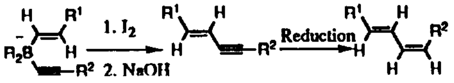
GRAPHICAL ABSTRACTS

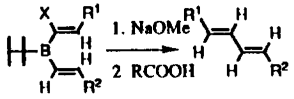
Tetrahedron, 1990, 47, 343

HIGHLY STEREOSELECTIVE SYNTHESES OF CONJUGATED E,E- AND E,Z-DIENES, E-ENYNES, AND E-1,2,3-BUTATRIENES VIA ALKENYLBORANE DERIVATIVES

Ei-ichi Negishi, Takao Yoshida, Akiva Abramovitch, George Lew, and Robert M. Williams, Department of Chemistry, Syracuse University, Syracuse, New York 13210, and Department of Chemistry, Purdue University, West Lafayette, Indiana 47907

A highly stereoselective (>98-99%) methodology for the synthesis of E-enynes, E,Z- and E,E-dienes, and E-1,2,3-trienes based on organoborane chemistry is reported.



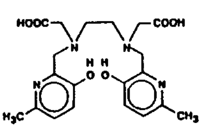


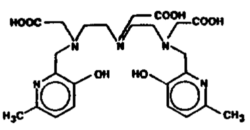
Tetrahedron, 1990, 47, 357

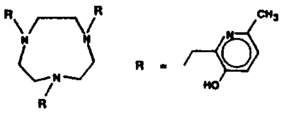
SYNTHESES OF MULTIDENTATE LIGANDS CONTAINING HYDROXYPRYIDYL DONOR GROUPS

*Yizhen Sun, Arthur E. Martell**, Department of Chemistry, Texas A&M University, College Station, TX 77843-3255, U. S. A.
Michael J. Welch, The Edward Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis, Missouri 63110

Three new multidentate ligands containing a new type of donor group (3-hydroxy-6-methyl-2-pyridyl) have been synthesized, and the crystal structure of the Fe(III) complex of one of these N,N′,N″-tris(3-hydroxy-6-methyl-2-pyridylmethyl)-1,4,7-triazacyclononane has been determined. The hydroxypyridyl group imparts high affinity for trivalent metal ions to these ligands.



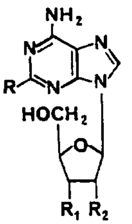




Tetrahedron, 1990, 47, 365

SYNTHETIC APPROACHES TO DOUBLY MODIFIED NUCLEOSIDES: CONGENERS OF CORDYCEPIN

Vasu Nair* and David F. Purdy
Department of Chemistry, University of Iowa, Iowa City, Iowa 52242



Synthesis of novel analogues of cordycepin using *bis*-silylation, radical deoxygenation, radical halogenation, and metal-mediated functionalization reactions.

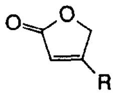
$R = I, -CH{=}CH_2, -C{\equiv}CH, -CH_2{-}CH{=}CH_2, -CN, -CONH_2$
$R_1 = H, R_2 = OH$ or $R_1 = OH, R_2 = H$

Tetrahedron, **1990**, *47*, 383

ELECTROREDUCTIVE CYCLIZATION REACTIONS. ATTEMPTS TO USE 2(5H)FURANONES (α,β-UNSATURATED BUTENOLIDES). DOMINANCE OF ACID-BASE OVER CYCLIZATION CHEMISTRY

Mary A Amputch and R Daniel Little*, Department of Chemistry, UCSB, Santa Barbara, CA 93106

The electrochemistry of butenolides **1**, **4**, **12**, and **22-24** has been examined While electroreductive cyclization (ERC) is observed, the process is thwarted by undesirable acid-base chemistry.



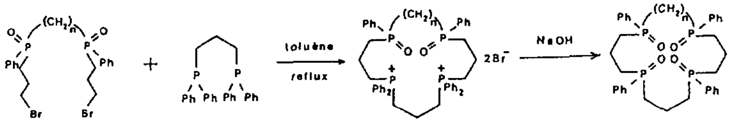
1, R = (E,E)-$(CH_2)_2(CH{=}CH)_2CO_2CH_3$
4, R = (E)-$(CH_2)_4CH{=}CHCO_2CH_3$
12, R = $(CH_2)_4CHO$
22, R = $(CH_2)_4CH_2OMs$
23, R = $(CH_2)_4CH_2Br$
24, R = (E)-$(CH_2)_2CH{=}CHCH_2Br$

Tetrahedron, **1990**, *47*, 403

MONO AND BIFONCTIONNAL MACROCYCLIC PHOSPHINE OXIDES. BRIDGE PROTECTION.

