

**Tetrahedron Letters Vol. 50, No. 34, 2009**

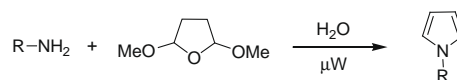
**Contents**

**COMMUNICATIONS**

**A microwave-assisted, green procedure for the synthesis of *N*-aryl sulfonyl and *N*-aryl pyrroles**

pp 4807–4809

Matthew A. Wilson<sup>\*</sup>, Gary Filzen, Gregory S. Welmaker

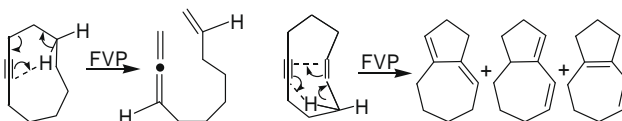


A simplified approach to the uncatalyzed Paal-Knorr condensation using microwave irradiation in water is described.

**Generation of hexahydroazulenes**

pp 4810–4812

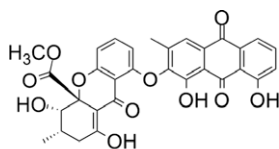
Guido Krämer, Heiner Detert, Herbert Meier<sup>\*</sup>



**Isolation, structure elucidation, and biological evaluation of the unusual heterodimer chrysoxanthone from the ascomycete IBWF11-95A**

pp 4813–4815

Anja Schüffler, Johannes C. Liermann, Heinz Kolshorn, Till Opatz, Heidrun Anke<sup>\*</sup>



Chrysoxanthone

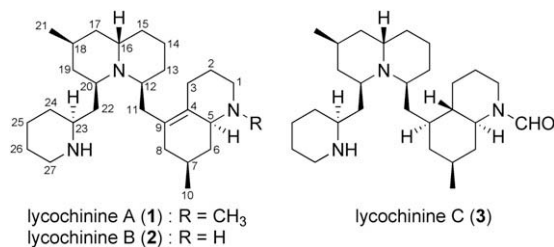
Chrysoxanthone, an unusual heterodimer linked through a diaryl ether bridge, was isolated from the ascomycete IBWF11-95A.



**Lycochinines A–C, novel C<sub>27</sub>N<sub>3</sub> alkaloids from *Lycopodium chinense***

pp 4816–4819

Yusuke Hirasawa, Tomoyuki Tanaka, Koichiro Koyama, Hiroshi Morita \*

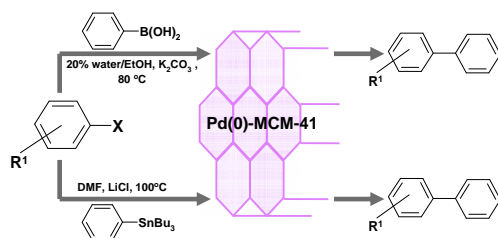


Three novel C<sub>27</sub>N<sub>3</sub>-type *Lycopodium* alkaloids, lycochinines A–C (1–3) consisting of an octahydroquinoline or a decahydroquinoline, a quinolizidine, and a piperidine, were isolated from the club moss *Lycopodium chinense*. The relative stereochemistry of 1–3 was determined by combination of NOESY correlations and chemical transformations.

**Heterogeneous Suzuki and Stille coupling reactions using highly efficient palladium(0) immobilized MCM-41 catalyst**

pp 4820–4823

Sreyashi Jana, Satyajit Haldar, Subratanath Koner \*

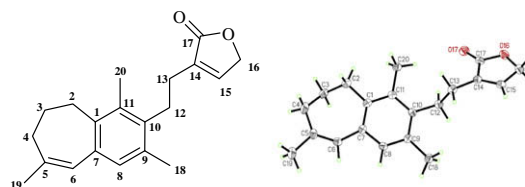


Palladium(0) has been immobilized into the mesoporous silica to develop a catalyst for Suzuki and Stille coupling reactions. This recyclable heterogeneous catalyst shows excellent catalytic efficacy with high turnover frequency.

