



## Contents

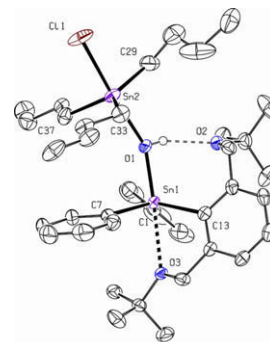
### Communications

**Libor Dostál, Jan Taraba, Roman Jambor**

*J. Organomet. Chem.* 694 (2009) 1251

Synthesis of  $\text{Ph}_2\text{LSn}(\mu\text{-OH})\text{Bu}_3\text{SnCl}$ .  
Trapping of monomeric triorganotin  
hydroxide  $\text{Ph}_2\text{LSnOH}$

The reaction of triorganotin(IV) compound  $\text{Ph}_2\text{LSnCl}$  (**1**), ( $\text{L} = 2,6\text{-}(t\text{-BuOCH}_2)_2\text{C}_6\text{H}_3$ ), with  $(\text{Bu}_3\text{Sn})_2\text{O}$  resulted to the isolation of  $\text{Ph}_2\text{LSn}(\mu\text{-OH})\text{Bu}_3\text{SnCl}$  (**2**) containing monomeric triorganotin(IV) hydroxide  $\text{Ph}_2\text{LSnOH}$  that intermolecularly coordinates  $\text{Bu}_3\text{SnCl}$  moiety. Compound **2** was characterized by the help of  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{119}\text{Sn}$  NMR spectroscopy, ESI/MS, elemental analysis and X-ray diffraction.

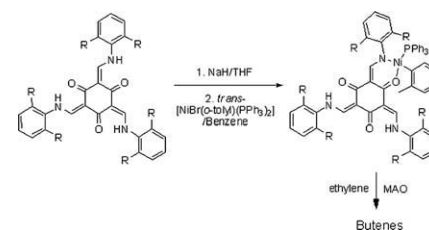


**Deepak Chandran, Cheolbeom Bae,  
InYong Ahn, Chang-Sik Ha, Il Kim**

*J. Organomet. Chem.* 694 (2009) 1254

Neutral Ni(II) complexes based on keto-  
enamine salicylideneanilines active for  
selective dimerization of ethylene

Neutral Ni(II) complexes coordinated to keto-enamine salicylideneaniline ligands and triphenylphosphine minor ligand along with a *o*-tolyl group making metal carbon bonds were synthesized and they were found active for ethylene oligomerization when activated with methylalumoxane to give selective dimerization along with a minor amount of trimerization.



**Vivek Bagchi, Debkumar Bandyopadhyay**

*J. Organomet. Chem.* 694 (2009) 1259

*In situ* generation of palladium oxide nano-  
crystals

Palladium oxide nano-crystal formed in the synthesis of metal organic framework (MOF) based on tetra-pyridyl porphyrin and palladium. The palladium oxide nano-crystals were characterized by PXRD, TEM, HRTEM, ED, UV Vis, DLS, SEM and AFM. A plausible mechanism for the *in situ* generation of nano-crystals has been proposed.

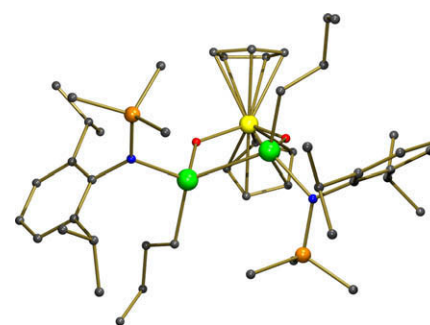


**Josef Bare , Zdenka Padelková,  
Philippe Meunier, Nadine Pirio,  
Ale Ruzicka**

*J. Organomet. Chem.* 694 (2009) 1263

Reactivity of di-*n*-butyl-dicyclopentadienylzirconium towards amido stabilized stannylenes

$\text{Sn}[(\text{N}(\text{C}_6\text{H}_3\text{iPr}_2-2,6)(\text{SiMe}_3))_2]$  or  $[\{\text{Sn}(\text{N}(\text{C}_6\text{H}_3\text{iPr}_2-2,6)(\text{SiMe}_3)(\mu\text{-Cl})_2)]$  react with di-*n*-butyl-dicyclopentadienylzirconium to form the trimetallic carbene-like complex  $\{[(\text{N}(\text{C}_6\text{H}_3\text{iPr}_2-2,6)(\text{SiMe}_3))(n\text{-Bu})\text{Sn}]_2\text{Cp}_2\text{Zr}$ . The oxidation of this complex by oxygen give the ve-membered dioxadistannazirconacyclic complex  $\{[(\text{N}(\text{C}_6\text{H}_3\text{iPr}_2-2,6)(\text{SiMe}_3))(n\text{-Bu})\text{Sn}]_2\text{O}_2\text{Cp}_2\text{Zr}$ .



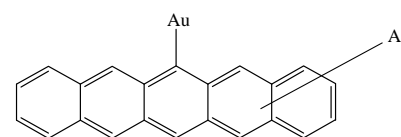
## Regular Papers

**Shi-Ling Sun, Chun-Sheng Qin,  
Yong-Qing Qiu, Guo-Chun Yang,  
Zhong-Min Su**

*J. Organomet. Chem.* 694 (2009) 1266

Theoretical investigation of structures, electronic spectra and nonlinear optical properties of gold-pentacene ( $\text{Au}_2\text{C}_{22}\text{H}_{14}$ ) complexes

The structures of another gold atom added to the stable molecule ( $\text{AuC}_{22}\text{H}_{14}$ ) (shown in Fig. 2) are studied. Here, the structure property relationships were revealed by studying the electron spectra characteristics of these isomers and the nonlinear optical properties. It is hoped that the results presented in this paper will give some hints to experimenter in this field.

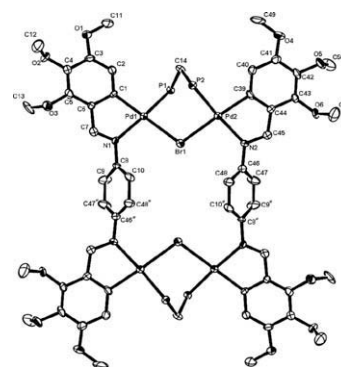


**Luis Adrio, José M. Antelo,  
Juan M. Ortigueira, Jesús J. Fernández,  
Alberto Fernández, M<sup>a</sup>. Teresa Pereira,  
José M. Vila**

*J. Organomet. Chem.* 694 (2009) 1273

The chemistry of *N*-benzylidene-1,4-phenylenediamine palladacycles: The crystal and molecular structure of the first tetranuclear palladacycle with bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  ligands

The molecular structure of the novel tetranuclear cyclometalated palladium(II) compound **4a** contains two six-membered dimetalic  $\text{CBrPd}_2$  rings, comprising bridging  $\text{Ph}_2\text{PCH}_2\text{PPh}_2$  and bromine ligands, which link together two tetradentate *N*-benzylidene-1,4-phenylenediamine [C,N,C,N] moieties.

