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Chemistry

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## Contents

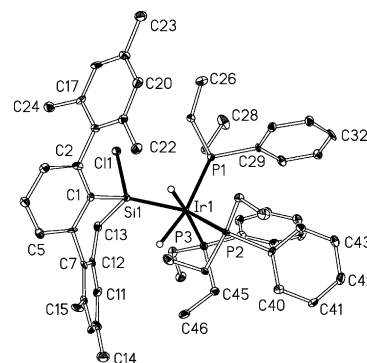
### Short Communication

Richard S. Simons, Matthew J. Panzner,  
Claire A. Tessier, Wiley J. Youngs

*J. Organomet. Chem.* 681 (2003) 1

Formation of a sterically crowded iridium(III)-silyl complex from the bulky terphenyl silane  $\text{H}_3\text{Si}(\text{C}_6\text{H}_3\text{-Mes}_2\text{-2,6})$

The oxidative addition reaction of  $(\text{Et}_2\text{Ph-P})_3\text{IrCl}$  with  $\text{H}_3\text{Si}(\text{C}_6\text{H}_3\text{-Mes}_2\text{-2,6})$  affords a sterically hindered iridium(III)-silyl complex that results from the cyclometallation of an *ortho*-mesityl C–H bond.



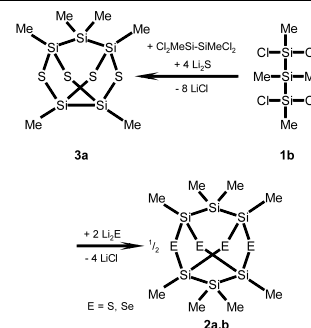
### Regular Papers

U. Herzog, H. Borrmann

*J. Organomet. Chem.* 681 (2003) 5

Organosilicon chalcogenides with trisilane units — adamantanes and noradamantanes

1,1,3,3-Tetrachlorotetramethyltrisilane (**1b**) has been prepared from  $\text{Ph}_2\text{MeSiCl}$  and  $\text{Me}_2\text{SiCl}_2$  via  $\text{Ph}_2\text{MeSi-SiMe}_2\text{-SiMePh}_2$ . Reaction of **1b** with  $\text{Li}_2\text{E}$  ( $\text{E} = \text{S}, \text{Se}$ ) furnishes the tricyclic organosilicon chalcogenides  $(\text{Me}_2\text{Si})_2(\text{MeSi})_4\text{E}_4$  ( $\text{E} = \text{S}$  (**2a**),  $\text{Se}$  (**2b**)) with adamantane structures. If a mixture of **1b** and  $\text{Cl}_2\text{MeSi-SiMeCl}_2$  is reacted with  $\text{H}_2\text{S}/\text{NEt}_3$ ,  $(\text{Me}_2\text{Si})(\text{MeSi})_4\text{S}_4$  (**3a**), a noradamantane with a trisilane and a disilane unit is formed. The molecular structures of **2a** and **3a** are reported. All new compounds are characterized by NMR spectroscopy ( $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{29}\text{Si}$ ,  $^{77}\text{Se}$ ).

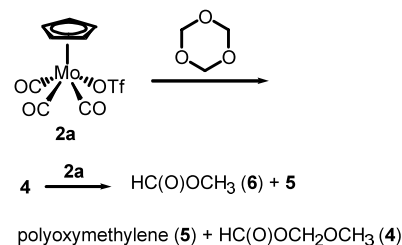


Ekkehard Lindner, Michael Henes,  
Wolfram Wielandt, Klaus Eichele,  
Manfred Steimann, Gerrit A. Luinstra,  
Hans-Helmut Görtz

*J. Organomet. Chem.* 681 (2003) 12

Transition metal-catalyzed polymerization of 1,3,5-trioxane

The transition metal (**2a**)-catalyzed ring-opening polymerization (ROP) of 1,3,5-trioxane results in the formation of polyoxymethylene (POM) and methoxymethyl formate as a by-product. This isomer of trioxane is degraded in the presence of the catalyst to give methyl formate and POM.

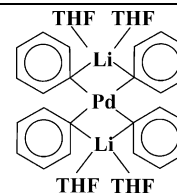


**Katja Lamm, Michael Stollenz,  
Mirko Meier, Helmar Görls,  
Dirk Walther**

*J. Organomet. Chem. 681 (2003) 24*

Binuclear oxalamidinate complexes (Me-Pd)<sub>2</sub>(oxam) and homoleptic complexes of the type [(THF)<sub>n</sub>Li<sub>4</sub>(Me<sub>8</sub>)M<sub>2</sub>] and [(THF)<sub>4</sub>-Li<sub>2</sub>(Ph<sub>4</sub>)M] (M = Pd, Ni): synthesis, structures and catalytic C–C linking reactions

[(THF)<sub>4</sub>Li<sub>4</sub>(CH<sub>3</sub>)<sub>8</sub>Pd<sub>2</sub>] and the phenyl complexes [(THF)<sub>4</sub>Li<sub>2</sub>M(C<sub>6</sub>H<sub>5</sub>)<sub>4</sub>] (M = Pd, Ni) were prepared and structurally characterized. The Pd complexes were found to be active in the Heck reaction. The Ni complex and the related compound [(THF)<sub>4</sub>Li<sub>4</sub>(CH<sub>3</sub>)<sub>8</sub>Ni<sub>2</sub>] are catalysts for the Kumada cross-coupling reaction even if 4-tolyl-chloride or -fluoride were used.

