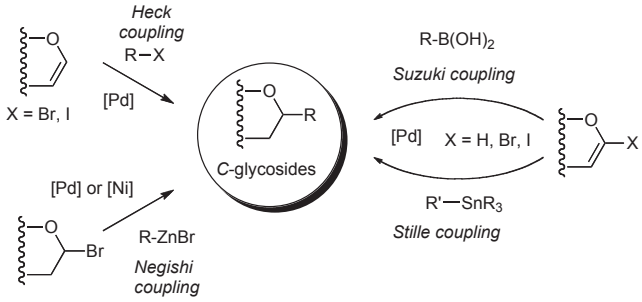
■ REVIEWS

791 **Cross-Coupling Reactions for the Synthesis of *C*-Glycosides and Related Compounds**

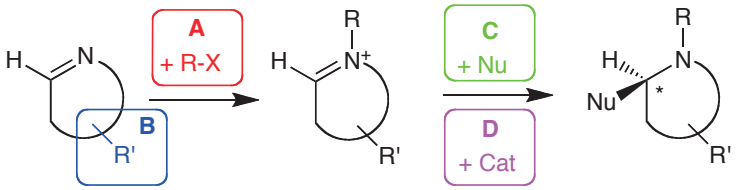
Pedro Merino,* Tomas Tejero, Eduardo Marca, Fernando Gomollón-Bel, Ignacio Delso, and Rosa Matute



Cross-Coupling *c*-Glycoside *c*-Nucleoside Glycal Palladium

821 **Asymmetric Reactions of a Series of Aromatic Azines with Nucleophiles**

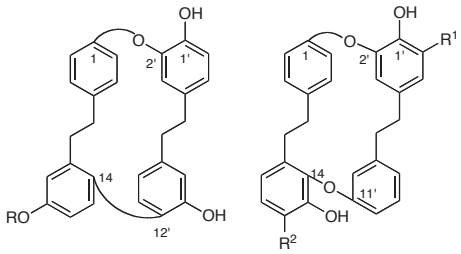
Ilya N. Egorov,* Tatyana A. Tseitler, Grigory V. Zyryanov, Vladimir L. Rusinov, and Oleg N. Chupakhin



Nucleophilic Addition Reaction Asymmetric Synthesis Diastereoselective Synthesis Azine

891 **Distribution of Cyclic and Acyclic Bis-bibenzyls in the Marchantiophyta (Liverworts), Ferns and Higher Plants and Their Biological Activities, Biosynthesis, and Total Synthesis**

Yoshinori Asakawa* and Agnieszka Ludwiczuk

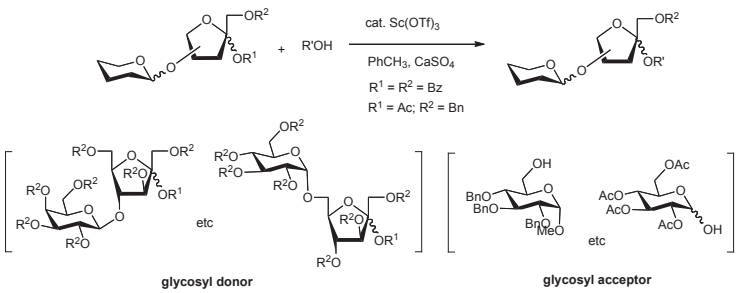


Liverwort Bis-bibenzyl Biological Activity Biosynthesis Total Synthesis

■ COMMUNICATIONS

919 **Scandium Triflate-Catalyzed D-Fructofuranosylation Reactions Using Disaccharide Units**

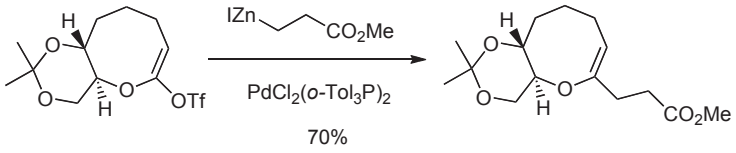
Takashi Yamanoi,* Noriko Misawa, Sho Matsuda, Mikio Watanabe, and Yoshiki Oda



Fructofuranosylation Reaction Disaccharide Donor Fructofuranoside Glycosylation Sucrose Derivative

997 **Synthesis of the E Ring Segment of Ciguatoxin CTX3C via the Negishi Coupling of Cyclic Ketene Acetal Triflate**

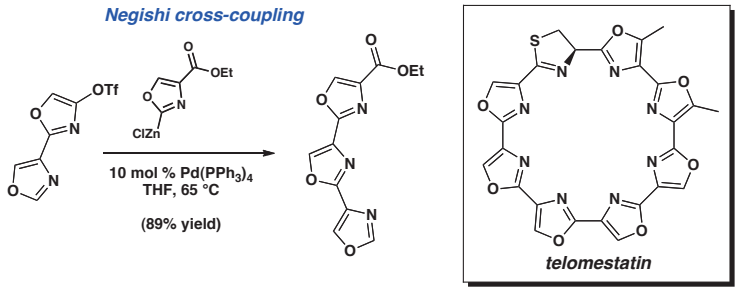
Kengo Shiroma, Hiroyoshi Takamura, and Isao Kadota*



