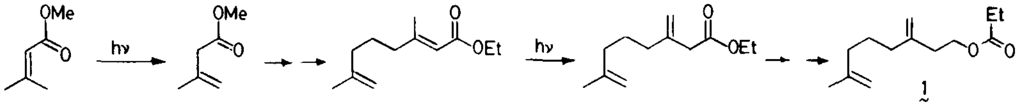
GRAPHICAL ABSTRACTS

Tetrahedron Lett.27,5555(1986)

PHOTOENOLISATION OF CONJUGATED ESTERS: SYNTHESIS OF A SAN JOSE SCALE PHEROMONE BY PARTIALLY REGIO-CONTROLLED PHOTOCHEMICAL DECONJUGATION[1].

Domenic A. Lombardo and Alan C. Weedon*, The Photochemistry Unit, Chemistry Department, University of Western Ontario, London, Ontario, N6A 5B7, Canada.

A synthetic route to pheromone 1 is described.

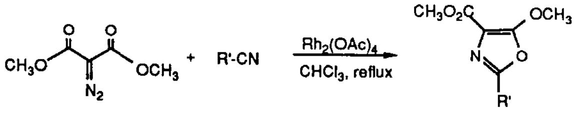


Tetrahedron Lett.27,5559(1986)

FUNCTIONALIZED OXAZOLES FROM THE RHODIUM-CATALYZED REACTION OF DIMETHYL DIAZOMALONATE WITH NITRILES.

Richard Connell, Frank Scavo, Paul Helquist*
Department of Chemistry, University of Notre Dame, Indiana 46656 USA
Björn Åkermark
Royal Institute of Technology, Department of Organic Chemistry, S-100 44 Stockholm, Sweden

Rhodium (II) acetate catalyses the reaction of dimethyl diazomalonate with nitriles to give 4-carbomethoxy-5-methoxy-1,3-oxazoles. Oxazole formation exceeds cyclopropane formation enen in cases of conjugated and non-conjugated nitriles.

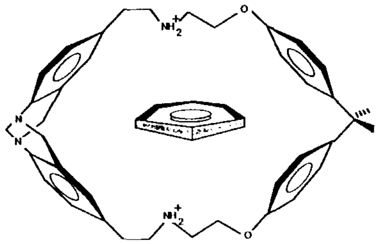


Tetrahedron Lett.27,5563(1986)

NEW APPROACHES TO SYNTHETIC RECEPTORS. SYNTHESIS AND HOST PROPERTIES OF A WATER SOLUBLE MACROCYCLIC ANALOG OF TROGER'S BASE.

Craig S. Wilcox* and Marlon D. Cowart
Department of Chemistry, University of Texas, Austin, TX 78712

A cyclophane which incorporates the Troger's base ring system [6H,12H-(5,11)-methanodibenzo[*b,f*][1,5]diazocine] is prepared. The macrocyclic product is soluble in aqueous acid and serves as a *binding site* for benzenoid substrates. NMR data is presented and free energies of association are estimated for the binding of this synthetic receptor with four different substrates.

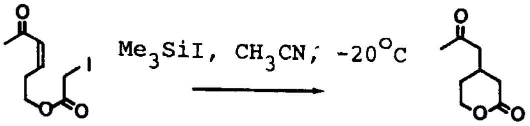


Tetrahedron Lett.27,5567(1986)

A δ-LACTONE SYNTHESIS INVOLVING AN INTRAMOLECULAR 1,4-ADDITION OF α-IODOACETATES TO ENONES,

A. Ş. Demir, R. S. Gross, N. K. Dunlap, A. Bashir-Hashemi, and D. S. Watt*, Department of Chemistry, University of Kentucky, Lexington, KY. 40506

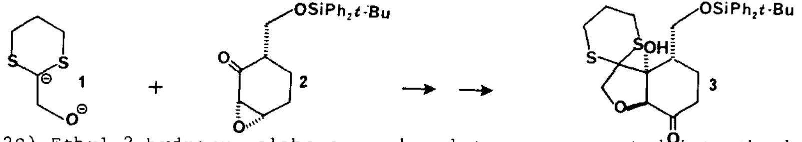
A 1,4-cyclization of α-iodoacetates to enones by iodotrimethylsilane affords δ-lactones.



