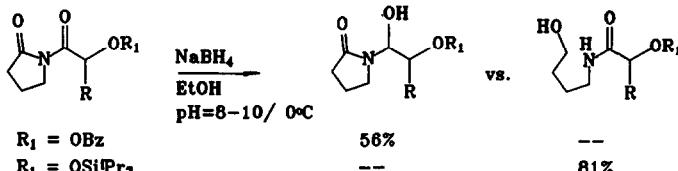


## GRAPHICAL ABSTRACTS

**REDUCTIVE ROUTES TO RIGID PEPTIDE BUILDING BLOCKS: THE DEPENDENCE OF A REGIOSELECTIVE IMIDE REDUCTION ON THE NATURE OF AN  $\alpha$ -ALKOXY SUBSTITUENT.** Kevin D. Moeller\* and Cathleen E. Hanau, Department of Chemistry, Washington University, St. Louis, MO 63130

The reduction of several *N*-acylprrorolidinones has been studied. The regioselectivity of the reductions was found to depend on the nature of the *N*-acyl group.

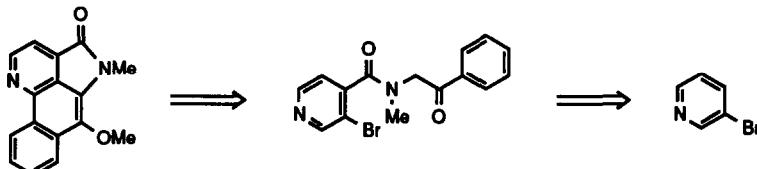


*Tetrahedron Lett.* 1992, 33, 6041

## AN EXCEPTIONALLY BRIEF SYNTHESIS OF EUPOLAURAMINE

R. Richard Goehring

Department of Chemistry, North Carolina State University, Raleigh, NC 27695-8204



*Tetrahedron Lett.* 1992, 33, 6045

## STEREOCHEMICAL STUDIES ON ESPERAMICINS: THE ABSOLUTE CONFIGURATION OF THEIR BICYCLIC AGLYcone.

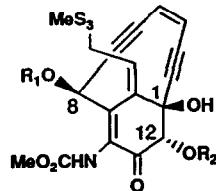
Jerzy Golik, Bala Krishnan and Terrence W. Doyle

Bristol-Myers Squibb Research Institute, 5 research Parkway, Wallingford, Connecticut 06492

Gregory VanDuyne and Jon Clardy

Cornell University, Department of Chemistry, Baker Laboratory, Ithaca, New York 14853

Based on single crystal x-ray and CD data the absolute stereochemistry for [7,3,1] bicyclic aglycone of esperamicins has been assigned as C-1 (S), C-8 (S) and C-12 (S).



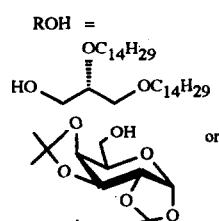
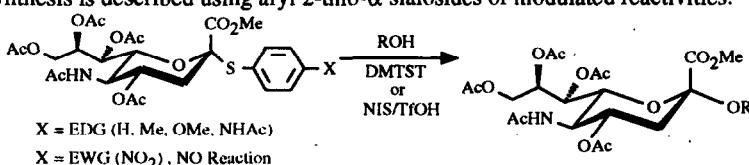
*Tetrahedron Lett.* 1992, 33, 6049

## "ACTIVE" and "LATENT" THIOLINKAGE DONORS in OLIGOSACCHARIDE SYNTHESIS. APPLICATION

to the SYNTHESIS of  $\alpha$ -SIALOSIDES. René Roy\*, Fredrik O. Andersson, Marie Letellier

**to the SYNTHESIS of a-SIALOSIDES.** Kelle Key,<sup>1</sup> Frederik S. Anderson,<sup>2</sup> Department of Chemistry, University of Ottawa, Ottawa, Ont. Canada K1N 6N5

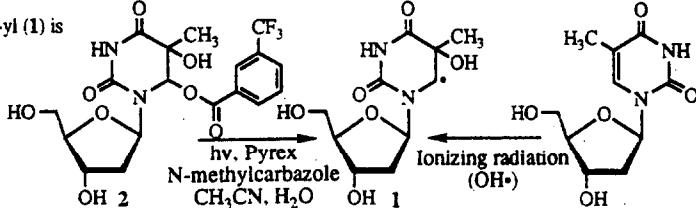
The use of a new "active" and "latent" thioglycosyl donor strategy in glycoside synthesis is described using aryl 2-thio- $\alpha$ -D-glucosides of modulated reactivities.



