



## Contents

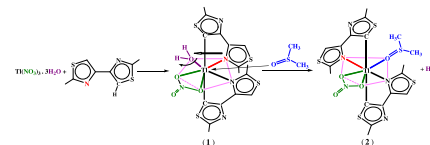
### Communications

**Behrouz Notash, Nasser Safari,  
Hamid Reza Khavasi, Vahid Amani,  
Anita Abedi**

*J. Organomet. Chem.* 693 (2008) 3553

C–H activation in bithiazole ring with thallium(III) ion

Two novel organometallic complex of 2,2'-dimethyl-4,4'-bithiazole (dm4bt) ligand with formula  $[\text{Tl}(\text{dm4bt})_2(\text{NO}_3)(\text{H}_2\text{O})]$  (1) and  $[\text{Tl}(\text{dm4bt})_2(\text{NO}_3)(\text{DMSO})]$  (2) have been synthesized and structurally characterized by elemental analysis, FT-IR,  $^1\text{H}$  NMR spectra and X-ray crystallography. These complexes also display the first transoid conformation in bithiazole ligands in which C–H bond activation in bithiazole ring is observed with Tl(III) ion.

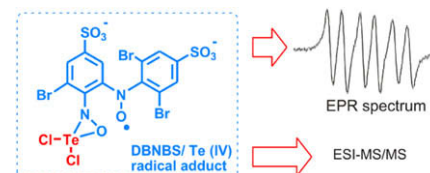


**Artur F. Keppler, Fernanda M. Prado,  
Giselle Cerchiaro, Paolo Di Mascio,  
João V. Comasseto**

*J. Organomet. Chem.* 693 (2008) 3558

Mechanistic study of the addition reaction of  $\text{TeCl}_4$  to alkynes: Participation of  $\text{TeCl}_3$  centered-radical

The mechanism of the addition reaction of  $\text{TeCl}_4$  to alkynes was indirectly established by the detection of  $\text{TeCl}_3$  centered radicals using EPR spin trapping, ESI-MS and ESI-MS/MS characterization.

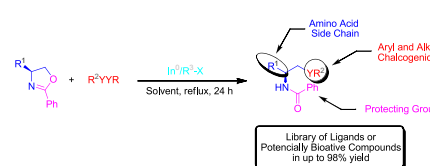


**Antonio L. Braga, Fábio Z. Galetto,  
Paulo S. Taube, Márcio W. Paixão,  
Claudio C Silveira, Devender Singh,  
Fabrício Vargas**

*J. Organomet. Chem.* 693 (2008) 3563

Mild and efficient one-pot synthesis of chiral  $\beta$ -chalcogen amides via 2-oxazoline ring-opening reaction mediated by indium metal

A simple and efficient procedure for the synthesis of  $\beta$ -seleno and  $\beta$ -thio amides via the ring-opening reaction of chiral 2-oxazolines in the presence of indium metal has been developed.

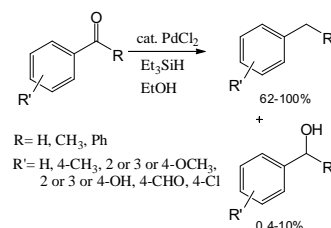


**Maryam Mirza-Aghayan,  
Rabah Boukherroub,  
Mahshid Rahimifard**

*J. Organomet. Chem.* 693 (2008) 3567

Efficient method for the reduction of carbonyl compounds by triethylsilane catalyzed by PdCl<sub>2</sub>

The versatility of the palladium(II) chloride and triethylsilane system has been tested in the reduction of aromatic carbonyl compounds. The reaction takes place under mild conditions and affords high yields. This facile and efficient method affords high yields for the reduction of aldehydes and Ketones to the corresponding alkanes.



