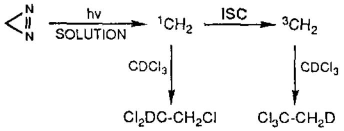
GRAPHICAL ABSTRACTS

Tetrahedron Lett. 27,6149(1986

SPECTROSCOPIC AND CHEMICAL EVIDENCE FOR METHYLENE SINGLET-TRIPLET INTERSYSTEM CROSSING IN SOLUTION

Nicholas J. Turro* and Yuan Cha
Department of Chemistry, Columbia University, New York, NY 10027



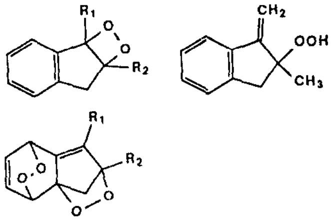
The intersystem crossing of singlet-to-triplet methylene in C_6F_{14} solution was observed with a rate in the order of 10^9 s^{-1}.

Tetrahedron Lett. 27,6153(1986

PHOTOOXIDATION OF SUBSTITUTED INDENES AT LOW TEMPERATURE

Zhang Jiancheng and Christopher S. Foote, Department of Chemistry and Biochemistry, University of California, Los Angeles 90024

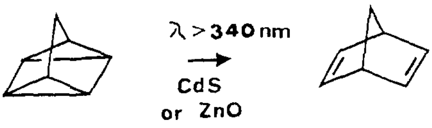
Abstract: 1,2-, 1,4- and ene products were obtained on photooxidation of 2,3-dimethylindene and 3-*tert*-butylindene at low temperature. The product distribution depends on solvent.



Tetrahedron Lett. 27,6157(1986

SURFACE PHOTOCHEMISTRY: SEMICONDUCTOR PHOTO-INDUCED VALENCE ISOMERIZATION OF QUADRICYCLANE TO NORBORNADIENE

Anthony M. Draper and Paul de Mayo
Department of Chemistry, The University of Western Ontario,
London, Ontario, Canada. N6A 5B7

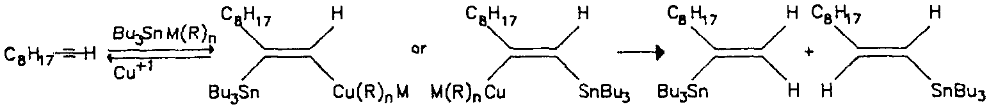


Tetrahedron Lett. 27,6161(1986)

CONTROL OF REGIOCHEMISTRY IN BISMETALLATION OF 1-DECYNE,

Sunaina Sharma and Allan C.Oehlschlager
Department of Chemistry, S.F.U., Burnaby, B.C., Canada V5A 1S6

Control of the regiochemistry of the copper(I) catalyzed stannylalumination of 1-alkynes is possible by choice of solvent and copper(I) counterion.

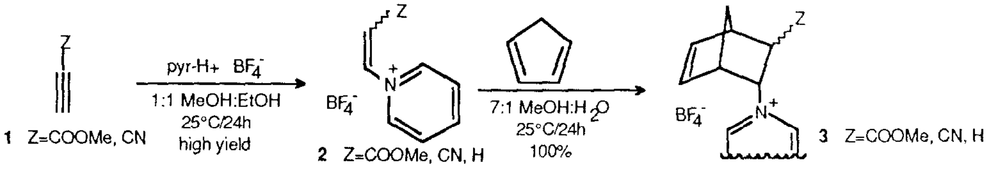


Tetrahedron Lett. 27, 6165 (1986)

ALKENYLIMMONIUM SALTS AS DIENOPHILES IN DIELS-ALDER CYCLOADDITIONS WITH HIGH REACTIVITY AND STEREOSELECTIVITY

Michael E. Jung and Keith R. Buszek, Department of Chemistry and Biochemistry, University of California, Los Angeles, CA 90024

Addition of pyridinium fluoroborates 1 to propiolate derivatives afforded the substituted vinyl pyridinium salts 2, which are very reactive dienophiles giving good yields of the endo products 3 after reaction at room temperature, even for the parent compound (Z=H).

