

## Contents

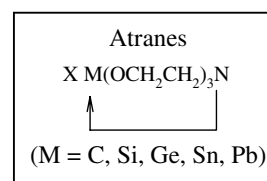
### Regular Papers

Alexey N. Egorochkin, Mikhail G. Voronkov,  
Olga V. Kuznetsova, Olga V. Novikova

*J. Organomet. Chem.* 693 (2008) 181

NMR spectra of silatranes and  $M \leftarrow N$  ( $M = C, Si, Ge, Sn, Pb$ ) bond lengths in atranes: Substituent effects

The properties of atranes (NMR chemical shifts and coupling constants,  $M \leftarrow N$  bond lengths) depend on joint influence of the inductive, resonance, and polarizability effects of X.

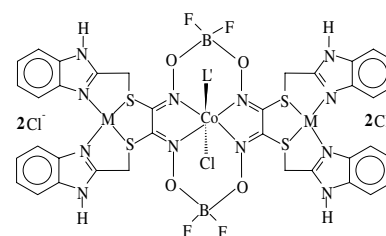


S. Zeki Yıldız, Uğur Çevik, Yusuf Atalay

*J. Organomet. Chem.* 693 (2008) 189

(*E, E*)*S, S'*-bis(2-benzimidazolylmethyl)dithioglyoxime, synthesis and characterization of heterotrinnuclear complexes of and determination of their metal contents by EDXRF analysis

A vicinal dioxime ligand with two 2-benzimidazolylmethyl groups, namely *S, S'*-bis(2-benzimidazolylmethyl)dithioglyoxime ( $H_2L$ ) and its axially pyridine and 2,6-dimethyl pyridine bonded Co(III) complexes were prepared according to the prior literature [Y. Gök, S.Z. Yıldız, *Synth. React. Inorg. Met-Org. Chem.* 22 (9) (1992) 1327].  $BF_2^+$  bridged Co(III) complexes have been synthesized via the hydrogen-bridged Co(III) complexes by using borontrifluoride ethyl ether complex. Heterotrinnuclear complexes have been prepared by the reaction of these more soluble  $BF_2$ -capped Co(III) complexes with stoichiometric amount of  $CdCl_2 \cdot H_2O$  and  $NiCl_2 \cdot 6H_2O$  salts.



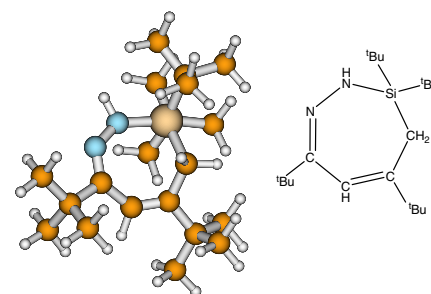
Compound	M	L'
6	Ni	Py
7	Ni	2,6-Dimethyl Py
8	Cd	Py
9	Cd	2,6-Dimethyl Py

Nina Armbruster, Martin Görth,  
Uwe Klingebiel, Stefan Schmatz

*J. Organomet. Chem.* 693 (2008) 197

From lithium ketazides to isomeric silylketazine-rings – imine-enamine tautomerism

Depending on the reaction conditions, lithium salts of di(*tert*-butylmethyl)ketazine react with  $F_2Si^tBu_2$  to give structural isomeric four-, five-, and seven-membered rings containing imine and enamine units, e.g. the seven-membered ring with intramolecular imine- and enamine units. According to quantum chemical calculation the seven-membered ring is the most stable followed by the five- and four-membered ring system.

