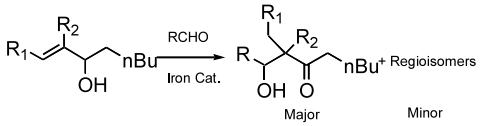
Development of new iron catalysts for the tandem isomerization–aldol condensation of allylic alcohols

Tetrahedron Letters 44 (2003) 6187

Ramalinga Uma, Nicolas Gouault, Christophe Crévisy and René Grée*

ENSCR, Laboratoire de Synthèses et Activations de Biomolécules, CNRS UMR 6052, Avenue du Général Leclerc, 35700 Rennes, France

(bda)$Fe(CO)_3$ and (COT) $Fe(CO)_3$ are shown to be very good catalysts for the tandem isomerization–aldolization of allylic alcohols with aldehydes leading to a significant increase of the scope of this reaction.



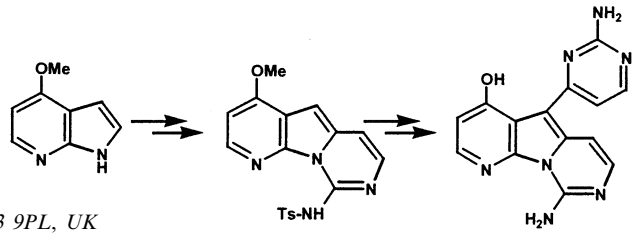
Synthesis of variolin B

Tetrahedron Letters 44 (2003) 6191

Abderaouf Ahaidar,[a,b] David Fernández,[b] Olga Pérez,[a] Gerardo Danelón,[a] Carmen Cuevas,[c] Ignacio Manzanares,[c] Fernando Albericio,[a,d] John A. Joule[e] and Mercedes Álvarez,[a,b,*]

[a]*Biomedical Research Institute, Barcelona Scientific Park, University of Barcelona, Josep Samitier 1-5, E 08028 Barcelona, Spain*
[b]*Laboratory of Organic Chemistry, Faculty of Pharmacy, University of Barcelona, Avda. Joan XXIII s/n, E 08028 Barcelona, Spain*
[c]*Pharma Mar, Avda Reyes Católicos 1, 28770 Colmenar Viejo, Madrid, Spain*
[d]*Department of Organic Chemistry, Universitat de Barcelona, Martí Franqués 1–11, E 08028 Barcelona, Spain*
[e]*Chemistry Department, The University of Manchester, Manchester M13 9PL, UK*

The synthesis of variolin B from 4-methoxy-7-azaindole is described.

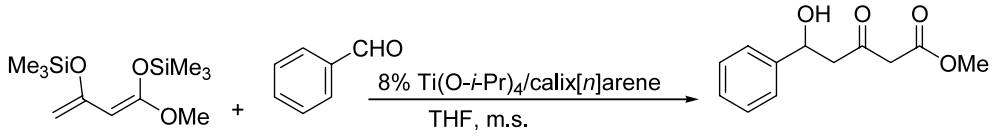


Calix[*n*]arene/Ti(IV) complexes as active catalysts in aldol reaction of Chan's diene

Tetrahedron Letters 44 (2003) 6195

Annunziata Soriente,* Marina Fruilo, Luisa Gregoli and Placido Neri*

Department of Chemistry, University of Salerno, Via S. Allende, 43, 84081 Baronissi (SA), Italy

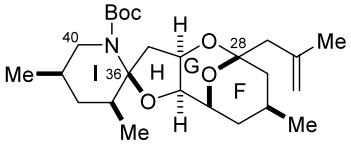


Studies toward the total synthesis of azaspiracids: synthesis of the FGHI ring domain

Tetrahedron Letters 44 (2003) 6199

Makoto Sasaki,[a,*] Yuko Iwamuro,[b] Jyunichi Nemoto[a] and Masato Oikawa[a]

[a]*Laboratory of Biostructural Chemistry, Graduate School of Life Sciences, Tohoku University, Tsutsumidori-Amamiya, Aoba-ku, Sendai 981-8555, Japan*
[b]*Graduate School of Science, The University of Tokyo, Hongo, Bunkyo-ku, Tokyo 113-0033, Japan*

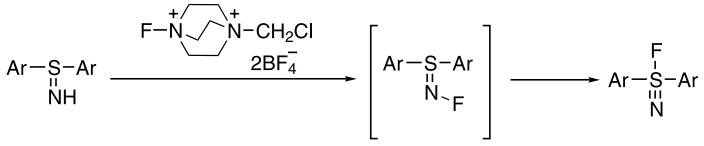


Tetrahedron Letters 44 (2003) 6203

A new method for the preparation of fluoro-λ⁶-sulfanenitriles: reaction of sulfimides with Selectfluor™

