GRAPHICAL ABSTRACTS

Tetrahedron, **1994**, *50*, 19

The Functionalization of Saturated Hydrocarbons. Part 24.
The Use of *tert*-Butyl Hydroperoxide: GoAgg^{IV} and GoAgg^{V}

Barton, D. H. R.* and Chavasiri, W.*
Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, USA.

$$R_2CH_2 \xrightarrow[\substack{\text{Fe(III) - TBHP} \\ \text{Pyridine - Acetic Acid}}]{\text{"GoAgg}^{IV}\text{ or GoAgg}^{V}\text{"}} R_2C{=}O \text{ and } R_2CH\text{-}OH \quad \text{one/ol} > 9.5$$

Utilizing *tert*-butyl hydroperoxide (TBHP) as a primary oxidant catalyzed by Fe (III) species in Gif-type reactions leads to the development of new members of the Gif family. Several characteristics and a common reaction pathway of these systems were found to be similar to other reported Gif-type reactions.

Tetrahedron, **1994**, *50*, 31

The Functionalization of Saturated Hydrocarbons. Part 25.
Ionic Substitution Reactions in GoAgg^{IV} Chemistry:
The Formation of Carbon-Halogen Bonds

Barton, D. H. R.* , Bévière, S. D. , Chavasiri, W.
Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, USA.

$$R_2CH_2 \xrightarrow[\text{LiX or Polyhaloalkane}]{\text{"GoAgg}^{IV}\text{ or GoAgg}^{V}\text{"}} R_2CHX \quad X = Cl, Br$$

Employing GoAgg^{IV} chemistry in the presence of alkali metal salts (LiCl) or polyhaloalkanes can efficiently transform saturated hydrocarbons into the corresponding alkyl halides.

Tetrahedron, **1994**, *50*, 47

The Functionalization of Saturated Hydrocarbons. Part 26.
Ionic Substitution Reactions in GoAgg^{IV} Chemistry:
The Construction of C-N, C-S and C-C Bonds.

Barton, D. H. R.*; Chavasiri, W.*
Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, USA.

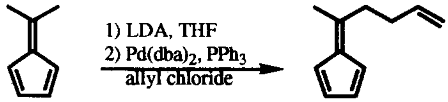
$$R_2CH_2 \xrightarrow{\text{"GoAgg}^{IV}\text{ + MX"}} R_2CHX \quad X = N_3, NO_2, SCN, CN$$

GoAgg^{IV} chemistry in the presence of alkali metal salts (NaN_3, $NaNO_2$, NaSCN, $Na_2S{\cdot}9H_2O$ or NaCN) can directly transform saturated hydrocarbons into the corresponding monosubstituted alkyl derivatives.

Tetrahedron, **1994**, *50*, 61

Regioselective Palladium-Catalyzed Allylation of Fulvenes. Björn C. Söderberg, Lucinda R. Austin, and Carol A. Davis, Department of Chemistry, University of South Alabama, Mobile, AL 36688 and Jan-Erik Nyström and Jan O. Vågberg, Department of Organic Chemistry, Royal Institute of Technology,
S-100 44 Stockholm, Sweden.

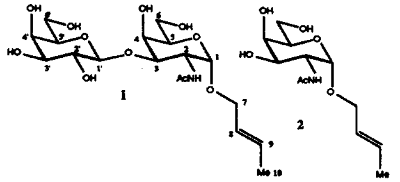
Abstract: A selective exocyclic palladium(0)-catalysed allylation of 5-alkylidene substituted fulvenes is described.



CONFORMATIONAL ANALYSIS OF THE CARBOHYDRATE PORTION OF T AND T_N HAPTENS BY NMR SPECTROSCOPY AND MOLECULAR MODELING

Tetrahedron, **1994**, *50*, 77

Stephen Hanessian[a], Hiroshi Hori[a], Yongxue Tu[a,b,c] and Yvan Boulanger[b,c]
a. Department of Chemistry and b. Research Group on Membrane Transport, Université de Montréal, P.O. Box 6128, Station A, Montréal, P.Q. CANADA, H3C 3J7 c. INRS-Santé, Université du Québec, 245 Hymus Blvd., Pointe-Claire, Québec H9R 1G6 (Canada)



