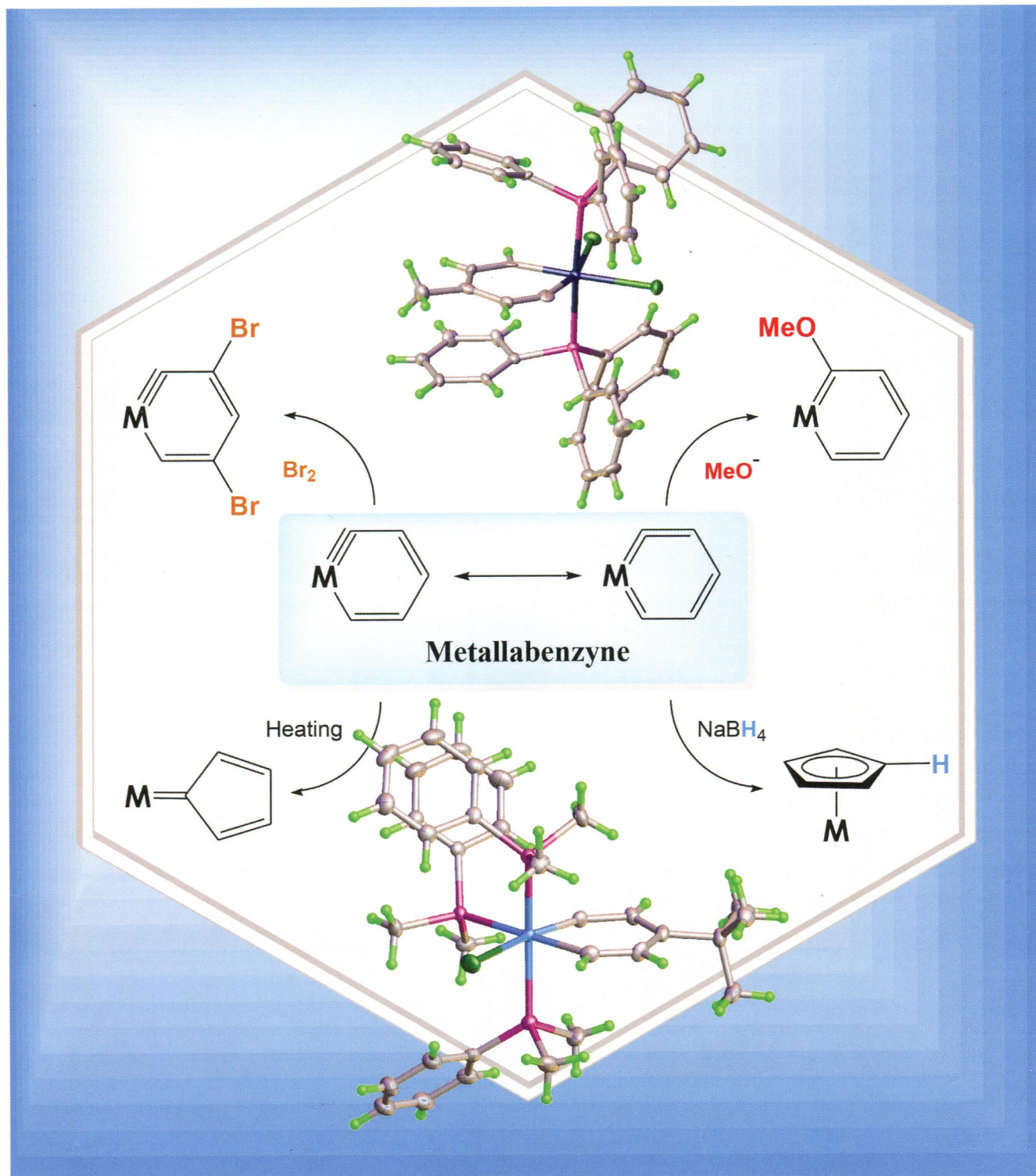


ORGANOMETALLICS



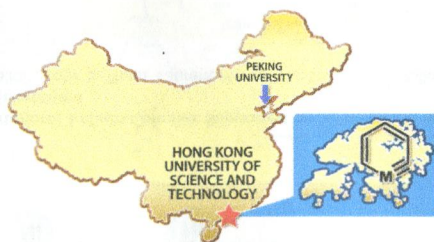
ON THE COVER: Metallabenzynes are an interesting class of organometallic compounds derived from formal replacement of a C atom in benzyne by an isolobal transition-metal fragment. They have aromatic character as judged by their reactivity, geometry, aromatic stabilization energy, and magnetic properties. They can undergo typical reactions of aromatic systems (for example, electrophilic substitution reaction) as well as organometallic complexes (for example, formation of carbene complexes). See the paper by Jia on pages 6852–6866.

Editor's Page

6851

dx.doi.org/10.1021/om401106t**Award-Winning Organometallic Chemistry: The 2013 Yao Zeng Award in Organometallic Chemistry**

John A. Gladysz



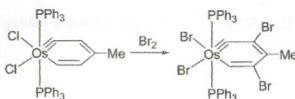
Reviews

Cover Paper

6852

dx.doi.org/10.1021/om400716v**Our Journey to the Chemistry of Metallabenzynes**

Guochen Jia*

