

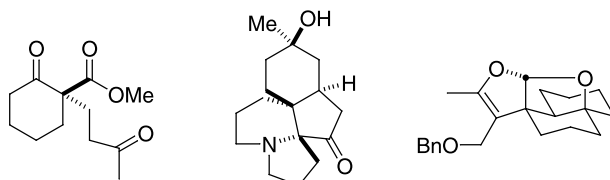
## Graphical abstracts

### Stereoselective formation of quaternary carbon centers and related functions

Irina Denissova and Louis Barriault\*

Department of Chemistry, University of Ottawa, Ottawa, Ont., Canada K1N 6N5

Tetrahedron 59 (2003) 10105

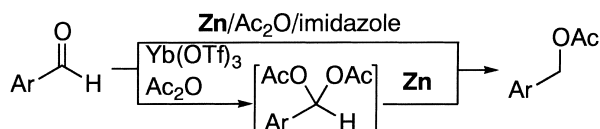


### Reductive esterification of aromatic aldehydes using Zn/Ac<sub>2</sub>O/imidazole or Zn/Yb(OTf)<sub>3</sub>/(RCO)<sub>2</sub>O system

Toshikazu Hirao,\* Sirida Santhitikul, Hiroki Takeuchi, Akiya Ogawa and Hidehiro Sakurai

Department of Materials Chemistry, Graduate School of Engineering, Osaka University, Yamada-oka, Suita, Osaka 565-0871, Japan

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### Synthesis and structure of supramolecular complexes between 1-alkynyl(phenyl)(tetrafluoroborato)-λ<sup>3</sup>-iodanes and 18-crown-6

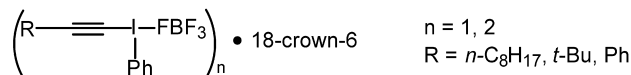
Masahito Ochiai,<sup>a,\*</sup> Kazunori Miyamoto,<sup>a</sup> Takashi Suefuji,<sup>a</sup> Motoo Shiro,<sup>b</sup> Shigeru Sakamoto<sup>c</sup> and Kentaro Yamaguchi<sup>c</sup>

<sup>a</sup>Faculty of Pharmaceutical Sciences, University of Tokushima, 1-78 Shomachi, Tokushima 770-8505, Japan

<sup>b</sup>Rigaku Corporation, 3-9-12 Matsubara, Akishima, Tokyo 196-8666, Japan

<sup>c</sup>Chemical Analysis Center, Chiba University, Yayoi-cho, Inage-ku, Chiba 263-8522, Japan

Tetrahedron 59 (2003) 10153



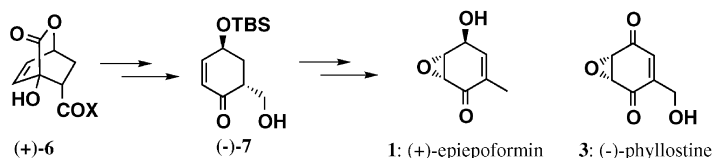
### Total synthesis of (+)-epiepopoforin and (-)-phyllostine

Hiroaki Okamura,<sup>a,\*</sup> Hideki Shimizu,<sup>b</sup> Naomi Yamashita,<sup>a</sup> Tetsuo Iwagawa<sup>a</sup> and Munehiro Nakatani<sup>a</sup>

<sup>a</sup>Department of Chemistry and Bioscience, Faculty of Science, Kagoshima University, 1-21-35 Korimoto, Kagoshima 890-0065, Japan

<sup>b</sup>Department of Chemistry, Faculty of Science, Graduate School, Kyushu University, 33, Hakozaki, Higashi-ku, Fukuoka 812-8581, Japan

Tetrahedron 59 (2003) 10159

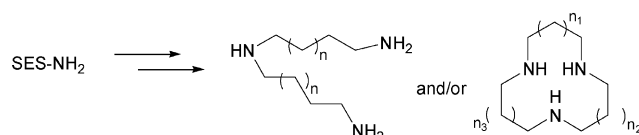


## A practical method for building linear and cyclic triamines from (2-trimethylsilyl)ethanesulfonamides (SES-amides)

Tetrahedron 59 (2003) 10165

Laurie L. Parker, Nicholas D. Gowans, Stephen W. Jones and David J. Robins\*

Department of Chemistry, Joseph Black Building, University of Glasgow, Glasgow G12 8QQ, UK



