

## Contents

### Review

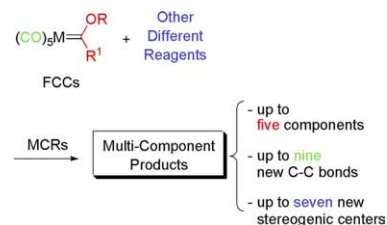
**José Barluenga,  
Manuel A. Fernández-Rodríguez,  
Enrique Aguilar**

*J. Organomet. Chem.* 690 (2005) 539

Group 6 Fischer carbene complexes: “chemical multitailents” for multi-component reactions

The ability of heteroatom stabilized Fischer carbene complexes (FCCs) to participate in multicomponent reactions, which has allowed the construction of a large variety of highly

functionalized structures through several patterns of reactivity, will be disclosed along the following lines. One of the main reasons for the high versatility and often unexpected behavior of FCCs relies on the possibility of incorporation of carbonyl ligands along the reaction pathway, depending on the reaction conditions. Thus, in this review there will be presented examples where up to five components react in a multicomponent sequence to create up to nine carbon-carbon bonds or to lead to the formation of up to seven stereogenic centers what points out the undisputable synthetic potential of FCCs.



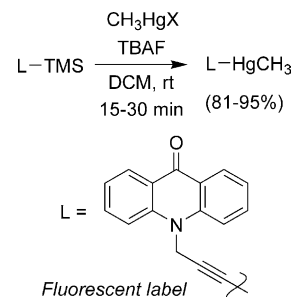
### Regular papers

**Marco Lombardo, Ivano Vassura,  
Daniele Fabbri, Claudio Trombini**

*J. Organomet. Chem.* 690 (2005) 588

A strikingly fast route to methylmercury acetylides as a new opportunity for mono-methylmercury detection

Methylmercury  $\sigma$ -complexation to fluorescent 10-(3-trimethylsilyl-2-propynyl)-9-(10*H*)-acridinone **2** in dichloromethane and in the presence of  $\text{Bu}_4\text{NF} \cdot 3\text{H}_2\text{O}$  is exploited in a new practical and sensitive quantitation of monomethylmercury in water and in biological tissues.

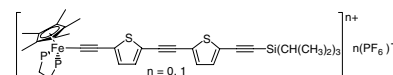


**S  verine Rou  , Claude Lapinte**

*J. Organomet. Chem.* 690 (2005) 594

Iron(II) and iron(III) complexes containing ethynyl thiophene fragments

A series of iron complexes of general formula  $\text{Cp}^*(\text{dppe})\text{FeC}\equiv\text{C}2,5\text{-C}_4\text{H}_2\text{S-R SiMe}_3$ , has been synthesized. The thermally stable relative organoiron(III) complexes have also been prepared and characterized. Despite the presence of a ligand containing an extended  $\pi$ -electron system with up to fourteen  $\text{sp}$  or  $\text{sp}^2$  hybridized carbon atoms bound to the 17-electron  $\text{d}^5$  iron centre, these complexes can be regarded as metal centred radicals.

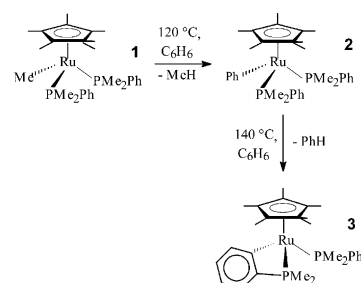


**Pietro Diversi, Melania Fuligni,  
Fabio Marchetti, Calogero Pinzino**

*J. Organomet. Chem.* 690 (2005) 605

Intermolecular versus intramolecular C–H activation reaction in the thermolysis of  $[\text{Ru}(\text{Me})\text{Cp}^*(\text{PMe}_2\text{Ph})_2]$  ( $\text{Cp}^* = \eta^5\text{-C}_5\text{Me}_5$ ): formation and crystallographic characterisation of  $[\text{Ru}(\text{Ph})\text{Cp}^*(\text{PMe}_2\text{Ph})_2]$

Thermolysis of the ruthenium(II) methyl complex  $[\text{Ru}(\text{Me})\text{Cp}^*(\text{PMe}_2\text{Ph})_2]$  (**1**) in benzene gives methane and  $[\text{Ru}(\text{Ph})\text{Cp}^*(\text{PMe}_2\text{Ph})_2]$  (**2**), which is slowly converted to the orthometallated derivative  $[\text{Ru}(\text{C}_6\text{H}_4\text{PMe}_2)\text{Cp}^*(\text{PMe}_2\text{Ph})]$  (**3**). **2** was structurally characterised by single-crystal X-ray diffraction experiments. DFT calculations for ground, intermediate and transition states were done and fitted well with the experiments.