M. Vincens, J.T. Grimaldo-Moron, M. Vidal,
Laboratoire d'Etudes Dynamiques et Structurales de la Sélectivité - BP 53X, 38041 Grenoble.

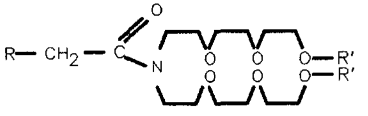
Cycloaddition of phosphine dioxides with bisphosphinopropane



Tetrahedron, **1990**, *47*, 411

PERFLUORO-POLYETHOXYLATED AMPHIPHILIC COMPOUNDS WITH TWO-CHAIN POLAR HEAD.

C. Selve*, J-C. Ravey, M-J. Stebe, C. El Moudjahid, E.M. Moumni, J-J. Delpuech.
Université de Nancy I - LESOC - B.P. 239 - F. 54506 Vandoeuvre Cedex



(I)

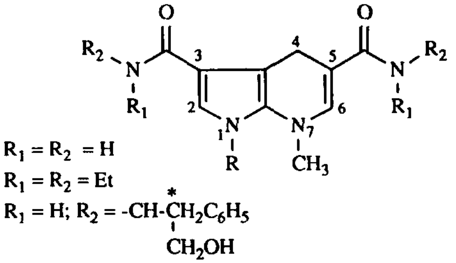
Monodispersed new surfactants (I) are synthesized. Surface Tension measurements, values of Critical Micellar Concentrations are consistent with a high hydrophilicity of the amide function, and a hydrophobicity of each CF_2 unit equivalent to 1.7 methylenes

Tetrahedron, **1990**, *47*, 429

BROADENING IN THE SCOPE OF NADH MODELS BY USING CHIRAL AND NON CHIRAL PYRROLO [2,3-b] PYRIDINE DERIVATIVES.

V. Levacher, R. Benoit, J. Duflos, G Dupas,
J. Bourguignon* and G. Queguiner.
INSA-IRCOF, BP 08, 76131 Mont Saint Aignan Cedex (F).

Non chiral and chiral NADH models in the pyrrolo [2,3-b] pyridine series have been synthesized.
These reagents: 1) allow reduction of substrates previously found to be non reducible with similar reagents, 2) can give either one enantiomer or the other during the reduction of a prochiral ketone depending on the experimental conditions, 3) can be used in the synthesis of chiral precusors of target molecules obtained with good enantiomeric excesses



$R_1 = R_2 = H$
$R_1 = R_2 = Et$
$R_1 = H;\ R_2 = \text{-}\overset{*}{C}H\text{-}CH_2C_6H_5$ with CH_2OH on the starred carbon

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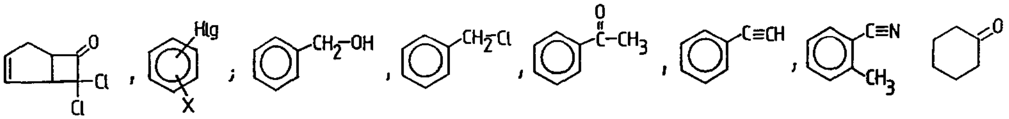
Tetrahedron, **1990**, *47*, 441

DISSOLVING BIMETAL REDUCTION

T. Mallát, Zs. Bodnár and J. Petró
Department of Organic Chemical Technology, Technical University of Budapest, H-1521, Hungary.

$\geq$C-CL, $-CH_2OH$, $>$C=0, $-C\equiv N$ and $-C\equiv CH$ groups of various organic molecules, including:



have been reduced by dissolving bimetals, prepared in situ, by cementation with Zn, Al or Fe, to afford hydrocarbons, alcohols or aldehyde.

Tetrahedron, **1990**, *47*, 447

REDUCTIVE CONDENSATION OF TRICHLOROMETHYLARENES WITH HYDROXYLAMINE AND HYDRAZINES IN PYRIDINE

L.I.Belen'kii*, D.B.Brokhovetskii, and M.M.Krayushkin
N.D.Zelinsky Institute of Organic Chemistry,
USSR Academy of Sciences, 117913, Moscow, USSR

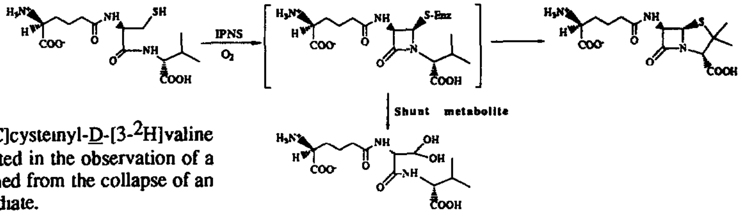
Trichloromethylarenes react with hydroxylamine or hydrazines in pyridine giving respective derivatives of aromatic aldehydes:

$$ArCCl_3 + H_2NX \longrightarrow ArCH{=}NX \quad (X = OH,\ NH_2,\ NHAc,\ NMe_2)$$

Tetrahedron, **1990**, *47*, 457

FURTHER EVIDENCE FOR THE INVOLVEMENT OF A MONOCYCLIC β-LACTAM IN THE ENZYMATIC CONVERSION OF δ-L-α-AMINOADIPOYL-L-CYSTEINYL-D-VALINE INTO ISOPENICILLIN N.

