

## Contents

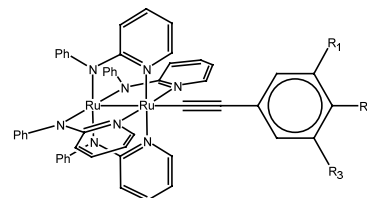
### Communication

**Stephanie K. Hurst, Tong Ren**

*J. of Organomet. Chem.* 660 (2002) 1

Synthesis, characterization and electrochemistry of diruthenium complexes linked by aryl acetylide bridges

A series of mono-alkynyl complexes were obtained from the reaction between  $\text{Ru}_2(\text{ap})_4\text{Cl}$  and selectively lithiated aryl acetylenes.



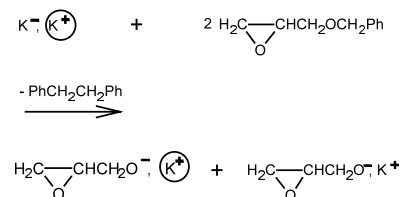
### Regular Papers

**Zbigniew Grobelny, Andrzej Stolarzewicz, Barbara Morejko-Buż, Adalbert Maercker**

*J. of Organomet. Chem.* 660 (2002) 6

Selective cleavage of the linear ether bond in benzyl glycidyl ether and triphenylmethyl glycidyl ether by potassium alkoxide as two-electron-transfer reagent

A radical anion is formed initially in the reaction of  $\text{K}^-$ ,  $\text{K}^+$ (15-crown-5) (**1**) with benzyl glycidyl ether. Then, it decomposes with the linear ether bond cleavage whereas the strongly strained oxirane ring remained undisturbed. Potassium glycidoxide and bibenzyl are the final reaction products. The reaction of **1** with triphenylmethyl glycidyl ether occurs also with the linear ether bond cleavage.

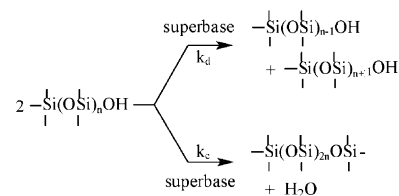


**Agnieszka Grzelka, Julian Chojnowski, Marek Cypryk, Witold Fortuniak, Peter C. Hupfield, Richard G. Taylor**

*J. of Organomet. Chem.* 660 (2002) 14

Polycondensation and disproportionation of an oligosiloxanol in the presence of a superbases

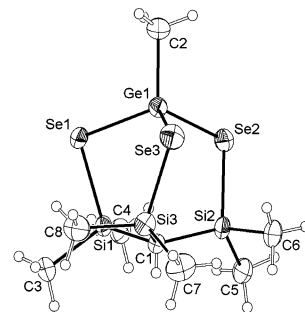
The selection of suitable model substrates, catalyst and analytical methods permitted to compare the kinetics of reactions of polydimethylsiloxanols which occur in the presence of a strong base. Two competitive reactions, condensation and disproportionation, show a striking similarity in their kinetics and mechanism.



**Uwe Herzog, Gerd Rheinwald,  
Horst Bormann**
*J. of Organomet. Chem. 660 (2002) 27*

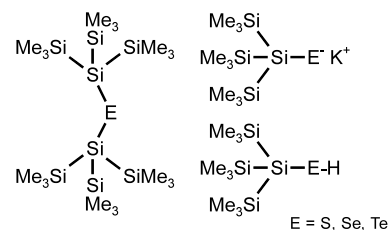
 Bicyclo[2.2.2]octanes  $\text{HC}(\text{SiMe}_2\text{E})_3\text{MR}$  (E = S, Se; M = Si, Ge, Sn; R = Me, Ph, Vi)

