

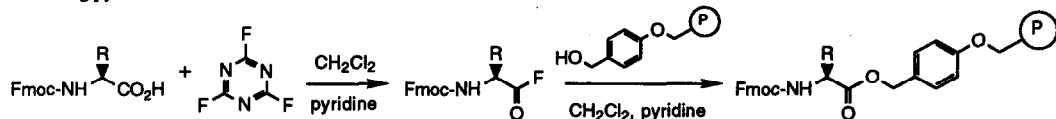
Tetrahedron, 1993, 49, 4141

STUDIES ON THE ACYLATION OF HYDROXY-FUNCTIONALIZED RESINS USING FMOC AMINO ACIDS ACTIVATED USING DIISOPROPYLCARBODIIMIDE/HOBT OR AS ACID FLUORIDES.

Jeremy Green and Kimberly Bradley

Marion Merrell Dow Research Institute, 2110 E. Galbraith Road, Cincinnati, OH 45215, U.S.A.

Hydroxy-functionalized resins are efficiently acylated using Fmoc-amino acid fluorides or by DIC/HOBT in low polarity solvents containing pyridine.

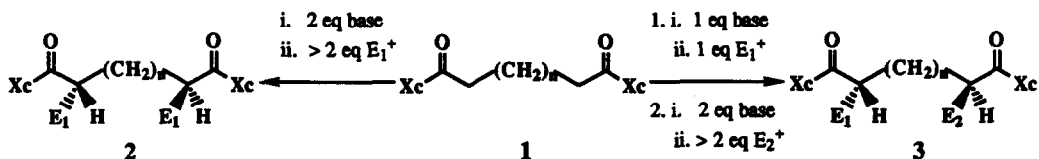


Tetrahedron, 1993, 49, 4147

Synthesis of C_2 -Symmetric Compounds via Double Alkylation of (α,ω -Dioxo-alkanedyl)bis-2-oxazolidinone Derivatives

Michael P. Trova,* and Yizhe Wang, Department of Chemistry, Oncology and Immunology Research Section, Medical Research Division, American Cyanamid Company, Pearl River, New York 10965, USA

Formation of a series of chiral bis-2-oxazolidinones **1**, was followed by the asymmetric synthesis of C_2 -symmetric compounds **2**, and the unsymmetrical compounds **3** with high diastereomeric excess.

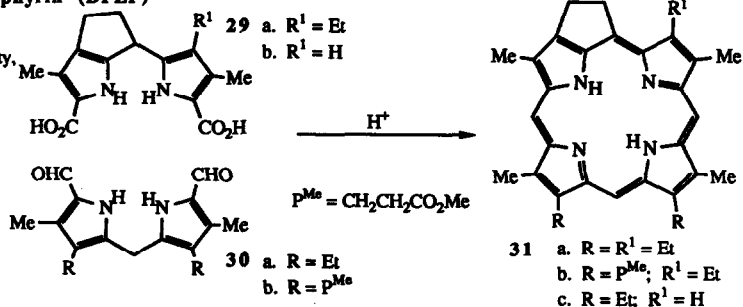


Tetrahedron, 1993, 49, 4159

Porphyryns with Exocyclic Rings. Part 3. A Reassessment on the Utility of Cyclopenta[b]pyrroles in the Synthesis of Porphyrin Molecular Fossils. Preparation of Three Type II Porphyrins Related to Deoxyphylloerythroetioporphyrin (DPEP)

Timothy D. Lash* and James J. Catarello, Department of Chemistry, Illinois State University, Normal, Illinois 61761-6901, U.S.A.

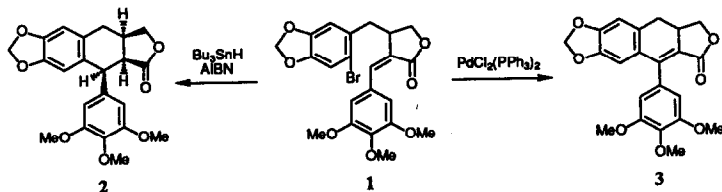
The synthesis of three porphyrins bearing five-membered exocyclic rings via the MacDonald condensation is reported.



