

Contents

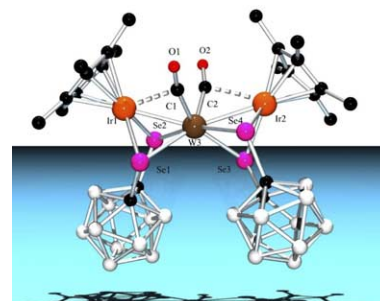
Communication

Jian-Qiang Wang, Linhong Weng,
Guo-Xin Jin

J. Organomet. Chem. 690 (2005) 249

Rational synthesis of trinuclear (WIr_2) cluster from the 16-electron half-sandwich complex $Cp^*Ir[Se_2C_2(B_{10}H_{10})]$

A trinuclear (WIr_2) heterometallic complex [$Cp^*IrSe_2C_2B_{10}H_{10}$] $_2W(CO)_2$ **3** containing M–M bonding were obtained from the reaction of 16-electron complex $Cp^*IrSe_2C_2B_{10}H_{10}$ with $[W(CO)_3(py)_3]$, and its structure has been determined by X-ray crystallography.



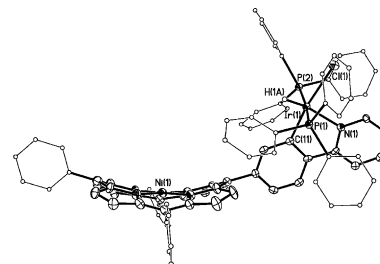
Regular papers

Ka-Man Cheung, Qian-Feng Zhang,
Wing-Leung Mak, Herman H.Y. Sung,
Ian D. Williams, Wa-Hung Leung

J. Organomet. Chem. 690 (2005) 253

Bimetallic complexes with porphyrins containing a cyclometalated phenylpyridine group

$Ni(HP^1)$ ($H_3P^1 = meso-5-[4'-(2''\text{-pyridyl})\text{-phenyl}]-10,15,20\text{-triphenylporphyrin}$) reacts with $[PdCl_4]^{2-}/NaS_2CNEt_2$ and $[Ir(H)_2(PPh_3)_2(Me_2CO)_2][BF_4]$ to give the bimetallic cyclometalated porphyrin complexes $Pd(S_2CNEt_2)[Ni(P^1)]$ and $Ir(H)Cl(PPh_3)_2[Ni(P^1)]$, respectively, which have been characterized by X-ray crystallography.

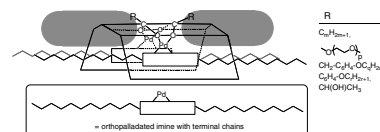


Laura Díez, Pablo Espinet, Jess A. Miguel,
M. Paz Rodríguez-Medina

J. Organomet. Chem. 690 (2005) 261

Mesogens based on palladium orthometalated complexes with carboxylato bridges: tuning and shaping a non-planar molecule

Binuclear cyclopalladated compounds $[Pd_2(\mu-OH)_2(L^R)_2]$ ($HL^R = \text{imine}$) react with $RCOOH$ to give $[Pd_2(\mu-O_2CR)_2(L^R)_2]$, where the carboxylato groups are changed systematically. The type of carboxylato ligand shapes the overall aspect of the molecule and its polarity and tunes the thermal properties to produce liquid crystals.

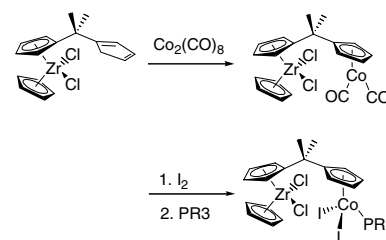


**Junpei Kuwabara, Daisuke Takeuchi,
Kohtaro Osakada**

J. Organomet. Chem. 690 (2005) 269

Synthesis and properties of Zr–Co heterodinuclear complexes with a bridging bis(cyclopentadienyl) ligand

Zr–Co heterodinuclear complexes $[(\eta^5\text{-C}_5\text{H}_5)\text{-ZrCl}_2(\eta^5\text{-C}_5\text{H}_4)\text{CMe}_2(\text{C}_5\text{H}_5)]$ and $[(\eta^5\text{-C}_5\text{H}_5)\text{-ZrCl}_2(\eta^5\text{-C}_5\text{H}_4)\text{CMe}_2(\eta^5\text{-C}_5\text{H}_4)\text{CoI}_2(\text{L})]$ (L = CO, P(OMe)₃, PPh₃) were synthesized. The molecular structures of the complexes having P(OMe)₃ and PPh₃ ligand were determined by X-ray crystallography. Polymerization of ethylene and propylene catalyzed by these Zr–Co heterodinuclear complexes were investigated.

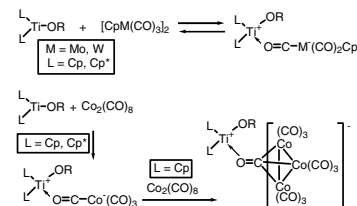


**Shota Niibayashi, Kaoru Mitsui,
Yukihiro Motoyama, Hideo Nagashima**

J. Organomet. Chem. 690 (2005) 276

The effect of titanium alkoxides in the synthesis of heterobimetallic complexes by titanocene(III) alkoxide-induced metal–metal bond cleavage of metal carbonyl dimers

A series of titanocene(III) alkoxides $\text{L}_2\text{Ti(III)OR}$ where L = Cp, R = Et, ^tBu, 2,6-Me₂C₆H₃, 2,6-^tBu₂-4-Me-C₆H₂, or L = Cp*, R = Me, ^tBu, Ph was synthesized and subjected to reaction with $[\text{CpM}(\text{CO})_3]_2$ (M = Mo, W), $[\text{CpRu}(\text{CO})_2]_2$, and $\text{Co}_2(\text{CO})_8$. The products were characterized by NMR, IR, and X-ray crystallography. Reaction mechanisms were proposed from these results, in particular, from steric/electronic effects of titanium alkoxides.

