



## Contents

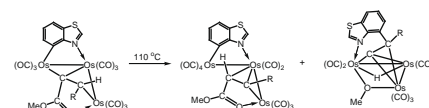
### Regular Papers

**Kh. Mahid Uddin, Shishir Ghosh, Arun K. Raha, Graeme Hogarth, Edward Rosenberg, Ayesha Sharmin, Kenneth I. Hardcastle, Shariff E. Kabir**

*J. Organomet. Chem.* 695 (2010) 1435

Cluster-mediated alkenyl isomerism and carbon–carbon bond formation: The reaction of the unsaturated benzothiazole cluster  $[\text{Os}_3(\text{CO})_9(\mu_3\text{-C}_7\text{H}_4\text{NS})(\mu\text{-H})]$  with dimethyl acetylenedicarboxylate

The activated alkyne,  $\text{RC}\equiv\text{CR}$  ( $\text{R} = \text{CO}_2\text{Me}$ ), readily inserts into the hydride of unsaturated  $[\text{Os}_3(\text{CO})_9(\mu_3\text{-C}_7\text{H}_4\text{NS})(\mu\text{-H})]$  to give a series of isomeric alkenyl complexes and ultimately a product resulting from the coupling of hydrocarbyl and benzoheterocyclic ligands.

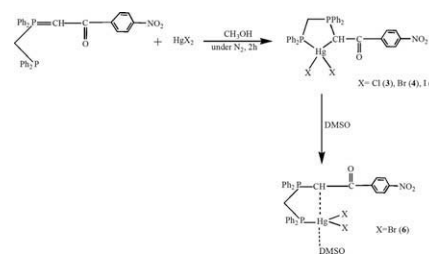


**Seyyed Javad Sabounchei, Sepideh Samiee, Sadegh Salehzadeh, Zabihollah Bolboli Nojini, Elisabeth Irran**

*J. Organomet. Chem.* 695 (2010) 1441

Four-coordinate and pseudo five-coordinate Hg(II) complexes of a new bidentate phosphorus ylide: X-ray crystal structure and spectral characterization

The reaction of mercury(II) halides with a new bidentate phosphorus ylide in 1:1 molar ratio yielded P, C-coordinated mononuclear complexes. The reaction of  $[\text{HgBr}_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{C}(\text{H})\text{C}(\text{O})\text{C}_6\text{H}_4\text{NO}_2)]$  (**4**) by DMSO obtains complex  $[\text{HgBr}_2(\text{Ph}_2\text{PCH}_2\text{PPh}_2\text{C}(\text{H})\text{C}(\text{O})\text{C}_6\text{H}_4\text{NO}_2)\text{DMSO}]$  (**6**) containing coordinated DMSO molecule, and formation of a pseudo five-coordinated Hg(II) complex.

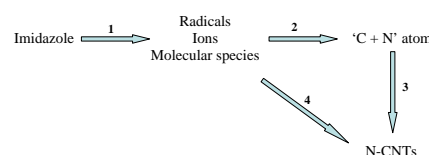


**Edward N. Nxumalo, Vongani P. Chabalala, Vincent O. Nyamori, Michael J. Witcomb, Neil J. Coville**

*J. Organomet. Chem.* 695 (2010) 1451

Influence of methylimidazole isomers on ferrocene-catalysed nitrogen doped carbon nanotube synthesis

The synthesis of nitrogen doped carbon nanotubes (N-CNTs) in a confined environment is determined by fragments produced by the decomposition of chemical reactants at high temperatures.

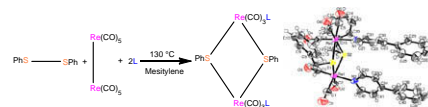


**A. Vanitha, P. Sathiya, S. Sangilipandi, Shaikh M. Mobin, Bala. Manimaran**

*J. Organomet. Chem.* 695 (2010) 1458

One-pot synthesis of sulphur bridged dinuclear rhenium metallacycles via addition of S–S bond across Re–Re bond

Oxidative addition of S–S bond and addition across the Re–Re bond in presence of monotopic N-donor ligands afforded the sulphur bridged dinuclear neutral metallacycles  $cis-[L(CO)_3Re(\mu-SR)_2Re(CO)_3L]$  (L = azine ligand, R = aryl group). In these metallacycles, the pyridyl groups bonded to metal centers adopt *cis* orientation due to  $\pi$ – $\pi$  and CH– $\pi$  soft interactions.

