

ORGANOMETALLICS



ON THE COVER: Macroscopic and microscopic chains...The former is found in the McLaren Vale Wine Region in South Australia, close to Adelaide, whereas the latter are the fruits of an enjoyable collaboration between Australia (Adelaide) and France (Rennes), two famous wine countries. The co-workers with colleagues from the U.K. (Durham) have discovered a diruthenium complex that selectively undergoes a radical cyclization reaction in which two organometallic carbon chains couple to form a stable dimer. The reaction is almost quantitative and fully regiospecific for the asymmetric substitution pattern around the cyclobutadiene-like ring. Further details may be found in the article on pages S015–S025. This cover is dedicated to Prof. M. I. Bruce on the occasion of his 75th birthday.

Editor's Page

5007

[dx.doi.org/10.1021/om400831x](https://doi.org/10.1021/om400831x)

Award-Winning Organometallic Chemistry: the 2012 Alfred-Stock-Gedächtnispreis of the GDCh

John A. Gladysz



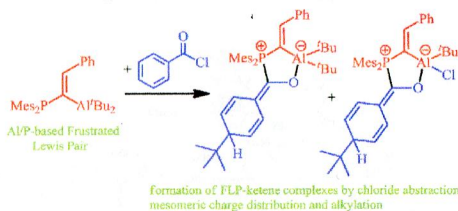
Articles

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[dx.doi.org/10.1021/om400620h](https://doi.org/10.1021/om400620h)

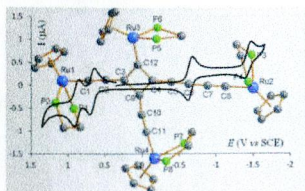
Reactions of an Al–P-Based Frustrated Lewis Pair with Carbonyl Compounds: Dynamic Coordination of Benzaldehyde, Activation of Benzoyl Chloride, and Al–C Bond Cleavage with Benzamide

Werner Uhl* and Christian Appelt



5015 5

dx.doi.org/10.1021/om4003768

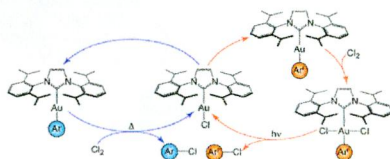
Straightforward Access to Tetrametallic Complexes with a Square Array by Oxidative Dimerization of Organometallic WiresAlexandre Burgun, Frédéric Gendron, Phil A. Schauer, Brian W. Skelton, Paul J. Low, Karine Costuas, Jean-François Halet,*
Michael I. Bruce,* and Claude Lapinte***Communications**

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dx.doi.org/10.1021/om400701f

Thermal versus Photochemical Reductive Elimination of Aryl Chlorides from NHC–Gold Complexes

Michael J. Ghidui, Allen J. Pistner, Glenn P. A. Yap, Daniel A. Lutterman, and Joel Rosenthal*

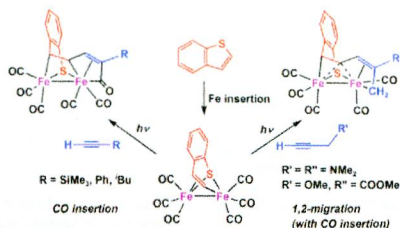


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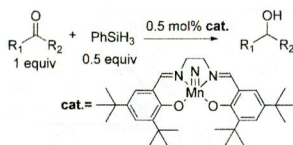
Skeletal Modification of Benzothiophene Mediated by Iron Carbonyls: Insertion of Terminal Alkynes with Migration of Amino and Alkoxy Groups

Kyohei Kobayashi, Masakazu Hirotsu,* and Isamu Kinoshita



An Efficient Catalyst Based on Manganese Salen for Hydrosilylation of Carbonyl Compounds