## Solution phase synthesis of esters within a micro reactor

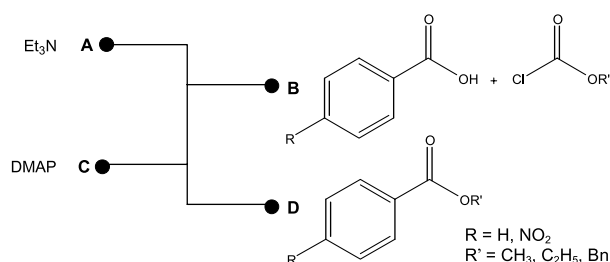
Tetrahedron 59 (2003) 10173

Charlotte Wiles,<sup>a</sup> Paul Watts,<sup>a</sup> Stephen J. Haswell<sup>a,\*</sup> and Esteban Pombo-Villar<sup>b</sup>

<sup>a</sup>Department of Chemistry, The University of Hull, Cottingham Road, Hull HU6 7RX, UK

<sup>b</sup>Novartis Institute for BioMedical Research, WSJ-386.07.15, CH4002 Basel, Switzerland

We demonstrate the solution phase synthesis of an array of esters using a borosilicate glass micro reactor. The reagents are manipulated within the device using electroosmotic flow (EOF).



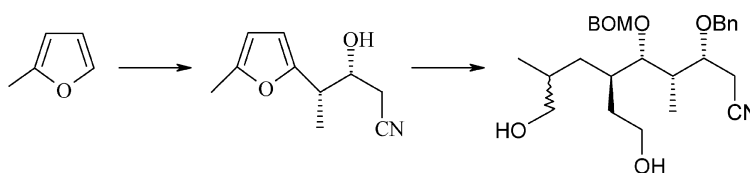
## From furan to open-chain systems. Synthesis of C1-C9 fragment of tylonolide

Tetrahedron 59 (2003) 10181

Jerzy Raczko<sup>a,b</sup>

<sup>a</sup>RD Chemipan, Institute of Physical Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland

<sup>b</sup>Institute of Organic Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland



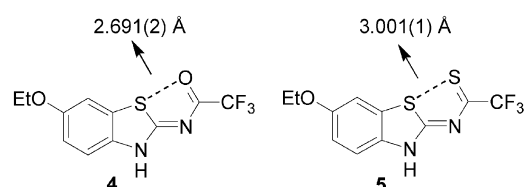
## 1,5-Type nonbonded O···S and S···S interactions in (acylimino) and (thioacylimino)benzothiazoline systems. Crystal structures and theoretical calculations

Tetrahedron 59 (2003) 10187

Emerson Meyer,<sup>a</sup> Antonio C. Joussef,<sup>a</sup> Hugo Gallardo,<sup>a,\*</sup> Adailton J. Bortoluzzi<sup>a</sup> and Ricardo L. Longo<sup>b</sup>

<sup>a</sup>Departamento de Química, Universidade Federal de Santa Catarina, 88040-900 Florianópolis, SC, Brazil

<sup>b</sup>Departamento de Química Fundamental, Universidade Federal de Pernambuco, 50740-540 Recife, PE, Brazil

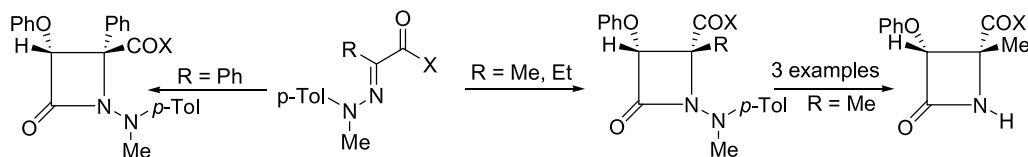


## $\alpha$ -Oxohydrazone as imine component in the synthesis of 4-functionalized azetidiones by the Staudinger reaction

*Tetrahedron 59 (2003) 10195*

Lara Bianchi, Carlo Dell'Erba, Massimo Maccagno, Angelo Mugnoli, Marino Novi, Giovanni Petrillo, Fernando Sancassan and Cinzia Tavani\*

*Dipartimento di Chimica e Chimica Industriale, Università di Genova, Via Dodecaneso 31, I-16146 Genoa, Italy*



