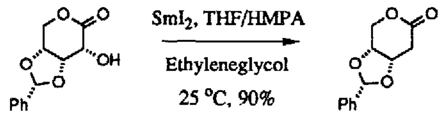
GRAPHICAL ABSTRACTS

Tetrahedron Lett. **1992**, *33*, 573

A PRACTICAL SYNTHESIS OF 2-DEOXY ALDONOLACTONES VIA A SMI$_2$-MEDIATED α-DEOXYGENATION REACTION

Stephen Hanessian*, Christian Girard and Jose Luis Chiara;
Department of Chemistry, Université de Montréal, C.P. 6128, Succ. A, Montréal, QC, H3C 3J7, Canada

A one-step deoxygenation of 2-hydroxylactones or their acetates is possible using samarium diiodide as an electron-transfer reagent in conjunction with a proton source

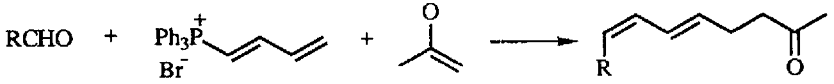


Tetrahedron Lett. **1992**, *33*, 577

STEREOSELECTIVE SYNTHESIS OF *E*,*Z*-1,3-DIENES VIA TANDEM NUCLEOPHILE ADDITION TO A DIENYLPHOSPHONIUM SALT FOLLOWED BY WITTIG REACTION

James D. White* and Mark S. Jensen
Department of Chemistry, Oregon State University, Corvallis, Oregon 97331-4003

E,*Z*-1,3-Dienes were synthesized in 43-77% yield with stereoselectivity varying from 2:1 to >20:1.

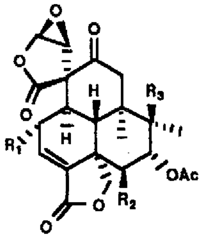


Tetrahedron Lett. **1992**, *33*, 581

SALVILANGUIDULINES, FOUR NEW DITERPENOIDS ISOLATED FROM *Salvia languidula* WITH AN UNUSUAL EPOXY SPIRO γ-LACTONE

Jorge Cárdenas, Thelma Pavón, Baldomero Esquivel, Alfredo Toscano and Lydia Rodríguez-Hahn*
Instituto de Química, Universidad Nacional Autónoma de México, Circuito Exterior, Ciudad Universitaria, Coyoacán, 04510 México, D. F., México.

The structures of four new diterpenoids with a rearranged clerodane skeleton were elucidated by spectroscopic methods and by X-ray crystallographic analysis of one of them.



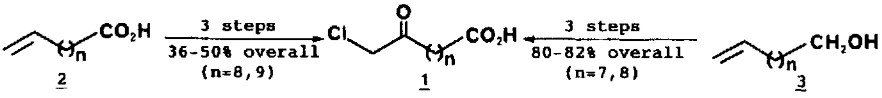
2a $R_1=R_2=R_3=H$
2b $R_2=R_3=H$ $R_1=OH$
2c $R_1=R_3=H$ $R_2=OH$
2d $R_1=R_2=H$ $R_3=OH$

Tetrahedron Lett. **1992**, *33*, 585

A CONVENIENT AND EFFICIENT THREE-STEP SYNTHESIS OF α-CHLORO KETO ACIDS

Ki-Byung Chai and Paul Sampson*,
Department of Chemistry, Kent State University, Kent, Ohio 44242, U.S.A.

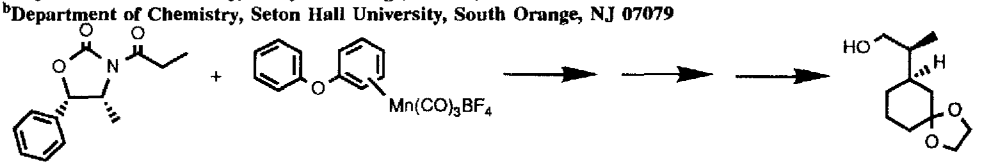
Efficient three-step (epoxidation/regioselective chloride-mediated epoxide ring opening/Jones oxidation) routes to α-chloro keto acids 1 are described.