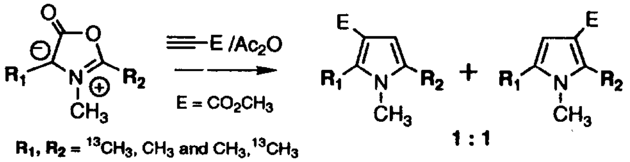
The conformations of the crotyl derivatives of the T (β-D-Gal(1→3)-Crotylα-D-GalNAc) and T_N (Crotylα-D-GalNAc) haptens as well as of Meβ-D-Gal were investigated in D_2O, DMSO-d_6 and 85% H_2O: 15% acetone-d_6 using ^1H and ^{13}C NMR spectroscopy and molecular modeling.

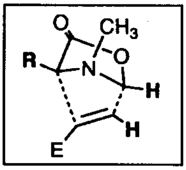
INTERMOLECULAR 1,3-DIPOLAR CYCLOADDITION REACTIONS OF MÜNCHNONES WITH ACETYLENIC DIPOLAROPHILES: SORTING OUT THE REGIOSELECTIVITY

Tetrahedron, **1994**, *50*, 93

Brian P. Coppola, Mark C. Noe, David J. Schwartz, Robert L. II Abdon, and Barry M. Trost
Departments of Chemistry, The University of Michigan, Stanford University, The University of Wisconsin-Madison

The mesoionic münchnone heterocycle is demonstrated to be electronically symmetrical. The degree of transition state symmetry, mediated by non-covalent interactions between substituents, rationalizes the regioselectivity with acetylenic dipolarophiles.

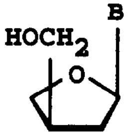


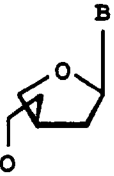


SYNTHETIC APPROACHES TO NOVEL CIS AND TRANS DIDEOXYNUCLEOSIDES OF THE APIOSE FAMILY

Tetrahedron, **1994**, *50*, 117

Todd B. Sells and Vasu Nair*, Department of Chemistry, The University of Iowa, Iowa City, Iowa 52242, U.S.A.



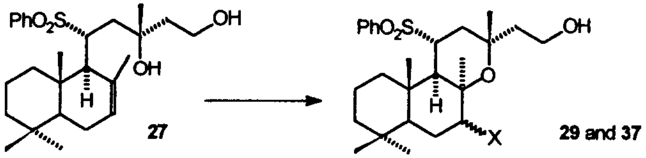


Stereoselective and stereospecific syntheses of optically active isodideoxynucleosides with a furanmethanol and furanethanol carbohydrate moiety have been developed.

STUDIES ON FORSKOLIN RING C FORMING REACTIONS

Tetrahedron, **1994**, *50*, 139

G. JORDINE, S. BICK, U. MÖLLER, P. WELZEL*
Fakultät für Chemie der Ruhr-Universität, D-44780 Bochum (Germany)
B. DAUCHER, and G. MAAS
Fachbereich Chemie der Universität Kaiserslautern, D-67663 Kaiserslautern (Germany)

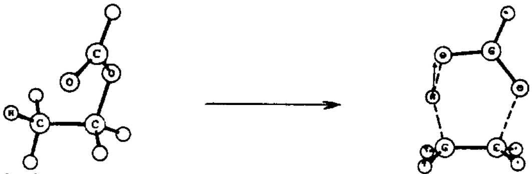


Labdane derivative 27 has been prepared from (E,E)-farnesol (4). Selenium- and mercury-mediated cyclization of 24 leads to compounds with the opposite configuration at C-8 as found in forskolin.

THEORETICAL STUDY OF PYROLYSIS OF ESTERS.
II-Substituent effects upon the mechanisms of elimination and internal return .

Tetrahedron, **1994**, *50*, 161

L.Hamon,[1], J. Levisalles,[1] and Y.L.Pascal [2]
[1])Laboratoire de Chimie Organique,Université P.M. Curie, 4 place Jussieu,75232 Paris Cedex 05.
[2])Laboratoire de Chimie Organique Structurale,Université Blaise Pascal,63177 Aubière,Cedex,France.



