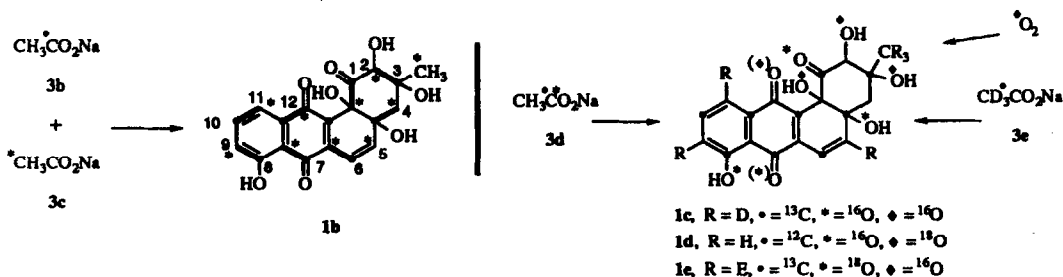


Biosynthesis of the Benz[*a*]anthraquinone Antibiotic PD 116198

Tetrahedron, 1993, 49, 11135

Steven J. Gould* and King-Chun Cheng

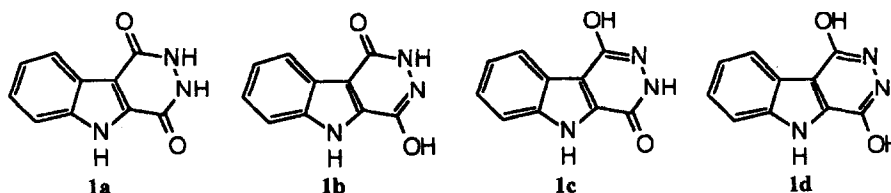
Department of Chemistry, Oregon State University, Corvallis, Oregon 97331-4003



POTENTIALLY TAUTOMERIC 1,2,3,4-TETRAHYDRO-1,4-DIOXO-5H-PYRIDAZINO[4,5-*b*]INDOLE

Tetrahedron, 1993, 49, 11145

A. Guven and R.A. Jones*, School of Chemical Sciences, University of East Anglia, Norwich NR4 7TJ UK



At equilibrium in water, the ratio of the four possible tautomeric forms 1a, 1b, 1c, and 1d of 1,2,3,4-tetrahydro-1,4-dioxo-5H-pyridazino[4,5-*b*]indole is 10^{4.93}:10^{8.03}:10^{3.61}:1.

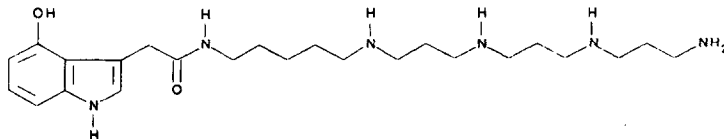
Characterization and Synthesis of a New Calcium Antagonist from the Venom of a Fishing Spider

Tetrahedron, 1993, 49, 11155

Kevin D. McCormick,^a Kazumi Kobayashi,^b Stanley M. Goldin,^b N. Laxma Reddy,^b and Jerrold Meinwald^{a*}

^a) Cornell Institute for Research in Chemical Ecology (CIRCE), Department of Chemistry, Cornell University, Ithaca, New York 14853-1301 ^b) Cambridge NeuroScience, One Kendall Square, Building 700, Cambridge, Massachusetts 02139

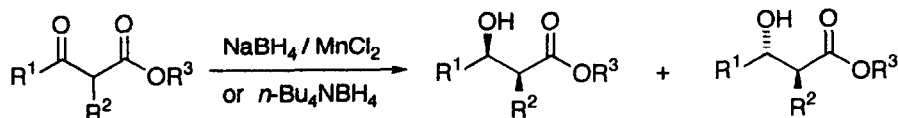
A new calcium antagonist, CNS 2103, is isolated from the venom of a fishing spider, *Dolomedes okefinokensis*. The structure of this compound is derived from spectroscopic data, including tandem mass spectrometry. A flexible, convergent synthesis of CNS 2103 is described.



