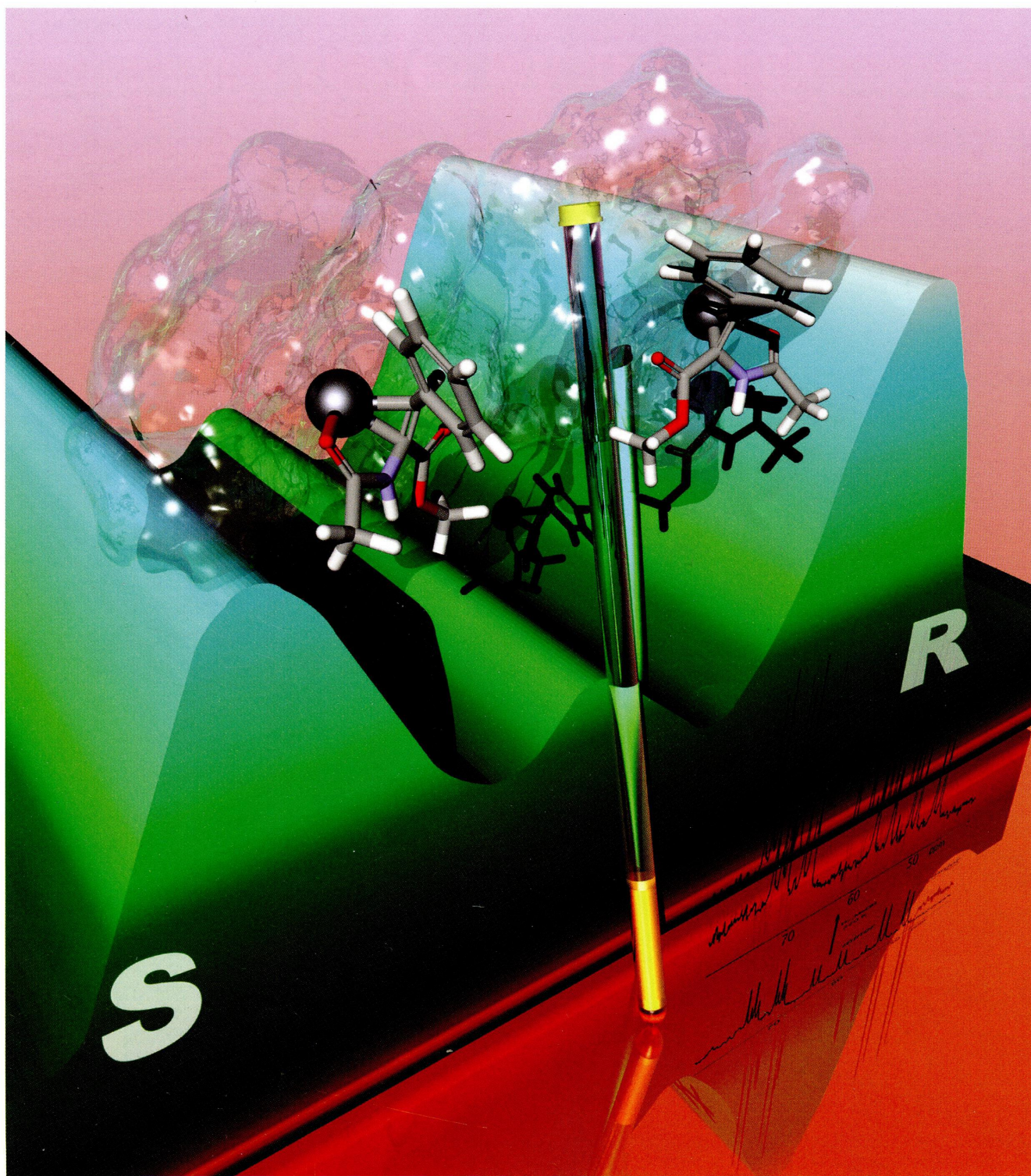


ORGANOMETALLICS



ACS Publications
Most Trusted. Most Cited. Most Read.

www.acs.org

ON THE COVER: NMR was very helpful in unraveling the intricacies of rhodium-catalyzed asymmetric hydrogenation, and the results provide a practical illustration of the Curtin-Hammett Principle. See the Review by John Brown, on pages S912–S923 (cover design by Karl Harrison, Department of Chemistry, University of Oxford).