The reactions of 1:1 mixtures of the trisilyl-methane  $\text{HC}(\text{SiMe}_2\text{Cl})_3$  (**1b**) and organo Group 14 trichlorides ( $\text{RMCl}_3$ , R = Me, Ph, vinyl (Vi); M = Si, Ge, Sn) with  $\text{Li}_2\text{E}$  (E = S, Se) in THF yielded the new bicyclo[2.2.2]octanes  $\text{HC}(\text{SiMe}_2\text{E})_3\text{MR}$  (**2a–6b**). The products were identified by GC–MS and multinuclear NMR spectroscopy. Trends of the NMR data are discussed. The molecular structures of  $\text{HC}(\text{SiMe}_2\text{S})_3\text{SiMe}$  (**2a**),  $\text{HC}(\text{SiMe}_2\text{S})_3\text{SiPh}$  (**3a**),  $\text{HC}(\text{SiMe}_2\text{Se})_3\text{SiVi}$  (**4b**) and  $\text{HC}(\text{SiMe}_2\text{Se})_3\text{GeMe}$  (**5b**) are reported.


**Heike Lange, Uwe Herzog**
*J. of Organomet. Chem. 660 (2002) 36*

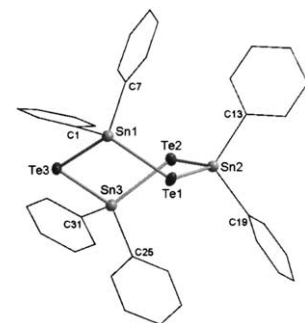
Bis(oligosilyl)chalcogenides  $[(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}]_2\text{E}$ , alkalimetal oligosilylchalcogenolates  $(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}-\text{EM}^1$  and oligosilylchalcogenols  $(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}-\text{EH}$  ( $x = 1-3$ ; E = S, Se, Te) were synthesized and characterized by  $^1\text{H}$ -,  $^{13}\text{C}$ -,  $^{29}\text{Si}$ -,  $^{77}\text{Se}$ - and  $^{125}\text{Te}$ -NMR spectroscopy. Trends of NMR parameters (chemical shifts, coupling constants) are discussed.

Bis(oligosilyl)chalcogenides  $[(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}]_2\text{E}$ , alkalimetal oligosilylchalcogenolates  $(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}-\text{EM}^1$  and oligosilylchalcogenols  $(\text{Me}_3\text{Si})_x\text{Me}_{3-x}\text{Si}-\text{EH}$  ( $x = 1-3$ ; E = S, Se, Te) were synthesized and characterized by  $^1\text{H}$ -,  $^{13}\text{C}$ -,  $^{29}\text{Si}$ -,  $^{77}\text{Se}$ - and  $^{125}\text{Te}$ -NMR spectroscopy. Trends of NMR parameters (chemical shifts, coupling constants) are discussed.


**Heike Lange, Uwe Herzog, Uwe Böhme,  
Gerd Rheinwald**
*J. of Organomet. Chem. 660 (2002) 43*

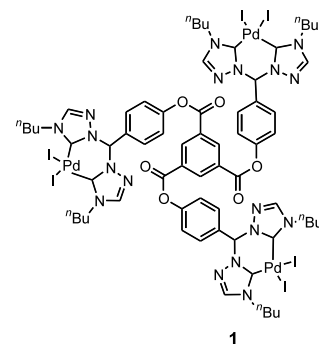
Molecular structures of trimeric diphenyltin chalcogenides,  $(\text{Ph}_2\text{SnE})_3$ , E = S, Se, Te

The trimeric diphenyltin chalcogenides  $(\text{Ph}_2\text{SnE})_3$  (E = S (**1**), Se (**2**), Te(**3**)) have been synthesized by reaction of  $\text{Ph}_2\text{SnCl}_2$  with  $\text{Li}_2\text{E}$  and characterized by multinuclear NMR spectroscopy ( $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{119}\text{Sn}$ ,  $^{77}\text{Se}$  and  $^{125}\text{Te}$ ) as well as crystal structure analyses. The three compounds crystallize in the monoclinic space group  $P2_1/n$  and show central six-membered rings  $\text{Sn}_3\text{E}_3$  in twisted boat conformations. For **1** density functional theory (DFT) calculations at the B3LYP/6-31G\* level of theory have revealed the twisted boat conformation as the global minimum.