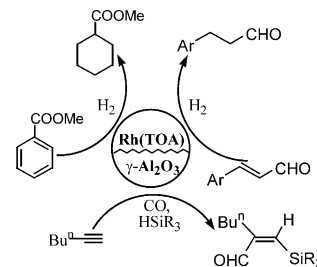


**Giovanni Vitulli, Claudio Evangelisti,  
Paolo Pertici, Anna Maria Caporusso,  
Nicoletta Panziera, Piero Salvadori,  
Maria Giulia Faga, Chiara Manfredotti,  
Gianmarco Martra, Salvatore Coluccia,  
Antonella Balerna, Stefano Colonna,  
Settimio Mobilio**

*J. Organomet. Chem. 681 (2003) 37*

Supported rhodium nanoparticles in catalysis: the role of stabilizers on catalytic activity and structural features

Rhodium nanoparticles supported on  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>, derived from arene-solvated Rh atoms stabilized by trioctylamine (TOA), are valuable catalysts in hydrogenation and silylformylation reactions. They are largely more active than the analogous commercial catalyst, as well as of a sample similarly prepared in the absence of TOA. HRTEM measurements, IR studies on adsorbed CO species and extended X-ray absorption fine structure analyses evidenced the role of TOA in controlling the particle growth.

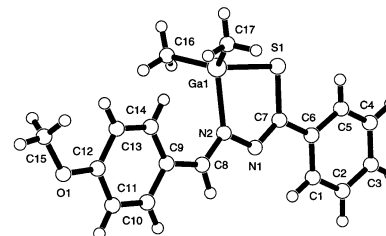


**Yingzhong Shen, Hongwei Gu, Weijin Gu,  
Fang Yuan, Yu Zhu, Yi Pan**

*J. Organomet. Chem. 681 (2003) 51*

Synthesis, structural characterization and electroluminescence study of alkylgallium derivatives of thiobenzhydrazones

Six new dimethylgallium complexes of type CH<sub>3</sub>Ga[C<sub>6</sub>H<sub>3</sub>C(S)=N–N=CH–Ar] [Ar = C<sub>6</sub>H<sub>5</sub> (1), (4-CH<sub>3</sub>O)C<sub>6</sub>H<sub>4</sub> (2), (3,4-(CH<sub>3</sub>O)<sub>2</sub>)C<sub>6</sub>H<sub>3</sub> (3), (4-*N,N*-(CH<sub>3</sub>)<sub>2</sub>N)C<sub>6</sub>H<sub>4</sub> (4), 2-C<sub>10</sub>H<sub>7</sub> (5), 9-C<sub>14</sub>H<sub>9</sub> (6)] have been prepared. Structure of **2** has been determined by X-ray analysis. The electroluminescent (EL) properties of **2**, **3** and **4** were examined by fabricating EL devices using them as emitter. The EL bands are located at 451, 454 and 479 nm, respectively.

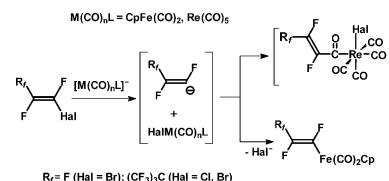


**P.K. Sazonov, G.A. Artamkina,  
V.N. Khrustalev, M.Yu. Antipin,  
I.P. Beletskaya**

*J. Organomet. Chem. 681 (2003) 59*

Nucleophilic vinylic substitution with transition metal carbonyl anions—a rare case of a halophilic reaction mechanism  
Formation of halo(acyl)rhenate complexes and X-ray structure of *cis*-[CF<sub>2</sub>=CF(CO)R-e(CO)<sub>4</sub>Br]Na

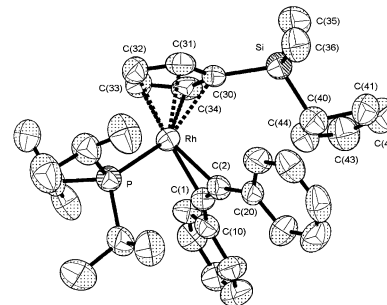
Reactions of polyfluorinated alkenyl halides with [CpFe(CO)<sub>2</sub>]K (FpK) and [Re(CO)<sub>5</sub>]Na proceed through the initial attack of metal carbonyl anion on halogen. Reaction with FpK gives minor amounts of  $\sigma$ -alkenyl complexes Z-R<sub>f</sub>CF=CFFp (3–30%), but primarily leads to dimer Fp<sub>2</sub>. Reaction with [Re(CO)<sub>5</sub>]Na produces anionic halo(acyl)rhenates *cis*-[Z-R<sub>f</sub>CF=CF(CO)R-e(CO)<sub>4</sub>Hal]Na (70–90%) which were isolated, and halo(acyl)rhenate **VI** (R<sub>f</sub> = F) was characterized by X-ray structure analysis.



