

### Tetrahedron Letters Vol. 45, No. 4, 2004

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#### **COMMUNICATIONS**

Synthesis of dienynes from alkenes and diynes using ruthenium-mediated ring-closing metathesis Willem A. L. van Otterlo,\* E. Lindani Ngidi, Charles B. de Koning and Manuel A. Fernandes

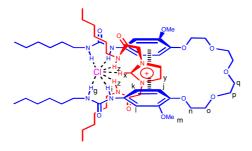
pp 659-662

A novel ruthenium-mediated ring-closing metathesis reaction converts molecules containing alkenes and conjugated diynes into dienynes.

New interlocked molecules generated from a podand containing urea units and imidazolium salts using an anion template

pp 663-666

Boosayarat Tomapatanaget, Thawatchai Tuntulani,\* James A. Wisner and Paul D. Beer



Guaiacol transprotection: replacement of the phenoxy isopropyl protecting function by acetyl Craig M. Williams\* and Lewis N. Mander

pp 667-669

### Synthesis of nucleoside-amino acid conjugates containing boranephosphate, boranephosphorothioate and boranephosphoramidate linkages

pp 671–675

Janina Baraniak,\* Renata Kaczmarek and Ewa Wasilewska

Conjugates of AZT and D4T with the hydroxyl group of tyrosine and the NH-group of alanine, containing boranephosphate, boranephosphorothioate and boranephosphoramidate moieties were obtained.



#### Asymmetric synthesis of macrolactin analogue

pp 677-680

Yusuke Kobayashi, Akihiro Fukuda, Tetsutaro Kimachi, Motoharu Ju-ichi and Yoshiji Takemoto\*

### Facile conversion of amides and lactams to selenoamides and selenolactams using tetraethylammonium tetraselenotungstate

pp 681-683

Vadivelu Saravanan, Chandan Mukherjee, Saibal Das and Srinivasan Chandrasekaran\*

$$\begin{array}{c|c} O \\ R \end{array} \begin{array}{c} N \\ N \end{array} \begin{array}{c} R^1 \\ \text{or POCl}_3 \end{array} \left[ \begin{array}{c} CI \\ R \end{array} \begin{array}{c} + \\ R^2 \end{array} \right] \begin{array}{c} R^1 \\ R^2 \end{array} \right] \begin{array}{c} (Et_4N)_2WSe_4 \\ R \end{array} \begin{array}{c} Se \\ N \\ R^2 \end{array}$$

Chloroiminium salts generated in situ from amides and lactams using  $(COCl)_2$  or  $POCl_3$  react very readily with the new selenium transfer reagent, tetraethylammonium tetraselenotungstate,  $(Et_4N)_2WSe_4$ , 1, to afford the corresponding selenoamides and selenolactams in excellent yields under mild reaction conditions.

### The preparation of a stable 2-pyridylboronate and its reactivity in the Suzuki-Miyaura cross-coupling reaction

pp 685–687

Paul B. Hodgson\* and Fabrice H. Salingue

Four-component coupling reactions of silvlacetylenes, allyl carbonates, and trimethylsilyl azide catalyzed pp 689-691 by a Pd(0)-Cu(I) bimetallic catalyst. Fully substituted triazole synthesis from seemingly internal alkynes Shin Kamijo, Tienan Jin and Yoshinori Yamamoto\*

Synthesis of 2-substituted indoles by palladium-catalyzed heteroannulation with Pd-NaY zeolite catalysts pp 693-697 Ki Bum Hong, Chul Wee Lee and Eul Kgun Yum\*

#### C-N bond formation followed by N-Cl bond breaking. One more and unexpected case of the formation pp 699-702 of a hydroxamic group via heterolytic bond cleavage

Ivana Vinković Vrček, Viktor Pilepić and Stanko Uršić\*

$$\begin{array}{c} O \\ O \\ N^{+} - CI \\ R \\ \end{array}$$

A hydroxamic group can be formed by the heterolytic N-Cl bond cleavage in interactions of acyl halides and nitrosobenzenes in 99.9% acetonitrile.