Editor's Page

5911

DOI: 10.1021/om5009764

Award-Winning Organometallic Chemistry: The 2013 Robert Robinson Award of the RSC

John A. Gladysz



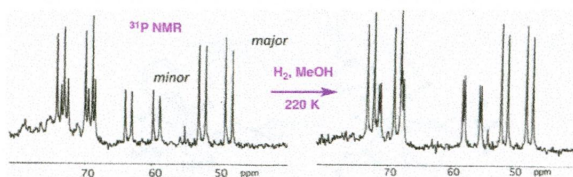
Reviews

5912

DOI: 10.1021/om500780c

Rhodium Asymmetric Hydrogenation Observed during its Exponential Growth Phase

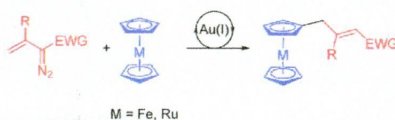
John M. Brown*



5924 **S**

DOI: 10.1021/om500638t

Gold-Catalyzed C–H Bond Functionalization of Metallocenes: Synthesis of Densely Functionalized Ferrocene Derivatives
Enol López, Giacomo Lonzi, and Luis A. López*

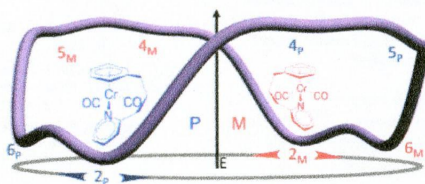


5928 **S**

DOI: 10.1021/om5007165

Degenerate Pathways for Metallocycle Ring Inversions: A Common Phenomenon Consistent with the Principle of Microscopic Reversibility

Roger G. Letterman, Charles B. Duke III, Tung T. To, Theodore J. Burkey,* and Charles Edwin Webster*

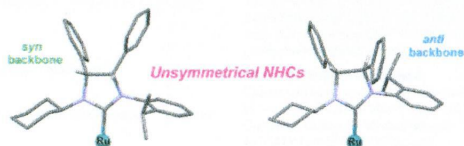


5932 **S**

DOI: 10.1021/om500731k

Novel Olefin Metathesis Ruthenium Catalysts Bearing Backbone-Substituted Unsymmetrical NHC Ligands

Veronica Paradiso, Valerio Bertolasi, and Fabia Grisi*

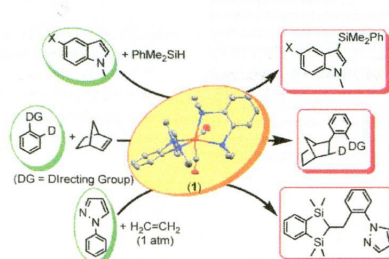


5936 **S**

DOI: 10.1021/om500794f

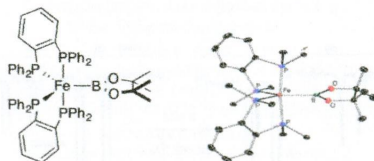
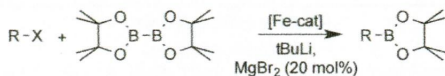
Disilaferracycle Dicarbonyl Complex Containing Weakly Coordinated η^2 -(H-Si) Ligands: Application to C–H Functionalization of Indoles and Arenes

Yusuke Sunada,* Hiroe Soejima, and Hideo Nagashima



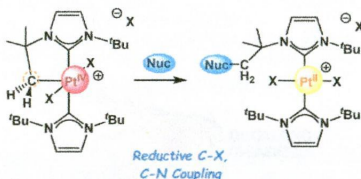
Iron-Catalyzed Borylation of Alkyl, Allyl, and Aryl Halides: Isolation of an Iron(I) Boryl Complex

Robin B. Bedford,* Peter B. Brenner, Emma Carter, Timothy Gallagher, Damien M. Murphy, and Dominic R. Pye



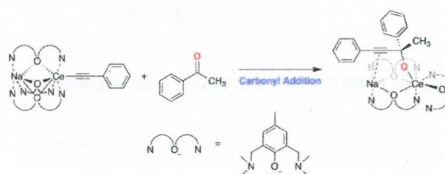
Formation of C–X Bonds through Stable Low-Electron-Count Cationic Platinum(IV) Alkyl Complexes Stabilized by N-Heterocyclic Carbenes

