#### Alkoxy radical accelerated β-fragmentation of alcohols and lactols

Tetrahedron Letters 42 (2001) 2047

James H. Rigby,\* Anne Payen and Namal Warshakoon

Department of Chemistry, Wayne State University, Detroit, MI 48202, USA

## A facile three-step synthesis of 1,2-amino alcohols using the Ellman homochiral *tert*-butylsulfinamide

Tetrahedron Letters 42 (2001) 2051

James C. Barrow,\* Phung L. Ngo, Janetta M. Pellicore, Harold G. Selnick and Philippe G. Nantermet Merck Research Laboratories, PO Box 4, West Point, PA 19486, USA

### Mild and efficient synthesis of thiocarbonates and thiocarbamates via a three-component coupling utilizing Cs<sub>2</sub>CO<sub>3</sub> and TBAI

Tetrahedron Letters 42 (2001) 2055

Ralph N. Salvatore, a Suma Sahaba and Kyung Woon Junga, b,\*

<sup>a</sup>Department of Chemistry, University of South Florida, 4202 E. Fowler Avenue, Tampa, FL 33620-5250, USA <sup>b</sup>Drug Discovery Program, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL 33612-9497, USA

## Evaluation of titanium alkoxides and aryloxides in the Kulinkovich cyclopropanation of carboxylic esters

Tetrahedron Letters 42 (2001) 2059

Jae Chol Lee, Moo Je Sung and Jin Kun Cha\*

Department of Chemistry, University of Alabama, Tuscaloosa, AL 35487, USA

Systematic evaluation of several titanium alkoxides and aryloxides was undertaken in the titanium-mediated cyclopropanation reactions of carboxylic esters. Chlorotitanium triisopropoxide and methyltitanium triisopropoxide were found to be the reagents of choice for the olefin exchange modification, whereas the original Kulinkovich process proved to be insensitive to the nature of titanium alkoxides and aryloxides.

$$\begin{array}{c} & \text{RCH}_2\text{CH}_2\text{MgX} \\ & \text{Ti}(O\text{-}i\text{-}Pr)_4 \\ & \text{or} \\ & \text{or} \\ & \text{R} \\ & \text{C-C}_5\text{H}_9\text{MgCl} \\ & \text{Ti}(O\text{-}i\text{-}Pr)_4 \end{array} \quad \begin{array}{c} \text{HO} \\ \text{R}^1 \\ \text{R} \end{array}$$

## Solid-phase Zincke route to pyridinium, tetrahydropyridine, and piperidine derivatives: vesamicol analogs

Tetrahedron Letters 42 (2001) 2063

Masahiro Eda<sup>a</sup> and Mark J. Kurth<sup>b,\*</sup>

<sup>a</sup>Welfide Corporation, 2-25-1, Shodai-Ohtani, Hirakata, Osaka 573-1153, Japan

<sup>b</sup>Department of Chemistry, University of California, One Shields Avenue, Davis, CA 95616-5295, USA

$$H_2N$$
 $R^2$ 
 $N$ 
 $N$ 
 $R^1$ 
 $N$ 
 $R^1$ 

## Synthesis of multivalent carbonate esters by divergent growth of branched carbamates

Tetrahedron Letters 42 (2001) 2069

David S. Jones,\* Martina E. Tedder, Christina A. Gamino, Jeffrey R. Hammaker and Huong-Thu Ton-Nu La Jolla Pharmaceutical Company, 6455 Nancy Ridge Drive, San Diego, CA 92121, USA

$$R-O \longrightarrow NO_2 \longrightarrow R-O \longrightarrow NO_2 \longrightarrow R-O \longrightarrow NO_2 \longrightarrow NO_$$

### Solid-phase synthesis of amino amides and peptide amides with unnatural side chains

Tetrahedron Letters 42 (2001) 2073

William L. Scott, a,\* Francisca Delgado, Karen Lobb, Richard S. Pottorf and Martin J. O'Donnellb,\*

<sup>a</sup>Chemistry Research Technologies, Lilly Research Laboratories, Indianapolis, IN 46285, USA

<sup>b</sup>Department of Chemistry, Indiana University-Purdue University at Indianapolis, Indianapolis, IN 46202, USA

# An improved synthesis of $\alpha$ -AZA, $\alpha$ -AZP and $\alpha$ -AZG, the precursors to clinical markers of tissue hypoxia

Tetrahedron Letters 42 (2001) 2077

Piyush Kumar, Leonard I. Wiebe,\* Elena Atrazheva and Manju Tandon Faculty of Pharmacy & Pharmaceutical Sciences, 3118 Dent-Pharm Building, University of Alberta, Edmonton, Alberta, Canada T6G 2N8

An improved procedure to synthesize AZA, AZP and AZG, the precursors to clinically useful markers of a variety of hypoxia disorders, including solid tumors and cancer, is described.