#### A unique peroxide formation based on the Mn(III)-catalyzed aerobic oxidation Ryoukou Kumabe and Hiroshi Nishino\*

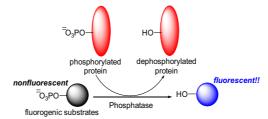
pp 703-706



#### Design and synthesis of fluorogenic substrates that target protein phosphatases

pp 707-710

Qing Zhu, Xuan Huang, Grace Y. J. Chen and Shao Q. Yao\*



We have successfully designed and synthesized new fluorogenic probes that target different classes of protein phosphatases. The fluorescence profiles of the probes have been studied using 12 different phosphatases, and results showed that, besides alkaline and tyrosine phosphatases, our probes were able to detect serine/threonine as well as acid phosphatases.

#### Synthesis of amino acid derivatives of 4-(1-adamantyl)benzoic acid obtained by transition metal ion catalyzed oxidation of 4-(1-adamantyl)toluene

pp 711-714

Sergey V. Krasnikov, Tatiana A. Obuchova, Oleg A. Yasinskii and Konstantin V. Balakin\*

#### Chemoselective tetrahydropyranylation of alcohols and phenols using polystyrene supported aluminium chloride as a catalyst

pp 715–718

Bahman Tamami\* and Kaveh Parvanak Borujeny

A simple, efficient and highly chemoselective method for tetrahydropyranylation of alcohols and phenols has been developed by their reaction with 3,4-dihydro-2H-pyran at room temperature in the presence of a catalytic amount of polystyrene supported AlCl<sub>3</sub>. The method is also highly selective for monotetrahydropyranylation of symmetrical diols.

### Efficient stereodivergent synthesis of 1,4-dideoxy-1,4-iminohexitols from an (S)-glyceraldimine

pp 719-722

Ramón Badorrey, Carlos Cativiela, María D. Díaz-de-Villegas,\* Roberto Díez and José A. Gálvez\*

#### Benzene-based tripodal isothiouronium compounds as sulfate ion receptors

pp 723-727

Hye Ran Seong, Dae-Sik Kim, Sung-Gon Kim, Heung-Jin Choi and Kyo Han Ahn\*

Tripodal cationic receptors having isothiouronium ligands recognize sulfate ion in methanol preferably in a 1:1 binding mode, while they show complex behavior toward phosphate ion.

### The use of potassium alkynyltrifluoroborates in Mannich reactions

pp 729-731

George W. Kabalka,\* Bollu Venkataiah and Gang Dong



Novel α-amino amidine synthesis via scandium(III) triflate mediated 3CC Ugi condensation reaction pp 733–737 Walter Keung,\* Farid Bakir, Andrew P. Patron, Dan Rogers, Chad D. Priest and Vincent Darmohusodo

Scandium(III) triflate was found to be an efficient catalyst for the formation of  $\alpha$ -amino amidines. The corresponding products were easily converted to hydantoin imides and imidopyrazine derivatives.



# Novel 3'-deoxy analogs of the anti-HBV agent entecavir: synthesis of enantiomers from a single chiral epoxide

pp 739-742

Edward Ruediger,\* Alain Martel, Nicholas Meanwell, Carola Solomon and Brigitte Turmel

A novel synthetic approach was used to prepare a pair of enantiomeric 3'-deoxy carbocyclic nucleosides (2 and 3) from the chiral epoxide 1.

# A stereoselective palladium-catalyzed synthesis of amino alkenyl geminal bisphosphonates Pierre Moreau and Michel Maffei\*

pp 743-746

The title compound 2 is obtained regio- and stereoselectively via the palladium-catalyzed ring opening of 1 with secondary amines.

