



## Contents

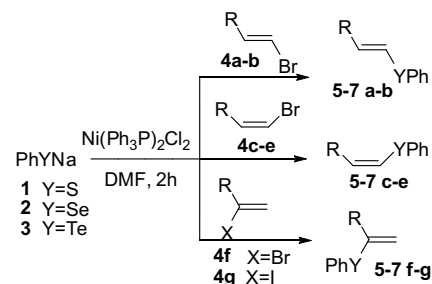
### Regular Papers

**Claudio C. Silveira, Paulo Cesar S. Santos, Samuel R. Mendes, Antonio L. Braga**

*J. Organomet. Chem.* 693 (2008) 3787

A simple and general preparation of vinylic sulfides, selenides and tellurides

A general method for the synthesis of vinylic chalcogenides by nucleophilic and Ni-catalyzed vinylic substitution on vinylic halides by phenyl chalcogenolates is described. The reactions were regio and stereoselective for the nickel catalyzed substitution, and mixture of isomers was observed for some examples in the thermal process in DMF.

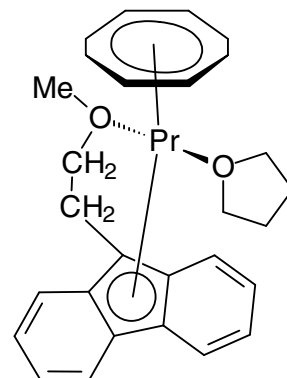


**Ahmad Zaeni, Falk Olbrich, Axel Fischer, Frank T. Edelmann**

*J. Organomet. Chem.* 693 (2008) 3791

Synthesis and structural characterization of (COT)Pr(C<sub>13</sub>H<sub>8</sub>CH<sub>2</sub>CH<sub>2</sub>OMe)(THF) containing the chelating 9-(2-methoxyethyl)-fluorenyl ligand

Treatment of 9-(2-methoxyethyl)fluorene, C<sub>13</sub>H<sub>9</sub>CH<sub>2</sub>CH<sub>2</sub>OMe, with potassium hydride in THF/toluene in the presence of 18-crown-6 afforded orange-red crystalline K(18-crown-6)C<sub>13</sub>H<sub>8</sub>CH<sub>2</sub>CH<sub>2</sub>OMe. A “constrained geometry”-type praseodymium complex containing the 9-(2-methoxyethyl)fluorenyl ligand, (COT)Pr(C<sub>13</sub>H<sub>8</sub>CH<sub>2</sub>CH<sub>2</sub>OMe)(THF), was prepared by treatment of dimeric [(COT)Pr(μ-Cl)(THF)<sub>2</sub>]<sub>2</sub> (COT = η<sup>8</sup>-cyclooctatetraenyl) with *in situ* prepared K<sub>2</sub>C<sub>13</sub>H<sub>8</sub>CH<sub>2</sub>CH<sub>2</sub>OMe and structurally characterized by single-crystal X-ray diffraction.

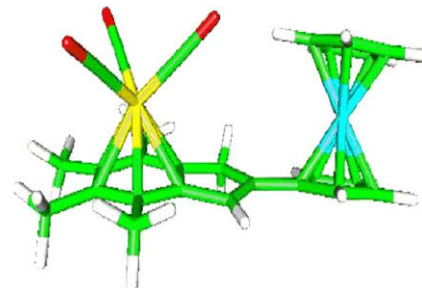


**Saverio Santi, Laura Orian, Alessandro Donoli, Christian Durante, Annalisa Bisello, Marilena Di Valentin, Paolo Ganis, Franco Benetollo, Alberto Ceccon**

*J. Organomet. Chem.* 693 (2008) 3797

Tunable electronic coupling in iron-chromium mixed-valence ions of methylated Cp-indene ligands

Mixed-valence ions of a series of differently substituted (ferrocenyl)indenes chromotricarbonyl complexes display near-IR absorption bands, the energy and intensity of which increase with the degree of methylation. Metal-to-metal electronic coupling occurs and the rate of the electron transfer raises with methylation.