A FORMAL SYNTHESIS OF (+)-JUVABIONE

Tetrahedron Lett. **1992**, *33*, 589

William H. Miles*[a] and Herbert R. Brinkman[b]
[a]Department of Chemistry, Lafayette College, Easton, PA 18042
[b]Department of Chemistry, Seton Hall University, South Orange, NJ 07079

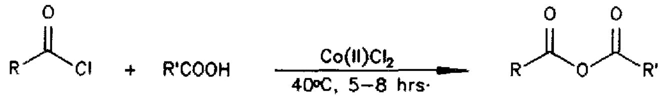


COBALT(II) CHLORIDE CATALYZED SYNTHESES OF ACID ANHYDRIDES FROM ACID CHLORIDES

Tetrahedron Lett. **1992**, *33*, 593

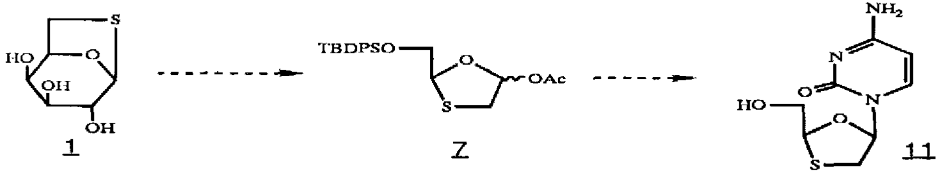
R. R. Srivastava and G. W. Kabalka*,
Departments of Chemistry and Radiology, University of Tennessee, Knoxville, TN. 37996-1600

Acid anhydrides were synthesized from acid chlorides and carboxylic acids using cobalt(II) chloride as a catalyst.



Tetrahedron Lett. **1992**, *33*, 595

AN EFFICIENT SYNTHESIS OF ENANTIOMERICALLY PURE (+)-(2S,5R)-1-[2-(HYDROXYMETHYL)-1,3-OXATHIOLAN-5-YL]CYTOSINE [(+)-BCH-189] FROM D-GALACTOSE. Lak S. Jeong, Antonio J. Alves, Sean W. Carrigan, Hea O. Kim, J. Warren Beach and Chung K. Chu*. Department of Medicinal Chemistry, College of Pharmacy, The University of Georgia, Athens, GA 30602. An efficient and short synthesis of enantiomerically pure (+)-BCH-189 has been accomplished from D-galactose via 1,6-thioanhydro-D-galactose.

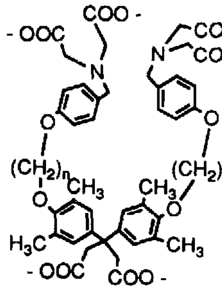


Tetrahedron Lett. **1992**, *33*, 599

A New Water Soluble Cyclophane Host That Is Organized by Calcium Binding

Kathryn L. Cole, M. Angeles Farran, and Kurt Deshayes*
Department of Chemistry and Center for Photochemical Sciences
Bowling Green State University
Bowling Green, OH 43403

Two new water soluble cyclophanes **1a** and **1b** were synthesized. The allosteric regulation of the host-guest interactions was studied by fluorescence spectroscopy.



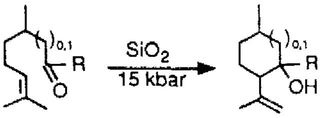
1a n=3
1b n=4

Tetrahedron Lett. **1992**, *33*, 603

THE ACID CATALYZED CYCLIZATIONS OF UNSATURATED CARBONYL COMPOUNDS UTILIZING SILICA GEL AT HIGH PRESSURE

William G. Dauben* and Robert T. Hendricks
Department of Chemistry, University of California, Berkeley, CA 94720

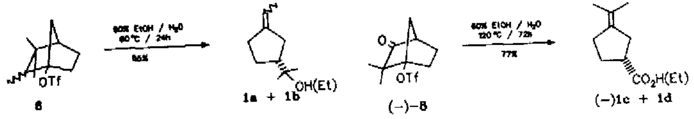
The ene-like cyclizations of a series of unsaturated carbonyl compounds have been studied using silica gel at high pressure (15 kbar) as a new catalytic system. This new method is general for the formation of 5- and 6-membered ring carbocycles. The mildness of this method was demonstrated by the successful cyclization of a vinyl cyclopropyl aldehyde.



