

## Contents

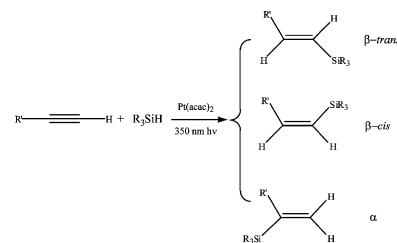
### Notes

**Fei Wang, Douglas C. Neckers**

*J. of Organomet. Chem.* 665 (2003) 1

Photoactivated hydrosilylation reaction of alkynes

The photoactivated hydrosilylation of alkynes by silanes catalyzed by platinum(II) bis(acetylacetonato) at 350 nm irradiation has been studied. The major product is the  $\beta$ -*trans* adduct. The mechanism proposed is similar to the mechanism of platinum(II) bis(acetylacetonato) catalyzed hydrosilylation reaction of alkenes.

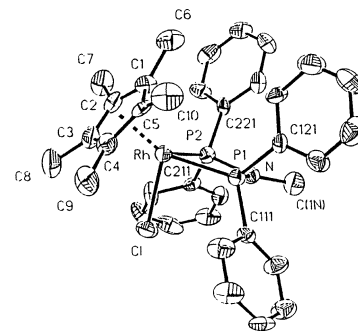


**Mauricio Valderrama, Raúl Contreras, Daphne Boys**

*J. of Organomet. Chem.* 665 (2003) 7

Bis(diphenylphosphino)methylamine as chelate ligand in pentamethylcyclopentadienylrhodium(III) and iridium(III) complexes. Crystal structure of  $[(\eta^5\text{-C}_5\text{Me}_5)\text{RhCl}\{\eta^2\text{-P,P}'\text{-(PPh}_2\text{)}_2\text{NMe}\}]\text{BF}_4$

Reactions of binuclear complex  $\{[(\eta^5\text{-C}_5\text{Me}_5)\text{MCl}(\mu\text{-Cl})_2]\}$  (M = Rh, Ir) with the ligand NMe(PPh<sub>2</sub>)<sub>2</sub> afford the mononuclear cationic complexes  $[(\eta^5\text{-C}_5\text{Me}_5)\text{MCl}\{\eta^2\text{-P,P}'\text{-(Ph}_2\text{P)}_2\text{NMe}\}]\text{Cl}$  (M = Rh **1**, Ir **2**). Similar iodide complexes,  $[(\eta^5\text{-C}_5\text{Me}_5)\text{MCl}\{\eta^2\text{-P,P}'\text{-(Ph}_2\text{P)}_2\text{NMe}\}]\text{I}$  (M = Rh **3**, Ir **4**), can be prepared by N-functionalization of co-ordinated dppe ligand. The tetrafluoroborate compounds,  $[(\eta^5\text{-C}_5\text{Me}_5)\text{MCl}\{\eta^2\text{-P,P}'\text{-(Ph}_2\text{P)}_2\text{NMe}\}]\text{BF}_4$  (M = Rh **5**, Ir **6**), are prepared by reaction of complexes **1–4** with AgBF<sub>4</sub>. The crystal structure of complex **5** is determined by X-ray diffraction methods.

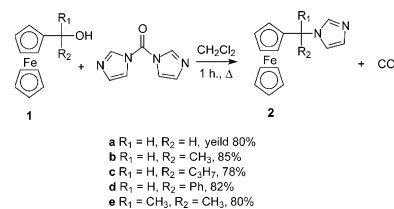


**Alexander A. Simenel, Elena A. Morozova, Yulia V. Kuzmenko, Lubov' V. Snegur**

*J. of Organomet. Chem.* 665 (2003) 13

Simple route to ferrocenyl(alkyl)imidazoles

A series of ferrocenyl(alkyl)imidazoles, potential biologically active compounds, were synthesized by interacting  $\alpha$ -hydroalkyl ferrocenes with *N,N'*-carbonyldiimidazole (CDI). CDI, a reagent for peptide coupling, was used in organometallic chemistry for the first time. The carboxylimidazolyl fragment of CDI, as a leaving group, allows realization of the reaction of CDI with ferrocene alcohols in non-acidic medium.

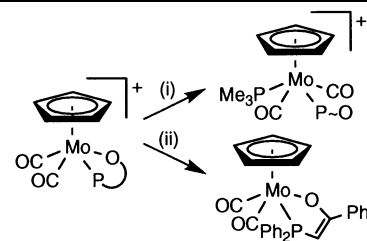


## Regular Papers

**Christopher D. Andrews,**  
**Andrew D. Burrows, John C. Jeffery,**  
**Jason M. Lynam, Mary F. Mahon**  
*J. of Organomet. Chem.* 665 (2003) 15

Synthesis, structural characterisation and reactivity of molybdenum half-sandwich complexes containing keto- and amido-phosphines