Tetrahedron Lett. 1992, 33, 6053

**Independent Generation of the Major Adduct of Hydroxyl Radical and Thymidine. Examination of Intramolecular Hydrogen Atom Transfer in Competition With Thiol Trapping.**  
Mark R. Barvian and Marc M. Greenberg\* Department of Chemistry, Colorado State University, Ft. Collins CO 80523

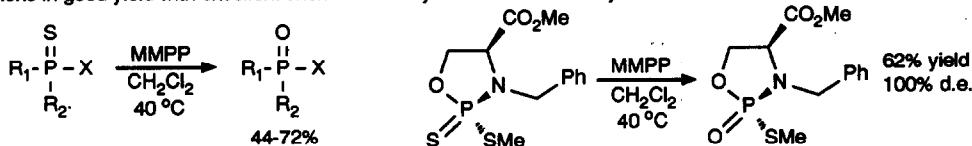
5,6-Dihydro-5-hydroxythymid-6-yl (1) is generated in solution from 2 via photoinduced electron transfer.



**STEREOSELECTIVE AND CHEMOSELECTIVE OXIDATION OF PHOSPHOROTHIONATES USING MMPP**

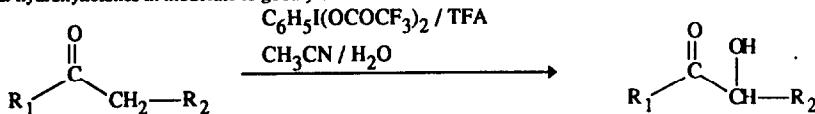
John A. Jackson, Clifford E. Berkman and Charles M. Thompson\*  
Dept. of Chemistry, Loyola University of Chicago, Chicago IL 60626

MMPP (monoperoxyphthalic acid, magnesium salt) converts phosphorothionates to the corresponding oxons in good yield with excellent chemoselectivity and stereoselectivity.



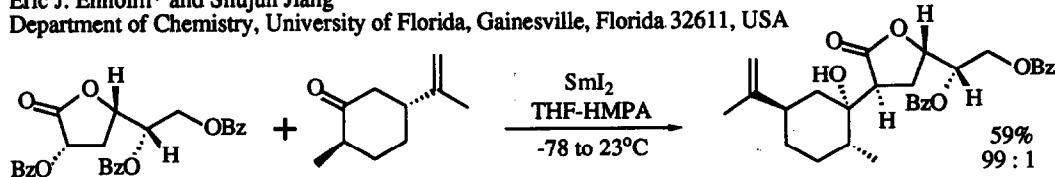
**DIRECT  $\alpha$ -HYDROXYLATION OF KETONES UNDER ACIDIC CONDITIONS USING [BIS(TRIFLUOROACETOXY) IODOBENZENE**

Robert M. Moriarty\*, Bruce A. Berglund, and Raju Pennasta  
Department of Chemistry, University of Illinois at Chicago, Chicago, Illinois 60680  
[Bis(trifluoroacetoxy) iodo benzene and trifluoroacetic acid in  $\text{CH}_3\text{CN}/\text{H}_2\text{O}$  reacts with aromatic, heteroaromatic, and aliphatic ketones to afford  $\alpha$ -hydroxyketones in moderate to good yields.



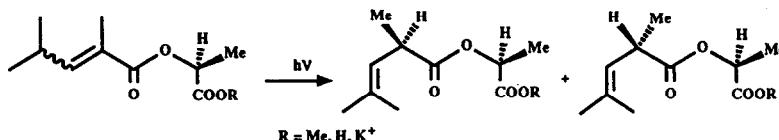
**HIGHLY STEREOSELECTIVE COUPLINGS OF CARBOHYDRATE LACTONES WITH TERPENE KETONES PROMOTED BY  $\text{SmI}_2$**

Eric J. Enholm\* and Shujun Jiang  
Department of Chemistry, University of Florida, Gainesville, Florida 32611, USA



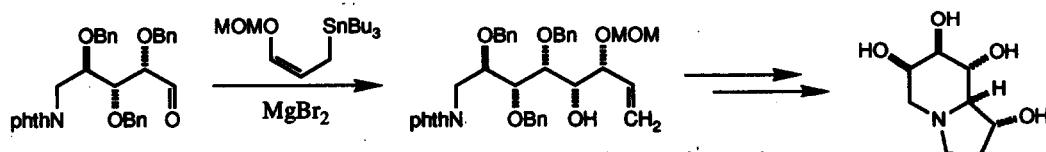
LACTATE AS CHIRAL AUXILIARY IN ASYMMETRIC PHOTODECONJUGATION OF UNSATURATED ESTERS  
 James L. Charlton and Vinh C. Pham, Department of Chemistry, University of Manitoba, Winnipeg, Canada R3T 2N2  
 Jean-Pierre Pete, Laboratoire des Réarrangements Thermiques et Photochimiques, Unité Associée au C. N. R. S.  
 U. F. R. Sciences, Université de Reims-Champagne-Ardenne, 51062 Reims, France.

Solvent dependent diastereoselective photodeconjugation of the following esters is described.



### An Asymmetric Synthesis of D-1,6-Diepicastanospermine

Kevin Burgess\* and David A. Chaplin, Chemistry, Texas A & M University, College Station, TX 77843, USA

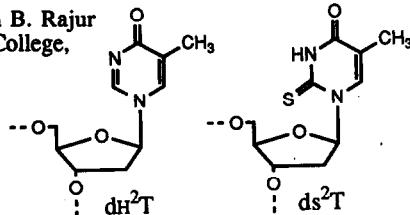


Substrate-controlled diastereoselectivities in this type of allylation are discussed.

