

Tetrahedron Letters Vol. 50, No. 50, 2009

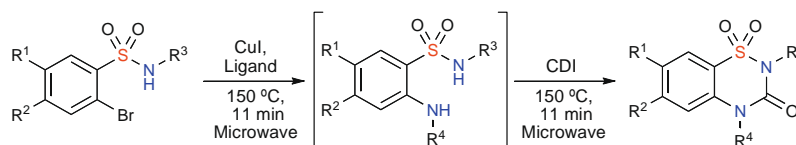
Contents

COMMUNICATIONS

Microwave-assisted sequential one-pot protocol to benzothiadiazin-3-one-1,1-dioxides via a copper-catalyzed N-arylation strategy

pp 6935–6937

Alan Rolfe, Paul R. Hanson *



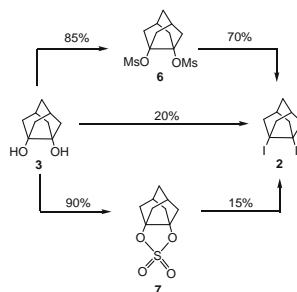
A microwave-assisted, sequential, one-pot protocol has been developed for the synthesis of a variety of benzothiadiazin-3-one-1,1-dioxides. This protocol utilizes a copper-catalyzed N-arylation of α -bromobenzenesulfonamides with a number of amines to generate the corresponding 2-aminobenzenesulfonamides, which undergo cyclization to the desired sultams using carbonyl diimidazole (CDI). A range of conditions was evaluated for the key C–N bond formation step with tolerance toward functionalized amines.



An improved synthesis of diiodonoradamantane

pp 6938–6940

Savvas Ioannou, Athanassios V. Nicolaides *



Stereoselective synthesis of 2,3,4-trisubstituted tetrahydrothiophenes

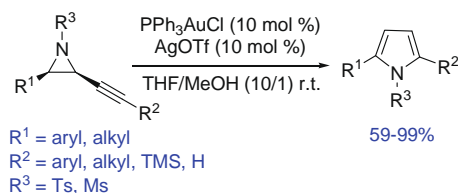
pp 6941–6943

Pedro Besada *, Manuel Pérez, Generosa Gómez, Yagamare Fall *



A facile and regioselective synthesis of 2,5-disubstituted pyrroles via gold-catalyzed cycloisomerization of acetylenylaziridines

pp 6944–6946

Dong-Dong Chen, Xue-Long Hou^{*}, Li-Xin Dai

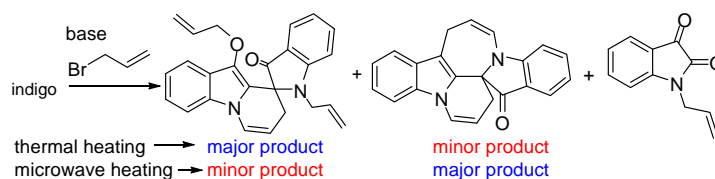
Gold-catalyzed cycloisomerization reaction of acetylenylaziridines provides 2,5-disubstituted pyrroles in high yields. The presence of protic species accelerates the reaction rate and improves the yields of pyrrole products.



Novel spiro and fused heterocycles from the allylation of indigo

pp 6947–6950

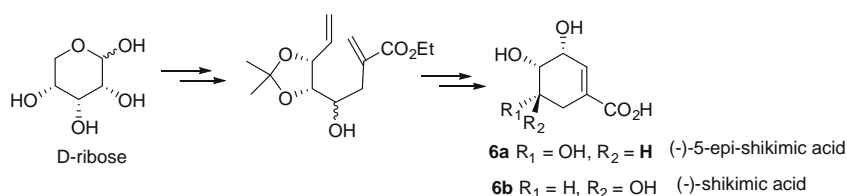
Mohammed K. Abdel-Hamid, John B. Bremner^{*}, Jonathan Coates, Paul A. Keller^{*}, Celia Miländer, Yasmine S. Torkamani, Brian W. Skelton, Allan H. White, Anthony C. Willis



A concise route to (-)-shikimic acid and (-)-5-*epi*-shikimic acid, and their enantiomers via Barbier reaction and ring-closing metathesis

pp 6951–6954

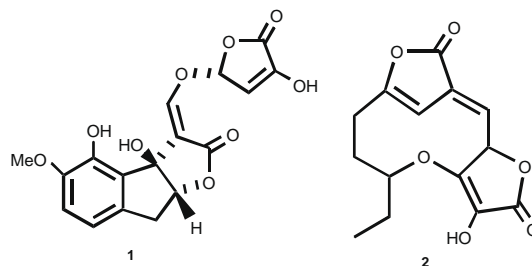
Pavan K. Kancharla, Venkata Ramana Doddi, Hariprasad Kokatla, Yashwant D. Vankar^{*}



