

Contents

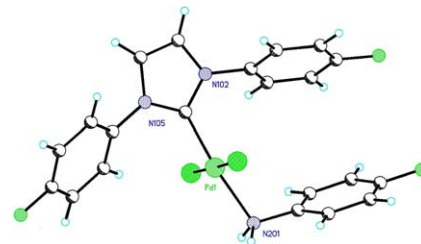
Communication

**Kris Randell, Matthew J. Stanford,
Guy J. Clarkson, Jonathan P. Rourke**

J. Organomet. Chem. 691 (2006) 3411

N-heterocyclic carbenes: Reaction to give anilines

The attempted synthesis of bis(NHC)palladium complexes via the direct reaction of an imidazolium salt with palladium acetate results in the formation of a mixed NHC/aniline complex. The aniline originally derives from an imidazolium salt.



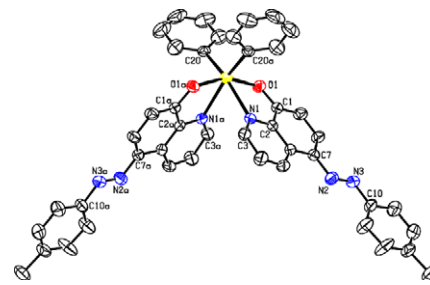
Regular papers

**Tushar S. Basu Baul, Archana Mizar,
Antonin Lyčka, Eleonora Rivarola,
Robert Jirásko, Michal Holčapek, Dick de Vos,
Ulli Englert**

J. Organomet. Chem. 691 (2006) 3416

Diphenyltin(IV) complexes of the 5-[(*E*)-2-(aryl)-1-diazenyl]quinolin-8-olates: Synthesis and multinuclear NMR, ^{119}Sn Mössbauer, electrospray ionization MS, X-ray characterization and assessment of in vitro cytotoxicity

A series of *cis*-bis{5-[(*E*)-2-(aryl)-1-diazenyl]quinolinolato}diphenyltin(IV) complexes have been synthesized and characterized by ^1H , ^{13}C , ^{119}Sn NMR, ESI-MS, IR and ^{119}mSn Mössbauer spectroscopic techniques in combination with elemental analysis. The structures of a ligand L^6H (i.e., 5-[(*E*)-2-(4-ethoxyphenyl)-1-diazenyl]quinolin-8-ol) and three diphenyltin(IV) complexes were determined by single crystal X-ray diffraction. X-ray crystallography reveals that complexes adopt a distorted *cis*-octahedral arrangement around the tin atom. The in vitro cytotoxicity of diphenyltin(IV) complex is reported and compared with $\text{Ph}_2\text{Sn}(\text{Ox})_2$.

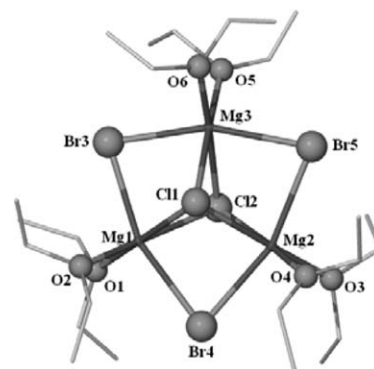


**Philip C. Andrews, Peter C. Junk,
Iryna Nuzhnaya, Leone Spiccia,
Nafty Vanderhoek**

J. Organomet. Chem. 691 (2006) 3426

Complications in metathesis reactions involving Grignard reagents: Effect of solvent on products obtained from the interaction of PhMgBr with GaCl_3 or InBr_3

The important role of supporting solvent in transmetalation reactions involving Grignard reagents is highlighted in the formation and crystallisation of the Group 13 'ate' species, $[\text{Mg}_3\text{Br}_3\text{Cl}_2(\text{Et}_2\text{O})_6][\text{GaPh}_2\text{Br}_2]$ (1), $[\text{Mg}_3\text{Br}_3(\text{Et}_2\text{O})_6][\text{InPh}_2\text{Br}_2]$ (2), $[\text{MgBr}(\text{THF})_5][\text{GaPh}_3\text{Br}]$ (3), $[\text{MgBr}(\text{THF})_3][\text{InPh}_3\text{Br}]$ (4), $[\text{Mg}(\text{THF})_6][\text{GaPh}_2\text{Br}_2]$ (5) obtained by reaction of PhMgBr with gallium and indium halides. The compounds have been characterised by ^1H NMR, elemental analyses, and single-crystal X-ray diffraction.

