

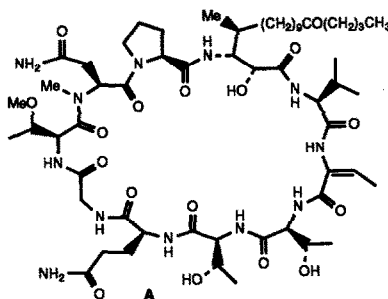
GRAPHICAL ABSTRACTS

STRUCTURES OF PUWAINAPHYCINS A-E

John M. Gregson, Jian-Lu Chen, Gregory M. L. Patterson, and Richard E. Moore,* Department of Chemistry, University of Hawaii at Manoa, Honolulu, Hawaii 96822

Puwainaphycins A-E are cardioactive cyclic peptides associated with the terrestrial blue-green alga *Anabaena* sp. BQ-16-1. The total structures have been determined by a combination of spectral and chemical methods.

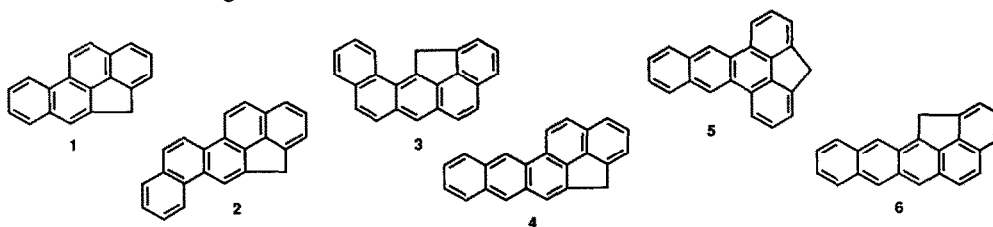
Tetrahedron, 1992, 48, 3727



SYNTHESIS OF METHYLENE-BRIDGED POLYARENES

C. Yang and R. G. Harvey*, Ben May Institute, University of Chicago, Chicago, Illinois 60637
Convenient syntheses of the methylene-bridged polycyclic aromatic hydrocarbons **1-6** are described. Mutation assays indicate that the sulfate esters of the bridge alcohols are active metabolites.

Tetrahedron, 1992, 48, 3735

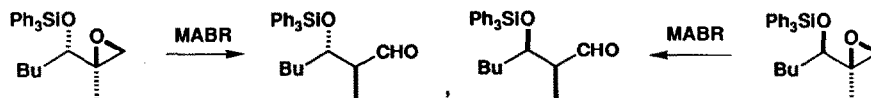


Practical Asymmetric Synthesis of Both *erythro* and *threo* Aldols Based on the MABR-Promoted Selective Rearrangement of *threo* and *erythro* Epoxy Silyl Ethers: Unusual Effect of Silyl Substituents

Keiji Maruoka, Junko Sato, and Hisashi Yamamoto*

Department of Applied Chemistry, Nagoya University, Chikusa, Nagoya 464-8601, Japan

Tetrahedron, 1992, 48, 3749

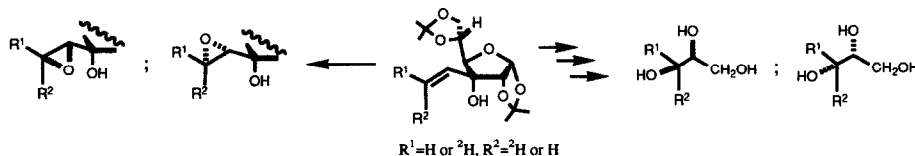


Diacetone Glucose Architecture as a Chirality Template. II. Versatile Synthons for the Chiral Deuterium Labeling and Synthesis of All Diastereoisomers of Chirally Monodeuterated Glycerol

K. Kakinuma,^{*,†,¶} Y. Iihama,[†] Takagi,[†] K. Ozawa,[†] N. Yamauchi,[†] N. Imamura,[¶] Y. Esumi[§] and M. Uramoto[§]

[†]Department of Chemistry and [¶]Laboratory of Chemistry for Natural Products, Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo 152, Japan. [§]Institute of Physical and Chemical Research (RIKEN), Wako-shi, Saitama 351-01, Japan.

