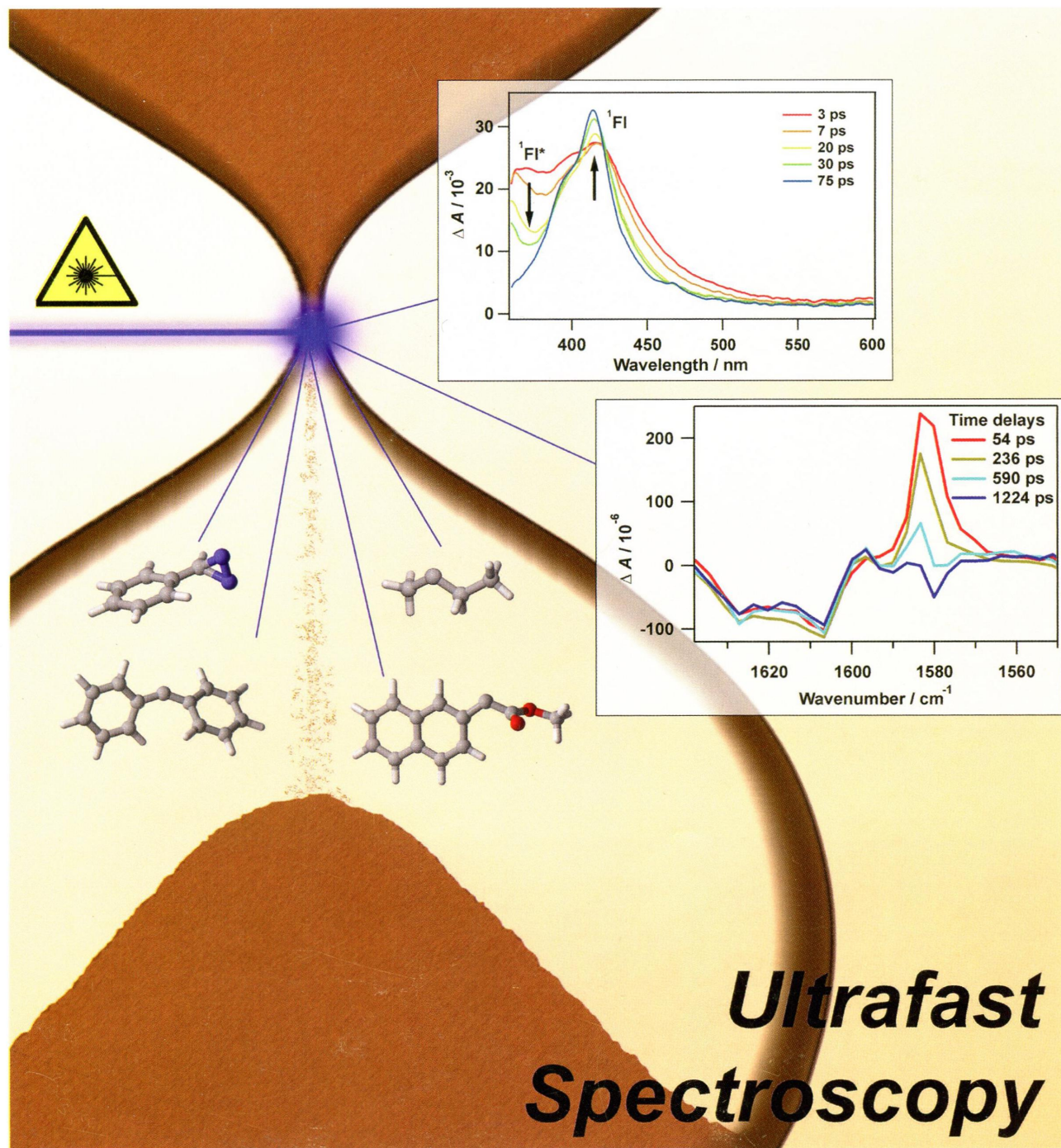


FM
JBO/0

JOC

The Journal of Organic Chemistry

MARCH 21, 2014 VOLUME 79, NUMBER 6 pubs.acs.org/joc



Ultrafast Spectroscopy



ACS Publications
MOST TRUSTED. MOST CITED. MOST READ.

www.acs.org

ON THE COVER: Is sulfonyl transfer stepwise or concerted? Mechanistic insights deduced from theory are tested using a wide range of methods, demonstrating the challenge in drawing decisive conclusions. The picture also illustrates that the interpretation of experimental data can depend on how it is observed: dipping a straight object in water makes it look bent. See Kamerlin and co-workers, p 2341.