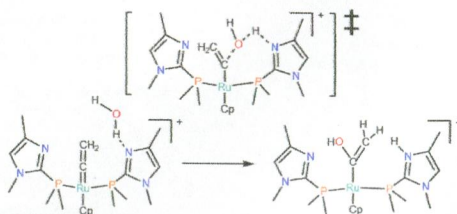


6867 **5**

dx.doi.org/10.1021/om400445n

Computational Study of the Extensive Role of Heterocyclic Ligands in Acetylene Hydration by a Bifunctional Organometallic Catalyst

Amy J. Arita, Janet Cantada, Douglas B. Grotjahn, and Andrew L. Cooksy*

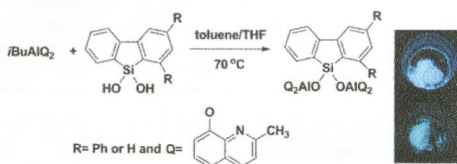


6871 **5**

dx.doi.org/10.1021/om4005803

Synthesis and Photophysical Properties of Two Strongly Fluorescent Bis(di-*quin*alidinatoalumino)-9-silafluorenes

Erika Pusztai,* Haley Albright, Yuanjing Cai, Rongrong Hu, Robert West, Ben Zhong Tang, and Iliia A. Guzei

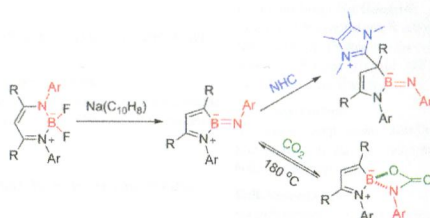


6875 **5**

dx.doi.org/10.1021/om4008407

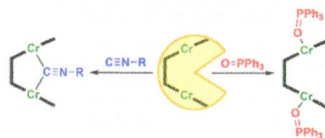
Synthesis and Reactions of π -Conjugated Iminoboranes Stabilized by Intramolecular Imine Groups

Liang Xie, Jianying Zhang, Hongfan Hu, and Chunming Cui*

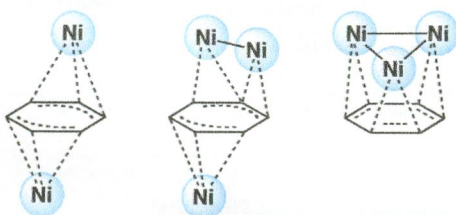


Isocyanide and Phosphine Oxide Coordination in Binuclear Chromium Pacman Complexes