## Controlling the reactive state through cation binding: photochemistry of enones within zeolites

Tetrahedron Letters 42 (2001) 2079

Sundararajan Uppili,<sup>a</sup> Shinsuke Takagi,<sup>a</sup> R. B. Sunoj,<sup>b</sup> P. Lakshminarasimhan,<sup>a</sup> J. Chandrasekhar<sup>b,\*</sup> and V. Ramamurthy<sup>a,\*</sup>

<sup>a</sup>Department of Chemistry, Tulane University, New Orleans, LA 70118, USA

<sup>b</sup>Department of Organic Chemistry, Indian Institute of Science, Bangalore 560012, India

(Free, 
$$T_2\pi\pi^*$$
) (Li<sup>+</sup> bound,  $T_1\pi\pi^*$ )

## Asparagine surrogates for the assembly of N-linked glycopeptide mimetics by chemoselective ligation

Tetrahedron Letters 42 (2001) 2085

Stéphane Peluso and Barbara Imperiali\*

Department of Chemistry, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139, USA

Alanine- $\beta$ -hydroxylamine (A $\beta$ x) and alanine- $\beta$ -hydroxide (A $\beta$ z) have been developed as asparagine surrogates for the assembly of *N*-linked glycopeptide mimetics by chemoselective ligation.

### Aromatic iodination in aqueous solution. A new lease of life for aqueous potassium dichloroiodate

Tetrahedron Letters 42 (2001) 2089

Simon J. Garden,\* José C. Torres, Simone C. de Souza Melo, Alexandre S. Lima, Angelo C. Pinto and Edson L. S. Lima\*

Instituto de Química, Departamento de Química Orgânica, Universidade Federal do Rio de Janeiro, Ilha do Fundão, Rio de Janeiro, CEP 21945-970, Brazil

**Example Products:** 

## A general route to pyridine-modified salicylaldehydes via Suzuki coupling

Tetrahedron Letters 42 (2001) 2093

Gregory A. Morris and SonBinh T. Nguyen\*

Department of Chemistry and Institute for Environmental Catalysis, Northwestern University, Evanston, IL 60208, USA

# The reaction of o-amino aryl carboxylic acids with Grignard reagents. The unusual effect of the N-protecting group on aryl ketone formation

Tetrahedron Letters 42 (2001) 2097

Puwen Zhang,\* Eugene A. Terefenko and Joseph Slavin Medicinal Chemistry I, Chemical Sciences, Wyeth-Ayerst Research, Radnor, PA 19087, USA

The direct addition of Grignard reagents to N-protected anthranilic acids unexpectectly formed aryl ketones. The formation of ketones appeared to be mediated by the Boc, pivaloyl, and trifluoroacetyl protecting groups.

### A new facile synthesis of 2-aminothiazole-5-carboxylates

Tetrahedron Letters 42 (2001) 2101

Rulin Zhao,\* Stacey Gove, Joseph E. Sundeen and Bang-Chi Chen

Discovery Chemistry, Bristol-Myers Squibb Pharmaceutical Research Institute, Princeton, NJ 08543, USA

2-Aminothiazole-5-carboxylates were prepared in 60-98% overall yields in two steps. The new one-pot method involves reaction of  $\beta$ -ethoxyacrylate with NBS followed by cyclization of the resulting  $\alpha$ -bromo- $\alpha$ -formylacetate hemiacetal with thioureas.

# Reactivity of oxonaphtoporphyrins. Efficient $\beta$ -functionalization of the porphyrin ring on reaction with nitrogen or carbon nucleophiles

Tetrahedron Letters 42 (2001) 2103

Sébastien Richeter, Christophe Jeandon, Romain Ruppert\* and Henry J. Callot\*

Université Louis Pasteur, Faculté de Chimie, 1 rue Blaise Pascal, 67000 Strasbourg, France

## Synthèse de nouveaux hétérocycles à partir de l'oxyde de pipériténone

Tetrahedron Letters 42 (2001) 2107

Saïd Ghoulami, Abdelkader Il Idrissi\* et Souad Fkih-Tetouani

Laboratoire de Chimie des Plantes et de Synthèse Organique et Bioorganique, Département de Chimie, Faculté des Sciences B.P. 1014 Rabat RP, 10000, Morocco

The chemical reaction of piperitenone oxide, the main compound of the *Mentha suaveolens* essential oil, with hydroxylamine and hydrazine was studied.