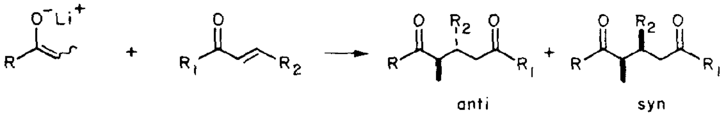


Tetrahedron Lett. 27, 6169 (1986)

INFLUENCE OF ENOLATE GEOMETRY ON THE STEREOCHEMISTRY OF MICHAEL ADDITIONS OF KETONE ENOLATES TO α,β-UNSATURATED KETONES

David A. Oare and Clayton H. Heathcock*
Department of Chemistry, University of California, Berkeley, California 94720

In kinetic Michael additions with α,β-unsaturated ketones, *Z* ketone enolates provide anti diastereomers whereas *E* enolates favor syn products.

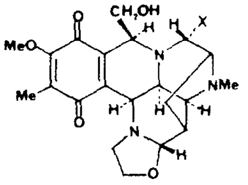


Tetrahedron Lett. 27, 6173 (1986)

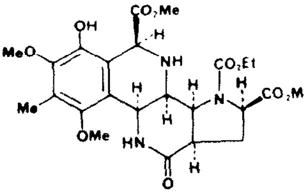
SYNTHETIC APPROACHES TOWARD NAPHTHYRIDINOMYCIN. I. STEREOSELECTIVE SYNTHESIS OF A TETRACYCLIC INTERMEDIATE.

Tohru Fukuyama* and Alison A. Laird
Department of Chemistry, Rice University
Houston, Texas 77251

A highly stereoselective synthesis of a tetracyclic intermediate 4 to the quinone antitumor antibiotic naphthyridinomycin 1 is described.



1: X = OH



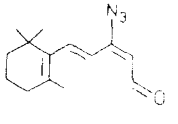
4

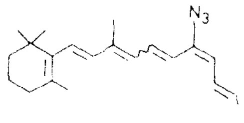
Tetrahedron Lett. 27, 6177 (1986)

INOIDE-VIII. AZIDORETINOIDE

Henning Hopf* und Norbert Krause
Institut für Organische Chemie der Technischen Universität Braunschweig,
Hagenring 30, D-3300 Braunschweig, Bundesrepublik Deutschland

A synthesis of retinoids bearing an azido group *via* addition of hydrazoic acid to acetylenic aldehydes is described:



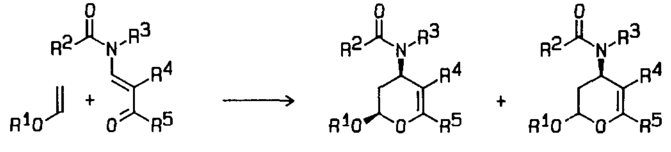


Tetrahedron Lett. 27, 6181 (1986)

SYNTHESIS OF 3-AMINO SUGARS OF THE DAUNOSAMINE TYPE THROUGH HETERO-DIELS-ALDER REACTION OF ENAMINONES

Lutz F. Tietze* and Edgar Voß
Institut für Organische Chemie der Universität Göttingen, D-3400 Göttingen, Fed.Rep.of Germany

The hetero-Diels-Alder reaction of enol ethers and N-acylenaminones (R-5 = CO_2R, CCl_3, CH_3) leads in excellent yield to cycloadducts, which can be reduced to unbranched 3-amino sugars.