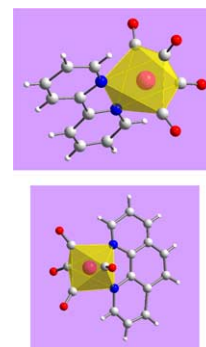


**Qiong Ye, Qian Wu, Hong Zhao,
Yu-Mei Song, Xiang Xue, Ren-Gen Xiong,
Shie-Ming Pang, Gene-Hsiang Lee**

J. Organomet. Chem. 690 (2005) 286

Two noncentrosymmetric complexes: $[\text{W}(\text{CO})_4(\text{bipy})]$ and $[\text{W}(\text{CO})_4(\text{phen})](\text{bipy} = 2,2'\text{-bipyridine, phen} = 1,10\text{-phenanthroline})$ obtained through solvothermal synthesis and their optical properties

Solvothermal treatments of $\text{W}(\text{CO})_6$ with 2,2'-bipyridine and 1,10-phenanthroline give $[\text{W}(\text{CO})_4(\text{bipy})]$ (1) and $[\text{W}(\text{CO})_4(\text{phen})]$ (2), respectively which both crystallize in the acentric space groups, suggesting that they meet the requirement of SHG (second harmonic generation) investigations. The preliminary experiment indicates that they are SHG active, and approximately estimated to be that of urea.

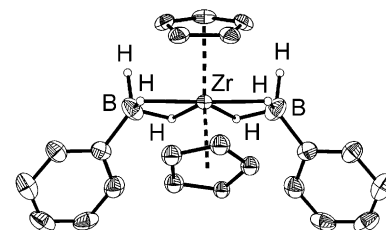


**Fu-Chen Liu, Jung-Hua Chen,
Shou-Chon Chen, Ko-Yu Chen,
Gene-Hsian Lee, Shie-Ming Peng**

J. Organomet. Chem. 690 (2005) 291

Syntheses, structures, and properties of phenyltrihydroborate complexes of zirconocene and titanocene

The phenyltrihydroborate metallocene complexes: $\text{Cp}_2\text{ZrX}\{(\mu\text{-H})_2\text{BPh}\}$ (X = Cl, H, and $\{(\mu\text{-H})_2\text{BPh}\}$) and $\text{Cp}_2\text{Ti}\{(\mu\text{-H})_2\text{-BPh}\}$ were prepared and structurally characterized. Reactions of $\text{Cp}_2\text{ZrCl}\{(\mu\text{-H})_2\text{BPh}\}$ with $\text{B}(\text{C}_6\text{F}_5)_3$ produced $\text{Cp}_2\text{ZrCl}\{(\mu\text{-H})_2\text{B}(\text{C}_6\text{F}_5)_2\}$ in the toluene and produced $[\text{Cp}_2\text{ZrCl}(\text{OEt}_2)]\{\text{HB}(\text{C}_6\text{F}_5)_3\}$ in the diethyl ether.

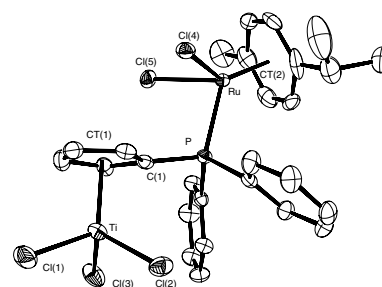


Jérôme Goux, Pierre Le Gendre,
Philippe Richard, Claude Moïse

J. Organomet. Chem. 690 (2005) 301

Ruthenium titanocene and ruthenium titanium half-sandwich bimetallic complexes in catalytic cyclopropanation

The synthesis of three new ruthenium titanium half-sandwich bimetallic complexes (*p*-cymene)[(μ-η⁵:η¹-C₅H₄(CH₂)_{*n*}PR₂)TiX₃]-RuCl₂ (*n* = 0, X = Cl, R = Ph (**11**); *n* = 2, X = O^{*i*}Pr, R = Ph (**12**); *n* = 2, X = O^{*i*}Pr, R = Cy (**13**)) has been achieved. The structure of **11**, determined by X-ray diffraction, is reported here. These bimetallic complexes and a complementary series of ruthenium titanocene bimetallic complexes have been tested in catalytic cyclopropanation.

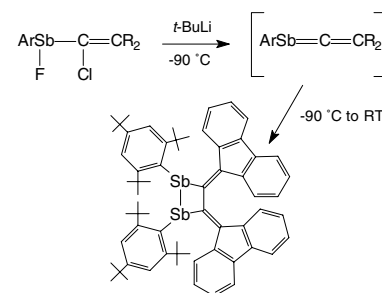


Lise Baiget, Henri Ranaivonjatovo,
Jean Escudé, Gabriela Cretiu Nemes,
Ioan Silaghi-Dumitrescu,
Luminita Silaghi-Dumitrescu

J. Organomet. Chem. 690 (2005) 307

The first evidence for a transient stiballene ArSb=C=CR₂

Dechlorofluorination of ArSb(F)-C(Cl)=CR₂ (CR₂ = fluorenylidene, Ar = 2,4, 6-tri-*tert*-butylphenyl) by *tert*-butyllithium afforded a 3,4-bis(fluorenylidene)-1,2-distibacyclobutane. The formation of the latter probably involves the transient stiballene ArSb=C=CR₂ followed by a head-to-head dimerization via two Sb=C double bonds. Molecular orbital calculations at the ab initio and DFT levels support the head-to-head dimerization of ArSb=C=CR₂ with the formation of a 1,2-distibacyclobutane.