Tetrahedron Lett.27,5571(1986)

SYNTHETIC APPROACHES TO THE AVERMECTINS: STUDIES ON THE HEXAHYDROBENZOFURAN UNIT

Anthony G.M.Barrett* and Nigel K.Capps
Department of Chemistry, Northwestern University, Evanston, Illinois 60201.

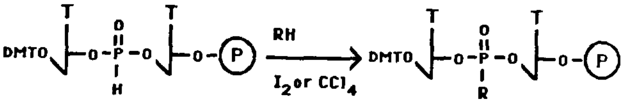


(1R,2S) Ethyl 2-hydroxycyclohexanecarboxylate was converted into the ketone **3** using the reaction of dianion **1** with the epoxy-ketone **2** as the key step.

Tetrahedron Lett.27,5575(1986)

DEOXYNUCLEOSIDE H-PHOSPHONATE DIESTER INTERMIDIATES IN THE SYNTHESIS OF INTERNUCLEOTIDE PHOSPHATE ANALOGUES

Brian C. Froehler
Dept. of Molecular Biology,
Genentech, Inc.
South San Francisco, CA 94080

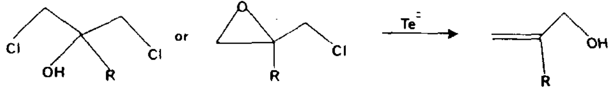


Polymer bound deoxynucleoside H-phosphonate diesters are used as precursors to a variety of DNA analogues.

Tetrahedron Lett.27,5579(1986)

FUNCTIONAL GROUP MODIFICATION VIA ORGANOTELLURIUM CHEMISTRY.
SYNTHESIS OF ALLYL ALCOHOLS FROM CHLOROMETHYLOXIRANES

George Polson and Donald C. Dittmer*
Department of Chemistry, Syracuse University, Syracuse, New York 13210 USA



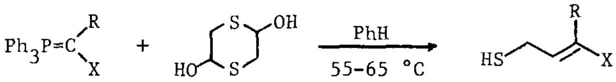
Treatment of 2-substituted chloromethyloxiranes or 2-substituted 1,3-dichloro-2-propanols with telluride ion gives 2-substituted allyl alcohols, presumably through an epitelluride intermediate.

Tetrahedron Lett.27,5583(1986)

A ONE-STEP PREPARATION OF (E)-4-MERCAPTO-2-BUTENOIC ESTERS AND NITRILES. RELATIVE MICHAEL REACTIVITIES IN SIMPLE UNSATURATED SYSTEMS.

Richard A. Bunce and Joey D. Pierce, Department of Chemistry, Oklahoma State University, Stillwater, OK 74078-0447

A Wittig synthesis of the title compounds and an evaluation of Michael reactivities in these systems is given.



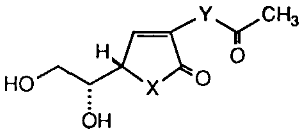
R = H, CH_3
X = ester, nitrile, ketone

Tetrahedron Lett.27,5587(1986)

THE STRUCTURE OF LEPTOSPHAERIN

Guy A. Schiehser, James D. White*, Gayle Matsumoto, John O. Pezzanite, and Jon Clardy
Departments of Chemistry, Oregon State University, Corvallis, OR 97331 and Cornell University, Ithaca, NY 14853

The structure and relative configuration of leptosphaerin **2**, a metabolite of the marine ascomycete _Leptosphaeria_ _oraemaris_ (Linder), was established by spectral analysis and elimination of an alternate structure **1** through synthesis.



