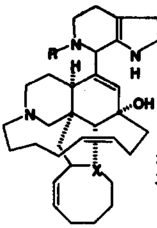
GRAPHICAL ABSTRACTS

Tetrahedron, **1994**, *50*, 13567

1,2,3,4-TETRAHYDRO-8-HYDROXYMANZAMINES, ALKALOIDS FROM TWO DIFFERENT HAPLOSCLERID SPONGES

Phillip Crews*, Xing-Chung Cheng, Madeline Adamczeski, Jaime Rodríguez and Marcel Jaspars, Dept. of Chemistry and Biochemistry and Inst. for Marine Sciences Univ. of California, Santa Cruz, Santa Cruz, CA 95064. Francis J. Schmitz*, Sarah C. Traeger and Evamarie O. Pordesimo, Dept. of Chemistry, University of Oklahoma, Norman, OK 73019-0370.



2 R= Me, X=$\overset{+}{N}H$
3 R=H, X= N

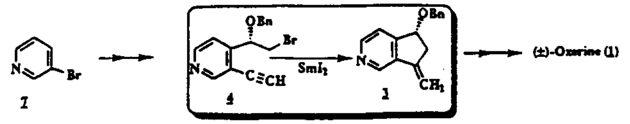
Two new sponge alkaloids, 1,2,3,4-tetrahydro-2-*N*-methyl-8-hydroxymanzamine A (2) and 1,2,3,4-tetrahydro-8-hydroxymanzamine A (3), are reported from Papua New Guinea sponges. The cytotoxicity of 2, and the biogenetic relationships of 2 or 3 to manzamine A, as well as to nine other polycyclic diamine and one monoamine type alkaloids are outlined.

Tetrahedron, **1994**, *50*, 13575

First Total Synthesis of (±)-Oxerine (1)

Yutaka Aoyagi, Taku Inariyama, Yaeko Arai, Sanae Tsuchida, Yasuko Matsuda, Hiroyuki Kobayashi, and Akihiro Ohta*
Tokyo College of Pharmacy, 1432-1 Horinouchi, Hachioji, Tokyo 192-03, Japan
Teruo Kurihara and Sumiyo Fujihira
Faculty of Science, Josai University, 1-1 Keyakidai, Sakado, Saitama 350-02, Japan

Total synthesis of (±)-oxerine (1) was syntheszed from 3-bromopyridine (7) via key SmI$_2$-mediated cyclization of γ-ethynyl bromide (4).

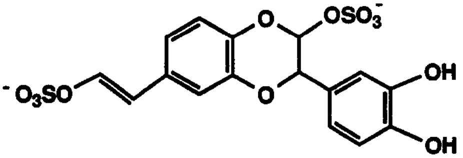


Tetrahedron, **1994**, *50*, 13583

3,4-DIHYDROXYSTYRENE DIMERS, INDUCERS OF LARVAL METAMORPHOSIS IN ASCIDIANS, FROM A MARINE SPONGE *JASPIS* SP.

Sachiko Tsukamoto, Haruko Kato, Hiroshi Hirota, and Nobuhiro Fusetani*

Fusetani Biofouling Project, Exploratory Research for Advanced Technology (ERATO), Research Development Corporation of Japan (JRDC), *c/o* Niigata Engineering Co., Ltd., Isogo-ku, Yokohama 235, Japan



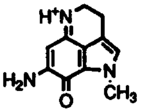
Four new 3,4-dihydroxystyrene dimers were isolated from a marine sponge *Jaspis* sp., and their structures were determined.

Tetrahedron, **1994**, *50*, 13593

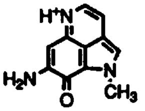
TOTAL SYNTHESES OF MAKALUVAMINES A, B, C, D AND E, CYTOTOXIC PYRROLOIMINOQUINONE ALKALOIDS ISOLATED FROM MARINE SPONGE BEARING INHIBITORY ACTIVITIES AGAINST TOPOISOMERASE II

T. Izawa, S. Nishiyama, and S. Yamamura

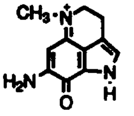
Department of Chemistry, Faculty of Science and Technology, Keio University, Hiyoshi, Yokohama 223, Japan



Makaluvamine A (1)

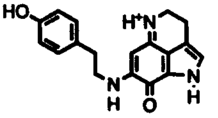


Makaluvamine B (2)

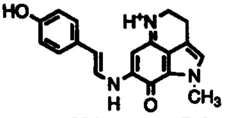


Makaluvamine C (3)

Successful total syntheses of makaluvamines A, B, C, D and E have been accomplished.



