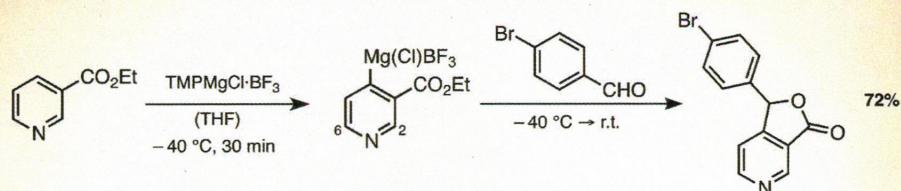


J8010

JOC

The Journal of Organic Chemistry

MAY 16, 2014 VOLUME 79, NUMBER 10 pubs.acs.org/joc



*This is not frustrating.*



*Ceci n'est pas ma pipe.*

12	30
<b>Mg</b>	<b>Zn</b>
24.305	65.38



ACS Publications  
Most Trusted. Most Cited. Most Read.

www.acs.org

**ON THE COVER:** The cover illustration shows a representative example of a metalation using frustrated Lewis pairs. Selected passions of the author are arranged in a gallery containing a chemical scheme, the elements magnesium and zinc, and a photograph of his pipe as homage to Magritte's *Treachery of Images*. See Knochel, p 4253. Paul Knochel is a recipient of the 2014 Herbert C. Brown Award.

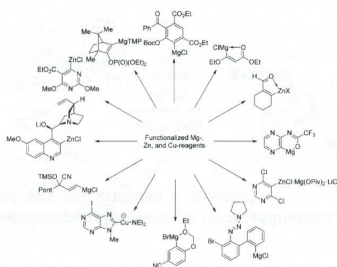
## Perspective

4253

dx.doi.org/10.1021/jo500297r

### Strategies To Prepare and Use Functionalized Organometallic Reagents

Thomas Klatt, John T. Markiewicz, Christoph Sämman, and Paul Knochel\*



## Featured Articles

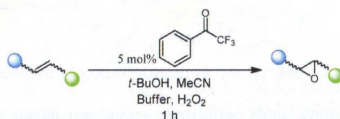
4270



dx.doi.org/10.1021/jo500393h

### 2,2,2-Trifluoroacetophenone: An Organocatalyst for an Environmentally Friendly Epoxidation of Alkenes

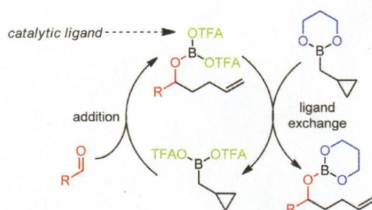
Dimitris Limnios and Christoforos G. Kokotos\*



monosubstituted, *cis* and *trans* disubstituted,  
 $\alpha,\alpha$ -disubstituted and trisubstituted olefins

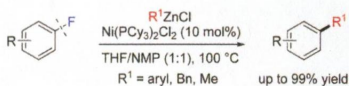
## Boron Carboxylate Catalysis of Homoallylboration

Gabrielle J. Dugas, Yu-hong Lam, K. N. Houk,\* and Isaac J. Krauss\*



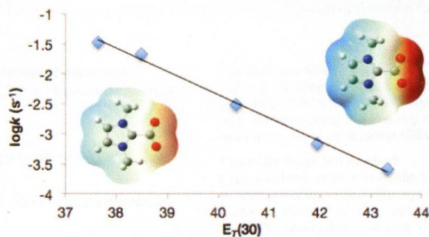
## Nickel-Catalyzed Cross-Coupling of Aryl Fluorides and Organozinc Reagents