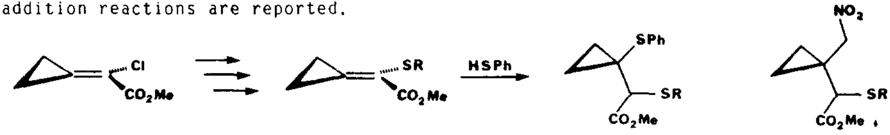


Tetrahedron Lett. 27, 6185 (1986)

REACTIVITY ENHANCEMENT THROUGH STRAIN AND ELECTRONIC EFFECTS: α-HETEROCYCLOPROPYLIDENACETATES AS POWERFUL MICHAEL ACCEPTORS

Fereydoun Seyed-Mahdavi, Stephan Teichmann, and Armin de Meijere*
Department of Organic Chemistry, University of Hamburg, D-2000 Hamburg 13, West Germany

Synthesis of α-thiosubstituted cyclopropylidenacetates **2** and relative reactivities in conjugate addition reactions are reported.



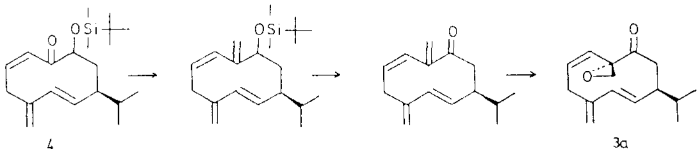
2

Tetrahedron Lett. 27, 6189 (1986)

IDENTIFIZIERUNG UND SYNTHESE VON PERIPLANON A

H. Hauptmann u. G. Mühlbauer, Institut für Organische Chemie der Universität Regensburg
H. Sass, Institut für Zoologie der Universität Regensburg, D-8400 Regensburg, FRG

Periplanone A has been isolated and characterized as 3a. A synthesis of (±)-3a via the cyclodecatrienone 4 is described.

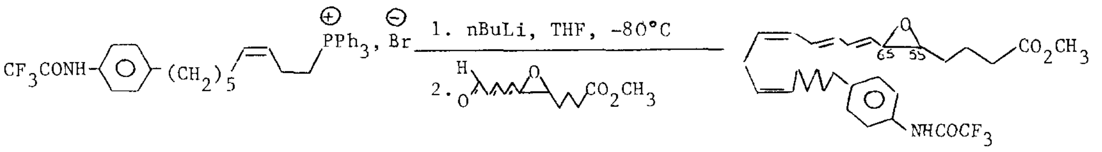


4 3a

Tetrahedron Lett. 27, 6193 (1986)

SYNTHESIS OF 20-paratrifluoroacetamido phenyl derivative of LTA_4 (methyl ester).

P. PERRIN, F. AUBERT, J.P. LELLOUCHE, J.P. BEAUCOURT ; S.M.M.
C.E.N. SACLAY, 91191 GIF-SUR-YVETTE CEDEX - FRANCE

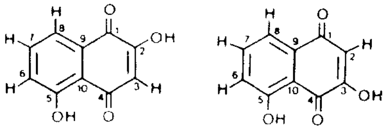


Tetrahedron Lett. 27,6197(1986)

DIFFERENCIATION ENTRE LES DIHYDROXY-2,5 ET -3,5 NAPHTOQUINONES-1,4 PAR RESONANCE MAGNETIQUE NUCLEAIRE DU ^{13}C ET ^{1}H, ET HETERONUCLEAIRE A DEUX DIMENSIONS

G. Barre[a], M. Hocquaux[a], B. Jacquet[a], M. de Min[b], M.T. Maurette[b], E. Oliveros[b]
a) Laboratoires de Recherche Fondamentale, l'Oréal, 93 601 Aulnay/Bois Cédex
b) Laboratoire des IMRCP, UA au CNRS n°470, Université P. Sabatier, 31 400 Toulouse

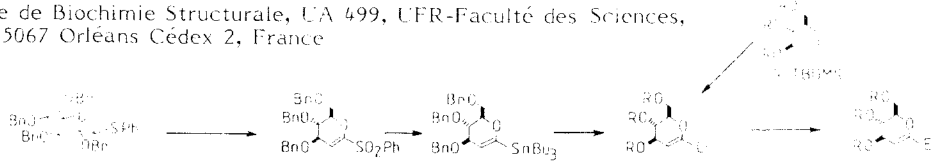
^{1}H and ^{13}C NMR, as well as two-dimensional correlation $^{13}C/^{1}H$ experiments were used to characterize unequivocally two isomeric naphthoquinones, 2,5-dihydroxy and 3,5-dihydroxy-1,4-naphthoquinones.



