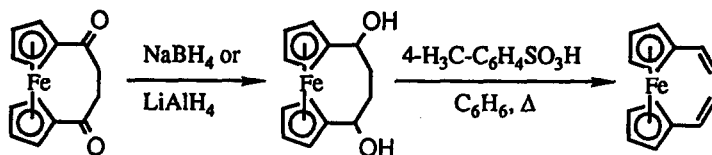


*Tetrahedron Lett.* 1993, 34, 197

**Synthesis of 1,4-(1,1'-Ferrocenediyl)-1,3-butadiene:  
A Diene-ferrocenophane.**

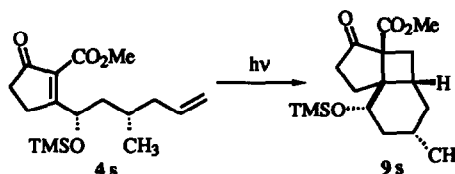
Mark S. Erickson, Frank R. Fronczek, and Mark L. McLaughlin\*  
Department of Chemistry  
Louisiana State University  
Baton Rouge, LA 70803-1804 USA



**Stereoselective Intramolecular Enone-Olefin Photo-  
Cycloadditions of 1,7-Dienes: Model Studies on the  
Synthesis of Lycopodium Alkaloids**

Michael T. Crimmins\* and Paul S. Watson  
Department of Chemistry, University of North Carolina,  
Chapel Hill, NC 27599-3290

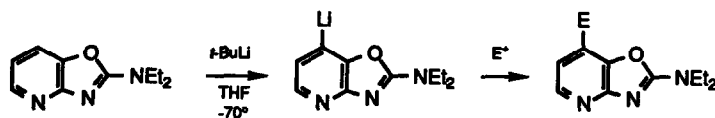
The stereoselective intramolecular [2+2] photocycloaddition of 1,7-dienes **4a** and **4b** has been accomplished, yielding the cycloadducts as possible precursors for the development of a total synthesis of several lycopodium alkaloids.



*Tetrahedron Lett.* 1993, 34, 199

**Oxazolo[4,5-*b*]pyridines. Regioselective Metalation of the 2-  
Diethylaminoxazolo[4,5-*b*]pyridine System and Formation of 7-Substituted  
Derivatives.** O. William Lever, Jr.\*, Harvey M. Werblood and Ronald K. Russell\* The R. W. Johnson Pharmaceutical Research  
Institute Division of Medicinal Chemistry P. O. Box 300, Route 202, Raritan, New Jersey 08869-0602

Metalation of 2-diethylaminoxazolo[4,5-*b*]pyridine with *tert*-butyllithium occurs regioselectively in the 7-position.

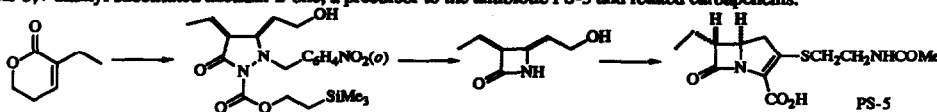


*Tetrahedron Lett.* 1993, 34, 203

**A Photochemical Route to Carbapenems from Pyrazolidin-3-ones.  
Formal Synthesis of PS-5**

James D. White\* and Steven G. Tozke  
Department of Chemistry, Oregon State University, Corvallis, Oregon 97331-4003

Photochemical ring contraction of a 4,5-*cis*-dialkylpyrazolidin-3-one, prepared by hydrazinolysis of an  $\alpha,\beta$ -unsaturated  $\delta$ -lactone, gave a *cis*-3,4-dialkyl substituted azetidion-2-one, a precursor to the antibiotic PS-5 and related carbapenems.

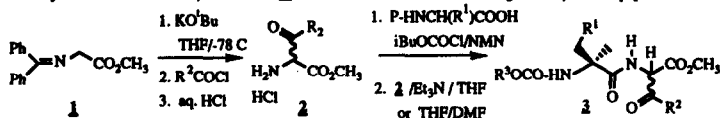


*Tetrahedron Lett.* 1993, 34, 207

**AN EFFICIENT SYNTHESIS AND ACYLATION OF  $\alpha$ -AMINO- $\beta$ -KETO-ESTERS: VERSATILE INTERMEDIATES IN THE SYNTHESIS OF PEPTIDE MIMETICS.**

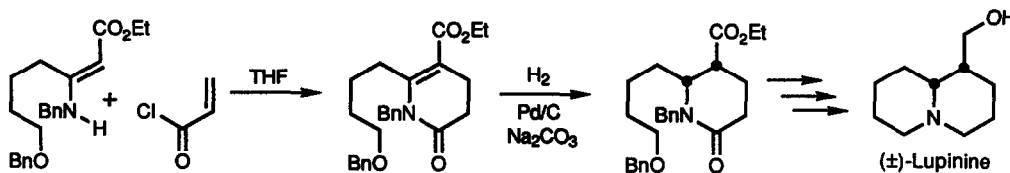
Jaibir Singh\*, Thomas D. Gordon, William G. Barley and Barry A. Morgan,  
Medicinal Chemistry Department, Sterling Winthrop Pharmaceutical Research Division, Rensselaer, New York 12144.

