

GRAPHICAL ABSTRACTS

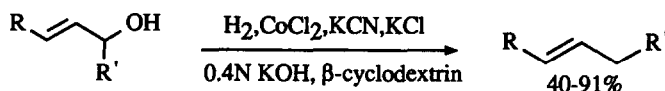
*Tetrahedron Lett.* 1990, 31, 4101

THE HYDRIDOPENTACYANOCOBALTATE ANION INDUCED DEOXYGENATION OF ALLYLIC ALCOHOLS USING  $\beta$ -CYCLODEXTRIN AS A PHASE TRANSFER AGENT

J.T. Lee and H. Alper\*

Dept. of Chemistry, University of Ottawa, Ottawa Canada K1N 6N5

Internal olefins, of trans-stereochemistry, are formed by the  $\text{HCo}(\text{CN})_5^{-3}$  catalyzed deoxygenation of allylic alcohols.



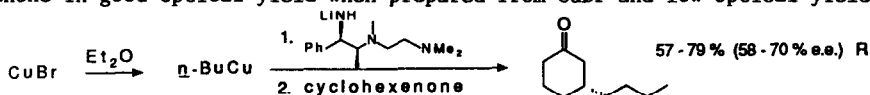
*Tetrahedron Lett.* 1990, 31, 4105

ASYMMETRIC CONJUGATE ADDITION REACTIONS WITH CHIRAL AMIDOCUPRATES: THE EFFECT OF  $\text{Cu}(\text{I})$  SALT AND COORDINATING HETEROATOMS.

R. Karl Dieter\*, Niranjan Deo, Bharat Lagu and Janice W. Dieter,

Department of Chemistry, Clemson University, Clemson, SC 29634-1905, U.S.A.

An amidocuprate prepared from an ephedrine derived triamine transfers the *n*-Bu group to cyclohexenone in good optical yield when prepared from  $\text{CuBr}$  and low optical yield with  $\text{CuI}$ .



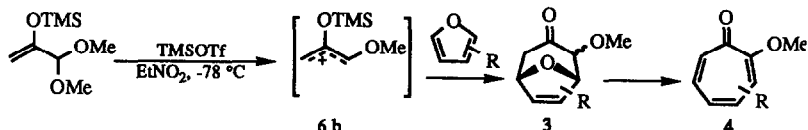
*Tetrahedron Lett.* 1990, 31, 4109

AMBIPHILIC REACTIVITY OF 1,1-DIMETHOXYACETONE

Desmond H. Murray and Kim F. Albizati\*

Department of Chemistry, Wayne State University, Detroit, Michigan 48202

The methoxy-substituted trialkylsilyloxyallyl cation **2** obtained under Lewis acidic conditions undergoes stereo- and regioselective  $[4\pi + 2\pi]$  cycloaddition with furans. 2-Methoxytropone **4** ( $\text{R} = \text{H}$ ) was synthesized efficiently via this route.



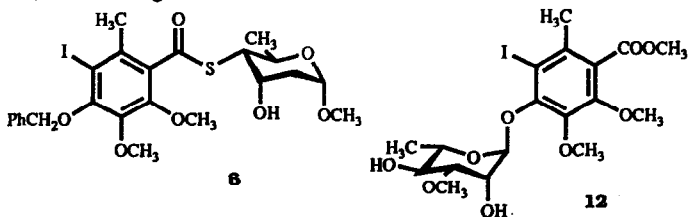
*Tetrahedron Lett.* 1990, 31, 4113

SYNTHESES OF SUBUNITS OF CALICHEMICIN  $\gamma_1^{\text{I}}$

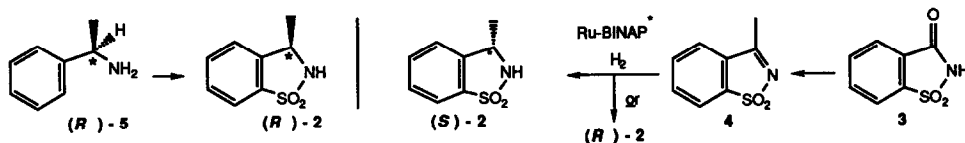
Kai van Laak, Hildegard Rainer, Hans-Dieter Scharf\*, Institut für Organische Chemie der RWTH Aachen.

Prof.-Pirlet-Str. 1, 5100 Aachen, F.R.G.

