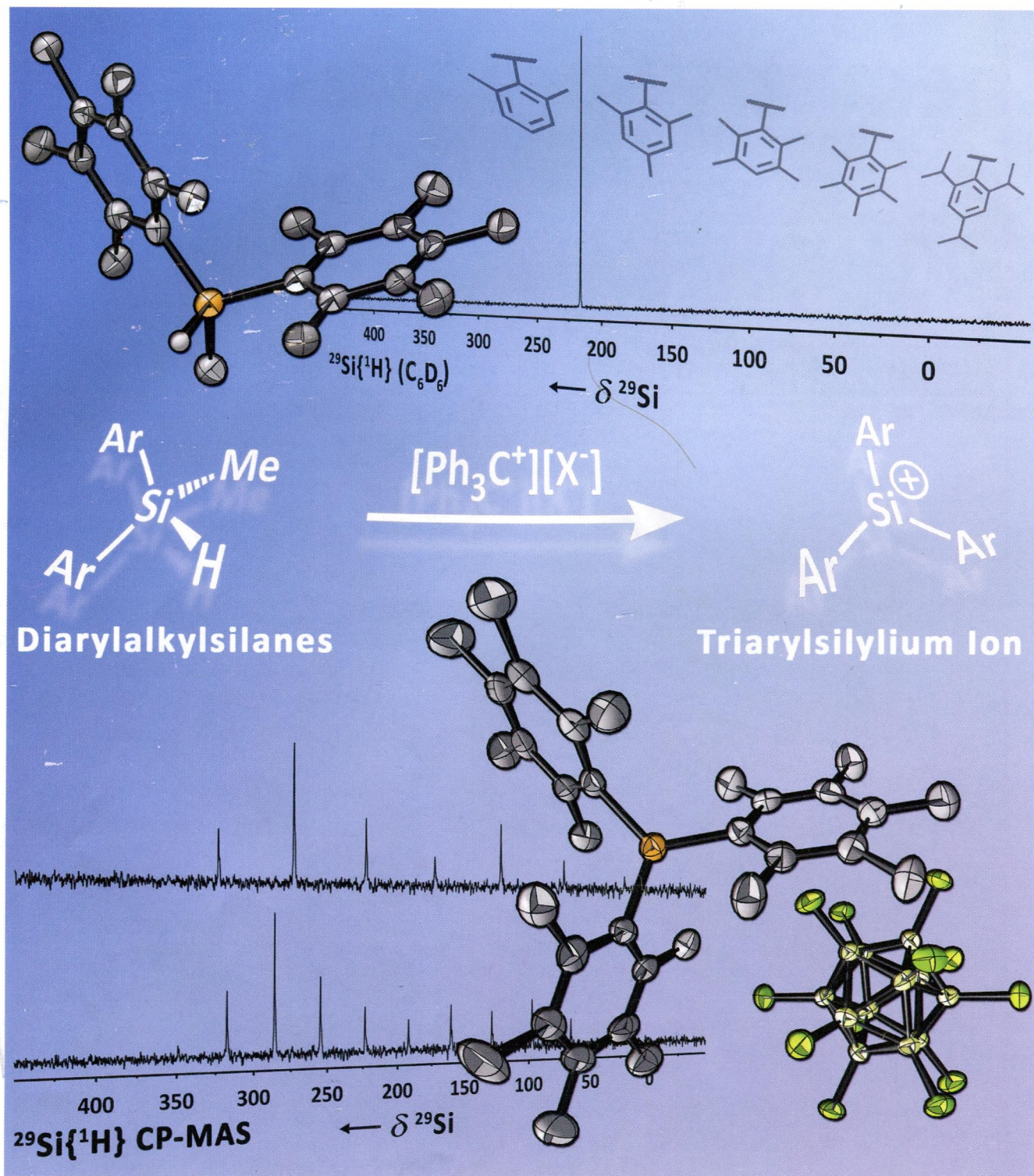


ORGANOMETALLICS



ON THE COVER: The reaction of diarylalkylsilanes with trityl salts of weakly coordinating anions has made it possible to synthesize triarylsilylium salts by an easy and straightforward route for the first time. These remarkable substituent exchange reactions and cations have been studied in detail. The reactions are dependent upon the solvent, the alkyl substituent, and the aryl substituent. A variety of different silanes were shown to yield the corresponding triarylsilylium ions under the right conditions, as certain alkyldiarylgermanes yield analogous triarylgermylium ions. The molecular structure in the upper left corner shows the precursor silane for the tris(pentamethylphenyl)silylium ion, which was crystallized as its dodecachloro-*closo*-dodecaborate salt (lower right). Salts of the tris(pentamethylphenyl)silylium ion were studied both by solution NMR (upper right) and by solid-state MAS NMR spectroscopy (lower left). All details may be found in the article on pages 4713–4722.

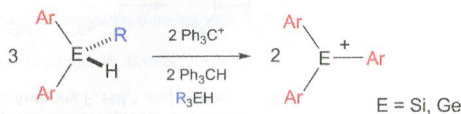
Articles

4713


dx.doi.org/10.1021/om400366z

Synthesis of Silylium and Germylium Ions by a Substituent Exchange Reaction