A flexible and high yield synthesis of  $\alpha$ -amino- $\beta$ -keto esters **2**, has been developed via acylation of the anion of ketimine derivatives of  $\alpha$ -amino esters **1**. The acylation of the  $\alpha$ -amino- $\beta$ -keto esters **2** with chiral amino acid derivatives gave the  $\beta$ -keto dipeptides in 36-95% yields.



**HETEROCYCLE FORMATION THROUGH AZA-ANNULATION: A STEREOCHEMICALLY CONTROLLED ROUTE TO ( $\pm$ )-LUPININE.**

K. Paulvannan, Jacob B. Schwarz, and John R. Stille\*  
Department of Chemistry, Michigan State University, East Lansing, MI 48824



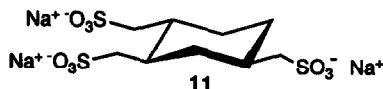
**SYNTHESIS AND BINDING STUDIES OF AN OPTICALLY PURE HEXA-DEOXY-1,4,5-TRIS(METHYLENESULFONIC ACID) ANALOGUE OF IP<sub>3</sub>**

A.P. Kozikowski,<sup>a</sup> V.I. Ognyanov,<sup>a</sup> C. Chen,<sup>a</sup> P. Kurian,<sup>b</sup> and F.T. Crews<sup>b</sup>

<sup>a</sup>Neurochemistry Research, Mayo Foundation for Medical Education and Research  
4500 San Pablo Road, Jacksonville, FL 32224

<sup>b</sup>University of Florida, Box J-267

JHM Health Center, Gainesville, FL 32610-0267

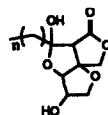


The synthesis of the IP<sub>3</sub> analogue **11** in optically pure form is reported together with its binding affinity for the IP<sub>3</sub> recognition site.

**THE SYRINGOLIDES: BACTERIAL C-GLYCOSYL LIPIDS THAT TRIGGER PLANT DISEASE RESISTANCE**

M.J. Smith\* and E.P. Mazzola, Natural Products and Instrumentation Branch, CFSAN, FDA, Washington, DC 20204;  
J.J. Sims, S.L. Midland and N.T. Keen, Department of Plant Pathology, University of California, Riverside, CA 92521;  
V. Burton and M.M. Stayton, Department of Molecular Biology, University of Wyoming, Laramie, WY 82071 USA

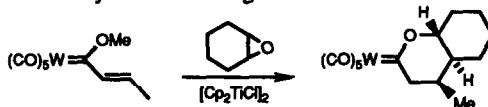
The salient structural and bioorganic properties of the syringolides, a new class of semiochemicals are reported; n = 6 or 4.



### Stereochemistry of Intermolecular Radical Reactions of Unsaturated Tungsten Carbene Complexes

Craig A. Merlic,\* Daqiang Xu, Minh C. Nguyen, and Vince Truong  
Department of Chemistry and Biochemistry, University of California, Los Angeles, CA 90024-1569

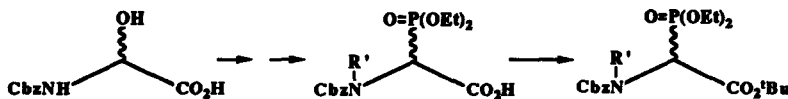
Radical coupling reactions between unsaturated tungsten carbene complexes and epoxides can give high levels of stereoselectivity at the newly formed stereogenic centers.



### A CONVENIENT SYNTHESIS OF 2-(DIETHOXYPHOSPHONYL)GLYCINE AND ITS DERIVATIVES

R. Shankar and A. I. Scott

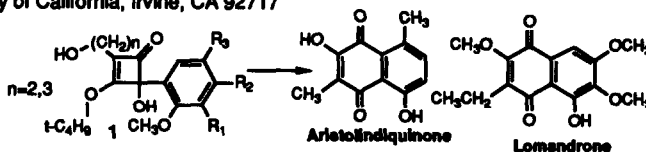
Center for Biological NMR  
Department of Chemistry  
Texas A&M University  
College Station, Tx 77843



A simple and very efficient method for the preparation of 2-(diethoxyphosphonyl)glycine derivatives is reported

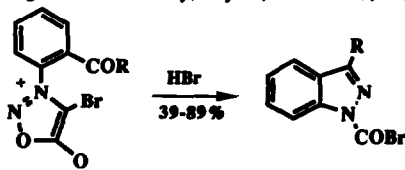
**Regiocontrol in the Synthesis of Naphthoquinones.**  
Regiospecific Synthesis of Lomandrone and Aristolindiquinone.  
Kwan Hee Lee and Harold W. Moore  
Department of Chemistry, University of California, Irvine, CA 92717

The natural naphthoquinones, Aristolindiquinone and Lomandrone were prepared by a combination of the ring expansion of 1 to the corresponding hydroxynaphthoquinones with the Hooker Oxidation.



### FORMATION OF 1-BROMOCARBONYLINDAZOLES VIA CLEAVAGE OF 4-BROMO ORTHO-SUBSTITUTED ARYLSYDNONES WITH HBr

Jeffrey A. Marx and Kenneth Turnbull\*  
Chemistry Department, Wright State University, Dayton, Ohio 45435, U.S.A.

