Graphical abstracts

Palytoxin: an inexhaustible source of inspiration—personal perspective

Tetrahedron 58 (2002) 6239

Yoshito Kishi

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A personal perspective is given on the research programs which have originated from, or are related to, the marine natural product palytoxin. The subjects discussed include: acyclic stereocontrol, Ni(II)/Cr(II)-mediated coupling reaction, stereochemical assignment via organic synthesis, universal NMR database, chiral NMR solvents, conformational analysis of *C*- and *O*-glycosides, diamond-lattice analysis, Type II O blood group determinant *C*- and *O*-trisaccharides, *s*MMP/*s*MGP, and CH_2-bridged Watson-Crick base-pair models.

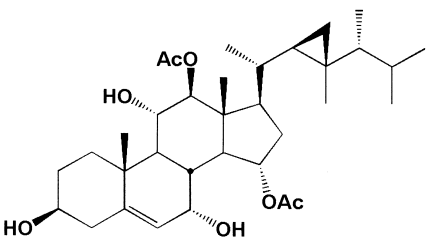
New polyoxygenated steroids exhibiting reversal of multidrug resistance from the gorgonian *Isis hippuris*

Tetrahedron 58 (2002) 6259

Junichi Tanaka,[a] Agus Trianto,[a] Musri Musman,[a] Hamad H. Issa,[a] Ikuko I. Ohtani,[a] Toshio Ichiba,[b] Tatsuo Higa,[a,*] Wesley Y. Yoshida[c] and Paul J. Scheuer[c,*]

[a]*Department of Chemistry, Biology, and Marine Science, University of the Ryukyus, Nishihara, Okinawa 903-0213, Japan*
[b]*Okinawa Industrial Technology Center, 12-2 Suzaki, Gushikawa, Okinawa 904-2234, Japan*
[c]*Department of Chemistry, University of Hawai'i at Manoa, 2545 The Mall, Honolulu, HI 96822-2275, USA*

Eleven new polyoxygenated steroids (e.g. **8**), showing reversal of multidrug resistance, have been isolated from the gorgonian *I. hippuris*.



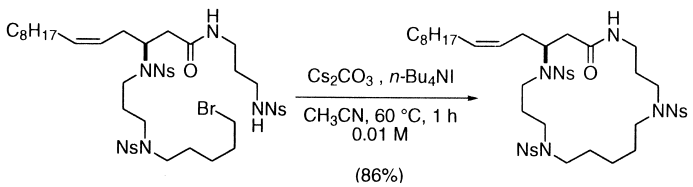
8

Efcient macrocyclization by means of 2-nitrobenzenesulfonamide and total synthesis of lipogrammistin-A

Tetrahedron 58 (2002) 6267

Toshiyuki Kan, Akiko Fujiwara, Hideki Kobayashi and Tohru Fukuyama*

Graduate School of Pharmaceutical Sciences, Japan Science & Technology Corporation (JST), University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan



Application of cyano ylide methodology to the synthesis of cyclotheonamides E_2 and E_3

Tetrahedron 58 (2002) 6277

Harry H. Wasserman* and Rui Zhang

Department of Chemistry, Yale University, P.O. Box 208107, New Haven, CT 06520-8107, USA

The synthesis of the macrocyclic pentapeptides made use of the cyano ylide route to the α-keto lactam.

Total synthesis of the amaryllidaceae alkaloid (+)-plicamine using solid-supported reagents

Tetrahedron 58 (2002) 6285

Ian R. Baxendale,[a] Steven V. Ley,[a,*] Marcella Nessi[b] and Claudia Piutti[b]

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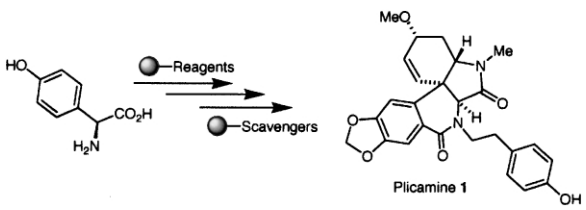
[b]*Pharmacia S.p.A, Department of Chemistry, Discovery Research Oncology, Viale Pasteur, 10-20014 Nerviano (MI), Italy*