Feng Zhu and Zhong-Xia Wang\*



## Solvent-Dependent Decarboxylation of 1,3-Dimethylimidazolium-2-Carboxylate

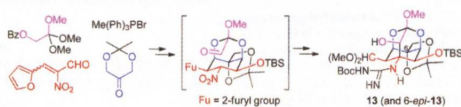
Derek M. Denning and Daniel E. Falvey\*



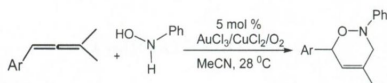
## Articles

## A Convergent Approach to the Dioxadamantane Core of (±)-Tetrodotoxin

Hugo Lago-Santomé, Rubén Meana-Pañeda, and Ricardo Alonso\*

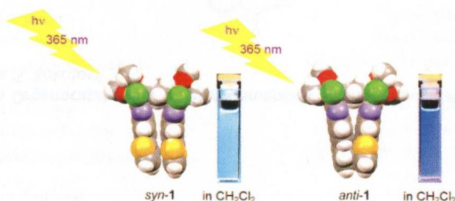


**Catalytic Formal [4 + 2] Cycloadditions between Unactivated Allenes and *N*-Hydroxyaniline Catalyzed by AuCl<sub>3</sub>/CuCl<sub>2</sub>/O<sub>2</sub>**  
 Jian-Ming Chen, Chin-Jung Chang, Yao-Jin Ke, and Rai-Shung Liu\*

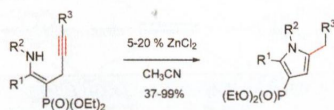


**C-Shaped Diastereomers Containing Cofacial Thiophene-Substituted Quinoxaline Rings: Synthesis, Photophysical Properties, and X-ray Crystallography**

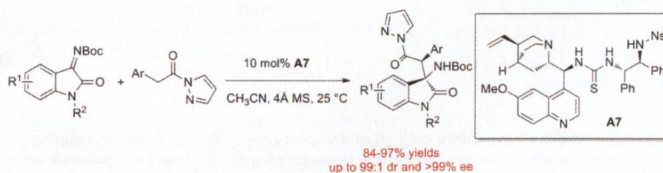
Catherine R. DeBlase, Ryan T. Finke, Jonathan A. Porras, Joseph M. Tanski, and Jocelyn M. Nadeau\*



**Preparation of Tetrasubstituted 3-Phosphonopyrroles through Hydroamination: Scope and Limitations**  
 Wouter Debrouwer, Thomas S. A. Heugebaert, and Christian V. Stevens\*

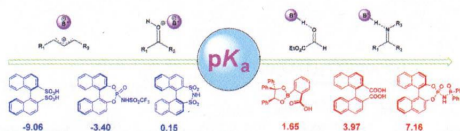


**Organocatalyzed Enantioselective Mannich Reaction of Pyrazoleamides with Isatin-Derived Ketimines**  
 Tian-Ze Li, Xi-Bo Wang, Feng Sha,\* and Xin-Yan Wu\*



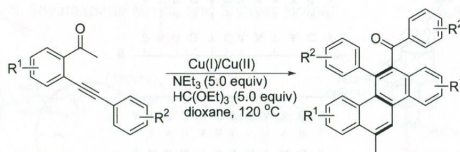
### Computational Study on the Acidic Constants of Chiral Brønsted Acids in Dimethyl Sulfoxide

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



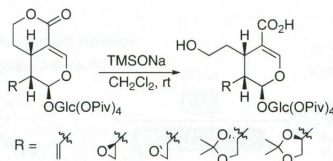
### Synthesis of Chrysene Derivatives via Copper-Catalyzed One-Pot Dimerization of 2-Alkynyl-1-acetylbenzenes

Biao Guo, Liyao Zheng, Lichen Yang, and Ruimao Hua\*



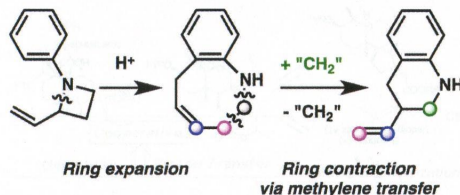
### Mild and Chemoselective Lactone Ring-Opening with (TMS)ONa. Mechanistic Studies and Application to Sweroside Derivatives

Hugues Lemoine, Dean Marković, and Brigitte Deguin\*



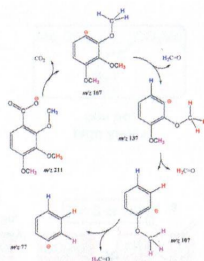
### Acid-Mediated Ring-Expansion Reaction of *N*-Aryl-2-vinylazetidines: Synthesis and Unanticipated Reactivity of Tetrahydrobenzazocines

Tomoaki Shimizu, Shunsuke Koya, Ryu Yamasaki, Yuichiro Mutoh, Isao Azumaya, Kosuke Katagiri, and Shinichi Saito\*



