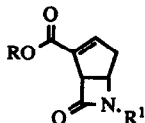


GRAPHICAL ABSTRACTS

Synthesis and Biological Evaluation of 6-Azabicyclo[3.2.0]hept-2-ene Derivatives as Potential Anti-bacterial Agents and β -lactamase Inhibitors

Rajinder Singh and R.D.G. Cooper*

Lilly Research Laboratories, Eli Lilly and Co., Lilly Corporate Center, Indianapolis, Indiana 46285.



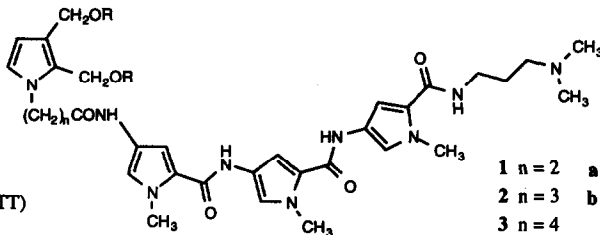
For example, R=H, CH₃, CH₂Ph
R¹=COCH₃, COPh

Tetrahedron, 1994, 50, 12049

SYNTHESIS AND REACTIONS WITH DNA OF A FAMILY OF DNA-DNA AFFINITY CROSS-LINKING AGENTS

Snorri Th. Sigurdsson and Paul B. Hopkins
Department of Chemistry
University of Washington
Seattle, Washington 98195

Preparation of cross-linking agents 1-3 is described. These agents efficiently and sequence selectively cross-link duplex DNA at the sequence 5'-d(CGAATT) (interstrand) and 5'-d(GGAATT) (intrastrand).



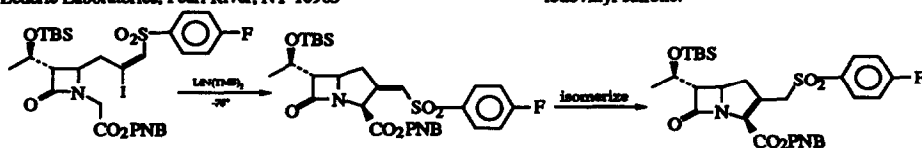
1 n = 2 a R = H
2 n = 3 b R = Ac
3 n = 4

Tetrahedron, 1994, 50, 12065

AN INTRAMOLECULAR ADDITION-ELIMINATION STRATEGY FOR THE SYNTHESIS OF CARBAPENEMS

C. B. Ziegler, Jr.*, W. V. Curran, G. B. Feigelson, P. Bitha, P. Fabio, T. Strohmeyer, K. Short and Y.-i Lin
Medical Research Division, American Cyanamid Company, Lederle Laboratories, Pearl River, NY 10965

The synthesis of 2-[(4-fluorophenylsulfonyl)methyl]-carbapenem carboxylate **20** is described. The key step is a base mediated addition-elimination ring closure of a iodovinyl sulfone.



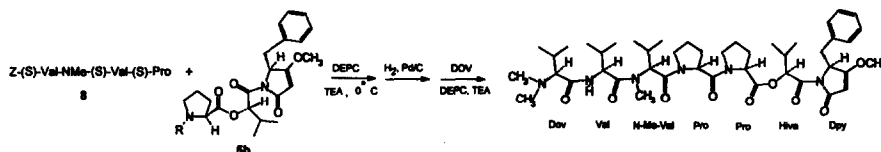
Tetrahedron, 1994, 50, 12085

THE DOLASTATINS 20. A CONVENIENT SYNTHETIC ROUTE TO DOLASTATIN 15

George R. Pettit, Timothy J. Thornton, Jeffery T. Mullaney, Michael R. Boyd, Delbert L. Herald, Sheo-Bux Singh and Erik J. Flahive
Cancer Research Institute and Department of Chemistry, Arizona State University, Tempe, Arizona, 85287-1604

and
Laboratory of Drug Discovery Research and Development, National Cancer Institute, Frederick, Maryland, 21702-1201

Synthesis of tripeptide **8** and dipeptide **5b** are described. Coupling of **8** and **5b**, followed by deprotection and coupling with (S)-Dov yielded dolastatin 15.