Takayoshi Fujii, Shinsuke Asai, Tomoyuki Okada, Wei Hao, Hiroyuki Morita and Toshiaki Yoshimura*

Department of Material Systems Engineering and Life Science, Faculty of Engineering, Toyama University, Gofuku, Toyama 930-8555, Japan

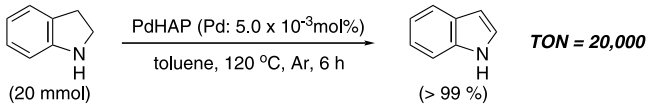


Tetrahedron Letters 44 (2003) 6207

Highly efficient dehydrogenation of indolines to indoles using hydroxyapatite-bound Pd catalyst

Takayoshi Hara, Kohsuke Mori, Tomoo Mizugaki, Kohki Ebitani and Kiyotomi Kaneda*

Department of Chemical Science and Engineering, Graduate School of Engineering Science, Osaka University, 1-3 Machikaneyama, Toyonaka, Osaka 560-8531, Japan

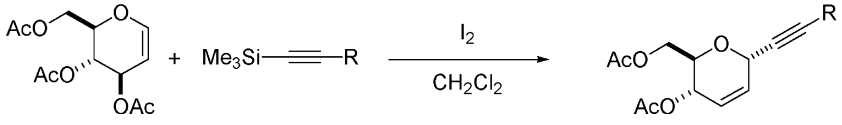


Tetrahedron Letters 44 (2003) 6211

Iodine catalyzes *C*-glycosidation of D-glucal with silylacetylene

Rungnapha Saeeng,[a,*] Uthaiwan Sirion,[a] Poolsak Sahakitpichan[b] and Minoru Isobe[c,*]

[a]*Department of Chemistry, Faculty of Science, Burapha University, Sangsook, Chonburi 20131, Thailand*
[b]*Chulabhorn Research Institute (CRI), Vibhavadee-Rangsit Highway, Bangkok 10210, Thailand*
[c]*Laboratory of Organic Chemistry, Graduate School of Bioagricultural Sciences, Nagoya University, Chikusa, Nagoya 464-8601, Japan*

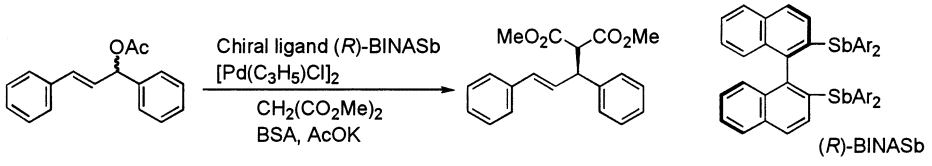


Tetrahedron Letters 44 (2003) 6217

2,2′-Bis(diarylstibano)-1,1′-binaphthyls (BINASbs); a useful chiral ligand for palladium-catalyzed asymmetric allylic alkylation, and the structure of a BINASb–$PdCl_2$ complex

Shuji Yasuike,[a] Satoru Okajima,[a] Kentaro Yamaguchi[b] and Jyoji Kurita[a,*]

[a]*Faculty of Pharmaceutical Sciences, Hokuriku University, Kanagawa-machi, Kanazawa 920-1181, Japan*
[b]*Chemical Analysis Center, Chiba University, 1-33 Yayoicho, Inage-ku, Chiba 263-8522, Japan*

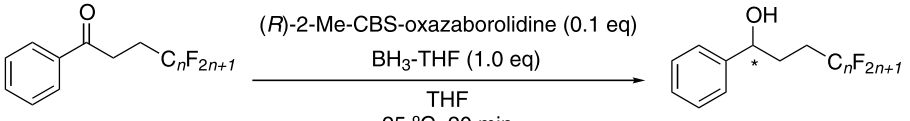


Tetrahedron Letters 44 (2003) 6221

Enantiomeric resolution of fluorous mixture by chiral CD columns: asymmetric reduction of a mixture of fluorous ketones

Yutaka Nakamura,[a,*] Seiji Takeuchi,[a,*] Kazuo Okumura,[a] Yoshiaki Ohgo,[a] Hiroshi Matsuzawa[b] and Koichi Mikami[b,*]

[a]*Niigata University of Pharmacy and Applied Life Sciences, 5-13-2 Kamishin'ei-cho, Niigata 950-2081, Japan*
[b]*Department of Applied Chemistry, Tokyo Institute of Technology, 2-12-1 Ookayama, Tokyo 152-8552, Japan*



