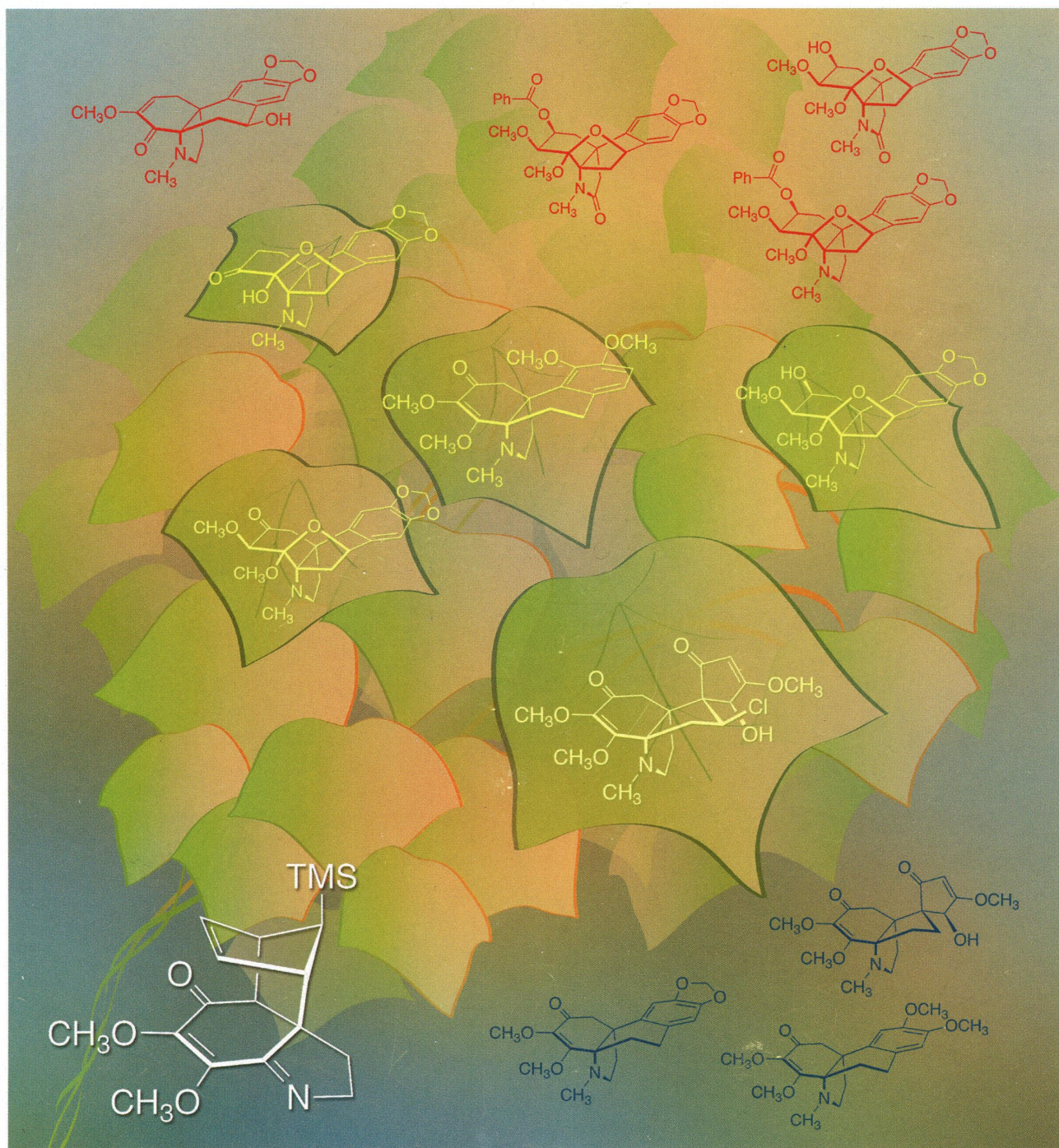


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# JOC

*The Journal of Organic Chemistry*

OCTOBER 3, 2014 VOLUME 79, NUMBER 19 [pubs.acs.org/joc](http://pubs.acs.org/joc)



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**ON THE COVER:** Understanding the reactivity of complex molecular architectures is often a central challenge in complex molecule synthesis. Oftentimes, complex intermediates display reactivity and stability patterns that differ widely from simpler molecules containing their isolated functional groups. This issue is discussed in the context of hasubanan and acutumine alkaloid syntheses. See King and Herzon, p 8937. Professor Herzon is the recipient of the 2014 Arthur C. Cope Scholar Award.

