

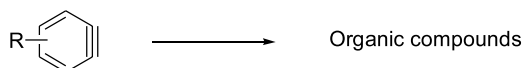
## Graphical abstracts

### The use of arynes in organic synthesis

Hélène Pellissier\* and Maurice Santelli

Laboratoire de Synthèse Organique UMR no. 6009, Faculté des Sciences de Saint-Jérôme, Avenue Esc. Normandie-Niemen, 13397 Marseille, Cedex 20, France

This review is an update of arynes chemistry and covers the literature from 1990 to 2002. Unlike its predecessor, this review includes the transition metal-catalyzed reactions of arynes. The importance of arynes for the synthesis of natural products particularly alkaloids is well illustrated.



*Tetrahedron* 59 (2003) 701

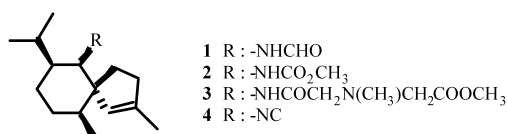
### New spirocyclic sesquiterpenes from the marine sponge

#### *Geodia exigua*

Mylene M. Uy,<sup>a</sup> Shinji Ohta,<sup>b,\*</sup> Mihoko Yanai,<sup>b</sup> Emi Ohta,<sup>b</sup> Toshifumi Hirata<sup>a</sup> and Susumu Ikegami<sup>b,\*</sup>

<sup>a</sup>Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University, 1-3-1 Kagamiyama, Higashi-Hiroshima 739-8526, Japan

<sup>b</sup>Instrument Center for Chemical Analysis, Hiroshima University, 1-3-1 Kagamiyama, Higashi-Hiroshima 739-8526, Japan

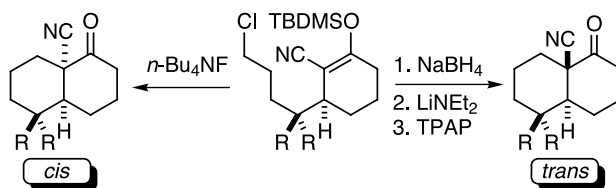


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### $\beta$ -Siloxy unsaturated nitriles: stereodivergent cyclizations to *cis*- and *trans*-decalins

Fraser F. Fleming,\* Brian C. Shook, Tao Jiang and Omar W. Steward

Department of Chemistry and Biochemistry, Duquesne University, Mellon Hall, Pittsburgh, PA 15282-1530, USA

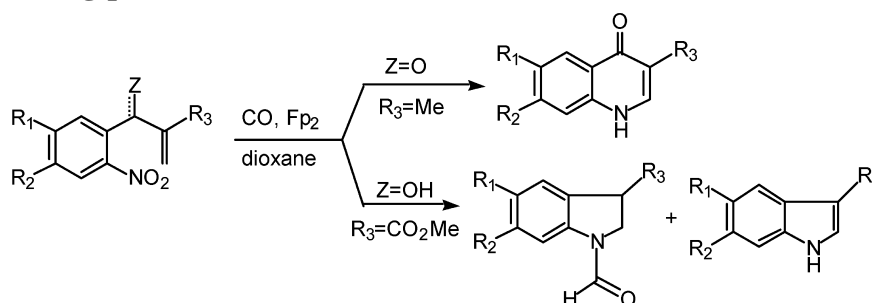


*Tetrahedron* 59 (2003) 737

### Unexpected products from the Fp<sub>2</sub>-catalyzed reductive cyclization of nitroaromatics bearing pendant unsaturation

David K. O'Dell and Kenneth M. Nicholas\*

Department of Chemistry and Biochemistry, University of Oklahoma, 620 Parrington Oval, Norman, OK 73019, USA



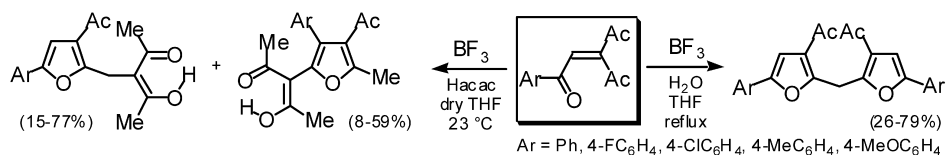
*Tetrahedron* 59 (2003) 747

## Synthesis of polyfunctionalized furans from 3-acetyl-1-aryl-2-pentene-1,4-diones

Satoaki Onitsuka and Hiroshi Nishino\*

Department of Chemistry, Faculty of Science, Kumamoto University, Kurokami 2-39-1, Kumamoto 860-8555, Japan