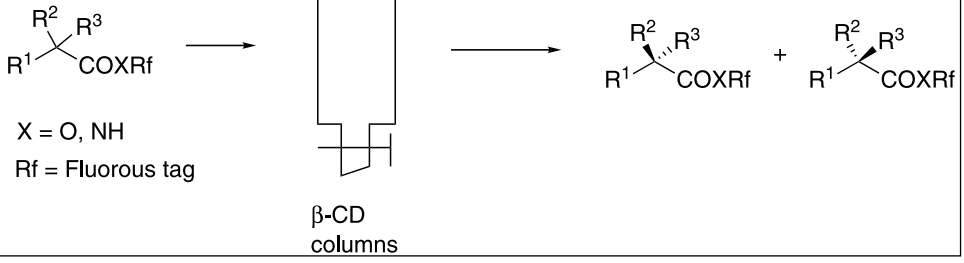
3a-d (*n*= 4, 6, 8, 10) → **2a-d** (*n*= 4, 6, 8, 10), 84-88% ee

Tetrahedron Letters 44 (2003) 6227

Efficient enantiomeric resolution via introduction of a fluorous tag as a resolving reagent with β-cyclodextrin columns: model study on fluorinated *O*-acetylmandelate and ibuprofen amide

Hiroshi Matsuzawa and Koichi Mikami*

Department of Applied Chemistry, Tokyo Institute of Technology, Tokyo 152-8552, Japan



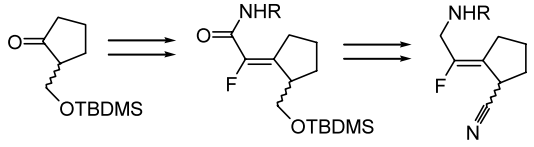
Tetrahedron Letters 44 (2003) 6231

Synthesis of (*E*)- and (*Z*)-fluoro-olefin analogues of potent dipeptidyl peptidase IV inhibitors

Pieter Van der Veken, István Kertèsz, Kristel Senten, Achiel Haemers and Koen Augustyns*

Department of Medicinal Chemistry, University of Antwerp, Universiteitsplein 1, B-2610 Antwerp, Belgium

(*E*)- and (*Z*)-fluoro-olefin analogues of potent dipeptidyl peptidase IV inhibitors were synthesized (R = 2-phenylethyl-, *p*-fluorobenzyl-, 1-adamantyl-).

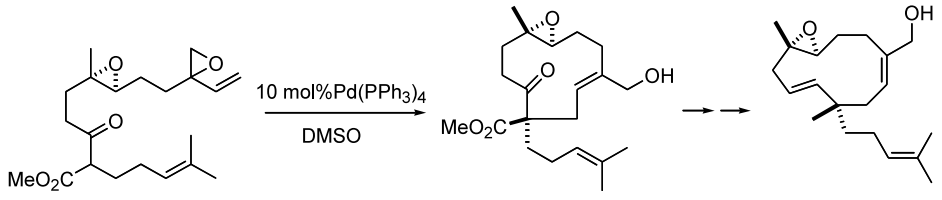


Tetrahedron Letters 44 (2003) 6235

Determination of the absolute configuration of vibsanin F by asymmetric synthesis via π-allylpalladium complex

Hiroaki Yuasa, Gouki Makado and Yoshiyasu Fukuyama*

Institute of Pharmacognosy, Faculty of Pharmaceutical Sciences, Tokushima Bunri University, Tokushima 770-8514, Japan

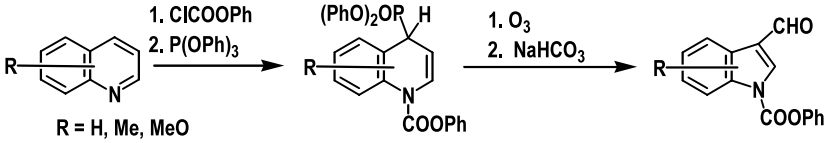


Tetrahedron Letters 44 (2003) 6241

Novel ring transformation of quinolines to indole derivatives in two steps via 1,4-dihydroquinoline derivatives

Michiharu Sugiura,* Natsuyo Yamaguchi, Koosuke Asai and Isamu Maeba

Faculty of Pharmacy, Meijo University, Yagotoyama 150, Tempaku-ku, Nagoya 468-8503, Japan



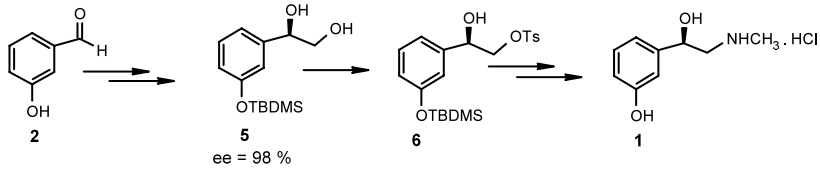
Tetrahedron Letters 44 (2003) 6245

Enantioselective synthesis of (*R*)-phenylephrine hydrochloride

Rajesh Kumar Pandey, Puspesh Kumar Upadhyay and Pradeep Kumar*

Division of Organic Chemistry: Technology, National Chemical Laboratory, Pune 411008, India

An enantioselective synthesis of the title compound from 3-hydroxybenzaldehyde employing the Sharpless asymmetric dihydroxylation procedure is reported.