Orestes Rivada-Wheclaghan, Marta Roselló-Merino, Josefina Díez, Celia Maya, Joaquín López-Serrano,* and Salvador Conejero*



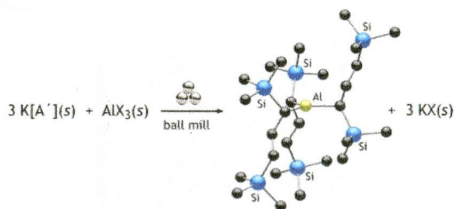
Synthesis, Structural Characterization, and Carbonyl Addition Reactivity of a Terminal Cerium(III) Acetylide Complex

Jee Eon Kim, David S. Weinberger, Patrick J. Carroll, and Eric J. Schelter*



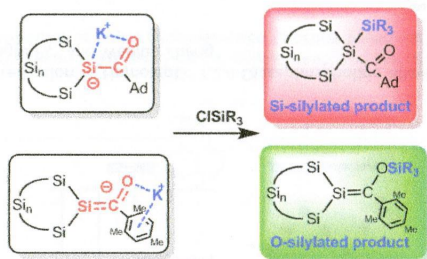
Mechanochemical Synthesis of $[1,3-(\text{SiMe}_3)_2\text{C}_3\text{H}_3]_3(\text{Al},\text{Sc})$, a Base-Free Tris(allyl)aluminum Complex and Its Scandium Analogue

Nicholas R. Rightmire, Timothy P. Hanusa,* and Arnold L. Rheingold



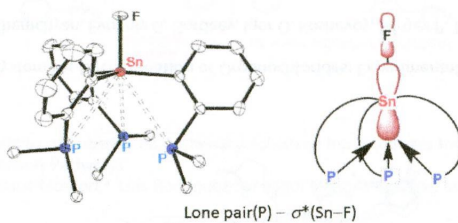
Stable Silenolates and Brook-Type Silenes with Exocyclic Structures

Michael Haas, Roland Fischer, Michaela Flock, Stefan Mueller, Martin Rausch, Robert Saf, Ana Torvisco, and Harald Stueger*



Can One σ^* -Antibonding Orbital Interact with Six Electrons of Lewis Bases? Analysis of a Multiply Interacting σ^* Orbital

Hajime Kameo,* Tatsuya Kawamoto, Shigeyoshi Sakaki, and Hiroshi Nakazawa*

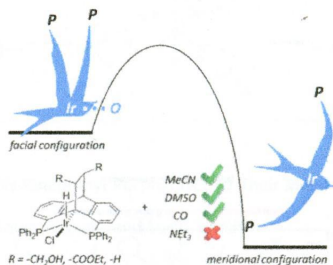


5964 **S**

DOI: 10.1021/om500308g

Conformational Flexibility of Dibenzobarrelene-Based PC(sp³)P Pincer Iridium Hydride Complexes: The Role of Hemilabile Functional Groups and External Coordinating Solvents

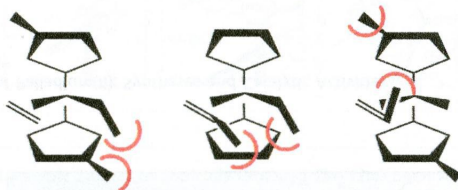
Gleb A. Silantyev, Oleg A. Filippov, Sanaa Musa, Dmitri Gelman, Natalia V. Belkova,* Klaus Weisz, Lina M. Epstein, and Elena S. Shubina*

5974 **S**

DOI: 10.1021/om5003655

Analysis of Stereochemistry Control in Homogeneous Olefin Polymerization Catalysis

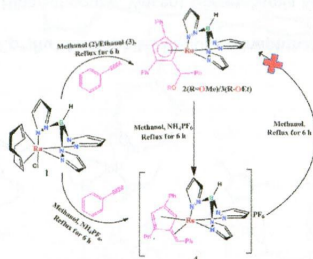
Giovanni Talarico and Peter H. M. Budzelaar*

