

### Tetrahedron Letters Vol. 48, No. 29, 2007

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### **COMMUNICATIONS**

A technique for the synthesis of highly-pure, mono-epitopic, multi-valent lipid core peptide vaccines

Peter M. Moyle, Yashmeeta Hari, Ning Huang, Colleen Olive, Michael F. Good and Istvan Toth\*

pp 4965–4967

Unexpected Ti-catalyzed formal intramolecular [4+4] cycloaddition of 1,1'-bi[ $(S^*,S^*)$ -6-(trimethylsilyl)- pp 4969–4972 cyclohepta-2,4-dien-1-yl]

Chahinez Aouf, Douniazad El Abed, Michel Giorgi and Maurice Santelli\*

$$2 \qquad \qquad \underbrace{\frac{\text{Li}}{\text{Me}_{3}\text{SiCl}}}_{\text{Me}_{3}\text{SiCl}} \overset{\text{Me}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{CH}_{2}\text{Cl}_{2}}}_{\text{Me}_{3}\text{Si}} \overset{\text{H}}{\text{H}} \overset{\text{Me}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{H}} \overset{\text{SiMe}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{H}} \overset{\text{SiMe}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{H}} \overset{\text{SiMe}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{H}} \overset{\text{SiMe}_{3}\text{Si}}{\text{H}} \overset{\text{H}}{\text{SiMe}_{3}} \overset{\text{H}}{\text{H}} \overset{\text{H}} \overset{\text{H}}{\text{H}} \overset{\text{H$$

Synthesis of 8-arylated catechin and epicatechin derivatives via Suzuki cross-coupling Roberta Bernini, Sandro Cacchi,\* Ilse De Salve and Giancarlo Fabrizi\*

pp 4973-4976

MeO OMe OMe OMe 
$$R^2 + ArB(OH)_2$$
  $R^2 + ArB(OH)_2$   $R^2 + ArB(OH$ 

## Ir-catalyzed asymmetric allylic alkylation using chiral diaminophosphine oxides: DIAPHOXs. Formal enantioselective synthesis of (-)-paroxetine

pp 4977-4981

Tetsuhiro Nemoto, Tatsurou Sakamoto, Takashi Fukuyama and Yasumasa Hamada\*

**(i)**+

Nakinadine A, a novel bis-pyridine alkaloid with a β-amino acid moiety from sponge *Amphimedon* sp. pp 4983–4985 Takaaki Kubota, Takami Nishi, Eri Fukushi, Jun Kawabata, Jane Fromont and Jun'ichi Kobayashi\*

### The fragmentation reaction of 16R-bromopregnane-3S,20S-diol

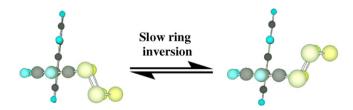
pp 4987-4989

Jing-Rong Lin, Nan-Yan Zhou, Qi-Hai Xu, Shi-Feng Jian and Wei-Sheng Tian\*

### Synthesis of novel axially chiral cyclic benzopolysulfides

pp 4991–4994

Ryu Sato,\* Hidetoshi Ohta, Tatsuya Yamamoto, Shiduko Nakajo, Satoshi Ogawa and Ashraful Alam



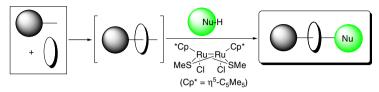
 ${f O}^{\scriptscriptstyle +}$ 

Rotational energy barrier = 25.49 kcal/mol. <sup>298</sup> $\Delta G$  (Pentathiepin ring inversion energy barrier) = 24.28 kcal/mol.

### Using ruthenium-catalysed propargylic substitutions for the efficient syntheses of rotaxanes

pp 4995-4998

Yuji Tokunaga,\* Nobuhiko Kawai and Youji Shimomura



Nu-H: Ar-NH $_2$ , RCONH $_2$ , RSO $_2$ NH $_2$ , 1,3-diketone, RSH, R $_2$ P(O)H

### The novel transition metal free synthesis of 1,1'-biazulene

pp 4999-5002

Taku Shoji,\* Shunji Ito, Kozo Toyota, Masafumi Yasunami and Noboru Morita\*

### **(i)**+

### An improved synthesis of Fmoc-N-methyl serine and threonine

pp 5003-5005

Rajesh H. Bahekar,\* Pradip A. Jadav, Dipam N. Patel, Vijay M. Prajapati, Arun A. Gupta, Mukul R. Jain and Pankaj R. Patel

An improved method for the synthesis of Fmoc-N-methyl serine and threonine has been developed.

