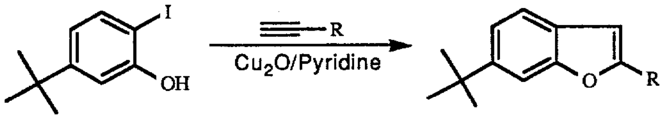
GRAPHICAL ABSTRACTS

Tetrahedron Lett. 30, 1597 (1989)

A VERSATILE AND CONVENIENT SYNTHESIS OF BENZOFURANS

Gurinder J. S. Doad, John A. Barltrop, Cheryl M. Petty, and Terence C. Owen*
University of South Florida, Tampa, Florida 33620

A convenient, general, one-step synthesis of 2-substituted benzofurans from o-iodophenols and acetylenic compounds in the presence of cuprous oxide.

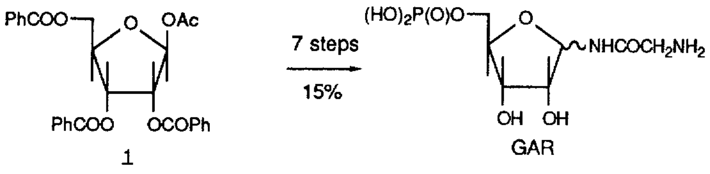


Tetrahedron Lett. 30, 1599 (1989)

AN IMPROVED SYNTHESIS OF GLYCINAMIDE RIBONUCLEOTIDE

Diane Harris Boschelli, Dennis Powell, Veronica Sharky and M. F. Semmelhack
Lederle Laboratories, Pearl River, NY 10965

Glycinamide ribonucleotide (GAR) was obtained in 7 steps in 15% yield from commercially available 1.

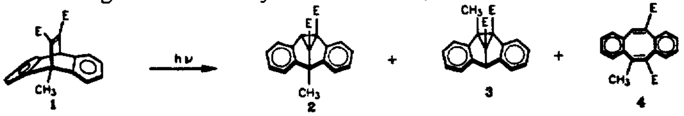


Tetrahedron Lett. 30, 1601 (1989)

SURFACE VERSUS BULK REACTIVITY IN SOLID STATE ORGANIC CHEMISTRY

Phani Raj Pokkuluri, John R. Scheffer* and James Trotter*
Department of Chemistry, University of British Columbia, Vancouver, Canada, V6T 1Y6

Dibenzobarrelene derivative 1 undergoes di-π-methane photorearrangement with a different regioselectivity in solution, at the surface and in the bulk of the crystal.

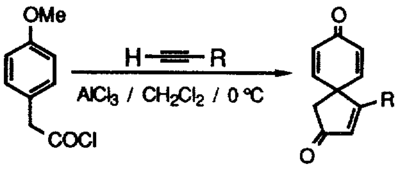


Tetrahedron Lett. 30, 1605 (1989)

Synthesis of Substituted Spiro[4.5]deca-3,6,9-triene-2,8-diones: An Expeditious Route to the Spiro[4.5]decane Terpene Skeleton

Richard A. Haack* and Kenneth R. Beck
Gastrointestinal Diseases Research
Searle Research and Development
Division of G.D. Searle & Co., Skokie, Illinois 60077

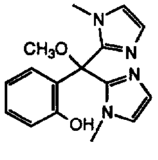
Substituted spiro[4.5]decanes are prepared from substituted 4-methoxyphenylacetyl chlorides and acetylenes in fair to moderate yields.

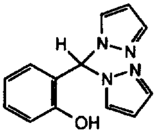


Tetrahedron Lett. 30, 1609 (1989)

DESIGN AND SYNTHESIS OF A SERIES OF FACIALLY COORDINATING TRIDENTATE LIGANDS CONTAINING AN N_2O DONOR ATOM SET

Donald L. Jameson*, Sharon E. Hilgen, Conrad W. Hummel, and Susan L. Pichla
Department of Chemistry, Gettysburg College, Gettysburg, PA 17325 USA



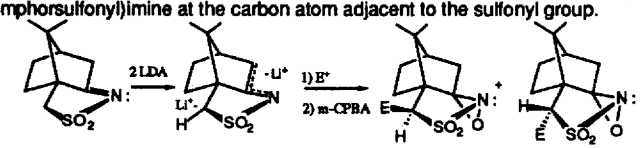


Tetrahedron Lett. 30, 1613 (1989)