Makaluvamine D (4)



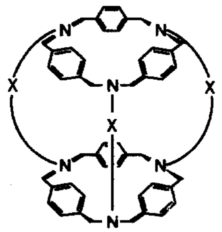
Makaluvamine E (5)

Tetrahedron, **1994**, *50*, 13601

SPECIFIC MOLECULAR RECOGNITION BY CAGE-TYPE CYCLOPHANES HAVING A HELICALLY TWISTED AND CYLINDRICAL INTERNAL CAVITY

Osamu Hayashida, Sadahiko Matsuura, and Yukito Murakami*
Department of Chemical Science and Technology, Faculty of Engineering, Kyushu University, Fukuoka 812, Japan

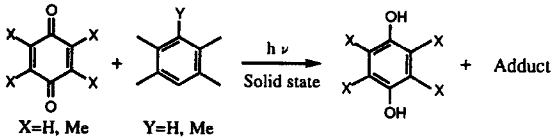
Cage-type cyclophanes, which are constructed with two triaza[3.3.3]paracyclophanes and three chiral bridging components, have been synthesized and characterized. Their guest-binding behavior was examined in comparison with that of non-cage hosts.



Tetrahedron, **1994**, *50*, 13617

SOLID-STATE PHOTOCHEMISTRY OF THE MIXED CRYSTALS BETWEEN BENZOQUINONES AND POLYMETHYLBENZENES

Hideko Koshima,*[†,††] Yosuke Chisaka,[††] Yang Wang,[††] Xinkan Yao,[§] Honggen Wang,[§] Ruji Wang,[§] Atsushi Maeda[††] and Teruo Matsuura[††], [†] PRESTO, Research Development Corporation of Japan Faculty of Science and Technology, Ryukoku University, Seta, Otsu 520-21, Japan. [††] Department of Materials Chemistry, Faculty of Science and Technology, Ryukoku University, Seta, Otsu 520-21, Japan. [§] Central Labortory, National University, Tianjin, China.

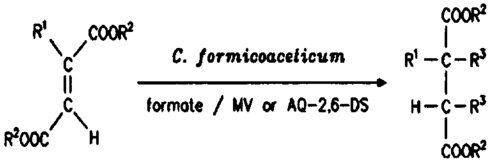


Irradiation of the mixed crystals between benzoquinones and polymethylbenzenes caused hydrogen abstraction to give hydroquinones and adducts.

Tetrahedron, **1994**, *50*, 13631

Preparation of (*S*)-2-Substituted Succinates by Stereospecific Reductions of Fumarates and Derivatives with Resting Cells of *Clostridium formicoaceticum*

Richard Eck and Helmut Simon*
Lehrstuhl für Organische Chemie und Biochemie, Technische Universität München, D-85747 Garching, Germany

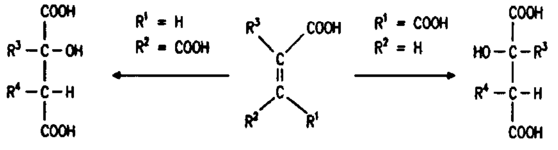


Fumarate and four derivatives were stereospecifically (ee > 99 %) hydrogenated or deuterated with *C. formicoaceticum*, formate acting as electron donor and viologen or anthraquinone-2,6-disulphonate as mediator (R^3 = H or ^2H).