5983 **S**

DOI: 10.1021/om500432w

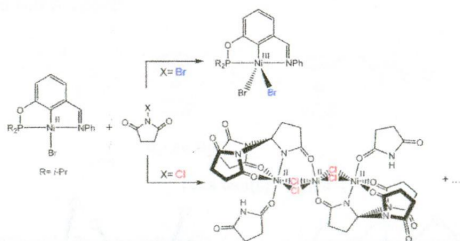
Fulvene–Ruthenium and Cp–Ruthenium Complexes via [2 + 2 + 1] Cyclootrimerization of Phenylacetylene with [RuCl(Tp)] (1,5-cod)]

Afsar Ali, Frederick P. Malan, Eric Singleton, and Reinout Meijboom*



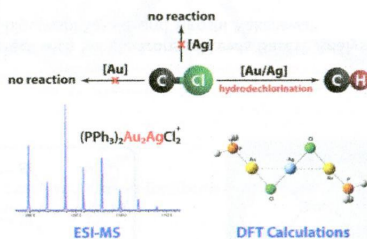
Synthesis, Characterization, and Oxidation of New POCN_{imine}-Type Pincer Complexes of Nickel

Berline Mougang-Soumé, Francine Belanger-Gariépy, and Davit Zargarian*



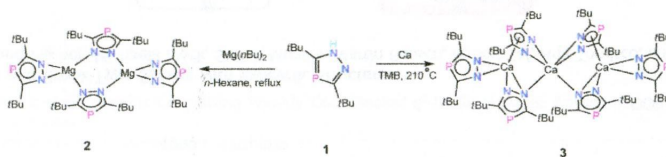
Design of a Bimetallic Au/Ag System for Dechlorination of Organochlorides: Experimental and Theoretical Evidence for the Role of the Cluster Effect

Leonid V. Romashov, Levon L. Khemchyan, Evgeniy G. Gordeev, Igor O. Koshevoy, Sergey P. Tunik,* and Valentine P. Ananikov*



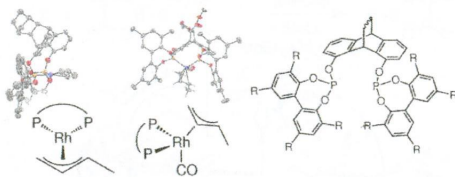
Synthesis and Structural Characterization of Homoleptic 1,2,4-Diazaphospholide Alkaline Earth Metal Complexes

Dongling Liu, Yongli Wang, Chengfu Pi,* and Wenjun Zheng*



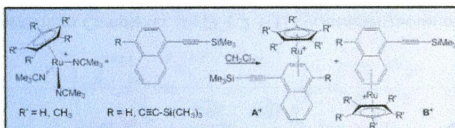
Synthesis and Characterization of Crotyl Intermediates in Rh-Catalyzed Hydroformylation of 1,3-Butadiene

Sebastian Schmidt, Eszter Baráth, Tanja Promnitz, Tobias Rosendahl, Frank Rominger, and Peter Hofmann*



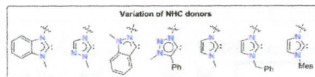
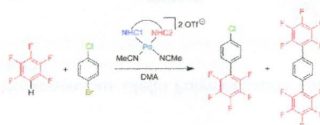
Complexation of the $(\eta^5\text{-Cp})\text{Ru}^+$ and $(\eta^5\text{-Cp}^*)\text{Ru}^+$ Arenophiles on Alkynynaphthalene: Solvent Effect on the Regioselectivity and the Haptotropic Rearrangement

Rim Makhoul, Jennifer A. Shaw-Taberlet, Hiba Sahnouné, Vincent Dorcet, Samia Kahlal, Jean-François Halet,*
Jean-René Hamon,* and Claude Lapinte*



Hetero-dicarbene Complexes of Palladium(II): Syntheses and Catalytic Activities

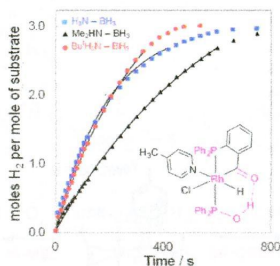
Dan Yuan and Han Vinh Huynh*



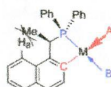
Increase of steric bulk & decrease of donating ability