(CAMPHORYLSULFONYL)IMINE DIANION IN THE SYNTHESIS OF NEW OPTICALLY PURE (CAMPHORYLSULFONYL)OXAZIRIDINE DERIVATIVES

Franklin A. Davis,* Michael C. Weismiller, G. Sankar Lal, Bang Chi Chen, and Robert M. Przeslawski, Department of Chemistry, Drexel University, Philadelphia, PA 19104

New, more efficient enantiomerically pure (camphorylsulfonyl)oxaziridines are prepared by mono alkylation of the dianion of (camphorsulfonyl)imine at the carbon atom adjacent to the sulfonyl group.

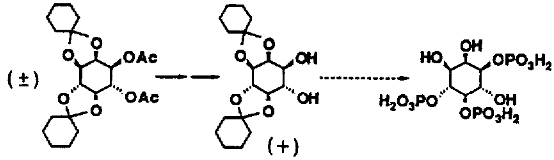


Tetrahedron Lett. 30, 1617 (1989)

AN EFFICIENT SYNTHESIS OF OPTICALLY ACTIVE *D*-*MYO*-INOSITOL 1,4,5-TRIPHOSPHATE

Yeuk-Chuen Liu and Ching-Shih Chen*
College of Pharmacy, University of Rhode Island, Kingston, RI 02881 USA

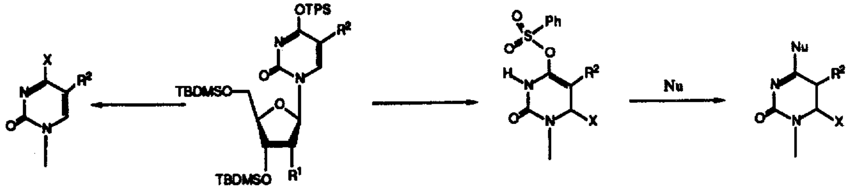
A synthesis of *D*-*myo*-inositol 1,4,5-triphosphate was accomplished using a chiral inositide precursor which can be conveniently prepared.



Tetrahedron Lett. 30, 1621 (1989)

Addition of Grignard Reagents to 4-O-TPS Pyrimidine Nucleosides: Synthesis of 6-Substituted 5,6-Dihydropyrimidine Nucleoside Derivatives

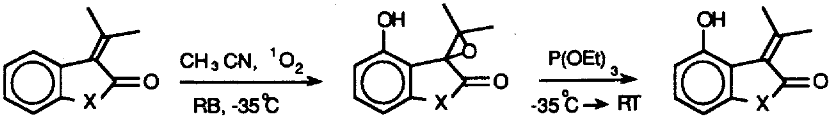
Norbert Bischofberger, Department of Molecular Biology, Genentech, Inc.,
460 Pt. San Bruno Blvd., South San Francisco, CA 94080



Tetrahedron Lett. 30, 1625 (1989)

UNUSUAL AROMATIC HYDROXYLATION IN THE PHOTOOXYGENATION OF 1-ISOPROPYLIDENE-2-INDANONE AND RELATED COMPOUNDS.

Harry E. Ensley, P. Balakrishnan and Christopher Hogan,
Department of Chemistry, Tulane University,
New Orleans, La. 70118

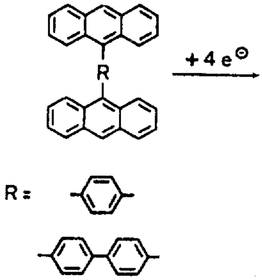


Tetrahedron Lett. 30, 1629 (1989)

THE DIFFERENT REDOX-ACTIVITY OF DIANTHRYLBENZENE AND DIANTHRYLBIPHENYL.

Bardo Becker, Robert Cosmo and Klaus Müllen*
Department of Organic Chemistry, University of Mainz,
D-6500 Mainz, FRG
Klaus Meerholz and Jürgen Heinze*
Department of Physical Chemistry, University of Freiburg
D-7800 Freiburg, FRG.

