

Tetrahedron Letters Vol. 45, No. 17, 2004

Contents

COMMUNICATIONS

1*R*,2*S*,5*R*,8*R*; 1*R*,2*S*,5*R*,8*S*; 1*S*,2*S*,5*R*,8*R*; and 1*S*,2*S*,5*R*,8*S*-Iridodials have been prepared in five steps from 4a*S*,7*S*,7a*R* and 4a*S*,7*S*,7a*S*-nepetalactones, major components of catnip oil.

Asymmetric dihydroxylation of allenes

for the golden-eyed lacewing, Chrysopa oculata

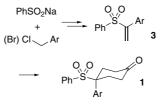
Steven A. Fleming,* Sean M. Carroll, Jennifer Hirschi, Renmao Liu, J. Lee Pace and J. Ty Redd

Iridodials: enantiospecific synthesis and stereochemical assignment of the pheromone



Ar = Ph, *p*-CH₃Ph, *p*-CH₃OPh, *p*-ClPh, *o*-CH₃Ph, Naphthyl

Expedient Diels-Alder assembly of 4-aryl-4-phenylsulfonyl cyclohexanones Jeremy P. Scott,* Deborah C. Hammond, Elizabeth M. Beck, Karel M. J. Brands, Antony J. Davies, Ulf-H. Dolling and Derek J. Kennedy



Alkylation, methylenation and highly regioselective Diels–Alder cycloaddition provided access to 4-aryl-4-phenylsulfonyl cyclohexanones, containing a quaternary sulfone-bearing carbon, in moderate to excellent overall yield for the three steps (38–78%).

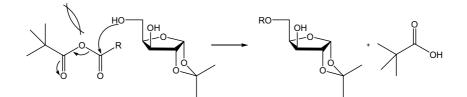
Í.

pp 3339–3340

pp 3341-3343

Thermodynamic and kinetic considerations in the chemoselective O-acylation by mixed anhydrides. pp 3349–3353 A semiempirical MO approach

Antonio J. Mota,* Rafael Robles,* Luis Álvarez de Cienfuegos and Alberto Lamenca



A simple methodology to achieve high chemoselective O-acylation of primary hydroxy groups was performed. Thermodynamic and kinetic factors were evaluated by means of semiempirical calculations (AM1 and PM3).

Metal carbene N–H insertion of chiral α, α' -dialkyl α -diazoketones. A novel and concise method for the stereocontrolled synthesis of fully substituted azetidines

 $\begin{array}{c} \uparrow \\ HNP \end{array} \begin{array}{c} \searrow \\ N_2 \end{array}$

Antonio Carlos B. Burtoloso and Carlos Roque D. Correia*

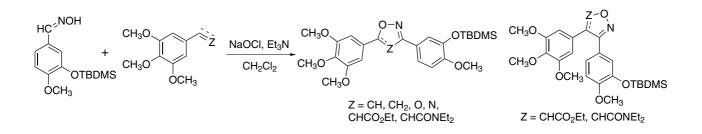
 $\begin{array}{c} R = a \|ky\| \\ P = Boc \text{ or } Ts \end{array}$ The syntheses of all *cis* substituted azetidines were accomplished in few steps from L-serine in modest to high yields. The key step was based on a rhodium or copper carbenoid N–H insertion of α, α' -dialkyl- α -diazoketones to furnish

TBDPSC

3 steps

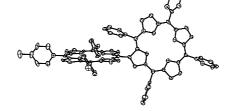
cis-2,4-dialkyl-azetidin-3-ones as the only observable diastereoisomers.

1,3-Dipolar cycloaddition route to novel isoxazole-type derivatives related to combretastatin A-4 Julia Kaffy, Claude Monneret, Patrick Mailliet, Alain Commerçon and Renée Pontikis*

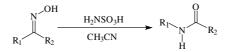


The meso-β-linkage as structural motif in porphyrin-based donor-acceptor compoundspp 3363-3367Mathias O. Senge,* Beatrice Rößler, Jörg von Gersdorff, Andreas Schäfer and Harry Kurreckpp 3363-3367

The synthesis of directly $meso-\beta$ -linked bis- and trisporphyrins has been explored and used for the convenient preparation of P–P–Q donor-acceptor systems consisting of bisporphyrin, spacer, and quinone acceptor.