**Synthesis of Podophyllotoxin Derivatives by Means of
Tributyltin Hydride- or Palladium-Mediated Cyclization of
 α -Benzylidene- β -(*o*-bromobenzyl)- γ -lactones**

Hiroyuki Ishibashi,* Katsuhiko Ito, Tomiya Hirano, Masayo Tabuchi, and Masazumi Ikeda*
Kyoto Pharmaceutical University, Misasagi, Yamashina, Kyoto 607, Japan

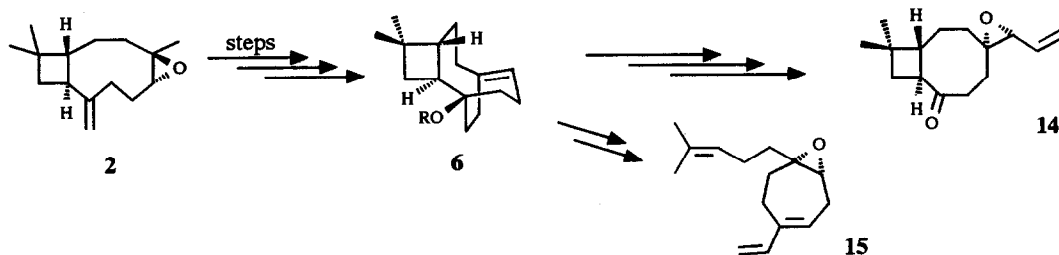
Synthesis of (\pm)-deoxyisopropodophyllin (2) and (\pm)- γ -apopropodophyllin (3) from the lactone (1) is described.



**New Members of the Caryophyllene Family via Biomimetic
 π -Cyclizations and Consecutive Transformations.**

C. E. Sowa, U. Eggert, H. M. R. Hoffmann*

Department of Organic Chemistry, University of Hannover, Schneiderberg 1 B, D-3000 Hannover, Germany



**ISOLATION AND CHARACTERIZATION OF THE
TETRASACCHARIDE (BIS)PHOSPHATE FROM THE
GLYCOSYL BACKBONE OF *SALMONELLA MINNESOTA* AND
ESCHERICHIA COLI RE-MUTANT LIPOPOLYSACCHARIDES**

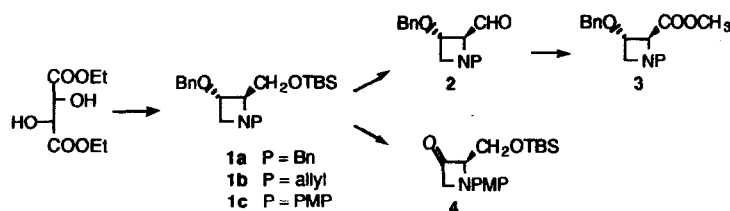
Ulrich Zähringer^{a,*}, Volker Sinnwell^b, Jasna Peter-Katalinić^c, Ernst Th. Rietschel^a, and Chris Galanos^d;
^aForschungsinstitut Borstel, (FRG), ^bUniversität Hamburg, (FRG), ^cUniversität Bonn, (FRG), and ^dMax-Planck-Institut
Freiburg, (FRG)

Intact tetrasaccharide mono- (1) and bisphosphate (2) were isolated from lipopolysaccharides of deep rough mutants of *Salmonella minnesota* and *Escherichia coli* and identified by NMR and FAB-MS as:

- 1 α -Kdop-(2 \rightarrow 4)- α -Kdop-(2 \rightarrow 6)- β -D-GlcpN-(1 \rightarrow 6)- α -D-GlcpN-P
2 α -Kdop-(2 \rightarrow 4)- α -Kdop-(2 \rightarrow 6)- β -D-GlcpN[4-P]-(1 \rightarrow 6)- α -D-GlcpN-P

SYNTHESIS OF HIGHLY FUNCTIONALIZED HOMOCHIRAL AZETIDINES AND AZETIDINE-2-CARBOXYLIC ESTERS

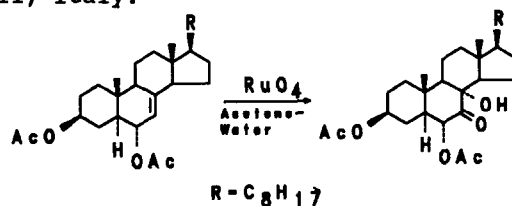
A. Duréault*, M. Portal, F. Carreaux, J.C. Depezay
 Université René Descartes, Laboratoire de Chimie et Biochimie Pharmacologiques et
 Toxicologiques, associé au CNRS, 45 Rue des Saints-Pères, F-75270 Paris Cedex 06, France

Studies Towards the Synthesis of Polyoxygenated Steroids. Reaction of Some Tri- and Tetra-Substituted Monoene Steroids with RuO_4

Dina M. A. Smaldone, Vincenzo Piccialli and Donato Sica

Dipartimento di Chimica Organica e Biologica, Università degli Studi di Napoli, Via Mezzocannone 16, 80134 Napoli, Italy.