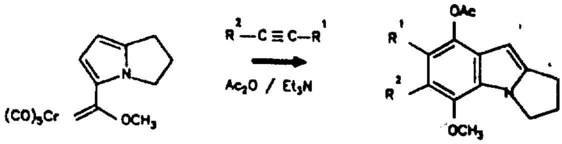
The reduction of dianthrylbenzene and dianthrylbiphenyl to stable tetraanion salts is described by NMR spectroscopy and cyclic voltammetry. The significantly different Coulomb interactions between the anthracene units are compared with those in dianthrylalkanes.



Tetrahedron Lett. 30, 1633 (1989)

AN EASY ROUTE TO BENZOPYRROLIZINES RELATED TO MITOMYCIN A VIA CHROMIUM CARBENE COMPLEXES

Wilhelm Flitsch, Jürgen Lauterwein
and Wolfgang Micke
Organisch-chemisches Institut der
Westfälischen Wilhelms-Universität.
Orlèansring 23, D-4400 Münster. FRG.

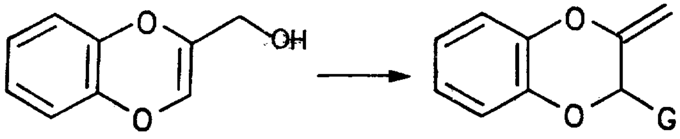


Tetrahedron Lett. 30, 1637 (1989)

1,4-BENZODIOXIN CHEMISTRY : A NEW ROUTE TO C-3 FUNCTIONALIZED 2-METHYLENE-1,4- BENZODIOXANS

N.Ruiz and P.Rollin*, Laboratoire de Chimie Bioorganique et Analytique,UFR Sciences, BP 6759
45067 Orléans Cedex 2, France.

A zinc salt-mediated Mitsunobu substitution allowed the smooth conversion of 1,4-benzodioxin-2 yl carbinol into C-3 functionalized 2-methylene-1,4-benzodioxans.

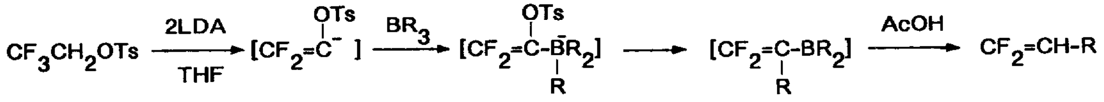


Tetrahedron Lett. 30, 1641 (1989)

A NOVEL SYNTHESIS OF 1,1-DIFLUOROOLEFINS FROM 1,1,1-TRIFLUOROETHYL p-TOLUENESULFONATE VIA BORON ATE-COMPLEX

Junji Ichikawa, Takaaki Sonoda, and Hiroshi Kobayashi
Institute of Advanced Material Study, Kyushu University, Kasuga, Fukuoka, 816, Japan

A synthesis of 1,1-difluoroolefins by the substitution of gem-difluorovinylic tosyloxy group.

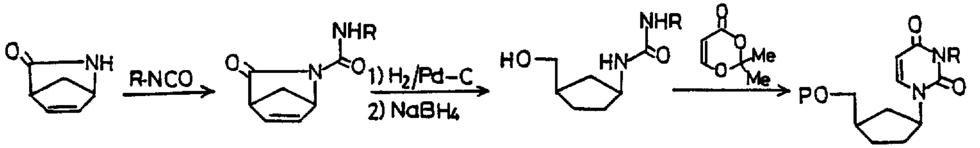


$$CF_3CH_2OTs \xrightarrow[THF]{2LDA} [CF_2{=}\overset{OTs}{C^-}\,] \xrightarrow{BR_3} [CF_2{=}\underset{R}{\overset{OTs}{C}}-\bar{B}R_2] \longrightarrow [CF_2{=}\underset{R}{C}-BR_2] \xrightarrow{AcOH} CF_2{=}CH-R$$

Tetrahedron Lett. 30, 1645 (1989)

STEREOSPECIFIC SYNTHESIS OF CARBOCYCLIC NUCLEOSIDES FROM 2-AZABICYCLO[2.2.1]HEPTAN -3-ONES VIA SODIUM BOROHYDRIDE MEDIATED CARBON-NITROGEN BOND CLEAVAGE:

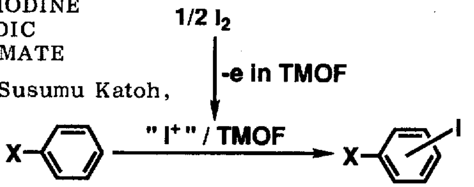
Nobuya Katagiri*, Makoto Muto, and Chikara Kaneko*, Pharmaceutical Institute, Tohoku University, Aobayama, Sendai 980, Japan



Tetrahedron Lett. 30, 1649 (1989)

AROMATIC IODINATION BY POSITIVE IODINE ACTIVE SPECIES GENERATED BY ANODIC OXIDATION IN TRIMETHYL ORTHOFORMATE

Tatsuya Shono,* Yoshihiro Matsumura, Susumu Katoh, Kaoru Ikeda, and Tohru Kamada
Department of Synthetic Chemistry,
Kyoto University, Kyoto 606, Japan



TMOF ; $CH(OMe)_3$

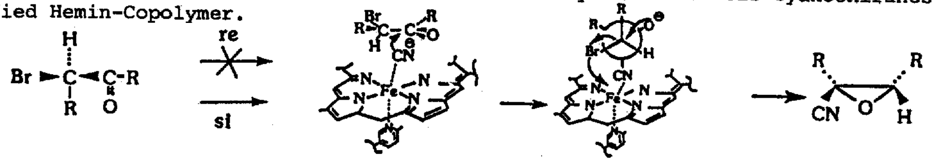
Positive iodine active species generated by anodic oxidation in trimethyl orthoformate brought about aromatic iodination with high selectivity.

Tetrahedron Lett. 30, 1651 (1989)

Stereoselective Syntheses of cis-Cyanooxirsnes by Reaction of -Bromoketones with Cyanide Ion Adsorbed onto Hemin-Copolymer

Kiyoshi Saito and Kaoru Harada*
Department of Chemistry, University of Tsukuba, Tsukuba, Ibaraki, 305 Japan

A Possible Reaction Pathway of the Stereoselective Syntheses of cis-Cyanooxiranes by Using CN-Modified Hemin-Copolymer.

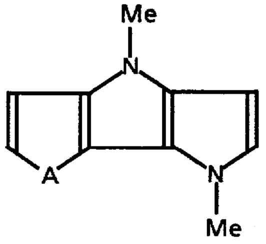


Tetrahedron Lett. 30, 1655 (1989)

A SYNTHESIS OF 4,7-DIHYDRO-1H-DIPYRROLO[3,2-b:2',3'-d]PYRROLE AND 4,7-DIHYDRO-4H-THIENO[3,2-b]PYRROLO[2,3-d]PYRROLE SYSTEMS

Tadatoshi Aratani*, Hiroshi Yoshihara and Gohfu Suzukamo
Takatsuki Research Laboratory, Sumitomo Chemical Co., Ltd.
Takatsuki, Osaka 569, Japan

The titled two systems (A = N-Me or S), both new members of linearly fused heteroaromatics, were prepared using pyrrolo-annulation reaction: condensation of an aromatic aldehyde with azidoacetate followed by thermolysis of the resulting azidoacrylate.

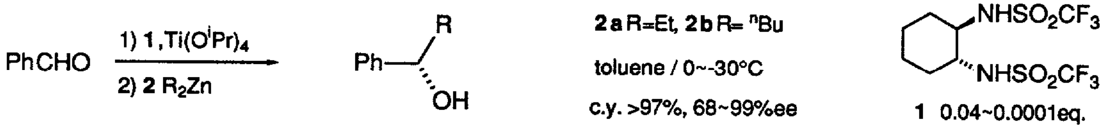


Tetrahedron Lett. 30, 1657 (1989)

ASYMMETRIC INDUCTION CATALYZED BY CONJUGATE BASES OF CHIRAL PROTON ACIDS AS LIGANDS: ENANTIOSELECTIVE ADDITION OF DIALKYLZINC-ORTHOTITANATE COMPLEX TO BENZALDEHYDE WITH CATALYST-ABILITY OF A REMARKABLE HIGH ORDER

*Masato Yoshioka, Takashi Kawakita, and Masaji Ohno, Faculty of Pharmaceutical Sciences, University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113, Japan

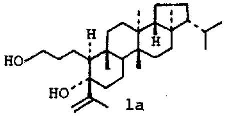
Addition of dialkylzinc-orthotitanate complex to benzaldehyde catalyzed by chiral sufonamide-titanate complex



