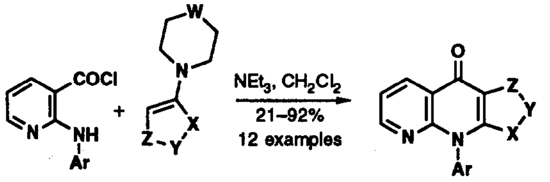
GRAPHICAL ABSTRACTS

Tetrahedron, **1993**, *49*, 7169

Intramolecular Transaminations of Enaminones: A Synthesis of Fused, Polycyclic, N-Aryl Pyridones

Richard J. Friary,* Vera Seidl, John H. Schwerdt, Marvin P. Cohen, Donald Hou, and Mehdi Nafissi

Schering-Plough Research Institute; 2015 Galloping Hill Road; Kenilworth, N. J. 07033-0539; U. S. A.



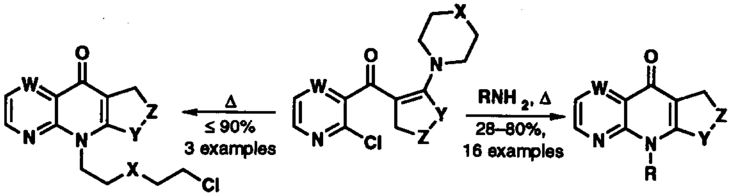
Bidentate 2-arylamino-3-pyridine carbonyl chlorides acylated enamines of cyclic ketones, and the resulting enaminones cyclized in situ to give a series of linearly fused polycyclic N-aryl pyridones.

Tetrahedron, **1993**, *49*, 7179

Intermolecular Transaminations of Enaminones: A Synthesis of Fused, Polycyclic, N-Aryl Pyridones

Richard J. Friary,* Vera Seidl, John H. Schwerdt, Tze-Ming Chan, Marvin P. Cohen, Edward R. Conklin, Timothy Duelfer, Donald Hou, Mehdi Nafissi, Robert L. Runkle, Pirouz Tahbaz, and Robert L. Tiberi

Schering-Plough Research Institute; 2015 Galloping Hill Road; Kenilworth, N. J. 07033-0539; U. S. A.



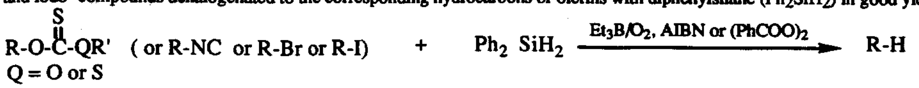
Aromatic and aliphatic amines converted certain enaminones to linearly fused, polycyclic pyridones, whereas heat alone cyclised some of these enaminones to yet other pyridones.

Tetrahedron, **1993**, *49*, 7193

THE INVENTION OF RADICAL REACTIONS. PART XXXI. DIPHENYLSILANE: A REAGENT FOR DEOXYGENATION OF ALCOHOLS *VIA* THEIR THIOCARBONYL DERIVATIVES, DEAMINATION *VIA* ISONITRILES AND DEHALOGENATION OF BROMO- AND IODO- COMPOUNDS BY RADICAL CHAIN CHEMISTRY

Derek H. R. Barton, Doo Ok Jang and Joseph Cs. Jaszberenyi*
Department of Chemistry, Texas A&M University, College Station, Texas, 77843

Thionocarbonates and xanthates of alcohols, as well as *bis*-xanthates of *vic*-diols are deoxygenated, isonitriles deaminated, bromo- and iodo- compounds dehalogenated to the corresponding hydrocarbons or olefins with diphenylsilane (Ph_2SiH_2) in good yield.



$$\text{R-O-}\overset{\text{S}}{\overset{\|}{\text{C}}}\text{-QR'}\ \ (\text{ or R-NC or R-Br or R-I})\quad +\quad \text{Ph}_2\ \text{SiH}_2\ \xrightarrow{\text{Et}_3\text{B/O}_2\text{, AIBN or (PhCOO)}_2}\ \text{R-H}$$

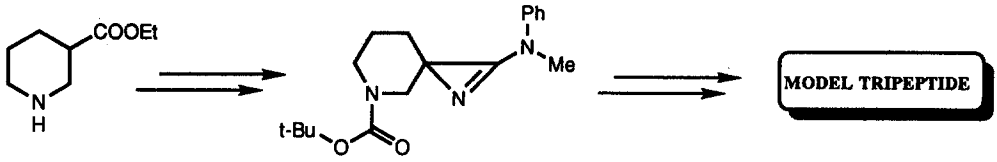
Q = O or S

Tetrahedron, **1993**, *49*, 7215

SYNTHESIS OF A NOVEL HETEROSPIROCYCLIC 3-(*N*-METHYL-*N*-PHENYLAMINO)-2*H*-AZIRINE AND ITS USE AS AN AMINO ACID EQUIVALENT IN THE PREPARATION OF A MODEL TRIPEPTIDE