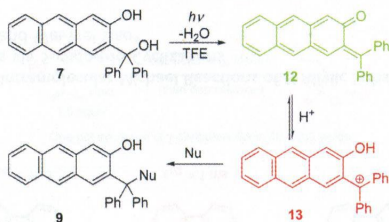
### Circumambulatory Movement of Negative Charge ("Ring Walk") during Gas-Phase Dissociation of 2,3,4-Trimethoxybenzoate Anion

Kithsiri B. Herath, Carl S. Weisbecker, Sheo B. Singh, and Athula B. Attygalle\*



### Near-Visible Light Generation of a Quinone Methide from 3-Hydroxymethyl-2-anthrol

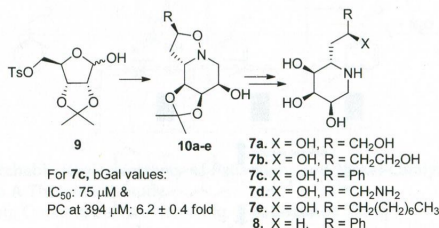
Dani Škalamera, Kata Mlinarić-Majerski, Irena Martin-Kleiner, Marijeta Kralj, Peter Wan, and Nikola Basarić\*



### Synthesis of 1,5-Dideoxy-1,5-iminoribitol C-Glycosides through a Nitrene–Olefin Cycloaddition Domino Strategy:

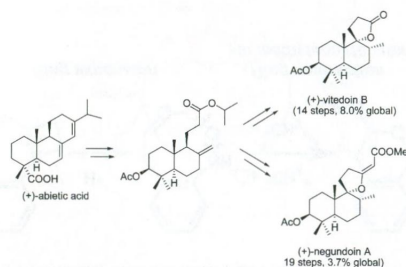
#### Identification of Pharmacological Chaperones of Mutant Human Lysosomal $\beta$ -Galactosidase

Aloysius Siriwardena,\* Dhiraj P. Sonawane, Omprakash P. Bande, Pramod R. Markad, Sayuri Yonekawa, Michael B. Tropak,\* Sougata Ghosh, Balu A. Chopade, Don J. Mahuran, and Dilip D. Dhavale\*



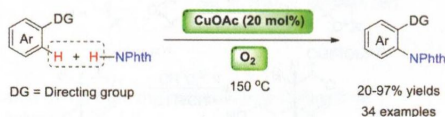
### Stereoselective Transformations of (+)-Abietic Acid into (+)-Vitedoin B and (+)-Negundoin A

Rubén Tapia, Hanane Bouanou, Esteban Alvarez, Ramón Alvarez-Manzaneda, Rachid Chahboun,\* and Enrique Alvarez-Manzaneda\*



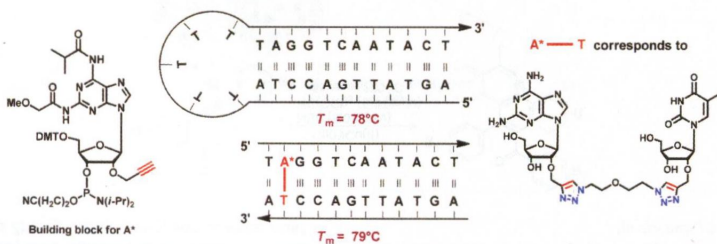
### Cu-Catalyzed Direct Amidation of Aromatic C–H Bonds: An Access to Arylamines

Hui Xu, Xixue Qiao, Shiping Yang, and Zengming Shen\*



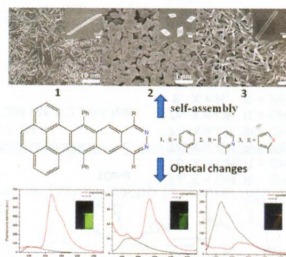
### Oligonucleotides with “Clickable” Sugar Residues: Synthesis, Duplex Stability, and Terminal versus Central Interstrand Cross-Linking of 2'-O-Propargylated 2-Aminoadenosine with a Bifunctional Azide