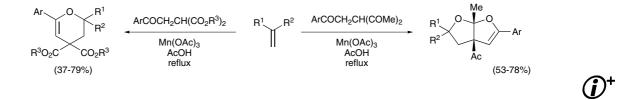
Sulfamic acid as a cost-effective and recyclable catalyst for liquid Beckmann rearrangement, a green process to produce amides from ketoximes without waste Bo Wang, Yanlong Gu, Cheng Luo, Tao Yang, Liming Yang^{*} and Jishuan Suo



Sulfamic acid (H_2NSO_3H) has been proved to be an efficient and green catalyst for liquid Beckmann rearrangement of ketoxime in dried acetonitrile. The use of basic neutralization agent has been avoided due to the intrinsic zwitterionic property of sulfamic acid. Moreover, it has been proved to be an efficient route for separating corresponding products of Beckmann rearrangement of ketoximes. Thus it may be a green process for the preparation of amide from ketoxime without producing any waste.

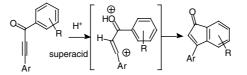
Novel synthesis of dihydropyrans and 2,8-dioxabicylo[3.3.0]oct-3-enes using Mn(III)-based oxidative cyclization

Van-Ha Nguyen and Hiroshi Nishino*



A new, fast and efficient synthesis of 3-aryl indenones: intramolecular cyclization of 1,3-diarylpropynones in superacids

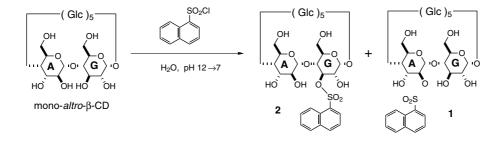
Aleksander V. Vasilyev, Stéphane Walspurger, Patrick Pale* and Jean Sommer*



1,3-Diarylpropynones were cleanly converted in a fast ($\leq 30 \text{ min}$) and efficient (up to 95% yields) one-pot reaction to the corresponding 3-arylindenones in superacidic media.

Selective modification of mono-*altro*-β-cyclodextrin: dependence of O-sulfonylation position on the shape of sulfonylating reactant

Makoto Fukudome, Kaori Oiwane, Takenari Mori, De-Qi Yuan and Kahee Fujita*



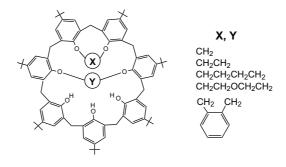
pp 3369-3372

pp 3373-3377

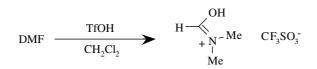
pp 3379-3381

pp 3383-3386

Regioselective double intramolecular bridging of *p-tert*-butylcalix[7]arene Marco Martino, Carmine Gaeta and Placido Neri*



New protic salts of aprotic polar solvents Isabelle Favier and Elisabet Duñach*



Triflate and triflimide salts of DMF, DMSO and MeCN are prepared in excellent yields.

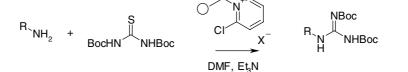
An easy way for constructing hard-to-make epoxides employing HOF·CH₃CN Elizabeth Golan, Aviv Hagooly and Shlomo Rozen*

 $\begin{array}{c}
\downarrow \\
F_2/H_2O/CH_3CN \\
\hline
HOF+CH_3CN \\
0 \,^{\circ}C
\end{array}$

Very good yields under very mild conditions. One fast (seconds to minutes) reaction step.

Epoxidation of eight other difficult-to-epoxidize enes and polyenes are presented.

Preparation and evaluation of a polymer-supported Mukaiyama reagent Emmanuelle Convers, Heather Tye* and Mark Whittaker



pp 3397-3399

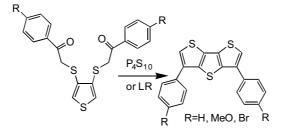
pp 3401-3404

pp 3387-3391

pp 3393-3395

A new reaction of P_4S_{10} and Lawesson's reagent; a new method for the synthesis of dithieno[3,2-*b*;2',3'-*d*]thiophenes Erdel Ertee and Turan Ortuge*

Erdal Ertas and Turan Ozturk*



A simple one-step protocol for the olefination of vinylogous formamides Vijay Kumar, Swapandeep Singh Chimni and Subodh Kumar*

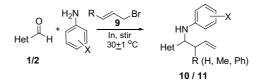
pp 3409-3412

Vinylogous formamides—5-formyluracils and 4-formylpyrazoles-undergo smooth olefination in THF in the presence of indium metal (0.8 equiv) and $BF_3 \cdot OEt_2$ (1 equiv) and allyl bromide (1 equiv) to provide the respective diene-substituted heterocycles in a single step.