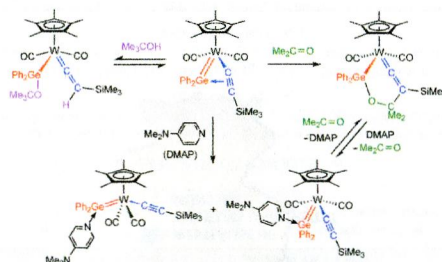
Vamshi K. Chidara and Guodong Du*



Articles

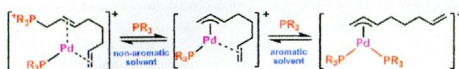
Synthesis, Structure, and Reactivity of Tungsten Acetylide–Germylene Complexes

Hirofumi Sakaba,* Yasuhiro Arai, Kenji Suganuma, and Eunsang Kwon



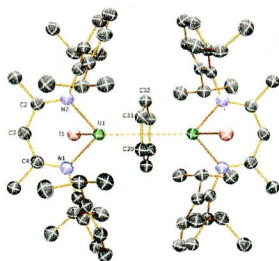
Mechanistic Study of the Pd/TOMPP-Catalyzed Telomerization of 1,3-Butadiene: Influence of Aromatic Solvents on Bis-Phosphine Complex Formation and Regioselectivity

Peter J. C. Hausoul, Martin Lutz,* Johann T. B. H. Jastrzebski, Pieter C. A. Bruijninx, Bert M. Weckhuysen, and Robertus J. M. Klein Gebbink*

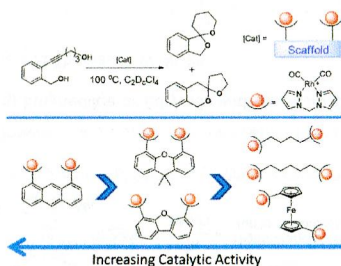


β -Diketiminato Derivatives of Alkali Metals and Uranium

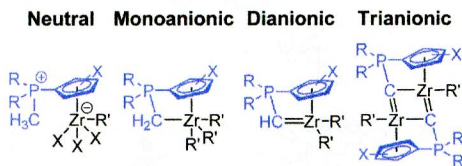
Ashley J. Wooles, William Lewis, Alexander J. Blake, and Stephen T. Liddle*

**Bimetallic Complexes for Enhancing Catalyst Efficiency: Probing the Relationship between Activity and Intermetallic Distance**

Marina G. Timerbulatova, Mark R. D. Gatus, Khuong Q. Vuong, Mohan Bhadbhade, Andrés G. Algarra, Stuart A. Macgregor,* and Barbara A. Messerle*

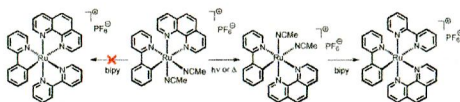
**Deprotonated P-ylides As Templates for Novel Cyclopentadienyl Phosphonioalkyl, -alkylidene, and -alkylidyne (CpPC) Constrained-Geometry Complexes**

Fabian G. Schröder, Crispin Lichtenberg, Michael Elfferding, and Jörg Sundermeyer*



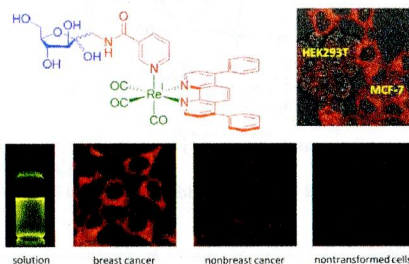
Rational Synthesis of Heteroleptic Tris(chelate) Ruthenium Complexes [Ru^{II}(2-Ph-2'-Py)(L^ΛL)(L^ΛL')]PF₆ by Selective Substitution of the Ligand Trans to the Ruthenated Phenyl Ring

Bastien Boff, Moussa Ali, Larissa Alexandrova, Noel Ángel Espinosa-Jalapa, Rafael Omar Saavedra-Díaz, Ronan Le Lagadec,* and Michel Pfeffer*



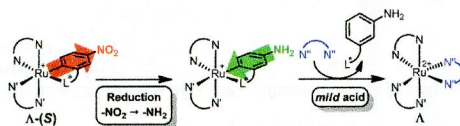
A Phosphorescent Rhenium(I) Tricarbonyl Polypyridine Complex Appended with a Fructose Pendant That Exhibits Photocytotoxicity and Enhanced Uptake by Breast Cancer Cells