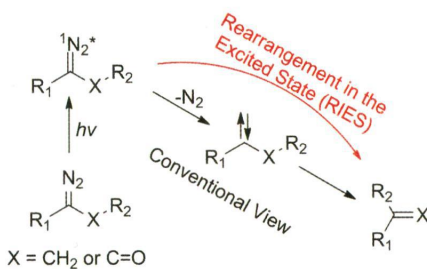
Perspective

2341

A Perspective on Physical Organic Chemistry

Matthew S. Platz*

dx.doi.org/10.1021/jo500044d



Featured Articles

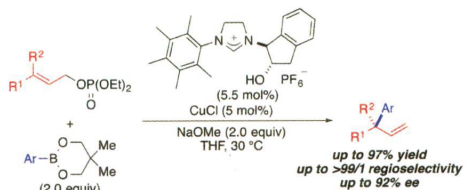
2354

5

Synthesis of Quaternary Carbon Stereocenters by Copper-Catalyzed Asymmetric Allylic Substitution of Allyl Phosphates with Arylboronates

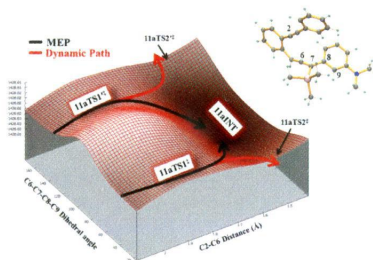
Momotaro Takeda, Keishi Takatsu, Ryo Shintani,* and Tamio Hayashi*

dx.doi.org/10.1021/jo500068p



Quantification of Nonstatistical Dynamics in an Intramolecular Diels–Alder Cyclization without Trajectory Computation

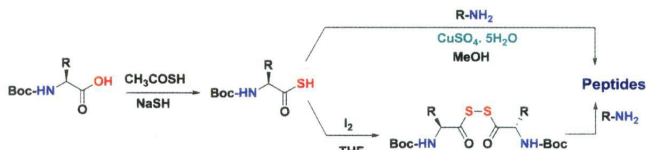
Debabrata Samanta, Anup Rana, and Michael Schmittel*



Articles

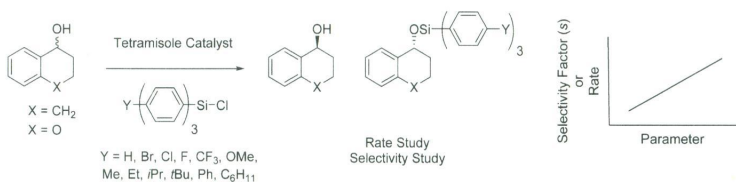
Thioacetic Acid/NaSH-Mediated Synthesis of *N*-Protected Amino Thioacids and Their Utility in Peptide Synthesis

Sachitanand M. Mali and Hosahudya N. Gopi*



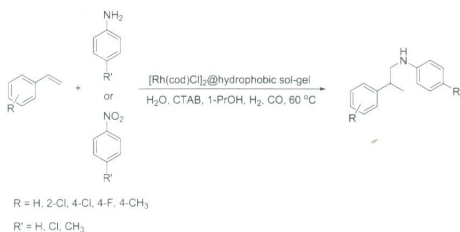
Linear Free-Energy Relationship and Rate Study on a Silylation-Based Kinetic Resolution: Mechanistic Insights

Ravish K. Akhani, Maggie I. Moore, Julia G. Pribyl, and Sheryl L. Wiskur*

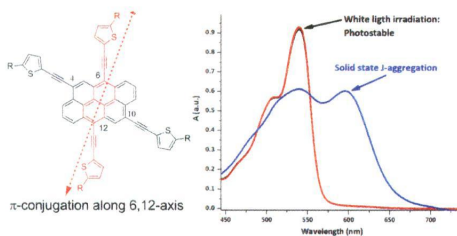


Regioselective Hydroaminomethylation of Vinylarenes by a Sol–Gel Immobilized Rhodium Catalyst

