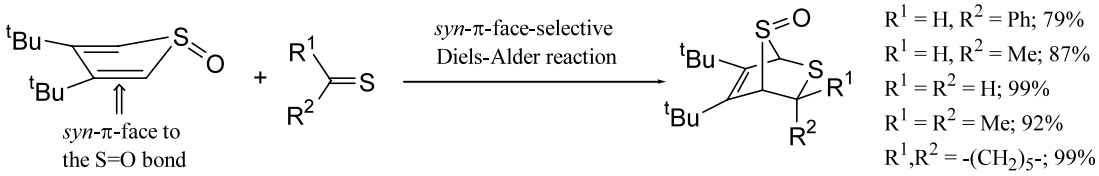
Tetrahedron Letters 44 (2003) 5159

## π-Face-selective hetero Diels–Alder reactions of 3,4-di-*tert*-butylthiophene 1-oxide. An excellent trapping reagent for thioaldehydes and thioketones

Jun Takayama, Seiko Fukuda, Yoshiaki Sugihara, Akihiko Ishii and Juzo Nakayama*

*Department of Chemistry, Faculty of Science, Saitama University, Sakura-ku, Saitama, Saitama 338-8570, Japan*




Tetrahedron Letters 44 (2003) 5163

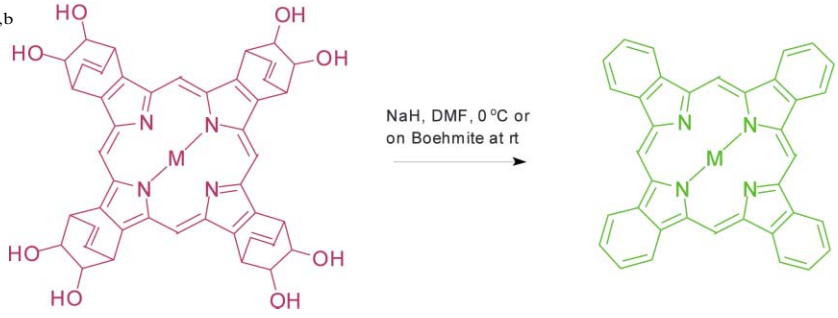
## Soluble precursors convertible to tetrabenzoporphyrins below room temperature

Hidemitsu Uno,[a,*] Takayuki Ishikawa,[a,b] Toru Hoshi[a] and Noboru Ono[c]

[a]*Division of Synthesis and Analysis, Department of Molecular Science, Integrated Center for Science, Ehime University, Bunkyo-cho 2-5, Matsuyama 790-8577, Japan*

[b]*i Material Development Center, Canon Inc., 16-1 Shimonoge 3-chome, Takatsu-ku, Kawasaki 213-8512, Japan*

[c]*Department of Chemistry, Faculty of Science, Ehime University, Bunkyo-cho 2-5, Matsuyama 790-8577, Japan*



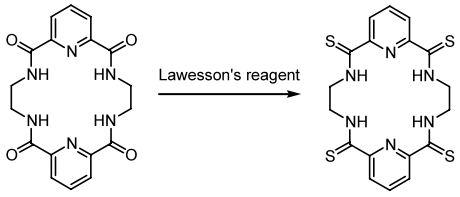

Soluble precursors were quantitatively converted to TBPs below rt.

Tetrahedron Letters 44 (2003) 5167

## Preparation of a new receptor for anions, macrocyclic polythiolactam—structure and high anion-binding ability

Yoshihiko Inoue, Takaki Kanbara* and Takakazu Yamamoto*

*Chemical Resources Laboratory, Tokyo Institute of Technology, 4259 Nagatsuta, Midori-ku, Yokohama 226-8503, Japan*



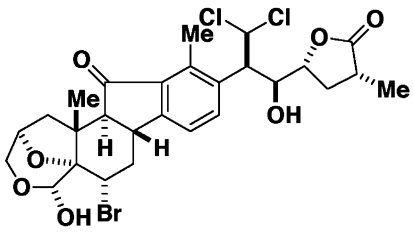

Thiocarbonylation of a macrocyclic tetralactam gave a new macrocyclic tetrathiolactam. The chemical transformation enhances hydrogen-bonding ability of the N–H protons in the cavity of the macrocycle, and provides strong affinity toward anions. The association properties of the polythiolactam with anions was examined, and molecular structures of the macrocycle and its $Cl^-$ complex were determined.

Tetrahedron Letters 44 (2003) 5171

## Nakiterpiosin, a novel cytotoxic C-nor-D-homosteroid from the Okinawan sponge *Terpios hoshinota*

Toshiaki Teruya, Satoru Nakagawa, Tomoyuki Koyama, Kiyotake Suenaga, Masaki Kita and Daisuke Uemura*

*Department of Chemistry, Graduate School of Science, Nagoya University, Chikusa, Nagoya 464-8602, Japan*



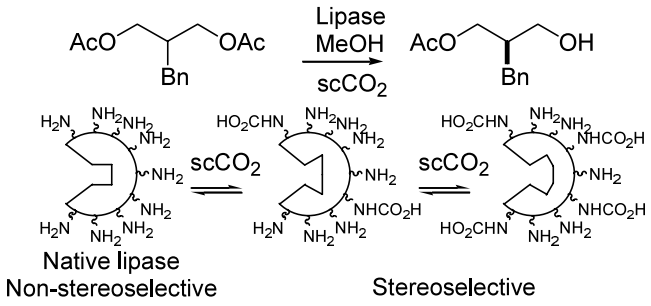
Tetrahedron Letters 44 (2003) 5175

## Novel strategic lipase-catalyzed asymmetrization of 1,3-propanediacetate in supercritical carbon dioxide

Nobuyuki Mase, Takeshi Sako, Yoshiteru Horikawa and Kunihiko Takabe*

*Department of Molecular Science, Faculty of Engineering, Shizuoka University, 3-5-1 Johoku, Hamamatsu 432-8561, Japan*

No enantioselectivity was observed in conventional organic solvent, whereas in $scCO_2$ enantioselectivities were observed up to 50% ee, which probably arose from a conformational changing of lipase.