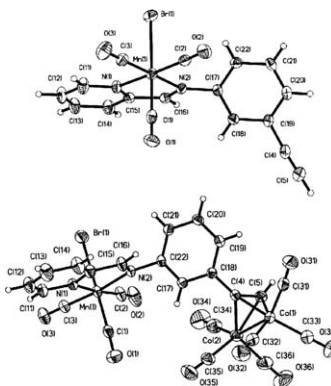


**Luis A. García-Escudero, Daniel Miguel,
José A. Turiel**

J. Organomet. Chem. 691 (2006) 3434

Carbonyl complexes of manganese, rhenium and molybdenum with ethynyliminopyridine ligands

Complexes with ethynyliminopyridine ligands can be prepared by a facile, general method, starting from *m*- or *p*-ethynylaniline in a “one-pot” reaction. The terminal ethynyl group in these complexes reacts with dicobalt octacarbonyl to afford tetrahedrane trimetallic complexes.

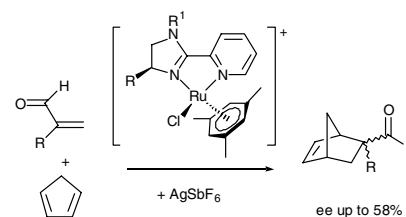


**Adam J. Davenport, David L. Davies,
John Fawcett, David R. Russell**

J. Organomet. Chem. 691 (2006) 3445

Chiral pyridine imidazolines from C_1 -symmetric diamines: Synthesis, arene ruthenium complexes and application as asymmetric catalysis for Diels-Alder reactions

New chiral pyridine imidazolines (L) have been synthesised and reacted with $[\text{RuCl}_2(\text{mes})_2]$ ($\text{mes} = 1,3,5\text{-trimethyl benzene}$) to form $[\text{RuCl}(\text{L})(\text{mes})][\text{SbF}_6]$ (**5a-c**) which after treatment with AgSbF_6 are enantioselective catalysts for the Diels-Alder reaction of acroleins and cyclopentadiene. The NR^1 substituent affects the enantioselectivity.

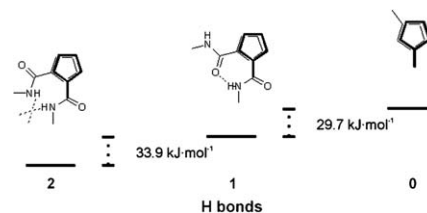


**Srećko I. Kirin, Ulrich Schatzschneider,
Xavier de Hatten, Thomas Weyhermüller,
Nils Metzler-Nolte**

J. Organomet. Chem. 691 (2006) 3451

1, n' -Disubstituted ferrocenoyl amino acids and dipeptides: Conformational analysis by CD spectroscopy, X-ray crystallography, and DFT calculations

An experimental and computational study (DFT, B3LYP/LanL2DZ) on ferrocenoyl peptides $\text{Fe}[\text{C}_5\text{H}_4\text{-CO-Aaa-R}]_2$ ($\text{R} = \text{NH}_2$ or OCH_3) revealed a significant difference in stability of its conformers, depending on the number of hydrogen bonds. One hydrogen bond stabilizes the system by about 30 kJ mol^{-1} .

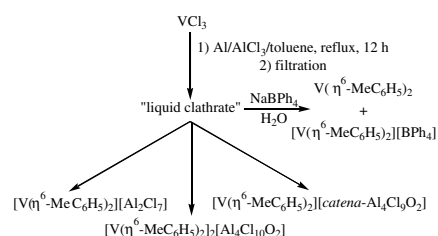


**Fabio Marchetti, Guido Pampaloni,
Calogero Pinzino**

J. Organomet. Chem. 691 (2006) 3458

Some new results on the Fischer–Hafner synthesis of vanadium arenes

The biphasic liquid system formed in the Fischer–Hafner reduction of VCl_3 in toluene contains the $[\text{V}(\eta^6\text{-MeC}_6\text{H}_5)_2]^+$ cation, which has been isolated in the solid state as the tetraphenylborato-, $[\text{Al}_2\text{Cl}_7]^-$, $[\text{Al}_4\text{O}_2\text{Cl}_{10}]^{2-}$ and $[\text{catena-Al}_4\text{O}_2\text{Cl}_9]^-$ salts. The $[\text{V}(\eta^6\text{-MeC}_6\text{H}_5)_2]^+$ cation shows two different conformations of the toluene rings: a *trans*-eclipsed conformation in $[\text{V}(\eta^6\text{-MeC}_6\text{H}_5)_2][\text{Al}_4\text{O}_2\text{Cl}_{10}]$ (**2**), and an almost *cis*-eclipsed one in $[\text{V}(\eta^6\text{-MeC}_6\text{H}_5)_2][\text{catena-Al}_4\text{O}_2\text{Cl}_9]$ (**3**).

