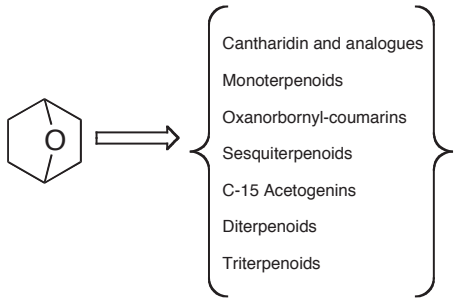
■ REVIEW

741 **Terpenoids Bearing the 7-Oxabicyclo[2.2.1]heptane (7-Oxanorbornane) Skeleton. Natural Sources, Biological Activities and Chemical Synthesis**

Silvia Roscales and Joaquín Plumet*

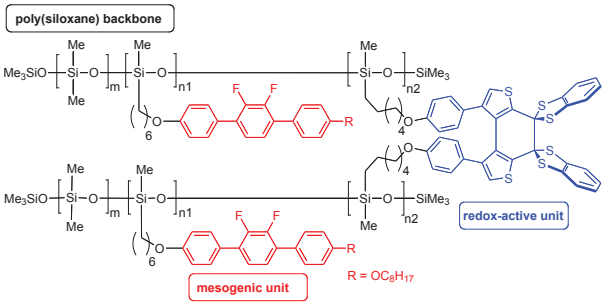


7-Oxanorbornane Terpenoid Natural Product

■ COMMUNICATIONS

811 **Redox Responsive Polymer Incorporated with Mesogenic Unit and Bis(benzodithiolyl)bithienyl Scaffold**

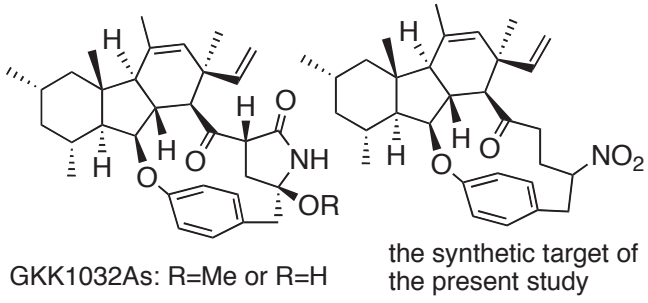
Toshihiro Ohtake,* Hideki Tanaka, Tetsuro Matsumoto, Mutsumi Kimura, and Akira Ohta*



Thiophene 1,3-Dithiole Redox System Liquid Crystal Polymer

819 **An Access to the 13-Membered Cyclophane Substructure in GKK1032As: An Intramolecular 1,4-Addition Approach**

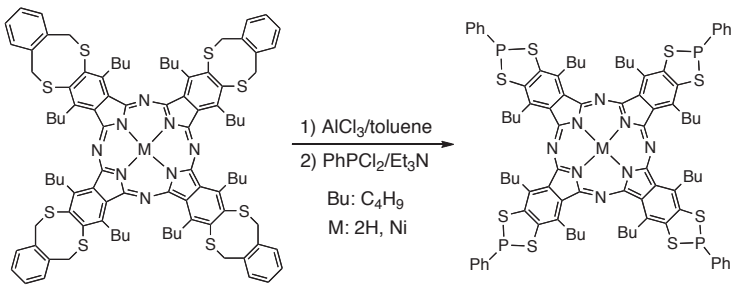
Satoka Nagai, Yuka Yamagishi, Yuta Shimizu, Ken-ichi Takao, and Kin-ichi Tadano*



GKK1032As 13-Membered *para*-Cyclophane Nitroaldol Reaction Intramolecular 1,4-Addition Reaction Aryl Ether Formation

827 **Removal of Xylylene Groups from Tetrakis(*o*-xylylenedithio)phthalocyanines with Toluene/Aluminum Chloride and Construction of Dithiaphosphole Rings**

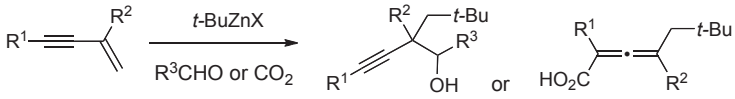
Takeshi Kimura* and Shiduko Nakajo



Phthalocyanine Dithiaphosphole Deprotection Absorption Spectrum Electrochemistry

832 **Three-Component Coupling Reaction of Enynes, Carbonyls, and Organozinc Reagents**