Tetrahedron Lett. **1992**, *33*, 607

ENANTIOSPECIFIC SYNTHESIS OF 3-SUBSTITUTED ALKYLIDINECYCLOPENTANES

A. García Martínez,*[a], E. Teso Vilar,[b] J. Osío Barcina,[a] J. Manrique Alonso,[a] E. Rodríguez Herrero,[a]
M. Hanack*[c] and L.R. Subramanian[c]
*[a]Departamento de Química Organíca, Facultad de Ciencias Químicas, Universidad Complutense, E-28040 Madrid, Spain; *[b]Departamento de Química Organíca, Facultad de Ciencias, UNED, Ciudad, E-28040 Madrid, Spain; *[c]Institut für Organische Chemie, Universität Tübingen, Auf der Morgenstelle 18, D-7400 Tübingen, Germany



Tetrahedron Lett. **1992**, *33*, 609

ALKYLATION OF AZAGLYCINE AMIDE CONTAINING PEPTIDES.

Patrice Talaga#, Wolfgang König*
Hoechst AG, D-6230 Frankfurt am Main 80 (Germany)
#Present Address: UCB S.A., Chemin du Foriest, B-1420 Braine l'Alleud (Belgium)

$$\text{X-NH-}\textit{Phe}\text{-CO-NH-NH-CO-NH}_2 \xrightarrow[\text{2) Deprotection}]{\text{1)PPh}_3\text{, DEAD; ROH, THF}} \text{HCl.}_2\text{HN-}\textit{Phe}\text{-CO-N(}\mathbf{R}\text{)-NH-CO-NH}_2$$

X= Boc, Fmoc or Z.

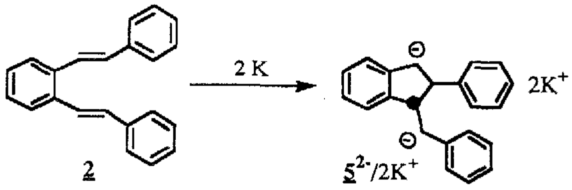
Tetrahedron Lett. **1992**, *33*, 611

ELECTRON-TRANSFER INDUCED VALENCE ISOMERIZATION OF 1,2-DISTYRYLBENZENE

Arno Böhm and Klaus Müllen*

Max-Planck-Institut für Polymerforschung,
Ackermannweg 10, D - 6500 Mainz, FRG

The electron-transfer induced rearrangement of 1,2-distyrylbenzene **2** leads to the indane frame.

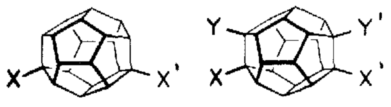


Tetrahedron Lett. **1992**, *33*, 615

THE PAGODANE ROUTE TO DODECAHEDRANES - FUNCTIONAL GROUP MANIPULATIONS ON THE DODECAHEDRANE SPHERE

Klaus Scheumann, Fabian Wahl, and Horst Prinzbach*
Chemisches Laboratorium der Universität Freiburg i. Br.,

Reductive and halo decarboxylations of thiohydroxamic esters allow expeditious functional group manipulations on the dodecahedrane sphere.

