



Contents

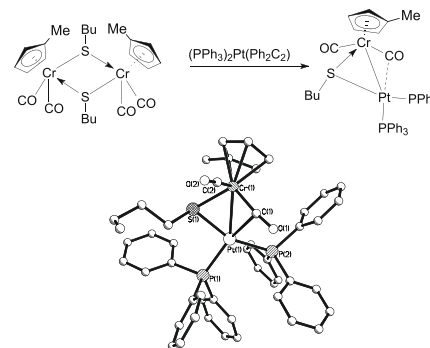
Communication

**A.A. Pasynskii, I.V. Skabitsky,
Yu.V. Torubaev, S.G. Sakharov,
S.S. Shapovalov**

J. Organomet. Chem. 694 (2009) 3373

Synthesis and structure of mixed-metal thiolate complex $\text{Cp}'\text{Cr}(\text{CO})_2(\mu\text{-SBU})\text{Pt}(\text{PPh}_3)_2$: Side-on-coordination of Cr–S double bond with platinum

The reaction of $[\text{Cp}'\text{Cr}(\text{CO})_2(\mu\text{-SBU})_2]$ ($\text{Cp}' = \text{MeC}_5\text{H}_4$) with $(\text{PPh}_3)_2\text{Pt}(\text{PhC}\equiv\text{CPh})$ gives a product of the substitution of acetylene ligand at platinum by a monomeric chromium–thiolate fragment $\text{Cp}'\text{Cr}(\text{CO})_2(\mu\text{-SBU})\text{Pt}(\text{PPh}_3)_2$. The bonding between Cr–S fragment and platinum atom has been assumed to be analogous to the olefin coordination in their platinum π -complexes.



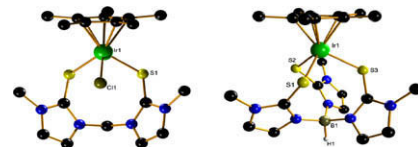
Regular Papers

**Wei-Guo Jia, Yuan-Biao Huang,
Guo-Xin Jin**

J. Organomet. Chem. 694 (2009) 3376

Synthesis and characterization of half-sandwich iridium(III) and rhodium(III) complexes bearing organochalcogen ligands

A series of half-sandwich pentamethylcyclopentadienyl iridium(III) and rhodium(III) complexes containing bi- and tridentate organochalcogen ligands have been synthesized and characterized structurally.

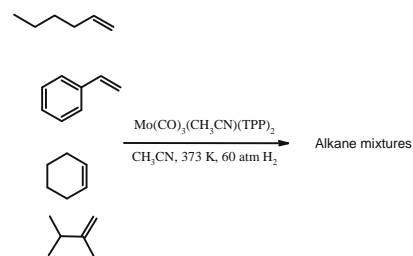


**Pablo J. Baricelli, Luis G. Melean,
Santiago Ricardes, Victor Guanipa,
Mariandry Rodriguez, Carlos Romero,
Alvaro J. Pardey, Sergio Moya,
Merlin Rosales**

J. Organomet. Chem. 694 (2009) 3381

$\text{Mo}(\text{CO})_3(\text{NCMe})(\text{PPh}_3)_2$: Synthesis, X-ray structure and evaluation of its catalytic activity for the homogeneous hydrogenation of olefins and their mixtures

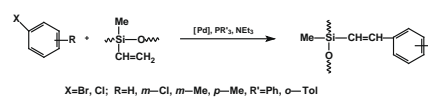
The complex $\text{Mo}(\text{CO})_3(\text{NCMe})(\text{PPh}_3)_2$, was synthesized by the reaction of $\text{Mo}(\text{NCMe})_3(\text{CO})_3$ with two equivalents of PPh_3 and characterized by UV–Vis, IR, NMR and X-ray diffraction. This complex was used as a catalyst precursor for the hydrogenation of 1-hexene, styrene, cyclohexene and 2,3-dimethyl-1-butene and their mixtures under moderate conditions in homogeneous media. Under mild reaction conditions ($T = 373 \text{ K}$, $P = 60 \text{ atm}$), the substrates showed the following reactivity order: styrene > 1-hexene > cyclohexene > 2,3-dimethyl-1-butene.