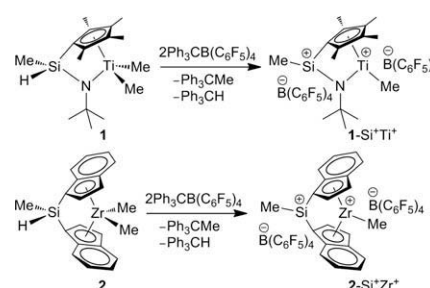


**Yuetao Zhang, Eugene Y.-X. Chen**

*J. Organomet. Chem.* 695 (2010) 1464

Silylium–metallocenium dications derived from hydrosilyl-bridged metallocenes and roles in polymerization of polar and nonpolar vinyl monomers

Hydrosilyl-bridged half-metallocene ( ${}^HCGC$ )–TiMe<sub>2</sub> and metallocene  $rac$ -( ${}^HSBI$ )ZrMe<sub>2</sub> enable access to a novel class of silylium–metallocenium hetero-dications that show an opposite activity trend in polymerizations of MMA and propylene.

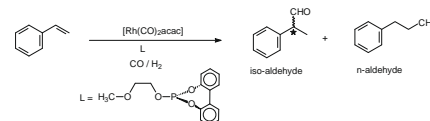


**Abha A. Kaisare, Samuel B. Owens Jr., Edward J. Valente, Gary M. Gray**

*J. Organomet. Chem.* 695 (2010) 1472

Synthesis, characterization and coordination chemistry of a new phosphite–ether ligand: The effects of alkali metal salts and the ligand/Rh molar ratio on the catalytic activity and regioselectivity of a Rh(I) complex of this ligand in the hydroformylation of styrene

A novel monodentate phosphite–ether ligand, (2,2'-C<sub>12</sub>H<sub>8</sub>O<sub>2</sub>)POCH<sub>2</sub>CH<sub>2</sub>OCH<sub>3</sub>, has been synthesized and characterized. A rhodium complex of this ligand has been investigated for the hydroformylation of styrene in the presence and the absence of alkali metal salts. Both the activity and regioselectivity of the catalyst are sensitive to the ligand:Rh molar ratio and to the presence of salts such as LiBPh<sub>4</sub>·3dme, NaBPh<sub>4</sub> and HgCl<sub>2</sub>.

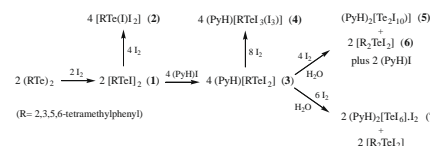


**Eliandro Faoro, Gelson Manzoni de Oliveira, Ernesto Schulz Lang, Cesar Bicca Pereira**

*J. Organomet. Chem.* 695 (2010) 1480

Synthesis and structural features of new aryltellurenyl iodides

(T<sub>mp</sub>Te)<sub>2</sub> (t<sub>mp</sub> = 2,3,5,6-tetramethylphenyl) reacts with I<sub>2</sub> to yield [t<sub>mp</sub>TeI]<sub>2</sub>, which reacts with I<sub>2</sub> giving [t<sub>mp</sub>Te(I)I<sub>2</sub>], and with (PyH)I to give (PyH)[t<sub>mp</sub>TeI<sub>2</sub>] (**3**). The reaction of **3** with I<sub>2</sub> gives (PyH)[t<sub>mp</sub>TeI<sub>3</sub>(I<sub>3</sub>)], and with I<sub>2</sub> under hydrolysis of the R–Te bond leads to (PyH)<sub>2</sub>[TeI<sub>4</sub>(μ-I)<sub>2</sub>TeI<sub>4</sub>], [(t<sub>mp</sub>)<sub>2</sub>TeI<sub>2</sub>] and (PyH)<sub>2</sub>[TeI<sub>6</sub>·I<sub>2</sub>]. The structural features of the products are discussed, as well as the synthetic procedures.