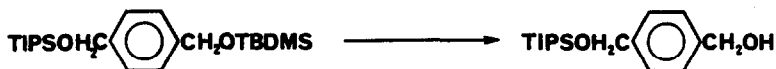


### Selectivity in the Catalytic Transfer Hydrogenolysis of Silyl Ether Protecting Groups

James F. Cormier\*, Methvin B. Isaac and Li-Feng Chen

Department of Chemistry, Trent University, Peterborough, Ontario, Canada K9J 7B8

Catalytic transfer hydrogenolysis has been used to selectively cleave silyl protecting groups from primary and secondary alcohols, including from thymidine. Ease of cleavage is in the order triethyl >> *t*-butyldimethyl > triisopropyl > *t*-butyldiphenyl.



### Charge Accelerated Cope Rearrangements of 3-Amino-1,5-Dienes

Tara J. Sprules, Jason D. Galpin and Dwight Macdonald\*

Merck Frost Canada Inc. P.O. Box 1005, Pointe Claire-Dorval, Quebec, Canada, H9R 4P8.

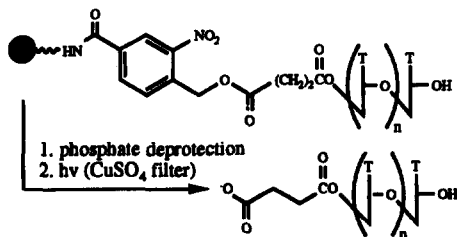
In comparison to the corresponding anionic oxy-Cope reactions, the charge accelerated Cope rearrangements of 3-amino-1,5-dienes are extremely facile.



### Photochemical Cleavage of Oligonucleotides From Solid Phase Supports.

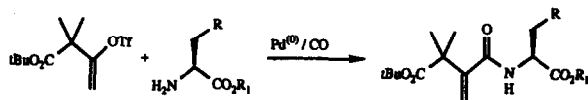
Marc M. Greenberg, Department of Chemistry, Colorado State University, Ft. Collins CO 80523

5'-O-Dimethoxytrityl-3'-O-succinathymidine is covalently linked to long chain alkyl amine core pore glass support via an *o*-nitrobenzyl group. Cleavage from the solid support is achieved via CuSO<sub>4</sub> filtered photolysis.



### Synthesis of Succinate Containing Dipeptide Isosteres via Carbonylation of Enol Triflates

John N. Freskos,\* David H. Ripin, and Melissa L. Reilly. Monsanto Corporate Research, Monsanto Co. St. Louis, Missouri 63167



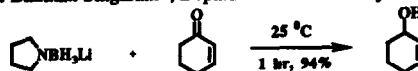
Pd<sup>(0)</sup> catalysed carbonylations of enol triflates in the presence of amino acid derivatives yield the corresponding amides.

*Tetrahedron Lett.* 1993, 34, 257

**Aminoborohydrides 2. Regiospecific Reductions of  $\alpha,\beta$ -Unsaturated Carbonyl Compounds with Lithium Pyrrolidinoborohydride. A Facile Conversion of**

**$\alpha,\beta$ -Unsaturated Aldehydes and Ketones to the Corresponding Allylic Alcohols in High Purity.**

Joseph C. Fuller, Eric L. Stangland, Christian T. Goralski, and Bakthan Singaram\*, Department of Chemistry and Biochemistry, University of California, Santa Cruz, Santa Cruz, Calif. 95064



Lithium aminoborohydrides ( $\text{LiABH}_2$ ), obtained by the reaction of *n*-BuLi with amine boranes, are powerful reducing agents for the reduction of  $\alpha,\beta$ -unsaturated carbonyl compounds to allylic alcohols. Lithium pyrrolidinoborohydride is an ideal reagent for the large scale conversion of  $\alpha,\beta$ -unsaturated carbonyl compounds to the corresponding allylic alcohols in high purity. Cyclohexenone is reduced exclusively to 2-cyclohexen-1-ol.

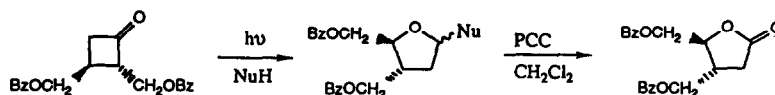
*Tetrahedron Lett.* 1993, 34, 261

**A Novel Approach Towards 2,3-Dideoxyriboside Synthesis.**

Edward Lee-Ruff\*, Ji-Long Jlang and Wei-Qin Wan

Department of Chemistry, York University Toronto, Ontario Canada M3J 1P3

A short photochemical synthesis of 2,3-dideoxy-3-(S)-C-hydroxymethyl ribosides is described.