STERESELECTIVE REDUCTION OF 2-METHYL-3-OXO ESTERS (OR AMIDES) WITH SODIUM BOROHYDRIDE CATALYZED BY MANGANESE(II) CHLORIDE OR TETRABUTYLAMMONIUM BOROHYDRIDE. A PRACTICAL PREPARATION OF ERYTHRO AND THREO-3-HYDROXY-2-METHYL ESTERS (OR AMIDES)

Masahiko Taniguchi, Hideaki Fujii, Koichiro Oshima,* and Kiitiro Utimoto*

Division of Material Chemistry, Faculty of Engineering, Kyoto University, Sakyo-ku, Kyoto 606-01, Japan

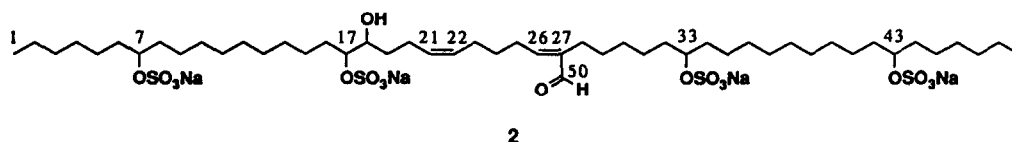


Toxadocials B, C and Toxadocic acid A: Thrombin-Inhibitory Aliphatic Tetrasulfates from the Marine Sponge, *Toxadocia cylindrica*

Youichi Nakao, Shigeki Matsunaga, and Nobuhiro Fusetani*

Laboratory of Marine Biochemistry, Faculty of Agriculture, The University of Tokyo, Bunkyo-ku, Tokyo 113, Japan

Abstract: Three new thrombin-inhibitory metabolites, toxadocial B (2), toxadocial C, and toxadocic acid A have been isolated from the marine sponge *Toxadocia cylindrica*. The structures of these compounds were determined by spectroscopic and chemical methods.

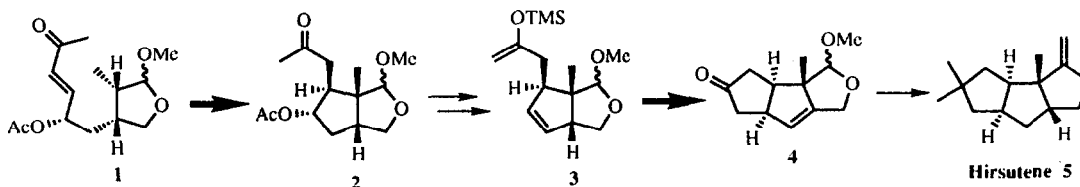


TOTAL SYNTHESIS OF (±)-HIRSUTENE VIA Pd²⁺-PROMOTED CYCLOALKENYLATION REACTION

Masahiro Toyota, Youichi Nishikawa, Kayoko Motoki, Naomi Yoshida, Keiichiro Fukumoto*

Pharmaceutical Institute, Tohoku University, Aobayama, Sendai 980, Japan

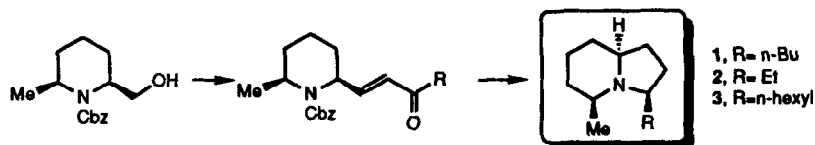
Acid catalyzed conjugate addition (1→2) and Pd²⁺-promoted cycloalkenylation (3→4) are used as key steps in the synthesis of (±)-hirsutene(5)



A short, practical synthesis of the ant venom alkaloid, three (3R,5S,8aS)-3-alkyl-5-methylindolizidines

Hiroki Takahata,* Hiroshi Bando and Takefumi Momose*

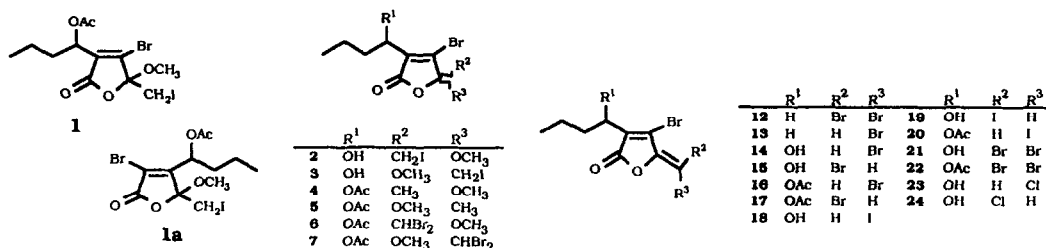
Faculty of Pharmaceutical Sciences, Toyama Medical & Pharmaceutical University
Sugitani 2630, Toyama 930-01, Japan



A short, practical and diastereoselective method for preparing the ant venom alkaloid, three (3R,5S,8aS)-3-alkyl-5-methyl-indolizidines (1-3), has been developed.