The compounds  $[\text{MoCl}(\text{CO})_2(\text{L}-\kappa^1\text{P})(\eta^5\text{-C}_5\text{R}_5)]$  [ $\text{L} = \text{PPh}_2\text{NC}_4\text{H}_3\{\text{C}(\text{O})\text{CH}_3\}$ ,  $\text{PPh}_2\text{-CH}_2\text{C}(\text{O})\text{Ph}$ ,  $\text{PPh}_2\text{CH}_2\text{C}(\text{O})\text{NPh}_2$ ;  $\text{R} = \text{H}$ ,  $\text{Me}$ ] are reported and shown to react with  $\text{AgBF}_4$  to give  $[\text{Mo}(\text{CO})_2(\text{L}-\kappa^2\text{P},\text{O})(\eta^5\text{-C}_5\text{R}_5)]\text{BF}_4$ . The reactions of these compounds with  $\text{PR}_3$  depend on the steric properties of  $\text{C}_5\text{R}_5^-$ ,  $\text{L}$  and  $\text{PR}_3$ , though  $\text{PMe}_3$  reacts with  $[\text{Mo}(\text{CO})_2(\text{PPh}_2\text{CH}_2\text{C}(\text{O})\text{Ph}-\kappa^2\text{P},\text{O})(\eta^5\text{-C}_5\text{H}_5)]\text{BF}_4$  to give the enolate complex  $[\text{Mo}(\text{CO})_2(\text{PPh}_2\text{CH}=\text{C}(\text{O})\text{Ph}-\kappa^2\text{P},\text{O})(\eta^5\text{-C}_5\text{H}_5)]$ . The crystal structures of  $[\text{Mo}(\text{CO})_2(\text{PPh}_2\text{NC}_4\text{H}_3\{\text{C}(\text{O})\text{CH}_3\}-\kappa^2\text{P},\text{O})(\eta^5\text{-C}_5\text{H}_5)]\text{BF}_4$  and  $[\text{Mo}(\text{CO})_2\{\text{PPh}_2\text{CH}=\text{C}(\text{O})\text{Ph}-\kappa^2\text{P},\text{O}\}(\eta^5\text{-C}_5\text{H}_5)]$  are reported.



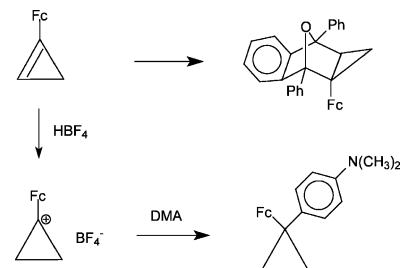
(i)  $\text{PMe}_3$ ,  $\text{P-O} = \text{PPh}_2\text{NC}_4\text{H}_3\{\text{C}(\text{O})\text{CH}_3\}$   
 (ii)  $\text{PMe}_3$ ,  $\text{P-O} = \text{PPh}_2\text{CH}_2\text{C}(\text{O})\text{Ph}$

**Tatiana Klimova, Elena I. Klimova,**  
**Marcos Martínez García,**  
**Cecilio Alvarez Toledano,**  
**Ruben Alfredo Toscano**

*J. of Organomet. Chem.* 665 (2003) 23

1-Ferrocenylcyclopropene and 1-ferrocenylcyclopropyl cation

Dehydrobromination of *cis* and *trans* isomers of 1-bromo-2-ferrocenylcyclopropanes affords 1-ferrocenylcyclopropene. Its protonation with  $\text{HBF}_4$  results in 1-ferrocenylcyclopropyl tetrafluoroborate, which alkylates *N,N*-dimethylaniline in *para* position to yield 1-(*p*-dimethylaminophenyl)-1-ferrocenylcyclopropane. 1-Ferrocenylcyclopropene reacts with 1,3-diphenylisobenzofuran to give the classical [4+2]-cycloaddition product. Its structure as *exo*-2-ferrocenyl-1,5-diphenyl-6,7-benzo-8-oxatricyclo[3.2.1.0<sup>2,4</sup>]oct-6-ene was established based on the data from X-ray diffraction analysis.

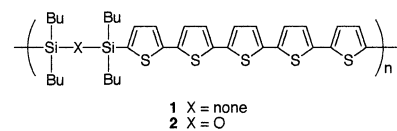


**Joji Ohshita, Kazuhiro Yoshimoto,**  
**Mimi Hashimoto, Daisuke Hamamoto,**  
**Atsutaka Kunai, Yutaka Harima,**  
**Yoshihito Kunugi, Kazuo Yamashita,**  
**Masaya Kakimoto, Mitsuo Ishikawa**

*J. of Organomet. Chem.* 665 (2003) 29

Synthesis of organosilanylene-pentathienylene alternating polymers and their application to the hole-transporting materials in double-layer electroluminescent devices

Organosilanylene-pentathienylene alternating polymers (**1** and **2**) were prepared and their application to the hole-transport in double-layer electroluminescent (EL) devices was studied. The EL devices with the structure of ITO/**1** or **2**/Alq/Mg:Ag emitted a green light resulting from Alq emission by applying the bias voltage.

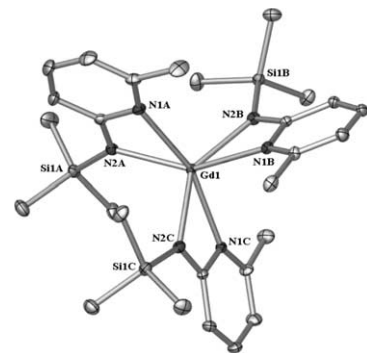


**Jens Baldamus, Marcus L. Cole,**  
**Ulrike Helmstedt, Eva-Marie Hey-Hawkins,**  
**Cameron Jones, Peter C. Junk,**  
**Franziska Lange, Neil A. Smithies**

*J. of Organomet. Chem.* 665 (2003) 33

Synthesis and structural study of a lithium complex of 6-methyl-2-(trimethylsilylamino)pyridine and its use in the formation of some lanthanoid complexes

Treatment of anhydrous lanthanoid chlorides ( $\text{LnCl}_3$ ,  $\text{Ln} = \text{Gd}$ ,  $\text{Er}$ ) with three equivalents of  $[\text{Li}(\text{APyTMS})(\text{thf})]$  ( $\text{APyTMSH} = 6\text{-methyl-2-(trimethylsilylamino)pyridine}$ ) yields the solvent-free homoleptic tris-amido complexes  $[\text{Ln}(\text{APyTMS})_3]$ . Similar treatment of  $\text{LnCl}_3$  ( $\text{Ln} = \text{Gd}$ ,  $\text{Er}$ ) with two equivalents of  $[\text{Li}(\text{APyTMS})(\text{thf})]$  putatively generates the heteroleptic species  $[\text{Ln}(\text{APyTMS})_2\text{Cl}]$ , however, these compounds undergo redistribution in hexane rendering the homoleptic tris-amido complex  $[\text{Ln}(\text{APyTMS})_3]$  and the anhydrous lanthanoid halide.