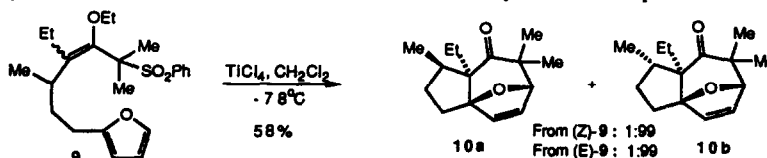
*Tetrahedron Lett.* 1993, 34, 265

**RELATIVE STEREOCONTROL IN AN INTRAMOLECULAR 4+3**

**CYCLOADDITION REACTION.** Michael Harmata,\* Chandra B. Gamiath

and Charles L. Barnes, Department of Chemistry, University of Missouri-Columbia, Columbia, Missouri 65211 USA

The first complete study of relative asymmetric induction in an intramolecular 4+3 cycloaddition is reported.

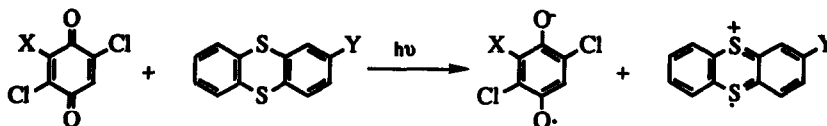


**PHOTOINDUCED ELECTRON TRANSFER FOR HIGH POTENTIAL QUINONE SENSITIZERS AND THIANTHRENES. THE RATE OF TRAPPING OF THE THIANTHRENE RADICAL CATION BY WATER.**

Guilford Jones, II\* and Bin Huang, Department of Chemistry, Boston University, Boston MA 02215 USA

*Tetrahedron Lett.* 1993, 34, 269

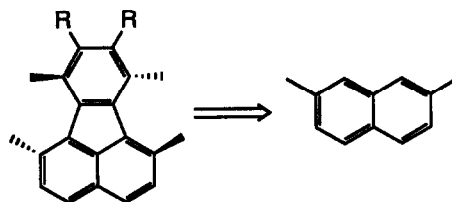
Photochemical electron transfer for high potential 1,4-benzoquinones and thianthrenes is efficient and involves quinone triplets. Thianthrene radical cation is trapped by water with a rate constant of  $4.9 \times 10^4 \text{ M}^{-1}\text{s}^{-1}$ .



*Tetrahedron Lett.* 1993, 34, 273

**1,6,7,10-TETRAMETHYLFLUORANTHENE:  
SYNTHESIS AND STRUCTURE OF A TWISTED  
POLYNUCLEAR AROMATIC HYDROCARBON**

ALLEN BORCHARDT, KENNETH HARDCASTLE,  
PETER GANTZEL, AND JAY S. SIEGEL\*  
Department of Chemistry, UC-San Diego, La Jolla,  
CA 92093 and Department of Chemistry, CSU-Northridge,  
Northridge, CA 91330.

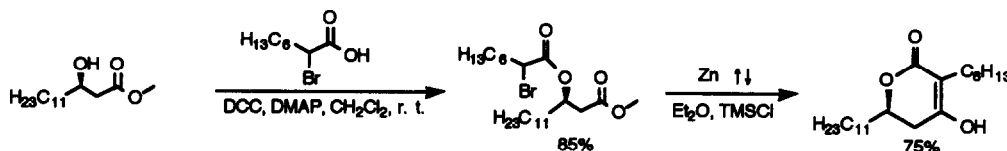


*Tetrahedron Lett.* 1993, 34, 277

**A NEW ROUTE TO  $\beta$ -KETO- $\delta$ -LACTONES: PRACTICAL PREPARATION OF (R)-3-HEXYL-5,6-DIHYDRO-4-HYDROXY-6-UNDECYL-2H-PYRAN-2-ONE, A KEY INTERMEDIATE IN THE ASYMMETRIC SYNTHESIS OF TETRAHYDROLIPSTATIN**

John J. Landi, Jr., Lisa M. Garofalo, and Keith Ramig\*

Synthesis Development Department, Hoffmann-La Roche Inc., 340 Kingsland St., Nutley, N. J. 07110-1199

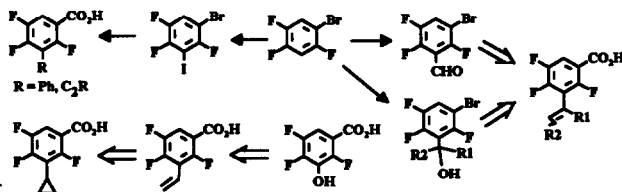


*Tetrahedron Lett.* 1993, 34, 281

**3-ETHENYL, 3-ETHYNYL, 3-ARYL, AND 3-CYCLOPROPYL-2,4,5-TRIFLUORO-BENZOIC ACIDS: USEFUL INTERMEDIATES IN THE SYNTHESIS OF QUINOLONE ANTIBACTERIALS.**

William R. Turner\* and Mark J. Suto, Department of Chemistry,  
Parke-Davis Pharmaceutical Research Division,  
Warner-Lambert Company, 2800 Plymouth Road,  
Ann Arbor, Michigan 48105, USA

The synthesis of 3-ethenyl, 3-ethynyl, 3-aryl, and 3-cyclopropyl-2,4,5-trifluoro-benzoic acids from 1-bromo-2,4,5-trifluorobenzene and 2,4,5-trifluoro-1-hydroxybenzoic acid is described.



