

#### Tetrahedron Letters Vol. 45, No. 37, 2004

#### **Contents**

#### **COMMUNICATIONS**

A practical synthesis of carbamates using an 'in-situ' generated polymer-supported chloroformate David Mormeneo, Amadeu Llebaria and Antonio Delgado\*

pp 6831-6834

A versatile method for the synthesis of carbamates from an 'in-situ' generated polymer-supported chloroformate resin is presented. BTC (bis-trichloromethyl carbonate) is used as phosgene equivalent to afford a supported chloroformate, which, by sequential 'one-pot' reaction with a variety of alcohols and amines, furnishes the corresponding carbamates in high yields and purities.

### Synthesis of $C_1$ -symmetric chiral tripodal oxazolines through an oxazoline exchange reaction with amino alcohols

pp 6835-6838

Sung-Gon Kim, Hye Ran Seong, Jeongryul Kim and Kyo Han Ahn\*

$$L^{1}$$

$$L^{1}$$

$$H_{2}N$$

$$R^{2}$$

$$ZnCl_{2}$$

$$C_{6}H_{5}CI, \Delta$$

$$L^{1}$$

$$L^{2}$$

$$L^{2}$$

$$L^{2}$$

$$L^{2}$$

$$R^{1}$$

Oxazolines undergo an exchange reaction with added amino alcohols in the presence of zinc chloride.

# $The\ reaction\ of\ 4-methoxybenzylmagnesium\ chloride\ with\ aldehydes.\ The\ formation\ of\ 4-exomethylenecyclohexenones$

pp 6839-6840

George A. Kraus,\* Ikyon Kim and Sarathy Kesavan

The reaction of 4-methoxybenzylmagnesium chloride with aldehydes provides good yields of 4-exomethylenecyclohexenones.

Synthesis of functionalized nitrogen heterocycles from β- and γ-amino acids by radical decarboxylation pp 6841–6845 Alicia Boto,\* Rosendo Hernández,\* Yolanda de León, José R. Murguía and Abigail Rodríguez-Afonso

Biosynthesis of aglajnes, polypropionate allomones of the opisthobranch mollusc *Bulla striata* pp 6847–6850 Angelo Fontana,\* Adele Cutignano, Antonella Giordano, Anna Domènech Coll and Guido Cimino

Pd catalyzed coupling of 1,2-dibromoarenes and anilines: formation of *N*,*N*-diaryl-*o*-phenylenediamines pp 6851–6853 Todd Wenderski, Kenneth M. Light, Doug Ogrin, Simon G. Bott and C. Jeff Harlan\*

Application of (S)- and (R)-methyl pyroglutamates as inexpensive, yet highly efficient chiral auxiliaries in the asymmetric Michael addition reactions

pp 6855-6858

Chaozhong Cai, Takeshi Yamada, Rohit Tiwari, Victor J. Hruby and Vadim A. Soloshonok\*

# Rh-catalysed asymmetric hydrogenations with a dynamic library of chiral tropos phosphorus-ligands Chiara Monti, Cesare Gennari\* and Umberto Piarulli\*

pp 6859-6862

$$= \underbrace{\begin{array}{c} \text{NHAc} \\ \text{NHAc} \\ \text{CO}_2\text{Me} \end{array}}_{\text{CO}_2\text{Me}} \underbrace{\begin{array}{c} \text{Rh(COD)}_2\text{BF}_4 \text{ (0.01 eq),} \\ \text{L}^a \text{ (0.015 eq),} \text{ L}^b \text{ (0.015 eq)} \\ \text{H}_2 \text{ (1 bar), } i\text{PrOH, 25 °C} \end{array}}_{\text{100% yield, 94% e.e.}} \underbrace{\begin{array}{c} \text{NHAc} \\ \text{CO}_2\text{Me} \\ \text{100% yield, 94% e.e.} \end{array}}_{\text{100% yield, 94% e.e.}} \underbrace{\begin{array}{c} \text{Ph} \\ \text{Prov} \\ \text{Prov} \\ \text{O} \\ \text{Ph} \\ \text{O} \\ \text{O} \\ \text{Ph} \\ \text{O} \\ \text{O} \\ \text{Ph} \\ \text{O} \\ \text{Ph} \\ \text{O} \\ \text{O} \\ \text{O} \\ \text{Ph} \\ \text{O} \\ \text$$