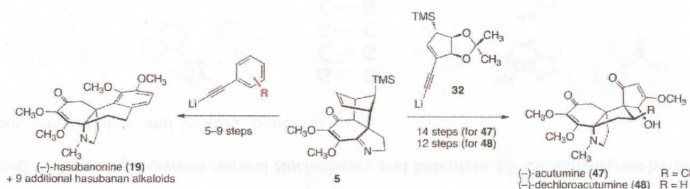
## Perspective

8937

dx.doi.org/10.1021/jo501516x

### Substrate-Modified Functional Group Reactivity: Hasubanan and Acutumine Alkaloid Syntheses

Sandra M. King and Seth B. Herzon\*



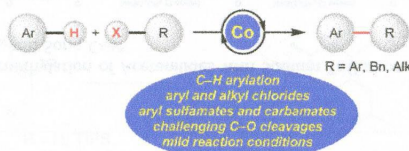
## JOCSynopsis

8948

dx.doi.org/10.1021/jo501361k

### Cobalt-Catalyzed C–H Arylations, Benzylations, and Alkylations with Organic Electrophiles and Beyond

Lutz Ackermann\*



## Brief Communications

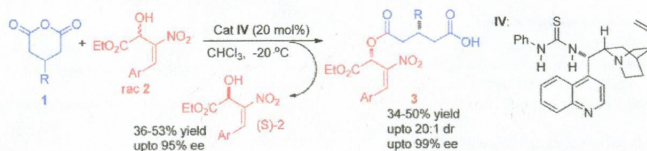
8955



dx.doi.org/10.1021/jo501882q

### Organocatalytic Kinetic Resolution of Racemic Secondary Nitroallylic Alcohols Combined with Simultaneous Desymmetrization of Prochiral Cyclic Anhydrides

Suparna Roy, Kan-Fu Chen, Ramani Gurubrahmam, and Kwunmin Chen\*



## Featured Articles

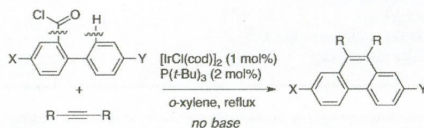
8960



dx.doi.org/10.1021/jo501835u

### Iridium-Catalyzed Annulative Coupling of 2-Arylbenzoyl Chlorides with Alkynes: Selective Formation of Phenanthrene Derivatives

Tomoya Nagata, Koji Hirano, Tetsuya Satoh, and Masahiro Miura\*



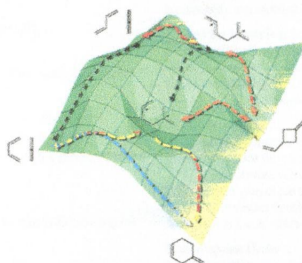
8968



dx.doi.org/10.1021/jo502041f

### Diels–Alder Reactions of Allene with Benzene and Butadiene: Concerted, Stepwise, and Ambimodal Transition States

Hung V. Pham and K. N. Houk\*

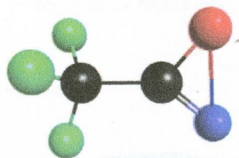


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dx.doi.org/10.1021/jo500664e

## Computational Rationalization for the Observed Ground-State Multiplicities of Fluorinated Acylnitrenes

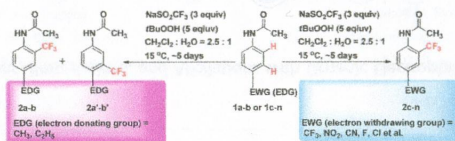
Matthew P. Sherman and William S. Jenks\*

8984 5

dx.doi.org/10.1021/jo501221h

## Copper-Free Direct C–H Trifluoromethylation of Acetanilides with Sodium Trifluoromethanesulfinate

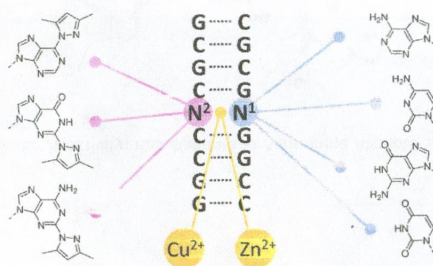
Mingxi Wu, Xinfei Ji, Wenpeng Dai, and Song Cao\*