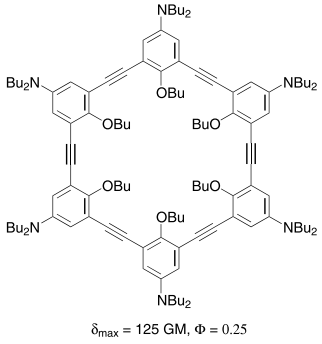



Tetrahedron Letters 44 (2003) 5179

## Synthesis and two-photon absorption property of phenylacetylene macrocycles

Ok Soon Pyun, Wenjun Yang, Mi-Yun Jeong, Sang Hae Lee, Kyung Min Kang, Seung-Joon Jeon and Bong Rae Cho*

*Molecular Opto-Electronics Laboratory, Department of Chemistry and Center for Electro- and Photo-Responsive Molecules, Korea University, 1-Anamdong, Seoul 136-701, Republic of Korea*

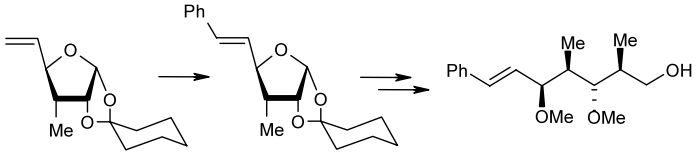



Tetrahedron Letters 44 (2003) 5183

## Carbohydrate-based synthesis of crocacin: stereoselective Heck reaction of carbohydrate 5,6-ene- and 5,6-yne-derivatives with aromatic halides

Mukund K. Gurjar,* Tushar P. Khaladkar, Ramdas G. Borhade and A. Murugan

*National Chemical Laboratory, Pune 411 008, India*



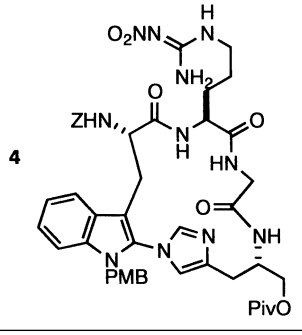
Tetrahedron Letters 44 (2003) 5189

## The Horner–Wadsworth–Emmons reaction in the synthesis of macrocyclic peptides: the Trp-His-Gly-Arg derived macrocycle of moroidin

Justin R. Harrison and Christopher J. Moody*

*School of Chemistry, University of Exeter, Stocker Road, Exeter EX4 4QD, UK*

The Trp-His-Gly-Arg derived macrocycle **4** of moroidin containing the unusual tryptophan C-2 histidine N-1 link has been synthesised in protected form.

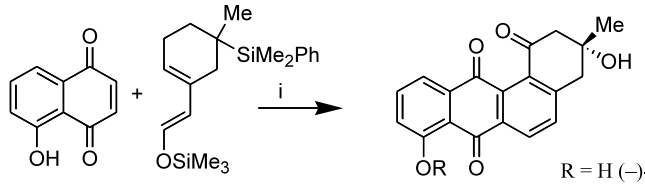


## Remote stereochemical control in asymmetric Diels–Alder reactions: synthesis of the angucycline antibiotics, (−)-tetrangomycin and MM 47755

*Tetrahedron Letters 44 (2003) 5193*

John S. Landells, David S. Larsen* and Jim Simpson

*Department of Chemistry, University of Otago, PO Box 56 Dunedin, New Zealand*



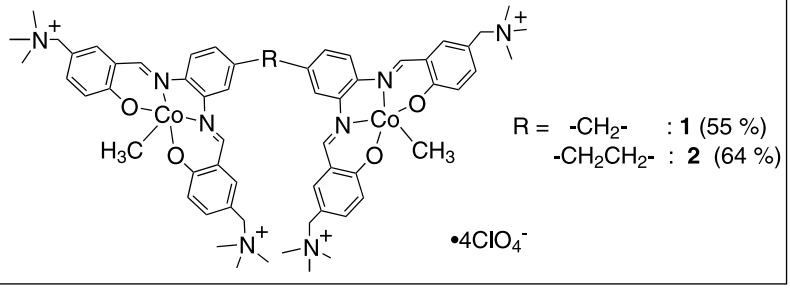

i. *(S)*-3,3'-diphenyl-1,1'-binaphthalene-2,2'-diol, $BH_3$.THF, HOAc,

## Syntheses of new water-soluble dicobalt complexes having two cobalt–carbon bonds and their ability for DNA cleavage

*Tetrahedron Letters 44 (2003) 5197*

Hisashi Shimakoshi, Takeshi Kaieda, Takashi Matsuo, Hideaki Sato and Yoshio Hisaeda*

*Department of Chemistry and Biochemistry, Graduate School of Engineering, Kyushu University, Fukuoka 812-8581, Japan*

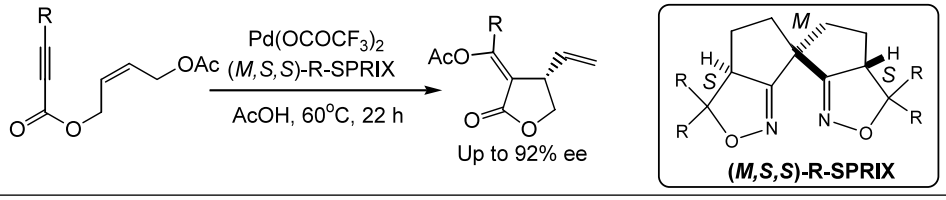



## Enantioselective synthesis of α-methylene-γ-butyrolactones using chiral Pd(II)-SPRIX catalyst

*Tetrahedron Letters 44 (2003) 5201*

Chinnasamy Muthiah, Midori A. Arai, Toshio Shinohara, Takayoshi Arai, Shinobu Takizawa and Hiroaki Sasai*

*The Institute of Scientific and Industrial Research, Osaka University, Mihogaoka, Ibaraki, Osaka 567-0047, Japan*



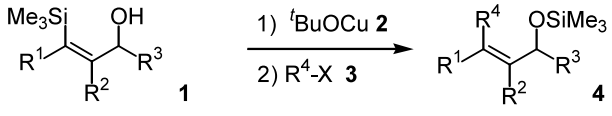

## Copper(I) *tert*-butoxide-promoted stereospecific alkylation of β-hydroxymethylvinylsilanes with alkyl halides

*Tetrahedron Letters 44 (2003) 5205*

Haruhiko Taguchi, Akira Tsubouchi and Takeshi Takeda*

*Department of Applied Chemistry, Tokyo University of Agriculture and Technology, Koganei, Tokyo 184-8588, Japan*

Stereospecific alkylation of (*Z*)-β-hydroxymethylvinylsilanes **1** proceeded by treatment with copper(I) *tert*-butoxide **2** and alkyl halides **3** to give the tri- and tetra-substituted olefins **4**.