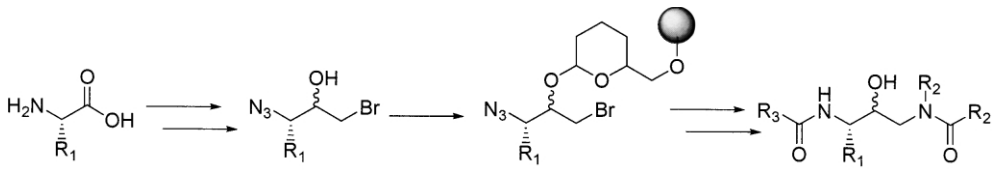


Efcient method to prepare hydroxyethylamine-based aspartyl protease inhibitors with diverse P_1 side chains

Tetrahedron 58 (2002) 6305

Masao Chino, Masahiro Wakao and Jonathan A. Ellman*

Department of Chemistry, Center for New Directions in Organic Synthesis, University of California, Berkeley, CA 94720, USA



Asymmetric, stereocontrolled total synthesis of (+) and (−)-spirotryprostatin B via a diastereoselective azomethine ylide [1,3]-dipolar cycloaddition reaction

Tetrahedron 58 (2002) 6311

Paul R. Sebahar,[a] Hiroyuki Osada,[b] Takeo Usui[b] and Robert M. Williams[a,*]

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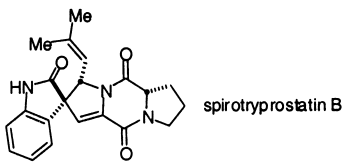
[b]*Laboratory of Antibiotics, RIKEN, 2-1 Wako-shi, Saitama 351-0198, Japan*

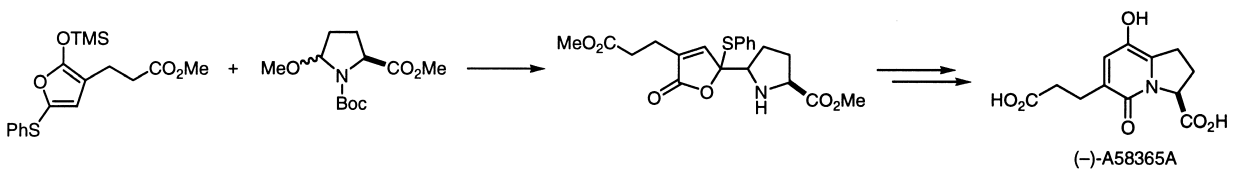


Applications of vinylogous Mannich reactions. Total synthesis of the angiotensin converting enzyme inhibitor (−)-A58365A

Tetrahedron 58 (2002) 6323

Andreas Reichelt, Scott K. Bur and Stephen F. Martin*

Department of Chemistry and Biochemistry, The University of Texas, Austin, TX 78712, USA

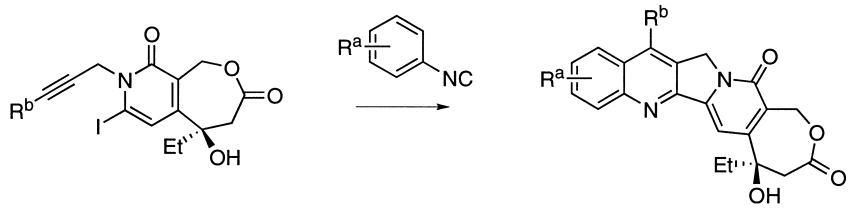


Asymmetric total synthesis of (20*R*)-homocamptothecin, substituted homocamptothecins and homosilatecans

Tetrahedron 58 (2002) 6329

Ana E. Gabarda, Wu Du, Thomas Isarno, Raghuram S. Tangirala and Dennis P. Curran*

Department of Chemistry, University of Pittsburgh, Parkman Abenue University Drive, Pittsburgh, PA 15260, USA



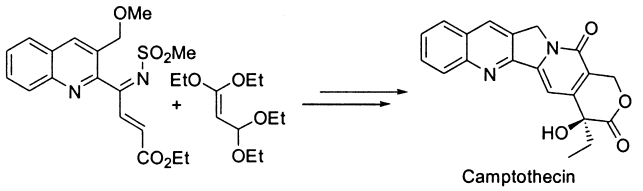
Total synthesis of (+)-camptothecin

Tetrahedron 58 (2002) 6343

Brian S. J. Blagg and Dale L. Boger*

Department of Chemistry and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037, USA

Use of an inverse electron demand Diels–Alder cycloaddition in the asymmetric total synthesis of (+)-camptothecin is described.