Peagol and peagoldione, two new strigolactone-like metabolites isolated from pea root exudates

pp 6955–6958

Antonio Evidente^{*}, Mónica Fernández-Aparicio, Alessio Cimmino, Diego Rubiales, Anna Andolfi, Andrea Motta

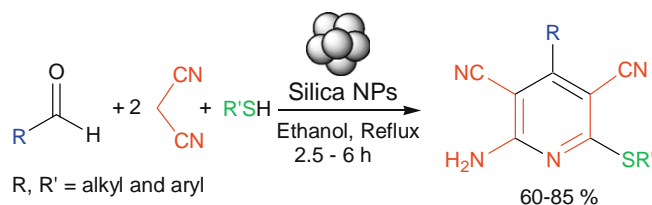


Two new strigolactone-like metabolites, named peagol and peagoldione (**1** and **2**) were isolated from the root exudates of *Pisum sativum* with specific seed germination among different *Orobancha* spp.



One-step, three-component synthesis of highly substituted pyridines using silica nanoparticle as reusable catalyst pp 6959–6962

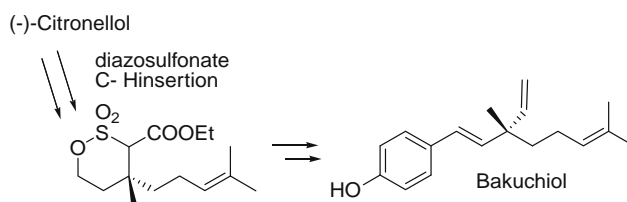
Subhash Banerjee*, Grigoriy Sereda*



One-step synthesis of 'privileged medicinal scaffolds', 2-amino-3,5-dicyanil-6-sulfanylpyridines, has been demonstrated via a multicomponent reaction of aldehydes, malononitrile, and thiols using silica nanoparticle (NP) as catalysts. The silica NP catalysts are very mild (nearly neutral in nature), effective, environmentally benign, and retain most of their activities after being reused for three times.

Enantioselective synthesis of Bakuchiol using diazosulfonate C–H insertion to install the quaternary center pp 6963–6964

Joseph P. Bequette, Christian S. Jungong, Alexei V. Novikov*

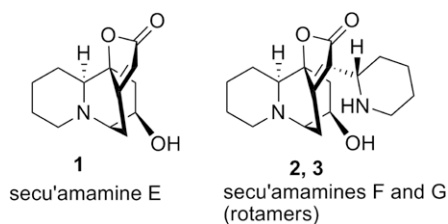


Bakuchiol was prepared from commercial (-)-citronellol using the diazosulfonate C–H insertion to control the regioselectivity and install the quaternary center.

**Secu'amamines E–G, new alkaloids from *Securinega suffruticosa* var. *amamiensis***

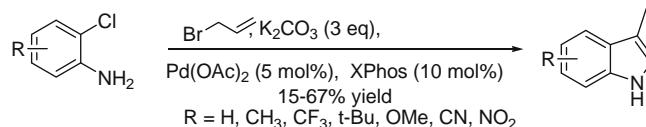
pp 6965–6967

Ayumi Ohsaki*, Takashi Nagaoka, Kaisuke Yoneda, Akio Kishida

**One-pot N-alkylation/Heck approach to substituted indoles**

pp 6968–6972

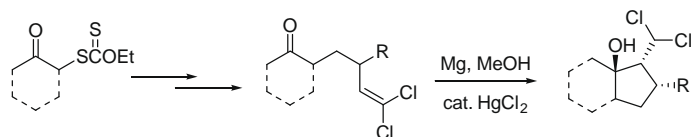
Melissa L. Weinrich, Hilary P. Beck*



A flexible, modular route to cyclopentanols

pp 6973–6976

Zhi Li, Samir Z. Zard*

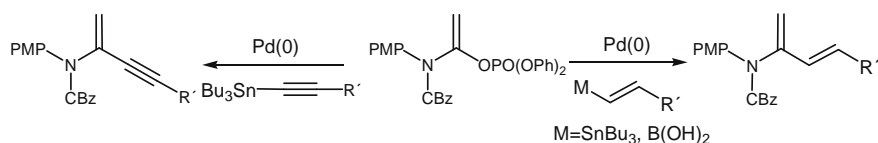


A flexible, modular route to cyclopentanols based on a sequence of xanthate radical reactions followed by magnesium-mediated ketyl-olefin cyclization is described.