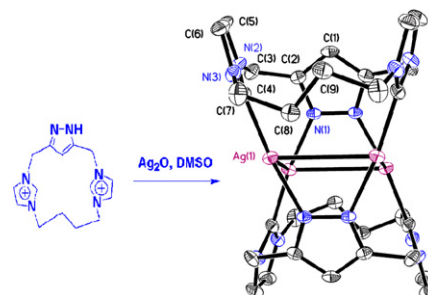


**Yongbo Zhou, Xiaoming Zhang, Wanzhi Chen, Huayu Qiu**

*J. Organomet. Chem.* 693 (2008) 205

Synthesis, structural characterization, and luminescence properties of multinuclear silver complexes of pyrazole-functionalized NHC ligands containing Ag–Ag and Ag– $\pi$  interactions

A few trinuclear and tetranuclear silver clusters supported by pyrazole-functionalized N-heterocyclic carbene ligands have been prepared and fully characterized by NMR spectroscopy and X-ray diffraction analyses. Weak Ag–Ag and Ag– $\pi$  interactions were observed. The luminescence properties of the imidazolium salts and the silver complexes were studied in their solid states.

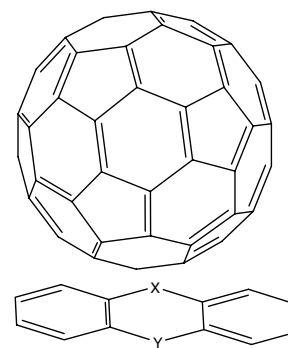


**A.F. Jalbout, Ali Jameel Hameed, I. Jimenez-Fabian, Medhat Ibrahim, A. de Leon**

*J. Organomet. Chem.* 693 (2008) 216

Chalcanthrene–fullerene complexes: A theoretical study

In this work we have considered a series of 10 chalcanthrenes–fullerene complexes that were studied by the BLYP density functional theory (DFT) approach. A complete series of chalcanthrenes ( $C_{12}H_8XY$ , in which X, Y = O, S, Se, Te) were studied for energetic, structural and vibrational changes.



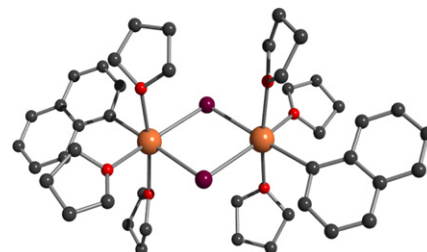
X,Y= O,O ; S,S ; Se,Se ; Te,Te ; O,S ; O,Se ; O,Te ; S,Se ; S,Te ; Se,Te.

**Martin Gärtner, Helmar Görls, Matthias Westerhausen**

*J. Organomet. Chem.* 693 (2008) 221

Synthesis and derivatization of naphthyl-calcium halides as well as degradation in THF solution

The direct synthesis of calcium powder with naphthylbromide yields  $[(thf)_3Ca(Naph)Br]_2$  with bridging bromide anions whereas naphthylchloride shows no reactivity towards calcium. The bulky  $N(SiMe_3)_2$  ligand leads to monomeric  $(thf)_3Ca(Naph)-N(SiMe_3)$  with strong agostic bonds between calcium and one trimethylsilyl group.

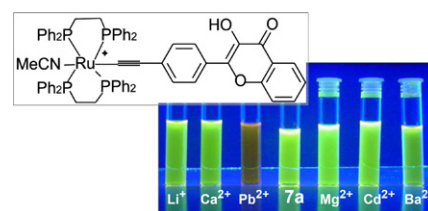


**Jean-Luc Fillaut, Julien Andriès, Ripu Daman Marwaha, Pierre-Henri Lanoë, Olivier Lohio, Loic Toupet, J.A. Gareth Williams**

*J. Organomet. Chem.* 693 (2008) 228

Flavonol based ruthenium acetylides as fluorescent chemosensors for lead ions

The combined use of 3-hydroxyflavone as a receptor for metal cations and of an alkynyl ruthenium moiety as an extended  $\pi$  conjugated system provides a fluorescent sensor for rapid and sensitive detection of lead(II).

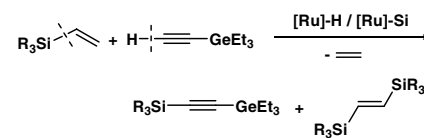


**Bogdan Marciniec, Hanna Ławicka,  
Beata Dudzic**

*J. Organomet. Chem.* 693 (2008) 235

A new catalytic route to synthesis of silylgermylethynes

Vinylsubstituted silicon compounds (divinylsilyl derivatives) react selectively with triethylethynylgermane in the presence of complexes containing [Ru]-H and [Ru]-Si bonds with formation of silylgermylethynes (monoethynylgermyl substituted vinylsilyl products). The reaction opens a new catalytic route for preparation of a class of silylgermylethynes and vinylsilylgermylalkynyl derivatives of both, acetylene and vinyl functionalities, potent organosilicon reagents and precursors for organic synthesis.



