



## Contents

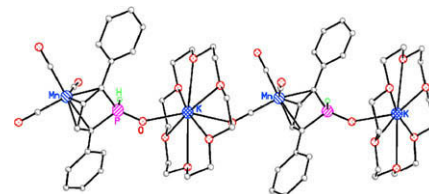
### Communication

Vasily V. Bashilov, Allan G. Ginzburg,  
Alexander F. Smol'yakov,  
Fedor M. Dolgushin, Pavel V. Petrovskii,  
Viatcheslav I. Sokolov

*J. Organomet. Chem.* 694 (2009) 4121

The reaction of 2,5-diphenylphosphacy-  
mantrene with solid KOH in the presence  
of crown ethers: Synthesis of the anionic  
 $\eta^4$ -phosphoryl manganese complexes

The previously unknown anionic com-  
plexes of manganese with  $\eta^4$ -coordination  
of phosphoryl ligand were synthesized for  
the first time by the reaction of  $\eta^5$ -2,5-  
diphenylphosphacymantrene with solid  
KOH and crown ethers.



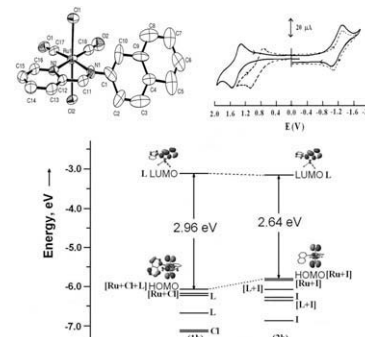
### Regular Papers

Papia Datta, Shyamal Kumar Sarkar,  
Tapan Kumar Mondal,  
Ashis Kumar Patra, Chittaranjan Sinha

*J. Organomet. Chem.* 694 (2009) 4124

Ruthenium(II)-CO complexes of N-[(2-  
pyridyl)methylidene]- $\alpha$ (or  $\beta$ )-aminonaph-  
thalene: Synthesis, spectral studies,  
crystal structure, redox properties and  
DFT calculation

*trans*-(X)-[RuX<sub>2</sub>(CO)<sub>2</sub>( $\alpha$ / $\beta$ -NaiPy)] (**1**, **2**)  
(X = Cl (**1**), I (**2**)) and *trans*-(X)-[RuX<sub>2</sub>(CO)-  
(MeCN)( $\alpha$ / $\beta$ -NaiPy)] (**3**, **4**) are described.  
The structure of *trans*-(Cl)-[RuCl<sub>2</sub>(CO)<sub>2</sub>( $\beta$ -  
NaiPy)] shows distorted octahedral geome-  
try with *trans*-Cl and *cis*-CO groups. The  
complexes show intense emission proper-  
ties. Cyclic voltammetry shows high po-  
tential Ru(III)/Ru(II) couple and ligand  
reductions. DFT and TD-DFT computations  
explain electronic transitions and redox  
properties.

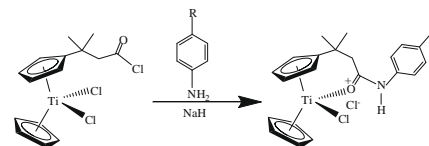


Li Ming Gao, Jaime Matta,  
Arnold L. Rheingold, Enrique Meléndez

*J. Organomet. Chem.* 694 (2009) 4134

Synthesis, structure and biological activity  
of amide-functionalized titanocenyls:  
Improving their cytotoxic properties

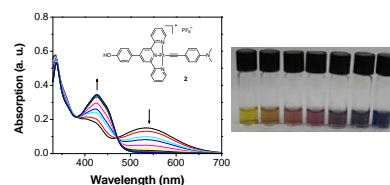
Nine amide-functionalized titanocenyls  
have been synthesized, characterized and  
their cytotoxic properties on colon cancer  
cell line HT-29 investigated. All titanocenyl  
complexes were more cytotoxic than tita-  
nocene dichloride and there is no correla-  
tion between the para substituents on the  
phenyl ring and their cytotoxicities.