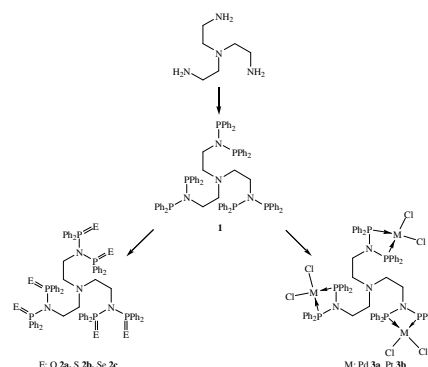


**Murat Aydemir, Akın Baysal,  
Bahattin Gümüş**

*J. Organomet. Chem.* 693 (2008) 3810

Synthesis and characterization of tris{2-(*N,N*-bis(diphenylphosphino)aminoethyl)amine derivatives: Application of a palladium(II) complex as a pre-catalyst in the Heck and Suzuki cross-coupling reactions

Metal complexes {Pd (II) and Pt (II)} and oxidation products of tris{2-(*N,N*-bis(diphenylphosphino)aminoethyl)amine, [(PPh<sub>2</sub>)<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>]<sub>3</sub>N} **1** have been prepared and characterized. The catalytic behaviour of the Pd(II) complex was investigated in the Suzuki coupling and Heck reactions.

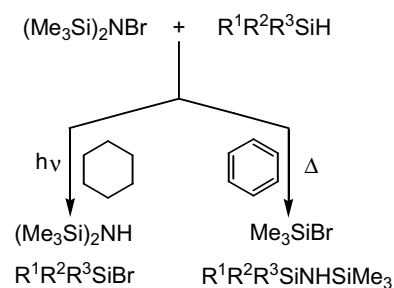


**Marc B. Taraban, Vladimir I. Rakhlin,  
Olga S. Volkova,  
Tatyana A. Podgorbunskaya,  
Leonid V. Kuibida, Rudolf G. Mirskov,  
Tatyana V. Leshina,  
Larisa V. Sherstyannikova,  
Mikhail G. Voronkov**

*J. Organomet. Chem.* 693 (2008) 3815

Spin chemistry of organometallic compounds **5**. Interaction of *N*-bromohexamethyl disilazane with substituted silyl hydrides

Reaction of (Me<sub>3</sub>Si)<sub>2</sub>NBr with substituted silyl hydrides shows unusual dependence on nonspecific solvent interactions – in benzene, it proceeds after the mixing of reagents, while in cyclohexane, the products are formed only under UV-irradiation. Photoinduced bromination involves (Me<sub>3</sub>Si)<sub>2</sub>N· and R<sup>1</sup>R<sup>2</sup>R<sup>3</sup>Si· radicals, whereas in benzene, 4-centered activated complex is probably formed.

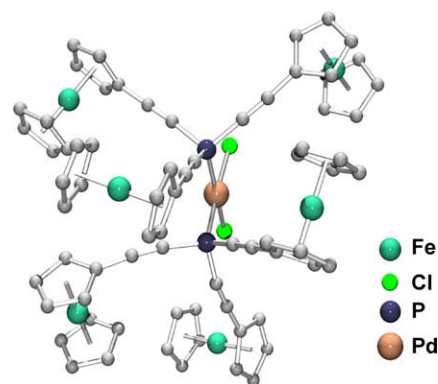


**Alexander Jakob, Bianca Milde,  
Petra Ecorchard, Claus Schreiner,  
Heinrich Lang**

*J. Organomet. Chem.* 693 (2008) 3821

Palladiumdichloride (ferrocenylethynyl)-phosphanes and their use in Pd-catalyzed Heck–Mizoroki- and Suzuki–Miyaura carbon–carbon cross-coupling reactions

The synthesis of phosphane selenides (FcC≡C)<sub>*n*</sub>Ph<sub>3–*n*</sub>P=Se (*n* = 1, 2, 3) and the appropriate (ferrocenylethynyl)phosphane palladium dichlorides is described. The use of the latter complexes as (pre)catalysts in the Suzuki–Miyaura and Heck–Mizoroki carbon–carbon cross-coupling reactions is reported. Electronic (*J*<sub>31P–77Se</sub>) and steric effects (Tolman cone angle) are discussed.