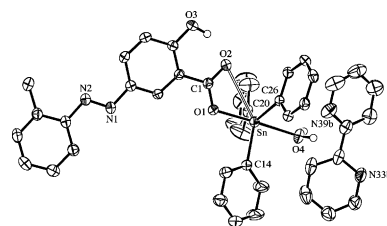


**Tushar S. Basu Baul, Wandondor Rynjah,  
Eleonora Rivarola, Anthony Linden**

*J. Organomet. Chem.* 690 (2005) 613

Synthesis and characterization of triphenyltin(IV) 5-[(*E*)-2-(aryl)-1-diazenyl]-2-hydroxybenzoates. Crystal and molecular structures of  $\text{Ph}_3\text{Sn}\{\text{O}_2\text{CC}_6\text{H}_3\text{-}p\text{-OH}[\text{N}=\text{N}(\text{C}_6\text{H}_4\text{-}4\text{-CH}_3)]\}$  and the 2,2'-bipyridine adduct  $\text{Ph}_3\text{Sn}\{\text{O}_2\text{CC}_6\text{H}_3\text{-}p\text{-OH}[\text{N}=\text{N}(\text{C}_6\text{H}_4\text{-}2\text{-CH}_3)]\}\text{OH}_2 \cdot \text{C}_{10}\text{H}_8\text{N}_2$

Triphenyltin 5-[(*E*)-2-(aryl)-1-diazenyl]-2-hydroxybenzoates, have been prepared and characterized. Two polymorphs of a compound  $\text{Ph}_3\text{SnL}^2\text{H}$  ( $\text{L}^2\text{H} = 5\text{-}[(\textit{E})\text{-}2\text{-}(4\text{-methylphenyl})\text{-}1\text{-diazenyl}]\text{-}2\text{-hydroxybenzoate}$ ) were isolated from the same crystallization attempt and its structure determined by X-ray crystallography. Further, the reactivity of tetrahedral  $\text{Ph}_3\text{SnL}^1\text{H}$  ( $\text{L}^1\text{H} = 5\text{-}[(\textit{E})\text{-}2\text{-}(2\text{-methylphenyl})\text{-}1\text{-diazenyl}]\text{-}2\text{-hydroxybenzoate}$ ) towards 2,2'-bipyridine (bipy) has been investigated.

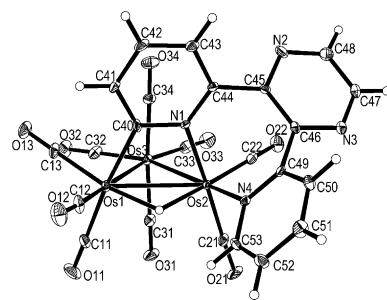


**Rubén A. Machado, María C. Goite,  
Alejandro J. Arce, Ysaura De Sanctis,  
Antony J. Deeming, Lindora D'Ornelas,  
Deivi A. Oliveros**

*J. Organomet. Chem.* 690 (2005) 622

Two isomeric products  $[\text{Os}_3(\mu\text{-H})(\text{C}_{14}\text{H}_9\text{N}_4)(\text{CO})_9]$  formed by orthometallation of the cluster  $[\text{Os}_3(\text{C}_{14}\text{H}_{10}\text{N}_4)(\text{CO})_{10}]$  containing the chelating ligand 2,3-bis(2-pyridyl)pyrazine

Thermolysis of complex  $[\text{Os}_3(\text{C}_{14}\text{H}_{10}\text{N}_4)(\text{CO})_{10}]$  (**1**) yields two structural isomers formulated as  $[\text{Os}_3(\mu\text{-H})(\mu, \eta^3\text{-C}_{14}\text{H}_9\text{N}_4)(\text{CO})_9]$  (**2**) and (**3**). Isomer **2** is of particular interest since to the best of our knowledge is first example of an osmium trinuclear that contains an orthometallated pyridine ligand system that is also part of a seven-membered chelate ring.



**Gregory J. Grant, John P. Lee,  
Monte L. Helm, Donald G. VanDerveer,  
William T. Pennington, Jeffrey L. Harris,  
Larry F. Mehne, David W. Klinger**

*J. Organomet. Chem.* 690 (2005) 629

Synthetic, structural, spectroscopic, and electrochemical studies of mixed sandwich Rh(III) and Ir(III) complexes involving  $\text{Cp}^*$  and tridentate macrocycles

Six heteroleptic mixed sandwich complexes containing  $\eta^5\text{-Cp}^*$ , the Group 9 transition metal ions Rh(III) or Ir(III), and three tridentate macrocycles (trithia or triazacrowns) have been successfully prepared. All complexes have the general formula  $[\text{M}(\text{L})(\text{Cp}^*)]^{2+}$  ( $\text{M} = \text{Ir}(\text{III})$  or  $\text{Rh}(\text{III})$ ,  $\text{L} = \text{macrocycle}$ ) and exhibit a distorted octahedral structure involving three donor atoms from the macrocycle and the facially coordinating carbocyclic  $\text{Cp}^*$  ligand. Our results are consistent with the role that the  $\pi$  acidity plays in thiocrown ligands, and the metal–thioether  $\pi$  interaction is enhanced in the presence of strongly donating ligands like  $\text{Cp}^*$ .

