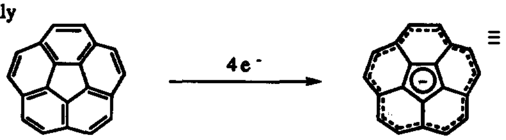
Tetrahedron Lett. **1993**, *34*, 6351

CONCERNING THE STRUCTURE OF THE CORANNULENE TETRAANION

P. W. Rabideau,* Z. Marcinow, R. Sygula and A. Sygula
Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803

The structure of the corannulene tetraanion is explored theoretically by ab initio and semiempirical calculations, and experimentally by the reaction of corannulene with sodium in liquid ammonia. The latter reaction produces tetrahydro- and hexahydrocorannulenes when quenched with ammonium chloride, and monomethyl tetrahydro- and hexahydrocorannulenes when quenched with methyl iodide.

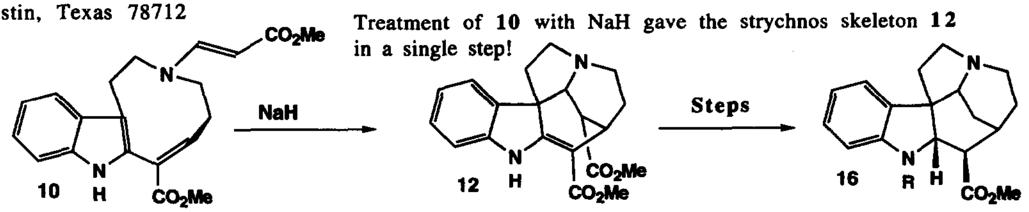


Tetrahedron Lett. **1993**, *34*, 6355

A New Approach to the Synthesis of the Strychnos Alkaloids Core Structure

Philip Magnus* and Melvyn Giles
Department of Chemistry and Biochemistry, University of Texas at Austin,
Austin, Texas 78712

Treatment of **10** with NaH gave the strychnos skeleton **12** in a single step!

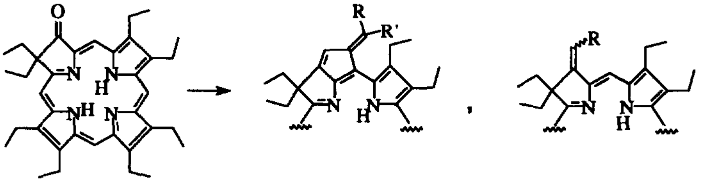


Tetrahedron Lett. **1993**, *34*, 6359

SYNTHESIS OF NEW LONG RED ABSORBING PORPHYRINS: REACTIONS OF ORGANOLITHIUMS ON OCTAETHYLPORPHYRINONE

A.S. Phadke, C. Butler, B.C. Robinson, A.R. Morgan, University of Toledo, Toledo, OH 43606

Reaction of organolithiums with octaethylporphyrinone, after further manipulations afforded porphyrin derivatives absorbing in the range of 690-860nm.

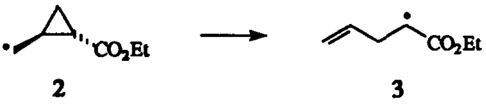


Tetrahedron Lett. **1993**, *34*, 6363

ETHOXYCARBONYL ACCELERATION OF CYCLOPROPYLCARBINYL RADICAL RING OPENING

Martin Newcomb* and Seung-Yong Choi
Department of Chemistry, Wayne State University, 5101 Cass Ave., Detroit, MI, 48202, USA

Radical 2 ring opens to 3 at 25 °C with a rate constant of 8×10^{10} s^{-1}.

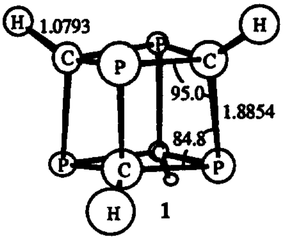


Tetrahedron Lett. **1993**, *34*, 6365

RING STRAIN ENERGY OF TETRAPHOSPHACUBANE. AN AB INITIO STUDY.

Steven M. Bachrach* and Laureta M. Perriott, Department of Chemistry, Northern Illinois University, DeKalb, IL, 60115.

The ring strain energy of tetraphosphacubane 1 is calculated at the HF/6-31G* level to be only 62.84 kcal mol^{-1}.