### Efficient, two-step synthesis of N-substituted nortropinone derivatives

pp 5007-5011

Nicolas Willand,\* Benoit Folléas, Christophe Boutillon, Liesbeth Verbraeken, Jean-Claude Gesquière, André Tartar and Benoit Deprez

We describe a new one-pot synthesis of functionalized nortropinone starting from 8,8-dimethyl-3-oxo-8-azonia-bicyclo[3.2.1]octane iodide (IDABO).

## Chemoselective arylamination of $\beta$ -bromovinylaldehydes followed by acid catalyzed cyclization: a general method for polycyclic quinolines

pp 5013-5016

Surajit Some and Jayanta K. Ray\*

## The first example of regiospecific magnesium carbenoid 1,3-CH insertion: its mechanism and stereochemistry

pp 5017-5021

Shingo Ogata, Shigeyuki Masaoka, Ken Sakai and Tsuyoshi Satoh\*

## Novel stereoselective synthesis of all four diastereomers of 3a-methyl-pyrrolo[3,4-c]piperidine from glycine ethyl ester

pp 5023-5026

Sung-Gon Kim,\* Sang Ho Lee and Tae-Ho Park



Indium-mediated chemoselective deprotection and demonochlorination of 2,2,2-trichloroethyl esters

pp 5027-5030

Tomoko Mineno,\* Hisao Kansui and Takehisa Kunieda

On treatment with indium metal, 2,2,2-trichloroethyl carboxylates smoothly undergo deprotection to carboxylic acids and reductive demonochlorination to 2,2-dichloroethyl esters, sharply depending on their structures.

### Regioselective acylation of 6-O-protected octyl $\beta\text{-}D\text{-}glucopyranosides$ by DMAP catalysis

pp 5031-5033

Wataru Muramatsu and Takeo Kawabata\*



Biomimetic oxidation of metribuzin with hydrogen peroxide catalyzed by 5,10,15,20-tetraarylporphyrinatoiron(III) chlorides

pp 5035-5038

Shive M. S. Chauhan\* and Pratibha Kumari

The biomimetic oxidation of metribuzin, a widely used pre- and post-emergence herbicide with hydrogen peroxide catalyzed by 5,10,15,20-tetraarylporphyrinatoiron(III) chlorides in dichloromethane, is reported to mimic the reactions of natural cytochrome P450 enzymes under mild conditions.

**2-Oxobenzo**[*h*]chromene: a novel entry for the synthesis of functionalized angular polycyclic azaarenes pp 5039–5042 Ramendra Pratap and Vishnu Ji Ram\*

A high yielding, one-pot synthesis of dialkyl carbonates from alcohols using Mitsunobu's reagent Devdutt Chaturvedi,\* Nisha Mishra and Virendra Mishra

pp 5043-5045

#### Efficient allylation of aldehydes with allyltributylstannane catalyzed by CuI

pp 5047-5049

Hima Rani Kalita, Arun Jyoti Borah and Prodeep Phukan\*

$$R = Ar, C_7H_{15}$$
 -,  $PhCH=CH$  -

### Facile synthesis of 9-azajulolidine and its application to post-Ullmann reactions

pp 5051-5054

Ken-Tsung Wong,\* Sung-Yu Ku and Feng-Wen Yen

$$\begin{array}{c} \text{NH}_2 \\ \text{Br} \\ \text{N} \\ \text{Second of the properties of the$$

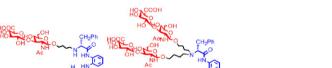
The efficient synthesis of 9-azajulolidine from readily available reagents and its utilization as an effective electron-rich ligand for post-Ullmann-type reactions are reported.



pp 5055-5060

### Hyaluronan-based glycoclusters as probes for chemical glycobiology

Shyam M. Rele,\* Suri S. Iyer and Elliot L. Chaikof\*





### Lithium diisobutyl-t-butoxyaluminum hydride, a new and efficient reducing agent for the conversion of pp 5061–5064 esters to aldehydes

Min Sung Kim, Young Mi Choi and Duk Keun An\*

### Synthesis and characterization of vitamin B<sub>12</sub>-hyperbranched polymer

pp 5065-5068

Keishiro Tahara, Hisashi Shimakoshi, Akihiro Tanaka and Yoshio Hisaeda\*

## Synthesis of 3-amino-5H-pyrrolo[2,3-e]-1,2,4-triazines by Sonogashira/copper(I)-catalyzed heteroannulation

pp 5069-5072

Coralie Nyffenegger, Guy Fournet and Benoît Joseph\*

$$\begin{array}{c} \text{N} \\ \text{CI} \\ \text{N} \\ \text{CI} \\ \text{N} \\ \text{CI} \\ \text{N} \\ \text{CI} \\ \text{N} \\ \text{N}$$