Ciguatoxin CTX3C Marine Polycyclic Ether Negishi Coupling Ketene Acetal Trifrate

1003 **Rapid and Convergent Synthesis of a 2,4'-Linked Tri-Oxazole in an Approach to Poly-Oxazoles**

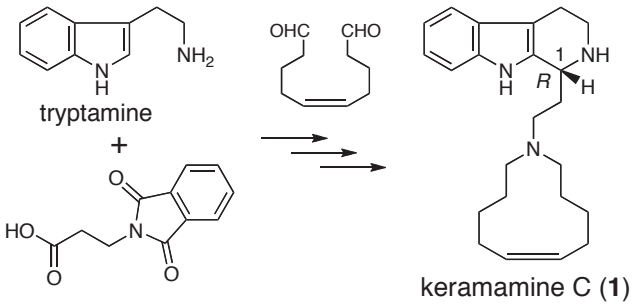
Daniel D. Caspi, Haiming Zhang, Scott C. Virgil, Fabian M. Piller, and Brian M. Stoltz*



Telomestatin Cross-Coupling Reaction Oxazole Telomerase Inhibitor

1009 **First Total Synthesis and Absolute Configuration of Keramamine C**

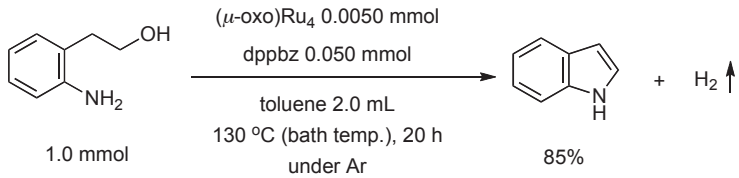
Haruaki Ishiyama, Yuta Mori, Takashi Matsumoto, and Jun'ichi Kobayashi*



Total Synthesis Keramamine C *Amphimedon* sp. Absolute Configuration

1015 **Dehydrogenative *N*-Heterocyclization of 2-(2-Aminoaryl)-ethyl Alcohols to Indole Derivatives Catalyzed by (μ-Oxo)-tetraruthenium Cluster/1,2-Bis(diphenylphosphino)-benzene**

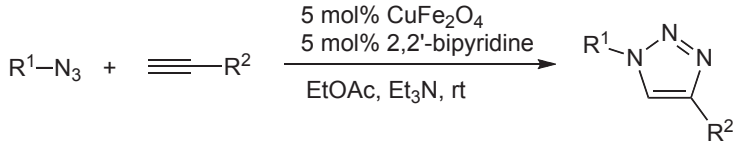
Teruyuki Kondo,* Takashi Kanda, Daisuke Takagi, Kenji Wada, Yu Kimura, and Akio Toshimitsu



Ruthenium Catalyst Indole Synthesis Dehydrogenative *N*-Heterocyclization

1023 **Ligand Modified $CuFe_2O_4$ Nanoparticles as Magnetically Recoverable and Reusable Catalyst for Azide-Alkyne Click Condensation**

Shingo Ishikawa, Reuben Hudson, Audrey Moores,* and Chao-Jun Li*

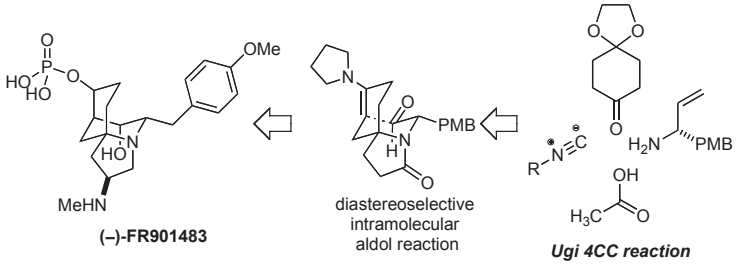


Click Reaction Magnetic Nanoparticle Copper Ferrite Nanoparticle Alkyne Azide

■ PAPERS

1071 **Stereocontrolled Total Synthesis of (−)-FR901483**

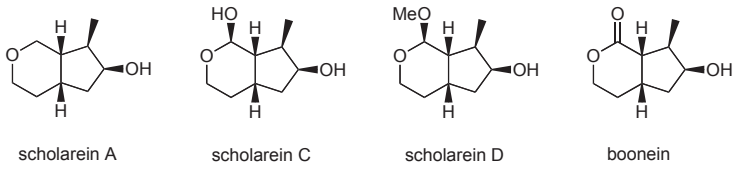
Shigeru Ieda, Akitaka Masuda, Mami Kariyama, Toshiyuki Wakimoto, Tomohiro Asakawa, Tohru Fukuyama,* and Toshiyuki Kan*