**Zhiqiang Ji, Yunjing Li, Wenfang Sun***J. Organomet. Chem.* 694 (2009) 4140

Acid/base sensitive platinum terpyridyl complex: Switching between metal-to-ligand charge transfer (MLCT), ligand-to-ligand charge transfer (LLCT), and intraligand charge transfer (ILCT) states

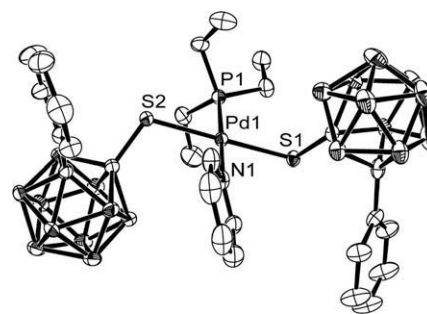
A platinum(II) terpyridyl complex exhibits drastic color change and emission intensity change upon acid or base titration due to the switching of the lowest excited state between metal-to-ligand charge transfer (MLCT), ligand-to-ligand charge transfer (LLCT), and intraligand charge transfer (ILCT).

**Nisha P. Kushwah, Vimal K. Jain, Amey Wadawale, Olga B. Zhidkova, Zoya A. Starikova, Vladimir I. Bregadze***J. Organomet. Chem.* 694 (2009) 4146

Synthesis, spectroscopy and structures of palladium(II) and platinum(II) complexes containing mercapto-*o*-carborane

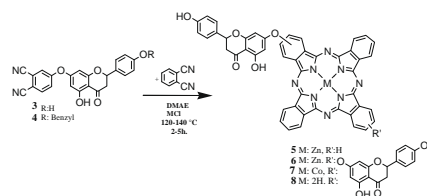
The reactions of  $[M_2Cl_2(\mu-Cl)_2(PMe_2Ph)_2]$  with mercapto-*o*-carboranes in the presence of pyridine afforded mono-nuclear complexes of composition,

$[MCl(SCb^oR)(py)(PMe_2Ph)]$  ( $M = Pd$  or  $Pt$ ;  $Cb^o = o-C_2B_{10}H_{10}$ ;  $R = H$  or  $Ph$ ) (**1–3**). The treatment of  $[PdCl_2(PET_3)_2]$  with  $PhCb^oSH$  yielded *trans*- $[Pd(SCb^oPh)_2(PET_3)_2]$  (**4**) which when left in solution in the presence of pyridine gave another substitution product,  $[Pd(SCb^oPh)_2(py)(PET_3)]$  (**5**). Thermolysis of  $[PdCl(SCb^o)(py)(PMe_2Ph)]$  (**2**) in TOPO (trioctylphosphine oxide) at 200 °C gave nanocrystals of TOPO capped  $Pd_4S$  which were characterized by XRD pattern and SEM (scanning electron microscopy).

**S. Zeki Yıldız, Mustafa Küçükislamoğlu, Murat Tuna***J. Organomet. Chem.* 694 (2009) 4152

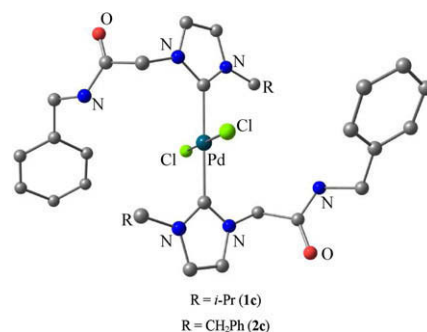
Synthesis and characterization of novel flavonoid-substituted phthalocyanines using ( $\pm$ )naringenin

Novel unsymmetrical mono- and di-substituted metal free and metallo phthalocyanines containing peripheral naringenin moieties have been prepared. To our knowledge, these are the first known examples of flavonoid-substituted phthalocyanines. These new products are the members of the recently emerged natural product substituted phthalocyanines.

