

Contents

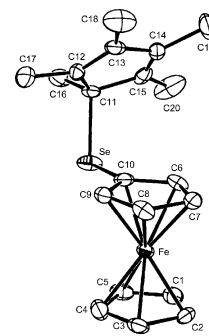
Regular Papers

**Mark R. Burgess, Christopher P. Morley,
Massimo Di Vaira**

J. Organomet. Chem. 690 (2005) 3099

Pentamethylcyclopentadienylselenium derivatives VI: Synthesis and characterisation of ferrocenyl(pentamethylcyclopentadienyl)-selenium

The novel mono(cyclopentadienyl)selenium derivatives, $\text{Se}(\text{C}_5\text{Me}_4\text{R})\text{Fc}$ ($\text{Fc} = [\text{Fe}(\eta^5\text{-C}_5\text{H}_5)(\eta^5\text{-C}_5\text{H}_4)]$; $\text{R} = \text{H}$ or Me) have been prepared by treatment of diferrocenyl diselenide (Fc_2Se_2) with $\text{LiC}_5\text{Me}_4\text{R}$. The structure of $\text{Se}(\text{C}_5\text{Me}_3)\text{Fc}$ has been determined by X-ray crystallography, and its redox properties and reactivity have been examined.

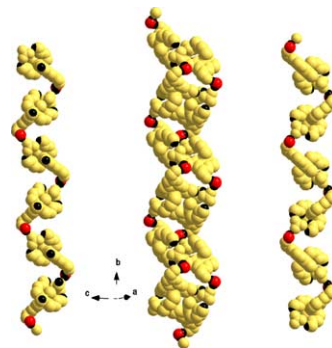


**Sanjay Kumar Singh, Sanjeev Sharma,
Manish Chandra, Daya Shankar Pandey**

J. Organomet. Chem. 690 (2005) 3105

Helical racemate architecture based on osmium(II)-polypyridyl complexes: Synthesis and structural characterisation

New polypyridyl osmium(II) complexes $[\text{Os}(\kappa^3\text{-tptz})(\text{EPh}_3)_2\text{Cl}]\text{BF}_4$ ($\text{E} = \text{P}$, **1**; As , **2**) with Group 15 donor ligands are reported. Structural studies on the representative complex $[\text{Os}(\kappa^3\text{-tptz})(\text{PPh}_3)_2\text{Cl}]\text{BF}_4$ revealed formation of helical racemates with sidewise stacking of right and left-handed anti-parallel helical strands. Salient structural features and DNA binding studies along with binding constant and site size of the complex **1** with *calif thymus* (*ct*) DNA by absorption spectroscopy are described.

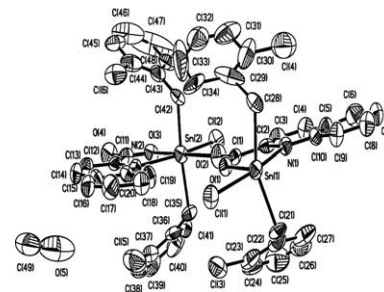


Han Dong Yin, Qi Bao Wang, Sheng Cai Xue

J. Organomet. Chem. 690 (2005) 3111

Synthesis and spectroscopic properties of diorganotin(IV) complexes of 2-quinaldate and crystal structures of $(4\text{-FC}_6\text{H}_4\text{CH}_2)_2\text{Sn}(\text{2-quin})_2 \cdot 2\text{CH}_3\text{CN}$ and $\{[(2\text{-C/C}_6\text{H}_4\text{CH}_2)_2\text{SnCl}(\text{2-quin})]_2 \cdot \text{CH}_3\text{OH}\}_n$

Twelve diorganotin(IV) complexes with 2-quinaldic acid (2-quinH) $\text{R}_2\text{Sn}(\text{2-quin})_2$ and $\text{R}_2\text{SnCl}(\text{2-quin})$ have been synthesized and all the complexes have been characterized by elemental analysis, IR and multinuclear NMR (^1H , ^{13}C , ^{119}Sn) spectroscopies. The structures of $(4\text{-FC}_6\text{H}_4\text{CH}_2)_2\text{Sn}(\text{2-quin})_2 \cdot 2\text{CH}_3\text{CN}$ (**4**) and $\{[(2\text{-C/C}_6\text{H}_4\text{CH}_2)_2\text{Sn}(\text{2-quin})\text{Cl}]_2 \cdot \text{CH}_3\text{OH}\}_n$ (**8**) have been determined by X-ray diffraction study.