1

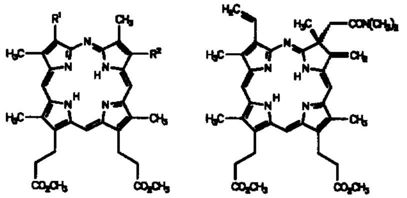
$1 + 12\,CH_3PH_2 \rightarrow 4\,CH(PH_2)_3 + 4\,P(CH_3)_3 \quad \Delta E = 62.84\ kcal\ mol^{-1}$

Tetrahedron Lett. **1993**, *34*, 6369

Synthesis of Azaspirographis Porphyrin and its Transformation into an Azachlorin

Benjamin Gerlach and Franz-Peter Montforts*
Institut für Organische Chemie, Universität Bremen, Leobener Str. NW 2,
D-28359 Bremen, Germany

The aza-substituted spirographis porphyrin analogues **2a,b** were prepared from bilirubin. They are precursors for the synthesis of geminally dialkylated azachlorins, a new class of potential long wavelength absorbing photosensitizers for photodynamic therapy of cancer. The geminally dialkylated azachlorin **3** was obtained from **2a** via amide acetal Claisen rearrangement.



2a : R^1 = $CHCH_2$, R^2 = CHO

2b : R^1 = CHO, R^2 = $CHCH_2$

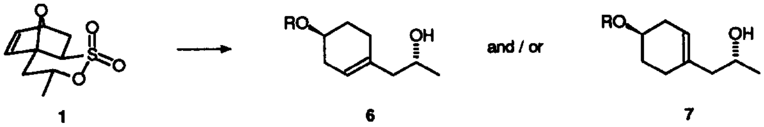
3

Tetrahedron Lett. **1993**, *34*, 6371

REDUCTIVE DESULFURIZATION OF SULTONES PREPARED VIA INTRAMOLECULAR DIELS-ALDER REACTION OF A FURAN-CONTAINING VINYLSULFONATE.

Peter Metz* and Eva Cramer
Organisch-Chemisches Institut der Universität Münster, Correnssstrasse 40, D-48149 Münster, Germany

Efficient transformations of sultone 1 to cyclohexenes 6 and/or 7 are reported.



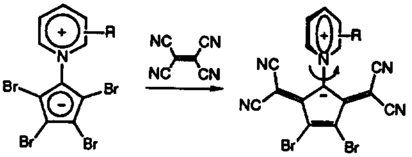
1 6 7

Tetrahedron Lett. **1993**, *34*, 6375

3,4-DIBROMO-2,5-BIS-DICYANOMETHYLENE-1-(1-PYRIDINIO)-3-CYCLOPENTENE-1-IDES: NOVEL PYRIDINIUM YLIDES OF THE CYCLOPENTADIENE SERIES

Volker Figala[a)], Thomas Geßner[a)], Rudolf Gompper*[a)], Erich Hädicke[b)], and Stefan Lensky[a)]
a) Institut für Organische Chemie, Universität München, Karlstraße 23, D-80333 München 2
b) BASF AG, D-67059 Ludwigshafen

Pyridiniotetrabromocyclopentadienides react with TCNE to form the title ylides in which the pyridinium ring and the cyclopentenide moiety are orthogonally arranged.

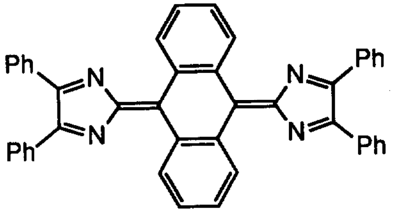


Tetrahedron Lett. **1993**, *34*, 6379

9,10-BIS(4,5-DIPHENYLIMIDAZOL-2-YLIDEN)-9,10-DIHYDROANTHRACENE - A FOLDED *p*-QUINODIMETHANE

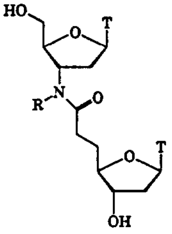
Rudolf Gompper*, Mathias Mehrer, and Kurt Polborn
Institut für Organische Chemie, Universität München,
Karlstraße 23, D-80333 München 2

The title compound has a folded conformation. 1,4-Bis[4,5-(di-*p*-methoxy-phenyl-imidazol-2-ylidene)]-benzene doesn't show any thermochromism.