**Sachin Kumar, Mobin M. Shaikh, Prasenjit Ghosh***J. Organomet. Chem.* 694 (2009) 4162

Palladium complexes of amido-functionalized N-heterocyclic carbenes as effective precatalysts for the Suzuki–Miyaura C–C cross-coupling reactions of aryl bromides and iodides

A series of air-stable, robust and highly active palladium based precatalysts of amido-functionalized N-heterocyclic carbenes (**1c** and **2c**) for the Suzuki–Miyaura C–C cross-coupling of aryl bromides and iodides have been designed.

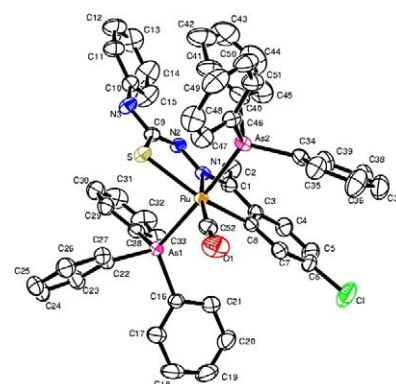


**Rupesh Narayana Prabhu,  
Devaraj Pandiarajan, Rengan Ramesh**

*J. Organomet. Chem.* 694 (2009) 4170

Ruthenium(II) mediated C–H activation of substituted acetophenone thiosemicarbazones: Synthesis, structural characterization, luminescence and electrochemical properties

Ruthenium(II) cyclometalated thiosemicarbazone complexes of the type,  $[\text{Ru}(\text{L})(\text{CO})(\text{AsPh}_3)_2]$ , were synthesized and characterized. X-ray diffraction study confirms C, N and S coordination mode of ligands via C–H activation. All the complexes are emissive at room temperature and are redox active.

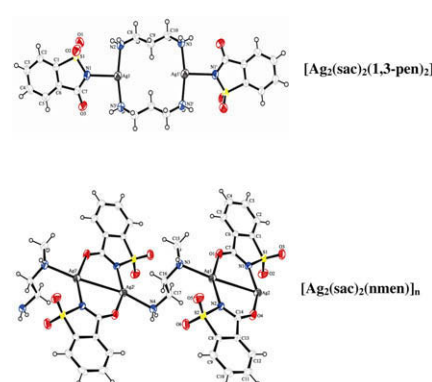


**İnci İlker, Okan Zafer Yeşilel,  
Güneş Günay, Orhan Büyükgüngör**

*J. Organomet. Chem.* 694 (2009) 4178

Dinuclear and polynuclear silver(I) saccharinate complexes with 1,3-diaminopropane and *N*-methylethylenediamine constructed from Ag···C interactions

New dinuclear and polynuclear Ag(I) complexes with the formula of  $[\text{Ag}_2(\text{sac})_2(\text{pen})_2]$  (**1**) and  $[\text{Ag}_2(\text{sac})_2(\text{nmen})]_n$  (**2**), have been synthesized and characterized. Both of the complexes, Ag(I) ion exhibits a T-shaped coordination geometry. The polymeric units are assembled into two-dimensional networks by hydrogen bonds, C–H··· $\pi$  stacking interactions, weak Ag···C<sub>sac</sub> ( $\eta^2$ ) and Ag···O interactions.

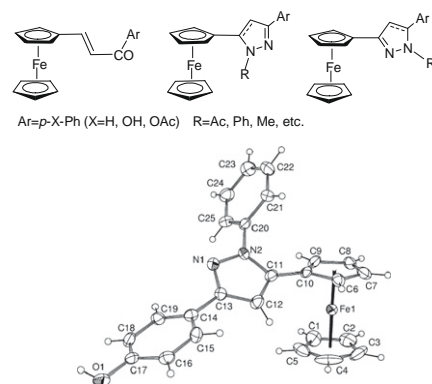


**Virág Zsoldos-Mády, Oliver Ozohanics,  
Antal Csámpai, Veronika Kudar,  
Dávid Frigyes, Pál Sohár**

*J. Organomet. Chem.* 694 (2009) 4185

Ferrocenyl pyrazolines: Preparation, structure, redox properties and DFT study on regioselective ring-closure

3-Ferrocenyl-1-phenyl-prop-2-en-1-ones with hydrazines gave 5-ferrocenyl pyrazolines and/or pyrazoles. With methylhydrazine, formation of regioisomeric pyrazolines and pyrazoles was also observed. Oxidation of isolated pyrazolines was systematically studied, reaction mechanism was supported by DFT. Structures of the new compounds were determined with complex spectroscopic methods. X-ray of two compounds is also presented.