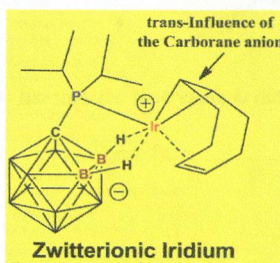
Charlotte J. Stevens, Gary S. Nichol, Polly L. Arnold, and Jason B. Love*

**Trinuclear Nickel Complexes with Metal–Arene Interactions Supported by Tris- and Bis(phosphinoaryl)benzene Frameworks**

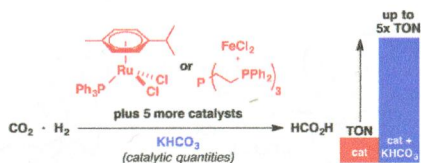
Sandy Suseno, Kyle T. Horak, Michael W. Day, and Theodor Agapie*

**Structure and Bonding of a Zwitterionic Iridium Complex Supported by a Phosphine with the Parent Carba-*closo*-dodecaborate $CB_{11}H_{11}^-$ Ligand Substituent**

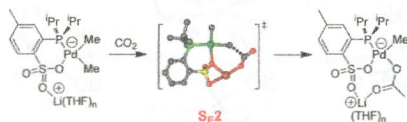
Ahmad El-Hellani, Christos E. Kefalidis, Fook S. Tham, Laurent Maron,* and Vincent Lavallo*



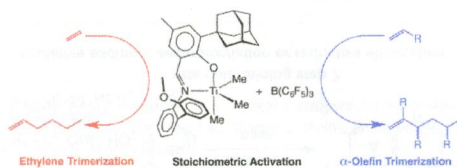
Enhanced Carbon Dioxide Hydrogenation Facilitated by Catalytic Quantities of Bicarbonate and Other Inorganic Salts
 Jessica L. Drake, Cesar M. Manna, and Jeffery A. Byers*



Comparative Reactivity of Zr- and Pd-Alkyl Complexes with Carbon Dioxide
 Ka-Cheong Lau, Benjamin J. Petro, Sébastien Bontemps, and Richard F. Jordan*

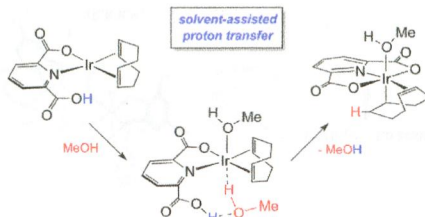


Highly Selective Olefin Trimerization Catalysis by a Borane-Activated Titanium Trimethyl Complex
 Aaron Sattler, Jay A. Labinger,* and John E. Bercaw*



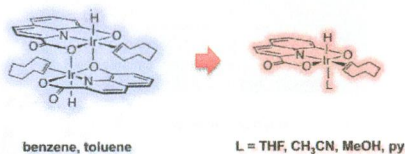
Articles

ONO Dianionic Pincer-Type Ligand Precursors for the Synthesis of σ,π -Cyclooctenyl Iridium(III) Complexes: Formation Mechanism and Coordination Chemistry
 Duc Hanh Nguyen, Ingo Greger, Jesús J. Pérez-Torrente,* M. Victoria Jiménez, F. Javier Modrego, Fernando J. Lahoz, and Luis A. Oro*



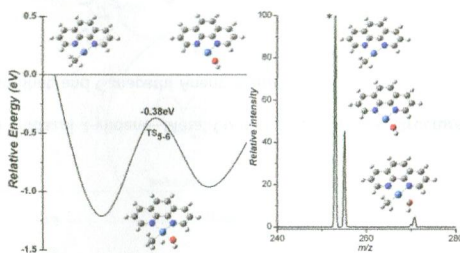
Unsaturated Iridium(III) Complexes Supported by a Quinolato–Carboxylato ONO Pincer-Type Ligand: Synthesis, Reactivity, and Catalytic C–H Functionalization

Duc Hanh Nguyen, Jesús J. Pérez-Torrente,* M. Victoria Jiménez, F. Javier Modrego, Daniel Gómez-Bautista, Fernando J. Lahoz, and Luis A. Oro*