Suresh S. Pujari, Peter Leonard, and Frank Seela\*



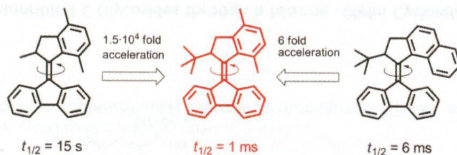
### [4 + 2] Cycloaddition Reaction To Approach Diazatwistpentacenes: Synthesis, Structures, Physical Properties, and Self-assembly

Junbo Li, Peizhou Li, Jiansheng Wu, Junkuo Gao, Wei-Wei Xiong, Guodong Zhang, Yanli Zhao, and Qichun Zhang\*



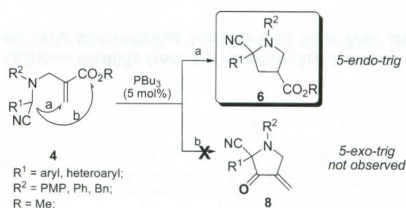
### Tuning the Rotation Rate of Light-Driven Molecular Motors

Jurica Bauer, Lili Hou, Jos C. M. Kistemaker, and Ben L. Feringa\*



### Nucleophilic Phosphine-Catalyzed Intramolecular Michael Reactions of *N*-Allylic Substituted $\alpha$ -Amino Nitriles: Construction of Functionalized Pyrrolidine Rings via 5-*endo*-trig Cyclizations

Da En, Gong-Feng Zou, Yuan Guo, and Wei-Wei Liao\*



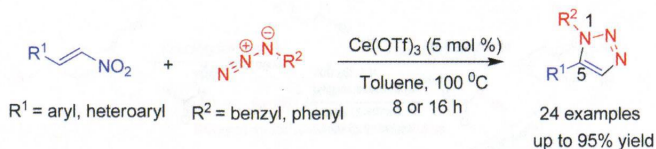


4463 **5**

dx.doi.org/10.1021/jo5004339

**Ce(OTf)<sub>3</sub>-Catalyzed [3 + 2] Cycloaddition of Azides with Nitroolefins: Regioselective Synthesis of 1,5-Disubstituted 1,2,3-Triazoles**

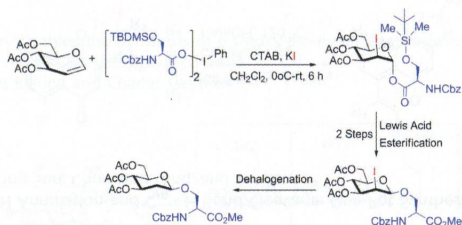
Ying-Chun Wang, Yu-Yang Xie, Hong-En Qu, Heng-Shan Wang,\* Ying-Ming Pan,\* and Fu-Ping Huang

4470 **5**

dx.doi.org/10.1021/jo500465m

**Hypervalent Iodine Mediated Synthesis of C-2 Deoxy Glycosides and Amino Acid Glycoconjugates**

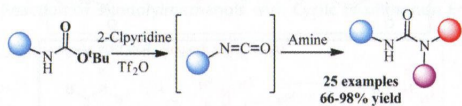
Maidul Islam, Nishanth D. Tirukoti, Shyamapada Nandi, and Srinivas Hotha\*

4477 **5**

dx.doi.org/10.1021/jo500492x

**One-Pot Synthesis of Ureas from Boc-Protected Amines**

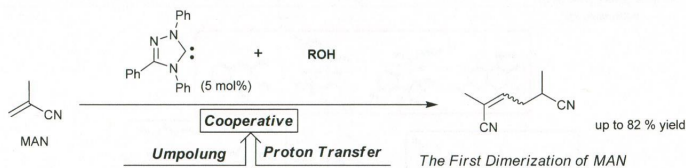
Constantinos Spyropoulos and Christoforos G. Kokotos\*

4484 **5**

dx.doi.org/10.1021/jo500514e

**Cooperative N-Heterocyclic Carbene/Bronsted Acid Catalysis for the Tail-to-Tail (Co)dimerization of Methacrylonitrile**

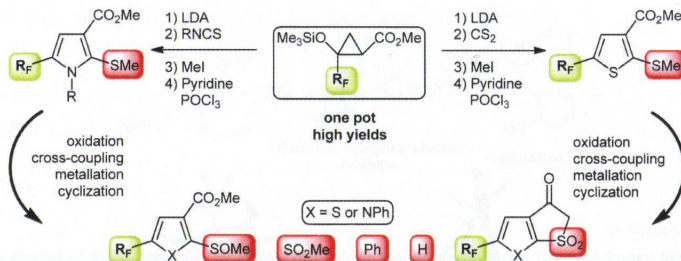
Terumasa Kato, Shin-ichi Matsuoka,\* and Masato Suzuki