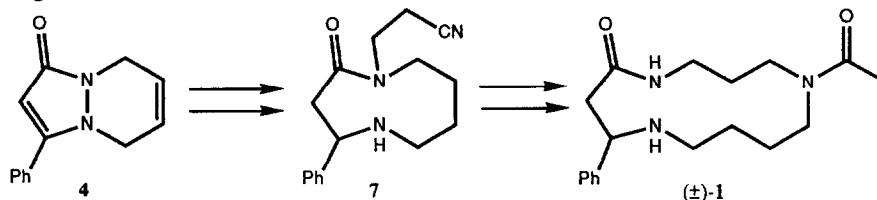
Chirally deuterated ethylene oxide derivatives as new versatile synthons for chiral deuterium labeling and all diastereoisomers of chirally monodeuterated glycerol were synthesized from stereospecifically deuterated 3-C-ethenyl-1,2:5,6-di-O-isopropylidene- α -D-allofuranose.



**SYNTHESIS OF THE SPERMIDINE ALKALOID
(\pm)-N(1)-ACETYL-N(1)-DEOXYMAYFOLINE**

Bassem F. Tawil, Armin Guggisberg, and Manfred Hesse*

Organisch-chemisches Institut der Universität Zürich, Winterthurerstrasse 190, 8057 Zürich, Switzerland

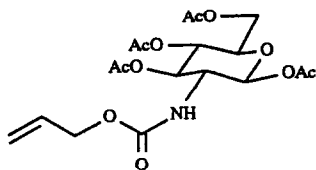


Two different ring-expansion methods were used in the synthesis of the title compound ((\pm)-1).

**GLYCOSYLATIONS WITH
TETRA-O-ACETYL-N-ALLYLOXYCARBONYLAMINO-2-DEOXY-B-D-GLUCOSE
IN POLAR SOLVENTS**

FRAUKE HEINEMANN, MONIKA HIEGEMANN, and PETER WELZEL*

Fakultät für Chemie der Ruhr-Universität Postfach 102148, D-4630 Bochum (FRG)



Glycosylations with the title compound were performed in dimethylformamide, acetonitrile, and nitromethane. The latter solvent was found to give good results whereas DMF caused 1-O-deacetylation.

Tetrahedron, 1992, 48, 3789

COMPASS PROGRAM -

- AN ORIGINAL SEMI-EMPIRICAL APPROACH TO COMPUTER-ASSISTED SYNTHESIS

Ekaterina V. Gordeeva, Dmitri E. Lushnikov, Nikolai S. Zefirov*

N.D. Zelinsky Institute of Organic Chemistry, Leninsky Pr., 47, 117913, Moscow, USSR

The fundamental principles of the original *Dissection-Approximation* (DIA) approach to the formal description of organic reactions are presented. It is shown that any organic reactions can be considered as *dissections* of chemical bonds followed by appropriate *approximations* of the reaction centers around the dissected bonds. A new original COMPASS program for computer-assisted organic synthesis was developed on the basis of the DIA-approach. The powerful ability of the program to reproduce the key skeleton transformations in the total syntheses of natural compounds is demonstrated for quadron and sirenin.

