

### Tetrahedron Letters Vol. 48, No. 39, 2007

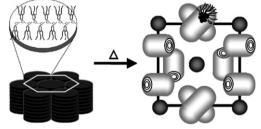
#### **Contents**

#### **COMMUNICATIONS**

Thermotropic liquid crystals of 1H-imidazole amphiphiles showing hexagonal columnar and micellar cubic phases

pp 6839-6844

Sang Hyuk Seo, Jun Ha Park, Gregory N. Tew and Ji Young Chang\*

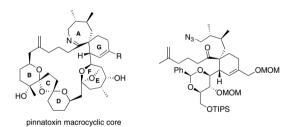


Polycatenar 1*H*-imidazole amphiphiles formed highly ordered thermotropic liquid crystals and showed phase transitions from a columnar phase to a cubic phase as the temperature increased on heating, and vice versa on cooling.

#### Studies toward the synthesis of pinnatoxins: the spiroimine fragment

pp 6845-6848

Craig E. Stivala and Armen Zakarian\*





### A tandem oximation–cyclization route to $\Delta^2$ -isoxazolines

pp 6849-6851

Amber L. Norman, Khriesto A. Shurrush, Amanda T. Calleroz and Michael D. Mosher\*

$$\begin{array}{c} O \\ R \\ \hline R = \text{aryl, alkyl} \end{array} \qquad \begin{array}{c} NH_2OH \cdot HCI \\ \hline NaOH \\ CH_3CH_2OH \ / \ H_2O \\ \end{array} \qquad \begin{array}{c} N-O \\ R \\ \hline \end{array}$$



### Rh(I)-catalyzed intramolecular hetero-[4+2] cycloaddition of $\omega$ -alkynyl-vinyl oximes

pp 6852-6855

Akio Saito,\* Maki Hironaga, Shoko Oda and Yuji Hanzawa\*

Tetrabutylammonium fluoride-induced dehydrobromination of vinyl bromides to terminal acetylenes Masaru Okutani and Yuji Mori\*

pp 6856-6859

Palladium-catalyzed oxidation of cyclohexanones to conjugated enones using molecular oxygen Makoto Tokunaga,\* Saki Harada, Tetsuo Iwasawa, Yasushi Obora and Yasushi Tsuji\*

pp 6860-6862

Oxidation of cyclohexanones into conjugated enones with molecular oxygen as oxidant was achieved by palladium catalysts in high yield.

Expeditious synthesis of indolizine derivatives via iodine mediated 5-endo-dig cyclization

pp 6863-6867

Ikyon Kim,\* Jihyun Choi, Hye Kyoung Won and Ge Hyeoung Lee

$$\begin{array}{c|c} OAc & OAc \\ \hline \\ R_1 & R_2 & rt & R_1 \\ \hline \end{array}$$



## Construction of the taxane skeleton via the stereoselective conjugate addition of cyanide and the intramolecular *B*-alkyl Suzuki–Miyaura coupling reaction

pp 6868-6872

Masayuki Utsugi, Yasuaki Kamada, Hidetoshi Miyamoto and Masahisa Nakada\*

### Enantioselective preparation of N-chirogenic tertiary amine oxides

Ichiro Suzuki,\* Ran Kerakawauchi, Takako Hirokawa and Kei Takeda

pp 6873-6876

## Dynamic equilibrium between dissociation and regeneration of the C-C bond in trispiro-conjoined cyclopropane compound

pp 6877-6880

Saiko Kiyohara, Koji Ishizuka, Hidetsugu Wakabayashi, Hiroshi Miyamae, Makoto Kanazumi, Tatsuhisa Kato and Keiji Kobayashi\*

### Highly efficient iodine-catalyzed hydroarylation of arenes with styrenes

pp 6881-6885

Cheng-Ming Chu, Wan-Ju Huang, Ju-Tsung Liu and Ching-Fa Yao\*

$$R^{1} \stackrel{\stackrel{\textstyle |}{|}}{|} \stackrel{\textstyle |}{\downarrow} \stackrel{$$