**Andrographolactone, a unique diterpene from *Andrographis paniculata***

pp 4824–4826

Guo-Cai Wang, Ying Wang, Ian D. Williams, Herman Ho-Yung Sung, Xiao-Qi Zhang, Dong-Mei Zhang, Ren-Wang Jiang, Xin-Sheng Yao, Wen-Cai Ye \*

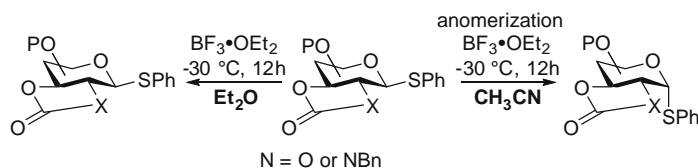


Andrographolactone (1), possessing an unprecedented diterpene skeleton, was isolated from the EtOAc extract of the aerial parts of *Andrographis paniculata*. Its structure was established by NMR, IR, UV, and HRESIMS data and subsequently confirmed by X-ray diffraction analysis. A possible biogenetic pathway of 1 was also proposed. Bioassay showed that 1 exhibited cytotoxic activity.

**Significant solvent effect in anomerization reaction of pyranosides with 2,3-*trans* carbamate and carbonate**

pp 4827–4829

Shino Manabe \*, Yukishige Ito \*

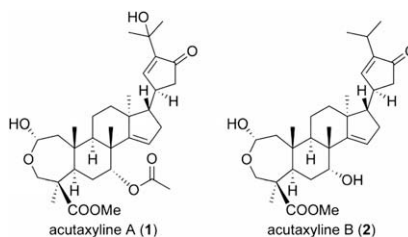


A pronounced solvent effect was observed in the anomerization reaction of pyranosides with 2,3-*trans* carbamate and carbonate.

**Acutaxylines A and B, two novel triterpenes from *Dysoxylum acutangulum***

pp 4830–4832

Intan Safinar Ismail, Yuta Nagakura, Yusuke Hirasawa, Takahiro Hosoya, Mohd Izwan Mohd Lazim, Nordin Hj Lajis, Hiroshi Morita \*

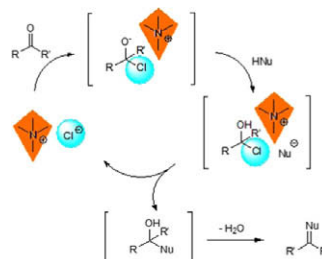


Two novel triterpenes, acutaxylines A (1) and B (2) were isolated from the leaves of *Dysoxylum acutangulum*. The relative stereochemistry of 1 and 2 was determined by NOESY correlations. Acutaxylene B showed moderate cytotoxicity against human blood premyelocytic leukemia cells.

**Chloride ion pairs as catalysts for the alkylation of aldehydes and ketones with C–H acidic compounds**

pp 4833–4837

Camille Carrignon, Philippe Makowski, Markus Antonietti, Frédéric Goettmann \*

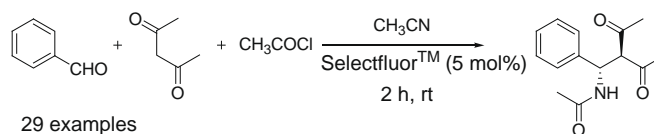


Chloride anions associated with various soft cations (like tetraalkyl ammoniums, alkyl imidazoliums or pyridiniums) were shown to be able to promote the reaction of C–H acidic nucleophiles with aldehydes and ketones under relatively mild conditions.

**An efficient green MCR protocol for the stereoselective synthesis of  $\beta$ -acetamido ketones catalyzed by Selectfluor™**

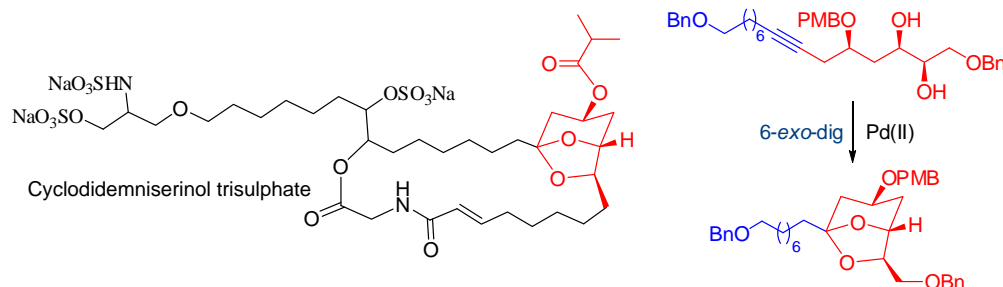
pp 4838–4843

V. S. Shinu, B. Sheeja, E. Purushothaman, D. Bahulayan \*

**A Pd-mediated intramolecular ketalization of alkynediols: construction of the central [3.2.1]-bicyclic ketal core of cyclodidemniserinol trisulfate**