Tetrahedron 59 (2003) 755



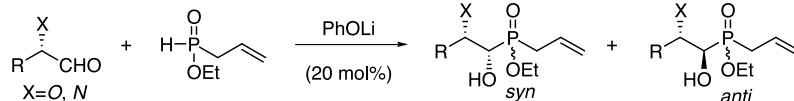
## Diastereoselective synthesis of $\beta$ -substituted $\alpha$ -hydroxyphosphinates through hydrophosphinylation of $\alpha$ -heteroatom-substituted aldehydes

Takehiro Yamagishi,<sup>a</sup> Takanori Kusano,<sup>a</sup> Babak Kaboudin,<sup>b</sup> Tutomu Yokomatsu,<sup>a,\*</sup> Chiseko Sakuma<sup>a</sup> and Shiroshi Shibuya<sup>a</sup>

<sup>a</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Science, 1432-1 Horinouchi, Hachioji, Tokyo 192-0392, Japan

<sup>b</sup>Department of Chemistry, Institute for Advanced Studies in Basic Sciences, Gava Zang, Zanjan 45195-159, Iran

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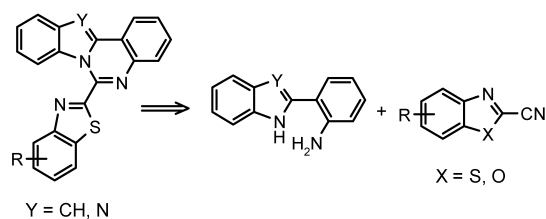
## Novel 6-substituted benzothiazol-2-yl indolo[1,2-c]quinazolines and benzimidazo[1,2-c]quinazolines

Stéphane Frère,<sup>a</sup> Valérie Thiéry,<sup>a,\*</sup> Christian Bailly<sup>b</sup> and Thierry Besson<sup>a,\*</sup>

<sup>a</sup>LGPC UPRES EA3169, Groupe de Chimie Organique, UFR Sciences Fondamentales et Sciences pour l'Ingénieur, Université de la Rochelle, Bâtiment Marie-Curie, F-17042 La Rochelle Cedex 1, France

<sup>b</sup>INSERM U-524, Institut de Recherches sur le Cancer, 1 Place de Verdun, Lille 59045, France

The synthetic route to and a preliminary biological evaluation of novel indolo[1,2-c]quinazolines and benzimidazo[1,2-c]quinazolines are described.



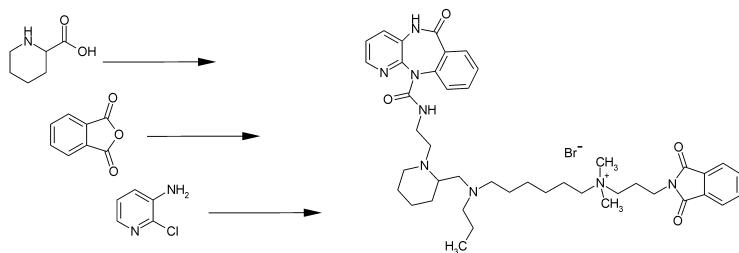
Tetrahedron 59 (2003) 773

## A new synthetic route to compounds of the AFDX-type with affinity to muscarinic M<sub>2</sub>-receptor

Ulrike Holzgrabe\* and Eberhard Heller

Institute of Pharmacy and Food Chemistry, University of Würzburg, Am Hubland, D-97074 Würzburg, Germany

Tetrahedron 59 (2003) 781

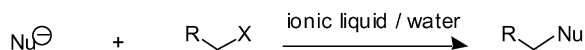


## Ionic liquid as an efficient promoting medium for two-phase nucleophilic displacement reactions

*Tetrahedron 59 (2003) 789*

Nuno M. T. Lourenço and Carlos A. M. Afonso\*

*REQUIMTE/CQFB, Departamento de Química, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal*



$\text{M}^+ \text{Nu}^- = \text{ArONa, Schiff base, KCN, KI, NaN}_3$

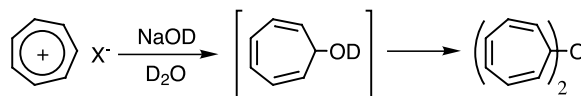
## Unambiguous detection of 2,4,6-cycloheptatrien-1-ol by NMR spectroscopy and trapping with phenyltriazolinedione

*Tetrahedron 59 (2003) 795*

Mitsunori Oda,\* Kazuya Okawa, Hitoshi Tsuru and Shigeyasu Kuroda

*Department of Applied Chemistry, Faculty of Engineering, Toyama University, Gofuku 3190, Toyama 930-8555, Japan*

By NMR spectroscopy the title alcohol was detected as a transient intermediate in the reaction between the tropylium cation and sodium deuteroxide in  $\text{D}_2\text{O}$  leading to ditropylether, and was also detected in acid-catalyzed disproportionation of ditropylether.