### THE SYNTHESIS OF OLIGODEOXYNUCLEOTIDES CONTAINING 2-THIOTHYMINE AND 5-METHYL-4-PYRIMIDINONE BASE ANALOGUES.

Sharanabasava B. Rajur and Larry W. McLaughlin\*, Department of Chemistry, Boston College, 140 Commonwealth Ave., Chestnut Hill, MA 02167

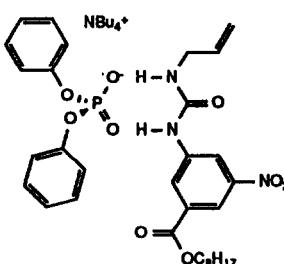
Synthesis of the 2'-deoxynucleosides, the phosphoramidite derivatives and oligodeoxynucleotides containing the base analogues dH<sup>2</sup>T and ds<sup>2</sup>T is described.



### ION PAIR BINDING BY A UREA IN CHLOROFORM SOLUTION.

Paul J. Smith, Mark V. Reddington, and Craig S. Wilcox\*  
 Department of Chemistry - University of Pittsburgh  
 Pittsburgh, PA 15260

A urea has been synthesized which binds very strongly to ion pairs containing sulfonates, phosphates and carboxylates in chloroform. Data suggest complexation is due to hydrogen bond formation between the urea and anion. Application to the design of molecular catalysts is planned.

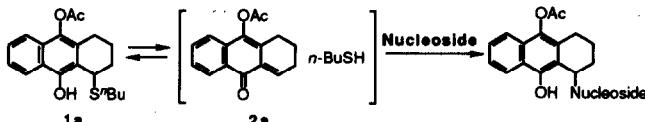


**pH-DEPENDENT STABILITY AND REACTIVITY OF A THIOL-QUINONE METHIDE ADDUCT**

Steven R. Angle\* and Wenjin Yang

Department of Chemistry, University of California, Riverside, California 92521

10-Acetyl-1-(butanethio)-1,2,3,4-tetrahydro-9,10-anthracenediol **2a** has been prepared in 63% yield. The pH-dependent stability and reaction with 2'-deoxyadenosine showed that the nucleoside can be exchanged for the thiol at pH 7



**MECHANISTIC STUDIES ON AZOALKANE CATION RADICAL DECOMPOSITION**

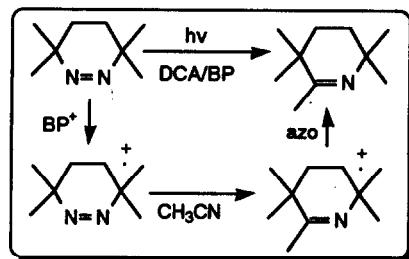
Thomas A. Zona and Joshua L. Goodman\*

Department of Chemistry

University of Rochester

Rochester, New York 14627

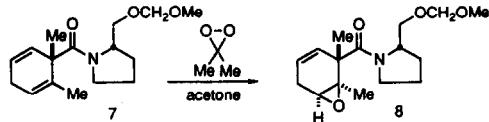
The cation radicals of two azoalkane, azo-*t*-butane and 3,3,6,6-tetramethyl-1,2-diazacyclohex-2-ene decompose at rates  $\geq 10^{16}$  times faster than their neutral precursors. This can be attributed to a decrease in the C-N bond dissociation energy of  $\approx 24$  kcal/mol upon oxidation.



**REGIO- AND STEREOSELECTIVE EPOXIDATION OF CHIRAL 1,4-CYCLOHEXADIENES**

Arthur G. Schultz\*, Roger E. Harrington and Fook S. Tham. Department of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180-3590

A rationale for high diastereoselectivities for monoepoxidations of diene amides **1b**, **7** and **9** is supported by an X-ray crystallographic structure determination for epoxide **8**.

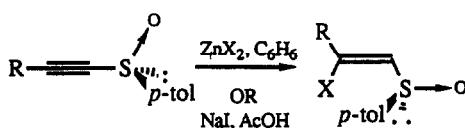


**SYNTHESIS OF ENANTIOMERICALLY PURE (Z)-2-HALOALKENYL SULFOXIDES**

Roberto Fernández de la Pradilla\*, Miguel Morente<sup>a</sup>, Robert S. Paley<sup>b\*</sup>

<sup>a</sup>Instituto de Química Orgánica, C.S.I.C., Juan de la Cierva 3, 28006, Madrid, Spain

<sup>b</sup>Swarthmore College, Dept. of Chemistry, Swarthmore, PA 19081, USA

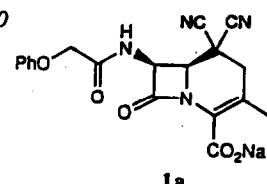


Efficient procedures to prepare enantiomerically pure (Z)-2-haloalkenyl sulfoxides from alkynyl sulfoxides are described.