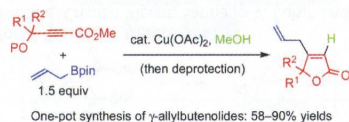
## Perfluoroalkyl-Substituted Thiophenes and Pyrroles from Donor–Acceptor Cyclopropanes and Heterocumulenes:

## Synthesis and Exploration of their Reactivity

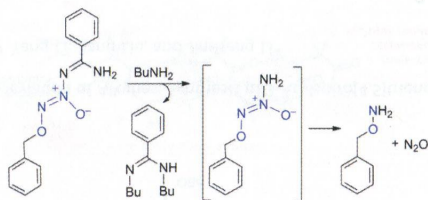
Daniel Gladow and Hans-Ulrich Reissig\*

Synthesis of  $\beta$ -Allylbutenolides via One-Pot Copper-Catalyzed Hydroallylation/Cyclization of  $\gamma$ -Hydroxybutyrate Derivatives

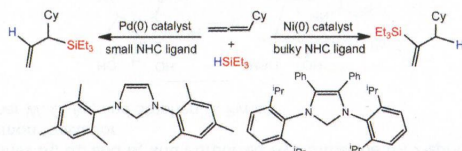
Yoshihiko Yamamoto,\* Shinya Shibano, Takashi Kurohara, and Masatoshi Shibuya

Aminolysis of an *N*-Diazeniumdiolated Amidine as an Approach to Diazeniumdiolated Ammonia

Debanjan Biswas, Joseph A. Hrabie, Joseph E. Saavedra, Zhao Cao, Larry K. Keefer, Joseph Ivancic, and Ryan J. Holland\*

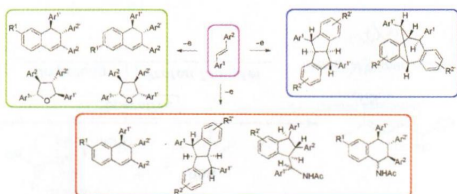
Mechanisms and Origins of Switchable Regioselectivity of Palladium- and Nickel-Catalyzed Allene Hydrosilylation with *N*-Heterocyclic Carbene Ligands: A Theoretical Study

Hujun Xie,\* Lijiang Zhao, Liu Yang, Qunfang Lei, Wenjun Fang, and Chunhua Xiong\*

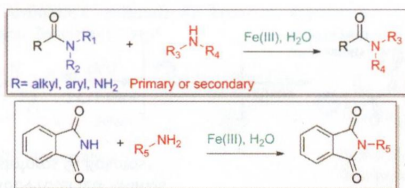


**Biomimetic Oxidative Dimerization of Anodically Generated Stilbene Radical Cations: Effect of Aromatic Substitution on Product Distribution and Reaction Pathways**

Fong-Jiao Hong, Yun-Yee Low, Kam-Weng Chong, Noel F. Thomas, and Toh-Seok Kam\*


**Transamidation of Carboxamides Catalyzed by Fe(III) and Water**

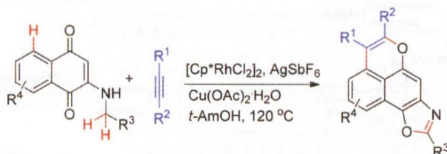
Liliana Becerra-Figueroa, Andrea Ojeda-Porras, and Diego Gamba-Sánchez\*



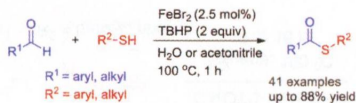
36 examples. Up to quantitative yield.