First syntheses of the subunits **6** and **12** are described. They are useful building blocks for the synthesis of the oligosaccharide part of the calicheemics.

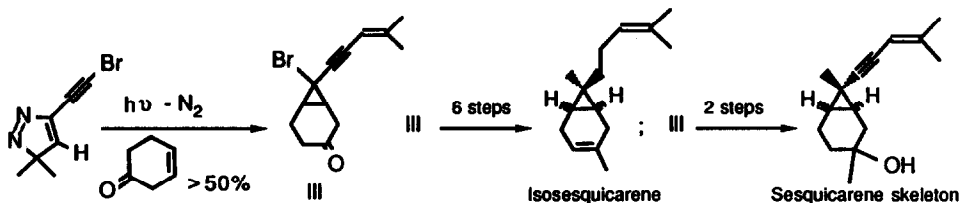


**CHIRAL TOLUENE-2,α-SULTAM AUXILIARIES: PREPARATION AND STRUCTURE OF ENANTIOMERICALLY PURE (R)- AND (S)-ETHYL-2,1'-SULTAM**  
 Wolfgang Oppolzer\*, Martin Wills, Christian Starkemann and Gérald Bernardinelli  
 Département de Chimie Organique, Université de Genève, CH-1211 Genève 4, Switzerland



**CONVERGENT SYNTHESSES IN THE SESQUICARENE SERIES USING A C<sub>7</sub>-VINYLALKYNYLCARBENE.**

M. Franck-Neumann, P. Geoffroy, M. Miesch, F. Zaragoza Dürwald  
 Laboratoire de Chimie Organique Synthétique, associé au CNRS (URA DO 466), Institut de Chimie,  
 Université Louis Pasteur, 1, rue Blaise Pascal 67008 - Strasbourg cédex (France)



**ORGANIC SONOCHEMISTRY: A NEW INTERPRETATION AND ITS CONSEQUENCES.**

J.L.Luche, C.Einhorn, J.Einhorn

LEDSS, Université Joseph Fourier, BP 53X, 38041 Grenoble Cedex, France.

J.V.Sinisterra-Gago

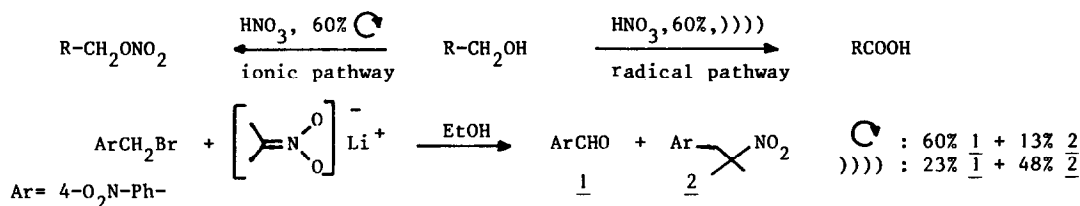
Departamento de Química Orgánica y Farmaceutica, Facultad de Farmacia, Universidad Complutense, Ciudad Universitaria, 28040 Madrid, Spain.

- |    |       |   |            |   |
|----|-------|---|------------|---|
| 1- | A + B | $\xrightarrow[\text{system}]{\text{homogeneous}}$   | product(s) | ionic process : sonication insensitive                          |
|    |       |   |            | radical process : sonication sensitive                          |
| 2- | A + B | $\xrightarrow[\text{system}]{\text{heterogeneous}}$ | product(s) | ionic process : can be sensitive to ultrasonic physical effects |
| 3- | id.   |   |            | radical process : sensitive to physical and chemical effects.   |

**ORGANIC SONOCHEMISTRY. SOME ILLUSTRATIVE EXAMPLES OF A NEW FUNDAMENTAL APPROACH.**

C.Einhorn, J.Einhorn, M.J.Dickens, J.L.Luche

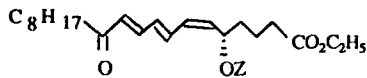
LEDSS, Université Joseph Fourier, BP 53X, 38041 Grenoble Cedex, France



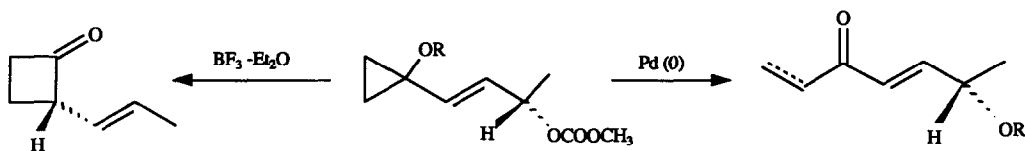
**$\beta$ -Ketophosphonates as Precursors for LTB<sub>4</sub> Analogues Synthesis.**