José M. Villalgordo and Heinz Heimgartner*
Organisch-Chemisches Institut der Universität Zürich, Winterthurerstrasse 190, CH-8057 Zürich (Switzerland)

The synthesis of a novel heterospirocyclic 3-amino-2*H*-azirine is described. This compound has been shown to be a useful amino acid equivalent. The synthesis of a model tripeptide was achieved in good overall yields



Tetrahedron, **1993**, *49*, 7223

ACYCLIC OLIGONUCLEOTIDES: POSSIBILITIES AND LIMITATIONS

Frank Vandendriessche, Koen Augustyns, Arthur Van Aerschot, Roger Busson, Jos Hoogmartens and Piet Herdewijn*
Laboratory of Medicinal Chemistry, Instituut voor Farmaceutische Wetenschappen, Rega Institute for Medical Research, K.U.Leuven. Minderbroedersstraat 10, B-3000 Leuven, Belgium.

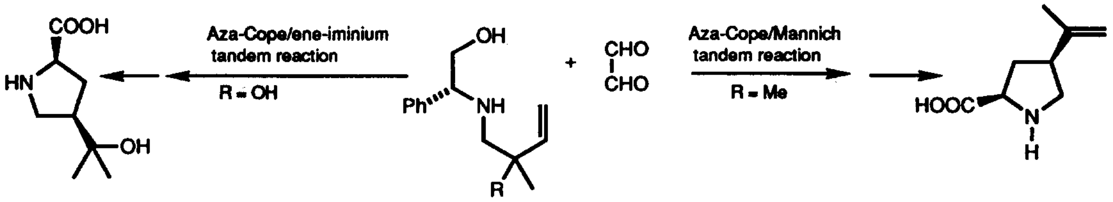
Acyclic nucleosides were incorporated in oligonucleotides at different positions. The enzymatic stability as well as base-pairing properties of these modified oligo's were studied.

R = H, H_3CO

Tetrahedron, **1993**, *49*, 7239

Asymmetric Synthesis of α-Amino Acids via Cationic Aza-Cope Rearrangements

C. Agami,* F. Couty,* J. Lin, A. Mikaeloff and M. Poursoulis
Laboratoire de Chimie Organique, Université P. et M. Curie, 4 place Jussieu, 75005 Paris, France.

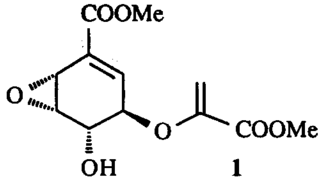


Tetrahedron, **1993**, *49*, 7251

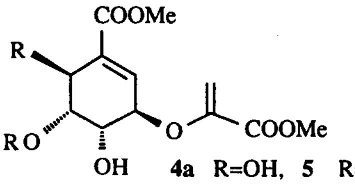
CYATHIFORMINES A-D, NEW CHORISMATE-DERIVED METABOLITES FROM THE FUNGUS *CLITOCYBE CYATHIFORMIS*

Alberto Arnone, Rosanna Cardillo, Gianluca Nasini, Orso Vajna de Pava. Dipartimento di Chimica del Politecnico, Centro del C.N.R. per le Sostanze Organiche Naturali, Politecnico di Milano, Via Mancinelli 7, I 20131 Milano, Italy.

The structure of cyathiformines A-D **1**, **4a**, **5**, **6a**, four new chorismate metabolites isolated from a strain of *C. cyathiformis* are reported.



1



4a R=OH, **5** R=Cl, **6a** R=H

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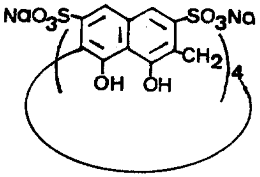
^{1}H NMR STUDY ON THE COMPLEXATION OF PHENOLS WITH CYCLOTETRACHROMOTROPYLENE IN AQUEOUS SOLUTION

Bo-Long Poh*, Cho Hoon Lim, Chi Ming Tan, and Wai Mung Wong
School of Chemical Sciences, Universiti Sains Malaysia,
11800 Minden, Penang, Malaysia.