Tetrahedron Lett. **1993**, *34*, 6383

Synthesis of Thymidine Dimer Derivatives Containing an Amide Linkage and their Incorporation into Oligodeoxyribonucleotides



Jacques Lebreton*, Alain De Mesmaeker, Adrian Waldner, Valérie Fritsch,
Romain M. Wolf, Susan M. Freier#
Central Research Laboratories, CIBA-GEIGY Ltd, CH-4002 BASEL, Switzerland
#ISIS Pharmaceuticals, 2280 Faraday Avenue, Carlsbad, CA 92008, USA

Abstract: The syntheses of thymidine dimers in which the natural phosphodiester linkage has been replaced by an amide group (3'-NR-CO-CH_2-5'; R=H, Me, n-Pr) are described. These new dimers were incorporated into oligonucleotides. Measurement of melting temperatures (T_m) of DNA/RNA duplexes and the nuclease resistance are presented. Preliminary results of molecular mechanics calculations are included.

Tetrahedron Lett. **1993**, *34*, 6387

Is a C≣C Quadruple Bond Possible?

P. v. R. Schleyer, P. Maslak, J. Chandrasekhar and R. S. Grev,
Institut für Organische Chemie, Friedrich-Alexander Universität Erlangen-Nürnberg, Henkestrasse 42, D-91054 Erlangen, Germany, Department of Organic Chemistry, Indian Institute of Science, Bangalore 560 012, India, and Center for Computational Quantum Chemistry, University of Georgia, Athens GA 30602, USA.

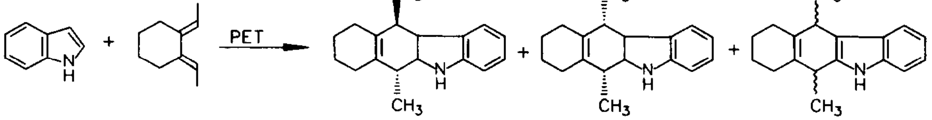
Ab initio computations predict a minimum for a carbon-carbon quadruple bond in C_2. While the computed C-C separation, 1.128 Å, fits Pauling's bond order-bond length relationship well, this result is an artifact of the restricted Hartree Fock theory.

Tetrahedron Lett. **1993**, *34*, 6391

Radical Cation Diels-Alder Reaction of Indoles and Exocyclic Dienes

Olaf Wiest and Eberhard Steckhan*
Institut für Organische Chemie und Biochemie der Universität Bonn, Gerhard-Domagk-Straße 1, D-53121 Bonn

Radical cation Diels-Alder reaction induced by photoelectron transfer of indole and exocyclic dienes leads to [b]-annelated carbazoles with a previously predicted stepwise mechanism.



Tetrahedron Lett. **1993**, *34*, 6395

Copper(I)-Induced Addition of Amines to Unactivated Nitriles: The First General One-Step Synthesis of Alkyl Amidines.

Guilhem Rousselet, Patrice Capdevielle* and Michel Maumy, Laboratoire de Recherches Organiques de l' ESPCI, associé au CNRS, 10 rue Vauquelin, F - 75231 Paris Cedex 05, France.

Condensation of unactivated nitriles **1** (acetonitrile, benzonitrile) and aliphatic amines **2** into amidines **3** is easily achieved in high to quantitative yields (80-100%) in presence of Cu(I)Cl, in mild conditions.

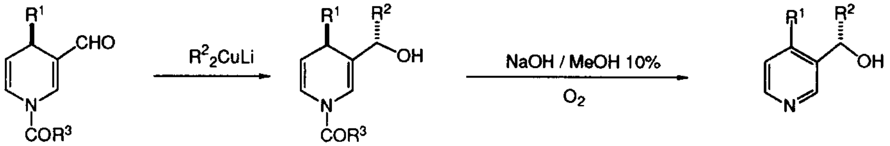
1 **2** **3**

Tetrahedron Lett. **1993**, *34*, 6399

DIASTEROSELECTIVE ADDITION OF ORGANOCUPRATES ON 1,4-DIHYDROPYRIDINE-3-CARBOXALDEHYDES. SYNTHESIS OF CHIRAL 1,4-DIHYDROPYRIDYL-3-ALCOHOLS AND PYRIDYL-3-ALCOHOLS

P. Mangeney*, R. Gosmini, S. Raussou and M. Commerçon
Laboratoire de Chimie des Organo-Eléments, CNRS UA 473, Université P. et M. Curie, 4 Place Jussieu, F-75252 Paris Cedex 05, France

Chiral 1,4-dihydropyridyl-3-alcohols are obtained via a diastereoselective 1,2 addition of organocuprates on chirals 1,4-dihydropyridine-3-carboxaldehydes and are transformed into chiral pyridyl-3-alcohols.