André Schäfer, Matti Reißmann, Sebastian Jung, Annemarie Schäfer, Wolfgang Saak, Erica Brendler, and Thomas Müller*

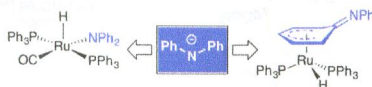


Communications

4723


dx.doi.org/10.1021/om4005252

Exploring the Variable Hapticity of the Arylamide Ligand: Access to σ -Amidophenyl and π -Cyclohexadienylimine Structures
Benjamin J. Ireland, Robert McDonald, and Deryn E. Fogg*

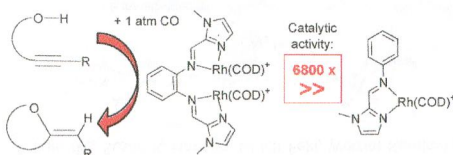


4726

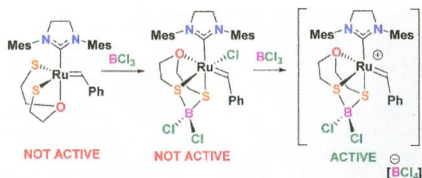

dx.doi.org/10.1021/om400613b

Cooperative Catalysis: Large Rate Enhancements with Bimetallic Rhodium Complexes

Sandra W. S. Choy, Michael J. Page, Mohan Bhadbhade, and Barbara A. Messerle*

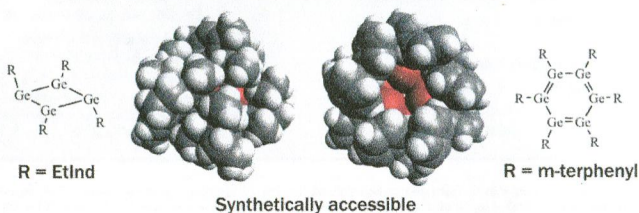


A Tridentate-Dithiolate Ruthenium Alkylidene Complex: An Olefin Metathesis Catalyst Activated by BCl_3
Adam M. McKinty, Clinton Lund, and Douglas W. Stephan*

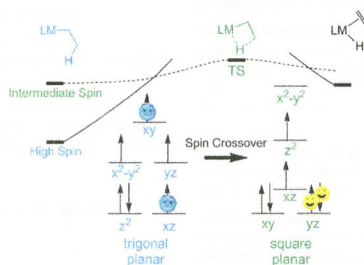


Articles

Molecular Tailoring: Substituent Design for Hexagermabenzene
Tibor Szilvási and Tamás Veszprémi*

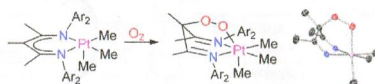


Spin Crossover during β -Hydride Elimination in High-Spin Iron(II)– and Cobalt(II)–Alkyl Complexes
Sarina M. Bellows, Thomas R. Cundari,* and Patrick L. Holland*