8990 5

dx.doi.org/10.1021/jo501237r

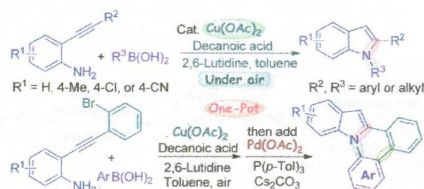
## Metal-Ion-Mediated Base Pairing between Natural Nucleobases and Bidentate 3,5-Dimethylpyrazolyl-Substituted Purine Ligands

Sharmin Taherpour, Oleg Golubev, and Tuomas Lönnberg\*



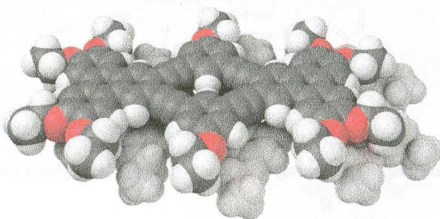
### One-Pot Approach to 1,2-Disubstituted Indoles via Cu(II)-Catalyzed Coupling/Cyclization under Aerobic Conditions and Its Application for the Synthesis of Polycyclic Indoles

Jilong Gao, Yingying Shao, Jiaoyan Zhu, Jiaqi Zhu, Hui Mao, Xiaoxia Wang,\* and Xin Lv\*



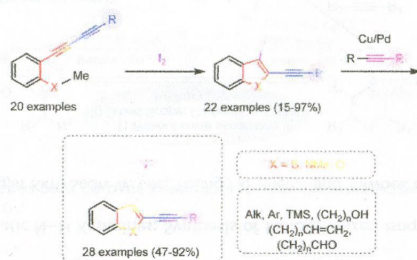
### Solution-Phase Dimerization of an Oblong Shape-Persistent Macrocyclic

Meng Chu, Ashley N. Scioneaux, and C. Scott Hartley\*



### Electrophilic Cyclization of Aryldiacetylenes in the Synthesis of Functionalized Enediynes Fused to a Heterocyclic Core

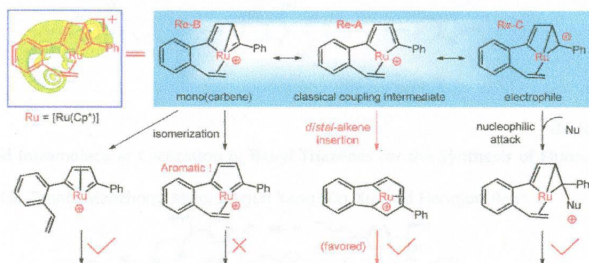
N. A. Danilina, A. E. Kulyashova, A. F. Khlebnikov, S. Bräse,\* and I. A. Balova\*





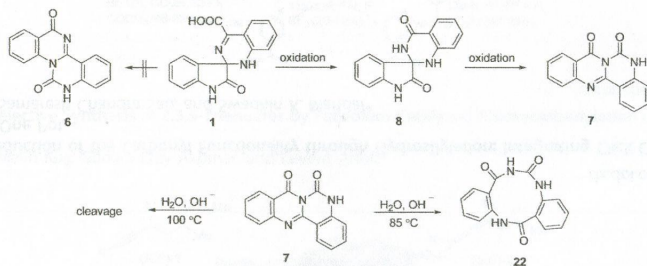
### Mechanistic Origins of Chemo- and Regioselectivity of Ru(II)-Catalyzed Reactions Involving *ortho*-Alkenylarylacetylene, Alkyne, and Methanol: The Crucial Role of a Chameleon-like Intermediate

Yanfang Dang, Shuanglin Qu, Yuan Tao, Chunyu Song, and Zhi-Xiang Wang\*



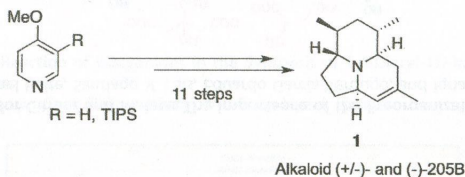
### Oxidative Ring Expansion of Spirocyclic Oxindole Derivatives