**Synthesis of a Highly Reactive  
1,1-Dicyanomethylene-1-dethiacephalosporin**

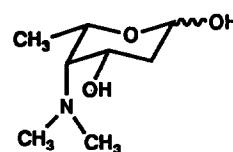
Norma K. Dunlap\*, Milana Dezube, Dennis D. Keith and Manfred Weigle  
Roche Research Center, Hoffmann-La Roche Inc., Nutley, New Jersey 07110

The novel 1,1-dicyanomethylene-1-dethiacephalosporin **1a** was synthesized in optically pure form.



**KEDARCIDIN CHROMOPHORE: STRUCTURE ELUCIDATION  
OF THE AMINO SUGAR KEDAROSAMINE**

John E. Leet<sup>a</sup>, Jerzy Golik<sup>a</sup>, Sandra J. Hofstead<sup>a</sup>, James A. Matson<sup>a</sup>, Angela Y. Lee<sup>b</sup>,  
and Jon Clardy<sup>b</sup> <sup>a</sup> Bristol-Myers Squibb Pharmaceutical Research Institute,  
P. O. Box 5100, Wallingford, Connecticut 06492-7660 <sup>b</sup> Cornell University,  
Department of Chemistry, Baker Laboratory, Ithaca, New York 14853-1301



The structure elucidation of kedarosamine, the amino sugar fragment of the new antitumor agent kedarcidin chromophore, is reported.

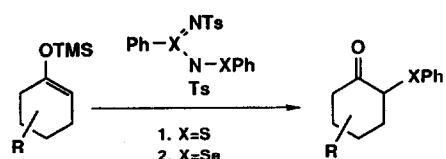
Kedarosamine

**New Mild Methodology for the Synthesis of  
 $\alpha$ -Phenylthio and  $\alpha$ -Phenylseleno Ketones**

Philip Magnus\* and Pascal Rigollier

Department of Chemistry and Biochemistry,  
University of Texas at Austin, Austin, Texas 78712.

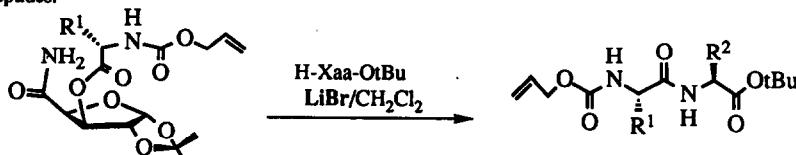
Treatment of trimethylsilyl enol ethers with the adduct **1**, derived from chloramine-T and  $(\text{PhS})_2$ , gave good yields of  $\alpha$ -phenylthioketones. The selenium version of this reagent **2** gave  $\alpha$ -phenylselenoketones.



**Metal Ion-Promoted Activation of Amino Acid Esters of Carbohydrates in a Biomimetic Synthesis of Peptides**

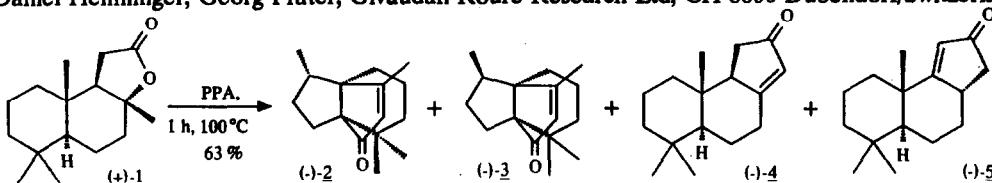
Horst Kunz\* and Richard Kullmann, Institut für Organische Chemie, Universität Mainz, Becherweg 18, D-6500 Mainz, Germany

Carbohydrate esters of N-protected amino acids are activated by coordination of metal ions and subjected to aminolysis by amino acid esters to form peptides.



Rearrangement of sclareolide to [4,3,3]-propellanes under strongly acidic conditions.

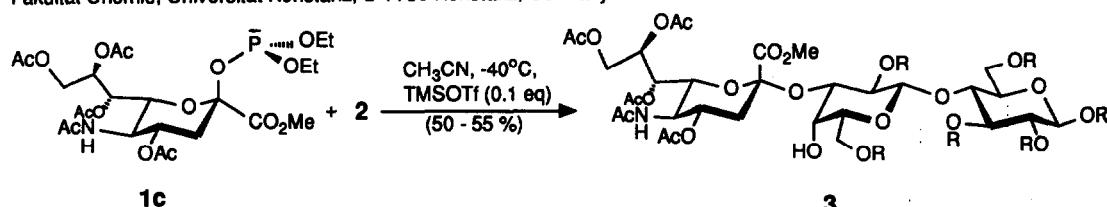
Daniel Helmlinger, Georg Fráter, Givaudan-Roure Research Ltd, CH-8600 Dübendorf/Switzerland



EFFICIENT SIALYLATION WITH PHOSPHITE AS LEAVING GROUP

Thomas J. Martin and Richard R. Schmidt

Fakultät Chemie, Universität Konstanz, D-7750 Konstanz, Germany

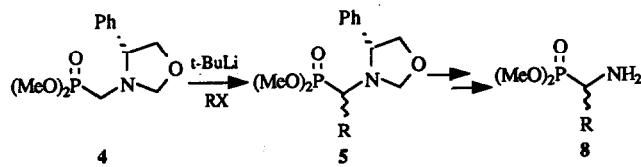


A Simple and General Method for the Asymmetric Synthesis of  $\alpha$ -Aminophosphonic Acids

C. Maury, J. Royer and H.-P. Husson

Institut de Chimie des Substances Naturelles du CNRS, 91198 Gif sur Yvette cedex, France.