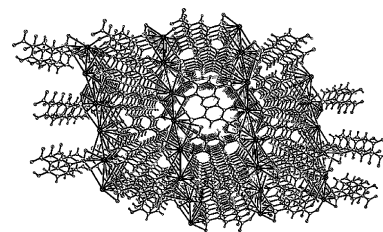


**Mancheng Hu, Chunyu Geng, Shu'ni Li,
Yanping Du, Yucheng Jiang, Zhihong Liu**

J. Organomet. Chem. 690 (2005) 3118

Syntheses and crystal structures of three cesium salts: Cesium 5-sulfosalicylate, cesium 3,5-dinitrosalicylate and cesium 2,4-dinitrophenoxide monohydrate

The structures of cesium 5-sulfosalicylate, cesium 3,5-dinitrosalicylate and cesium 2,4-dinitrophenoxide monohydrate have been determined through X-ray diffraction analysis. Both complexes have layer structures containing the cations and polar groups of the ligands in core domains sandwiched by the aromatic rings above and below. The organization of all layer structures appears to be governed mainly by steric effects and electrostatic forces with very little directional influence of the cations.

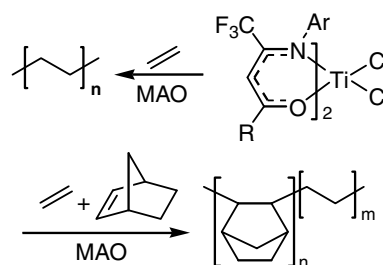


**Li-Ming Tang, Tao Hu, Ying-Jian Bo,
Yue-sheng Li, Ning-Hai Hu**

J. Organomet. Chem. 690 (2005) 3125

Titanium complexes bearing aromatic-substituted β -enaminoketonato ligands: Syntheses, structure and olefin polymerization behavior

A series of new titanium complexes $[(Ar)NC(CF_3)CHC(R)O]_2TiCl_2$ has been synthesized and characterized, and is shown to be active catalysts for ethylene polymerization and ethylene/norbornene copolymerization.

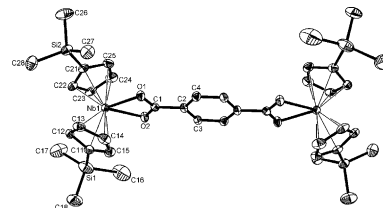


**Antonio Antiñolo, Santiago García-Yuste,
Isabel López-Solera, Antonio Otero,
Juan Carlos Pérez-Flores, Isabel del Hierro,
Laurent Salvi, Hélène Cattey, Yves Mugnier**

J. Organomet. Chem. 690 (2005) 3134

New reactivity of Cp'_2NbH_3 , $Cp' = \eta^5-C_5H_4SiMe_3$. Synthesis, electrosynthesis and reactivity of new carboxylato niobocene complexes

A new family of carboxylato-containing niobocene complexes has been prepared by means of both chemical and electrochemical procedures.

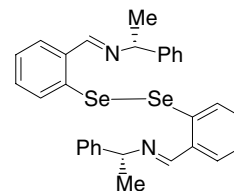


**Snigdha Panda, Sanjio S. Zade,
Harakesh B. Singh, Gotthelf Wolmershäuser**

J. Organomet. Chem. 690 (2005) 3142

Synthesis and characterization of a novel chiral azomethine diselenide

The condensation of bis(*o*-formylphenyl) diselenide with (*R*)-(+)-1-phenylethylamine afforded a novel chiral azomethine diselenide **9**. The diselenide **9** was further characterized by derivatising it into the corresponding selenenyl halide derivatives. The crystal structure of the halide derivatives have been solved which show strong $Se \cdots N$ interactions.