## Asymmetric synthesis of quaternary tetrahydroisoquinoline-3-carboxylic acid derivatives

Tetrahedron Letters 42 (2001) 2111

Valérie Alezra, Martine Bonin,\* Laurent Micouin\* and Henri-Philippe Husson

Laboratoire de Chimie Thérapeutique associé au CNRS et à l'Université René Descartes, Faculté des Sciences Pharmaceutiques et Biologiques, 4 Avenue de l'Observatoire, 75270 Paris cedex 06, France

A new route towards the asymmetric preparation of quaternary tetrahydroisoquinoline-3-carboxylic acid derivatives has been developed. The key step involves an intramolecular Pictet-Spengler reaction of an oxazolidino ester.

### Efficient one-step synthesis of 3-amino-6-arylpyridazines

Tetrahedron Letters 42 (2001) 2115

Sébastien Guery, Isabelle Parrot, Yveline Rival\* and Camille G. Wermuth

Laboratoire de Pharmacochimie de la Communication Cellulaire, UMR 7081 CNRS/ULP, Université Louis Pasteur, Faculté de Pharmacie, 74 route du Rhin, 67401 Illkirch Cedex, France

A Suzuki cross-coupling reaction of commercially available chloropyridazine allows a direct and rapid access to 3-amino-6-arylpyridazines with good yields.

$$CI \xrightarrow{N-N} NH_2 + R \xrightarrow{B(OH)_2} B(OH)_2 \xrightarrow{Pd(PPh_3)_4 \\ Na_2CO_3 \ 2M} R \xrightarrow{N-N} NH_2$$

## Direct diastereoselective synthesis of $(\pm)$ -cis- and $(\pm)$ -trans-4-methylpipecolic acid and derivatives

Tetrahedron Letters 42 (2001) 2119

Janine Cossy\* and Damien Belotti

Laboratoire de Chimie Organique associé au CNRS, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France

cis- or trans-4-Methylpipecolic acid and esters derivatives can be obtained by addition of  $CO_2$  or alkyl chloroformates to  $\alpha$ -lithiated N-Boc 4-methylpiperidine.

#### Asymmetric total synthesis of natural diheteropeptin

Tetrahedron Letters 42 (2001) 2121

Philippe Durand,\* Philippe Peralba, Vincent Derain, Sylviane Komesli and Patrice Renaut

Laboratoires Fournier S.A., 50 route de Dijon, 21121 Daix, France

### Ring-contracted artemisinin derivatives: stereoselective reaction of anhydrodihydroartemisinin towards halogenating reagents

Tetrahedron Letters 42 (2001) 2125

Fabienne Grellepois, Danièle Bonnet-Delpon\* and Jean-Pierre Bégué

BIOCIS, Unité associée au CNRS, Faculté de Pharmacie, Rue J. B. Clément, 92296 Châtenay-Malabry, France

# Conformationally restricted glutamic acid derivatives: asymmetric synthesis of 4-substituted

Tetrahedron Letters 42 (2001) 2129

### 4,5-dihydro-3(2H)-pyridazinones

Carlos Alvarez-Ibarra,\* Aurelio G. Csákÿ, Cristina Gómez de la Oliva and Eliazar Rodríguez Departamento de Química Orgánica I, Facultad de Química, Universidad Complutense, 28040 Madrid, Spain

# Fluorinated ketene dithioacetals. Part 7: New β-halo perfluorodithiocrotonic acid esters from perfluoroketene dithioacetals

Tetrahedron Letters 42 (2001) 2133

J.-P. Bouillon,<sup>a</sup> Yu. G. Shermolovich<sup>b,\*</sup> and C. Portella<sup>a,\*</sup>

<sup>a</sup>Laboratoire 'Réactions Sélectives et Applications', Associé au CNRS (UMR 6519), Université de Reims, Faculté des Sciences, B.P. 1039, 51687 Reims Cedex 2, France