A simple and general method for the asymmetric synthesis of  $\alpha$ -aminophosphonic acids is described. A chiral phosphonate 4 prepared in one step from R-(*l*)-phenylglycinol was alkylated with good diastereoselectivity using different electrophiles.

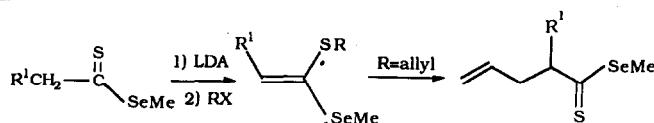


Syntheses of Ketene Thioselenoacets and of  $\gamma$ -Unsaturated Se-Alkyl Carboxylic Thionoselenoesters

Margareth Lemarié, Yannick Vallée\* and Mark Worrell

Laboratoire de Chimie des Composés Thio-organiques, URA CNRS 480, ISMRA, 14050 Caen, France

*E*-ketene thioselenoacets were obtained from Se-alkyl carboxylic thionoselenoesters. When the alkylation was conducted with an allylic halide a thio-Claisen rearrangement was observed.

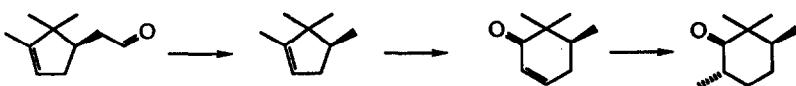


RHODIUM CATALYSED DECARBOXYLATION OF OPTICALLY ACTIVE CAMPHOLENAL ANALOGUES

C. Chapuis\*, B. Winter and K. H. Schulte-Elte

Firmenich SA, Research Laboratories, P.O.B. 239, 1211 Geneva 8, Switzerland.

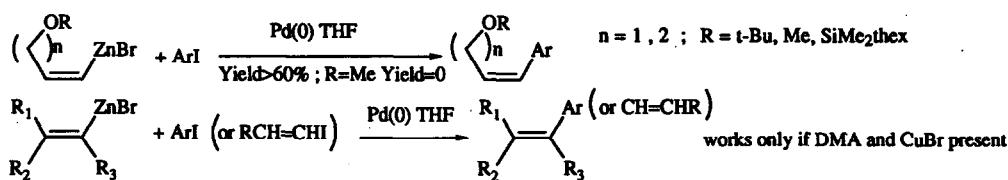
**Abstract:** Campholenal analogues (+)-1a-d were decarbonylated with a catalytic amount of Rh/Al<sub>2</sub>O<sub>3</sub> with only slight racemization. Experiments with other catalysts showed that racemization increases with the ability of the metal to form a  $\pi$ -allyl complex and to catalyse the hydrogenation of the  $\beta$ -elimination side product. (Ph<sub>3</sub>P)<sub>3</sub>RhCl gave the best results.



COUPLING BETWEEN VINYL OR ARYL IODIDES AND VINYL ZINC BROMIDES

(EITHER BEARING AN ALKOXY MOIETY OR TRISUBSTITUTED) UNDER Pd(0) CATALYSIS.

Lydie Labaudinière and Jean-F. Normant\*. Laboratoire de Chimie des Organoéléments, associé au C.N.R.S., Tour 44-45, Université Pierre et Marie Curie, 4 Place Jussieu, F-75252 Paris Cedex 05.

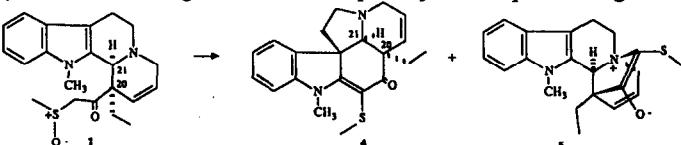


$\beta$ -Oxo-Sulfoxide Rearrangements under Sila-Pummerer Reactions Conditions

Marial Dardaine, Angèle Chiaroni, Claude Riche, Nicole Langlois\*

Institut de Chimie des Substances Naturelles, C.N.R.S., F91198 Gif-sur-Yvette

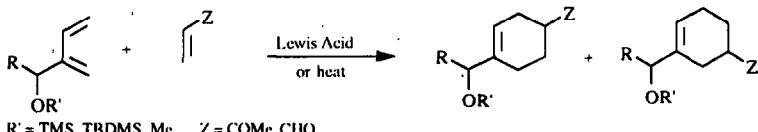
Under Sila-Pummerer reaction conditions, the  $\beta$ -oxo-sulfoxide 1 gave rise to a new pentacyclic compound 5 together with the known aspidospermane derivative 4.



