohoku-Ku, Yokohama 223, JAPAN

The diethylisopropylsilyl (DEIPS) group which is a new protective group for alcohols has been first characterized. DEIPS group can be distinguished from t-butyldimethylsilyl (TBDMS), triethylsilyl (TES), tetrahydropyranyl (THP) groups and 2-deoxy glycoside with high selectivity in removing under mild acidic condition. DEIPS group has high stability to many useful synthetic conditions.



<u>For an example:</u>

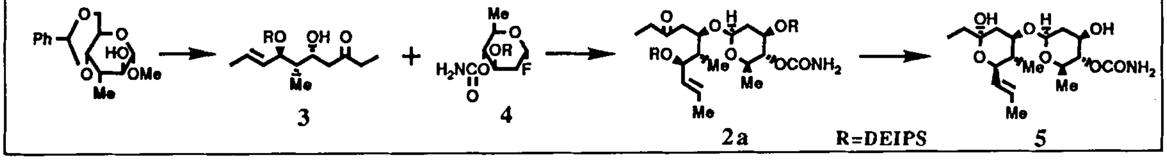


ENANTIOSPECIFIC SYNTHESIS OF C_{20}-C_{28} SEGMENT OF CONCANAMYCIN A: APPLICATION OF DIETHYLISOPROPYLSILYL PROTECTING GROUP

Tetrahedron Lett. 30, 6417 (1989)

Kazunobu Toshima, Mari Misawa, Kazumi Ohta, Kuniaki Tatsuta, * and Mitsuhiro Kinoshita*
Department of Applied Chemistry, Keio University, 3-14-1, Hiyoshi, Kohoku-Ku, Yokohama 223, JAPAN

The first enantiospecific synthesis of 5, C_{20}-C_{28} segment of concanamycin A, from 2a, which has been synthesized by glycosidation of the ethyl ketone 3 with the sugar moiety 4 is described. Effective de-O-silylation of 2a to 5 is the key step.

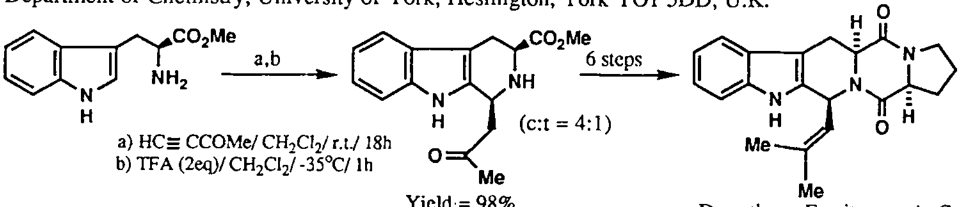


3 4 2a R=DEIPS 5

A STEREOSELECTIVE ENTRY TO THE FUMITREMORGINS

Tetrahedron Lett. 30, 6421 (1989)

Patrick D. Bailey, Sean P. Hollinshead and Neil R. McLay
Department of Chemistry, University of York, Heslington, York YO1 5DD, U.K.



a) $HC \equiv CCOMe/CH_2Cl_2$/r.t./ 18h
b) TFA (2eq)/CH_2Cl_2/-35°C/ 1h

Yield = 98%

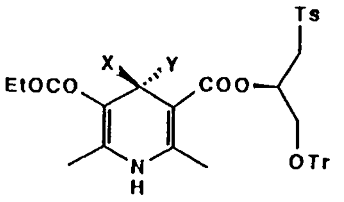
Demethoxy-Fumitremorgin C

SYNTHESIS OF THE ENANTIOMERS OF FELODIPINE AND DETERMINATION OF THEIR ABSOLUTE CONFIGURATION

Tetrahedron Lett. 30, 6423 (1989)

Bo Lamm and Roger Simonsson, Department of Organic Chemistry, CV, AB Hässle, S-431 83 MÖLNDAL, Sweden
Staffan Sundell, Department of Structural Chemistry, Faculty of Medicine, University of Göteborg, Box 33031, S-400 30 GÖTEBORG, Sweden

(R)-3-Chloropropane-1,2-diol is converted to diastereomeric 1,4-dihydropyridines, separable by crystallization and liquid chromatography.