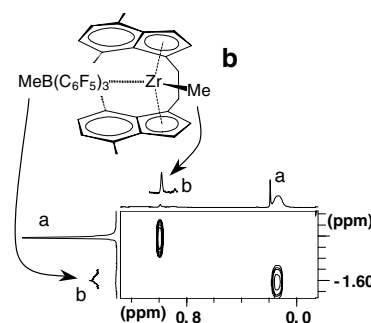


**Daniela Maggioni, Tiziana Beringhelli,  
Giuseppe D'Alfonso, Luigi Resconi**

*J. Organomet. Chem.* 690 (2005) 640

NMR evidence for  $B(C_6F_5)_3$  attack on the inward position of a highly hindered *meso* *ansa*-zirconocene

The reaction of the *ansa-meso*- $[C_2H_4(4,7-Me_2Indenyl)_2]ZrMe_2$  with  $B(C_6F_5)_3$  afforded, besides the expected ion-pair with outward  $MeB(C_6F_5)_3^-$  (**a**), a minor isomer (**b**, 4.3%) with the bulky methylborate anion in the inward site. Evidence of migration of  $MeB(C_6F_5)_3^-$  between the two sites and of  $B(C_6F_5)_3$  attack on the (inward) methyl site of **a** has been obtained.

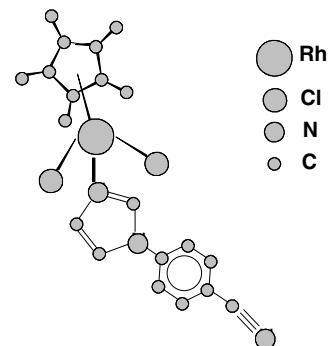


**Sanjay Kumar Singh, Manoj Trivedi,  
Manish Chandra, Daya Shankar Pandey**

*J. Organomet. Chem.* 690 (2005) 647

Rhodium(III) pentamethyl cyclopentadienyl complexes incorporating 1-(4-cyanophenyl)-imidazole: role of solvent in ligand substitution reactions

Reaction of the dimeric rhodium complex  $\{(\eta^5-C_5Me_5)Rh(\mu-Cl)Cl\}_2$  with an excess of 1-(4-cyanophenyl)-imidazole in dichloromethane afforded neutral mononuclear complex  $[(\eta^5-C_5Me_5)RhCl_2(CPI)]$  (CPI = 1-(4-cyanophenyl)-imidazole) **1** and its substituted products with  $EPH_3$  (E = P, As, Sb) and N-N donor bases, where the nature of the product was governed by polarity of the solvents employed in the reaction.

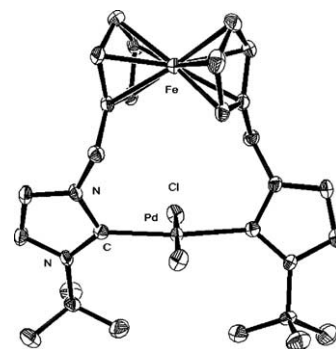


**Karl S. Coleman, Simon Turberville,  
Sofia I. Pascu, Malcolm L.H. Green**

*J. Organomet. Chem.* 690 (2005) 653

Synthesis of a new bidentate ferrocenyl *N*-heterocyclic carbene ligand precursor and the palladium (II) complex  $trans-[PdCl_2(C^*fc^*C)]$ , where  $(C^*fc^*C) = 1,1'$ -di-*tert*-butyl-3,3'-(1,1'-dimethylenferrocenyl)-diimidazol-2-ylidene

The complex  $trans-[PdCl_2(C^*fc^*C)]$ , where  $(C^*fc^*C) = 1,1'$ -di-*tert*-butyl-3,3'-(1,1'-dimethylenferrocenyl)-diimidazol-2-ylidene, has been prepared by reaction of the corresponding imidazolium salt with a strong base in the presence of a Pd(II) precursor. The complex  $trans-[PdCl_2(C^*fc^*C)]$  represents a rare example a chelating bidentate carbene ligand coordinating to a metal centre with a *trans* geometry.

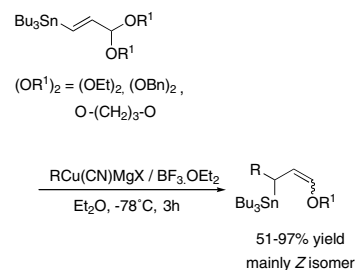


**Florian Fliegel, Isabelle Beaudet,  
Sandrine Watrelot-Bourdeau, Nicolas Cornet,  
Jean-Paul Quintard**

*J. Organomet. Chem.* 690 (2005) 659

Preparation of  $\alpha$ -substituted  $\gamma$ -alkoxyallylstannanes from  $\beta$ -tributylstannyl acrolein acetals: scope of the method and primary rationalization of the obtained results

$\alpha$ -Substituted  $\gamma$ -alkoxyallylstannanes were obtained from  $\beta$ -tributylstannyl acrolein acetals when reacted with lower order magnesium cyanocuprates in the presence of boron trifluoride at low temperature. In the case of *n*-alkylcyanocuprates an *anti*  $S_N2'$  substitution on a *cisoid* conformation appears to be the main reaction pathway. However, subtle competitions with other mechanisms may occur depending on the experimental conditions, on the reagents or on the substrates. These drawbacks constitute limitations for the use of the method especially when enantioenriched  $\alpha$ -substituted  $\gamma$ -alkoxyallylstannanes are desired.