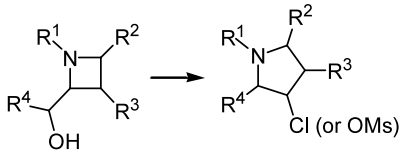


Tetrahedron Letters 44 (2003) 5209

## Highly stereoselective ring expansion of enantiopure α-hydroxyalkyl azetidines

François Couty,* François Durrat and Damien Prim

*Laboratoire SIRCOB, UMR CNRS 8086, Bâtiment Lavoisier, Université de Versailles, 45, avenue des Etats-Unis, F-78035 Versailles Cedex, France*



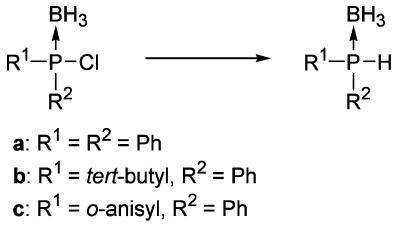

Tetrahedron Letters 44 (2003) 5213

## Mild reduction of chlorophosphine boranes to secondary phosphine boranes

Hubert Lam,[a] David J. Aldous[b] and King Kuok (Mimi) Hii[a,*]

[a]*Department of Chemistry, King's College London, Strand WC2R 2LS, UK*
[b]*Aventis Pharmaceuticals, Route 202-206, Bridgewater, NJ 08807, USA*

A number of hydride reagents were assessed in the transformation of chlorophosphine boranes to secondary phosphine boranes.



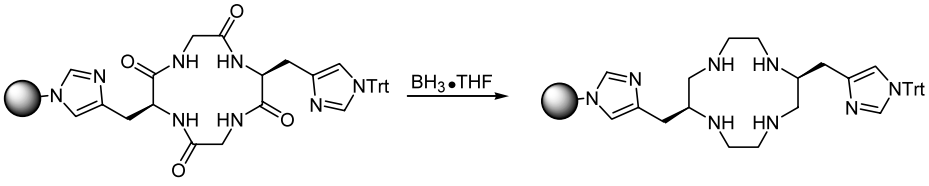

Tetrahedron Letters 44 (2003) 5217

## Solid-phase approach to the synthesis of cyclen scaffolds from cyclotetrapeptides

Maria C. Alcaro, Marco Orfei, Mario Chelli, Mauro Ginanneschi and Anna M. Papini*

*Dipartimento di Chimica Organica 'Ugo Schiff' and CNR-ICCOM, Polo Scientifico, via della Lastruccia 13, I-50019 Sesto Fiorentino (FI), Italy*

A cyclen derivative was synthesized by on-resin reduction of a side-chain anchored head-to-tail cyclotetrapeptide.

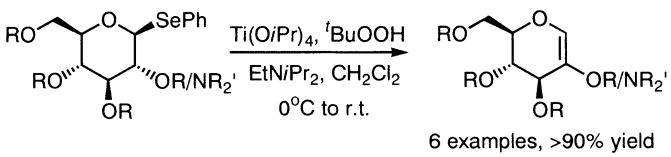



Tetrahedron Letters 44 (2003) 5221

## Efficient one-step synthesis of 2-hydroxy and 2-aminoglycals from selenoglycosides

David J. Chambers,[a] Graham R. Evans[b] and Antony J. Fairbanks[a,*]

[a]*Dyson Perrins Laboratory, Oxford University, South Parks Road, Oxford OX1 3QY, UK*
[b]*Celltech R & D, Granta Park, Great Abington, Cambridge CB1 6GS, UK*

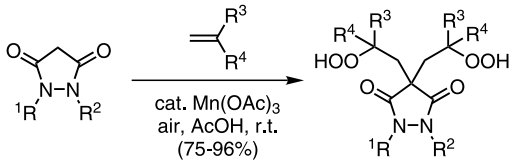


Tetrahedron Letters 44 (2003) 5225

## Synthesis of 4,4-bis(2-hydroperoxyalkyl)pyrazolidine-3,5-diones using manganese(III)-catalyzed autoxidation

Md. Taifur Rahman,[a] Hiroshi Nishino[b,*] and Chang-Yi Qian[a]

[a]*Department of Materials and Life Science, Graduate School of Science and Technology, Kumamoto University, Kurokami 2-39-1, Kumamoto 860-8555, Japan*
[b]*Department of Chemistry, Faculty of Science, Kumamoto University, Kurokami 2-39-1, Kumamoto 860-8555, Japan*

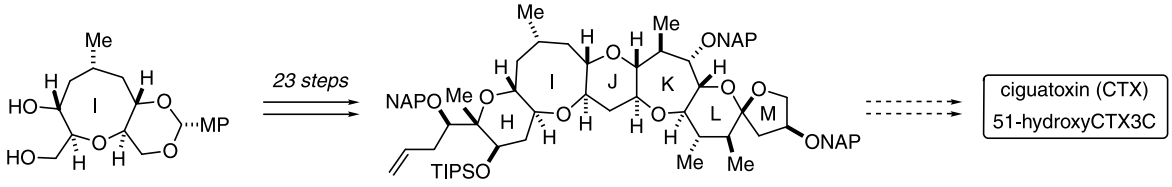



Tetrahedron Letters 44 (2003) 5229

## A concise route to the right wing of ciguatoxin

Atsushi Tatami, Masayuki Inoue,* Hisatoshi Uehara and Masahiro Hirama*

*Department of Chemistry, Graduate School of Science, Tohoku University, and SORST, Japan Science and Technology Corporation (JST), Sendai 980-8578, Japan*

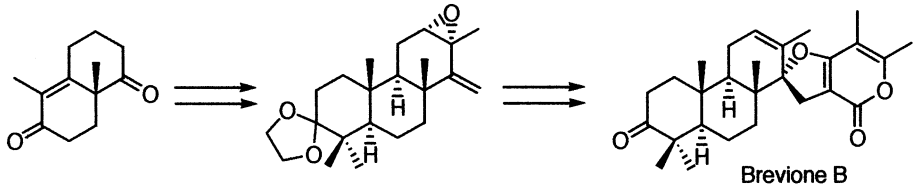



Tetrahedron Letters 44 (2003) 5235

## The first synthesis of (±)-brevione B, an allelopathic agent isolated from *Penicillium* sp.

Hirosato Takikawa,* Manabu Hirooka and Mitsuru Sasaki

*Department of Biofunctional Chemistry, Kobe University, Rokkodai 1-1, Nada-ku, Kobe 657-8501, Japan*