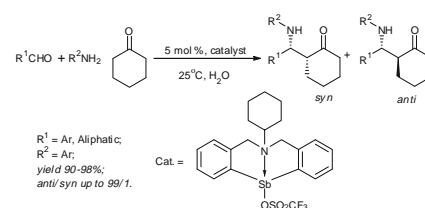


**Jun Xia, Renhua Qiu, Shuangfeng Yin, Xiaowen Zhang, Shenglian Luo, Chak-Tong Au, Kai Xia, Wai-Yeung Wong**

*J. Organomet. Chem.* 695 (2010) 1487

Synthesis and structure of an air-stable organoantimony complex and its use as a catalyst for direct diastereoselective Mannich reactions in water, showing high yield as well as good selectivity, stability, recyclability and reusability.

An air-stable organoantimony complex with a 5,6,7,12-tetrahydrobenzo[*c,f*][1,5]azastibocine framework was synthesized and characterized, and found to exhibit high catalytic efficiency in direct diastereoselective Mannich reaction in water, showing high yield as well as good selectivity, stability, recyclability and reusability.

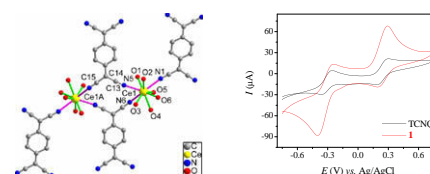


**Ju-Wen Zhang, Peng-Fei Yan, Guang-Ming Li, Bin-Qiu Liu, Peng Chen**

*J. Organomet. Chem.* 695 (2010) 1493

Systematic study on electrochemical properties of a series of TCNQ lanthanide complexes

The electrochemical properties of a series of TCNQ (TCNQ = 7,7,8,8-tetracyano-*p*-quinodimethane) lanthanide complexes have been investigated. Three new TCNQ lanthanide complexes [Ln<sub>2</sub>(TCNQ)<sub>4</sub>(H<sub>2</sub>O)<sub>12</sub>]-[2TCNQ]·xMeOH·yH<sub>2</sub>O [Ln = Ce (**1**, x = 1, y = 3), Nd (**2**, x = 2, y = 4), Sm (**3**, x = 2, y = 3)] have been structurally characterized.

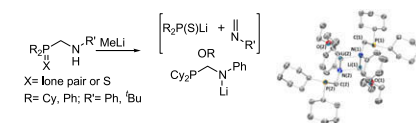


**Elina Payet, Audrey Auffrant, Xavier F. Le Goff, Pascal Le Floch**

*J. Organomet. Chem.* 695 (2010) 1499

Phosphine- and thiophosphorane-amine ligands: Lithiation and coordination to Rh(I)

Lithiation of phosphine-amine or (thio)-phosphorane-amine mainly led to dissociation giving imine and P-based anion. Combined experimental and theoretical study allowed the isolation of a stable phosphine-amido ligand which was coordinated as well as its neutral counterpart to Rh(I) metal centre.

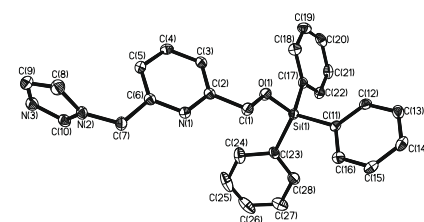


**Tatiana Eliseeva, Matthew J. Panzner, Willey J. Youngs, Claire A. Tessier**

*J. Organomet. Chem.* 695 (2010) 1507

Synthesis and characterization of imidazole-triphenylsilane complexes

Three imidazole-based triphenylsilane complexes were synthesized as preliminary model complexes to those that have been proposed as intermediates during the enzymatic biomineralization of silica by certain sponges. The synthesized compounds are of general form SiPh<sub>3</sub>OL, where L contains imidazole.