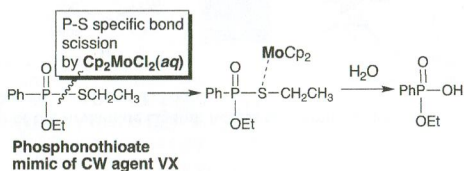
Reactions of Five-Coordinate Platinum(IV) Complexes with Molecular Oxygen

Margaret L. Scheuermann, Avery T. Luedtke, Susan K. Hanson, Ulrich Fekl, Werner Kaminsky, and Karen I. Goldberg*

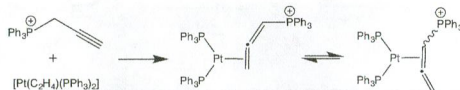
Ar₂ = 2,4,6-trimethylphenyl

Phosphothioate Hydrolysis by Molybdocene Dichlorides: Importance of Metal Interaction with the Sulfur of the Thiolate Leaving Group

Louis Y. Kuo,* Devon C. Baker, Adria K. Dortignacq, and Kristina M. Dil

 η^2 -Allenyl- and η^2 -Alkynylphosphonium Complexes of Platinum

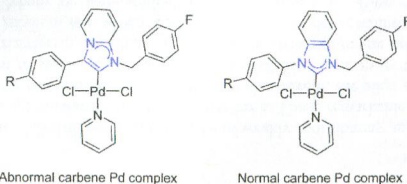
Annie L. Colebatch, Ian A. Cade, Anthony F. Hill,* and Mohan M. Bhadbhade



Monodentate Palladium Complexes Bearing Abnormal and Normal Carbene Ligands with a Formally Identical Steric Environment

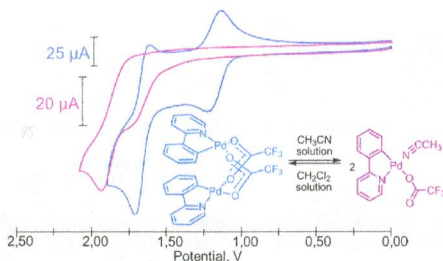
Chun-Hung Ke, Bing-Chiuan Kuo, Debkumar Nandi, and Hon Man Lee*

Formally identical steric environment around the Pd atoms



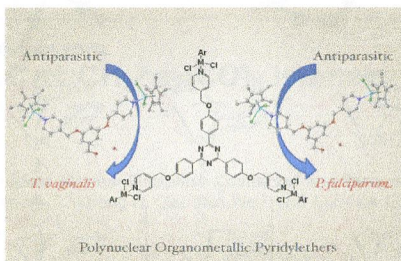
Electrochemical Ortho Functionalization of 2-Phenylpyridine with Perfluorocarboxylic Acids Catalyzed by Palladium in Higher Oxidation States

Yulia B. Dudkina, Dmitry Y. Mikhaylov, Tatyana V. Gryaznova, Artem I. Tufatullin, Olga N. Kataeva, David A. Vicić, and Yulia H. Budnikova*



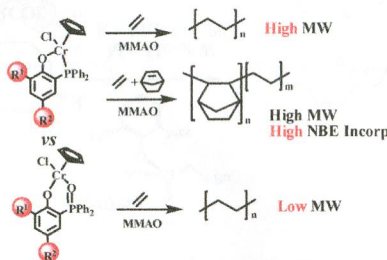
Di- and Trinuclear Ruthenium-, Rhodium-, and Iridium-Functionalized Pyridyl Aromatic Ethers: A New Class of Antiparasitic Agents

Prinessa Chellan, Kirkwood M. Land, Ajit Shokar, Aaron Au, Seung Hwan An, Dale Taylor, Peter J. Smith, Kelly Chibale, and Gregory S. Smith*



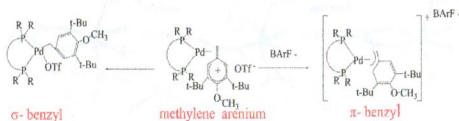
New Half-Sandwich Chromium(III) Complexes Bearing Phenoxy-Phosphine (Oxidative) [O,P(=O)] Ligands: Synthesis, Structures, and Catalytic Properties for Ethylene (Co)Polymerization