**Bernd Stempfle, Olaf Gevert,  
Helmut Werner**
*J. Organomet. Chem. 681 (2003) 70*

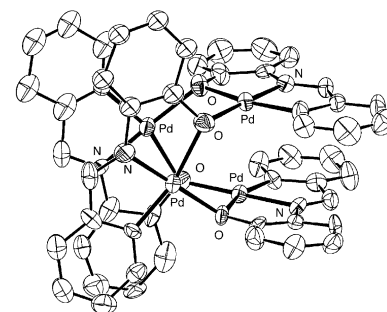
Preparation of cyclopentadienylrhodium(I) compounds with a dangling  $\text{CH}_2\text{C}_5\text{H}_5$  unit and their use as starting materials for the synthesis of hetero-bimetallic Rh–Ti and Rh–Zr complexes

A series of cyclopentadienylrhodium(I) complexes of the general composition  $[(\eta^5\text{-C}_5\text{H}_4\text{CH}_2\text{C}_5\text{H}_5)\text{Rh}(\text{L})(\text{L}')] ]$  ( $\text{L} = \text{L}' = \text{C}_2\text{H}_4$ ,  $\text{C}_8\text{H}_{14}$ ;  $\text{L} = \text{P}^i\text{Pr}_3$ ,  $\text{L}' = \text{C}_2\text{H}_4$ ,  $\text{CPh}_2$ ,  $\text{C}=\text{C}=\text{CPh}_2$ ;  $\text{L} = \text{Sb}^i\text{Pr}_3$ ,  $\text{L}' = \text{CPh}_2$ ) with a dangling  $\text{CH}_2\text{C}_5\text{H}_5$  unit at the  $\pi$ -bonded five-membered ring has been prepared from the corresponding rhodium(I) precursors and  $\text{NaC}_5\text{H}_4\text{CH}_2\text{C}_5\text{H}_5$  in THF. The compound  $[(\eta^5\text{-C}_5\text{H}_4\text{SiMe}_2\text{C}_5\text{H}_5)\text{Rh}(\text{PhC}\equiv\text{CPh})(\text{P}^i\text{Pr}_3)]$  has similarly been obtained and characterized by single-crystal X-ray diffraction analysis.


**Concepción López, Amparo Caubet,  
Sonia Pérez, Xavier Solans,  
Mercè Font-Bardía**
*J. Organomet. Chem. 681 (2003) 82*

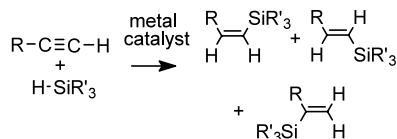
Assembly of cyclopalladated units: synthesis, characterisation, X-ray crystal structure and study of the reactivity of the tetrametallic cyclopalladated complex  $[\text{Pd}\{\text{C}_6\text{H}_4\text{-CH}=\text{N}-(\text{C}_6\text{H}_4-2\text{-O})\}_4 \cdot 2\text{CHCl}_3]$

The preparation and characterisation of the tetrameric complex  $[\text{Pd}\{\text{C}_6\text{H}_4\text{-CH}=\text{N}-(\text{C}_6\text{H}_4-2\text{-O})\}_4 \cdot 2\text{CHCl}_3]$  formed by the self-assembly of four cyclopalladated units are reported. The study of its reactivity with triphenylphosphine or 1,1'-bis(diphenylphosphino)ferrocene (dppf) reveals that the Pd–O bond has a remarkable stability.


**Leslie D. Field, Antony J. Ward**
*J. Organomet. Chem. 681 (2003) 91*

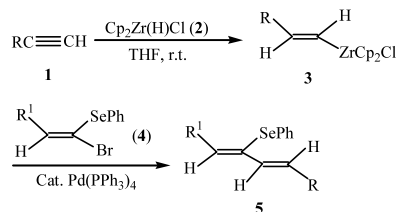
Catalytic hydrosilylation of acetylenes mediated by phosphine complexes of cobalt(I), rhodium(I), and iridium(I)

Hydrosilylation of acetylenes with triethylsilane was catalysed by a range of Co(I), Rh(I), and Ir(I) complexes. A mixture of isomeric vinylsilanes products was observed and when the substrate was phenylacetylene, cyclotrimerisation and dimerisation products were also observed. There was no hydrosilylation with alkene substrates; however, with some metal complexes, there was double bond migration and *cis/trans*-isomerisation.


**Ming-Zhong Cai, Jia-Di Huang,  
Chun-Yun Peng**
*J. Organomet. Chem. 681 (2003) 98*

Stereoselective synthesis of (*Z,E*)-2-phenylselenobutadienes by palladium-catalyzed cross-coupling reaction

Hydrozirconation of 1-alkynes **1** gives (*E*)-alkenylzirconium complexes **3**, which are cross-coupled with (*E*)- $\alpha$ -phenylselenovinyl bromides (**4**) in the presence of  $\text{Pd}(\text{PPh}_3)_4$  catalyst to afford (*Z,E*)-2-phenylselenobutadienes (**5**) in good yields.

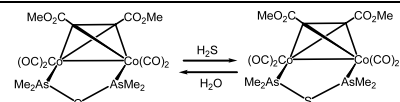


**Jason D. King, Martin J. Mays,  
Mary McPartlin, Gregory A. Solan,  
Caroline L. Stone**

*J. Organomet. Chem.* 681 (2003) 102

Transformations of organoarsine-oxides and -sulfides on di- and tri-cobalt carbonyl centres

Treatment of  $[\text{Co}_3(\mu_3\text{-CR}')\{\mu\text{-(Me}_2\text{As)}_2\text{O}\}(\text{CO})_7]$  [ $\text{R}' = \text{Cl, Me}$ ] and  $[\text{Co}_2\{\mu\text{-C}_2(\text{CO}_2\text{Me})_2\}\{\mu\text{-(Me}_2\text{As)}_2\text{O}\}(\text{CO})_4]$  with  $\text{H}_2\text{S}$  at room temperature complexes leads to the formation of the  $(\text{Me}_2\text{As})_2\text{S}$ -bridged analogues; thermolysis of the trimetallic systems results in arsenic-sulfur bond cleavage.