**Enrique Díez-Barra, Javier Guerra,  
René I. Rodríguez-Curiel, Sonia Merino,  
Juan Tejada**
*J. of Organomet. Chem. 660 (2002) 50*

A hexacarbene complex derived from 1,1'-methylenebis(4-butyl-1*H*-1,2,4-triazolium) diiodide. Synthesis, characterization and catalytic activity

The hexacarbene complex 1,3,5-benzenetriyltris{[1,1'-(*p*-carboxyloxybenzylidene)-bis(4-butyl-4,5-dihydro-1*H*-1,2,4-triazole-5-ylidene)]diiodopalladium(II)} (**1**) has been synthesized by reaction of the 1,3,5-benzenetriyltris{[1,1'-(*p*-carboxyloxybenzylidene)-bis(4-butyl-4,5-dihydro-1*H*-1,2,4-triazolium)]} diiodide with palladium(II) acetate. A Heck reaction has been catalyzed by compound **1**.

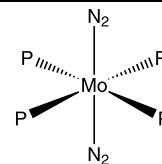


**Gabriele Albertin, Emilio Bordignon,  
Federica Tonel**

*J. of Organomet. Chem.* 660 (2002) 55

Preparation of dinitrogen complexes  $\text{Mo}(\text{N}_2)_2\text{P}_4$  stabilised by phosphonite  $\text{PPh}(\text{OEt})_2$  and phosphinite  $\text{PPh}_2(\text{OEt})$  ligands

The synthesis of bis(dinitrogen) complexes  $\text{Mo}(\text{N}_2)_2\text{P}_4$  containing phosphites as ancillary ligands is described. Substitution reactions with CO and isocyanide, protonation with Brønsted acids and reduction with zinc amalgam are also reported.



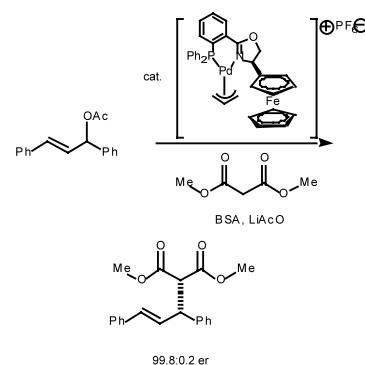
P =  $\text{PPh}(\text{OEt})_2$  and  $\text{PPh}_2\text{OEt}$

**Rosa Ma Moreno, Agustí Bueno,  
Albert Moyano**

*J. of Organomet. Chem.* 660 (2002) 62

4-Ferrocenyl-1,3-oxazoline derivatives as ligands for catalytic asymmetric allylation reactions

Bis(oxazolines) and 2-(2-phosphinoaryl)oxazolines derived from highly enantiopure 2-amino-2-ferrocenylethanol have been tested as ligands in the asymmetric Pd(0)-catalysed allylic alkylation reaction.



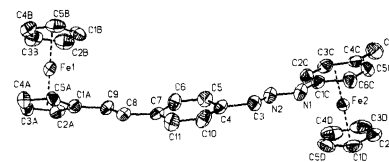
**Carolina Manzur, Mauricio Fuentealba,  
Lorena Millán, Francisco Gajardo,  
Maria Teresa Garland, Ricardo Baggio,  
Jose A. Mata, Jean-René Hamon,  
David Carrillo**

*J. of Organomet. Chem.* 660 (2002) 71

Organodiiron(II)-complexes containing a long conjugated hydrazone spacer. Synthesis, characterization, electrochemical and structural studies

Organodiiron(II) hydrazones were stereoselectively synthesized by reaction of  $[(\eta^5-$

$\text{Cp})\text{Fe}(\eta^6-p\text{-RC}_6\text{H}_4\text{NHNH}_2)]^+\text{PF}_6^-$  (R = H, Me, MeO, Cl) with (*E*)-4-(2-ferrocenylvinyl)-benzaldehyde. These compounds were fully characterized by elemental analysis and conventional spectroscopic techniques and, in the case of complex **(6)**<sup>+</sup> $\text{PF}_6^-$ , by single crystal X-ray diffraction methods. The long Fe...Fe distance through bonds (18.121 Å) and the rotations of the ferrocenyl unit by 37.2° out of the spacer and co-ordinated phenyl ring planes, may generate an unfavourable structure to allow  $\pi$ -electron delocalization between the two metal centers.