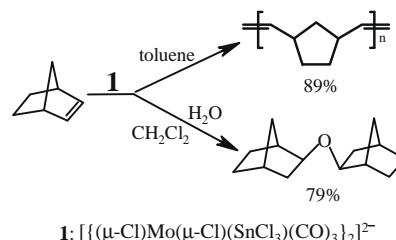


**Magdalena Zyder, Andrzej Kochel,  
Teresa Szymańska-Buzar**

*J. Organomet. Chem.* 694 (2009) 4196

A new versatile binuclear seven-coordinate complex of molybdenum(II),  $[(\mu\text{-Cl})_2\{\text{Mo}(\mu\text{-Cl})(\text{SnCl}_3)(\text{CO})_3\}_2]^{2-}$

The binuclear complex  $[(\text{C}_3\text{H}_5)\text{pip}]_2[(\mu\text{-Cl})_2\{\text{Mo}(\mu\text{-Cl})(\text{SnCl}_3)(\text{CO})_3\}_2]$  and the mononuclear complex,  $[\text{Hpip}]_2[\text{MoCl}_3(\text{GeCl}_3)(\text{CO})_3]_2$  were synthesized and characterized by X-ray diffraction studies. In a strictly anhydrous atmosphere, the binuclear complex effectively initiates the ring-opening metathesis polymerization reaction of norbornene, but in the presence of water norbornene is efficiently transformed to the binorbornyl ether  $(\text{C}_7\text{H}_{11})_2\text{O}$ .

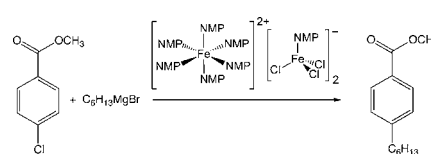


**Keying Ding, Ferdous Zannat,  
James C. Morris, William W. Brennessel,  
Patrick L. Holland**

*J. Organomet. Chem.* 694 (2009) 4204

Coordination of *N*-methylpyrrolidone to iron(II)

*N*-Methylpyrrolidone coordinates to two iron(II) chloride complexes. In each case, *O*-coordination of NMP is shown by X-ray crystallography. Iron catalysts with NMP give higher yields in catalytic cross-coupling reactions.

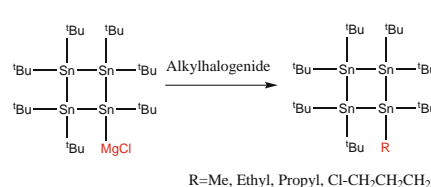


**Marie-Luise Lechner, Katharina Fürpaß,  
Jan Sykora, Roland C. Fischer,  
Jörg Albering, Frank Uhlig**

*J. Organomet. Chem.* 694 (2009) 4209

Functionalized tetrastannacyclobutanes, Part I

Reaction of di<sup>t</sup>butyldichlorostannane with 5 equivalents of magnesium leads to 1,1,2,2,3,3,4-hepta-<sup>t</sup>butyl-4-(chloromagnesio)-tetrastannacyclobutane **1**. The derivatisation of **1** with different alkylhalogenides yields monofunctionalised tetrastannacyclobutanes.

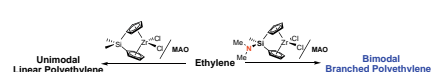


**Yonggyu Han, Hyoseok Kim,  
Min Hyung Lee, Youngjo Kim,  
Junseong Lee, Yoon Sup Lee,  
Youngkyu Do**

*J. Organomet. Chem.* 694 (2009) 4216

Aminosilylene-bridged *ansa*-zirconocenes for branched polyethylenes with bimodal molecular weight distributions

The introduction of NR<sub>2</sub> group into the bridging Si atom of silylene-bridged *ansa*-zirconocenes leads to *in situ* multi-component catalytic systems being capable of producing branched polyethylenes with bimodal molecular weight distribution upon MAO activation.