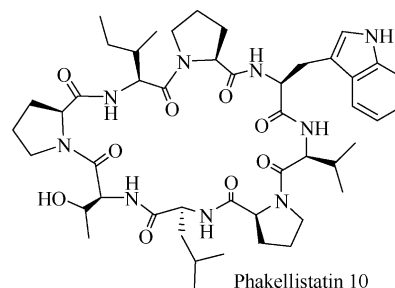
## Synthesis, structural aspects and cytotoxicity of the natural cyclopeptides yunnanins A, C and phakellistatins 1, 10

*Tetrahedron 59 (2003) 10203*

Assunta Napolitano,<sup>a</sup> Manuela Rodriguez,<sup>b</sup> Ines Bruno,<sup>a</sup> Stefania Marzocco,<sup>a</sup> Giuseppina Autore,<sup>a</sup> Raffaele Riccio<sup>a</sup> and Luigi Gomez-Paloma<sup>a,\*</sup>

<sup>a</sup>*Dipartimento di Scienze Farmaceutiche, Università di Salerno, via Ponte Don Melillo, 84084 Fisciano (SA), Italy*

<sup>b</sup>*Dipartimento Farmaco Chimico Tecnologico, Università di Siena, via A. Moro 2, 53100 Siena, Italy*



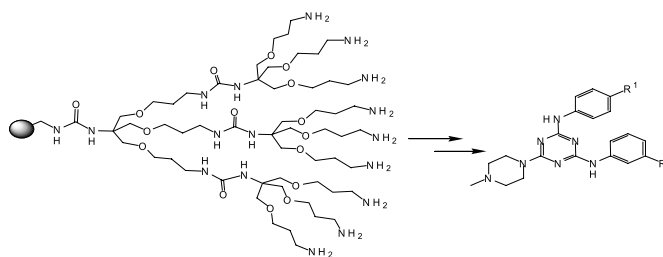
## Antibacterial single-bead screening

Sylvain Lebreton,<sup>a</sup> Nicholas Newcombe<sup>b</sup> and Mark Bradley<sup>a,\*</sup>

<sup>a</sup>*Department of Chemistry, University of Southampton, Southampton, Hampshire SO17 1BJ, UK*

<sup>b</sup>*AstraZeneca, Mereside, Alderley Park, Macclesfield, Cheshire SK10 4TG, UK*

Zone-based antibacterial assays were successfully developed to screen triazine based antibiotics released from single, high-loading, dendrimer beads.



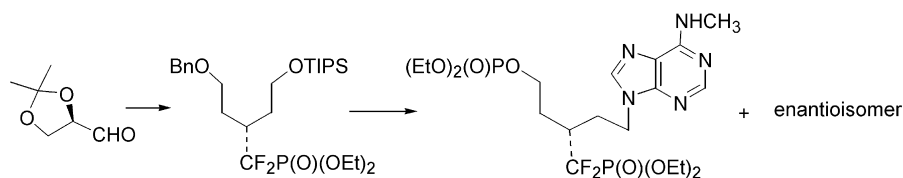
*Tetrahedron 59 (2003) 10213*

## Synthesis of acyclic nucleotide analogues possessing a difluoromethylene phosphonyl group at the side chain

*Tetrahedron 59 (2003) 10223*

Tetsuo Murano, Yoko Yuasa,\* Hirokuni Kobayakawa, Tsutomu Yokomatsu\* and Shiroshi Shibuya

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



## Myriastramides A–C, new modified cyclic peptides from the Philippines marine sponge *Myriastra clavosa*

*Tetrahedron* 59 (2003) 10231

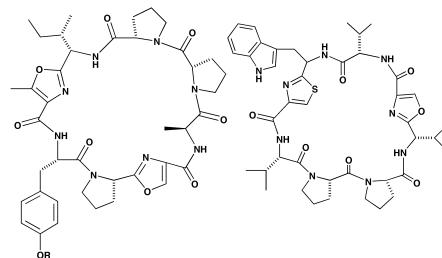
Karen L. Erickson,<sup>a</sup> Kirk R. Gustafson,<sup>a,\*</sup> Dennis J. Milanowski,<sup>a</sup> Lewis K. Pannell,<sup>b</sup> John R. Klose<sup>c</sup> and Michael R. Boyd<sup>d</sup>

<sup>a</sup>Molecular Targets Development Program, Center for Cancer Research, National Cancer Institute, Building 1052, Room 121, Frederick, MD 21702-1201, USA