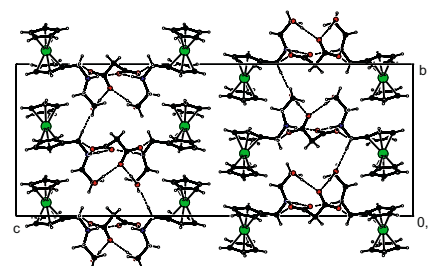
**Petr Štěpnička, Martin Zábranský,  
Ivana Čiřarová, Martin Lamač**

*J. Organomet. Chem.* 693 (2008) 3831

Supramolecular assemblies in the crystals of carboxylate salts prepared from a ferrocene β-aminoalcohol

Reaction of FcCH<sub>2</sub>NHCH<sub>2</sub>CH<sub>2</sub>OH (Fc = ferrocenyl) with mono- (RCO<sub>2</sub>H; R = Me and Ph) and dicarboxylic acids (HO<sub>2</sub>C(CH<sub>2</sub>)<sub>*n*</sub>-

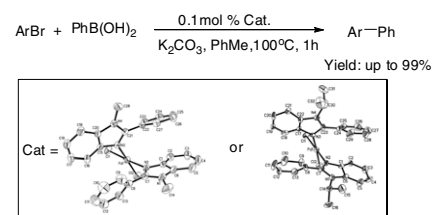
CO<sub>2</sub>H (*n* = 0–2), (*E*)- and (*Z*)-HO<sub>2</sub>CCH=CH-CO<sub>2</sub>H) affords the respective carboxylates as defined crystalline solids. In the solid state, these salts form supramolecular assemblies via charge-supported N<sup>+</sup>–H···O<sup>–</sup> and O–H···O<sup>–</sup> hydrogen bonds, and via C–H···O contacts. Whereas the acetate and benzoate form one-dimensional supramolecular arrays, the salts prepared from the dicarboxylic acids form complicated assemblies by alternation of polar, hydrogen-bonded layers and of non-polar sheets accommodating the ferrocenyl substituents.



**Chanjuan Xi, Yongwei Wu, Xiaoyu Yan***J. Organomet. Chem.* 693 (2008) 3842

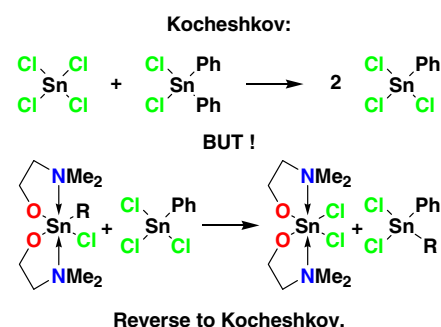
*cis*-Fashioned palladium (II) complexes of 2-phenylbenzimidazole ligands: Synthesis, characterization, and catalytic behavior towards Suzuki–Miyaura reaction

Synthesis, characterization, and catalytic application of palladium (II) complexes containing 2-arylbenzimidazole ligands have been investigated. The configuration of complexes depends the substituent on the 2-position of benzoimidazole. Phenyl afforded the complexes in *cis*-fashion due to  $\pi$ - $\pi$  stacking of phenyl and benzimidazole. Tollyl affords the complex in *trans*-fashion. Catalytic studies show that *cis*-configured 2-phenylbenzimidazole palladium (II) complexes are highly efficient catalysts in the Suzuki–Miyaura reaction.

**Ivan A. Portnyagin, Valery V. Lunin, Mikhail S. Nechaev***J. Organomet. Chem.* 693 (2008) 3847

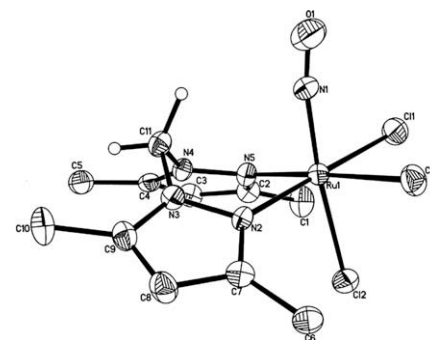
Reverse Kocheshkov reaction – Redistribution reactions between  $\text{RSn(OCH}_2\text{CH}_2\text{NMe}_2)_2\text{Cl}$  (R = Alk, Ar) and  $\text{PhSnCl}_3$ : Experimental and DFT study

The presence of  $\text{OCH}_2\text{CH}_2\text{NMe}_2$  groups significantly increase the mobility of R substituents in  $\text{RSn(OCH}_2\text{CH}_2\text{NMe}_2)_2\text{Cl}$  (R = Alk, Ar). These compounds react with  $\text{PhSnCl}_3$  to give a reverse Kocheshkov reaction products  $(\text{Me}_2\text{NCH}_2\text{CH}_2\text{O})_2\text{SnCl}_2$  and  $\text{RPhSnCl}_2$ . Tin species bearing coordinating groups collect electronegative substituents and release electropositive ones.