**Anna Czech, Tomasz Ganicz,
Małgorzata Noskowska,
Włodzimierz A. Stańczyk, Anna Szeląg**
J. Organomet. Chem. 694 (2009) 3386

Phenylethenyl-substituted silicones via Heck coupling reaction

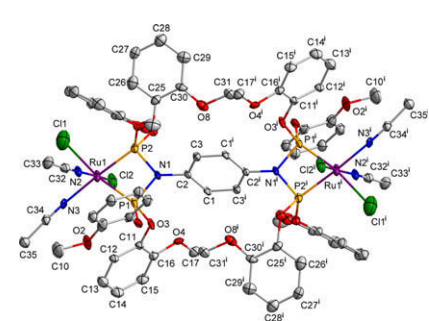
Heck coupling process involving siloxane oligomeric and polymeric substrates, carried out in bulk is described, leading to high refraction index (1.5–1.6) silicone fluids. Effectiveness of various palladium catalytic systems is evaluated using model reaction of trimethylvinylsilane and aryl bromides.



**Chelladurai Ganesamoorthy,
Maravanji S. Balakrishna, Joel T. Mague**
J. Organomet. Chem. 694 (2009) 3390

Di- and tetranuclear Ru^{II} complexes of phenylene-1,4-diaminotetra(phosphonite), *p*-C₆H₄[N{P(OC₆H₄OMe-*o*)₂]₂ and their catalytic investigation towards transfer hydrogenation reactions

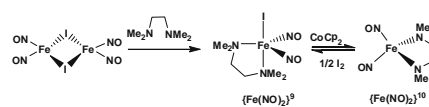
The synthesis of di- and tetranuclear Ru^{II} complexes containing phenylene-1,4-diaminotetra(phosphonite), *p*-C₆H₄[N{P(OC₆H₄OMe-*o*)₂]₂ (P₂NΦNP₂) and their utility in transfer hydrogenation reactions are described.



**Chien-Hong Chen, Yi-Chieh Ho,
Gene-Hsiang Lee**
J. Organomet. Chem. 694 (2009) 3395

Synthesis and reactivity of the five-coordinate {Fe(NO)₂}⁹ [(TMEDA)Fe(NO)₂I]

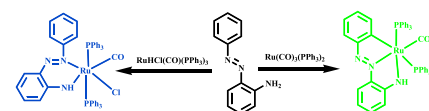
The interconversion between the five-coordinate {Fe(NO)₂}⁹ [(TMEDA)Fe(NO)₂I] and four-coordinate {Fe(NO)₂}¹⁰ [(TME-DA)Fe(NO)₂] is demonstrated via the reduction with CoCp₂ and oxidation with I₂, respectively.



**Jahar Lal Pratihar, Shantanu Bhaduri,
Poulami Pattanayak, Debprasad Patra,
Surajit Chattopadhyay**
J. Organomet. Chem. 694 (2009) 3401

Reactions of 2-(arylozo)aniline with ruthenium substrates: Isolation, characterizations and reactivities of delocalized diazoketiminato and orthometallated Ru(II) chelates

Reactions of 2-(arylozo)aniline with Ru(CO)(PPh₃)₃(H)Cl and Ru(CO)₃(PPh₃)₂ afforded two new ruthenium complexes. The X-ray structures of the complexes have been determined. Redox property and their ability to promote the conversion of ketones to secondary alcohols via transfer hydrogen process have been described.