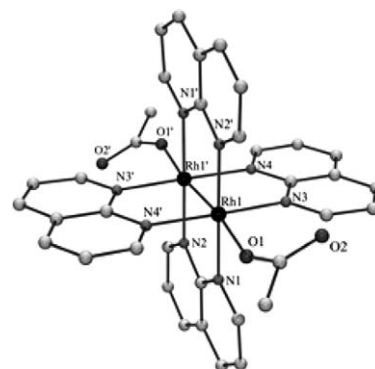


**Marino Basato, Andrea Biffis,
Gianluca Martinati, Cristina Tubaro,
Claudia Graiff, Antonio Tiripicchio,
Laura A. Aronica, Anna M. Caporusso**

J. Organomet. Chem. 691 (2006) 3464

Cationic complexes of dirhodium(II) with 1,8-naphthyridine: Catalysis of reactions involving silanes

Cationic dirhodium(II) complexes with 1,8-naphthyridine exhibit promising catalytic activity in reactions involving silanes, in particular in the silylformylation of alkynes.

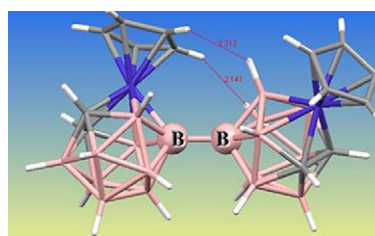


**José Giner Planas, Clara Viñas,
Francesc Teixidor, Mark E. Light,
Michael B. Hursthouse**

J. Organomet. Chem. 691 (2006) 3472

A boron–boron linked large metallocarborane cluster: Characterization and X-ray structure of 8,9'-[closo-{3-Co(η^5 -C₅H₅)-1,2-C₂B₉H₁₀}]₂

The first example of a boron–boron linked large metallocarborane cluster, 8,9'-[closo-{3-Co(η^5 -C₅H₅)-1,2-C₂B₉H₁₀}]₂ (**1**), has been characterized by single crystal X-ray diffraction analysis and NMR spectroscopy. The solid state conformation of **1** seems to be the result of a pair of intramolecular C–H···H–B dihydrogen bonds between the protonic H atoms of the C₅H₅ fragment of a sub-cluster and the hydridic H atoms of the C₂B₉H₁₀ fragment in the other sub-cluster in **1**.

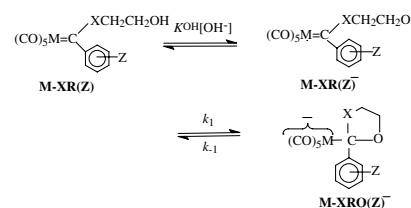


**Mahammad Ali, Claude F. Bernasconi,
Supriya Biswas**

J. Organomet. Chem. 691 (2006) 3477

Transition metal carbene chemistry 6: Kinetic studies of the reactions of hydroxide ion with (CO)₅Mo=C(XCH₂CH₂OH)(C₆H₅) (X = O and S) and (CO)₅W=C(OCH₂CH₂OH)(C₆H₄-Z) (C₆H₄-Z)

A kinetic study of the reaction of hydroxide ion with (CO)₅Mo=C(XCH₂CH₂OH)(C₆H₅) (X = O for Mo–OR, and X = S for Mo–SR), and (CO)₅W=C(OCH₂CH₂OH)(C₆H₄-Z) (**W–OR(Z)**) shows a pathway in basic solutions that involves rapid deprotonation of the OH group followed by rate-limiting cyclization. The much higher (k_1K^{OH}) (2.19) value for **W–OR(Z)** over **W–SR(Z)** (0.96) arises due to the stabilization of the reactant carbene complex by the stronger π -donor effect of oxygen over sulfur.

