Graphical abstracts

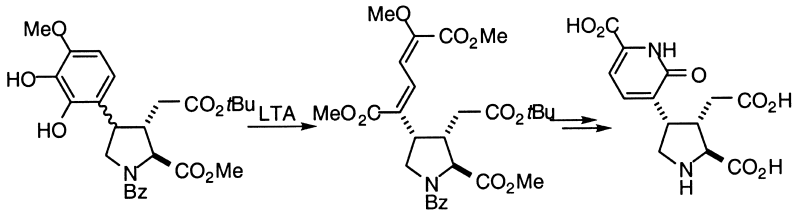
Oxidative degradation of benzene rings

Tetrahedron 59 (2003) 1105

Lewis N. Mander[a] and Craig M. Williams[b,*]

[a]*Research School of Chemistry, Australian National University, Canberra, ACT, Australia*
[b]*Department of Chemistry, The University of Queensland, Brisbane, Qld, Australia*

The progression and utilisation of oxidative aromatic degradation as a synthetic tool is reviewed.

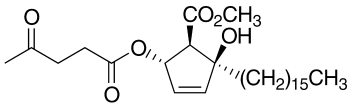


Plakevulin A, a new oxylipin inhibiting DNA polymerases α and γ from sponge *Plakortis* species

Tetrahedron 59 (2003) 1137

Masashi Tsuda,[a] Tadashi Endo,[a] Marinela Perpelescu,[b] Shonen Yoshida,[b] Kenji Watanabe,[c] Jane Fromont,[d] Yuzuru Mikami[e] and Jun'ichi Kobayashi[a,*]

[a]*Graduate School of Pharmaceutical Sciences, Hokkaido University, Kita-12 Nishi-6, Kita-ku, Sapporo 060-0812, Japan*
[b]*Research Institute for Disease Mechanism and Control, Nagoya University School of Medicine, Nagoya 466-8550, Japan*
[c]*Faculty of Agriculture, Hokkaido University, Sapporo 060-8589, Japan*
[d]*Western Australian Museum, Perth, WA 6000, Australia*
[e]*Research Center for Pathogenic Fungi and Microbial Toxicoses, Chiba University, Chiba 260-0856, Japan*



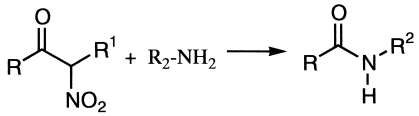
plakevulin A

Uncatalyzed conversion of linear α-nitro ketones into amides by reaction with primary amines under solventless conditions

Tetrahedron 59 (2003) 1143

Roberto Ballini,* Giovanna Bosica and Dennis Fiorini

Dipartimento di Scienze Chimiche dell'Università, Via S. Agostino 1, 62032 Camerino (MC), Italy

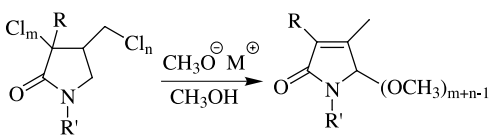


Synthesis of 5-methoxylated 3-pyrrolin-2-ones via the rearrangement of chlorinated pyrrolidin-2-ones

Tetrahedron 59 (2003) 1147

Franco Ghelfi,[a,*] Christian V. Stevens,[b,*] Inge Laureyn,[b] Ellen Van Meenen,[b] Tina M. Rogge,[b] Laurent De Buyck,[b] Kirill V. Nikitin,[c] Romano Grandi,[a] Emanuela Libertini,[a] Ugo M. Pagnoni[a] and Luisa Schenetti[a]

[a]*Dipartimento di Chimica, Università degli Studi di, Modena e Reggio Emilia, Via Campi 183, 41100 Modena, Italy*
[b]*Department of Organic Chemistry, Faculty of Agricultural and Applied Biological Sciences, Ghent University, Coupure Links 653, B-9000 Ghent, Belgium*
[c]*Department of Chemistry, University College Dublin, Belfield, Dublin 4, Ireland*

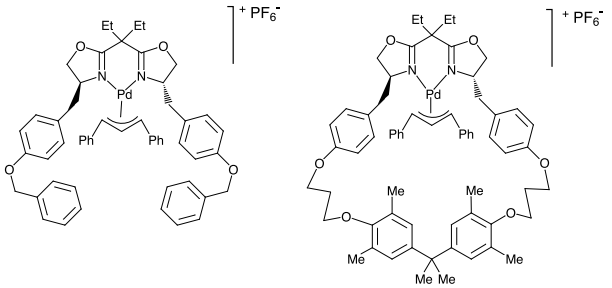


Macrocyclic vs acyclic derivatives of chiral bis(oxazolines); ligand distortion and enantioselectivity of Pd(II) complexes in catalytic allylic alkylation