(–)-FR901483 Ugi 4CC Reaction Diastereoselective Intramolecular Aldol Reaction Immunosuppressant

1093 **The First Total Syntheses of Scholareins A, C, and D Employing 2nd Genaration Palladium-Catalyzed Cycloalkenylation**

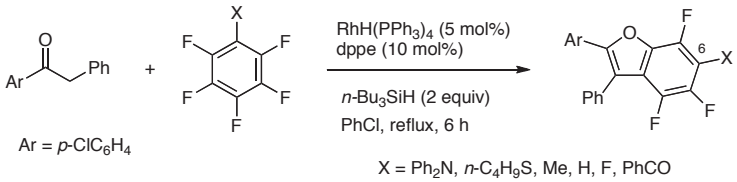
Yasufumi Kawai, Megumi Saeki, and Masahiro Toyota*



Scholareins A, C, D Boonein Iridoid Cycloalkenylation Palladium Catalyst

1103 **Rhodium-Catalyzed Synthesis of Benzofurans by the Reaction of Ketones and *o*-Difluorobenzenes**

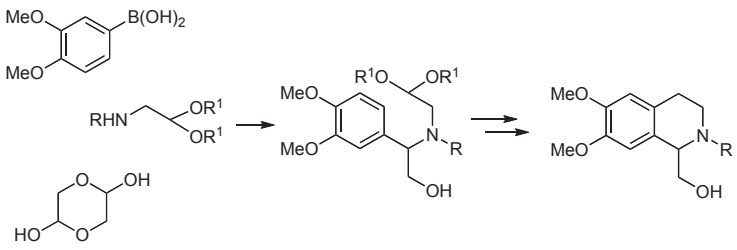
Mieko Arisawa,* Soichiro Nakane, Manabu Kuwajima, and Masahiko Yamaguchi*



Benzofuran *o*-Difluorobenzene Polyfluorinated Benzofuran Rhodium-Catalyzed Reaction α-Arylation

1119 **Synthesis of Calycotomine and *N*-Methylcalycotomine Using a Petasis Reaction — Pomeranz-Fritsch-Bobbitt Cyclization Sequence**

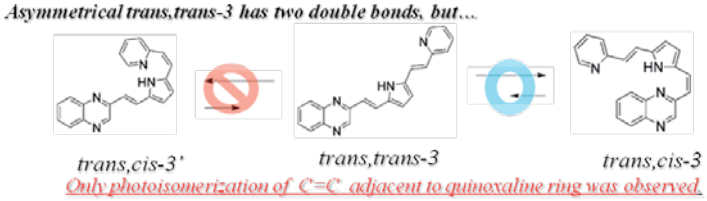
Maria Chrzanowska, Agnieszka Grajewska, and Maria D. Rozwadowska*



Petasis Reaction Pomeranz-Fritsch-Bobbitt Cyclization Tetrahydroisoquinoline Alkaloid Calycotomine *N*-Methylcalycotomine

1129 **Hydrogen Bonding Induced Highly Selective Isomerization of an Olefin Having Heteroaromatic Rings**

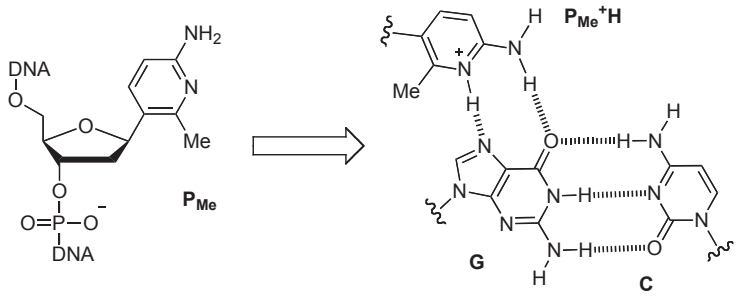
Takuya Kobayashi and Tatsuo Arai*



Photoisomerization Heteroaromatic Ring C=C Double Bond Intramolecular Hydrogen Bonding Pyrrolylethene

1135 **A 2-Amino-6-methylpyridin-5-yl Nucleobase for GC Base Pair Recognition in the Parallel Triplex DNA**

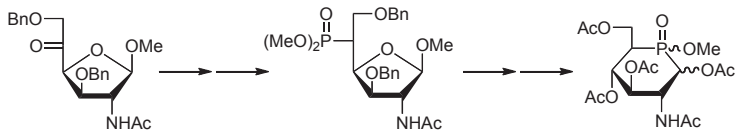
Motoi Nakahara, Yoshiyuki Hari,* and Satoshi Obika