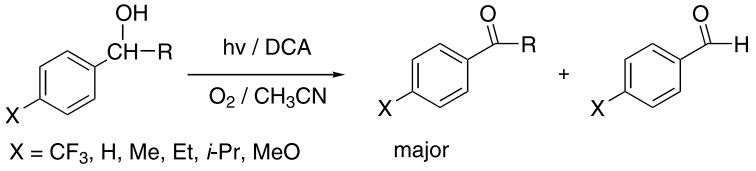


Tetrahedron Letters 44 (2003) 6247

9,10-Dicyanoanthracene photosensitized oxidation of aryl alkanols: evidence for an electron transfer mechanism

Ioannis N. Lykakis, Stellios Lestakis and Michael Orfanopoulos*

Department of Chemistry, University of Crete, 71409 Iraklion, Crete, Greece

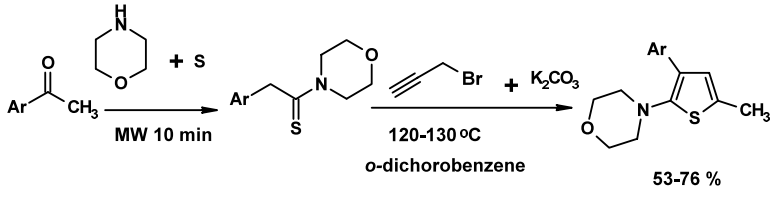


Tetrahedron Letters 44 (2003) 6253

A versatile one-pot synthesis of 2,3,5-tri-substituted thiophenes from thiomorpholides

Firouz Matloubi Moghaddam* and Hassan Zali-Boinee

Sharif University of Technology, Department of Chemistry, PO Box 11365-9516 Tehran, Iran

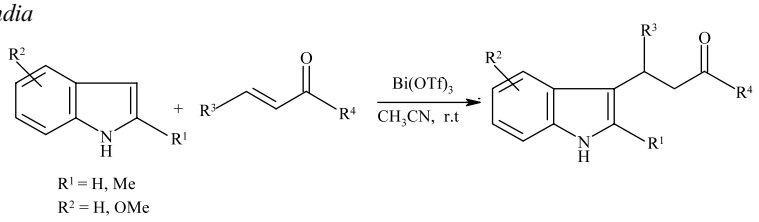


Bismuth triflate catalyzed conjugate addition of indoles to α,β-enones

Tetrahedron Letters 44 (2003) 6257

A. Vijender Reddy, K. Ravinder, T. Venkateshwar Goud, P. Krishnaiah, T. V. Raju and Y. Venkateswarlu*

Natural Products Laboratory, Organic Chemistry Division I, Indian Institute of Chemical Technology, Hyderabad 500 007, India



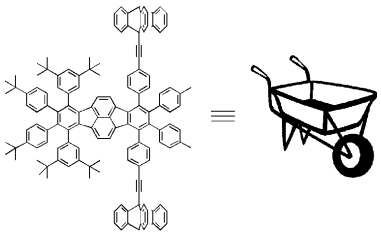
Technomimetic molecules: synthesis of a molecular wheelbarrow

Tetrahedron Letters 44 (2003) 6261

Gorka Jimenez-Bueno and Gwénaël Rapenne*

NanoSciences Group, CEMES-CNRS, 29 rue Jeanne Marvig BP 4347, F-31055 Toulouse Cedex 4, France

A molecular analog of a wheelbarrow is synthesized following a strategy based on sequential double Knoevenagel and Diels–Alder reactions.