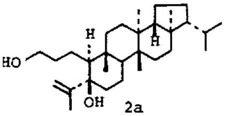
Tetrahedron Lett. 30 1661(1989)

FOUR NOVEL 3,4-*SECO*-TRITERPENOIDS, ESPINENDIOLS A AND B, ESPINENOXIDE AND TRISNOR-ISOESPINENOXIDE FROM *EUPHORBIA SUPINA*

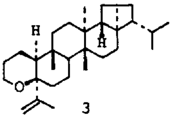
Reiko Tanaka,[1] Shunyo Matsunaga,*[1] Toshimasa Ishida[1] and Tetsuro Shingu[2]
[1] Osaka University of Pharmaceutical Sciences, 2-10-65 Kawai, Matsubara, Osaka 580, Japan
[2] Faculty of Pharmacy, Kobe Gakuin University, 518 Arise, Igawadani, Nishi-ku, Kobe 673, Japan



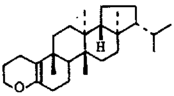
1a



2a



3



4

1a: espinendiol A
2a: espinendiol B
3: espinenoxide
4: trisnor-isoespinenoxide

Tetrahedron Lett. 30, 1665 (1989)

ACTIVATION AND SYNTHETIC APPLICATIONS OF THIOSTANNANES. CHEMICAL MODIFICATION OF HYDROXY FUNCTION UNDER PROTECTION

Tsuneo Sato, Tatsushi Tada, Junzo Otera,* and Hitosi Nozaki
Department of Applied Chemistry, Okayama University of Science, Ridai-cho, Okayama 700, JAPAN

THP ethers are converted in one-pot into various functionalities with the aid of thiostannanes.

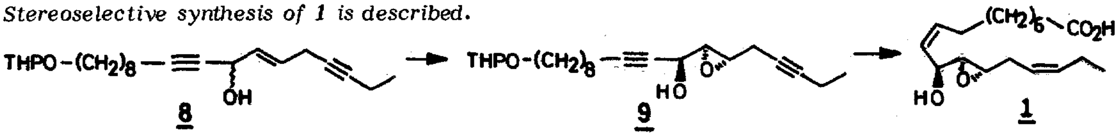
$$\mathrm{ROTHP} \xrightarrow{\mathrm{Bu_3SnSMe\text{-}BF_3{\cdot}OEt_2}} \mathrm{ROSnBu_3} \xrightarrow{\text{Electrophile or PCC}} \mathrm{ROE\ or\ R'CHO}$$

Tetrahedron Lett. 30, 1669 (1989)

STEREOSELECTIVE SYNTHESIS OF (9Z,15Z)-(11S,12S,13S)-11-HYDROXY-12,13-EPOXY OCTADECADIENOIC ACID : A CONSTITUENT OF RICE PLANT INFECTED WITH RICE BLAST DISEASE

A V Rama Rao*, P Radha Krishna and J S Yadav
Regional Research Laboratory, Hyderabad 500 007, India

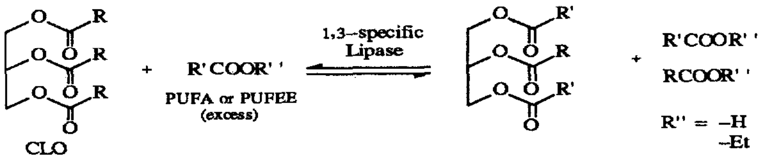
Stereoselective synthesis of 1 is described.



Tetrahedron Lett. 30, 1671 (1989)

THE PREPARATION OF TRIGLYCERIDES HIGHLY ENRICHED WITH n-3 POLYUNSATURATED FATTY ACIDS *VIA* LIPASE CATALYZED INTERESTERIFICATION.

G.G. Haraldsson*, P.A. Höskuldsson, S.Th. Sigurdsson, F. Thorsteinsson and S. Gudbjarnason
Science Institute, University of Iceland, Dunhaga 3, 107 Reykjavik, Iceland.