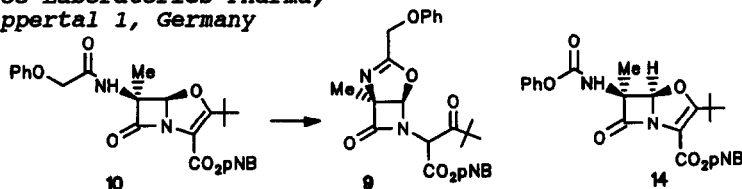
*Tetrahedron Lett.* 1993, 34, 285

**ARE 6-ACYLAMINO OXAPENEMS STABLE COMPOUNDS ?**

Hanno Wild

Bayer AG, Chemistry Science Laboratories Pharma,  
P.O.Box 101709, D-5600 Wuppertal 1, Germany

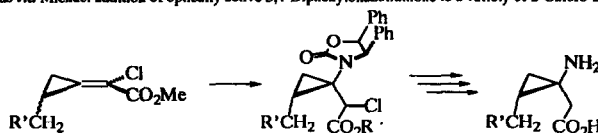
The 6-acylamino oxapenem 10 is no isolable compound, but rearranges to the isomeric oxazoline 9. The 6-carbamoyl oxapenem 14 is stable.



**OPTICALLY ACTIVE OXAZOLIDINONES AS MICHAEL DONORS FOR THE SHORT AND EFFICIENT SYNTHESIS OF  $\beta$ -AMINO ACIDS CONTAINING A CYCLOPROPANE RING**

*Tetrahedron Lett.* 1993, 34, 289

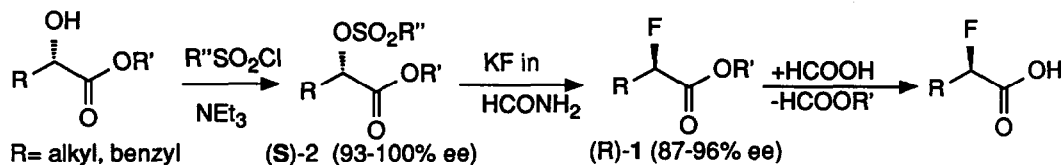
Mazen Es-Sayed,<sup>a,b</sup> Corinna Gratkowski,<sup>a</sup> Norbert Krass,<sup>a</sup> Albert L. Meyers,<sup>b\*</sup> Armin de Meijere<sup>a\*</sup>  
 Institut für Organische Chemie der Georg-August-Universität Göttingen,<sup>a</sup> Tammannstrasse 2, D-3400 Göttingen, Germany;  
 Department of Chemistry, Colorado State University,<sup>b</sup> Fort Collins, Colorado 80523, USA.  
 A synthesis of enantiopure  $\beta$ -Amino Acids via Michael addition of optically active 3,4-Diphenyloxazolidinone to a variety of 2-Chloro-2-cyclopropylideneacetates.



**SIMPLE SYNTHESIS OF OPTICALLY ACTIVE 2-FLUOROPROPANOIC ACID AND ANALOGS OF HIGH ENANTIOMERIC PURITY**

*Tetrahedron Lett.* 1993, 34, 293

Elke Fritz-Langhals\* and Gabi Schlitz, Consortium für Elektrochemische Industrie GmbH, Central Research Company of Wacker-Chemie GmbH, Zielstattstraße 20, D-8000 München 70, Germany

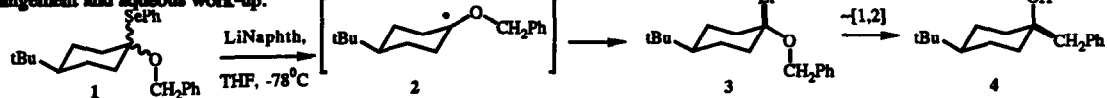


**[1,2]-WITTIG REARRANGEMENT OF A LITHIOALKYL BENZYL ETHER WITH INVERSION OF CONFIGURATION AT THE CARBANION C ATOM. DIASTEREOSELECTIVE REDUCTIONS OF CYCLOHEXYL RADICALS WITH  $Li^+$  ARENE-**

*Tetrahedron Lett.* 1993, 34, 297

*Rolf Hoffmann, Tanja Rückert, and Reinhard Brückner\**  
 Institut für Organische Chemie der Julius-Maximilians-Universität, Am Hubland, D-8700 Würzburg, Germany

Treatment of the diastereomeric O,S<sub>e</sub>-ketals 1 with lithium naphthalene provided, through stereoselective reduction of the radical intermediate 2, the axially lithiated cyclohexyl ether 3. 3 gave the equatorially benzylated cyclohexanol 4 after [1,2]-Wittig rearrangement and aqueous work-up.