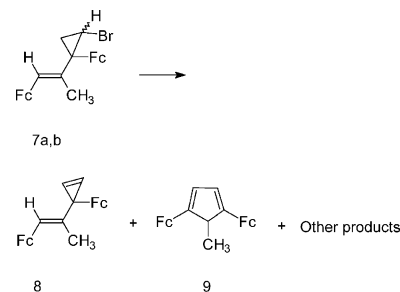


**I. Daniel Méndez, Elena Klimova,  
Tatiana Klimova, O. Simón Hernández,  
G. Marcos Martínez**

*J. Organomet. Chem.* 681 (2003) 115

Synthesis of ferrocenylvinylcyclopropene and its transformation into cyclopentadiene

Dehydrobromination of 2-bromo-1-ferrocenyl-1-(2-ferrocenyl-1-methylvinyl)cyclopropane results in 3-ferrocenyl-3-(2-ferrocenyl-1-methylvinyl)cyclopropene and its transformation product, viz., 1,4-diferrocenyl-5-methylcyclopentadiene.

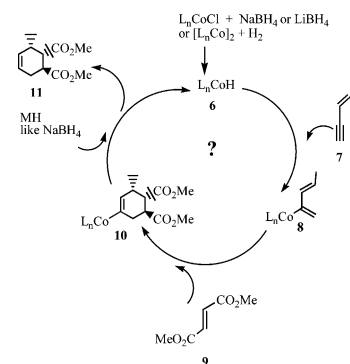


**Kerry A. Pickin, Jennifer M. Kindy,  
Cynthia S. Day, Mark E. Welker**

*J. Organomet. Chem.* 681 (2003) 120

Simple preparation of cobaloxime dienyl complexes and their *exo* selective Diels-Alder cycloadducts  
Progress toward transition metal-mediated Diels-Alder reactions which are catalytic in metal dienyl complex

A new method for the synthesis of cobaloxime dienyl complexes (cobaloxime = pyridine(dimethylglyoxime) $_2\text{Co}$ ) which involves a zinc-mediated hydrocobaltation of enynes is reported. Use of this dienyl complex synthesis method allows subsequent Diels-Alder reactions of these complexes to be accomplished without isolation of the dienyl complexes. A new silane-based cobaloxime-substituted cycloadduct demetallation protocol is then reported which provides Diels-Alder cycloadducts and cobalt complexes which have been recycled into the zinc-mediated dienyl complex synthesis.

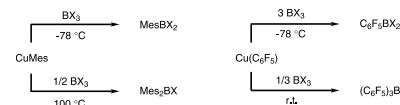


**Anand Sundararaman, Frieder Jäkle**

*J. Organomet. Chem.* 681 (2003) 134

A comparative study of base-free arylcopper reagents for the transfer of aryl groups to boron halides

Mesitylcopper ( $\text{CuMes}$ ) shows very high selectivity for the monoarylated species  $\text{MesBX}_2$  in equimolar reactions with boron halides, whereas pentafluorophenylcopper,  $\text{Cu}(\text{C}_6\text{F}_5)$ , yields di- and triarylated species in addition to the monoarylated species.  $\text{Cu}(\text{C}_6\text{F}_5)$  was successfully applied to the synthesis of pentafluorophenylborane halides  $\text{C}_6\text{F}_5\text{BX}_2$  ( $\text{X} = \text{Cl, Br}$ ), of tris(pentafluorophenyl)borane, and of mixed-substituted triarylboranes.

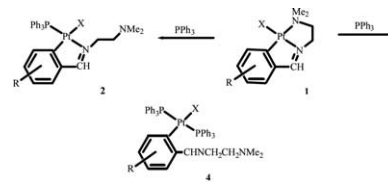


**Margarita Crespo, Jaume Granell,  
Xavier Solans, Mercè Font-Bardia**

*J. Organomet. Chem.* 681 (2003) 143

Reactions of [C,N,N']-cyclometallated platinum compounds with phosphines: *transphobia* and effect of the chloro substituents  
Crystal structure of  $[\text{PtCl}(3,5\text{-C}_6\text{H}_2\text{Cl}_2\text{CHNCH}_2\text{CH}_2\text{NMe}_2)(\text{PPh}_3)_2]$

The reaction of [C,N,N']-cyclometallated platinum compounds **1** with triphenylphosphine gave either cyclometallated compounds **2** or compounds **4** with cleavage of the metallacycle. The stereochemistry of compounds **2** is the expected one according to *transphobia* effect, while formation of compounds **4** takes place only when there is a chlorine atom adjacent to the metallated carbon.

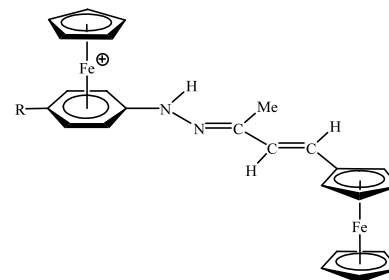


**Alexander Trujillo, Mauricio Fuentealba,  
Carolina Manzur, David Carrillo,  
Jean-René Hamon**

*J. Organomet. Chem.* 681 (2003) 150

Synthesis and properties of new dinuclear organoiron(II) hydrazones combining the potent electron-donating  $[-(\eta^5\text{-C}_5\text{H}_4)\text{FeCp}]$  fragment with  $[\text{CpFe}(\eta^6\text{-arene})\text{-}]^+$ -type acceptors

Four new push-pull organoiron(II) hydrazone complexes possessing an elongated  $\pi$ -delocalized spacer have been prepared; based on spectroscopic, electronic data and electrochemical studies, the organometallic hydrazones can be defined as non-rod-shaped dipolar chromophores.