**Naphthoquinone-Directed C–H Annulation and C<sub>sp</sub><sup>3</sup>–H Bond Cleavage: One-Pot Synthesis of Tetracyclic Naphthoxazoles**

Meining Wang, Chi Zhang, Li-Ping Sun, Chunyong Ding, and Ao Zhang\*

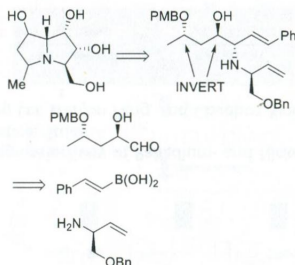

**Iron-Catalyzed Synthesis of Thioesters from Thiols and Aldehydes in Water**

Yu-Ting Huang, Shao-Yi Lu, Chih-Lun Yi, and Chin-Fa Lee\*



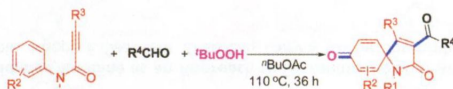
**Total Synthesis of Hyacinthacines B<sub>3r</sub>, B<sub>4r</sub>, and B<sub>5</sub> and Purported Hyacinthacine B<sub>7</sub>, 7-*epi*-Hyacinthacine B<sub>7r</sub>, and 7a-*epi*-Hyacinthacine B<sub>3</sub> from a Common Precursor**

Kongdech Savasapun, Christopher W. G. Au, and Stephen G. Pyne\*



**Metal-Free *Ips*-Carboacylation of Alkynes: Synthesis of 3-Acylspiro[4,5]trienones from *N*-Arylpropiolamides and Aldehydes**

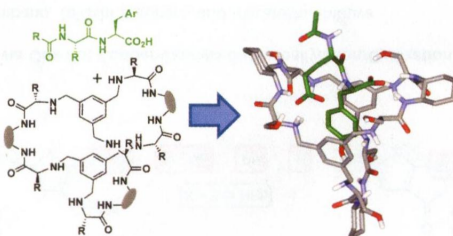
Xuan-Hui Ouyang, Ren-Jie Song,\* Yang Li, Bang Liu, and Jin-Heng Li\*



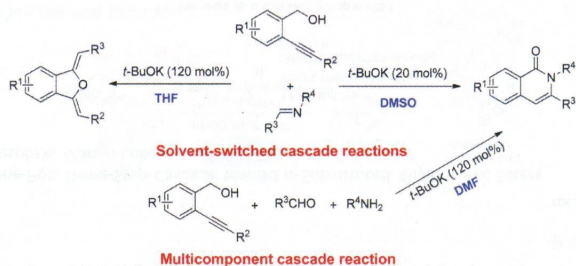
- New conceptual alkyne difunctionalization through oxidative cross coupling of carbonyl C-H bond with *ipso*-aromatic carbon
- General: 28 examples, up to 94% yield

**Pseudopeptidic Cages as Receptors for *N*-Protected Dipeptides**

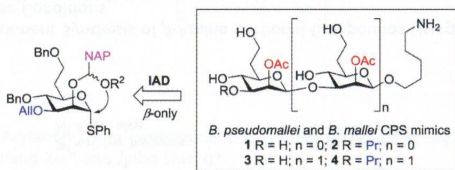
Enrico Faggi, Alejandra Moure, Michael Bolte, Cristian Vicent, Santiago V. Luis,\* and Ignacio Alfonso\*



Transition Metal-Free Cascade Reactions of Alkynols to Afford Isoquinolin-1(2*H*)-one and Dihydroisobenzofuran Derivatives  
Deng Yuan Li, Ke Ji Shi, Xiao Feng Mao, Guo Rong Chen, and Pei Nian Liu\*

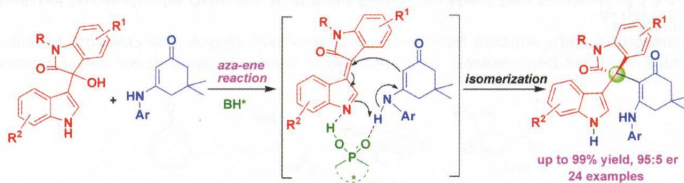


Intramolecular Aglycon Delivery Enables the Synthesis of 6-Deoxy- $\beta$ -*D*-manno-heptosides as Fragments of *Burkholderia pseudomallei* and *Burkholderia mallei* Capsular Polysaccharide  
Marielle Tamigneu Kenfack, Yves Blériot, and Charles Gauthier\*