Diastereofacial Selectivity in Diels-Alder Reactions of Chiral 2-substituted-1,3-dienes.

Robert Bloch\* and Nathalie Chaptal-Gradoz.

Laboratoire des Carbocycles, associé au CNRS, Institut de Chimie Moléculaire d'Orsay, Bât. 420  
Université de Paris-Sud, 91405 Orsay (France)

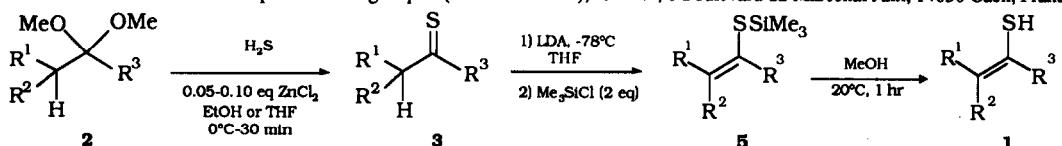


In the catalytic process, a total "para" regioselectivity as well as an excellent stereoselectivity are observed.

## Selective Synthesis of Enethiols

*Anne-Marie Le Nocher and Patrick Metzner\**

Laboratoire de Chimie des Composés Thio-organiques (Associé au CNRS), ISMRA, 6 Boulevard du Maréchal Juin, 14050 Caen, France.



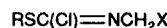
TautomERICALLY pure aliphatic thioketones 3 have been prepared by treatment of dimethyl acetals 2 with hydrogen sulfide in the presence of zinc chloride. Deprotonation with LDA leads to Z-enthioates 4 which were S-silylated with trimethylsilyl chloride to give silyl vinyl sulfides 5. Methanolysis of 5 quantitatively affords eneithiol 1 devoid of the isomeric thioketones.<sup>3</sup>

## BASE-MEDIATED REACTIONS IN SOLID-LIQUID MEDIA

### A 1,3-DIPOLE CYCLOADDITION ROUTE TO PYRROLINES AND PYRROLES FROM IMINO CHLOROSULFIDES

**Fabienne Berrée, Evelyne Marchand and Georges Morel\***. Laboratoire de Physicochimie Structurale associé au CNRS, Campus de Beaulieu, 35042 Rennes, France.

Nitrile ylides, generated in basic conditions from imino chlorosulfides 1, undergo 1,3-dipolar cycloadditions with electron-deficient dipolarophiles to produce pyrrolines and pyrroles. The best conditions are found with  $\text{KF}/\text{Al}_2\text{O}_3$  and  $\text{KOH}/\text{Al}_2\text{O}_3$  mixtures as solid supports.

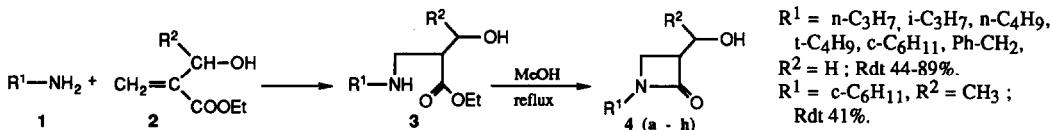


## Nouvelle synthèse d' $\alpha$ -(1-hydroxy)alkyl- $\beta$ -lactames.

H. Amri\*, M.M. El Gaiad\*, T. Ben Ayed\* and J. Villiéras\*\*

\*Laboratoire de Chimie organique, Faculté des Sciences de Tunis - 1060 Tunisie

**\*\*Laboratoire de Synthèse Organique associé au CNRS, Faculté des Sciences et des Techniques, F44072 Nantes Cedex 03-France.**

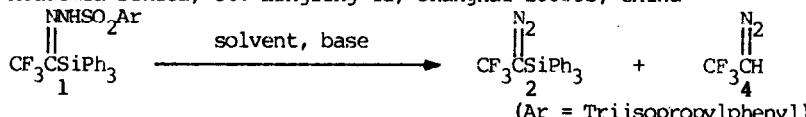


## Facile Conversion of Trifluoroacetyltriphenylsilane 2,4,6-Triisopropylbenzenesulfonylhydrazone to 2,2,2-Trifluorodiazoethane.

## An Unusual Example of the Bamford-Stevens Reaction

Fuqiang Jin, Yuanyao Xu\* and Yiling

Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Academia Sinica, 345 Lingling Lu, Shanghai 200032, China

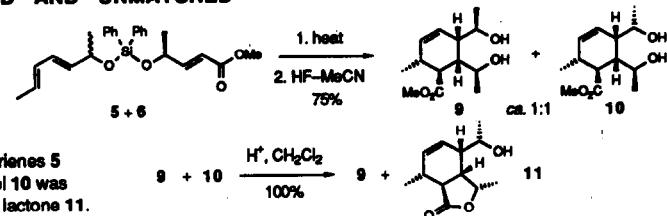


The ratio of **2** to **4** is dependent upon the solvent and the base used.