Kenneth Yin Zhang, Karson Ka-Shun Tso, Man-Wai Louie, Hua-Wei Liu, and Kenneth Kam-Wing Lo*



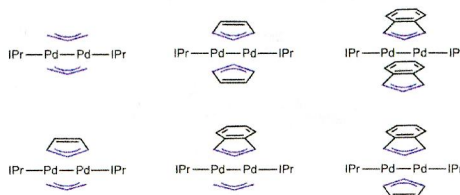
Reductive Libilization of a Cyclometalating Ligand Applied to Auxiliary-Mediated Asymmetric Coordination Chemistry

Marianne Kraack, Klaus Harms, and Eric Meggers*



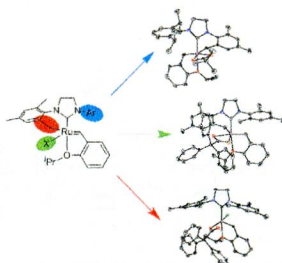
Synthesis and Properties of NHC-Supported Palladium(II) Dimers with Bridging Allyl, Cyclopentadienyl, and Indenyl Ligands

Wei Dai, Matthew J. Chalkley, Gary W. Brudvig, Nilay Hazari,* Patrick R. Melvin, Ravi Pokhrel, and Michael K. Takase



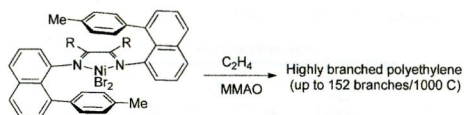
Investigations into Ruthenium Metathesis Catalysts with Six-Membered Chelating NHC Ligands: Relationship between Catalyst Structure and Stereoselectivity

Koji Endo, Myles B. Herbert, and Robert H. Grubbs*



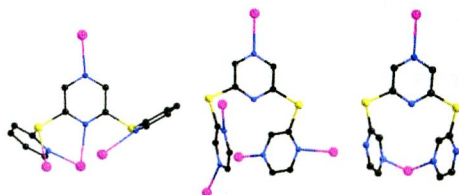
Synthesis of Highly Branched Polyethylene Using "Sandwich" (8-*p*-Tolyl naphthyl α -diimine)nickel(II) Catalysts

Danfeng Zhang, Enrico T. Nadres, Maurice Brookhart,* and Olafs Daugulis*

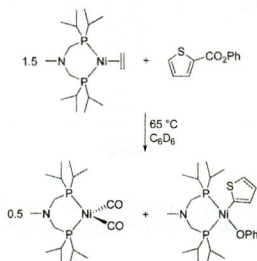


Silver–Organic Frameworks Containing Ethynediide or Ethynide with Ancillary Oligo- α -sulfanylpiprazinyl and Dimethylsulfoxide Ligands

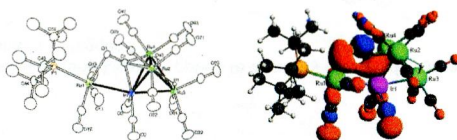
Li-Li Wen, Han Wang, Chong-Qing Wan, and Thomas C. W. Mak*



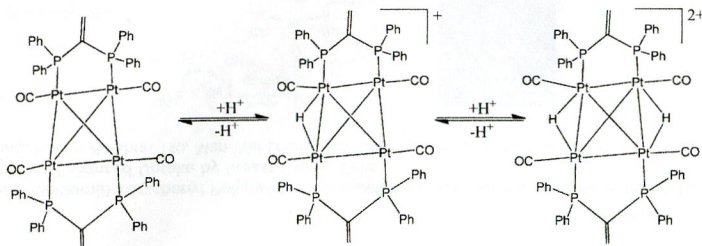
Bis(diisopropylphosphinomethyl)amine Nickel(II) and Nickel(0) Complexes: Coordination Chemistry, Reactivity, and Catalytic Decarbonylative C–H Arylation of Benzoxazole
 Achim Kruckenberg, Hubert Wadepohl, and Lutz H. Gade*