Increase of catalytic activity

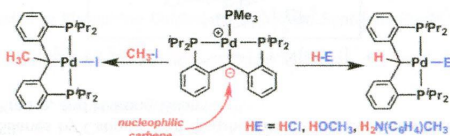
Hyrido(acylphosphine)(diphenylphosphinous acid)rhodium(III) Complexes. Catalysts for the Homogeneous Hydrolysis of Ammonia- or Amine-Boranes under Air
Virginia San Nacianeno, Lourdes Ibarlucea, Claudio Mendicutte-Fierro, Antonio Rodríguez-Diéguez, José M. Seco, Itziar Zumeta, Carlos Ubide, and María A. Garralda*



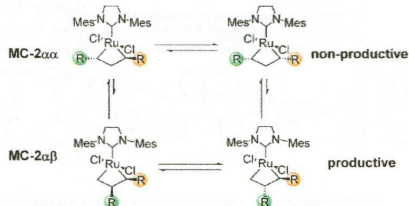
Stereoelectronic and Catalytic Properties of Chiral Cyclometalated Phospha-palladium and -platinum Complexes
Yu-Xiang Jia, Bin-Bin Li, Yongxin Li, Sumod A. Pullarkat, Kai Xu, Hajime Hirao, and Pak-Hing Leung*



Synthesis and Reactivity of a Nucleophilic Palladium(II) Carbene
Cezar C. Comanescu and Vlad M. Iluc*

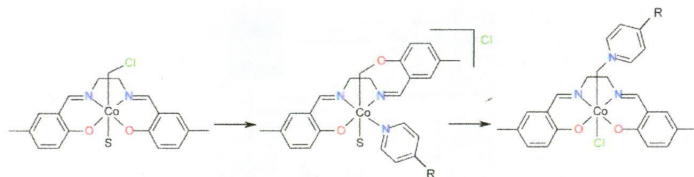


DFT Study on the Relative Stabilities of Substituted Ruthenacyclobutane Intermediates Involved in Olefin Cross-Metathesis Reactions and Their Interconversion Pathways
Katherine Paredes-Gil, Xavier Solans-Monfort,* Luis Rodríguez-Santiago, Mariona Sodupe, and Pablo Jaque*



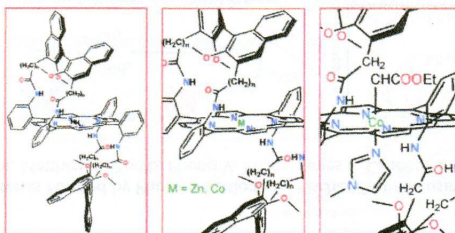
Formation and Structure of a Cobalt(III) Complex Containing a Nonstabilized Pyridinium Ylide Ligand

Patrizia Siega, Renata Dreos,* Giovanna Brancatelli, Nicola Demitri, and Silvano Geremia



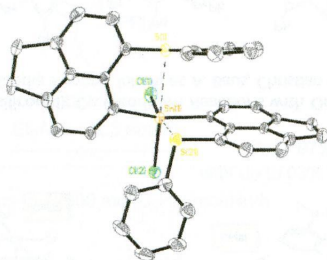
DFT Conformational Studies of Chiral Bis-Binaphthyl Porphyrins and Their Metal Complexes Employed as Cyclopropanation Catalysts

Emma Gallo, Eric Rose, Bernard Boitrel, Laura Legnani, and Lucio Toma*



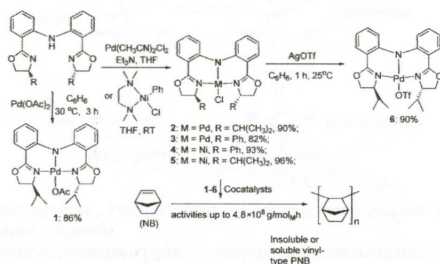
Synthetic, Structural, and Spectroscopic Studies of Sterically Crowded Tin–Chalcogen Acenaphthenes

Kasun S. Athukorala Arachchige, Louise M. Diamond, Fergus R. Knight, Marie-Luise Lechner, Alexandra M. Z. Slawin, and J. Derek Woollins*



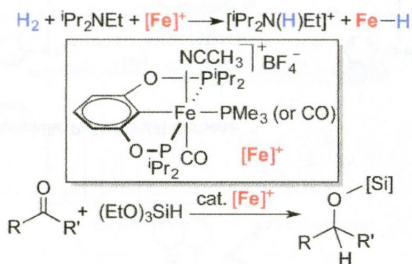
Chiral Palladium(II) and Nickel(II) Complexes with C₂-Symmetrical Tridentate Bis(oxazoline) Ligands: Synthesis, Characterization, and Catalytic Norbornene Polymerization