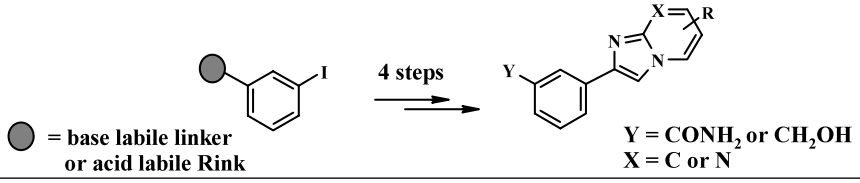
Solid-phase synthesis of imidazo[1,2-*a*]pyridines and imidazo[1,2-*a*]-pyrimidines

Tetrahedron Letters 44 (2003) 6265

Saïd El Kazzouli,[a,b] Sabine Berteina-Raboin,[a,*] Abderrahim Mouaddib[b] and Gérald Guillaumet[a]

[a]*Institut de Chimie Organique et Analytique, UMR CNRS 6005, Université d'Orléans, B.P. 6759, 45067 Orléans Cedex 2, France*

[b]*Faculté des Sciences et Techniques de Beni-Mellal, Université Caddi-Ayyad, BP 523, 23000 Beni-Mellal, Maroc*

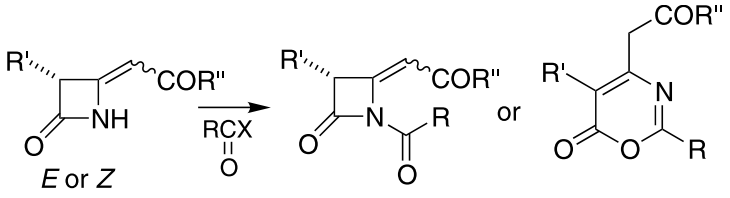


N-Acylation of 4-alkylidene-β-lactams: unexpected results

Tetrahedron Letters 44 (2003) 6269

Gianfranco Cainelli, Daria Giacomini,* Massimo Gazzano, Paola Galletti* and Arianna Quintavalla

Department of Chemistry 'G. Ciamician', University of Bologna and ISOF (C.N.R.), Via Selmi 2, Bologna 40126, Italy



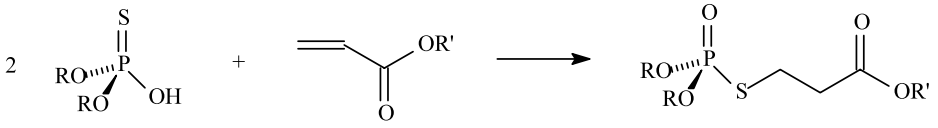
A quantitative synthesis of β-carboxylated thiolophosphates via a Michael reaction

Tetrahedron Letters 44 (2003) 6273

Elisabeth Desforges, Alexandre Grysan, Nicolas Oget,* Michèle Sindt and Jean-Luc Mieloszynski

Laboratoire de Chimie et Applications, EA3471, Université de Metz, Ile du Saulcy, F-57045 Metz Cedex, France

β-Carboxylated thiolophosphates are synthesized quantitatively via a Michael reaction between two equivalents of *O*,*O*′-dialkylthiophosphate acid and acrylate compounds.



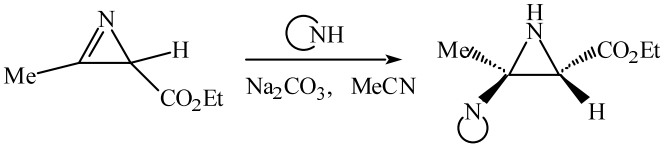
Optically active aziridine esters by nucleophilic addition of nitrogen heterocycles to a chiral 2*H*-azirine-2-carboxylic ester

Tetrahedron Letters 44 (2003) 6277

M. José Alves,* A. Gil Fortes and Luis F. Gonçalves

Departamento de Química, Universidade do Minho, Campus de Gualtar 4710-057 Braga, Portugal

Chirally enriched ethyl 3-methyl-2*H*-azirine-2-carboxylate acts as an efficient alkylating agent for a variety of five membered aromatic nitrogen heterocycles.



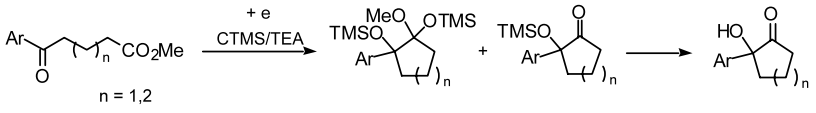
7 **8**

Electroreductive intramolecular coupling of aromatic δ- and ε-keto esters

Tetrahedron Letters 44 (2003) 6281

Naoki Kise,* Kie Arimoto and Nasuo Ueda

Department of Biotechnology, Faculty of Engineering, Tottori University, Koyama, Tottori 680-8552, Japan



Identification of isopseudohypericin, a new phenanthroperylene quinone obtained by the alkaline treatment of pseudohypericin

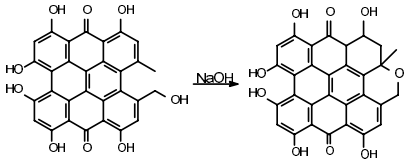
Tetrahedron Letters 44 (2003) 6285

Jean-Dominique Fourneron,[a,*] Youssef Naït-Si,[a] Roselyne Rosas,[b] Robert Faure[b] and Pascal Viant[c]