T. DURAND, P. SAVIGNAC(a), J.P. GIRARD, R. ESCALE et J.C.ROSSI.  
 U.R.A 1.111 C.N.R.S., Université de Montpellier I, Faculté de Pharmacie, 15 Avenue Charles Flahault, F-34060 MONTPELLIER, (a) Laboratoire de Chimie du Phosphore et des Métaux de Transition, Ecole Polytechnique, F-91128 PALAISEAU.

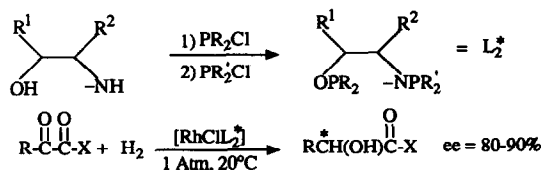
The simultaneous addition to a suspension of HNa (THF, 50°C) of  $\beta$ -keto phosphonates in the Horner-Wadsworth-Emmons reactions has been applied successfully in the synthesis of keto-12 leukotriene B<sub>3</sub>.

**REARRANGEMENTS OF OPTICALLY ACTIVE CYCLOPROPYL ALLYL ESTERS BY LEWIS ACIDS AND PALLADIUM (0) CATALYSIS**

Jean Ollivier<sup>a</sup>, Jean-Yves Legros<sup>a</sup>, Jean-Claude Fiaud<sup>a</sup>, Armin de Meijere<sup>\*b</sup> and Jacques Salaün<sup>\*a</sup>  
 Laboratoire des Carbocycles<sup>a</sup>, Associé au C.N.R.S., Institut de Chimie Moléculaire d'Orsay, Université de Paris-Sud, 91405 Orsay (France); Institut für Organische Chemie<sup>b</sup>, Georg-August Universität Göttingen, Tammannstrasse 2, D-3400 Göttingen (Germany).



New Chiral Mixed AMPP Ligands and their Use in Asymmetric Hydrogenation of Activated Ketones on Rhodium Catalysts  
 Corinne HATAT, Nicolas KOKEL, André MORTREUX and Francis PETIT  
 Lab. de Ch. Org. Appl. associé au CNRS, ENSCL, USTL  
 BP 108 59652 - Villeneuve d'Ascq - France.

**UNUSUAL REACTIVITY OF ALLYLMAGNESIUM BROMIDE**

C.FELIX, A.LAURENT and P.MISON  
 Université Claude Bernard-LYON I  
 69622 VILLEURBANNE Cedex (France)

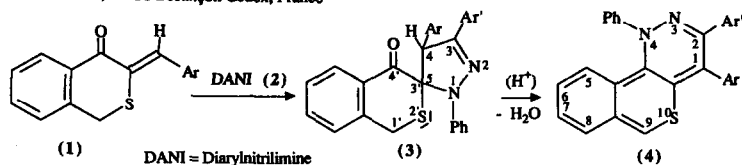


The reactions between trifluoromethyl ketones and allylmagnesium bromide give reduction and addition alcohols depending on the stoichiometry. The formation of reduction product is tentatively explained by a single electron transfer reaction.

**Reaction of Diarylnitrilimines with 3-Arylidene-4-Isothiochromanones. A General Approach to the First Thiadiazaphenanthrene.**

*Tetrahedron Lett.* 1990, 31, 4145

Abdelali Kerbal, Joël Vebrel, Maxime Roche and Bernard Laude\*  
Laboratoire de Chimie Organique, Faculté des Sciences, La Bouloie, Université de Franche-Comté, 25030 Besançon Cedex, France

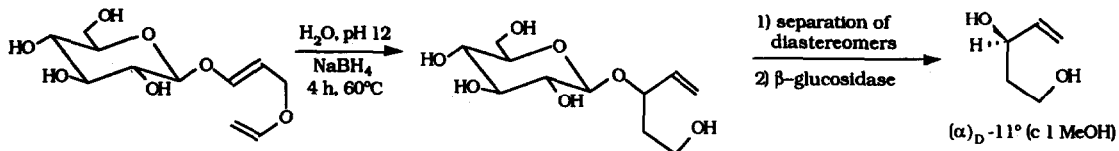


A general synthesis of derivatives of 1,2,4-triphenyl-4,10-dihydro-10-thia-3,4-diazaphenanthrene (a new heterocyclic skeleton) in two steps from 3-arylidene-4-isothiochromanones via cycloaddition route is recorded.