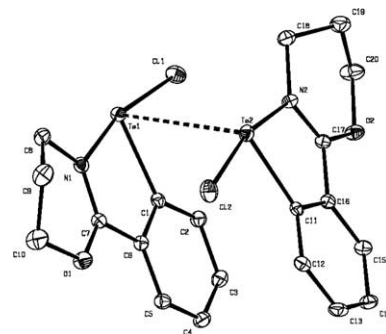


**Sangit Kumar, Harkesh B. Singh,
Gothelf Wolmershäuser**

J. Organomet. Chem. 690 (2005) 3149

Synthesis and characterization of [2-(2-phenyl-5,6-dihydro-4*H*-1,3-oxaziny)] tellurenyl chloride

[2-(2-phenyl-5,6-dihydro-4*H*-1,3-oxaziny)] tellurenyl chloride exhibits both intramolecular Te···N and intermolecular Te···Te interactions.

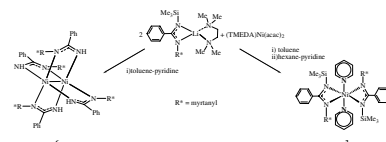


**Elza Nelkenbaum, Moshe Kapon,
Moris S. Eisen**

J. Organomet. Chem. 690 (2005) 3154

Synthesis, molecular structure and catalytic activity of chiral benzamidinate nickel complexes

The chiral myrtanyl β -diketiminato lithium salt $[(\text{SiMe}_3)\text{NC}(\text{Ph})\text{N}(\text{myrtanyl})] [\text{Li-TMEDA}]$ reacts with $\text{Ni}(\text{acac})_2(\text{TMEDA})$ in toluene forming the dimeric complex $[(\text{SiMe}_3)\text{NC}(\text{Ph})\text{N}(\text{myrtanyl})]_2\text{Ni}$, which upon the solvation with pyridine produces the octahedral complex **3**. When the same reaction is carried out in a mixture of pyridine-toluene, complex **6** is obtained in which all the TMS groups have been cleaved. Both complexes activated by MAO (MAO = methylalumoxane) have been studied for the oligomerization of α -olefins towards the production of dimers and trimers, with high turnover frequencies.

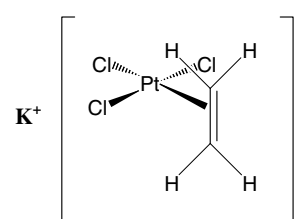


**Jean A. Baldwin, Denis F.R. Gilson,
Ian S. Butler**

J. Organomet. Chem. 690 (2005) 3165

Effect of high external pressures on the vibrational spectra of Zeise's complexes, $\text{K}[\text{Pt}(\eta^2\text{-C}_2\text{H}_4)\text{Cl}_3]$ and $[\text{Pt}(\eta^2\text{-C}_2\text{H}_4)\text{Cl}_2]_2$

The high-pressure IR and Raman spectra of Zeise's complexes, $\text{K}[\text{Pt}(\eta^2\text{-C}_2\text{H}_4)\text{Cl}_3]$ and $[\text{Pt}(\eta^2\text{-C}_2\text{H}_4)\text{Cl}_2]_2$, have been measured for the first time. The negative pressure dependences observed for some of the vibrational bands have proved useful in identifying the CC stretching modes of the Pt-ethylene groups, a contentious issue in the literature.

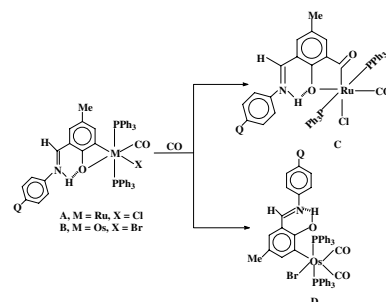


Bikash Kumar Panda, Animesh Chakravorty

J. Organomet. Chem. 690 (2005) 3169

Carbonylation of four-membered ruthenium and osmium metallacycles incorporating an orthometallated phenolic function: New acylruthenium and arylosmium complexes

The solution reaction of **A** with carbon monoxide has afforded the acyl chelate **C** via aryl migration. On the other hand **B** affords the unreactive dicarbonyl complex **D** under the same conditions reflecting the greatly diminished ability of osmium in promoting aryl migration. In the structure of a **C** type complex the Ru-C(acyl) length is 2.013(4) Å. The spectral and metal redox properties of the species are scrutinized.