2-Aminopyridine DNA Recognition Nucleobase Oligonucleotide Triplex DNA

1147 **Synthesis of 2-Acetamido-2,5-dideoxy-5-phosphoryl-D-glucopyranose Derivatives: New Phospha-Sugar Analogs of *N*-Acetyl-D-glucosamine**

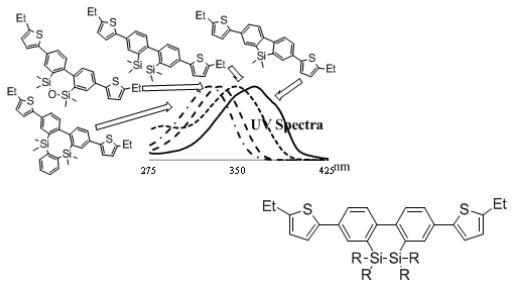
Tadashi Hanaya,* Masahiro Kawaguchi, Masakazu Sumi, Kazuo Makino, Keiko Tsukada, and Hiroshi Yamamoto



Phospha-Sugar *N*-Acetyl-D-glucosamine Phosphoryl Group C-P Bond Formation Hetero Sugar

1167 **Synthesis and Reactions of Silicon-Bridged Dithienylbiphenyls. Fine Tuning of Electronic States by Bridging Silicon Chain Lengths**

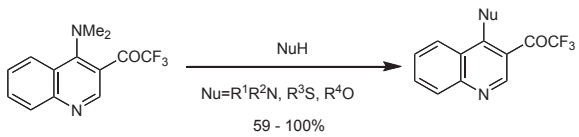
Joji Ohshita,* Kazuya Murakami, Daiki Tanaka, and Hiroto Yoshida



Conjugated Polymer Palladium-Catalyzed Reaction Organosilicon Polymer

1177 **Simple Syntheses of 3-Trifluoroacetyl-4-quinolylamines, Sulfides, and Ethers Starting from *N,N*-Dimethyl-4-quinolylamine**

Etsuji Okada,* Mizuki Hatakenaka, Takushi Sakaemura, Naofumi Shimomura, and Takuro Ashida

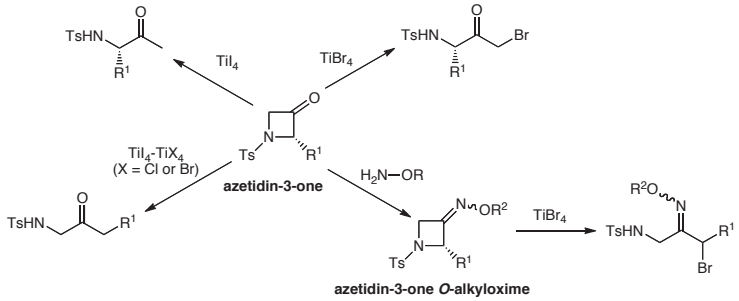


(R^1, R^2)=(H, H), (Me, H), (Et, H), ($PhCH_2$, H), (*i*-Pr, H), (*t*-Bu, H), (CH_2=$CHCH_2$, H), (CH_3CCH_2, H), -$(CH_2)_4$-, (*p*-$MeOC_6H_4$, H), (EtO_2CCH_2, H)
R^3= $PhCH_2$, *n*-Bu, *p*-$MeOC_6H_4$, *p*-MeC_6H_4, Ph, *p*-ClC_6H_4, *p*-$NO_2C_6H_4$
R^4= *n*-Pr, *n*-Bu, $PhCH_2CH_2$, $PhOCH_2CH_2$, *p*-$MeOC_6H_4$, *p*-MeC_6H_4

Quinolin-4-amine Antimalarial Fluorine-Containing Heterocycle Aromatic Nucleophilic Substitution Trifluoroacetyl Group

1187 **Synthesis of α-Amino Ketones and *O*-Alkyloximes by Titanium Tetrahalide Promoted Ring-Opening Reaction of 2-Mono-Substituted Azetidin-3-ones and Their *O*-Alkyloximes**

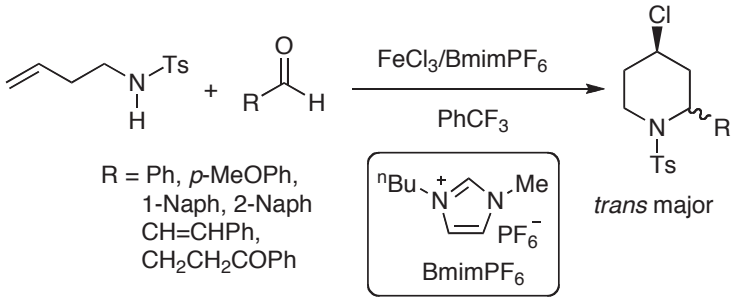
Shizuka Ariga, Shingo Hata, Daisuke Fukuda, Takafumi Nishi, Iwao Hachiya, and Makoto Shimizu*



