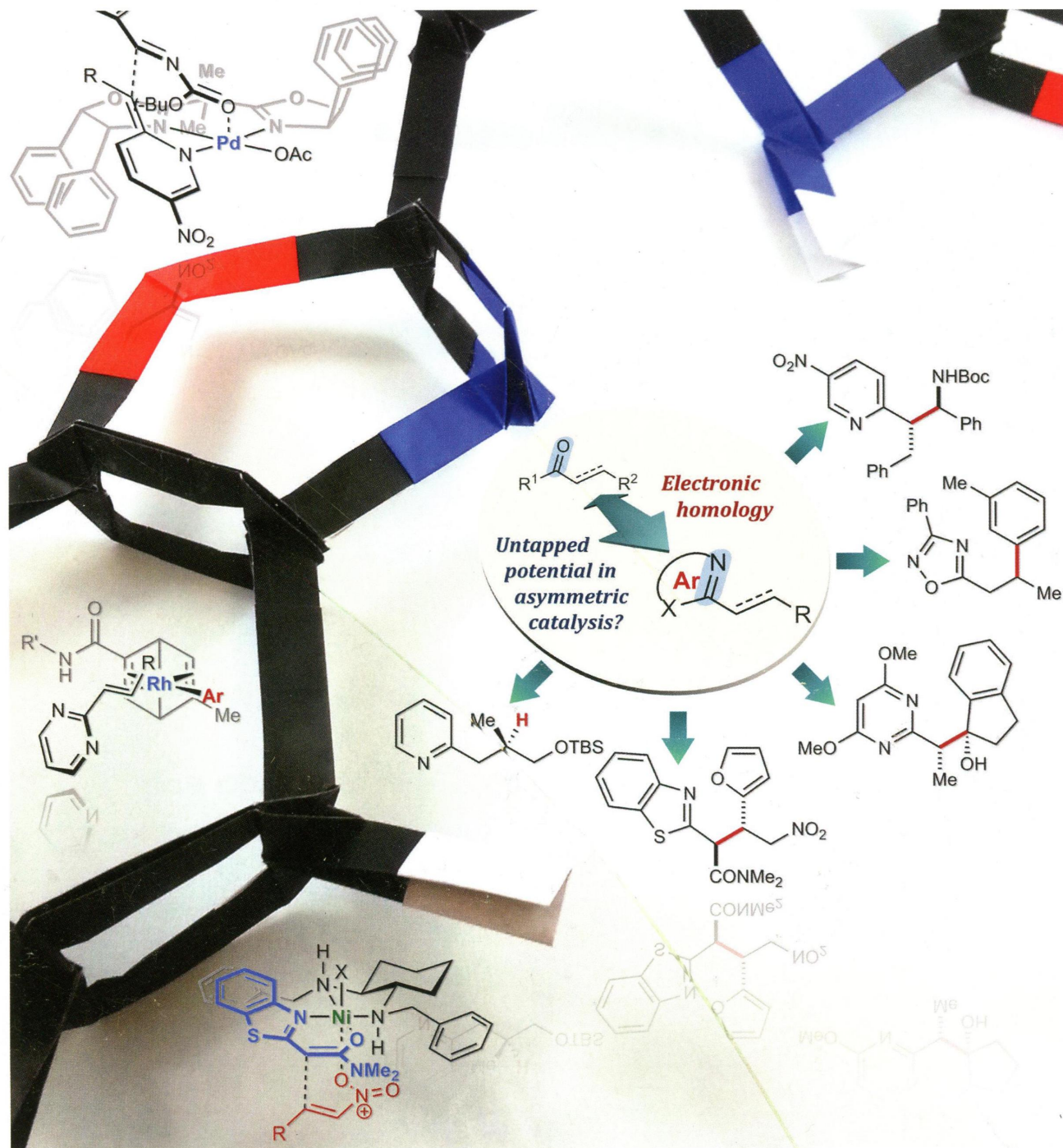


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ON THE COVER: Nitrogen-containing aromatic heterocycles (azaarenes) are of widespread chemical significance, and chiral compounds containing azaarenes feature prominently in biologically active molecules. Recognition of the electronic homology between the carbonyl group and the C=N bond embedded within certain azaarenes enabled the development of various catalytic enantioselective methods for the synthesis of chiral, azaarene-containing compounds such as the benzoxazole shown in the origami model. See Lam and Best, p 831. Prof. Lam is the recipient of the 2011 Hickinbottom Award.

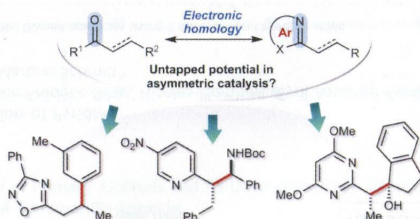
Perspective

831

C=N-Containing Azaarenes as Activating Groups in Enantioselective Catalysis

Daniel Best and Hon Wai Lam*

dx.doi.org/10.1021/jo402414k



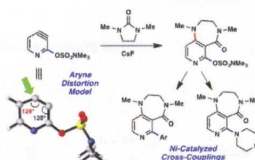
JOCSynopsis

846

Enabling the Use of Heterocyclic Arynes in Chemical Synthesis

Adam E. Goetz and Neil K. Garg*

dx.doi.org/10.1021/jo402723e

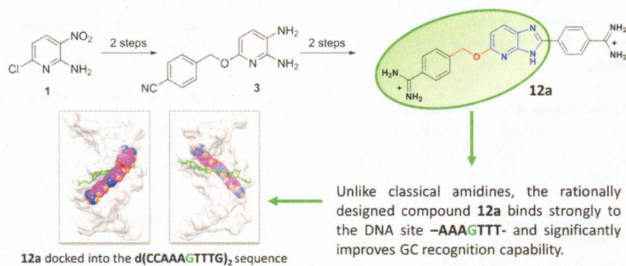


852 **5**

dx.doi.org/10.1021/jo402599s

Design and Synthesis of Heterocyclic Cations for Specific DNA Recognition: From AT-Rich to Mixed-Base-Pair DNA Sequences