**Acyclic ketene aminal phosphates derived from *N,N*-diprotected acetamides: stability and cross-couplings**

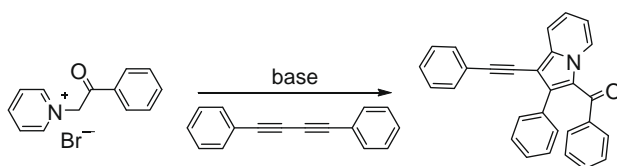
pp 6977–6980

Alessandro B. C. Simas*, Daniel L. de Sales, Karla C. Pais

**New route synthesis of indolizines via 1,3-dipolar cycloaddition of pyridiniums and alkynes**

pp 6981–6984

Yongjia Shang*, Min Zhang, Shuyan Yu, Kai Ju, Cuie Wang, Xinwei He

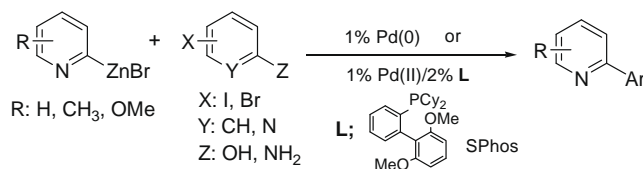


A convenient synthesis of 2,3-di and 1,2,3-trisubstituted indolizines has been achieved via a 1,3-dipolar cycloaddition of pyridiniums and alkynes. Various alkynes and diynes were used instead of dimethyl acetylenedicarboxylate (DMAD) and its analogues in the traditional method. The corresponding 1,2,3-trisubstituted indolizines are useful building blocks for the construction of complex indolizine derivatives.

Coupling reactions with haloaromatic amines and alcohols for a practical synthetic route to 2-substituted aminophenyl and hydroxyphenyl pyridines

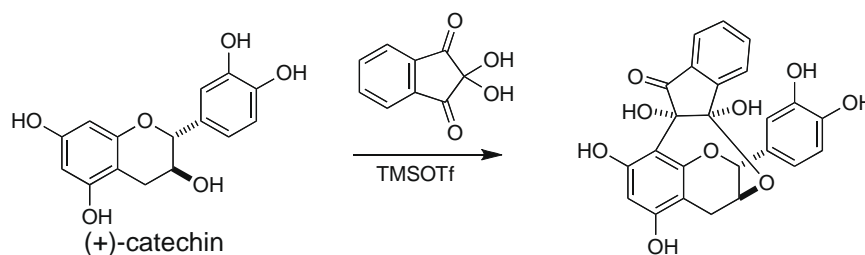
pp 6985–6988

Seung-Hoi Kim, Reuben D. Rieke*

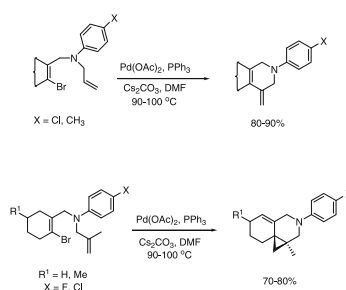


Novel ninhydrin adduct of catechin with potent antioxidative activity

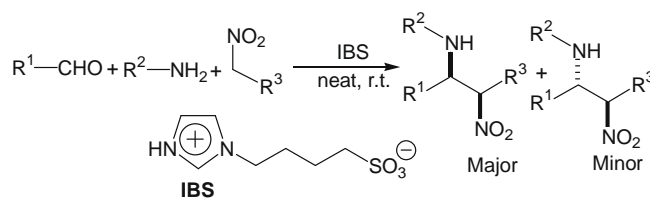
pp 6989–6992

Kiyoshi Fukuhara^{*}, Akiko Ohno, Ikuo Nakanishi, Kohei Imai, Asao Nakamura, Kazunori Anzai, Naoki Miyata, Haruhiro Okuda**Palladium-catalyzed cyclization/cyclopropanation reaction for the synthesis of fused N-containing heterocycles**