Tetrahedron Lett. 27,6201(1986)

PREPARATION AND USE OF LITHIATED GLYCALS: VINYLIC DEPROTONATION VERSUS TIN-LITHIUM EXCHANGE FROM 1-TRIBUTYLSTANNYL GLYCALS

Patrick Lesimple, Jean-Marie Beau*, Guy Jaurand and Pierre Sinaÿ
Laboratoire de Biochimie Structurale, UA 499, UFR-Faculté des Sciences,
BP 6759, 45067 Orléans Cédex 2, France

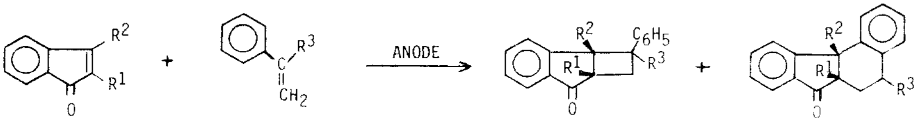


Tetrahedron Lett. 27,6205(1986)

[2 + 2] AND [4 + 2] ADDITIONS CATALYZED BY THE ANODE

J. Delaunay, A. Orliac-Le Moing, J. Simonet* and
L. Toupet
U.A. CNRS n° 439, Université de Rennes 1, 35042 RENNES, France

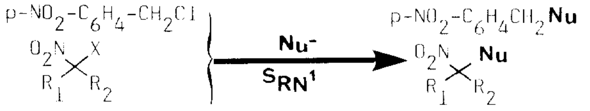
Reactivity of indenones in the presence of substituted styrenes



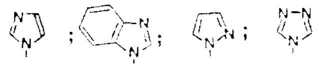
Tetrahedron Lett. 27,6209(1986)

$S_{RN}1$ N-ALKYLATION OF IMIDAZOLE, BENZIMIDAZOLE, PYRRAZOLE AND TRIAZOLE

René Beugelmans and André Lechevallier
I.C.S.N., C.N.R.S., 91190 Gif-sur-Yvette, France
Daniel Kiffer and Philippe Maillos
CE , BP 3, 91170 Vert-le-Petit, France



Nu =

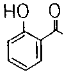


Tetrahedron Lett.27,6213(1986)

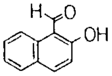
FACILE ALKYLATION OF *o*-HYDROXYARYLALDEHYDES AND α-FORMYLKETONES WITH TRIALKYLBORANES

Keiji Okada, Yasushi Hosoda, and Masaji Oda*
Department of Chemistry, Faculty of Science, Osaka University, Toyonaka, Osaka 560 Japan

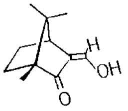
Trialkylboranes readily undergo alkylation reaction with *o*-hydroxyarylaldehydes (1,2) and α-formylketones (3,4) via the dialkylboryl complexes



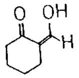
1



2



3



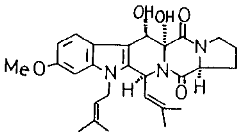
4

Tetrahedron Lett.27,6217(1986)

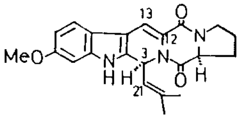
TOTAL SYNTHESIS OF FUMITREMORGIN B

M.Nakagawa, S.Kodato, M.Hongu, T.Kawate, & T.Hino
Faculty of Pharmaceutical Sciences, Chiba University,
1-33 Yayoi-cho, Chiba-shi, 260, Japan

A tremorgenic mycotoxin, fumitremorgin B 1, was synthesized from L-6-methoxytryptophan via 2.