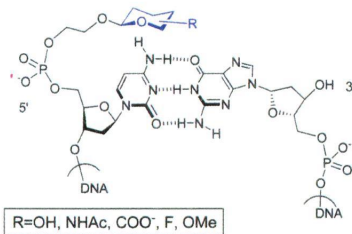
Zackaria Nairoukh and Jochanan Blum*

**Cruciform Alkynylated Anthanthrene Derivatives: A Structure–Properties Relationship Case Study**

Jean-Benoît Giguère, Joël Boismenu-Lavoie, and Jean-François Morin*

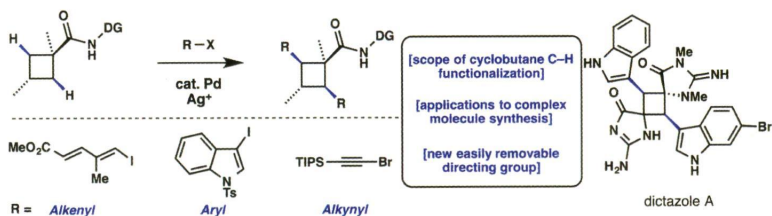
**Effects of Sugar Functional Groups, Hydrophobicity, and Fluorination on Carbohydrate–DNA Stacking Interactions in Water**

Ricardo Lucas, Pablo Peñalver, Irene Gómez-Pinto, Empar Vengut-Climent, Lewis Mtshobya, Jonathan Cousin, Olivia S. Maldonado, Violaine Perez, Virginie Reynes, Anna Aviñó, Ramón Eritja, Carlos González, Bruno Linclau, and Juan C. Morales*

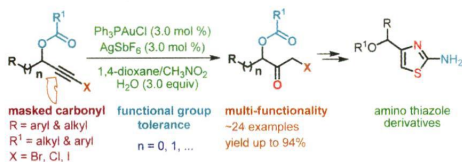


Applications of C–H Functionalization Logic to Cyclobutane Synthesis

Will R. Gutekunst and Phil S. Baran*

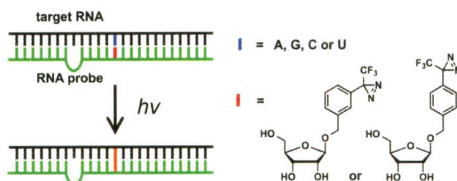
Regioselective Hydration of Terminal Halo-Substituted Propargyl Carboxylates by Gold Catalyst: Synthesis of α -Cyloxy α' -Halo Ketones

Nayan Ghosh, Sanatan Nayak, B Prabagar, and Akhila K. Sahoo*



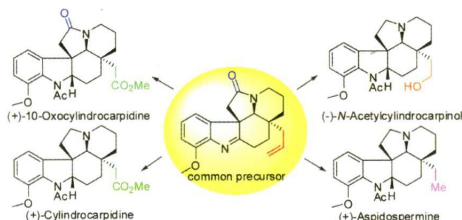
Diazirine-Containing RNA Photo-Cross-Linking Probes for Capturing microRNA Targets

Kosuke Nakamoto and Yoshihito Ueno*



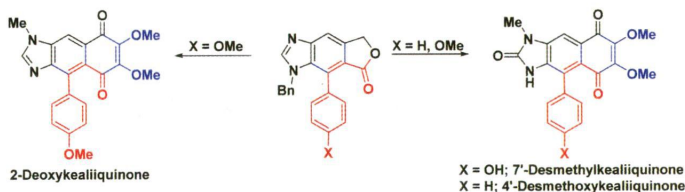
Catalytic Enantioselective and Divergent Total Synthesis of (+)-10-Oxocylindrocarpidine, (+)-Cylindrocarpidine, (-)-N-Acetylcylindrocarpinol, and (+)-Aspidospermine

Xiao-Lei Shen, Rui-Rui Zhao, Ming-Jie Mo, Fang-Zhi Peng,* Hong-Bin Zhang, and Zhi-Hui Shao*