α-Amino Ketone *O*-Alkyloxime Azetidin-3-one Titanium Tetrahalide Ring-Opening Reaction

1211 **An Effective Procedure to Promote Aza–Prins Cyclization Reactions Employing a Combination of Ferric Chloride and an Imidazolium Salt in Benzotrifluoride**

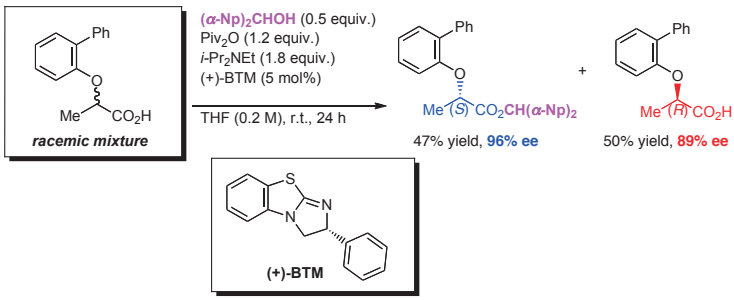
Chika Osawa, Minami Tateyama, Kensuke Miura, Eiji Tayama, Hajime Iwamoto, and Eietsu Hasegawa*



Aza-Prins Cyclization Iron(III) Chloride Imidazolium Salt Benzotrifluoride FeIm-BTF Procedure

1227 **A New Method for Production of Chiral 2-Aryloxypropanoic Acids Using Effective Kinetic Resolution of Racemic 2-Aryloxycarboxylic Acids**

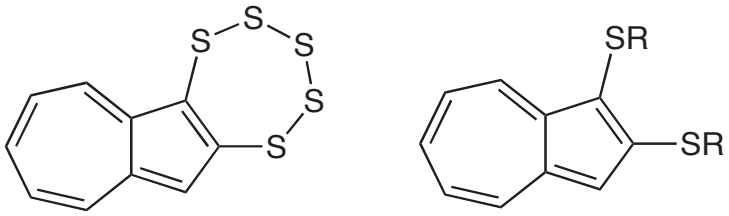
Atsushi Tengeiji, Kenya Nakata, Keisuke Ono, and Isamu Shiina*



Kinetic Resolution Asymmetric Esterification 2-Aryloxypropanic Acid

1253 **Azulenopentathiepin: Preparation and Conversion into Azulenes with Sulfur Groups at the 1- and 2-Positions**

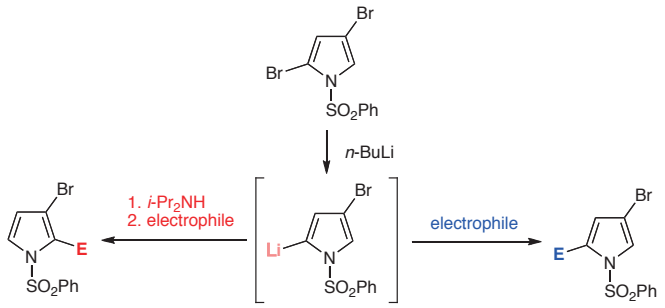
Ohki Sato,* Atsushi Sakai, Masami Aoki, Takaaki Kuramochi, and Juzo Nakayama



Azulene Pentathiepin Elemental Sulfur Pyridine Sulfur Group

1261 **Optional Synthesis of 2- or 5-Substituted 3-Bromopyrroles *via* Bromine-Lithium Exchange of *N*-Benzenesulfonyl-2,4-dibromopyrrole**

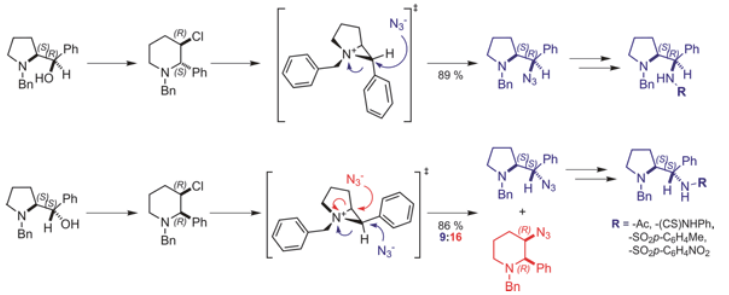
Tsutomu Fukuda and Masatomo Iwao*



N-Benzenesulfonyl-2,4-dibromopyrrole Bromine-Lithium Exchange 5-Substituted 3-Bromopyrrole 2-Substituted 3-Bromopyrrole

1275 **Synthesis of Versatile Bifunctional Derivatives of Chiral Diamines Obtained through Anchimerically Assisted Nucleophilic Substitution Reactions on Diastereomeric Phenylprolinols**