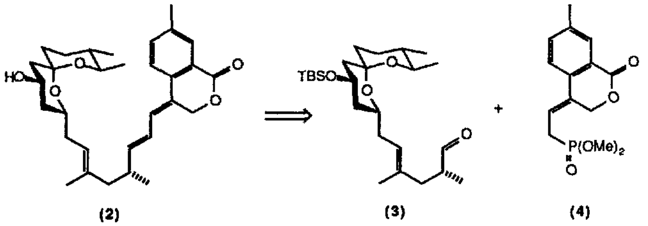


Tetrahedron Lett. 30, 1675 (1989)

A SYNTHESIS OF LACRIMIN A.

Andrew Takle and Philip Kocienski*,
Chemistry Department, The University,
Southampton, SO9 5NH, U. K.

A convergent synthesis of Lacrimin A (2) is described in which a Wadsworth-Emmons reaction was used to link the isochroman-1-one phosphonate (4) to the spiroacetal aldehyde (3).

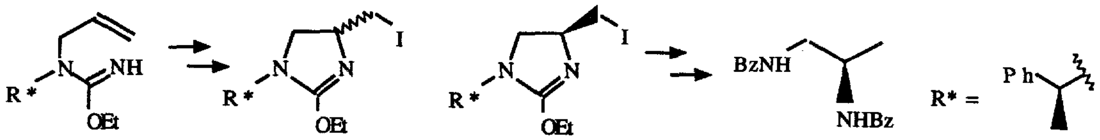


Tetrahedron Lett. 30, 1679 (1989)

SYNTHESIS OF CHIRAL 1,2-DIAMINES

Elena Bruni, Giuliana Cardillo, Mario Orena, Sergio Sandri and Claudia Tomasini
Dipartimento di Chimica "G. Ciamician" - Università di Bologna - Bologna - ITALY

Iodocyclisation of chiral allylic amidines gives imidazolines whose separation and hydrolysis affords chiral 1,2-diamines.

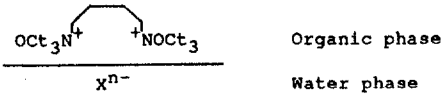


Tetrahedron Lett.30,1683(1989)

BIS-QUATERNARY AMMONIUM SALTS AS PHASE TRANSFER CATALYSTS.

M. Lissel*[b], D. Feldman*[a], M. Nir[a] and
M. Rabinovitz[a], [a]Dept. of Organic Chemistry,
The Hebrew University, Jerusalem 91904,
Israel, and [b]Fakultat fur Chemie,
Universitat Bielfeld, Bielfeld, BRD.

Bis-quaternary ammonium salts are used for the extraction of polyanions and show better extractive abilities than common phase transfer catalysts.



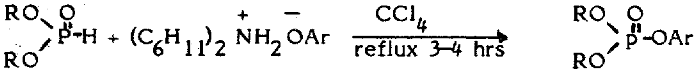
$X^{n-}=Cr_2O_7^{2-}$, CrO_4^{2-}, $M_oO_4^{2-}$, $Fe(CN)_6^{3-}$,
$Fe(CN)_6^{4-}$, phthalate, terephthalate.

Tetrahedron Lett.30,1687(1989)

A CONVENIENT SYNTHETIC ROUTE TO PHOSPHATE ESTERS FROM PHOSPHITES

Purnanand*, B.S.Batra and B.P.Pant
Defence Research & Development Establishment, Gwalior 474 002 (M.P.) India

A new approach to the synthesis of dialkyl substituted aryl phosphates



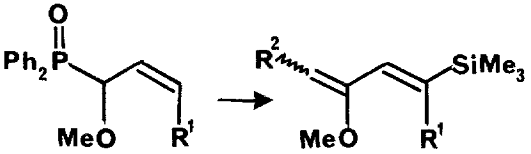
R = CH_3, C_2H_5
Ar = substituted phenols

Tetrahedron Lett.30,1691(1989)

PREPARATION OF 3-METHOXY-1-TRIMETHYLSILYL-1,3-DIENES USING A ONE-POT WITTIG-HORNER REACTION.

Michael D. Ironside and Alistair W. Murray,
Chemistry Department, The University, Dundee,
Scotland.

3-Methoxy-1-trimethylsilyl-1,3-dienes have been prepared in one pot from α-methoxyallyldiphenylphosphine oxides.