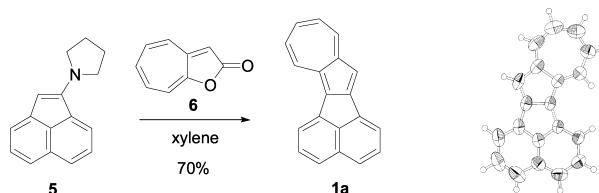
## Synthesis, molecular structure, and chemical reactivity of azuleno[1,2-a]acenaphthylene

*Tetrahedron 59 (2003) 801*

Masaru Mouri, Shigeyasu Kuroda,\* Mitsunori Oda, Ryuta Miyatake and Mayumi Kyogoku

*Department of Applied Chemistry, Faculty of Engineering, Toyama University, Gofuku 3190, Toyama 930-8555, Japan*

Azulen[1,2-*a*]acenaphthylene was synthesized from 1-pyrrolidinoacenaphthylene and 2*H*-cyclohepta[*b*]furan-2-one.

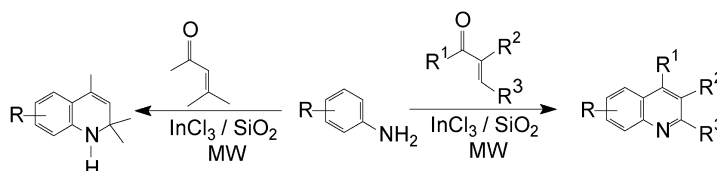


## Efficient microwave-assisted synthesis of quinolines and dihydroquinolines under solvent-free conditions

*Tetrahedron 59 (2003) 813*

Brindaban C. Ranu,\* Alakananda Hajra, Suvendu S. Dey and Umasish Jana

*Department of Organic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Calcutta 700 032, India*

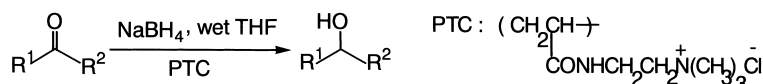


## Quaternized amino functionalized cross-linked polyacrylamide as a new solid-liquid phase transfer catalyst in reduction of carbonyl compounds with NaBH<sub>4</sub>

Bahman Tamami\* and Hossein Mahdavi

Department of Chemistry, Shiraz University, Adabiat av., Shiraz 71454, Iran

Tetrahedron 59 (2003) 821

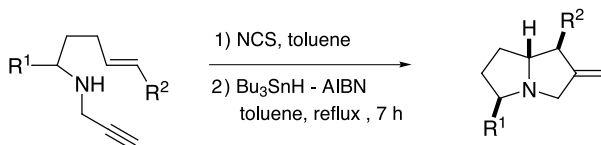


## Stereoselective synthesis of 2-methylenepyrrolizidines by tandem cyclization of *N*-propargylaminyl radicals

Hikaru Hasegawa, Hisanori Senboku, Yoshinori Kajizuka, Kazuhiko Orito and Masao Tokuda\*

Laboratory of Organic Synthesis, Division of Molecular Chemistry, Graduate School of Engineering, Hokkaido University, Sapporo 060-8628, Japan

Tetrahedron 59 (2003) 827



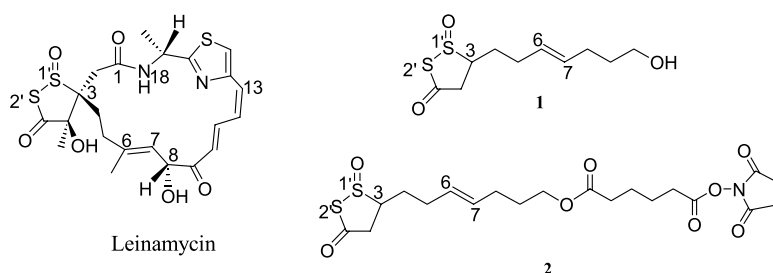
## Synthesis of 5-(7-hydroxyhept-3-enyl)-1,2-dithiolan-3-one 1-oxide, a core functionality of antibiotic leinamycin

Alex H. F. Lee,<sup>a,b</sup> Albert S. C. Chan<sup>a,b</sup> and Tianhu Li<sup>a,b,\*</sup>

<sup>a</sup>Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, People's Republic of China

<sup>b</sup>Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, People's Republic of China