Jan Bergman,\* Carl-Johan Arewång, and Per H. Svensson



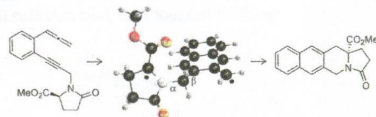
### Total Synthesis of Alkaloid 205B

Sergey V. Tsukanov and Daniel L. Comins\*



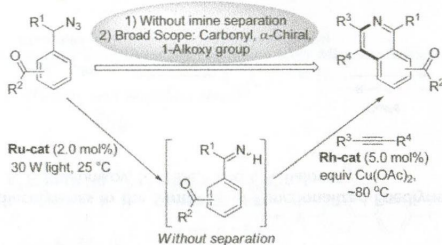
### Theoretical Study To Explain How Chirality Is Stored and Evolves throughout the Radical Cascade Rearrangement of Enyne-allenes

Anouk Gaudel-Siri,\* Damien Campolo, Shovan Mondal, Malek Nechab, Didier Siri, and Michèle P. Bertrand



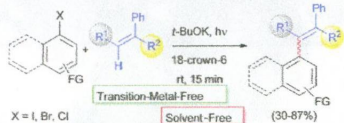
### C–H Activation Guided by Aromatic N–H Ketimines: Synthesis of Functionalized Isoquinolines Using Benzyl Azides and Alkynes

Sreya Gupta, Junghoon Han, Yongjin Kim, Soon W. Lee, Young Ho Rhee,\* and Jaiwook Park\*



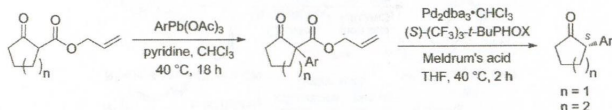
### Room-Temperature and Transition-Metal-Free Mizoroki–Heck-type Reaction. Synthesis of *E*-Stilbenes by Photoinduced C–H Functionalization

Javier F. Guastavino, María E. Budén, and Roberto A. Rossi\*



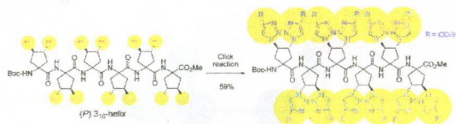
### Catalytic Asymmetric Synthesis of Sterically Hindered Tertiary $\alpha$ -Aryl Ketones

Robert Doran and Patrick J. Guiry\*



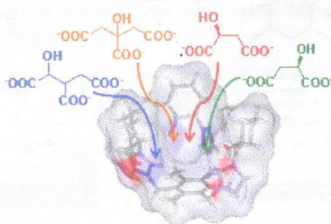
### Helical Peptide-Foldamers Having a Chiral Five-Membered Ring Amino Acid with Two Azido Functional Groups

Makoto Oba, Hiroomi Takazaki, Naomi Kawabe, Mitsunobu Doi, Yosuke Demizu, Masaaki Kurihara, Hiromu Kawakubo, Masanobu Nagano, Hiroshi Suemune, and Masakazu Tanaka\*



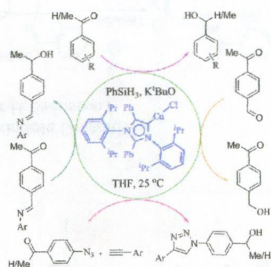
### Chiral Imidazolium Receptors for Citrate and Malate: The Importance of the Preorganization

Enrico Faggi, Raúl Porcar, Michael Bolte, Santiago V. Luis, Eduardo García-Verdugo, and Ignacio Alfonso\*



### Chemoselective Reduction of the Carbonyl Functionality through Hydrosilylation: Integrating Click Catalysis with Hydrosilylation in One Pot

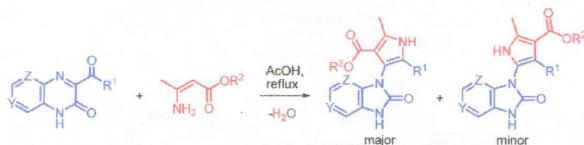
Sudipta Raha Roy, Samaresh Chandra Sau, and Swadhin K. Mandal\*





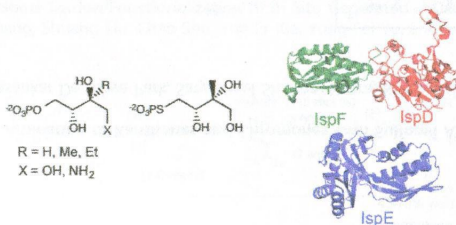
Reaction for the Synthesis of Benzimidazol-2-ones, Imidazo[5,4-b]-, and Imidazo[4,5-c]pyridin-2-ones via the Rearrangement of Quinoxalin-2-ones and Their Aza Analogues When Exposed to Enamines