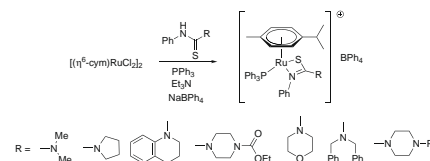


**Cansu Alagöz, David J. Brauer,  
Fabian Mohr**

*J. Organomet. Chem.* 694 (2009) 1283

Arene ruthenium metallacycles containing chelating thioamide ligands

Cationic, chiral arene ruthenium complexes of the type  $[\text{Ru}(\eta^6\text{-cym})(\text{PPh}_3)\{\kappa^2\text{N,S-PhNC}(\text{S})\text{R}\}]\text{BPh}_4$  were prepared in high yields by reacting a mixture containing  $[(\eta^6\text{-cym})\text{RuCl}_2]_2$ ,  $\text{Ph}_3\text{P}$ ,  $\text{PhNHC}(\text{S})\text{R}$ ,  $\text{NaBPh}_4$  and  $\text{Et}_3\text{N}$  in MeOH. A series of seven complexes with different thioamide ligands was prepared and fully characterised by spectroscopic methods and X-ray diffraction.

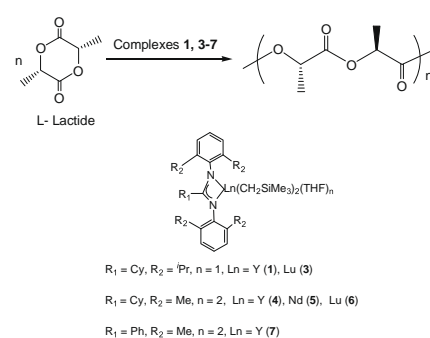


**Yunjie Luo, Xiulian Wang, Jue Chen,  
Chengcai Luo, Yong Zhang, Yingming Yao**

*J. Organomet. Chem.* 694 (2009) 1289

Mono(amidinate) rare earth metal bis(alkyl) complexes: Synthesis, structure and their activity for L-lactide polymerization

Alkane elimination between rare earth metal tris(alkyl) complexes and 1 equiv. of the amidines afforded mono(amidinate) rare earth metal bis(alkyl) complexes [CyC(N-2,6-<sup>i</sup>Pr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>Ln(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>(THF) (Ln = Y (1), Lu (3)), [CyC(N-2,6-<sup>i</sup>Pr<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>-Nd(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>(μ-Cl)Li(THF)<sub>3</sub> (2), [CyC(N-2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>Ln(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>(THF)<sub>2</sub> (Ln = Y (4), Nd (5), Lu (6)), and [PhC(N-2,6-Me<sub>2</sub>-C<sub>6</sub>H<sub>3</sub>)<sub>2</sub>Y(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>2</sub>(THF)<sub>2</sub> (7). These complexes showed activity towards L-lactide polymerization.

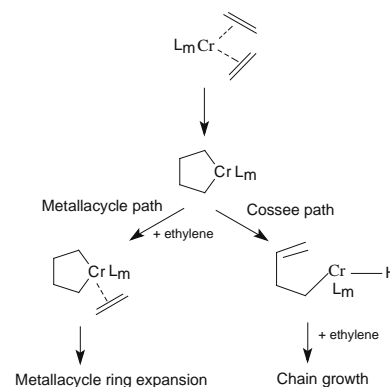


**Sumit Bhaduri, Sami Mukhopadhyay,  
Sudhir A. Kulkarni**

*J. Organomet. Chem.* 694 (2009) 1297

Density functional studies on chromium catalyzed ethylene trimerization

The role of neutral and cationic Cr-based simple model catalysts in clearly differentiating 'Cossee' mechanism from the usual 'metallacycle' mechanism of ethylene trimerization have been investigated utilizing density functional computations at B3LYP/LANL2DZ(d,p) level.

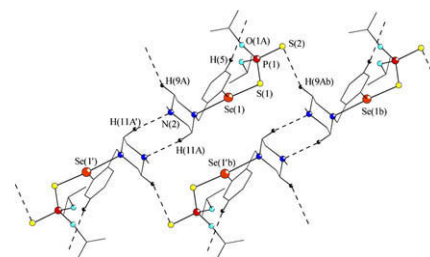


**Anca Belega, Monika Kulcsar,  
Calin Deleanu, Alina Nicolescu,  
Cristian Silvestru, Anca Silvestru**

*J. Organomet. Chem.* 694 (2009) 1308

Organoselenium(II) complexes containing organophosphorus ligands. Crystal and molecular structure of PhSeSP(S)Ph<sub>2</sub>, [2-{MeN(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>}C<sub>6</sub>H<sub>4</sub>]<sub>2</sub>SeSP(S)R'<sub>2</sub> (R' = Ph, OPr<sup>*i*</sup>) and [2-{O(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>}C<sub>6</sub>H<sub>4</sub>]<sub>2</sub>SeSP(S)(OPr<sup>*i*</sup>)<sub>2</sub>

ArSeSP(S)R<sub>2</sub> [Ar = Ph, R = Ph (1), OPr<sup>*i*</sup> (2); 2-[MeN(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>]C<sub>6</sub>H<sub>4</sub>, R = Ph (3), OPr<sup>*i*</sup> (4); 2-[O(CH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>]C<sub>6</sub>H<sub>4</sub>, R = Ph(5), OPr<sup>*i*</sup> (6)] were investigated by solution NMR and the structures of 1, 3, 4 and 6 were established by single-crystal X-ray diffraction. In 3, 4 and 6 a C,N-ligand prevents any intra- or intermolecular Se...S interactions and a T-shaped (C,N)SeS core is achieved.

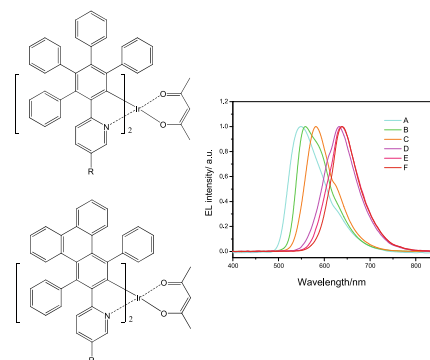


**Chun Huang, Chang-Gua Zhen,  
Siew Ping Su, Zhi-Kuan Chen, Xiao Liu,  
De-Chun Zou, Yan-Rong Shi,  
Kian Ping Loh**

*J. Organomet. Chem.* 694 (2009) 1317

High-ef ciency solution processable electrophosphorescent iridium complexes bearing polyphenylphenyl dendron ligands

Highly electrophosphorescent ef ciency light-emitting diodes were fabricated from Ir complexes with polyphenylphenyl dendron ligands to suppress the triplet triplet annihilation in solid states through solution process. Conjugation length variation of ligands can effectively tune complexes emission wavelength. High performance devices with yellow to red emission color were demonstrated.