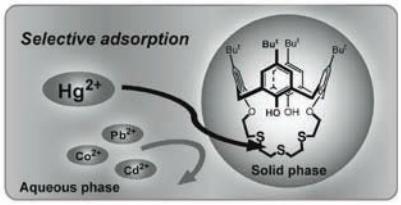
Yuki Ohira, Takamichi Mori, Maya Hayashi, Gen Onodera, and Masanari Kimura*



Zinc Reagent Enyne Aldehyde Homopropargyl Alcohol Lactone

842 **Selective Adsorption of Mercury(II) Ion by *p-tert*-Butylcalix[4]thiacrown-5 at a Solid-Liquid Interface**

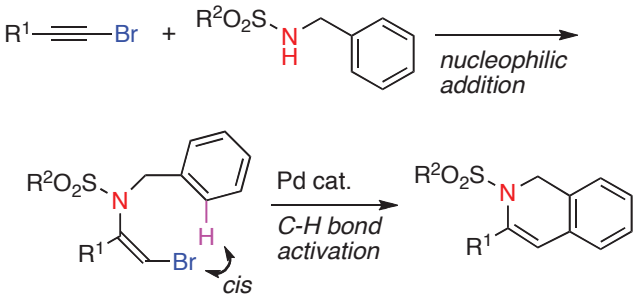
Tatsuya Takimoto,* Hirohito Tsue, Rui Tamura, and Hideaki Sasaki



Calix[4]thiacrown Mercury(II) Ion Selective Adsorption

847 **Facile Preparation of 1,2-Dihydroisoquinolines from *N*-Benzylsulfonamides and Bromoacetylenes**

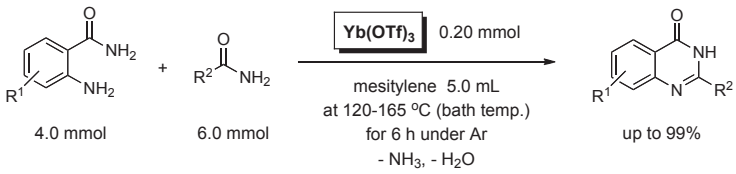
Masahito Yamagishi, Azusa Ishii, Takeshi Hata, and Hirokazu Urabe*



Dihydroisoquinoline Isoquinoline Cyclization Reaction Haloalkyne Palladium Catalyst

857 **Simple, Selective, and Practical Synthesis of 2-Substituted 4(3*H*)-Quinazolinones by Yb(OTf)$_3$-Catalyzed Condensation of 2-Aminobenzamide with Carboxamides**

Tsutomu Yoshimura, Di Yuanjun, Yu Kimura, Hisatsugu Yamada, Akio Toshimitsu, and Teruyuki Kondo*

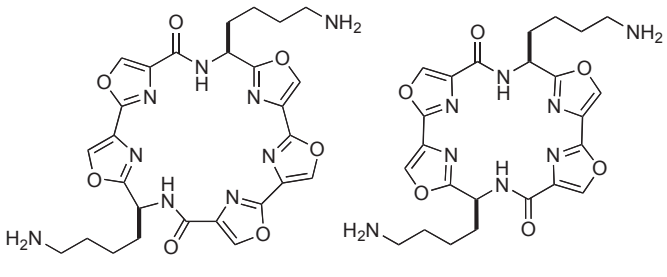


4.0 mmol 6.0 mmol up to 99%

4(3*H*)-Quinazolinone 2-Aminobenzamide Carboxamide Ytterbium Triflate Catalyst

866 **Synthesis of Macrocyclic Penta- and Tetraoxazoles as G-Quadruplex Ligands**

Shadi Sedghi Masoud, Yamato Tsushima, Keisuke Iida, and Kazuo Nagasawa*

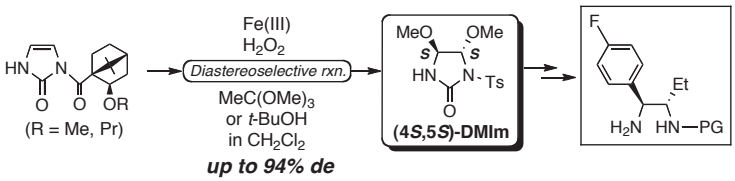


L2H2-5OTD L2H2-4OTD

G-Quadruplex Telomestatin Pentaoxazole Tetraoxazole Telomere

874 **Efficient Preparation of a Versatile Chiral Synthon for 1,2-Diamines via the Fe(III)-Catalyzed Diastereoselective Oxidation of 2-Imidazolone and Its Application**