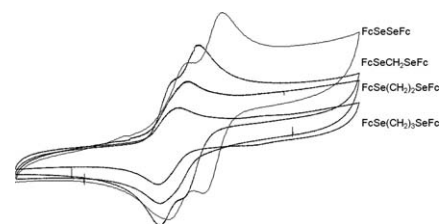


**Mark R. Burgess, Su Jing,
Christopher P. Morley**

J. Organomet. Chem. 691 (2006) 3484

Electrochemical and NMR spectroscopic studies of selenium- and tellurium-substituted ferrocenes II: Diferrocenyl chalcogenides, Fc₂E, diferrocenyl dichalcogenides, Fc₂E₂, and bis(ferrocenylchalcogeno)alkanes, FcE(CH₂)_n-E'Fc (E, E' = Se: n = 1, 2, 3; E, E' = Te: n = 1, 3; E = Se, E' = Te: n = 3; Fc = [Fe(η^5 -C₅H₅)(η^5 -C₅H₄)])

Cyclic and differential pulse voltammetry of compounds containing two ferrocenes linked by a chalcogen-containing bridge show that there is electronic communication between the two ferrocene units when the bridge is short (as in Fc₂E), but that the interaction rapidly becomes weaker with increasing Fe···Fe distance, and is undetectable for the 1,3-bis-(ferrocenylchalcogeno)propanes.

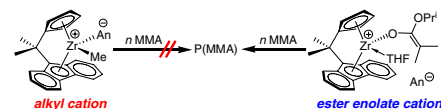


**Antonio Rodríguez-Delgado,
Wesley R. Mariott, Eugene Y.-X. Chen**

J. Organomet. Chem. 691 (2006) 3490

Synthesis and MMA polymerization of chiral *ansa*-zirconocene ester enolate complexes with C_2 - and C_s -ligation

While the zirconocene methyl cation with C_s -ligation $\{[Me_2C(Cp)(Flu)ZrMe]^+\}$ and the neutral methyl zirconocene ester enolate with C_2 -ligation $\{rac\text{-}(EBI)ZrMe[OC(O^iPr)=CMe_2]\}$ are inactive for MMA polymerization, their respective cationic ester enolate and triflate derivatives are active for polymerization of MMA affording high molecular weight polymers.

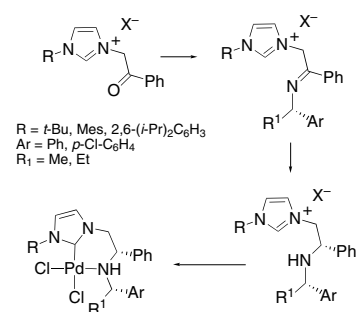


**Alexandre Flahaut, Jean-Pierre Baltaze,
Sylvain Roland, Pierre Mangeney**

J. Organomet. Chem. 691 (2006) 3498

Synthesis of chiral imino- and amino-imidazolium salts and of chelating amino-*N*-heterocyclic carbene palladium(II) complexes

A new preparation of chiral imino-imidazolium salts has been developed. Amino-imidazolium salts with *de* >95% could be obtained by reduction of these imino salts with sodium borohydride and recrystallisation. Chelating amino-NHC Pd^{II} complexes were obtained in two steps via formation of the AgI complexes and reaction with PdCl₂(MeCN)₂. Crystal structure details of a Pd^{II} *cis*-dichloro amino-NHC complex are presented.

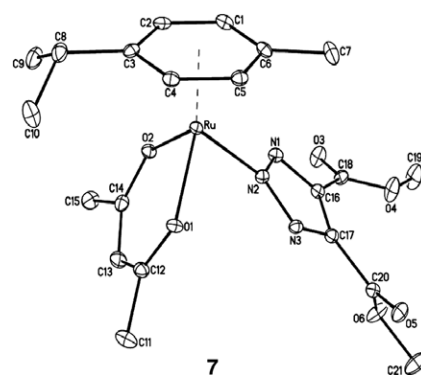


**Keisham Sarjit Singh, Kevin A. Kreisel,
Glenn P.A. Yap, Mohan Rao Kollipara**

J. Organomet. Chem. 691 (2006) 3509

Synthesis of arene ruthenium triazoloto complexes by cycloaddition of the corresponding arene ruthenium azido complexes with activated alkynes or with fumaronitrile

Arene ruthenium(II) β -diketonate complexes $[(\eta^6\text{-}p\text{-cymene})Ru(LL)Cl]$ readily react with NaN₃ to afford the corresponding azido complexes of the type $[(\eta^6\text{-}p\text{-cymene})Ru(LL)(N_3)]$; where LL = β -diketonate viz., *acac*, *bzac*, *dbzm*. These neutral azido complexes undergo [3+2] cycloaddition reactions with activated alkynes and fumaronitrile to produce the corresponding arene ruthenium triazoloto complexes.