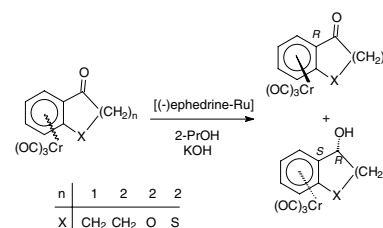


**Cleber V. Ursini, Gilson H.M. Dias,
J. Augusto R. Rodrigues**

J. Organomet. Chem. 690 (2005) 3176

Ruthenium-catalyzed reduction of racemic tricarbonyl(η^6 -aryl ketone)chromium complexes using transfer hydrogenation: A simple alternative to the resolution of planar chiral organometallics

Reductions of *rac*-(η^6 -aryl ketone)Cr(CO)₃ complexes (aryl ketone = 1-indanone, 1-tetralone, 4-chromanone and thiochroman-4-one) by transfer hydrogenation in 2-propanol, using the catalyst precursors [RuCl₂(η^6 -benzene)]₂ and (–)-ephedrine, resulted in optically active *syn*-(*R,S*)-(η^6 -aryl alcohol)Cr(CO)₃ and resolved (*R*)-(η^6 -aryl ketone)-Cr(CO)₃ compounds in 31–97% ee. Reduction of *rac*-(η^6 -thiochroman-4-one)Cr(CO)₃ using (+)-nor-ephedrine, instead of (–)-ephedrine, inverted the configuration of the products obtained, resulting in *syn*-(*S,R*)-(η^6 -thiochroman-4-ol)- and (*S*)-(η^6 -thiochroman-4-one)-Cr(CO)₃ with 49% and >95% ee, respectively.

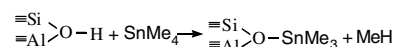


**Ying Zheng, Xu-xu Wang, Zhao-hui Li,
Xian-zhi Fu, Ke-mei Wei**

J. Organomet. Chem. 690 (2005) 3187

Study of the reaction of tetramethyltin with H β zeolite

Tetramethyltin reacts quantitatively with surface hydroxyl groups of H β zeolite at temperature as low as 183 K. The reaction leads to the formation of a surface trimethyltin complex on the surface of zeolite without destroying the framework of zeolite.

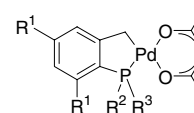


**Guido D. Frey, Claus-Peter Reisinger,
Eberhardt Herdtweck,
Wolfgang A. Herrmann**

J. Organomet. Chem. 690 (2005) 3193

Synthesis and characterization of phosphapalladacycles and their catalytic properties in the olefination of chloro- and bromoarenes

Acetylacetonates of phosphapalladacycles are new catalysts in the Heck coupling of aryl chlorides and bromides with styrene. Turnover numbers (TON) of much higher than 300,000 and product yields up to 99% are obtained.

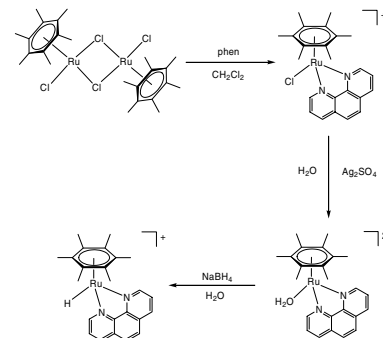


**Jérôme Canivet, Lydia Karmazin-Brelot,
Georg Süss-Fink**

J. Organomet. Chem. 690 (2005) 3202

Cationic arene ruthenium complexes containing chelating 1,10-phenanthroline ligands

Arene ruthenium dichloride dimers react with phenanthroline (phen) derivatives, NN, to give cationic chloro complexes of the type [(arene)Ru(NN)Cl]⁺, which undergo hydrolysis in the presence of silver salts in aqueous solution to give the corresponding dicationic aqua complexes [(arene)Ru(NN)(H₂O)]²⁺. The aqua complex [(C₆Me₆)Ru(phen)(H₂O)]²⁺, which was found to catalyze the transfer hydrogenation of acetophenone to phenylethanol, can be converted with sodium borohydride into the corresponding hydrido complex, supposed to be a catalytic intermediate.