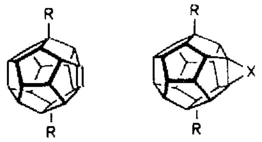


Tetrahedron Lett. **1992**, *33*, 619

THE PAGODANE ROUTE TO DODECAHEDRANES - UNSATURATED DODECAHEDRANES, PROTECTION AND DEPROTECTION

Klaus Weber, Hans Fritz, and Horst Prinzbach*
Chemisches Laboratorium der Universität Freiburg i. Br.,

Highly pyramidalized (ϕ = 46.5°) dodecahedrenes are isolable. Various ways for their protection/deprotection are explored.

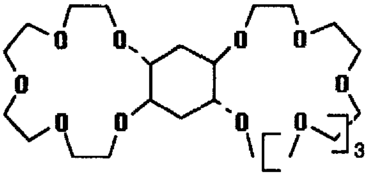


Tetrahedron Lett. **1992**, *33*, 623

INFLUENCE OF NEGATIVE ALLOSTERIC COOPERATIVITY IN CATION TRANSPORT

A.M. Costero* and S. Rodriguez
Dpt.de Química Orgánica, Facultad de Farmacia, Universidad de Valencia, Spain

We have prepared a system, **5**, which seems to show negative allosteric cooperativity. In this kind of system the single subunit crown ether complex formation forces the two oxygens to remain in the diequoatorial conformation. This conformation is transmited through the cyclohexane to the second ether subunit

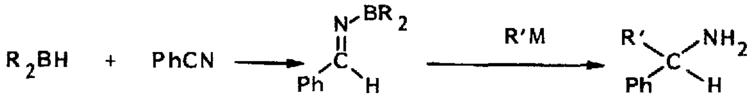


5

Tetrahedron Lett. **1992**, *33*, 627

SYNTHESIS OF SECONDARY CARBINAMINE VIA N-BORYL IMINES GENERATED FROM NITRILES AND ALKYL BORANES

S. Itsuno, C. Hachisuka, K. Kitano, and K. Ito
Department of Materials Science, Toyohashi University of Technology, Tempaku-cho
Toyohashi 441 Japan

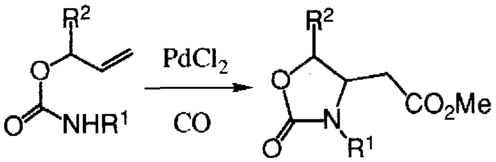


$$R_2BH + PhCN \longrightarrow \underset{Ph\quad H}{\overset{N-BR_2}{C}} \xrightarrow{R'M} \underset{Ph\quad H}{\overset{R'\quad NH_2}{C}}$$

Tetrahedron Lett. **1992**, *33*, 631

Palladium(II)-catalyzed Oxidative Aminocarbonylation of Unsaturated Carbamates

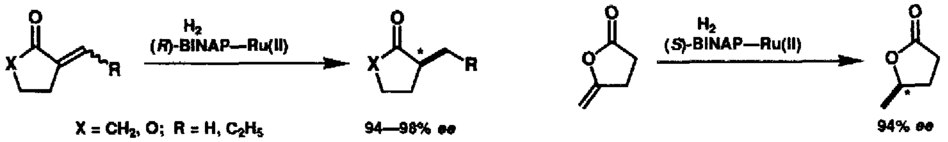
Yoshinao Tamaru, Hiraki Tanigawa, Souko Itoh, Masanari Kimura, Shuji Tanaka, and Keigo Fugami
Department of Applied Chemistry, Faculty of Engineering, Nagasaki University, Bunkyo, Nagasaki 852, Japan
Takaaki Sekiyama and Zen-ichi Yoshida
Department of Synthetic Chemistry, Faculty of Engineering, Kyoto University, Sakyo, Kyoto 606, Japan



Tetrahedron Lett. **1992**, *33*, 635

ASYMMETRIC HYDROGENATION OF UNSATURATED CARBONYL COMPOUNDS CATALYZED BY BINAP—Ru(II) COMPLEXES. ENANTIOSELECTIVE SYNTHESIS OF γ-BUTYROLACTONES AND CYCLOPENTANONES