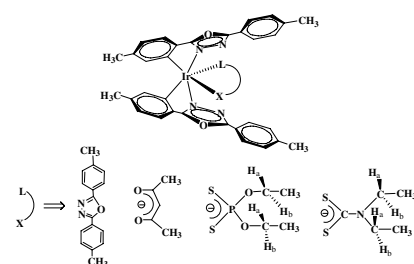


**Lianqing Chen, Chuluo Yang, Jingui Qin,
Jia Gao, Han You, Dongge Ma**

J. Organomet. Chem. 691 (2006) 3519

Synthesis, structure, electrochemistry, photophysics and electroluminescence of 1,3,4-oxadiazole-based *ortho*-metalated iridium(III) complexes

Synthesis, characterization, crystal structure, electrochemical, photophysical and electroluminescent properties of four new iridium(III) complexes with 1,3,4-oxadiazole derivative as cyclometalated ligand have been reported.

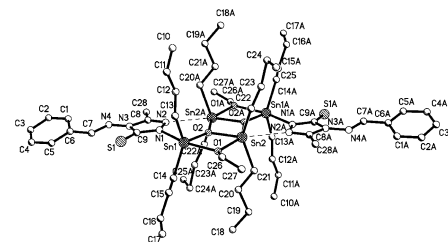


Hai-Xia Yu, Jian-Fang Ma, Guo-Hai Xu,
Shun-Li Li, Jin Yang, Ying-Ying Liu,
Yan-Xiang Cheng

J. Organomet. Chem. 691 (2006) 3531

Syntheses and crystal structures of four new organotin complexes with Schiff bases containing triazole

Complexes 1–3 show similar structures containing a Sn_4O_4 ladder skeleton in which each of the *exo* tin atoms is bonded to the N atom of a corresponding thione-form deprotonated ligand. Complex 4 shows a mononuclear structure in which the tin atom of triphenyltin group is coordinated by the S atom of a thiol-form $\text{L}4^-$ anion.

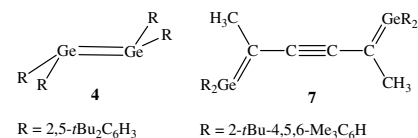


Björn Pampuch, Wolfgang Saak,
Manfred Weidenbruch

J. Organomet. Chem. 691 (2006) 3540

New compounds with Ge/Ge and Ge/C multiple bonds

The reaction of the Grignard compound RMgBr , $\text{R} = 2,5\text{-}t\text{Bu}_2\text{C}_6\text{H}_3$, with $\text{GeCl}_2 \cdot \text{dioxane}$ furnishes the digermene 4 with a long $\text{Ge}=\text{Ge}$ double bond length and the largest *trans*-bent angles observed so far for digermenes. In solution, the digermene $\text{R}_2\text{Ge}=\text{GeR}_2$, $\text{R} = 2\text{-}t\text{Bu-4,5,6-Me}_3\text{C}_6\text{H}$ dissociates into two molecules of the germylene R_2Ge : which react with hexa-2,4-diyne to give the acetylene-linked bis(germaethene) 7.

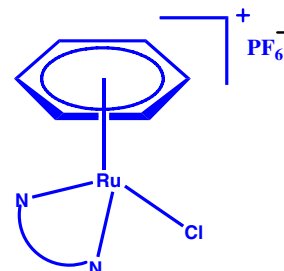


Haritosh Mishra, Rabindranath Mukherjee

J. Organomet. Chem. 691 (2006) 3545

Half-sandwich η^6 -benzene $\text{Ru}(\text{II})$ complexes of pyridylpyrazole and pyridylimidazole ligands: Synthesis, spectra, and structure

Systematic comparative studies (X-ray and ^1H NMR) have been made on “piano-stool” complexes of $\text{Ru}(\text{II})$ with bidentate ligands 2-[3-(4-chlorophenyl)pyrazol-1-ylmethyl]pyridine, 3-(2-pyridyl)pyrazole, 1-benzyl-[3-(2'-pyridyl)]pyrazole, and 2-(1-imidazol-2-yl)pyridine]. Structural studies reveal extensive non-covalent interactions.



Alwyn G. Davies, Andrea Sella,
Rajaveen Sivasubramaniam

J. Organomet. Chem. 691 (2006) 3556

Can mono- or di-butyltin chlorides produce tributyltin chloride at elevated temperatures? Implications for applications in chemical vapour deposition

The decomposition and potential redistribution reaction of Bu_3SnCl , Bu_2SnCl_2 , and BuSnCl_3 at 200–300 °C have been investigated by NMR spectroscopy. In particular, no toxic Bu_3SnCl was formed from BuSnCl_3 . The principles behind the distribution reactions are discussed.