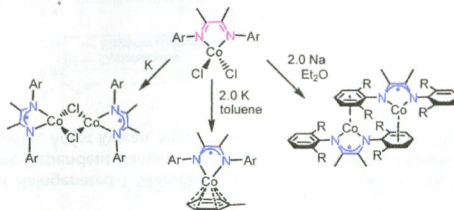
Role of the Metal, Ligand, and Alkyl/Aryl Group in the Hydrolysis Reactions of Group 10 Organometallic Cations [(L)M(R)]⁺

Matthew J. Woolley, George N. Khairallah, Gabriel da Silva, Paul S. Donnelly, Brian F. Yates, and Richard A. J. O'Hair*



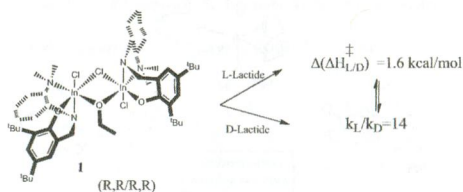
Synthesis and Characterization of Cobalt Complexes with Radical Anionic Diimine Ligands

Xiao-Juan Yang,* Xiaohui Fan, Yanxia Zhao, Xuting Wang, Bin Liu, Ji-Hu Su, Qingsong Dong, Maolin Xu, and Biao Wu



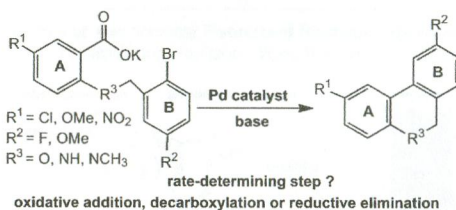
Theoretical Investigation of Lactide Ring-Opening Polymerization Induced by a Dinuclear Indium Catalyst

Jian Fang, Insun Yu, Parisa Mehrkhodavandi,* and Laurent Maron*



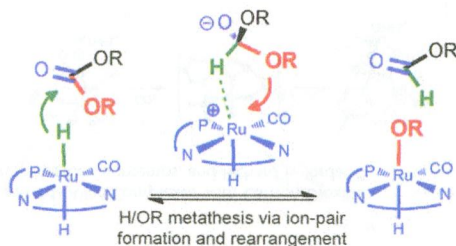
Mechanism and Substrate-Dependent Rate-Determining Step in Palladium-Catalyzed Intramolecular Decarboxylative Coupling of Arenecarboxylic Acids with Aryl Bromides: A DFT Study

Hujun Xie,* Furong Lin, Qunfang Lei, and Wenjun Fang



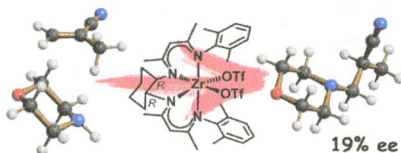
Hydrogenation of Dimethyl Carbonate to Methanol by *trans*-[Ru(H)₂(PNN)(CO)] Catalysts: DFT Evidence for Ion-Pair-Mediated Metathesis Paths for C–OMe Bond Cleavage

Faraj Hasanayn,* Abdulkader Baroudi, Ashfaq A. Bengali, and Alan S. Goldman



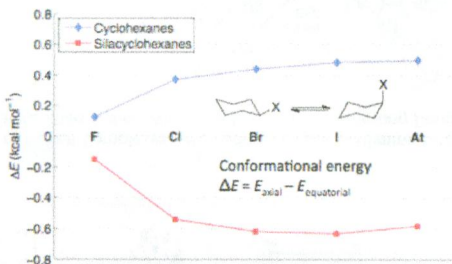
Selective and Nonselective Aza-Michael Additions Catalyzed by a Chiral Zirconium Bis-Diketiminato Complex