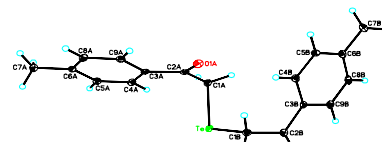


Ashok K.S. Chauhan, Anamika, Arun Kumar,
Ramesh C. Srivastava, Ray J. Butcher

J. Organomet. Chem. 690 (2005) 313

Secondary bonding in functionalized organotellurium compounds: preparation and structural characterization of bis(acetamido)tellurium(IV) diiodide and bis(4-methylbenzoylmethyl)tellurium(II)

Diacetamidotellurium(IV) diiodide, prepared by the insertion of Te between Csp³-I bond possesses 1,4-intramolecular Te···O interaction but is devoid of intermolecular Te···I or I···I secondary interactions. Interestingly 1,4-type intramolecular Te···O interaction is insignificant in bis(4-methylbenzoylmethyl)telluride, the first structurally characterized acyclic dialkyltelluride, though it is invariably present in the parent diorganotellurium(IV) dihalides, (4-YC₆H₄CO-CH₂)₂TeX₂ and its selenium analogue.

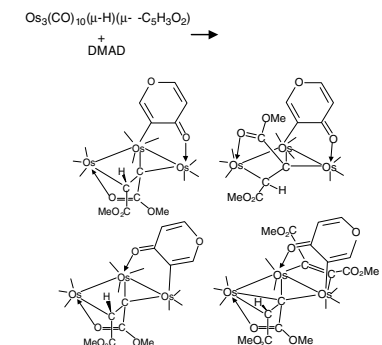


Qi Lin, Weng Kee Leong

J. Organomet. Chem. 690 (2005) 322

The photochemical reaction of Os₃(CO)₁₀(μ-H)(μ-γ-C₅H₃O₂), a triosmium cluster carrying a γ-pyrone ligand, with dimethylacetylenedicarboxylate: formation of isomeric clusters

Reaction of the cluster Os₃(CO)₁₀(μ-H)(μ-γ-C₅H₃O₂) (**1**), with DMAD under UV irradiation afforded three isomers of the monosubstituted product, Os₃(CO)₉(μ-γ-C₅H₃O₂)(μ₃-MeO₂CCHCCO₂Me) (**2**), and a disubstituted product, Os₃(CO)₈(μ-γ-C₅H₃O₂)(μ₃-MeO₂CCHCCO₂Me)(μ-MeO₂CCCO₂Me) (**3**). The formation of **3** suggests that flipping of the O-heterocycle can occur.



Neil Bricklebank, Simon J. Coles,
Susan D. Forder, Michael B. Hursthouse,
Andrew Poulton, Peter J. Skabara

J. Organomet. Chem. 690 (2005) 328

Diiodine complex of diferrocenyl(phenyl)-phosphine sulfide: the structural and electrochemical behaviour of $\text{Fc}_2(\text{Ph})\text{PS} \cdot \text{I}_2$

Treatment of diferrocenyl(phenyl)-phosphine sulfide with an equimolar quantity of diiodine in dichloromethane produces the molecular charge-transfer adduct $\text{Fc}_2(\text{Ph})\text{PS} \cdot \text{I}_2$, which has been fully characterised by X-ray crystallography and spectroscopically. Mössbauer spectroscopy shows that the bulk material contains predominantly Fe^{2+} and ca. 24% of a Fe^{3+} species, formed through the concomitant oxidation of the iron. The electrochemistry of $\text{Fc}_2(\text{Ph})\text{PS} \cdot \text{I}_2$, $\text{Fc}_2(\text{Ph})\text{PS}$ and $\text{Fc}_2(\text{Ph})\text{P}$ has been investigated using a combination of cyclic voltammetry and differential pulse voltammetry.

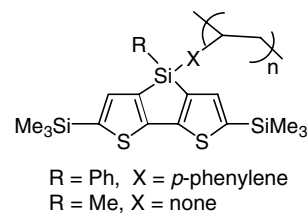


Kwang-Hoi Lee, Joji Ohshita,
Keisuke Kimura, Yoshihito Kunugi,
Atsutaka Kunai

J. Organomet. Chem. 690 (2005) 333

Synthesis of oligomers having a pendant dithienosilole unit and their applications to EL device materials

Oligomers bearing dithienosilole as a pendant were prepared and their applications to EL devices as hole transporting materials were examined. The maximum electroluminescence of 2140 cd/m^2 was obtained from a device composed of ITO/oligomer/Alq₃/Mg-Ag.

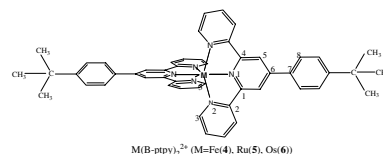


Xin Zhou, Ai-Min Ren, Ji-Kang Feng

J. Organomet. Chem. 690 (2005) 338

Theoretical studies on the ground states in $\text{M}(\text{terpyridine})_2^{2+}$ and $\text{M}(n\text{-butyl-phenylterpyridine})_2^{2+}$ ($\text{M} = \text{Fe}, \text{Ru}, \text{Os}$) and excited states in $\text{Ru}(\text{terpyridine})_2^{2+}$ using density functional theory

Density functional theory were applied to investigate the molecular structure, electronic structure and relative photochemistry properties of $\text{M}(\text{terpyridine})_2^{2+}$ ($\text{M}(\text{tpy})_2^{2+}$) and $\text{M}(n\text{-butyl-phenylterpyridine})_2^{2+}$ ($\text{M}(\text{B-tpy})_2^{2+}$) ($\text{M} = \text{Fe}, \text{Ru}, \text{Os}$). The trends of the center ionic effects and the introduction of electron-donating groups on the electronic structure and chemical stabilities have been investigated in detail.