**Hui-Jun Xu, Yong Cheng, Jia-Feng Sun, Brenda A. Dougan, Yi-Zhi Li, Xue-Tai Chen, Zi-Ling Xue***J. Organomet. Chem.* 693 (2008) 3851

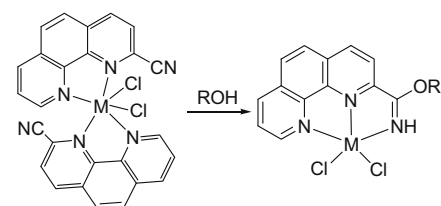
Preparation, characterization, and catalytic properties of ruthenium nitrosyl complexes with polypyrazolylmethane ligands

Four ruthenium(II) nitrosyl complexes with the polypyrazolylmethane ligands,  $[(\text{Bpm})\text{Ru}(\text{NO})\text{Cl}_3]$  (1),  $[(\text{Bpm}^*)\text{Ru}(\text{NO})\text{Cl}_3]$  (2),  $[(\text{Tpm})\text{Ru}(\text{NO})\text{Cl}_2][\text{PF}_6]$  (3), and  $[(\text{Tpm}^*)\text{Ru}(\text{NO})\text{Cl}_2][\text{PF}_6]$  (4), were prepared and characterized. The structures of complexes 2 and 4 have been determined by X-ray crystallographic analysis. These complexes have been tested as catalysts in the transfer hydrogenation of ketones.

**Liwei Xiao, Suyun Jie, Yingxia Song, Xiaoping Cao, Wen-Hua Sun***J. Organomet. Chem.* 693 (2008) 3858

Transformation of 2-alkoxyimide-1,10-phenanthroline metal ( $\text{Mn}^{2+}$ ,  $\text{Co}^{2+}$  and  $\text{Ni}^{2+}$ ) chlorides from bis(2-cyano-1,10-phenanthroline) metal chlorides: Syntheses, characterizations and their catalytic behavior toward ethylene oligomerization

Metal complexes ligated by 2-cyano- or 2-alkoxyimide-1,10-phenanthrolines were synthesized. It was found that the alkoxyimidation of nitrile linked on ligand was speeded in metal complexes. In their ethylene oligomerization, manganese complexes were less active, cobalt complexes showed low to moderate activities, and nickel complexes gave moderate to good activities.

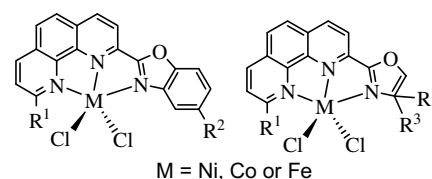


**Min Zhang, Rong Gao, Xiang Hao,  
Wen-Hua Sun**

*J. Organomet. Chem.* 693 (2008) 3867

2-Oxazoline/benzoxazole-1,10-phenanthroline/metal (iron, cobalt or nickel) dichloride: Synthesis, characterization and their catalytic reactivity for the ethylene oligomerization

Late transition metal (Ni, Co, Fe) complexes bearing 2-benzoxazole-1,10-phenanthrolines or 2-oxazoline-1,10-phenanthrolines were synthesized and characterized, and their catalytic performances towards ethylene oligomerization were investigated.



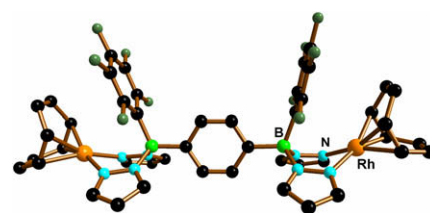
**Thorsten Morawitz, Songsong Bao,  
Michael Bolte, Hans-Wolfram Lerner,  
Matthias Wagner**

*J. Organomet. Chem.* 693 (2008) 3878

Rh<sup>I</sup>-complexes of ditopic bis(pyrazol-1-yl)borate ligands: Assessment of their catalytic activity towards phenylacetylene polymerization