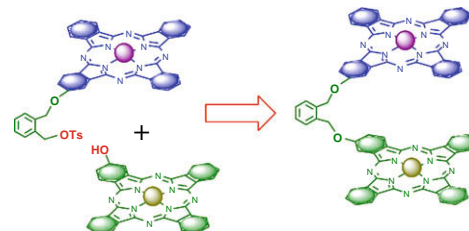
pp 4844–4847

C. V. Ramana \*, Rosy Mallik, Gokarneswar Sahoo



### Heteroligand and heteronuclear clamshell-type phthalocyanines: selective preparation, spectral properties, and synthetic application

pp 4848–4850

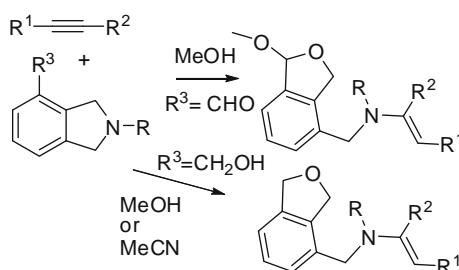
Alexander Yu. Tolbin <sup>\*</sup>, Victor E. Pushkarev, Gennadiy F. Nikitin, Larisa G. Tomilova <sup>\*</sup>

A direct synthetic method to produce heteronuclear and heteroligand clamshell-type binuclear phthalocyanines is developed with the target compounds demonstrating the possibility to form sandwich-type heterocomplexes for the first time.



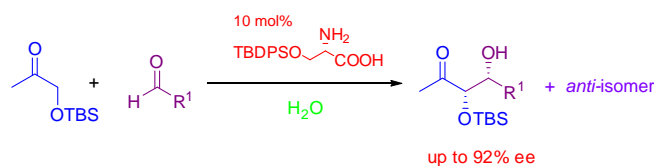
### A novel alkyne-induced recyclization of 4-hydroxymethyl or 4-formyl-1H-2,3-dihydroisindoles—an effective pathway to substituted isobenzofurans

pp 4851–4853

Leonid G. Voskressensky <sup>\*</sup>, Larisa N. Kulikova, Alexey Kleimenov, Natalia Guranova, Tatiana N. Borisova, Alexey V. Varlamov

### Organocatalytic asymmetric *syn*-selective direct aldol reactions in water

pp 4854–4856

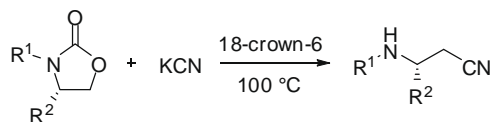
Yong-Chua Teo <sup>\*</sup>, Guan-Leong Chua, Chin-Yee Ong, Chai-Yun Poh

A practical and convenient organocatalytic strategy is developed to provide a direct route to *syn*-selective aldol products in the presence of water. The siloxy serine organocatalyst mediates the direct aldol reaction of TBSO-protected hydroxyacetone with a variety of aldehydes to provide the aldol products in good yields and enantioselectivities up to 92%.



### Novel synthesis of 3-aminopropionitriles by ring opening of 2-oxazolidinones with cyanide ion

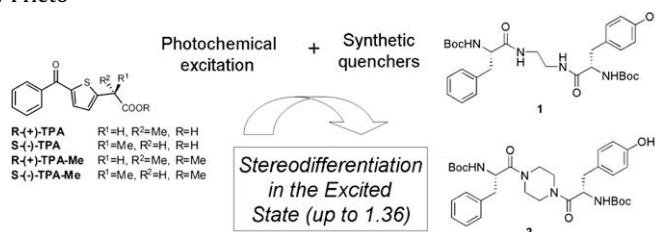
pp 4857–4858

Tsuyoshi Taniguchi, Naoya Goto, Hiroyuki Ishibashi <sup>\*</sup>

**Chiral synthetic pseudopeptidic derivatives as triplet excited state quenchers**

pp 4859–4862

Xavier J. Salom-Roig, Jean Martínez, M. Isabel Burguete, Francisco Galindo\*, Santiago V. Luis\*, Miguel A. Miranda, María C. Morant-Miñana, Julia Pérez-Prieto\*