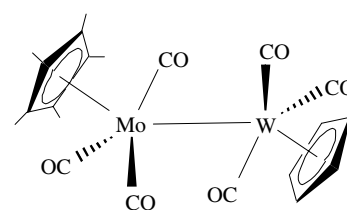


**Thomas Straub, Matti Haukka,  
Martin Brunner, Ari M.P. Koskinen,  
Tapani A. Pakkanen**

*J. Organomet. Chem.* 690 (2005) 674

Synthesis and molecular structure of ( $\eta^5$ -pentamethyl-cyclopentadienyl)( $\eta^5$ -cyclopentadienyl) hexacarbonyl molybdenum tungsten

Metathesis of  $\text{Cp}^*(\text{CO})_3\text{MoBr}$  and  $\text{NaW}(\text{CO})_3\text{Cp}$  produced  $\text{Cp}^*(\text{CO})_3\text{Mo}-\text{W}(\text{CO})_3\text{Cp}$ . Its solid state structure exhibits an anti-arrangement of the  $\eta^5$ -cyclopentadienyl and the  $\eta^5$ -pentamethyl-cyclopentadienyl ligands that also dictate the Mo–W bond length. This is the first time that an unsupported Mo–W single bond distance is reported.

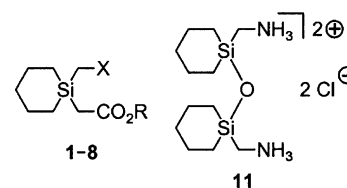


**Jürgen O. Dai, Christian Burschka,  
Reinhold Tacke**

*J. Organomet. Chem.* 690 (2005) 678

$\beta$ -Carbonylsilanes with a silacyclohexane skeleton and additional C-functionalized organyl groups at the silicon atom: synthesis, reactivity, and NMR-spectroscopic characterization

The novel  $\beta$ -carbonylsilanes **1–8** ( $X/R = \text{Cl}/\text{CH}_2\text{Ph}$ ,  $\text{N}_3/\text{CH}_2\text{Ph}$ ,  $\text{Cl}^t/\text{Bu}$ ,  $\text{N}_3^t/\text{Bu}$ ,  $\text{Cl}/\text{SiMe}_3$ ,  $\text{I}^t/\text{Bu}$ ,  $\text{NCO}^t/\text{Bu}$ ,  $\text{N}(\text{H})\text{C}(\text{=O})\text{O}^t/\text{Bu}^t/\text{Bu}$ ) were synthesized and studied for their reactivity. In addition, the disiloxane **11** was prepared, and **11** · 2H<sub>2</sub>O was structurally characterized by single-crystal X-ray diffraction.

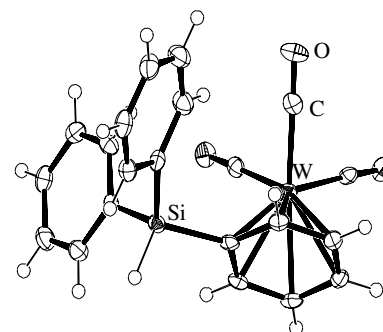


**Agnieszka Gądek, Andrzej Kochel,  
Teresa Szymańska-Buzar**

*J. Organomet. Chem.* 690 (2005) 685

Photochemical reactions of  $\text{W}(\text{CO})_6$  with hydrosilanes: synthesis, spectroscopic characteristic, and crystal structure of  $\text{W}(\text{CO})_3(\eta^6\text{-PhSiHPh}_2)$

Photolysis of  $\text{W}(\text{CO})_6$  in the presence of  $\text{Ph}_3\text{SiH}$  in *n*-heptane leads to the formation of the first tricarbonyl( $\eta^6$ -triphenylhydrosilane)tungsten complex  $\text{W}(\text{CO})_3(\eta^6\text{-PhSiHPh}_2)$  in good yield. The molecular structure of the new tungsten–silane compound was established by single-crystal X-ray diffraction studies and characterized by IR, UV–Vis,  $^1\text{H}$ ,  $^{13}\text{C}\{^1\text{H}\}$ , and  $^{29}\text{Si}\{^1\text{H}\}$  NMR spectroscopy.

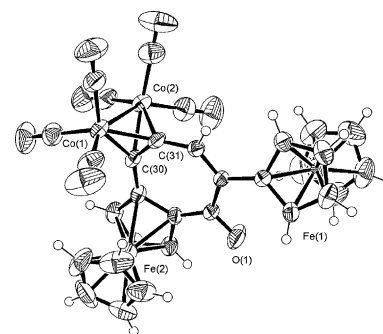


**Gerhard Laus, Herwig Schottenberger,  
Josef Lukasser, Klaus Wurst,  
Johannes Schütz, Karl-Hans Ongania,  
László Zsolnai**

*J. Organomet. Chem.* 690 (2005) 691

Cyclisation of diferrocenylbutadiyne dicobalt hexacarbonyl mono-adduct to novel ferrocenotropones

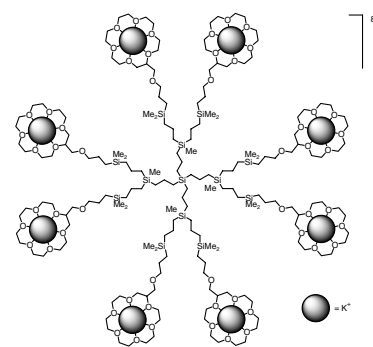
Treatment of 1,4-diferrocenyl-1,3-butadiyne dicobalt hexacarbonyl complex with trifluoroacetic acid resulted in cyclisation with concomitant CO insertion to give the green 2,3-ferroceno-7-ferrocenyl-4,5-dehydrotropone dicobalt hexacarbonyl, which in turn was converted by trifluoroacetic acid to red 2,3-ferroceno-7-ferrocenyltropone. The first step implied the involvement of a second dicobalt hexacarbonyl complex as a CO source. The molecular structures of the novel tropones were determined by X-ray analysis.