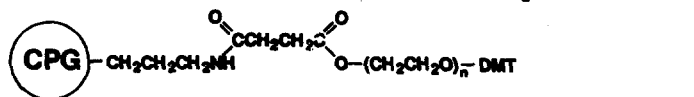


**AUTOMATED INCORPORATION OF POLYETHYLENE GLYCOL INTO SYNTHETIC OLIGONUCLEOTIDES**

*Tetrahedron Lett.* 1993, 34, 301

Andreas Jäschke, Jens Peter Fürste, Dieter Cech and Volker A. Erdmann  
 Institut für Bioorganische Chemie, Humboldt-Universität  
 O-1040 Berlin, Invalidenstr. 42 and Institut für Biochemie,  
 Freie Universität, Thielallee 63, W-1000 Berlin 33, Germany

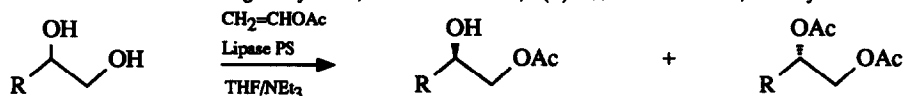
PEG was derivatized and incorporated into oligonucleotides at 3'- and 5'-ends



### Kinetic Resolution of Aliphatic 1,2-Diols by a Lipase-catalyzed Sequential Acetylation

Fritz Theil\*, Judith Weidner, Sibylle Ballschuh, Annamarie Kunath, Hans Schick

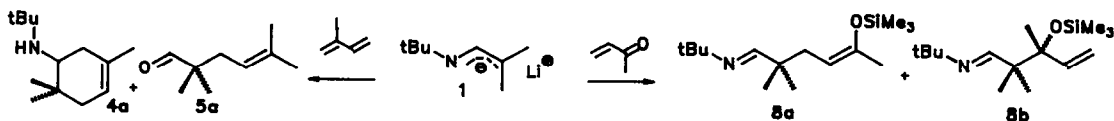
Centre of Selective Organic Synthesis, Rudower Chaussee 5, D(O)-1199 Berlin-Adlershof, Germany



### CYCLIC AND ACYCLIC PRODUCTS FROM THE ADDITION OF 1-AZA-ALLYL ANIONS TO DIENES AND $\alpha,\beta$ -UNSATURATED KETONES - REGIOSELECTIVITY

St. Wegmann and Ernst-Ulrich Würthwein\*

Org.-Chem. Institut, Universität Münster, D-4400 Münster, FRG

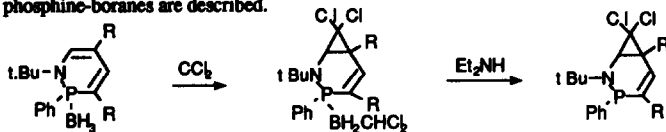


### REACTION OF DICHLOROCARBENE WITH 1,2-DIHYDRO 1,2- $\lambda^3$ -AZAPHOSPHININE-BORANES: DICHLOROCYCLOPROPANATION AND INSERTION INTO BORON-HYDROGEN BOND.

Christian Bedel and André Foucaud\*

Laboratoire de Physicochimie Structurale associé au CNRS, Campus de Beaulieu, 35042 Rennes, France.

The dichlorocyclopropanation of 1,2-dihydro 1,2- $\lambda^3$ -azaphosphinine-boranes and the insertion of dichlorocarbene into the B-H bond of phosphine-boranes are described.



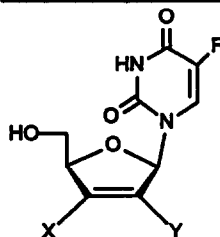
### Synthesis of branched nucleosides closely related to AZT, involving $SN_2'$ opening of anhydronucleosides.

Stanislas Czernecki\* and Abdallah Ezzitouni

Laboratoire de Chimie des Glucides, Université Pierre et Marie Curie, 4 Place Jussieu, 75005 Paris, France

Three 2',3'-unsaturated pyrimidine nucleosides 1, 2, and 3, bearing an azido-methyl group at 2' or 3' were synthesized as potential anti-HIV agents. The key step involves an  $SN_2'$  opening of 2,2' or 2,3'-anhydronucleosides by azide ion.

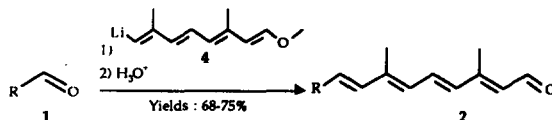
1 R = H, X = H Y =  $CH_2N_3$     2 R =  $CH_3$ , X =  $CH_2N_3$  Y = H    3 R = H, X =  $CH_2N_3$  Y = H





A NEW VINYLIC ORGANOLITHIUM REAGENT : AN EXPEDIENT C<sub>10</sub>+C<sub>10</sub> SYNTHESIS OF RETINAL

L. Duhamel\*, P. Duhamel and Y. Le Gallic : Unité de Recherches Associé au CNRS, Faculté des Sciences et des Techniques de Rouen et IRCOF ; BP 118 F-76134 Mont Saint Aignan-France

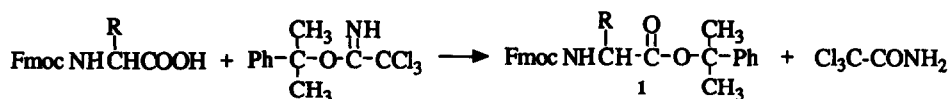


Retinoid aldehydes 2 were prepared with good yields in an one step procedure from aldehydes 1 using lithio enol ether 4.