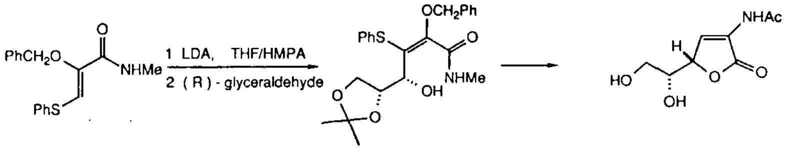
1 X=NH, Y=O
2 X=O, Y=NH

Tetrahedron Lett.27,5591(1986)

THE SYNTHESIS AND ABSOLUTE CONFIGURATION OF (+)-LEPTOSPHAERIN

Alexander J. Pallenberg and James D. White*
Department of Chemistry, Oregon State University, Corvallis, OR 97331

A synthesis of (+)-leptosphaerin, a metabolite of the marine ascomycete _Leptosphaeria_ _oraemaris_ (Linder), was accomplished from (R)-glyceraldehyde by a route that confirmed the structural assignment and established the absolute configuration as (4S,5R).



Tetrahedron Lett.27,5595(1986)

EFFICIENT PREPARATION OF HOMOCHIRAL BICYCLO-ANNULATED CYCLOPENTADIENES VIA THE SKATTEBØL REARRANGEMENT. AVOIDANCE OF LIMITATIONS DUE TO ANGLE STRAIN.

Mark L. McLaughlin, Jeffrey A. McKinney, and Leo A. Paquette*
Department of Chemistry, The Ohio State University, Columbus, Ohio 43210 USA

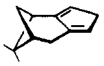
Syntheses of annulated cyclopentadienes **3** and **4** are described.

Tetrahedron Lett.27,5599(1986)

TRANSITION METAL COMPLEXATION OF OPTICALLY PURE ANNULATED CYCLOPENTADIENES. FACE SELECTIVITY. THREE-DIMENSIONAL STRUCTURAL FEATURES, AND UTILIZATION FOR ASYMMETRIC HYDROGENATION.

Leo A. Paquette,* Jeffrey A. McKinney, Mark L. McLaughlin, and Arnold L. Rheingold
Departments of Chemistry, The Ohio State University, Columbus, Ohio 43210 and The University of Delaware, Newark, Delaware 19711 USA

Complexation of **1** and **4** to Fe and Ti takes place with the indicated stereoselectivity. Use of **3** and **5** as enantioselective hydrogenation catalysts is described.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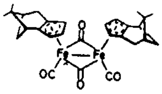

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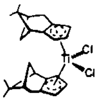

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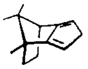
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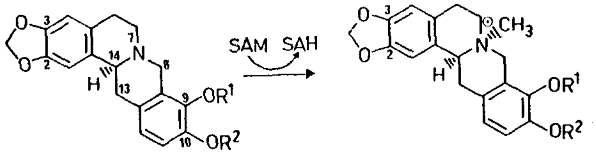
Tetrahedron Lett.27,5603(1986)

S-ADENOSYL-L-METHIONINE: (S)-7,8,13,14-TETRAHYDROBERBERINE-CIS-N-METHYLTRANSFERASE, A BRANCH POINT ENZYME IN THE BIOSYNTHESIS OF BENZOPHENANTHRIDINE AND PROTOPINE ALKALOIDS.

M. Rueffer and M. H. Zenk
Lehrstuhl f. Pharmazeutische Biologie,
Universität München, Karlstr. 29,
D-8000 München 2

Isolation of an enzyme catalysing the following reaction:



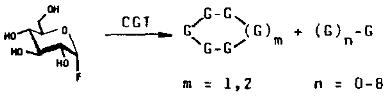
$R^1=R^2=CH_3$: (S)-7,8,13,14-Tetrahydroberberine [(S)-Canadine]
$R^1+R^2=CH_2$: (S)-Stylopine
SAM = S-Adenosylmethionine SAH = S-Adenosylhomocysteine

Tetrahedron Lett.27,5605(1986)