Tetrahedron, **1994**, *50*, 13641

Preparation of Both Enantiomers of Malic and Citramalic Acid and Other Hydroxysuccinic Acid Derivatives by Stereospecific Hydrations of *cis* or *trans* 2-Butene-1,4-dioic Acids with Resting Cells of *Clostridium formicoaceticum*

Richard Eck and Helmut Simon*
Lehrstuhl für Organische Chemie und Biochemie, Technische Universität München,D-85747 Garching, Germany



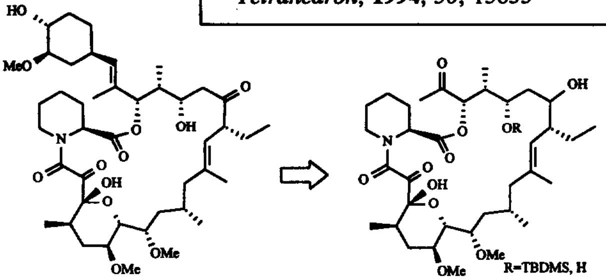
By H_2O- or ^2H_2O-addition (*R*)- and (*S*)-malic and citramalic acid as well as (2*R*,3*S*)-2-hydroxy-3-methyl- and (2*R*,3*S*)-2,3-dimethyl-2-hydroxysuccinic acid and (3*R*)-deuterated acids were prepared with stereoselectivities of 96-99.9 % (R^3 = H or CH_3, R^4 = H or ^2H).

Tetrahedron, **1994**, *50*, 13655

Synthetic Modifications of Ascomycin - I: A Chemoselective Removal of the Cyclohexyl Residue of Ascomycin

R. Zimmer,* M.A. Grassberger, K. Baumann, G. Schulz, E. Haidl
Department of Dermatology, Sandoz Forschungsinstitut,
Brunner Strasse 59, A-1235 Vienna, Austria

A convenient semisynthetic preparation of des-28-(cyclohexyl)methylene-28-oxo-ascomycin derivatives has been developed.

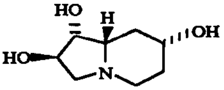


Tetrahedron, **1994**, *50*, 13671

CYCLOADDITION REACTIONS OF CARBOHYDRATE DERIVATIVES. PART V. A HETERO DIELS-ALDER APPROACH TO SWAINSONINE ANALOGS

Pál Herczegh*[a], Imre Kovács[a], László Szilágyi[b], Ferenc Sztaricskai[a],
[a]*Research Group for Antibiotics of the Hungarian Academy of Sciences, H-4010 Debrecen, P.O.Box 70., Hungary*
[b]*Department of Organic Chemistry, Lajos Kossuth University, H-4010 Debrecen, P.O.Box 20., Hungary*
Amaya Berecibar, Claude Riche, Angèle Chiaroni, Alain Olesker and Gabor Lukacs
Institut de Chimie des Substances Naturelles du C.N.R.S., 91198 Gif sur Yvette, France

Swainsonine analogs like 28 and its enantiomer (29) have been synthesized from different D-and L-sugars, in a Diels-Alder route.

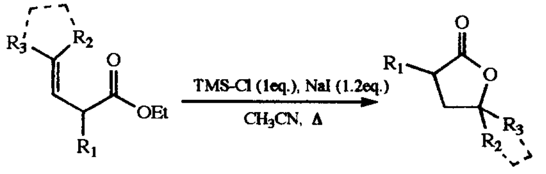


28

Tetrahedron, **1994**, *50*, 13687

Direct Conversion of β,γ-Unsaturated Esters into Lactones Induced by TMS-I.

Olivier Piva Laboratoire des Réarrangements Thermiques et Photochimiques Associé au CNRS - UFR Sciences
Université de Reims - Champagne - Ardenne - BP 347 - 51062 Reims - France



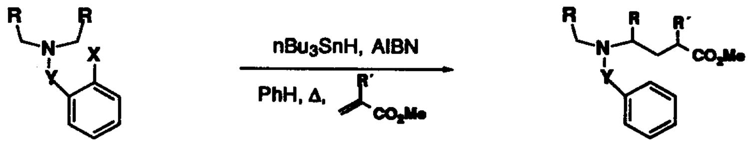
β,γ-unsaturated esters and ω-alkenyl acrylates are converted respectively into butanolides or α-methylene lactones by action of TMS-I.

Tetrahedron, **1994**, *50*, 13697

AN APPROACH TO α-SUBSTITUTED AMINES

Lorenzo Williams, Susan E. Booth and Kjell Undheim*
Department of Chemistry, University of Oslo, P.O. Box 1033 Blindern, N-0315 Oslo, Norway.