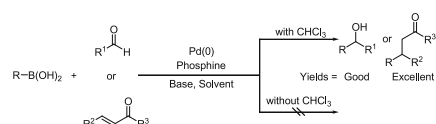


**Tetsuya Yamamoto, Michiko Iizuka,  
Hiroyuki Takenaka, Tetsuo Ohta,  
Yoshihiko Ito**

*J. Organomet. Chem.* 694 (2009) 1325

Addition reaction of arylboronic acids to aldehydes and  $\alpha,\beta$ -unsaturated carbonyl compounds catalyzed by conventional palladium complexes in the presence of chloroform

Arylboronic acids react with aldehydes and  $\alpha,\beta$ -unsaturated carbonyl compounds in the presence of a palladium(0) complex with chloroform, affording the corresponding addition products in good yields, and chiral benzhydrols were obtained with up to 43% e.e. using (*S,S*)-bppm as a ligand.

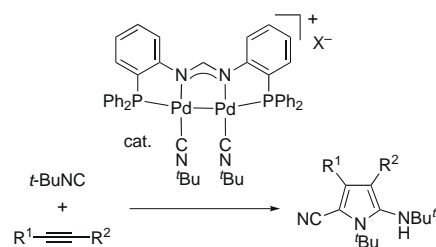


**Naofumi Tsukada, Makiko Wada,  
Naoki Takahashi, Yoshio Inoue**

*J. Organomet. Chem.* 694 (2009) 1333

Synthesis of dinuclear palladium complexes having two parallel isocyanide ligands, and their application as catalysts to pyrrole formation from *tert*-butylisocyanide and alkynes

Dinuclear palladium complexes having two parallel isocyanide ligands were synthesized by using a binucleating ligand, *N,N'*-bis[2-(diphenylphosphino)phenyl]formaminate. The dinuclear complexes served as catalyst for pyrrole formation from *tert*-butylisocyanide and alkynes.

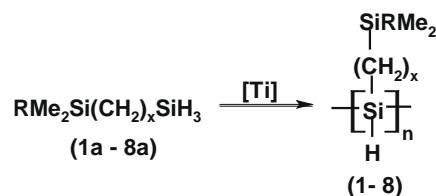


**Ravi Shankar, Vandana Shahi**

*J. Organomet. Chem.* 694 (2009) 1339

Catalytic dehydrocoupling of thienyl/furyl-substituted carbosilanes. Synthesis and characterization of functional poly(hydrosilane)s  $[\text{RMe}_2\text{Si}(\text{CH}_2)_x\text{SiH}]_n$  (*R* = 2-Th, 4-Me-2-Th, 2-Fu, 5-Me-2-Fu; *x* = 2 and 3)

Functional poly(hydrosilane)s  $[\text{RMe}_2\text{Si}(\text{CH}_2)_x\text{SiH}]_n$  (*R* = 2-thienyl, 4-methyl-2-thienyl, 2-furyl, 5-methyl-2-furyl; *x* = 2 and 3) are accessible via Ti-catalyzed dehydrocoupling of appropriate carbosilane monomers.

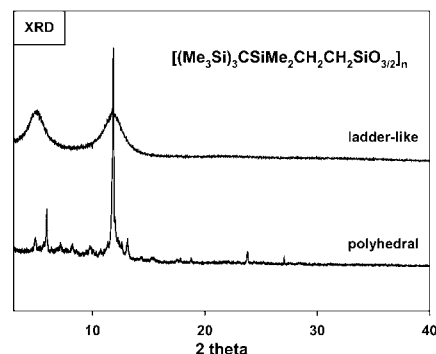


**Anna Kowalewska, Witold Fortuniak,  
Bartosz Handke**

*J. Organomet. Chem.* 694 (2009) 1345

New hybrid silsesquioxane materials with sterically hindered carbosilane side groups

New hybrid silsesquioxane carbosilane materials  $[(\text{Me}_3\text{Si})_3\text{CSiMe}_2\text{CH}_2\text{CH}_2\text{SiO}_{3/2}]_n$  were obtained using a precursor bearing highly sterically hindered carbosilane substituent. Bulky, nonpolar  $(\text{Me}_3\text{Si})_3\text{CSiMe}_2\text{CH}_2\text{CH}_2$  groups provide self-templating effect to the formed species due to the specific steric requirements of carbosilane moiety. Depending on the applied reaction conditions crystalline or ladder-like  $[(\text{Me}_3\text{Si})_3\text{CSiMe}_2\text{CH}_2\text{CH}_2\text{SiO}_{3/2}]_n$  were generated.

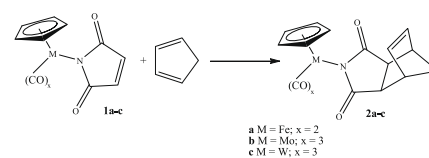


**Bogna Rudolf, Marcin Palusiak,  
Janusz Zakrzewski**

*J. Organomet. Chem.* 694 (2009) 1354

Diels-Alder reaction with cyclopentadiene and electronic structures of  $(\eta^5\text{-cyclopentadienyl})\text{M}(\text{CO})_x(\eta^1\text{-}N\text{-maleimidato})$  ( $\text{M} = \text{Fe}, \text{Mo}, \text{W}, x = 2 \text{ or } 3$ )

Diels-Alder reaction of **1a-c** with cyclopentadiene has been studied. The established order of reactivity is **1c** > **1b** > **1a**. The structures of **2a** and **2c** have been determined by X-ray diffraction. DFT calculations on **1a-c** have been performed to explain the observed reactivity order.

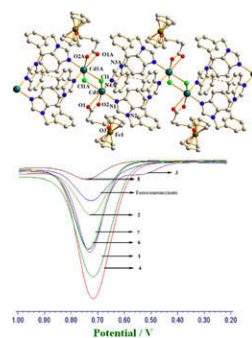


**Jinpeng Li, Linke Li, Hongwei Hou,  
Yaoting Fan**

*J. Organomet. Chem.* 694 (2009) 1359

Construction of Cd(II) ferrocenesuccinate coordination complexes via changing adjuvant ligands and anions

Seven Cd(II) ferrocenesuccinate coordination complexes have been synthesized and characterized. Complexes **1-7** display dimeric or fascinating 1-D structures. These structures show that the adjuvant ligands and anions are important in the construction of metal complexes. Various  $\pi-\pi$  interactions are found in **1-7**. Their electrochemistry properties are also studied.

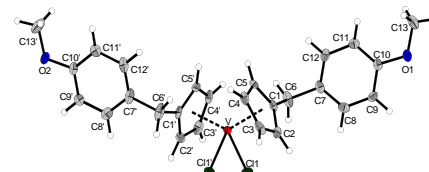


**Brendan Gleeson, James Claffey,  
Megan Hogan, Helge Müller-Bunz,  
Denise Wallis, Matthias Tacke**

*J. Organomet. Chem.* 694 (2009) 1369

Novel benzyl-substituted vanadocene anticancer drugs

Three benzyl-substituted vanadocene dichloride complexes were synthesized through the hydridolithiation reaction of appropriately substituted fulvenes with  $\text{LiBEt}_3\text{H}$ . Within, the synthesis of the three vanadocene derivatives are reported along with a structural discussion of two of the vanadocenes. Additionally, the compounds were tested for their anticancer activity.