ENZYMATIC SYNTHESIS OF CYCLODEXTRINS WITH α-GLUCOSYLFLUORIDE AS A SUBSTRATE FOR CYCLODEXTRIN-α(1→4)-GLUCOSYLTRANSFERASE

Wolfgang Treder[a], Joachim Thiem[a*] and Merten Schlingmann[b]
[a]Institut für Organische Chemie der Westfälischen Wilhelms-Universität,
D-4400 Münster (FRG)
[b]Hoechst AG, Hauptlaboratorium, Postfach 80 03 20, D-6230 Frankfurt 80 (FRG)

Cyclodextrins are prepared in a high yield by use of α-glucosyl-fluoride as a substrate for cyclodextrin-α(1→4)glucosyltransferase.



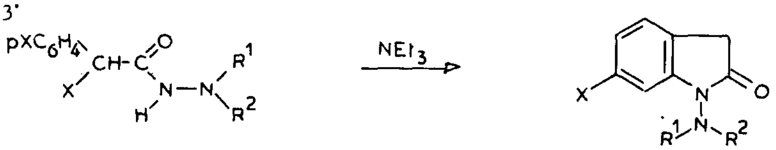
m = 1,2 n = 0-8

Tetrahedron Lett.27,5609(1986)

N-AMINOINDOLINONES A PARTIR D'ARYLHYDRAZIDES α-HALOGENES.

P. Legrel, M. Baudy-Floc'h, A. Robert *
Groupe de Recherches de Chimie structurale, U.A. C.N.R.S. 704, Université de Rennes, 35042 Rennes, France.

N-amino indolinones are obtained in good yield through the reaction of α-halohydrazides with NEt_3.



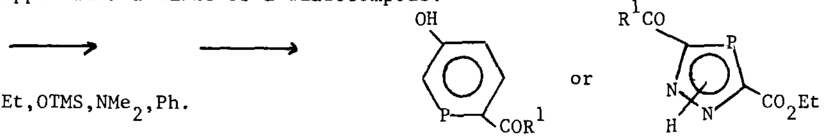
Tetrahedron Lett.27,5611(1986)

NEW ACCESS TO FUNCTIONALIZED DICHLOROPHOSPHINES: SYNTHESIS OF TWO COORDINATED PHOSPHORUS HETEROCYCLES.

P.Pellon and J.Hamelin
Universite de Rennes,Campus de Beaulieu,35042 Rennes Cedex,France.

Silylated compounds react readily with PCl_3 to give dichlorophosphines which are dehydrochlorinated and trapped with a diene or a diazocompoud.

$Cl_2P-CH(R)COR^1$



R = H, TMS; R^1 = OEt,OTMS,NMe_2,Ph.

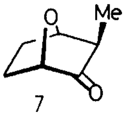
Tetrahedron Lett. 27, 5615 (1986)

EXPEDITIOUS SYNTHESES OF METHYL 8-epi-NONACTATE AND METHYL NONACTATE.

Aleksander Warm and Pierre Vogel*, Institut de chimie organique de l'Université,
CH 1005 Lausanne, Switzerland.

Methyl 8-epi-nonactate (4) and methyl nonactate (3) were derived from 7-oxa-2-bicyclo[2.2.1]-heptanone (6) in four and five synthetic steps, respectively.


6



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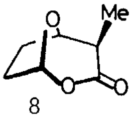

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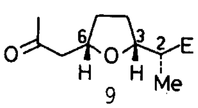

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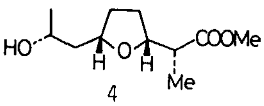

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Tetrahedron Lett. 27, 5617 (1986)

A CONVENIENT PREPARATION OF α-METHOXYALKYLTRIPHENYLPHOSPHONIUM TETRAFLUOROBORATES

Werner Tückmantel, Koichiro Oshima,* and Kiitiro Utimoto
Department of Industrial Chemistry, Kyoto University, Kyoto 606 JAPAN