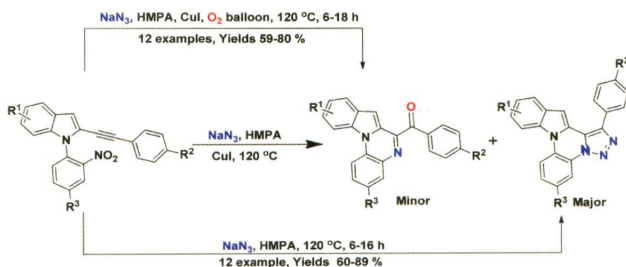
Total Synthesis of 7'-Desmethylkealiquinone, 4'-Desmethoxykealiquinone, and 2-Deoxykealiquinone

Heather M. Lima, Rasapalli Sivappa, Muhammed Yousufuddin, and Carl J. Lovely*



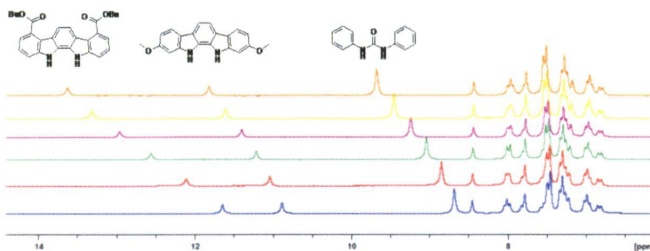
Diversity-Oriented Synthesis of Ketoindoloquinoxalines and Indolotriazoloquinoxalines from 1-(2-Nitroaryl)-2-alkynylindoles

Srinivas Samala, Rajesh K Arigela, Ruchir Kant, and Bijoy Kundu*



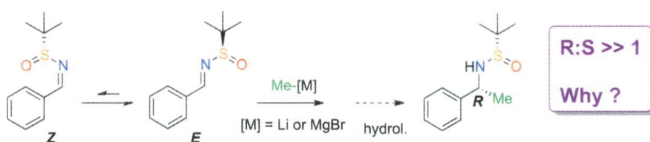
NMR Method for Simultaneous Host–Guest Binding Constant Measurement

Sandip A. Kadam, Kristjan Haav, Lauri Toom, Tõiv Haljasorg, and Ivo Leito*



Mechanistic Insights on the Stereoselective Nucleophilic 1,2-Addition to Sulfinyl Imines

Martin Hennum, Heike Fliegl, Lise-Lotte Gundersen, and Odile Eisenstein*

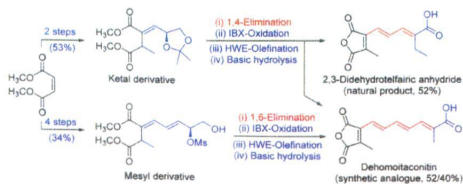
Determination of the Effective Redox Potentials of SmI_2 , SmBr_2 , SmCl_2 , and their Complexes with Water by Reduction of Aromatic Hydrocarbons. Reduction of Anthracene and Stilbene by Samarium(II) Iodide–Water Complex

Michal Szostak*, Malcolm Spain, and David J. Procter*



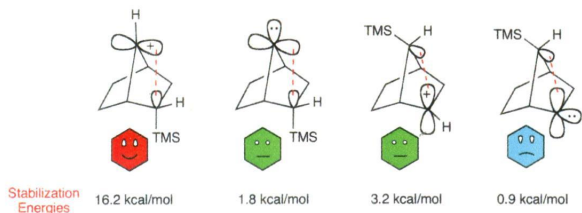
Base-Stimulated 1,2-, 1,4-, and 1,6-Eliminations in Suitably Substituted Alkylidenesuccinates Leading to Natural and Unnatural Conjugated Alkenyl(methyl)maleic Anhydrides

Prashant S. Deore and Narshinha P. Argade*



γ -Silyl-Substituted Norbornyl Carbocations and Carbenes

Xavier Creary* and Anna Heffron

**Influence of Amino Acid Stereocenters on the Formation of Bicyclic *N,O*-Acetals**

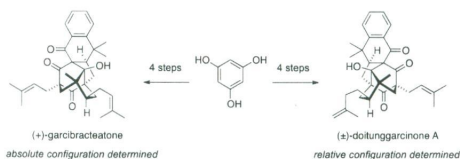
Gonzalo Jiménez-Osés,* Carlos Aydillo, Jesús H. Busto, María M. Zurbano, Jesús M. Peregrina, and Alberto Avenoza*