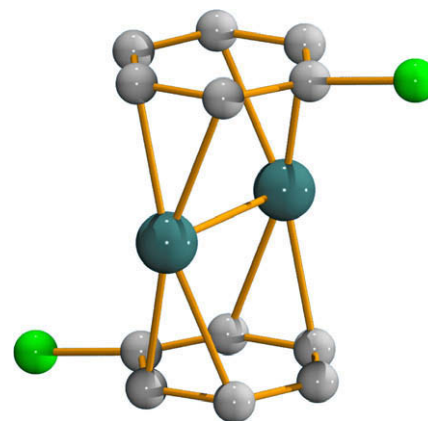
**Josefin Åkerstedt, Mikhail Gorlov,  
Andreas Fischer, Lars Kloo**

*J. Organomet. Chem.* 695 (2010) 1513

Synthesis and characterization of binuclear palladium(I) compounds and the influence of competing arenes

With the aim of preparing new polynuclear palladium compounds supported by simple arenes or polyaromatic hydrocarbons, such as naphthalene, anthracene or biphenyl, the exceptional reductive ability of halide-arene mixtures was employed in reaction of palladium(II) chloride in gallium(III)

chloride-arene reaction media. Three binuclear palladium(I) sandwich clusters were prepared using this reaction route,  $[\text{Pd}_2(\text{Ga}_2\text{Cl}_7)_2(\text{C}_7\text{H}_8)_2]$ ,  $[\text{Pd}_2(\text{GaCl}_4)_2(\text{C}_9\text{H}_{12})_2]$  and  $[\text{Pd}_2(\text{Ga}_2\text{Cl}_7)_2(\text{C}_6\text{H}_5\text{Cl})_2]$ . Quantum chemical calculations indicate a small difference in the interaction energies of the soft-base donors toluene, mesitylene and chlorobenzene.

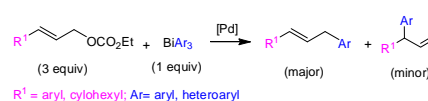


**Maddali L.N. Rao, Debasis Banerjee,  
Somnath Giri**

*J. Organomet. Chem.* 695 (2010) 1518

Palladium-catalyzed cross-couplings of allylic carbonates with triarylbiaryls as multi-coupling atom-efficient organometallic nucleophiles

Allylic carbonates were efficiently cross-coupled with triarylbiaryls under palladium catalysis. Using the optimized protocol, arylations of various allylic carbonates were carried out with triarylbiaryls to afford high yields of 1,3-disubstituted propenes in regio- and chemo-selective manner. Triarylbiaryls were employed as multi-coupling atom-efficient organometallic nucleophiles in sub-stoichiometric amounts in all the reactions.

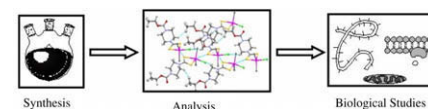


**Aziz-ur-Rehman, Mukhtiar Hussain,  
Zia-ur-Rehman, Abdul Rauf, Faiz-ul-  
Hassan Nasim, Asif Ali Tahir, Saqib Ali**

*J. Organomet. Chem.* 695 (2010) 1526

New tetrahedral, square-pyramidal, trigonal-bipyramidal and octahedral organotin(IV) 4-ethoxycarbonylpiperazine-1-carbodithioates: Synthesis, structural properties and biological applications

A series of new supramolecular triorganotin(IV)-, chlorodiorganotin(IV)- and diorganotin(IV) 4-ethoxycarbonylpiperazine-1-carbodithioates have been synthesized and fully characterized. The pronounced bioactivity of these compounds is presumably due to the formation of secondary interactions with cell constituents.

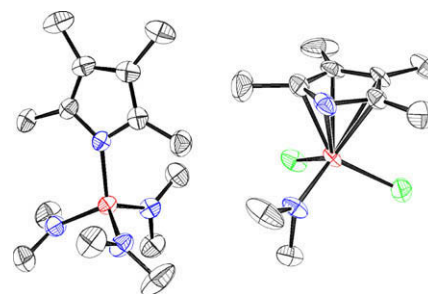


**João L. Ferreira da Silva, Ana C. Galvão,  
André P. Ferreira, Adelino M. Galvão,  
Alberto R. Dias, Pedro T. Gomes,  
Margarida S. Salema**