**INTRAMOLECULAR DIELS-ALDER REACTIONS OF SILYL ACETAL TRIENES. DIENOPHILE-CONTROLLED CYCLOADDITIONS OF 'MATCHED' AND 'UNMATCHED' DIMETHYLATED SUBSTRATES**

Donald Craig\* and John C. Reader  
Department of Chemistry, Imperial College of Science, Technology and Medicine, London SW7 2AY, U.K.

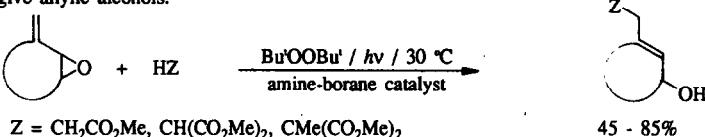
Thermal IMDA reaction of a 1:1 mixture of trienes 5 and 6 gave 9 and 10 upon deisilylation. Diol 10 was selectively converted via acid catalysis into lactone 11.



**RADICAL CHAIN ADDITION TO VINYL EPOXIDES CATALYSED BY AMINE-BORANES: SYNTHESIS OF ALLYLIC ALCOHOLS**

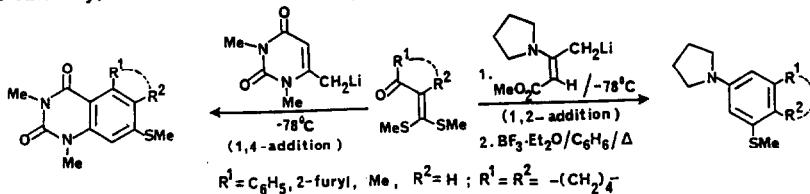
Hai-Shan Dang and Brian P. Roberts\*, Christopher Ingold Laboratories, Department of Chemistry, University College London, 20 Gordon Street, London WC1H 0AJ, U.K.

In the presence of an amine-borane polarity reversal catalyst, vinyl epoxides react by a radical chain mechanism at the  $\alpha$ -C-H group of an ester to give allylic alcohols.



**CYCLOAROMATIZATION OF  $\alpha$ -OXOKETENE DITHIOACETALS WITH ENAMINONE DERIVED CARBANIONS**

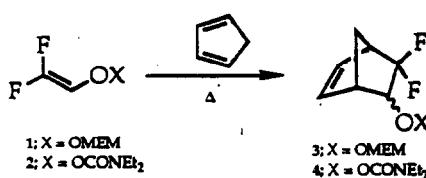
J. Satyanarayana, K.R. Reddy, H. Ila\* and H.Junjappa\*  
Dept. of Chemistry, North Eastern Hill University, Shillong, India



**DIELS-ALDER REACTIONS OF OXYGEN-SUBSTITUTED DIFLUOROALKENES**

Jonathan M. Percy\* and Michael H. Rock  
Department of Chemistry, Keele University, Keele, Staffordshire, ST5 5BG.

Difluoroalkenes 1 and 2 undergo thermal [4+2] cycloadditions with cyclopentadiene in good yield.

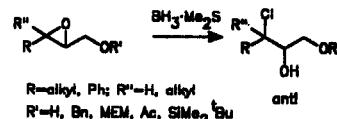


**Regio and diastereoselective oxygen assisted opening by monochloroborane-dimethylsulfide of epoxides to chlorohydrins *anti*.**

P. Bovicelli\*, E. Mincione\*, P. Lupattelli\*, M.T. Bersani\*

\*Centro C.N.R. di Studio per la Chimica delle Sostanze Organiche Naturali, Dipartimento di Chimica, Università "La Sapienza", P.le A. Moro, 5 - 00174 Roma, Italy. <sup>b</sup>D.A.B.A.C., Università della Tuscia, V. S.Camillo De Lellis, 01100 Viterbo, Italy.

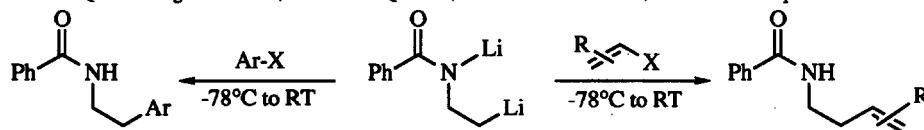
The opening reaction of epoxides by monochloroborane-dimethylsulfide proceeds by oxygen anchimeric assistance in a regio- and diastereoselective manner to give the corresponding *anti* chlorohydrins.