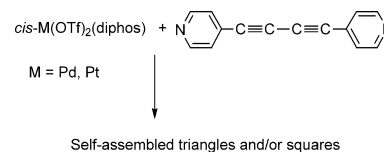


**Montserrat Ferrer, Laura Rodríguez,  
Oriol Rossell**

*J. Organomet. Chem.* 681 (2003) 158

Study of the self-assembly reactions between the organic linker 1,4-bis(4-pyridyl)butadiyne and the metal-containing corners (diphosphine)M(II) (M = Pd, Pt; diphosphine = dppp, dppf, depe, dppbz)

Molecular squares and triangles have been assembled with 1,4-bis(4-pyridyl)butadiyne and different diphosphine Pd(II) and Pt(II) triflates. The resulting products have been shown to depend on several factors such as concentration, temperature and the nature of the transition metal.

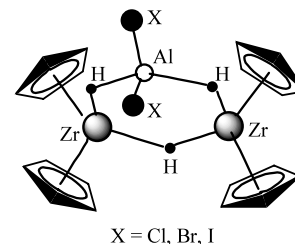


**A.I. Sizov, T.M. Zvukova, A.V. Khvostov,  
V.K. Belsky, A.I. Stash, B.M. Bulychev**

*J. Organomet. Chem.* 681 (2003) 167

Transition metal-catalyzed reduction of  $\text{Zr}^{\text{IV}}$  in  $\text{Cp}_2\text{ZrX}_2\text{-LiAlH}_4$  and  $\text{Cp}_2\text{ZrX}_2\text{-AlH}_3$  (X = Cl, Br, I) systems: structural study of resulting zirconocene(III) aluminum hydride complexes

The  $\text{Zr}^{\text{III}}\text{-Al}$  hydrides  $[(\text{Cp}_2\text{Zr})_2(\mu\text{-H})(\mu\text{-H})_2\text{AlX}_2]$  (**1**) (X = Cl, Br or I) were obtained by the reduction of  $\text{Zr}^{\text{IV}}$  in the  $\text{Cp}_2\text{ZrX}_2\text{-LiAlH}_4\text{-Cat}$  and  $\text{Cp}_2\text{ZrX}_2\text{-AlH}_3\text{-Cat}$  (Cat = transition metal compound) systems and characterized by X-ray crystallography. The central fragment of all molecules **1** is a  $\text{Zr}_2\text{AlH}_3$  six-atom ring with hydride bridges between metal atoms. The bonding models for **1** are considered and the reasons for high stability of **1** are discussed.

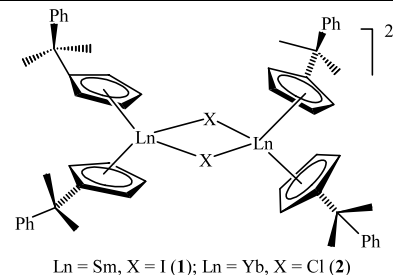


Mingyu Deng, Yingming Yao, Qi Shen,  
Yong Zhang, Jianping Lang, Yufang Zhou

*J. Organomet. Chem.* 681 (2003) 174

Synthesis and characterization of a new class of divalent lanthanide complexes  $\{[C_5H_4(CMe_2Ph)_4Ln_2(\mu-X)_2][Li(DME)_3]_2\}$  ( $Ln = Sm, X = I$  (**1**);  $Ln = Yb, X = Cl$  (**2**);  $DME =$  dimethoxyethane)

A new class of ion-pairs complexes of lanthanide(II) supported by substituted cyclopentadienyl ligand  $\{[C_5H_4(Me_2Ph)_4Ln_2(\mu-X)_2][Li(DME)_3]_2\}$  ( $Ln = Sm, X = I$  (**1**);  $Ln = Yb, X = Cl$  (**2**)) were synthesized and well characterized. The single-crystal structural analyses of **1** and **2** revealed that these two lanthanocenes(II) comprise two  $Li^+(DME)_3$  cations and a  $\{[C_5H_4(Me_2Ph)_4Ln_2(\mu-X)_2]^{2-}$  dianion, in which two  $[C_5H_4(Me_2Ph)_2]Ln$  were bridged together by two iodines for Sm and two chlorines for Yb. The coordination geometry of the central metal is best described as a distorted tetrahedral.