*J. Organomet. Chem.* 695 (2010) 1533

Effect of ancillary ligands in the hapticity of the pyrrolyl ligand in  $[\text{Ti}(\text{pyrrolyl})(\text{NMe}_2)_x\text{Cl}_{3-x}]$  ( $x = 0, 1, 2, 3$ ) complexes

An increasing number of  $\text{NMe}_2$   $\pi \pi \rightarrow d\pi$  donor ligands in the coordination sphere of  $\eta^5$ -pyrrolyl titanium complexes enhances the pyrrolyl ring slippage until reaching a  $\sigma N$ -coordination. This trend was evaluated by X-ray diffraction and by  $^{13}\text{C}$  NMR for two series of compounds  $[\text{Ti}(\text{pyrrolyl})(\text{NMe}_2)_x\text{Cl}_{3-x}]$  (pyrrolyl = 2,5-dimethylpyrrolyl and 2,3,4,5-tetramethylpyrrolyl;  $x = 0-3$ ).

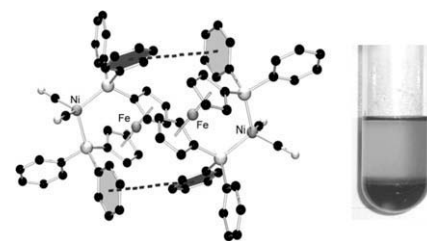


**Dieter Schaarschmidt, Janett Kühnert, Sascha Tripke, Helmut G. Alt, Christian Görl, Tobias Rüffer, Petra Ecorchard, Bernhard Walfort, Heinrich Lang**

*J. Organomet. Chem.* 695 (2010) 1541

Ferrocenyl phosphane nickel carbonyls: Synthesis, solid state structure, and their use as catalysts in the oligomerization of ethylene

The syntheses, solid state structures and potential catalytic activities (homogeneous and heterogeneous) of ferrocenyl phosphane nickel carbonyls are discussed.

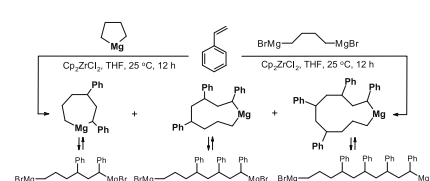


**Rifkat M. Sultanov, Vladimir V. Vasiliev, Leonard M. Khalilov, Natal'ya R. Popod'ko, Usein M. Dzhemilev**

*J. Organomet. Chem.* 695 (2010) 1550

Zirconium-mediated cyclomagnesiation of styrene using magnesacyclopentane and 1,4-di(brommagnesium)butane as a method for the preparation of macrocyclic organomagnesium compounds

Cyclometalation of styrene with 1,4-bis-(brommagnesium)butane and magnesacyclopentane in the presence of  $\text{Cp}_2\text{ZrCl}_2$  gives rise to the formation of magnesacycloalkanes, composed of one ethylene molecule and two, three or four styrene molecules.

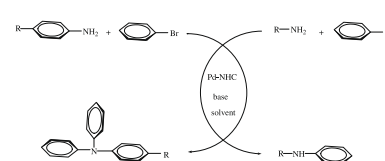


**Ismail Özdemir, Serpil Demir, Onur Şahin, Orhan Büyükgüngör, Bekir Çetinkaya**

*J. Organomet. Chem.* 695 (2010) 1555

Palladium *N*-heterocyclic carbene complexes: Synthesis, characterization and catalytic properties in amination

A simple and efficient methodology for the synthesis of triaryl amines and secondary amines in a single step has been demonstrated using palladium–NHC catalyst.