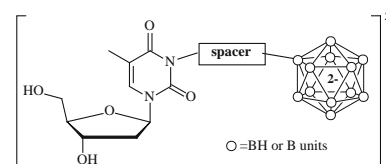


**Andrey Semioshkin, Julia Laskova,  
B ażej Wojtczak, Agnieszka Andrysiak,  
Ivan Godovikov, Vladimir Bregadze,  
Zbigniew J. Lesnikowski**

*J. Organomet. Chem.* 694 (2009) 1375

Synthesis of *closo*-dodecaborate based nucleoside conjugates

The first conjugates of *closo*-dodecaborate anion with nucleoside-thymidine were synthesized. The nucleophilic cleavage of dioxonium derivative of *closo*-dodecaborate by 3',5'-bis(*t*-butyldimethylsilyl)-thymidine and click reaction between  $\text{B}_{12}$ -based azide and 3*N*-(4-pentyn-1-yl)thymidine were appeared as convenient approaches towards the synthesis of this new class of nucleoside-based boron cluster conjugates.

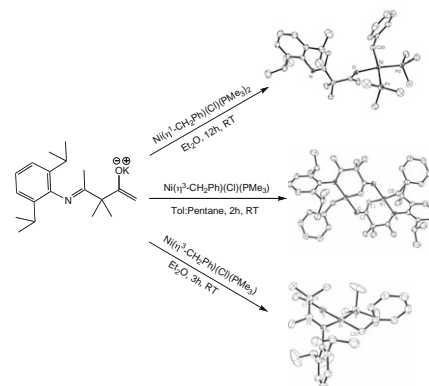


**Brycelyn M. Boardman, Guang Wu,  
Rene Rojas, Guillermo C. Bazan**

*J. Organomet. Chem.* 694 (2009) 1380

Binding modes of a dimethylimino-pentanone ligand on nickel pre-catalysts toward olefin polymerization

Potassium 4-(2,6-diisopropylphenylimino)-3,3-dimethyl-pent-2-en-2-olate can then be reacted with  $\text{Ni}(\text{PMe}_3)_2(\eta^1\text{-CH}_2\text{Ph})\text{Cl}$  to yield 4-(2,6-diisopropylphenylimino)-3,3-dimethyl-pent-2-en-2-olato- $\kappa^1\text{O}](\eta^1\text{-CH}_2\text{Ph})\text{-}(\text{PMe}_3)_2\text{Ni}$  (1). The potassium salt can also react with  $\text{Ni}(\text{PMe}_3)(\eta^3\text{-CH}_2\text{Ph})\text{Cl}$  to yield bis(4-(2,6-diisopropylphenylimino)-3,3-dimethyl-pent-2-en-2-olato- $\kappa^2\text{N,O}](\eta^1\text{-CH}_2\text{Ph})_2\text{Ni}_2$  (2) or 4-(2,6-diisopropylphenylimino)-3,3-dimethyl-pent-2-en-2-olato- $\kappa^2\text{N,O}](\eta^1\text{-CH}_2\text{Ph})(\text{PMe}_3)\text{Ni}$  (3), depending on reaction conditions. All three species are active toward homopolymerization of ethylene when activated with  $\text{B}(\text{C}_6\text{F}_5)_3$ .

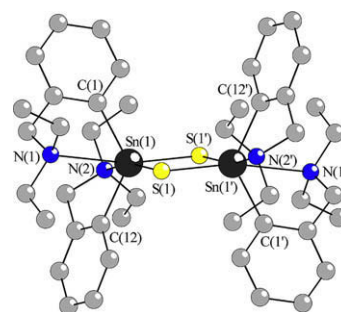


**Adina Rotar, Richard A. Varga,  
Klaus Jurkschat, Cristian Silvestru**

*J. Organomet. Chem.* 694 (2009) 1385

Diorganotin(IV) compounds containing 2-( $\text{Et}_2\text{NCH}_2$ ) $\text{C}_6\text{H}_4$  moieties: Conformational stability in solution and solid state structures

New diorganotin(IV) dihalides,  $[\text{2}-(\text{Et}_2\text{NCH}_2)\text{C}_6\text{H}_4]_2\text{SnX}_2$  [ $\text{X} = \text{Cl}$  (1),  $\text{F}$  (2),  $\text{Br}$  (3),  $\text{I}$  (4)], and the sulfoxide  $\text{cyclo}\{[\text{2}-(\text{Et}_2\text{NCH}_2)\text{C}_6\text{H}_4]_2\text{SnS}\}_2$  (5) were investigated by solution NMR. The compounds exhibit similar structures in solution and in the solid state. The intramolecular  $\text{N} \rightarrow \text{Sn}$  coordination results in distorted octahedral  $\text{cis-X}_2\text{-cis-N}_2\text{-trans-C}_2\text{Sn}$  conformations.

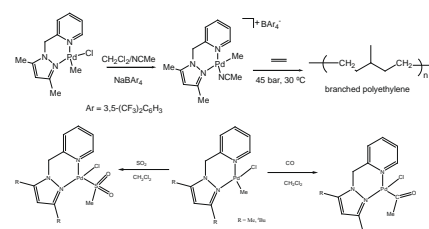


**Stephen O. Ojwach, Ilia A. Guzei,  
J. Darkwa**

*J. Organomet. Chem.* 694 (2009) 1393

(Pyrazol-1-ylmethyl)pyridine palladium complexes: Synthesis, molecular structures, and activation of small molecules

Pyrazol-1-yl)pyridine forms both dichloro and chloromethyl palladium complexes. Removal of chloride from the chloromethyl complexes forms cationic species that polymerize ethylene. The neutral chloromethyl palladium complexes readily react with sulfur dioxide and carbon monoxide, leading to insertion of these molecules in the palladium-carbon bond of the chloromethyl palladium complexes.

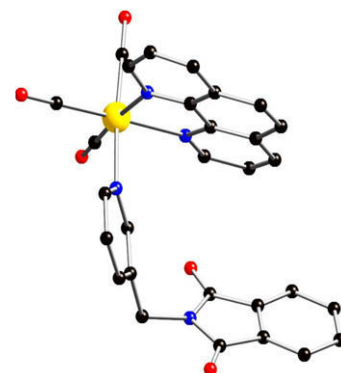


**Flora L. Thorp-Greenwood,  
Michael P. Coogan, Andrew J. Hallett,  
Rebecca H. Laye, Simon J.A. Pope**

*J. Organomet. Chem.* 694 (2009) 1400

Syntheses, structural studies and spectroscopic characterisation of pyridyl phthalimide complexes of  $\text{fac}(\text{CO})_3\text{Re}^{\text{I}}$ -diimines

The mono-dentate ligands, 3-aminomethyl-*N*-phthalimido-pyridine ( $\text{L}^1$ ) and 3-amino-*N*-phthalimido-pyridine ( $\text{L}^2$ ), were synthesised using a solvent-free melt method. These ligands were then used to access three pairs of functionalised luminescent  $\text{Re}^{\text{I}}$  complexes of the generic type  $\text{fac}\{(\text{CO})_3(\text{diimine})(\text{L}^n)\}(\text{BF}_4)$ . The photophysical studies show that the visible emission from each of the six complexes is  $^3\text{MLCT}$  at room temperature. Within each pair of complexes the precise energy of the emission was subtly dependent upon the axial ligand,  $\text{L}^n$  with luminescence lifetimes in the range 121–288 ns.