A number of homo- (16) and heterocombinations (115) of chiral tropos phosphorus-ligands were screened for the rhodium catalysed asymmetric hydrogenation of methyl *N*-acetamido acrylate, resulting in the identification of an extremely effective and enantioselective (100% yield, 94% ee) phosphite/phosphoramidite heterocombination.

### Thionation of phosphoramidodichloridates and phosphoramidate diesters using phosphorus pentasulfide and hexamethyldisiloxane under microwave irradiation. Part 1

pp 6863-6866

Manisha Nivsarkar, Arvind K. Gupta and Mahabir P. Kaushik\*

$$\begin{array}{c|cccc}
R & O & P_4S_{10} & + \text{ HMDO} \\
R' & P & CI & MW (900 W) & R' & P & CI
\end{array}$$

$$\begin{array}{c|cccc}
RO & P & P & RO & P$$

Where R and  $R^1$  = alkyl, aryl

### Enantiospecific first total synthesis of (+)-trans-α-himachalene

pp 6867-6870

A. Srikrishna\* and P. Ravi Kumar

$$\begin{array}{c} H \\ H \\ \end{array}$$

$$\begin{array}{c} H \\ \end{array}$$

### Unusual reduction of a lactone carbonyl in a Bu<sub>3</sub>SnCl and Na(CN)BH<sub>3</sub> mediated radical cyclization of 3-(o-bromophenoxymethyl)coumarins

pp 6871–6873

K. C. Majumdar\* and S. K. Chattopadhyay



# Indium(I) iodide promoted highly selective 1,2-addition of allyl and benzyl groups to $\alpha,\beta$ -unsaturated nitriles under sonication: a new synthesis of conjugated imines

pp 6875-6877

Brindaban C. Ranu\* and Arijit Das

$$RBr + R^{1} + R^{2} + R^{3} + R^{3} + R^{3} + R^{2} + R^{3} + R^{3} + R^{2} + R^{3} + R^{2} + R^{3} + R^{2} + R^{3} + R^{2} + R^{2}$$

#### Formal total synthesis of camptothecin via ring-closing metathesis strategy

pp 6879–6882

Subhash P. Chavan,\* K. Pasupathy, M. S. Venkatraman and Ramesh R. Kale

#### Facile one-step synthesis of *N*-α-Boc-1-alkyl-L-histidines

pp 6883-6885

Navneet Kaur, Vikramdeep Monga and Rahul Jain\*

A convenient one-step synthesis of  $N-\alpha$ -Boc-1-alkyl-L-histidines 2a-f starting from Boc-L-histidine is described.

#### Stereoselective synthesis of 5-[(1S)-N-Boc-amino-(2S)-(3-fluorophenyl)ethyl]-dihydrofuran-2-one

pp 6887-6890

Bryan Li,\* Richard A. Buzon, Charles K.-F. Chiu, Stephen T. Colgan, Matthew L. Jorgensen and Narasim Kasthurikrishnan

Phthalic anhydride as thiolate scavenger effectively preserved the enantiopurity of  $\alpha$ -aminoketone, thus affording the convenient synthesis of the titled lactone.

### Communiols A-D: new mono- and bis-tetrahydrofuran derivatives from the coprophilous fungus *Podospora communis*

pp 6891-6894

Yongsheng Che, James B. Gloer,\* James A. Scott and David Malloch

Communiols A–D (1–4), new tetrahydrofuran and bis-tetrahydrofuran derivatives, have been isolated from cultures of the coprophilous fungus *Podospora communis*, and identified by spectroscopic methods.