[a]*Laboratoire des Systèmes Chimiques Complexes (UMR-CNRS 6171), Faculté des Sciences et Techniques de Saint-Jérôme, 13397 Marseille cedex 20, France*

[b]*Centre Régionnal de RMN, Faculté des Sciences et Techniques de Saint-Jérôme, 13397 Marseille cedex 20, France*

[c]*R-D Pharma SA. 7, Boulevard des Moulins, 98000 Monaco, France*



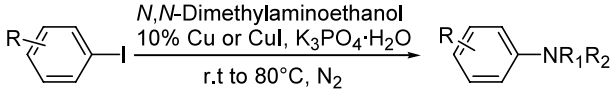
Tetrahedron Letters 44 (2003) 6289

Copper-catalyzed amination of aromatic halides with 2-*N*,*N*-dimethylaminoethanol as solvent

Zhikuan Lu, Robert J. Twieg* and Songping D. Huang

Department of Chemistry, Kent State University, Kent, OH 44242-0001, USA

A copper-catalyzed amination of aromatic halides under mild conditions using *N*,*N*-dimethylaminoethanol as solvent is described. We have studied this reaction in detail varying the copper source, base, water content and other parameters including the scope of useful amine and aromatic halide structures. A variety of 4-halo-*N*,*N*-cycloalkylanilines and 2-*N*,*N*-cycloalkylthiophenes were synthesized for further elaboration into chromophores for optoelectronic applications.

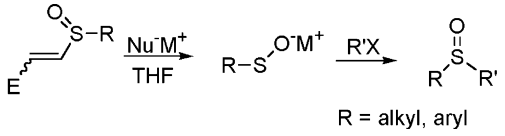


Tetrahedron Letters 44 (2003) 6293

β-Sulfinyl acrylate esters as a convenient source of alkane- and arenesulfenate anions

Jennifer S. O'Donnell and Adrian L. Schwan*

Guelph-Waterloo Centre for Graduate Work in Chemistry, Dept. of Chemistry and Biochemistry, University of Guelph, Guelph, Ontario, Canada, N1G 2W1

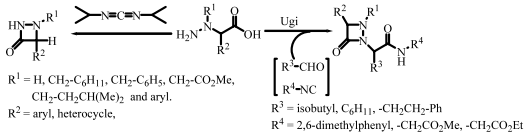


Tetrahedron Letters 44 (2003) 6297

The synthesis of aza-β-lactams via tandem Petasis–Ugi multi-component condensation and 1,3-diisopropylcarbodiimide (DIC) condensation reaction

Dinabandhu Naskar,[a,*] Amrita Roy,[a] William L. Seibel,[b] Laura West[b] and David E. Portlock[b]

[a]*Chembiotek Research International, Block BN, Sector-V, Plot 7, Salt Lake Electronic Complex, Kolkata 700 091, India*
[b]*Combinatorial Chemistry Section, Procter & Gamble Pharmaceuticals, Health Care Research Center, 8700 Mason Montgomery Road, Mason, OH 45040, USA*



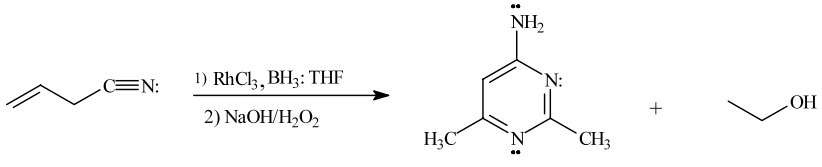
Tetrahedron Letters 44 (2003) 6301

$RhCl_3$-catalyzed hydroboration of alkenyl nitriles

Anvar U. Buranov[a,*] and Terence C. Morrill[b,*]

[a]*Department of Organic Synthesis, Institute of the Chemistry of Plant Substances, Tashkent 700170, Uzbekistan*
[b]*Department of Chemistry, College of Science, Rochester Institute of Technology, Rochester, NY 14623, USA*

Unexpected chemical transformations of allyl cyanide during hydroboration reactions are described.