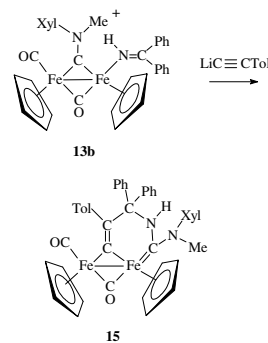


Luigi Busetto, Fabio Marchetti,
Stefano Zacchini, Valerio Zanotti,
Eleonora Zoli

J. Organomet. Chem. 690 (2005) 348

Diiron-aminocarbene complexes with amine or imine ligands: C–N coupling between imine and aminocarbene ligands promoted by tolylacetylide addition to $[\text{Fe}_2\{\mu\text{-CN}(\text{Me})\text{R}\}\{\mu\text{-CO}\}(\text{CO})(\text{NHCP}_2)(\text{Cp})_2]\text{[SO}_3\text{CF}_3]$

Primary and secondary amines, pyridine and benzophenone imine, can be coordinated in the dinuclear complexes $[\text{Fe}_2\{\mu\text{-CN}(\text{Me})\text{R}\}\{\mu\text{-CO}\}(\text{CO})_2(\text{Cp})_2][\text{SO}_3\text{CF}_3]$ ($\text{R} = \text{Me}, \text{Xyl}$) via CO displacement, promoted by Me_3NO . The imino complex **13b** reacts with *p*-tolylacetylide, generating C–C and C–N bonds with formation of a new bridging vinylidene-diaminocarbene complexes **15**.

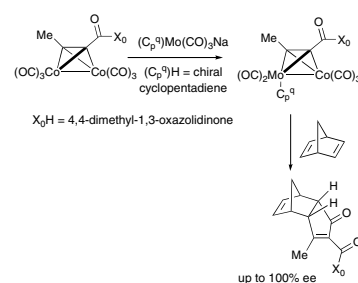


**Ramon Rios, Sergi Paredes,
Miquel A. Perics, Albert Moyano**

J. Organomet. Chem. 690 (2005) 358

Chiral cyclopentadiene-mediated approach to enantioselective heterobimetallic Pauson–Khand reactions

When the dicobalt(hexacarbonyl) complex of *N*-(2-butynoyl)-4,4-dimethyloxazolidinone (**1**) is treated with chiral cyclopentadienyl (tricarbonyl)molybdenum anions, pairs of diastereomeric heterobimetallic (Co–Mo) complexes are obtained. In one instance, the two diastereomers have been separated by chromatography and they have been reacted with norbornadiene; each diastereomer leads with virtually complete stereocontrol to a single enantiomer of the *endo* Pauson–Khand cycloadduct **5**.

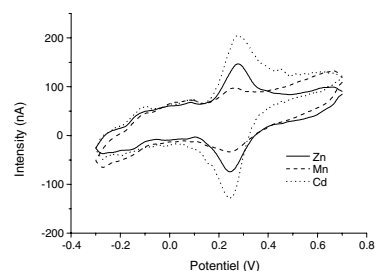


**Olivier Oms, Jean Le Bideau, André Vioux,
Dominique Leclercq**

J. Organomet. Chem. 690 (2005) 363

Electroactive poly zinc, cadmium, manganese ferrocenylphenylphosphinates

Zinc, Cadmium, and Manganese ferrocenylphenylphosphinates, prepared from ferrocenylphenylphosphinic acid synthesized in high yield, were characterised by IR, ^{31}P , ^{113}Cd MAS NMR spectroscopy, X-ray diffraction, TGA, and electrochemistry, using a cavity microelectrode.

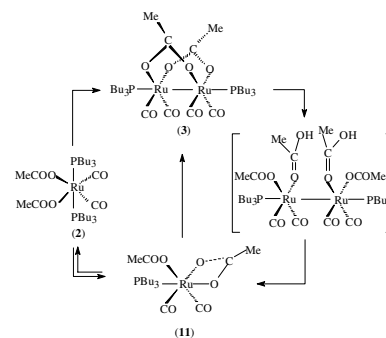


**Antonella Salvini, Piero Frediani,
Carlo Giannelli, Luca Rosi**

J. Organomet. Chem. 690 (2005) 371

On the behaviour of Ru(I) and Ru(II) carbonyl acetates in the presence of H_2 and/or acetic acid and their role in the catalytic hydrogenation of acetic acid

The reactivity of phosphine substituted ruthenium carbonyl carboxylates $\text{Ru}(\text{CO})_2(\text{MeCOO})_2(\text{PBu}_3)_2$, $\text{Ru}_2(\text{CO})_4(\mu\text{-MeCOO})_2(\text{PBu}_3)_2$, $\text{Ru}_4(\text{CO})_8(\mu\text{-MeCOO})_4(\text{PBu}_3)_2$ with H_2 and/or acetic acid was investigated by IR and NMR spectroscopy to clarify their role in the catalytic hydrogenation of acetic acid. Evidences were collected to suggest hydride ruthenium complexes as the catalytically active species.