Tetrahedron Lett. **1993**, *34*, 6403

An Efficient Palladium-Catalysed Reaction of Vinyl and Aryl Halides or Triflates with Terminal Alkynes

Mouâd Alami*, Fabiola Ferri and Gérard Linstrumelle* Laboratoire de chimie, Ecole Normale Supérieure, 24 rue Lhomond, 75231 Paris Cedex 05, France

$$R^1X \ + \ \equiv\!\!-R^2 \ \xrightarrow[\text{piperidine or pyrrolidine}]{Pd(PPh_3)_4} \ R^1\!-\!\!\equiv\!\!-R^2$$

R^1 = vinyl, aryl

R^2 = n-C_5H_{11}, C_6H_5, CH_2OH, $(CH_2)_2OH$, $(CH_2)_2COOMe$

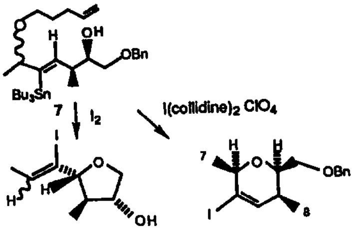
X = Br, I, OTf

Tetrahedron Lett. **1993**, *34*, 6407

Stereoselective Allylic Transposition by means of Allylic n-Pentenyl Ethers.

Khadija Addi, Troels Skrydstrup, Michel Bénéchie and Françoise Khuong-Huu.*
CNRS, Institut de Chimie des Substances Naturelles 91198, Gif-sur-Yvette, France.

According to the conditions used for reaction, I_2 or I-di-*sym*-collidine perchlorate, tetrahydrofuran **15** or dihydropyran **18** was obtained through intramolecular allylic substitution reaction using as leaving group an oxonium formed by subjection of *n*-pentenyl ether **7** to iodonium ions.



15 **18**

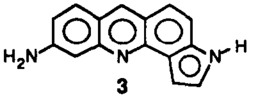
Tetrahedron Lett. **1993**, *34*, 6411

PYRROLO- AND PYRIDOACRIDINES

Abderrahim Wardani and Jean Lhomme

LEDSS, associé au CNRS, Université J. Fourier, BP 53, 38041 GRENOBLE Cedex 9, FRANCE

The synthesis of 9-amino-(3H)-pyrrolo[2,3-c]acridine 3 and 10-amino-benzo[b]-[1,7]phenanthroline 4 starting from proflavine 1 is described.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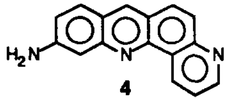
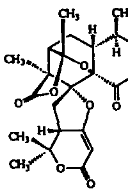

4

Tetrahedron Lett. **1993**, *34*, 6415

Brownins D and E: New Limonoids from *Harrisonia brownii*

Katsuyoshi Mitsunaga[a], Kazuo Koike[a], Kiyoshi Ishii[a], Taichi Ohmoto[a], Akira Uchida[b], Isao Oonishi[b], and Yuji Ohashi[c].
a) School of Pharmaceutical Sciences, Toho University, Miyama Funabashi, Chiba 274, Japan.
b) Department of Biomolecular Science, Faculty of Sciences, Toho University, Miyama, Funabashi, Chiba 274, Japan.
c) Department of Chemistry, Faculty of Sciences, Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo 152, Japan.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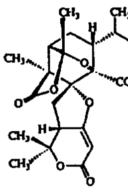

2

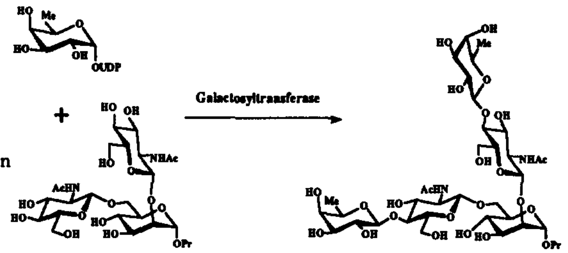
Two new limonoids, brownins D (1) and E (2), have been isolated from *Harrisonia brownii*.