## 2-PHENYL ISOPROPYL ESTERS AS CARBOXYL TERMINUS PROTECTING GROUPS IN THE FAST SYNTHESIS OF PEPTIDE FRAGMENTS

Chongwei Yue, Josiane Thierry\*, Pierre Potier  
 Institut de Chimie des Substances Naturelles, C.N.R.S., 91198 Gif-sur-Yvette, France

2-Phenylisopropyl esters of N-protected aminoacids are conveniently prepared with imidate 1. They are selectively cleaved by mild acidolysis in the presence of Boc or Bu<sup>t</sup> groups.

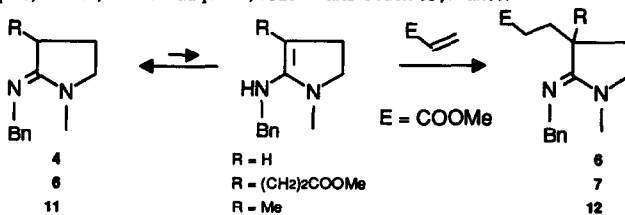


## AMIDINE-ENEDIAMINE TAUTOMERISM. A NOVEL MICHAEL-TYPE REACTION

Michel Pfau, Marina Chiriacescu, and Gilbert Revial

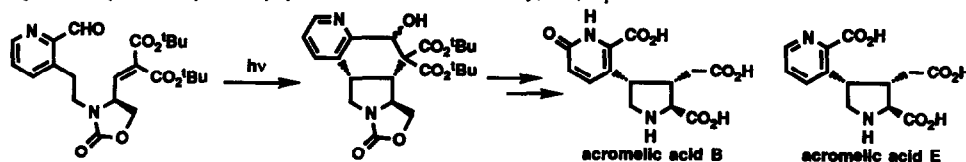
Laboratoire de Recherches Organiques, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France.

Amidines 4 and 11 are in *N,C*-tautomeric equilibrium with the corresponding ene-1,1-diamines which can be *C*-alkylated by methyl acrylate, leading respectively to the corresponding amidines 6 (or 7) and 12.



## Efficient Syntheses of Acromelic Acids B and E, Which Are Potent Neuroexcitatory Amino Acids

Manabu Horikawa, Kimiko Hashimoto, and Haruhisa Shirahama\*  
 Department of Chemistry, Faculty of Science, Hokkaido University, 060, Japan

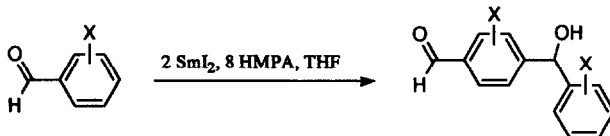


(-)-Acromelic acid B was synthesized in 21% overall yield. Acromelic acid E was also prepared on the way of above synthesis.

SAMARIUM / HEXAMETHYLPHOSPHORAMIDE PROMOTED  
DIMERIZATION OF BENZALDEHYDES

Jiann-Shyng Shiue, Chun-Cheng Lin, and Jim-Min Fang

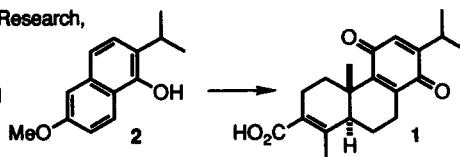
Department of Chemistry, National Taiwan University, Taipei, Taiwan 10764, Republic of China

Benzaldehyde, its *ortho*- and *meta*-substituted derivatives and acetophenone underwent dimerization reactions on treatment with samarium(II) iodide in the presence of HMPA. Intramolecular phenyl-carbonyl coupling reactions were similarly carried out.

## TOTAL SYNTHESIS OF (±)-TRIPTOQUINONE A

Kozo Shishido,<sup>a</sup> Kiyoto Goto,<sup>c</sup> Shizuka Miyoshi,<sup>b</sup> Yoshihisa Takaishi,<sup>a</sup> and Masayuki Shibuya<sup>b</sup><sup>a</sup>Institute for Medicinal Resources, University of Tokushima, Sho-machi 1, Tokushima 770, Japan<sup>b</sup>Faculty of Pharmaceutical Sciences, University of Tokushima, Sho-machi 1, Tokushima 770, Japan<sup>c</sup>Otsuka Pharmaceutical Factory, Inc., Laboratories of New Drug Research, Naruto, Tokushima 772, Japan

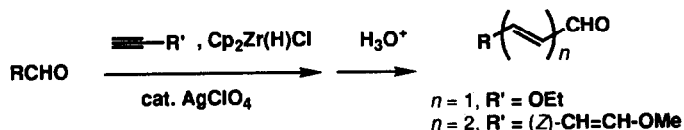
The total synthesis of (±)-triptoquinone A (1), a novel interleukin-1 inhibitor, was accomplished starting from the naphthol (2).

Two- and Four-Carbon Homologation of Aldehyde by  
AgClO<sub>4</sub>-Catalyzed Addition of Alkoxyalkenylzirconocene Chloride

Hideki Maeta and Keisuke Suzuki\*

Department of Chemistry, Keio University, Hiyoshi, Kohoku-ku, Yokohama 223, Japan

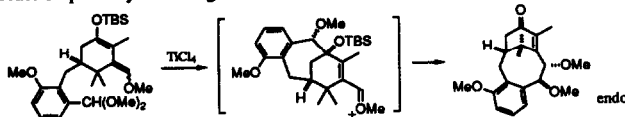
Synthesis of unsaturated aldehyde via two- and four-carbon homologation process using organozirconocene-chloride is described.