<sup>b</sup>Laboratory of Bioorganic Chemistry, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD 20892-0805, USA

<sup>c</sup>Analytical Chemistry Laboratory, SAIC-Frederick, Inc., NCI-Frederick, Frederick, MD 21702-1201, USA

<sup>d</sup>USA Cancer Research Institute, College of Medicine, University of South Alabama, 307 University Blvd, MSB 322, Mobile, AL 36688, USA



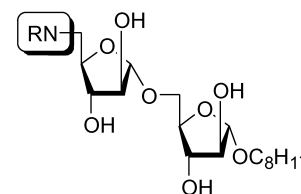
## Arabinofuranose disaccharide analogs as inhibitors of *Mycobacterium tuberculosis*

*Tetrahedron* 59 (2003) 10239

Ashish K. Pathak,<sup>a</sup> Vibha Pathak,<sup>a</sup> Manish Kulshrestha,<sup>a</sup> Darren Kinnaird,<sup>a</sup> William J. Suling,<sup>a</sup> S. S. Gurcha,<sup>b</sup> Gurdial S. Besra<sup>b</sup> and Robert C. Reynolds<sup>a,\*</sup>

<sup>a</sup>Drug Discovery Division, Southern Research Institute, PO Box 55305, Birmingham, AL 35255, USA

<sup>b</sup>School of Biosciences, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK



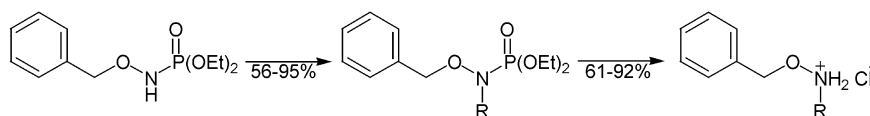
R = alkyl, amide, sulfonamide

## *N*-(Diethoxyphosphoryl)-*O*-benzylhydroxylamine—a convenient substrate for the synthesis of *N*-substituted *O*-benzylhydroxylamines

*Tetrahedron* 59 (2003) 10249

Katarzyna Błażewska and Tadeusz Gajda\*

Institute of Organic Chemistry, Technical University of Lodz (Politechnika), Żeromskiego Street 116, 90-924 Lodz, Poland



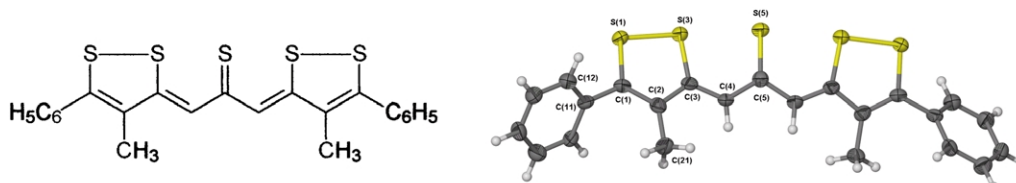
R = Et, Me, *i*-Pr, Bu, *i*-Bu, Allyl, Bn, (CH<sub>2</sub>)<sub>3</sub>Br, (CH<sub>2</sub>)<sub>4</sub>Br, (CH<sub>2</sub>)<sub>3</sub>P(O)(OEt)<sub>2</sub>

## The structure of higher homologues of 1,6,6aλ<sup>4</sup>-trithiapentalenes the question of no-bond-single-bond-resonance in five sulfuratom homologues

*Tetrahedron* 59 (2003) 10255

Jens K. Bjernemose, Erik Frandsen, Frank Jensen and Carl Th. Pedersen\*

Department of Chemistry, University of Southern Denmark Odense, Campusvej 55, DK-5230 Odense M, Denmark



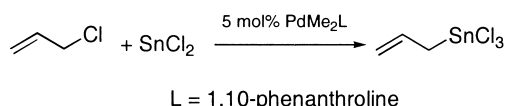
## Selective synthesis of monoorganotin trihalides: the direct reaction of allylic halides with tin(II) halides catalyzed by platinum and palladium complexes

*Tetrahedron 59 (2003) 10261*

Sander Thoonen,<sup>a</sup> Berth-Jan Deelman<sup>b,\*</sup> and Gerard van Koten<sup>a</sup>

<sup>a</sup>Department of Metal-Mediated Synthesis, Debye Institute, Utrecht University, Padualaan 8, 3584 CH Utrecht, The Netherlands