NEW HALOGENATED FURANONES FROM THE MARINE RED ALGA *DELISEA PULCHRA* (cf. *FIMBRIATA*)

Rocky de Nys, Anthony D. Wright, Gabriele M. König and Otto Sticher
Department of Pharmacy, Swiss Federal Institute of Technology (ETH) Zürich

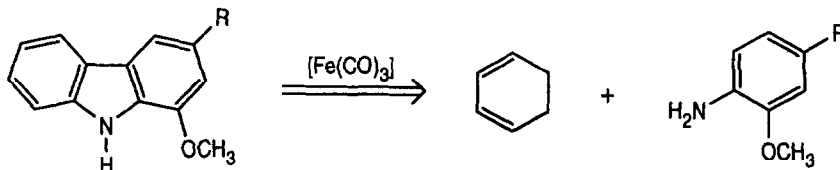


**TRANSITION METAL-DIENE COMPLEXES IN ORGANIC SYNTHESIS - 16.
IRON-MEDIATED TOTAL SYNTHESIS OF 1-OXYGENATED CARBAZOLE ALKALOIDS**

H.-J. Knölker* and M. Bauermeister

Institut für Organische Chemie, Universität Karlsruhe, Richard-Willstätter-Allee, D-76131 Karlsruhe, Germany

Using a methodology of consecutive iron-induced C-C and C-N bond formation we describe the total synthesis of murrayafoline A, murrayquinone A, koenoline, murrayanine, mukoeic acid, and mukonine.

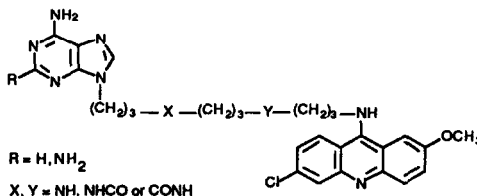


SYNTHESIS OF PURINE-ACRIDINE HYBRID MOLECULES RELATED TO ARTIFICIAL ENDONUCLEASES

Abdellatif FKYERAT, Martine DEMEUNYNCK, Jean-François CONSTANT, Jean LHOMME

LEDSS, URA CNRS D0 332, Université J. Fourier, BP 53X, 38041 GRENOBLE Cedex, FRANCE

The synthesis of a new series of hybrid molecules in which a purine is linked to an acridine nucleus by an aliphatic chain including amido and amino groups is described. The key intermediates are different α -halo- ω -amino polyaza chains.

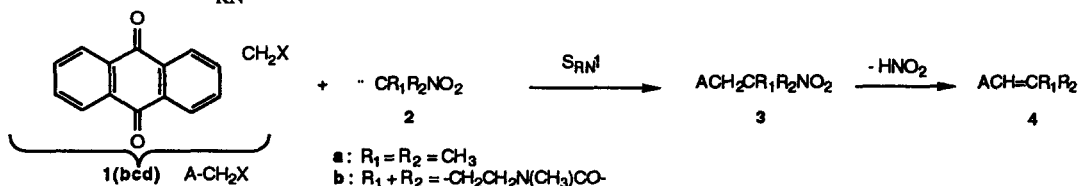


S_{RN}1 REACTIONS OF ANTHRAQUINONE ALKYLATING AGENTS

Michel P. CROZET*, Patrice VANELLE, Olivier JENTZER, Santa DONINI and José MALDONADO

Radicaux Libres et Synthèse, URA CNRS N°1412, BP 562, 13397 Marseille Cedex 20, France

The C-alkylation reaction of three anthraquinone alkylating agents by 2-nitropropane and 1-methyl-3-nitropyrrolidin-2-one anions is shown to proceed by the S_{RN}1 mechanism.



ADDITIVE PUMMERER REACTIONS OF VINYLIC SULFOXIDES. SYNTHESIS OF γ -HYDROXY- α,β -UNSATURATED ESTERS, α -HYDROXYKETONES, AND 2-PHENYLSULFENYL ALDEHYDES AND PRIMARY ALCOHOLS

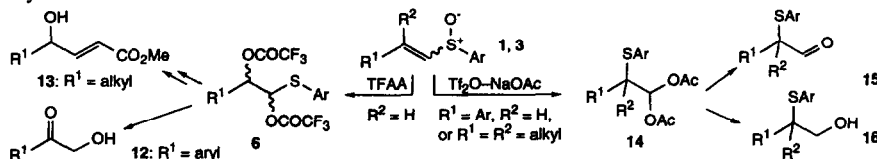
Donald Craig* and Kevin Daniels

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

A. Roderick MacKenzie

Pfizer Central Research, Sandwich, Kent CT13 9NJ, U.K.