*Tetrahedron Lett.* 1990, 31, 4147

**WATER-PROMOTED CLAISEN SIGMATROPIC REARRANGEMENT USING GLYCO-ORGANIC SUBSTRATES. CHIRAL AUXILIARY-MEDIATED INDUCTION.**

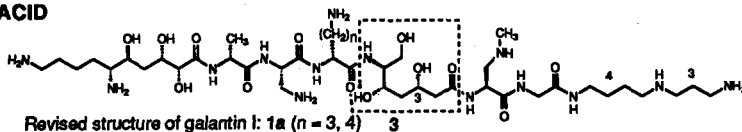
André Lubineau, Jacques Augé, Nathalie Bellanger and Sylvie Caillebourdin.  
Laboratoire de Chimie Organique Multifonctionnelle, associé au CNRS, Institut de Chimie Moléculaire d'Orsay, Bat 420, F91405 Orsay.



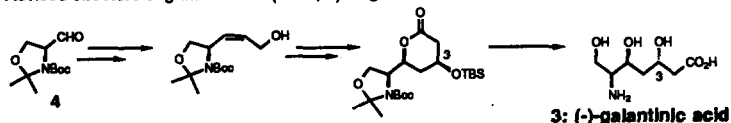
*Tetrahedron Lett.* 1990, 31, 4151

**EFFICIENT SYNTHESIS OF THE REVISED STRUCTURE OF (-)-GALANTINIC ACID**

Naomi Sakai and Yasufumi Ohtsuna\*  
Suntory Institute for Bioorganic Research  
Shimamoto-cho, Osaka 618, Japan



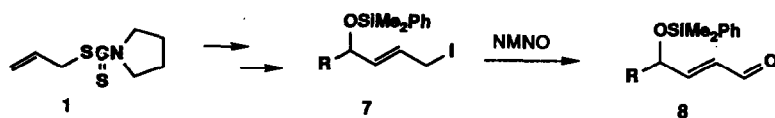
The synthesis of the revised structure of (-)-galantinic acid, a constituent amino acid of galantin I, was efficiently accomplished starting from the L-serinal derivative 4 in a stereoselective manner.



*Tetrahedron Lett.* 1990, 31, 4155

**Allyl Dithiocarbamate as a New  $\beta$ -Acyl Vinyl Anion Equivalent**

Toshio Hayashi, The Institute of Physical and Chemical Research, Wako, Saitama 351, Japan



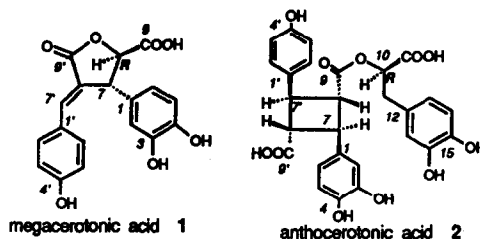
THE FIRST ISOLATION OF LIGNANS, MEGACEROTONIC ACID AND ANTHOCEROTONIC ACID, FROM NON-VASCULAR PLANTS, ANTHOCEROTAE (HORNWORTS)

Reiji Takeda<sup>1</sup>, Jiro Hasegawa<sup>2</sup> and Masateru Shinozaki<sup>2</sup>

<sup>1</sup>Suntary Institute for Biorganic Research, Shimamoto-cho, Osaka 618

<sup>2</sup>Laboratory of Applied Botany, Faculty of Agriculture, Kyoto University, Kitashirakawa-oiwake-cho, Kyoto 606, Japan

Two new lignans, megacerotonic acid 1 and anthocerotonic acid 2, were isolated from the Anthocerotae, *Megaceros flagellaris* and *Anthoceros punctatus*. Their structures were determined by spectroscopic methods. This is the first known example of lignans isolated from non-vascular plants.