1

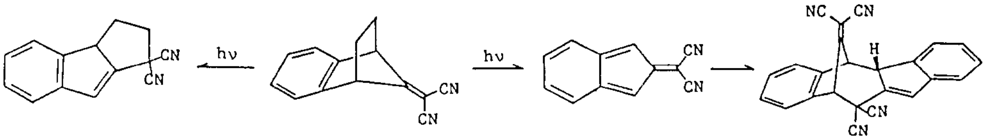


2

Tetrahedron Lett.27,6221(1986)

PHOTOREACTION OF 9-DICYANOMETHYLENE-1,2,3,4-TETRAHYDRO-1,4-METHANONAPHTHALENE: THE 1,3-CARBON MIGRATIONS AND THE ETHYLENE EXTRUSION TO DICYANOISOBENZOFULVENE

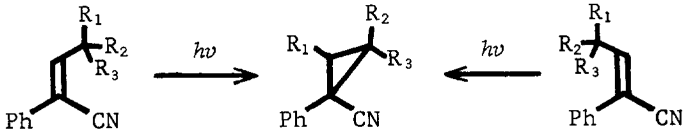
Noriyuki Tanaka, Tsutomu Kumagai, and Toshio Mukai*
Dept. of Chemistry, Fac. of Science, Tohoku University, Sendai 980 Japan



Tetrahedron Lett.27,6225(1986)

PHOTOREACTION OF α-PHENYLCROTONONITRILE DERIVATIVES: THE FACILE CYCLOPROPANE RING FORMATION

Tsutomu Kumagai, Toru Segawa, Zen-Ichirou Endo, and Toshio Mukai*
Department of Chemistry, Faculty of Science, Tohoku University,
Sendai 980, Japan



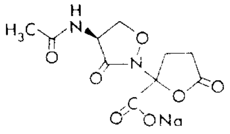
a : $R_1=R_2=R_3=H$
b : $R_1=R_2=H$, $R_3=Me$
c : $R_1=H$, $R_2=R_3=Me$
d : $R_1=R_2=R_3=Me$

Tetrahedron Lett. 27, 6229 (1986)

STRUCTURE OF LACTIVICIN, AN ANTIBIOTIC HAVING A NEW NUCLEUS AND SIMILAR BIOLOGICAL ACTIVITIES TO β-LACTAM ANTIBIOTICS

Setsuo Harada*, Shigetoshi Tsubotani, Tsuneaki Hida, Hideo Ono and Hisayoshi Okazaki
Applied Microbiology Laboratories, Central Research Division, Takeda Chemical Industries,
Yodogawa-ku, Osaka, 532, Japan

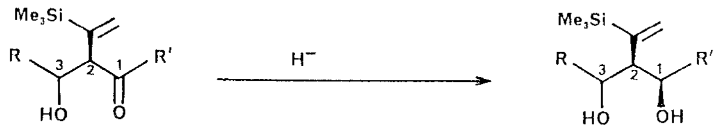
The chemical structure of a novel antibiotic lactivicin isolated from the filtrate of Empedobacter lactamgenus YK-258 was determined as follows:



Tetrahedron Lett. 27, 6233 (1986)

"SYNTHESIS OF 2-VINYL-1,3-DIOLS VIA HIGHLY STEREOSELECTIVE REDUCTION OF 2-VINYL ALDOLS USING TRIMETHYLSILYL STEREO-DIRECTING GROUP"

K. Suzuki*, M. Shimazaki, & G. Tsuchihashi*, Dept. of Chem., Keio Univ., Yokohama 223, Japan



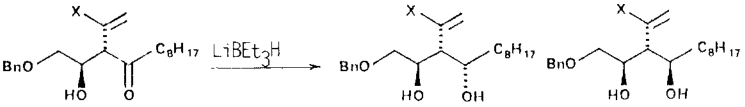
LiBEt$_3$H / THF
-78 °C

exclusive formation of 1,2-syn isomer, irrespective of C(3) substitution / configuration patterns.