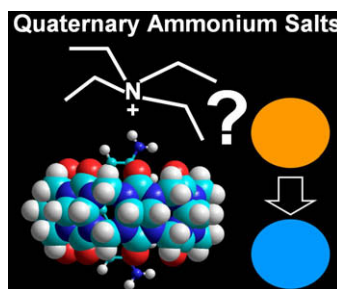
pp 6993–6997

Sukla Nandi, Jayanta K. Ray^{*}**Zwitterionic-type molten salt-catalyzed *syn*-selective aza-Henry reaction: solvent-free one-pot synthesis of β -nitroamines**

pp 6998–7000

Dhiman Kundu, Rajib Kumar Debnath, Adinath Majee, Alakananda Hajra^{*}**First colorimetric sensor array for the identification of quaternary ammonium salts**

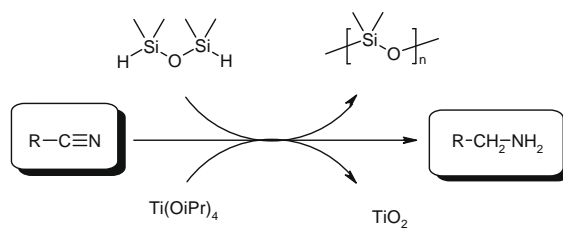
pp 7001–7004

Laurent A. Baumes, Mireia Buaki Sogo, Pedro Montes-Navajas, Avelino Corma, Hermenegildo Garcia^{*}An array of six basic tricyclic dyes and two cucurbit[*n*]urils (*n*: 7 and 8) are able to discriminate 14 quaternary ammonium salts in water at concentrations above 10⁻⁵ M.

A mild and efficient method for the reduction of nitriles

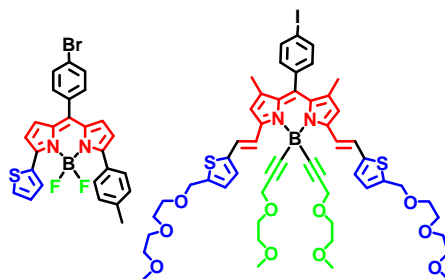
pp 7005–7007

Stéphane Laval, Wissam Dayoub, Alain Favre-Reguillon, Mikael Berthod, Patrice Demonchaux, Gérard Mignani, Marc Lemaire*

**Versatile synthetic methods for the engineering of thiophene-substituted Bodipy dyes**

pp 7008–7013

Sandra Rihn, Pascal Retailleau, Nicolas Bugsaliewicz, Antoinette De Nicola*, Raymond Ziessel*



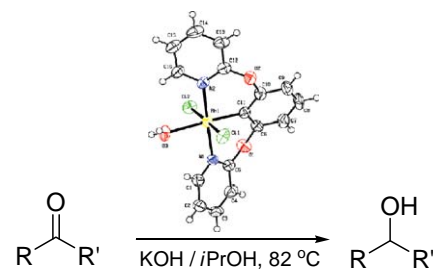
Several Bodipy dyes appended with thiophene residues have been prepared in order to tune adequately the optical properties. This modular synthetic methodology also allows the preparation of one hybrid case.

Rhodium(III) NCN pincer complexes catalyzed transfer hydrogenation of ketones

pp 7014–7017

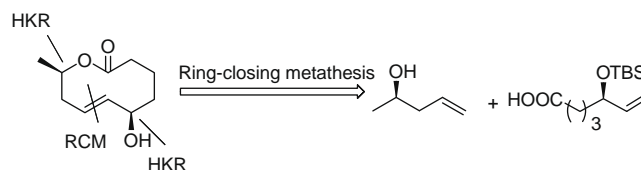
Mathiyazhagan Ulaganatha Raja, Rengan Ramesh*, Kyo Han Ahn

Air-stable monomeric rhodium(III) NCN pincer complexes were synthesized via direct C–H bond activation of 1,3-bis(2-pyridyloxy)benzene, 3,5-bis(2-pyridyloxy)toluene and 3,5-bis(2-pyridyloxy)anisole with $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ in ethanol under reflux. The synthesized complexes were characterized by elemental analysis and ^1H NMR. One of the complexes was structurally characterized by X-ray analysis. An investigation into the catalytic activity of the complex **1a** as catalyst for transfer hydrogenation of ketones to alcohols at 82 °C in the presence of *i*PrOH/KOH was undertaken with the conversions up to 99%.