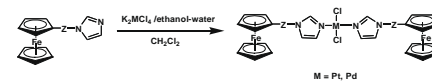


**Vincent O. Nyamori, Douglas Onyancha, Cedric W. McClelland, Christopher Imrie, Thomas I.A. Gerber**

*J. Organomet. Chem.* 694 (2009) 1407

Synthesis and characterization of palladium(II) and platinum(II) complexes with ferrocenylimidazole

The synthesis and characterization of ferrocenylimidazole complexes of platinum(II) and palladium(II) are described. The reaction of 4-ferrocenylbenzyl-1*H*-imidazole-1-carboxylate with  $K_2PtCl_4$  in a water alcohol mixture afforded ferrocenylbenzylethers. The absence of alcohol led to the formation of the carbonate. The ferrocenylbenzylethers were alternatively obtained by either heating under reflux in a water alcohol mixture or by acid catalysis at room temperature.

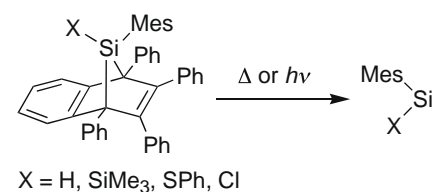


**Masahiro Okimoto, Atsushi Kawachi, Yohsuke Yamamoto**

*J. Organomet. Chem.* 694 (2009) 1419

Synthesis of silicon-functionalized 7-silanorbornadienes and their thermolysis and photolysis

Silicon-functionalized 7-silanorbornadienes were prepared and underwent thermolysis and photolysis, giving the corresponding silylenes.

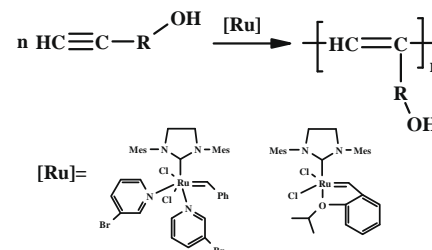


**Izabela Czeluśniak, Jarosław Handzlik**

*J. Organomet. Chem.* 694 (2009) 1427

Polymerization of hydroxyacetylenes by ruthenium alkylidene complexes

Investigation of polymerization of acetylenes with a hydroxy functional group initiated by modified 2nd generation Grubbs and Grubbs Hoveyda initiators reveals, that the steric bulk and the position of hydroxyl group of the monomer influence the rate of polymerization. The calculated relative energies of propagating species formed in the reaction of modified 2nd generation Grubbs catalyst with the hydroxyacetylene suggested formation of oxygen-chelated species.

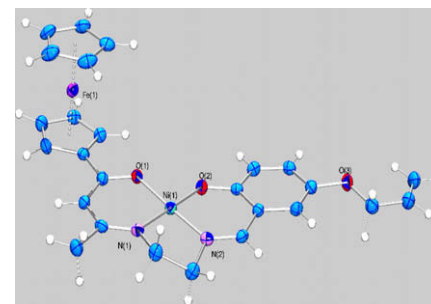


**Alexander Trujillo, Mauricio Fuentealba, David Carrillo, Carolina Manzur, Jean-René Hamon**

*J. Organomet. Chem.* 694 (2009) 1435

Synthesis, characterization and X-ray crystal structure of an allyloxo functionalized nonsymmetric nickel coordination complex based on  $N_2O_2$  chelating ferrocenyl ligand

The new air and thermally stable orange neutral dinuclear iron nickel unsymmetrical Schiff base complex,  $Ni[(\eta^5-C_5H_5)Fe(\eta^5-C_5H_4)-C(O)CH=C(CH_3)NCH_2CH_2N=CH-(2-O, 5-OCH_2CH=CH_2-C_6H_3)]$ , in which the appended allyl ether functionality may serve as anchoring group, was synthesized by the Williamson coupling reaction and characterized by a X-ray crystal structure determination.

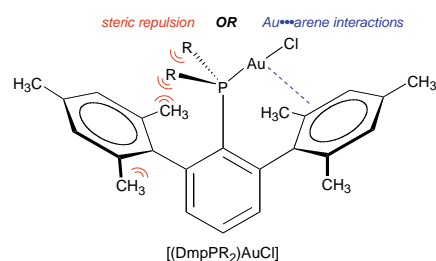


**David V. Partyka, Marlena P. Washington, James B. Updegraff III, Xufang Chen, Christopher D. Incarvito, Arnold L. Rheingold, John D. Protasiewicz**

*J. Organomet. Chem.* 694 (2009) 1441

Surveying the {AuCl} adducts of bulky phosphines bearing the 2,6-dimesitylphenyl group

Structural data for three [(DmpPR<sub>2</sub>)AuCl] complexes (R = H, Me, Cl) allow for an assessment of possible steric clashes between the bulky aryl group Dmp relative to possible attractive forces between the gold center and the electron rich mesityl rings.

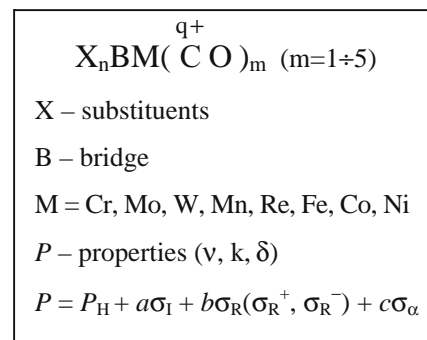


**Alexey N. Egorochkin, Olga V. Kuznetsova, Nadiya M. Khamaletdinova, Lada G. Domratcheva-Lvova, Georgy A. Domrachev**

*J. Organomet. Chem.* 694 (2009) 1447

Polarizability effect in transition metal carbonyl complexes

The properties of the transition metal carbonyl complexes (frequencies  $\nu$ , force constants  $k$ , NMR chemical shifts  $\delta$ ) depend on joint influence of the inductive, resonance, and polarizability effects of X substituents.

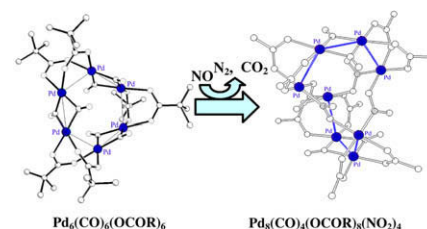


**Oleg N. Shishilov, Tatiana A. Stromnova, Andrei V. Churakov, Lyudmila G. Kuz'mina, Judith A.K. Howard**

*J. Organomet. Chem.* 694 (2009) 1453

Interaction of polynuclear palladium (I) carbonyl carboxylates with gaseous NO: X-ray structure of eight-nuclear clusters Pd<sub>8</sub>( $\mu$ -CO)<sub>4</sub>( $\mu$ -OOCR)<sub>4</sub>[ $\mu$ -N(=O)O]<sub>4</sub>

Interaction of palladium carbonyl carboxylates of general composition Pd<sub>6</sub>(CO)<sub>6</sub>(RCOO)<sub>6</sub> with gaseous nitrogen monoxide was investigated. These cluster compounds were found to promote NO disproportionation into N<sub>2</sub> and NO<sub>2</sub> under mild conditions. The process results in the formation of unusual eight-nuclear palladium carboxylate clusters Pd<sub>8</sub>(CO)<sub>4</sub>(NO<sub>2</sub>)<sub>4</sub>(RCOO)<sub>8</sub>.