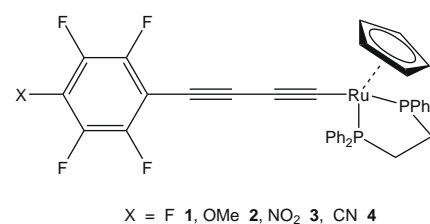


**Michael I. Bruce, Nancy Scoleri, Brian W. Skelton, Allan H. White**

*J. Organomet. Chem.* 695 (2010) 1561

Syntheses and molecular structures of some polyfluoroaryldiynyl–ruthenium complexes

Lithiated  $\text{Ru}(\text{C}\equiv\text{C}\equiv\text{CH})(\text{dppe})\text{Cp}^*$  reacts with  $\text{C}_6\text{F}_5\text{X}$  ( $\text{X} = \text{F}, \text{OMe}, \text{CN}, \text{NO}_2$ ) and  $\text{C}_{10}\text{F}_8$  to give novel polyfluoroaryldiynyls end-capped with the  $\text{Ru}(\text{dppe})\text{Cp}^*$  group. Addition of *tcne* to  $\text{Ru}(\text{C}\equiv\text{C}\equiv\text{CC}_6\text{F}_5)(\text{dppe})\text{Cp}^*$  afforded the butadienylnyl  $\text{Ru}(\text{C}\equiv\text{CC}=\text{C}(\text{CN})_2)\text{C}(\text{C}_6\text{F}_5)=\text{C}(\text{CN})_2(\text{dppe})\text{Cp}^*$ , while protonation with  $\text{HBF}_4\cdot\text{OEt}_2$  resulted in cycloaddition to give  $[\text{1,3-}\{\text{Cp}^*(\text{dppe})\text{-RuC}\equiv\text{C}\}_2\{\mu\text{-C}_4\text{H}(\text{C}_6\text{F}_5)_2\}]\text{BF}_4$ .

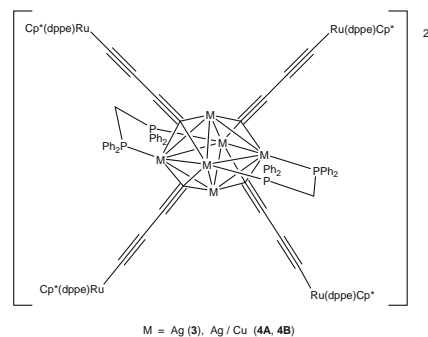


**Michael I. Bruce, Paul J. Low, Brian K. Nicholson, Brian W. Skelton, Natasha N. Zaitseva, Xiao-li Zhao**

*J. Organomet. Chem.* 695 (2010) 1569

Preparation and molecular structures of the decanuclear diyne-ruthenium-silver and -copper complexes  $[M_6\{\mu_3-C\equiv C\equiv C-[Ru(dppe)Cp^*]\}_4(\mu-dppm)_2](BF_4)_2$  ( $M = Ag, Cu$ )

Reactions between  $[M_2(dpmp)_2(NCMe)_2]X_2$  [ $M = Ag, X = ClO_4$ ;  $M = Cu, X = BF_4$ ] and  $Ru(C\equiv C\equiv CM')(dppe)Cp^*$  ( $M' = Ag, Cu$ ) afford the cationic mixed-metal cluster diyne complexes  $[(M_nM'_{6-n})\{\mu_3-C\equiv C\equiv C[Ru(dppe)Cp^*]\}_4(\mu-dppm)_2]X_2$ , as shown by ES-MS and crystallographic studies. Electrochemical studies indicate that there is no interaction between the ruthenium centres. Preliminary studies suggest that extensive disproportionation occurs in solution.

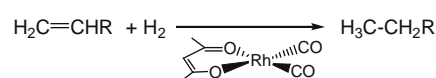


**Xiangai Yuan, Siwei Bi, Yangjun Ding, Lingjun Liu, Min Sun**

*J. Organomet. Chem.* 695 (2010) 1576

DFT study of alkene hydrogenation catalyzed by  $Rh(acac)(CO)_2$

The mechanisms of alkene hydrogenation catalyzed by  $Rh(acac)(CO)_2$  were studied with the help of DFT.

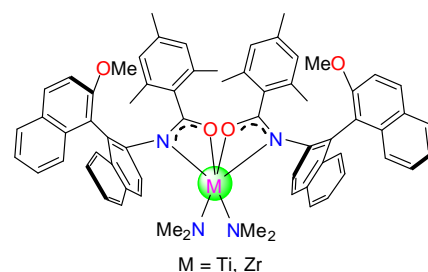


**Qiuwen Wang, Haibin Song, Guofu Zi**

*J. Organomet. Chem.* 695 (2010) 1583

Synthesis, structure, and catalytic activity of group 4 complexes with new chiral biaryl-based  $NO_2$  ligands

A new series of chiral group 4 metal complexes have been prepared. They are active catalysts for the asymmetric hydroamination/cyclization of aminoalkenes, affording cyclic amines in good to excellent yields with good ee values.