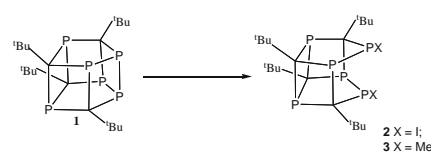


**Mahmoud M. Al-Ktaifani,  
Martyn P. Coles, Ian R. Crossley,  
Lloyd T.J. Evans, Peter B. Hitchcock,  
Gerard A. Lawless, John F. Nixon**

*J. Organomet. Chem.* 694 (2009) 4223

Opening "Jaws": Functionalisation of the hexaphosphapentaprismane cage, P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub>, affording X<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> (X = Me, I), crystal and molecular structures of X<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> (X = Me, I) and [cis-PtCl<sub>2</sub>Me<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub>]

The hexaphosphapentaprismane cage, P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> ("Jaws"), can be readily opened by reaction with iodine at room temperature to afford the di-iodo derivative I<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> which can be converted to the dimethyl derivative Me<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> by treatment with LiMe. Me<sub>2</sub>P<sub>6</sub>C<sub>4</sub>'Bu<sub>4</sub> behaves as a bidentate ligand towards PtCl<sub>2</sub>. The molecular structures of all the new compounds have been determined by <sup>31</sup>P and/or <sup>195</sup>Pt NMR spectroscopy and single crystal X-ray diffraction studies.

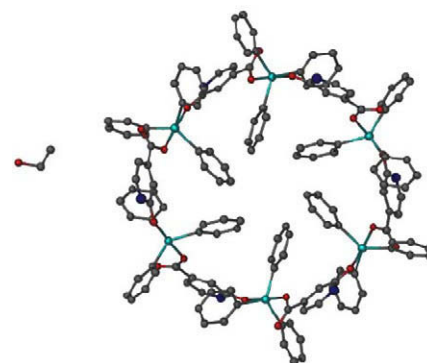


**Chunlin Ma, Qianli Li, Mengjie Guo, Rufen Zhang**

*J. Organomet. Chem.* 694 (2009) 4230

Self-assembly syntheses and crystal structures of triorganotin(IV) pyridine-carboxylate: 1D polymers and a 42-membered macrocycle

A series of new triorganotin(IV) pyridine-carboxylates with 6-hydroxynicotinic acid, 5-hydroxynicotinic acid and 2-hydroxyisonicotinic acid have been synthesized. All the complexes were characterized by elemental analysis, TGA, IR and NMR ( $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{119}\text{Sn}$ ) spectroscopy analyses. Among them, except for complexes **5** and **6**, all complexes were also characterized by X-ray crystallography diffraction analysis.

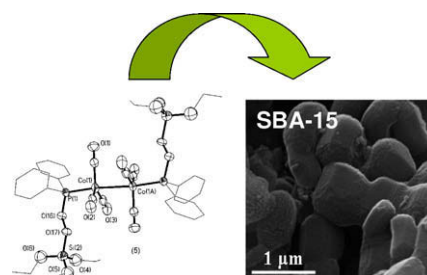


**Fabio Carniato, Giorgio Gatti, Giuliana Gervasio, Domenica Marabello, Enrico Sappa, Andrea Secco**

*J. Organomet. Chem.* 694 (2009) 4241

Reactions of  $\text{Co}_2(\text{CO})_8$  and of  $\text{Co}_2(\text{CO})_6\text{L}$  (L = 3-pentyn-1-ol, 1,4-butyn-diol or 2-methyl-3-butyn-2-ol) with 2(diphenylphosphino)ethyl-trietoxysilane and tris(hydroxymethyl)phosphine for applications to new sol-gel materials

Starting with  $\text{Co}_2(\text{CO})_8$  and alkynols it is possible to obtain novel substituted complexes with ligands which can be exploited to form hybrid inorganic-organometallic materials.