<sup>b</sup>ATOFINA Vlissingen B.V., PO Box 70, 4380 AB Vlissingen, The Netherlands



## Highly efficient and selective biocatalytic acylation studies on triazolylysugars

*Tetrahedron 59 (2003) 10269*

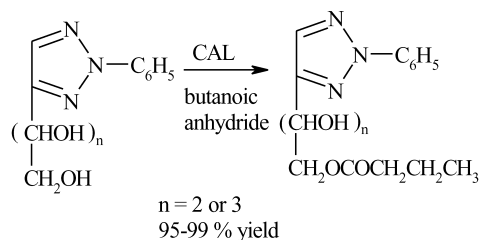
Anupam Bhattacharya,<sup>a,b</sup> Ashok K. Prasad,<sup>a,\*</sup> Jyotirmoy Maity,<sup>a</sup> Himanshu,<sup>a,b</sup> Poonam,<sup>a</sup> Carl E. Olsen,<sup>c</sup> Richard A. Gross<sup>b</sup> and Virinder S. Parmar<sup>a,b,\*</sup>

<sup>a</sup>Bioorganic Laboratory, Department of Chemistry, University of Delhi, Delhi 110 007, India

<sup>b</sup>NSF Centre for Biocatalysis and Bioprocessing of Macromolecules, Department of Chemistry, Polytechnic University, Six Metrotech Centre, Brooklyn, NY 11201, USA

<sup>c</sup>Department of Chemistry, Royal Veterinary and Agricultural University, Frederiksberg C, DK-1871 Copenhagen, Denmark

Lipase from *Candida antarctica* has been found to exhibit exclusive selectivity for the acylation of primary hydroxyl group over secondary hydroxyl groups in tri- and tetrahydroxylated triazolylysugars. Among the different acid anhydrides, butanoic anhydride was found to be the most efficient acylating agent.



## Multicomponent reactions involving zwitterionic intermediates for the construction of heterocyclic systems: one pot synthesis of aminofurans and iminolactones

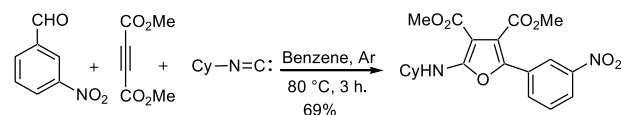
*Tetrahedron 59 (2003) 10279*

Vijay Nair,<sup>a,\*</sup> A. Unni Vinod,<sup>a</sup> N. Abhilash,<sup>a</sup> Rajeev S. Menon,<sup>a</sup> V. Santhi,<sup>a</sup> R. Luxmi Varma,<sup>a</sup> S. Viji,<sup>a</sup> Saumini Mathew<sup>a</sup> and R. Srinivas<sup>b</sup>

<sup>a</sup>Organic Chemistry Division, Regional Research Laboratory (CSIR), Trivandrum 695 019, India

<sup>b</sup>National Centre for Mass Spectrometry, Indian Institute of Chemical Technology (CSIR), Hyderabad, India

The reaction of 1:1 zwitterionic intermediate generated in situ from dimethyl acetylenedicarboxylate (DMAD) and cyclohexyl isocyanide with aldehydes and quinones is described. The reaction of stoichiometric amounts of DMAD, isocyanide and aldehydes afforded 2-aminofurans in good yields, while the reaction with quinones gave iminolactones.



## Synthesis of the tricyclic dihydrofuran moiety of azadirachtin: efficient transformation of the Claisen rearrangement intermediate into a functionalized tricyclic dihydrofuran core

*Tetrahedron 59 (2003) 10287*

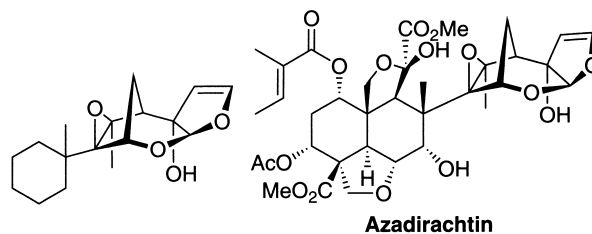
Jun Ishihara,<sup>a,\*</sup> Yohei Ikuma,<sup>b</sup> Susumi Hatakeyama,<sup>a</sup> Takanori Suzuki<sup>b</sup> and Akio Murai<sup>b</sup>