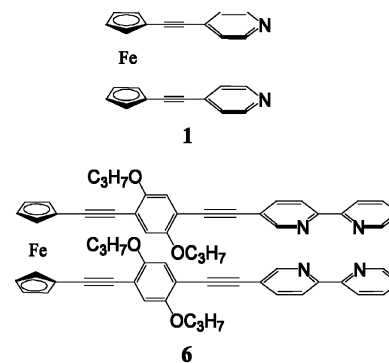


**Ekkehard Lindner, Ruifa Zong,  
Klaus Eichele, Markus Ströbele**

*J. of Organomet. Chem.* 660 (2002) 78

Preparation, properties, and reactions of metal-containing heterocycles Part CVIII. A novel generation of rigid, nanoscaled 1,1'-ferrocenediyl-bridged bis(pyridine), bis(bipyridine), and bis(phenanthroline) ligands

Four 1,1'-ferrocenediyl-bridged, rigid, conjugated bis(pyridine), bis(bipyridine), and bis(phenanthroline) ligands have been prepared and characterized. An X-ray structural investigation of ligand **1** revealed that the side chains of the ferrocene unit are nearly parallel to each other.

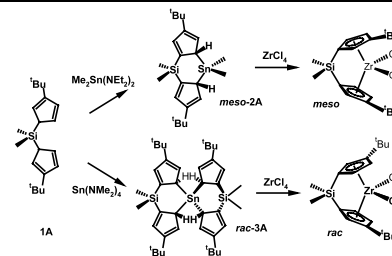


**Mario Hüttenhofer, Frank Schaper,  
Hans-Herbert Brintzinger**

*J. of Organomet. Chem.* 660 (2002) 85

8-Sila-4-stanna-*s*-tetrahydroindacenes as synthons for Me<sub>2</sub>Si-bridged zirconocenes: formation from biscyclopentadienyl silanes by reaction with aminostannanes

Me<sub>2</sub>Si-bridged bis(cyclopentadienyl) ligands give with Me<sub>2</sub>Sn(NEt<sub>2</sub>)<sub>2</sub> a *meso*-8-sila-4-stanna-*s*-tetrahydroindacene and with (Me<sub>2</sub>N)<sub>4</sub>Sn an axially symmetric *rac*-4-spiro-bis(8-sila-4-stanna-*s*-tetrahydroindacene), from which *meso*- and *rac*-configured *ansa*-zirconocenes, respectively, are obtained by reaction with ZrCl<sub>4</sub>.

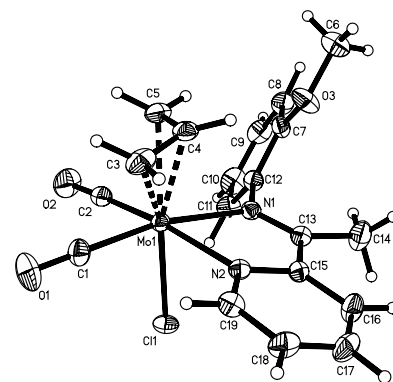


**Ayfer Mentés, Raymond D.W. Kemmitt,  
John Fawcett, David R. Russell**

*J. of Organomet. Chem.* 660 (2002) 91

Allyl complexes of molybdenum with Schiff base ligands. The crystal structures of [MoCl(CO)<sub>2</sub>{N(C<sub>6</sub>H<sub>4</sub>-2-OMe)=C(Me)C<sub>5</sub>H<sub>4</sub>N}(η<sup>3</sup>-C<sub>3</sub>H<sub>5</sub>)] and [MoCl(CO)<sub>2</sub>{N(Me)=C(Ph)C<sub>5</sub>H<sub>4</sub>N}(η<sup>3</sup>-C<sub>3</sub>H<sub>5</sub>)] are described