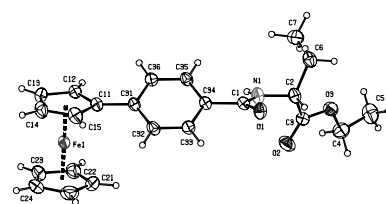


**David Savage, Gwen Malone,
John F. Gallagher, Yoshiteru Ida,
Peter T.M. Kenny**

J. Organomet. Chem. 690 (2005) 383

Synthesis and structural characterization of *N*-*para*-ferrocenyl benzoyl amino acid ethyl esters and the X-ray crystal structures of the glycyl and (\pm)-2-aminobutyric acid derivative $\text{Fc-C}_6\text{H}_4\text{CONHCH}(\text{C}_2\text{H}_5)\text{CO}_2\text{Et}$

N-*para*-Ferrocenyl benzoyl amino acid ethyl esters **1–8** were prepared by coupling *para*-ferrocenyl benzoic acid with the appropriate amino acid ethyl ester using the 1,3-dicyclohexylcarbodiimide (DCC), 1-hydroxybenzotriazole (HOBt) protocol. The compounds were structurally characterized by a combination of NMR and mass spectrometry. The X-ray crystal structures of the glycyl **1** and (\pm)-2-aminobutyrate **7** derivatives have been determined.



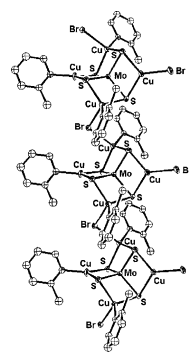
7

**Wen-Hua Zhang, Jin-Xiang Chen,
Hong-Xi Li, Bin Wu, Xiao-Yan Tang,
Zhi-Gang Ren, Yong Zhang,
Jian-Ping Lang, Zhen-Rong Sun**

J. Organomet. Chem. 690 (2005) 394

Syntheses, crystal structures, and third-order nonlinear optical properties of two novel Mo/Cu/S clusters: $[\text{MoS}_4\text{Cu}_4(\alpha\text{-MePy})_5\text{Br}_2] \cdot 2(\alpha\text{-MePy})_{0.5}$ and $\{[\text{MoS}_4\text{Cu}_4(\alpha\text{-MePy})_3\text{Br}] \cdot (\mu\text{-Br}) \cdot (\alpha\text{-MePy})\}_n$ ($\alpha\text{-MePy}$ = α -methylpyridine)

Two new clusters $[\text{MoS}_4\text{Cu}_4(\alpha\text{-MePy})_5\text{Br}_2] \cdot 2(\alpha\text{-MePy})_{0.5}$ and $\{[\text{MoS}_4\text{Cu}_4(\alpha\text{-MePy})_3\text{Br}] \cdot (\mu\text{-Br}) \cdot (\alpha\text{-MePy})\}_n$ were prepared from $(\text{NH}_4)_2\text{MoS}_4/\text{CuBr}/\text{AgBr}$ or $(\text{NH}_4)_2\text{MoS}_4/\text{CuBr}$ in excess α -methylpyridine. The structures of both compounds were characterized by X-ray crystallography and their third-order NLO properties in solution were studied.

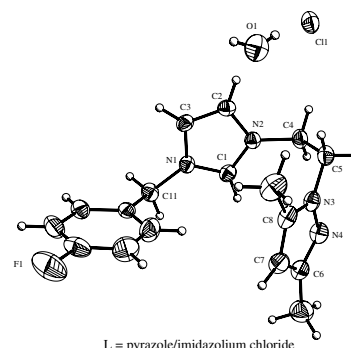


**Hon Man Lee, Pei Ling Chiu, Ching-Han Hu,
Chun-Liang Lai, Yi-Chun Chou**

J. Organomet. Chem. 690 (2005) 403

Synthesis and structural characterization of metal complexes based on pyrazole/imidazolium chlorides

A series of imidazolium salt, $L \cdot \text{HCl}$, for the potentially bidentate pyrazole/*N*-heterocyclic carbene was synthesized. Structural determinations reveal that compounds based on pyrazole/imidazolium chloride $L \cdot \text{HCl}$ adopt *gauche* conformation exclusively in the solid state. Palladium complexes of $L \cdot \text{HCl}$ are active Heck catalysts.

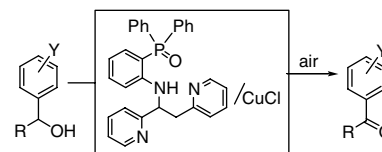


**Weiwen Tsai, Yi-Hung Liu,
Shie-Ming Peng, Shiuh-Tzung Liu**

J. Organomet. Chem. 690 (2005) 415

Structural characterization and catalytic activities of copper complexes with pyridine-amine-phosphine-oxide ligand

A new multidentate involving a phosphine-oxide donor and its copper complexes have been prepared and characterized. Catalytic oxidation of alcohols by these complexes were investigated.

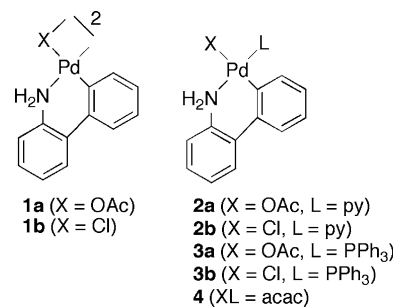


**Joan Albert, Jaume Granell, Javier Zafrilla,
Mercè Font-Bardia, Xavier Solans**

J. Organomet. Chem. 690 (2005) 422

The cyclopalladation reaction of 2-phenyl-aniline revisited

The synthesis, structure and dynamic behaviour of the organopalladium compounds shown below are reported.