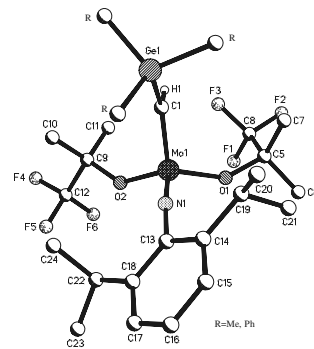


Leonid N. Bochkarev,
Alexander V. Nikitinskii,
Yulia E. Begantsova,
Vladislav I. Shcherbakov,
Natalia E. Stolyarova, Irina K. Grigorieva,
Irina P. Malysheva, Galina V. Basova,
Georgii K. Fukin, Evgenii V. Baranov,
Yurii A. Kurskii, Gleb A. Abakumov

J. Organomet. Chem. 690 (2005) 3212

Synthesis and crystal structures of the first germanium-containing alkylidene complexes of molybdenum $R_3Ge-CH=Mo(NAr)(OR)_2$ ($R = Me, Ph$) with direct germanium-carbene carbon bond

The novel germanium-containing alkylidene complexes of molybdenum $R_3Ge-CHMo(NAr)(OCMe_2CF_3)_2$ ($Ar = 2,6-i-Pr_2C_6H_3$; $R = Me, Ph$) have been prepared by the reaction of organogermanium vinyl reagents $R_3GeCHCH_2$ with known alkylidene compounds $Alkyl-CHMo(NAr)(OCMe_2CF_3)_2$ ($Alkyl = Bu^t, Ph-Me_2C$). The titled compounds were isolated as crystalline solids and characterized by elemental analysis, 1H NMR, ^{13}C NMR spectroscopy and X-ray diffraction studies. The geometry of the Mo atoms in the compounds can be described as a distorted tetrahedron.

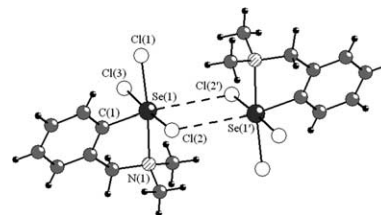


Monika Kulcsar, Anca Silvestru,
Cristian Silvestru, John E. Drake,
Charles L.B. Macdonald,
Michael E. Hursthouse, Mark E. Light

J. Organomet. Chem. 690 (2005) 3217

Organoselenium(II) and selenium(IV) compounds containing 2-(Me_2NCH_2) C_6H_4 moieties: solution behavior and solid state structure

Organoselenium(II) compounds containing the 2-(Me_2NCH_2) C_6H_4 moiety were prepared and their hypervalent nature was investigated both in solution and the solid state. The molecular structure of the new $[2-(Me_2NCH_2)C_6H_4]SeCl_3$, $[2-(Me_2NCH_2)C_6H_4]SeS(S)CNR_2$ [$R = Me, Et$] and $[2-(Me_2NCH_2)C_6H_4]Se-S-PMe_2N-PPh_2S$ derivatives was established by X-ray diffraction. In the crystals, a network of intermolecular $X \cdots H$ contacts ($X = Cl, I, S$) generates different supramolecular architectures, i.e. discrete dimers, polymeric chains or layer structures.

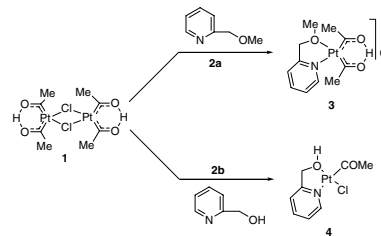


Tushar Gosavi, Christoph Wagner,
Harry Schmidt, Dirk Steinborn

J. Organomet. Chem. 690 (2005) 3229

Reactivity of the dinuclear platina- β -diketone $[Pt_2\{(COMe)_2H\}_2(\mu-Cl)_2]$ towards chelating ligands – Bridge cleavage versus formation of acetyl(chloro)platinum(II) complexes

The dinuclear platina- β -diketone **1** was found to react with 2-($ROCH_2$) C_5H_4N ($R = Me$, **2a**; H , **2b**) yielding a cationic mononuclear platina- β -diketone **3** and an acetyl(chloro)platinum(II) complex **4**, respectively. This distinctly different reactivity of **1** with **2a** on the one hand and with **2b** on the other is discussed in terms of the HSAB concept and a deprotonation/reprotonation reaction.