Tetrahedron 59 (2003) 1159

Dragan Šepac, Željko Marinić, Tomislav Portada, Mladen Žinić and Vitomir Šunjić*

Ruđer Bošković Institute, Bijenička c. 54, P.O.B. 180, 10002 Zagreb, Croatia



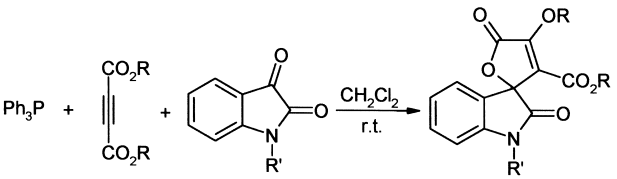
New and efficient one-pot synthesis of functionalized γ-spirolactones mediated by vinyltriphenylphosphonium salts

Tetrahedron 59 (2003) 1169

Abbas Ali Esmaili* and Asghar Bodaghi

Department of Chemistry, University of Birjand, P.O. Box 79, Birjand, Iran

The addition of dimethyl acetylenedicarboxylate to isatin derivatives in presence of triphenylphosphine leading to new highly functionalized γ-spirolactones.

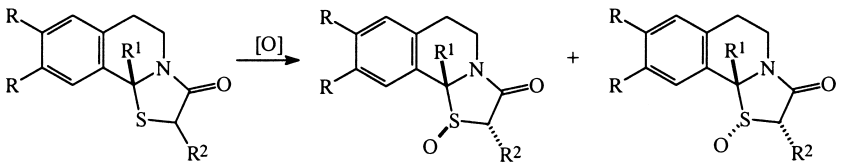


Studies of some hydrogenated thiazolo[2,3-*a*]isoquinoline *S*-oxides

Tetrahedron 59 (2003) 1173

M. D. Rozwadowska* and A. Sulima

Faculty of Chemistry, Adam Mickiewicz University, Grunwaldzka 6, 60-780 Poznań, Poland



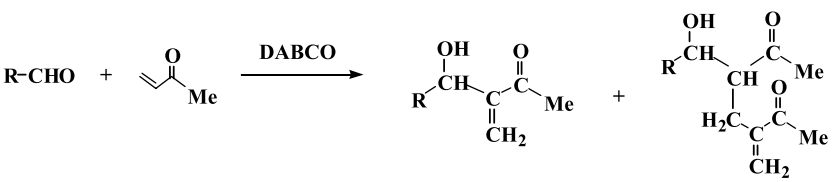
(R=H, OCH_3; R^1, R^2=H, CH_3)

Reexamination of the traditional Baylis–Hillman reaction

Tetrahedron 59 (2003) 1181

Min Shi,* Chao-Qun Li and Jian-Kang Jiang

Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 354 Fenglin Lu, Shanghai 200032, People's Republic of China

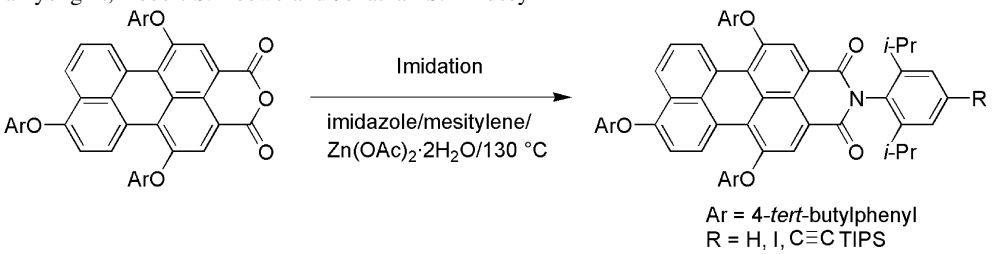


Practical synthesis of perylene-monoimide building blocks that possess features appropriate for use in porphyrin-based light-harvesting arrays

Tetrahedron 59 (2003) 1191

Kin-ya Tomizaki, Patchanita Thamyongkit, Robert S. Loewe and Jonathan S. Lindsey*

Department of Chemistry, North Carolina State University, Campus Box 8204, Raleigh, NC 27695-8204, USA