Dolastatin 15

Tetrahedron, 1994, 50, 12097

Tetrahedron, 1994, 50, 12109

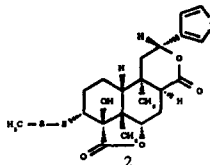
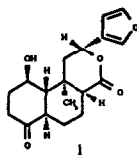
New Furanoid Diterpenoidal Constituents of *Tinospora malabarica*

Atta-ur-Rahman^a, S. Ahmad, S. S. Ali, Z. Shah, M. I. Choudhary^a and J. Clardy^b

^aH. E. J. Research Institute of Chemistry, University of Karachi, Karachi-75270, Pakistan;

^bDepartment of Chemistry, Baker Laboratory, Cornell University, Ithaca, New York 14853-1301, U. S. A.

Two furanoid diterpenes, malabarofide B₁ and menispermacide, have been isolated from the stems of *Tinospora malabarica*. Their structures were established by single crystal X-ray diffraction. Menispermacide (2) is the only diterpene containing a disulfide substituent.

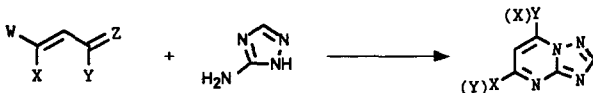


THE APPLICATION OF UNSYMMETRICAL VINYLOGOUS IMINIUM SALTS AND RELATED SYNTHONS TO THE PREPARATION OF UNSYMMETRICAL MONOSUBSTITUTED TRIAZOLO[1,5-a]PYRIMIDINES

Tetrahedron, 1994, 50, 12113

Scott A. Petrich, Zhenrong Qian, Lisa M. Santiago and John T. Gupton^a, Department of Chemistry, University of Central Florida, Orlando, Florida 32816; James A. Sikorski^b, Monsanto Corporate Research, 700 Chesterfield Parkway North, St. Louis, Missouri 63198, U.S.A.

Abstract- The reaction of vinylogous iminium salts and related analogs with 3-amino-1,2,4-triazole to yield 7-substituted and 5-substituted triazolo[1,5-a]pyrimidines is described.



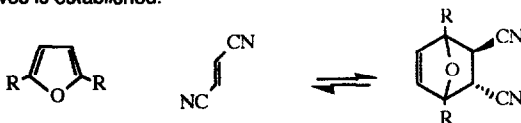
THE DIELS-ALDER REACTION OF 2,5-DIALKYLFURANS AND FUMARONITRILE REVISITED

M.J. Cook and S.J. Cracknell,

School of Chemical Sciences, University of East Anglia, Norwich, NR4 7TJ, UK.

Tetrahedron, 1994, 50, 12125

The effect of substituent chain length, temperature, and solvent on the position of the Diels-Alder equilibria for seven furan derivatives is established.



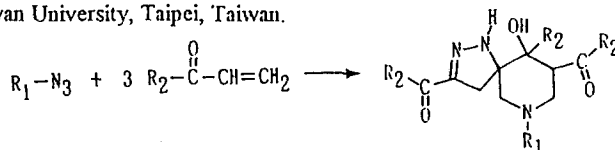
SPIROPYRAZOLINES FROM TANDEM REACTION OF AZIDES AND ALKYL VINYL KETONES

Tetrahedron, 1994, 50, 12133

Chia-Hsi Yang^{*1}, Lang-Tone Lee¹, Jun-Hao Yang¹, Yu Wang² and Gene-Hsiang Lee²

¹Department of Chemistry, Chung-Yuan Christian University, Chung-Li, Taiwan.

²Department of Chemistry, National Taiwan University, Taipei, Taiwan.

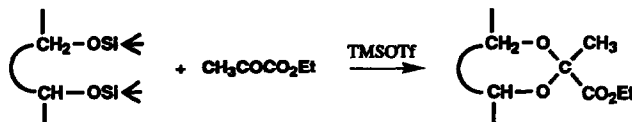


Tetrahedron, 1994, 50, 12143

CONVENIENT SYNTHESIS OF PYRUVATE ACETALS OF CARBOHYDRATES BY COUPLING OF TRIALKYLSILYLATED DIOLS AND PYRUVATES

Kazumi Hiruma, Jun-ichi Tamura, Sigeomi Horito, Juji Yoshimura, and Hironobu Hashimoto*
Department of Life Sciences, Tokyo Institute of Technology, Nagatsuta, Midori-ku, Yokohama 227, Japan

Hexopyranoside 4,6-acetals of α - and β -gluco, α - and β -galacto, and α -manno isomers were prepared effectively.