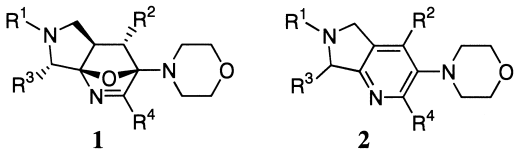
Multicomponent domino process to oxa-bridged polyheterocycles and pyrrolopyridines, structural diversity derived from work-up procedure

Tetrahedron 58 (2002) 6351

Rocio Gámez-Montaño, Eduardo González-Zamora, Pierre Potier and Jieping Zhu*

Institut de Chimie des Substances Naturelles, 91198 Gif-sur-Yvette, France

One-pot, three component syntheses of heterocycles **1** and **2** are reported.

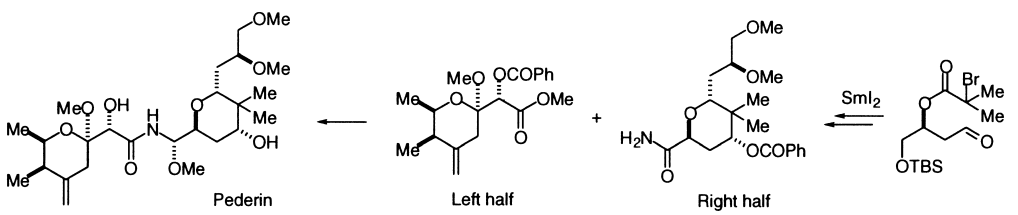


Total synthesis of pederin, a potent insect toxin: the efficient synthesis of the right half, (+)-benzoylpedamide

Tetrahedron 58 (2002) 6359

Takahiro Takemura,[a] Yoshinori Nishii,[b] Shunya Takahashi,[b] Jun'ichi Kobayashi[a] and Tadashi Nakata[b,*]

[a]*Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo 060-0812, Japan*
[b]*The Institute of Physical and Chemical Research (RIKEN), Wako-shi, Saitama 351-0198, Japan*



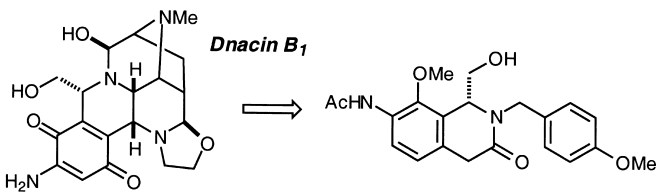
Separation of Cdc25 dual specificity phosphatase inhibition and DNA cleaving activities in a focused library of analogs of the antitumor antibiotic Dnacin

Tetrahedron 58 (2002) 6367

Peter Wipf,[a,*] Corey R. Hopkins,[a] Eleanor O. Phillips[b] and John S. Lazo[b,*]

[a]*Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260, USA*
[b]*Department of Pharmacology, University of Pittsburgh, Pittsburgh, PA 15261, USA*

Biological evaluation of 96 analogs and synthetic intermediates of the naphthyridinomycin-type antitumor antibiotic Dnacin led to the identification of several low-micromolar inhibitors of dual specificity phosphatases that lack the DNA cleavage properties of the parent natural product.

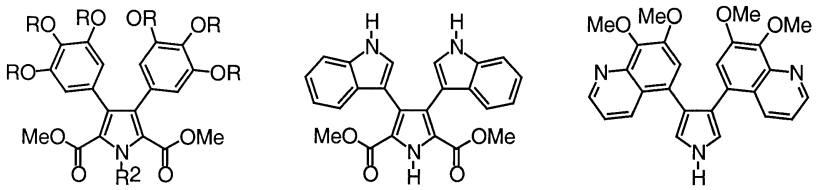


Efficient relay syntheses and assessment of the DNA-cleaving properties of the pyrrole alkaloid derivatives permethyl storniamide A, lycogalic acid A dimethyl ester, and the halitulin core