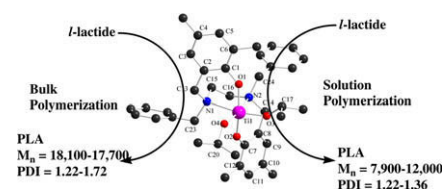


So Han Kim, Junseong Lee, Da Jung Kim, Jung Hee Moon, Sungwoo Yoon, Hyung Jin Oh, Youngkyu Do, Young Soo Ko, Jin-Heong Yim, Youngjo Kim

J. Organomet. Chem. 694 (2009) 3409

Titanium complexes containing new dianionic tetradentate [ONNO]-type ligands with benzyl substituents on bridging nitrogen atoms: Syntheses, X-ray structures, and catalytic activities in ring opening polymerization of lactide

Several types of titanium complexes **1–8** containing various substituted Salan-type [ONNO] ligands (**Lig¹–Lig⁸**) were synthesized. The substituents on phenyl ring and Salan ligand backbone exerted significant influence upon the catalytic activity and molecular weight of PLA polymers obtained.



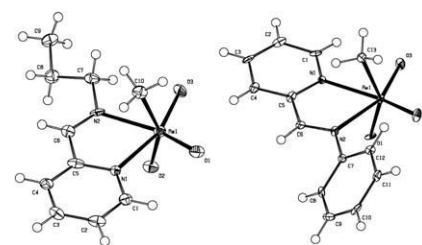
Chuan-Jiang Qiu, Yue-Cheng Zhang, Yu Gao, Ji-Quan Zhao

J. Organomet. Chem. 694 (2009) 3418

Novel Schiff-base complexes of methyltrioxorhenium (VII) and their performances in epoxidation of cyclohexene

Methyltrioxorhenium (MTO) forms complexes with Schiff-bases derived from 2-pyridinecarboxaldehyde and amines. These complexes were isolated and fully characterized by NMR, IR, UV-Vis, EA, MS. Two were analyzed by X-ray crystallography, which showed

that the compounds display distorted octahedral geometry in the solid state with a *trans*-position of Schiff-base ligand. The characterized results indicated that the more Lewis basic the ligand is, the stronger the metal–ligand interaction between the rhenium atom and the ligand. The complexes displayed high catalytic activity and selectivity when applied to the epoxidation of cyclohexene with urea hydrogen peroxide adduct (UHP) as oxidant in methanol, but poor performances with hydrogen peroxide (30%) as oxidant due to their decomposition. Experimental results revealed that the MTO Schiff-base complexes are, in general, more sensitive to water than MTO itself. Moreover, large excess of ligand is detrimental to the catalytic performance as it leads to the decomposition of the complexes.

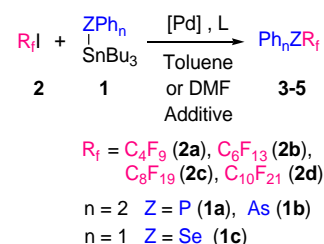


Mario N. Lanteri, Roberto A. Rossi, Sandra E. Martín

J. Organomet. Chem. 694 (2009) 3425

Perfluoroalkylphosphines and arsines obtained by Pd-catalyzed cross-coupling reaction with organoheteroatom stannanes

The Pd-catalyzed cross-coupling reaction of organoheteroatom stannanes containing elements of the groups 15 (P, As) and 16 (Se) with perfluoroalkyl iodides (R_fI) was studied to obtain compounds with P– R_f , As– R_f and Se– R_f bonds.

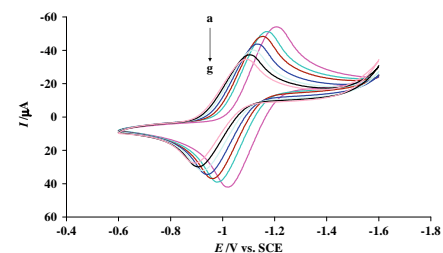


Niaz Muhammad, Afzal Shah, Zia-ur-Rehman, Shaukat Shuja, Saqib Ali, Rumana Qureshi, Auke Meetsma, Muhammad Nawaz Tahir

J. Organomet. Chem. 694 (2009) 3431

Organotin(IV) 4-nitrophenylethanoates: Synthesis, structural characteristics and intercalative mode of interaction with DNA

Four novel Organotin(IV) complexes of 4-Nitrophenyl ethanoic acid have been synthesized, and characterized by elemental analysis FT-IR, multinuclear NMR (1H , ^{13}C) and X-ray single crystal analysis. Cyclic voltammetric technique was used to evaluate the electrochemical, kinetic and thermodynamic parameters of these complexes interacting with DNA.