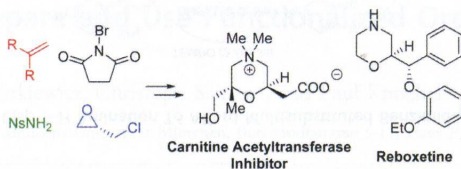
Catalytic Asymmetric Aza-ene Reaction of 3-Indolylmethanols with Cyclic Enaminones: Enantioselective Approach to C3-Functionalized Indoles

Wei Tan, Bai-Xiang Du, Xin Li, Xu Zhu, Feng Shi,\* and Shu-Jiang Tu



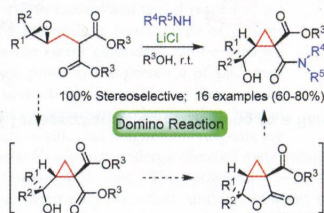
### Synthesis of Reboxetine Intermediate and Carnitine Acetyltransferase Inhibitor via NBS-Induced Electrophilic Multi-component Reaction

Jing Zhou and Ying-Yeung Yeung\*



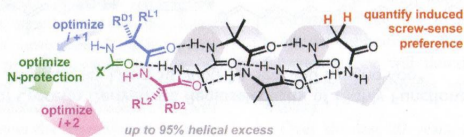
### Lithium Chloride-Mediated Stereoselective Synthesis of Cyclopropanecarboxamides from $\gamma,\delta$ -Epoxy Malonates through a Domino Cyclopropanation/Lactonization/Aminolysis Process

Marcelo V. Marques and Marcus M. Sá\*



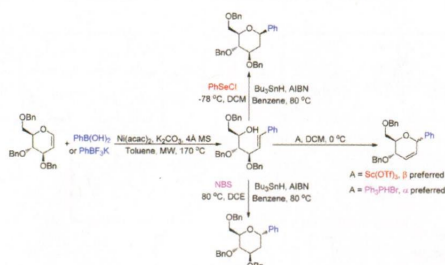
### Engineering the Structure of an N-Terminal $\beta$ -Turn To Maximize Screw-Sense Preference in Achiral Helical Peptide Chains

Matteo De Poli, Liam Byrne, Robert A. Brown, Jordi Solà, Alejandro Castellanos, Thomas Boddart, Romina Wechsel, Jonathan D. Beadle, and Jonathan Clayden\*



### "Ring Opening–Ring Closure" Strategy for the Synthesis of Aryl-C-glycosides

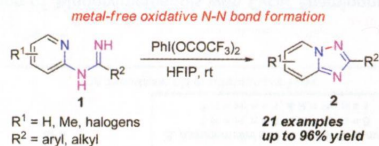
Chen-Fu Liu, De-Cai Xiong, and Xin-Shan Ye\*



## Notes

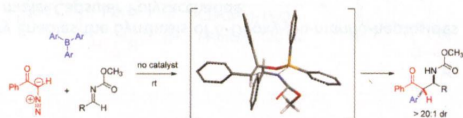
### $\text{Ph}[(\text{OCOCF}_3)_2]$ -Mediated Intramolecular Oxidative N–N Bond Formation: Metal-Free Synthesis of 1,2,4-Triazolo[1,5-*a*]pyridines

Zisheng Zheng, Shuangyu Ma, Linlin Tang, Daisy Zhang-Negerie, Yunfei Du,\* and Kang Zhao\*



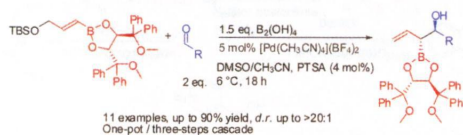
### Diastereoselective Three-Component Synthesis of $\beta$ -Amino Carbonyl Compounds Using Diazo Compounds, Boranes, and Acyl Imines under Catalyst-Free Conditions

Yi Luan, Jie Yu, Xiaowei Zhang, Scott E. Schaus, and Ge Wang\*



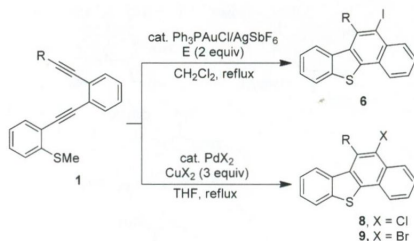
### A Diastereoselective One-Pot, Three-Step Cascade toward $\alpha$ -Substituted Allylboronic Esters