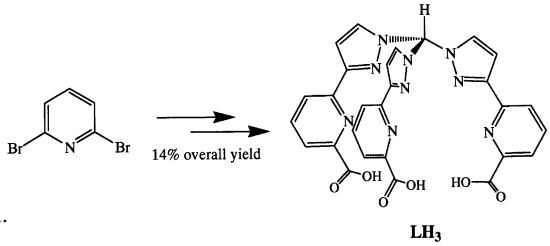
Tetrahedron Letters 44 (2003) 6305

A convenient preparative method for anionic tris(substituted pyrazolyl)methane ligands

Loïc J. Charbonnière* and Raymond Ziessel*

Laboratoire de Chimie Moléculaire associé au CNRS, Ecole de Chimie, Polymères et Matériaux, 25 rue Becquerel, 67087 Strasbourg Cedex 02, France

The synthesis of the tris-tridentate ligand $\mathbf{LH_3}$ is described in 14% overal yield, including chemical reactions on the trispyrazolylmethane framework and characterisation of the isomeric form obtained upon condensation of the pyrazolyl precursor with chloroform.



$\mathbf{LH_3}$

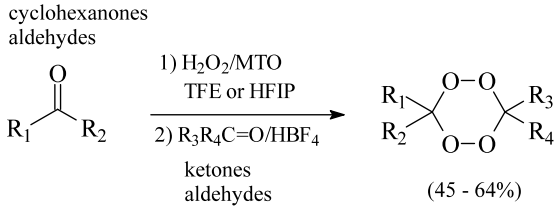
Tetrahedron Letters 44 (2003) 6309

One-pot synthesis of non-symmetric tetraoxanes with the H_2O_2/MTO/fluorous alcohol system

Jernej Iskra,[a] Danièle Bonnet-Delpon[b,*] and Jean-Pierre Bégué[b]

[a]*Laboratory or Organic and Bioorganic Chemistry, 'Jozef Stefan' Institute, Jamova 39, Slovenia*

[b]*BIOCIS UPRES-A 8079, Faculté de Pharmacie, Université Paris-Sud, Chatenay-Malabry, France*



Tetrahedron Letters 44 (2003) 6313

2*H*-Azirines as dipolarophiles

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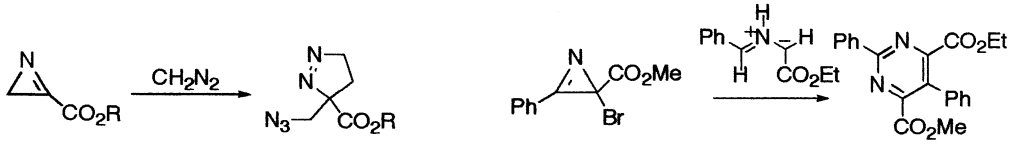

Tetrahedron Letters 44 (2003) 6317

α-Iodination of enaminones using the modified Johnson's procedure: the use of I_2 and Et_3N

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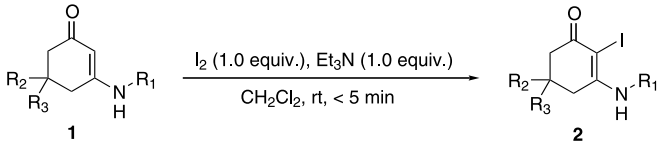

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Tetrahedron Letters 44 (2003) 6319

Generation and reactions of α-trifluoromethyl stabilized aziridinyl anion, a general synthetic precursor for stereospecific construction of α-amino-α-trifluoromethylated quaternary carbon

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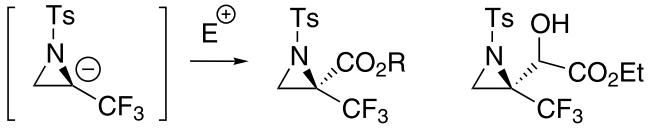

Tetrahedron Letters 44 (2003) 6323

Stereoselective synthesis of *anti*-2-oxazolidinones by $Ph_3P-CCl_4-Et_3N$ mediated S_N2 cyclization of *N*-Boc-β-amino alcohols

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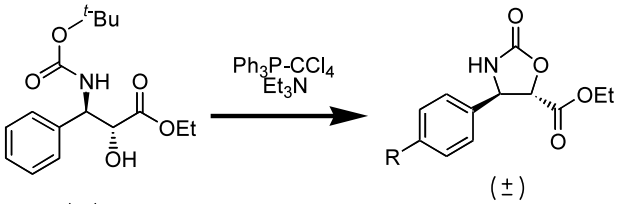
[b]*Department of Chemistry, College of Engineering, JNT University, Kukatpally, Hyderabad 500 872, AP, India*

Ethyl *anti*-4-substituted phenyl-2-oxo-1,3-oxazolidine-5-carboxylates were synthesized stereoselectively in excellent yields using the $Ph_3P-CCl_4-Et_3N$ system by S_N2 cyclization of *N*-Boc-β-amino alcohols. *syn* to *anti* conversion of ethyl 4-substituted phenyl-2-oxo-1,3-oxazolidine-5-carboxylates using DBU as base is also described.