## Regular Papers

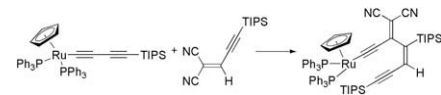
**David J. Armitt, Michael I. Bruce,  
Brian W. Skelton, Allan H. White**

*J. Organomet. Chem.* 693 (2008) 3571

Reactions of cyano(alkynyl)ethenes with some alkynyl- and diyne-ruthenium complexes

Reactions of Ru(C≡CPh)(PPh<sub>3</sub>)<sub>2</sub>Cp with (NC)<sub>2</sub>C=CR<sup>1</sup>R<sup>2</sup> (R<sup>1</sup> = H, R<sup>2</sup> = C≡CSiPr<sup>t</sup><sub>3</sub> **8**; R<sup>1</sup> = R<sup>2</sup> = C≡CPh **9**) have given η<sup>3</sup>-butadienyl

complexes Ru{η<sup>3</sup>-C[=C(CN)<sub>2</sub>]CPh=CR<sup>1</sup>R<sup>2</sup>}(PPh<sub>3</sub>)Cp (**11**, **12**), respectively. Deprotection (tbaF) of **11** and subsequent reactions with RuCl(dppe)Cp and AuCl(PPh<sub>3</sub>) afforded binuclear derivatives Ru{η<sup>3</sup>-C[=C(CN)<sub>2</sub>]CPh=CHC≡C[ML<sub>n</sub>]}(PPh<sub>3</sub>)Cp [ML<sub>n</sub> = Ru(dppe)Cp **19**, Au(PPh<sub>3</sub>) **20**]. Reactions between **8** and Ru(C≡CC≡CR)(PP)Cp [PP = (PPh<sub>3</sub>)<sub>2</sub>, R = Ph, SiMe<sub>3</sub>, SiPr<sup>t</sup><sub>3</sub>; PP = dppe, R = Ph] gave η<sup>1</sup>-dienynyl complexes Ru{C[=C(CN)<sub>2</sub>]CR=CH[C≡C(SiPr<sup>t</sup><sub>3</sub>)]}(PP)Cp (**15–18**), respectively. The phthalodinitrile C<sub>6</sub>H<sub>4</sub>(C≡CSiMe<sub>3</sub>)(CN)<sub>2</sub>(NH<sub>2</sub>)-(SiMe<sub>3</sub>) (**10**) was obtained serendipitously from (Me<sub>3</sub>SiC≡C)<sub>2</sub>CO and CH<sub>2</sub>(CN)<sub>2</sub>.

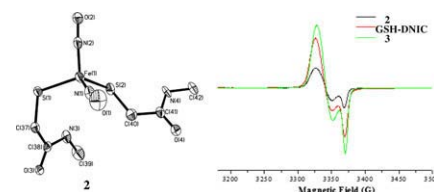


**Show-Jen Chiou, Chien-Chu Wang,  
Chih-Ming Chang**

*J. Organomet. Chem.* 693 (2008) 3582

Synthesis of dinitrosyl iron complexes (DNICs) with intramolecular hydrogen bonding

The water soluble complexes **2** and **3** with and without intramolecular hydrogen bonding have been synthesized for peptide bound mimic. Two complexes have the similar EPR signals as GSH-DNIC, the DNICs in biological system and rapidly release NO upon illumination with visible or UV light.

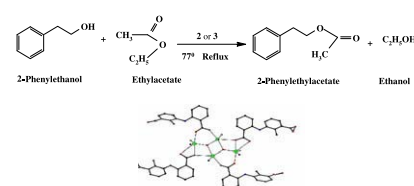


**Vaso N. Dokorou,  
Dimitra Kovala-Demertzi,  
Maria Louloudi, Anca Silvestru,  
Mavroudis A. Demertzis**

*J. Organomet. Chem.* 693 (2008) 3587

Synthesis, characterization and catalytic properties of diorganotin derivatives. Crystal and molecular structure of the first complex of 2-(2-methyl-3-nitroanilino)benzoic acid of 1,2:3,4-di-μ<sub>2</sub>-2-(2-methyl-3-nitroanilino)benzoato-O, O-1,3-bis-2-(2-methyl-3-nitroanilino)benzoato-O-1,2,4:2,3,4-di-μ<sub>3</sub>-oxo-tetrakis[di-methyltin(IV)]