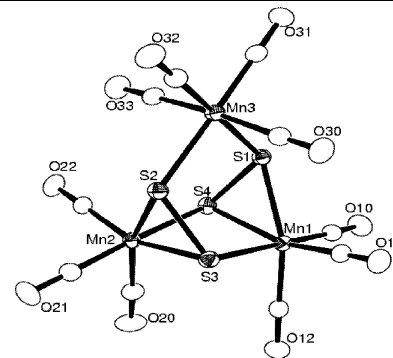


**Richard D. Adams, Shaobin Miao**

*J. of Organomet. Chem.* 665 (2003) 43

A disulfide-bridged manganese carbonyl anion: synthesis, structure and reactivity of  $[\text{Mn}_3(\text{CO})_{10}(\mu_3\text{-S}_2)_2]^-$

The new anion  $[\text{Mn}_3(\text{CO})_{10}(\mu_3\text{-S}_2)_2]^-$ , (**3**) was prepared and isolated as the  $[\text{Ph}_3\text{PMe}]$  salt. Anion **3** reacts  $[\text{CpFe}(\text{CO})_2(\text{aceto-})\text{ne}]\text{BF}_4$  to yield the neutral mixed metal complex  $\text{CpFeMn}_3(\text{CO})_{12}(\mu_3\text{-S}_2)(\mu_4\text{-S}_2)$ , (**4**). The structures of  $[\text{Ph}_3\text{PMe}]$  [**3**] and **4** were determined by single crystal X-ray diffraction analyses.

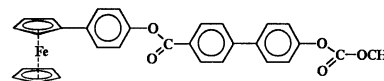


**Christopher Imrie, Christa Loubser, Pieter Engelbrecht, Cedric W. McClelland, Yifan Zheng**

*J. of Organomet. Chem.* 665 (2003) 48

The synthesis and liquid crystal behaviour of monosubstituted ferrocenesogens

The synthesis of several new series of monosubstituted ferrocenyl-containing liquid crystals has been carried out. In molecules with a sufficiently large  $l/d$  ratio, a terminal ferrocenyl group tends to promote stabilization of a nematic liquid crystal state. Bulky lateral substituents or groups which introduce molecular kinking inhibit the formation of liquid crystal phases.

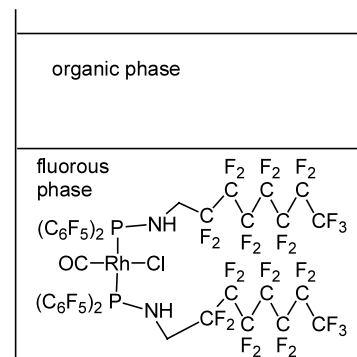


**Matthew L. Clarke**

*J. of Organomet. Chem.* 665 (2003) 65

One ponytail will do: new partially fluorinated phosphines with applications in fluorinated biphasic solvent systems

The first 'fluorous soluble' metal complexes that only require one perfluorinated ponytail are reported.

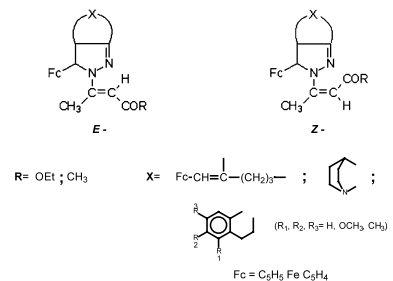


**Elena I. Klimova, Tatiana Klimova, Marcos Martínez García, Eduardo A. Vázquez López, Rafael Moreno Esparza, José G. Alvarado Rodríguez, Teresa Ramírez Apan**

*J. of Organomet. Chem.* 665 (2003) 69

Polycyclic ferrocenyl-4,5-dihydropyrazoles in nucleophilic reactions with  $\beta$ -dicarbonyl compounds

Polycyclic ferrocenyldihydropyrazoles with a free  $-\text{NH}$  group react with ethyl acetoacetate and acetylacetone to give the corresponding enamino carbonyl compounds isolated as *E*-isomers. The spatial structure of (*E*)-4-[1-(ethoxycarbonyl)prop-2-en-2-yl]-3-ferrocenyl-1,4,5-triazatricyclo[5.2.2.0<sup>2,6</sup>]undec-5-ene was determined using X-ray diffraction analysis. Spontaneous isomerization of (*E*)-(4-oxopent-2-en-2-yl)(ferrocenyl)dihydropyrazoles into the respective *Z*-isomers was observed.

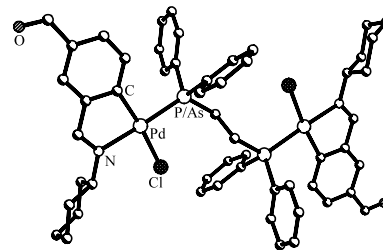


**Raquel Ares, Margarita López-Torres, Alberto Fernández, Ma Teresa Pereira, Gemma Alberdi, Digna Vázquez-García, Jesús J. Fernández, José M. Vila**

*J. of Organomet. Chem.* 665 (2003) 76

Functionalized cyclopalladated compounds with bidentate Group 15 donor atom ligands: the crystal and molecular structures of  $[\{\text{Pd}\{5\text{-(COH)C}_6\text{H}_3\text{C(H)=NCy-C2,N}\}(\text{Cl})\}_2(\mu\text{-Ph}_2\text{PR-PPh}_2)]$  ( $\text{R} = \text{CH}_2\text{CH}_2$ ,  $\text{Fe}(\text{C}_5\text{H}_4)_2$ ),  $[\text{Pd}\{5\text{-(COH)C}_6\text{H}_3\text{C(H)=NCy-C2,N}\}(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{-P,P})][\text{PF}_6]$  and  $[\text{Pd}\{5\text{-(COH)C}_6\text{H}_3\text{C(H)=NCy-C2,N}\}(\text{Ph}_2\text{PCH}_2\text{CH}_2\text{AsPh}_2\text{-P,As})][\text{PF}_6]$

The chloro-bridged dinuclear compound,  $[\{\text{Pd}\{5\text{-(COH)C}_6\text{H}_3\text{C(H)=N(Cy)-C2,N}\}(\mu\text{-Cl})\}_2]$ , reacts with tertiary diphosphines and with the arsinophosphine,  $\text{Ph}_2\text{PCH}_2\text{CH}_2\text{-AsPh}_2$ , to give mono- and dinuclear cyclo-metallated species.