 $H_{+} \longrightarrow Br \frac{In, BF_3 \cdot OEt_2}{THF 30 \, {}^{\circ}C, Stirr}$

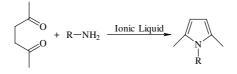
Rate acceleration and diastereoselectivity in chelation-controlled indium-promoted Barbier allylation pp 3413–3416 of pyridine-2- and quinoline-2-imines in aqueous solvents

Subodh Kumar* and Pervinder Kaur



The imines generated in situ from 2-pyridine-/2-quinoline-carboxaldehydes and aryl amines undergo indium-mediated Barbier allylation in aqueous media to provide the respective homoallylic amines with d.r. up to 98:2.

Pyrrole synthesis in ionic liquids by Paal–Knorr condensation under mild conditions Bo Wang, Yanlong Gu, Cheng Luo, Tao Yang, Liming Yang^{*} and Jishuan Suo

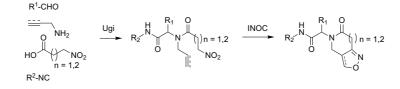


Paal–Knorr condensation of 2,5-hexandione with primary amines was successfully carried out in ionic liquids. The reaction, using ionic liquids as solvent, exhibited many advantages over in conventional organic solvents of simple product isolation procedure, improved yields and exclusive selectivity, the mild conditions and the avoidance of using toxic catalysts. Recovery and reuse of ionic liquids are also satisfactory, which demonstrate the cost efficiency and green aspect of our methodology.

pp 3405-3407

pp 3417-3419

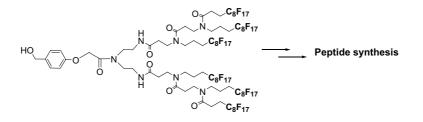
Synthesis of novel fused isoxazoles and isoxazolines by sequential Ugi/INOC reactions Irini Akritopoulou-Zanze,* Vijaya Gracias, Joel D. Moore and Stevan W. Djuric pp 3421-3423



Peptide synthesis on fluorous support

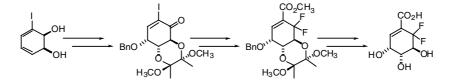
Mamoru Mizuno,* Kohtaro Goto, Tsuyoshi Miura, Takeshi Matsuura and Toshiyuki Inazu





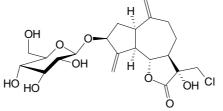
The synthesis of 6,6-difluoroshikimic acid

Jane L. Humphreys, David J. Lowes, Karen A. Wesson and Roger C. Whitehead*



13-Chloro-3-*O*-β-D-glucopyranosylsolstitialin from *Leontodon palisae*: the first genuine chlorinated pp 3433–3436 sesquiterpene lactone glucoside

Christian Zidorn,* Ernst-Peter Ellmerer, Günther Konwalinka, Nadja Schwaiger and Hermann Stuppner

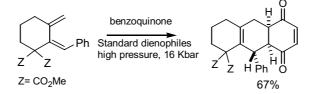


13-Chloro-3-O- β -D-glucopyranosylsolstitialin has been isolated from the Southwestern European plant *Leontodon palisae* (Asteraceae, tribe Lactuceae). The compound represents the first naturally occurring chlorinated sesquiterpene lactone glucoside. The cytotoxicity of the new compound and related ones was evaluated using the MTT assay.

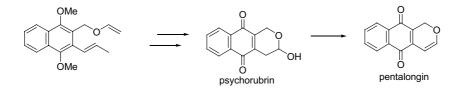
pp 3429-3432

Diels–Alder cycloadditions of functionalized (Z)-1-benzylidene-2-methylene cyclohexanes: the beneficial effect of high pressure

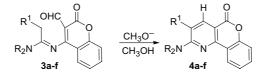
Thierry Lomberget, Isabelle Chataigner, Didier Bouyssi, Jacques Maddaluno and Geneviève Balme*



Synthesis of pyranonaphthoquinone antibiotics involving the ring closing metathesis of a vinyl ether pp 3443-3446 Tuyen Nguyen Van and Norbert De Kimpe*

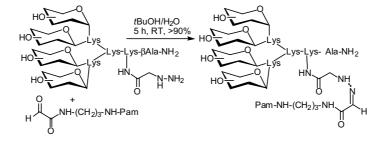


New synthetic approach to [1]benzopyrano[4,3-b]pyridin-5-one derivatives Egle M. Beccalli, Alessandro Contini and Pasqualina Trimarco*