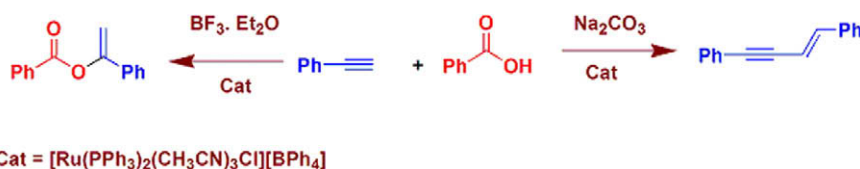


A series of new synthetic pseudopeptidic quenchers of the triplet excited state of tiaprofenic acid derivatives are described. Intermolecular quenching constants have been determined by means of laser flash photolysis and significant stereodifferentiation has been found in some cases.

**Control over C–O and C–C bond formation: ruthenium catalyzed regioselective addition of carboxylic acid to alkyne and stereoselective dimerization of alkyne**

pp 4863–4865

Jyotsna Tripathy, Manish Bhattacharjee\*

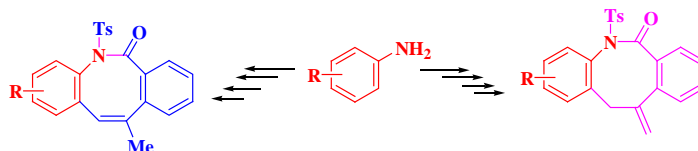


A cationic ruthenium(II) complex,  $[\text{Ru}(\text{PPh}_3)_2(\text{CH}_3\text{CN})_3\text{Cl}][\text{BPh}_4]$  (1), has been found to be an effective catalyst for stereoselective dimerization of alkynes in the presence of a base, and for regioselective addition of carboxylic acids to alkynes in the presence of the Lewis acid,  $\text{BF}_3 \cdot \text{Et}_2\text{O}$ .


**Pd(0)-catalyzed intramolecular Heck reaction: a versatile route for the synthesis of dibenzoazocinone derivatives**

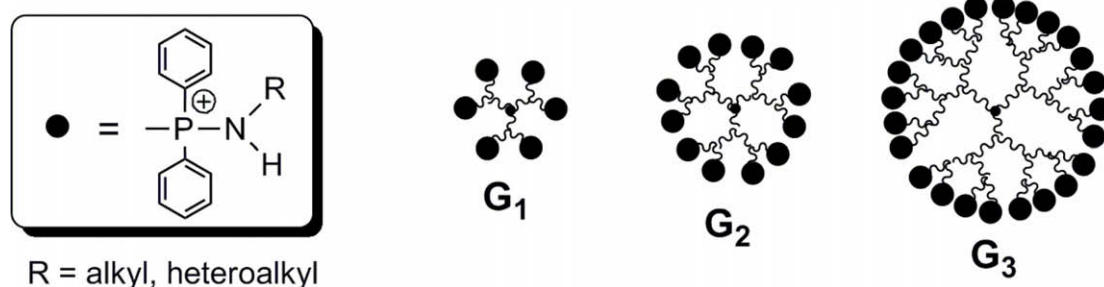
pp 4866–4869

K. C. Majumdar\*, Srikanta Samanta, Buddhadeb Chattopadhyay


**Design of phosphonium ended dendrimers bearing functionalized amines**

pp 4870–4873

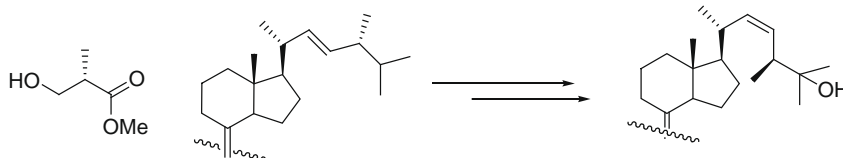
Marie-Agnés Lacour, Maria Zablocka, Anne-Marie Caminade\*, Marc Taillefer\*, Jean-Pierre Majoral\*