Ping Tao, Hong-Liang Mu, Jing-Yu Liu,* and Yue-Sheng Li



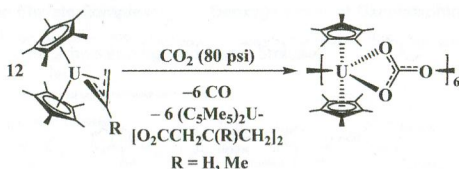
Reactivity of U^{3+} Metallocene Allyl Complexes Leads to a Nanometer-Sized Uranium Carbonate, $[(C_5Me_5)_2U]_6(\mu-\kappa^1-\kappa^2-CO_3)_6$

Elena Poverenov,* Irena Efremenko, Gregory Leitus, Jan M. L. Martin, and David Milstein*



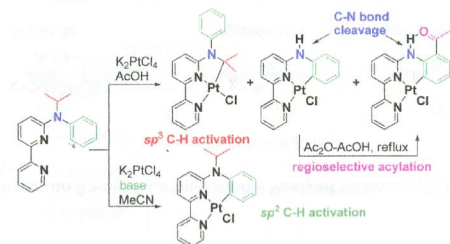
Reaction of U^{3+} Metallocene Allyl Complexes Leads to a Nanometer-Sized Uranium Carbonate, $[(C_5Me_5)_2U]_6(\mu-\kappa^1-\kappa^2-CO_3)_6$

Christopher L. Webster, Joseph W. Ziller, and William J. Evans*



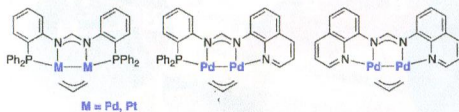
Reaction of *N*-Isopropyl-*N*-phenyl-2,2'-bipyridin-6-amine with K_2PtCl_4 : Selective C–H Bond Activation, C–N Bond Cleavage, and Selective Acylation

Jeffrey Carroll, Joshua P. Gagnier, Alexander W. Garner, Justin G. Moots, Robert D. Pike, Yumin Li, and Shouquan Huo*



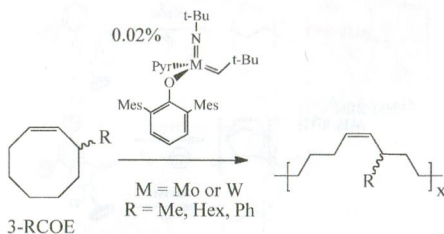
Synthesis of Dinuclear ($\mu-\eta^3$ -Allyl)palladium(I) and -platinum(I) Complexes Supported by Chelate-Bridging Ligands

Yu Yamaguchi, Katsunori Yamanishi, Mitsuru Kondo, and Naofumi Tsukada*



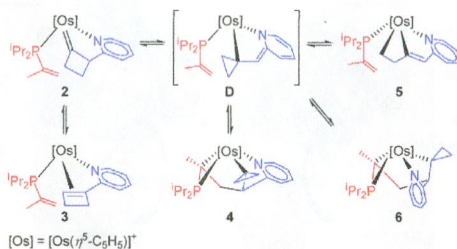
Z-Selective Ring-Opening Metathesis Polymerization of 3-Substituted Cyclooctenes by Monoaryloxyde Pyrrolide Imido Alkylidene (MAP) Catalysts of Molybdenum and Tungsten

Hyangsoo Jeong, Daniel J. Kozera, Richard R. Schrock,* Stacey J. Smith, Jihua Zhang, Ning Ren, and Marc A. Hillmyer



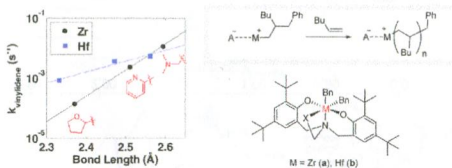
Osmium Models of Intermediates Involved in Catalytic Reactions of Alkylidencyclopropanes

Miguel A. Esteruelas,* Ana M. López,* Fernando López, José L. Mascareñas,* Silvia Mozo, Enrique Oñate, and Lucía Saya