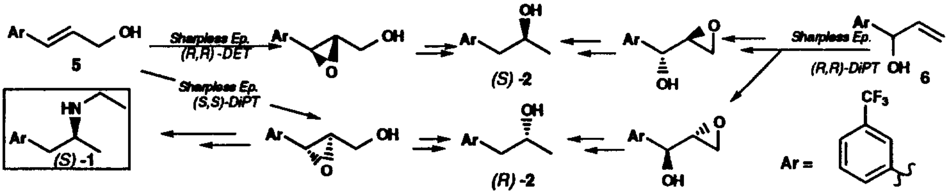
The influence of substituents on the synchronism of the concerted six centers elimination mechanism has been calculated by AM1. The spectrum of the transition states is very wide, from internal E1cB to E1.

Asymmetric Syntheses of *(S)*-Fenfluramine using Sharpless Epoxidation Methods

Tetrahedron, **1994**, *50*, 171

Bertrand GOUMENT[a], Lucette DUHAMEL[a] and Robert MAUGE[b]
a - URA CNRS N°464, Faculté des Sciences et Techniques de ROUEN et IRCOF, B.P. 118, F-76134 MONT SAINT AIGNAN Cédex.
b - Société ORIL, 13, rue Auguste Desgenétais, 76210 BOLBEC, FRANCE

Fenfluramine *(S)*-1 and its percursors *(S)*-2 and *(R)*-2 were obtained from alcohols 5 and 6

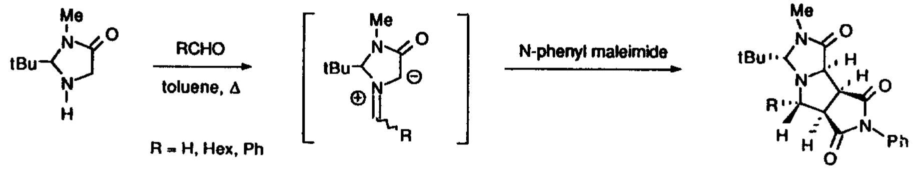


1,3-CYCLOADDITION OF CHIRAL AZOMETHINE YLIDES GENERATED FROM 2-(TERT-BUTYL)-3-METHYLIMIDAZOLIDIN-4-ONE

Tetrahedron, **1994**, *50*, 189

J.F. Peyronel[1], S. Grisoni[1], B. Carboni[2], T. Courgeon[2]and R. Carrié[2]

[1] Rhône Poulenc Rorer , Centre de Recherches de Vitry Alforville, 13 Quai Jules Guesdes, BP 14, F-94403 Vitry sur Seine, France.
[2] GRPS, U.R.A. C.N.R.S. n° 704, Université de Rennes I, Avenue du Général Leclerc, F-35042 Rennes Cédex, France.

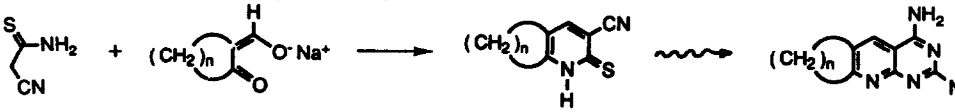


A CONVENIENT SYNTHESIS OF 5-DEAZA NONCLASSICAL ANTIFOLATES: REACTION OF CYANOTHIOACETAMIDE WITH SODIUM SALTS OF 2-(HYDROXYMETHYLENE)-1-CYCLOALKANONES

Tetrahedron, **1994**, *50*, 199

Galal H. Elgemeie* and Badria A. Hussain
Chemistry Department, Faculty of Science, Qatar University, Doha, State of Qatar

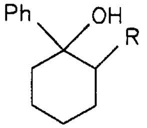
A facile synthesis of 5-deaza analogues of aminopeterin.



THE ABSOLUTE STEREOCHEMISTRY AT C1 AND C2 OF *CIS*-(+)-2-HYDROXY-2-PHENYLCYCLOHEXANECARBOXYLIC ACID (CICLOXILIC ACID)

Tetrahedron, **1994**, *50*, 205

Dario Pini, Antonella Petri, Carlo Rosini and Piero Salvadori*
Centro Studi C.N.R. Macromolecole Stereordinate ed Otticamente Attive, Università di Pisa, Via Risorgimento 35, 56126 Pisa, Italy.
Raffaello Giorgi, Cristina Di Bugno, Luigi Turbanti
Laboratori Guidotti S.p.A., Via Livornese 402, 56122 Pisa, Italy.
Fabio Marchetti
Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Risorgimento 35, 56126 Pisa, Italy.