<sup>b</sup>Institute of Organic Chemistry, NAS of Ukraine, Murmanskaya str. 5, 02094 Kiev, Ukraine

$$C_2F_5$$
— $CF$ 
 $SEt$ 
 $MgX_2, \Delta$ 
 $SEt$ 
 $X$ 
 $SEt$ 
 $S$ 

## Reduction of ketones to alcohols using a decaborane/pyrrolidine/cerium(III) chloride system in methanol

Tetrahedron Letters 42 (2001) 2137

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Jong Woo Bae, Seung Hwan Lee, Yeon Joo Jung, Choon-Ock Maing Yoon and Cheol Min Yoon\*

Department of Life Science & Biotechnology, Graduate School of Biotechnology, Korea University, Seoul, South Korea

Decaborane was found to be an effective agent for the chemoselective reduction of ketones to alcohols in the presence of pyrrolidine and cerium(III) chloride heptahydrate in methanol.

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### Diastereo-recognizable reaction between Cr(VI) reagents and tertiary α-hydroxy epoxide

Tetrahedron Letters 42 (2001) 2141

Yong Qiang Tu,<sup>a,\*</sup> Shi Kuo Ren,<sup>a</sup> Yan Xing Jia,<sup>a</sup> Bao Min Wang,<sup>a</sup> Albert S. C. Chan<sup>b</sup> and Michael C. K. Choi<sup>b</sup>

<sup>a</sup>Department of Chemistry, Lanzhou University, Lanzhou 730000, PR China

<sup>b</sup>Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hong Kong Cr(VI) reagents containing pyridine were found to be able to oxidize diastereo-recognizably tertiary α-hydroxy epoxides, and this recognizability proved to be dependent upon the substitution of the pyridine moiety.

# Synthesis of methyl 3-amino-2-hydroxy-4-phenylbutanoates, important core intermediates for peptide mimics possessing biological activities

Tetrahedron Letters 42 (2001) 2145

Hisao Nemoto,\* Rujian Ma, Xinming Li, Ichiro Suzuki and Masayuki Shibuya

Faculty of Pharmaceutical Sciences, The University of Tokushima, 1-78, Sho-machi, Tokushima 770-8505, Japan

$$R^1$$
 NH +  $CN$  OSiR<sub>3</sub> + CH<sub>3</sub>OH  $NH$  CO<sub>2</sub>CH<sub>3</sub> OSiR<sub>3</sub>  $R^1$  NH  $CO_2$ CH<sub>3</sub>  $R^1$  NH  $CO_2$ CH<sub>3</sub>  $R^1$  NH  $CO_2$ CH<sub>3</sub>  $R^1$  NH  $R^1$  N

### Ruthenium complexes catalyzed hydrosilylation of esters: a facile transformation of esters to alkyl silyl acetals and aldehydes

Tetrahedron Letters 42 (2001) 2149

Mamoru Igarashi, Ryo Mizuno and Takamasa Fuchikami\*

Sagami Chemical Research Center, 4-4-1 Nishi-Ohnuma, Sagamihara, Kanagawa 229-0012, Japan

Hydrosilylation of esters with hydrosilanes takes place in the presence of ruthenium catalysts to afford the corresponding alkyl silyl acetals in moderate to good yields.

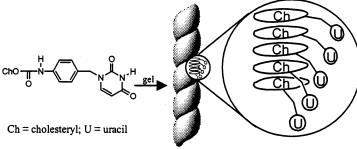
# Organogels of a nucleobase-bearing gelator and the remarkable effects of nucleoside derivatives and a porphyrin derivative on the gel stability

Tetrahedron Letters 42 (2001) 2153

Erwin Snip,<sup>a</sup> Seiji Shinkai<sup>a,\*</sup> and David N. Reinhoudt<sup>b</sup>

<sup>a</sup>Chemotransfiguration Project, Japan Science and Technology Corporation (JST), 2432 Aikawa, Kurume, Fukuoka 839-0861, Japan

<sup>b</sup>Chemotransfiguration Project, Faculty of Chemical Technology, University of Twente, Enschede, The Netherlands



### Facile and selective formation of a linear-triquinane skeleton by a rationally designed round trip radical reaction

Tetrahedron Letters 42 (2001) 2157

Kiyosei Takasu,\* Soumen Maiti, Akira Katsumata and Masataka Ihara\*

Department of Organic Chemistry, Graduate School of Pharmaceutical Sciences, Tohoku University, Aobayama, Sendai 980-8578, Japan