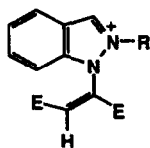
Additive Pummerer reactions of vinylic sulfoxides 1 and 3 give respectively thioethers 6 and acylals 14. Some derivatization reactions of 6 and 14 are described.



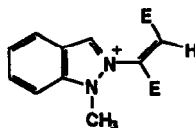
REACTION OF *N*-VINYLDIAZOLIUM AND *N*-VINYLBENZOTRIAZOLIUM SALTS WITH NUCLEOPHILES.

J. Elguero^a, E. Gutierrez-Puebla^b, A. Monge^b, C. Pardo^{c*} and M. Ramos^c. ^aInstituto de Química Médica, CSIC. ^bInstituto de Ciencia de los Materiales, Sede C, CSIC. ^cDepartamento de Química Orgánica I, Universidad Complutense. MADRID, SPAIN.

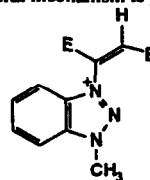
The reaction of salts 6, 11 and 13 with nucleophiles (HO^- , H^- and CH_3OH) is studied and a general mechanism is proposed.



6a R = CH_3 ; 6b R = Ph



11

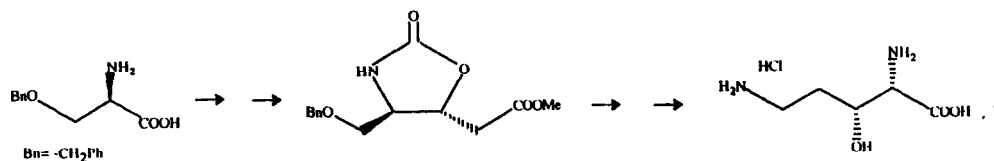


13

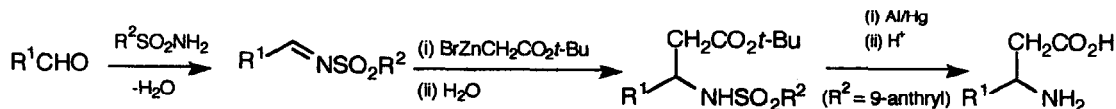
A STEREOSELECTIVE SYNTHESIS OF 3(R)-HYDROXY-2(S)-ORNITHINE

M.C. Di Giovanni,^a D. Misiti,^a G. Zappia,^{a*} G. Delle Monache^b

a) Dip. Studi di Chimica e Tecnol. Sost. Biolog. Attive, Università "La Sapienza", P.le A. Moro 5, 00185 Roma (Italy). b) Centro di Studio per la Chimica dei Recettori - C.N.R., Ist. di Chimica, Università Cattolica del S. Cuore, Largo F. Vito 1, 00168 Roma


ADDITION OF A REFORMATSKY REAGENT TO *N*-ANTHRACENE-9-SULFONYL AND RELATED IMINES:

SYNTHESIS OF PROTECTED β -AMINO ACIDS Andrew J. Robinson and Peter B. Wyatt*, Department of Chemistry, Queen Mary and Westfield College, University of London, Mile End Road, London, E1 4NS, UK.



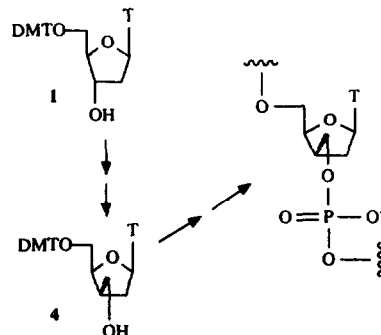
e.g. $\text{R}^1 = \text{Ph}$, 4- FC_6H_4 , 4- MeOC_6H_4 , 4- NCC_6H_4 , 2-furyl, (*E*)-styryl;
 $\text{R}^2 = 4\text{-MeC}_6\text{H}_4$, 4- $\text{MeO}_2\text{C}_6\text{H}_4$, 9-anthryl.

Oligodeoxynucleotide Analogues Containing 3'-Deoxy-3'-*C-threo*-hydroxymethylthymidine: Synthesis, Hybridization Properties and Enzymatic Stability.

Margit Lentz Svendsen*, Jesper Wengel^a, Otto Dahl^b, Finn Kirpekar^c and Peter Roepstorff^c.

a) Department of Chemistry, Odense University, DK-5230 Odense M, Denmark. b) Department of General and Organic Chemistry, The H.C. Ørsted Institute, University of Copenhagen, Universitetsparken 5, DK-2100 Copenhagen, Denmark. c) Department of Molecular Biology, Odense University, DK-5230 Odense M, Denmark.