1 R=COOH
2 R=NHCO(C_6H_4-pCl)

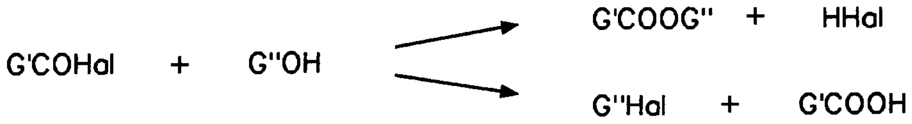
The C1 and C2 absolute configuration of *cis*-(+)-1, a choleretic agent, was established by a study of the C.D. spectrum of its derivative 2.

THE REACTION BETWEEN ACYL HALIDES AND ALCOHOLS: ALKYL HALIDE VS. ESTER FORMATION

Tetrahedron, **1994**, *50*, 217

P. Strazzolini,* A. G. Giumanini and G. Verardo; Department of Chemical Sciences and Technologies, University of Udine, Udine 33100-I, Italy

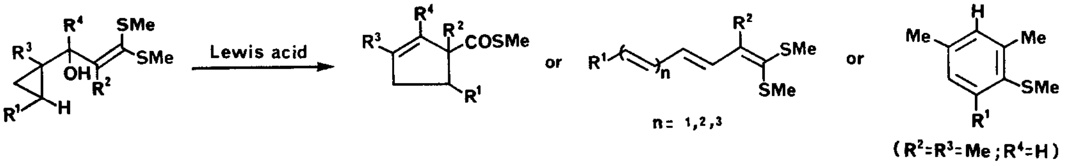
The factors leading either to alkyl halides or esters from the reaction between alcohols and acyl halides were determined.



REARRANGEMENT STUDIES ON 3,3-BIS(METHYLTHIO)-1-(ARYLCYCLOPROPYL)-2-PROPEN-1-OLS : SYNTHESIS OF FUNCTIONALIZED CYCLOPENTENES AND POLYENE ESTERS

Tetrahedron, **1994**, *50*, 255

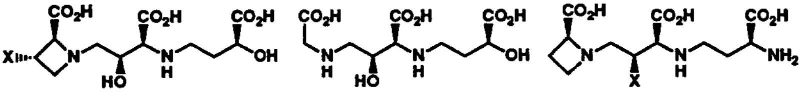
Balaram Patro, Biswajit Deb, Hiriyakkanavar Ila*, Hiriyakkanavar Junjappa*
Department of Chemistry, North-Eastern Hill University, Shillong - 793 003, Meghalaya, India.



TOTAL SYNTHESIS OF PHYTOSIDEROPHORES, 3-EPI-HYDROXYMUGINEIC ACID, DISTICHONIC ACID A, AND 2'-HYDROXYNICOTIANAMINE

Tetrahedron, **1994**, *50*, 265

Fumiyoshi Matsuura, Yasumasa Hamada,* and Takayuki Shioiri*
Faculty of Pharmaceutical Sciences, Nagoya City University, Tanabe-dori, Mizuho-ku, Nagoya 467, JAPAN



mugineic acid (1) : X = H
3-epi-hydroxymugineic acid (2) : X = OH
distichonic acid A (3)
nicotianamine (4) : X = H
2'-hydroxynicotianamine (5) : X = OH

First total syntheses of the unique phytosiderophores, 3-epi-hydroxymugineic acid (2), distichonic acid A (3), and 2'-hydroxynicotianamine (5), have been achieved by the analogous strategy as that for mugineic acid (1), utilizing the phenyl group as the carboxyl synthon.

STANNYLATION IN THE ELECTROPHILIC 2-AND 4/6-PYRIMIDINE POSITION AND THE USE OF STANNYLPYRIMIDINES IN COUPLING AND TIN-LITHIUM EXCHANGE REACTIONS.

Tetrahedron, **1994**, *50*, 275

Jessie Sandosham and Kjell Undheim, Dept. of Chemistry, University of Oslo, N-0315 Oslo 3, Norway.

Lithiation, stannylation , metal exchange and coupling reactions in the 2- and 4/6-pyrimidine positions.