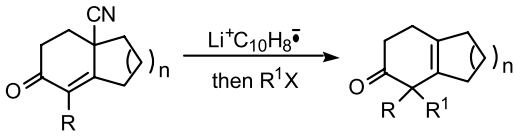


A modified Robinson annulation process to α,α-disubstituted-β,γ-unsaturated cyclohexanone system. Application to the total synthesis of nanaimoal

Tetrahedron 59 (2003) 1209

Hsing-Jang Liu,[a,b,c,*] Tai Wei Ly,[b,c] Chia-Liang Tai,[a] Jen-Dar Wu,[a] Jinn-Kwei Liang,[a] Jiunn-Cheh Guo,[a] Nai-Wen Tseng[a] and Kak-Shan Shia[d]

[a]*Department of Chemistry, National Tsing Hua University, Hsinchu 30013, Taiwan, ROC*
[b]*Institute of Chemistry, Academia Sinica, Nankang, Taipei 11529, Taiwan, ROC*
[c]*Department of Chemistry, University of Alberta, Edmonton, Alta., Canada T6G 2G2*
[d]*Division of Biotechnology and Pharmaceutical Research, National Health Research Institutes, Nankang, Taipei 11529, Taiwan, ROC*

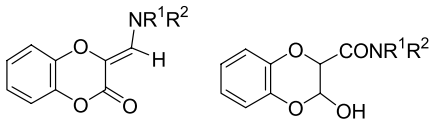


A new synthesis of 3-hydroxy-2,3-dihydro-1,4-benzodioxin-2-carboxamides and 3-aminomethylene-1,4-benzodioxin-2(3*H*)-one derivatives

Tetrahedron 59 (2003) 1227

C. Bozzo,[a] M. D. Pujol,[a,*] X. Solans[b] and M. Font-Bardia[b]

[a]*Laboratori de Química Farmacèutica (Unitat Associada al CSIC), Facultat de Farmàcia, Universitat de Barcelona, Av. Diagonal 643, 08028 Barcelona, Spain*
[b]*Departament de cristal.lografia, mineralogia i depòsits minerals, Universitat de Barcelona. Marti i Franqués, 08028 Barcelona, Spain*

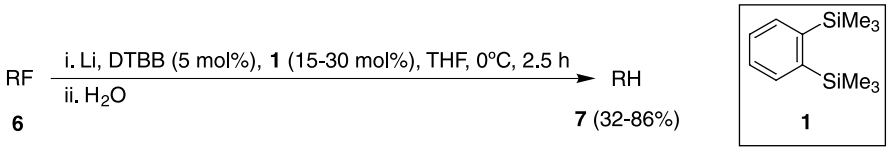


Reductive defluorination of fluoroalkanes

Tetrahedron 59 (2003) 1237

David Guijarro, Pedro Martínez and Miguel Yus*

Departamento de Química Orgánica, Facultad de Ciencias, Universidad de Alicante, Apdo. 99, 03080 Alicante, Spain



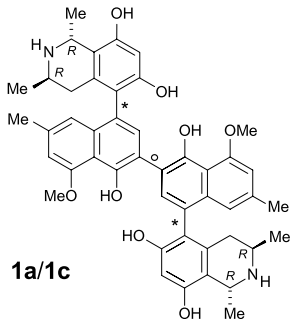
Calculation of circular dichroism spectra of michellamines A and C, based on a complete conformational analysis

Tetrahedron 59 (2003) 1245

Gerhard Bringmann,* Klaus-Peter Gulden and Stefan Busemann

Institut für Organische Chemie, Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany

The CD spectra of michellamines A (**1a**, $* = P$) and C (**1c**, $* = M$) have been calculated for the first time; the calculations confirm the absolute stereostructures of these large and flexible compounds.



1a/1c

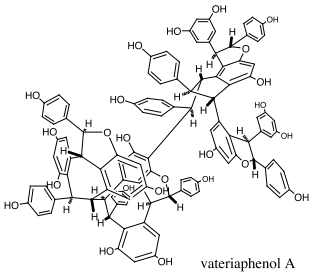
Two new oligostilbenes with dihydrobenzofuran from the stem bark of *Vateria indica*

Tetrahedron 59 (2003) 1255

Tetsuro Ito,[a,*] Toshiyuki Tanaka,[a] Munekazu Iinuma,[b] Ken-ichi Nakaya,[a] Yoshikazu Takahashi,[c] Ryuichi Sawa,[c] Hiroshi Naganawa[c] and Veliah Chelladurai[d]