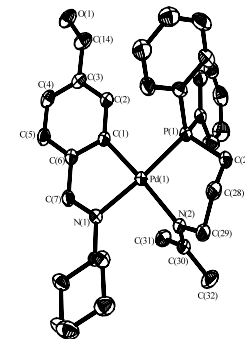


**Raquel Ares, Margarita López-Torres, Alberto Fernández, M. Teresa Pereira, Antonio Suárez, Roberto Mosteiro, Jesús J. Fernández, José M. Vila**

*J. of Organomet. Chem.* 665 (2003) 87

Cyclometallated complexes of Pd(II) with heterobidentate P, As and P, N coordinating ligands

Reaction of the chloro-bridged cyclopalladated dimer compound **1** with heterobidentate (P,As; P,N) ligands yields new mono- or dinuclear complexes. In compound **4** the  $\text{NH}_2$  moiety undergoes condensation with acetone upon coordination to the metal center.

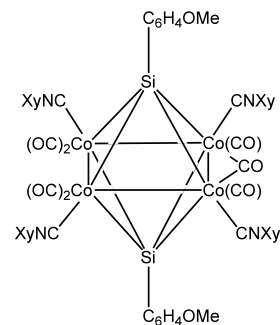


**Cameron Evans, Brian K. Nicholson**

*J. of Organomet. Chem.* 665 (2003) 95

Isonitrile substitution reactions of  $\text{Co}_4(\mu_4\text{-SiR})_2(\text{CO})_{11}$  clusters and the structure of  $\text{Co}_4(\mu_4\text{-SiC}_6\text{H}_4\text{OMe})_2(\text{CO})_7(\text{XyNC})_4$

Isonitriles react with pseudo-octahedral  $\text{Co}_4(\mu_4\text{-SiR})_2(\text{CO})_{11}$  clusters to give the substituted derivatives,  $\text{Co}_4(\mu_4\text{-SiR})_2(\text{CO})_{11-n}(\text{RNC})_n$  ( $n = 1-9$ ). The structure of the tetra-substituted example,  $\text{Co}_4(\mu_4\text{-SiC}_6\text{H}_4\text{OMe})_2(\text{CO})_7(\text{XyNC})_4$ , was determined by single-crystal X-ray crystallography.

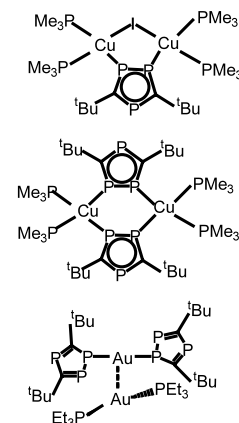


**Mahmoud M. Al-Ktaifani, Peter B. Hitchcock, John F. Nixon**

*J. of Organomet. Chem.* 665 (2003) 101

1,2,4-Triphospholyl gold(I) and copper(I) complexes: synthesis, crystal and molecular structures of  $[\text{Cu}(\text{PMe}_3)_2(\mu\text{-P}_3\text{C}_2^t\text{Bu}_2)](\mu\text{-I})\text{-Cu}(\text{PMe}_3)_2]$ ,  $[\text{Cu}(\text{PMe}_3)_2(\mu\text{-P}_3\text{C}_2^t\text{Bu}_2)_2\text{Cu}(\text{PMe}_3)_2]$  and  $[\text{Au}(\eta^1\text{-P}_3\text{C}_2^t\text{Bu}_2)][\text{Au}(\text{PET}_3)_2]$

Binuclear copper(I) and gold(I) complexes containing the 1,2,4-triphospholyl ring system are reported and their unusual structures are discussed.

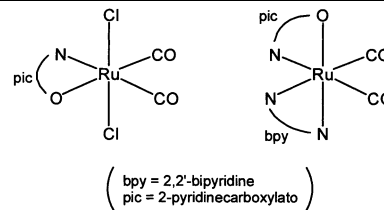


**Dai Ooyama, Takanori Kobayashi,  
Kazushi Shiren, Koji Tanaka**

*J. of Organomet. Chem.* 665 (2003) 107

Regulation of electron donating ability to metal center: isolation and characterization of ruthenium carbonyl complexes with *N,N*- and/or *N,O*-donor polypyridyl ligands

Polypyridyl ruthenium(II) dicarbonyl complexes with an *N,O*-donor ligand,  $[\text{Ru}(\text{pic})(\text{CO})_2\text{Cl}_2]^-$  and  $[\text{Ru}(\text{bpy})(\text{pic})(\text{CO})_2]^+$ , were newly synthesized and characterized to regulate donor ability to the ruthenium center. The differences of reactivity with  $\text{OH}^-$  and redox potentials caused by incorporation of hetero-donor atoms in a series of  $[\text{Ru}(\text{L}_1)(\text{L}_2)(\text{CO})_2]^n$  type were elucidated in this study.