Yun Chai, Ananya Paul, Michael Rettig, W. David Wilson,* and David W. Boykin*

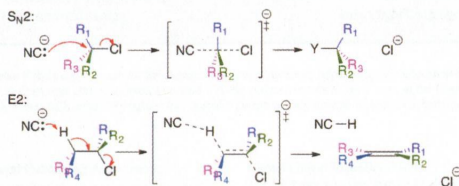


867 **5**

dx.doi.org/10.1021/jo4026644

How Alkyl Halide Structure Affects E2 and S_N2 Reaction Barriers: E2 Reactions Are as Sensitive as S_N2 Reactions

Paul R. Rablen,* Brett D. McLarney, Brandon J. Karlow, and Jean E. Schneider

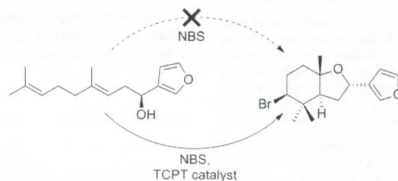


880 **5**

dx.doi.org/10.1021/jo402790x

Synthesis of (+)-Luzofuran and (-)-Ancistrofuran

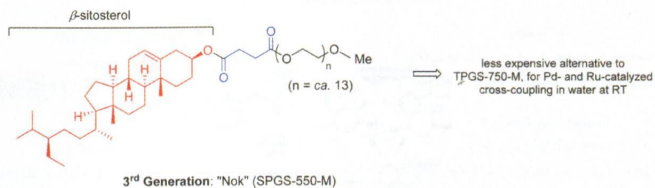
Carl Recsei, Bun Chan,* and Christopher S. P. McElean*



888 **S**

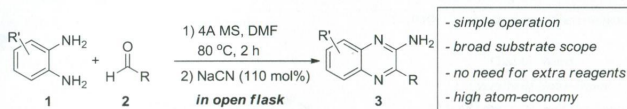
dx.doi.org/10.1021/jo401744b

"Nok": A Phytosterol-Based Amphiphile Enabling Transition-Metal-Catalyzed Couplings in Water at Room Temperature
Piyatida Klumphu and Bruce H. Lipshutz*

901 **S**

dx.doi.org/10.1021/jo4021908

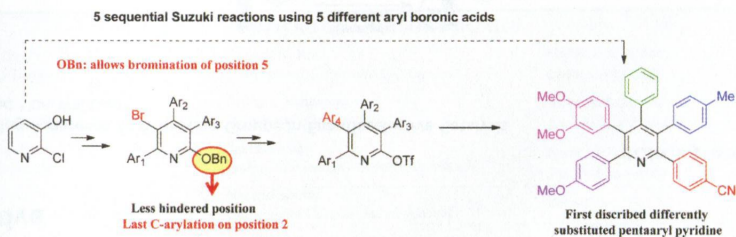
Synthesis of 2-Aminoquinoxalines via One-Pot Cyanide-Based Sequential Reaction under Aerobic Oxidation Conditions
Yeon-Ho Cho, Kyung-Hee Kim, and Cheol-Hong Cheon*

908 **S**

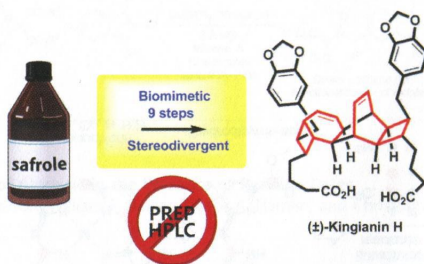
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Fully Regiocontrolled Polyarylation of Pyridine

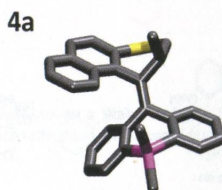
Christelle Doebelin, Patrick Wagner, Frédéric Bihel, Nicolas Humbert, Cyril Assongo Kenfack, Yves Mely, Jean-Jacques Bourguignon, and Martine Schmitt*



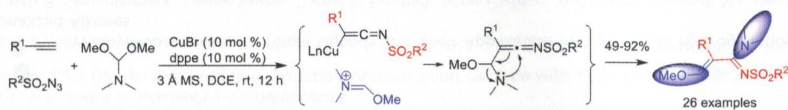
Intermolecular Radical Cation Diels–Alder (RCDA) Reaction of Bicyclooctadienes: Biomimetic Formal Total Synthesis of Kingianin A and Total Syntheses of Kingianins D, F, H, and J
Hee Nam Lim and Kathlyn A. Parker*



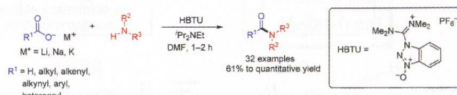
Structural Dynamics of Overcrowded Alkene-Based Molecular Motors during Thermal Isomerization
Arjen Cnossen, Jos C. M. Kistemaker, Tatsuo Kojima, and Ben L. Feringa*



Copper-Catalyzed Reaction of Ketenimine and in Situ Generated Immonium Ion: Access to α,β -Unsaturated Amidines
Bangben Yao, Chuang Shen, Zunjun Liang, and Yuhong Zhang*

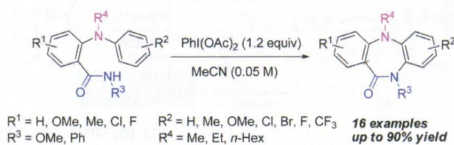


Amidation Reactions from the Direct Coupling of Metal Carboxylate Salts with Amines
Jordan D. Goodreid, Petar A. Duspara, Caroline Bosch, and Robert A. Batey*