The complexes [Me<sub>2</sub>(MNAB)SnOSn-(MNAB)Me<sub>2</sub>]<sub>2</sub> (**2**) and [Me<sub>2</sub>Sn(MNAB)<sub>2</sub>] (**3**), where HMNAB is 2-(2-methyl-3-nitroanilino)benzoic acid, (**1**) have been prepared and structurally characterized by means of vibrational, <sup>1</sup>H and <sup>13</sup>C NMR spectroscopies. The catalytic activity of the prepared complexes in transesterification reactions has been studied. The diorganotin complexes efficiently catalyze the transesterification reaction of 2-phenylethanol without addition of free ligand or any promoting additive.

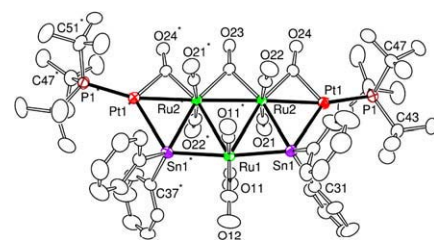


**Richard D. Adams, Burjor Captain, Eszter Trufan**

*J. Organomet. Chem.* 693 (2008) 3593

Ruthenium–tin complexes from the reaction of  $\text{HSnPh}_3$  with  $\text{Ru}_3(\text{CO})_{10}(\text{NCMe})_2$  and their reactions with bis(tri-*t*-butylphosphine)platinum

Three new triruthenium compounds:  $\text{Ru}_3(\text{CO})_9(\text{SnPh}_3)_2(\text{NCMe})(\mu\text{-H})_2$  (**1**),  $\text{Ru}_3(\text{CO})_{10}(\text{SnPh}_3)_2(\mu\text{-H})_2$  (**2**) and  $\text{Ru}_3(\text{CO})_7(\text{SnPh}_3)_3(\text{NCMe})_2(\mu\text{-H})_3$  (**5**) were obtained by multiple oxidative additions of  $\text{HSnPh}_3$  to  $\text{Ru}_3(\text{CO})_{10}(\text{NCMe})_2$ . Compound **2** and the new compound  $\text{Ru}_3(\text{CO})_9(\text{SnPh}_3)_3(\mu\text{-H})_3$  (**6**) were obtained from reactions of **1** and **5** with CO, respectively. Compounds **2** and **6** eliminated benzene when heated to yield  $\text{Ru}_3(\text{CO})_{10}(\mu\text{-SnPh}_2)_2$  (**7**) and  $\text{Ru}_3(\text{CO})_9(\mu\text{-SnPh}_2)_3$  (**8**). Compound **7** reacted with  $\text{Pt}(\text{P}^i\text{Bu}_3)_2$  to yield  $\text{Pt}_2\text{Ru}_3(\text{CO})_{10}(\text{P}^i\text{Bu}_3)_2(\mu_3\text{-SnPh}_2)_2$  (**9**).

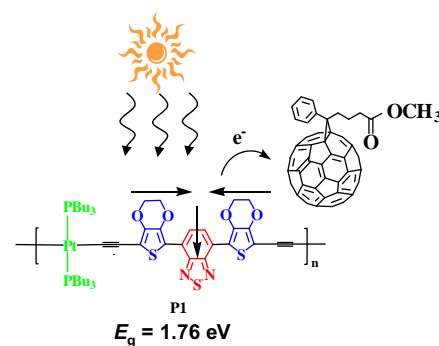


**Wai-Yeung Wong, Xingzhu Wang, Hai-Liang Zhang, Kai-Yin Cheung, Man-Kin Fung, Aleksandra B. Djurišić, Wai-Kin Chan**

*J. Organomet. Chem.* 693 (2008) 3603

Synthesis, characterization and photovoltaic properties of a low-bandgap platinum(II) polyyne functionalized with a 3,4-ethylenedioxythiophene-benzothiadiazole hybrid spacer

The synthesis, characterization, and photovoltaic properties of a deep blue polyplatinum are described, which shows a narrow bandgap of 1.76 eV due to the substantial donor–acceptor features along the main chain. It can give rise to photovoltaic spectral responses in the visible region at about 565 nm in bulk-heterojunction polymer solar cells.