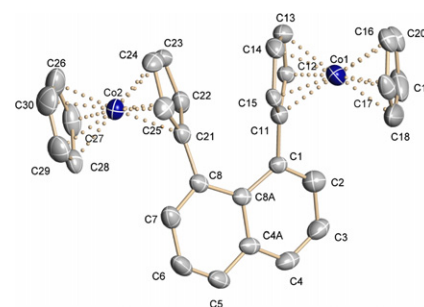
where R = alkyl, alkoxy, vinylsilyl derivatives

**Nils Pagels, Juergen Heck**

*J. Organomet. Chem.* 693 (2008) 241

Synthesis and structural characterization of 1,8-biscobaltocen-1'-ylium-naphthalene dication: Towards paramagnetic, cofacially stacked metallocenes

The crystal structure of 1,8-biscobaltocen-1'-ylium-naphthalene bis(tetrafluoroborate) ( $3(\text{BF}_4)_2$ ) displays the face-to-face arrangement of the two cobaltocenium cations. Cyclic voltammetry demonstrates two not completely separated redox couples with potentials in the range of the cobaltocenium cation.

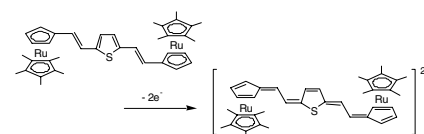


**Masaru Sato, Tatsumi Kitamura,  
Tomohiro Masiko, Kei Unoura**

*J. Organomet. Chem.* 693 (2008) 247

Synthesis and some properties of binuclear ruthenocenes bridged by both ethene and thiophene derivatives

Binuclear ruthenocenes bridged by ethenes and thiophene derivatives,  $\text{Rc}-\text{CH}=\text{CH}-\text{Z}-\text{Rc}^*$  and  $\text{Rc}^*-\text{CH}=\text{CH}-\text{Z}-\text{CH}=\text{CH}-\text{Rc}^*$  ( $\text{Z}$  = thiophene, thieno[3,2-*b*]thiophene, and 2,2'-bithiophene;  $\text{Rc}$  = ruthenoceny,  $\text{R}^*$  = 1',2',3',4',5'-pentamethylruthenoceny) showed a one-step two-electron redox wave in the cyclic voltammograms. The two-electron oxidized species of the  $\text{Rc}^*-\text{CH}=\text{CH}-\text{Z}-\text{CH}=\text{CH}-\text{Rc}^*$  complexes contained a fulvene-complex type structure.

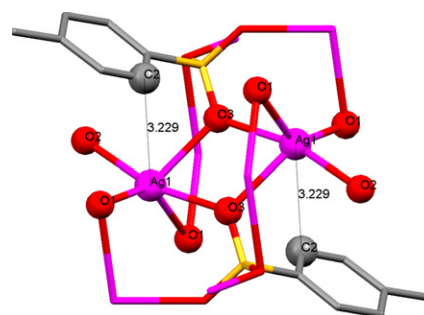


**Kamran Akhbari, Ali Morsali, Shahnaz Rafiei,  
Matthias Zeller**

*J. Organomet. Chem.* 693 (2008) 257

A new two-dimensional  $\text{Ag}^{\text{I}}$  coordination polymer with  $\text{Ag}^{\text{I}} \cdots \text{C}$  interactions: Thermal, fluorescence, structural and solution studies

A 2D polymer with  $\text{Ag}^{\text{I}} \cdots \text{C}$  interactions,  $[\text{Ag}(\mu_5\text{-TS})]_n$  (**1**) [ $\text{TS}^-$  = toluene-4-sulfonate], has been synthesized and characterized and its structure was determined by X-ray crystallography. In addition to coordination of the O atoms of  $\text{TS}^-$ , the Ag atoms also form weak  $\eta^1 \text{Ag}^{\text{I}} \cdots \text{C}$  interactions.