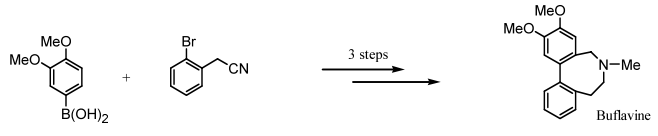



Tetrahedron Letters 44 (2003) 5239

## Highly efficient synthesis of buflavine: a unique *Amaryllidaceae* alkaloid

Poolsak Sahakitpichan[a] and Somsak Ruchirawat[a,b,c,*]

[a]*Chulabhorn Research Institute, Vipavadee Rangsit Highway, Bangkok 10210, Thailand*
[b]*Department of Chemistry, Faculty of Science, Mahidol University, Rama 6 Road, Bangkok 10400, Thailand*
[c]*Chulabhorn Research Centre, Institute of Science and Technology for Research and Development, Mahidol University, Salaya Campus, Thailand*

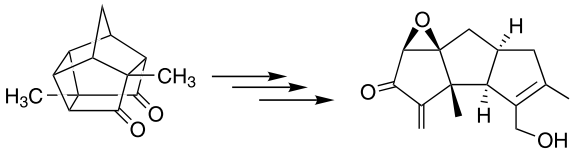


Tetrahedron Letters 44 (2003) 5243

## The first total synthesis of the novel triquinane natural products pleurotellol and pleurotellic acid

Goverdhan Mehta* and A. Sai Krishna Murthy

*Department of Organic Chemistry, Indian Institute of Science, Bangalore 560 012, India*

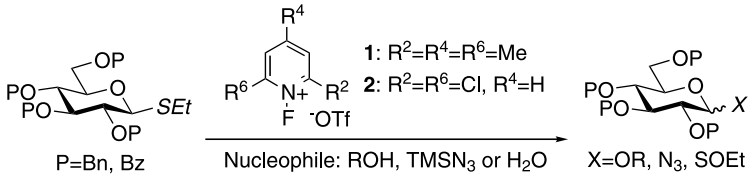



Tetrahedron Letters 44 (2003) 5247

## 1-Fluoropyridinium triflates: versatile reagents for transformation of thioglycoside into *O*-glycoside, glycosyl azide and sulfoxide

Hirokazu Tsukamoto* and Yoshinori Kondo

*Graduate School of Pharmaceutical Sciences, Tohoku University, Aobayama, Aoba-ku, Sendai 980-8578, Japan*



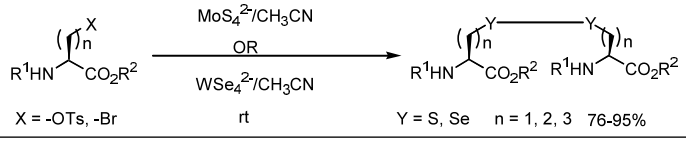

Tetrahedron Letters 44 (2003) 5251

## Utility of tetrathiomolybdate and tetraselenotungstate: efficient synthesis of cystine, selenocystine, and their higher homologues

Ramakrishna G. Bhat, Emmanuel Porhiel, Vadivelu Saravanan and Srinivasan Chandrasekaran*

*Department of Organic Chemistry, Indian Institute of Science, Bangalore 560012, India*

Efficient synthesis of cystine, selenocystine, and their higher homologues like homo and bishomo amino acid derivatives from natural amino acids using tetrathiomolybdate and tetraselenotungstate reagents under mild and neutral conditions is reported. The generality of the reaction has been studied by capping various groups to amino and carboxyl components of canonical amino acids.

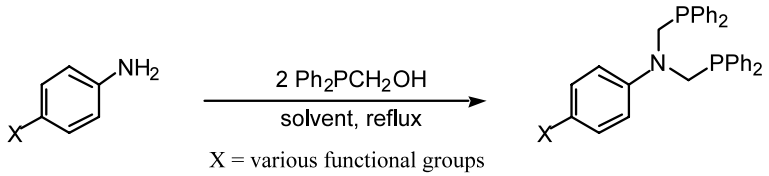



Tetrahedron Letters 44 (2003) 5255

## New functionalised ditertiary phosphines via phosphorus based Mannich condensation reactions

Sean E. Durran, Mark R. J. Elsegood, Neil Hawkins, Martin B. Smith* and Salem Talib

*Department of Chemistry, Loughborough University, Loughborough, Leics, LE11 3TU, UK*

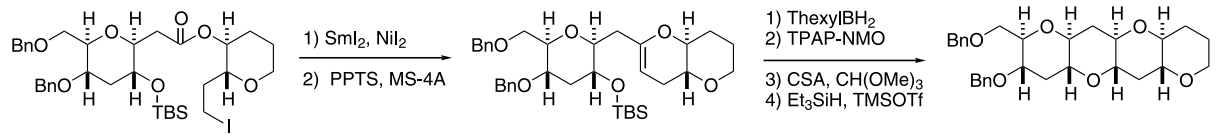


Tetrahedron Letters 44 (2003) 5259

## Efficient strategy for convergent synthesis of *trans*-fused polycyclic ethers based on an intramolecular $SmI_2$-promoted cyclization of iodo ester

Koji Kawamura, Hiroshi Hinou, Goh Matsuo and Tadashi Nakata*

*RIKEN (The Institute of Physical and Chemical Research), Wako, Saitama 351-0198, Japan*




Tetrahedron Letters 44 (2003) 5263

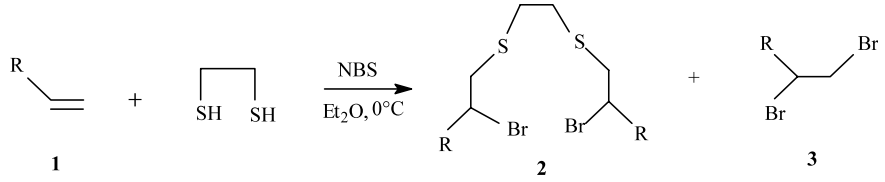
## *N*-Bromosuccinimide-dimercaptoethane cobromination of alkenes: synthesis of β,β′-dibromodithioethers

Moufida Romdhani Younes,[a] Mohamed Moncef Chaabouni[b,*] and Ahmed Baklouti[a]

[a]*Laboratoire de Chimie Structurale Organique, Faculté des Sciences de Tunis, 1060 Tunis, Tunisia*

[b]*Ecole Supérieure des Industries Alimentaires, 58 Avenue Alain Savary, 1003 Tunis, Tunisia*

β,β′-Dibromodithioethers are formed by cobromination of olefins with NBS and dimercaptoethane.