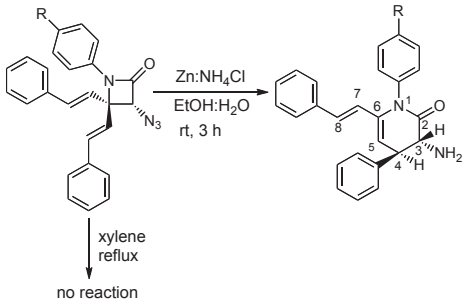
Jorge Vargas-Caporali, Carlos Cruz-Hernández, and Eusebio Juaristi*



Aziridinium Intermediate Stereoselective Ring Expansion Anchimeric Assistance Bifuncitonal Pyrrolidine Ligand Chiral Diamine

1301 **Synthetic Studies on the Role of Substituents at C-3 Position on C3-C4 Bond Cleavage of β-Lactam Ring: Convenient Route for Diastereoselective Synthesis of Pyridin-2-ones**

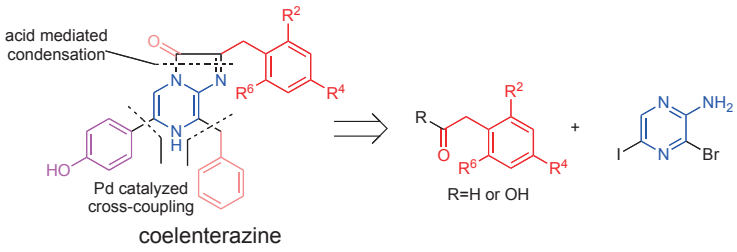
Pardeep Singh, Parvesh Singh, Kewal Kumar, Vipan Kumar, Mohinder P. Mahajan,* and Krishna Bisetty



β-Lactam Pyridin-2-one C(3)-C(4) Bond Cleavage 1,3-Sigmatropic Shift Computational Study

1323 **Chemical Synthesis of Coelenterazine and Its Analogs: New Route toward Four Segment-Couplings**

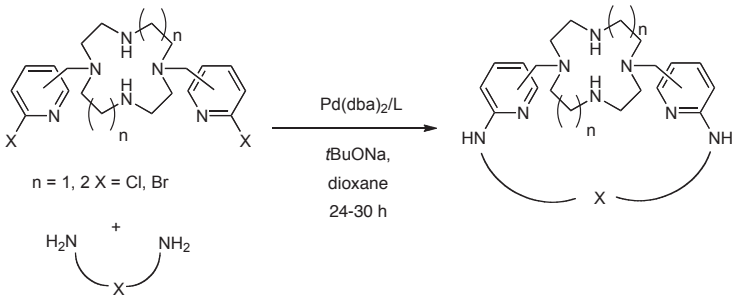
Chun-Ming Chou, Yu-Wen Tung, Meng-I Ling, Diana Chan, Wong Phakhodee, and Minoru Isobe*



Keto-Aldehyde Ketone Formation Selective Halogenation Umpolung

1341 **Palladium-Catalyzed Amination in the Synthesis of Macrobicycles Incorporating Cyclen, Cyclam and Pyridine Moieties**

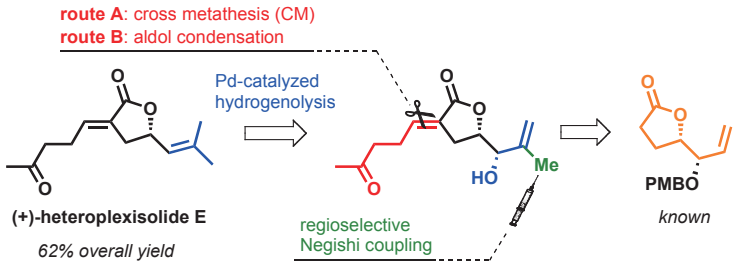
Alexei D. Averin, Kanat S. Tyutenov, Anton V. Shukhaev, Sergei M. Kobelev, Alexei K. Buryak, Franck Denat, Roger Guilard, and Irina P. Beletskaya*



Macrocycle Amination Pyridine Palladium Catalysis Polyamine

1367 **Total Synthesis of (+)-Heteroplexisolide E**

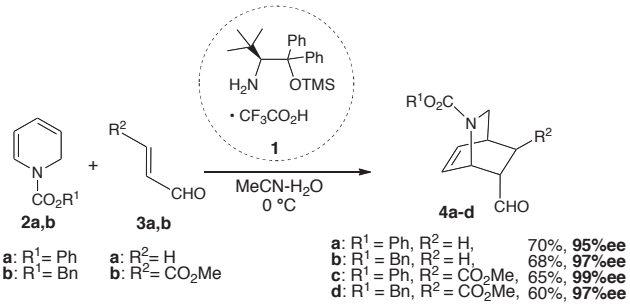
Noriki Kutsumura,* Akito Kiriseko, and Takao Saito*