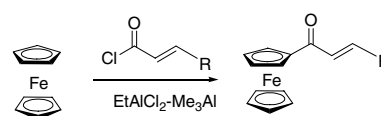


Özdemir Dogan, Volkan Şenol,
Serhat Zeytinci, Hasan Koyuncu,
Adnan Bulut

J. Organomet. Chem. 690 (2005) 430

Efficient synthesis of ferrocenylenones by Friedel–Crafts acylation with $\text{EtAlCl}_2\text{--Me}_3\text{Al}$

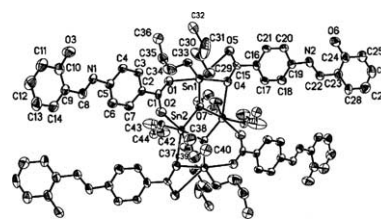
Ferrocenylenones are synthesized efficiently by using a Friedel–Crafts acylation reaction. Acryloyl, methacryloyl, crotonoyl, cinnamoyl, and β -methylcrotonoyl chlorides react with ferrocene in the presence of a Lewis acid (EtAlCl_2 or $\text{EtAlCl}_2\text{--Me}_3\text{Al}$) to give the corresponding ferrocenylenones (acryloyl, methacryloyl, crotonoyl, cinnamoyl, and methylcrotonoylferrocenes) in good isolated yields. Besides ferrocenylenones, chloroacetylferrocene is also synthesized by this method.



Han Dong Yin, Qi Bao Wang, Sheng Cai Xue

J. Organomet. Chem. 690 (2005) 435

Synthesis and spectroscopic properties of [*N*-(4-carboxyphenyl) salicylideneiminato] di- and tri-organotin (IV) complexes and crystal structures of $\{[\text{Bu}_2\text{Sn}(2\text{-OHC}_6\text{H}_4\text{CH}=\text{NC}_6\text{H}_4\text{COO})]_2\text{O}\}_2$ and $\text{Ph}_3\text{Sn}(2\text{-OHC}_6\text{H}_4\text{CH}=\text{NC}_6\text{H}_4\text{COO})$ Reactions of R_2SnO (R: ⁿBu, Cy, Ph, PhCH_2) and R_3SnCl (R: Ph, Cy, PhCH_2 , 2-*C*- PhCH_2 , 4-*F*- PhCH_2 , 4-*C*- PhCH_2) with *N*-(4-carboxyphenyl)-salicylideneimine (LH₂) in 1:1 stoichiometry afford complexes $\{[\text{R}_2\text{Sn}(\text{LH})]_2\text{O}\}_2$ and $\text{R}_3\text{Sn}(\text{LH})$. These complexes have been characterized by elemental analyses, IR, ¹H and ¹¹⁹Sn NMR spectroscopy. The crystal structure of complexes **1** and **5** are determined by single crystal X-ray diffraction.

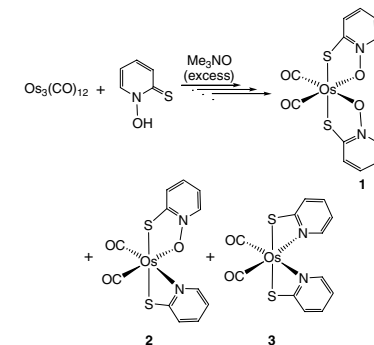


Fang-Yuan Lee, Jiann-Jyh Huang,
Yu-Ju Chen, Kuan-Jiuh Lin,
Gene-Hsiang Lee, Shie-Ming Peng,
Jih Ru Hwu, Kuang-Lieh Lu

J. Organomet. Chem. 690 (2005) 441

$\text{Os}(\text{CO})_2(\eta^2\text{-SC}_5\text{H}_4\text{N}(\text{O}))(\eta^2\text{-SC}_5\text{H}_4\text{N})$; structural evidence for the transformation of pyridine-2-thione *N*-oxide to pyridine-2-thiolate in osmium complexes

Reaction of $\text{Os}_3(\text{CO})_{12}$ with an excess of 1-hydroxypyridine-2-thione and Me_3NO leads to the formation of three monomeric osmium complexes. The unique structure of **2** provides an evidence for elucidating the pathway of this transformation, which was further supported by NMR and ESI-MS studies.

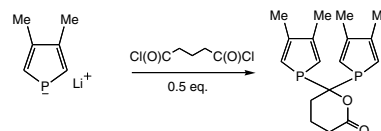


Zheng Duan, Bruno Donnadieu,
François Mathey

J. Organomet. Chem. 690 (2005) 450

An access to original 3,3-bis(phospholyl)lactones

The reaction of lithium 3,4-dimethylphospholide with dicarboxylic acid dichlorides yields the original 3,3-bis(3,4-dimethylphospholyl)lactones via an unexpected cyclization reaction. One of the products has been characterized by X-ray crystal structure analysis of its bis(pentacarbonylmolybdenum) complex.

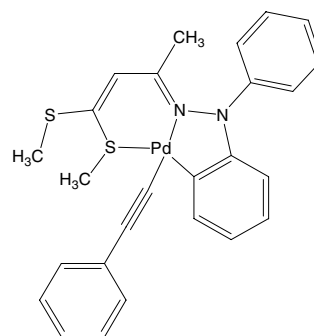


**F. Ortega-Jiménez, J.G. López-Cortés,
M.C. Ortega-Alfaro, A. Toscano,
G. Penieres, R. Quijada, C. Alvarez**

J. Organomet. Chem. 690 (2005) 454

Orthopalladacycles derived from α -diphenylhydrazonoketene dithioacetals and their reactivity with terminal alkynes

In this paper, we present the synthesis, characterization of new orthopalladated complexes derived from α -diphenylhydrazonoketene dithioacetals. From their reaction with terminal alkynes, the intermediates of the expected $C_{sp}-C_{sp^2}$ coupling reaction were isolated in stable form and their structures were confirmed by X-ray diffraction studies.