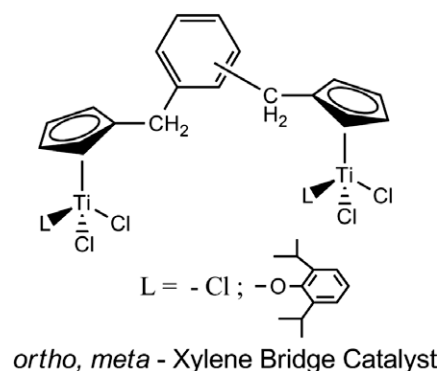


**Nguyen Thuy Ba Linh,
Nguyen Thi Dieu Huyen, Seok Kyun Noh,
Won Seok Lyoo, Dong-Ho Lee,
Yongman Kim**

J. Organomet. Chem. 694 (2009) 3438

Preparation of new dinuclear half-titanocene complexes with *ortho*- and *meta*-xylene linkages and investigation of styrene polymerization

Dinuclear half-titanocene bearing a xylene bridge, *ortho*- and *meta*-xylene, have been successfully synthesized and introduced for styrene polymerization. The activities of the catalysts with rigid *ortho*- and *meta*-xylene bridges were higher than those of catalysts with flexible pentamethylene bridges. Activity of the catalysts increased with higher temperature and $[Al]:[Ti]$.

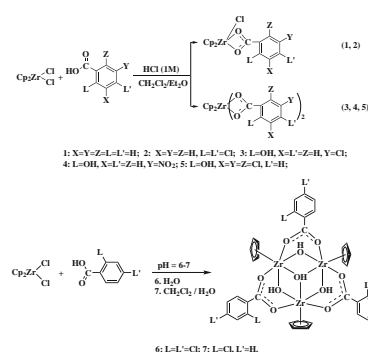


**Jinling Li, Ziwei Gao, Li Han,
Lingxiang Gao, Caiyun Zhang,
Wayne Tikkanen**

J. Organomet. Chem. 694 (2009) 3444

Preparation of organozirconium aromatic compounds in mixed aqueous-organic solvents: X-ray structures of $[Cp_2ZrCl(\mu_2-O',O''C-C_6H_5)]$, $[(CpZr)_3(\mu_2-O',O''C-C_6H_3-Cl)_2(\mu_3-OH)(\mu_2-OH)_3](Cl_2C_6H_3COO)_2$, and $[(CpZr)_3(\mu_2-O',O''C-C_6H_4Cl)_3(\mu_3-OH)(\mu_2-OH)_3]Cl_2 \cdot CH_2Cl_2$

Investigation of the pH dependence of the stability of Cp_2ZrCl_2 in aqueous solutions has shown that the synthesis of bis(cyclopentadienyl)zirconium carboxylate compounds requires a low pH (~0), whereas that of compounds containing a core of three mono(cyclopentadienyl)zirconium units complexed to aromatic carboxylates proceeds at higher pH (~7).

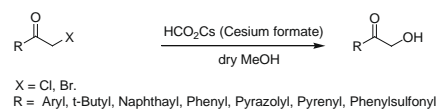


**Fung Fuh Wong, Po-Wei Chang,
Hui-Chang Lin, Bang-Jau You,
Jiann-Jyh Huang, Shao-Kai Lin**

J. Organomet. Chem. 694 (2009) 3452

An efficient and convenient transformation of α -haloketones to α -hydroxyketones using cesium formate

Cesium formate was first used as hydrolysis agent for the conversion of α -haloketones to α -hydroxyketones in dry MeOH solution.

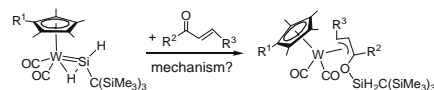


**Siwei Bi, Yuxia Liu, Guang Chen,
Lisheng Zhang, Min Sun, Ping Li**

J. Organomet. Chem. 694 (2009) 3456

Theoretical investigation on possible mechanisms on regioselective formation of $(\eta^3\text{-siloxyallyl})$ tungsten complexes

The mechanisms for selective formation of $(\eta^3\text{-siloxyallyl})$ tungsten complexes by reaction of hydrido(hydrosilylene)tungsten complexes with α,β -unsaturated carbonyl compounds are theoretically investigated, and the regioselectivity for formation of the *exo-anti* isomeric product is also elucidated.