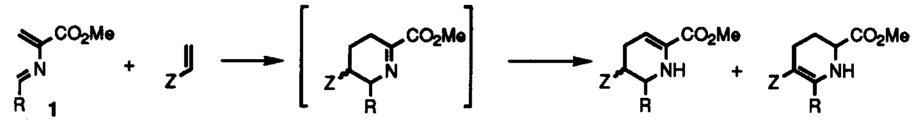
A number of amines have been alkylated at the position *alpha* to nitrogen *via* a 1,5-hydrogen shift from a remote functionality.



Tetrahedron, **1994**, *50*, 13709

DIELS-ALDER REACTIONS OF 2-AZADIENES DERIVED FROM CYSTEINE AND SERINE METHYL ESTERS AND ALDEHYDES

Thomas L. Gilchrist, Chemistry Department, University of Liverpool, Liverpool L69 3BX, U.K., António M. d'A. Rocha Gonsalves and Teresa M. V. D. Pinho e Melo, Departamento de Química, Universidade de Coimbra, 3000 Coimbra, Portugal.

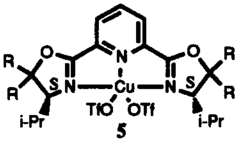


The azadienes 1 (R = Ar, COPh and CO_2Et) undergo cycloaddition reactions with various electron deficient alkenes and enamines.

Tetrahedron, **1994**, *50*, 13725

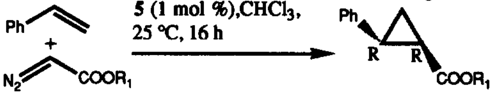
SYNTHESIS OF HOMOCHIRAL BIS (OXAZOLINYL) PYRIDINE TYPE LIGANDS FOR ASYMMETRIC CYCLOPROPANATION REACTIONS

Arpita Datta Gupta, Debnath Bhuniya, and Vinod K. Singh*
Department of Chemistry, Indian Institute of Technology Kanpur - 208 016, India



5

The Cu(II) complexes of the type 5 were synthesized for cyclopropanation reaction. The reduction of Cu(II) into Cu(I) with diazoesters was studied by uv-vis and epr spectroscopy.



Tetrahedron, **1994**, *50*, 13731

KINETICS AND MECHANISM OF OXIDATION OF S-PHENYLTHIOACETIC ACIDS BY Ce (IV)

Rajagopala Gurumurthy*, Mannathusamy Gopalakrishnan and Kulathu Iyer Sathiyanarayanan,

Department of Chemistry, Annamalai University, Annamalainagar - 608 002. INDIA.

The kinetics has been studied spectrophotometrically in 50% (v/v) aqueous acetic acid. The reaction is a Michalis-Menten type and involves a free radical mechanism. Electron-releasing substituents generally accelerate the rate, while electron-withdrawing groups retard the rate. A good correlation is found to exist between $\log k_{1.8}$ and Hammett σ constants. A suitable mechanism has been proposed. $2C_6H_5\text{-S-}CH_2\text{-}CO_2H + 2Ce^{4+} + 2OAc^- \longrightarrow C_6H_5\text{-S-S-}C_6H_5 + 2Ce^{3+} + 2CH_3CO_2CH_3 + 2CO_2$

Tetrahedron, **1994**, *50*, 13739

SYNTHETIC APPLICATIONS OF OPTICALLY ACTIVE CYANOHYDRINS. ENANTIOSELECTIVE SYNTHESES OF THE HYDROXYAMIDES TEMBAMIDE AND AEGELINE, THE CARDIAC DRUG DENOPAMINE, AND SOME ANALOGUES OF THE BRONCHODILATOR SALBUTAMOL.

Roger F. C. Brown, Andrew C. Donohue, W. Roy Jackson* and Tom D. McCarthy
Department of Chemistry, Monash University, Clayton, Victoria 3168, Australia.