Design of a highly efficient catalyst for the oxaziridinium-mediated epoxidation of olefins by Oxone<sup>®</sup> pp 747–751 Luis Bohé<sup>\*</sup> and Majed Kammoun

$$\begin{array}{c} R^{4} \stackrel{R^{1}}{\longleftarrow} R^{2} & \xrightarrow{Oxone^{(8)}/bicarbonate/2d} R^{4} \stackrel{R^{1}}{\longleftarrow} R^{2} \\ \hline \text{mono- and polysubstituted} & & & & & \\ O_{2}N & & & & & \\ \hline \end{array}$$

## Synthesis and evaluation of new 4-phospho-D-erythronic acid derivatives as competitive inhibitors of spinach ribose-5-phosphate isomerase

pp 753-756

Emmanuel Burgos and Laurent Salmon\*

# Microwave assisted solvent free amination of halo-(pyridine or pyrimidine) without transition metal catalyst

pp 757-759

Sanjay Narayan, Troy Seelhammer and Robert E. Gawley\*

$$\begin{array}{c|c}
R & N \\
H & N \\
N & 1
\end{array}$$

$$\begin{array}{c|c}
R & Microwave \\
R & 30 min
\end{array}$$

$$\begin{array}{c|c}
R & N & (CH_2)n \\
13 \text{ examples}
\end{array}$$

# Allylstannation of N-acyliminium intermediates: a possible method for the stereocontrolled synthesis of polyhydroxypiperidines

pp 761-764

Floris Chevallier, Isabelle Beaudet, Erwan Le Grognec, Loïc Toupet and Jean-Paul Quintard\*

### Recent developments in the synthesis of 11\beta-aryl-estrone derivatives

pp 765-768

Denis Prat,\* Françoise Benedetti, Lahlou Nait Bouda and Gilles Franc Girard

### Palladium-catalysed amination of 2-acyl-1-alkyl-5-bromopyrroles

pp 769-772

Isabel Castellote, Juan J. Vaquero and Julio Alvarez-Builla\*

**(i)**+

Synthesis of difluorinated pseudopeptides using chiral  $\alpha,\alpha$ -difluoro- $\beta$ -amino acids in the Ugi reaction Vanessa Gouge, Philippe Jubault and Jean-Charles Quirion\*

pp 773-776

$$HO_2C$$
 $HO_2C$ 
 $HO_2C$ 

## Hydrogen bonding and halogen bonding co-existing in the reaction of heptafluorobenzyl iodide with N,N,N',N'-tetramethylethylene diamine

pp 777-780

Shizheng Zhu,\* Chunhui Xing, Wei Xu and Zhanting Li\*

Recyclable and selective Lewis acid catalysts for transesterification and direct esterification in a fluorous biphase system: tin(IV) and hafnium(IV) bis(perfluorooctanesulfonyl)amide complexes Xiuhua Hao, Akihiro Yoshida and Joji Nishikido\*

pp 781-785

Recyclable Lewis acid catalyst with mild operating conditions.

Simple formylacetal (CH<sub>2</sub>) as a novel linker for saccharide synthesis on soluble-polymer support Masato Oikawa,\* Tatsushi Tanaka, Shoichi Kusumoto and Makoto Sasaki

pp 787-790

Disaccharides are efficiently constructed on this platform via CH<sub>2</sub> linker. The preparation, loading, glycosylation, and cleavage are reported.

# Suzuki arylation at positions 2 and 2' of 1,1'-binaphthyls: stereochemical result depending on the sense of polarity of substrates

pp 791-794

Peter Kasák, Henrich Brath, Margaréta Dubovská, Michal Juríček and Martin Putala\*

The first preparation of enantiomerically pure 1,1'-binaphthyl-2,2'-diboronic acid is reported. Its Suzuki arylation opens a synthetic approach to enantiomerically pure 2,2'-diaryl derivatives, including functional examples.