#### New potent insecticidal agent: 4'-fucosyl avermectin derivative

pp 6895-6898

Guohua Wei, Yuguo Du\* and Robert J. Linhardt\*

Selective mono-O-sulfonylation of A,B-di-altro- $\beta$ -cyclodextrin by utilizing restricted orientation of a guest-type sulfonylating reactant in the elliptically distorted cavity: the  $2^A$ -O- and  $3^G$ -O-2-naphthalenesulfonates as a versatile scaffold to prepare artificial enzymes with controlling substrate orientation

pp 6899–6902

Kahee Fujita,\* Wen-Hua Chen, Kaori Oiwane, Toshihiro Fujioka, Makoto Fukudome and De-Qi Yuan

Synthesis of 1,2,3,4-tetrahydroisoquinolines and 2,3,4,5-tetrahydro-1*H*-2-benzazepines combining sequential palladium-catalysed *ortho* alkylation/vinylation with aza-Michael addition reactions Raffaella Ferraccioli,\* Davide Carenzi and Marta Catellani

pp 6903-6907

$$R_1 = Me$$
, Et,  $i$ -Pr  
 $R_2 = CO_2Me$ ,  $CO_2fBu$ ,  $COMe$ 

### Indium(III) chloride catalyzed one step synthesis of some new dibenzo(d,f)(1,3)dioxepines and 12H-dibenzo(d,g)(1,3)dioxocin derivatives

pp 6909-6913

Graziella Tocco,\* Michela Begala, Giovanna Delogu, Carmen Picciau and Gianni Podda

### Total synthesis of (3S,4S,2'S)- and (3R,4R,2'S)-viridiofungin A triester

pp 6915-6918

Annett Pollex, Lars Abraham, Jana Müller and Martin Hiersemann\*

The total synthesis of an alkylcitrate secondary metabolite from the fungi Trichoderma viride is described.

#### Comparative electrochemical properties of fluorinated endoperoxides related to the G-factor series

pp 6919-6922

Fadia Najjar, Fabrice Fréville, Franck Desmoulin, Liliane Gorrichon, Michel Baltas, Heinz Gornitzka, Théodore Tzedakis and Christiane André-Barrès\*

$$R_f = CH_2F$$
,  $CH(OSiMe_3)CF_3$ ,  $CH(OH)CICON$ 

#### A new convenient method for the synthesis of cardiolipin

pp 6923-6925

Zhen Lin, Moghis U. Ahmad, Shoukath M. Ali and Imran Ahmad\*

- 1 Cardiolipin, R = fatty acid chain,  $M^+ = H^+$
- **1a** Tetramyristoyl cardiolipin,  $M^+ = NH_4^+$
- **1b** Tetraoleoyl cardiolipin,  $M^+ = NH_4^+$

#### Synthesis of [60]fullerene-coumarin polyads

pp 6927-6930

Maria João Brites, Célia Santos, Susana Nascimento, Bárbara Gigante\* and Mário N. Berberan-Santos\*

### Structure-based predictions of <sup>1</sup>H NMR chemical shifts of sesquiterpene lactones using neural networks

pp 6931-6935

Fernando B. Da Costa, Yuri Binev, Johann Gasteiger and João Aires-de-Sousa\*

The prediction of  ${}^{1}H$  NMR chemical shifts of  $CH_{n}$  protons of the sesquiterpene lactones 1 and 2 using neural networks was performed and the results were highly accurate. This method has the ability to assign  $CH_{2}$  diastereotopic protons of 3D structures.

## Double Michael addition of azoles to methyl propiolate: a straightforward entry to ligands with two heterocyclic rings

pp 6937-6939

Enrique Díez-Barra,\* Javier Guerra, Valentín Hornillos, Sonia Merino and Juan Tejeda

An unusual double Michael addition is used for the synthesis of 3,3-bis(azol-1-yl)propionates.