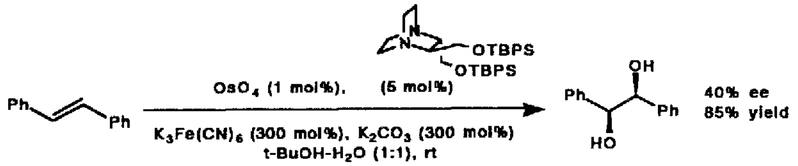
Tetsuo Ohta, Tsutomu Miyake, Nobuo Seido,[†] Hidenori Kumobayashi,[†] Susumu Akutagawa,[†] and Hidemasa Takaya
Department of Industrial Chemistry, Faculty of Engineering, Kyoto University, Sakyo-ku, Kyoto 606-01, Japan
[†] Takasago Research Institute, Inc., Kamata, Ohta-ku, Tokyo 144, Japan



Tetrahedron Lett. **1992**, *33*, 639

Synthesis of Chiral 2,3-Disubstituted 1,4-Diazabicyclo[2.2.2]octane. New Ligand for the Osmium-Catalyzed Asymmetric Dihydroxylation of Olefins

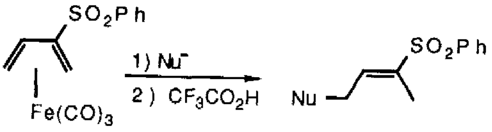
Tohru Oishi and Masahiro Hirama*
Department of Chemistry, Faculty of Science, Tohoku University, Sendai 980, Japan.



Tetrahedron Lett. **1992**, *33*, 643

Novel Nucleophilic Additions to [η^4-2-(phenylsulfonyl)-1,3-butadiene]tricarbonyliron(0) Complex

Shang-Shing P. Chou, Chien-Hung Hsu,
Department of Chemistry, Fu Jen Catholic University, TAipei, Taiwan 242,
Ming-Chang P. Yeh, Department of Chemistry Taipei, Taiwan 117, Republic of China



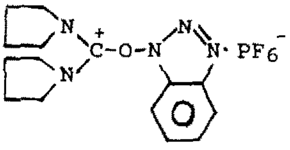
1 **2**

Tetrahedron Lett. **1992**, *33*, 647

A NEW COUPLING REAGENT FOR PEPTIDE SYNTHESIS. BENZOTRIAZOLYLOXY-BIS(PYRROLIDINO)-CARBONIUM HEXAFLUOROPHOSPHATE (BBC)

Shaoqing Chen and Jiecheng Xu
Shanghai Institute of Organic Chemistry, Academia Sinica, 345 Lingling Road, Shanghai 200032, China

Benzotriazolyloxy-bis(pyrrolidino)-carbonium hexafluorophosphate (BBC) prepared and found to be a new efficient coupling reagent in both the solution and the solid phase peptide synthesis.



3 (BBC)

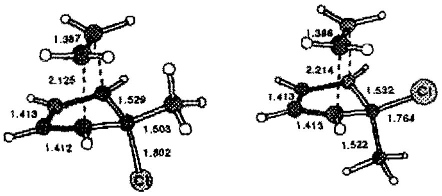
Tetrahedron Lett. **1992**, *33*, 651

THE "CIEPLAK EFFECT": HYPERCONJUGATIVE INTERACTIONS IN DIELS ALDER REACTIONS

James M. Coxon and D. Quentin McDonald
Department of Chemistry, University of Canterbury, Christchurch, NZ.

AM1 calculations for the reaction of **1a-e** with ethylene show a lengthening of the C-X or C-Me bond for anti addition consistent with hyperconjugative stabilization from the σ-bond of the *anti* substituent to the forming σ*-orbital being important in determining facial selection.