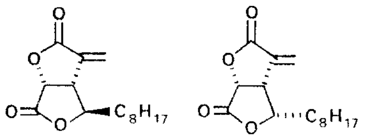
Tetrahedron Lett. 27, 6237 (1986)

"STEREO-DIVERGENT ASYMMETRIC TOTAL SYNTHESIS OF AVENACIOLIDE AND ISOAVENACIOLIDE. COMPLETE REVERSAL OF STEREOSELECTIVITY IN REDUCTION OF 2-VINYL ALDOLS WITH / WITHOUT TRIMETHYLSILYL DIRECTING GROUP"

K. Suzuki*, M. Miyazawa, M. Shimazaki, & G. Tsuchihashi*
Dept. of Chem, Keio Univ., Yokohama 223, Japan



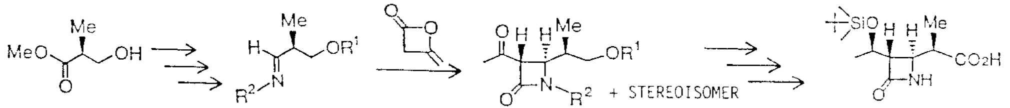
X=SiMe$_3$ >99 : <1
X=H 1 : 99



Tetrahedron Lett. 27, 6241 (1986)

A NOVEL AND EFFICIENT SYNTHESIS OF THE KEY INTERMEDIATE OF 1β-METHYLCARBAPENEM ANTIBIOTICS FROM (S)-METHYL 3-HYDROXY-2-METHYLPROPIONATE

Takeo Kawabata, Yoshikazu Kimura, Yoshio Ito, and Shiro Terashima*
Sagami Chemical Research Center, Nishi-Ohnuma, Sagamihara, Kanagawa 229, Japan
Akira Sasaki and Makoto Sunagawa
Research Laboratories, Research and Development Division, Sumitomo Pharmaceuticals Co. Ltd., Kasugade, Naka, Konohana-ku, Osaka 554, Japan



R^1=CH$_2$Ph, R^2=CH(p-MeOC$_6$H$_4$)$_2$

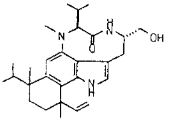
11 - 15 : 1

Tetrahedron Lett.27,6245(1986)

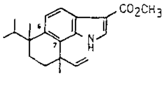
SYNTHETIC STUDIES ON TELEOCIDIN II.
SYNTHESIS OF INDOLE DERIVATIVE CONTAINING THE SAME SUBSTITUENT TO TELEOCIDIN B AT 6- AND 7-POSITIONS OF INDOLE NUCLEUS.

Shin-ichi Nakatsuka,* Toshiya Masuda, and Toshio Goto
Laboratory of Organic Chemistry, Faculty of Agriculture, Nagoya University, Nagoya 464, Japan

2a,b was synthesized from simple indole by intramolecular cyclization methods.



Teleocidin B (1)

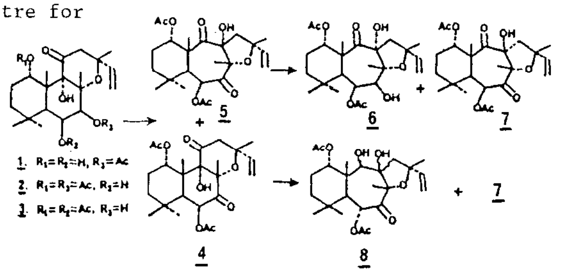


2a,b

Tetrahedron Lett.27,6249(1986)

OXIDATION/REDUCTION STUDIES WITH FORSKOLIN

Y. Khandelwal*, G. Moraes, N.J. de Souza; Centre for
Basic Research, Hoechst India Limited,
Bombay 400 080, India and
H.W. Fehlhaber, E.F. Paulus, Hoechst AG.,
6230 Frankfurt (M)-80, West Germany.

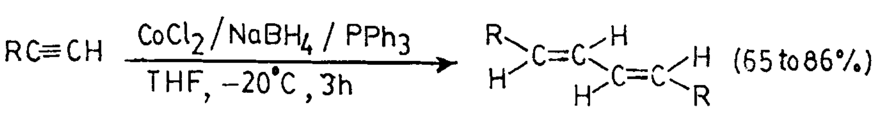


Tetrahedron Lett.27,6253(1986)

A SIMPLE SYNTHESIS OF TRANS, TRANS-1,3-DIENES FROM TERMINAL ALKYNES USING $CoCl_2/Ph_3P/NaBH_4$

N. Satyanarayana and M. Periasamy*
School of Chemistry, University of Hyderabad, Central University P.O., Hyderabad 500 134, India

Cobalt hydride species generated using $CoCl_2/Ph_3P/NaBH_4$ in THF hydrodimerizes terminal alkynes into trans, trans-1,3-dienes.