### Laccase initiated oxidative domino reactions for the efficient synthesis of 3,4-dihydro-7,8-dihydroxy-2*H*- pp 5073–5076 dibenzofuran-1-ones

Szilvia Hajdok, Heiko Leutbecher, Gerhard Greiner, Jürgen Conrad and Uwe Beifuss\*

Laccase initiated domino reactions of cyclohexane-1,3-diones with catechols using air as an oxidant afford 3,4-dihydro-7,8-dihydroxy-2*H*-dibenzofuran-1-ones with yields ranging from 70% to 97%.

### Hydrolysis-free synthesis of 3-aminocoumarins

pp 5077-5080

Amit A. Kudale, Jamie Kendall, C. Chad Warford, Natasha D. Wilkins and Graham J. Bodwell\*

A commonly encountered problem in the synthesis of 3-aminocoumarins is the formation of 3-hydroxycoumarins. A solution to this problem, which involves non-aqueous formation of the 3-aminocoumarin system, is described.



## The first synthesis of N,O-protected $\beta^{2,2,3,3}$ -isoserines bearing two adjacent quaternary stereogenic centers and their corresponding $\beta$ -lactams

pp 5081-5085

Andrea Guerrini, Greta Varchi,\* Cristian Samorì, Rizzo Daniele and Battaglia Arturo

### Efficient O-glycosylation of diethyl oxoglutarate via 1,2-O-sulfinyl derivatives

pp 5087-5089

Abdelhafid Benksim, Mohamed Massoui, Daniel Beaupère and Anne Wadouachi\*

# Efficient intermolecular 3+2 trapping of the Nazarov intermediate with vinyl sulfides Bahja Mahmoud and F. G. West\*

pp 5091-5094

Simple cross-conjugated dienones undergo Nazarov cyclization and in situ trapping in the presence of vinyl sulfides, yielding functionalized bicyclo[2.2.1]heptanone products. The formal 3+2 cycloaddition is presumed to be a stepwise process, but furnishes the adducts with good diastereoselectivity.

## Preparation of new $C_2$ -symmetric tetraphosphine ligands for Rh-catalyzed asymmetric hydrogenation pp 5095–5098 of arylenamides

Dongbo Zhao, Zheng Wang and Kuiling Ding\*



#### Imide-bridged diferrocene for protonation-controlled regulation of electronic communication

pp 5099-5101

Toshiyuki Moriuchi and Toshikazu Hirao\*

The imide-bridged diferrocene was synthesized and characterized, permitting the protonation-controlled regulation for the electronic communication between the two ferrocenyl moieties.

### β-Lactams in synthesis: short syntheses of cobactin analogs

pp 5103-5105

Andrew J. Walz and Marvin J. Miller\*

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

Mycobactins facilitate assimilation of iron by mycobacteria. Synthetic analogs with structural variation of the cobactin components have potent anti-TB activity. A new method for the synthesis of cobactin analogs is presented. The key process involves single-step coupling reactions between an amine of a cyclic (L)-lysine-derived hydroxamic acid with cyanide-activated  $\beta$ -lactams.

### Synthesis of protected norcysteines for SPPS compatible with Fmoc strategy

pp 5107-5110

Manoj P. Samant and Jean E. Rivier\*

### **(i)**+

### 2,5-Disubstituted furans from 1,4-alkynediols

pp 5111-5114

Simon J. Pridmore, Paul A. Slatford and Jonathan M. J. Williams\*

$$R^1$$
 $R^2$ 
 $H^+$  cat.  $R^1$ 
 $R^2$ 

A ruthenium-catalysed isomerisation of 1,4-alkynediols to 1,4-diketones leads to in situ acid-catalysed dehydration to furans.

#### Ruthenium-catalysed conversion of 1,4-alkynediols into pyrroles

pp 5115-5120

Simon J. Pridmore, Paul A. Slatford, Aurélie Daniel, Michael K. Whittlesey and Jonathan M. J. Williams\*

OH
$$R^{1}$$

$$R^{2}$$

$$R^{3}NH_{2}$$

$$R^{1}$$

$$R^{3}$$

$$R^{3}$$

Ruthenium-catalysed isomerisation of 1,4-alkynediols in the presence of amines leads to the synthesis of pyrroles.