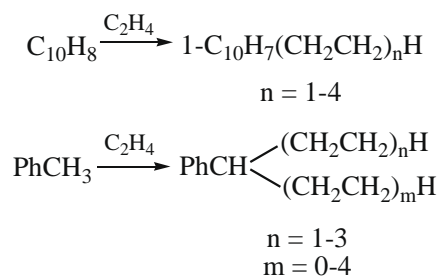


**S. Rummel, M.A. Ilatovskaya, S.M. Yunusov, E.S. Kalyuzhnaya, V.B. Shur**

*J. Organomet. Chem.* 694 (2009) 1459

Activation of C H bonds of hydrocarbons by the ArH alkali metal systems in THF (ArH naphthalene, biphenyl, anthracene, phenanthrene, *trans*-stilbene, pyrene). Alkylation of naphthalene and toluene with ethene

The paper reports on the remarkable ability of the naphthalene alkali metal systems in THF to induce the naphthalene and toluene alkylation with ethene at room temperature. Data on alkylation of toluene in the analogous systems based on biphenyl, anthracene, *trans*-stilbene, phenanthrene and pyrene are also presented.



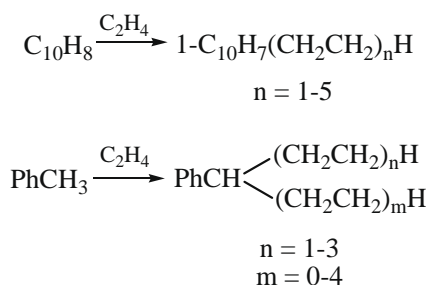


**S. Rummel, S.M. Yunusov,  
E.S. Kalyuzhnaya, V.B. Shur**

*J. Organomet. Chem.* 694 (2009) 1467

Synergistic effects of alkali metals in the alkylation of naphthalene and toluene with ethene in the ArH alkali metal systems in THF (ArH = naphthalene, phenanthrene)

The alkylation of naphthalene and toluene with ethene in the naphthalene alkali metal systems in THF is strongly accelerated on the use of lithium sodium or sodium potassium mixtures. A similar synergistic effect of alkali metals is observed in the toluene alkylation in the phenanthrene Li Na systems. The use of lithium potassium mixtures in the naphthalene-based systems leads to a synergistic retardation of the naphthalene alkylation.

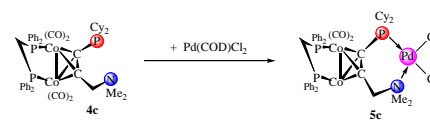


**Wen-Yuan Chiang, Fung-E Hong**

*J. Organomet. Chem.* 694 (2009) 1473

Preparation of a cobalt-containing P,N-bidentate ligand ligated palladium complex: Its applications in amination and Suzuki cross-coupling reactions

Reaction of a cobalt-containing P,N-ligand **4c** with Pd(COD)Cl<sub>2</sub> gave a **4c**-chelated palladium dichloride complex **5c**. Amination and Suzuki reactions employing either **4c**/palladium salt system or isolated **5c** as the catalytic precursor led to satisfactory results.

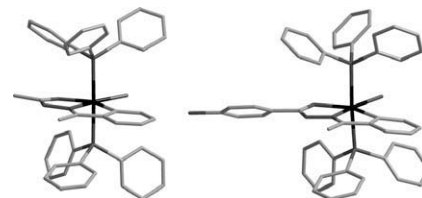


**Raji Raveendran, Samudranil Pal**

*J. Organomet. Chem.* 694 (2009) 1482

Cyclometallated ruthenium(III) complexes: Synthesis, structure and properties

Cyclometallated ruthenium(III) complexes with Schiff bases derived from acetophenone and acid hydrazides are described. The complexes are one-electron paramagnetic and display rhombic EPR spectra. The redox active complexes show a Ru(III) → Ru(II) reduction and a Ru(III) → Ru(IV) oxidation.

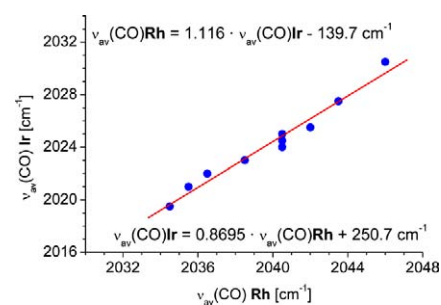


**Stefanie Wolf, Herbert Plenio**

*J. Organomet. Chem.* 694 (2009) 1487

Synthesis of (NHC)Rh(cod)Cl and (NHC)RhCl(CO)<sub>2</sub> complexes Translation of the Rh- into the Ir-scale for the electronic properties of NHC ligands

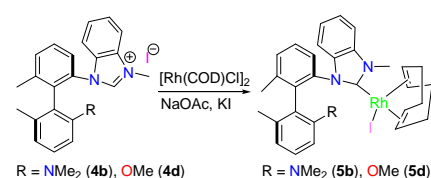
LRhCl(CO)<sub>2</sub> and LIrCl(CO)<sub>2</sub> have been used to quantify the electron donating properties of ligands via the respective ν(CO) frequencies (Rh- and Ir-scale). Following the synthesis of (NHC)RhCl(CO)<sub>2</sub> and (NHC)IrCl(CO)<sub>2</sub> complexes and the carbonyl frequency determination, it is now possible to convert the Rh- into the Ir-scale and vice versa.



**Haibin Song, Li-Na Gu, Guofu Zi***J. Organomet. Chem.* 694 (2009) 1493

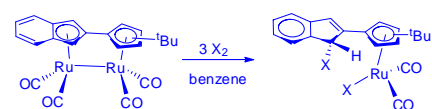
Synthesis and X-ray structures of rhodium complexes with new chiral biaryl-based NHC-ligands

A new series of chiral NHC rhodium complexes have been prepared. The steric effect of the ligand plays a key role in the formation of the complexes. The benzimidazolium salt **4b** reacts with  $[\text{Rh}(\text{COD})\text{Cl}]_2$  in the presence of NaOAc and KI gives a chiral complex **5b**, while **4d** affords a racemic complex **5d**.