R = *n*-$C_3H_7$ ; *n*-$C_4H_9$ ; *t*-Bu ; Ph ; $(CH_2)_4$

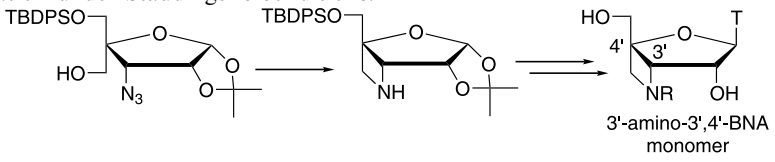
Tetrahedron Letters 44 (2003) 5267

## Synthesis of a novel bridged nucleoside bearing a fused-azetidine ring, 3′-amino-3′,4′-BNA monomer

Satoshi Obika, Jyun-ichi Andoh, Mayumi Onoda, Osamu Nakagawa, Akiko Hiroto, Tomomi Sugimoto and Takeshi Imanishi*

*Graduate School of Pharmaceutical Sciences, Osaka University, 1-6 Yamadaoka, Suita, Osaka 565-0871, Japan*

A novel bridged nucleoside, 3′-amino-3′-deoxy-5-methyl-3′-*N*,4′-*C*-methyleneuridine, was successfully synthesized via an effective azetidine ring formation under Staudinger's conditions.




Tetrahedron Letters 44 (2003) 5271

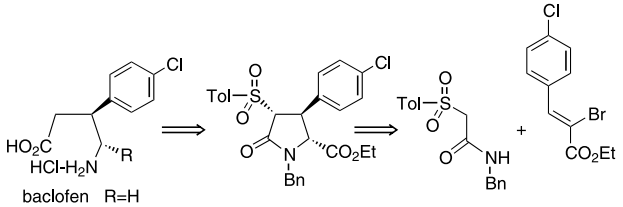
## A facile synthesis of 3-aryl pyroglutamic acid. Facile synthesis of baclofen and chlorpheg

Meng-Yang Chang,[a] Pei-Pei Sun,[b] Shui-Tein Chen[a,*] and Nein-Chen Chang[b,*]

[a]*Institute of Biological Chemistry, Academia Sinica, Nankang, Taipei 115, Taiwan*

[b]*Department of Chemistry, National Sun Yat-Sen University, Kaohsiung 804, Taiwan*

Base-induced coupling/cyclization stepwise [3+2] annulation of α-sulfonylacetamide with various β-functional groups of (*Z*)-2-bromoacrylates yielded three contiguous chiral centers on the polysubstituted pyroglutamates system with *trans–trans* orientation in a one-pot synthesis. This facile strategy was used to synthesize amino acid derivatives baclofen and chlorpheg.

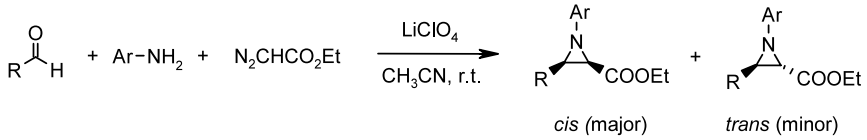


Tetrahedron Letters 44 (2003) 5275

## $LiClO_4$-catalyzed highly diastereoselective synthesis of *cis*-aziridine carboxylates

J. S. Yadav,* B. V. S. Reddy, M. Shesha Rao and P. N. Reddy

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

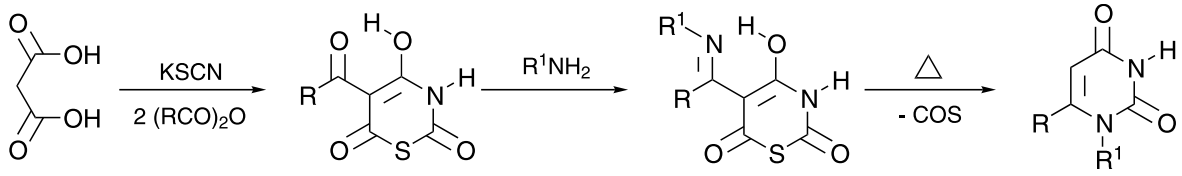



Tetrahedron Letters 44 (2003) 5279

## A new synthesis of 1,3-thiazines and their transformation into 1-substituted-6-alkyluracils by extrusion of carbonyl sulfide

Valera N. Yuskovets* and Boris A. Ivin

*Department of Organic Chemistry, Saint-Petersburg State Chemical & Pharmaceutical Academy, Saint-Petersburg, Professor Popov St. 14, 197376, Russia*

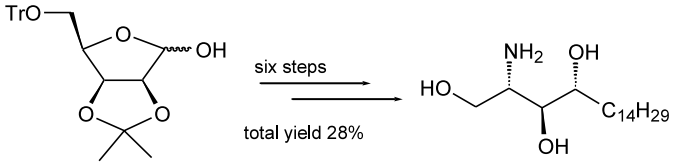



Tetrahedron Letters 44 (2003) 5281

## A concise route to phytosphingosine from lyxose

Chun-Cheng Lin,[a,*] Gang-Ting Fan[a,b] and Jim-Min Fang[b]

[a]*Institute of Chemistry, Academia Sinica, Nankang, Taipei 115, Taiwan*
[b]*Department of Chemistry, National Taiwan University, Taipei 106, Taiwan*