The Seven-Membered Ring Intermediate to Control the  
Stereochemistry on the Eight-Membered Taxane B Ring Cyclization

Koichiro Morihira, Masaki Seto, Takashi Furukawa, Yoshiaki Horiguchi, and Isao Kuwajima\*

Department of Chemistry, Tokyo Institute of Technology, Meguro, Tokyo 152

It is proposed that the "direct" eight-membered taxane B-ring cyclization, we previously developed, proceeds through a complicated reaction pathway involving the seven-membered ring intermediate.



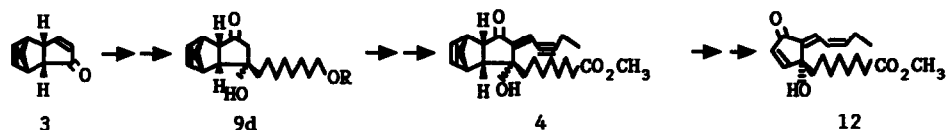
## TOTAL SYNTHESIS OF (±)-CHROMOMORIC ACID D I METHYL ESTER

Zhi-Yu LIU and Xin-Jie CHU

Shanghai Institute of Organic Chemistry,

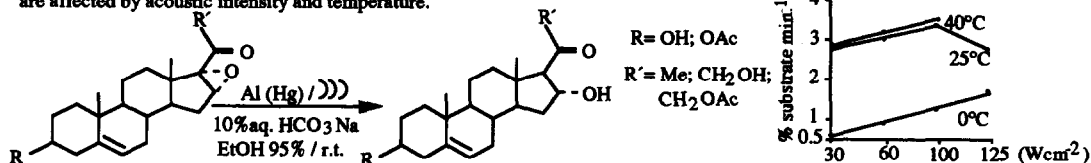
Chinese Academy of Sciences, 345 Lingling Lu, Shanghai 200032, CHINA

A total synthesis of (±)-chromomoric acid D I methyl ester(12) is described.

SONOCHEMICAL REDUCTION OF  $\alpha,\beta$ -EPOXY KETONES AND  $\alpha'$ -OXYGENATED ANALOGS BY ALUMINIUM AMALGAM

M.J.S. Miranda Moreno\*, M.L. Sá e Melo and A.S. Campos Neves

Lab. de Química Farmacêutica, Faculdade de Farmácia, Universidade de Coimbra, 3000 Coimbra, Portugal

This new methodology allows faster reactions, better yields of  $\beta$ -hydroxy Ketones and minimization of by-products. The reaction rates are affected by acoustic intensity and temperature.

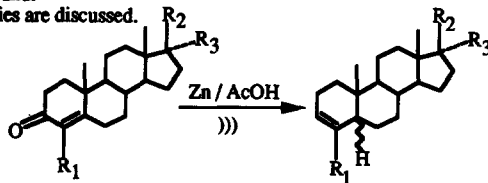
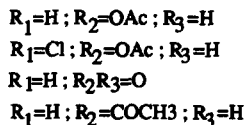
## ULTRASOUND ASSISTED ZINC REACTIONS IN SYNTHESIS 1. EFFICIENT REDUCTION OF ENONES.

J.A.R. Salvador, M.L.Sá e Melo, A.S. Campos Neves

Lab. Química Farmacêutica, Faculdade de Farmácia, Universidade de Coimbra, 3000 Coimbra, Portugal

The reduction of  $\alpha$ -enones has been efficiently accomplished under ultrasound.

Either olefins or allylic alcohols were obtained. Regio- and stereoselectivities are discussed.

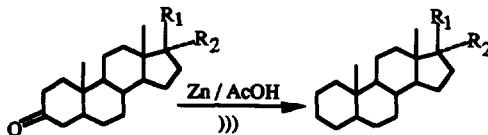
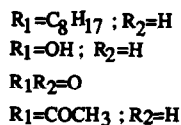


## ULTRASOUND ASSISTED ZINC REACTIONS IN SYNTHESIS 2. A NEW CLEMMENSEN-TYPE REDUCTION.

J.A.R. Salvador, M.L.Sá e Melo, A.S. Campos Neves

Lab. Química Farmacêutica, Faculdade de Farmácia, Universidade de Coimbra, 3000 Coimbra, Portugal

A selective, mild and efficient method is described for the reduction of carbonyls to methylene groups.



**A DIASTERESELECTIVE ROUTE TO FUNCTIONALISED EPOXIDES BY REDUCTION OF CYCLIC  $\beta$ -KETO SULPHOXIDES**

Richard Arner and Nigel S. Simpkins\*, Department of Chemistry, University of Nottingham, Nottingham, NG7 2RD, UK

A thiane oxide system **1**, bearing a protected hydroxyl group, undergoes stereoselective acylation to give a range of  $\beta$ -ketosulphoxides **2**, which can then be reduced stereoselectively to give either of the corresponding hydroxysulphoxides **3** and **4**. Further manipulation of these compounds, involving thiane ring-opening, leads to a variety of functionalised epoxides.