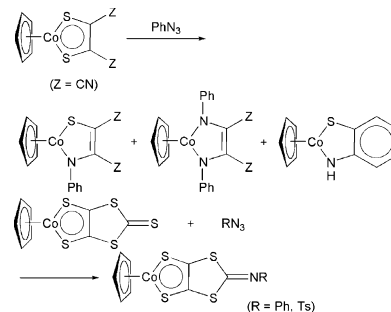


Mitsushiro Nomura, Asuka Kawakita,  
Hideaki Katsuta, Chikako Takayama,  
Toru Sugiyama, Yasuo Yokoyama,  
Masatsugu Kajitani

*J. Organomet. Chem.* 681 (2003) 180

Reactions of cobaltadithiolene complexes with aryl azides  
Formations of metal chelate rings containing nitrogen atoms by substitution reactions via nitrene

The reactions of cobaltadithiolene complexes  $[CpCo(S_2C_2Z_2)]$  with aryl azides occurred two types of substitution reactions via nitrene. One is the replacements of the sulfur of cobaltadithiolene by arylimido groups and the other is the replacements of the  $S-CZ=CZ$  of cobaltadithiolene. The reactions of  $[CpCo(dmit)]$  with azides gave  $[CpCo(S_2C_2S_2C=NR)]$ .

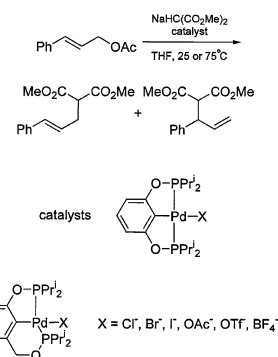


Zhaohui Wang, Michael R. Eberhard,  
Craig M. Jensen, Shiro Matsukawa,  
Yohsuke Yamamoto

*J. Organomet. Chem.* 681 (2003) 189

A structure–activity relationship for pincer palladium(II) complexes — influence of ring-size of metallacycles on the activity in allylic alkylation

A novel PCP' pincer ligand  $1,1'-(Pr_2PO)-3-(Pr_2POCH_2)(C_6H_4)$  was synthesised and various Pd(II) complexes were tested and compared to its close analogues  $[PdX\{(C_6H_4)(OP^iPr)_2\}_2]$  in allylic alkylation of cinnamyl acetate with sodium dimethyl malonate. The catalytic activity depends strongly on the structure of the catalysts and the nature of X.

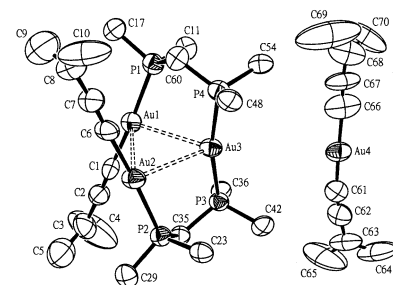


Vivian Wing-Wah Yam, Kai-Leung Cheung,  
Sung-Kong Yip, Kung-Kai Cheung

*J. Organomet. Chem.* 681 (2003) 196

Synthesis, characterization, structure and luminescence studies of mono-, di- and trinuclear gold(I) phosphine alkynyl complexes

A series of luminescent gold(I) phosphine mono- and diynyl complexes with nuclearity ranging from one to three has been synthesized and characterized; one of them have its crystal structure determined. Their photophysical properties have been studied and emission origin elucidated.

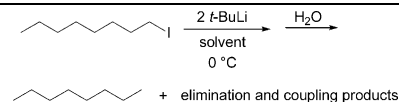


**William F. Bailey, Jason D. Brubaker,  
Kevin P. Jordan**

*J. Organomet. Chem.* 681 (2003) 210

Effect of solvent and temperature on the lithium–iodine exchange of primary alkyl iodides: reaction of *t*-butyllithium with 1-iodooctane in heptane–ether mixtures

The reaction of 1-iodooctane, a representative primary alkyl iodide, with *t*-BuLi at 0 °C in solvent systems composed of heptane and four dialkyl ethers in various proportions has been investigated. Coupling and elimination are unavoidable side reactions that accompany lithium–iodine exchange when the reactions are conducted at 0 °C.

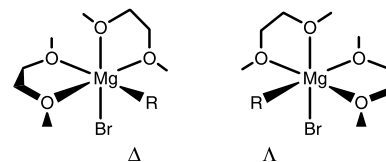


**Marcus Vestergren, Johan Eriksson,  
Mikael Håkansson**

*J. Organomet. Chem.* 681 (2003) 215

Chiral *cis*-octahedral Grignard reagents

The magnesium atom in *cis*-[RMgBr(dme)<sub>2</sub>] complexes is stereogenic. The  $\Delta$ - and  $\Lambda$ -enantiomers are stereochemically labile.

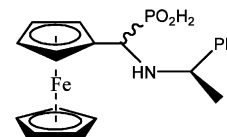


**Jaroslav Lewkowski**

*J. Organomet. Chem.* 681 (2003) 225

The unusual stereochemical behaviour of ferrocenecarboxaldehyde in reaction with chiral alkylammonium hypophosphite

The reaction of aldehydes with chiral  $\alpha$ -methylbenzylammonium hypophosphite, which, in majority of cases led exclusively to one diastereoisomer, turned out to be much less stereoselective in case of ferrocenecarboxaldehyde. Attempts have been undertaken to explain it.