Vakhid A. Mamedov,\* Nataliya A. Zhukova, Anastasiya I. Zamaletdinova, Tat'yana N. Beschastnova, Milyausha S. Kadyrova, Il'dar Kh. Rizvanov, Victor V. Syakaev, and Shamil K. Latypov



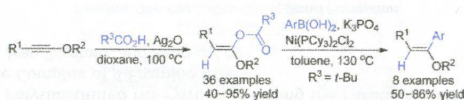
Synthesis of Methylerythritol Phosphate Analogues and Their Evaluation as Alternate Substrates for IspDF and IspE from *Agrobacterium tumefaciens*

Sergiy G. Krasutsky, Marek Urbansky, Chad E. Davis, Christian Lherbet, Robert M. Coates,\* and C. Dale Poulter\*



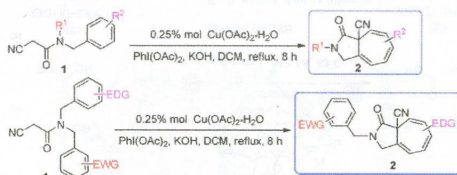
Silver-Catalyzed Regio- and Stereoselective Addition of Carboxylic Acids to Ynol Ethers

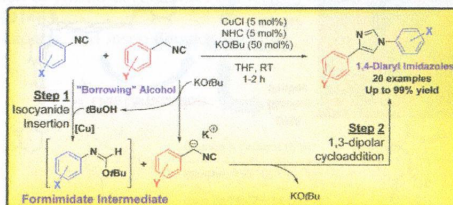
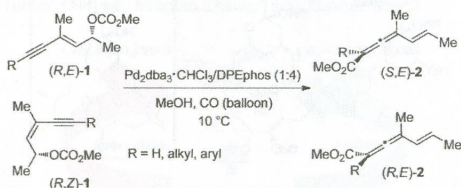
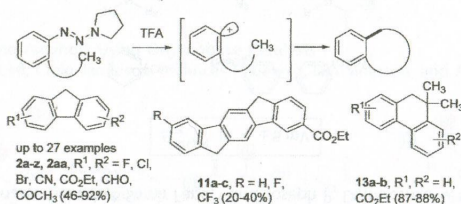
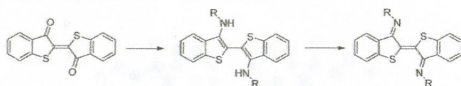
Jing Yin, Yihui Bai, Mengyi Mao, and Ganguo Zhu\*



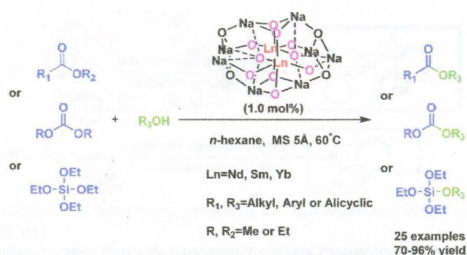
In Situ-Generated Iodonium Ylides as Safe Carbene Precursors for the Chemoselective Intramolecular Buchner Reaction

Shanyan Mo, Xinhao Li, and Jiaxi Xu\*

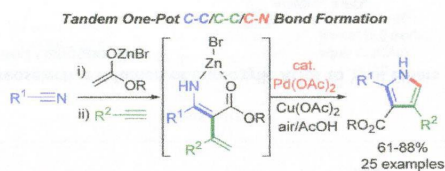




**Heterobimetallic Dinuclear Lanthanide Alkoxide Complexes as Acid–Base Difunctional Catalysts for Transesterification**  
Ruijie Zeng, Hongting Sheng,\* Yongcang Zhang, Yan Feng,\* Zhi Chen, Junfeng Wang, Man Chen, Manzhou Zhu, and Qingxiang Guo



**Tandem One-Pot Synthesis of Polysubstituted NH-Pyrroles Involving the Palladium-Catalyzed Intramolecular Oxidative Amination of the Zinc Bromide Complex of  $\beta$ -Enamino Esters**  
Ju Hyun Kim, Suh Young Choi, Jean Bouffard, and Sang-gi Lee\*