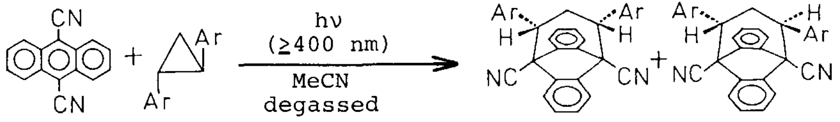
$$RCH(OMe)_2 \xrightarrow[\text{toluene}]{PPh_3,\ BF_3\cdot OEt_2} RCH(OMe)PPh_3^+\ BF_4^-$$

Tetrahedron Lett. 27, 5619 (1986)

(2σ + 4π) PHOTOCYCLOADDITION OF 1,2-DIARYLCYCLOPROPANES TO 9,10-DICYANOANTHRACENE VIA GEMINATE RADICAL ION PAIR

Nobuyuki Ichinose, Kazuhiko Mizuno*, Ziro Hiromoto, and Yoshio Otsuji*
Department of Applied Chemistry, University of Osaka Prefecture, Sakai, Osaka 591, Japan.

Irradiation of a degassed acetonitrile solution containing 9,10-dicyanoanthracene and 1,2-diarylcyclopropanes gave (2σ + 4π) photocycloadducts.

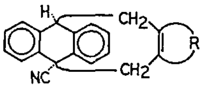


Tetrahedron Lett. 27, 5621 (1986)

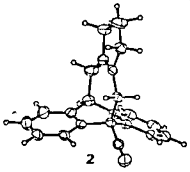
THE PHOTOCHEMICAL REACTION OF 9-CYANOANTHRACENE WITH S-CISOID 2,3-DISUBSTITUTED BUTADIENES AND THE MOLECULAR STRUCTURES OF THEIR PHOTOCHEMICAL [4+4]ADDUCTS

Y.Fukazawa*, T.Fujihara and S.Usui, Department of Chemistry, Hiroshima University, Hiroshima 730, Japan; Y.Shiobara and M.Kodama, Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Tokushima 770, Japan

Photoaddition of 9-cyanoanthracene and various 1,3-dienes, and the molecular structure of [4+4]-adducts (**1-3**) are described.



1 $R=-(CH_2)_2-$
2 $R=-(CH_2)_3-$
3 $R=-CH_2CH=CHCH_2-$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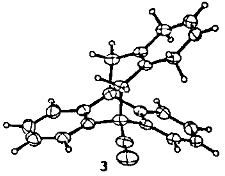
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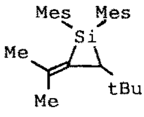
Tetrahedron Lett. 27, 5625 (1986)

REACTION OF SILYLENE WITH ALLENES: ALKYLIDENESILACYCOLPROPANE AND SILATRIMETHYLENEMETHANE.

Wataru Ando* and Haruo Saso
Department of Chemistry, University of Tsukuba
Sakura-mura, Ibaraki 305, Japan

Alkylidenesilacyclopropane 2 and 7Z were isolated by the reaction of dimesitylsilylene with allenes, and silatrimethylenemethane 5 was proposed in the decomposition of 2.



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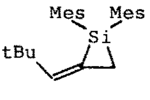
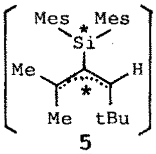


7Z



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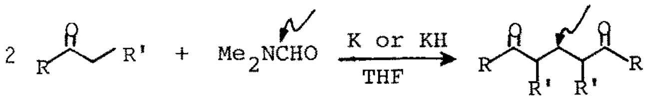
Tetrahedron Lett. 27, 5629 (1986)

ONE-METHYLENE INCORPORATED DIMERIZATION REACTION OF KETONE ENOLATES -1. A NEW ROUTE TO 1,5-DIKETONES FROM KETONES HAVING α-ACTIVE HYDROGEN ON ONE SIDE

Syun-ichi Kiyooka,* Tsuneo Yamashita, Jun-ichi Tashiro, Kazuyuki Takano, and Yasuto Uchio
Department of Chemistry, Kochi University, Akebono-cho 2-5-1, Kochi 780, Japan



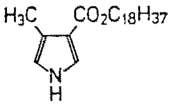
When R is tert-alkyl or phenyl group and R' is alkyl group or hydrogen, 1,5-diketones are obtained from the reaction with reflux for 5-20h in 60 - 90% yields.