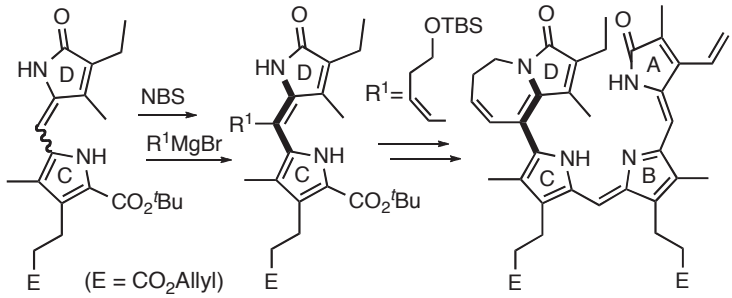
Hirofumi Matsunaga,* Iori Eshita, Shin Ando, and Tadao Ishizuka*



2-Imidazolone Fe-Catalyzed Oxidation Diastereoselective Oxidation 2-Imidazolidinone 1,2-Diamine

883 **Regioselective Introduction of Substituents to the *meso*-Position of Pyrromethenone Derivative – Application to the Synthesis of Sterically Fixed Phytochrome Chromophore Anchored to the C15 *meso*-Position**

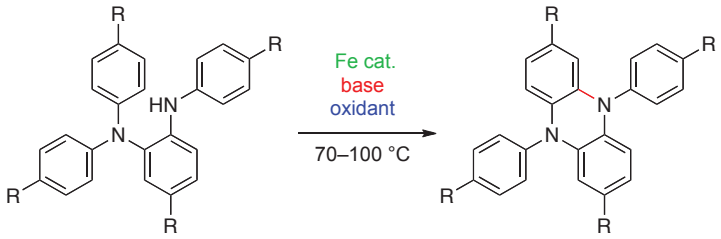
Yudai Tanaka, Ryoji Iwamoto, Ryo Sakata, Takahiro Soeta, Kohei Endo, Shuhei Fujinami, Katsuhiko Inomata, and Yutaka Ukaji*



Sterically Fixed Tetrapyrrole Chromophore Regioselective Introduction of Carbon-Substituent Pyrromethenone Grignard Reagent

893 **Synthesis of 2,7-Disubstituted 5,10-Diaryl-5,10-dihydrophenazines via Iron-Catalyzed Intramolecular Ring-Closing C–H Amination**

Yuma Aoki, Ryuji Imayoshi, Takuji Hatakeyama, Hikaru Takaya, and Masaharu Nakamura*

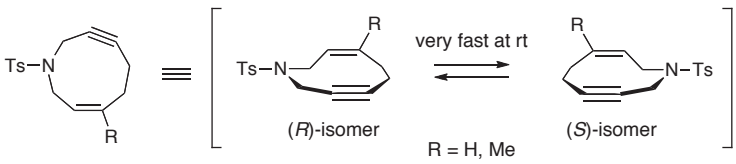


analytically pure compounds
5 examples; 20–43% yield

Intramolecular C–H Amination Iron Catalyst 5,10-Diaryl-5,10-dihydrophenazine

901 **Synthesis and Structural Analysis of Nine-Membered Enyne Nitrogen Heterocycles**

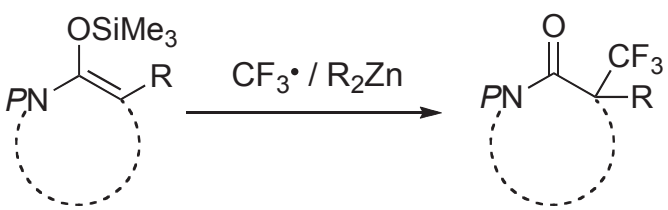
Kazunobu Igawa, Takeshi Kawabata, Kazuhiro Uehara, and Katsuhiko Tomooka*



Enyne Nitrogen Heterocycle Labile Planar Chirality Bended Alkyne Intramolecular Mitsunobu Reaction

907 **Theoretical Study on Radical Trifluoromethylation of Silyl Enol Ethers Accelerated via Complexation with Dialkylzinc**

Susumu Kawauchi, Yoshihiro Hayashi, Yuichi Tomita, Ryota Hashimoto, Kazuya Honda, Yoshimitsu Itoh, and Koichi Mikami*