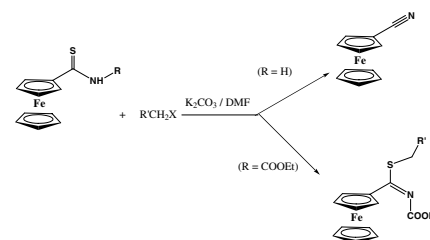


**Anna Wrona, Marcin Palusiak,  
Janusz Zakrzewski**

*J. Organomet. Chem.* 693 (2008) 263

Reaction of ferrocenecarbothioamide and *N*-(ethoxycarbonyl)ferrocenecarbothioamide with alkyl halides

Reaction of ferrocenecarbothioamide and *N*-(ethoxycarbonyl)ferrocenecarbothioamide with alkyl (mainly benzyl) halides in the presence of  $K_2CO_3$  has been studied. The former compound yielded cyanoferrrocene in high yield whereas the latter was transformed into the corresponding thioimidates as a result of *S*-alkylation and deprotonation.

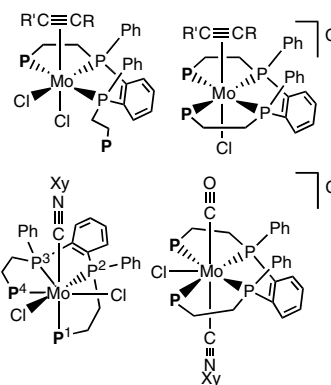


**Takeshi Ohnishi, Hiroko Tsuboi,  
Hidetake Seino, Yasushi Mizobe**

*J. Organomet. Chem.* 693 (2008) 269

Reactions of Mo(II)-tetrphosphine complex  $[MoCl_2\{meso-o-C_6H_4(PPhCH_2CH_2PPh_2)_2\}]$  with a series of small molecules

The Mo(II)-tetrphosphine complex  $[MoCl_2(\kappa^4-P4)]$  (**P4** = *meso-o*- $C_6H_4(PPhCH_2CH_2PPh_2)_2$ ) reacted with small molecules L including alkynes, *p*- $Me_2C_6H_3NC$  (XyNC), and CO to give a series of new complexes of the types  $[MoCl_2(L)(\kappa^3-P4)]$ ,  $[MoCl(L)(\kappa^4-P4)]Cl$ ,  $[MoCl_2(L)(\kappa^4-P4)]$ , and  $[MoCl(L)_2(\kappa^4-P4)]Cl$ .

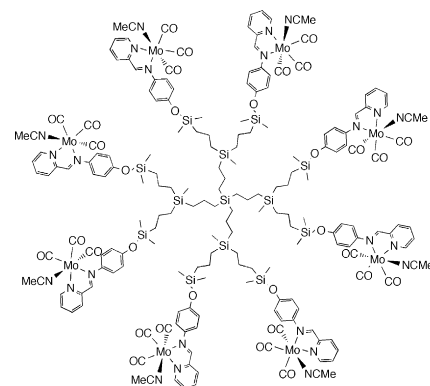


**José M. Benito, Ernesto de Jesús,  
F. Javier de la Mata, Juan C. Flores,  
Rafael Gómez**

*J. Organomet. Chem.* 693 (2008) 278

Carbosilane dendrimers containing complexes *N,N'*-pyridylimine of molybdenum and platinum at their periphery

A series of platinum(II) and molybdenum(0) complexes with *N,N'*-pyridylimine ligands of simple or dendritic carbosilane nature have been synthesized and characterized.