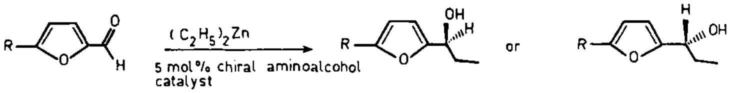


X=2,3-$Cl_2C_6H_3$, Y=H or reverse

ENANTIOSELECTIVE SYNTHESIS OF FURYLALCOHOLS BY CATALYTIC ASYMMETRIC ADDITION OF DIETHYLZINC TO FURANALDEHYDES

Tetrahedron Lett. 30, 6427 (1989)

Arjan van Oeveren, Wiro Menge and Ben L. Feringa*, Department of Organic Chemistry, University of Groningen, Nijenborgh 16, 9747 AG Groningen, The Netherlands

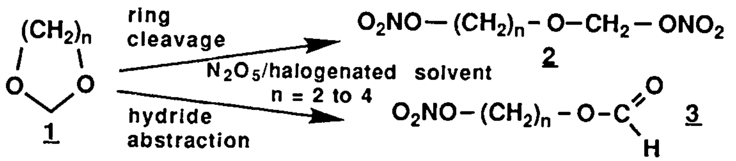


R = H, CH_3, $\overline{CHOCH_2CH_2O}$, $Si(CH_3)_3$ ee = 51–97%

Tetrahedron Lett. 30, 6431 (1989)

NITRATION BY OXIDES OF NITROGEN, PART 3: REACTIONS OF DINITROGEN PENTOXIDE WITH MONO- AND DIOXACYCLOALKANES WITH 5-, 6- & 7-MEMBERED RINGS.

P Golding, R W Millar, N C Paul and D H Richards (deceased).*
Ministry of Defence, R.A.R.D.E., Powdermill Lane, Waltham Abbey, Essex EN9 1AX.



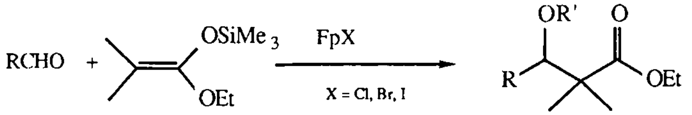
Formate esters (3) were obtained unexpectedly together with the expected ring-opened products (2) by reaction of 1,3-dioxolane and its homologues (1) with N_2O_5.

Tetrahedron Lett. 30, 6435 (1989)

Iron Complexes as Catalysts in Aldol Additions

Lino Colombo [a*], Fausta Ulgheri [a] and Laura Prati [b]
a. Dipartimento di Chimica, Università di Sassari, via Vienna 2, I-07100 Sassari, Italy b. Dipartimento di Chimica Inorganica e Metallorganica, Università di Milano, Via Venezian 21, I-20123 Milano, Italy

(Dicarbonyl)(η^5-cyclopentadienyl) iron halides function as catalysts for the aldol addition of enolsilanes to aldehydes.



Tetrahedron Lett. 30, 6437 (1989)

REGIO- AND STEREOESPECIFIC SYNTHESIS OF SUBSTITUTED CYCLOHEXENEDIOLS FROM 7-OXABICYCLO[2.2.1]HEPT-5-EN-2-OLS AND ORGANOLITHIUM REAGENTS

O. Arjona[a*], R. Fernández de la Pradilla[b*], E. García[a], A. Martín-Domenech[a], J. Plumet[a]. [a]Departamento de Química Orgánica, Facultad de Química, Universidad Complutense, 28040 Madrid, Spain. [b]Instituto de Química Orgánica General, C.S.I.C., Juan de la Cierva 3, 28006 Madrid, Spain.

The bridge opening reactions of 7-oxabicyclo[2.2.1]hept-5-en-2-ols (ie. (+)-4b) with organolithium reagents produce highly functionalized cyclohexene derivatives such as (+)-5b.