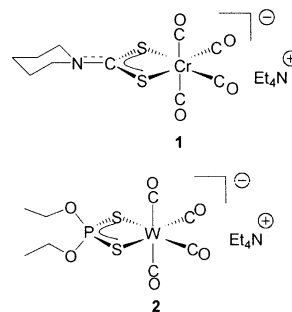


**Kuang-Hway Yih, Gene-Hsiang Lee,  
Shou-Ling Huang, Yu Wang**

*J. of Organomet. Chem.* 665 (2003) 114

Reactivity and crystal structures of the first dithiocarbamate chromium(0) and dithiophosphate tungsten(0) complexes: crystal structures of  $[\text{Et}_4\text{N}][\text{Cr}(\eta^2\text{-S}_2\text{CNC}_5\text{H}_{10})_4]$  and  $[\text{Et}_4\text{N}][\text{W}(\eta^2\text{-S}_2\text{P}(\text{OEt})_2(\text{CO})_4)]$

The structures of first dithiocarbamate chromium(0) complex  $[\text{Et}_4\text{N}][\text{Cr}(\eta^2\text{-S}_2\text{CNC}_5\text{H}_{10})(\text{CO})_4]$  (**1**) and the diethyldithiophosphate tungsten(0) complex  $[\text{Et}_4\text{N}][\text{W}(\eta^2\text{-S}_2\text{P}(\text{OEt})_2(\text{CO})_4)]$  (**2**) have been determined by X-ray diffraction analyses. The allyl dithiophosphate tungsten complex **3** and the reaction of **3** with dppe have been described.

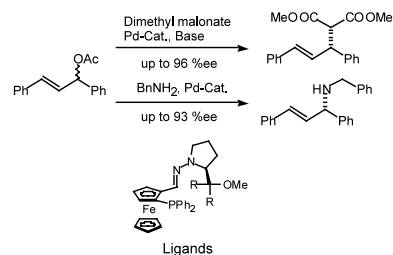


**Takashi Mino, Teruhiro Ogawa,  
Masakazu Yamashita**

*J. of Organomet. Chem.* 665 (2003) 122

Palladium-catalyzed asymmetric allylic substitution using planar chiral hydrazone ligands

Planar chiral phosphine-hydrazone were easily prepared from (*S*)- $\alpha$ -(diphenylphosphino)ferrocenecarboxaldehyde with chiral hydrazines. Palladium-catalyzed asymmetric allylic substitution has been successfully carried out in the presence of planar chiral phosphine-hydrazone ligand such as **2a** with dimethyl malonate in good yield with good enantioselectivity (up to 96% ee).

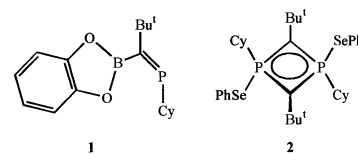


**Simon Aldridge, Cameron Jones,  
Peter C. Junk, Anne F. Richards,  
Mark Waugh**

*J. of Organomet. Chem.* 665 (2003) 127

Reactions of a phosphavinyl Grignard reagent with main group mono-halide compounds

The reactions of a phosphavinyl Grignard reagent,  $[\text{CyP}=\text{C}(\text{Bu}')\text{MgCl}(\text{OEt}_2)]$  Cy = cyclohexyl, with a variety of main group 13, 14 and 16 mono-halide compounds have been investigated. These have given rise to a variety of terminal phosphavinyl complexes, e.g. **1**, though in one case an unusual rearrangement product, **2**, resulted. The X-ray crystal structures of several prepared compounds are reported.

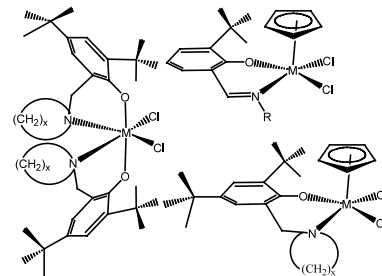


**Robyn K.J. Bott, David L. Hughes,  
Mark Schormann, Manfred Bochmann,  
Simon J. Lancaster**

*J. of Organomet. Chem.* 665 (2003) 135

Monocyclopentadienyl phenoxy-imine and phenoxy-amine complexes of titanium and zirconium and their application as catalysts for 1-alkene polymerisation

A series of half-sandwich cyclopentadienyl phenoxy-imine (or phenoxy-amine) complexes of titanium and zirconium have been prepared. A second series of novel bis(phenoxy-imine) (or phenoxy-amine) complexes were made for comparison. The synthesis, structures and alkene polymerisation catalysis results are discussed in terms of the ligand system, substituents and metal.

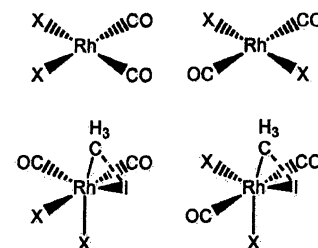


**Tapani Kinnunen, Kari Laasonen**

*J. of Organomet. Chem.* 665 (2003) 150

DFT-studies of *cis*- and *trans*-[Rh(CO)<sub>2</sub>X<sub>2</sub>]<sup>+</sup> (X = PH<sub>3</sub>, PF<sub>3</sub>, PCl<sub>3</sub>, PBr<sub>3</sub>, PI<sub>3</sub> or P(CH<sub>3</sub>)<sub>3</sub>) and oxidative addition of CH<sub>3</sub>I to them

Oxidative addition, the rate-determining step of the catalytic carbonylation of methanol has been studied using the density functional theory with the hybrid B3LYP XC-functional. In our study, we have used the phosphine modified catalysts species and our goal has been to see if the activation energy of the rate-determining step could be lowered.