**DIRECT COUPLING BETWEEN  $\beta$ -FUNCTIONALIZED ORGANOLITHIUM COMPOUNDS AND ARYL AND VINYL HALIDES**

José Barluenga\*, Javier M. Montserrat, Josefa Flórez

Departamento de Química Organometálica, Facultad de Química, Universidad de Oviedo, 33071 Oviedo, Spain

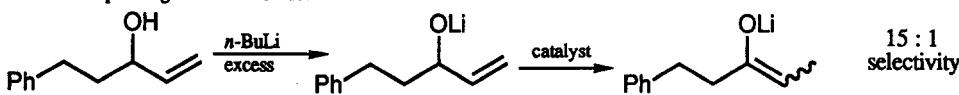


**OBSERVATIONS ON A NICKEL-CATALYZED ISOMERIZATION OF ALLYLIC LITHIUM ALKOXIDES.**

William B. Motherwell\* and David A. Sandham,

Department of Chemistry, Imperial College of Science, Technology and Medicine, South Kensington, London SW7 2AY, U.K.

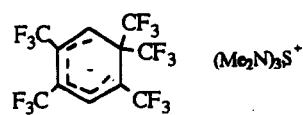
Use of the complex  $(\text{Cy}_3\text{P})_2\text{NiCl}_2$  as catalyst results in regioselective preparation of the first-formed enolate *via* isomerization of the corresponding lithium alkoxide.



**TRIS(DIMETHYLAMINO)SULFONIUM**

**1,1,2,4,5-PENTAKIS(TRIFLUOROMETHYL)-2,5-CYCLOHEXADIENIDE - A NEW STABLE FLUORINATED CARBANION SALT PREPARED BY ANIONIC TRIFLUOROMETHYLATION OF 1,2,4,5-TETRAKIS(TRIFLUOROMETHYL)BENZENE**

Alexander A. Kolomeitsev, Valerie N. Movchun, Yurii L. Yagupolskii\*  
Institute of Organic Chemistry, Academy of Sciences of Ukraine, 253660,  
Kiev-94, Ukraine.

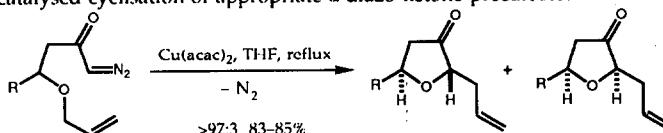


Jacek Porwiński and Wojciech Dwowski  
Institute of Organic Chemistry, Polish Academy of Sciences, 01-224,  
Warsaw 44, Poland.

**DIASTEROSELECTIVE SYNTHESIS OF 2,5-DIALKYL TETRAHYDROFURAN-3-ONES BY A COPPER-CATALYSED TANDEM CARBENOID INSERTION AND YLIDE REARRANGEMENT REACTION**

J. Stephen Clark, Department of Chemistry, University of Nottingham, Nottingham, NG7 2RD, U.K.

The diastereoselective synthesis of *trans*-2,5-dialkyl tetrahydrofuran-3-ones can be accomplished by the Cu(acac)<sub>2</sub>-catalysed cyclisation of appropriate  $\alpha$ -diazo ketone precursors.

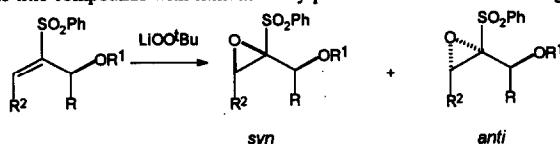


**STEREOCONTROL IN THE NUCLEOPHILIC EPOXIDATION OF  $\alpha$ -(1-HYDROXYALKYL)- $\alpha$ , $\beta$ -UNSATURATED SULFONES.**

Richard F.W. Jackson,\* Stephen P. Standen, William Clegg and Andrew McCamley

Department of Chemistry, Bedson Building, The University, Newcastle upon Tyne, NE1 7RU, UK

Epoxidation of the title compounds with lithium *t*-butylperoxide can be controlled to give good diastereoselectivity.

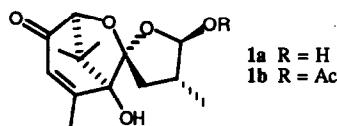


**ISOLATION AND STRUCTURAL CHARACTERISATION OF KAMAHINE C: AN UNUSUAL SPIROKETAL FOUND IN A NATIVE NEW ZEALAND HONEY.**

Susan J. Broom, Alistair L. Wilkins, Richard M. Ede\* and Yinrong Lu,

Department of Chemistry, The University of Waikato, Private Bag 3105, Hamilton, New Zealand.

The structure of the title compound (**1a**) was determined by an NMR and X-ray crystallographic study of its acetate (**1b**).



**STEREOSPECIFIC SYNTHESIS OF 9-DEMETHYLRETINOIDS VIA PALLADIUM-CATALYZED VINYLBORONIC ACID-**

**VINYL IODIDE CROSS COUPLING.** Angel R. de Lera,\* Alicia Torrado, Beatriz Iglesias and Susana López.

Departamento de Química Orgánica. Universidad de Santiago de Compostela. 15706 Santiago de Compostela. SPAIN.

9-Demethylretinoids with either *trans* or *cis* geometries are stereospecifically prepared by the thallium-accelerated palladium-catalyzed cross coupling reactions of vinylboronic acid **10** and either (E)- or (Z)-vinyl iodides.