Ibrahim El-Zoghbi, Myriam Kebdani, Todd J. J. Whitehorne, and Frank Schaper*



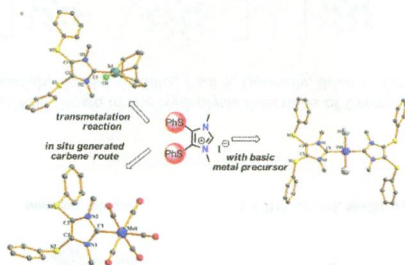
Conformational Properties of 1-Halogenated-1-Silacyclohexanes, C₅H₁₀SiHX (X = Cl, Br, I): Gas Electron Diffraction, Low-Temperature NMR, Temperature-Dependent Raman Spectroscopy, and Quantum-Chemical Calculations

Sunna Ó. Wallevik, Ragnar Björnsson, Ágúst Kvaran, Sigridur Jonsdóttir, Ingvar Arnason,* Alexander V. Belyakov, Thomas Kern, and Karl Hassler



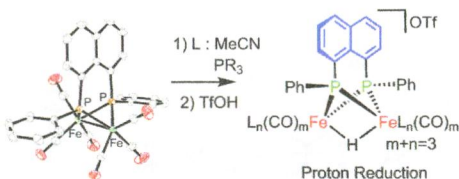
Backbone Thio-Functionalized Imidazol-2-ylidene–Metal Complexes: Synthesis, Structure, Electronic Properties, and Catalytic Activity

Vedhagiri Karthik, Irshad Ahmad Bhat, and Ganapathi Anantharaman*



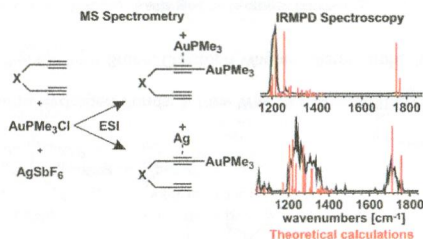
Formation of a Hexacarbonyl Diiron Complex Having a Naphthalene-1,8-bis(phenylphosphido) Bridge and the Electrochemical Behavior of Its Derivatives

Yuichi Teramoto, Kazuyuki Kubo, Shoko Kume, and Tsutomu Mizuta*



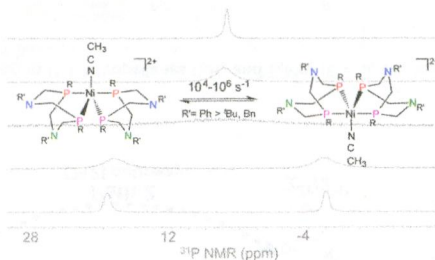
Interaction of Gold Acetylides with Gold(I) or Silver(I) Cations

Lucie Jašíková and Jana Roithová*



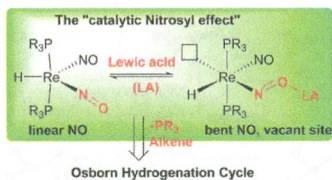
Conformational Dynamics and Proton Relay Positioning in Nickel Catalysts for Hydrogen Production and Oxidation

James A. Franz, Molly O'Hagan, Ming-Hsun Ho, Tianbiao Liu, Monte L. Helm, Sheri Lense, Daniel L. DuBois, Wendy J. Shaw, Aaron M. Appel,* Simone Raugei,* and R. Morris Bullock



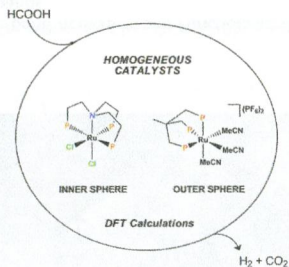
Efficient Lewis Acid Promoted Alkene Hydrogenations Using Dinitrosyl Rhenium(–I) Hydride Catalysts

Yanfeng Jiang, Wenjing Huang, Helmut W. Schmalte, Olivier Blacque, Thomas Fox, and Heinz Berke*



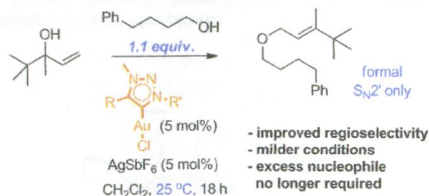
Inner- versus Outer-Sphere Ru-Catalyzed Formic Acid Dehydrogenation: A Computational Study