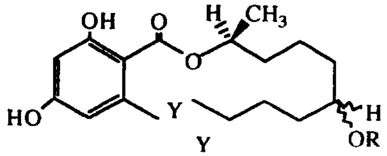
The enantioselective hydrocyanation of benzaldehyde derivatives has been utilised as the key step in preparing the title compounds in high yield and excellent enantiomeric excess.

Tetrahedron, **1994**, *50*, 13753

CORRELATION OF THE ABSOLUTE CONFORMATION OF *sec* ALCOHOLS DERIVED FROM MACROCYCLIC LACTONES OF RESORCYLIC ACID AND THEIR STEREOSELECTIVE TRANSACETYLATION IN ORGANIC SOLVENTS BY *Pseudomonas fluorescens* LIPASE

Mirjana-Gelo-Pujić, Snježana Antolić, B. Kojić-Prodić, Vitomir Šunjić
"Ruđer Bošković" Institute, P.O.B. 1016, 41001, Zagreb Croatia

Enzymatic acetylation of 7β-diastereomers **2**,**6** and **10** (R=H) was performed with nearly 100% stereoselectivity.



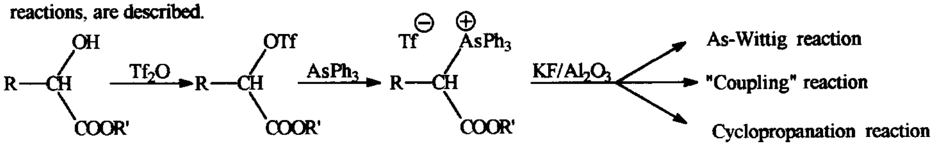
1-4	*trans*-CH=CH
5-8	*cis* CH=CH
9-12	CH_2-CH_2

Tetrahedron, **1994**, *50*, 13765

1-ALKOXYCARBONYLALKYLIDENETRIPHENYLARSORANES: PREPARATION AND REACTIONS

Josep Castells*, Francisco López-Calahorra and Zhanru Yu
Departament de Química Orgànicam, Universitat de Barcelona. Martí i Franquès 1-11, E-08028 Barcelona, Spain

The synthetic sequence alkyl 2-trifloxyalkanoates, 1-alkoxycarbonylalkyltriphenylarsonium triflates, 1-alkoxy carbonylalkylidenetriphenylarsoranes, and the use of these reagents in As-Wittig, "coupling" and cyclopropanation reactions, are described.

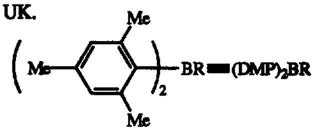


Tetrahedron, **1994**, *50*, 13775

HINDERED ORGANOBORON GROUPS IN ORGANIC CHEMISTRY. 27. PREPARATIONS AND SOME PROPERTIES OF ALKYL*BIS*(2,6-DIMETHYL-4-METHOXYPHENYL)BORANES ($(DMP)_2BR$)

Andrew Pelter and Robert Drake
Department of Chemistry, University College of Swansea, Singleton Park, Swansea, SA2 8PP, UK.

The preparations and properties of $(DMP)_2BR$ (13) are described. These compounds undergo chemical transformations similar to Mes_2BR, *but the aromatic groups of (13) are far more easily removed by direct protonation.*



(13)

Tetrahedron, **1994**, *50*, 13801

HINDERED ORGANOBORON GROUPS IN ORGANIC CHEMISTRY. 28 THE SOLVOLYSES OF BIS(2,6-DIMETHYL-4-METHOXYPHENYL)ORGANYLBORANES, $(DMP)_2BR$

Andrew Pelter* and Robert Drake
Department of Chemistry, University College of Swansea, Singleton Park, Swansea, SA2 8PP, UK.

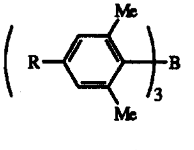
Hindered organoboranes such as $(DMP)_2BCR^1R^2R^3$ are far more readily methanolysed than $Mes_2BCR^1R^2R^3$ in the presence of mineral acid. Glycolyses are even more rapid, and then even acetic acid can be used as a catalyst. The reactions link $Ar_2BCHR^4R^5$, which readily form anions, to $(RO)_2BCHR^4R^5$ which do not.