**Roy Buschbeck, Heinrich Lang***J. Organomet. Chem.* 690 (2005) 696

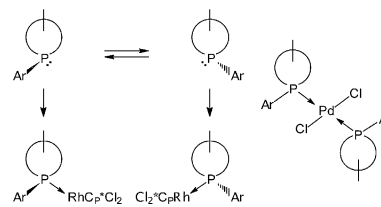
Kronenether-funktionalisierte Carbosilan-dendrimere

The synthesis of 1<sup>st</sup> and 2<sup>nd</sup> generation carbosilane dendrimers with end-grafted 15-crown-5 and 18-crown-6 ethers is described. Their complexation behaviour towards Na<sup>+</sup> and K<sup>+</sup> ions is reported.


**Irina L. Odinets, Natalya M. Vinogradova,  
Konstantin A. Lyssenko, Denis G. Golovanov,  
Pavel V. Petrovskii,  
Tatyana A. Mastryukova, Helga Szelke,  
Nóra Balázsdi Szabó, György Keglevich**
*J. Organomet. Chem.* 690 (2005) 704

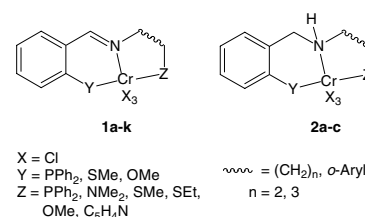
Rhodium(III) and palladium(II) complexes of some P-heterocycles; synthesis and X-ray structures

A few cyclic phosphine oxides such as, phosphabicyclo[3.1.0]hexane 3-oxides and a 4-dichloromethylene-1,4-dihydrophosphinine oxide were deoxygenated by trichlorosilane to give phosphines that served as P-ligands in novel Rh(III) and Pd(II) complexes. Inversion at the phosphorus atom in the phosphine stage made possible the synthesis of a diastereoisomeric Rh(III) complex.

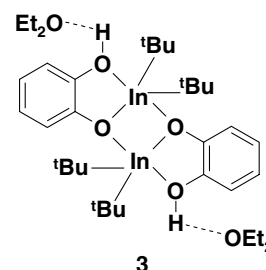

**Martin E. Bluhm, Olaf Walter,  
Manfred Döring**
*J. Organomet. Chem.* 690 (2005) 713

Chromium imine and amine complexes as homogeneous catalysts for the trimerisation and polymerisation of ethylene

Chromium(III)-based tridentate imine and amine complexes **1** and **2** are active catalysts together with the cocatalyst MAO for the trimerisation and polymerisation of ethylene. The influence of different donor atoms and substituents in the ligands **I** and **II** is tested on the catalytic activity and selectivity.


**Wanda Ziemkowska, Piotr Stella,  
Romana Anulewicz-Ostrowska**
*J. Organomet. Chem.* 690 (2005) 722Reactions of 1,2-catechol with <sup>t</sup>Bu<sub>3</sub>M (M = Ga, In). Structures of intermediate products

Trinuclear compounds [<sup>t</sup>Bu<sub>3</sub>M<sub>3</sub>(OC<sub>6</sub>H<sub>4</sub>O)<sub>2</sub>] [M = Ga (**1**), M = In (**2**)] were synthesised by the reaction of C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub> with <sup>t</sup>Bu<sub>3</sub>M. The structure of intermediate products [<sup>t</sup>Bu<sub>4</sub>In<sub>2</sub>(OC<sub>6</sub>H<sub>4</sub>OH)<sub>2</sub>·2Et<sub>2</sub>O] (**3**), [<sup>t</sup>Bu<sub>3</sub>In<sub>2</sub>(OC<sub>6</sub>H<sub>4</sub>O)(OC<sub>6</sub>H<sub>4</sub>OH)] (**4**), [<sup>t</sup>Bu<sub>3</sub>Ga<sub>2</sub>(OC<sub>6</sub>H<sub>4</sub>O)(OC<sub>6</sub>H<sub>4</sub>OH)] (**5**) and [<sup>t</sup>Bu<sub>3</sub>Ga<sub>2</sub>(OC<sub>6</sub>H<sub>4</sub>O)(OC<sub>6</sub>H<sub>4</sub>OH)] (**6**) were determined. According to the structures of **3-6** a reaction pathway of 1,2-catechols with group 13 metal trialkyls was proposed.