# Analysis of the stereodynamics of 2,2'-disubstituted biphenyls by dynamic chromatography Christian Wolf\* and Hanhui Xu

pp 6886-6889

$$\begin{array}{c}
R \\
R = i \cdot Pr, C_6H_1
\end{array}$$

### An efficient synthesis of 1-H indazoles

pp 6890-6892

P. D. Lokhande,\* Abdul Raheem, S. T. Sabale, A. R. Chabukswar and S. C. Jagdale

### An efficient modification of ellipticine synthesis and preparation of 13-hydroxyellipticine

pp 6893-6895

Martin Dračínský,\* Jan Sejbal, Barbora Rygerová and Marie Stiborová



#### Efficient palladium catalyzed synthesis of heteroaromatic sulfoxides

pp 6896-6899

Françoise Colobert,\* Rafael Ballesteros-Garrido, Frédéric R. Leroux, Rafael Ballesteros and Belén Abarca\*

The convenient synthesis of novel heteroaromatic sulfoxides by Pd-catalyzed heteroarylation of sulfenate anions is described.

## Aza-Morita-Baylis-Hillman-type reactions: highly enantioselective organocatalytic addition of unmodified α,β-unsaturated aldehydes to N-Boc protected imines

pp 6900-6904

Jan Vesely, Pawel Dziedzic and Armando Córdova\*

## A cross-metathesis approach for the synthesis of tedanolide and 13-deoxytedanolide: stereoselective synthesis of the C3-C16 segment

pp 6905-6911

Vijay Kumar Nyavanandi, Prabhakar Nadipalli, Srinivas Nanduri, Andra Naidu and Javed Iqbal\*

#### Microwave accelerated aza-Claisen rearrangements

pp 6912-6915

Jozef Gonda,\* Miroslava Martinková, Andrea Zadrošová, Monika Šoteková, Jana Raschmanová, Patrik Čonka, Eva Gajdošíková and C. Oliver Kappe

R1 NH NH NHCOCX
$$X = CI, F \qquad t_{A}/t_{MW} = 8-30 \text{ times}$$

$$R^{1} \qquad N = C = S$$

$$R^{2} \qquad SCN \qquad MW \qquad N = C = S$$

$$R^{2} \qquad t_{A}/t_{MW} = 24-80 \text{ times}$$

## Total syntheses of $(\pm)$ - $\alpha$ -acorenol, $\beta$ -acorenol, $\alpha$ -epi-acorenol and $\beta$ -epi-acorenol via an Ireland ester Claisen rearrangement and RCM reaction sequence

pp 6916-6919

A. Srikrishna\* and R. Ramesh Babu

#### A new caging phototrigger based on a 2-acetonaphthyl chromophore

pp 6920-6923

Prashant K. Khade and Anil K. Singh\*

### A stereoselective formal total synthesis of (+)-hyperaspine via a tandem aza-Michael reaction

pp 6924-6927

Palakodety Radha Krishna\* and A. Sreeshailam

A formal synthesis of (+)-hyperaspine 1 is reported.

## A convenient and expeditious synthesis of 3-(N-substituted) aminocoumarins via palladium-catalyzed Buchwald-Hartwig coupling reaction

pp 6928-6932

Davide Audisio, Samir Messaoudi, Jean-François Peyrat, Jean-Daniel Brion and Mouâd Alami\*

NuH = amides, sulfonamides, amines, carbamates

#### Total synthesis of heliannuol B, an allelochemical from Helianthus annuus

pp 6933-6936

Amalesh Roy, Bidyut Biswas, Prabir K. Sen and Ramanathapuram V. Venkateswaran\*

### Total synthesis of aspinolide B: a ring-closing metathesis approach

pp 6937-6940

Subhash Ghosh\* and R. Vengal Rao

## Reaction of pyridine N-oxides with Grignard reagents: a stereodefined synthesis of substituted dienal oximes

pp 6941-6944

Hans Andersson, Xiaoyang Wang, Mikael Björklund, Roger Olsson\* and Fredrik Almqvist\*

$$\begin{array}{c|c} R^2 & & R^3 \cdot MgCl \\ N & R^1 & \hline \\ O & & \\ O$$



Synthesis and conformational studies of 3,4-di-*O*-acylated furanoid sugar amino acid-containing analogs pp 6945–6950 of the receptor binding inhibitor of vasoactive intestinal peptide