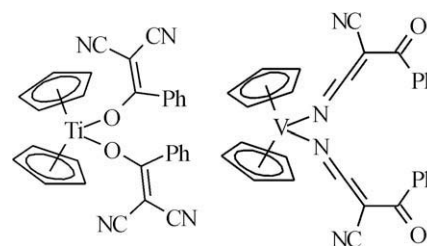


**Jan Honzíček, Jaromír Vinklárek, Milan Erben, Lukáš Stržížík, Ivana Císařová, Zdeňka Padělková**

*J. Organomet. Chem.* 694 (2009) 4250

Titanocene(IV) and vanadocene(IV) complexes of dicyanomethanidobenzoate

The synthesis of  $\text{Cp}_2\text{Ti}(\text{dcmb})_2$ ,  $\text{Cp}_2\text{VCl}(\text{dcmb})$ ,  $(\eta^5\text{-C}_5\text{H}_4\text{Me})_2\text{VCl}(\text{dcmb})$  and  $\text{Cp}_2\text{V}(\text{dcmb})_2$  is described. This study proves that dicyanobenzoate ( $\text{dcmb}$ ,  $\text{PhC}(\text{O})\text{C}(\text{CN})_2^-$ ) could be coordinated via oxygen or nitrogen donor atoms. The bonding mode reflects properties of the central metal. The strongly oxophilic titanium(IV) shows bonding through oxygen atom while vanadium(IV) through nitrogen atom.

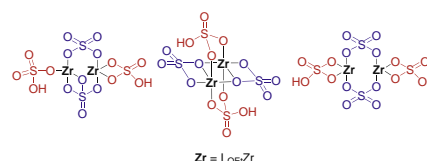


**Xiao-Yi Yi, Qian-Feng Zhang, Ian D. Williams, Wa-Hung Leung**

*J. Organomet. Chem.* 694 (2009) 4256

Synthesis and structures of zirconium(IV) hydrogensulfato and carboxylato complexes with Kläui's oxygen tripodal ligand

Interactions of  $[\text{L}_{\text{OEt}}\text{ZrF}_3]$  ( $\text{L}_{\text{OEt}}^- = [\text{Co}(\eta^5\text{-C}_5\text{H}_5)\{\text{P}(\text{O})(\text{OEt})_2\}_3]^-$ ) with bis(trimethylsilyl) sulfate and trimethylsilyl trimethylsilyloxyacetate afford the hydrogensulfato(sulfato)  $[(\text{L}_{\text{OEt}})_2\text{Zr}_2(\text{SO}_4)_2(\text{HSO}_4)_2]$  and carboxylato  $[\text{L}_{\text{OEt}}\text{Zr}(\text{OCOCH}_2\text{OH})(\text{O}_2\text{CCH}_2\text{O})_2]$  complexes, respectively, which have been characterized by X-ray crystallography.



**Mitsushiro Nomura, Daisuke Takeuchi,  
Yoshiko Toyota, Eriko Suzuki,  
Chikako Fujita-Takayama,  
Toru Sugiyama, Masatsugu Kajitani**

*J. Organomet. Chem.* 694 (2009) 4261

CpCo(dithiolene) complexes of highly flexible oxddt ligand with two different Z-shaped and U-shaped structures

[CpCo(oxddt)] (**2**) was prepared from O=C(oxddt) (**1**). The alkylidene-bridged adducts [CpCo(CHR)(oxddt)] (R = H (**3a**), SiMe<sub>3</sub> (**3b**)) were derived from **2** and some S-methylated adducts [CpCo(X)(oxddt)(S-Me)] (X = Cl (**4a**), OCOCF<sub>3</sub> (**4c**)) were obtained from **3a**. Two different Z-shaped (for **1** and **2**) and U-shaped (for **3** and **4**) molecular structures were observed by X-ray diffraction studies.