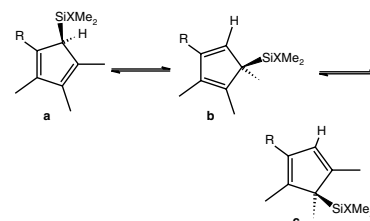


Jiří Pinkas, Jiří Kubišta, Róbert Gyepes,  
Jiří Čejka, Philippe Meunier, Karel Mach

*J. Organomet. Chem.* 690 (2005) 731

Non-degenerate 1,2-silyl shift in silyl substituted alkyltrimethylcyclopentadienes

Activation parameters of non-degenerate 1,2-silyl shift between isomers **b** and **a** (for compounds **5–8**) and between isomers **b** and **c** (for compounds **5** and **7**) of new silyl substituted alkyltrimethylcyclopentadienes were evaluated from variable temperature NMR experiments. The reaction of **5** with strong dienophiles (DMAD, TCNE) led to different Diels–Alder products, which confirmed the isomers **a** and **b**.



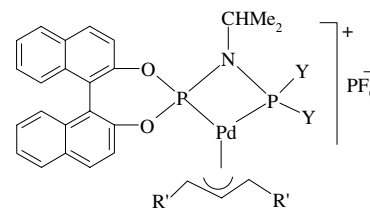
R=*i*-Pr, X=Me (**5**); R=*i*-Pr, X=Cl (**6**); R=*s*-Bu, X=Cl (**7**);  
R=cyclohexyl, X=Cl (**8**); R=*t*-Bu, X=Me (**9**)

Swadhin K. Mandal, G.A. Nagana Gowda,  
Setharampattu S. Krishnamurthy,  
Thomas Stey, Dietmar Stalke

*J. Organomet. Chem.* 690 (2005) 742

Chiral “P–N–P” ligands, (C<sub>20</sub>H<sub>12</sub>O<sub>2</sub>) PN-(R)PY<sub>2</sub> [R = CHMe<sub>2</sub>, Y = C<sub>6</sub>H<sub>5</sub>, OC<sub>6</sub>H<sub>5</sub>, OC<sub>6</sub>H<sub>4</sub>-4-Me, OC<sub>6</sub>H<sub>4</sub>-4-OMe or OC<sub>6</sub>H<sub>4</sub>-4-<sup>t</sup>Bu] and their allyl palladium complexes

Chiral “P–N–P” ligands, (C<sub>20</sub>H<sub>12</sub>O<sub>2</sub>)PN(R)PY<sub>2</sub> [R = CHMe<sub>2</sub>, Y = C<sub>6</sub>H<sub>5</sub> (**1**), OC<sub>6</sub>H<sub>5</sub> (**2**), OC<sub>6</sub>H<sub>4</sub>-4-Me (**3**), OC<sub>6</sub>H<sub>4</sub>-4-OMe (**4**) or OC<sub>6</sub>H<sub>4</sub>-4-<sup>t</sup>Bu (**5**)] bearing the axially chiral 1,1'-binaphthyl-2,2'-dioxy moiety have been synthesised. Palladium allyl chemistry of two of these chiral ligands (**1** and **2**) has been investigated. The structures of isomeric η<sup>3</sup>-allyl palladium complexes, [Pd(η<sup>3</sup>-1,3-*R*'<sub>2</sub>C<sub>3</sub>H<sub>3</sub>){κ<sup>2</sup>-(racemic)-(C<sub>20</sub>H<sub>12</sub>O<sub>2</sub>)PN-(CHMe<sub>2</sub>)PY<sub>2</sub>}] (PF<sub>6</sub>) (R' = Me or Ph; Y = C<sub>6</sub>H<sub>5</sub> or OC<sub>6</sub>H<sub>5</sub>) have been elucidated by high field two-dimensional NMR spectroscopy. The solid state structure of [Pd(η<sup>3</sup>-1,3-Ph<sub>2</sub>C<sub>3</sub>H<sub>3</sub>){κ<sup>2</sup>-(racemic)-(C<sub>20</sub>H<sub>12</sub>O<sub>2</sub>)PN(CHMe<sub>2</sub>)PPh<sub>2</sub>}] (PF<sub>6</sub>) has been determined by X-ray crystallography. Preliminary investigations show that the diposphazanes, **1** and **2** function as efficient auxiliary ligands for catalytic allylic alkylation but give rise to only moderate levels of enantiomeric excess.



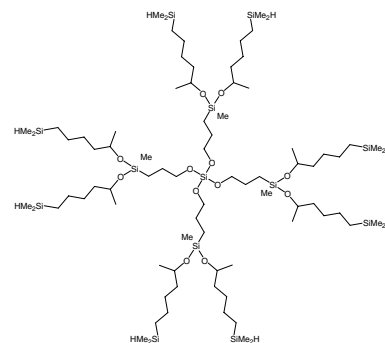
R' = Me, Y = C<sub>6</sub>H<sub>5</sub>;  
R' = Ph, Y = C<sub>6</sub>H<sub>5</sub>;  
R' = Ph, Y = OC<sub>6</sub>H<sub>5</sub>

Roy Buschbeck, Helga Sachse,  
Heinrich Lang

*J. Organomet. Chem.* 690 (2005) 751

Carbosiloxandendrimere mit terminalen SiH-Bindungen

The synthesis of 1<sup>st</sup>–3<sup>rd</sup> generation carbosiloxane dendrimers with end-grafted SiMe<sub>3–n</sub>H<sub>n</sub> (*n* = 1, 2, 3) units is discussed. They are accessible by the reaction of SiMe<sub>4–m</sub>Cl<sub>*m*</sub> (*m* = 1, 2, 3, 4) or SiCl<sub>*m*</sub>-terminated carbosiloxane dendrimers of the 1<sup>st</sup> and 2<sup>nd</sup> generation (*m* = 1, 2) with HOCH(Me)(CH<sub>2</sub>)<sub>4</sub>SiMe<sub>3–n</sub>H<sub>n</sub> (*n* = 1, 2, 3).

