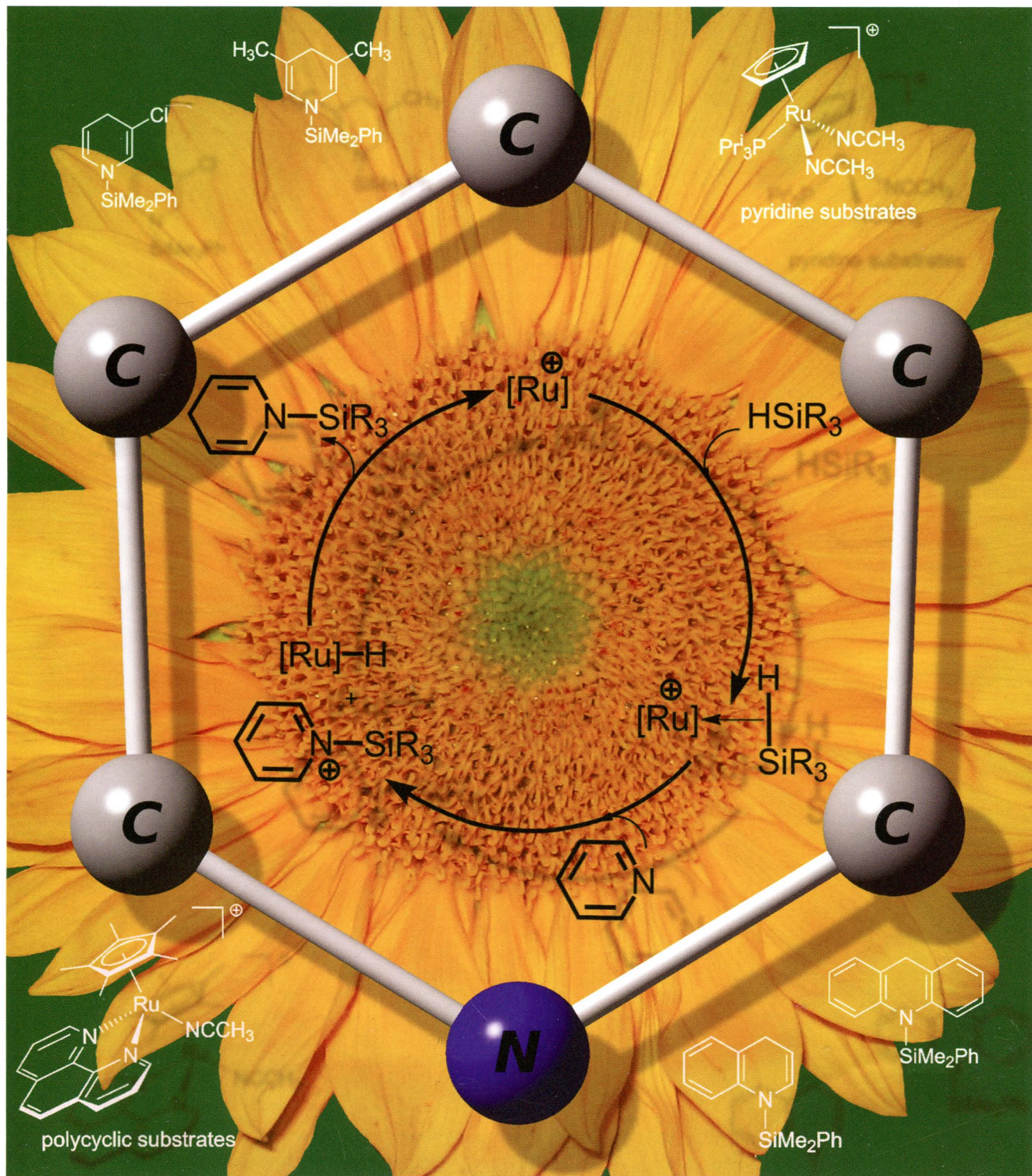


# ORGANOMETALLICS



**ON THE COVER:** Pyridine derivatives are abundant in Nature. Nicotinic acid, also known as niacin, can be found in the seeds of sunflowers, as shown in the picture. Niacin is a precursor to NADH, a derivative of 1,4-dihydropyridine, which is responsible for many reduction processes in living matter. A variety of pyridine-based molecules can be reduced by silane into the corresponding *N*-silyl dihydropyridines in the presence of cationic ruthenium catalysts. In the picture, the proposed catalytic cycle also serves for the illustration of pyridine aromaticity, which is lost in these transformations. See the paper by Nikonov et al. on pages 4457–4464.