**First asymmetric total synthesis of aspinolide A**

pp 7018–7020

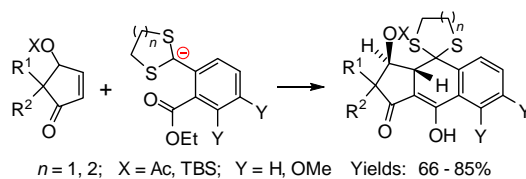
Partha Sarathi Chowdhury, Priti Gupta, Pradeep Kumar*



Anionic cyclizations of aromatic ester dithioacetals with facially biased α,β -unsaturated ketones

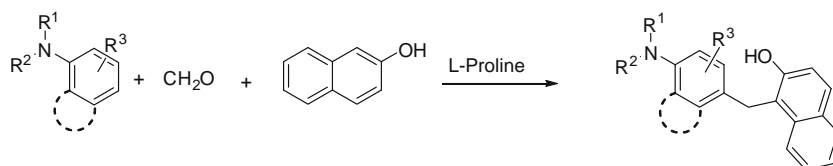
pp 7021–7023

Christopher F. Morrison, Craig T. M. Stamp, D. Jean Burnell*

**An efficient organocatalyzed multicomponent synthesis of diarylmethanes via Mannich type Friedel–Crafts reaction**

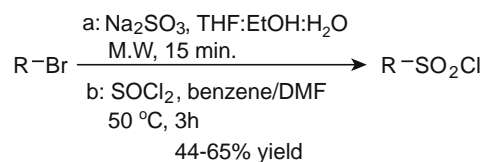
pp 7024–7027

Atul Kumar*, Mukesh Kumar, Maneesh Kumar Gupta

**Microwave-assisted synthesis of sodium sulfonates precursors of sulfonyl chlorides and fluorides**

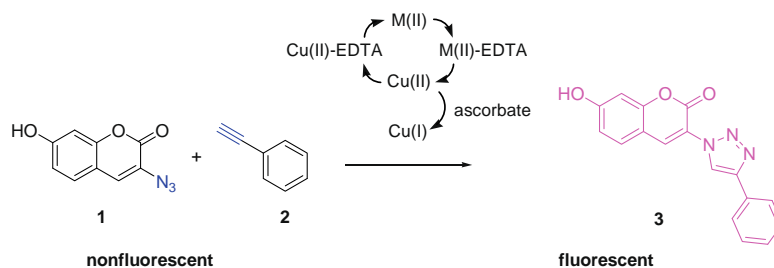
pp 7028–7031

Shakiru O. Alapafuja, Spyros P. Nikas*, Vidyand G. Shukla, Ioannis Papanastasiou, Alexandros Makriyannis*

**Metal ion detection using a fluorogenic 'click' reaction**

pp 7032–7034

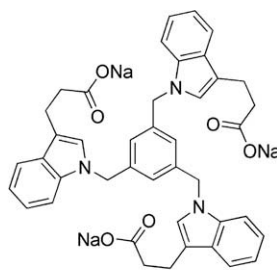
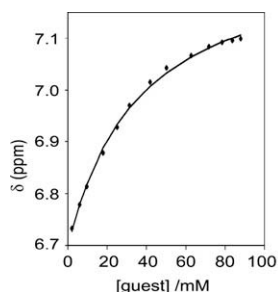
Kris Varazo*, Céline Le Droumaguet, Karmella Fullard, Qian Wang*



A tryptophan-analog host whose interactions with ammonium ions in water are dominated by the hydrophobic effect

pp 7035–7037

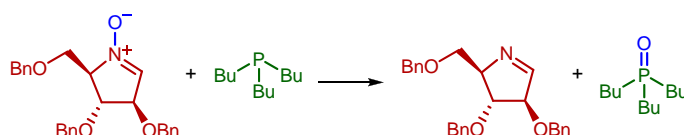
Amanda L. Whiting, Nicole M. Neufeld, Fraser Hof *



Mechanistic investigations of the phosphine-mediated nitrono deoxygenation reaction and its application in cyclic imine synthesis

pp 7038–7042

Pascale Cividino, Marie-Louise Dheu-Andries, Jun Ou, Anne Milet *, Sandrine Py *, Patrick H. Toy *

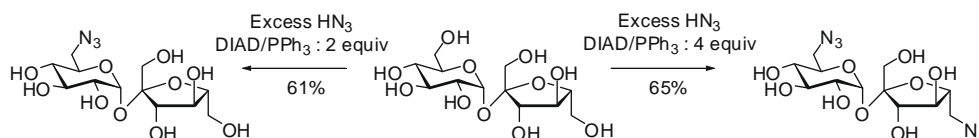


Carbohydrate-derived cyclic nitronos were deoxygenated to form the corresponding imines using tributylphosphine. Experimental and theoretical investigations by the way of MP2 calculations suggest a revision of the mechanism initially proposed by Kurtzweil and Beak for the triarylphosphine-mediated deoxygenation of nitronos.