Tetrahedron Lett.30,1695(1989)

IMPROVED METHODS OF SYNTHESIS OF VALINOMYCINS

Yves L Dory, Jerome F McAleer[a] and John M Mellor*
* Department of Chemistry, The University, Southampton SO9 5NH, U.K.
[a] Medisense (U.K.) Inc., 14 Blacklands Way, Abingdon, Oxon OX14 1DY

Cyclodepsipeptide valinomycin analogues have been prepared by the cyclisation of linear depsipeptides activated as their pentafluorophenyl esters.

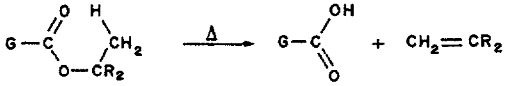
Z-(D-Phe-L-Hyiv-L-Phe-D-Lac)$_3$OPF$_p$ → Cyclo-(D-Phe-L-Hyiv-L-Phe-D-Lac)$_3$

Tetrahedron Lett. 30, 1699 (1989)

GAS-PHASE REPLACEMENT σ^0 SUBSTITUENT CONSTANTS OF HETEROARYL GROUPS

Nouria A. Al-Awadi*, Rasha F. Al-Bashir, and Osman M.E. El-Dusouqui*
Department of Chemistry, Kuwait University, P.O. Box 5969 Safat, Kuwait.

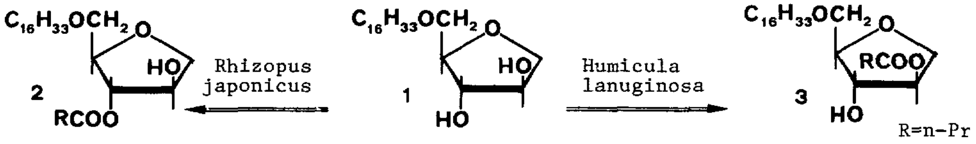
Hammett analysis based on pyrolysis of esters (G = heteroaryl group) allowed computation of gas-phase σ^0 constants of furyl, pyridyl, and thienyl groups.



Tetrahedron Lett. 30, 1703 (1989)

AN INTERESTING EXAMPLE OF COMPLEMENTARY REGIOSELECTIVE ACYLATION OF SECONDARY HYDROXYL GROUPS BY DIFFERENT LIPASES

Francesco Nicotra*[a], Sergio Riva*[b], Francesco Secundo[b], Luca Zucchelli[a]
a. Dip. Chimica Organica e Ind. b. Ist. Chimica degli Ormoni, C.N.R.; Milano, Italy



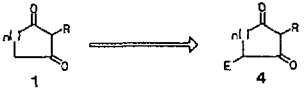
Acylation of (1) by different lipases afforded alternatively products (2) or (3).

Tetrahedron Lett. 30, 1705 (1989)

REGIOSELECTIVE ALKYLATION OF DIANIONS OF CYCLIC 1.3-DIKETONES VIA THEIR MONODIMETHYLHYDRAZONES. SYNTHESIS OF C-4 SUBSTITUTED CYCLIC 1.3-DIKETONES

*Ayhan S. Demir*a) and Dieter Enders b)*
a) Middle East Technical University, Department of Chemistry, 06531 Ankara, Turkey
b) Institut für Organische Chemie, Rheinisch-Westfaelische Tecnische Hochschule, Professor-Pirlet-Str. 1, 5100 Aachen, FRG

The regioselective alkylation of cuclic 1.3-diketones 1, to 4-substituted derivatives 4 is described.

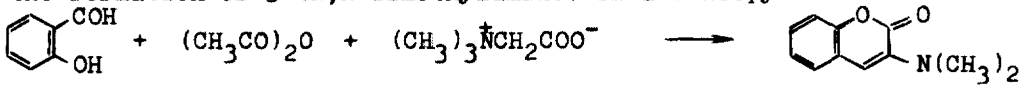


Tetrahedron Lett. 30, 1709 (1989)

SYNTHESIS OF 3-(N,N-DIMETHYLAMINO)-2H-1-BENZOPYRAN-2-ONE

Pavol Hrnčiar, Anton Gáplovský and Jana Donovalová
Department of Organic Chemistry, Faculty of Natural Sciences, Comenius University, 842 15 Bratislava, Czechoslovakia

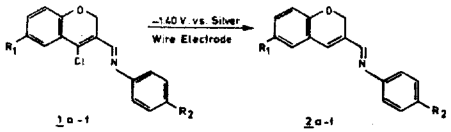
By the reaction of salicylaldehyde, betaine and acetic anhydride leads to the formation of 3-(N,N-dimethylamino)-2H-1-benzopyran-2-one.