## Articles

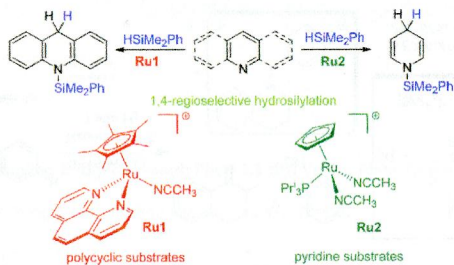
### Cover Paper

4457


[dx.doi.org/10.1021/om400269q](https://dx.doi.org/10.1021/om400269q)

#### Chemo- and Regioselective Catalytic Reduction of *N*-Heterocycles by Silane

Sun-Hwa Lee, Dmitry V. Gutsulyak, and Georgii I. Nikonov\*



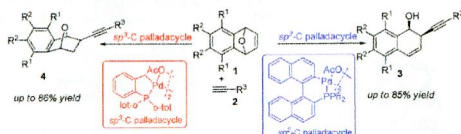
## Communications

4465


[dx.doi.org/10.1021/om400653x](https://dx.doi.org/10.1021/om400653x)

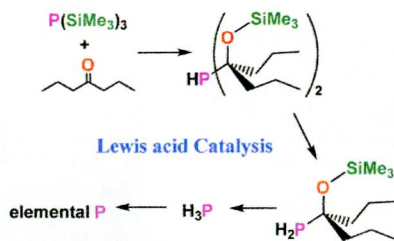
#### Switch of Addition and Ring-Opening Reactions of Oxabicyclic Alkenes with Terminal Alkynes by $sp^2$ -C,P- and $sp^3$ -C,P- Palladacycle Catalysis

Dong-Liang Mo, Bo Chen, Chang-Hua Ding, Li-Xin Dai, Guang-Cun Ge, and Xue-Long Hou\*



## Frustrated Lewis Pair Route to Hydrodesilylation of Silylphosphines

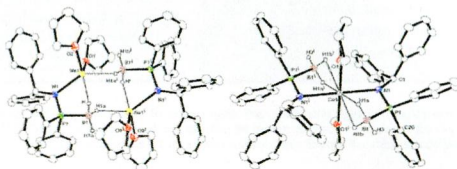
Katsuhiko Takeuchi, Lindsay J. Hounjet, and Douglas W. Stephan\*



## Articles

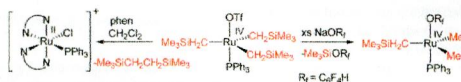
## Amidophosphine–Borane Complexes of Alkali Metals and the Heavier Alkaline-Earth Metals: Syntheses and Structural Studies

Ravi K. Kottalanka, Srinivas Anga, Kishor Naktode, Payel Laskar, Hari Pada Nayek, and Tarun K. Panda\*



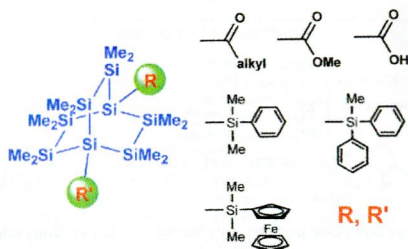
## Synthesis, Structure, and Reactivity of Trigonal Bipyramidal Ruthenium(IV) Trialkyl Complexes

Enrique Kwan Huang, Wai-Man Cheung, Sharon Lai-Fung Chan,\* Herman H. Y. Sung, Ian D. Williams, and Wa-Hung Leung\*



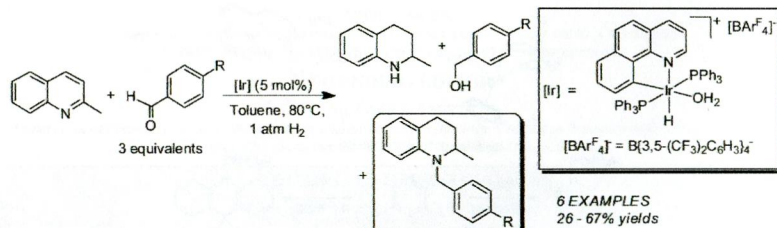
### Synthesis and Properties of Bridgehead-Functionalized Permethylbicyclo[2.2.2]octasilanes

Harald Stueger,\* Bernd Hasken, Uwe Gross, Roland Fischer, and Ana Torvisco Gomez