Tetrahedron Lett. **1993**, *34*, 6419

Synthesis of UDP-6-Deoxy- and -6-Fluorogalactoses and their Enzymatic Glycosyl Transfer to Mono- and Bi-antennary Carbohydrate Chains

Hisashi Kodama, Life Science Research Laboratory, Japan Tobacco Inc., 6-2 Umegaoka, Midori-ku Yokohama 227, Japan
Yasuhiro Kajihara, Tsuyoshi Endo, and Hironobu Hashimoto, Department of Life Science, Faculty of Biotechnology, Tokyo Institute of Technology, Nagatsuta, Midori-ku Yokohama 227, Japan

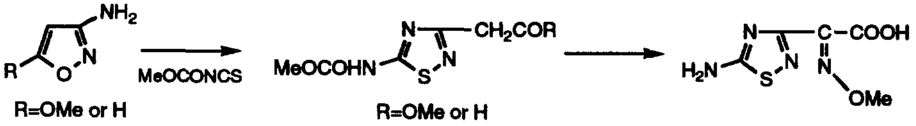
6'-Modified lactosaminyl moiety in mono- and biantennary sugar chains were synthesized by galactosyltransferase.



Tetrahedron Lett. **1993**, *34*, 6423

A PRACTICAL PREPARATION OF (Z)-2-(5-AMINO-1,2,4-THIADIAZOL-3-YL)-2-(METHOXYIMINO)ACETIC ACID.

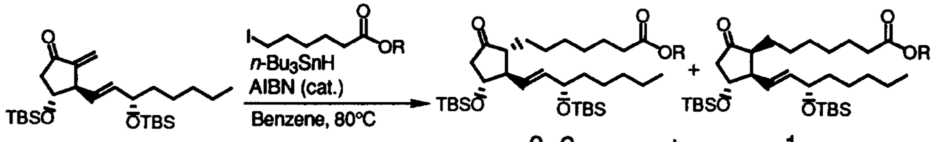
Kuniaki Tatsuta,* Shozo Miura and Hiroki Gunji, Graduate School of Engineering, Waseda University, Ohkubo, Shinjuku-ku, Tokyo 169, Japan
Tetsuro Tamai, Department of Applied Chemistry, Keio University, Hiyoshi, Kohoku-ku, Yokohama 223, Japan
Ryonosuke Yoshida and Takashi Inagaki, Katayama Seiyakusyo Co., Ltd., Shodaitajika, Hirakata 573, Japan



Tetrahedron Lett. **1993**, *34*, 6427

A Highly Efficient Approach to Prostaglandins via Radical Addition of α Side-Chains to Methylenecyclopentanones. Total Synthesis of Natural PGE_1, Limaprost and New Prostaglandin Derivatives.

Naoya Ono, Yukio Yoshida, Kousuke Tani, Sentaro Okamoto, and Fumie Sato*
Department of Biomolecular Engineering, Tokyo Institute of Technology, Midoriku, Yokohama 227, JAPAN



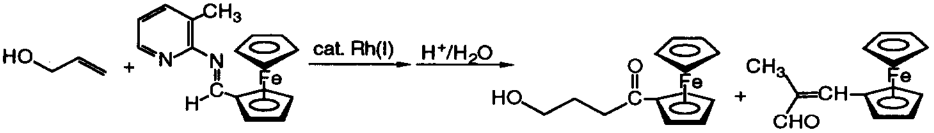
3~6 : 1

Tetrahedron Lett. **1993**, *34*, 6431

HYDROIMINOACYLATION OF ALLYL ALCOHOL WITH FERROCENECARBOXALDIMINE BY Rh(I) CATALYST.

Chul-Ho Jun*, Jung-Bu Kang and Jin-Yong Kim, Agency for Defense Development, Yuseong P.O.Box 35, Taejon 305-600, Korea

Hydroiminoacylation of allylalcohol with ferrocenecarboxaldimine and hydrolysis lead to 4-hydroxy-1-butanoylferrocene and 3-ferrocenyl-2-methyl-2-propanal.

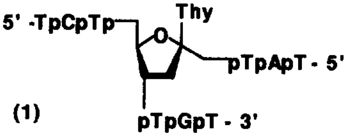


Tetrahedron Lett. **1993**, *34*, 6435

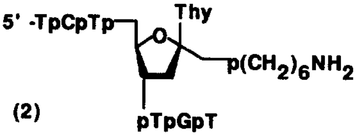
ANALOGUES OF OLIGONUCLEOTIDES CONTAINING 3'-DEOXY-β-D-PSICOTHYMIDINE

Alex Azhayev,* Andrei Gouzaev, Jari Hovinen, Elena Azhayeva and Harri Lönnberg
Department of Chemistry, University of Turku, FIN-20500 Turku, FINLAND

3'-Deoxy-β-D-psicothymidine [1-(3-deoxy-β-D-*erythro*-2-hexulofuranosyl)thymidine] was used in the synthesis of modified oligonucleotides 1 and 2.