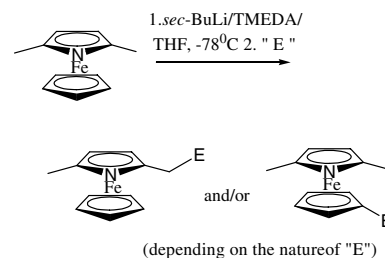


Konrad Kowalski, Janusz Zakrzewski,  
Lucjan Jerzykiewicz

*J. Organomet. Chem.* 690 (2005) 764

Reactions of lithiated 2,5-dimethylazaferrocene with selected electrophiles

Reactions of lithiated 2,5-dimethylazaferrocene with 4-methoxybenzaldehyde, 4-methoxyacetophenone, 4,4'-dimethoxybenzophenone, *N,N*-dimethylformamide, chlorodiphenylphosphine and diphenyl diselenide lead to Cp- and laterally substituted products or their mixtures.



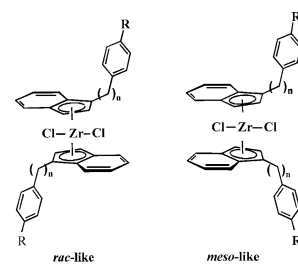
(depending on the nature of "E")

**Erkki Aitola, Marina Surakka, Timo Repo, Mikko Linnolahti, Kristian Lappalainen, Kaisa Kervinen, Martti Klinga, Tapani Pakkanen, Markku Leskelä**

*J. Organomet. Chem.* 690 (2005) 773

Polymerization of ethene with zirconocene catalysts: an experimental and quantum chemical study of the influence of *para*-substituent in benzyl in bis{ $\eta^5$ -(1-benzyl)indenyl}zirconium dichlorides

The *meso*- and *rac*-like isomers of bis{ $\eta^5$ -(1-benzyl)indenyl}zirconium dichloride (**5**), bis{ $\eta^5$ -(1-*para*-methoxybenzyl)indenyl}zirconium dichloride (**6**), bis{ $\eta^5$ -(1-*para*-fluorobenzyl)indenyl}zirconium dichloride (**7**) and bis{ $\eta^5$ -(1-phenylethyl)indenyl}zirconium dichloride (**8**) were synthesized and isolated. Methylaluminoxane (MAO) activated diastereomers of complexes **5–8** were studied in ethene polymerization.



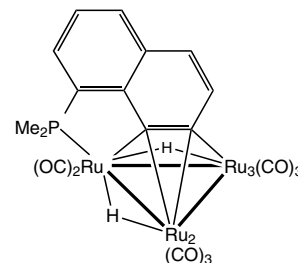
Complex: **5**, R=H, n=1  
**6**, R=OMe, n=1  
**7**, R=F, n=1  
**8**, R=H, n=2

**Michael I. Bruce, Paul A. Humphrey, Reinhard Schmutzler, Brian W. Skelton, Allan H. White**

*J. Organomet. Chem.* 690 (2005) 784

Ruthenium carbonyl clusters containing  $\text{PMe}_2(\text{nap})$  and derived ligands ( $\text{nap} = 1$ -naphthyl): generation of naphthalene derivatives

Reactions of 1,8-( $\text{PMe}_2$ ) $\text{C}_{10}\text{H}_8$  with  $\text{Ru}_3(\text{CO})_{12}$  or  $\text{Ru}_3(\mu\text{-dppm})(\text{CO})_{10}$  results in ready replacement of one  $\text{PMe}_2$  group by H to give  $\text{Ru}_3(\mu\text{-dppm})_a(\text{CO})_{11-2a}\{\text{PMe}_2(\text{nap})\}$ ; thermolysis affords clusters containing  $\mu_3$ -naphthalene groups.

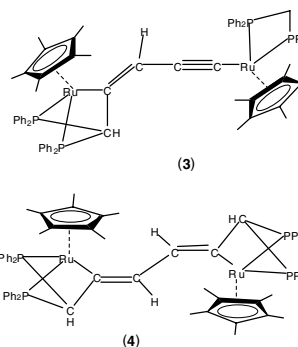


**Michael I. Bruce, Benjamin G. Ellis, Brian W. Skelton, Allan H. White**

*J. Organomet. Chem.* 690 (2005) 792

Further reactions of some bis(vinylidene)diruthenium complexes

Complexes containing 1-ruthena-2,4-diphosphabicyclo[1.1.1]pentane moieties, such as **3** and **4**, have been obtained by treatment of bis(vinylidene)diruthenium complexes containing  $\text{dppm}$  with  $\text{KOBu}^t$ , by intramolecular attack of the deprotonated  $\text{dppm}$  ligand at C(1) of the vinylidene ligand.