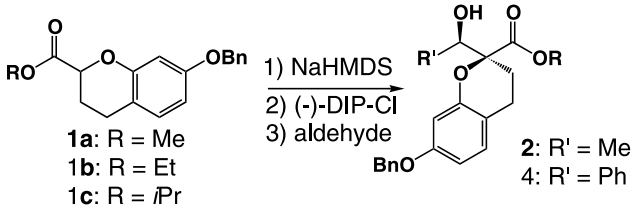



Tetrahedron Letters 44 (2003) 5285

## A stereoselective aldol reaction via diisopinocampheyl boron-enolate in preparation of chromane carboxylate with quaternary carbon

Fengrui Lang,[a,*] Daniel Zewge,[b,*] Zhiguo J. Song,[b] Mirlinda Biba,[b] Peter Dormer,[b] David Tschaen,[b] R. P. Volante[b] and Paul J. Reider[b]

[a]*Department of Process Research, Merck Research Laboratories, WYN-3, 466 Devon Park Drive, Wayne, PA 19087, USA*
[b]*Department of Process Research, Merck Research Laboratories, PO Box 2000, Rahway, NJ 07065, USA*

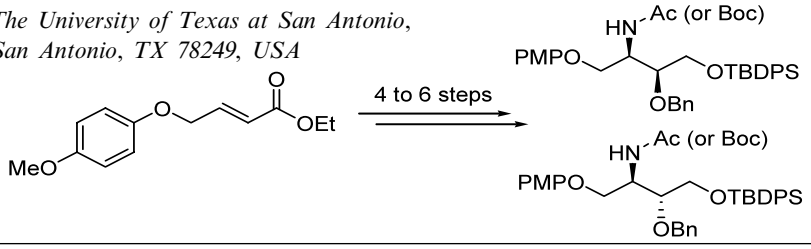


Tetrahedron Letters 44 (2003) 5289

## A concise and general methodology for the complete asymmetric synthesis of the orthogonally protected 2-amino-1,3,4-butanetriols (ABTs)

Om V. Singh and Hyunsoo Han*

*Department of Chemistry, The University of Texas at San Antonio, 6900 N. Loop 1604 West, San Antonio, TX 78249, USA*

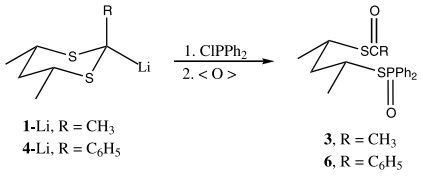



Tetrahedron Letters 44 (2003) 5293

## The formation of open-chain thioesters in the reaction of 2-lithio-2-methyl- and 2-lithio-2-phenyl-1,3-dithiane with chlorodiphenylphosphane followed by oxidation

Barbara Gordillo,* Zaira J. Domínguez, Noé Sánchez, Ricardo González, Magali Salas and Efraín Barragán

*Departamento de Química, Centro de Investigación y de Estudios Avanzados del Instituto Politécnico Nacional, Apdo. Postal 14-740, 07000, Mexico D.F.*




**1**-Li, R = $CH_3$
**4**-Li, R = $C_6H_5$

**3**, R = $CH_3$
**6**, R = $C_6H_5$

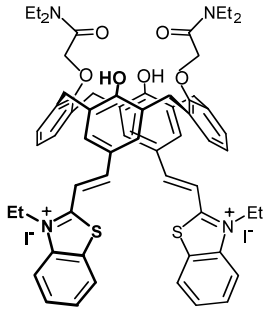
Tetrahedron Letters 44 (2003) 5299

## Novel $Ca^{2+}$-selective merocyanine-type chromoionophore derived from calix[4]arene-diamide

Eun Jin Kim, Jong-In Choe and Suk-Kyu Chang*

*Department of Chemistry, Chung-Ang University, Seoul 156-756, Republic of Korea*

The merocyanine-type ionophore derived from calix[4]arene-diamide showed selective chromogenic properties toward $Ca^{2+}$ ions in aqueous MeOH. The compound showed significant $Ca^{2+}$ ion dependent changes in UV–vis spectral properties in the presence of physiologically important metal ions ($Na^+$, $K^+$, and $Mg^{2+}$).

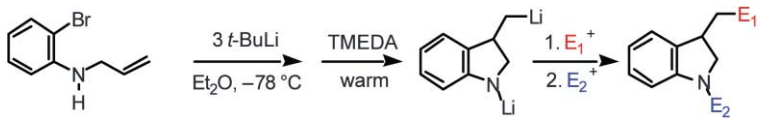



Tetrahedron Letters 44 (2003) 5303

## Preparation of differentially 1,3-disubstituted indolines by intramolecular carbolithiation

William F. Bailey,[a,*] Matthew R. Luderer[a] and Michael J. Mealy[b]

[a]*Department of Chemistry, University of Connecticut, Storrs, CT 06269-3060, USA*
[b]*H. Lundbeck A/S, Process Development, DK-4500, Lumsaas, Denmark*

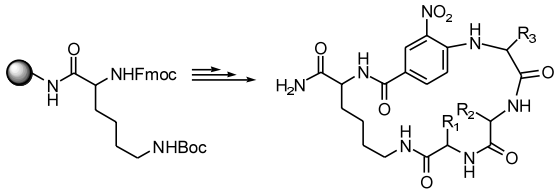


Tetrahedron Letters 44 (2003) 5307

## Efficient approach for the diversity-oriented synthesis of macro-heterocycles on solid-support

Marc Giulianotti and Adel Nefzi*

*Torrey Pines Institute for Molecular Studies, 3550 General Atomics Court, San Diego, CA 92121, USA*

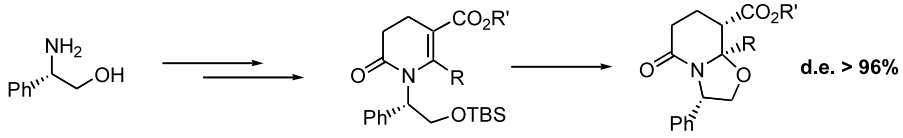



Tetrahedron Letters 44 (2003) 5311

## A novel stereocontrolled synthesis of enantiopure bicyclic lactams

Claude Agami, Luc Dechoux* and Séverine Hebbe

*Laboratoire de Synthèse Asymétrique (UMR 7611), Université P. et M. Curie, 4 place Jussieu, 75005 Paris, France*



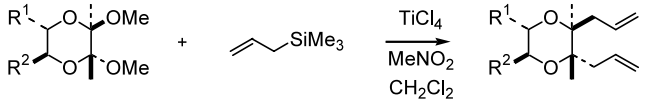

Tetrahedron Letters 44 (2003) 5315

## Diastereoselective diallylation of various butane-2,3-diacetals by allylsilane

Natacha Mariet, Malika Ibrahim-Ouali* and Maurice Santelli*

*Laboratoire de Synthèse Organique, UMR No. 6009, Avenue Escadrille Normandie-Niemen, F-13397 Marseille Cedex 20, France*

Butane-2,3-diacetals have been treated with allylsilane to afford bis-allyldioxanes as single diastereoisomers.