(1)

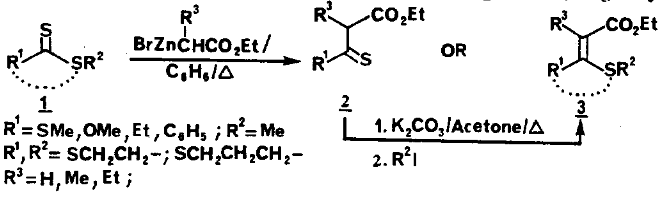


(2)

Tetrahedron Lett. **1993**, *34*, 6439

REFORMATSKY REACTION ON THIOCARBONYLCOMPOUNDS : NEW C-C BOND FORMING REACTION

M. Chandrasekharam, Laxminarayan Bhat, Hiriyakkanavar Ila* and Hiriyakkanavar Junjappa*
Department of Chemistry, North Eastern Hill University, Shillong 793 003, Meghalaya, India



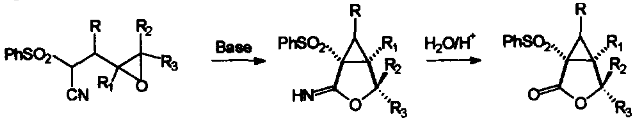
R^1 = SMe, OMe, Et, C_6H_5 ; R^2 = Me
R^1, R^2 = SCH_2CH_2–; $SCH_2CH_2CH_2$–
R^3 = H, Me, Et ;

Tetrahedron Lett. **1993**, *34*, 6443

CYCLIZATION OF γ,δ-EPOXY-α-CYANOSULPHONES. A SIMPLE, DIASTEREOSELECTIVE ROUTE TO CYCLOPROPANE CARBOXYLIC ACIDS.

Fabio Benedetti,* Federico Berti, Amerigo Risaliti, Dipartimento di Scienze Chimiche, Università di Trieste, Via Giorgieri 1, I-34127, Trieste, ITALY.

Base catalyzed treatment of 2-cyano-2-sulphonylethyloxiranes leads diastereoselectively, by a double cyclization sequence, to bicyclic imines and cyclopropanolactones.



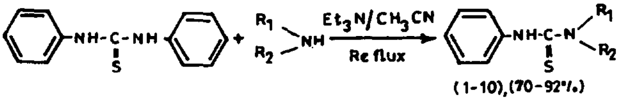
Tetrahedron Lett. **1993**, *34*, 6447

A FACILE CONVERSION OF SYMMETRICAL TO UNSYMMETRICAL THIOUREAS.

Krishnamurthy Ramadas*, Natarajan Srinivasan and Narayanasamy Janarthanan,

Centre for Agrochemical Research, SPIC Science Foundation, 110, Mount Road, Guindy, Madras - 600 032; INDIA.

An interesting study describing the transformation of symmetrical to unsymmetrical thioureas using the appropriate amine in the presence of a tertiary amine is reported.



Tetrahedron Lett. **1993**, *34*, 6451

NEW PHOSPHITYLATING REAGENT IN THE NUCLEOTIDE CHEMISTRY CONTAINING TWO 4-NITROPHENOXY LEAVING GROUPS. REMARKABLY FAST AND CLEAN PHOSPHITYLATIONS ACTIVATED BY DBU LEADING TO THIO- AND SELENO-OLIGONUCLEOTIDES

Jan Heliński, Wojciech Dąbkowski and Jan Michalski*
Polish Academy of Sciences, Centre of Molecular and Macromolecular Studies, Department of Heteroatom Chemistry
Sienkiewicza 112, 90-363 Łódź, Poland

Phosphitylations steps proceed either *via* exchange of OAr or $^{i}Pr_2N$ groups

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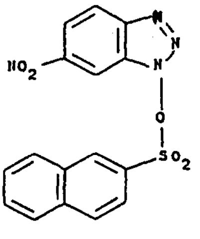
Tetrahedron Lett. **1993**, *34*, 6455

6-NITRO-1-β-NAPHTHALENESULFONYLOXYBENZOTRIAZOLE : A NOVEL COUPLING REAGENT FOR PEPTIDE SYNTHESIS

B. Devadas, B. Kundu, A. Srivastava and K.B. Mathur*, Division of Biopolymers, Central Drug Research Institute, Lucknow-226 001, India.