Tetrahedron Lett. 30, 1711 (1989)

A SELECTIVE CATHODIC REDUCTION OF β-CHLORO VINYLMINES IN N, N' DIMETHYLFORMAMIDE

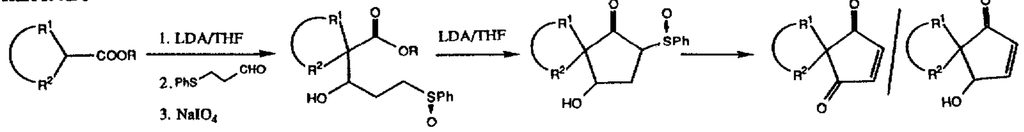
R. Saiganesh, K.K. Balasubramanian* and C.S. Venkatachalam*
Department of Chemistry, Indian Institute of Technology, Madras 600 036, INDIA



Tetrahedron Lett. 30, 1715 (1989)

INTRAMOLECULAR ACYLATION OF α-SULFINYL CARBANIONS. A SIMPLE PREPARATION OF 4-OXYGENATED SPIRO[4.n]ALK-2-ENE-1-ONES

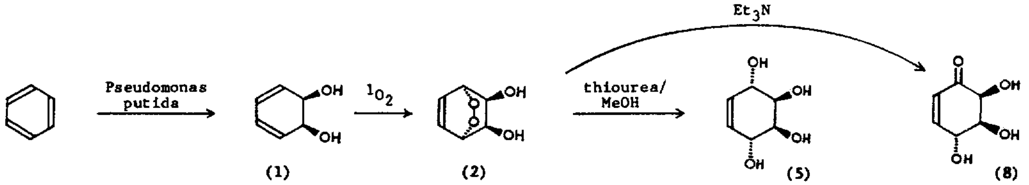
Manat Pohmakotr*, Supatara Popuang and Sirirat Chancharunee
Department of Chemistry, Faculty of Science, Mahidol University, Rama VI Road, Bangkok 10400, THAILAND.



Tetrahedron Lett. 30, 1719 (1989)

SHORT SYNTHESES OF CONDURITOLS A AND D, AND DEHYDROCONDURITOLS, FROM BENZENE: THE PHOTO-OXIDATION OF cis-CYCLOHEXA-3,5-DIENE-1,2-DIOL.

Howard A.J. Carless* and Ozer Z. Oak
Department of Chemistry, Birkbeck College, Malet Street, London WC1E 7HX

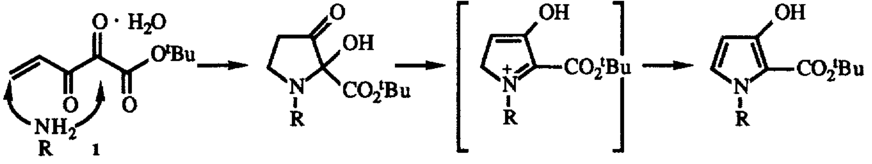


Tetrahedron Lett. 30, 1721 (1989)

THE CHEMISTRY OF VICINAL TRICARBONYLS USE OF VINYL TRICARBONYL ESTERS IN THE FORMATION OF 3-HYDROXYPYRROLE-2-CARBOXYLATES

H.H. Wasserman*, J.D. Cook, J.M. Fukuyama and V.M. Rotello
Department of Chemistry, Yale University, New Haven, CT 06511 USA

Primary amines react with the vinyl tricarbonyl reagent 1 in a general synthesis of 3-hydroxypyrrole carboxylates.



Tetrahedron Lett. 30, 1725 (1989)

THE CHEMISTRY OF VICINAL TRICARBONYLS
A TOTAL SYNTHESIS OF PRODIGIOSIN

H.H. Wasserman* and L.J. Lombardo
Department of Chemistry, Yale University, New Haven, CT 06511 USA

Addition of a primary amine to an alkenyl vicinal tricarbonyl is a key step in a synthesis of prodigiosin.