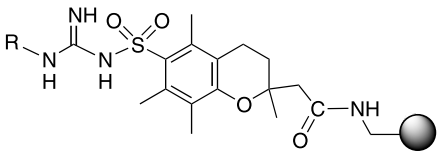

Tetrahedron Letters 44 (2003) 5319

## Solid-phase synthesis: a linker for side-chain anchoring of arginine

Oscar García,[a] Ernesto Nicolás[a,*] and Fernando Albericio[a,b,*]

[a]*Department of Organic Chemistry, University of Barcelona, E-08028 Barcelona, Spain*
[b]*Barcelona Biomedical Research Institute, Barcelona Science Park, University of Barcelona, Josep Samitier 1, E-08028 Barcelona, Spain*

A new linker based on a chroman system is decribed for the side-chain anchoring of Arg and other guanidine-containing molecules. The system is compatible with the Fmoc/*t*Bu solid-phase strategy, because the release of the final product is achieved by treatment with TFA in the presence of scavengers.



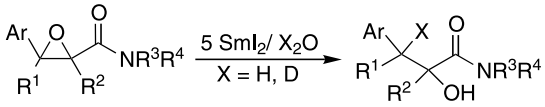
Tetrahedron Letters 44 (2003) 5323

## Unusual reductive cleavage of 3-aryl-2,3-epoxyamides by using samarium diiodide. Synthesis of 3-aryl-3-deuterio-2-hydroxyamides with total regioselectivity

José M. Concellón,[a,*] Eva Bardales[a] and Cecilia Gómez[b]

[a]*Departamento de Química Orgánica e Inorgánica, Facultad de Química, Universidad de Oviedo, Julián Clavería, 8, 33071 Oviedo, Spain*

[b]*Departamento de Química Orgánica, Facultad de Ciencias, Universidad de Alicante, 03080 Alicante, Spain*

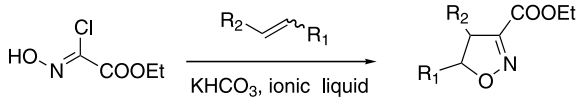



Tetrahedron Letters 44 (2003) 5327

## 1,3-Cycloaddition of nitrile oxides in ionic liquids. An easier route to 3-carboxy isoxazolines, potential constrained glutamic acid analogues

Dario Conti, Manuela Rodriquez, Alessandro Sega* and Maurizio Taddei

*Dipartimento Farmaco Chimico Tecnologico, Università degli Studi di Siena, Via A. Moro, 53100 Siena, Italy*




Tetrahedron Letters 44 (2003) 5331

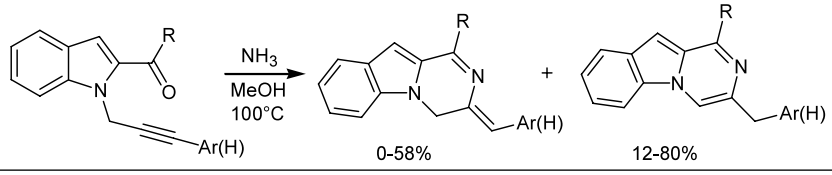
## Novel intramolecular cyclization of *N*-alkynyl heterocycles containing proximate nucleophiles

Giorgio Abbiati,[a] Antonio Arcadi,[b] Egle Beccalli[a] and Elisabetta Rossi[a,*]

[a]*Istituto di Chimica Organica 'Alessandro Marchesini', Facoltà di Farmacia, Università degli Studi di Milano, Via Venezian, 21, 20133 Milano, Italy*

[b]*Dipartimento di Chimica, Ingegneria Chimica e Materiali, Facoltà di Scienze, Università de L'Aquila, Via Vetoio, Coppito due, 67100 L'Aquila, Italy*

Intramolecular cyclization of 2-acyl-1-propargyl-1*H*-indoles in the presence of ammonia provides an easy entry to pyrazino[1,2-*a*]indole nucleus.



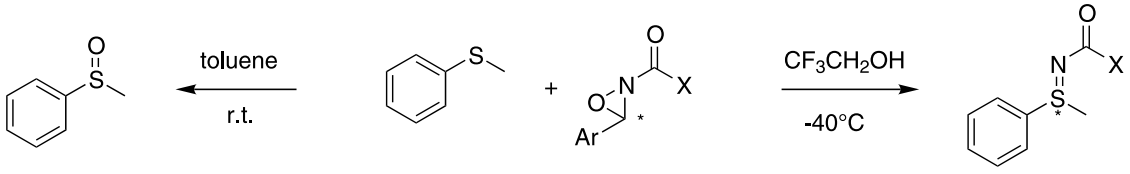

Tetrahedron Letters 44 (2003) 5335

## Efficient nitrogen transfer from aldehyde-derived *N*-acyloxaziridines

Alan Armstrong,[a,*] Ian D. Edmonds[a] and Martin E. Swarbrick[b]

[a]*Department of Chemistry, Imperial College London, South Kensington, London SW7 2AZ, UK*

[b]*Neurology & GI CEDD, GlaxoSmithKline, Medicines Research Centre, Stevenage, Herts SG1 2NY, UK*

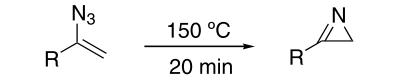


Tetrahedron Letters 44 (2003) 5339

## Improved procedure for cyclization of vinyl azides into 3-substituted-2*H*-azirines

Åsa Sjöholm Timén, Erik Risberg and Peter Somfai*

*Organic Chemistry, Department of Chemistry, Royal Institute of Technology, S-100 44 Stockholm, Sweden*