**Stereoselective synthesis of (22Z)-25-hydroxyvitamin D<sub>2</sub> and (22Z)-1 $\alpha$ , 25-dihydroxyvitamin D<sub>2</sub>**

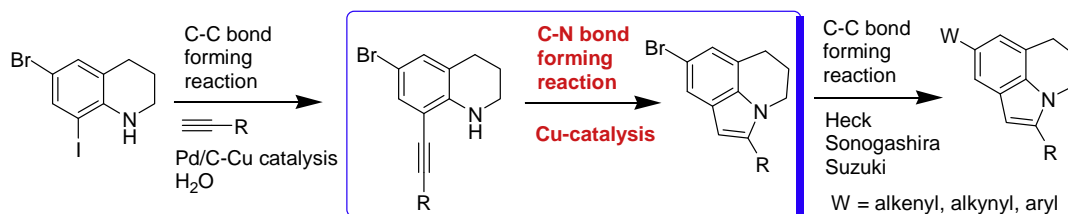
pp 4874–4877

Zoila Gándara, Manuel Pérez, Xenxo Pérez-García, Generosa Gómez\*, Yagamare Fall\*

**C–N bond forming reaction under copper catalysis: a new synthesis of 2-substituted 5,6-dihydro-4H-pyrrolo[3,2,1-ij]quinolines**

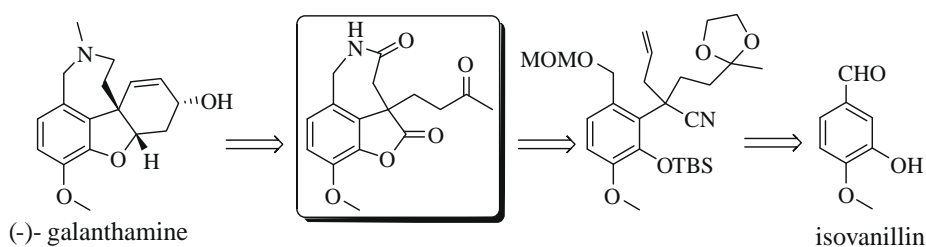
pp 4878–4881

Mohosin Layek, A. V. Dhanunjaya Rao, Vikas Gajare, Dipak Kalita, Deepak Kumar Barange, Aminul Islam, K. Mukkanti, Manojit Pal\*

**Novel synthetic route to the tricyclic core of (±)-galanthamine**

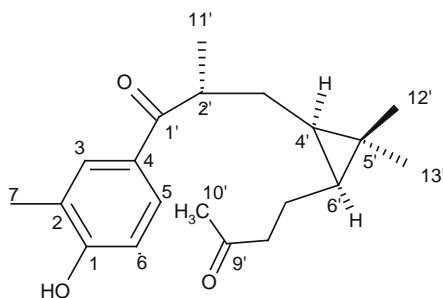
pp 4882–4884

S. Chandrasekhar\*, Debjit Basu, M. Sailu, S. Kotamraju

**Multidione, a novel diterpenoid from *Jatropha multifida***

pp 4885–4887

Biswanath Das\*, Keetha Laxminarayana, Martha Krishnaiah, Yallamalla Srinivas, Tuniki Venugopal Raju

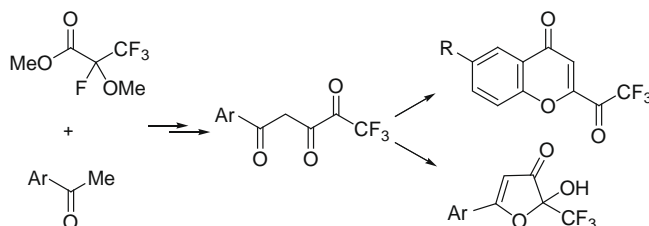




**Methyl 2-methoxytetrafluoropropionate as a synthetic equivalent of methyl trifluoropyruvate in the Claisen condensation. The first synthesis of 2-(trifluoroacetyl)chromones and 5-aryl-2-hydroxy-2-(trifluoromethyl)furan-3(2H)-ones**