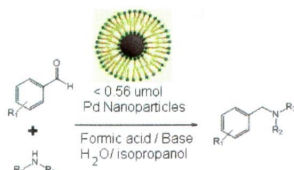
cascade acid-catalyzed acetalization-transcarbamylation reaction
 only good diastereoselectivities with natural amino acids
L-Ser ($R = R' = H$) and *L*-Thr ($R = H, R' = Me$) derivatives

Biomimetic Total Synthesis of (\pm)-Doitunggarcinone A and (+)-Garcibracteateone

Henry P. Pepper, Stephen J. Tulip, Yuji Nakano, and Jonathan H. George*

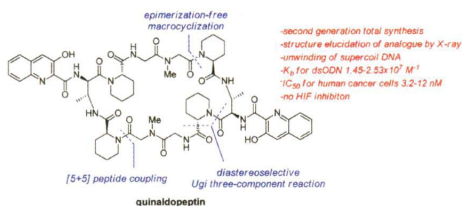
**Zwitterionic-Surfactant-Stabilized Palladium Nanoparticles as Catalysts in the Hydrogen Transfer Reductive Amination of Benzaldehydes**

Emma E. Drinkel, Roberta R. Campedelli, Alex M. Manfredi, Haidi D. Fiedler, and Faruk Nome*



Synthesis and Biological Evaluation of Quinaldopeptin

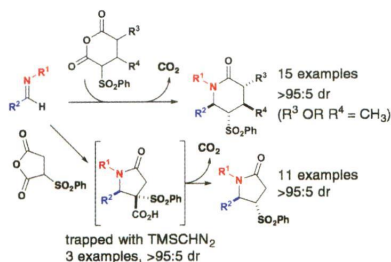
Katsushi Katayama, Takuya Okamura, Takuya Sunadome, Koji Nakagawa, Hiroshi Takeda, Motoo Shiro, Akira Matsuda, and Satoshi Ichikawa*

**Nucleophilic Ring Opening of meso-Substituted 5-Oxaporphyrin by Oxygen, Nitrogen, Sulfur, and Carbon Nucleophiles**

Kazuhiisa Kakeya, Masakatsu Aozasa, Tadashi Mizutani,* Yutaka Hitomi, and Masahito Kodera

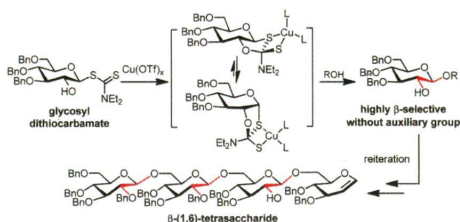
**Diastereoselective Synthesis of γ - and δ -Lactams from Imines and Sulfone-Substituted Anhydrides**

Nohemy A. Sorto, Michael J. Di Maso, Manuel A. Muñoz, Ryan J. Dougherty, James C. Fettingter, and Jared T. Shaw*



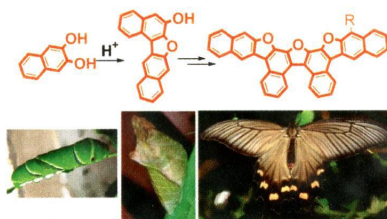
Glycosyl Dithiocarbamates: β -Selective Couplings without Auxiliary Groups

Panuwat Padungros, Laura Alberch, and Alexander Wei*



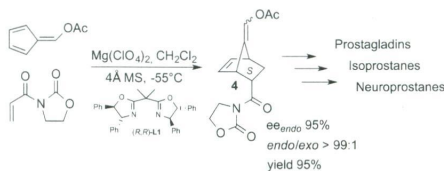
Synthesis and Properties of Butterfly-Shaped Expanded Naphthofuran Derivatives

Kentaro Nakanishi, Takahiro Sasamori, Kouji Kuramochi, Norihiro Tokitoh, Takeo Kawabata, and Kazunori Tsubaki*