#### Unexpected reaction of a dimethylzinc-generated THF radical with aldehydes

pp 795-797

Yasutomo Yamamoto, Ken-ichi Yamada and Kiyoshi Tomioka\*

$$\begin{array}{c} O \\ R \end{array} \begin{array}{c} O \\ H \end{array} \begin{array}{c} O \\ O \\ \hline \end{array} \begin{array}{c} Me_2Zn \\ \hline \hline 30°C \end{array} \begin{array}{c} OH \\ OH \\ \hline \end{array} \begin{array}{c} OH \\ OH \\ \hline \end{array}$$

### Synthesis of hybrid calix[6]arenes having both methylene and epithio bridging groups

pp 799-802

Naoya Morohashi,\* Tomohiro Ishiwata, Kazuaki Ito and Yoshihiro Ohba\*

$$Bu^{t} \xrightarrow{Bu^{t}} Bu^{t}$$

$$HO \xrightarrow{TOH} OH X^{2}$$

$$Bu^{t} \xrightarrow{Bu^{t}} X^{2} = CH_{2}, X^{4} = S$$

$$1: X^{2} = CH_{2}, X^{4} = CH_{2}$$

$$2: X^{2} = S, X^{4} = CH_{2}$$

$$3: X^{2} = X^{4} = S$$

Mono-, tri-, and tetra-thiacalix[6]arene were obtained by acid-catalyzed condensation of the corresponding sulfur or methylene bridged tetramer and dimer derivatives of *p-tert*-butylphenol.

## Practical synthesis of biaryl colchicinoids containing 3',4'-catechol ether-based A-rings via Suzuki cross-coupling with ligandless palladium in water

pp 803-807

Amy Morin Deveau\* and Timothy L. Macdonald

**(i)**+

### Pd/C-catalyzed Heck reaction in ionic liquid accelerated by microwave heating

pp 809-811

Xingang Xie, Jiangping Lu, Bo Chen, Junjie Han, Xuegong She\* and Xinfu Pan\*

# Combinatorial library synthesis of two- and three-ring benzenoid amides on solid support Akira Mori,\* Issei Akahoshi, Masashi Hashimoto, Takayuki Doi and Takashi Takahashi

pp 813-815

Pd(0)-catalyzed carbonylation Benzoylation 
$$R_2$$
O  $NH$   $R_1=R_2=C_6H_4OR-p$   $R_1=Alkyl$ ,  $R_2=C_6H_4OR-p$  A liquid crystalline library of 118 molecules.

# Negishi-type coupling of bromoarenes with dimethylzinc John M. Herbert\*

pp 817-819

John M. Herbert

$$R \xrightarrow{\text{Br}} \frac{\text{Zn}(CH_3)_2, \ 1.2-2.2\% \ PdCl_2(PPh_3)_2}{1,4-\text{Dioxane, reflux}} R \xrightarrow{\text{CH}_3}$$

## Synthesis of methyleneaminodipeptides via ring opening of a 2-(t-butoxycarbonylmethyl)aziridine derivative

pp 821-823

Josiane Thierry\* and Vincent Servajean

Z 
$$E = PhCH_2$$
,  $CH_2 = CHCH_2$ ,  $PhCH_2O$ ,  $PhCH_2OCONH$ ,  $CH_2 = CHCH_2$ 

### On the role of triflic acid in the metal triflate-catalysed acylation of alcohols

pp 825-829

Raphaël Dumeunier and István E. Markó\*

# Polymer-supported distannanes: a new and efficient synthesis of highly effective reagents for iodine atom transfer cyclisations

pp 831-834

Alejandro G. Hernán and Jeremy D. Kilburn\*

Evidence on the structure of coyolosa. Synthesis of 6,6'-ether linked hexoses Alan H. Haines\*

pp 835-837

The first synthesis of secondary sugar sulfonic acids by nucleophilic displacement reactions András Lipták,\* Edit Balla, Lóránt Jánossy, Ferenc Sajtos and László Szilágyi

pp 839-842

A new class of Rh(III) catalyst containing an aminoalcohol tethered to a tetramethylcyclopentadienyl group for asymmetric transfer hydrogenation of ketones

pp 843-846

David J. Cross, Ian Houson, Aparecida M. Kawamoto and Martin Wills\*

Catalyst 6 is highly effective for the asymmetric catalysis of transfer hydrogenation of acetophenone using isopropanol.