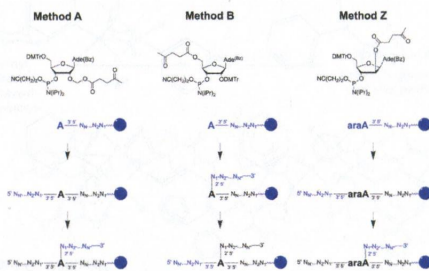
Construction of 1,4-Benzodiazepine Skeleton from 2-(Arylamino)benzamides through $\text{PhI}(\text{OAc})_2$ -Mediated Oxidative C–N Bond Formation

Xuming Li, Liu Yang, Xiang Zhang, Daisy Zhang-Negrerie, Yunfei Du,* and Kang Zhao*



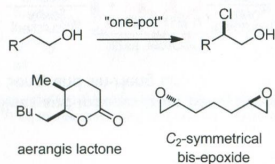
Regiospecific Solid-Phase Synthesis of Branched Oligoribonucleotides That Mimic Intronic Lariat RNA Intermediates

Adam Katolik, Richard Johnsson, Eric Montemayor, Jeremy G. Lackey, P. John Hart, and Masad J. Damha*



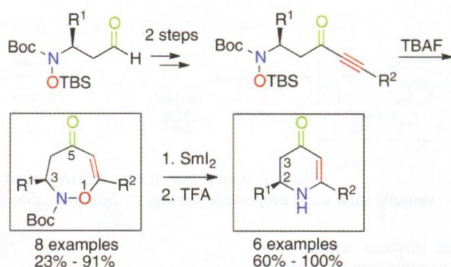
A Formal, One-Pot β -Chlorination of Primary Alcohols and Its Utilization in the Transformation of Terpene Feedstock and the Synthesis of a C_2 -Symmetrical Terminal Bis-Epoxyde

Jörg Swatschek, Lydia Grothues, Jonathan O. Bauer, Carsten Strohmann, and Mathias Christmann*



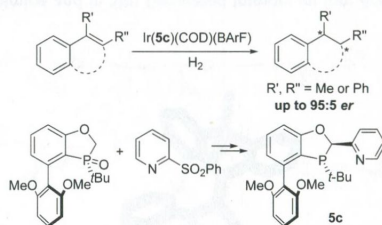
Enantioselective Synthesis of 3,4-Dihydro-1,2-oxazepin-5(2H)-ones and 2,3-Dihydropyridin-4(1H)-ones from β -Substituted β -Hydroxyaminoaldehydes

Adwait R. Ranade and Gunda I. Georg*



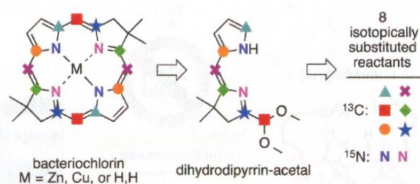
Synthesis of Pyridyl-dihydrobenzoxaphosphole Ligands and Their Application in Asymmetric Hydrogenation of Unfunctionalized Alkenes

Bo Qu,* Lalith P. Samankumara, Jolaine Savoie, Daniel R. Fandrick, Nizar Haddad, Xudong Wei, Shengli Ma, Heewon Lee, Sonia Rodriguez, Carl A. Busacca, Nathan K. Yee, Jinhua J. Song, and Chris H. Senanayake



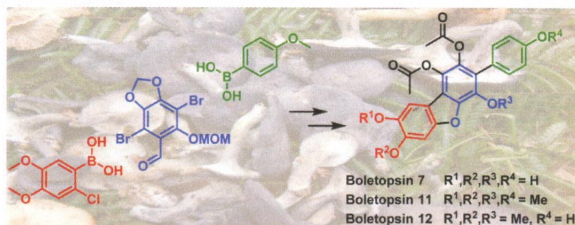
Synthesis of 24 Bacteriochlorin Isotopologues, Each Containing a Symmetrical Pair of ^{13}C or ^{15}N Atoms in the Inner Core of the Macrocycle

Chih-Yuan Chen, David F. Bocian,* and Jonathan S. Lindsey*



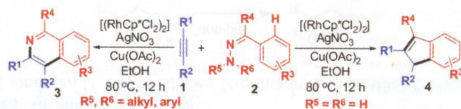
Syntheses of the Fungal Metabolites Boletopsins 7, 11, and 12 from the Papua New Guinea Medicinal Mushroom *Boletopsis* sp.

Andrew M. Beekman and Russell A. Barrow*



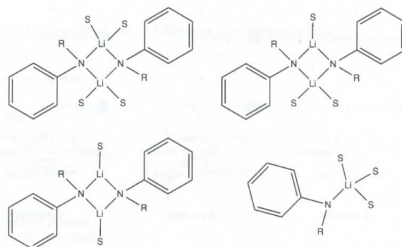
Rhodium-Catalyzed Synthesis of Isoquinolines and Indenes from Benzylidenehydrazones and Internal Alkynes

Xiao-Cheng Huang, Xu-Heng Yang, Ren-Jie Song, and Jin-Heng Li*



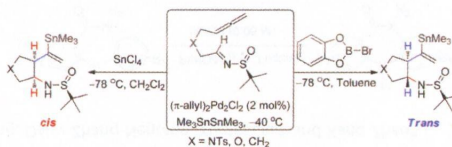
Structures of Lithium *N*-Monosubstituted Anilides: Trisolvated Monomer to Tetrasolvated Dimer

Chicheung Su, Jie Guang, and Paul G. Williard*



Regulation of Diastereoselectivity in the Carbocyclization of Allenyl (S)-*N*-*tert*-Butylsulfonimides through a Three-Component Assembly