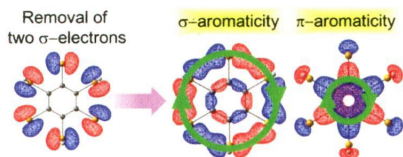


A Unified Stereodivergent Strategy for Prostaglandin and Isoprostanoid Synthesis

Matteo Valli, Francesco Chiesa, Andrea Gandini, Alessio Porta, Giovanni Vidari, and Giuseppe Zanoni*

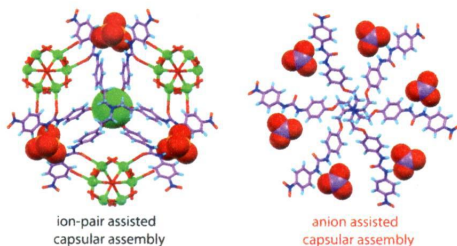
 σ -Aromaticity in Hexa-Group 16 Atom-Substituted Benzene Dications: A Theoretical Study

Miho Hatanaka, Masaichi Saito, Masahiro Fujita, and Keiji Morokuma*



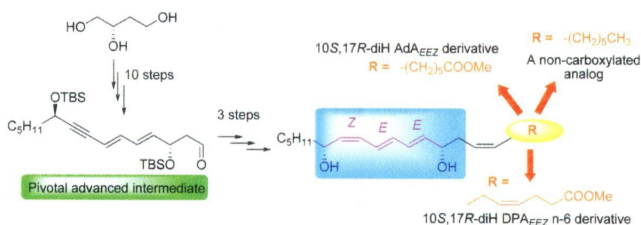
A C_{3v} -Symmetric Tripodal Urea Receptor for Anions and Ion Pairs: Formation of Dimeric Capsular Assemblies of the Receptor during Anion and Ion Pair Coordination

Arghya Basu and Gopal Das*



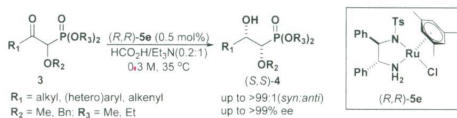
Total Synthesis of Neuroprotectin D1 Analogues Derived from Omega-6 Docosapentaenoic Acid (DPA) and Adrenic Acid (AdA) from a Common Pivotal, Late-Stage Intermediate

Gandrath Dayaker, Thierry Durand, and Laurence Balas*



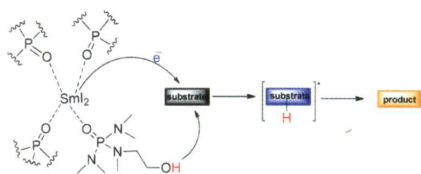
Dynamic Kinetic Resolution Based Asymmetric Transfer Hydrogenation of α -Alkoxy- β -Ketophosphonates. Diastereo- and Enantioselective Synthesis of Monoprotected 1,2-Dihydroxyphosphonates

Se-Mi Son and Hyeon-Kyu Lee*

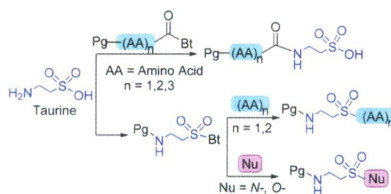


Hydroxylated HMPA Enhances both Reduction Potential and Proton Donation in SmI_2 Reactions

Sandipan Halder and Shmaryahu Hoz*

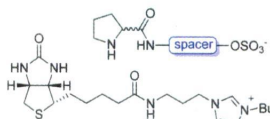
Synthesis of Taurine-Containing Peptides, Sulfopeptides, and *N*- and *O*-Conjugates

Peter Vertesaljai, Suvendu Biswas, Iryna Lebedyeva, Evan Broggi, Abdullah M. Asiri, and Alan R. Katritzky*



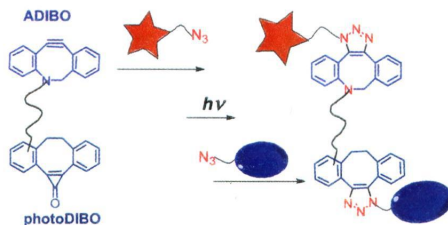
Catalytic Anions Embedded into Avidin: Importance of Their Chirality and the Chiral Environment on the Stereocontrol of the Aldol Reaction