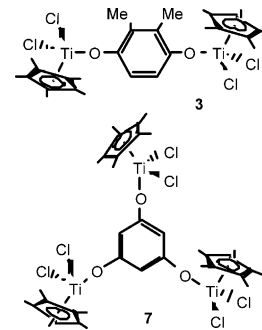


**Silvia Arévalo, M. Rufina Bonillo,  
Ernesto de Jesús, F. Javier de la Mata,  
Juan C. Flores, Rafael Gómez,  
Pilar Gómez-Sal, Paula Ortega**

*J. Organomet. Chem.* 681 (2003) 228

Synthesis of polymetallic Group 4 complexes bridged by benzenediolate and triolate ligands. X-ray crystal structure of [ $\{\text{Ti}(\text{C}_5\text{Me}_5\text{Cl}_2)_2\{\mu\text{-}1,4\text{-O}(\text{C}_6\text{H}_2\text{Me}_2)\text{O}\}\}$ ]

Reactions of  $[\text{Ti}(\text{C}_5\text{Me}_5\text{Cl}_2\text{Me})]$  or  $[\text{Ti}(\text{C}_5\text{Me}_5\text{Me}_3)]$  with 1,4-hydroquinones or 1,3,5-trihydroxybenzene afforded the bi and trimetallic aryloxy derivatives [ $\{\text{Ti}(\text{C}_5\text{Me}_5\text{X}_2)_2\{\mu\text{-}1,4\text{-O}(\text{C}_6\text{H}_2\text{XY})\text{O}\}\}$ ] and [ $\{\text{Ti}(\text{C}_5\text{Me}_5\text{X}_2)_3\{\mu_3\text{-}1,3,5\text{-C}_6\text{H}_3\text{O}_3\text{-}\}\}$ ], where X = Cl or Me. Treatments of the polyphenols with  $[\text{Ti}(\text{C}_5\text{H}_5)_2\text{Cl}_2]\text{-NEt}_3$ , or  $[\text{Zr}(\text{C}_5\text{H}_5)_2\text{HCl}]$  gave the analogous aryloxy complexes [ $\{\text{M}(\text{C}_5\text{H}_5)_2\text{Cl}\}_2\{\mu\text{-}1,4\text{-O}(\text{C}_6\text{H}_2\text{XY})\text{O}\}\}$ ] and [ $\{\text{M}(\text{C}_5\text{H}_5)_2\text{Cl}\}_3\{\mu_3\text{-}1,3,5\text{-C}_6\text{H}_3\text{O}_3\text{-}\}\}$ ], where M = Ti or Zr.

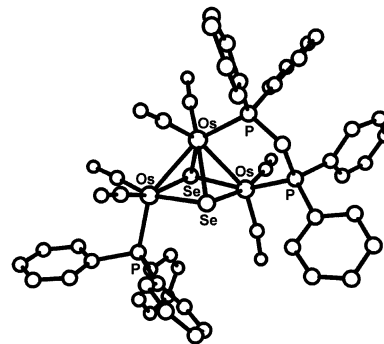


**Shariff E. Kabir, Salina Pervin,  
Nitai C. Sarker, Afroza Yesmin,  
Ayesha Sharmin, Tasneem A. Siddiquee,  
Daniel T. Haworth, Dennis W. Bennett,  
K.M. Abdul Malik**

*J. Organomet. Chem.* 681 (2003) 237

Synthesis, structures and reactivity of bis(di-phenylphosphino)-methane (dppm)-substituted selenido osmium carbonyl clusters

The reaction of the unsaturated triosmium cluster  $[(\mu\text{-H})\text{Os}_3(\text{CO})_8\{\text{Ph}_2\text{PCH}_2\text{P}(\text{Ph})\text{C}_6\text{H}_4\}]$  with elemental selenium, and the labile triosmium cluster  $[\text{Os}_3(\text{CO})_{10}(\text{MeCN})_2]$  with dppmSe and dppmSe<sub>2</sub> results in the formation of triply binding selenido triosmium cluster containing the bridging dppm ligand.

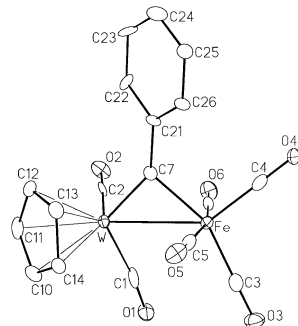


**Quinn Major, Robert McDonald,  
Josef Takats**

*J. Organomet. Chem.* 681 (2003) 250

Reaction of  $[\text{M}(\text{CO})_4(\eta^2\text{-C}_2\text{H}_2)]$  (M = Fe, Os) with  $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_2\text{W}\equiv\text{CC}_6\text{H}_5]$ ; unexpected substitution of acetylene, formation and molecular structure of  $[\text{MW}(\mu\text{-CC}_6\text{H}_5)(\text{CO})_6(\eta^5\text{-C}_5\text{H}_5)]$  (M = Fe, **1**; Os, **2**)

The reaction of  $[\text{M}(\text{CO})_4(\eta^2\text{-C}_2\text{H}_2)]$  (M = Fe, Os) compounds with  $[(\eta^5\text{-C}_5\text{H}_5)(\text{CO})_2\text{W}\equiv\text{CC}_6\text{H}_5]$  proceeds by unexpected substitution of the acetylene ligand by the  $\text{W}\equiv\text{CC}_6\text{H}_5$  pseudo-alkyne unit and formation of  $[\text{MW}(\mu\text{-CC}_6\text{H}_5)(\text{CO})_6(\eta^5\text{-C}_5\text{H}_5)]$  (M = Fe, **1**; Os, **2**). The X-ray structure of **1** and **2** have been determined. In solution the molecules are fluxional via a combination of  $\text{M}(\text{CO})_4$  carbonyl scrambling and rapid oscillation of the  $(\eta^5\text{-C}_5\text{H}_5)\text{W}(\text{CO})_2$  fragment about the W–M bond.