1 a X = Me
b X = Cl
c X = OH
d X = OMe
e X = SMe

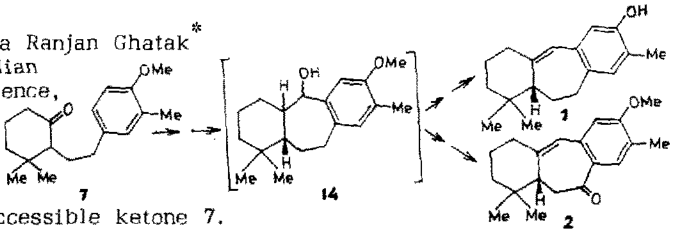


Tetrahedron Lett. **1992**, *33*, 655

FIRST TOTAL SYNTHESIS OF THE NOVEL CYTOTOXIC BENZOCYCLOHEPTENES (±)-DEOXOFAVELINE AND (±)-FAVELINE METHYL ETHER

Ajit K. Ghosh, Chhanda Ray and Usha Ranjan Ghatak*
Department of Organic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Calcutta-700032, India.

First and efficient total syntheses of (±)-deoxofaveline (**1**) and (±)-faveline methyl ether (**2**) are described starting from the easily accessible ketone **7**.



Tetrahedron Lett. **1992**, *33*, 659

N-ARYLATION OF AZOLES AND THEIR BENZO DERIVATIVES BY *p*-TOLYLLEAD TRIACETATE.

Pilar López-Alvarado, Carmen Avendaño and J. Carlos Menéndez. Departamento de Química Orgánica y Farmacéutica. Facultad de Farmacia, Universidad Complutense, 28040 Madrid, Spain.

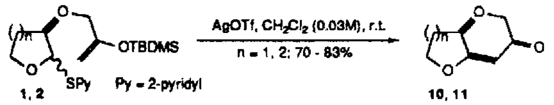
Azoles and their benzo derivatives are efficiently arylated by *p*-tolyllead triacetate in the presence of copper II.

X, Y = CH, N, C-C_6H_5

Tetrahedron Lett. **1992**, *33*, 663

STEREOSELECTIVE TEMPLATE-DIRECTED *C*-GLYCOSIDATION. SILVER(I)-MEDIATED INTRAMOLECULAR REACTIONS OF (2-PYRIDYLTHIO)GLYCOSIDIC SILYL ENOL ETHERS.

Donald Craig* and V. Ranjit N. Munasinghe
Department of Chemistry, Imperial College of Science, Technology and Medicine, London SW7 2AY, U.K.



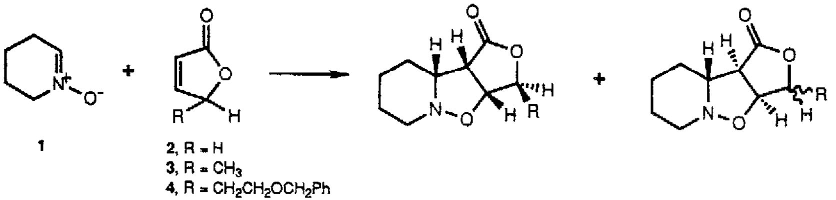
(2-Pyridylthio)glycosidic silyl enol ethers **1** (n = 1) and **2** (n = 2) undergo highly stereoselective silver-induced cation-mediated cyclization reactions upon treatment with AgOTf to give bicyclic *C*-glycosides **10** (n = 1) and **11** (n = 2).

Tetrahedron Lett. **1992**, *33*, 667

STEREOCHEMICAL STUDIES ON THE 1,3-DIPOLAR CYCLOADDITION OF 3,4,5,6-TETRAHYDROPYRIDINE 1-OXIDE TO 2(5*H*)-FURANONES

Pau Cid, Pedro de March,* Marta Figueredo,* Josep Font, Sergio Milán
Unitat de Química Orgànica. Universitat Autònoma de Barcelona. 08193 Bellaterra (Barcelona). Spain.

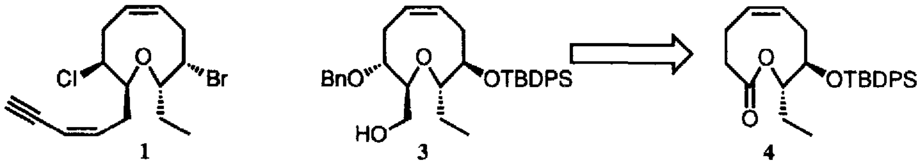
The 1,3-dipolar cycloaddition of 3,4,5,6-tetrahydropyridine 1-oxide, 1, to 2(5*H*)-furanones 2, 3, and 4 is investigated.