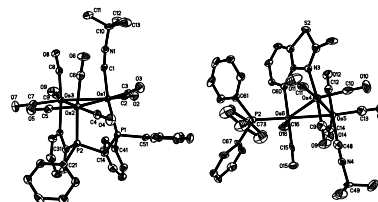


**Arun K. Raha, Shishir Ghosh, Md. Manzurul Karim, Derek A. Tocher, Noorjahan Begum, Ayesha Sharmin, Edward Rosenberg, Shariff E. Kabir**

*J. Organomet. Chem.* 693 (2008) 3613

A comparative study of the reactivity of unsaturated triosmium clusters  $[\text{Os}_3(\text{CO})_8\{\mu_3\text{-Ph}_2\text{PCH}_2\text{P}(\text{Ph})\text{C}_6\text{H}_4\}(\mu\text{-H})]$  and  $[\text{Os}_3(\text{CO})_9\{\mu_3\text{-}\eta^2\text{-C}_7\text{H}_3(2\text{-Me})\text{NS}\}(\mu\text{-H})]$  with  $^t\text{BuNC}$

The reactivity of the unsaturated cluster  $[\text{Os}_3(\text{CO})_8\{\mu_3\text{-Ph}_2\text{PCH}_2\text{P}(\text{Ph})\text{C}_6\text{H}_4\}(\mu\text{-H})]$  (**2**) and  $[\text{Os}_3(\text{CO})_9\{\mu_3\text{-}\eta^2\text{-C}_7\text{H}_3(2\text{-Me})\text{NS}\}(\mu\text{-H})]$  (**7**) with  $^t\text{BuNC}$  are described. Reaction of **2** with  $^t\text{BuNC}$  gives  $[\text{Os}_3(\text{CO})_8(\text{CNBu}^t)\{\mu_3\text{-Ph}_2\text{PCH}_2\text{P}(\text{Ph})\text{C}_6\text{H}_4\}(\mu\text{-H})]$  (**3**) which on decarbonylation affords  $[\text{Os}_3(\text{CO})_7(\text{CNBu}^t)\{\mu_3\text{-Ph}_2\text{PCH}_2\text{P}(\text{Ph})\text{C}_6\text{H}_4\}(\mu\text{-H})_2]$  (**4**). Treatment of the labile complex  $[\text{Os}_3(\text{CO})_9(\mu\text{-dppm})(\text{NCMe})]$  (**5**) with  $^t\text{BuNC}$  gives the substitution product  $[\text{Os}_3(\text{CO})_9(\mu\text{-dppm})(\text{CNBu}^t)]$  (**6**) which on decarbonylation also furnishes **4**. Reaction of **7** with  $^t\text{BuNC}$  yields the addition product  $[\text{Os}_3(\text{CO})_9(\text{CNBu}^t)\{\mu\text{-}\eta^2\text{-C}_7\text{H}_3(2\text{-Me})\text{NS}\}(\mu\text{-H})]$  (**8**) which on decarbonylation gives unsaturated  $[\text{Os}_3(\text{CO})_8(\text{CNBu}^t)\{\mu_3\text{-}\eta^2\text{-C}_7\text{H}_3(2\text{-Me})\text{NS}\}(\mu\text{-H})]$  (**9**). Compound **9** reacts with  $\text{PPh}_3$  at room temperature to give the adduct  $[\text{Os}_3(\text{CO})_8(\text{PPh}_3)(\text{CNBu}^t)\{\mu\text{-}\eta^2\text{-C}_7\text{H}_3(2\text{-Me})\text{NS}\}(\mu\text{-H})]$  (**10**).