[a]*Gifu Prefectural Institute of Health and Environmental Sciences, Naka-fudogaoka, Kakamigahara, Gifu 504-0838, Japan*
[b]*Gifu Pharmaceutical University, 5-6-1 Mitahora-higashi, Gifu 502-8585, Japan*
[c]*Institute of Microbial Chemistry, 3-14-23 Kamiosaki, Shinagawa-ku, Tokyo 141-0021, Japan*
[d]*Survey of Medicinal Plant Unit, Central Council for Research in Ayurveda and Siddha, Tirunelveli, Tamil Nadu 627002, India*

Two new stilbenoids, vateriaphenols A (**1**) and B (**2**), were isolated from the stem bark of *Vateria indica* along with known 10 stilbenoids. The structures of isolates were established based on spectroscopic analysis. Vateriaphenols A is the first instance of resveratrol octamer.



vateriaphenol A

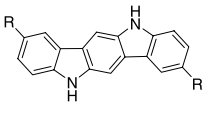
Synthesis and alkylation of indolo[3,2-*b*]carbazoles

Tetrahedron 59 (2003) 1265

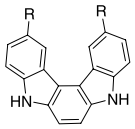
Larisa N. Yudina[a] and Jan Bergman[a,b,*]

[a]*Department of Organic Chemistry, Department of Biosciences, Karolinska Institute, Novum Research Park, Huddinge S-141 57, Sweden*
[b]*Södertörn University College, SE-141 04 Huddinge, Sweden*

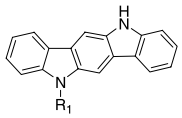
Double Fischer cyclisation was used to prepare indolo[3,2-*b*] (**1**) and [2,3-*c*] (**5**) carbazoles. *N*-monosubstituted derivatives of indolo[3,2-*b*]carbazole (**15b**, **22**, **24**) were obtained starting from 5,11-di-Boc-indolo[3,2-*b*]carbazole.



1a R=H, **1b** R=OMe,
1c R= F, **1d** R=Br, **6** R=OH



5 R=H, OMe



15b R=$CH_2CH_2N(CH_3)_2$
22 R=CH_3
24 R=CH_2OH

Efficient entry to 1-benzoxepine ring skeleton via tandem S_N2/Wittig reaction. Total synthesis of NADH: ubiquinone oxidoreductase (complex I) antagonist pterulinic acid

Tetrahedron 59 (2003) 1277

Yuh-Lin Lin, Hsien-Shou Kuo, Yi-Wen Wang and Sheng-Tung Huang*

Department of Biochemistry, Taipei Medical University, 250 Wu Hsing Street, 110 Taipei, Taiwan, ROC

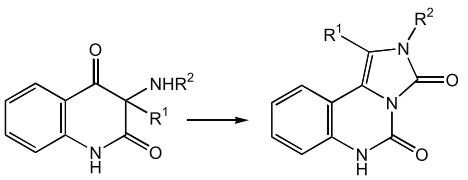
pterulinic acid 1a

Unprecedented reactivity of 3-amino-1*H*,3*H*-quinoline-2,4-diones with urea: an efficient synthesis of 2,6-dihydro-imidazo[1,5-*c*]quinazoline-3,5-diones

Tetrahedron 59 (2003) 1283

Antonín Klásek,[a,*] Kamil Kořistek,[a] Antonín Lyčka[b] and Michal Holčapek[c]

[a]*Department of Chemistry and Environmental Technology, Faculty of Technology, Tomas Bata University, 762 72 Zlín, Czech Republic*
[b]*Research Institute for Organic Syntheses, 532 18 Pardubice, Czech Republic*
[c]*Department of Analytical Chemistry, Faculty of Chemical Technology, University of Pardubice, 53210 Pardubice, Czech Republic*

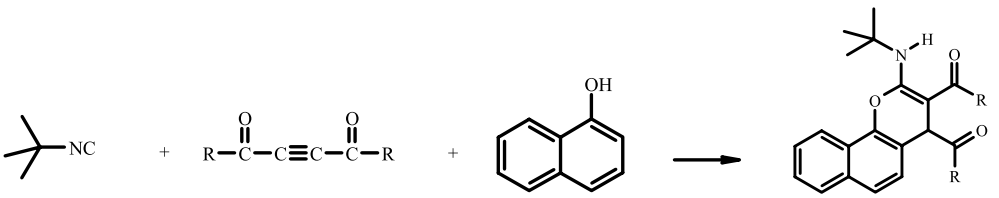


A simple and efficient approach to the synthesis of highly functionalized fused benzochromenes