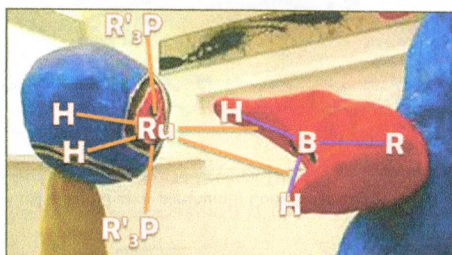
Comparison of Selected Zirconium and Hafnium Amine Bis(phenolate) Catalysts for 1-Hexene Polymerization

D. Keith Steelman, Paul D. Pletcher, Jeffrey M. Switzer, Silei Xiong, Grigori A. Medvedev, W. Nicholas Delgass, James M. Caruthers,* and Mahdi M. Abu-Omar*



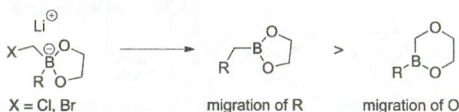
Monosubstituted Borane Ruthenium Complexes $\text{RuH}_2(\eta^2\eta^2\text{-H}_2\text{BR})(\text{PR}'_3)_2$: A General Approach to the Geminal Bis($\sigma\text{-B-H}$) Coordination Mode

Yann Gloaguen, Gaëtan Bénac-Lestritte, Laure Vendier, Ulrike Helmstedt, Eric Clot,* Gilles Alcaraz,* and Sylviane Sabo-Etienne*



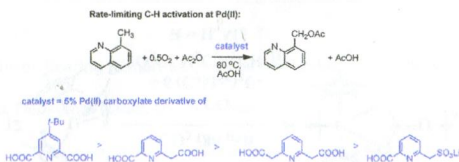
Migratory Aptitudes of Alkyl Groups on Boron: A Computational Study of Halomethylolithium-Induced Migration Reactions

Mark C. Elliott* and Keith Smith*



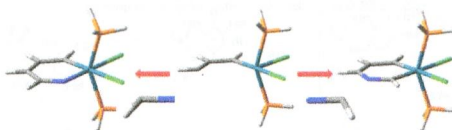
Aerobic C–H Acetoxylation of 8-Methylquinoline in Pd^{II}–Pyridinecarboxylic Acid Systems: Some Structure–Reactivity Relationships

Daoyong Wang, Peter Y. Zavalij, and Andrei N. Vedernikov*



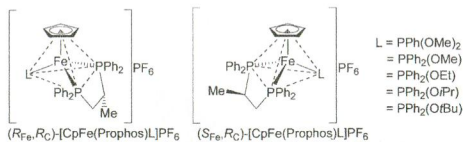
Analysis of the Relative Stabilities of Ortho, Meta, and Para MClY(XC₄H₄)(PH₃)₂ Heterometallobenzenes (M = Rh, Ir; X = N, P; Y = Cl and M = Ru, Os; X = N, P; Y = CO)

Majid El-Hamdi, Ouissam El Bakouri El Farri, Pedro Salvador, Ben Ali Abdelouahid, Mohamed Soussi El Begrani, Jordi Poater,* and Miquel Solà*



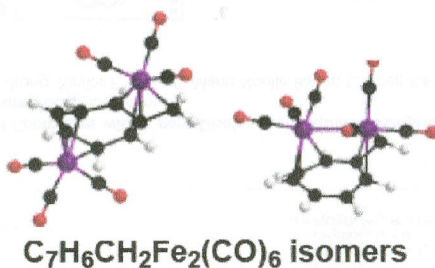
Tuning the Dissociation of the Fe–PPh₂(OR) Bond in Chiral-at-Metal Complexes [CpFe(Prophos)PPh₂(OR)]PF₆ (R = Me, Et, *i*Pr, *t*Bu). The Preparative Trick of N₂ Bubbling

Henri Brunner,* Takaki Kurosawa, Manfred Muschiol, Takashi Tsuno,* Gábor Balázs, and Michael Bodensteiner