Tetrahedron 58 (2002) 6373

Alois Fürstner,* Helga Krause and Oliver R. Thiel

Max-Planck-Institut für Kohlenforschung, Kaiser Wilhelm-Platz 1, D-45470 Mülheim/Ruhr, Germany

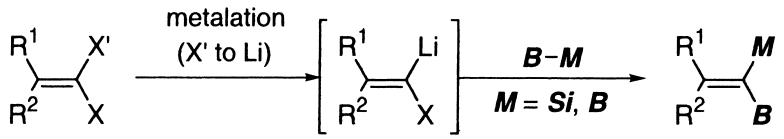


Geminal dimetalation of alkylidene-type carbenoids with silylboranes and diborons

Tetrahedron 58 (2002) 6381

Takuya Kurahashi, Takeshi Hata, Hirokazu Masai, Hirotaka Kitagawa, Masaki Shimizu* and Tamejiro Hiyama*

Department of Material Chemistry, Graduate School of Engineering, Kyoto University, Yoshida, Sakyo-ku, Kyoto 606-8501, Japan

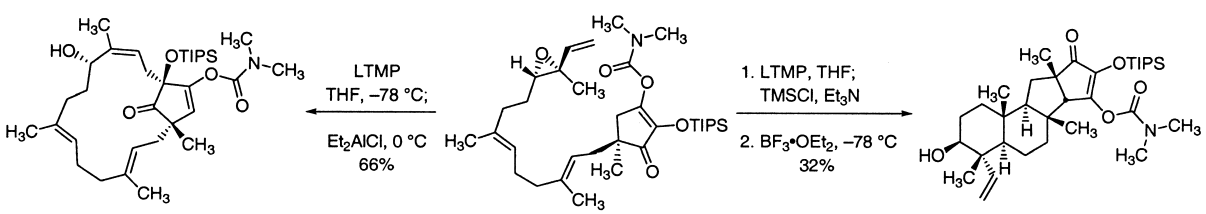


Lewis acid mediated control of allylic epoxide opening in carbocyclization and halide addition pathways

Tetrahedron 58 (2002) 6397

Andrew G. Myers* and Michael Siu

Department of Chemistry and Chemical Biology, Harvard University, 12 Oxford Street, Cambridge, MA 02138, USA

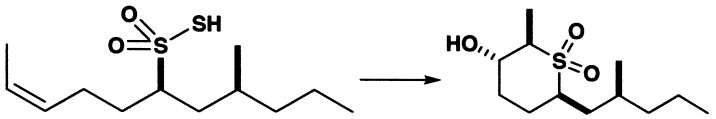


Hedathiosulfonic acids A and B, novel thiosulfonic acids from the deep-sea urchin *Echinocardium cordatum*

Tetrahedron 58 (2002) 6405

Masaki Kita,[a] Masami Watanabe,[a] Noboru Takada,[a] Kiyotake Suenaga,[b] Kaoru Yamada[a] and Daisuke Uemura[a,*]

[a]*Department of Chemistry, Graduate School of Science, Nagoya University, Furo-cho, Chikusa, Nagoya 464-8602, Japan*
[b]*Research Center for Materials Science, Nagoya University, Furo-cho, Chikusa, Nagoya 464-8602, Japan*



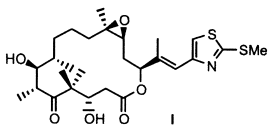
Hedathiosulfonic acid A

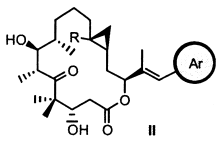
Chemical synthesis and biological evaluation of novel epothilone B and *trans*-12,13-cyclopropyl epothilone B analogues

Tetrahedron 58 (2002) 6413

K. C. Nicolaou,[a,b,*] Andreas Ritzén,[a,b] Kenji Namoto,[a,b] Rubén M. Buey,[c] J. Fernando Díaz,[c] José M. Andreu,[c] Markus Wartmann,[d] Karl-Heinz Altmann,[e] Aurora O'Brate[f] and Paraskevi Giannakakou[f]