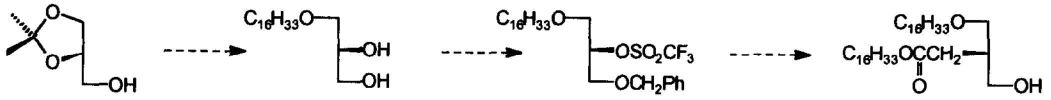
Synthesis of 6-nitro-1-β-naphthalenesulfonyloxybenzotriazole (N-NSBT) and its application as a peptide coupling reagent is being reported.



Tetrahedron Lett. **1993**, *34*, 6459

SYNTHESIS OF A 'REVERSE ESTER' ANALOGUE OF 1,2-*sn*-DIGLYCERIDES FROM (*S*)-1,2-DI-*O*-ISOPROPYLIDENEGLYCEROL; EFFICIENT, STEREOSPECIFIC NUCLEOPHILIC DISPLACEMENT *VIA* A TRIFLATE AT GLYCEROL C-2

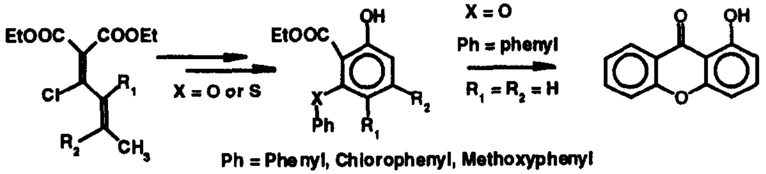
Bernard T Golding,[a]* Alice L Griffin,[a] and David H Robinson[b]
a Department of Chemistry, Bedson Building, University of Newcastle, Newcastle upon Tyne NE1 7RU, UK.
b Fisons PLC Pharmaceutical Division, Bakewell Road, Loughborough, Leicestershire LE11 0RH, UK.



Tetrahedron Lett. **1993**, *34*, 6463

NEW SYNTHETIC APPROACHES TO 6-THIOPHENOXYSALICYLATES 6-PHENOXYSALICYLATES AND 1-HYDROXY-9-XANTHONES.

OSMO E.O. HORMI AND LEENA HIRVELÄ, UNIVERSITY OF OULU, DEPARTMENT OF CHEMISTRY, SF-90570 OULU



Ph = Phenyl, Chlorophenyl, Methoxyphenyl

Tetrahedron Lett. **1993**, *34*, 6467

ON THE MODE OF BAKER'S YEAST REDUCTION OF C-7---C-10 2-ALKEN-4-OLIDES.

Giovanni Fronza, Claudio Fuganti, Piero Grasselli, Andrea Mele, Antonella Sarra, Gianna Allegrone and Massimo Barbeni
Dipartimento di Chimica and CNR, Politecnico di Milano, 20133 Milano, Italy and San Giorgio Flavors, 10147 Torino, Italy.

B. Y. reduction of 2-alken-4-olides proceeds with kinetic preference for the (S) enantiomer with *ee* values increasing with side chain length.

Tetrahedron Lett. **1993**, *34*, 6471

A NOVEL APPROACH TO Bz-SUBSTITUTED TRYPTOPHANS VIA Pd-CATALYSED COUPLING / ANNULATION

Torsten Jeschke, David Wensbo, Ulf Annby, Salo Gronowitz*
Division of Organic Chemistry 1, Chemical Center, University of Lund, P.O.B 124, S-221 00 Lund, Sweden
Louis A. Cohen
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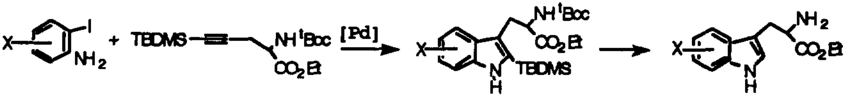
Substituted o-iodoanilines are reacted with acetylenic amino acid esters in Pd-catalysed coupling / annulation. Bz-substituted tryptophans are obtained after desilylation.