Efficient preparation of carbohydrate- and related polyol-amphiphiles by hydrazone ligation

Cyrille Grandjean,* Valérie Santraine, Nathalie Fardel, Ange Polidori, Bernard Pucci, Hélène Gras-Masse and Dominique Bonnet



pp 3447-3449

pp 3451-3454

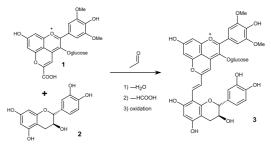
3333

pp 3437-3441

NMR structure characterization of a new vinylpyranoanthocyanin–catechin pigment (a portisin) Nuno Mateus,* Joana Oliveira, Celestino Santos-Buelga, Artur M. S. Silva and Victor de Freitas pp 3455-3457

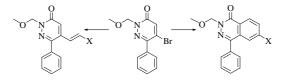
pp 3465-3469

pp 3471-3474

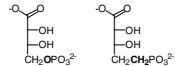


Pyridazine derivatives. Part 38: Efficient Heck alkenylation at position 5 of the 6-phenyl-3(2*H*)- pp 3459–3463 pyridazinone system

Alberto Coelho, Eddy Sotelo, Héctor Novoa, Oswald M. Peeters, Norbert Blaton and Enrique Raviña*



Synthesis and kinetic evaluation of 4-deoxy-4-phosphonomethyl-D-erythronate, the first hydrolytically stable and potent competitive inhibitor of ribose-5-phosphate isomerase Emmanuel Burgos and Laurent Salmon^{*}

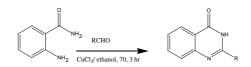


Lewis acid-catalyzed Mannich type reactions with potassium organotrifluoroborates Jean-Philipe Tremblay-Morin, Stéphane Raeppel^{*} and Frédéric Gaudette

 $R^{2} \cdot N \cdot H + H \cdot R^{3} \xrightarrow{1 \text{ toluene}} R^{1} \cdot R^{2} \cdot N \cdot R^{4} \xrightarrow{1 \text{ toluene}} R^{2} \cdot N \cdot R^{4} \xrightarrow{R^{3}} R^{2} \cdot N \cdot R^{4}$

A novel method for the synthesis of 4(3H)-quinazolinones

Raid J. Abdel-Jalil,* Wolfgang Voelter and Muhammad Saeed



H₂C

HC

OН

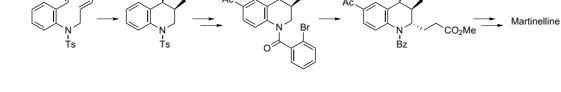
Ö OH Verbenachalcone

A total synthesis of verbenachalcone, a bioactive diaryl ether from *Verbena littoralis* Takamasa Tanabe, Fuminao Doi, Takahisa Ogamino and Shigeru Nishiyama*

A synthesis of verbenachalcone was accomplished by using anodic oxidation of the phenol as the key step.

A formal synthesis of martinelline via a combination of two types of radical reactions Yoshifumi Takeda, Toshiki Nakabayashi, Atsushi Shirai, Daisuke Fukumoto, Toshiko Kiguchi and Takeaki Naito^{*}

CO₂Et



Practical synthetic protocols of enantiopure 1,1'-binaphthyl-2,2'-dicarboxylic acid and 2,2'-dicyano-1,1'-binaphthyl starting from optically active dibromide precursor Takashi Hoshi,* Eiji Nozawa, Masayoshi Katano, Toshio Suzuki and Hisahiro Hagiwara*

Br One-pot CO₂H One-pot CO₂H CO₂H

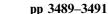
pp 3475-3476

pp 3477-3480

pp 3485-3487

pp 3481-3484

Resolution-free route to chiral 2,2'-bis(pyridin-2-yl)-1,1'-binaphthyl ligand: photochemical CpCo(CO)₂-mediated cycloaddition of enantiopure 2,2'-dicyano-1,1'-binaphthyl with diynes Takashi Hoshi,* Masayoshi Katano, Eiji Nozawa, Toshio Suzuki and Hisahiro Hagiwara*

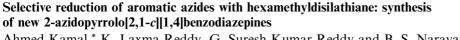


(CH₂)_n

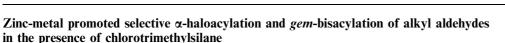
hv, CpCo(CO)₂ n = 1. 2. 3 CH₂)_n

Domino Knoevenagel hetero-Diels-Alder reactions: a stereoselective synthesis of sugar fused furo[3,2-b]pyrano[4,3-d]pyran derivatives