Jianyun He, Zhanxiong Liu, Gaixia Du, Yinxia Fu, Shaowen Zhang,* and Xiaofang Li*



Activation of Dihydrogen and Silanes by Cationic Iron Bis(phosphinite) Pincer Complexes

Papri Bhattacharya, Jeanette A. Krause, and Hairong Guan*



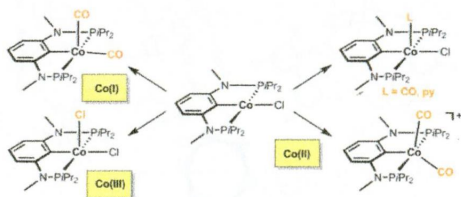
Carbon–Carbon Bond Forming Reactions with Tantalum Diamidophosphine Complexes That Incorporate Alkyne Ligands

Kyle D. J. Parker and Michael D. Fryzuk*



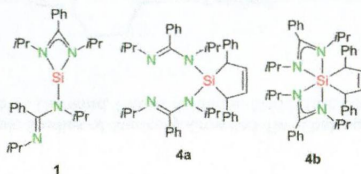
Synthesis and Reactivity of Four- and Five-Coordinate Low-Spin Cobalt(II) PCP Pincer Complexes and Some Nickel(II) Analogues

Sathyamoorthy Murugesan, Berthold Stöger, Maria Deus Carvalho, Liliana P. Ferreira, Ernst Pittenauer, Günter Allmaier, Luis F. Veiros, and Karl Kirchner*



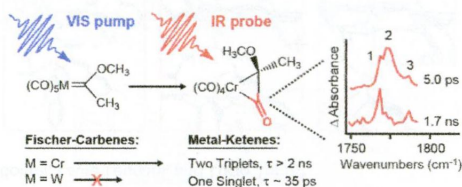
Bis[*N,N'*-diisopropylbenzamidinato(-)]silicon(II): Cycloaddition Reactions with Organic 1,3-Dienes and 1,2-Diketones

Nadine Laskowski, Konstantin Junold, Claudia Kupper, Johannes A. Baus, Christian Burschka, and Reinhold Tacke*



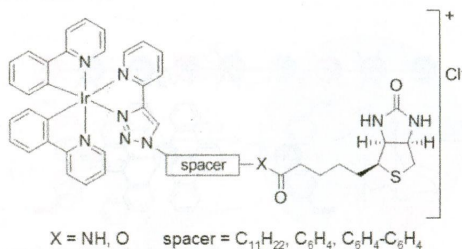
Direct Observation of Metal Ketenes Formed by Photoexcitation of a Fischer Carbene using Ultrafast Infrared Spectroscopy

Son C. Nguyen, Justin P. Lomont, Matthew C. Zoerb, Phong V. Pham, James F. Cahoon, and Charles B. Harris*



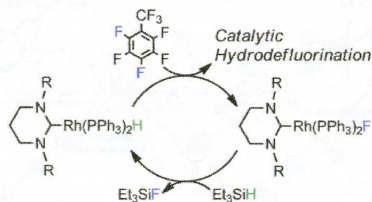
Introducing a New Family of Biotinylated Ir(III)-Pyridyltriazole Lumophores: Synthesis, Photophysics, and Preliminary Study of Avidin-Binding Properties

Andrea Baschieri, Sara Muzzioli, Valentina Fiorini, Elia Matteucci, Massimiliano Massi, Letizia Sambri,* and Stefano Stagni*



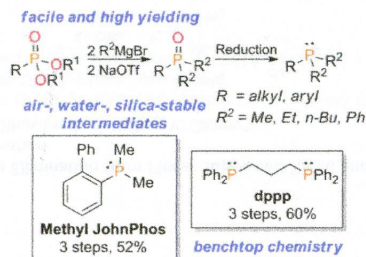
Mechanistic Studies of the Rhodium NHC Catalyzed Hydrodefluorination of Polyfluorotoluenes

Leonid Schwartzburd, Mary F. Mahon, Rebecca C. Poulten, Mark R. Warren, and Michael K. Whittlesey*