Gabriele Manca, Irene Mellone, Federica Bertini, Maurizio Peruzzini,* Luca Rosi, Dörthe Mellmann, Henrik Junge, Matthias Beller,* Andrea Ienco, and Luca Gonsalvi*

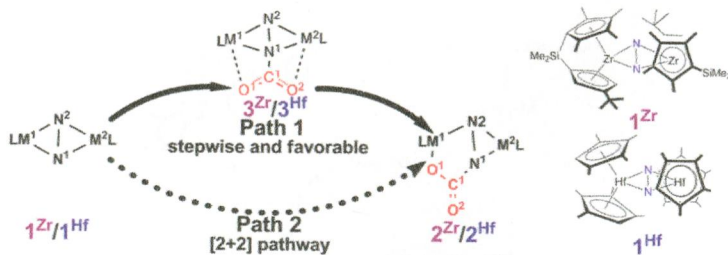


Gold(I) and Palladium(II) Complexes of 1,3,4-Trisubstituted 1,2,3-Triazol-5-ylidene "Click" Carbenes: Systematic Study of the Electronic and Steric Influence on Catalytic Activity

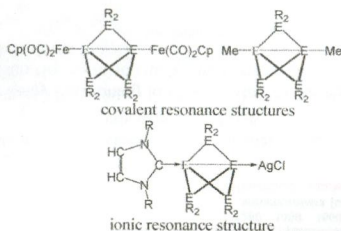
James R. Wright, Paul C. Young, Nigel T. Lucas, Ai-Lan Lee,* and James D. Crowley*



Mechanistic Studies on the Carboxylation of Hafnocene and *ansa*-Zirconocene Dinitrogen Complexes with CO₂
 Xuelu Ma, Yanhui Tang, and Ming Lei*

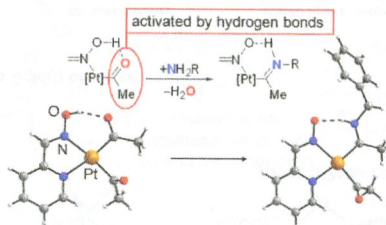


Evidence for Charge-Shift Bonding in [1.1.1]Propellanes C₅H₆ and E₅Me₆ (E = Si, Ge, Sn): A Theoretical Investigation
 Congjie Zhang,* Lichao Ning, and Jinxia Li



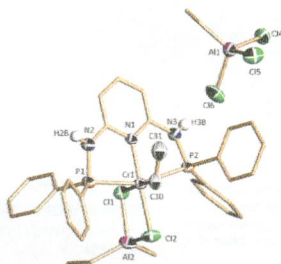
Activation of Acetyl Ligands through Hydrogen Bonds: A New Way to Platinum(II) Complexes Bearing Protonated Iminoacetyl Ligands

Tim Kluge, Martin Bette, Tobias Rüffer, Clemens Bruhn, Christoph Wagner, Dieter Ströhl, Jürgen Schmidt, and Dirk Steinborn*



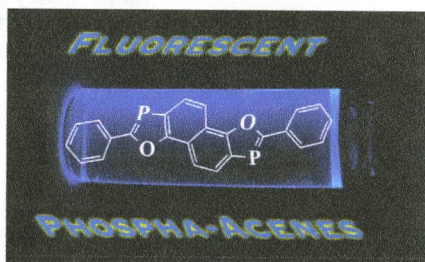
Synthesis, Structures, and Ethylene Oligomerization Activity of Bis(phosphanylamine)pyridine Chromium/Aluminate Complexes

Ahmed Alzamy, Sandro Gambarotta,* and Ilia Korobkov



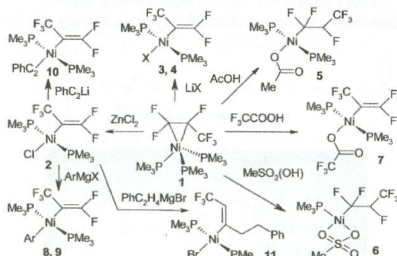
Fluorescent Heteroacenes with Multiply-Bonded Phosphorus