- T. K. Chakraborty,\* S. Uday Kumar, B. Krishna Mohan, G. Dattatreya Sarma, M. Udaya Kiran and
- B. Jagadeesh\*

Regioselective synthesis of substituted pyrrolopyridines based on Pd(II)-mediated cross coupling and base pp 6951–6953 induced heteroannulation

K. C. Majumdar\* and S. Mondal

A novel four-component reaction of diethylamine, an aromatic aldehyde and an alkyl isocyanide with dialkyl acetylenedicarboxylates in the presence of silica gel: an efficient route for the regio- and stereoselective synthesis of sterically congested alkenes

pp 6954-6957

Ebrahim Ahmadi, Ali Ramazani\* and Mehdi Nekomanesh Haghighi

The 1:1 intermediate generated by the addition of isocyanides to dialkyl acetylenedicarboxylates is trapped by the iminium ion intermediate that forms from the reaction between an aromatic aldehyde and diethylamine. The reactions are completely regio- and stereoselective.

## Indium- and zinc-mediated Barbier-type allylations of an N,N-(dimethylsulfamoyl)-protected aldimine pp 6958–6961 and subsequent deprotection

Sara Källström, Tiina Saloranta, Adriaan J. Minnaard\* and Reko Leino\*

Barbier-type Zn- and In-mediated allylation and subsequent deprotection of an N,N-(dimethylsulfamoyl)-protected aldimine under both aqueous and anhydrous conditions is reported.



## Liquid–liquid biphasic synthesis of long chain wax esters using the Lewis acidic ionic liquid choline chloride $\cdot 2ZnCl_2$

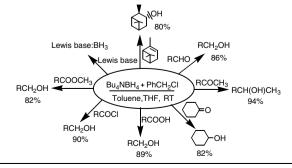
pp 6962-6965

Sadula Sunitha, Sanjit Kanjilal, P. Srinivasa Reddy and Rachapudi B. N. Prasad\*

R - COOH + R' - OH 
$$\frac{\text{HO-(CH}_2)_2 \text{ N}^+ (\text{CH}_3)_3 \text{ CI}^-. 2\text{ZnCI}_2}{110 \, ^{\circ}\text{C}, 4\text{-24 h}}$$
 R - C - OR R, R' = - (CH<sub>2</sub>)<sub>n</sub> - CH<sub>3</sub>, n = 6 - 20  $88 - 99\%$ 

# A simple and convenient method for the preparation of diborane from tetrabutylammonium borohydride pp 6966–6969 and benzyl chloride for application in organic synthesis

Mariappan Periasamy,\* G. P. Muthukumaragopal and Nalluri Sanjeevakumar



#### E/Z Isomerization of 3,3-disubstituted allylic thioethers

pp 6970-6973

Miroslav Havranek,\* Per Sauerberg, Pavel Kratina and Pavel Pihera

E/Z Isomerization of allylic thioethers accompanies hydrolysis of the ester group. The isomerization depends on the substitution of the allylic moiety. Analogous allylic ethers are stable.

### A convenient synthesis of 2,2'-bipyridine derivatives

pp 6974-6976

Alexander Gehre, Stephen P. Stanforth\* and Brian Tarbit

R<sup>2</sup> = 
$${}^{n}$$
Pr, 59%  
R<sup>2</sup> = Ph, 71%

(i) Cu(OAc)<sub>2</sub>, MeOH, CH<sub>2</sub>Cl<sub>2</sub> then Na<sub>2</sub>EDTA  
(ii) (2-pyridyl)C(NH<sub>2</sub>)=NNH<sub>2</sub>, 2,5-norbornadiene, EtOH, reflux

'one-pot' reaction

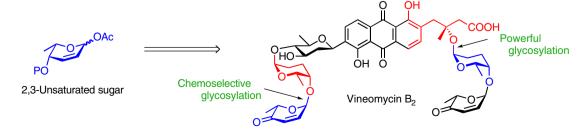
#### A convergent approach for the total synthesis of (-)-synrotolide diacetate

pp 6977-6981

P. Srihari,\* B. Prem Kumar, K. Subbarayudu and J. S. Yadav

# Toward the total synthesis of vineomycin $B_2$ : application of an efficient glycosylation methodology using pp 6982–6986 2,3-unsaturated sugars