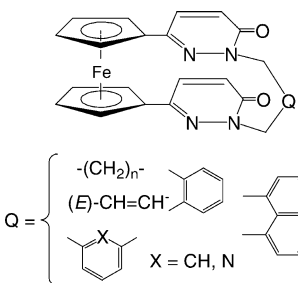


**Antal Csámpai, Árvácska Abrán, Veronika Kudar, György Túrós, Heinrich Wamhoff, Pál Sohár**

*J. Organomet. Chem.* 690 (2005) 802

Synthesis, NMR, IR spectroscopic and X-ray study of novel [pyridazin-3(2H)-one-6-yl]ferrocenes and related ferrocenophane derivatives. Study on ferrocenes. Part 14

Starting from 1,1'-diacetyl-ferrocene a series of novel ferrocenophanes incorporating two connected pyridazinone units were prepared by PTC dialkylation and RCM protocol using second generation Grubbs' catalyst. An interesting  $\pi$ -stacking was detected by the X-ray analysis of a *bis*-[2-allylpyridazin-3(2H)-one-6-yl]ferrocenyl-azine derivative.

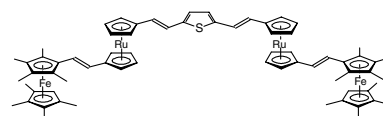


**Dagmar Obendorf, Herwig Schottenberger, Klaus Wurst, Norbert Schuler, Gerhard Laus**

*J. Organomet. Chem.* 690 (2005) 811

Synthesis and electrochemistry of novel heteronuclear Fe–Ru bi- and quater-metalloenes, conjugatively connected by ethene and thiophene bridges

(all-*E*)-2,5-Bis[2-[1'-[2-(1',2,2',3,3',4,4',5-octamethylferrocenyl)ethenyl]ruthenoceny]ethenyl]thiophene was synthesized by Wittig olefinations. The X-ray structure of the intermediate (*E*)-2-(1'-formylruthenoceny]ethenyl-1',2,2',3,3',4,4',5-octamethylferrocene is reported. The cyclic voltammogram of this quatermetalloene exhibits completely unusual redox properties. In contrast to most ruthenocene-containing compounds, a reversible two-electron transfer is observed at a significantly lower potential than found usually for ruthenocenes that can be attributed unambiguously to the independent oxidation/reduction of the two ruthenocene moieties.

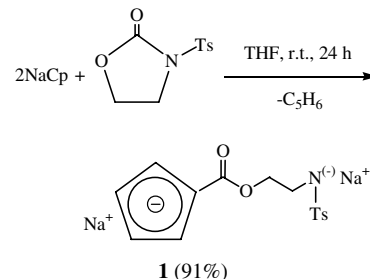


**Luigi Busetto, M. Cristina Cassani, Rita Mazzoni, Vincenzo G. Albano, Piera Sabatino**

*J. Organomet. Chem.* 690 (2005) 818

One-pot synthesis of the new dianionic ligand  $[\text{Na}]_2[\text{C}_5\text{H}_4\text{CO}_2(\text{CH}_2)_2\text{NTs}]$ ; preparation and structures of two rhodium derivatives

The new dianionic ligand  $[\text{Na}]_2[\text{C}_5\text{H}_4\text{CO}_2(\text{CH}_2)_2\text{NTs}]$  (**1**) having an alkoxy-carbonyl and an amide group in the same side chain has been prepared by a single step, high yield procedure. The synthesis of the related rhodium complexes  $[\text{Rh}\{\eta^5\text{-C}_5\text{H}_4\text{CO}_2(\text{CH}_2)_2\text{N}(\text{H})\text{Ts}\}(\text{NBD})]$  (**3**) and  $[\text{Rh}\{\eta^5\text{-C}_5\text{H}_4\text{CO}_2(\text{CH}_2)_2\text{N}(\text{Me})\text{Ts}\}(\text{NBD})]$  (**4**) is reported as well as their X-ray molecular structures.



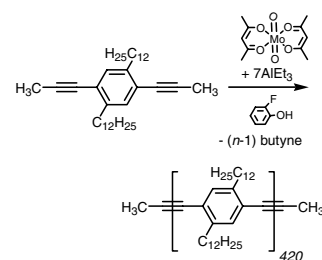
## Note

**Ruta K. Bly, Kristen M. Dyke, Uwe H.F. Bunz**

*J. Organomet. Chem.* 690 (2005) 825

A study of molybdenum catalysts in the polymerization of 2,5-didodecyl-1,4-dipropynylbenzene

Investigation of molybdenum-based in situ catalyst systems for alkyne metathesis. The treatment of dipropynyl-didodecylbenzene with a mixture of  $(\text{acac})_2\text{MoO}_2$  in the presence of 7 equivalents of triethylaluminum and 2-fluorophenol furnishes didodecyl-PPE of high molecular weight at temperatures as low as 105 °C in boiling toluene. A series of other molybdenum carbonyl complexes in the presence of phenols were as well investigated as metathesis catalysts. While all of the investigated catalyst precursors were active in the formation of PPEs, they are not more active than the original  $\text{Mo}(\text{CO})_6$ -4-chlorophenol system. The exception is the  $(\text{acac})_2\text{MoO}_2$ -based catalyst that is significantly more active than all of the other investigated in situ catalyst systems.





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