Feng Li Laughlin, Nihal Deligoul, Arnold L. Rheingold, James A. Golen, Brynna J. Laughlin, Rhett C. Smith, and John D. Protasiewicz*



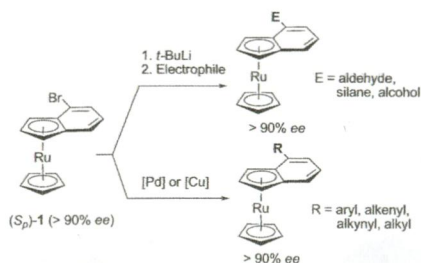
Acid-Promoted Selective Carbon–Fluorine Bond Activation and Functionalization of Hexafluoropropene by Nickel Complexes Supported with Phosphine Ligands

Wengang Xu, Hongjian Sun, Zichang Xiong, and Xiaoyan Li*



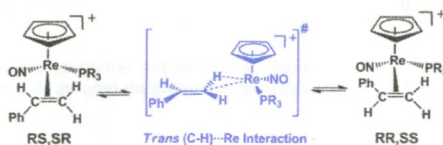
Highly Enantiomerically Enriched Planar Chiral Cyclopentadienyl(indenyl)ruthenium Complexes

Simon Wagschal, Audrey Mercier, and E. Peter Kündig*



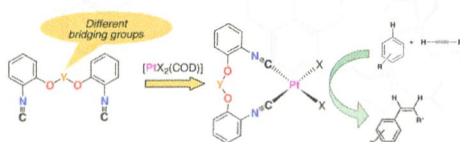
Computational Study of the Migration of Rhenium from One Enantioface of an Olefin to the Other Facilitated by (C–H)→Re Interactions

Murugesan Thenraj and Ashoka G. Samuelson*



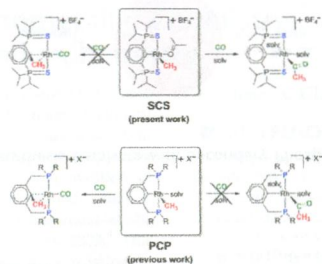
Platinum(II) Complexes with Novel Diisocyanide Ligands: Catalysts in Alkyne Hydroarylation

Daniele Vicenzi, Paolo Sgarbossa,* Andrea Biffis, Cristina Tubaro,* Marino Basato, Rino A. Michelin, Arianna Lanza, Fabrizio Nestola, Sara Bogiatti, Paolo Pastore, and Alfonso Venzo

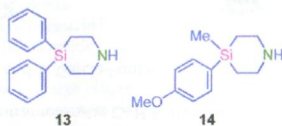


CO-Induced Methyl Migration in a Rhodium Thiophosphoryl Pincer Complex and Its Comparison with Phosphine-Based Complexes: The Divergent Effects of S and P Donor Ligands

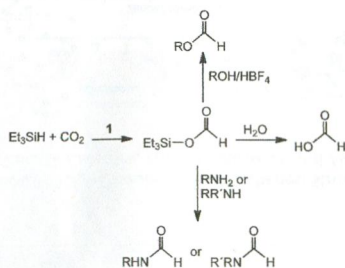
Michael Montag,* Irena Efremenko, Gregory Leitus, Yehoshua Ben-David, Jan M. L. Martin, and David Milstein*



Synthesis of 4-Silapiperidine Building Blocks with N–H Groups Using the Staudinger Reaction
Markus Fischer and Reinhold Tacke*

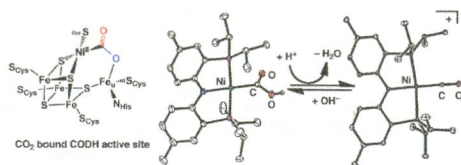


Nickel-Catalyzed Hydrosilylation of CO₂ in the Presence of Et₃B for the Synthesis of Formic Acid and Related Formates
Lucero González-Sebastián, Marcos Flores-Alamo, and Juventino J. García*