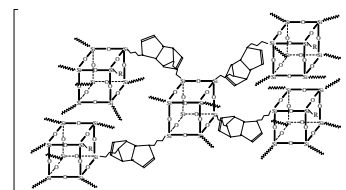


Matthew Bent, Yurii Gun'ko

J. Organomet. Chem. 690 (2005) 463

Cyclopentadienyl-functionalised polyhedral silsesquioxanes as building blocks for new nanostructured materials

Polyhedral silsesquioxanes, $(RSiO_{1.5})_n$ ($n = 8$ and 10) with cyclopentadienyl ($R = -C_5H_5$ or $-(CH_2)_3-C_5H_5$) functionalities have been prepared by hydrolytic condensation of the correspondent silicon organic precursors $RSiCl_3$ or $RSi(OC_2H_5)_3$. The products with cyclopentadienyl groups have been used to prepare new cross-linked 3D polymeric materials by Diels–Alder reaction.

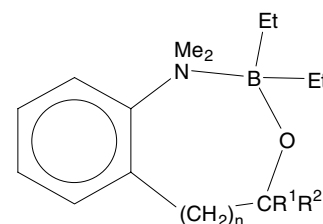


**Harbi T. Al-Masri, Joachim Sieler,
Peter C. Junk, Konstantin V. Domasevitch,
Evamarie Hey-Hawkins**

J. Organomet. Chem. 690 (2005) 469

Synthesis and characterization of novel intramolecularly base-stabilized BEt_2 and BEt derivatives: molecular structures of 1-Et₂BOCPh₂-2-NMe₂C₆H₄, 1-(CH₃COO)Et-BOCCy₂-2-NMe₂C₆H₄ and $BEt(1-OCPh_2C-H_2-2-NMe_2C_6H_4)_2$

The reaction of BEt_3 with the (2-dimethylaminophenyl)alcohols 1-HOX-2-NMe₂C₆H₄ [$X = CPh_2$ (**1**), CCy_2 (**2**), CPh_2CH_2 (**3**)] [1:1 (for **1–3**) or 1:2 (for **3**)] in the presence of $tBuCO_2H$ as catalyst gave the BEt_2 or BEt derivatives 1-Et₂BOX-2-NMe₂C₆H₄ [$X = CPh_2$ (**4**), CCy_2 (**5**), CPh_2CH_2 (**7**)] and $BEt(1-OCPh_2CH_2-2-NMe_2C_6H_4)_2$ (**8**). Treatment of **5** with acetic acid gave 1-(CH₃COO)Et-BOCCy₂-2-NMe₂C₆H₄ (**6**). Compounds **4–8** were characterized spectroscopically (NMR, IR, MS), **4**, **6**, and **8** also by X-ray crystallography.



4: $R^1 = R^2 = Ph$, $n = 0$

5: $R^1 = R^2 = Cy$, $n = 0$

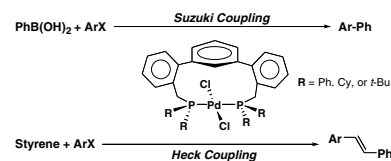
7: $R^1 = R^2 = Ph$, $n = 1$

**Rhett C. Smith, Christina R. Bodner,
Meredith J. Earl, Nathaniel C. Sears,
Nicholas E. Hill, Lee M. Bishop,
Nicholas Sizemore, Dave T. Hehemann,
Justin J. Bohn, John D. Protasiewicz**

J. Organomet. Chem. 690 (2005) 477

Suzuki and Heck coupling reactions mediated by palladium complexes bearing *trans*-spanning diphosphines

Palladium complexes of three *trans*-spanning diphosphines are examined for effecting C–C coupling reactions. Ten aryl halides of varying electron density were screened in Suzuki coupling reactions with phenylboronic acid and in Heck reactions with styrene.

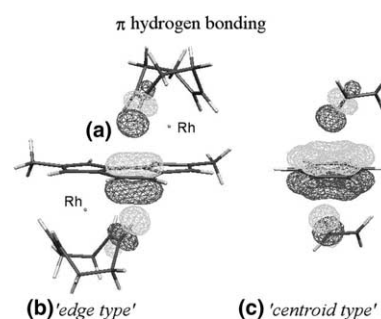


Laura Orian, Paolo Ganis, Saverio Santi, Alberto Ceccon

J. Organomet. Chem. 690 (2005) 482

Molecular conformations and π -hydrogen bonds in *anti*- and *syn*-binuclear Rh(I) complexes of *as*-indacene-diide: a computational study

Ab initio calculations are employed to discuss the quite unusual COD (1,5-cyclooctadiene) group orientation in the homo-bimetallic complex *anti*-{2,7-dimethyl-*as*-indacene-diide-[Rh(COD)]₂}, which is related to the metal hapticity and is stabilised by the presence of π -hydrogen bonds between olefin protons of COD and the π -electron cloud of the six-membered ring of the bridging ligand. Second-order perturbative natural bond orbital (NBO) analysis provides a meaningful picture of non-covalent intramolecular C–H...C(π) interactions.

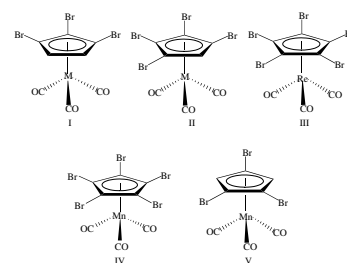


Long V. Dinh, Frank Hampel, J.A. Gladysz

J. Organomet. Chem. 690 (2005) 493

Syntheses and structures of missing links among polybromocyclopentadienyl rhenium and manganese tricarbonyl complexes

Complexes **I–III** are prepared by reactions of bromodiazocyclopentadienes $C_5H_{4-n}Br_nN_2$ ($n = 2, 3, 4$) with $BrM(CO)_5$ in $CF_3C_6H_5$ at elevated temperatures. When the reaction of $C_5Br_4N_2$ and $BrRe(CO)_5$ is conducted at a lower temperature, the η^1 -pentabromocyclopentadienyl complex ($\eta^1-C_5Br_5$) $Re(CO)_5$ (**IV**) is isolated. All attempts to induce decarbonylation to the **III** are unsuccessful. The isomeric tribromo complex **V** is accessed via a debromination sequence.