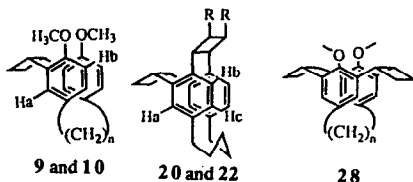
Tetrahedron, 1994, 50, 12159

Stereoselective Synthesis of Meta- and Three-bridged Cyclophanes with Intramolecular [2 + 2] Photocycloaddition by Using the Steric Effect of Methoxyl Group

Yukihiro Okada, Fuyuhiko Ishii, Yoshinori Kasai, and Jun Nishimura*

Department of Chemistry, Gunma University, Tenjin-cho, Kiryu 376, Japan

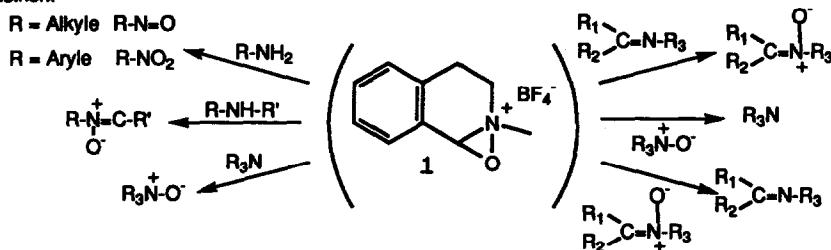
Dimethoxy[n.2]metacyclophanes **9** and **10** were stereoselectively obtained by means of [2 + 2] photocycloaddition. The regioisomeric three-bridged [n.2.2](1,3,4)cyclophanes **20** and **22** or [n.2.2](1,3,5)cyclophanes **28** were also obtained stereoselectively as only one isomer with photocycloaddition. The torsional angle of methoxyl groups on cyclophanes was estimated from ^{13}C NMR chemical shifts.



ACTION D'UN TETRAFLUOROBORATE D'OXAZIRIDIUM SUR LES AMINES ET LES IMINES

Gilles Hanquet et Xavier Lusinchi

Institut de Chimie des
Substances Naturelles
C.N.R.S Gif sur Yvette
91198 France.

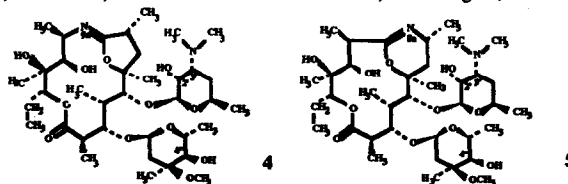


Tetrahedron, 1994, 50, 12201

CONFORMATIONAL ANALYSIS OF 9-DEOXO-9a-AZA-9a- AND 9-DEOXO-8a-AZA-8a-HOMOERYTHROMYCIN A 6,9-CYCLIC IMINOETHERS

G. Lazarevski^{a*}, M. Vinković^a, G. Kobrehel^a, S. Đokić^a, B. Metelko^b, ^a PLIVA-Pharmaceutical, Chemical, Food and Cosmetic Industry, Research Institute, Prilaz baruna Filipovića 89, 41000 Zagreb, CROATIA, and ^b "Ruđer Bošković" Institute, 41000 Zagreb, CROATIA

Conformation of azalides **4** and **5** was determined by NMR and molecular modeling techniques. The effect of their conformations on reactivity in the reduction of the imidate group is discussed.



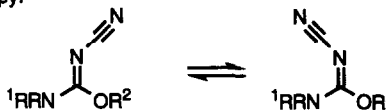
STEREISOMERISM IN N-CYANO-O-PHENYLISOUREAS AND RELATED COMPOUNDS

Tetrahedron, 1994, 50, 12211

Peter J. Garratt, Simon N. Thom and Roger Wigglesworth

Department of Chemistry, University College London, Gordon Street, London WC1H 0AJ, U.K. and Sandoz Institute for Medical Research, Gower Place, London WC1E 6BN, U.K.

The barriers to interconversion of the stereoisomers of N-cyano-O-phenylisoureas and related systems have been determined by variable temperature ¹H NMR spectroscopy.

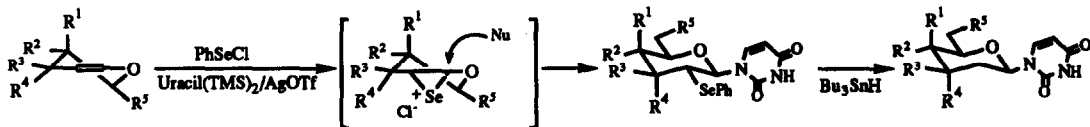


SYNTHESIS OF 2'-DEOXY-PYRANOSYLNUCLEOSIDES FROM GLYCAL THROUGH CONSECUTIVE ADDITION OF PHENYLSELENYNYL CHLORIDE AND GLYCOSYLATION. A STUDY OF FACTORS CONTROLLING THE STEREOSELECTIVITY.