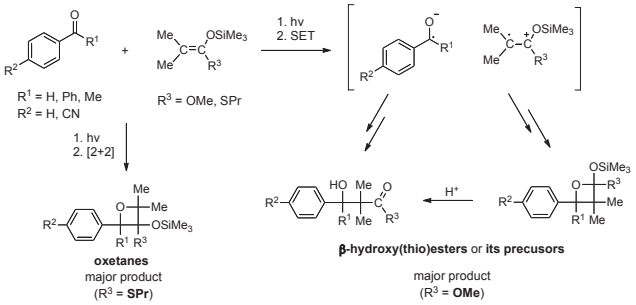


Direct α-Trifluoromethylation Silyl Enol Ether Dialkylzinc Radical Trifluoromethylation DFT Calculation

■ PAPERS

978 **Comparison of Photochemical Reactions of Aromatic Carbonyl Compounds with a Silyl Ketene Thioacetal and a Silyl Ketene Acetal**

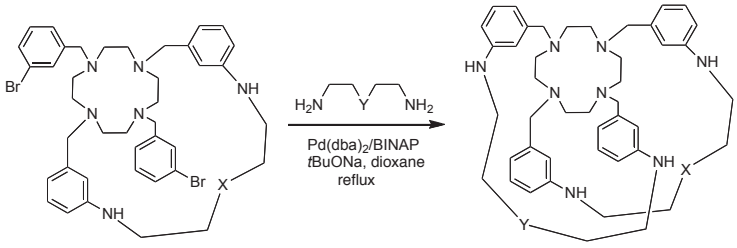
Gyeong Min Moon, Suk Hyun Lim, Dae Won Cho,* Sung Hong Kim, In Ok Lee, Ung Chan Yoon, and Patrick S. Mariano*



Silyl Ketene Thioacetal Silyl Ketene Acetal Aromatic Carbonyl Compound Single Electron Transfer [2+2]-Cycloaddition Reaction

989 **Macrobicyclic and Macrotricyclic Derivatives of *N,N′,N″,N‴*-Tetrasubstituted Cyclen and Cyclam**

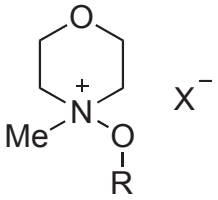
Sergei M. Kobelev, Alexei D. Averin, Alexei K. Buryak, Andrei I. Ovvk, Valerii P. Kukhar, Franck Denat, Roger Guilard, and Irina P. Beletskaya*



Macrocycle Amination Reaction Pd Catalysis Cryptand Polyamine

1018 **Structural and Ecotoxicological Profile of *N*-Alkoxymorpholinium-Based Ionic Liquids**

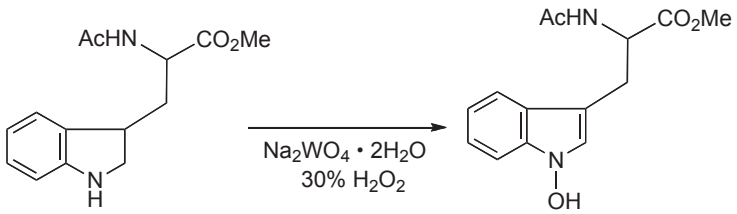
Robert Salchner, Gerhard Laus, Simone Haslinger, Volker Kahlenberg, Klaus Wurst, Doris E. Braun, Stefan Vergeiner, Holger Kopacka, Herwig Schottenberger,* Alan Puckowski, Marta Markiewicz, Stefan Stolte, and Sven Nerdinger*



Ionic Liquid NMMO Biodegradability Ecotoxicity Crystal Structure

1038 **Simple Synthetic Method for 1-Hydroxyindole and Its Application to 1-Hydroxytryptophan Derivatives**

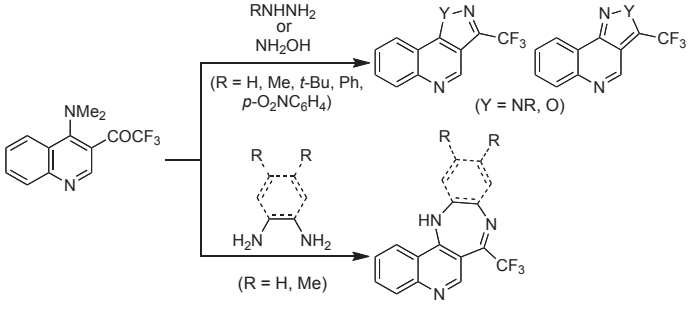
Toshiya Kawasaki, Mutsuko Tabata, Kyoko Nakagawa, Kensuke Kobayashi, Atsushi Kodama, Tetsuya Kobayashi, Masakazu Hasegawa, Keiko Tanii, and Masanori Somei*