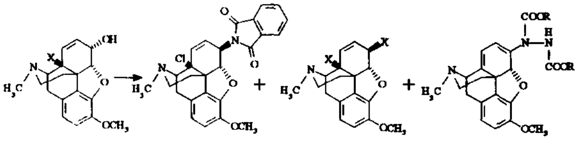


APPLICATION OF THE MITSUNOBU REACTION IN THE MORPHINE SERIES.* THE REACTION OF 14β-CHLORO AND 14β-BROMOMCODEINE WITH PHTHALIMIDE AND DIPHENYLPHOSPHORYL AZIDE

Tetrahedron Lett. **1993**, *34*, 6475

Csaba Simon, Sándor Hosztafi, Alkaloida Chem. Co., Hungary H-4440
Sándor Makleit, Dept. Org. Chem., L. Kossuth Univ., Debrecen, Hungary H-4010

The reaction of 14-halogenocodeines with phthalimide and diphenylphosphoryl azide has been investigated and the mechanism of consecutive reaction has been explained.

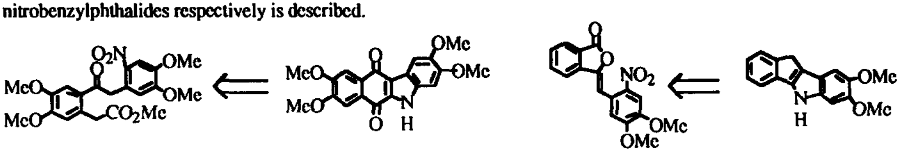


A NEW, SIMPLE, EFFICIENT SYNTHESIS OF BENZO[b]CARBAZOLES AND INDENE[1,2-b]INDOLES.

Tetrahedron Lett. **1993**, *34*, 6479

Juan C. Estévez, Ramón J. Estévez and Luis Castedo*.
Departamento de Química Orgánica de la Universidad de Santiago and Sección de Alcaloides (C.S.I.C.) 15706.
Santiago de Compostela. SPAIN.

A new, efficient synthesis of benzo[b]carbazoles and indene[1,2-b]indoles form nitrophenylacetylphenylacetic esters and nitrobenzylphthalides respectively is described.



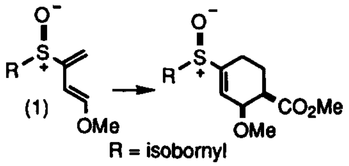
CONTROL OF STEREOCHEMISTRY BY SULFOXIDE CHIRALITY IN DIELS-ALDER REACTIONS OF 1-METHOXY-3-ALKYLSULFINYLBUTADIENES

Tetrahedron Lett. **1993**, *34*, 6481

H. Adams,[a] Maria C. Aversa,[b]* Paola Bonaccorsi,[b] Placido Giannetto,[b] and D. Neville Jones[a]*

[a]Department of Chemistry, The University, Sheffield, S3 7HF, U.K.
[b]Dipartimento di Chimica organica e biologica, Università, 98166 Messina, Italy

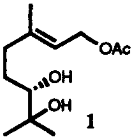
Cycloaddition of the diene (1) (and its epimer at sulfur) with methyl acrylate, catalysed by lithium perchlorate or zinc chloride in dichloromethane, proceeded with complete regioselectivity, and with very high endo diastereofacial selectivity.



ASYMMETRIC DIHYDROXYLATION OF GERANYL, NERYL AND *trans, trans* - FARNESYL ACETATES

Tetrahedron Lett. **1993**, *34*, 6485

Giovanni Vidari, Antonella Dapiaggi, Giuseppe Zanoni and Luigi Garlaschelli.
Dipartimento di Chimica Organica, Universita' di Pavia - Via Taramelli, 10 - 27100 Pavia (Italy)



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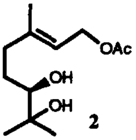

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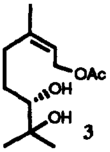

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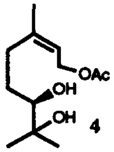

4

Sharpless' catalytic asymmetric dihydroxylation of geranyl, neryl and *trans, trans*-farnesyl acetateswas investigated. The chiral building blocks 1- 4 were obtained with high enantio- and positional selectivity.

Tetrahedron Lett. **1993**, *34*, 6489

APPLICATION OF SODIUM AMALGAM REDUCTIVE ELIMINATION OF ALLYLIC DIBENZOATES TO THE TOTAL SYNTHESIS OF 5(S)-12(R) LEUKOTRIENE B_4.

Guy Solladié*, Antonio Urbano, Guy B. Stone.

Ecole Européenne des Hautes Etudes des Industries Chimiques,1 rue B.Pascal,F-67008-Strasbourg, France.