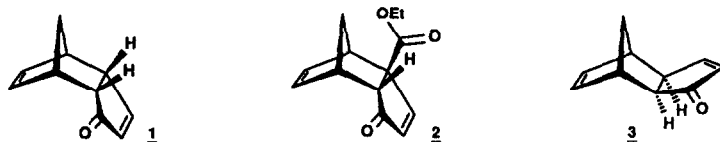
3'-Deoxy- 3'-*C-threo*-hydroxymethyl nucleoside **4** was stereoselectively synthesized in three steps from 5'-*O*-(4,4'-dimethoxytrityl)thymidine (**1**) and subsequently incorporated into oligodeoxynucleotides. Hybridization and enzymatic stability experiments are reported.



REGIO- AND STEREOSELECTIVITY OF ADDITIONS OF ORGANOMETALLICS TO *ENDO*- AND *EXO*-TRICYCLO[5.2.1.0^{2,6}]DECA-4,8-DIEN-3-ONES

P.P.M.A. Dols, M.M.H. Verstappen, A.J.H. Klunder, B. Zwanenburg*, Department of Organic Chemistry, NSR Center for Molecular Structure, Design and Synthesis, University of Nijmegen, Toernooiveld, 6525 ED Nijmegen, The Netherlands

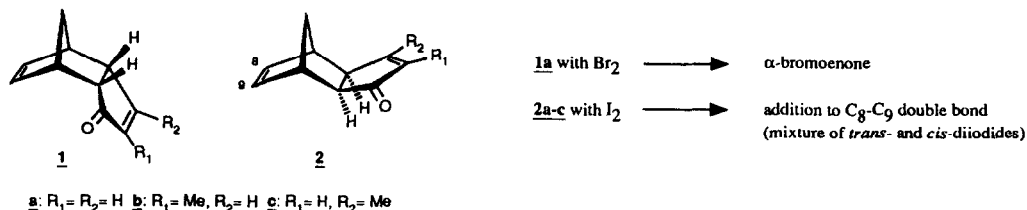
In order to evaluate the use of tricyclodecadienones **1**, **2** and **3** for the stereo- and enantioselective synthesis of cyclopentenoid natural products, 1,2- and 1,4-additions of organometallics were investigated. Both for **1** and **3** stereospecific addition from the *convex* face takes place. For **2** 1,4-addition leads to mixtures of *syn*- and *anti*-addition products.



HALOGEN ADDITION TO *ENDO*- AND *EXO*-TRICYCLO[5.2.1.0^{2,6}]DECA-4,8-DIEN-3-ONES

P.P.M.A. Dols, A.J.H. Klunder, B. Zwanenburg*, Department of Organic Chemistry, NSR Center for Molecular Structure, Design and Synthesis, University of Nijmegen, Toernooiveld, 6525 ED Nijmegen, The Netherlands

The electrophilic addition of bromine and iodine to *endo*- and *exo*-tricyclodecadienones **1** and **2** was investigated.



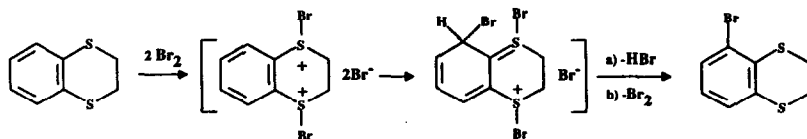
Chemistry of Ethanedithyl S,S-Acetals 6 - An Example of Vicarious Nucleophilic Substitution of Hydrogen in 1,4-Benzodithians

R. CAPUTO^a, M. DE NISCO^a, G. PALUMBO^{a*}, C. ADAMO^b, V. BARONE^{b*}

^aDipartimento di Chimica Organica e Biologica dell'Università Via Mezzocannone, 16, I-80134 Napoli (Italy)

^bDipartimento di Chimica dell'Università Via Mezzocannone, 4, I-80134 Napoli (Italy)

Quantum mechanical semiempirical calculations suggest the very fast bromination of 1,4-benzodithians to proceed likely via a vicarious nucleophilic substitution of hydrogen rather than an aromatic electrophilic substitution.



Relative Thermodynamic Stabilities of Isomeric Alkyl Allyl and Alkyl (Z)-Propenyl Ethers

Esko Taskinen, Department of Chemistry, University of Turku, FIN-20500 Turku, Finland