$$H + G \underset{}{\overset{K}{\rightleftharpoons}} HG$$

$G = XC_6H_4OH$

H =

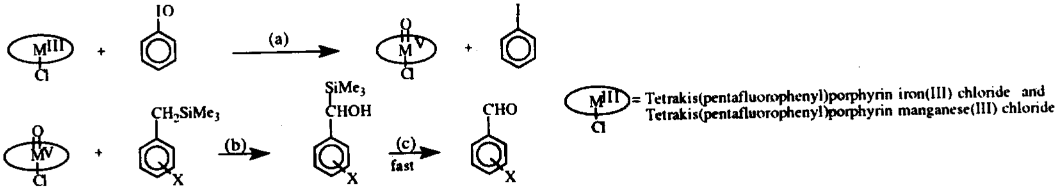


Tetrahedron, **1993**, *49*, 7267

SIDE-CHAIN OXIDATION OF BENZYLTRIMETHYLSILANES BY IODOSYLBENZENE IN THE PRESENCE OF IRON AND MANGANESE PORPHYRINS

Enrico Baciocchi* and Osvaldo Lanzalunga
Dipartimento di Chimica and Centro C.N.R. di Studio sui Meccanismi di Reazione,
Universita' "La Sapienza", P.le A. Moro 5, 00186 Roma (Italy).

Metalloporphyrins and iodosylbenzene convert benzyltrimethylsilanes into benzaldehydes *via* steps a-c. Relative reactivity data suggest that step b occurs by a hydrogen atom transfer when M = Mn, a concerted proton/electron transfer appears more likely when M = Fe.



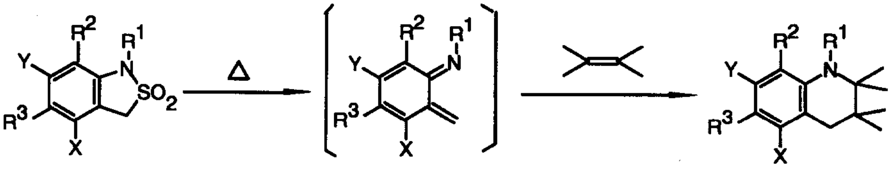
= Tetrakis(pentafluorophenyl)porphyrin iron(III) chloride and Tetrakis(pentafluorophenyl)porphyrin manganese(III) chloride

Tetrahedron, **1993**, *49*, 7277

REACTIONS OF AZA-*ORTHO*-XYLYLENES GENERATED FROM 2,1-BENZISOTHIAZOLINE 2,2-DIOXIDES.

Krzysztof Wojciechowski
Institute of Organic Chemistry, Polish Academy of Sciences, ul. Kasprzaka 44/52, PL-01-224 Warszawa, Poland.

Thermal extrusion of SO_2 from 2,1-benzisothiazoline 2,2-dioxides leads to aza-*ortho*-xylylenes which react with dienophiles giving 1,2,3,4-tetrahydroquinoline derivatives.



X, Y = NO_2, H; R^1 = H, CH_3, $CH_2C_6H_5$; R^2 = H, Cl, CH_3; R^3 = H, Cl, F, CH_3, OCH_3.

Tetrahedron, **1993**, *49*, 7287

N-[BIS(METHYLTHIO)METHYLENE]-DIDEHYDROALANINE METHYL ESTER A NEW AND EXCELLENT DIENOPHILE FOR THE SYNTHESIS OF 2-AMINONORBORNENE-2-CARBOXYLIC ACID

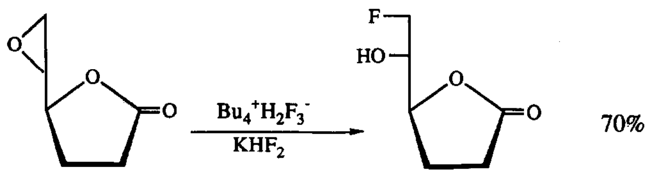
Elena Buñuel, Carlos Cativiela* and Maria D. Diaz-de-Villegas
Instituto de Ciencia de Materiales de Aragón. Departamento de Química Orgánica. Universidad de Zaragoza-CSIC. Zaragoza. Spain.

Tetrahedron, **1993**, *49*, 7295

REGIOSELECTIVE OPENING OF EPOXYALDONOLACTONES TO FLUORODEOXYALDONOLACTONES USING TETRABUTYLAMMONIUM DIHYDROGENTRIFLUORIDE

Inge Lundt*
Department of Organic Chemistry, The Technical University of Denmark, Building 201, DK-2800 Lyngby, Denmark
Domenico Albanese, Dario Landini and Michele Penso
Centro CNR and Dipartimento di Chimica Organica e Industriale dell'Università, via Venezian 21, I-20133 Milano, Italy

A number of epoxyaldonolactones are regioselectively converted into the corresponding fluorodeoxylactones by using $Bu_4N^+H_2F_3^-$.