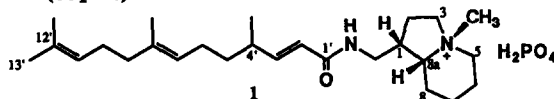
STELLETTAMIDE A, AN ANTIFUNGAL ALKALOID FROM A MARINE SPONGE OF THE GENUS *STELLETTA*

Hiroshi Hirota,\* Shigeki Matsunaga,† and Nobuhiro Fusetani<sup>††</sup>

Department of Chemistry, Faculty of Science,

<sup>†</sup>Laboratory of Marine Biochemistry, Faculty of Agriculture, The University of Tokyo, Bunkyo-ku, Tokyo 113 (Japan)

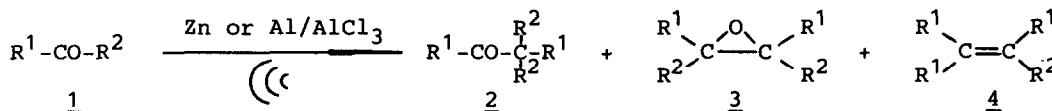
Structure of a novel antifungal alkaloid, stelletamide A (1), isolated from a marine sponge *Stelletta* sp., was elucidated.



NOVEL REDUCTIVE COUPLING-REARRANGEMENT OF CARBONYL COMPOUNDS WITH METAL/LEWIS ACID UNDER IRRADIATION OF ULTRASONIC WAVE

Ryu Sato,\* Takeshi Nagaoka, and Minoru Saito

Department of Resource Chemistry, Faculty of Engineering, Iwate University, Morioka 020, Japan

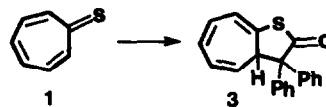


A PHENYL-GROUP PARTICIPATION IN THE ANTISYMMETRIC ORBITAL INTERACTION FOR [8 + 2] CYCLOADDITION OF TROPOTHIONE WITH DIPHENYLKETENE

Takahisa Machiguchi\* and Shinichi Yamabe

Saitama University, Saitama 338, Japan and Nara University of Education, Nara 630, Japan

Reaction of tropothione (1) with  $\text{Ph}_2\text{C}=\text{C}=\text{O}$  (2) gives regio-specifically an [8 + 2] cycloadduct (3) in high yield. Twisted phenyl groups in 2 intermix two vacant FMOs of the ketene moiety. This mixing brings about an appropriate site for the antisymmetric orbital interaction against the HOMO of 1. A phenyl carbon is found to assist this interaction.

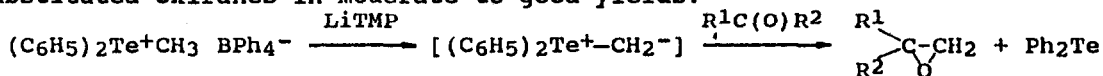


**A FIRST NON-STABILIZED TELLURONIUM YLIDE —  
DIPHENYLTELLURONIUM METHYLIDE AS A NOVEL RE-  
AGENT FOR SYNTHESIS OF OXIRANES**

Li-Lan Shi \*, Zhang-Lin Zhou, Yao-Zeng Huang \*

Shanghai Institute of Organic Chemistry, Shanghai, China

Diphenyltelluronium methylide reacted with carbonyl compounds to afford substituted oxiranes in moderate to good yields.

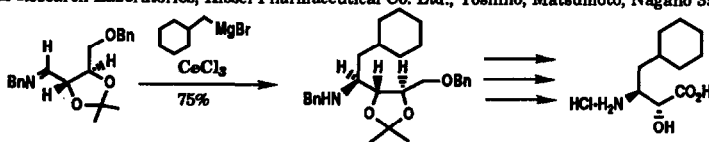


**A STEREoselective SYNTHESIS OF CYCLOHEXYLNORSTATINE,  
THE KEY COMPONENT OF A RENIN INHIBITOR**

Teruyo Matsumoto,<sup>a)</sup> Yuko Kobayashi,<sup>a)</sup> Yoshiji Takemoto,<sup>a)</sup> Tetsuhide Kamijo,<sup>b)</sup> Hiromu Harada,<sup>b)</sup> and Shiro Terashima<sup>a,b)</sup>:

a) Sagami Chemical Research Center, Nishi-Onnuma, Sagamihara, Kanagawa 229, Japan