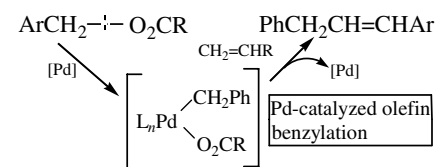


**Hirohisa Narahashi, Isao Shimizu,  
Akio Yamamoto**

*J. Organomet. Chem.* 693 (2008) 283

Synthesis of benzylpalladium complexes through C–O bond cleavage of benzylic carboxylates: Development of a novel palladium-catalyzed benzylation of olefins

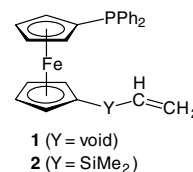
Benzylic carboxylates react with Pd(0) complexes to give benzylpalladium carboxylate complexes, which react with olefins to afford benzylation products of the olefins. Based on the information a novel palladium-catalyzed benzylation process of olefins was developed.



**Petr Štěpnička***J. Organomet. Chem.* 693 (2008) 297

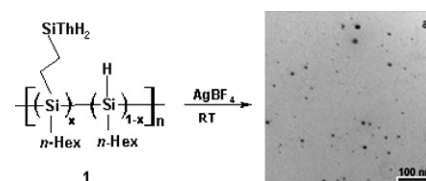
Preparation, structural characterisation and electrochemical properties of iron(0) and tungsten(0) carbonyl complexes with 1-(diphenylphosphanyl)-1'-vinylferrocene and 1-(diphenylphosphanyl)-1'-(dimethylvinylsilyl)ferrocene as P-monodentate ligands

Iron(0) and tungsten(0) carbonyl complexes with 1-(diphenylphosphanyl)-1'-vinylferrocene (**1**) and 1-(diphenylphosphanyl)-1'-(dimethylvinylsilyl)ferrocene (**2**) as P-monodentate donors, viz.  $[\text{Fe}(\text{CO})_4(\text{L-}\kappa\text{P})]$  and  $[\text{W}(\text{CO})_4(\text{L-}\kappa\text{P})_2]$ , have been prepared and structurally characterised. The electrochemical behaviour of the selected derivatives was studied.

**Ravi Shankar, Vandana Shahi***J. Organomet. Chem.* 693 (2008) 307

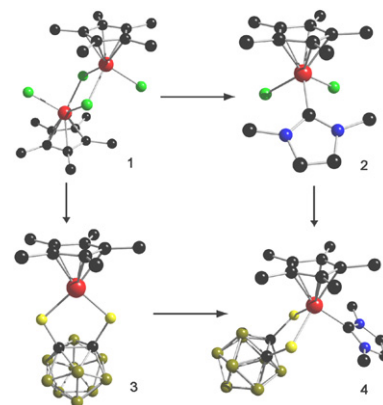
Chemical modification of poly(*n*-hexylsilane) – Synthesis of functional polysilanes bearing thienyl groups on the appended sila-alkyl side chains and their application in the generation and stabilization of silver nanoparticles

The synthesis of new functional polysilanes  $[\{\text{RR}'_2\text{Si}(\text{CH}_2)_y\text{Si}(n\text{-hex})\}_x\{\text{HSi}(n\text{-hex})\}_{1-x}]_n$  (**1-4**; R = 2-thienyl, R' = H; R = Me, R' = 2-thienyl;  $y = 2, 3$ ) and their application in the generation and stabilization of silver nanoparticles (<10 nm) are described.

**Xu-Qiong Xiao, Guo-Xin Jin***J. Organomet. Chem.* 693 (2008) 316

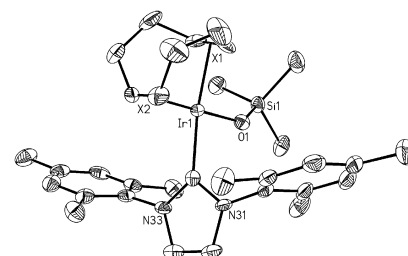
Half-sandwich rhodium complexes containing both N-heterocyclic carbene and *ortho*-carborane-1,2-dithiolate ligands

The half-sandwich rhodium complexes (**2** and **4**) containing N-heterocyclic carbenes (NHC) and carborane ligands has been synthesized and characterized structurally.