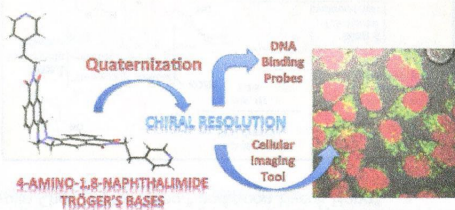
**Ru(II)-Catalyzed Selective C–H Amination of Xanthenes and Chromones with Sulfonyl Azides: Synthesis and Anticancer Evaluation**  
Youngmi Shin, Sangil Han, Umasankar De, Jihye Park, Satyasheel Sharma, Neeraj Kumar Mishra, Eui-Kyung Lee, Youngil Lee, Hyung Sik Kim, and In Su Kim\*





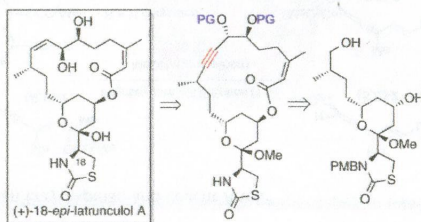
**Supramolecular Approach to Enantioselective DNA Recognition Using Enantiomerically Resolved Cationic 4-Amino-1,8-naphthalimide-Based Tröger's Bases**

Swagata Banerjee, Sandra A. Bright, Jayden A. Smith, Jeremy Burgeat, Miguel Martinez-Calvo, D. Clive Williams, John M. Kelly,\* and Thorfinnur Gunnlaugsson\*



**Total Synthesis of (+)-18-*epi*-Latrunculol A: Development of a Synthetic Route**

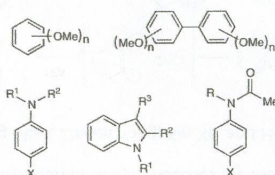
Brett D. Williams and Amos B. Smith III\*



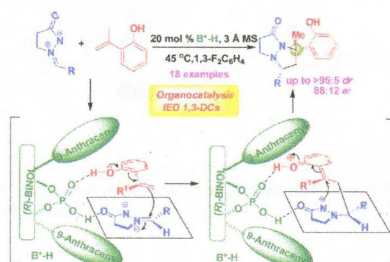
**Accurate Oxidation Potentials of 40 Benzene and Biphenyl Derivatives with Heteroatom Substituents**

Pu Luo, Adam M. Feinberg, Gonzalo Guirado,\* Samir Farid,\* and Joseph P. Dinnocenzo\*

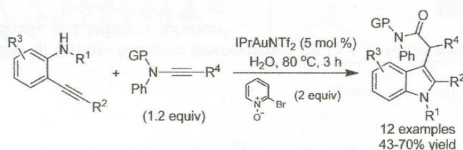
$$E_{\text{ox}}^{\text{CH}_3\text{CN}} \text{ to } < \pm 6 \text{ mV}$$



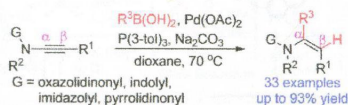
**Organocatalytic Asymmetric Inverse-Electron-Demand 1,3-Dipolar Cycloaddition of *N,N'*-Cyclic Azomethine Imines**  
Ren-Yi Zhu, Cong-Shuai Wang, Jian Zheng, Feng Shi,\* and Shu-Jiang Tu



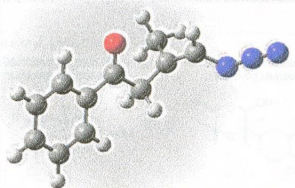
**Gold-Catalyzed Tandem Cycloisomerization/Functionalization of in Situ Generated  $\alpha$ -Oxo Gold Carbenes in Water**  
Cang-Hai Shen, Long Li, Wei Zhang, Shuang Liu, Chao Shu, Yun-Er Xie, Yong-Fei Yu, and Long-Wu Ye\*



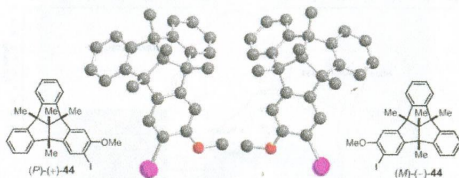
**Preparation of (*Z*)- $\alpha,\beta$ -Disubstituted Enamides via Palladium-Catalyzed Addition of Boronic Acids to Ynamides**  
Yuanfa Yang, Lina Wang, Fang Zhang, and Gangguo Zhu\*