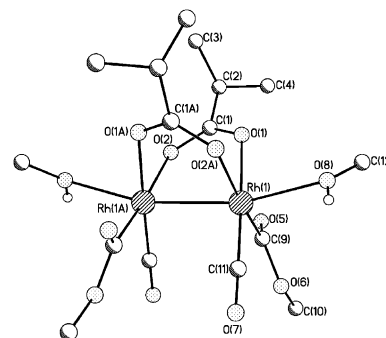
(X=PH<sub>3</sub>, PF<sub>3</sub>, PCl<sub>3</sub>, PBr<sub>3</sub>, PI<sub>3</sub>, P(CH<sub>3</sub>)<sub>3</sub>)

**Yuri S. Varshavsky, Tatiana G. Cherkasova,  
Ivan S. Podkorytov,  
Konstantin A. Lyssenko,  
Aleksei B. Nikol'skii**

*J. of Organomet. Chem.* 665 (2003) 156

Dirhodium(II) dicarboxylato complexes containing carbonyl and C-bonded methoxycarbonyl ligands

A novel series of binuclear carbonyl carboxylato rhodium(II) complexes, [Rh(μ-OOCR-κO)(COOMe-κC)(CO)(L)]<sub>2</sub>, where R = CH<sub>3</sub>, *i*-C<sub>3</sub>H<sub>7</sub>; L = MeOH, N- or P-donor ligand, is synthesised and characterised by X-ray, NMR, and IR data. Spectral parameters of the terminal carbonyl group, ν(CO) and δ<sup>13</sup>C, depend on σ-donor and π-acceptor abilities of L.

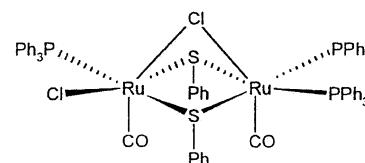


**Nikodem Kuźnik, Stanisław Krompiec,  
Tadeusz Bieg, Stefan Baj, Krzysztof Skutil,  
Anna Chrobok**

*J. of Organomet. Chem.* 665 (2003) 167

Double bond migration in *S*-allyl systems catalysed by [RuClH(CO)(PPh<sub>3</sub>)<sub>3</sub>]

Reactions of *S*-allyl systems (allyl sulphides of R-S-allyl type, where R = Et, allyl, Ph, Me<sub>3</sub>C, Ph<sub>3</sub>C, as well as of allyl phenyl sulphoxide, allyl phenyl sulphone, 2,5-dihydro-1,1-dioxothiophene) with [RuClH(CO)(PPh<sub>3</sub>)<sub>3</sub>] and other ruthenium compounds have been investigated. Double-bond migration was observed in the case of allyl trityl sulphide, allyl *t*-butyl sulphide and both sulphones, that is, where co-ordinating properties of sulphur were not too strong.

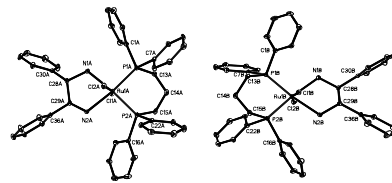


**Ekkehard Lindner, Hermann A. Mayer,  
Ismail Warad, Klaus Eichele**

*J. of Organomet. Chem.* 665 (2003) 176

Supported organometallic complexes  
Part XXXV. Synthesis, characterization, and  
catalytic application of a new family of  
diamine(diphosphine)ruthenium(II) com-  
plexes

Novel diamine(diphosphine)ruthenium(II)  
complexes have been prepared and charac-  
terized. X-ray structural investigations of  
**3L<sub>1</sub>**, **3L<sub>1</sub>**, and **3L<sub>8</sub>** show triclinic unit cells  
with the space group  $P\bar{1}$  (**3L<sub>1</sub>**, **3L<sub>2</sub>**) and  $P$   
**1** (**3L<sub>8</sub>**). These complexes are highly cataly-  
tically active in the hydrogenation of  $\alpha,\beta$ -  
unsaturated ketones, with excellent conver-  
sions and selectivities under mild condi-  
tions.

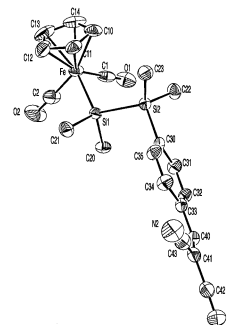


**Christa Grogger, Helmut Fallmann,  
Gottfried Fürpaß, Harald Stüger,  
Guido Kickelbick**

*J. of Organomet. Chem.* 665 (2003) 186

The [Cp(CO)<sub>2</sub>Fe] (Fp) group as a donor in  
donor/acceptor substituted disilanes: synthe-  
sis, structure and electronic properties of  
Fp-Si<sub>2</sub>Me<sub>4</sub>-C<sub>6</sub>H<sub>4</sub>CH=C(CN)<sub>2</sub>

The easily performed electrolysis of Fp<sub>2</sub>  
(Fp =  $\eta^5$ -C<sub>5</sub>H<sub>5</sub>Fe(CO)<sub>2</sub>) in the presence of  
the appropriate chlorosilane affords Fp-  
Si<sub>2</sub>Me<sub>5</sub> and Fp-Si<sub>2</sub>Me<sub>4</sub>C<sub>6</sub>H<sub>5</sub> in excellent  
yields, while the synthesis of the donor/acceptor  
substituted compound Fp-Si<sub>2</sub>Me<sub>4</sub>-  
C<sub>6</sub>H<sub>4</sub>CH=C(CN)<sub>2</sub> (**1**) can only be achieved  
employing a conventional chemical route.  
The crystal structure of **1** exhibits an *all-  
trans*-array of the Fe-Si-Si-C<sub>aryl</sub> frag-  
ment. UV-vis and cyclovoltammetry data  
indicate strong intramolecular donor/acceptor  
interaction in **1**.