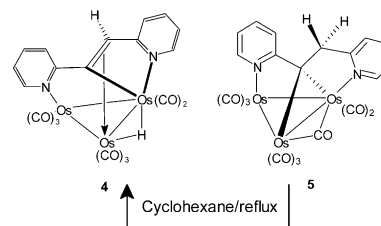


Rubén A. Machado, David Rivillo, Alejandro J.Arce, Ysaura De Sanctis, Antony J. Deeming, Lindora D'Ornelas, Teresa González, Reinaldo Atencio

J. Organomet. Chem. 690 (2005) 504

Dinuclear and trinuclear osmium complexes incorporating 1,2-bis(2-pyridyl)ethene as doubly and triply bridging ligands: crystal structures of $[Os_2(\mu-\eta^4-C_{12}H_{10}N_2)(CO)_6]$, $[Os_3(\mu-H)_2(\mu_3-\eta^3-C_{12}H_{10}N_2)(CO)_8]$ and $[Os_3(\mu-H)(\mu_3-\eta^4-C_{12}H_9N_2)(CO)_8]$ and $[Os_3(\mu-H)(\mu^3-\eta^4-C_{12}H_9N_2)(CO)_8]$

The reaction of $(C_{12}H_{10}N_2)$ with $[Os_3(CO)_{10}(CH_3CN)_2]$ generated the products **1** to **5**. The thermal conversion observed for $[Os_3(\mu-CO)(\mu_3-\eta^3-C_{12}H_{10}N_2)(CO)_8]$ **5** to $[Os_3(\mu-H)(\mu_3-\eta^4-C_{12}H_9N_2)(CO)_8]$ **4** by rupture of an Os–C bond with H migration from the CH_2 group to the metallic triangle to form a hydride and CO elimination can be seen as a facile process for the formation of the $\mu-\eta^3$ -alkenyl complex **4**.

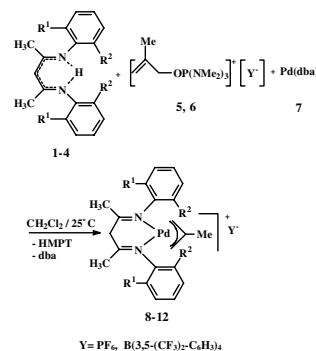


Kamel Landolsi, Philippe Richard, Faouzi Bouachir

J. Organomet. Chem. 690 (2005) 513

Synthesis and X-ray structure of cationic β -diimine palladium complexes containing π -methallyl ligand

Oxidative addition of 2-metallyloxyphosphonium salts to $Pd(dba)_2$ in presence of β -iminoamine ligands is a highly efficient one pot synthesis of cationic allyl palladium complexes supported by β -diimine ligand.



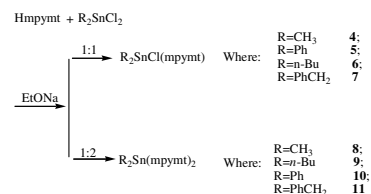
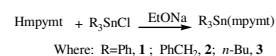
Y = PF₆, B(3,5-(CF₃)₂-C₆H₃)₄

Chunlin Ma, Junhong Zhang, Guangru Tian, Rufen Zhang

J. Organomet. Chem. 690 (2005) 519

Syntheses, crystal structures and coordination modes of tri- and di-organotin derivatives with 2-mercapto-4-methylpyrimidine

The organotin (IV) derivatives of 2-mercapto-4-methylpyrimidine (Hmpymt) R_3SnL ($R = Ph$ **1**, $PhCH_2$ **2**, $n-Bu$ **3**), $R_2SnCl_mL_n$ ($m = 1, n = 1, R = CH_3$ **4**, Ph **5**, $n-Bu$ **6**, $PhCH_2$ **7**; $m = 0, n = 2, R = CH_3$ **8**, $n-Bu$ **9**, Ph **10**, $PhCH_2$ **11**) were obtained by the reaction of the organotin(IV) chlorides R_3SnCl or R_2SnCl_2 with 2-mercapto-4-methylpyrimidine hydrochloride ($HCl \cdot Hmpymt$) in 1:1 or 1:2 molar ratio. All complexes **1–11** were characterized by elemental analyses, IR, 1H NMR, ^{13}C NMR spectra.



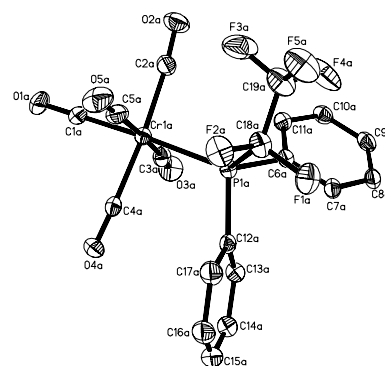
Note

Jason D. Palcic, Russell G. Baughman, Misha V. Golynskiy, Sara B. Frawley, R. Gregory Peters

J. Organomet. Chem. 690 (2005) 534

Synthesis and characterization of chromium and molybdenum(0) complexes bearing the (pentafluoroethyl)diphenylphosphine (pfpep) ligand

Treatment of $M(CO)_6$ and pfpep in refluxing octane afforded $(pfpep)M(CO)_5$ ($M = Cr$ **1**, Mo **2**; pfpep = $PPh_2C_2F_5$). These complexes were spectroscopically characterized and the crystal structures of **1** and **2** are reported.



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