pp 4903–4905

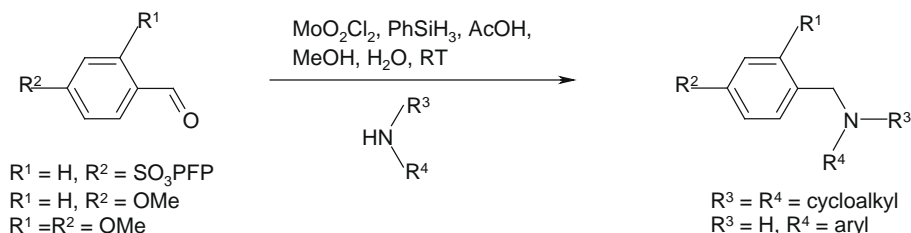
Roman A. Irgashev, Vyacheslav Ya. Sosnovskikh\*, Nataliya Kalinovich, Olesya Kazakova, Gerd-Volker Röschenthaler



**Direct reductive aminations with catalytic molybdenum dioxide dichloride and phenylsilane**

pp 4906–4911

Clive A. Smith\*, Laura E. Cross, Kimberley Hughes, Rebecca E. Davis, Duncan B. Judd, Andrew T. Merritt



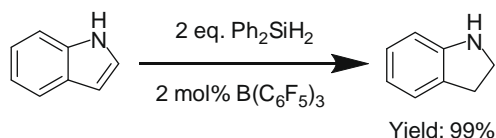
A powerful direct reductive amination (DRA) method is developed, using catalytic MoO<sub>2</sub>Cl<sub>2</sub> and with PhSiH<sub>3</sub> as the reducing agent.



**An efficient metal-free reduction using diphenylsilane with (tris-perfluorophenyl)borane as catalyst**

pp 4912–4915

MeiXuan Tan, Yugen Zhang\*



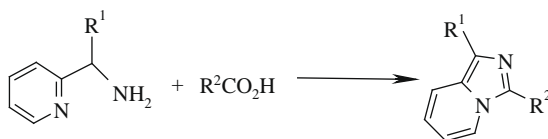
An efficient metal-free reduction of various C=X (X = O, N, C) bonds to their corresponding amines or hydrocarbons using the Ph<sub>2</sub>SiH<sub>2</sub>/B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> catalytic system is demonstrated. This protocol reduces enamines, enol esters, carbonyls, amides, and isocyanates.



**A one-pot synthesis of imidazo[1,5-a]pyridines**

pp 4916–4918

James M. Crawforth\*, Melissa Paoletti



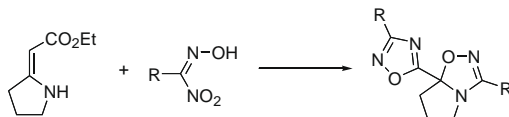
A one-pot synthesis of imidazo[1,5-a]pyridines starting from a carboxylic acid and 2-methylaminopyridines is achieved using propane phosphoric acid anhydride in ethyl or *n*-butyl acetate at reflux.



**Tandem nitrosation/cycloaddition of heterocyclic enamines using nitrolic acids**

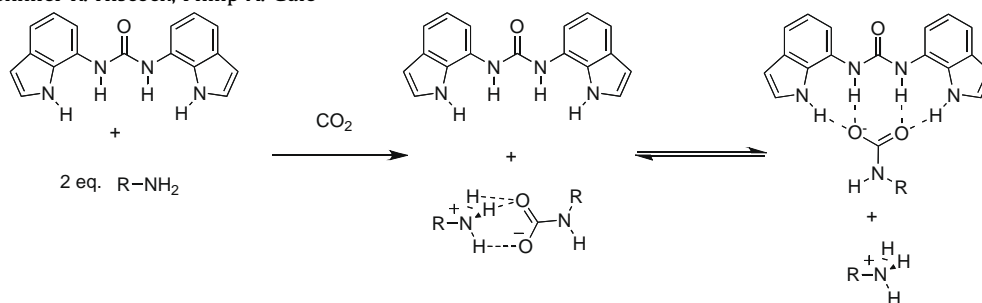
pp 4919–4921

Cevher Altuğ, Yasar Dürüst\*, Mark C. Elliott\*, Benson M. Kariuki

**Stabilisation of alkylcarbamate anions using neutral hydrogen bond donors**

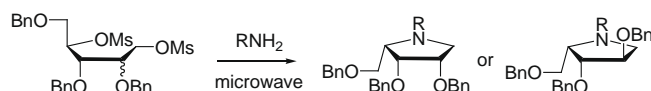
pp 4922–4924

Peter R. Edwards, Jennifer R. Hiscock, Philip A. Gale\*

A series of urea-based anion receptors are shown to bind to alkylcarbamate anions formed by the reaction of primary amines with carbon dioxide in DMSO-*d*<sub>6</sub>.**Microwave-assisted synthesis of pyrrolidine derivatives**