Tetrahedron, 1994, 50, 12219

Anas El-Laghdach, M^a Isabel Matheu, Sergio Castellón*

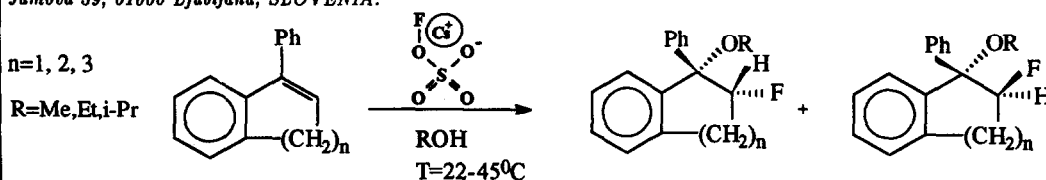
Departament de Química, Universitat Rovira i Virgili, Pla Imperial Tarraco 1, 43005 Tarragona, Spain.



FLUORINATION WITH C₆SO₄F. PART 2I. EFFECT OF THE STRUCTURE OF ALKENE AND ALCOHOL ON STEREOCHEMISTRY AND RELATIVE RATE OF FLUOROALKOXYLATION.

Tetrahedron, 1994, 50, 12235

Stojan Stavber, Tjaša Sotler-Pečan and Marko Zupan, *Laboratory for Organic and Bioorganic Chemistry, "J. Stefan" Institute and Department of Chemistry, University of Ljubljana, Jamova 39, 61000 Ljubljana, SLOVENIA.*

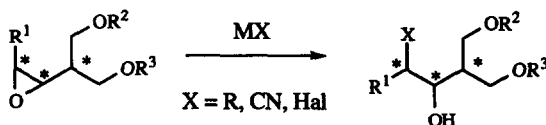


REGIOCONTROL IN NUCLEOPHILIC RING OPENING OF CHIRAL EPOXIDES OF CHEMOENZYMATIC ORIGIN

Tetrahedron, 1994, 50, 12245

Giuseppe Guanti, Valeria Merlo, and Enrica Narisano - *Istituto di Chimica Organica dell'Università & C. N. R., Centro di Studio per la Chimica dei Composti Cicloalifatici ed Aromatici, Corso Europa 26, I-16132 Genova (Italy)*

Homochiral *cis* epoxides, available in any absolute configuration, are regioselectively opened both by carbon-based nucleophiles (alkyl groups and cyanides) and by halides. Enantio- and diastereodivergent synthesis of branched triols is described.

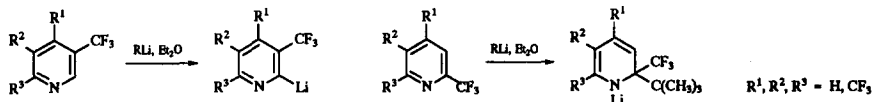


REACTIONS OF TRIFLUOROMETHYLPYRIDINES WITH ALKYL LITHIUM REAGENTS. DIRECTING EFFECTS OF THE TRIFLUOROMETHYL GROUPS

Jacek Porwisiak and Wojciech Dmowski*

Institute of Organic Chemistry, Polish Academy of Sciences, Kasprzaka St. 44, 01-224 Warsaw, Poland

Trifluoromethyl groups in positions 3 and 5 of the pyridine ring effectively promote direct lithiation at the 2-position while pyridines substituted in positions 2, 4 and 6 undergo conventional addition of the RLi to the pyridine ring and polymerisation.



"CONNECTIVIST" APPROACH TO ORGANIC STRUCTURE DETERMINATION:
Lsd-PROGRAM ASSISTED NMR ANALYSIS OF THE INSECT ANTIFEEDANT AZADIRACTIN

Steven V. Ley†, Kevin Doherty†, Georges Massiot¶ and Jean-Marc Nuzillard*¶

†University Chemical Laboratory, Cambridge University, Lensfield Road, Cambridge, CB2 1EW, U.K.

¶Laboratoire de Pharmacognosie, Unité Associée au CNRS no 492, Faculté de Pharmacie, 51, Rue Cognacq-Jay, F-51096 Reims Cédex, France.

Abstract: This paper sets out a method for 'intelligent' structural determination of complex organic molecules that has as its basis the Logic for structure determination Program (Lsd).

Here it is used for the automatic analysis of ^1H and ^{13}C NMR correlation data derived for the limonoid antifeedant Azadirachtin.