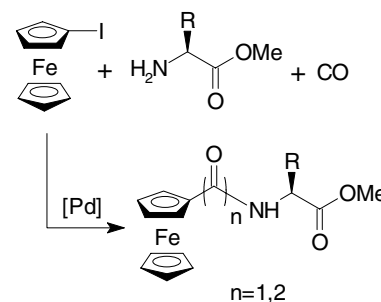


Árpád Kuik, Rita Skoda-Földes,
János Balogh, László Kollár

J. Organomet. Chem. 690 (2005) 3237

Synthesis of ferrocenoyl amino acid derivatives via homogeneous catalytic aminocarbonylation

Palladium-catalysed aminocarbonylation of iodoferrocene with amino acid esters as nucleophiles results in the selective formation of *N*-ferrocenoyl amino acid esters using Et_3N as a base. In the presence of DBU as a base, new *N*-ferrocenylglyoxyl amino acid derivatives can be produced. Two new DBU-derived ferrocenoyl side products are also obtained and characterised.

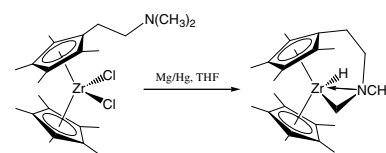


**Dmitrii P. Krut'ko, Maxim V. Borzov,
Roman S. Kirsanov, Andrei V. Churakov,
Lyudmila G. Kuz'mina**

J. Organomet. Chem. 690 (2005) 3243

Reduction of 2-(*N,N*-dimethylamino)ethyl substituted zirconocene dichlorides: Intramolecular activation of NCH₂-H bond. The crystal structures of [η⁵:η²-(*C,N*)C₅(CH₃)₄CH₂CH₂N(CH₃)CH₂][η⁵-C₅-(CH₃)₅]ZrX (X = Cl, H)

Treatment of zirconocene dichloride [η⁵-C₅(CH₃)₄CH₂CH₂N(CH₃)₂][η⁵-C₅(CH₃)₅]ZrCl₂ with amalgamated magnesium in THF results in cleavage of a C-H bond in one of the methyl groups of the N(CH₃)₂ fragment yielding [η⁵:η²(*C,N*)-C₅(CH₃)₄CH₂CH₂N-(CH₃)CH₂][η⁵-C₅(CH₃)₅]ZrH.

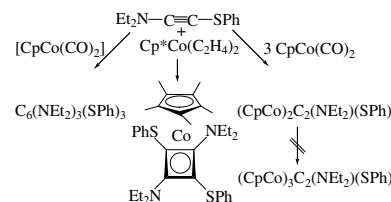


**Avijit Goswami, Claus-Jürgen Maier,
Hans Pritzkow, Walter Siebert**

J. Organomet. Chem. 690 (2005) 3251

Cobalt-mediated oligomerization reactions of amino-substituted acetylene derivatives

Depending upon the reaction conditions and the cobalt complexes, 1-phenylthio-2-diethylaminoacetylene leads to the (η⁴-cyclobutadiene)cobalt complex, to the tris(phenylthio)-tris(diethylamino)benzene derivative and to the dinuclear cobalt complex.

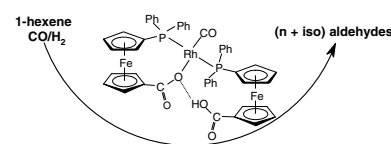


**Anna M. Trzeciak, Petr Štěpnička,
Ewa Mieczynska, Józef J. Ziolkowski**

J. Organomet. Chem. 690 (2005) 3260

Rhodium(I) complexes with 1'-(diphenylphosphino)ferrocenecarboxylic acid as active and recyclable catalysts for 1-hexene hydroformylation

The rhodium complex *trans*-[Rh(CO)(Hdpf-κP)] (**1**), (Hdpf = 1'-(diphenylphosphino)ferrocenecarboxylic acid) was used as an efficient and recyclable catalyst for 1-hexene hydroformylation producing *ca.* 80% of aldehydes at 10 atm CO/H₂ and 80 °C. After the reaction, unchanged complex **1** was separated from the reaction mixture and used again three times with the same catalytic activity. The effect of modifying ligands, phosphines and phosphites, on the reactivity of **1** was investigated.