[a]*Department of Chemistry and Skaggs Institute for Chemical Biology, Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037, USA*
[b]*Department of Chemistry and Biochemistry, University of California–San Diego, 9500 Gilman Drive, La Jolla, CA 92093, USA*
[c]*Centro de Investigaciones Biologicas, CSIC, Velazquez 144, 20006 Madrid, Spain*
[d]*Novartis Pharma AG, Oncology Business Unit, CH-4002, Basel, Switzerland*
[e]*Novartis Pharma AG, Corporate Research, CH-4002, Basel, Switzerland*
[f]*Winship Cancer Institute, Emory University School of Medicine, Atlanta, GA 30322, USA*





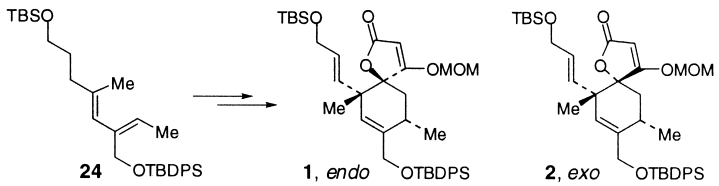
A new series of highly active epothilones such as I and II were designed, synthesized and biologically investigated.

Studies on the synthesis of the quartromicins: partial stereochemical assignment of quartromicins A_3 and D_3 and diastereoselective synthesis of the *endo*- and *exo*-spirotetronate subunits

Tetrahedron 58 (2002) 6433

William R. Roush,* David A. Barda Chris Limberakis and Roxanne K. Kunz

Department of Chemistry, University of Michigan, 930 North University, Ann Arbor, MI 48109-1055, USA

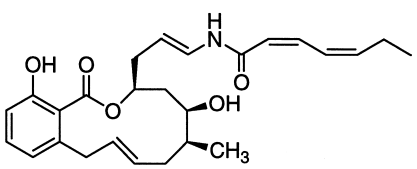


Total synthesis of (−)-salicylihalamide A and related congeners

Tetrahedron 58 (2002) 6455

Amos B. Smith, III[a,b,*] and Junying Zheng[a,b]

[a]*Department of Chemistry, Laboratory for Research on the Structure of Matter, University of Pennsylvania, Philadelphia, PA 19104, USA*
[b]*Monell Chemical Senses Center, University of Pennsylvania, Philadelphia, PA 19104, USA*

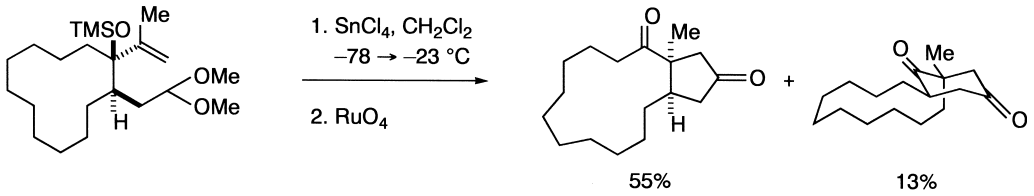


Stereoselective synthesis of carbocyclic ring systems by pinacol-terminated Prins cyclizations

Tetrahedron 58 (2002) 6473

Timothy C. Gahman and Larry E. Overman*

Department of Chemistry, 516 Rowland Hall, University of California, Irvine, CA 92697-2025, USA

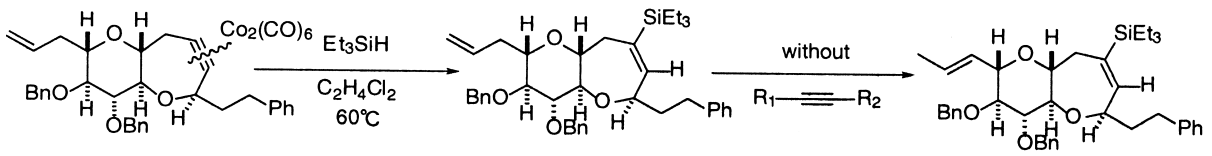


Mechanistic studies on the hydrosilylation of an acetylene cobalt complex; trapping an active catalyst $Co_2(CO)_6$ causing olen-isomer ization and *O*-silylation

Tetrahedron 58 (2002) 6485

Kazunobu Kira, Hiromichi Tanda, Akinari Hamajima, Takayuki Baba, Shigeyuki Takai and Minoru Isobe*

Laboratory of Organic Chemistry, School of Bioagricultural Sciences, Nagoya University, Chikusa, 464-8601 Nagoya, Japan