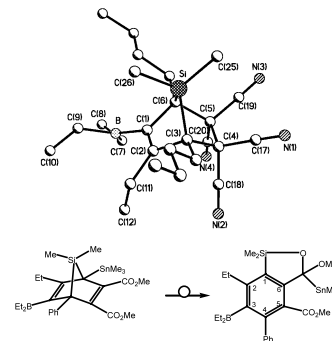


**Bernd Wrackmeyer, Wolfgang Milius,  
Moazzam H. Bhatti, Saqib Ali**

*J. of Organomet. Chem.* 665 (2003) 196

[4+2]Cycloadditions of organometallic-sub-  
stituted siloles with dimethyl acetylenedicar-  
boxylate and tetracyanoethylene

1-Sila-2,4-cyclopentadienes (siloles) bearing  
a diethylboryl group in 3-position, a tri-  
methylstannyl and a diethylboryl group in  
2,4-positions, a diethylboryl group in 3-posi-  
tion and a hydrido function at the silicon  
atom react by [4+2]cycloaddition with di-  
methyl acetylenedicarboxylate, MeOC(O)-  
C≡C-C(O)OMe, and tetracyanoethylene,  
(NC)<sub>2</sub>C=C(CN)<sub>2</sub>, to give 7-silanorborna-  
dienes or 7-silanorbornenes (X-ray structural  
analysis), respectively. The 7-silanorbor-  
nadiene with a stannyl group in 1-position  
rearranges readily into a benzene derivative.

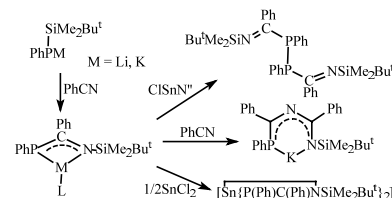


**Zhong-Xia Wang, Da-Qi Wang,  
Jian-Min Dou**

*J. of Organomet. Chem.* 665 (2003) 205

Synthesis and reactions of 1-*t*-butyldimethyl-  
silyl - 2,3 - diphenyl - 1 - aza - 3-phosphaallyl  
lithium and potassium. Crystal structures of  
[M{P(Ph)C(Ph)NSiMe<sub>2</sub>Bu<sup>t</sup>}(L)]<sub>2</sub> (M = Li,  
L = THF; M = K, L = Et<sub>2</sub>O),  
[Sn{P(Ph)C(Ph)NSiMe<sub>2</sub>Bu<sup>t</sup>}]<sub>2</sub> and [P(Ph)C-  
(Ph)=NSiMe<sub>2</sub>Bu<sup>t</sup>]<sub>2</sub>

[M{P(Ph)C(Ph)NSiMe<sub>2</sub>Bu<sup>t</sup>}(L)]<sub>2</sub> (**1**, M =  
Li, L = THF; **2**, M = K, L = Et<sub>2</sub>O) were  
prepared by reaction of MP(Ph)SiMe<sub>2</sub>Bu<sup>t</sup>  
(M = Li, K) with one equivalent of PhCN.  
Compound **2** lost the coordinated Et<sub>2</sub>O mole-  
cules when exposing it in vacuo at room  
temperature, forming solvent-free potassium  
complex **3**. Treatment of **3** with PhCN  
yielded [K{P(Ph)C(Ph)NC(Ph)NSiMe<sub>2</sub>-  
Bu<sup>t</sup>}]<sub>2</sub>. Reaction of **1** with SnCl<sub>2</sub> in a 2:1  
ratio formed a homoleptic tin(II) complex,  
and with an equimolar amount of  
ClSnN(SiMe<sub>3</sub>)<sub>2</sub> afforded ligand coupling  
species [P(Ph)C(Ph)=NSiMe<sub>2</sub>Bu<sup>t</sup>]<sub>2</sub>.

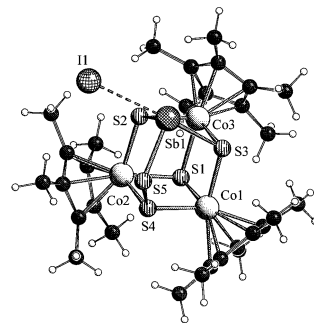


**Henri Brunner, Andreas Lange,  
Joachim Wachter, Manfred Zabel**

*J. of Organomet. Chem.* 665 (2003) 214

Synthesis and molecular structure of  $[(C_5Me_5)_3Co_3(\mu_3-S)(\mu_3-SbS_4I)]$ , a tricobalt complex with the tripodal  $\psi$ - $SbS_4$ -ligand

The reaction of  $K_3SbS_3$  with  $[Cp^*Co_2I_4]$  ( $Cp^* = C_5Me_5$ ) gave dark brown  $[Cp^*_3Co_3(\mu_3-S)(\mu_3-SbS_4I)]$  (**1**) in 22% yield. Complex **1** was characterized by  $^1H$ -NMR and mass spectra. The crystal structure determination reveals as the central feature a distorted  $Co_3SbS_4$  cube with the fifth sulfur atom being inserted into one of the three  $Sb-S$  edges. The coordination sphere around the  $Sb$  atom in the unprecedented tripodal  $\psi$ - $Sb(S_2)_2$ -ligand is extended by a weakly coordinated iodine atom [ $d(Sb-I) = 3.215(1) \text{ \AA}$ ].

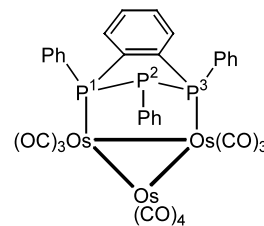


**Siau-Gek Ang, Xinhua Zhong,  
How-Ghee Ang**

*J. of Organomet. Chem.* 665 (2003) 218

Synthesis, NMR and structural studies of cluster derivatives derived from reactions of 1,2,3-triphenyl-1,2,3-triphosphaindan with  $[Os_3(CO)_{10}(\mu-H)_2]$

Reactions of 1,2,3-triphenyl-1,2,3-triphosphaindan (**1**) with  $[Os_3(CO)_{10}(\mu-H)_2]$  at various conditions afford a series of osmium carbonyl cluster derivatives. All the compounds obtained have been fully characterized by spectroscopic methods (IR, FABMS,  $^1H$ - and  $^{31}P$ -NMR spectroscopy), and the molecular structures of **3**, **4**, **5** are established by X-ray crystallography.