**Triplet Sensitized Photolysis of a Vinyl Azide: Direct Detection of a Triplet Vinyl Azide and Nitrene**  
Sridhar Rajam, Abhijit V. Jadhav, Qian Li, Sujan K. Sarkar, Pradeep N. D. Singh, Aleah Rohr, Tamara C. S. Pace, Rui Li, Jeanette A. Krause, Cornelia Bohne, Bruce S. Ault, and Anna D. Gudmundsdottir\*



Regiocontrolled Synthesis and Optical Resolution of Mono-, Di-, and Trisubstituted Tribenzotriquinacene Derivatives: Key Building Blocks for Further Assembly into Molecular Squares and Cubes  
Wen-Rong Xu, Hak-Fun Chow,\* Xiao-Ping Cao,\* and Dietmar Kuck\*



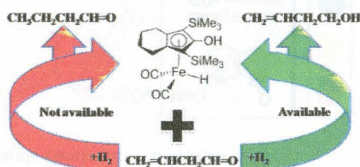
Amidation of Esters with Amino Alcohols Using Organobase Catalysis

Nicola Caldwell, Peter S. Campbell, Craig Jamieson,\* Frances Potjewyd, Iain Simpson, and Allan J. B. Watson



High Chemoselectivity of an Advanced Iron Catalyst for the Hydrogenation of Aldehydes with Isolated C=C Bond: A Computational Study

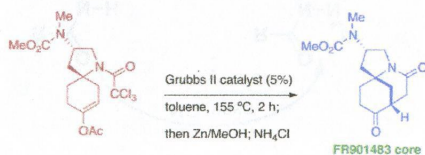
Xi Lu, Runjiao Cheng, Nicholas Turner, Qian Liu, Mingtao Zhang,\* and Xiaomin Sun\*



## Notes

Atom Transfer Radical Cyclization of Trichloroacetamides to Electron-Rich Acceptors Using Grubbs' Catalysts: Synthesis of the Tricyclic Framework of FR901483

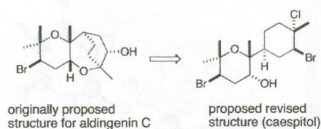
Faiza Diaba,\* Agustín Martínez-Laporta, and Josep Bonjoch\*





**Synthesis and Structural Revision of a Brominated Sesquiterpenoid, Aldingenin C**

Shunya Takahashi,\* Masayuki Yasuda, Takemichi Nakamura, Ken Hatano, Koji Matsuoka, and Hiroyuki Koshino\*

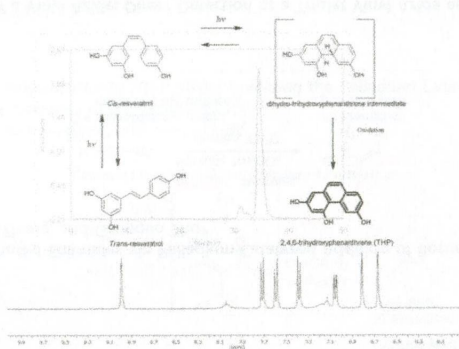


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dx.doi.org/10.1021/jo501405m

**Isolation and Identification of 2,4,6-Trihydroxyphenanthrene as a Byproduct of *trans*-Resveratrol Photochemical Isomerization and Electrocyclization**

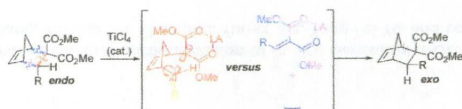
Antonio Francioso,\* Alberto Boffi, Claudio Villani, Lucio Manzi, Maria D'Erme, Alberto Macone, and Luciana Mosca

9385 **S**

dx.doi.org/10.1021/jo5014367

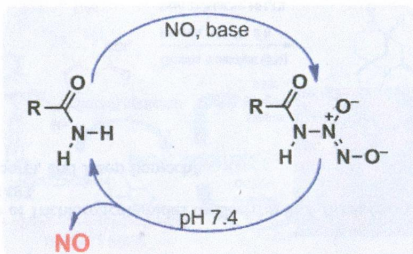
**Experiments Probing the Viability of Donor–Acceptor Norbornenes for (5 + 2)-Annulation**

Morgan M. Walker, C. Guy Goodman, and Jeffrey S. Johnson\*



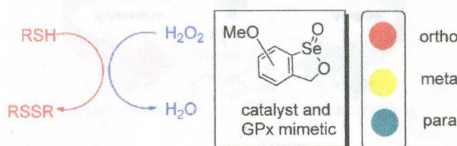
## Direct Reaction of Amides with Nitric Oxide To Form Diazoniumdiolates