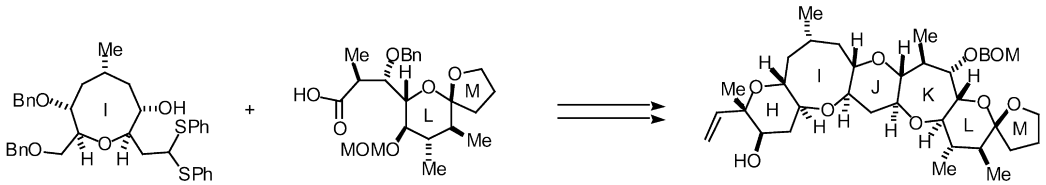


Convergent synthesis of the HIJKLM ring fragment of ciguatoxin CTX3C

Tetrahedron 58 (2002) 6493

Hisatoshi Uehara, Tohru Oishi, Masayuki Inoue, Mitsuru Shoji, Yoko Nagumo, Masashi Kosaka, Jean-Yves Le Brazidec and Masahiro Hirama*

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

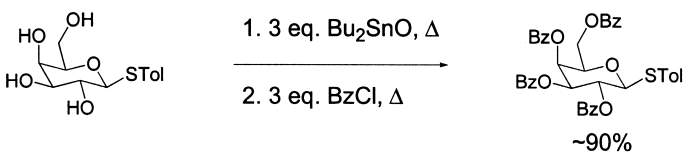


Regioselective benzoylation of sugars mediated by excessive Bu_2SnO: observation of temperature promoted migration

Tetrahedron 58 (2002) 6513

Zhiyuan Zhang and Chi-Huey Wong*

Department of Chemistry and the Skaggs Institute for Chemical Biology, The Scripps Research Institute, 10550 North Torrey Pines Road, La Jolla, CA 92037, USA

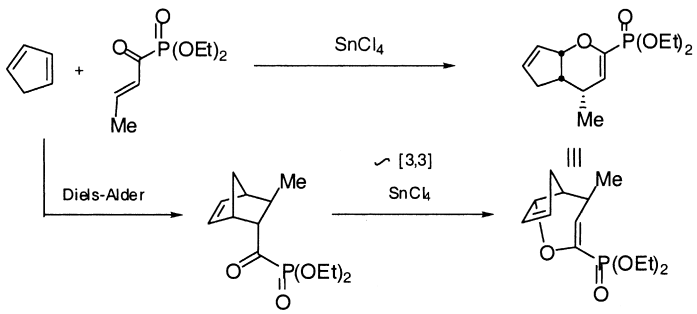


Tetrahedron 58 (2002) 6521

Lewis acid promoted cyclocondensations of α-ketophosphonoenoates with dienes—from Diels–Alder to hetero Diels–Alder reactions

Stephen Hanessian* and Philippe Compain

Department of Chemistry, Université de Montréal, P.O. Box 6128, Succursale Centre-ville, Montreal, Que., Canada H3C 3J7

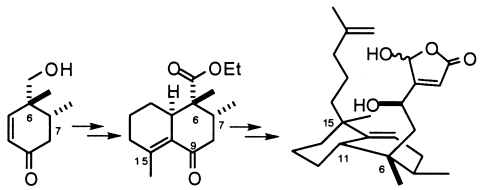


Tetrahedron 58 (2002) 6531

Total synthesis of (±)-dysidiolide

Damtew Demeke and Craig J. Forsyth*

Department of Chemistry, University of Minnesota, 139 Smith Hall, 207 Pleasant Street, SE, Minneapolis, MN 55455, USA

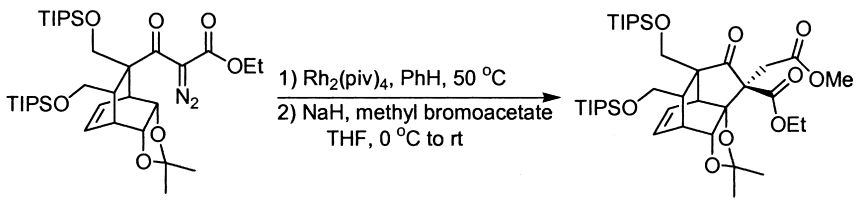


Tetrahedron 58 (2002) 6545

CP-263,114 synthetic studies. Construction of an isotwistane ring system via rhodium carbenoid C–H insertion