Structures and Bonding of η^2 -Bridging CO Ligands and Their Influence on the Structures and Rearrangements of Higher Nuclearity Metal Carbonyl Cluster Complexes
 Richard D. Adams* and Qiang Zhang

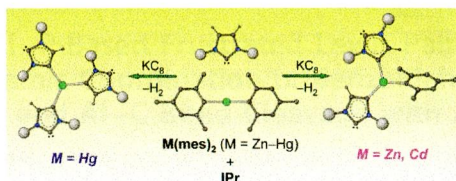


Tetrahedral $[H_nPt_4(CO)_4(P^AP)_2]^{n+}$ ($n = 1, 2$; $P^AP = CH_2=C(PPh_2)_2$) Cationic Mono- and Dihydrido Carbonyl Clusters Obtained by Protonation of the Neutral $Pt_4(CO)_4(P^AP)_2$
 Iacopo Ciabatti, Cristina Femoni, Maria Carmela Iapalucci, Giuliano Longoni, and Stefano Zacchini*

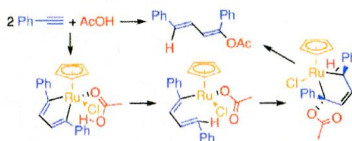


Group 12 Metal Complexes of N-Heterocyclic Ditopic Carbanionic Carbenes

Jordan B. Waters, Robert S. P. Turberville, and Jose M. Goicoechea*

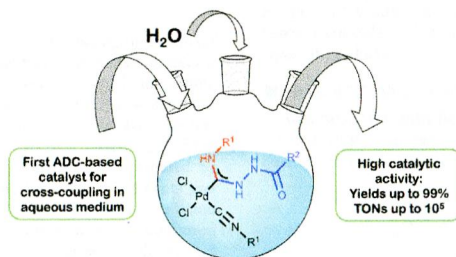
Theoretical Study on Ruthenium-Catalyzed Hydrocarboxylative Dimerization of Phenylacetylene with Acetic Acid Leading to (1*E*,3*E*)-1,4-Diphenyl-1,3-butadienyl Acetate

Yoshihiko Yamamoto*

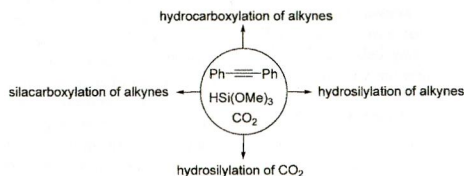


ADC-Based Palladium Catalysts for Aqueous Suzuki–Miyaura Cross-Coupling Exhibit Greater Activity than the Most Advantageous Catalytic Systems

Mikhail A. Kinzhalov, Konstantin V. Luzyanin,* Vadim P. Boyarskiy,* Matti Haukka, and Vadim Yu. Kukushkin

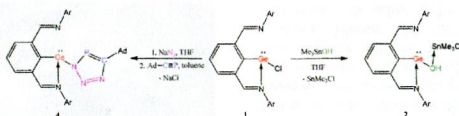
DFT Studies on Copper-Catalyzed Hydrocarboxylation of Alkynes Using CO_2 and Hydrosilanes

Ting Fan, Fu Kit Sheong, and Zhenyang Lin*



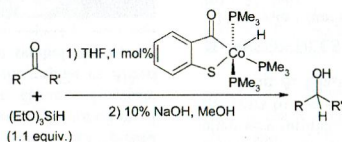
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Synthesis and Characterization of a 2,6-Diiminophenylgermanium(II) Hydroxide, Azide, and Triazaphospole
Siew-Peng Chia, Yonxin Li, and Cheuk-Wai So*



Synthesis and sphine)cobal

Synthesis and Catalytic Application in Hydrosilylation of the Complex *mer*-Hydrido(2-mercaptobenzoyl)tris(trimethylphosphine)cobalt(III)



Role of Elect

Anna Osichov

Role of Electron-Withdrawing Remote Substituents in Neutral Nickel(II) Polymerization Catalysts