Ryan J. Holland,\* John R. Klose, Jeffrey R. Deschamps, Zhao Cao, Larry K. Keefer, and Joseph E. Saavedra



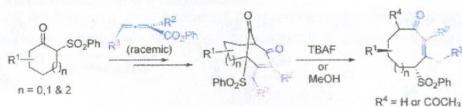
## Effects of Methoxy Substituents on the Glutathione Peroxidase-like Activity of Cyclic Seleninate Esters

David J. Press, Nicole M. R. McNeil, Miranda Hambrook, and Thomas G. Back\*

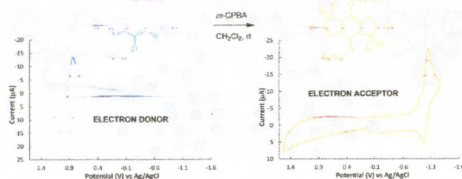


## Annulation Reactions of Allenyl Esters: An Approach to Bicyclic Diones and Medium-Sized Rings

Bilal A. Bhat, Samantha L. Maki, Elijah J. St.Germain, Pradip Maity, and Salvatore D. Lepore\*

Synthesis and Electronic Properties of Oxidized Benzo[1,2-*b*:4,5-*b'*]dithiophenes

Ted M. Pappenfus,\* Daniel T. Seidenkranz, Matthew D. Lovander, Travis L. Beck, Brandon J. Karels, Katsu Ogawa, and Daron E. Janzen

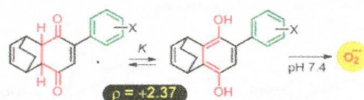


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S

Substituent Effects on Reactive Oxygen Species (ROS) Generation by Hydroquinones  
Allimuthu T. Dharmaraja, Charu Jain, and Harinath Chakrapani\*

dx.doi.org/10.1021/jo501796z

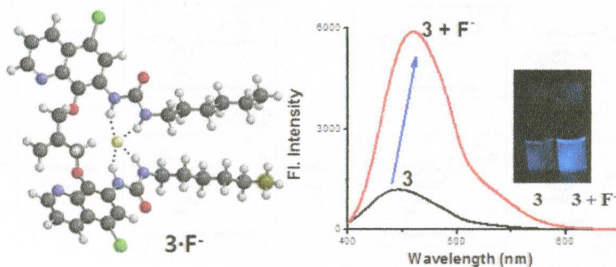


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Bis-ureidoquinoline as a Selective Fluoride Anion Sensor through Hydrogen-Bond Interactions  
Yunhee Jo, Nagesh Chidalla, and Dong-Gyu Cho\*

dx.doi.org/10.1021/jo501767g



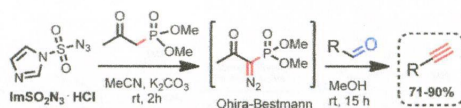
9423

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*In Situ* Generation of the Ohira–Bestmann Reagent from Stable Sulfonyl Azide: Scalable Synthesis of Alkynes from Aldehydes

dx.doi.org/10.1021/jo501803f

Tue Heesgaard Jepsen and Jesper Langgaard Kristensen\*

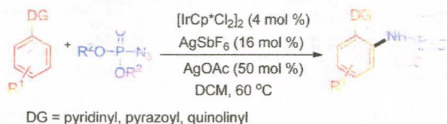


9427

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Iridium-Catalyzed Phosphoramidation of Arene C–H Bonds with Phosphoryl Azide  
Changduo Pan, Ning Jin, Honglin Zhang, Jie Han, and Chengjian Zhu\*

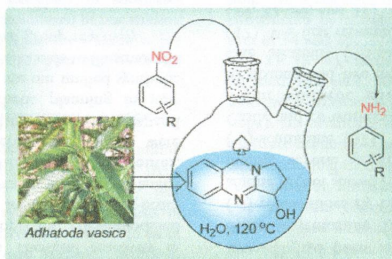
dx.doi.org/10.1021/jo5018052





# Metal-Free Transfer Hydrogenation of Nitroarenes in Water with Vasicine: Revelation of Organocatalytic Facet of an Abundant Alkaloid

Sushila Sharma, Manoranjan Kumar, Vishal Kumar, and Neeraj Kumar\*



## Supporting Information

Supporting Information for this article is available on the WWW under <http://dx.doi.org/10.1021/jo5019415>.

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