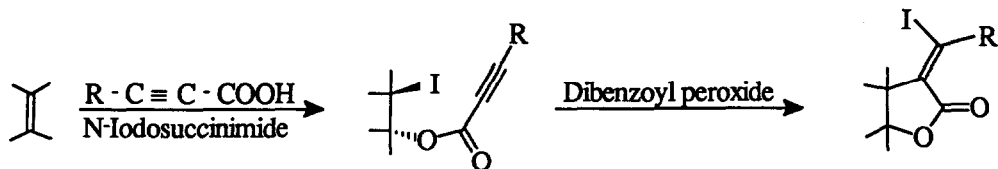
The reaction of RuO_4 with some tri- and tetra-substituted nuclear monoene steroids has been investigated in acetone-water or carbon tetrachloride as solvent systems using stoichiometric amounts of the oxidant. Unexpected results were found. An example is shown here.



SYNTHESIS OF IODOALKYLIDENELACTONES FROM ALKENES

Gerald Haaima, Mary-Jeanne Lynch, Anne Routledge and Rex T. Weavers
 Department of Chemistry, University of Otago, Box 56, Dunedin New Zealand.

(E)-Iodoalkylidene lactones may be synthesised by reaction of alkenes with acetylenic acids in the presence of a source of positive iodine, followed by dibenzoyl peroxide induced free-radical cyclisation of the iodo acetylenic esters.

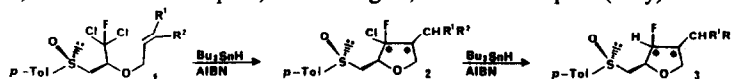


ASYMMETRIC SYNTHESIS OF 3-CHLORO-3-FLUORO- AND 3-FLUORO-2,4-DISUBSTITUTED TETRAHYDROFURANS BY THE "FLUORINATED SULFOXIDE CHIRON" ROUTE

A. Arnone^a, P. Bravo^a, F. Viani^a, G. Cavicchio^b, M. Crucianelli^b, V. Marchetti^b

^aC.N.R. - C.S.S.O.N., Dip. di Chimica, Politecnico, Piazza L. da Vinci 32, I-20133 Milano (Italy)

^bDip. di Chimica, Università di L'Aquila, Via Assergi 6, I-67100 L'Aquila (Italy)



Radical-promoted cyclizations of enantiomerically pure substrates 1 afforded tetrahydrofuran derivatives 2, which were reduced to compounds 3. Structural assignments followed from detailed NMR studies

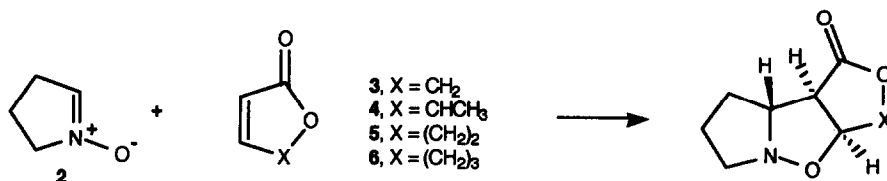
CYCLOADDITION REACTIONS OF

3,4-DIHYDRO-2H-PYRROLE 1-OXIDE WITH α,β -UNSATURATED LACTONES

David Alonso-Peramau, Pedro de March,^{*} Marta Figueredo, Josep Font,^{*} and Angeles Soria

Departament de Química, Universitat Autònoma de Barcelona. 08193 Bellaterra, Spain.

Cycloadditions of nitrene 2 to α,β -unsaturated lactones 3-6 yield predominantly the adducts derived from *exo* transition states.