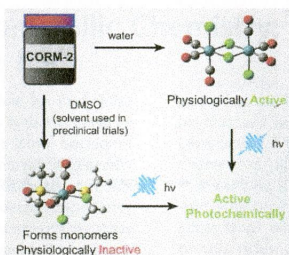
Direct Conversion of Phosphonates to Phosphine Oxides: An Improved Synthetic Route to Phosphines Including the First Synthesis of Methyl JohnPhos

Alexander J. Kendall, Chase A. Salazar, Patrick F. Martino, and David R. Tyler*



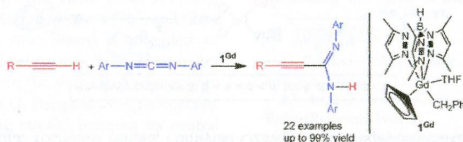
Exploring the Utility of Tandem Thermal–Photochemical CO Delivery with CORM-2

Justin P. Lomont, Son C. Nguyen, and Charles B. Harris*



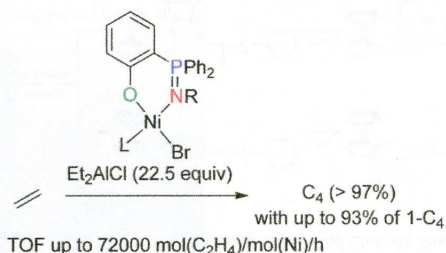
Rare-Earth-Metal-Catalyzed Addition of Terminal Monoalkynes and Dialkynes with Aryl-Substituted Symmetrical or Unsymmetrical Carbodiimides

Fangjun Zhang, Jie Zhang,* Yin Zhang, Jianquan Hong, and Xigeng Zhou*



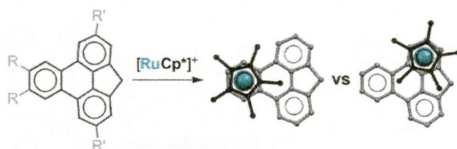
Nickel Complexes Featuring Iminophosphorane–Phenoxide Ligands for Catalytic Ethylene Dimerization

Thibault Cheisson, Thi-Phuong-Anh Cao, Xavier F. Le Goff, and Audrey Auffrant*



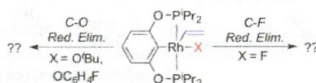
Site Selectivity of $[\text{RuCp}^*]^+$ Complexation in Cyclopenta[def]triphenylenes

Bryce R. Hoggard, Christopher B. Larsen, and Nigel T. Lucas*



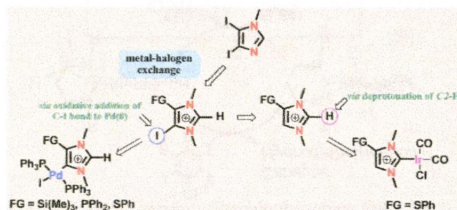
Potential Carbon–Fluorine Reductive Elimination from Pincer-Supported Rh(III) and Dominating Side Reactions: Theoretical and Experimental Examination

Samuel D. Timpa, Jia Zhou, Nattamai Bhuvanesh, and Oleg V. Ozerov*



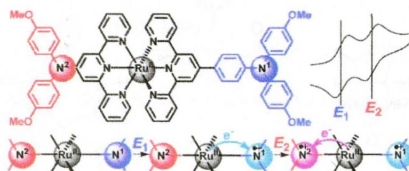
Synthesis of Imidazole-Based Functionalized Mesoionic Carbene Complexes of Palladium: Comparison of Donor Properties and Catalytic Activity toward Suzuki–Miyaura Coupling

Vedhagiri Karthik, Vivek Gupta, and Ganapathi Anantharaman*



Ruthenium-bis-terpyridine Complex with Two Redox-Asymmetric Amine Substituents: Potential-Controlled Reversal of the Direction of Charge-Transfer

Hai-Jing Nie, Chang-Jiang Yao, Meng-Jia Sun, Yu-Wu Zhong,* and Jiannian Yao*

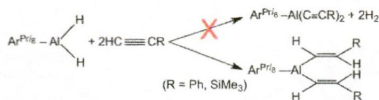


6232 **S**

DOI: 10.1021/om500911f

Hydroalumination of Alkenes and Alkynes by Primary Aluminum Hydrides under Mild Conditions