### Efficient synthesis of isoplagiochin D, a macrocyclic bis(bibenzyls), by utilizing an intramolecular Suzuki-Miyaura reaction

pp 6941-6945

Tomoyuki Esumi, Mitsumasa Wada, Eri Mizushima, Norimasa Sato, Mitsuaki Kodama, Yoshinori Asakawa and Yoshiyasu Fukuyama\*

Isoplagiochin D, a highly strained macrocyclic bis(bibenzyls) isolated from the liverwort *Pladiochila fruticosa*, was synthesized in 10.6% overall yield for the 11 steps by using Horner–Wadsworth–Emmons and Suzuki–Miyaura protocols.

#### Phomactin H, a novel diterpene from an unidentified marine-derived fungus

pp 6947-6948

Kiyotaka Koyama,\* Masahiro Ishino, Kazuhiko Takatori, Takashi Sugita, Kaoru Kinoshita and Kunio Takahashi

# Facile synthesis of lactones and dihydronaphthalenes from methyl 2-isobutenyl (or 2-isopentenyl)cinnamates as the common intermediates

pp 6949-6953

Saravanan GowriSankar, Chang Gon Lee and Jae Nyoung Kim\*

### Highly stereoselective addition of silylphosphines to chiral aldehydes

pp 6955-6957

Oleg I. Kolodiazhnyi,\* Irina V. Guliaiko and Anastasia O. Kolodiazhna

The reaction between diphenyl(trimethylsilyl)phosphine or bis(trimethylsilyl)phenylphosphine and chiral aldehydes proceeds with high stereoselectivity to give diastereomerically pure tertiary  $\alpha$ -siloxyalkylphosphines.

# Palladium catalyzed ligand-free Suzuki cross-coupling reactions of benzylic halides with aryl boronic acids under mild conditions

pp 6959-6962

B. P. Bandgar,\* Sampada V. Bettigeri and Jaywant Phopase

A highly efficient Suzuki cross-coupling reaction between benzylic halides and aryl boronic acids using palladium chloride as catalyst in acetone:water (3:1) has been developed. High yields of products, mild reaction conditions and short reaction times in the absence of ligand are important features of this method.

#### Rapid and facile Lewis acid catalysed Boc protection of amines

pp 6963-6965

G. V. M. Sharma,\* J. Janardhan Reddy, P. Sree Lakshmi and Palakodety Radha Krishna

R-NH<sub>2</sub> 
$$\xrightarrow{\text{(Boc)}_2\text{O}, \text{ZrCl}_4 \text{(10 mol\%)}}$$
 R-NHBoc

Efficient Boc protection of amines using  $(Boc)_2O$  in the presence of a catalytic amount of  $ZrCl_4$  (10 mol %) in acetonitrile at room temperature is reported with short reaction times and high yields.

### Thermal stability of ionic liquid BMI(BF<sub>4</sub>) in the presence of nucleophiles

pp 6967-6969

Anne G. Glenn and Paul B. Jones\*

### New approach for two chromene carboxylic acids having a fully substituted benzene ring

pp 6971-6973

Seiji Yamaguchi,\* Mikiko Maekawa, Yohei Murayama, Masahiro Miyazawa and Yoshiro Hirai

Two chromene carboxylic acids having a fully substituted benzene ring, 8-chlorocannabiorcichromenic acid (1) and myco-chromenic acid (2), were synthesized via thermal cyclization of the corresponding four substituted phenyl propargyl ethers.

Asymmetric Pauson-Khand reaction with chiral, electron-deficient mono- and bis-phosphine ligands

pp 6975-6978

Denes Konya, Frédéric Robert, Yves Gimbert\* and Andrew E. Greene

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\*\* Supplementary data available via ScienceDirect



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