Kaname Sasaki, Shuichi Matsumura and Kazunobu Toshima\*



## Regio- and stereoselective nucleophilic additions of amines, thiols and aminophosphanes to the C $\equiv$ C bond of P,P-diphenyl-P-(2-phenylethynyl)- $\lambda^5$ -phosphazenes

pp 6987-6991

Mateo Alajarín,\* Carmen López-Leonardo,\* Pilar Llamas-Lorente and Rosalía Raja

#### Biphenylthioureas as organocatalysts for electrochemical reductions

pp 6992-6995

Ana M. Costero,\* Gemma M. Rodríguez-Muñiz, Pablo Gaviña, Salvador Gil and Antonio Domenech

Thioureas act as organocatalysts in the electrochemical reduction of aromatic carboxylates.



#### Decomposition of 1-(ω-aminoalkanoyl)guanidines under alkaline conditions

pp 6996-6999

Albert Brennauer, Max Keller, Matthias Freund, Günther Bernhardt and Armin Buschauer\*

$$H_2N$$
 $NH_2$ 
 $t_{1/2} = 19 \text{ s}$ 
 $NH_2$ 
 $H_2N$ 
 $NH_2$ 
 $NH_2$ 
 $NH_2$ 
 $NH_2$ 
 $NH_2$ 

The degradation of various 1-( $\omega$ -aminoacyl)guanidines in alkaline solution was monitored using time resolved UV-spectroscopy.



## Chemoselective and efficient carbomethoxylation of the alcoholic chain of phenols by dimethyl carbonate pp 7000–7003 (DMC)

Roberta Bernini,\* Enrico Mincione, Fernanda Crisante, Maurizio Barontini, Giancarlo Fabrizi and Patrizia Gentili

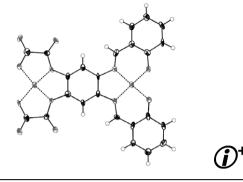
A simple and efficient procedure for the chemoselective carbomethoxylation of the aliphatic alcoholic group in phenolic compounds have been described using dimethyl carbonate (DMC), an environmental friendly chemical in the presence of DBU or sulfuric acid. Reactions proceeded in quantitative yields. A new hydroxtyrosol derivative, which showed an antioxidant activity similar to the hydroxytyrosol has been synthesized.

#### Dissymmetric binucleating ligands containing a salophen and bisoxamato cavities

pp 7004-7006

Benedikt Lassalle-Kaiser, Régis Guillot and Ally Aukauloo\*

The synthesis of a dissymmetric biscompartmental ligand holding a salophenic and a bisoxamate coordinating cavities has been prepared. This ligand can be used as a molecular platform to hold two metal ions and should behave as ligands to generate extended polymetallic complexes.



#### A new synthesis of combretastatins A-4 and AVE-8062A

Francisco Lara-Ochoa\* and Georgina Espinosa-Pérez

pp 7007-7010

## 2-tert-Butoxy-3-phenylcyclopropanone acetal, a stable precursor of lithiated 2-phenylcyclopropenone acetal

pp 7011-7014

Toshiro Sakaki and Ryoichi Ando\*

2-*tert*-Butoxy-3-phenylcyclopropanone acetal **8** was found to be a stable precursor of lithiated cyclopropenone acetal. Acetal **8** was used in the practical synthesis of cysteine proteinase inhibitors.

#### Vapor phase phototransposition of pyrazine deuterium labeling studies

pp 7015-7018

James W. Pavlik\* and Tharinee Vongnakorn

$$\begin{array}{c} D \\ N \\ N \end{array} \begin{array}{c} hv \\ D \\ N \end{array} \begin{array}{c} D \\ N \\ N \end{array} \begin{array}{c} D \\ N \\ N \end{array} \begin{array}{c} D_2 \\ N \\ N \end{array} \begin{array}{c} D \\ N \end{array} \begin{array}{c} D \\ N \\ N \end{array} \begin{array}{c} D \\ N \end{array} \begin{array}{c} D \\ N \\ N \end{array} \begin{array}{c} D \\$$

## Unexpectedly cyclized products by reaction of N-tosyliminoisoquinolinium ylides with trimethylsilylketene

pp 7019-7021

Mayumi Kobayashi, Kazuhiro Kondo and Toyohiko Aoyama\*

#### Adenine-based receptor for dicarboxylic acids

pp 7022-7026

Kumaresh Ghosh,\* Tanushree Sen and Roland Fröhlich

The adenine-based fluorescent receptor 1 was designed and synthesized for the selective recognition of dicarboxylic acids in  $CH_3CN$ . The recognition takes place through the Hoogsteen binding site of adenine with concomitant PET quenching of the anthracene moiety. The Hoogsteen cleft of the receptor is involved in carboxylic acid binding and is found to be selective for glutaric acid.