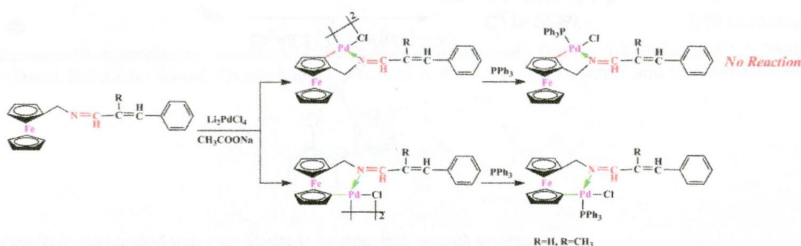
James C. Fettinger, Paul A. Gray, Christopher E. Melton, and Philip P. Power*

6241 **S**

DOI: 10.1021/om5008924

Palladacycle from Cyclometalation of the Unsubstituted Cyclopentadienyl Ring in Ferrocene: Synthesis, Characterization, Theoretical Studies, and Application to Suzuki–Miyaura Reaction

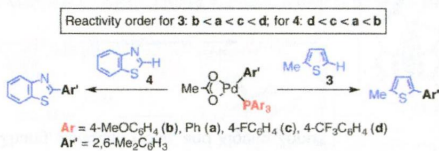
Hengyu Qian, Zhigang Yin,* Tongyan Zhang, Shihai Yan, Quanling Wang, and Chunxia Zhang

6247 **S**

DOI: 10.1021/om500922n

Effects of PA₃ Ligands on Direct Arylation of Heteroarenes with Isolated [Pd(2,6-Me₂C₆H₃)(μ-O₂CMe)(PA₃)₄] Complexes

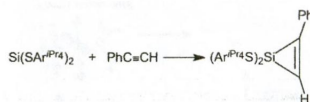
Masayuki Wakioka, Yuki Nakamura, Yoshihiro Hihara, Fumiyuki Ozawa,* and Shigeyoshi Sakaki

6253 **S**

DOI: 10.1021/om500947x

Reactions of Alkenes and Alkynes with an Acyclic Silylene and Heavier Tetrahylenes under Ambient Conditions

Felicitas Lips, Akseli Mansikkamäki, James C. Fettinger, Heikki M. Tuononen,* and Philip P. Power*

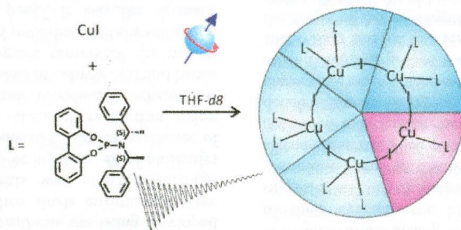


Notes

6259 

DOI: 10.1021/om500751q

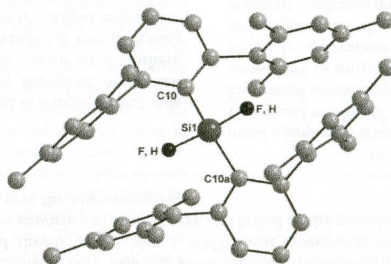
Polynuclear Phosphoramidite Copper Complexes with Mixed Trigonal/Tetrahedral Coordination in THF
Felicitas von Rekowski and Ruth M. Gschwind*



6263 

DOI: 10.1021/om5009082

Bis(*m*-terphenyl)silanes
Artem Schröder, Enno Lork, and Jens Beckmann*



Additions and Corrections

6267

DOI: 10.1021/om500971t

Correction to Proton-Controlled Regioselective Synthesis of $[\text{Cp}^*(\text{dppe})\text{Fe}-\text{C}\equiv\text{C}-1-(\eta^6-\text{C}_{10}\text{H}_7)]\text{Ru}(\eta^5\text{-Cp})(\text{PF}_6)$ and Electron-Driven Haptotropic Rearrangement of the $(\eta^5\text{-Cp})\text{Ru}^+$ Arenophile

Rim Makhoul, Hiba Sahnoun, Thomas Davin, Samia Kahlal, Vincent Dorcet, Thierry Roisnel, Jean-François Halet,* Jean-René Hamon,* and Claude Lapinte*