Direct azidation of unprotected carbohydrates under Mitsunobu conditions using hydrazoic acid

pp 7043–7047

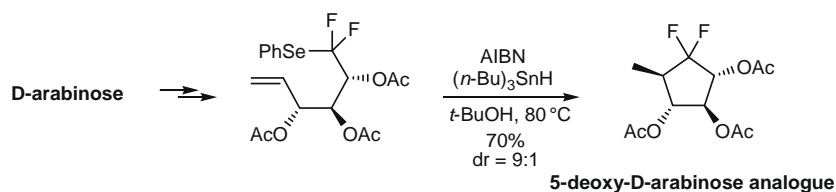
Céline Besset, Stéphane Chambert *, Bernard Fenet, Yves Queneau



Synthesis of difluorinated carbocyclic analogues of 5-deoxypentofuranoses

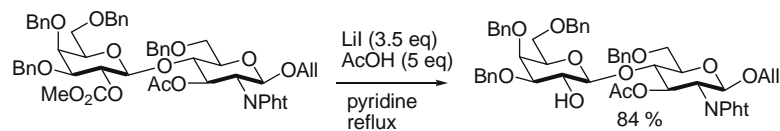
pp 7048–7050

Gaëlle Fourrière, Jérôme Lalot, Nathalie Van Hijfte, Jean-Charles Quirion, Eric Leclerc *

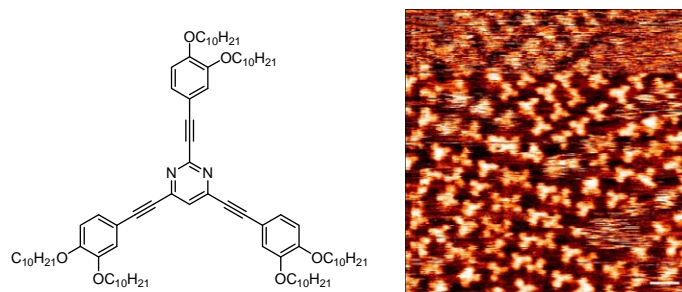


A selective and operationally simple approach for removal of methoxy-, allyloxy-, and benzyloxycarbonyl groups from carbinols

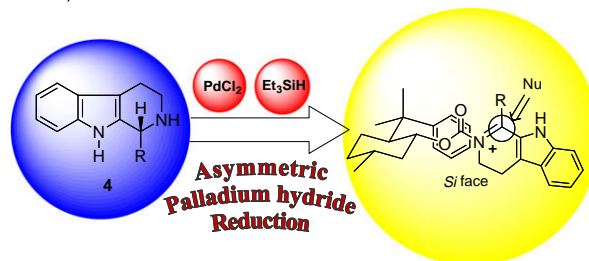
pp 7051–7054

Matteo Adinolfi, Alfonso Iadonisi^{*}, Antonello Pastore**Star-shaped ethynylpyrimidine with long alkoxy side chains: synthesis, fluorescence and 2D self-assembling**

pp 7055–7058

Sylvain Achelle, Nelly Plé^{*}, David Kreher, André-Jean Attias, Imad Arfaoui, Fabrice Charra**Palladium asymmetric reduction of β -carboline imines mediated by chiral auxiliaries assisted by microwave irradiation**

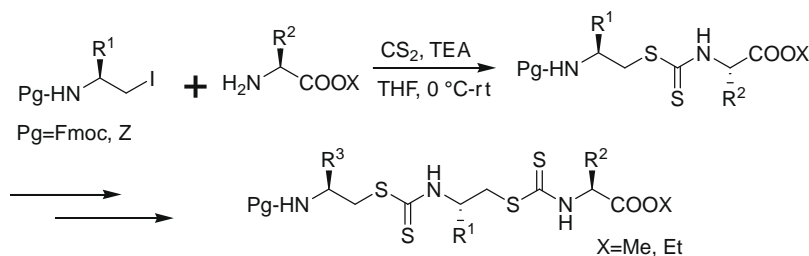
pp 7059–7061

Marlene Espinoza-Moraga, Ana Gloria Caceres, Leonardo Silva Santos^{*}

A mild and efficient enantioselective strategy for the synthesis of tetrahydro- β -carboline **4** was studied via one-pot chiral auxiliary PdCl₂/Et₃SiH reduction of *N*-acyliminium ions intermediates.