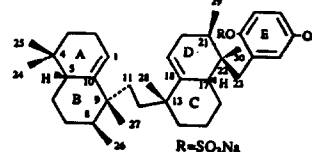
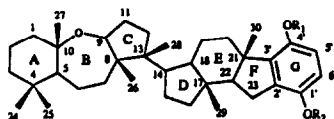


TOXICOLS A-C AND TOXIUSOL - NEW BIOACTIVE HEXAPRENOID HYDROQUINONES FROM *TOXICLONA TOXJUS*

S. Isaacs^a, A. Hizi^b, Y. Kashman^a

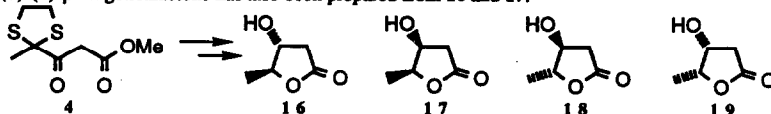
^aSchool of Chemistry, ^bSchool of Medicine, Tel Aviv University, Tel Aviv 69978, ISRAEL

Four new hexaprenoid hydroquinone sulfates have been isolated from a Red Sea sponge.

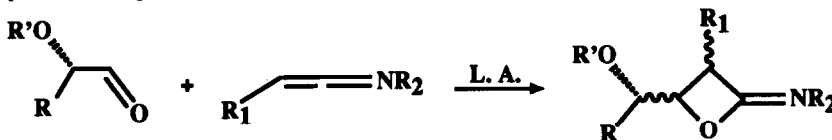


STEREOCONTROLLED SYNTHESIS OF THE 4-HYDROXY-5-METHYL-2(3H)-DIHYDROFURANONE ISOMERS.

 Carlos A. M. Afonso^a, M. Teresa Barros^a, Licio S. Godinho^a, Christopher D. Maycock^{b*}
^a Department of Chemistry, New University of Lisbon, 2825 Monte de Caparica, Portugal. ^b Department of Chemistry, University of Lisbon, Rua Ernesto de Vasconcelos, 1700 Lisbon, Portugal.

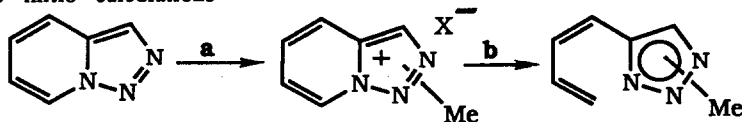
 The synthesis of optical pure 16, 17, 18, 19 from 4 has been carried out involving bakers' yeast reductions of suitably activated carbonyl groups. (S)-(+)- β -Angelicalactone has also been prepared from 16 and 17.

CYCLOCONDENSATION REACTIONS OF OPTICALLY ACTIVE α -ALKOXY ALDEHYDES TO KETENE IMINES: SYNTHESIS OF CHIRAL 2-IMINOXETANES

 Gaetano Barbaro,^a Arturo Battaglia,^{a*} Patrizia Giorgianni^a and Daria Giacomini^b, ^a Istituto (I.Co.C.E.A.) del C.N.R., via della Chimica, 8, 40064 Ozzano Emilia (Italy), ^b Dipartimento di Chimica, "G. Ciamician" Università, via Selmi, 2, 40126 Bologna (Italy)

 Lewis acid induced reaction of ketene imines to (S)- α -alkoxy aldehydes affords stereogenic 2-iminoxetanes. The possibility of achieving a "chelation" or "non-chelation" controlled facial selectivity is investigated

THEORETICAL INTERPRETATIONS OF SOME EXPERIMENTAL OBSERVATIONS IN REACTIONS OF TRIAZOLOPYRIDINES AND THEIR QUATERNARY SALTS

 G. Jones^a, C.M. Richardson^a, P.C. Yates^a, G.Hajos^b, and G. Timari^{b,*}; ^a Keele University (UK) and ^b Central Research Institute for Chemistry (Hungary)

The course of reactions of type a and b are explained by semi-empirical and ab initio calculations

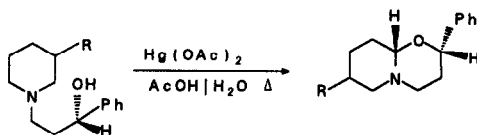


**THE SYNTHESIS OF 1-OXAQUINOLIZIDINES VIA THE MERCURY (II)
ACETATE MEDIATED CYCLISATION OF PIPERIDINE ALCOHOLS**

Nicholas Bentley^a, Gurdial Singh^{a*} and Oliver W. Howarth^b

^aUniversity of Teesside, U.K. ^bUniversity of Warwick, U.K.