David A. Spiegel, Jón T. Njardarson and John L. Wood*

Sterling Chemistry Laboratory, Department of Chemistry, Yale University, New Haven, CT 06520-8107, USA

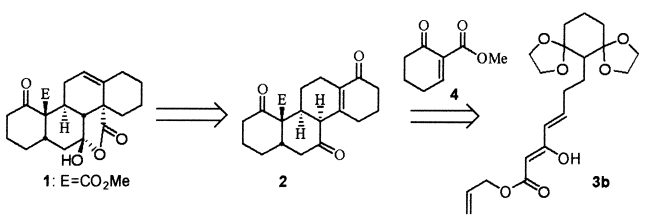


Tetrahedron 58 (2002) 6555

Synthesis of a pentacyclic lactone related to quinovaic acid and emmolactone using an anionic polycyclization strategy

Alain Rouillard and Pierre Deslongchamps*

Laboratoire de synthèse organique, Département de Chimie, Institut de Pharmacologie de Sherbrooke, Université de Sherbrooke, 3001, 12e Avenue nord, Sherbrooke, (Quebec), Canada J1H 5N4



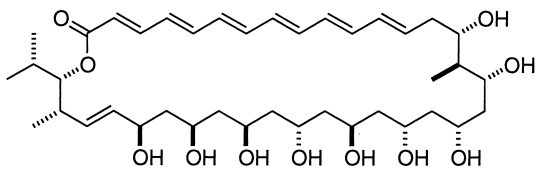
Total synthesis of the polyene macrolide dermostatin A

Tetrahedron 58 (2002) 6561

Christopher J. Sinz and Scott D. Rychnovsky*

Department of Chemistry, University of California, Irvine, CA 92697-2025, USA

Dermostatin A

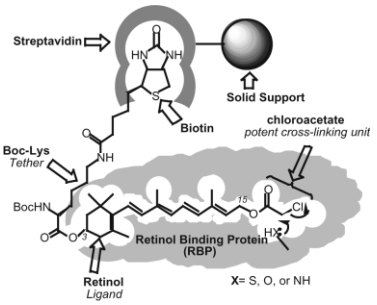


Synthesis of biotinylated retinoids for cross-linking and isolation of retinol binding proteins

Tetrahedron 58 (2002) 6577

Nasri Nesnas,[a] Robert R. Rando[b,*] and Koji Nakanishi[a,*]

[a]*Department of Chemistry, Columbia University, New York, NY 10027, USA*
[b]*Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, Boston, MA 02115, USA*

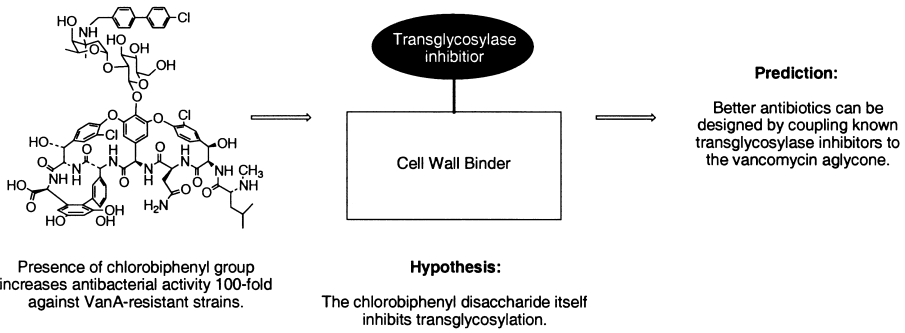


Structural requirements for VanA activity of vancomycin analogues

Tetrahedron 58 (2002) 6585

Zhong Chen, Ulrike S. Eggert, Steven D. Dong, Simon J. Shaw, Binyuan Sun, John V. LaTour and Daniel Kahne*

Department of Chemistry, Princeton University, Princeton, NJ 08544, USA



Directed evolution of selective enzymes and hybrid catalysts

Tetrahedron 58 (2002) 6595

Manfred T. Reetz

Max-Planck-Institut für Kohlenforschung, Kaiser-Wilhelm-Platz 1, 45470 Mülheim/Ruhr, Germany