Jihyun Kim, Hyuna Kim, Nana Kim, and Chan-Mo Yu*

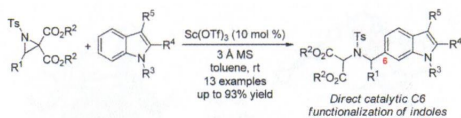


1047 **S**

dx.doi.org/10.1021/jo402511b

Catalytic C6 Functionalization of 2,3-Disubstituted Indoles by Scandium Triflate

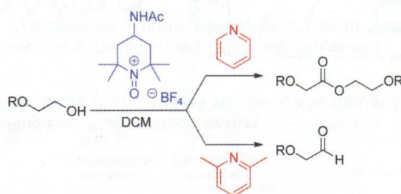
Hua Liu, Chao Zheng,* and Shu-Li You*

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Oxoammonium Salt Oxidations of Alcohols in the Presence of Pyridine Bases

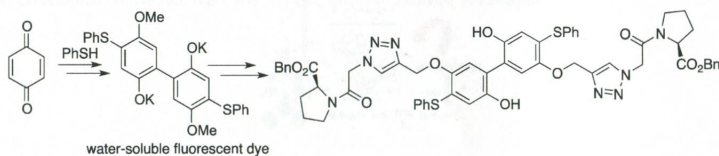
James M. Bobbitt,* Ashley L. Bartelson, William F. Bailey, Trevor A. Hamlin, and Christopher B. Kelly

1068 **S**

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4,4'-Diarylsulfanyl-2,2',5,5'-tetraoxybiaryl Derivatives as a Water-Soluble Fluorescent Dye

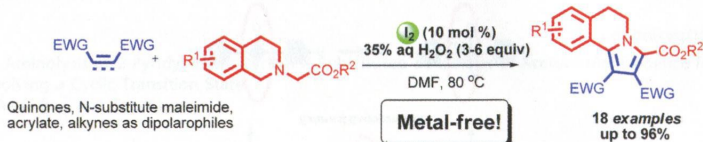
Akio Kamimura,* Tomomi Nokubi, Ryusuke Watanabe, Mari Ishikawa, Kotaro Nasu, Hidemitsu Uno, and Michinori Sumimoto

1084 **S**

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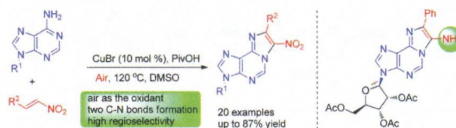
Iodine-Catalyzed 1,3-Dipolar Cycloaddition/Oxidation/Aromatization Cascade with Hydrogen Peroxide as the Terminal Oxidant: General Route to Pyrrolo[2,1-a]isoquinolines

Huan-Ming Huang, Yu-Jin Li,* Qing Ye, Wu-Bin Yu, Liang Han, Jian-Hong Jia, and Jian-Rong Gao*



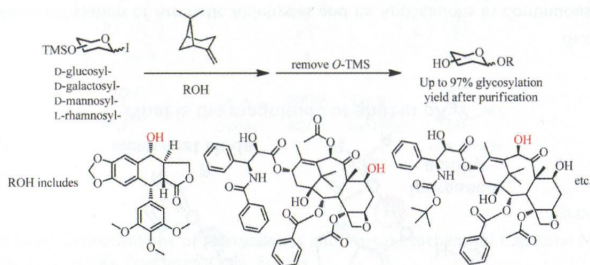
A Copper-Catalyzed Domino Route toward Purine-Fused Tricyclic Derivatives

Ming-Sheng Xie, Zhi-Liang Chu, Hong-Ying Niu, Gui-Rong Qu,* and Hai-Ming Guo*

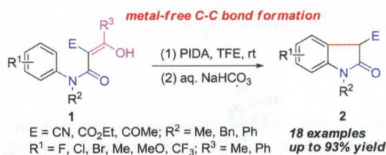


Direct Glycosylation of Bioactive Small Molecules with Glycosyl Iodide and Strained Olefin as Acid Scavenger

Xiangying Gu, Lin Chen, Xin Wang, Xiao Liu, Qidong You, Wenwei Xi, Li Gao, Guohua Chen,* Yue-Lei Chen,* Bing Xiong,* and Jingkang Shen*

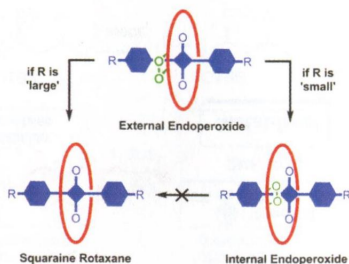
Metal-Free Synthesis of 2-Oxindoles via Ph(OAc)₂-Mediated Oxidative C–C Bond Formation

Jinglei Lv, Daisy Zhang-Negrerie, Jun Deng, Yunfei Du,* and Kang Zhao*



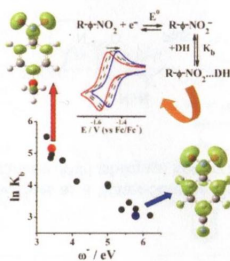
Internal and External Stereoisomers of Squaraine Rotaxane Endoperoxide: Synthesis, Chemical Differences, and Structural Revision

Carleton G. Collins, Joshua M. Lee, Allen G. Oliver, Olaf Wiest, and Bradley D. Smith*



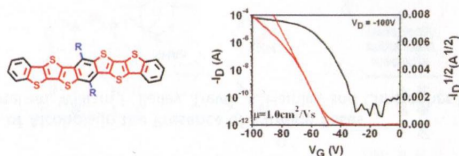
Employment of Electrodonating Capacity as an Index of Reactive Modulation by Substituent Effects: Application for Electron-Transfer-Controlled Hydrogen Bonding

Eduardo Martínez-González and Carlos Frontana*



Syntheses and Properties of Nine-Ring-Fused Linear Thienoacenes

Yu Xiong, Xiaolan Qiao, Hongzhuo Wu, Qiuliu Huang, Qinghe Wu, Jie Li, Xike Gao, and Hongxiang Li*