<sup>a</sup>Graduate School of Biomedical Sciences, Nagasaki University,

1-14 Bunkyo-machi, Nagasaki 852-8521, Japan

<sup>b</sup>Division of Chemistry, Graduate School of Science, Hokkaido University,

Sapporo 060-0810, Japan

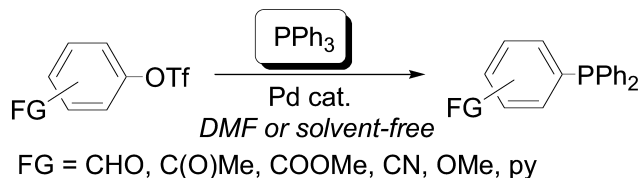


## Palladium-catalyzed phosphination of functionalized aryl triflates

*Tetrahedron 59 (2003) 10295*

Fuk Yee Kwong, Chi Wai Lai, Michael Yu, Yuan Tian and Kin Shing Chan\*

*Open Laboratory of Chirotechnology of the Institute of Molecular Technology for Drug Discovery and Synthesis, Department of Chemistry, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China*



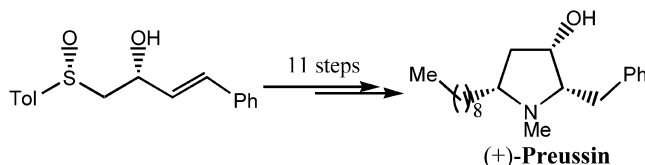
## A novel and stereospecific synthesis of (+)-preussin

*Tetrahedron 59 (2003) 10307*

Sadagopan Raghavan\* and M. Abdul Rasheed

*Organic Division I, Indian Institute of Chemical Technology, Habsiguda, Hyderabad 500 007, India*

A novel and stereospecific approach to (+)-preussin is disclosed.



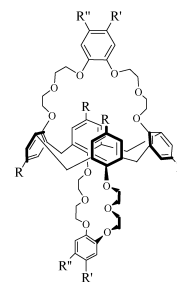
## New water-soluble calix[4]arene-bis(benzocrown-6) for caesium–sodium separation by nanofiltration–complexation

*Tetrahedron 59 (2003) 10313*

Stéphane Pellet-Rostaing, Frédéric Chitry, Jean-Alexis Spitz, Antoine Sorin, Alain Favre-Réguillon and Marc Lemaire\*

*Laboratoire de Catalyse et Synthèse Organique, Université Claude Bernard Lyon I, CPE Lyon, 43 bd du 11 Novembre 1918, 69100 Villeurbanne, France*

R = R' = COOH or OH and R'' = CH<sub>3</sub>  
or  
R = H, R' = CH<sub>2</sub>N(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub> or  
C(O)OCH<sub>2</sub>CH<sub>2</sub>OSO<sub>3</sub>K and R'' = H

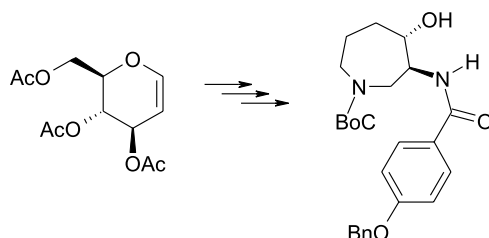


## Ring expansion approach for the synthesis of the (3S,4S)-hexahydroazepine core of balanol and ophiocordin

*Tetrahedron 59 (2003) 10325*

J. S. Yadav\* and Ch. Srinivas

*Division of Organic Chemistry, Indian Institute of Chemical Technology, Hyderabad 500 007, India*



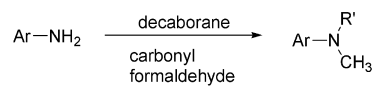
## An efficient conversion of nitroaromatics and aromatic amines to tertiary amines in one-pot way

*Tetrahedron 59 (2003) 10331*

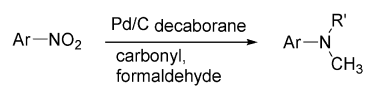
Yeon Joo Jung, Jong Woo Bae, Eun Soo Park, Yu Mi Chang and Cheol Min Yoon\*

*Graduate School of Life Science and Biotechnology, Korea University, Seoul 136-701, South Korea*

Aromatic amines (Scheme 1) and nitroaromatics (Scheme 2) was converted to the corresponding tertiary amine using decaborane.



**Scheme 1**



**Scheme 2**