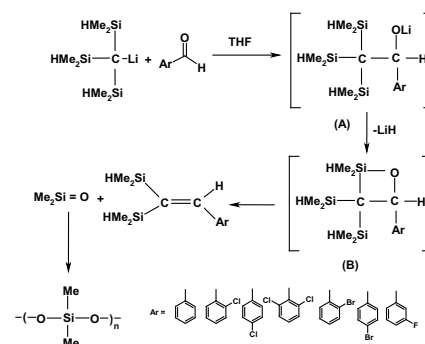


**Kazem D. Safa, Akbar Hassanpour, Shahin Tofangdarzadeh**

*J. Organomet. Chem.* 693 (2008) 3622

Synthesis of 1,1-bis(silyl)-1-alkene derivatives bearing Si–H functional groups via Peterson protocol

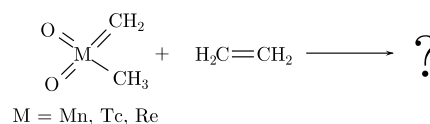
A variety of non-enolizable benzaldehyde derivatives and polymers containing formyl groups are converted to the corresponding 1,1-bis(silyl)-1-alkenes in one-pot procedure involving the addition of  $(\text{HMe}_2\text{Si})_3\text{CLi}$  to carbonyl groups.



**Robin Haunschild, Gernot Frenking***J. Organomet. Chem.* 693 (2008) 3627

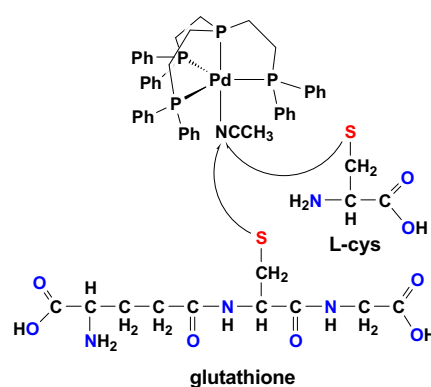
Quantum chemical study of ethylene addition to group-7 oxo complexes  $\text{MO}_2(\text{CH}_3)(\text{CH}_2)$  ( $\text{M} = \text{Mn, Tc, Re}$ )

Quantum chemical calculations using DFT at the B3LYP level suggest rather complex scenarios with numerous pathways for the reaction of ethylene with the group-7 compounds  $\text{ReO}_2(\text{CH}_3)(\text{CH}_2)$ ,  $\text{TcO}_2(\text{CH}_3)(\text{CH}_2)$  and  $\text{MnO}_2(\text{CH}_3)(\text{CH}_2)$ .

**Sen-ichi Aizawa, Takahiro Sano, Yoshiaki Fujita***J. Organomet. Chem.* 693 (2008) 3638

High selectivity for L-cysteine residue at axial solvated site of trigonal-bipyramidal palladium(II) complex with tripodal tetradentate phosphine

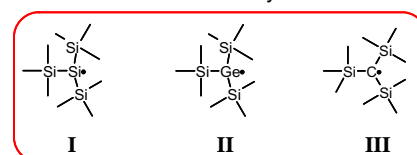
High selectivity for the thiolate sulfur atom in L-cysteinate was observed at the solvated coordination site in the trigonal-bipyramidal palladium(II) complex,  $[\text{Pd}(\text{pp}_3)(\text{CH}_3\text{CN})]^{2+}$  ( $\text{pp}_3 = \text{tris}[2-(\text{diphenylphosphino})\text{ethyl}]$ phosphine). The selectivity was applied to extractions of L-cysteinate from a mixture of amino acids and the reduced form of glutathione from a mixture of the reduced and oxidized forms of glutathione.