Abstract: The oxidation of (S)-3-piperidinyl-1-phenyl-1-propanols with mercury (II) acetate results in the formation of *trans* and *cis* decalin isomers of 1-oxaquinolizidines.

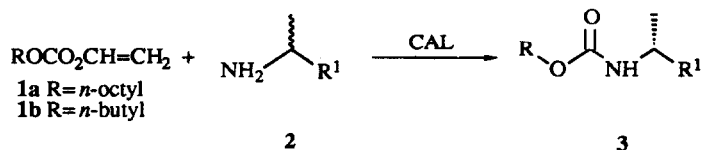


**CHIRAL CARBAMATES THROUGH AN ENZYMIC
ALKOXYCARBONYLATION REACTION.**

Marcos Pozo and Vicente Gotor*

Departamento de Química Orgánica e Inorgánica, Facultad de Química, Universidad de Oviedo, 33071 Oviedo, Spain

Abstract: Vinyl carbonates can be used in the enzymatic synthesis of chiral carbamates from racemic amines.

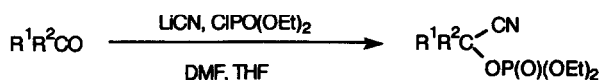


**A CONVENIENT AND IMPROVED PREPARATION
OF CYANO PHOSPHATES**

Irene Micó and Carmen Nájera

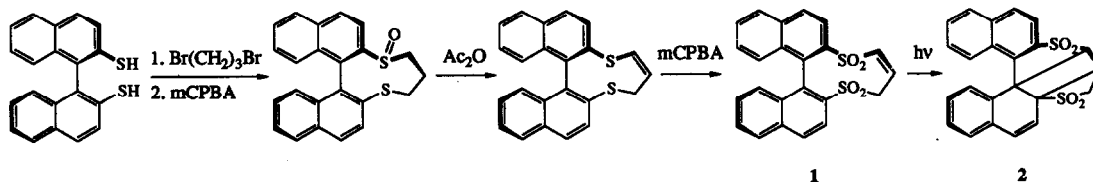
Departamento de Química Orgánica, Facultad de Ciencias, Universidad de Alicante, 03080 Alicante, Spain

Cyano phosphates derived from carbonyl compounds are prepared in good yields using lithium cyanide and diethyl chlorophosphate.



4H-DINAPHTHO[2,1-f:1',2'-h][1,5]DITHIONIN-S,S'-TETROXIDE: PREPARATION, STRUCTURE ELUCIDATION AND FACILE INTRAMOLECULAR [2+2]-PHOTOCYCLIZATION - Sergio Cossu,^a Antonio Dore,^a Otorino De Lucchi,^{a,b} Vittorio Lucchini^b and Giovanni Valle^c - ^aUniversità di Sassari, ^bUniversità di Venezia, ^cC.N.R. Padova - Italy

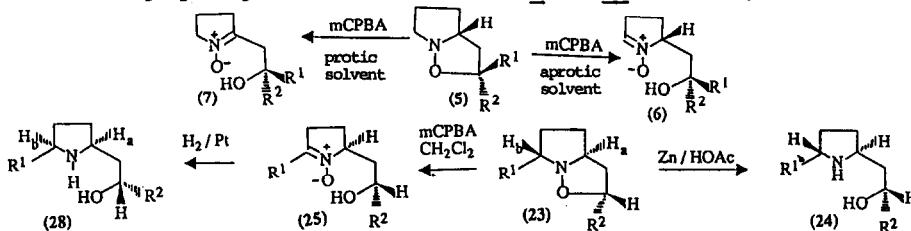
The preparation of compound 1, a conformational study in solution and the facile rearrangement into 2 via photochemical intramolecular [2+2]-cycloaddition is described.



CYCLOADDITION OF 5-SUBSTITUTED 1-PYRROLINE 1-OXIDE AND CONVERSION OF THE NITRONE CYCLOADDUCTS INTO *cis*- AND *trans*-2,5-DISUBSTITUTED PYRROLIDINES

Sk. Asrof Ali* and M. I. M. Wazeer; Chemistry Dept., King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia

Regioselective ring opening of the isoxazolidines 5 and 23, and entry to the *cis*-amine 28.