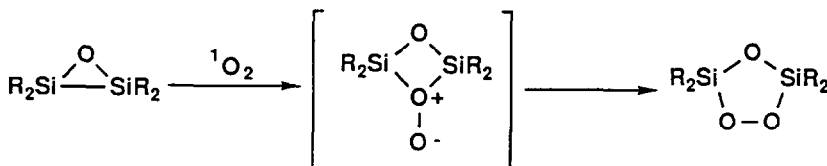
b) Central Research Laboratories, Kissei Pharmaceutical Co. Ltd., Yoshino, Matsumoto, Nagano 399, Japan



**SINGLET OXYGENATION OF OXADISILIRANES. SYNTHESIS AND  
CRYSTAL STRUCTURE OF 1,2,4,3,5-TRIOXADISILOLANES**

Wataru Ando\*, Masahiro Kako, Takeshi Akasaka, and Yoshio Kabe

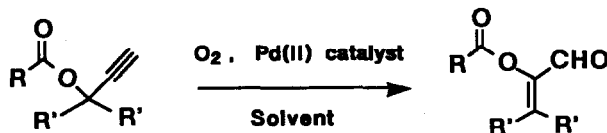
Department of Chemistry, University of Tsukuba, Tsukuba, Japan



**PALLADIUM(II)-CATALYZED OXIDATIVE REARRANGEMENT  
OF PROPARGYL ESTERS**

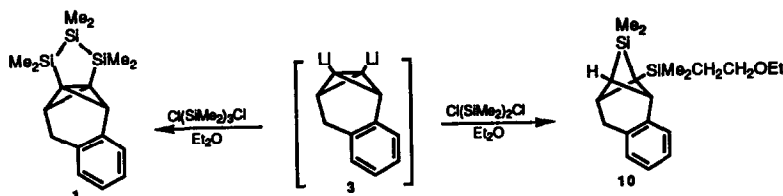
Hideaki Kataoka, Kiyoshi Watanabe, and Kuniaki Goto\*

Nippon Zeon Co., Research & Development Center, 1-2-1 Yako, Kawasaki 210, Japan



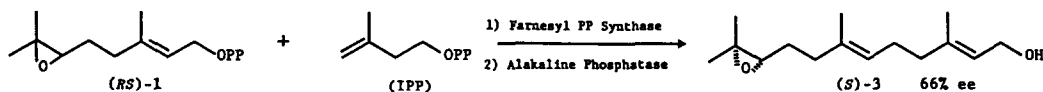
## SYNTHESIS AND REACTION OF [3.1.1]TRISILAPROPELLANE

Wataru Ando,\* Yoshiyuki Igarashi, Yoshio Kabe, and Norihiro Tokitoh  
Department of Chemistry, University of Tsukuba, Tsukuba, Ibaraki 305, Japan



PRENYLTRANSFERASE REACTION INVOLVING ENANTIOMERIC DISCRIMINATION.  
ENZYMATIC SYNTHESIS OF (S)-10,11-EPOXYFARNESOL FROM RACEMIC 6,7-EPOXYGERANYL  
DIPHOSPHATE AND ISOPENTENYL DIPHOSPHATE

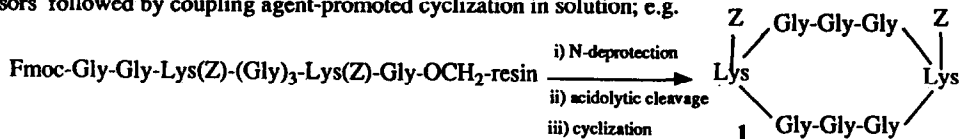
Tanetoshi Koyama<sup>†</sup>, Hitoshi Inoue, Shin-ichi Ohnuma, and Kyozo Ogura\*  
Chemical Research Institute of Non-aqueous Solutions, Tohoku University, Sendai 980, Japan



GLY/LYS-CONTAINING PEPTIDE MACROCYCLES:  
SYNTHESIS AND CYCLIZATION STUDIES

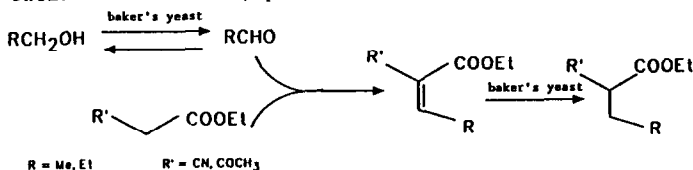
E. Crusi, J. M. Huerta, D. Andreu\* and E. Giralt.  
Department of Organic Chemistry, University of Barcelona, Martí i Franquès 1-11, E-08028 Barcelona, Spain.