Heteroplexisolide E Total Synthesis One-Pot Negishi Coupling Aldol Condensation Palladium-Catalyzed Hydrogenolysis

1379 **Chiral Primary Amino Silyl Ether Organocatalyst for the Enantioselective Diels-Alder Reaction of 1,2-Dihydropyridines with Aldehydes**

Yuki Sakuta, Yoshihito Kohari, N. D. M. Romauli Hutabarat, Koji Uwai, Eunsang Kwon, Yuko Okuyama, Chigusa Seki, Haruo Matsuyama, Nobuhiro Takano, Michio Tokiwa, Mitsuhiro Takeshita, and Hiroto Nakano*

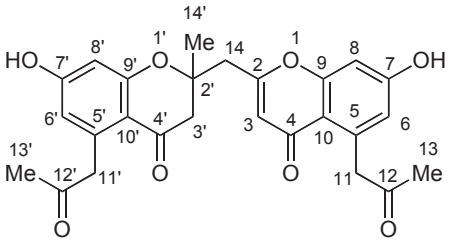


Amino Silyl Ether Organocatalyst Diels-Alder Reaction 1,2-Dihydropyridine Tamiflu

■ SHORT PAPERS

1597 **Biomimetic Synthesis of Chrobisiamone A from *Cassia siamea***

Yuichiro Tomizawa, Jun Deguchi, Tokio Ishikawa, Toshio Honda, and Hiroshi Morita*

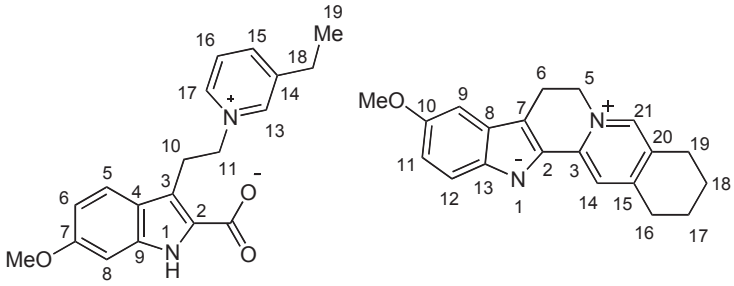


chrobisiamone A

Chrobisiamone A Chromone Dimer Total Synthesis Biomimetic Michael Addition

1603 **New Indole Alkaloids from *Alstonia macrophylla***

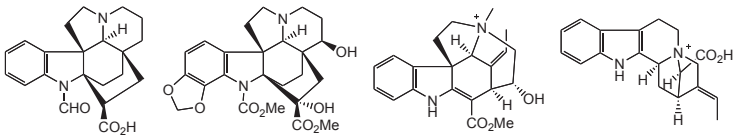
Jun Deguchi, Tomokazu Shoji, Yusuke Hirasawa, Abdul Rahman, Osamu Shirota, and Hiroshi Morita*



Indole Alkaloid *Alstonia macrophylla* Structure Elucidation Spectroscopic Analysis

1611 **New Aspidofractinine, Aspidospermatan and Akuamiline Indole Alkaloids from the Roots of *Kopsia singapurensis* Ridl.**

Kartini Ahmad, Yusuke Hirasawa, Alfarius Eko Nugroho, A. Hamid A. Hadi, and Hiroshi Morita*



1
2: *N*-oxide of **1**

3

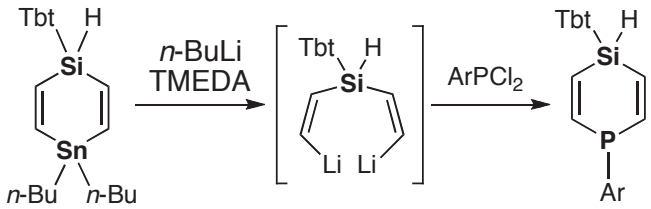
4

5

Indole Alkaloid *Kopsia singapurensis* Aspidofractinine Aspidospermatan Akuamiline

1621 **Synthesis of 1,4-Phosphasilacyclohexa-2,5-dienes Bearing Hydrogen or Chlorine Atoms on the Silicon Atoms**

Yoshiyuki Mizuhata, Satoshi Morikawa, and Norihiro Tokitoh*

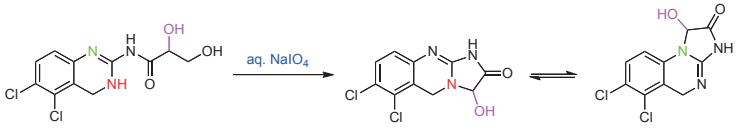


Ar = Ph or 2,4,6-tri(*tert*-butyl)phenyl
Tbt = 2,4,6-tris[bis(trimethylsilyl)methyl]phenyl