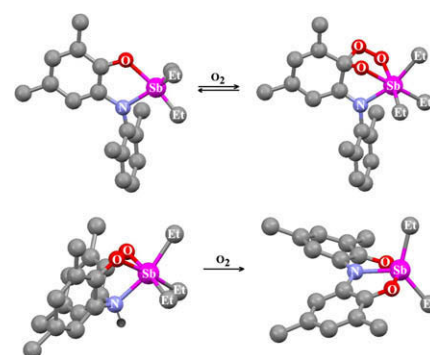


Andrey I. Poddel'sky, Nina N. Vavilina, Nikolay V. Somov, Vladimir K. Cherkasov, Gleb A. Abakumov

J. Organomet. Chem. 694 (2009) 3462

Triethylantimony(V) complexes with bidentate *O,N*-, *O,O*- and tridentate *O,N,O'*-coordinating *o*-iminoquinonato/*o*-quinonato ligands: Synthesis, structure and some properties

New triethylantimony(V) *o*-amidophenolates (AP-R)SbEt₃, catecholate (3,6-DBCat)SbEt₃ and amino-bis-phenolate [(AP-AP)H]SbEt₃ have been prepared and characterized in details. *o*-Amidophenolates are able to bind reversibly dioxygen yielding spiroendoperoxides with trioxastibolane ring. The conversion is 15–20% (compared with 94–98% for (AP-R)SbPh₃ analogues). Amino-bis-phenolate [(AP-AP)H]SbEt₃ transforms to amido-bisphenolate [(Ap-Ap)]SbEt₂ slowly without oxygen and readily in presence of oxygen.

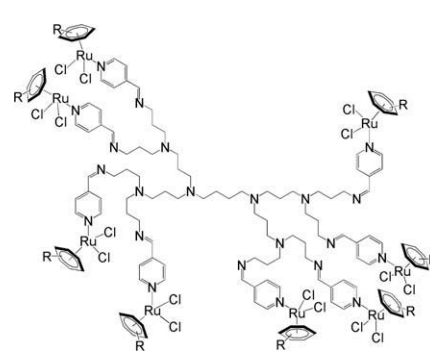


Preshendren Govender, Nathan C. Antonels, Johan Mattsson, Anna K. Renfrew, Paul J. Dyson, John R. Moss, Bruno Therrien, Gregory S. Smith

J. Organomet. Chem. 694 (2009) 3470

Anticancer activity of multinuclear arene ruthenium complexes coordinated to dendritic polypyridyl scaffolds

First-(G¹) and second-generation (G²) arene-ruthenium complexes based on a poly(propylene imine) dendritic scaffold were synthesised. The *in vitro* anticancer studies of the tetra- and octanuclear dendritic complexes, together with their mononuclear analogues, were evaluated against the A2780 human ovarian carcinoma cell line.

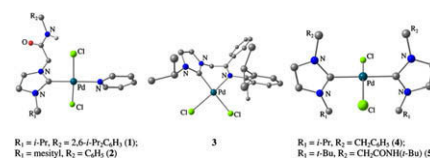


Manoja K. Samantaray, Mobin M. Shaikh, Prasenjit Ghosh

J. Organomet. Chem. 694 (2009) 3477

Copper-free and amine-free Sonogashira coupling in air in a mixed aqueous medium by palladium complexes of *N/O*-functionalized N-heterocyclic carbenes

Highly convenient copper-free and amine-free Sonogashira coupling of aryl bromides and iodides with terminal acetylenes under amenable conditions in air and in a mixed aqueous medium were performed using several new, user friendly and robust palladium precatalysts (**1–5**) of *N/O*-functionalized N-heterocyclic carbenes (NHCs).