1-Hydroxyindole 1-Hydroxytryptophan 1-Methoxyindole 1-Methoxytryptophan Oxidation

1072 **Facile and Convenient Syntheses for Fluorine-Containing Pyrazolo[4,3-*c*]quinolines, Isoxazoloquinolines, and 1,4-Diazepino[6,5-*c*]quinolines**

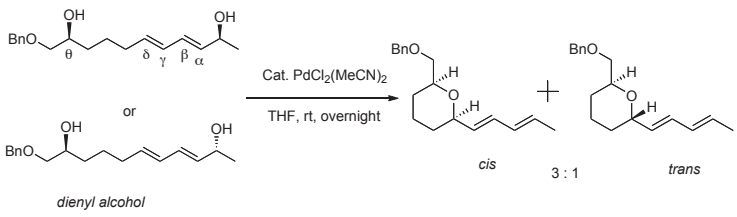
Etsuji Okada,* Mizuki Hatakenaka, and Takushi Sakaemura



Pyrazoloquinoline Isoxazoloquinoline Diazepinoquinoline Fluorine-Containing Heterocycle Bifunctional *N*-Nucleophile

1082 **Investigation of Pd(II)-Catalyzed Cyclization of Chiral θ-Hydroxy-α,β,γ,δ-unsaturated Dienol**

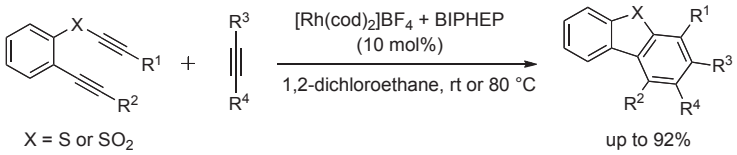
Akiko Ida, Naoyuki Hoshiya, and Jun'ichi Uenishi*



Pd-Catalyzed Reaction SN2" Reaction Cyclization Reaction Stereoselective Reaction Tetrahydropyran

1094 **[2+2+2] Cycloaddition of Sulfanylbenzene-Tethered Diynes with Alkynes for the Synthesis of Multi-Substituted Dibenzothiophene Derivatives**

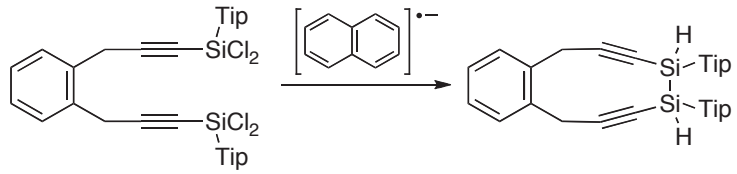
Yu-ki Tahara, Riku Matsubara, and Takanori Shibata*



Dibenzothiophene Cycloaddition Reaction Rhodium Catalyst Alkyne

1111 **Synthesis of 1,2-Dialkynyldisilanes Incorporated in 10-Membered-Ring System**

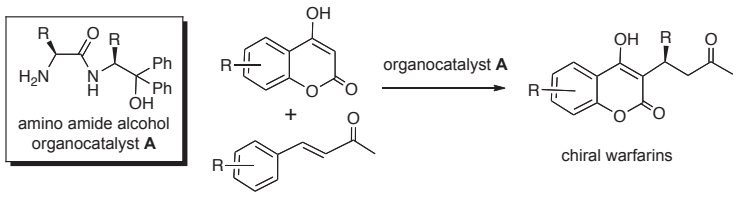
Yoshiyuki Mizuhata, Yasunobu Egawa, Takahiro Sasamori, and Norihiro Tokitoh*



Silicon Disilene Disilane Alkynyl Group Reduction

1124 **Chiral Primary Amino Amide Alcohol Organocatalyst for the Asymmetric Michael Addition of 4-Hydroxycoumarin with α,β-Unsaturated Ketones**