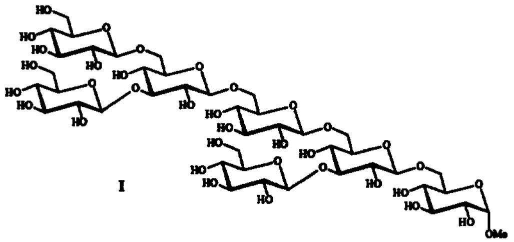


Tetrahedron, **1993**, *49*, 7301

SYNTHESIS OF A METHYL HEPTAGLUCOSIDE: ANALOGUE OF THE PHYTOALEXIN ELICITOR FROM *PHYTOPHTORA MEGASPERMA*

R. Verduyn[a], M. Douwes[a], P.A.M. van der Klein[a],
E.M. Mösinger[b], G.A. van der Marel[a] and J.H. van Boom[a]
[a]*State University Leiden, P.O.Box 9502,*
2300 RA Leiden, The Netherlands
[b]*Sandoz Agro Ltd., Basel, Switzerland*

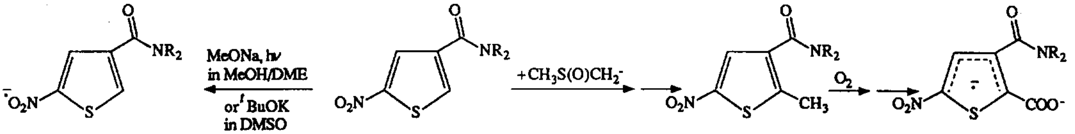
A versatile and convenient route of synthesis to α-methyl $3^2,3^4$-di-β-D-glucopyranosyl-gentiopentaoside (I) is described.


I

Tetrahedron, **1993**, *49*, 7317

An EPR Study of the Radicals from 5-Nitrothiophene-carboxamides: a Novel Group of Direct Acting Mutagens

Marco Lucarini, Gian Franco Pedulli, Domenico Spinelli and Sara Frascari
Dipartimento di Chimica Organica "A. Mangini", Università di Bologna, Via S. Donato 15, I-40127 Bologna, Italy
Angelo Alberti
I.Co.C.E.A. - C.N.R., Via della Chimica 8, I-40064 Ozzano Emilia, Italy

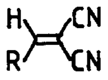


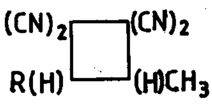
An EPR study has evidenced the indicated behaviour with the *meta*-like 5-nitrothiophene-3-carboxamides. In contrast 2-nitrothiophene and the *para*-like isomers 5-nitrothiophene-2-carboxamide and -2-carboxylic acid always gave only the corresponding radical anions.

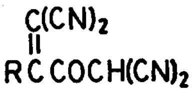
Tetrahedron, **1993**, *49*, 7325

NEW CYCLOADDITION REACTIONS WITH ETHENYL AND ETHINYL[2.2]PARACYCLOPHANES

A.A. Aly[a] and A.E. Mourad[b,*]; [a]TU Braunschweig,(FRG), and [b]El-Minia University, (Egypt)

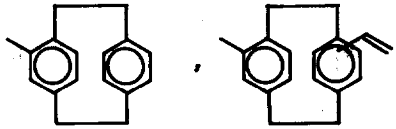


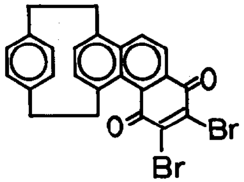


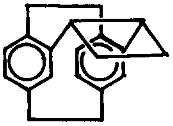


$$\mathrm{R}\overset{\overset{\mathrm{C(CN)_2}}{\|}}{\mathrm{C}}\mathrm{COCH(CN)_2}$$

R =





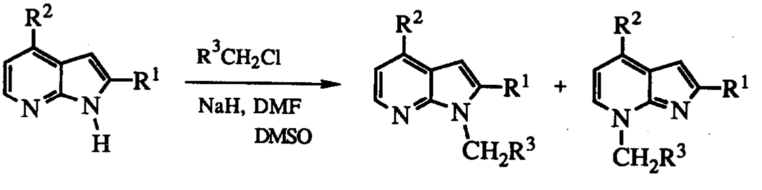


Tetrahedron, **1993**, *49*, 7337

AMBIDENT HETEROCYCLIC REACTIVITY: THE ALKYLATION OF PYRROLOPYRIDINES (AZAINDOLES, DIAZAINDENES)