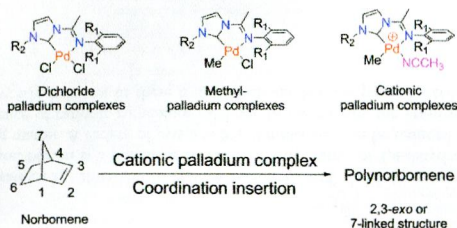
### Hydrogenation of Quinaldine and Benzylic Aldehydes both Separately and Combined in a Tandem Hydrogenation–Reductive Alkylation of Quinaldine by Aldehydes with Iridium Benzoquinoline Catalysts

Michael G. Manas, Jonathan Graepner, Laura J. Allen, Graham E. Dobereiner, Kerry C. Rippey, Nilay Hazari, and Robert H. Crabtree\*



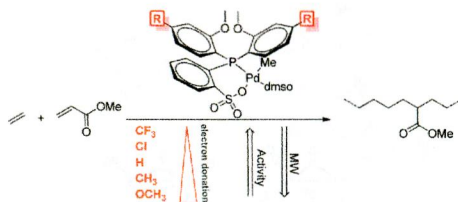
### Synthesis and Structure of Imine–N-Heterocyclic Carbene Palladium Complexes and Their Catalytic Behavior in Norbornene Polymerization

Juan Deng, Haiyang Gao,\* Fangming Zhu, and Qing Wu\*



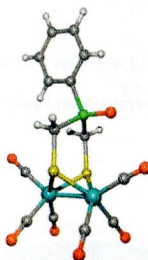
### Electronic Influences in Phosphinesulfonato Palladium(II) Polymerization Catalysts

Philipp Wucher, Verena Goldbach, and Stefan Mecking\*



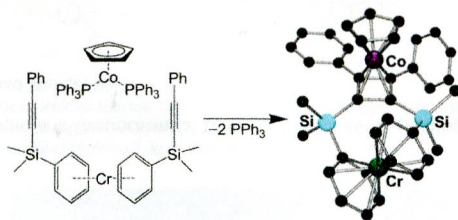
### A Novel [FeFe] Hydrogenase Model with a (SCH<sub>2</sub>)<sub>2</sub>P=O Moiety

Laith R. Almazahreh, Ulf-Peter Apfel, Wolfgang Imhof,\* Manfred Rudolph,\* Helmar Görls, Jean Talarmin, Philippe Schollhammer, Mohammad El-khateeb, and Wolfgang Weigand\*



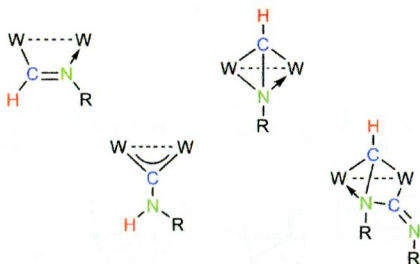
### Transition-Metal Complexes Containing Alkynylsilyl Functionalized $\eta^6$ -Arene Ligands

Florian Hoffmann, Jörg Wagler, and Gerhard Roewer\*



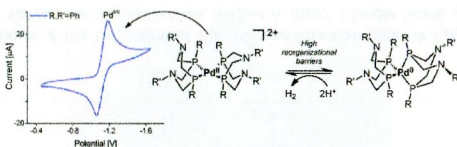
### Insertion, Rearrangement, and Coupling Processes in the Reactions of the Unsaturated Hydride Complex $[W_2(\eta^5-C_5H_5)_2(H)(\mu-PCy_2)(CO)_2]$ with Isocyanides

M. Angeles Alvarez, M. Esther García, Daniel García-Vivó,\* Miguel A. Ruiz,\* and M. Fernanda Vega



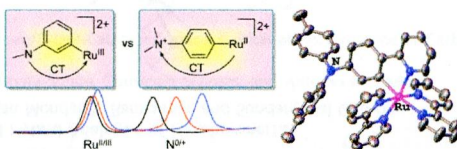
### Synthesis, Structural, and Electrocatalytic Reduction Studies of $[Pd(P_2N_2)_2]^{2+}$ Complexes

Candace S. Seu, David Ung, Michael D. Doud, Curtis E. Moore, Arnold L. Rheingold, and Clifford P. Kubiak\*



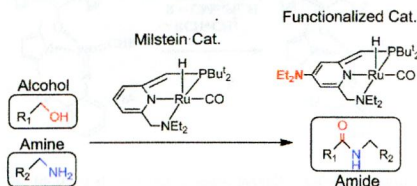
### Ruthenium-Amine Electronic Coupling Bridged through Phen-1,3-diyl Versus Phen-1,4-diyl: Reverse of the Charge Transfer Direction