Treatment of the molybdenum tetracarbonyl complexes of [Mo(CO)<sub>4</sub>L<sub>2</sub>] (L<sub>2</sub> = pyridyl amine Schiff base ligands) with allyl chloride in refluxing THF afforded η<sup>3</sup>-allyl complexes [MoCl(CO)<sub>2</sub>L<sub>2</sub>(η<sup>3</sup>-allyl)] (1–9). These complexes have been characterised by various techniques including <sup>1</sup>H-NMR, IR and FABMS spectroscopies and the single crystal X-ray structure determinations of the complexes [MoCl(CO)<sub>2</sub>{N(C<sub>6</sub>H<sub>4</sub>-2-OMe)=C(Me)C<sub>5</sub>H<sub>4</sub>N}(η<sup>3</sup>-C<sub>3</sub>H<sub>5</sub>)] (3) and [MoCl(CO)<sub>2</sub>{N(Me)=C(Ph)C<sub>5</sub>H<sub>4</sub>N}(η<sup>3</sup>-C<sub>3</sub>H<sub>5</sub>)] (4).

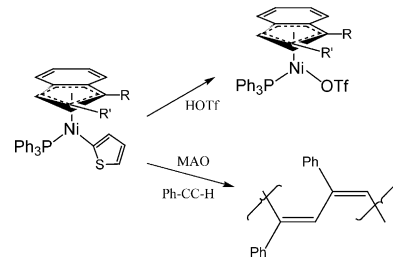


**Ruiping Wang, Laurent F. Groux,  
Davit Zargarian**

*J. of Organomet. Chem.* 660 (2002) 98

Preparation, characterization, and reactivities of thienyl nickel complexes bearing indenyl ligands

The thienyl moiety in these nickel indenyl complexes can be protonated by triflic acid to give the corresponding Ni-triflate complexes, while reaction with MAO generates species which catalyze the polymerization of phenylacetylene to *cis*-transoidal poly(phenylacetylene).

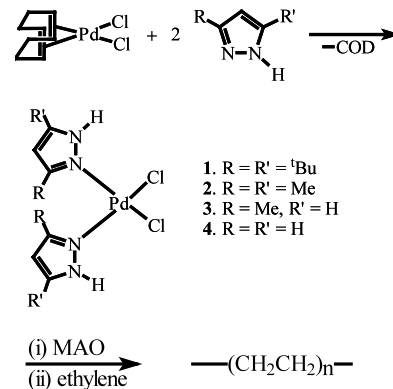


**Kelin Li, James Darkwa, Ilia A. Guzei,  
Selwyn F. Mapolie**

*J. of Organomet. Chem.* 660 (2002) 108

Synthesis and evaluation of substituted pyrazoles palladium(II) complexes as ethylene polymerization catalysts

A series of substituted pyrazole palladium complexes have been prepared from palladium chloride starting materials and substituted pyrazoles. These palladium complexes can be activated with methylaluminoxane (MAO) to catalyze the polymerization of ethylene, with moderate catalytic activities.



**Cemal Kaya, Duran Karakas***J. of Organomet. Chem.* 660 (2002) 116

A new method for assigning the C–O stretching bands in *cis*-disubstituted octahedral metal carbonyl complexes

This paper presents a new method for assigning the C–O stretching bands in *cis*-disubstituted octahedral metal carbonyl complexes. The method is based on the parameter  $\delta$ , defined as  $\delta = (\lambda_1 - \lambda_2) / (\lambda_1 + \lambda_2 - 2\lambda_4)$ , where  $\lambda_1$ ,  $\lambda_2$  and  $\lambda_4$  are the  $\lambda$  parameters of the  $a_1^{(1)}$ ,  $a_1^{(2)}$  and  $b_2$  modes,

respectively. For a large number of complexes whose correct band assignments have previously been established by various methods, the value of the  $\delta$  parameter was found to be in the range of  $0.62 \pm 0.02$ . This result enables us to conclude that the  $\delta$  parameter can be used as a criterion of the correct and assignment for the complexes under study.

*cis*-disubstituted octahedral metal carbonyl complexes of the types  $L_2M(CO)_4$ ,  $(L-L)M(CO)_4$ ,  $\rightarrow LL'M(CO)_4$  and  $(L-L)M(CO)_4$

It was indicated that  $\delta = (\lambda_1 - \lambda_2) / (\lambda_1 + \lambda_2 - 2\lambda_4)$  can be used as a criterion of the correct band assignment

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