Silicon Phosphorus 1,4-Phosphasilacyclohexa-2,5-diene 1,4-Silastannacyclohexa-2,5-diene Transmetallation

1637 **Synthesis and Stability of 3-Hydroxyanagrelide, a Biologically Potent Metabolite of Anagrelide**

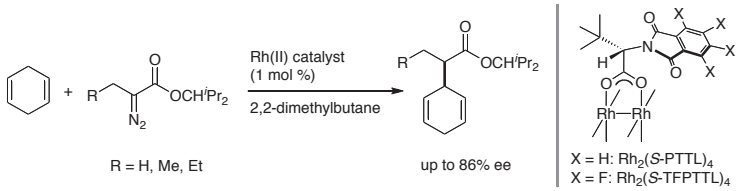
Richard B. Scott, Kristin M. Downey, Keith P. Healy, Alistair P. Henderson, Claire L. Robinson, William Clegg, Ross W. Harrington, Richard Franklin, and Bernard T. Golding*



Anagrelide Metabolite 3-Hydroxyanagrelide Ring Chain Tautomerism

1647 **Catalytic Asymmetric Intermolecular C–H Insertion of 1,4-Cyclohexadiene with α-Alkyl-α-diazoesters Using Chiral Dlrhodium(II) Carboxylates**

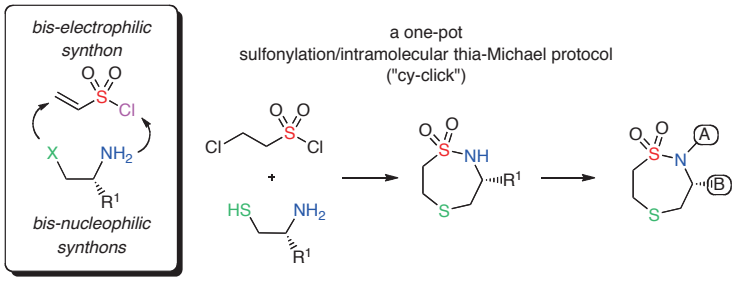
Takayuki Goto, Tomohiro Onozuka, Yuhei Kosaka, Masahiro Anada, Koji Takeda, and Shunichi Hashimoto*



Asymmetric Catalysis Carbene C–H Insertion Diazo Compound Dirhodium(II) Complex

1661 **Synthesis of a Library of 1,5,2-Dithiazepine 1,1-Dioxides. Part 1: A One-Pot Sulfonylation/Thia-Michael Protocol**

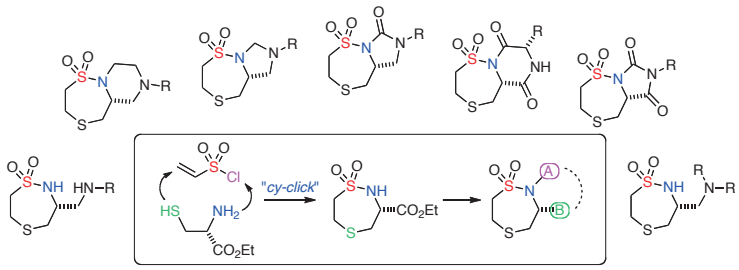
Qin Zang, Aihua Zhou, Salim Javed, Pradip K. Maity, Chris A. Knudtson, Danse Bi, Jared J. Hastings, Fatima Z. Basha, and Paul R. Hanson*



1,5,2-Dithiazepine 1,1-Dioxide Sultam Hetero-Michael Reaction Heterocycle Library Synthesis

1675 **Synthesis of a Library of 1,5,2-Dithiazapine 1,1-Dioxides. Part 2: Routes to Bicyclic Sultams**

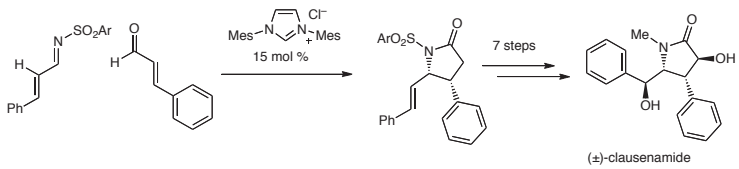
Qin Zang, Salim Javed, Aihua Zhou, Chirs A. Knudtson, Danse Bi, Fatima Z. Basha, and Paul R. Hanson*



1,5,2-Dithiazapine 1,1-Dioxide Sultam Library Synthesis Heterocycle Thia-Michael Reaction

1689 **Formal Synthesis of (±)-Clausenamide by NHC-Catalyzed γ-Lactam Formation**

Ming He, Michael Rommel, and Jeffrey W. Bode*



Lactam Natural Product *N*-Heterocyclic Carbene Synthesis

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