Vincent Gauchot and Andreea R. Schmitzer*

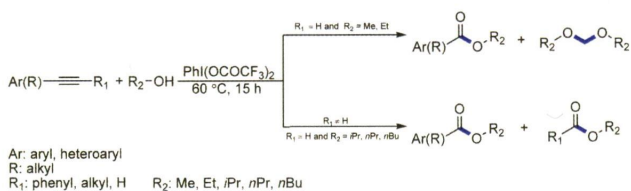


Sequential "Click" – "Photo-Click" Cross-Linker for Catalyst-Free Ligation of Azide-Tagged Substrates

Selvanathan Arumugam and Vladimir V. Popik*

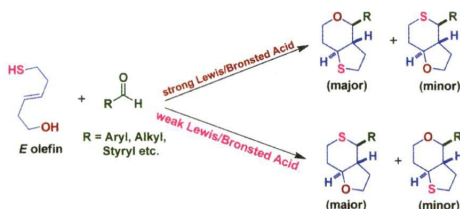


PIFA-Mediated Esterification Reaction of Alkynes with Alcohols via Oxidative Cleavage of Carbon Triple Bonds
 Qing Jiang, An Zhao, Bin Xu, Jing Jia, Xin Liu, and Cancheng Guo*



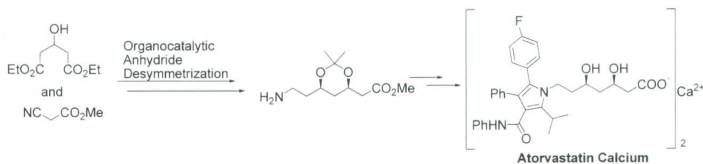
Notes

Tuning the Reactivity of Oxygen/Sulfur by Acidity of the Catalyst in Prins Cyclization: Oxa- versus Thia-Selectivity
 B. V. Subba Reddy,* A. Venkateswarlu, Prashant Borkar, J. S. Yadav, B. Sridhar, and René Grée



Asymmetric Synthesis of the HMG-CoA Reductase Inhibitor Atorvastatin Calcium: An Organocatalytic Anhydride Desymmetrization and Cyanide-Free Side Chain Elongation Approach

Xiaofei Chen, Fangjun Xiong, Wenxue Chen, Qiuqin He, and Fener Chen*

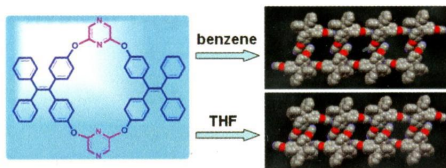


2729 **S**

dx.doi.org/10.1021/jo402884a

Tetraphenylethylene-Based Expanded Oxacalixarene: Synthesis, Structure, and Its Supramolecular Grid Assemblies Directed by Guests in the Solid State

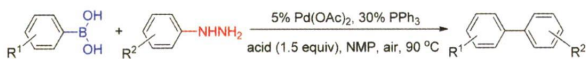
Chun Zhang,* Zhen Wang, Song Song, Xianggao Meng, Yan-Song Zheng,* Xiang-Liang Yang, and Hui-Bi Xu

2733 **S**

dx.doi.org/10.1021/jo500026g

Palladium-Catalyzed Suzuki Cross-Coupling of Arylhydrazines via C–N Bond Cleavage

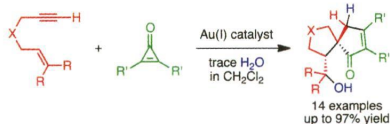
Zhimin Peng, Gaobo Hu, Hongwei Qiao, Pengxiang Xu,* Yuxing Gao,* and Yufen Zhao