**Ireneusz Kownacki, Maciej Kubicki, Karol Szubert, Bogdan Marciniak***J. Organomet. Chem.* 693 (2008) 321

Synthesis, structure and catalytic activity of the first iridium(I) siloxide *versus* chloride complexes with 1,3-mesitylimidazolin-2-ylidene ligand

The first iridium(I) complexes containing siloxyl and N-heterocyclic carbene ligand, i.e.  $[\text{Ir}(\text{cod})(\text{IMes})\text{-OSiMe}_3]$  (**1**) and  $[\text{Ir}(\text{CO})_2(\text{IMes})(\text{O-SiMe}_3)]$  (**3**), have been synthesized and their structures solved by spectroscopy and X-ray methods as well as catalytic properties in transfer hydrogenation and hydrogenation have been presented.

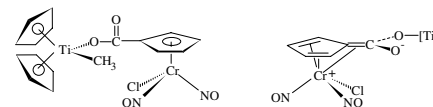


**Yu-Pin Wang, Su-Ru Pang, Hsiu-Yao Cheng,  
Tso-Shen Lin, Yu Wang, Gene-Hsiang Lee**

*J. Organomet. Chem.* 693 (2008) 329

Syntheses and spectra of chromium–titanium complexes bridged by carboxylate substituted cyclopentadienyl group: The structure of  $\text{Cp}_2\text{Ti}(\text{CH}_3)\{\text{[OC(O)C}_5\text{H}_4\text{]Cr(NO)}_2\text{Cl}\}$

Mono-demethylation of  $\text{Cp}_2\text{TiMe}_2$  with 1 M equivalent of  $[\eta^5\text{-(C}_5\text{H}_4\text{COOH)]Cr(NO)}_2\text{Cl}$ , a new compound, gave  $\text{Cp}_2\text{Ti}(\text{CH}_3)\{\text{[OC(O)C}_5\text{H}_4\text{]Cr(NO)}_2\text{Cl}\}$ . The strong electron-donating property of  $\text{Cp}_2\text{Ti}(\text{Me})^-$  was revealed via IR,  $^1\text{H}$  NMR,  $^{13}\text{C}$  NMR and X-ray crystal data. The electron density distribution in the substituted cyclopentadienyl ring is discussed on the basis of  $^{13}\text{C}$  NMR data and compared with calculations via density functional B3LYP correlation-exchange method.



## Notes

**Ender Erdik, Özgen Ömür Pekel**

*J. Organomet. Chem.* 693 (2008) 338

Reactivities of mixed organozinc and mixed organocopper reagents: 1 – Solvent controlled organic group transfer from mixed diorganozincs

In the copper catalyzed benzoylation of *n*-butylphenylzinc in THF at room temperature, selectivity of organyl group transfer depends on the cosolvent and additive.

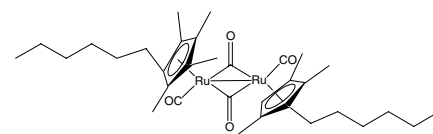
	CuI, 10 mol%, THF: cosolvent or additive, rt, 20 min			
	A	B	A	B
Solvent:	THF	THF: NMP (3:1)	THF: <i>n</i> -Bu <sub>4</sub> P(1 equiv)	THF:TMEDA (2:1)
Yield, % :	86	68	82	67
A / B :	60:40	87:13	100:0	8:92

**Siyabonga Ngubane, Mikael Hakansson,  
Susan Jagner, John R. Moss,  
Akella Sivaramakrishna**

*J. Organomet. Chem.* 693 (2008) 343

Synthesis, structure and some reactions of  $(\text{C}_5\text{Me}_4\text{hex})_2\text{Ru}_2(\text{CO})_4$

Tetramethylhexylcyclopentadienyl ruthenium dicarbonyl dimer has been prepared and characterized. Halide derivatives of this complex have been prepared. It is found that complexes with this cyclopentadienyl ligand are much soluble than pentamethylcyclopentadienyl analogs.