### Synthesis of saramycetic acid

pp 7027-7030

Christian Glover, Eleanor A. Merritt and Mark C. Bagley\*

The synthesis of saramycetic acid is reported from 2,2-diethoxyacetonitrile in nine steps and 11% overall yield. It incorporates 'gaseous  $H_2S$ -free' nitrile thionations and Hantzsch thiazole syntheses to give synthetic material that was readily elaborated to methyl saramycetate with spectroscopic properties in agreement with the literature data.

## Thiol-mediated radical cyclization: regioselective formation of indole-annulated sulfur heterocycles by pp 7031–7033 tandem cyclization

K. C. Majumdar,\* P. Debnath, S. Alam and P. K. Maji

$$R^{1}$$
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{2$ 



#### A rapid synthesis of 3-sulfenyl indoles using Selectfluor™

pp 7034-7037

J. S. Yadav,\* B. V. Subba Reddy and Y. Jayasudhan Reddy

Synthesis of tetrazole analogues of amino acids using Fmoc chemistry: isolation of amino free tetrazoles pp 7038–7041 and their incorporation into peptides

Vommina V. Sureshbabu,\* Rao Venkataramanarao, Shankar A. Naik and G. Chennakrishnareddy

Tetrazole analogues of amino acids have been prepared employing Fmoc chemistry and [2+3] cycloaddition. Tetrazole rings have also been incorporated into the side chains of Asp/Glu via a similar procedure and utilized for peptide synthesis.

Solid-phase synthesis of 3-alkyl-8-arylamino-1*H*-imidazo[4,5-*g*]quinazolin-2(3*H*)-thiones and 3-alkyl-8- pp 7042–7045 arylamino-1*H*-imidazo[4,5-*g*]quinazolin-2(3*H*)-ones

Yandong Zhang, Qiaosheng Zhou, Richard A. Houghten and Yongping Yu\*

CHO 
$$\frac{1}{4 \text{ steps}}$$
  $\frac{1}{1}$   $\frac{1}{1}$ 

Imidazoquinazolines were prepared by scaffold approach on solid phase in high yields.

#### Formation of acetaldehyde via photocarbonylation of methane with CO

pp 7046-7048

R. Kazimerczuk, T. Woźniewski, M. Borowiak, E. Zimnicka, K. Zwoliński, Z. Rogulski, A. Trzeciak, S. Ostrowski, J. Cz. Dobrowolski and W. Skupiński\*

$$CH_4 + CO \xrightarrow{UV \lambda < 290 \text{ nm}} CH_3CHO$$

Direct photocarbonylation of methane to give acetaldehyde occurred when a mixture of methane and CO dissolved in benzene was subjected to UV irradiation at  $\lambda$  < 290 nm. The reaction was accelerated by rhodium RhCl(CO)(PR<sub>3</sub>)<sub>2</sub> complexes, where R = alkyl, Ph or OPh.

## N-Dimethylphosphoryl-protection in the efficient synthesis of glucosamine-containing oligosaccharides pp 70 with alternate N-acyl substitutions

pp 7049-7052

You Yang and Biao Yu\*

The first synthesis of 1,5-diazacyclooctan-2-one and differentially protected 1,5-diazacyclooctanes Ronald G. Sherrill

pp 7053-7056

An efficient, high-yielding synthesis of 1,5-diazacyclooctan-2-one and subsequent elaboration to a differentially protected 1,5-diazacyclooctane is disclosed.

\*Corresponding author

(p) Supplementary data available via ScienceDirect

#### **COVER**

A trispiro-conjoined cyclopropane compound exists in solution in dynamic equilibrium with radical species owing to the reversible C–C bond cleavage, which is, in the solid state, thermally induced to give thermochromic properties.

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