Tetrahedron 59 (2003) 1289

Issa Yavari,* Mohammad Anary-Abbasinejad, Abdolali Alizadeh and Zinatossadat Hossaini

Department of Chemistry, Tarbiat Modarres University, P.O. Box 14115-175 Tehran, Iran

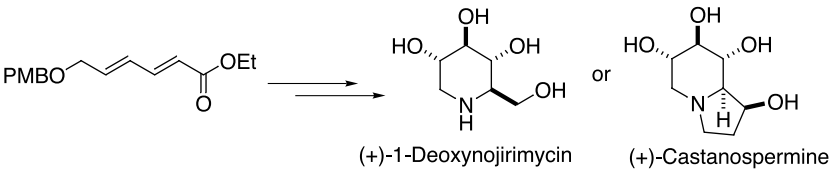


Asymmetric synthesis of (+)-1-deoxynojirimycin and (+)-castanospermine

Tetrahedron 59 (2003) 1293

Peter Somfai,* Patrice Marchand, Staffan Torsell and Ulf M. Lindström

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

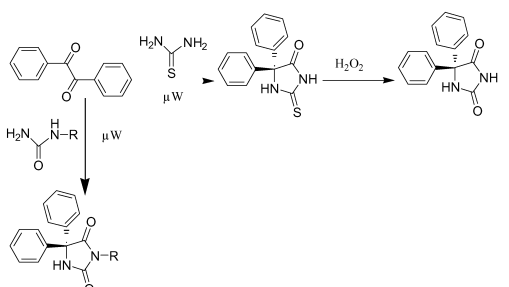


A rapid and efficient microwave-assisted synthesis of hydantoins and thiohydantoins

Tetrahedron 59 (2003) 1301

Giulio G. Muccioli,[a] Jacques H. Poupaert,[a] Johan Wouters,[b] Bernadette Norberg,[b] Wolfgang Poppitz,[c] Gerhard K. E. Scriba[d] and Didier M. Lambert[a,*]

[a]*Laboratoire de Chimie pharmaceutique et de Radiopharmacie, Ecole de Pharmacie, Faculté de Médecine, Université catholique de Louvain, Avenue E. Mounier 73, UCL-CMFA 7340, B-1200 Bruxelles, Belgium*
[b]*Laboratoire de Chimie moléculaire structurale, Faculté des Sciences, Facultés universitaires Notre Dame de la Paix, Rue de Bruxelles, 61, 5000 Namur, Belgium*
[c]*Department of Inorganic and Analytical Chemistry, University of Jena, August-Bebel-Strasse 2, D-07743 Jena, Germany*
[d]*Department of Pharmaceutical Chemistry, University of Jena, Philosophenweg 14, D-07743 Jena, Germany.*



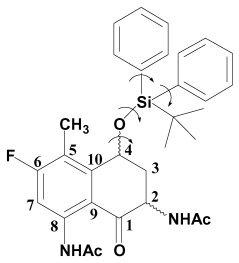
NMR-Spectroscopic, computational and mass-spectrometric investigations on the *cis/trans* analogues of 2,3,4-trihydro-naphthalene-1-one

Tetrahedron 59 (2003) 1309

Antonella Cartoni,* Andrea Madami, Daniela Palomba, Marco Marras, Marco Berettoni, Lauso Olivieri, Alessandro Ettorre, Amalia Cipollone, Fabio Animati, Carlo Alberto Maggi and Edith Monteagudo

Department of Chemistry and Drug Design Menarini Ricerche S.p.A., Via Tito Speri 10, I-00040 Pomezia, Roma, Italy

NMR-Spectroscopic, computational and mass-spectrometric investigation on the *cis/trans* isomers of **1**, obtained as intermediates in the synthesis of an important class of alkaloid molecules, is reported. Different interactions (steric hindrance, π−π, cation−π) were identified which influence the spatial arrangements adopted by these isomers. The study may be useful for the rational design of new molecules with specific conformations.