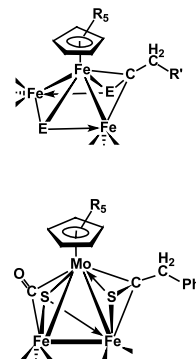


**Pradeep Mathur, Chimalakonda Srinivasu,  
Shaikh M. Mobin**

*J. of Organomet. Chem.* 665 (2003) 226

Chalcogen-acetylide interaction and unusual reactivity of coordinated acetylide with water: synthesis and characterisation of  $[(\eta^5-C_5R_5)Fe_3(CO)_6(\mu_3-E)(\mu_3-ECCH_2R^1)]$  ( $R = H, Me$ ;  $R^1 = Ph, Fc$ ;  $E = S, Se$ ) and  $[(\eta^5-C_5R_5)MoFe_2(CO)_6(\mu_3-S)(\mu-SCCH_2Ph)]$  ( $R = H, Me$ )

Photolysis of  $[Fe_3(CO)_9(\mu_3-E)_2]$  with mono-metal acetylides in the presence of water yielded two types of metal clusters. Unusual transformation of metal acetylide and formation of new carbon-chalcogen bond were observed. Crystal structures were established by X-ray diffraction techniques.

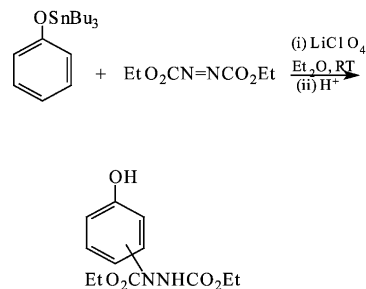


**Wojciech J. Kinart, Cezary M. Kinart**

*J. of Organomet. Chem.* 665 (2003) 233

Studies on the catalysis of the reaction of organotin phenoxides with diethyl azodicarboxylate by lithium perchlorate

A series of different tributyltin phenoxides were prepared by the azeotropic dehydration of a mixture of the appropriate alcohol and bis(tributyltin)oxide in toluene. Their reaction at room temperature with diethyl azodicarboxylate in diethyl ether, in the presence of lithium perchlorate, leading to the corresponding ring-aminated phenols was studied.



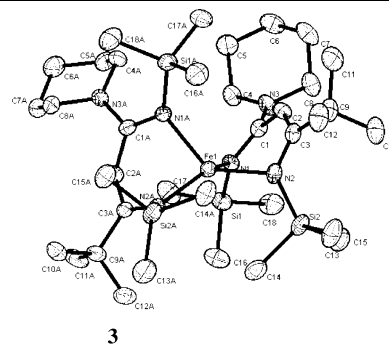


**Mei-Su Zhou, Shu-Ping Huang,  
Lin-Hong Weng, Wen-Hua Sun,  
Dian-Sheng Liu**

*J. of Organomet. Chem.* 665 (2003) 237

Synthesis and crystal structures of novel  $\beta$ -diketiminato-lithium, iron, cobalt, nickel, zirconium complexes and their catalytical behaviors in polymerization of ethylene

Treatment of azaallyl-lithium  $[\overline{\text{LiN(R)C}}-(\text{Bu}^t)\text{CHR}]$  with equal portion of 1-piperidinecarbonitrile gave mix-substituted  $\beta$ -diketiminato-lithium **2**. Double ratio of **2** with  $\text{FeCl}_2$ ,  $\text{CoCl}_2$  and  $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$  yielded the  $\beta$ -diketiminato iron **3**, cobalt **4**, nickel **5**, or equivalent of  $\text{ZrCl}_4$  led to zirconium complex **6**, respectively. The structural features of these complexes were described, and the catalytical behaviors of the complexes **3–6** for the polymerization of ethylene were investigated.

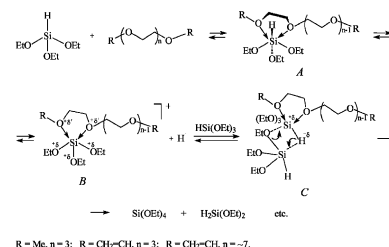


**Lidiya N. Parshina, Lyudmila A. Oparina,  
Marina Ya. Khil'ko, Boris A. Trofimov**

*J. of Organomet. Chem.* 665 (2003) 246

Catalysis of triethoxysilane disproportionation with oligoethylene glycol ethers

Oligoethylene glycol ethers catalyze the disproportionation of triethoxysilane to tetraethoxysilane and silane both at room temperature and upon heating. For comparison, the  $\text{CsF}$ -catalyzed disproportionation of triethoxysilane has been examined and found more facile. Mechanisms of the reactions involving formation of hypervalent silicon complexes have been discussed.



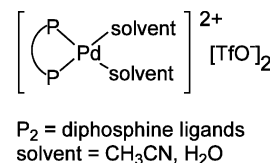
**Kelin Li, Peter N. Horton,  
Michael B. Hursthouse,  
King Kuok (Mimi) Hii**

*J. of Organomet. Chem.* 665 (2003) 250

Air- and moisture-stable cationic (diphosphine)palladium(II) complexes as hydroamination catalysts

X-ray crystal structures of two  $[(\text{diphosphine})\text{Pd}(\text{NCMe})(\text{OH}_2)]^{2+}[\text{OTf}]_2^-$  complexes

A series of cationic (diphosphine)palladium(II) complexes have been prepared and fully characterized, including two crystal structures. These complexes were evaluated as catalysts for the hydroamination of acyclic alkenes. The reactivity of the catalysts is dependent on the ligand and the substituents on the amine and alkene substrates.



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