Jian-Hong Tang, Si-Hai Wu, Jiang-Yang Shao, Hai-Jing Nie, and Yu-Wu Zhong\*



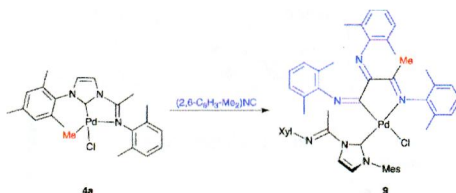
### Catalytic Mechanism for the Ruthenium-Complex-Catalyzed Synthesis of Amides from Alcohols and Amines: A DFT Study

Daeheum Cho, Kyoung Chul Ko, and Jin Yong Lee\*



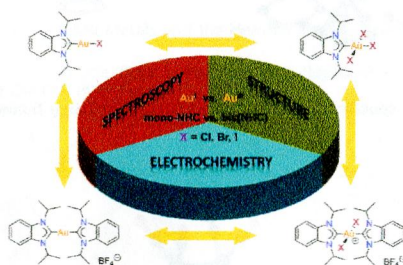
Reactivity Study of Imino-*N*-Heterocyclic Carbene Palladium(II) Methyl Complexes

Anna C. Badaj and Gino G. Lavoie\*

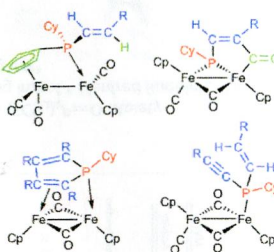


## Detailed Structural, Spectroscopic, and Electrochemical Trends of Halido Mono- and Bis(NHC) Complexes of Au(I) and Au(III)

Han Vinh Huynh,\* Shuai Guo, and Wenqin Wu

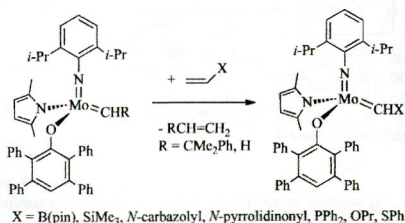
P–C and C–C Coupling Processes in the Reactions of the Phosphinidene-Bridged Complex  $[\text{Fe}_2(\eta)^5\text{-C}_5\text{H}_5]_2(\mu\text{-PCy})(\mu\text{-CO})(\text{CO})_2$  with Alkynes

M. Angeles Alvarez, M. Esther García, Rocío González, and Miguel A. Ruiz\*



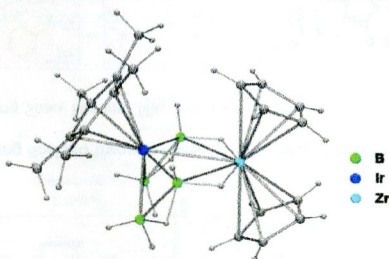
## High Oxidation State Molybdenum Imido Heteroatom-Substituted Alkyldiene Complexes

Erik M. Townsend, Stefan M. Kilyanek, Richard R. Schrock,\* Peter Müller, Stacey J. Smith, and Amir H. Hoveyda

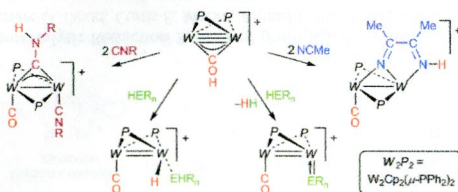


## An Early–Late Transition Metal Hybrid Analogue of Hexaborane(12)

R. S. Anju, Dipak Kumar Roy, Bijan Mondal, V. Ramkumar, and Sundargopal Ghosh\*

Hydrogen Atom Transfer Reactions of the Unsaturated Hydroxycarbyne Complex [W<sub>2</sub>Cp<sub>2</sub>(μ-COH)(μ-PPh<sub>2</sub>)<sub>2</sub>]BF<sub>4</sub>

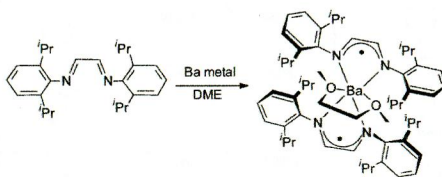
Fernanda Cimadevilla, M. Esther García, Daniel García-Vivó, Miguel A. Ruiz,\* Claudia Graiff, and Antonio Tiripicchio





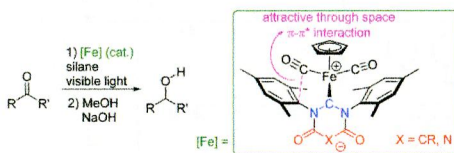
### Diazadiene Complexes of the Heavy Alkaline-Earth Metals Strontium and Barium: Structures and Reactivity