#### A mild, one-pot synthesis of 3-cyano-4-benzopyrones from 2-hydroxyacetophenones

pp 847-848

G. Jagath Reddy,\* D. Latha, C. Thirupathaiah and K. Srinivasa Rao

A simple one-pot synthesis of 3-cyano-4-benzopyrones directly from 2-hydroxyacetophenones using mild conditions is reported herein.

### A practical enantioselective synthesis of massoialactone via hydrolytic kinetic resolution

pp 849-851

Priti Gupta, S. Vasudeva Naidu and Pradeep Kumar\*

### Rationalising the effect of reducing agent on the oxazaborolidine-mediated asymmetric reduction of N-substituted imines

pp 853-855

Eirene H. M. Kirton, Gary Tughan, Russell E. Morris and Robert A. Field\*

## Synthesis of potential bisubstrate inhibitors of Leishmania elongating $\alpha\text{-}D\text{-}mannosyl$ phosphate transferase

pp 857-862

Vladimir S. Borodkin, Michael A. J. Ferguson and Andrei V. Nikolaev\*

## A new synthetic approach to 2,3-dideoxy-2-fluoro- $\beta$ -D-threo-pentofuranose, the fluorofuranose unit of the anti-HIV-active nucleoside, $\beta$ -FddA

pp 863-865

Jean-Claude Caille, Hugues Miel, Paul Armstrong and M. Anthony McKervey\*

$$\begin{array}{c}
0 \\
\text{OTr}
\end{array}$$

$$\begin{array}{c}
\text{TrO}
\end{array}$$

$$\begin{array}{c}
\text{SPh}
\end{array}$$

Alkylation of (S)-tritylglycidol with the dianion of phenylthioacetic acid gave a lactone, which could be transformed into an advanced precursor of the nucleoside  $\beta$ -FddA.

#### Construction of previously inaccessible 2-amino-4-benzyl substituted oxazoles

pp 867-868

Christopher C. Lindsey, Brendan M. O'Boyle, Stephanie J. Mercede and Thomas R. R. Pettus\*

#### Highly selective synthesis of hydrazones and indoles from olefins

pp 869-873

Moballigh Ahmed, Ralf Jackstell, Abdul Majeed Seayad, Holger Klein and Matthias Beller\*

For the first time a direct synthesis of hydrazones from olefins, synthesis gas and hydrazines is described. In addition, this new methodology has been successfully combined with the classical Fischer indole synthesis. Highly regio- and chemoselective reactions were obtained in the presence of [Rh(CO)<sub>2</sub>acac]/Iphos as catalyst.

### 24-Thiacycloartanol, a potent mechanism-based inactivator of plant sterol methyltransferase

pp 875-878

Wenxu Zhou, Zhihong Song, Jialin Liu, Matthew B. Miller and W. David Nes\*

24-Thiacycloartanol prepared from the native substrate of the *Glycine max* sterol methyltransferase was found to be a mechanism-based inactivator of the enzyme exhibiting an apparent  $K_i$  value of  $2\mu M$  and  $k_{inact}$  of  $0.3 \text{min}^{-1}$ .

### First synthesis of a malarial prototype: a fully lipidated and phosphorylated GPI membrane anchor

pp 879-882

Jun Lu, K. N. Jayaprakash and Bert Fraser-Reid\*

## Synthesis of heterocyclic compounds using radical reactions and evidence for the formation of spiro radical intermediates

pp 883-886

A. K. Ganguly,\* C. H. Wang, T. M. Chan, Y. H. Ing and A. V. Buevich

#### **OTHER CONTENTS**

#### **Contributors to this issue Instructions to contributors**

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\*\* Supplementary data available via ScienceDirect



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ISSN 0040-4039