(±) **1** (±) ***anti*** **5**

Tetrahedron Letters 44 (2003) 6327

Sterically controlled cyclization of 3′,4′,5,7-tetramethyldihydroquercetin amidophosphites. New synthesis of phostones

E. E. Nifantyev,[a,*] M. P. Koroteev,[a] G. Z. Kaziev,[a] I. S. Zakharova,[a] K. A. Lyssenko,[b] L. N. Kuleshova[b] and M. Yu. Antipin[b]

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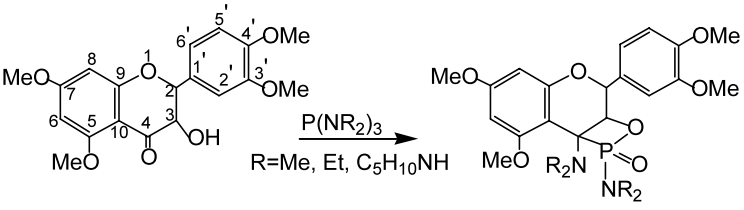
[b]*A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Moscow 119991, Russia*

A new sterically controlled reaction of α-hydroxyketones with phosphorus acid triamides resulting in new four-membered phostones is reported.



Tetrahedron Letters 44 (2003) 6331

Novel direct reduction of diaryl ketones to diarylmethanes using supercritical 2-propanol

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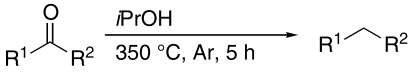
We found that diaryl ketones reduce directly to diaryl alkanes under supercritical 2-propanol. This method was applied to one-pot synthesis of anthracene from anthraquinone derivatives by the addition of sulfur in excellent yields.



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Tetrahedron Letters 44 (2003) 6335

Rhodium-catalyzed cycloisomerization of allenenes via metalacycle intermediates

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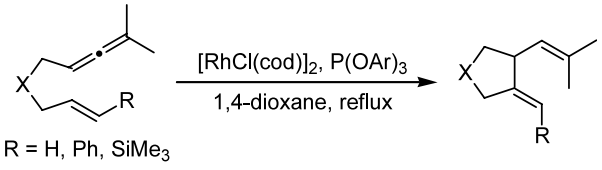

Tetrahedron Letters 44 (2003) 6339

Protecting group migration in the chemistry of 1-*t*-butyldimethylsilyl-4-hydroxymethyl-2-azetidinone

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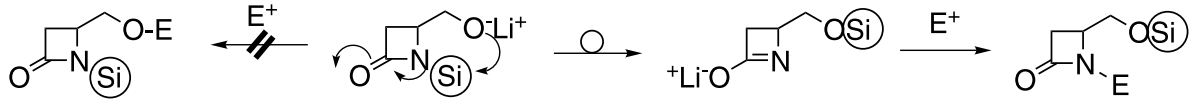

Tetrahedron Letters 44 (2003) 6343

Novozym-435-catalyzed enzymatic separation of racemic propargylic alcohols. A facile route to optically active terminal aryl propargylic alcohols

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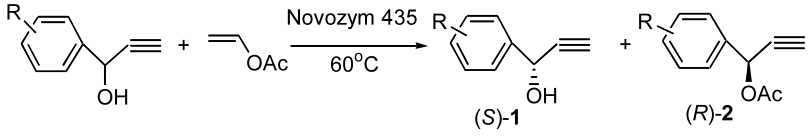

Tetrahedron Letters 44 (2003) 6347

Fragmentation of carbohydrate anomeric alkoxy radicals: a new synthesis of chiral 1-halo-1-bromo compounds

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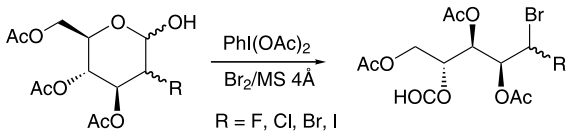

Tetrahedron Letters 44 (2003) 6351

Studies towards diarylheptanoid synthesis. Part 1: Synthesis and ring cleavage reactions of hexahydro-2*H*,5*H*-pyrano[2,3-*b*]pyran-2-ones

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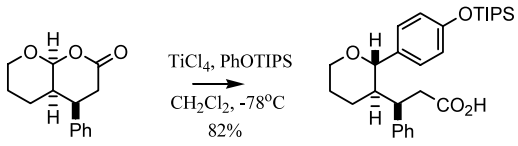

Tetrahedron Letters 44 (2003) 6355

Studies towards diarylheptanoid synthesis. Part 2: Synthesis and ring cleavage reactions of tetrahydro-4*H*-furo[2,3-*b*]pyran-2-ones

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