J. S. Yadav,* B. V. S. Reddy, D. Narsimhaswamy, P. Naga Lakshmi, K. Narsimulu, G. Srinivasulu and A. C. Kunwar



Ahmed Kamal,* K. Laxma Reddy, G. Suresh Kumar Reddy and B. S. Narayan Reddy



pp 3503-3506

Yoshio Ishino,* Masatoshi Mihara, Takeshi Takeuchi and Masanobu Takemoto

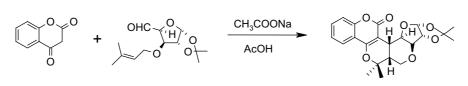
$$R^{1}CHO + R^{2}COX \xrightarrow{\text{DCB, rt}} R^{1}CH \xrightarrow{\text{OCOR}^{2}} OCOR^{2} OCOR^{2}$$

$$R^{1}= Alkyl, R^{2}, R^{3} = Alkyl, Aryl$$

$$X = Cl, Br, OCOR^{3}, CN$$

$$Y: 52 - 100\%$$

Zn oot TMSCI

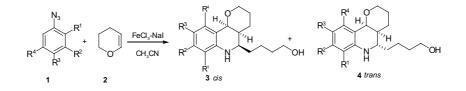


pp 3493-3497

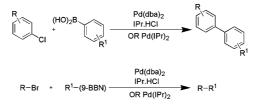
pp 3499-3501

FeCl₃-NaI mediated reactions of aryl azides with 3,4-dihydro-2*H*-pyran: a convenient synthesis of pyranoquinolines

Ahmed Kamal,* B. Rajendra Prasad, A. Venkata Ramana, A. Hari Babu and K. Srinivasa Reddy



Suzuki–Miyaura cross-coupling of aryl and alkyl halides using palladium/imidazolium salt protocols pp 3511–3515 Katherine Arentsen, Stephen Caddick,* F. Geoffrey N. Cloke,* Adam P. Herring and Peter B. Hitchcock

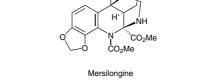


Highly regio- and stereoselective PdCl₂(MeCN)₂-catalyzed cross coupling of 1,2-allenylic sulfoxides with allyl bromide

Shengming Ma,* Qi Wei and Hongjun Ren



Mersilongine, a novel tetracyclic quinolinic alkaloid from *Kopsia* Toh-Seok Kam^{*} and G. Subramaniam

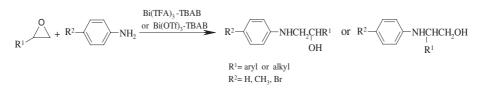


A novel quinolinic alkaloid, viz., mersilongine, incorporating a novel tetracyclic carbon skeleton was obtained from a Malayan *Kopsia* species. The structure was established by spectroscopic analysis and a possible pathway from a mersinine-type precursor is presented.

pp 3517-3520

3337

A powerful, practical and chemoselective synthesis of 2-anilinoalkanols catalyzed by Bi(TFA)₃ or Bi(OTf)₃ in the presence of molten TBAB Mohammd M. Khodaei,* Ahmad R. Khosropour* and Kazem Ghozati



An efficient and chemoselective ring opening of epoxides with anilines in the presence of catalytic amounts of $Bi(TFA)_3$ or $Bi(OTf)_3$ via the use of molten tetrabutylammonium bromide (TBAB) as an ionic liquid is reported.

OTHER CONTENTS

Corrigendum	p 3531
Contributors to this issue	p I
Instructions to contributors	pp III–VI

*Corresponding author (*i*)⁺ Supplementary data available via ScienceDirect

SCIENCE

Full text of this journal is available, on-line from ScienceDirect. Visit www.sciencedirect.com for more information.



This journal is part of **ContentsDirect**, the *free* alerting service which sends tables of contents by e-mail for Elsevier books and journals. You can register for **ContentsDirect** online at: <u>http://contentsdirect.elsevier.com</u>

Indexed/Abstracted in: AGRICOLA, Beilstein, BIOSIS Previews, CAB Abstracts, Chemical Abstracts, Chemical Engineering and Biotechnology Abstracts, Current Biotechnology Abstracts, Current Contents: Life Sciences, Current Contents: Physical, Chemical and Earth Sciences, Current Contents Search, Derwent Drug File, Ei Compendex, EMBASE/Excerpta Medica, Medline, PASCAL, Research Alert, Science Citation Index, SciSearch



ISSN 0040-4039

pp 3525-3529