## A novel ZrO<sub>2</sub>-SO<sub>4</sub><sup>2-</sup> supported palladium catalyst for syntheses of disubstituted ureas from amines by oxidative carbonylation

Tetrahedron Letters 42 (2001) 2161

Feng Shi, Youquan Deng,\* Tianlong SiMa and Hongzhou Yang

State Key Laboratory for Oxo Synthesis and Selective Oxidation and The Laboratory of Environmental and Applied Catalysis, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

The syntheses of symmetric dialkylureas by oxidative carbonylation of a series of aliphatic amines over a novel  $ZrO_2-SO_4^{2-}$  supported Pd catalyst could be performed with excellent conversion and yields.

$$RNH_2 + CO + O_2 \xrightarrow{Pd/ZrO_2-SO_4^{2-}} \qquad \begin{array}{c} O \\ RNHCNHR \\ t=1 \text{ hour} \end{array}$$

# Radical [3+2]-cycloaddition reaction with alkenes using dimethyl 2-(iodomethyl)cyclopropane-1,1-dicarboxylate as a new homoallyl radical precursor

Tetrahedron Letters 42 (2001) 2165

Osamu Kitagawa, Hiroki Fujiwara and Takeo Taguchi\*

Tokyo University of Pharmacy and Life Science, 1432-1 Horinouchi, Hachioji, Tokyo 192-0392, Japan

$$MeO_2C \xrightarrow{CO_2Me} + \begin{bmatrix} R^1 & Et_3B, O_2 & MeO_2C & CO_2Me \\ Yb(OTf)_3 & & & & \\ R^2 & & & & \\ R^1 & & & & \\ R^1 & & & & \\ R^1 & & & & \\ R^2 & & \\$$

#### Hydrosilation of polyfluoroolefin in dense carbon dioxide

Tetrahedron Letters 42 (2001) 2169

Liang-Nian He, Jun-Chul Choi and Toshiyasu Sakakura\*

National Institute of Materials and Chemical Research, 1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan

# Reaction of an electrogenerated 'iminium cation pool' with organometallic reagents. Direct oxidative $\alpha$ -alkylation and -arvlation of amine derivatives

Tetrahedron Letters 42 (2001) 2173

Seiji Suga, Masayuki Okajima and Jun-ichi Yoshida\* Department of Synthetic Chemistry & Biological Chemistry, Graduate School of Engineering, Kyoto University, Yoshida Honmachi, Sakyo, Kyoto 606-8501, Japan

An efficient direct oxidative  $\alpha$ -alkylation and -arylation of carbamates based on the 'cation pool' method has been developed.

## Novel synthesis of liquid crystalline compounds of 5-substituted 2-(4-alkylphenyl)pyridines

Tetrahedron Letters 42 (2001) 2177

Win-Long Chia, a,\* Shih-Wei Shen and Hong-Cheu Linb

<sup>a</sup>Department of Chemistry, Fu Jen Catholic University, Taipei, Taiwan, ROC 242 <sup>b</sup>Institute of Chemistry, Academia Sinica, Nankang, Taipei, Taiwan, ROC 115

$$R^{\frac{1}{2}} \longrightarrow MgBr + \frac{R^{2}}{N} \longrightarrow \frac{THF/N_{2}}{Cl} \longrightarrow \frac{THF/N_{2}}{N} \longrightarrow \frac{IOI}{Toluene} \qquad R^{\frac{1}{2}} \longrightarrow \frac{R^{2}}{N} \longrightarrow \frac{R^{2}}$$

#### A new solid-supported iterative divergent/convergent strategy for the synthesis of dendrimers

Tetrahedron Letters 42 (2001) 2181

Chunyan Chi, Jishan Wu, Xianhong Wang,\* Xiaojiang Zhao, Ji Li and Fosong Wang
State Key Laboratory of Polymer Physics and Chemistry, Open Laboratory of Polymer Chemistry, Changchun Institute of
Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, PR China

#### Aziridination of $\alpha,\beta$ -unsaturated phosphonic esters

Tetrahedron Letters 42 (2001) 2185

Antonello Fazio, a M. Antonietta Loretob, and Paolo A. Tardella

<sup>a</sup>Dipartimento di Chimica, Università 'La Sapienza', P. le Aldo Moro 5, I-00185 Rome, Italy

<sup>b</sup>Centro C.N.R. per lo Studio della Chimica delle Sostanze Organiche Naturali, c/o Dipartimento di Chimica, Università 'La Sapienza', P. le A. Moro 5, I-00185 Rome, Italy

#### A Dde-based carboxy linker for solid-phase synthesis

Siri Ram Chhabra, Harendra Parekh, Azra N. Khan, Barrie W. Bycroft and Barrie Kellam\*

School of Pharmaceutical Sciences, University of Nottingham, University Park, Nottingham NG7 2RD, UK

A Dde-based carboxy linker 1 has been developed and its stability to standard acid and base conditions employed for the construction of peptides by Fmoc/tBu SPPS has been demonstrated.