Tetrahedron Lett. **1992**, *33*, 671

STUDIES TOWARDS THE SYNTHESIS OF OBTUSENYNE. SYNTHESIS OF THE HEXAHYDROOXONIN NUCLEUS.

Neil R. Curtis, Andrew B. Holmes,* and Mark. G. Looney
University Chemical Laboratory, Lensfield Road, CAMBRIDGE CB2 1EW, U.K.

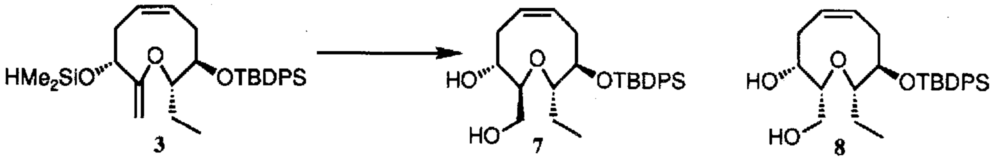


Stereoselective enolate hydroxylation of **4** and a hydroxyl-directed intramolecular hydrosilation afforded the 2,3,4,7,8,9-hexahydrooxonin 3, which is an advanced precursor for the *Laurencia*-derived natural product obtusenyne 1.

Tetrahedron Lett. **1992**, *33*, 675

AN INTRAMOLECULAR HYDROSILATION APPROACH TO HEXAHYDROOXONINS RELATED TO OBTUSENYNE. EFFECT OF CATALYST AND CONDITIONS ON STEREOSELECTIVITY

Neil R. Curtis and Andrew B. Holmes*
University Chemical Laboratory, Lensfield Road, CAMBRIDGE CB2 1EW, U.K.

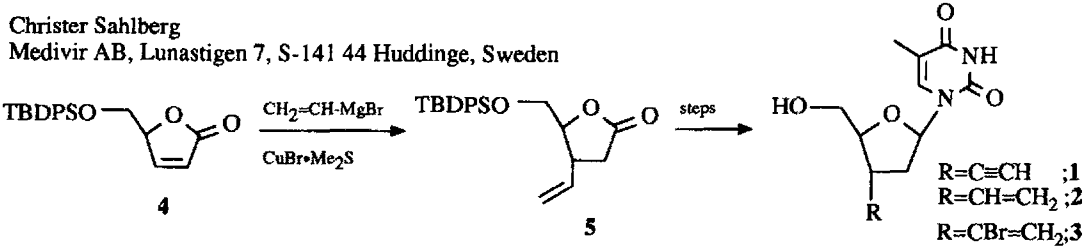


The stereoselective intramolecular hydrosilation of enol ether 3, to afford either hexahydrooxonin diol 7 or 8, was found to be dependent upon catalyst and conditions employed.

Tetrahedron Lett. **1992**, *33*, 679

SYNTHESIS OF 3'-ETHYNYLTHYMIDINE, 3'-VINYLTHYMIDINE AND 3'-BROMOVINYLTHYMIDINE AS POTENTIAL ANTIVIRAL AGENTS

Christer Sahlberg
Medivir AB, Lunastigen 7, S-141 44 Huddinge, Sweden



Tetrahedron Lett. **1992**, *33*, 683

CHEMISTRY OF THE WITTIG REACTION, IV. SIMPLE CONVERSION OF ALDEHYDES TO 1,1-DICHLOROALKANE AND 1,1-DICHLORO-1-ALKENE DERIVATIVES, USEFUL INTERMEDIATES FOR THE SYNTHESIS OF ACETYLENIC COMPOUNDS