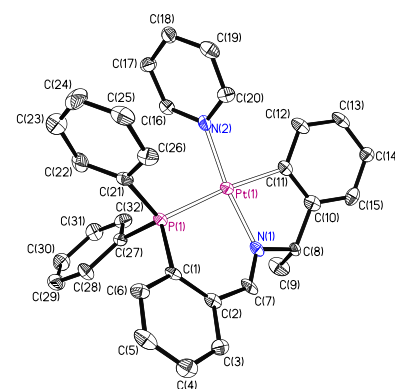


**Paola Ramírez, Raúl Contreras,  
Mauricio Valderrama, Daniel Carmona,  
Fernando J. Lahoz, Ana I. Balana**

*J. Organomet. Chem.* 693 (2008) 349

Cyclometallated platinum(II) complexes containing the chiral ligand [2-(diphenylphosphanyl)-benzylidene]-(1-phenyl-ethyl)-amine: Synthesis and molecular structures of the compounds  $[\text{PtCl}(\text{Me})\{\kappa^2\text{-(R)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{Ph})\text{Me-}P,N\}]$  and  $[\text{Pt}\{\kappa^3\text{-(S)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{C}_6\text{H}_4)\text{Me-}P,N,C\}\text{Py}]\text{BF}_4$

Diastereoisomeric mixture of  $[\text{PtIme}_3\{\kappa^2\text{-(R)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{Ph})\text{Me-}P,N\}]$  react with  $\text{AgBF}_4$  and  $\text{SMePh}$  to give a mixture of complexes  $[\text{PtMe}(\text{SMePh})\{\kappa^2\text{-(R)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{Ph})\text{Me-}P,N\}]\text{BF}_4$  and  $[\text{Pt}\{\kappa^3\text{-(R)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{C}_6\text{H}_4)\text{Me-}P,N,C\}(\text{SMePh})]\text{BF}_4$ . The attempts to separate this mixture by column chromatography on aluminium oxide yields the corresponding chloride compounds  $[\text{PtClIme}_3\{\kappa^2\text{-(R)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{Ph})\text{Me-}P,N\}]$  and  $[\text{PtCl}\{\kappa^3\text{-(S)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{C}_6\text{H}_4)\text{Me-}P,N,C\}]$  by elution with  $\text{CH}_2\text{Cl}_2$ . Refluxing of  $[\text{PtIme}_3\{\kappa^2\text{-(S)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{Ph})\text{Me-}P,N\}]$  with  $\text{AgBF}_4$  in a  $\text{CH}_2\text{Cl}_2:\text{Me}_2\text{CO}$  mixture followed by the addition of L ( $\text{SMePh}$ ,  $\text{NCMe}$ ,  $\text{Py}$ ) affords the corresponding cyclometallated compounds  $[\text{Pt}\{\kappa^3\text{-(S)-Ph}_2\text{P}(\text{C}_6\text{H}_4)\text{CH}=\text{NCH}(\text{C}_6\text{H}_4)\text{Me-}P,N,C\}(\text{L})]\text{BF}_4$ .

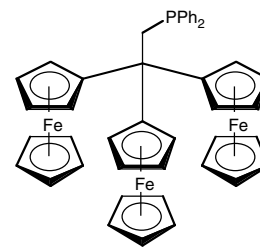


**Jose Ramon Garabatos-Perera,  
Holger Butenschön**

*J. Organomet. Chem.* 693 (2008) 357

Suzuki–Miyaura coupling in the presence of  
(2,2,2-triferrocenylethyl)diphenylphosphane

The title phosphane was prepared and applied as the phosphane ligand in Suzuki–Miyaura coupling reactions affording biaryls in high yields under conventional as well as under microwave heating.



**Zhi Li, William H. Moser, Wenqin Zhang,  
Changhua Hua, Liangdong Sun**

*J. Organomet. Chem.* 693 (2008) 361

Thermal and photochemical reactions of  
Fischer carbene complexes with trialkylsilyl-  
substituted alkynes

Thermal reaction of Fischer carbene complexes with triisopropylsilyl (TIPS) substituted alkynes in benzene afforded TIPS-vinylketenes or 2-TIPS-substituted cyclobutenones as major products while photochemical reaction of Fischer carbene complexes with trimethylsilyl (TMS) substituted alkynes in acetonitrile afforded 3-TMS-substituted cyclobutenones.