A simple approach for the synthesis of new classes of dithiocarbamate-linked peptidomimetics

pp 7062–7066

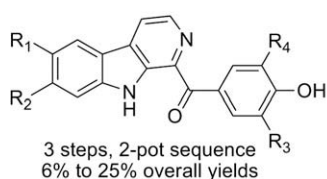
Hosahalli P. Hemantha, Vommina V. Sureshbabu^{*}

An efficient protocol for the synthesis of a new series of dithiocarbamate-linked peptidomimetics is described. The in situ-generated dithiocarbamic acid intermediate formed by the reaction of an amino acid ester and carbon disulfide in the presence of triethylamine was treated with *N*-protected amino alkyl iodide to afford title compounds in good to moderate yields. The protocol was also extended to synthesize dithiocarbamate-linked tripeptidomimetics, *N,N'*-orthogonally protected dipeptidomimetics as well.

Total synthesis of Eudistomins Y₁–Y₆

pp 7067–7069

J. Phillip Kennedy, Micah L. Breining, Craig W. Lindsley *

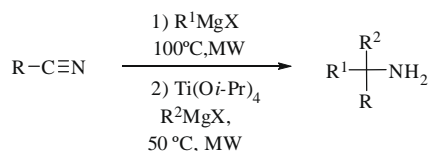


Eudistomin Y ₁	R ₁ = H	R ₂ = H	R ₃ = H	R ₄ = H
Eudistomin Y ₂	R ₁ = Br	R ₂ = H	R ₃ = H	R ₄ = H
Eudistomin Y ₃	R ₁ = H	R ₂ = H	R ₃ = Br	R ₄ = H
Eudistomin Y ₄	R ₁ = Br	R ₂ = H	R ₃ = Br	R ₄ = H
Eudistomin Y ₅	R ₁ = H	R ₂ = H	R ₃ = Br	R ₄ = Br
Eudistomin Y ₆	R ₁ = Br	R ₂ = H	R ₃ = Br	R ₄ = Br

Rapid Ti(O*i*-Pr)₄ facilitated synthesis of α,α,α-trisubstituted primary amines by the addition of Grignard reagents to nitriles under microwave heating conditions

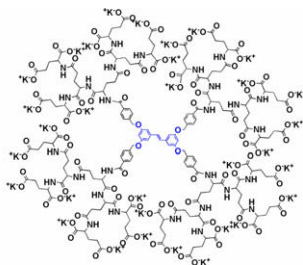
pp 7070–7073

Ruifang Wang, Brian T. Gregg *, Wei Zhang, Kathryn C. Golden, John F. Quinn, Peng Cui, Dmytro O. Tymoshenko

**Stilbene-cored poly(glutamate) dendrimers**

pp 7074–7078

Chikayoshi Mitsuno, Atsuya Momotake, Yoshihiro Shinohara, Kayori Takahashi, Ritsuko Nagahata, Yoshinobu Nishimura, Tatsuo Arai *



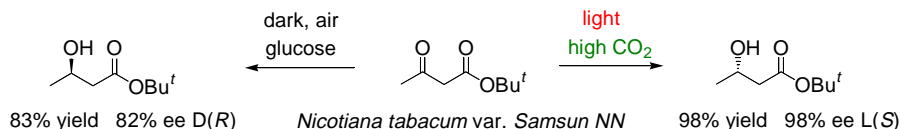
Stilbene-cored poly(glutamate) dendrimer (wG2)

A new series of photoresponsive and pH sensitive poly(glutamate) dendrimers based on a stilbene core unit was successfully synthesized up to the second generation.

**Effect of carbon dioxide concentrations on asymmetric reduction of ketones with plant-cultured cells**

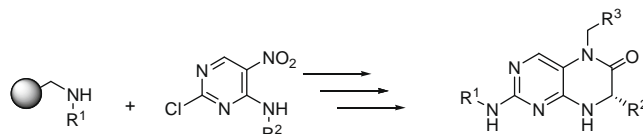
pp 7079–7081

Hideo Kojima *, Akiko Okada, Satomi Takeda, Kaoru Nakamura



Combined solution-phase and solid-phase synthesis of 2-amino-7,8-dihydropteridin-6(5H)-ones