Indumathy Mahadevan and Malcolm Rasmussen*
Chemistry Department, The Faculties, Australian National University, Canberra, ACT 0200, Australia

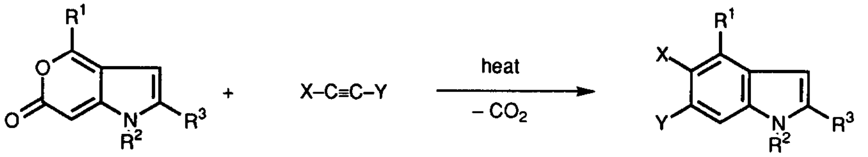
The alkylation patterns of parent and substituted 4-, 5-, 6-, and 7-azaindole anions are determined by a combination of steric factors, charge distribution and product development in the transition states.



Tetrahedron, **1993**, *49*, 7353

PYRROLE-2,3-QUINODIMETHANE ANALOGUES IN THE SYNTHESIS OF INDOLES. SYNTHESIS AND DIELS-ALDER REACTIONS OF 1,6-DIHYDROPYRANO[4,3-*b*]PYRROL-6(1*H*)-ONES

John F. P. Andrews, P. Mark Jackson, Christopher J. Moody
Department of Chemistry, Loughborough University of Technology, Loughborough, Leicestershire LE11 3TU, U.K.



R^1 = H, Me, Ph
R^2 = H, CO_2Bu^i
R^3 = H, CHO, COPh

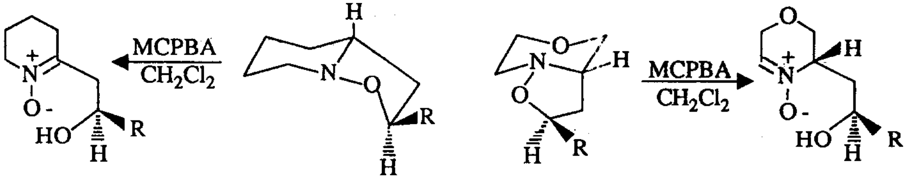
A new route to indoles involving the Diels–Alder reaction of 1,6-dihydropyrano[4,3-*b*]pyrrol-5-ones with alkynes is described.

Tetrahedron, **1993**, *49*, 7373

NITRONE CYCLOADDITION : PERACID OXIDATION OF PERHYDRO-1,2-OXAZOLO[3,2-C][1,4]OXAZINES

Sk. Asrof Ali* and Hasan A. Al-Muallem
Chemistry Department, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia.

Role of ring fusion in determining the regiochemistry of peracid induced ring opening of isoxazolidines (2) and (17)

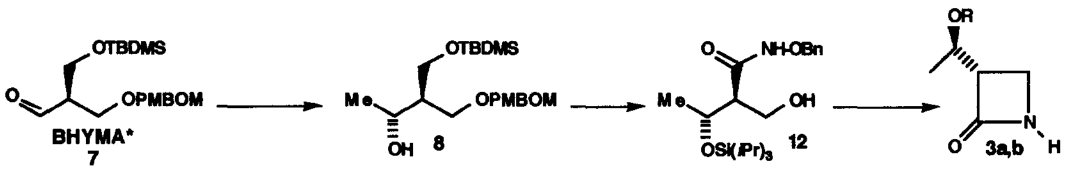


(major) (17) (major conformer) (2) (major conformer) (major)

Tetrahedron, **1993**, *49*, 7385

CHEMOENZYMATIC PREPARATION OF A KEY INTERMEDIATE FOR CARBAPENEM SYNTHESIS STARTING FROM ASYMMETRIZED *BIS*(HYDROXYMETHYL)ACETALDEHYDE (BHYMA*).

Luca Banfi, Giuseppe Guanti, and Enrica Narisano, *Istituto di Chimica Organica , corso Europa 26, 16132 Genova (Italy).*



4-Unsubstituted 2-azetidinones **3a,b**, which are useful intermediates for the synthesis of carbapenem antibiotics, have been prepared starting from asymmetrized *bis*(hydroxymethyl)acetaldehyde (BHYMA*) **7**, a new chiral building block. The key steps are the highly diastereoselective addition of Me_2CuLi to **7** (diast. ratio = 95 : 5), and the regioselective deblocking of tBuMe$_2$Si ether in the presence of a (iPr)$_3$Si ether, by using a novel methodology.