**M. Esther García, Daniel García-Vivó, Miguel A. Ruiz**

*J. Organomet. Chem.* 695 (2010) 1592

Alkyne to carbyne coupling reactions of the unsaturated methoxycarbyne-bridged complex  $[Mo_2(\eta^5-C_5H_5)_2(\mu-COMe)(\mu-PCy_2)(CO)_2]$

The relatively open edge-bridging bioctahedral structure of the title complex allows its reaction with terminal or internal alkynes under moderate thermal activation to give with good yield products having a propenyl-ylidene ligand bridging the dimetal centre, derived from the coupling of the alkyne to the methoxycarbyne ligand.

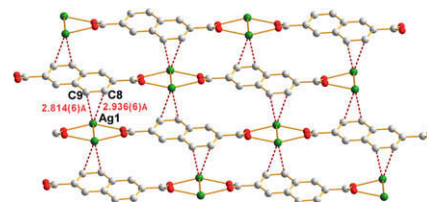


## Notes

**Di Sun, Na Zhang, Qin-Juan Xu, Rong-Bin Huang, Lan-Sun Zheng***J. Organomet. Chem.* 695 (2010) 1598

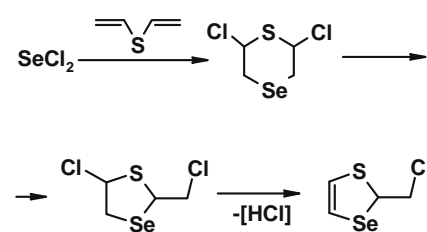
A novel 3D silver(I) supramolecular framework assembled from hybrid ligands incorporating Ag $\cdots$ C interactions

A novel silver(I) complex [Ag(mapym)(npd)<sub>0.5</sub>·H<sub>2</sub>O]<sub>n</sub> (**1**), (mapym = 2-amino-4-methylpyrimidine, H<sub>2</sub>npd = naphthalene-2,6-dicarboxylic acid) shows Ag $\cdots$ C<sub>npd</sub>( $\eta^2$ ) interactions of av. 2.88 Å which combine hydrogen bonds and  $\pi\cdots\pi$  stacking interactions to give **1** a three-dimensional (3D) supramolecular framework. The photoluminescence properties of **1** were investigated in the solid state at room temperature.

**Vladimir A. Potapov, Vladimir A. Shagun, Maxim V. Penzik, Svetlana V. Amosova***J. Organomet. Chem.* 695 (2010) 1603

Quantum chemical studies of the reaction of selenium dichloride with divinyl sulfide and comparison with experimental results

Quantum chemical studies of the reaction of selenium dichloride with divinyl sulfide have been carried out. The major reaction route (2,6-dichloro-1,4-thiaselenane  $\rightarrow$  5-chloro-2-chloromethyl-1,3-thiaselenolane  $\rightarrow$  2-chloromethyl-1,3-thiaselenole) and main trends of the reaction (a rearrangement of 2,6-dichloro-1,4-thiaselenane, facile selective dehydrochlorination of 5-chloro-2-chloromethyl-1,3-thiaselenolane), which have been determined by the quantum chemical studies, are in excellent agreement with experimental data.

**Benedek Imre Károlyi, László Szepes, Gábor Vass***J. Organomet. Chem.* 695 (2010) 1609

Investigation of Hg(SiMe<sub>3</sub>)<sub>2</sub> and Me<sub>3</sub>Si radical by photoelectron spectroscopy and theoretical methods

He I photoelectron spectra of bis-(trimethylsilyl)-mercury and its gas phase thermolysis product, Me<sub>3</sub>Si radical, are reported. The first vertical ionization energies were determined. The interpretation of spectra together with the nature of Si–Hg–Si bond is discussed.