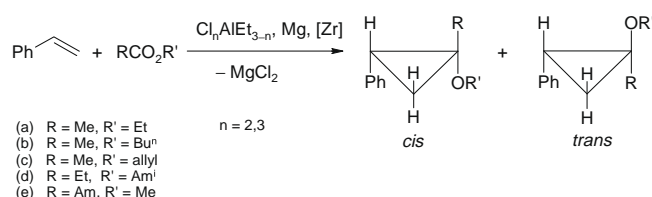
pp 7082–7085

Axel Metzger^{*}, Lan-Ying Qin, Andrew G. Cole, Kurt W. Saionz, Marc-Raleigh Brescia, Hubert Gstach, James R. Wareing, Juerg Zimmermann, Wolfgang K-D. Brill, John J. Baldwin, Roland E. Dolle, Ian Henderson

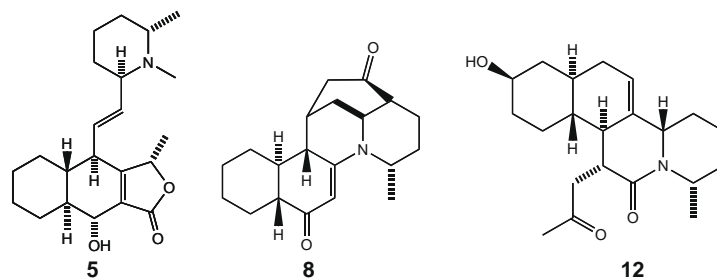
An efficient and general combined solid-phase and solution-phase synthesis of substituted 2-amino-7,8-dihydropteridin-6(5H)-ones is described.

The first one-pot synthesis of alkoxy-cyclopropanes via cyclometalation of styrene with $\text{Cl}_n\text{AlEt}_{3-n}$ and $\text{RCO}_2\text{R}'$ mediated by Cp_2ZrCl_2

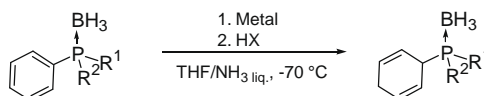
pp 7086–7088

Usein M. Dzhemilev^{*}, Leila O. Khafizova, Rinat R. Gubaidullin, Leonard M. Khalilov, Askhat G. Ibragimov**The structures of three new Galbulimima alkaloids**

pp 7089–7092

Lewis N. Mander^{*}, Anthony C. Willis, Anthony J. Herlt, Walter C. TaylorThe structures of three new alkaloids, **5**, **8** and **12**, isolated from the bark of the rain forest tree *Galbulimima belgraveana*, have been determined by a combination of NMR spectroscopy and X-ray crystallography.**Birch reduction of aryldialkylphosphine-boranes**

pp 7093–7095

Marek Stankevič^{*}, K. Michał Pietrusiewicz

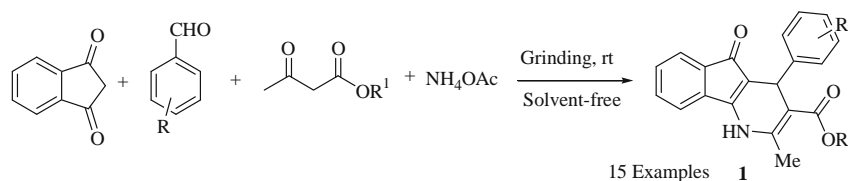
Aryldialkylphosphine-boranes undergo facile Birch-type reduction to afford cyclohexadienyldialkylphosphine-boranes in high yields. Judicious choice of the metal and the reaction conditions allows for complete elimination of the undesired P–Ph bond cleavage.



Multicomponent one-pot solvent-free synthesis of functionalized unsymmetrical dihydro-1*H*-indeno[1,2-*b*]pyridines

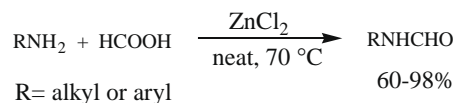
pp 7096–7098

Subhasis Samai, Ganesh Chandra Nandi, Ram Kumar, M. S. Singh *

**Facile N-formylation of amines using Lewis acids as novel catalysts**

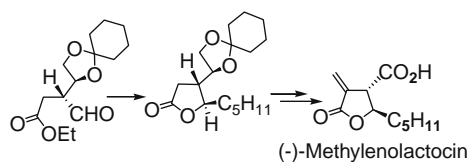
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A. Chandra Shekhar, A. Ravi Kumar, G. Sathaiah, V. Luke Paul, Madabhushi Sridhar, P. Shanthan Rao *

**Enantiodivergent synthesis of (-)-methylenolactocin and (+)-methylenolactocin from D-mannitol**

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ISSN 0040-4039