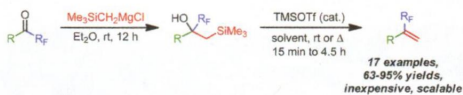


1145 **S**

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Methylenation of Perfluoroalkyl Ketones using a Peterson Olefination Approach

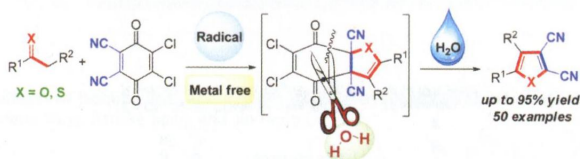
Trevor A. Hamlin, Christopher B. Kelly, Robin M. Cywar, and Nicholas E. Leadbeater*

1156 **S**

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DDQ-Mediated Oxidative Coupling: An Approach to 2,3-Dicyanofuran (Thiophene)

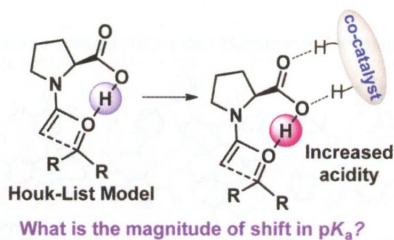
Zheng-Lin Wang, Hong-Liang Li, Li-Shi Ge, Xing-Lan An, Zi-Gang Zhang, Xiaoyan Luo,* John S. Fossey, and Wei-Ping Deng*

1166 **S**

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Computational Study on the pK_a Shifts in Proline Induced by Hydrogen-Bond-Donating Cocatalysts

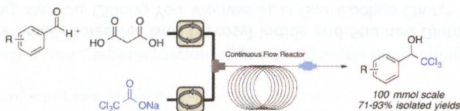
Xiao-Song Xue, Chen Yang, Xin Li,* and Jin-Pei Cheng*

1174 **S**

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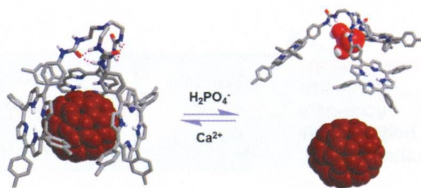
Decarboxylative Trichloromethylation of Aromatic Aldehydes and Its Applications in Continuous Flow

Andreas B. Jensen and Anders T. Lindhardt*



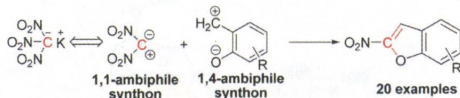
Clawlike Tripodal Porphyrin Trimer: Ion-Controlled On–Off Fullerene Binding

Xiang Fang, Yi-Zhou Zhu,* and Jian-Yu Zheng*



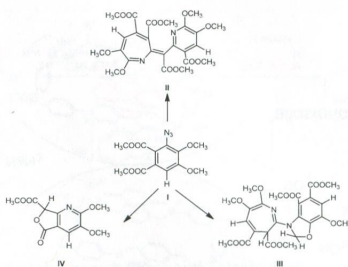
Potassium Trinitromethanide as a 1,1-Ambiphilic Synthone Equivalent: Access to 2-Nitroarenofurans

Vitaly A. Osyanin,* Dmitry V. Osipov, Maxim R. Demidov, and Yuri N. Klimochkin



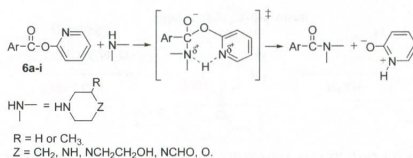
Concomitant Nitrene and Carbene Insertion Accompanying Ring Expansion: Spectroscopic, X-ray, and Computational Studies

Divneet Kaur, Hoi L. Luk, William Coldren, Pavan M. Srinivas, Lakshetti Sridhar, Sripadi Prabhakar, Partha Raghunathan, T. N. Guru Row, Christopher M. Hadad, Matthew S. Platz, and Sambasivan V. Eswaran*



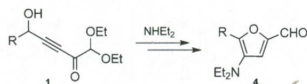
Comparison of Aminolysis of 2-Pyridyl and 4-Pyridyl X-Substituted Benzoates in Acetonitrile: Evidence for a Concerted Mechanism Involving a Cyclic Transition State

Ik-Hwan Um,* Ae-Ri Bae, and Tae-Il Um

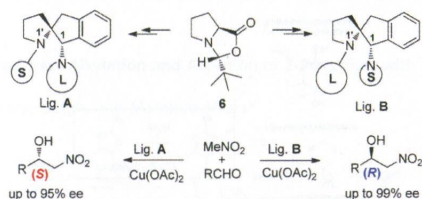


Synthesis and Reactivity of 4-Amino-Substituted Furfurals

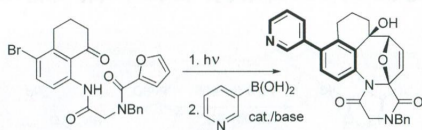
Uranbaatar Erdenebileg, Inger Høstmark, Karina Polden, and Leiv K. Sydnes*

**Synthesis of Tunable Diamine Ligands with Spiro Indane-2,2'-pyrrolidine Backbone and Their Applications in Enantioselective Henry Reaction**

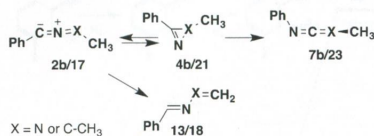
Rafał Ćwiek, Piotr Niedziejko, and Zbigniew Kałuża*

**Intramolecular Photoassisted Cycloadditions of Azaxylylenes and Postphotochemical Capstone Modifications via Suzuki Coupling Provide Access to Complex Polyheterocyclic Biaryls**