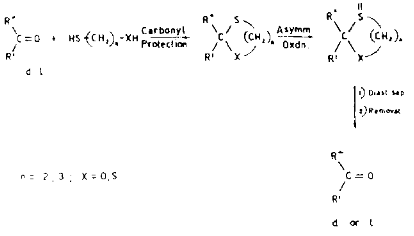
$$RC{\equiv}CH \xrightarrow[\text{THF, }-20^{\circ}\text{C, 3h}]{CoCl_2/NaBH_4/PPh_3} \overset{R}{\underset{H}{}}\!\!>C{=}C\overset{H}{<}\!\!\underset{H}{}C{=}C\overset{H}{\underset{R}{<}} \quad (65\text{ to }86\%)$$

Tetrahedron Lett.27,6257(1986)

ASYMMETRIC OXIDATION OF 1,3-DITHIOLANES. A ROUTE TO THE OPTICAL RESOLUTION OF CARBONYL COMPOUNDS.

O.Bortolini, F.Di Furia*, G.Licini, G.Modena, M.Rossi
Centro di Studio sui Meccanismi di Reazioni Organiche
del CNR, Dip. Chimica Organica, 35131 Padova (Italy)

A procedure for the asymmetric oxidation of 1,3-dithiolanes and their use in the optical resolution of ketones, as exemplified in the case of dl-menthone (e.e. 93%).

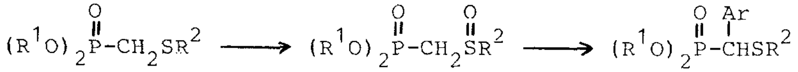


Tetrahedron Lett.27,6261(1986)

ARYLATION OF α-PHOSPHORYL SULFIDES VIA THEIR PUMMERER REARRANGEMENT INTERMEDIATES GENERATED FROM THE CORRESPONDING SULFOXIDES.

Ioannis K. Stamos, The National Hellenic Research Foundation
48 V. Konstantinou Ave., Athens 116-35, Greece.

α-Phosphoryl sulfides are arylated in the α-position.



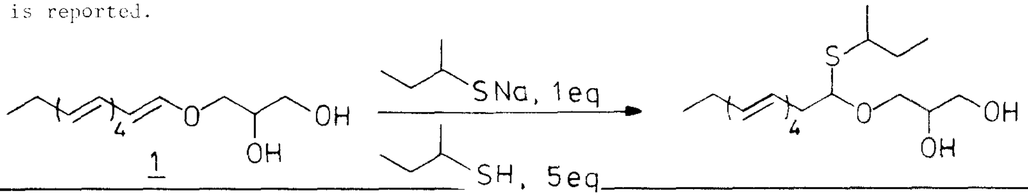
$$(R^1O)_2\overset{O}{\overset{\|}{P}}-CH_2SR^2 \longrightarrow (R^1O)_2\overset{O}{\overset{\|}{P}}-CH_2\overset{O}{\overset{\|}{S}}R^2 \longrightarrow (R^1O)_2\overset{O}{\overset{\|}{P}}-\overset{Ar}{\overset{|}{C}}HSR^2$$

Tetrahedron Lett.27,6263(1986)

REMARKABLE ELECTROPHYLIC PROPERTIES OF THE PENTAENOL ETHER SYSTEM OF FECAPENTAENE-12.

Paul P. de Wit, Mart van der Steeg, and Arne van der Gen*, Gorlaeus Laboratories, Dept. of Organic Chemistry, University of Leiden, P.O.Box 9502, 2300 RA Leiden, The Netherlands.