Tetrahedron Lett. 27, 5633 (1986)

ELECTROCHEMICAL POLYMERIZATION IN LANGMUIR-BLODGETT FILM OF NEW AMPHIPHILIC PYRROLE DERIVATIVES

T. Iyoda,* M. Ando, T. Kaneko, A. Ohtani, T. Shimidzu, and K. Honda
Division of Molecular Engineering, Graduate School of Engineering, Kyoto University, Kyoto 606, Japan

Electropolymerization in LB multilayers of amphiphilic pyrrole derivatives.
Highly anisotropic conducting LB film.

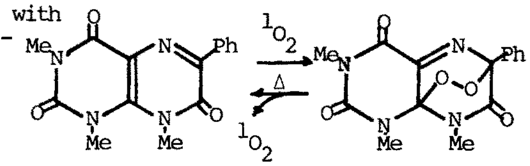


Tetrahedron Lett. 27, 5637 (1986)

NEW AND STABLE ENDOPEROXIDE FROM THE PTERIDIN-2,4,7-TRIONE AND SINGLET OXYGEN

Takehiko Nishio,* Tadashi Nishiyama, and Yoshimori Omote
Department of Chemistry, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaraki 305, Japan

The reaction of the pteridin-2,4,7-trione (1) with singlet oxygen gave the stable pteridin-2,4,7-trione 6,8'-endoperoxide, which on warming reverts to 1 with concomitant formation of singlet oxygen.



(1)

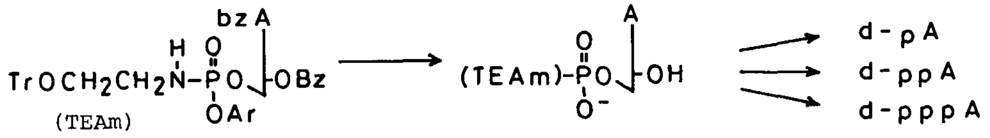
(2)

Tetrahedron Lett.27,5641(1986)

TRITYLOXYETHYLAMINO GROUP FOR THE PROTECTION OF PHOSPHORYL GROUP IN OLIGONUCLEOTIDE SYNTHESIS

Toshiki Tanaka, Yasuki Yamada, and Morio Ikehara
Faculty of Pharmaceutical Sciences, Osaka University, Osaka 565, Japan

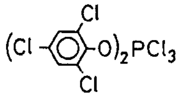
TEAm group as the protection of 5'-phosphoryl group was described.



Tetrahedron Lett.27,5645(1986)

BIS(2,4,6-TRIHALOPHENYLOXY)TRICHLOROPHOSPHORANES: NOVEL CONDENSING REAGENTS FOR INTERNUCLEOTIDIC BOND FORMATION VIA ACTIVE PHOSPHOROCHLORIDATE INTERMEDIATES

Jun-ichi Matsuzaki, Hitoshi Hotoda, Mitsuo Sekine, and Tsujiaki Hata
Department of Life Chemistry, Tokyo Institute of Technology,
Nagatsuta, Midoriku, Yokohama 227, Japan



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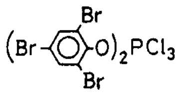


BTCP

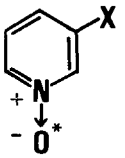
Tetrahedron Lett.27,5649(1986)