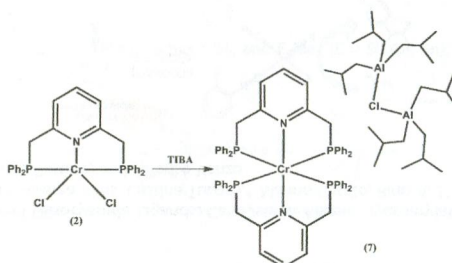
Synthesis and Reactivity of Nickel(II) Hydroxycarbonyl Species, NiCOOH-κC

Changho Yoo, Jin Kim, and Yunho Lee*



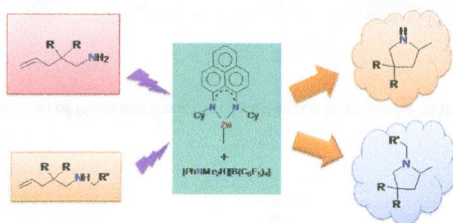
Polymer-Free Ethylene Oligomerization Using a Pyridine-Based Pincer PNP-Type of Ligand

Ahmed Alzamy, Sandro Gambarotta,* and Ilia Korobkov



Organozinc Catalyst on a Phenalenyl Scaffold for Intramolecular Hydroamination of Aminoalkenes

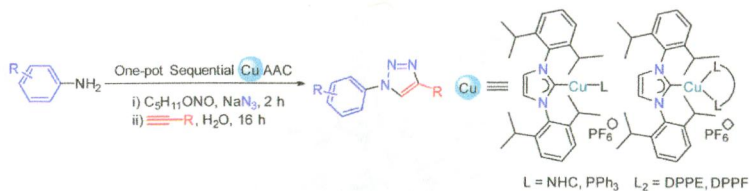
Arup Mukherjee, Tamal K. Sen, Pradip Kr. Ghorai, and Swadhin K. Mandal*



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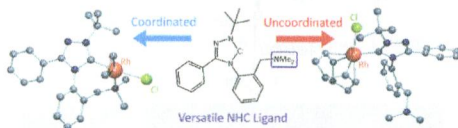
dx.doi.org/10.1021/om400911u

Copper(I) Heteroleptic Bis(NHC) and Mixed NHC/Phosphine Complexes: Syntheses and Catalytic Activities in the One-Pot Sequential CuAAC Reaction of Aromatic Amines
Shuai Guo, Miao Hui Lim, and Han Vinh Huynh*

7234 **S**

dx.doi.org/10.1021/om400912s

Amino Group Functionalized N-Heterocyclic 1,2,4-Triazole-Derived Carbenes: Structural Diversity of Rhodium(I) Complexes
Jan Turek, Illia Panov, Michal Horáček, Zdeněk Černošek, Zdeňka Padělková, and Aleš Růžička*



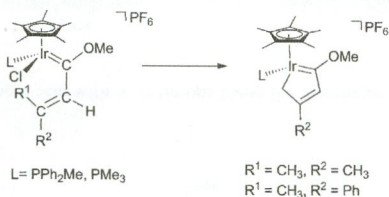
Notes

7241 **S**

dx.doi.org/10.1021/om4008778

Cyclometalated Iridium Complexes from Intramolecular C–H Activation of $[IrCp^*Cl\{C(OMe)CH=C(CH_3)R\}]$ ($R = CH_3, Ph$; $L = PPh_2Me, PMe_3$)

M. Talavera, S. Bolaño,* J. Bravo, J. Castro, and S. García-Fontán

7245 **S**

dx.doi.org/10.1021/om401021k

On the Compatibility of Ruthenium Metathesis Catalysts with Secondary Phosphines
Bianca J. van Lierop and Deryn E. Fogg*