Tetrahedron Letters 42 (2001) 2189

## A concise synthesis of homochiral *trans*-perhydroazulenes and *trans*-hydrindanes

Tetrahedron Letters 42 (2001) 2193

D. Neville Jones, a,\* Mark W. J. Maybury, Steven Swallow, Nicholas C. O. Tomkinson and William W. Woodb

<sup>a</sup>Department of Chemistry, University of Sheffield, Sheffield S3 7HF, UK

<sup>b</sup>BASF Corporation, Princeton Agro Research Centre, PO Box 400, Princeton, NJ 08543-0400, USA

### Synthesis of a benzotriazole phosphoramidite for attachment of oligonucleotides to metal surfaces

Tetrahedron Letters 42 (2001) 2197

Rachel Brown, W. Ewen Smith and Duncan Graham\* Department of Pure and Applied Chemistry, University of Strathclyde, 295 Cathedral Street, Glasgow G1 1XL, UK

Synthesis of a monomethoxytritylated benzotriazole phosphoramidite and subsequent solid-phase oligonucleotide synthesis is described. Surface enhanced Raman scattering for the modified oligonucleotides is also reported.

#### Solid phase synthesis of benzothiazolyl compounds

Tetrahedron Letters 42 (2001) 2201

Spyros Mourtas, Dimitrios Gatos and Kleomenis Barlos\* Department of Chemistry, University of Patras, Patras, Greece

Acylation of resin-bound 2-aminobenzenethiol, followed by mild acidic treatment, afforded 2-alkyl- and aryl-benzothiazoles in high yield and purity.

$$R = alkyl, aryl$$
 $R = alkyl, aryl$ 
 $R = alkyl, aryl$ 

## Selenium dioxide *E*-methyl oxidation of suitably protected geranyl derivatives—synthesis of farnesyl mimics

Tetrahedron Letters 42 (2001) 2205

Ian J. S. Fairlamb, Julia M. Dickinson\* and Mathew Pegg

Department of Chemistry and Materials, John Dalton Building, Manchester Metropolitan University, Chester Street, Manchester M20 5GD, UK

$$R = OR', SO_2R'' \text{ or } SR''$$

$$R = OR', SO_2R'' \text{ or } SR''$$

$$R = OR' + R$$

$$R' = R'$$

$$R = R'$$

$$R' = R'$$

### A general approach to the galanthamine ring system

Philip J. Parsons,<sup>a,\*</sup> Mark D. Charles,<sup>a</sup> Darren M. Harvey,<sup>a</sup> L. Ravi Sumoreeah,<sup>a</sup> Adrian Shell,<sup>a</sup> Grant Spoors,<sup>a</sup>

Adrian L. Gill<sup>b</sup> and Steve Smith<sup>c</sup>

<sup>a</sup>Sussex University, CPES, Falmer, Brighton,

East Sussex BN1 9QJ, UK

<sup>b</sup>Roche Discovery Welwyn, 40 Broadwater Road, Welwyn Garden City, Hertfordshire AL7 3AY, UK

<sup>c</sup>Glaxo Wellcome Research and Development, Medicines Research Centre, Gunnels Wood Road, Stevenage, Hertfordshire SG1 2NY, UK Tetrahedron Letters 42 (2001) 2209

### Synthesis of 2,4,6-trisubstituted tetrahydropyrans via 6-exo selenoetherification of unsaturated alcohols

Michelangelo Gruttadauria,\* Carmela Aprile, Serena Riela and Renato Noto

Dipartimento di Chimica Organica, 'E. Paternò', Viale delle Scienze, Parco d'Orleans II, 90128 Palermo, Italy

Stereoselectivity, regioselectivity and yields in the 6-exo selenoetherification of four unsaturated diols were found to depend on several factors such as the stereochemistry of the diols, the nature of the R group, the nature of the counter anion of the PhSe<sup>+</sup> species and the presence of silica gel.