OXYGEN-17 NMR SPECTROSCOPY: σ_I DEPENDENCE FOR THE SUBSTITUENT CHEMICAL SHIFTS OF 3-SUBSTITUTED PYRIDINE 1-OXIDES

M. Sawada,* Y. Takai, S. Kimura,
S. Yamano, S. Misumi, T. Hanafusa
MAC, ISIR, Osaka Univ., Ibaraki, Osaka 567
Y. Tsuno
Dep. Chem., Fac. Sci., Kyushu Univ.,
Hakozaki, Fukuoka 812

$$^{17}\text{O-NMR SCS} = 35.5\ \sigma_I - 2.1$$

^{17}O-NMR SCS of
3-substituted PYNO

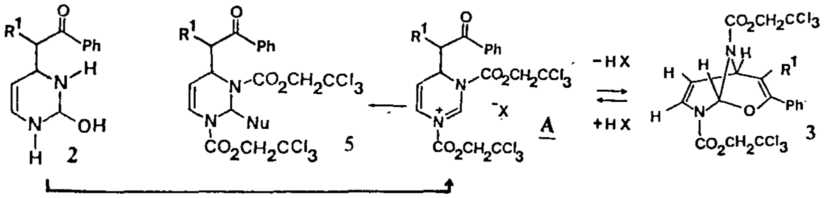


Tetrahedron Lett.27,5651(1986)

FORMATION OF 2-OXA-8,9-DIAZABICYCLO[3.3.1]NONA-3,6-DIENE DERIVATIVES FROM PYRIMIDINE: UTILITY FOR TETRAHYDROPYRIMIDINE SYNTHESIS

Kin-ya Akiba,* Akira Sakaguchi, and Yohsuke Yamamoto
Department of Chemistry, Faculty of Science, Hiroshima University, Hiroshima 730, Japan

Pyrimidine, Me_3SiOTf, and silyl enol ethers gave the hydrate of dihydropyrimidine (**2**). **2** was converted to A by acylation, and A gave **3** and **5**.

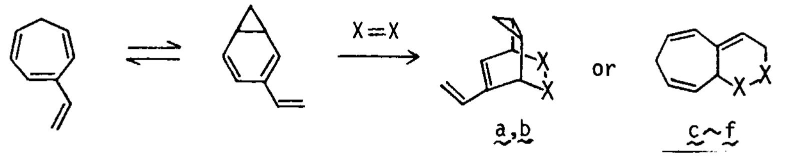


Tetrahedron Lett. 27, 5653 (1986)

POSITION AND DIENOPHILE DEPENDENT DIELS-ALDER REACTIONS OF VINYLCYCLOHEPTATRIENES

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

3-Vinylcycloheptatriene undergoes remarkably dienophile-dependent, chemoselective Diels-Alder reactions, while 1- and 2-isomers do not show dienophile-dependency.



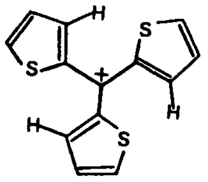
X=X = NPTAD, TCNE-- a,b
= DCA, DMAD, FMN, NQ--- c~f

Tetrahedron Lett. 27, 5657 (1986)

TRIS(2-THIENYL)METHYL CATION; AN UNPRECEDENT ^{13}C NMR BEHAVIOR

B. Abarca, G. Asensio, R. Ballesteros, and C. Luna.
Departamento de Quimica Orgânica, Facultad de Farmacia, Avda. Blasco Ibanez 13
46010-Valencia, SPAIN

An unexpected response of the chemical shift value to the substitution of phenyl by 2-thienyl groups is found in the series 1-8. On this basis the planar cation 7 appears to be an homoaromatic-like system.



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Tetrahedron Lett. 27, 5661 (1986)

STRUCTURAL AND STEREOCHEMICAL STUDIES OF METHIONINE DECARBOXYLASE FROM DRYOPTERIS FELIX-MAS

David E Stevenson, Mahmoud Akhtar and David Gani*
Department of Chemistry, The University, Southampton SO9 5NH, UK.

Synthesis of a chiral derivative (5) of 3-methylthio-1-aminopropane, the decarboxylation product of L-methionine, for determination of the stereochemical course of the enzymic reaction.