W. Cole Cronk, Olga A. Mukhina, and Andrei G. Kutateladze*

**Nitrile Imines and Nitrile Ylides: Rearrangements of Benzonitrile *N*-Methylimine and Benzonitrile Dimethylmethylyde to Azabutadienes, Carbodiimides, and Ketenimines. Chemical Activation in Thermolysis of Azirenes, Tetrazoles, Oxazolones, Isoxazolones, and Oxadiazolones**

Didier Bégué, Alain Dargelos, Hans M. Berstermann, Klaus P. Netsch, Pawel Bednarek, and Curt Wentrup*

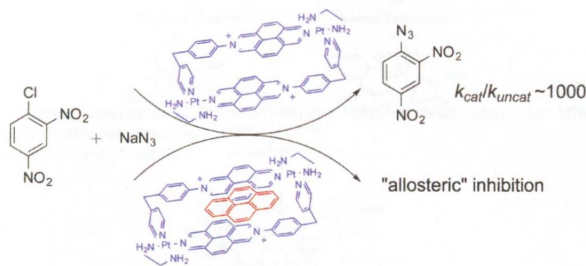


Cu(I)-Catalyzed Synthesis of Dihydropyrimidin-4-ones toward the Preparation of β - and β^3 -Amino Acid Analogues

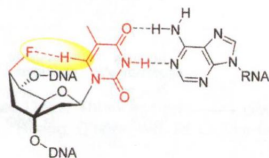
Basker Rajagopal, Ying-Yu Chen, Chun-Chi Chen, Xuan-Yu Liu, Hwei-Ren Wang, and Po-Chiao Lin*

**Metallacycle-Catalyzed S_NAr Reaction in Water: Supramolecular Inhibition by Means of Host–Guest Complexation**

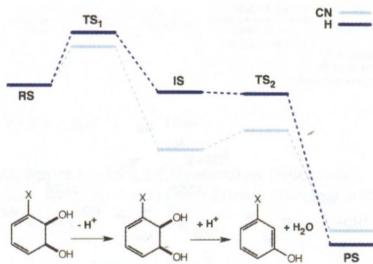
Eva M. López-Vidal, Antonio Fernández-Mato, Marcos D. García, Moisés Pérez-Lorenzo, Carlos Peinador,* and José M. Quintela*

**A 6'-Fluoro-Substituent in Bicyclo-DNA Increases Affinity to Complementary RNA Presumably by CF–HC Pseudohydrogen Bonds**

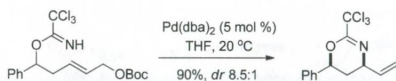
Branislav Dugovic and Christian J. Leumann*



Concerted or Stepwise: How Much Do Free-Energy Landscapes Tell Us about the Mechanisms of Elimination Reactions?
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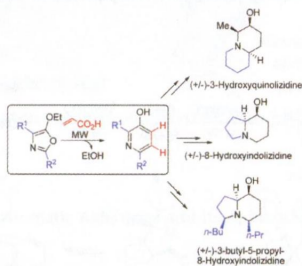


Stereoselective Synthesis of 1,3-Amino Alcohols by the Pd-Catalyzed Cyclization of Trichloroacetimidates
Yuanzhen Xie, Kai Yu, and Zhenhua Gu*



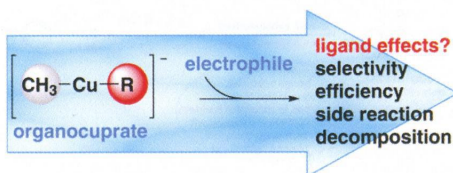
Metal-Free Decarboxylative Hetero-Diels–Alder Synthesis of 3-Hydroxypyridines: A Rapid Access to *N*-Fused Bicyclic Hydroxypiperidine Scaffolds

Laurie-Anne Jouanno, Vincent Di Mascio, Vincent Tognetti,* Laurent Joubert, Cyrille Sabot,* and Pierre-Yves Renard



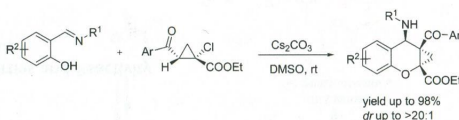
Unraveling Organocuprate Complexity: Fundamental Insights into Intrinsic Group Transfer Selectivity in Alkylation Reactions

Nicole J. Rijs, Naohiko Yoshikai, Eiichi Nakamura, and Richard A. J. O'Hair*



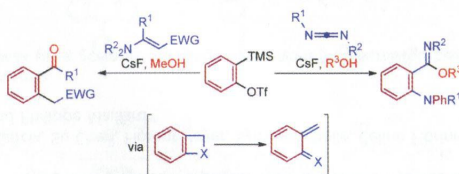
Stereoselective Cascade Formal Nucleophilic Substitution and Mannich Reaction of Ethyl 2-Aroyl-1-chlorocyclopropane-carboxylates

Min Zhang, Fan Luo, and Yuefa Gong*



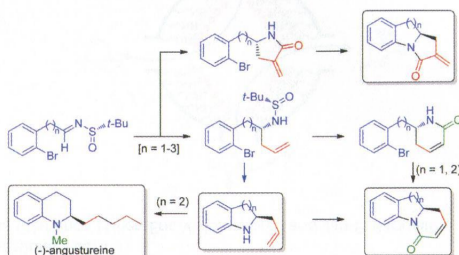
Arynes Double Bond Insertion/Nucleophilic Addition with Vinylogous Amides and Carbodiimides

Ran Li, Huarong Tang, Haixing Fu, Hailong Ren, Xuemei Wang, Chunrui Wu,* Chao Wu,* and Feng Shi*