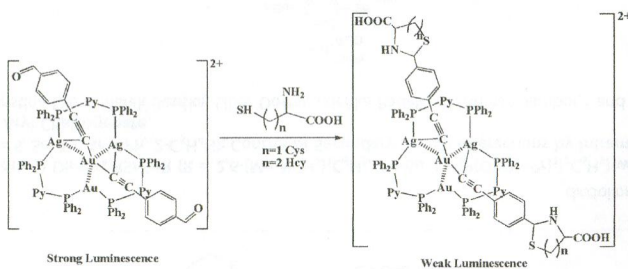
Bonding of Iron Tricarbonyl Units to Heptafulvene: Trimethylenemethane, Butadiene, and Allylic Coordination Modes

Huidong Li, Hao Feng,* Weiguo Sun, Qunchao Fan, Yaoming Xie, R. Bruce King,* and Henry F. Schaefer III



New Luminescent Ag₂Au₂ Heteronuclear Alkynyl–Phosphine Complexes and Recognition of Homocysteine and Cysteine

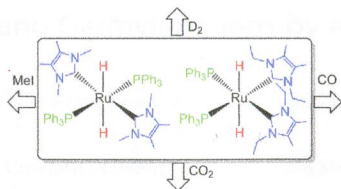
Yi Jiang, Yong-Tao Wang, Zheng-Gen Ma, Zhi-Hong Li, Qiao-Hua Wei,* and Guo-Nan Chen



4927 **S**

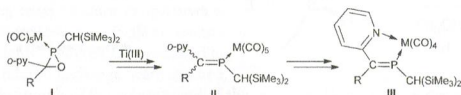
dx.doi.org/10.1021/om400648x

Synthesis and Small Molecule Reactivity of *trans*-Dihydride Isomers of $\text{Ru}(\text{NHC})_2(\text{PPh}_3)_2\text{H}_2$ (NHC = N-Heterocyclic Carbene)
 Caroline J. E. Davies, John P. Lowe, Mary F. Mahon, Rebecca C. Poulten, and Michael K. Whittlesey*

4938 **S**

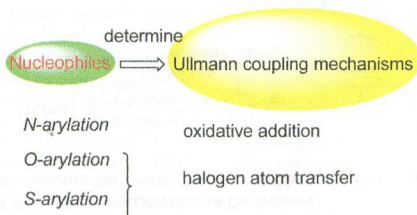
dx.doi.org/10.1021/om400654c

A New Route to Phosphaalkene Chelate Complexes: SET Deoxygenation of Oxaphosphirane Complexes Followed by Intramolecular CO Substitution
 Melina Klein, Carolin Albrecht, Gregor Schnakenburg, and Rainer Streubel*

4944 **S**

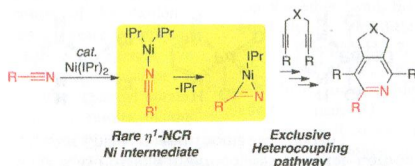
dx.doi.org/10.1021/om4006615

Theoretical Study on Copper-Catalyzed *S*-Arylation of Thiophenols with Aryl Halides: Evidence Supporting the LCu(I)-SPH Active Catalyst and Halogen Atom Transfer Mechanism
 Song-Lin Zhang* and Hui-Jun Fan

4952 **S**

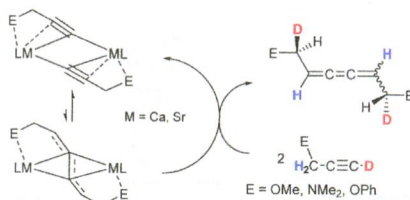
dx.doi.org/10.1021/om400666k

Mechanistic Evaluation of the $\text{Ni}(\text{IPr})_2$ -Catalyzed Cycloaddition of Alkynes and Nitriles To Afford Pyridines: Evidence for the Formation of a Key $\eta^1\text{-Ni}(\text{IPr})_2(\text{RCN})$ Intermediate
 Ryan M. Stolley, Hung A. Duong, and Janis Louie*