**Bin Li, Xing Tan, Shansheng Xu, Haibin Song, Baiquan Wang***J. Organomet. Chem.* 694 (2009) 1503

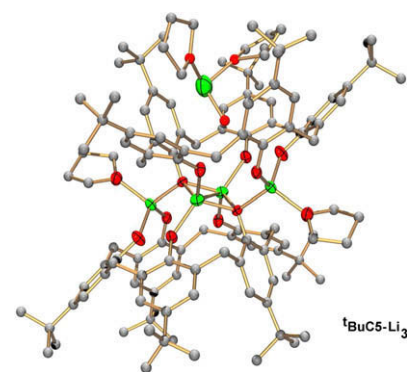
Synthesis and reactivity of 2-(*tert*-butylcyclopentadienyl)-indenyl dinuclear ruthenium complex  $[\eta^5:\eta^5\text{-}(\text{tBuC}_5\text{H}_3)\text{-}(\text{C}_9\text{H}_6)]\text{Ru}_2(\text{CO})_4$ : Halogen induced Ru cleavage from indenyl ring

Thermal reaction of  $\text{Ru}_3(\text{CO})_{12}$  with unsymmetrical Fv ligand 2-(*tert*-butylcyclopentadienyl)-indene provided  $[\eta^5:\eta^5\text{-}(\text{tBuC}_5\text{H}_3)(\text{C}_9\text{H}_6)]\text{Ru}_2(\text{CO})_4$  (**2**). When **2** reacted with three or more equivalent of  $\text{X}_2$ , compounds  $[(\eta^5\text{-tBuC}_5\text{H}_3)(\text{C}_9\text{H}_6\text{X})]\text{Ru}(\text{CO})_2\text{X}$  ( $\text{X} = \text{Br}$ , **3**;  $\text{I}$ , **4**) were isolated. In complexes **3** and **4**, only the Cp rings were coordinated with  $\text{Ru}(\text{CO})_2\text{X}$ , along with uncomplexed halogenated-indenyl rings.

**Daniel Mendoza-Espinosa, Bernat A. Martinez-Ortega, Mauricio Quiroz-Guzman, James A. Golen, Arnold L. Rheingold, Tracy A. Hanna***J. Organomet. Chem.* 694 (2009) 1509

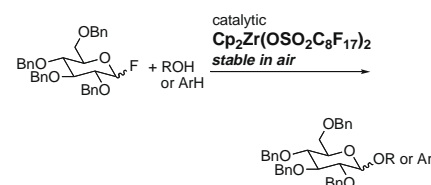
Synthesis, structures and full characterization of *p*-*tert*-butylcalix[5]arene mono-, di-, tri- and pentaanionic ligand precursors

The synthesis and full characterization of alkali metallated salts of *p*-*tert*-butylcalix[5]arene (**tBuC5**) is reported. The variation in the stoichiometry or strength of the alkali metal bases allowed the preparation of a series of mono- to pentaanionic species.

**Renhua Qiu, Guoping Zhang, Xinhua Xu, Kangbin Zou, Lingling Shao, Dawei Fang, Yinhui Li, Akihiro Orita, Ryosuke Saijo, Hidetaka Mineyama, Tomoyoshi Suenobu, Shunichi Fukuzumi, Delie An, Junzo Otera***J. Organomet. Chem.* 694 (2009) 1524

Metalocene bis(per uoroalkanesulfonate)s as air-stable cationic Lewis acids

Zirconocene and titanocene bis(per uoroalkanesulfonate)s were synthesized. These compounds are air- and water-stable. They were proved to be ionic on the basis of conductivity measurements and X-ray analysis. The strong Lewis acidity of these cationic metallocene species, which was proved by ESR study, enabled catalytic glycosylation.

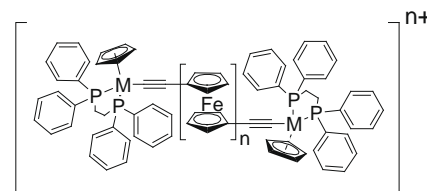


**Teng-Yuan Dong, Shu-Fan Lin,  
Chiao-Pei Chen, Shu-Wen Yeh,  
Hsing-Yin Chen, Yuh-Sheng Wen**

*J. Organomet. Chem.* 694 (2009) 1529

Long-distance electronic interaction in a molecular wire consisting of a ferrocenyl ethynyl unit bridging two  $[(\eta^5\text{-C}_5\text{H}_5)(\text{dppe})\text{M}]$  metal centers

The preparations of multinuclear supramolecules assembled from ethynylferrocene(s) redox-active subunit end-capping with  $[(\eta^5\text{-C}_5\text{H}_5)(\text{dppe})\text{M}]$  metal centers are described. A combination of spectroscopic data and computational studies reveals that the ferrocenyl-ethynyl-based orbitals do mix significantly with the  $(\eta^5\text{-C}_5\text{H}_5)(\text{dppe})\text{Ru}$  metallic orbitals, resulting a substantial electron delocalization over the  $(\eta^5\text{-C}_5\text{H}_5)(\text{dppe})\text{Ru}$  metal center and ferrocenyl center.



**Jackson M. Chitanda, J. Wilson Quail,  
Stephen R. Foley**

*J. Organomet. Chem.* 694 (2009) 1542

Mononuclear palladacycles of *N,N'*-diaryl-2-iminoisoindolines

The synthesis of mononuclear phosphine-ligated, six-membered palladacycles with the general formula  $[\text{Pd}(\text{iminoisoindoline})\text{(X)PR}_3]$ , where X = OAc or Cl and R = Ph or Cy, are described.



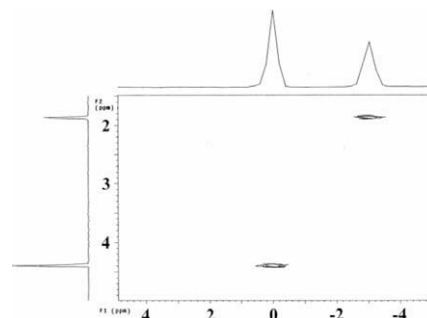
**Samuel A. Delp, Colleen Munro-Leighton,  
Chetna Khosla, Joseph L. Templeton,  
Nikki M. Alsop, T. Brent Gunnoe,  
Thomas R. Cundari**

*J. Organomet. Chem.* 694 (2009) 1549

Combined experimental and computational study of W(II), Ru(II), Pt(IV) and Cu(I) amine and amido complexes using  $^{15}\text{N}$  NMR spectroscopy

$^{15}\text{N}$  NMR data of several transition metal (Ru, Pt, W and Cu) amine and amido complexes were acquired using proton coupled 2D

gHSCQ pulse sequences or by 1D analyses with isotopically enriched samples. The coordination of aniline to all metal centers results in up field chemical shifts of 20–60 ppm relative to free aniline. For the Ru(II) and Pt(IV) complexes, the conversion of amine ligands to amido via deprotonation results in down field chemical shifts in the  $^{15}\text{N}$  NMR spectra of 40–60 ppm. For the W(II) complexes, the conversion of amine to amido results in an up field chemical shift of approximately 56 ppm. Computational studies and consideration of amido-metal  $\pi$ -bonding have been used to understand the chemical shift data.