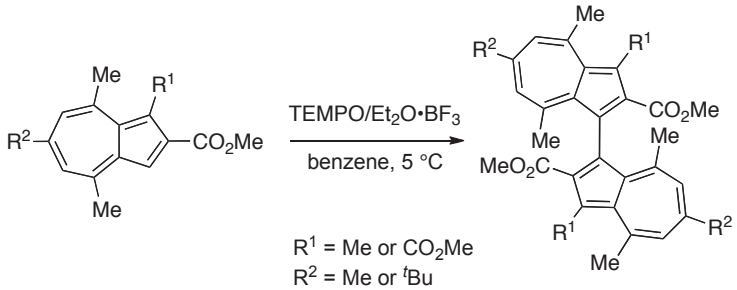
Jun Kumagai, Yoshihito Kohari, Chigusa Seki, Koji Uwai, Yuko Okuyama, Eunsang Kwon, and Hiroto Nakano*



Amino Amide Alcohol Michael Addition Reaction Warfarin

1135 **Oxidative 1,1'-Coupling of Highly Alkylated 2-Methoxycarbonylazulenes**

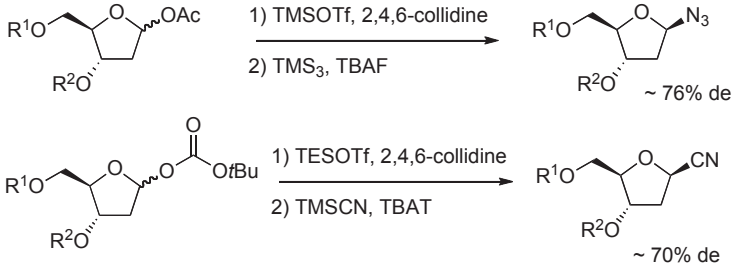
Ryszard Ostaszewski and Hans-Jürgen Hansen*



Oxidative Coupling Reaction 2-Methoxycarbonylazulene 1,1'-Biazulene TEMPO $Et_2O{\cdot}BF_3$

1142 **Stereoselective Construction of 1β-Azide- and 1β-Cyano-2-deoxyribose Derivatives**

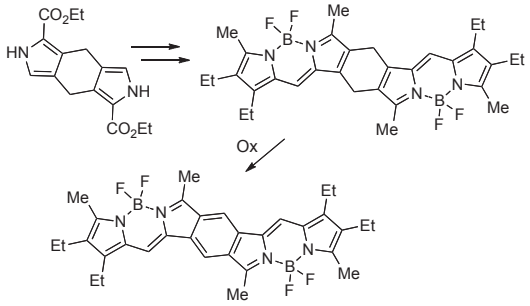
Hiromichi Fujioka,* Takahiro Moriya, Kazuhisa Okamoto, Yutaka Minamitsuji, Yoshifumi Ueyama, Nao Matsumoto, and Kenichi Murai



Collidinium Salt Intermediate Stereoselective Construction 1β-Azide-2-deoxyribose Derivative 1β-Cyano-2-deoxyribose Derivative

1158 **4,8-Dihydropyrrol[3,4-*f*]isoindole as a Useful Building Block for Near-Infrared Dyes**

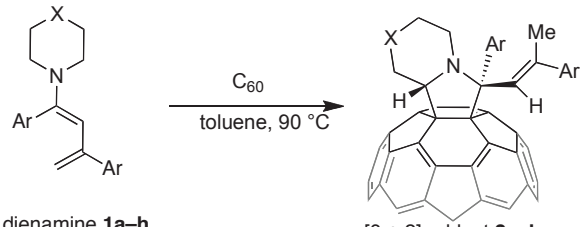
Hidemitsu Uno,* Mitsunori Nakamura, Kazuki Jodai, Shigeki Mori, and Tetsuo Okujima



BODIPY *bis*BODIPY Near-Infrared Dye Pyrrol[3,4-*f*]isoindole

1168 **Synthesis of Pyrrolidinofullerenes via Single Electron Transfer Reaction of Aryldienamines with C_{60}**

Naohiko Ikuma,* Hiroyuki Yamamoto, Ken Kokubo, and Takumi Oshima



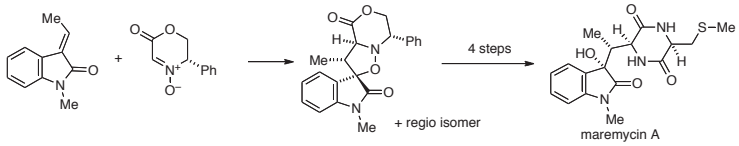
dienamine **1a–h**
(X = O or CH_2;
Ar = phenyl, 4-chlorophenyl, 4-alkylphenyl, biphenyl, thiophene)