2739 **S**

dx.doi.org/10.1021/jo500045n

Gold(I)-Catalyzed Ring-Expanding Spiroannulation of Cyclopropenones with Enynes

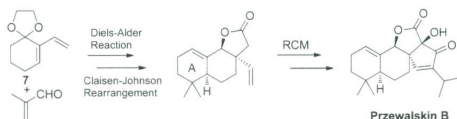
Takanori Matsuda* and Yusuke Sakurai

2746 **S**

dx.doi.org/10.1021/jo500047q

Total Synthesis of (±)-Przewalskin B

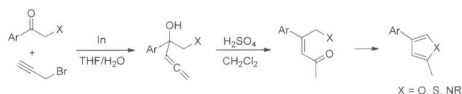
Mingxing Xiao, Lin Wei, Liqi Li, and Zhixiang Xie*

2751 **S**

dx.doi.org/10.1021/jo5001274

γ-Halo-enones: A Method for their Synthesis from Arylacyl Halides and Their Application to the Preparation of Five-Membered Ring Heterocycles

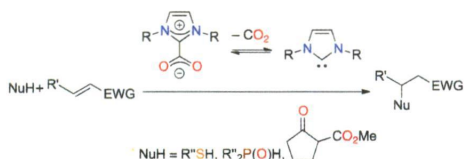
Mei-Huey Lin,* Yen-Chih Huang, Chung-Kai Kuo, Chang-Hsien Tsai, Yi-Syuan Li, Ting-Chia Hu, and Tsung-Hsun Chuang



2758 **S**

dx.doi.org/10.1021/jo500108a

N-Heterocyclic Carbene Catalyzed Carba-, Sulfa-, and Phospha-Michael Additions with NHC-CO₂ Adducts as Precatalysts
Morgan Hans, Lionel Delaude,* Jean Rodriguez,* and Yoann Coquerel*

2765 **S**

dx.doi.org/10.1021/jo500174a

1-(N-Acylamino)alkyl Sulfones from N-Acyl- α -amino Acids or N-Alkylamides

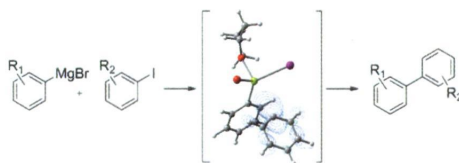
Jakub Adamek,* Roman Mazurkiewicz, Agnieszka Pażdzierniak-Holewa, Mirosława Grymel, Anna Kuźnik, and Katarzyna Zielińska

2771 **S**

dx.doi.org/10.1021/jo500222d

SET-Induced Biaryl Cross-Coupling: An S_{RN}1 Reaction

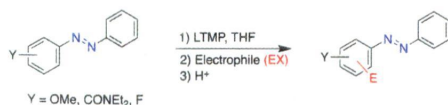
Brandon E. Haines and Olaf Wiest*

2775 **S**

dx.doi.org/10.1021/jo500230q

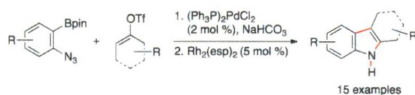
Chemoselective Deprotonative Lithiation of Azobenzenes: Reactions and Mechanisms

Thi Thanh Thuy Nguyen, Anne Boussonnière, Estelle Banaszak, Anne-Sophie Castanet, Kim Phi Phung Nguyen, and Jacques Mortier*



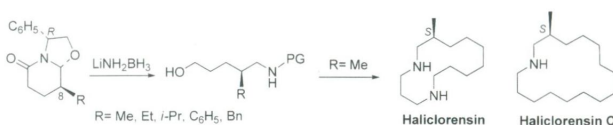
Development of a Suzuki Cross-Coupling Reaction between 2-Azidoarylboronic Pinacolate Esters and Vinyl Triflates To Enable the Synthesis of [2,3]-Fused Indole Heterocycles

Navendu Jana, Quyen Nguyen, and Tom G. Driver*



Access to Enantiopure 4-Substituted 1,5-Aminoalcohols from Phenylglycinol-Derived δ -Lactams: Synthesis of *Haliclona* Alkaloids

Mercedes Amat,* Guillaume Guignard, Núria Llor, and Joan Bosch*



Synthesis of Dibarrelane, a Dibicyclo[2.2.2]octane Hydrocarbon

Takahiro Suzuki,* Hiroshi Okuyama, Atsuhiko Takano, Shinya Suzuki, Isao Shimizu, and Susumu Kobayashi*