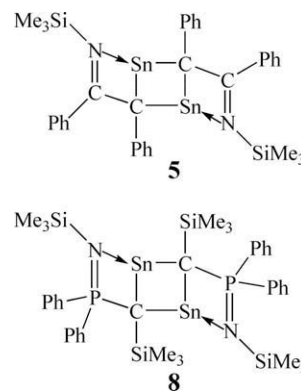
Peter B. Hitchcock, Michael F. Lappert, Mikko Linnolahti, John R. Severn, Patrick G.H. Uiterweerd, Zhong-Xia Wang

J. Organomet. Chem. 694 (2009) 3487

Synthesis and structures of the dinuclear tin(II) complexes [Sn{ μ -C(R)X(Z)NSiMe₃}₂] [R = Ph, X(Z) = CPh; R = SiMe₃, X(Z) = PPh₂] and of related compounds

The compounds SnBr(L¹) (**1**), SnBr(L²) (**2**), Sn(L¹)₂ (**3**), Sn(L²)₂ (**4**), [Sn(L⁵)₂] (**5**),

SnCl(L³) (**6**), Sn(L³)₂ (**7**), [Sn(L⁶)₂] (**8**), Sn(L⁴)₂ (**9**) and Pb(L⁴)₂ (**10**) were prepared from SnBr₂ and K(L¹) (**1**, **3**) or K(L²) (**2**, **4**, **5**), SnCl₂ and Li(L³) (**6–9**) or PbCl₂ and Li(L⁴) (**10**) (L¹ = [CH(C₆H₃Me₂-2,6)C(Bu^t)N-SiMe₃]⁻, L² = [CH(Ph)C(Ph)NSiMe₃]⁻, L³ = [CH(SiMe₃)P(Ph)₂NSiMe₃]⁻, L⁴ = [CH(SiMe₃)P(Ph)=NSi(Me)₂C₆H₄-1,2]⁻, L⁵ = [C(Ph)C(Ph)NSiMe₃]²⁻, L⁶ = [C(SiMe₃)P(Ph)₂NSiMe₃]²⁻). Only the crystalline **3**, **5**, **8**, **9**, **10** were isolated pure. Quantum chemical calculations on the formation of **5** and **8** are reported.

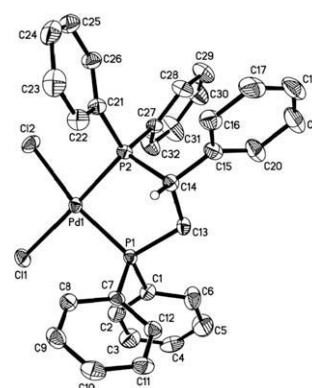


Yi Zhang, Lulu Tang, Sumod A. Pullarkat, Fengli Liu, Yongxin Li, Pak-Hing Leung

J. Organomet. Chem. 694 (2009) 3500

Asymmetric synthesis of 1,2-bis(diphenylphosphino)-1-phenylethane via a chiral palladium template promoted hydrophosphination reaction

An organopalladium(II) complex derived from (*S*)-*N,N*-dimethyl-1-(1-naphthyl)ethylamine was employed as the chiral auxiliary promoted the asymmetric hydrophosphination reactions between diphenylphosphine and (*E*) or (*Z*)-diphenylphosphinostyrene yielding the optically pure ligand (*R*)-1,2-bis(diphenylphosphino)-1-phenylethane in high yield. Mechanistic pathways explaining the stereoselectivity of the reactions are also proposed.

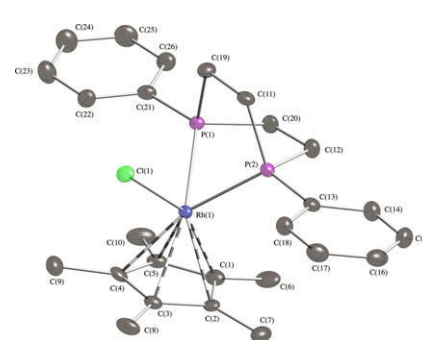


Joshua E. Sussman, Tara S. Morey, Susie M. Miller, Monte L. Helm

J. Organomet. Chem. 694 (2009) 3506

Group 9 half-sandwich complexes containing the unique *P,P'*-diphenyl-1,4-diphospha-cyclohexane ligand: Synthesis, X-ray structure analyses and spectroscopic studies