**Jacques Lalevée, Nicolas Blanchard, Bernadette Graff, Xavier Allonas, Jean Pierre Fouassier***J. Organomet. Chem.* 693 (2008) 3643

Tris(trimethylsilyl)silyl versus tris(trimethylsilyl)germyl: Radical reactivity and oxidation ability

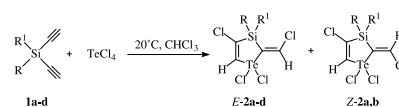
A comparison of the tris(trimethylsilyl)silyl **I** and tris(trimethylsilyl)germyl **II** radical reactivity is provided. A large variety of chemical processes (addition to double bond, halogen abstraction, peroxy radical formation...) is examined by Laser Flash Photolysis, quantum mechanical calculations and electron spin resonance (ESR) experiments.

Tris(trimethylsilyl)silylvs.  
Tris(trimethylsilyl)germyl  
radical reactivity

**Svetlana V. Amosova, Alexander V. Martynov, Maxim V. Penzik, Natalia A. Makhaeva, Vladimir A. Potapov, Alexander I. Albanov, Larisa V. Zhilitskaya, Mikhail G. Voronkov***J. Organomet. Chem.* 693 (2008) 3650

4,4-Diorganyl-1,1,3,6-tetrachloro-1,4-tellura-(IV)silafulvenes – New class of tellurium-silicon containing heterocycles

Reaction of  $\text{TeCl}_4$  with diorganyl diethynyl silanes **1** in  $\text{CHCl}_3$  at room temperature leads to regio- and stereoselective formation in high yields of a new class of unsaturated five-membered heterocycles, 4,4-diorganyl-1,1,3,6-tetrachloro-1,4-tellura(IV)silafulvenes **2**, exclusively or predominantly, as *E*-isomers. The structures of the heterocycles **2** were confirmed by the multinuclear ( $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{29}\text{Si}$ ,  $^{125}\text{Te}$ ) NMR spectroscopy, 2D NOESY NMR spectroscopy and mass-spectrometry. Long-range, through five bonds, spin-spin interaction of *exo*- and *endo*-cyclic olefinic protons was revealed in *Z*-isomers. In the mass spectra the heterocycles manifest themselves as the fragment ions  $[\text{M}-\text{Cl}_2]^+$ .



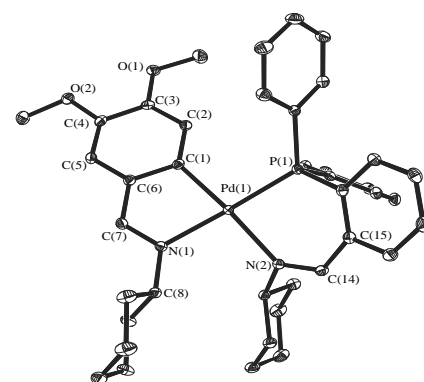
**1,2.**  $\text{R}+\text{R}' = (\text{CH}_3)_2$  (a),  $(\text{CH}_3)_2$  (b),  $\text{R} = \text{R}' = \text{Me}$  (c),  $\text{R} = \text{Me}$ ,  $\text{R}' = \text{Me}_2\text{Si}(\text{CH}_3)_2$  (d)

**Raquel Ares, Digna Vázquez-García,  
Margarita López-Torres,  
Alberto Fernández, Nina Gómez-Blanco,  
José M. Vila, Jesús J. Fernández**

*J. Organomet. Chem.* 693 (2008) 3655

Synthesis, characterization and crystal structures of cyclometallated palladium(II) complexes bearing ligands with [P,P], [As,As], [N,N], [P,As], [P,N] and [P,O] donor atoms

The synthesis and characterization of the new cyclometallated palladium(II) complexes bearing ligands with [P,P], [As,As], [N,N], [P,As], [P,N] and [P,O] donor atoms is described. Ligands bearing amino groups may give condensation reactions with the solvent. The crystal and molecular structure of **3** has been determined and shows the palladium atom is bonded to four different donor atoms: C, N, S and Cl. Treatment of **3** with tertiary phosphines generates a series of mono- and dinuclear complexes and the reaction conditions may be regulated to give compounds where the Pd–S bond either remains or is cleaved. The reactivity of compound **3** is described.