Polyenol ethers display an unexpected reactivity towards nucleophiles under basic conditions. The first addition product of an external nucleophile to the potent mutagen Fecapentaene-12 (1) is reported.

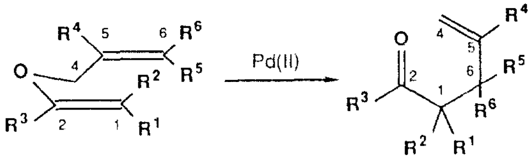


Tetrahedron Lett.27,6267(1986)

PALLADIUM(II)-CATALYZED CLAISEN REARRANGEMENT OF ALLYL VINYL ETHERS

J.L. van der Baan and F. Bickelhaupt
Department of Organic Chemistry, Free University, 1081 HV Amsterdam, The Netherlands

The Claisen rearrangement of allyl vinyl ethers is catalyzed by Pd(II), provided that alkyl substituents protect the vinyl ether double bond from coordination by the metal catalyst.

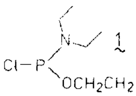


Tetrahedron Lett.27,6271(1986)

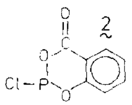
SYNTHESIS OF THE FRAGMENT GlcNAc-α(1→P→6)-GlcNAc OF THE CELL WALL POLYMER OF STAPHYLOCOCCUS LACTIS HAVING REPEATING N-ACETYL-D-GLUCOSAMINE PHOSPHATE UNITS

P. Westerduin, G.H. Veeneman, G.A. van der Marel and J.H. van Boom*
Gorlaeus Laboratories, P.O. Box 9502, 2300 RA Leiden, The Netherlands

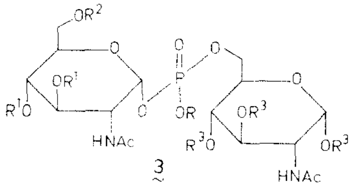
The two phosphitylating reagents 1 and 2 have been used for the preparation of anomerically pure dimer 3 (R^1=R^2=R^3=R=H). Reagent 2 gives a higher overall yield of 3 than 1.



1



2



3

Tetrahedron Lett. 27, 6275 (1986)

CARBENIUM SALTS OBTAINED FROM DERIVATIVES OF PHTHALIC ACID

Stephen C. Eyley,[a] Harry Heaney,*[b] and Khushbir S. Sodhi[b]

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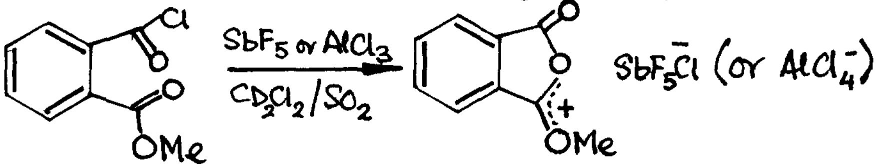
o-Methoxycarbonylbenzoyl chloride reacts with Lewis acids in SO_2/CD_2Cl_2 to give solutions of carbenium salts which can be identified using C-13 nmr spectroscopy.

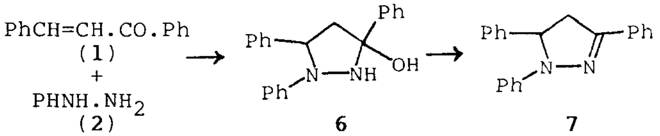


Tetrahedron Lett. 27, 6277 (1986)

A CARBON-13 AND NITROGEN-15 ISOTOPIC LABELLING STUDY OF INTERMEDIATES AND BY-PRODUCTS IN THE REACTION OF CHALCONE AND PHENYLHYDRAZINE TO GIVE 1,3,5-TRIPHENYL-2-PYRAZOLINE

Peter W. Kenny and Michael J.T. Robinson* Dyson Perrins Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QY, England

Carbon NMR, using successive carbon-13 labelling, with or without nitrogen-15 labelling, has shown the mechanism of formation of **7** from **1** and **2** *via* **6**, with two by-products.



6 **7**