Novel ditopic 1,4-phenylene-bridged bis-(pyrazol-1-yl)borate ligands have been used for the synthesis of dinuclear Rh<sup>I</sup>-

cyclooctadiene complexes [1,4-(cod)Rh(B(R')pz<sub>2</sub>)-C<sub>6</sub>H<sub>4</sub>-(B(R')pz<sub>2</sub>)Rh(cod)] (R' = Ph, C<sub>6</sub>F<sub>5</sub>; pz = pyrazolide). Treatment of the related 3-phenylpyrazolyl-substituted discorponates [1,4-(B(R')pz<sub>2</sub><sup>Ph</sup>)-C<sub>6</sub>H<sub>4</sub>-(B(R')pz<sub>2</sub><sup>Ph</sup>)]<sub>2</sub> with Rh<sub>2</sub>Cl<sub>2</sub>(cod)<sub>2</sub> did not lead to the formation of the corresponding Rh<sup>I</sup>-complexes but gave the compound [(cod)Rh(μ-pz<sup>Ph</sup>)<sub>2</sub>Rh(cod)] which proved to be an efficient catalyst for the preparation of highly stereoregular head-to-tail *cis-trans*oidal poly(phenylacetylene).

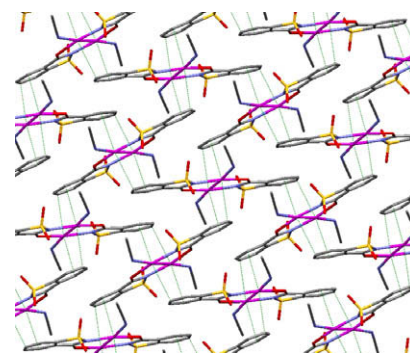


**Veysel T. Yilmaz, Sevim Hamamci,  
Canan Kazak**

*J. Organomet. Chem.* 693 (2008) 3885

A novel two-dimensional silver(I) saccharinato coordination polymer constructed from weak Ag...C interactions: Synthesis, IR spectra and X-ray structure

A dinuclear silver(I)-saccharinato (sac) complex with acetonitrile (MeCN), [Ag<sub>2</sub>(sac)<sub>2</sub>(MeCN)<sub>2</sub>]<sub>n</sub>, has been synthesized and characterized. The silver(I) ions are doubly bridged by two sac ligands, leading to short Ag...Ag contacts. The dimeric molecules are extended into a two-dimensional layered structure by weak Ag...C<sub>sac</sub> interactions.

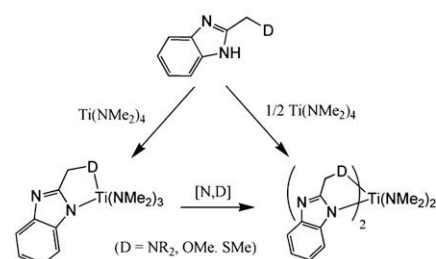


**Damien Zaher, Atanas K. Tomov,  
Vernon C. Gibson, Andrew J.P. White**

*J. Organomet. Chem.* 693 (2008) 3889

Titanium complexes bearing bidentate benzimidazole-containing ligands and their behavior in ethylene polymerization

A family of bidentate benzimidazolyl-containing ligands has been synthesized and reacted with Ti(NMe<sub>2</sub>)<sub>4</sub> to give mono- and bis-chelate products of the type {[(Bim)CH<sub>2</sub>D]Ti(NMe<sub>2</sub>)<sub>3</sub>} and {[(Bim)CH<sub>2</sub>D]<sub>2</sub>Ti(NMe<sub>2</sub>)<sub>2</sub>} (where Bim = benzimidazolyl; D = NMe<sub>2</sub>, NEt<sub>2</sub>, NPr<sub>2</sub>, OMe, SMe); upon activation with AlBu<sub>3</sub>/dried-MAO, moderately active catalysts for ethylene polymerization are obtained.

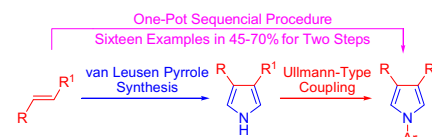


**Rui Zhu, Lixin Xing, Yantao Liu,  
Fangkun Deng, Xinyan Wang, Yuefei Hu**

*J. Organomet. Chem.* 693 (2008) 3897

Practical one-pot sequential procedure for the preparation of *N*-arylated 3,4-disubstituted pyrroles from alkenes

By using <sup>t</sup>BuONa and Cs<sub>2</sub>CO<sub>3</sub> as a mixed base, van Leusen pyrrole synthesis and copper-catalyzed *N*-arylation of pyrrole proceeded sequentially in a single flask to give *N*-arylated 3,4-disubstituted pyrroles smoothly. Thus, a series of desired *N*-arylated pyrroles were prepared directly from the electron-deficient alkenes.