Tetrahedron 59 (2003) 833

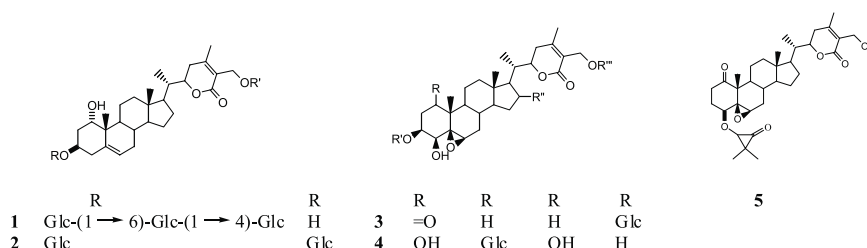


## Cyclooxygenase-2 enzyme inhibitory withanolides from *Withania somnifera* leaves

Bolledulla Jayaprakasam and Muraleedharan G. Nair\*

Bioactive Natural Products and Phytochemicals, Department of Horticulture and National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI 48824, USA

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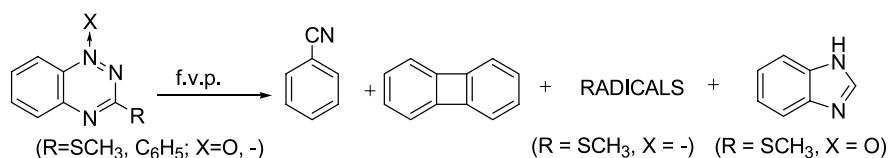
### Flash vacuum pyrolysis (F.V.P.) of 1,2,4-benzotriazine derivatives

Tetrahedron 59 (2003) 851

Zsuzsanna Riedl,<sup>a</sup> György Hajós,<sup>a,\*</sup> Walter J. Peláez,<sup>b</sup> Ioulia T. Gafarova,<sup>b</sup> Elizabeth L. Moyano<sup>b</sup> and Gloria I. Yranzo<sup>b</sup>

<sup>a</sup>Chemical Research Center, Institute of Chemistry, Hungarian Academy of Sciences, Pusztaszeri út 59-67, H-1025 Budapest, Hungary

<sup>b</sup>INFIQC—Departamento de Química Orgánica, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba, Ciudad Universitaria, 5000 Córdoba, Argentina



### Stereoselective synthesis of (–)-malyngolide, (+)-malyngolide and (+)-tanikolide using ring-closing metathesis

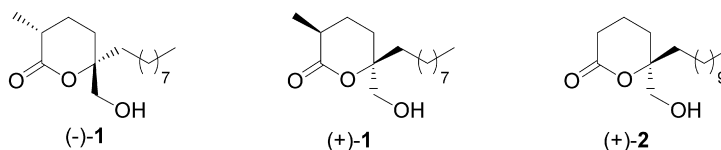
Tetrahedron 59 (2003) 857

Miguel Carda,<sup>a,\*</sup> Santiago Rodríguez,<sup>a</sup> Encarnación Castillo,<sup>a</sup> Alejandro Bellido,<sup>a</sup> Santiago Díaz-Oltra<sup>a</sup> and J. Alberto Marco<sup>b,\*</sup>

<sup>a</sup>Depart. de Q. Inorgánica y Orgánica, Univ. Jaume I, Castellón, E-12080 Castellón, Spain

<sup>b</sup>Depart. de Q. Orgánica, Univ. de Valencia, D. Moliner, 50, E-46100 Burjassot, Valencia, Spain

Stereoselective syntheses of (–)-malyngolide (–)-**1**, (+)-malyngolide (+)-**1** and (+)-tanikolide (+)-**2** are described. Key steps in each of these syntheses were stereoselective additions of organometallic reagents to  $\alpha$ -oxygenated ketones and olefin ring-closing metatheses.



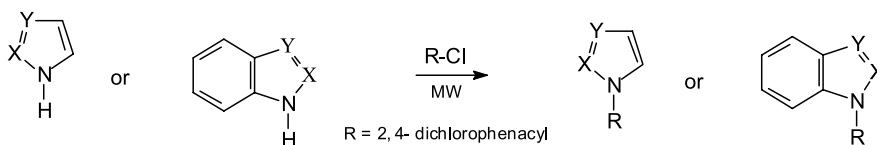
### Clean and efficient microwave-solvent-free synthesis of 1-(2',4'-dichlorophenacyl) azoles

Tetrahedron 59 (2003) 865

Eduardo R. Pérez,<sup>a</sup> André Loupy,<sup>b,\*</sup> Marion Liagre,<sup>b</sup> Ana M. de Guzzi Plepis<sup>a</sup> and Paulo J. Cordeiro<sup>a</sup>

<sup>a</sup>Instituto de Química de São Carlos, Cx. P. 780 CEP 13560-970, Universidade de São Paulo, São Paulo, Brazil

<sup>b</sup>Laboratoire des Réactions Sélectives sur Supports, ICMO, UMR 8615, Université Paris-Sud, Batiment 410, 91405 Orsay Cedex, France



### Cyclooctapyrroles, novel macrocycles containing biladiene-a,c units

Tetrahedron 59 (2003) 871

Qingqi Chen and David Dolphin\*

Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, BC, Canada V6T 1Z1