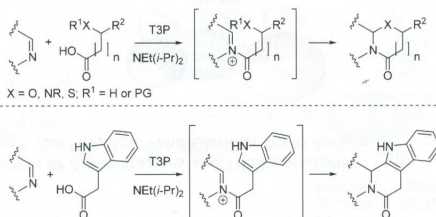
Stereoselective Synthesis of Indoline, Tetrahydroquinoline, and Tetrahydrobenzazepine Derivatives from *o*-Bromophenyl *N*-*tert*-Butylsulfinyl Aldimines

Juan Alberto Sirvent, Francisco Foubelo,* and Miguel Yus*



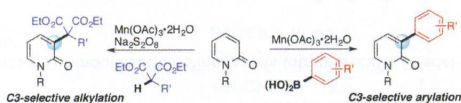
Direct Imine Acylation for Molecular Diversity in Heterocyclic Synthesis

William P. Unsworth, Graeme Coulthard, Christiana Kitsiou, and Richard J. K. Taylor*



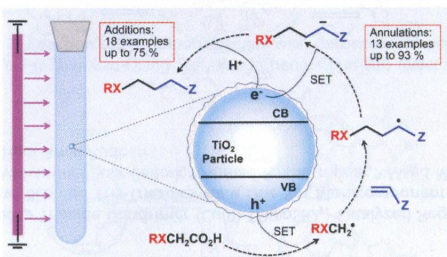
Manganese-Mediated C3-Selective Direct Alkylation and Arylation of 2-Pyridones with Diethyl Malonates and Arylboronic Acids

Akihiro Nakatani, Koji Hirano,* Tetsuya Satoh, and Masahiro Miura*



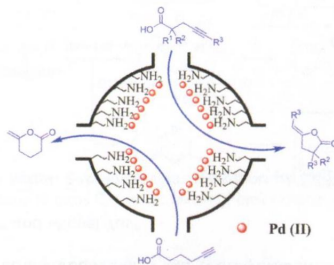
Titania-Promoted Carboxylic Acid Alkylations of Alkenes and Cascade Addition–Cyclizations

David W. Manley,* Roy T. McBurney, Phillip Miller, John C. Walton,* Andrew Mills, and Christopher O'Rourke



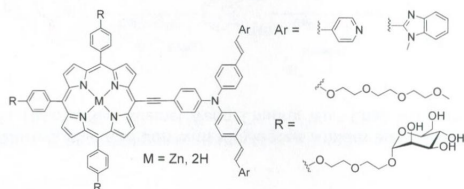
Cycloisomerization of Acetylenic Acids to γ -Alkylidene Lactones using a Palladium(II) Catalyst Supported on Amino-Functionalized Siliceous Mesocellular Foam

Anuja Nagendiran, Oscar Verho, Clémence Haller, Eric V. Johnston,* and Jan-E. Bäckvall*



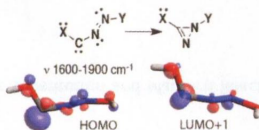
Synthesis and Characterization of Glycoconjugated Porphyrin Triphenylamine Hybrids for Targeted Two-Photon Photodynamic Therapy

Fabien Hammerer, Guillaume Garcia, Su Chen, Florent Poyer, Sylvain Achelle, Céline Fiorini-Debuisschert, Marie-Paule Teulade-Fichou, and Philippe Maillard*



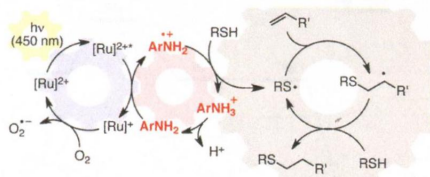
Carbenic Nitrile Imines: Properties and Reactivity

Didier Bégué* and Curt Wentrup*



Redox Mediators in Visible Light Photocatalysis: Photocatalytic Radical Thiol–Ene Additions

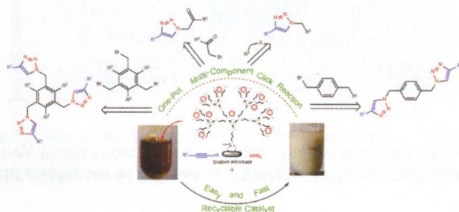
Elizabeth L. Tyson, Zachary L. Niemeyer, and Tehshik P. Yoon*



Notes

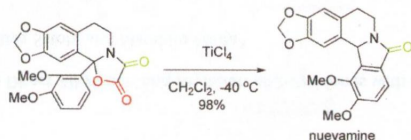
Copper Immobilized on Nanosilica Triazine Dendrimer (Cu(II)-TD@nSiO₂)-Catalyzed Regioselective Synthesis of 1,4-Disubstituted 1,2,3-Triazoles and Bis- and Tris-Triazoles via a One-Pot Multicomponent Click Reaction

Mahboobeh Nasr-Esfahani, Iraj Mohammadpoor-Baltork,* Ahmad R. Khosropour,* Majid Moghadam, Valiollah Mirkhani, Shahram Tangestaninejad, and Hadi Amiri Rudbari



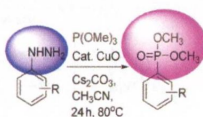
Conversion of Oxazolidinediones to Isoindoloisoquinolinones via Intramolecular Friedel–Crafts Reaction

Ji-Young Min and Guncheol Kim*



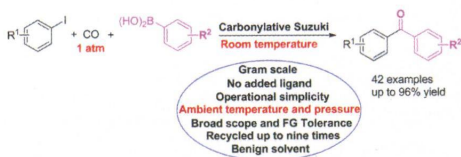
Copper-Catalyzed Coupling Reaction of Arylhydrazines and Trialkylphosphites