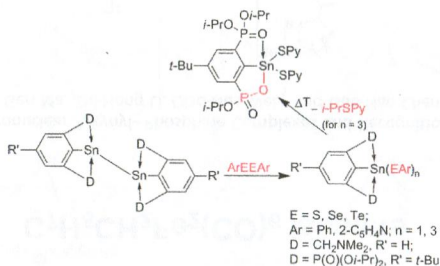


Catalytic and Stoichiometric Cumulene Formation within Dimeric Group 2 Acetylides

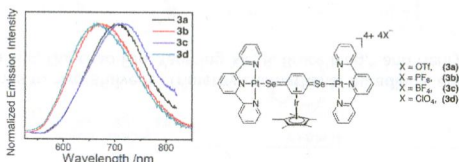
Merle Arrowsmith, Mark R. Crimmin, Michael S. Hill,* Sarah L. Lomas, Dugald J. MacDougall, and Mary F. Mahon*

Reactivity of Organotin(II) Dimers R_2SnSnR ($\text{R} = 2,6\text{-}(\text{Me}_2\text{NCH}_2)_2\text{C}_6\text{H}_3$, $4\text{-}t\text{-Bu-}2,6\text{-}(\text{P}(\text{O})(\text{O-}i\text{-Pr})_2)_2\text{C}_6\text{H}_2$) with Diaryl Dichalcogenides, ArEEAr ($\text{E} = \text{S}, \text{Se}, \text{Te}$; $\text{Ar} = \text{Ph}, 2\text{-C}_5\text{H}_4\text{N}$): Control of Secondary $\text{Sn}\cdots\text{Sn}$ Interactions by Intramolecular Coordination and Identity of the Aryl Chalcogenate

Michael Wagner, Christina Dietz, Marek Bouška, Libor Dostál, Zdeňka Padělková, Roman Jambor,* and Klaus Jurkschat*

Dinuclear Platinum(II) Terpyridyl Complexes with a *para*-Diselenobenzoquinone Organometallic Linker: Synthesis, Structures, and Room-Temperature Phosphorescence

Jamal Moussa, Keith Man-Chung Wong, Xavier F. Le Goff, Marie Noelle Rager, Carmen Ka-Man Chan, Vivian Wing-Wah Yam,* and Hani Amouri*



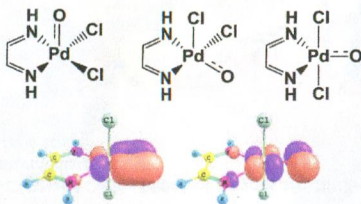
Notes

4993 **S**

dx.doi.org/10.1021/om400290r

Structure and Bonding of Palladium Oxos as Possible Intermediates in Metal–Carbon Oxy Insertion Reactions

Travis M. Figg, George Schoendorff, Bhaskar Chilukuri, and Thomas R. Cundari*

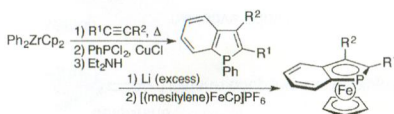


4997 **S**

dx.doi.org/10.1021/om400496b

Synthesis and Characterization of Benzo[b]phosphaferrocene Derivatives

Masamichi Ogasawara,* Sachie Arai, Susumu Watanabe, Velusamy Subbarayan, Hiroyasu Sato, and Tamotsu Takahashi*

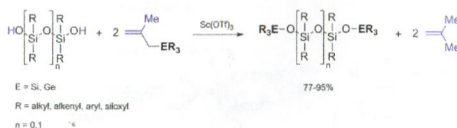


5001 **S**

dx.doi.org/10.1021/om400581g

Catalytic Synthesis of Linear Oligosiloxanes and Germasiloxanes Mediated by Scandium Trifluoromethanesulfonate

Grzegorz Hreczycho,* Krzysztof Kuciński, Piotr Pawluć, and Bogdan Marciniak



Additions and Corrections

5005

dx.doi.org/10.1021/om400836a

Correction to Synthesis and Structure of Cationic Phosphine Gold(I) Enol Ether Complexes

Yuyang Zhu, Cynthia S. Day, and Amanda C. Jones*