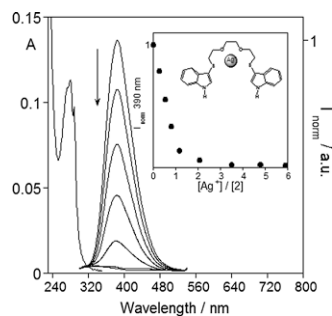
pp 4925–4929

Yuan-Chun Chang, Jiun-Ly Chir, Shuan-Yi Tsai, Wei-Fu Juang, An-Tai Wu\*

**Synthesis and characterization of novel indole-containing half-crowns as new emissive metal probes**

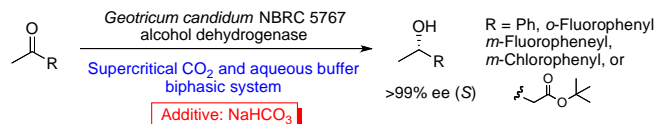
pp 4930–4933

Angelo Rocha, M. Manuel B. Marques\*, Carlos Lodeiro\*



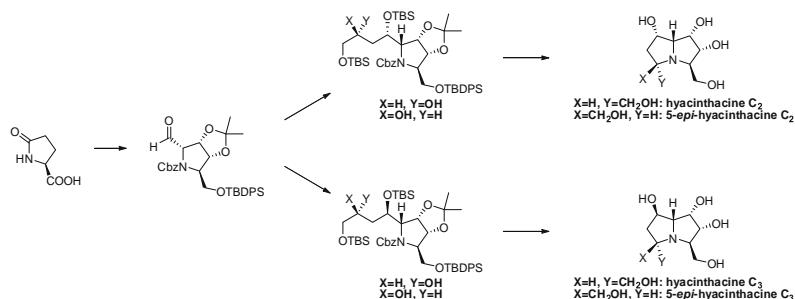
## A novel method for enzymatic asymmetric reduction of ketones in a supercritical carbon dioxide/water biphasic system pp 4934–4936

Tadao Harada, Yuki Kubota, Takashi Kamitanaka, Kaoru Nakamura, Tomoko Matsuda \*



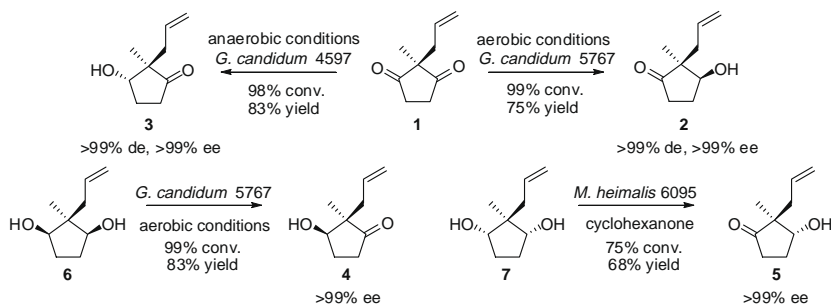
## Total synthesis of the proposed structures of hyacinthacines C<sub>2</sub>, C<sub>3</sub>, and their C5-epimers pp 4937–4940

Tetsuya Sengoku, Yasutaka Satoh, Masaki Takahashi, Hidemi Yoda \*



## Preparation of all stereoisomers of 2-allyl-2-methyl-3-hydroxycyclopentanone by desymmetric processes based on a microbial oxidation and reduction system pp 4941–4944

Mikio Fujii \*, Minoru Takeuchi, Hiroyuki Akita, Kaoru Nakamura



\*Corresponding author

Supplementary data available via ScienceDirect

Abstracted/indexed 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. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®



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ISSN 0040-4039