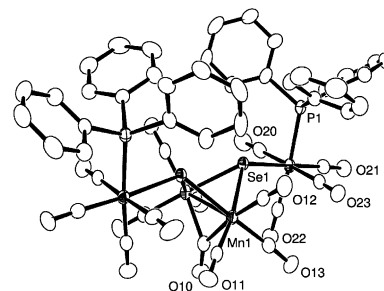


**Richard D. Adams, O.-Sung Kwon,  
Sanghamitra Sanyal**

*J. Organomet. Chem.* 681 (2003) 258

Syntheses and structures of selenido dimanganese and iron–manganese carbonyl cluster complexes

The bis-selenido tetramanganese complex,  $\text{Mn}_4(\text{CO})_{15}(\text{PPh}_3)_2(\mu_3\text{-Se})_2$  (**1**), was obtained from the reaction of  $\text{Mn}_2(\text{CO})_9(\text{NCMe})$  with  $\text{Se}=\text{PPh}_3$ . Three new bis-selenido bimetallic iron–manganese complexes,  $\text{CpFeMn}_3(\text{CO})_{13}(\text{PPh}_3)(\mu_3\text{-Se})_2$  (**2**),  $\text{Cp}_2\text{Fe}_2\text{Mn}_2(\text{CO})_{10}(\text{PPh}_3)(\mu_3\text{-Se})_2$  (**3**) and  $\text{Cp}_2\text{Fe}_2\text{Mn}_2(\text{CO})_{11}(\mu_3\text{-Se})_2$  (**4**) were obtained from the reaction of  $\text{CpFeMn}(\text{CO})_7$  with  $\text{Se}=\text{PPh}_3$  in the presence of trimethylamine N-oxide.

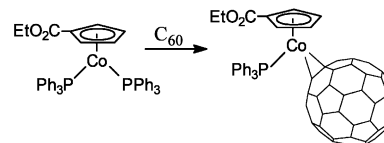


**Li-Cheng Song, Peng-Chong Liu,  
Qing-Mei Hu, Guo-Liang Lu,  
Guang-Feng Wang**

*J. Organomet. Chem.* 681 (2003) 264

Synthesis, characterization and properties of new organocobalt complexes containing  $\eta^5$ -functionally substituted cyclopentadienyl and [60]fullerene ligands

A series of new organocobalt complexes with a general formula  $(\eta^5\text{-RC}_5\text{H}_4)\text{-Co}(\text{PPh}_3)_2\text{L}$  (R = EtO<sub>2</sub>C, MeCO, H; L = PPh<sub>3</sub>, PhC≡CPh, C<sub>60</sub>, **2I**) were prepared and spectroscopically characterized. A comparative study was also performed concerning the reverse saturable absorption properties of free C<sub>60</sub> and its two organocobalt derivatives.



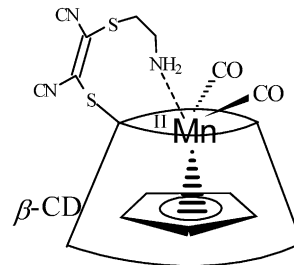


Changsheng Lu, Zhaoping Ni, Wenlong Liu,  
Yang Zou, Jingli Xie, Chunlin Ni,  
Huizhen Zhu, Qingjin Meng, Yuangen Yao

*J. Organomet. Chem.* 681 (2003) 269

Intramolecular photo-substitution in the inclusion compound of mono[6-deoxy-6-(2-aminoethyl thio-1,2-dicyane ethylenylthio)]- $\beta$ -cyclodextrin with cyclopentadienyl manganese tricarbonyl in DMF solution

A novel host **3**, and its inclusion compound **4** with cyclopentadienyl manganese tricarbonyl have been prepared and characterized by spectroscopic methods. The inclusion complexation stabilized the guest extremely. Upon irradiation of complex **4** in DMF solution, an interesting intramolecular photo-substitution resulting in the formation of a self-stabilized compound **7** was observed. Based upon a double-recognition between the host and the organometallic guest, compound **7** became very stable in DMF solution.



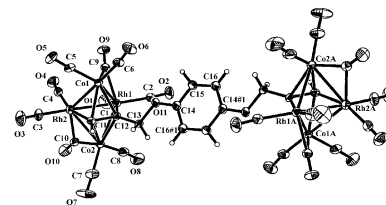
## Note

Bao-Hua Zhu, Bin Hu, Wei-Qiang Zhang,  
Yu-Hua Zhang, Yuan-Qi Yin, Jie Sun

*J. Organomet. Chem.* 681 (2003) 275

Synthesis and characterization of new rhodium-cobalt mixed-metal octahedral linked clusters containing  $\eta^2$ -diyne ligands

Six new Rh-Co mixed-metal linked octahedral cluster complexes  $[\text{Rh}_2\text{Co}_2(\text{CO})_8(\mu\text{-CO})_2(\mu_4, \eta^2\text{-HC}\equiv\text{CCH}_2\text{O})_2]_2\text{R}$  have been synthesized from reactions of  $\text{Rh}_2\text{Co}_2(\text{CO})_{12}$  with the appropriate diyne compounds  $[(\text{HC}\equiv\text{CCH}_2\text{CO})_2]_2\text{R}$ , respectively. The structure of cluster  $[[\text{Rh}_2\text{Co}_2(\text{CO})_{10}(\mu_4, \eta^2\text{-HC}_2\text{CH}_2\text{O})_2]_2\text{C}_6\text{H}_4\text{-1,4}]$  was determined by single-crystal X-ray diffraction analysis.



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