Dietrich Böse, Patrik Niesobski, Marvin Lübcke, and Jörg Pietruszka\*



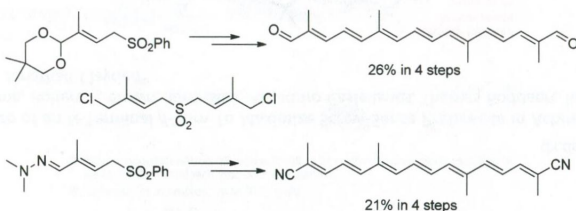
### Transition Metal-Catalyzed Cascade Cyclization of Aryldiynes to Halogenated Benzo[*b*]naphtho[2,1-*d*]thiophene Derivatives

Chin-Chau Chen, Chu-Mei Chen, and Ming-Jung Wu\*



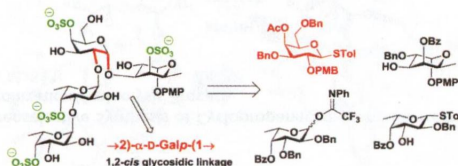
### Sulfone-Mediated Syntheses of Crocetin Derivatives: Regioselectivity of Highly Functionalized Building Blocks

Eun-Taek Oh, Young-Hun Kim, Jingquan Jin, Liang Su, Jung-Ah Seo, and Sangho Koo\*



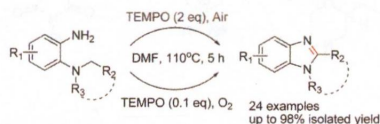
### Stereoselective Synthesis of a Sulfated Tetrasaccharide Corresponding to a Rare Sequence in the Galactofucan Isolated from *Sargassum polycystum*

Jun Zhou, Liping Yang, and Wenhao Hu\*



### Metal-Free TEMPO-Promoted C(sp<sup>3</sup>)-H Amination To Afford Multisubstituted Benzimidazoles

Ding Xue and Ya-Qiu Long\*



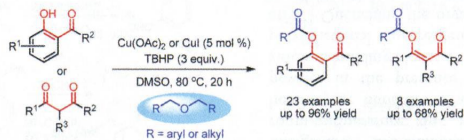


4735 **5**

dx.doi.org/10.1021/jo500576x

**Copper-Catalyzed Oxidative C–O Bond Formation of 2-Acyl Phenols and 1,3-Dicarbonyl Compounds with Ethers: Direct Access to Phenol Esters and Enol Esters**

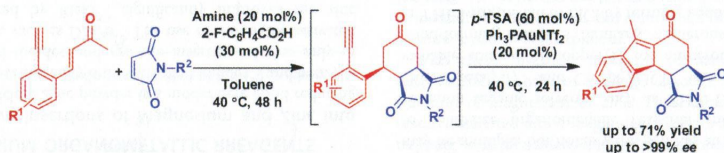
Jihye Park, Sang Hoon Han, Satyasheel Sharma, Sangil Han, Youngmi Shin, Neeraj Kumar Mishra, Jong Hwan Kwak, Cheong Hoon Lee, Jeongmi Lee, and In Su Kim\*

4743 **5**

dx.doi.org/10.1021/jo5006729

**Enantioselective Construction of [6,5,6]-Carbocyclic Systems by Organo/Metal-Catalyzed Sequential Reactions**

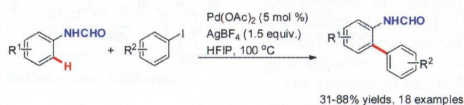
Xiang Wu,\* Ming-Li Li, Dian-Feng Chen, and Shu-Sen Chen

4751 **5**

dx.doi.org/10.1021/jo5007043

**Palladium-Catalyzed C(sp<sup>2</sup>)–H Arylation Using Formamide as a Transformable Directing Group**

Congqing Wan, Jiayi Zhao, Mingfang Xu,\* and Jinbo Huang\*

4757 **5**

dx.doi.org/10.1021/jo500819w

**Diels–Alder Reaction of Tropones with Arynes: Synthesis of Functionalized Benzobicyclo[3.2.2]nonatrienones**

Manikandan Thangaraj, Sachin Suresh Bhojgude, Rajesh H. Bisht, Rajesh G. Gonnade, and Akkattu T. Biju\*