Cyclic octa- and nonapeptides have been conveniently prepared by Fmoc-solid phase synthesis of linear precursors followed by coupling agent-promoted cyclization in solution; e.g.



## CHEMO-ENZYMATIC ALKYLATION OF ACTIVE METHYLENE COMPOUNDS

Claudio Fuganti, Giuseppe Pedrocchi-Fantoni and Stefano Servi  
CNR, Centro di Studio per le Sostanze Organiche Naturali, Dipartimento di  
Chimica Politecnico, piazza L. da Vinci 32, 20133 Milano, Italy

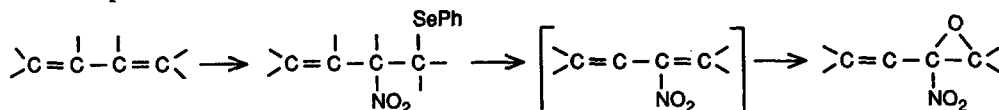


The above one-pot chemo-enzymatic transformation is described

**NITROSELENIATION OF CONJUGATED DIENES. PREPARATION OF 3,4-EPOXY-3-NITRO-1-ALKENES**

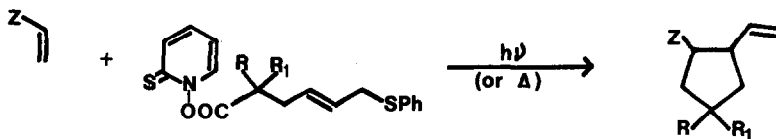
Carmen Nájera, Miguel Yus, Ulrika Karlsson, Adolf Gogoll, and Jan-E. Bäckvall\*  
 Department of Organic Chemistry, University of Uppsala, Box 531, S-751 21 Uppsala, Sweden

Conjugated dienes were transformed to synthetically useful 3,4-epoxy-3-nitroalkenes via a nitroselenation-oxidation sequence.


**RADICAL ANNULATION METHODOLOGY. 2-VINYLCYCLOPENTANE DERIVATIVE FORMATION BY A 3 + 2 CYCLOADDITION REACTION**

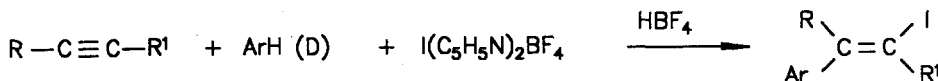
Radomir N. Saičić and Živorad Čeković\*

Department of Chemistry, Faculty of Sciences, University of Belgrade, Studentski trg 16, P. O. Box 550, 11001 Belgrade, and Institut for Chemistry, Technology and Metallurgy, Yugoslavia


**iodo-CARBOFUNCTIONALIZATION OF ALKYNES WITH AROMATIC RINGS AND  $\text{IPy}_2\text{BF}_4$** 

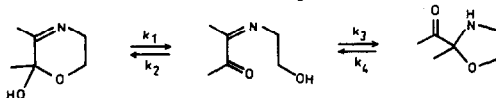
José Barluenga,\* Miguel A. Rodríguez, José M. González, and Pedro J. Campos  
 Departamento de Química Organometálica, Universidad de Oviedo, 33071-Oviedo, Spain

Alkynes react with bis(pyridine)iodine(I)tetrafluoroborate (1) and aromatic rings (activated, nonactivated and deactivated) to give *trans*- $\beta$ -iodo styrene derivatives.


**ANATOMY OF A THREE SPECIES TAUTOMERIC PROCESS: THE RING-CHAIN TAUTOMERISM IN 5,6-DIHYDRO-2-HIDROXY-2,3-DIMETHYL-2H-1,4-OXAZINE**

Benito Alcaide,\* Ramón González Rubio, Joaquín Plumet,\* and Ignacio M. Rodríguez Campos.  
 Dpto. Química Orgánica, Facultad de Química, Universidad Complutense, 28040-Madrid, SPAIN.

A ring-chain tautomerism involving two single processes hydroxyketone-hemiacetal and hydroxyimine-1,3-oxazolidine is kinetically studied.