P.Vinczer[a],*, *Sz.Sztruhar*[a], *L.Novak*[b] *and Cs.Szantay*[a],[b],*

[a]Cent.Res.Inst.Chem.;P.O.Box 17., 1525 Budapest,HUNGARY
[b]Inst.for Org.Chem.,Technical Univ.;P.O.Box 91., 1521 Budapest,HUNGARY

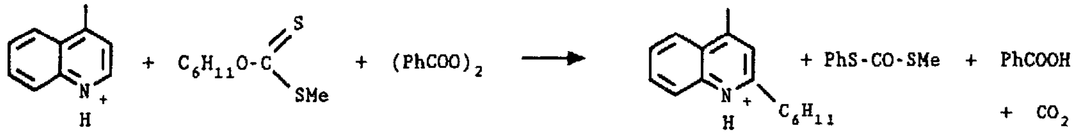
$$R\text{-}CH{=}CCl_2 \xleftarrow[\text{THF, 24 h, RT}]{PPh_3/CCl_4/Mg} R\text{-}CHO \xrightarrow[\text{THF, 24 h, RT}]{PPh_3/CCl_4} R\text{-}CHCl_2$$

Tetrahedron Lett. **1992**, *33*, 687

A NOVEL RADICAL REACTION OF ALKYL XANTATES, USEFUL FOR THE SELECTIVE SUBSTITUTION OF HETEROAROMATIC BASES .

Fausta Coppa, Francesca Fontana, Francesco Minisci, Giuseppe Pianese, Paola Tortoreto, Lihua Zhao
Dipartimento di Chimica del Politecnico - piazza Leonardo da Vinci, 32 - 20133 Milano , Italy.

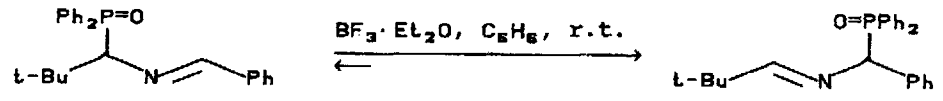
Cyclohexyl radical from cyclohexyldithiocarbonate and benzoyl peroxide is utilized for heteroaromatic substitution.



Tetrahedron Lett. **1992**, *33*, 691

BORON TRIFLUORIDE ETHERATE - AN EFFECTIVE CATALYST OF 1,3-PHOSPHOROTROPIC MIGRATION IN C=N-C TRIAD

P.P.Onys'ko, T.V.Kim, E.I.Kiseleva, A.D.Sinitsa; Institute of Organic Chemistry, Academy of Sciences of Ukraine, Kiev 253660



Tetrahedron Lett. **1992**, *33*, 695

STEREOSELECTIVE SYNTHESIS OF 3-(PHENYLSULPHONYL)-2,5-DISUBSTITUTED TETRAHYDROFURANS *VIA* 5-*ENDO*-TRIG RING-CLOSURE REACTIONS

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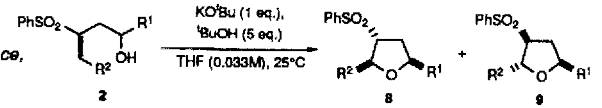

Sulphonyl-substituted homoallylic alcohols **2** undergo stereoselective 5-*endo*-trig cyclization reactions upon treatment with base to give substituted tetrahydrofurans **8** and **9**.

Tetrahedron Lett. **1992**, *33*, 699

STERIC CONTROL OF CHEMOSELECTIVITY IN THE REACTION OF YNAMINE ESTERS WITH HETERODIENES.

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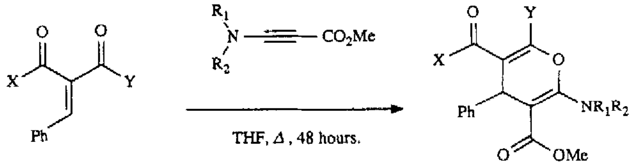

The reaction of ynamine esters with unsaturated dicarbonyl compounds provides a regio- and chemoselective approach to multiply functionalised pyrans.