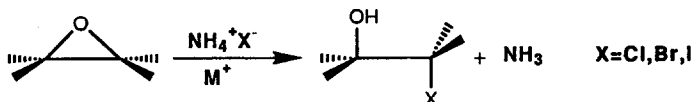
Tetrahedron, 1992, 48, 3805

Regio- and Stereoselective Synthesis of β -Halohydrins from 1,2-Epoxides with Ammonium Halides in the Presence of Metal Salts

Marco Chini, Paolo Crotti,* Cristina Gardelli, and Franco Macchia

Dipartimento di Chimica Bioorganica, Università di Pisa, Via Bonanno 33, 56126 Pisa, Italy

A simple, efficient, stereoselective, and regioselective method for the synthesis of β -chlorohydrins, β -bromohydrins, and β -iodohydrins by the direct opening of 1,2-epoxides with the corresponding ammonium halide in acetonitrile, in the presence of metal salts, is described. This new method appears to be of general use and competitive with the other methods previously reported.



Tetrahedron, 1992, 48, 3813

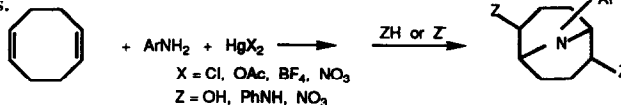
A STUDY ON THE AMINOMERCURATION-NUCLEOPHILIC DEMERCURATION OF CIS-CIS-1,5-CYCLOOCTADIENE; STEREOSELECTIVE SYNTHESIS OF 2,6-DISUBSTITUTED-9-AZABICYCLO[3.3.1]NONANES

José Barluenga. Departamento de Química Organometálica. Facultad de Química. Universidad de Oviedo. E-33006 Oviedo, Spain.

Julia Pérez-Prieto and Gregorio Asensio. Departamento de Química Orgánica, Facultad de Farmacia. Universidad de Valencia, Avda. Blasco Ibañez, 13 E-46010 Valencia, Spain

Santiago García-Granda, Miguel Angel Salvado. Departamento de Química Física y Analítica, Facultad de Química, Universidad de Oviedo. E-33006 Oviedo, Spain.

The influence of the counter ion and the basicity of the amine on the tandem aminomercuration-demercuration reaction is studied. Bicyclic triamines, aminoalcohols and nitrate esters are obtained in a stereoselective process.

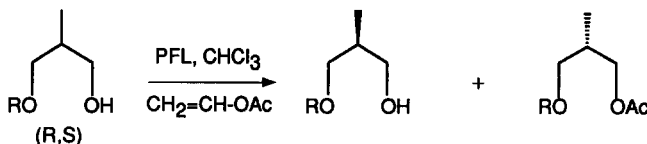


Tetrahedron, 1992, 48, 3827

**ENANTIOSELECTIVE TRANSESTERIFICATION OF
2-METHYL-1,3-PROPANEDIOL DERIVATIVES CATALYZED
BY *Pseudomonas fluorescens* LIPASE IN AN ORGANIC SOLVENT**

Paride Grisenti, Patrizia Ferraboschi, Ada Manzocchi and Enzo Santaniello
Dipartimento di Chimica e Biochimica Medica, Via Saldini, 50-I-20133 Milano, Italy

The irreversible transesterification of racemic monoethers and monoesters of 2-methyl-1,3-propanediol with vinyl acetate in chloroform catalyzed by *Pseudomonas fluorescens* lipase affords enantiomerically pure chiral synthons.



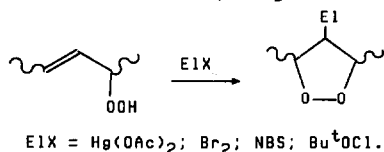
R=Ac, TBDMS, TBDPS, PhCH₂, PhCO

Tetrahedron, 1992, 48, 3835

**5-ENDO RING CLOSURES OF ALLYLIC HYDROPEROXIDES:
USEFUL ROUTES TO 1,2-DIOXOLANES INVOLVING
STRONGLY STEREOSELECTIVE FREE RADICAL AND POLAR REACTIONS**

John L. Courtneidge*, Melanie Bush and Lay See Loh

The Malaysian Rubber Producers' Research Association, Brickendonbury,
Hertford SG13 8NL, England



Stereospecific Markovnikov-directed cyclisation by soft electrophiles and subsequent stereospecific free radical reactions