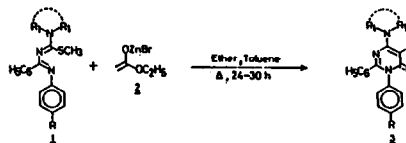


**1,4-ADDITION OF REFORMATSKY REAGENT TO  
1,3-DIAZA-1,3-BUTADIENES**

Sujit N. Mazumdar and Mohinder P. Mahajan\*

Department of Chemistry, North-Eastern Hill University, Shillong 793 003,  
Meghalaya, INDIA

The 1,4-conjugated addition  
of Reformatsky reagent on  
1,3-diaza-1,3-butadienes (1)  
results 1-aryl-2-phenyl-  
4-sec.amino-1,6-dihydropyrimidin-6-ones (3).

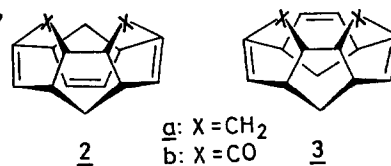


**CAGE GEOMETRY CONTROLLED HYPERSTABILITY IN BRIDGEHEAD OLEFINS**

S. Lalitha,<sup>a</sup> Jayaraman Chandrasekhar,<sup>\*a</sup> and Goverdhan Mehta<sup>\*b</sup>

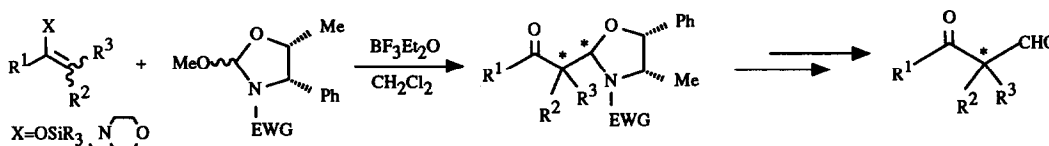
<sup>a</sup>Department of Organic Chemistry, Indian Institute of Science,  
Bangalore 560012, <sup>b</sup>School of Chemistry, University of Hyderabad,  
Hyderabad 500134, INDIA

MM2 calculations reveal that hyperstability  
is substantial in bridgehead olefins 2a and 3a,  
but much less in the enones 2b and 3b.



**ELECTROPHILIC  $\alpha$ -FORMYLATION OF CARBONYL COMPOUNDS:  
A NOVEL ASYMMETRIC FORMATION OF QUATERNARY STEREOCENTERS**

Camillo Palazzi, Giovanni Poli, Carlo Scolastico,\* and Roberto Villa  
Dipartimento di Chimica Organica e Industriale, University of Milan, Italy

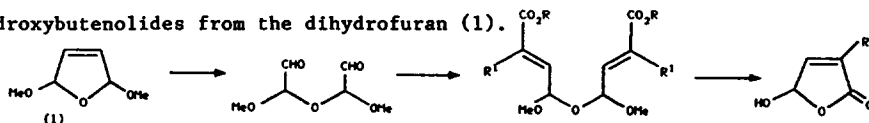


**2,5-DIMETHOXY-2,5-DIHYDROFURAN: A CONVENIENT SYNTHON FOR  
A NOVEL MONO-PROTECTED GLYOXAL; SYNTHESIS OF 4-HYDROXY-  
BUTENOLIDES.**

Stephen C.M. Fell\* and John B. Harbridge.

Beecham Pharmaceuticals Research Division, Brockham Park, Betchworth, Surrey,  
RH3 7AJ, England.

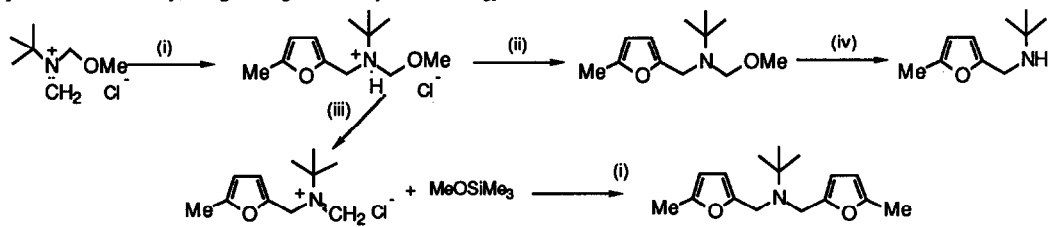
Synthesis of 4-hydroxybutenolides from the dihydrofuran (1).



## A NEW ROUTE TO SECONDARY AMINES FROM BIS(ALKOXYMETHYL)AMINES

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Scheme (i), 2-methylfuran; (ii), Hunig's base; (iii), bis(trimethylsilyl)acetamide; (iv), water