Tetrahedron, **1994**, *50*, 13829

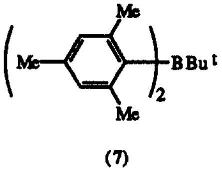
HINDERED ORGANOBORON GROUPS IN ORGANIC CHEMISTRY. 29 THE EFFECT OF HINDERED TRIORGANOBORANES ON ANIONIC BUTADIENE POLYMERISATIONS

Andrew Pelter[1]*, Robert Drake[1] and Malcolm Stewart[2]
1. Department of Chemistry, University College of Swansea, Singleton Park, Swansea, SA2 8PP,
2. Building R141, DRA, Hampshire, GU14 6TD.

Three new highly hindered triorganoboranes (5), (6) and (7) were prepared and compared with (4) for their influence on the 1,4-content of anionically produced polymers of butadiene. The results were unexpected and a fundamental study of the reactions of bases with a variety of hindered boranes was carried out in order to explain them.



(4) R=Me; (5) R=Bu^t; (6) R=OMe.



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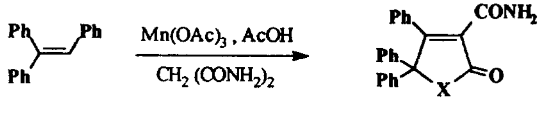
Tetrahedron, **1994**, *50*, 13847

ULTRASOUND EFFECTS ON THE Mn(III) - PROMOTED ADDITION OF AMIDOALKYL RADICALS TO OLEFINS; Cesare Bosman, Andrea D'Annibale,*

Stefano Resta and Corrado Trogolo,* Centro C.N.R. di Studio per la Chimica delle Sostanze Organiche Naturali, Dipartimento di Chimica, Università degli Studi "La Sapienza", P.le Aldo Moro 5, 00185 Roma, ITALIA

Reaction of phenyl substituted olefins with activated amides and $Mn(OAc)_3$ under ultrasound irradiation led to lactonic or lactamic products in shorter times and higher yields than the mechanically stirred reaction. In some cases sonication led to unusual products.



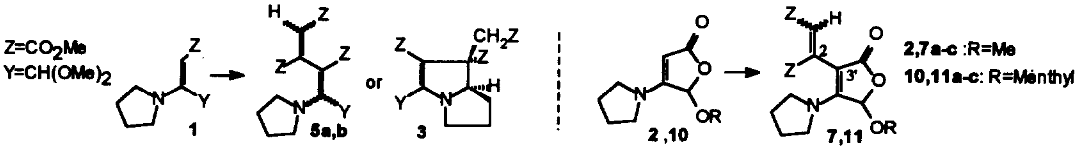
Conditions	X (Yields %)	
Stirring, r.t.	O (26)	NH (28)
Reflux	O (56)	-
Ultrasound, r.t.	-	NH (60)

Tetrahedron, **1994**, *50*, 13857

REACTIONS OF PYRROLIDINE ENAMINES OF CYCLIC AND ACYCLIC 3,4-DIOXOBUTANOIC ACID DERIVATIVES WITH DIMETHYL ACETYLENEDICARBOXYLATE. A NEW CASE OF ATROPOISOMERISM.

Begoña de Ancos, M. Carmen Maestro, M. Rosario Martín*, and Ana I. Mateo
Departamento de Química Orgánica (C-I), Universidad Autónoma de Madrid, Canto Blanco, 28049 Madrid, Spain

Reactions depend greatly on enamine structure. 1 provides dienamines 5 or pyrrolizine 3. Enaminofuranones afford three diastereoisomers, two of them because C_2-$C_{3'}$ hindered rotation.



Tetrahedron, **1994**, *50*, 13865

REGIOSELECTIVE LIPASE-MEDIATED ACYLATION-DEACYLATION IN THIADIAZINE DIACYCLONUCLEOSIDES

Ana I. Esteban, Olga Juanes, Ana Martinez*, S. Conde
Instituto de Química Médica (CSIC), Juan de la Cierva 3, 28006 Madrid (Spain)

The first thiadiazine acyclonucleoside has been prepared. Regioselective deprotection of thiadiazine diacyclonucleoside has been performed by a combined strategy of enzyme-catalyzed hydrolysis-acylation.