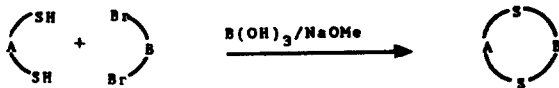
Preparation of Mesocyclic Thiocrown Ethers Containing Xylylene Units via Boric Thiolate Template. Molecular

Structures of 3,8-dibenzo-1,6-dithiacyclodecane and 2,5,8-trithia-9-p-benzenophane

J.J.H.Edema^a, H.T.Stock^a, J.Buter^a, R.M.Kellogg^a, H.Kooijman^b, W.J.J.Smeets^b, A.L.Spek^b

^aDepartment of Organic and Molecular Inorganic Chemistry, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands.

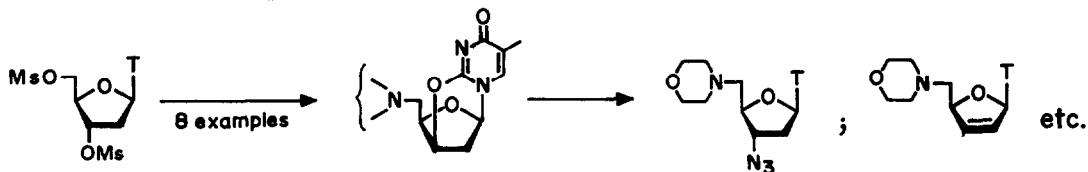
^bBijvoet Research Center, Vakgroep Kristal- en Structuurchemie, Utrecht University, Padualaan 8, 3584 CH Utrecht, The Netherlands.



**Reactions of Dimesylthymidine with Secondary Amines:
Easy Access to 3',5'-Dideoxy-3'-Substituted-5'-Alkyl-
aminothymidines - New Classes of Potential Antiviral Aminonucleosides.**

K.Sakthivel, R.Krishna Kumar and T.Pathak*, Bioorganic Chemistry Unit, Organic Chemistry Division (Synthesis), National Chemical Laboratory, Pune 411 008, India.

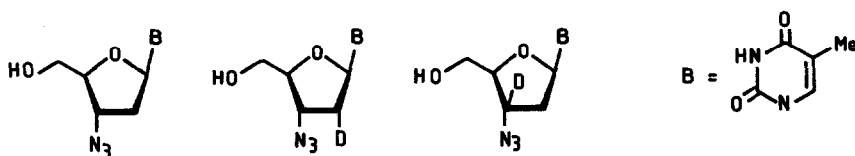
Dimesylthymidine on reaction with secondary amines produced 2,3'-O-anhydro-5'-deoxy-5'-alkylaminothymidines. Amines showed remarkable selectivity towards 5'-substitution over 2,3'-O-anhydro ring formation.



**SYNTHESES AND CONFORMATIONAL STUDIES
ON AZT AND ITS DEUTERATED ANALOGUES**

M K Gurjar*, A C Kunwar*, D V Reddy, A Islam
S V S Lalitha, B Jagannadh and A V Rama Rao

Indian Institute of Chemical Technology, Hyderabad 500 007, India



**1,3-DIPOLAR CYCLOADDITIONS OF 2-ETHOXY-
AND 2-(ETHYLTHIO)-1-AZETINES WITH NITRILE
OXIDES, NITRILE YLIDES AND NITRILIMINES:
AN UNEXPECTED 1,2,4-TRIAZOLE FORMATION**

Karl Hemming, Abdul-Bassett N. Luheshi, Alan D. Redhouse, Robert K. Smalley*, and Robin J. Thompson, Department of Chemistry and Applied Chemistry, University of Salford, Salford M5 4WT, U.K.
Peter D. Kennewell and Robert Westwood, Roussel Scientific Institute U.K. Ltd., Kingfisher Drive, Covingham, Swindon, Wilts. SW3 5BZ

2-Ethoxy- and 2-(ethylthio)-1-azetines yield 1,3-dipolar, 4,5-bicyclic cycloadducts A with nitrile oxides and nitrile ylides. With nitrilimines, however, the cycloadducts B and/or 1,2,4-triazoles C are formed.