Volker Lorenz, Cristian G. Hrib, Dirk Grote, Liane Hilfert, Michael Krasnopolski, and Frank T. Edelmann\*



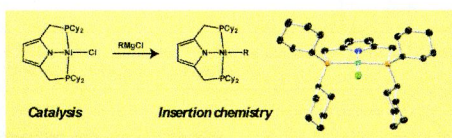
### (Cyclopentadienyl)iron(II) Complexes of N-Heterocyclic Carbenes Bearing a Malonate or Imidate Backbone: Synthesis, Structure, and Catalytic Potential in Hydrosilylation

Vincent César,\* Luis C. Misal Castro, Thomas Dombay, Jean-Baptiste Sortais,\* Christophe Darcel, Stéphane Labat, Karinne Miqueu, Jean-Marc Sotiropoulos, Rémy Brousses, Noël Lugan,\* and Guy Lavigne



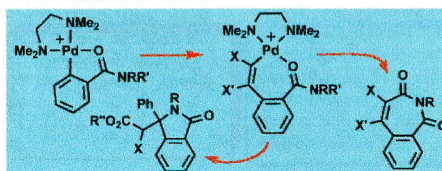
### Synthesis, Characterization, and Catalytic Activity of Nickel(II) Alkyl Complexes Supported by Pyrrole–Diphosphine Ligands

Gopaladasu T. Venkanna, Swetha Tammineni, Hadi D. Arman, and Zachary J. Tonzetch\*



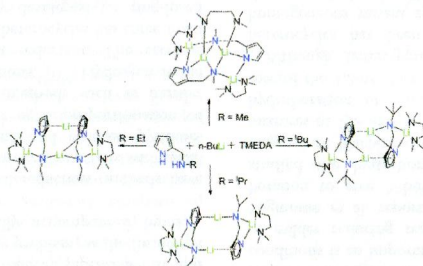
### Reactivity of Ortho-Palladated Benzamides toward CO, Isocyanides, and Alkynes. Synthesis of Functionalized Isoindolin-1-ones and 4,5-Disubstituted Benzo[c]azepine-1,3-diones

Roberto Frutos-Pedreño, Pablo González-Herrero,\* José Vicente,\* and Peter G. Jones



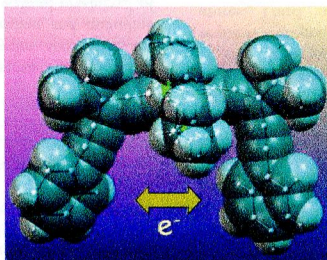
### 2-Aminopyrrolyl Dilithium Compounds: Synthesis, Structural Diversity, and Catalytic Activity for Amidation of Aldehydes with Amines

Zhiqiang Guo, Qiao Liu, Xuehong Wei,\* Yongbin Zhang, Hongbo Tong, Jianbin Chao, Jianping Guo, and Diansheng Liu\*



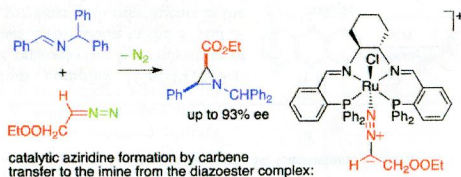
### New Fe(III)(cyclam) Complexes Bearing Axially Bound *geminal*-Diethynylethenes

Zhi Cao, Phillip E. Fanwick, William P. Forrest, Yang Gao, and Tong Ren\*



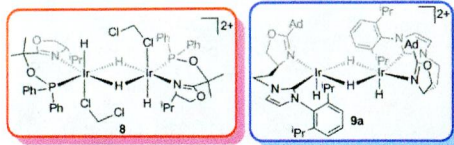
### Highly Enantioselective Ruthenium/PNNP-Catalyzed Imine Aziridination: Evidence of Carbene Transfer from a Diazoester Complex

Joël Egloff, Marco Ranocchiar, Amata Schira, Christoph Schotes, and Antonio Mezzetti\*



Characterization and Reactivity Studies of Dinuclear Iridium Hydride Complexes Prepared from Iridium Catalysts with N,P and C,N Ligands under Hydrogenation Conditions  
Stefan Gruber, Markus Neuburger, and Andreas Pfaltz\*

Formation under 1 bar of  $H_2$  in  $CH_2Cl_2$ :



## Additions and Corrections

Correction to Impact of Organoaluminum Compounds on Phenoxyimine Ligands in Coordinative Olefin Polymerization. A Theoretical Study

Zygmunt Flisak,\* Grzegorz P. Spaleniak, and Maria Bremek