Sheng-Yan Chen, Run-Sheng Zeng,* Jian-Ping Zou,* and Olayinka Taiwo Asekun



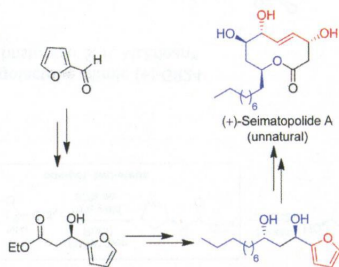
In Situ Generation of Palladium Nanoparticles: Ligand-Free Palladium Catalyzed Pivalic Acid Assisted Carbonylative Suzuki Reactions at Ambient Conditions

Qing Zhou, Shaohua Wei, and Wei Han*



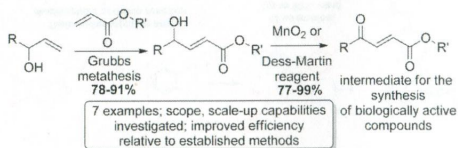
Total Synthesis of (+)-Seimatoplide A

Kavirayani R. Prasad* and Omkar Revu



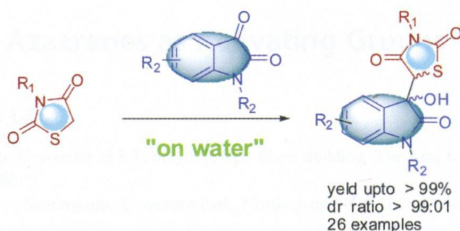
Grubbs Cross-Metathesis Pathway for a Scalable Synthesis of γ -Keto- α,β -unsaturated Esters

Reji N. Nair and Thomas D. Bannister*

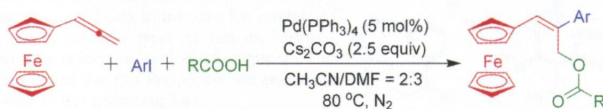


Thiazolidinedione–Isatin Conjugates via an Uncatalyzed Diastereoselective Aldol Reaction on Water

Sushovan Paladhi, Meeta Bhati, Deepanjan Panda, and Jyotirmayee Dash*

Palladium-Catalyzed Regio- and Stereoselective Arylesterification of Ferrocenylallene: A Synthetic Route to Ferrocene-Containing Disubstituted *E*-Allylic Esters

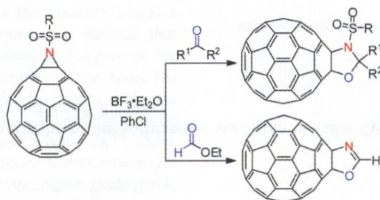
Shufeng Chen,* Zhenlong Gao, Haiying Zhao, and Baoguo Li*



- 21 examples
- highly regio- and stereoselectivities
- ferrocene as the stereochemistry determining functionality

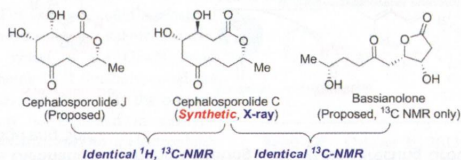
BF₃·Et₂O-Catalyzed Formal [3 + 2] Reaction of Aziridinofullerenes with Carbonyl Compounds

Hai-Tao Yang,* Meng-Lei Xing, Ye-Fei Zhu, Xiao-Qiang Sun, Jiang Cheng, Chun-Bao Miao, and Fa-Bao Li*



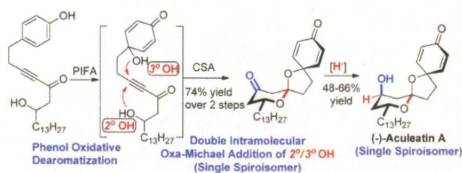
Structural Revision of Cephalosporolide J and Bassianolone

Liyuan Song, Ka-Ho Lee, Zhenyang Lin,* and Rongbiao Tong*



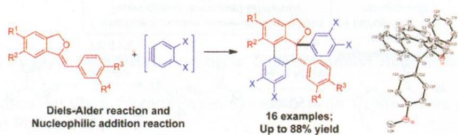
Total Synthesis of Aculeatin A via Double Intramolecular Oxa-Michael Addition of Secondary/Tertiary Alcohols

Hongliang Yao, Liyan Song, and Rongbiao Tong*



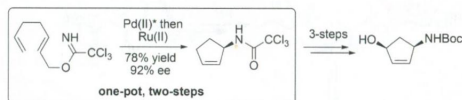
A Tandem Reaction of Benzyne with Functionalized Benzylidenephthalan To Afford Phenanthro[10,1-bc]furan

Hai Xiao Siyang, Xu Rui Wu, Hui Ling Liu, Xin Yan Wu, and Pei Nian Liu*



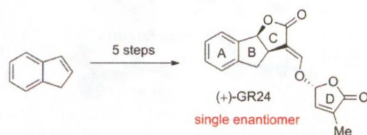
Asymmetric Synthesis of *cis*-Aminocyclopentenols, Building Blocks for Medicinal Chemistry

Ahmed M. Zaed, Mark W. Grafton, Sajjad Ahmad, and Andrew Sutherland*

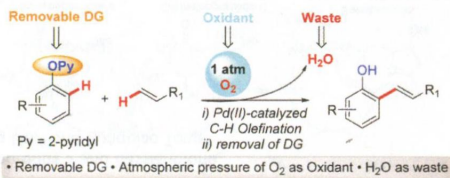


Enantioselective Synthesis of the Strigolactone Mimic (+)-GR24

Liam J. Bromhead, Johan Visser, and Christopher S. P. McElean*



Palladium-Catalyzed Oxidative Olefination of Phenols Bearing Removable Directing Groups under Molecular Oxygen
 Bin Liu, Huai-Zhi Jiang, and Bing-Feng Shi*



Additions and Corrections

Correction to Synthesis of 2-N/S/C-substituted Benzothiazoles via Intramolecular Cyclative Cleavage of Benzotriazole Ring
 Dhananjay Kumar, Bhuwan B Mishra, and Vinod K Tiwari*