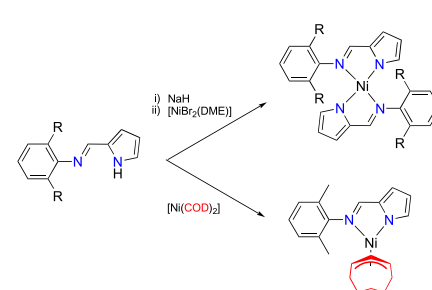


**Pilar Pérez-Puente, Ernesto de Jesús,  
Juan C. Flores, Pilar Gómez-Sal**

*J. Organomet. Chem.* 693 (2008) 3902

Synthesis of 2-(*N*-arylimino-κ*N*-methyl)pyrrolide-κ*N* complexes of nickel

Bis{2-(*N*-arylimino-κ*N*-methyl)pyrrolide-κ*N*}nickel(II) complexes have been synthesised in almost quantitative yields and a mono-(iminomethylpyrrolide)-η<sup>3</sup>-(cyclic-allyl)-type organonickel(II) complex has been identified.

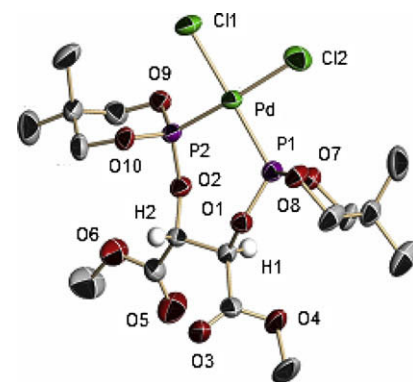


**Samuel B. Owens Jr., Gary M. Gray**

*J. Organomet. Chem.* 693 (2008) 3907

Synthesis, characterization, and coordination chemistry of two new tartaric acid-derived bis(phosphite) ligands

The syntheses and characterizations of two chiral bis(phosphite) ligands with tartaric acid-derived backbones are presented. Three complexes of **L**<sup>(1)</sup>: *cis*-Mo(CO)<sub>4</sub>**L**<sup>(1)</sup>, *cis*-PtCl<sub>2</sub>**L**<sup>(1)</sup>, and *cis*-PdCl<sub>2</sub>**L**<sup>(1)</sup> and two complexes of **L**<sup>(2)</sup>: *cis*-Mo(CO)<sub>4</sub>**L**<sup>(2)</sup> and *cis*-PdCl<sub>2</sub>**L**<sup>(2)</sup> are presented. The X-ray crystal structures of each of the metal complexes have been determined, and the solid state conformations are discussed.

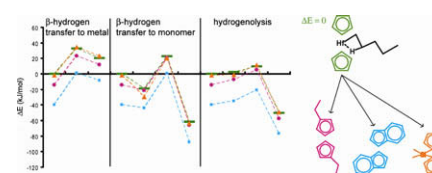


**Virve A. Karttunen, Mikko Linnolahti,  
Tapani A. Pakkanen, John R. Severn,  
Esa Kokko, Janne Maaranen,  
Päivi Pitkänen, Anneli Pakkanen**

*J. Organomet. Chem.* 693 (2008) 3915

Influence of the ligand structure of hafnocene polymerization catalysts: A theoretical study on chain termination reactions in ethene polymerization

The influence of ligand structure of hafnocene catalysts on chain termination has been studied by quantum chemical methods. Three mechanisms were considered: β-hydrogen transfer to metal, β-hydrogen transfer to monomer, and hydrogenolysis. Altogether 27 hafnocenes with different bridges, ligands and ligand substituents were included in the analysis.

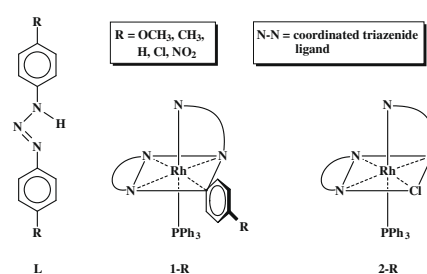


**Chhandasi GuhaRoy, Ray J. Butcher,  
Samaresh Bhattacharya**

*J. Organomet. Chem.* 693 (2008) 3923

Rhodium complexes of 1,3-diaryltriazenes:  
Usual coordination, N–H bond activation  
and, N–N and C–N bond cleavage

Reaction of 1,3-diaryltriazenes (**L**) with  $[\text{Rh}(\text{PPh}_3)_3\text{Cl}]$  in refluxing ethanol in the presence of base ( $\text{NEt}_3$ ) affords a family of yellow complexes (**1-R**) containing an  $\eta^1$ -coordinated aryl group, while similar reaction in toluene yields a group of reddish-orange complexes (**2-R**).