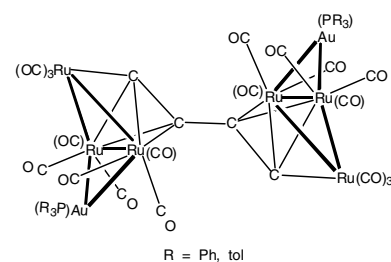


**Michael I. Bruce, Natasha N. Zaitseva,
Brian W. Skelton, Allan H. White**

J. Organomet. Chem. 690 (2005) 3268

Cluster-containing carbon-rich molecules: Reactions of ruthenium cluster carbonyls with {Au(PR₃)₂(μ-CCCC)} (R = Ph, tol)

Complexes containing C₄ ligands attached to one or two AuRu₃ clusters by conventional σ, 2π interactions have been obtained from reactions between (R₃P)AuCCCCAu(PR₃) (R = Ph, tol) or Au(CCCC)P(tol)₃ and either Ru₃(CO)₁₂, Ru₃(CO)₁₀(NCMe)₂ or Ru₃(μ-dppm)(CO)₁₀. The X-ray determined structures of {(R₃P)AuRu₃(CO)₉}₂(μ₃-η²:μ₃,η²-C₂C₂) [R = Ph (three solvates), tol], AuRu₃{μ₃,η²-C₂CCAu(PPh₃)}(CO)₉-(PPh₃) and {(Ph₃P)AuRu₃(μ-dppm)(CO)₇}- (μ₃,η²:μ₃,η²-C₂C₂){Ru₃(μ-H)(μ-dppm)(CO)₇} are reported.

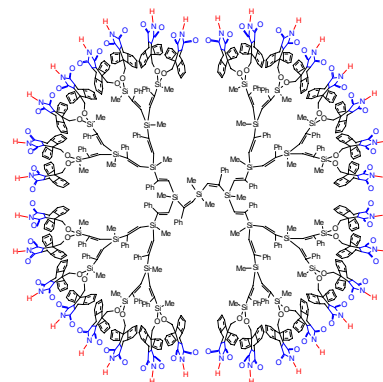


Chungkyun Kim, Kyung-In Lim,
Chung-Gun Song

J. Organomet. Chem. 690 (2005) 3278

Diels–Alder reaction of anthracene on
carbosilane dendrimer

The dendritic macromolecule with 4, 8, 16
and 32 bicyclo end groups on the periphery
has been created by the Diels–Alder reaction
of anthracene and maleimide. NMR and
MALDI-TOF mass spectrum has character-
ized these products.

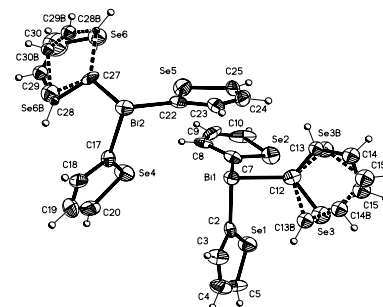


Pankaj Sharma, Noe Rosas,
Armando Cabrera, Alfredo Toscano,
Maria de Jesus Silva, Diego Perez,
L. Velasco, J. Perez, Rene Gutierrez

J. Organomet. Chem. 690 (2005) 3286

First synthesis and structural report on
selenophen-2-yl containing pnictogens:
Biological activities of tris(selenophen-2-
yl)stibine

A new tertiary stibine (**1**) and bismuthine (**2**)
containing C-heterocyclic selenophen-2-yl
group have been synthesized and characterized.
In an attempt to obtain phosphorous analogue,
tris(2-selenophenyl) phosphine oxide (**3**) was
isolated under the experimental conditions
used. The X-ray crystal structures of these
compounds were also determined. To best of
our knowledge C-heterocyclic selenophene-2-yl
pnictogens are first of their kind, as not many
examples are known even with other p-block
metal/metalloids. The compound **1** shows a
significant selectivity (>85%) for carcinogenic
cell K and U growth inhibition.

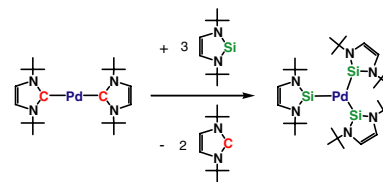


Alexander Zeller, Frank Bielert,
Peter Haerter, Wolfgang A. Herrmann,
Thomas Strassner

J. Organomet. Chem. 690 (2005) 3292

Replacement of N-heterocyclic carbenes by
N-heterocyclic silylenes at a Pd(0) center:
Experiment and theory

An unexpected replacement of N-heterocyclic
carbenes by N-heterocyclic silylenes was
observed by NMR at a Pd(0) complex. The
reaction was studied by DFT calculations to
elucidate the bonding properties of N-het-
erocyclic ligands and the role of the steric
bulk of the N-substituent.



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