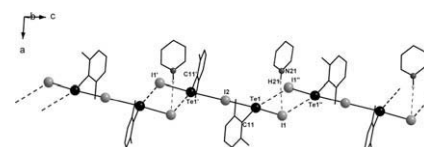


**Eliandro Faoro,  
Gelson Manzoni de Oliveira,  
Ernesto Schulz Lang**

*J. Organomet. Chem.* 694 (2009) 1557

The intermediary RTel as a source of new  $\text{Te}^{\text{II}}$  and  $\text{Te}^{\text{IV}}$  iodides by addition of  $(\text{PyH})\text{I}$  and KI: Synthesis and structural features of  $\{[\text{RTel}\{\text{RTel}_3\}]_n, [\text{R}_2\text{Te}-\text{TeIR}], (\text{PyH})[\text{RTel}_2]$  and  $(\text{PyH})_n[\text{RTel}(\mu\text{-I})\text{TeIR}]_n$  (R = 2,6-dimethylphenyl; Py = pyridine)

$(\text{DmephTe})_2$  (dmeph = 2,6-dimethylphenyl) reacts with iodine/pyridinium iodide yielding  $\{[\text{RTel}\{\text{RTel}_3\}]_n, [\text{R}_2\text{TeTeIR}], (\text{PyH})[\text{RTel}_2]$  and  $(\text{PyH})_n[\text{RTel}(\mu\text{-I})\text{TeIR}]_n$  (R = 2,6-dimethylphenyl; Py = pyridine). In  $(\text{PyH})_n[\text{RTel}(\mu\text{-I})\text{TeIR}]_n$  a covalent, symmetrical iodine bridge links two RTel groups to single  $[\text{RTel}(\mu\text{-I})\text{TeIR}]$  anions which are connected through  $\text{Te}\cdots\text{I}$  interactions and stabilized by pyridinium cations.



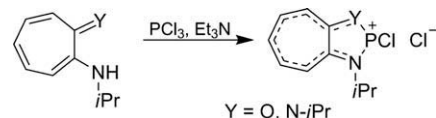
## Notes

**Lucian-Cristian Pop, Nadia Katir, Annie Castel, Luminita Silaghi-Dumitrescu, Fabien Delpech, Ioan Silaghi-Dumitrescu, Heinz Gornitzka, Desmond MacLeod-Carey, Nathalie Saffon**

*J. Organomet. Chem.* 694 (2009) 1562

N,N' and N,O chelated phosphonium cations containing aminotroponimate or aminotroponate units

The syntheses and characterization of phosphonium cations stabilized by bidentate monoanionic *N*-isopropyl-2-(isopropylamino)troponate and 2-(isopropylamino)troponate ligands are presented. X-ray diffraction and computational studies support the existence of high delocalization of the positive charge into the  $\pi$ -conjugated carbon backbone.

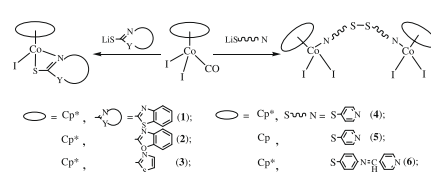


**Hui Wang, Xu-Qing Guo, Rui Zhong, Xiu-Feng Hou**

*J. Organomet. Chem.* 694 (2009) 1567

Reactions of half-sandwich Co(III) complexes with heterocyclic thione ligands:  $\eta^2$ -N, S coordination mode and formation of S-S bond

The reactions of  $\text{Cp}^*\text{CoI}_2(\text{CO})$  with heterocyclic thione ligands yields a  $\eta^2$ -N, S coordination family of cobalt complexes for adjacent N, S donor atoms, and unexpected dinuclear disulfide cobalt complexes for opposite N, S donor atoms.

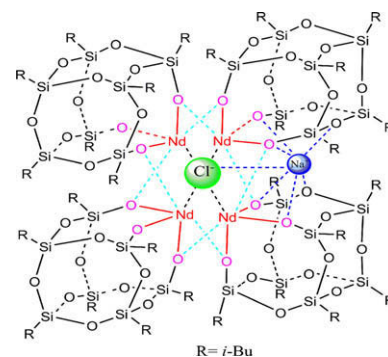


**Guangming Wu, Yaofeng Chen, Duan-Jun Xu, Jia-Chu Liu, Weilin Sun, Zhiquan Shen**

*J. Organomet. Chem.* 694 (2009) 1571

Synthesis and molecular structure of a tetrameric neodymium-silsesquioxane cage complex:  $\{[(i\text{-C}_4\text{H}_9)_7(\text{Si}_7\text{O}_{12})\text{Nd}]_4\text{NaCl}\}$

The synthesis, molecular structure and as precursor of isoprene polymerization of a new tetrameric neodymium-silsesquioxane cage complex  $\{[(i\text{-C}_4\text{H}_9)_7(\text{Si}_7\text{O}_{12})\text{Nd}]_4\text{NaCl}\}$  are described. The complex was prepared by the reaction of  $\text{NdCl}_3$  with *i*-PrONa, and subsequent treatment with trisilanol  $[(i\text{-C}_4\text{H}_9)_7(\text{Si}_7\text{O}_9)(\text{OH})_3]$  in toluene.

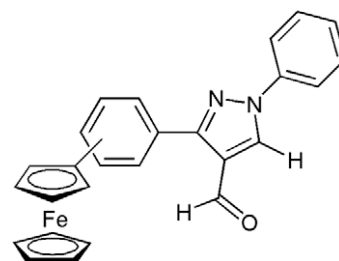


**Ivan Damljanović, Marija Colović, Mirjana Vukićević, Dragan Manojlović, Niko Radulović, Klaus Wurst, Gerhard Laus, Zoran Ratković, Milan Joković, Rastko D. Vukićević**

*J. Organomet. Chem.* 694 (2009) 1575

Synthesis, spectral characterization and electrochemical properties of 1*H*-3-(*o*-, *m*- and *p*-ferrocenylphenyl)-1-phenylpyrazole-4-carboxaldehydes

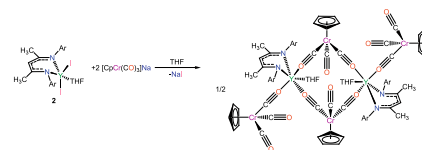
New ferrocene derivatives 3-(*o*-, *m*- and *p*-ferrocenylphenyl)-1-phenylpyrazole-4-carboxaldehydes were synthesized and characterized by spectroscopic data and cyclic voltametric parameters. The X-ray crystal structure of the *ortho*-derivative is also presented.



**Stephen T. Liddle, Benedict M. Gardner***J. Organomet. Chem.* 694 (2009) 1581

Reactions of  $[Y(\text{BDI})(\text{I})_2(\text{THF})]$  [ $\text{BDI} = \{\text{HC}(\text{CMeNAr})_2\}^-$ ,  $\text{Ar} = 2,6\text{-diisopropylphenyl}$ ] with  $\text{Na}[\text{M}(\text{Cp})(\text{CO})_3]$  ( $\text{M} = \text{Cr}, \text{W}$ ): X-ray crystal structures of  $[\{Y(\text{BDI})[\text{Cr}(\text{Cp})(\text{CO})_3]_2(\text{THF})\}_2]$  and  $[\text{W}(\text{Cp})(\text{CO})_3][\text{Na}(\text{THF})_2]$

Reaction of  $[Y(\text{BDI})(\text{I})_2(\text{THF})]$  with two equivalents of  $\text{Na}[\text{Cr}(\text{Cp})(\text{CO})_3]$  affords the dimeric complex  $[\{Y(\text{BDI})[\text{Cr}(\text{Cp})(\text{CO})_3]_2(\text{THF})\}_2]$ . The crystal structure of  $[\text{W}(\text{Cp})(\text{CO})_3][\text{Na}(\text{THF})_2]$  is also reported.




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