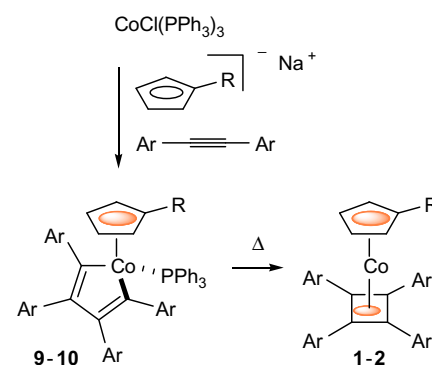


**Huy V. Nguyen, Mebuba R. Yeamine,  
Jahangir Amin, Majid Motevalli,  
Christopher J. Richards**

*J. Organomet. Chem.* 693 (2008) 3668

Synthesis and  $^1\text{H}$  NMR spectroscopic properties of substituted ( $\eta^4$ -tetraaryl-cyclobutadiene)( $\eta^5$ -cyclopentadienyl)cobalt metallocenes

The complex  $\text{CoCl}(\text{PPh}_3)_3$  is transformed into aryl substituted metallocenes **1–2** via the intermediacy of cobaltcyclopentadiene complexes **9–10** ( $\text{R} = \text{H}, \text{CO}_2\text{Me}, \text{Ar} = p\text{-CF}_3\text{C}_6\text{H}_4, p\text{-FC}_6\text{H}_4, p\text{-MeOC}_6\text{H}_4$ ). The influence of the aryl substituents and the R substituent (18 examples) on the  $^1\text{H}$  NMR spectra of the metallocenes is tabulated.



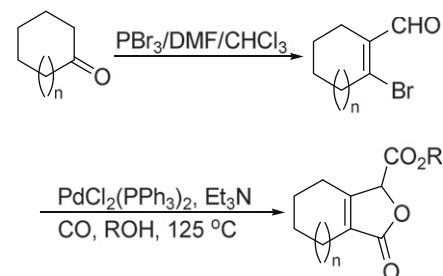
## Notes

**Chan Sik Cho, Jun Uk Kim,  
Heung-jin Choi**

*J. Organomet. Chem.* 693 (2008) 3677

Synthesis of alkyl 2,5-dihydro-5-oxofuran-2-carboxylates via palladium-catalyzed carbonylative cyclization of  $\beta$ -bromovinyl aldehydes in alcohols

$\beta$ -Bromovinyl aldehydes are carbonylative cyclized under carbon monoxide pressure in alcohols at  $125^\circ\text{C}$  in the presence of a catalytic amount of a palladium catalyst along with a base to give the corresponding alkyl 2,5-dihydro-5-oxofuran-2-carboxylates in good yields.



**Paloma Paredes, Josefina Díez,  
M. Pilar Gamasa**

*J. Organomet. Chem.* 693 (2008) 3681

Alkene and alkyne insertion into the Ir–H bond: Synthesis of new mono- and dinuclear alkyl and alkenyl iridium–pybox complexes

The complex  $[\text{IrClH}(\eta^2\text{-C}_2\text{H}_4)\{\kappa^3\text{-N,N,N-(S,S)-}^i\text{Pr-pybox}\}][\text{PF}_6]$  evolves spontaneously to give the dinuclear complex  $[\text{Ir}_2(\mu\text{-Cl})_2(\text{C}_2\text{H}_5)_2\{\kappa^3\text{-N,N,N-(S,S)-}^i\text{Pr-pybox}\}_2][\text{PF}_6]_2$  which in turn reacts with NaCl to afford the complex  $[\text{Ir}_2(\mu\text{-Cl})(\text{C}_2\text{H}_5)_2\text{Cl}_2\{\kappa^3\text{-N,N,N-(S,S)-}^i\text{Pr-pybox}\}_2][\text{PF}_6]$ . The X-ray crystal structure of the latter is reported. Novel mono and dinuclear alkyl and alkenyl iridium–pybox complexes are stereoselectively prepared through the insertion reaction of olefins and activated alkynes into the Ir–H bond of the mononuclear hydride precursors.