[3 + 2] adduct **2a–h**
21–58%

Fullerene Single Electron Transfer Radical Cyclization Dienamine

1179 **Total Synthesis of Maremycins A and D_1 Using Chiral and Cyclic Nitrone with (*E*)-3-Ethylidene-1-methylindolin-2-one**

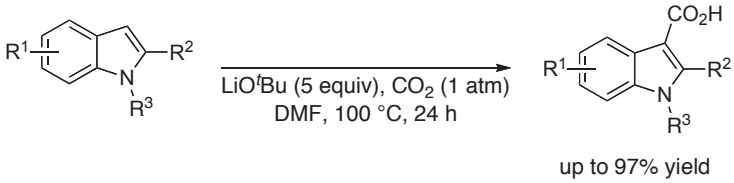
Tohru Ueda, Mitsuhide Inada, Nobuyoshi Morita, and Osamu Tamura*



Maremycin A Maremycin B Nitrone Cycloaddition Reaction

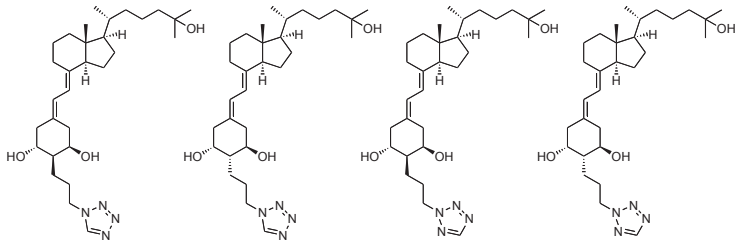
1196 **Lithium *tert*-Butoxide-Mediated Carboxylation Reactions of Unprotected Indoles and Pyrroles with Carbon Dioxide**

Woo-Jin Yoo, Thanh V. Q. Nguyen, Montse Guiteras Capdevila, and Shū Kobayashi*

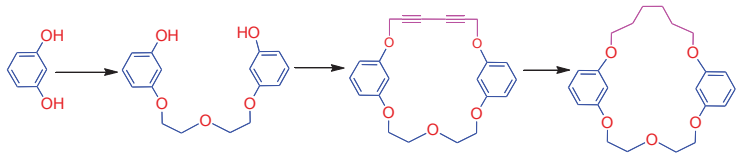


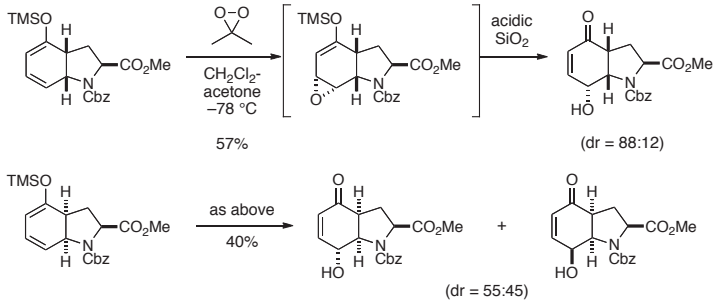
up to 97% yield

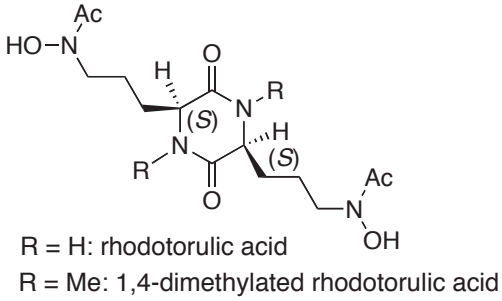
Carbon Dioxide Indole Pyrrole Green Chemistry

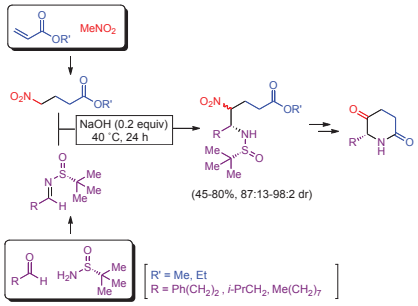


■ SHORT PAPERS









Aza-Henry Reaction Chiral Sulfinyl Imine Piperidine-2,5-dione Diastereoselective Addition Nef Reaction

■ INDEXES

Contributors To This Issue