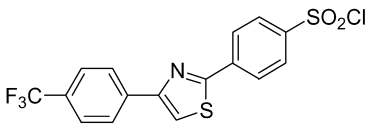
1

Practical routes to the triarylsulfonyl chloride intermediate of a β_3 adrenergic receptor agonist

Tetrahedron 59 (2003) 1317

Norihiro Ikemoto,* Jinchu Liu, Karel M. J. Brands, James M. McNamara and Paul J. Reider

Department of Process Research, Merck and Co. Inc., R800-C267, P.O. Box 2000, Rahway, NJ 07065-0900, USA



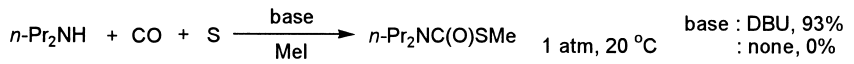
Facile *S*-alkyl thiocarbamate synthesis by a novel DBU-assisted carbonylation of amines with carbon monoxide and sulfur

Tetrahedron 59 (2003) 1327

Takumi Mizuno,[a,*] Junko Takahashi[b] and Akiya Ogawa[b]

[a]*Osaka Municipal Technical Research Institute, 1-6-50, Morinomiya, Joto-ku, Osaka 536-8553, Japan*
[b]*Department of Chemistry, Faculty of Science, Nara Women's University, Kitauoyanishi-machi, Nara 630-8506, Japan*

S-Alkyl thiocarbamates, including benthiocarb and orthobencarb as herbicides, are synthesized in excellent yields by DBU-assisted carbonylation of amines with carbon monoxide and sulfur under mild conditions (1 atm, 20°C) followed by alkylation of thus formed thiocarbamate salts.

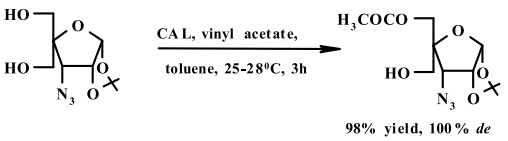


Highly efficient diastereoselective biocatalytic acylation of a diastereotopic furanose diol and synthesis of key intermediates for amino derivatized bicyclonucleosides

Tetrahedron 59 (2003) 1333

Ashok K. Prasad, Sucharita Roy, Rajesh Kumar, Neerja Kalra, Jesper Wengel, Carl E. Olsen, Ashok L. Cholli, Lynne A. Samuelson, Jayant Kumar, Arthur C. Watterson, Richard A. Gross and Virinder S. Parmar*

The selectivity of *Candida antarctica* lipase has been demonstrated and employed in the manipulation of a diastereotopic furanose diol as the key step in the synthesis of novel bicyclo 3-amino-3-deoxy furanose derivatives. The asymmetrization of the diol has been achieved with preferred formation of a monoacylated product with 100% *de*. A practical synthesis of an intermediate in the synthesis of amino derivatized bicyclonucleosides is also described.



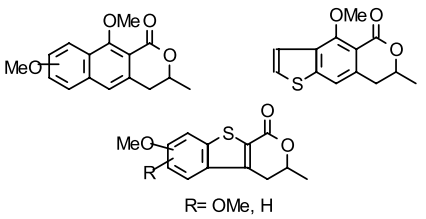
98% yield, 100% *de*

Application of directed metallation in synthesis. Part 3: Studies in the synthesis of (±)-semivioxanthin and its analogues

Tetrahedron 59 (2003) 1339

Sukanta Kamila, Chandrani Mukherjee, Sasanka S. Mondal and Asish De*

Department of Organic Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata 700-032, India



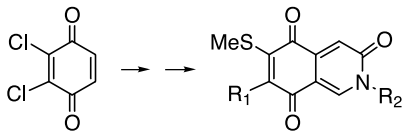
Synthesis of perfragilin A, B and some analogues

Tetrahedron 59 (2003) 1349

Vitor F. Ferreira,[a] Aeri Park,[b] Francis J. Schmitz[b,*] and Fred A. Valeriote[c]

[a]*Departamento de Química Orgânica, Universidade Federal Fluminense, Niterói, Rio de Janeiro CEP 24020-150, Brazil*
[b]*Department of Chemistry and Biochemistry, The University of Oklahoma, Norman, OK, 73019-0370, USA*
[c]*Josephine Ford Cancer Center, One Ford Place, 1-D, Detroit, MI 48202, USA*

Synthesis of perfragilin A and B, and several analogues is described. Some cytotoxicity data is reported. Variously substituted benzoquinones yielded regioselectively different products in Diels–Alder reactions with a 2-aza 1,3-butadiene.



$R_1 = H_2N$; $R_2 = Me$ (Perfragilin A)
$R_1 = MeS$; $R_2 = Me$ (Perfragilin B)