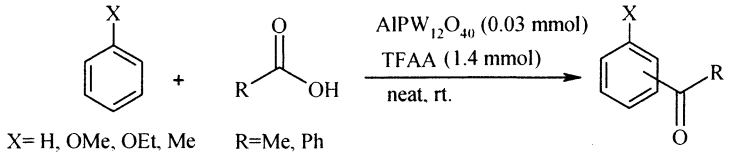

R= Aryl, alkyl, BnOCO, chiral auxiliary-CO

Tetrahedron Letters 44 (2003) 5343

## Solvent-free Friedel–Crafts acylation of aromatic compounds with carboxylic acids in the presence of trifluoroacetic anhydride and aluminum dodecatungstophosphate

Habib Firouzabadi,* Nasser Iranpoor* and Farhad Nowrouzi

*Department of Chemistry, Shiraz University, Shiraz 71454, Iran*



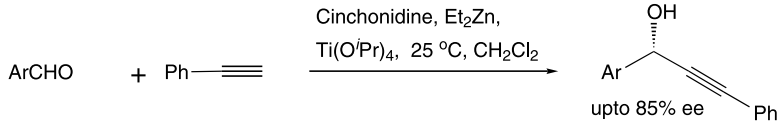

X= H, OMe, OEt, Me R=Me, Ph

Tetrahedron Letters 44 (2003) 5347

## Enantioselective phenylacetylene addition to aldehydes induced by *Cinchona* alkaloids

Rajesh M. Kamble and Vinod K. Singh*

*Department of Chemistry, Indian Institute of Technology, Kanpur-208 016, India*

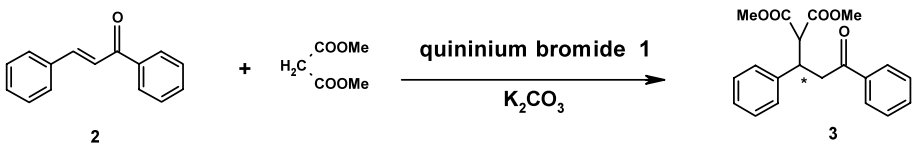



Tetrahedron Letters 44 (2003) 5351

## Influence of ionic liquids on the phase transfer-catalysed enantioselective Michael reaction

Ravindra T. Dere, Ravindra R. Pal, Prashant S. Patil and Manikrao M. Salunkhe*

*Department of Chemistry, The Institute of Science, 15-Madam Cama Road, Mumbai 400 032, India*




2 3

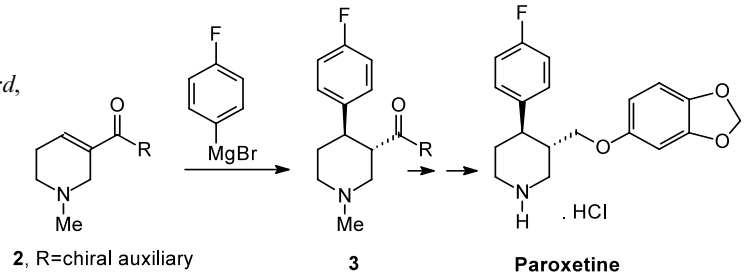
Tetrahedron Letters 44 (2003) 5355

## Enantioselective synthesis of 3-substituted-4-aryl piperidines useful for the preparation of paroxetine

K. S. Keshava Murthy,* Allan W. Rey* and Michael Tjepkema

*Brantford Chemicals Inc., 34 Spalding Drive, Brantford, Ontario, Canada N3T 6B8*

Stereoselective preparation of paroxetine via an asymmetric conjugate addition reaction.

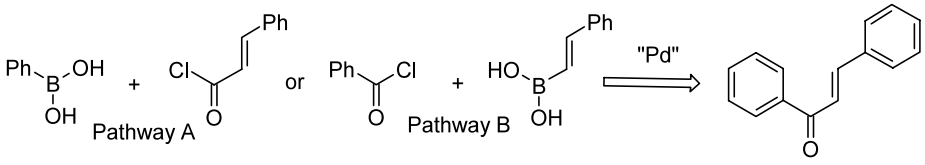



Tetrahedron Letters 44 (2003) 5359

## An efficient synthesis of chalcones based on the Suzuki reaction

Said Eddarir,[a,b] Nicole Cotelle,[a] Youssef Bakkour[a] and Christian Rolando[a,*]

[a]*Université des Sciences et Technologies de Lille, UMR CNRS 8009, Chimie Organique et Macromoléculaire, Équipe Polyphénols Bâtiment C4, 59655 Villeneuve d'Ascq Cedex, France*
[b]*Université Cadi Ayyad, Faculté des Sciences et Technique Guéliz, BP 549 Marrakech, Morocco*

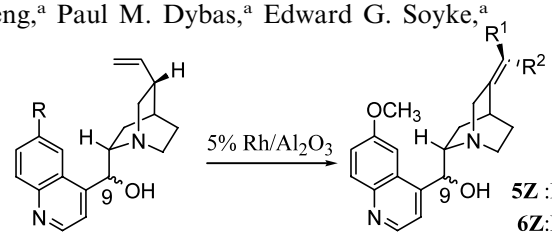



Tetrahedron Letters 44 (2003) 5365

## Positional isomerization of quinine and quinidine via rhodium on alumina catalysis: practical one-step synthesis of $\Delta^{3,10}$-isoquinine and $\Delta^{3,10}$-isoquinidine

David E. Portlock,[a,*] Dinabandhu Naskar,[b] Laura West,[a] William L. Seibel,[a] Titan Gu,[a] Howard J. Krauss,[a] X. Sean Peng,[a] Paul M. Dybas,[a] Edward G. Soyke,[a] Stephen B. Ashton[a] and Jonathan Burton[a]

[a]*Combinatorial Chemistry Section, Procter & Gamble Pharmaceuticals, Health Care Research Center, 8700 Mason Montgomery Road, Mason, OH 45040, USA*
[b]*Chembiotek Research International, Block BN, Sector-V, Salt Lake City, Calcutta 700 091, India*




**5Z** :$R^1 = CH_3$, $R^2 = H$; **5E**: $R^1 = H$, $R^2 = CH_3$.
**6Z**:$R^1 = CH_3$, $R^2 = H$; **6E**: $R^1 = H$, $R^2 = CH_3$.

**1**(9R): R = $OCH_3$, quinine; **2**(9R): R = H, cinchonine.
**3**(9S): R = $OCH_3$, quinidine; **4**(9S): R = H, cinchonidine.