Group 9 metal complexes with the novel *P,P'*-diphenyl-1,4-diphospha-cyclohexane (dpdpc) ligand are reported. The complexes synthesized include the dimeric, bridged $[\eta^5\text{-Cp}^*\text{Rh}(\text{Cl})_2]_2(\mu\text{-dpdpc})$ (**1**), $[\eta^5\text{-Cp}^*\text{Ir}(\text{Cl})_2]_2(\mu\text{-dpdpc})$ (**2**), and monometallic $[\eta^5\text{-Cp}^*\text{Rh}(\text{Cl})(\text{dpdpc})]\text{PF}_6$ (**3**). The dimeric rhodium complex can be converted into the monomeric complex through reflux.

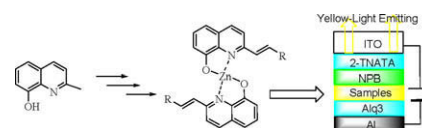


Xinhua Ouyang, Guangrong Wang, Heping Zeng, Weiming Zhang, Jing Li

J. Organomet. Chem. 694 (2009) 3511

Design and synthesis of 2-substituted-8-hydroxyquinoline zinc complexes with hole-transporting ability for highly effective yellow-light emitters

Four novel multifunctional 8-hydroxyquinoline derivatives were designed and synthesized. The electroluminescence (EL) and with hole-transporting characteristics of these materials were investigated on four configurations. The results show that **2**, **3** and **4** are good multifunctional materials with strong hole-transporting abilities and luminescence properties.



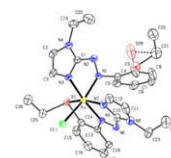
T.K. Mondal, J.-S. Wu, T.-H. Lu, Sk. Jasimuddin, C. Sinha

J. Organomet. Chem. 694 (2009) 3518

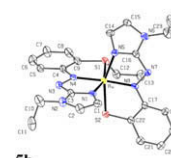
Syntheses, structures, spectroscopic, electrochemical properties and DFT calculation of Ru(II)-thioarylazoimidazole complexes

$[\text{Ru}(\text{SRaaiNR})_2](\text{ClO}_4)_2$ (**3a/3b**), $[\text{Ru}(\text{SRaaiNR})(\text{SRaaiNRCl})(\text{ClO}_4)]$ (**4a/4b**) where SRaaiNR = 1-alkyl-2-*o*-(thioalkyl)phenyl-

zoidimidazoles are synthesized in solution-phase while the solid phase reaction of SRaaiNR and RuCl_3 on silica gel surface upon microwave irradiation has synthesized $[\text{Ru}(\text{SRaaiNR})(\text{SaaiNR})](\text{PF}_6)$ (**5a/5b**). The complexes show metal oxidation, Ru(III)/Ru(II), and ligand reductions (azo/azo⁻, azo⁻/azo²⁻). The molecular orbital diagram has been drawn vibrational, electronic movement are assigned by TDDFT calculation both in gas and acetonitrile phase.



4b



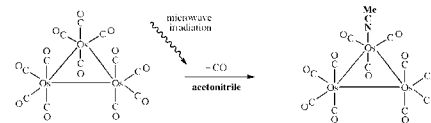
5b

Note

**Jade Y. Jung, Brittney S. Newton,
Michelle L. Tonkin, Cynthia B. Powell,
Gregory L. Powell**

J. Organomet. Chem. 694 (2009) 3526

The activated osmium carbonyl cluster complex $\text{Os}_3(\text{CO})_{11}(\text{NCMe})$ is prepared rapidly and in high yield by microwave irradiation of a mixture of $\text{Os}_3(\text{CO})_{12}$ and acetonitrile in a sealed reaction vessel.



Efficient microwave syntheses of the compounds $\text{Os}_3(\text{CO})_{11}\text{L}$, L = NCMe, py, PPh_3