J.E. Baldwin*, M. Bradley, R.M. Adlington, W.J. Norris, and N.J. Turner.
Dyson Perrins Laboratory and the Oxford Centre for Molecular Sciences,
South Parks Road, Oxford, OX1 3QY.



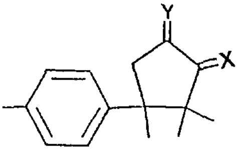
Incubation of δ-L-α-aminoadipoyl-L-[3-^{13}C]cysteinyl-D-[3-^{2}H]valine with Isopenicillin N Synthase (IPNS) resulted in the observation of a 'shunt metabolite', which we believe is formed from the collapse of an enzyme bound monocyclic β-lactam intermediate.

Tetrahedron, **1990**, *47*, 481

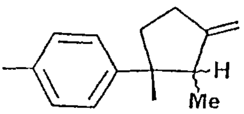
RADICAL CYCLIZATION STRATEGIES TO TERPENOIDS: SYNTHESES OF (±)-β-CUPARENONE, (±)-LAURENE AND EPILAURENES

A. Srikrishna* and G. Sundarababu
Department of Organic Chemistry, Indian Institute of Science
Bangalore - 560 012, INDIA

Syntheses to title compounds based on 5-exo-dig radical cyclisation, along with two unsuccessful approaches to cuparene, are described.



Cuparene 1. X = Y = H_2
β-Cuparenone 2. X = H_2, Y = O



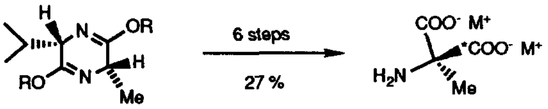
Laurene 4. α-Me
Epilaurene 5. β-Me

Tetrahedron, **1990**, *47*, 497

Synthesis of (2R)- and (2S)- [1-^{13}C]-2-Amino-2-methylmalonic Acid: Chiral Substrates for Serine Hydroxymethyltransferase.

Neil R. Thomas and David Gani , Chemistry Department, The University, Southampton, SO9 5NH, U.K.*

The title compounds were prepared from each enantiomer of the *bis*-lactim ether using [1-^{13}C]-acetyl chloride to introduce the label.



Tetrahedron, **1990**, *47*, 507

OXIDATION OF PUTRESCINE AND CADAVERINE DERIVATIVES BY DIAMINE OXIDASES

Angela M. Equi, Alison M. Brown, Alan Cooper, Surjit K. Ner,
Allan B. Watson, and David J. Robins*
Department of Chemistry, University of Glasgow, Glasgow G12 8QQ, Scotland.

$$RNH(CH_2)_nNH_2 + H_2O + O_2 \xrightarrow{DAO} RNH(CH_2)_3CHO + H_2O_2 + NH_3$$

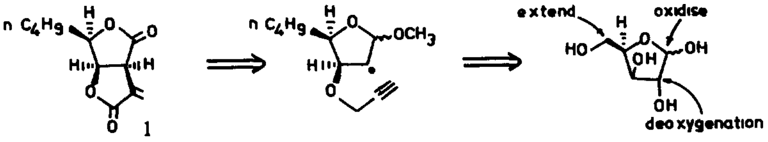
N-alkylputrescines (n=4) and *C*-alkylcadaverines (R=H, n=5) can act as both substrates and inhibitors of diamine oxidase (DAO).

Tetrahedron, **1990**, *47*, 519

STEREOSELECTIVE SYNTHESIS OF (-) CANADENSOLIDE FROM D-GLUCOSE

G V M Sharma* and Sreenivasa Rao Vepachedu
Indian Institute of Chemical Technology, Hyderabad 500 007, India

Synthesis of title compound (1) is described.



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Tetrahedron, **1990**, *47*, 525

SYNTHESIS OF THE NECINE BASE PLATYNECINE FROM GLUCOSE

G. W. J. Fleet, J. A. Seijas[a] and M. Pilar Vázquez-Tato[a]
Dyson Perrins Laboratory, Oxford University, South Parks Road, Oxford OX1 3QY, UK
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