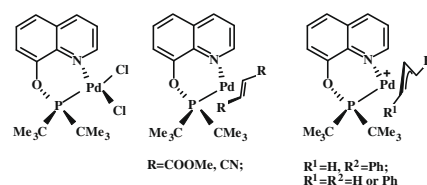


**Bruno Crociani, Simonetta Antonaroli,  
Marcello Burattini, Franco Benetollo,  
Alberto Scrivanti, Matteo Bertoldini**

*J. Organomet. Chem.* 693 (2008) 3932

Palladium complexes of 8-(di-*tert*-  
butylphosphinoxy)quinoline

The synthesis of the new ligand 8-(di-*tert*-butylphosphinoxy)quinoline is described along with the preparation of a series of neutral and cationic palladium complexes. The  $\text{PdCl}_2$  adduct and the cationic  $\eta^3$ -allylpalladium complex are efficient catalysts for the coupling of arylboronic acid with aryl bromides and chlorides.



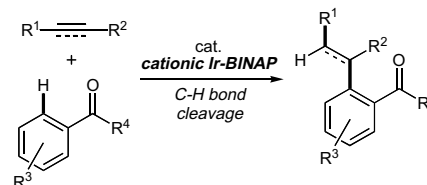
**Notes**

**Kyoji Tsuchikama, Mitsugu Kasagawa,  
Yu-Ki Hashimoto, Kohei Endo,  
Takanori Shibata**

*J. Organomet. Chem.* 693 (2008) 3939

Cationic iridium–BINAP complex-catalyzed  
addition of aryl ketones to alkynes and  
alkenes via directed C–H bond cleavage

Cationic Ir–bidentate phosphine complex ( $[\text{Ir}(\text{cod})_2]\text{BF}_4 + \text{BINAP}$ ) catalyzed the addition of *ortho*-C–H bonds in aryl ketones to alkynes and alkenes, which gave alkenylated products in good to high yield.

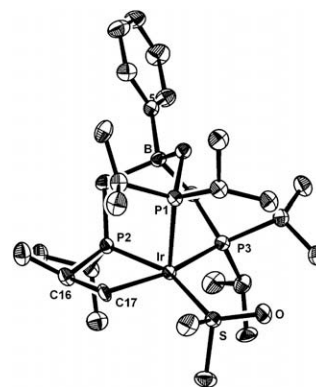


**Magnus R. Buchner,  
Eberhardt Herdtweck, Sven Schneider**

*J. Organomet. Chem.* 693 (2008) 3943

Ligand metalation in an  
iridiumtris(diisopropylphosphinomethyl)-  
borato complex: Synthesis, molecular  
structure and reactivity

The reaction of  $[\text{IrCl}(\text{dmsO})_3]$  with  $\text{Li}(\text{THF})\{\text{PhB}(\text{CH}_2\text{P}^i\text{Pr}_2)_3\}$  results in cyclo-metalation of an *iso*-propyl substituent to give two diastereomers of iridium(III) complex  $[\text{Ir}(\text{H})(\text{dmsO})\{\text{PhB}(\text{CH}_2\text{P}^i\text{Pr}_2)_2(\text{CH}_2\text{P}^i\text{PrCHMeCH}_2)\}]$  (**1**) in high yield. While facile ring opening of the four-membered metalacycle is obtained upon reaction with  $\text{H}_2$ , C–H activation of benzene by **1** was not observed.



**Cesar M. Manna, Michal Shavit,  
Edit Y. Tshuva**

*J. Organomet. Chem.* 693 (2008) 3947

Structural characterization of dinuclear Ti(IV) complexes of rigid tetradentate dianionic diamine bis(phenolato) ligands; effect of steric bulk on coordination features

A small difference in diamine bis(phenolato) ligands, namely an additional single methylene unit, directs formation of dinuclear Ti(IV) complexes rather than mononuclear ones as characterized by X-ray crystallography. Varying steric bulk of the ligand affects the coordination number and the ligand to metal ratio in the resulting complex.