## Stereoselective synthesis of vinylic chalcogenides through vinylic substitution by lithium organylchalcogenolates

pp 5121-5124

C. C. Silveira,\* R. B. Guerra and J. V. Comasseto

XO<sub>2</sub> COR 
$$R^1$$
YLi, THF  $M$  COR  $M$  ArY = PhS, PhSe  $M$  YAr  $M$  = Ts, P(O)(OEt)<sub>2</sub>  $M$   $M$  YAr  $M$  ArY = ArSe, ArS, RTe

## The effect of boronic acid acidity on performance of viologen-based boronic acids in a two-component pp 5125–5129 optical glucose-sensing system

Zachary Sharrett, Soya Gamsey, Jonathan Fat, Daniel Cunningham-Bryant, Ritchie A. Wessling and Bakthan Singaram\*

Recovered fluorescence

## Ruthenium-catalyzed oxidative cyclization of 1,7-dienes. A novel diasteroselective synthesis of 2,7-disubstituted *trans*-oxepane diols

pp 5131-5135

Vincenzo Piccialli,\* Nicola Borbone and Giorgia Oliviero

## Dynamic exchange of heterocyclic subunits during halogen substitution in chloroheptamethinecyanine pp 5137–5142 dyes by benzoazolium salts

Maria J. Nunes, Lucinda V. Reis, Paulo F. Santos and Paulo Almeida\*

$$Z = S, Se \\ R = CH_2CH_3, (CH_2)_dCH_3, CH_2CH_2CH=CH_2$$

$$W_1 = A \\ W_2 = A \\ W_2 = A \\ W_3 = A \\ W_4 = A \\ W_5 = A \\ W_5 = A \\ W_6 =$$

The chlorine atom present in the rigidifying cyclohexane ring incorporated in the polymethine chain of heptamethinecyanine dyes was replaced by a 2-methylbenzoazolium salt conveniently substituted through an ether linkage furnished by residual water present in the reactional mixture. The expected substituted cyanines were obtained along with other related triheterocyclic cyanine dyes, resulting from the replacement of the terminal heterocyclic moieties of the starting chloro dye or of an already substituted dye, by an exogenous benzoazolium residue.

### Ionic liquid supported synthesis of $\beta$ -lactam library in ionic liquid batch

pp 5143-5146

purity 87~98%

Xiao-Le Tao, Ming Lei\* and Yan-Guang Wang

An efficient and general ionic liquid supported synthesis of  $\beta$ -lactam library via multistep reactions have been successfully carried out in a single ionic liquid batch.

## A new hydrophobic linker effective for the in situ synthesis of DNA-CPG conjugates as tools for SNP pp 5147-5150 analysis

Akihiro Ohkubo, Haruhiko Taguchi, Kohji Seio, Hiroshi Nagasawa, Toshifumi Tsukahara and Mitsuo Sekine\*

Imidazolidin-1-oles, *N*-2-aminoethyl nitrones and 1,2,5-oxadiazinanes. A novel ring-chain tautomerism pp 5151–5155 Necdet Coşkun\* and Oktay Asutay

Predominates when R<sup>1</sup> is electron-donating

# FeCl<sub>3</sub> catalyzed addition of activated methylenes to styrene derivatives under air Zheng Duan,\* Xuejie Xuan and Yangjie Wu\*

pp 5157-5159

#### Microwave-assisted oxidative coupling of amines to imines on solid acid catalysts

pp 5161-5164

Shainaz M. Landge, Valentina Atanassova, Muralidhara Thimmaiah and Béla Török\*

R = H, CH<sub>3</sub>, Cl, F, CF<sub>3</sub>, OCH<sub>3</sub>, etc. R<sub>1</sub>= Ph, substituted Ph, -CH<sub>2</sub>Ph, substituted -CH<sub>2</sub>Ph, alkyl

A K-10 montmorillonite catalyzed microwave-assisted oxidative coupling of amines is described. Substituted benzylamines readily undergo self-coupling reactions, while aliphatic amines and anilines cannot form self-coupled products. A mixture of a benzylamine and an aniline or aliphatic amine, respectively, however, effectively and selectively produces mixed imines.

#### OTHER CONTENTS

Corrigendum p 5165

\*Corresponding author

\*Supplementary data available via ScienceDirect

Available online at www.sciencedirect.com



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