Tetrahedron Letters 42 (2001) 2213

OH OH

OH OH

R

OH OH

R

$$R = C_4H_9$$
;  $CH_2OBn$ 

OH

OH

SePh

Ph<sup>1</sup>

OH

SePh

SePh

## 2-Pyridylphosphonates: a new type of modification for nucleotide analogues

Tommy Johansson,<sup>a</sup> Annika Kers<sup>a</sup> and Jacek Stawinski<sup>a,b,\*</sup>

<sup>a</sup>Department of Organic Chemistry, Arrhenius Laboratory, Stockholm University, S-106 91 Stockholm, Sweden

<sup>b</sup>Institute of Bioorganic Chemistry, Polish Academy of Sciences, Noskowskiego 12/14, 61-704 Poznan, Poland

A simple and efficient protocol for the preparation of a new type of oligonucleotide analogue bearing a 2-pyridylphosphonate internucleotide linkage was developed. Tetrahedron Letters 42 (2001) 2217

## Block synthesis of oligosaccharides. Part 1: Preparation of furanosyl-1-thiopyranosides

Tetrahedron Letters 42 (2001) 2221

Jadwiga Bogusiak<sup>a,\*</sup> and Wiesław Szeja<sup>b</sup>

<sup>a</sup>Faculty of Pharmacy, Silesian Medical School, PL 41-200 Sosnowiec, Poland

<sup>b</sup>Department of Chemistry, Silesian Technical University, PL 44-100 Gliwice, Poland

# Cooperative assembly of a double-stranded hydrogen-bonded porphyrin zip

Tetrahedron Letters 42 (2001) 2225

M. John Plater, a.\* Stuart Aiken and Grant Bourhillb Department of Chemistry, University of Aberdeen, Meston Walk, Aberdeen AB24 3UE, UK

b Defence Evaluation and Research Agency, St Andrews Road, Malvern, Worcester WR14 3PS, UK

Stereospecific synthesis of 5-phospho- $\alpha$ -D-arabinosyl-C-phosphonophosphate (pACpp): a stable analogue of the putative mycobacterial cell wall biosynthetic intermediate 5-phospho-D-arabinosyl pyrophosphate (pApp)

Tetrahedron Letters 42 (2001) 2231

Philip McGurk, a Grace X. Chang, Todd L. Lowary, Michael McNeil and Robert A. Fielda,\*

<sup>a</sup>School of Chemistry, University of St Andrews, St Andrews KY16 9ST, UK

<sup>b</sup>Department of Chemistry, The Ohio State University, Columbus, OH 43210-1173, USA

<sup>c</sup>Department of Microbiology, Colorado State University, Fort Collins, CO 80523, USA

$$\begin{array}{c} \text{HO} \\ \text{OH} \\ \text{OH} \\ \text{NH}_2 \\ \end{array} \\ \begin{array}{c} \text{O} \\ \text{O} \\ \text{O} \\ \text{O} \\ \end{array} \\ \begin{array}{c} \text{O} \\ \text{O} \\ \text{O} \\ \text{O} \\ \text{O} \\ \end{array} \\ \begin{array}{c} \text{O} \\ \text{O}$$

**D-Glucosamine** 

pACpp

Tandem [4+2] cycloaddition versus electrocyclisation reactions of 1-aryl-2-phenyl-5-alkyl/aryl-1,3-diazapenta-1,3,4-trienes in aza-

Tetrahedron Letters 42 (2001) 2235

Wittig reactions of N'-aryl-N-(triphenylphosphoranlidene) benzenecarboximidamides with ketenes

S. Jayakumar, Vipan Kumar and Mohinder P. Mahajan\*

Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar 143005, Punjab, India

# Guidelines for stereocontrolled Diels-Alder reactions of chiral methylidene piperazine-2,5-diones with cyclopentadiene

Tetrahedron Letters 42 (2001) 2239

Brendan A. Burkett<sup>a</sup> and Christina L. L. Chai<sup>b,\*</sup>

<sup>a</sup>Research School of Chemistry, Australian National University, Canberra 0200, ACT, Australia

<sup>b</sup>Department of Chemistry, Australian National University, Canberra 0200, ACT, Australia

The reactivities and stereoselectivities of Diels-Alder cycloaddition reactions of methylidene piperazine-2,5-diones can be manipulated by appropriate choice of N- and  $\alpha$ -carbon substituents.