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W(CO)₅

(CH2)2

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Contents

Communication

P. Le Poul, B. Caro, F. Robin-Le Guen

J. Organomet. Chem. 692 (2007) 3599

Selective reactivity of diamino Fischer-type carbene complexes towards 2,6-disubstituted and 2,4,6-trisubstituted pyrylium salts and 2,4,6-trichloro-1,3,5-triazine

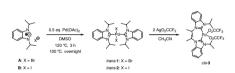
The reaction of alkoxy Fischer-type carbene complexes with diamines gave amino carbenes with pendent NH_2 . The free amino group of these complexes which could act as markers for biomolecules reacted with pyrylium salts to give pyridinium salts or a new 1,5-organometallic aminoketone. In addition, reaction with 2,4,6-trichloro-1,3,5-triazine gave a monosubstituted product.



Yuan Han, Han Vinh Huynh, Lip Lin Koh

J. Organomet. Chem. 692 (2007) 3606

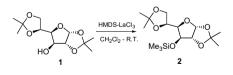
Pd(II) complexes of a sterically bulky, benzannulated *N*-heterocyclic carbene and their catalytic activities in the Mizoroki–Heck reaction Pd(II) complexes of a sterically bulky benzimidazolin-2-ylidene ligand with unusual intramolecular C–H···Pd preagostic interactions (*trans-1*, *trans-2*, *cis-3*) have been synthesized and structurally characterized. A preliminary catalytic study revealed that the complexes are highly active in the Mizoroki–Heck coupling of aryl bromides and chlorides.



Akkirala Venkat Narsaiah

J. Organomet. Chem. 692 (2007) 3614

Lanthanum trichloride: An efficient catalyst for the silylation of hydroxyl groups by activating hexamethyldisilazane (HMDS) A variety of hydroxy functional groups was protected as their corresponding trimethylsilyl ethers using HMDS in the presence of lanthanum trichloride. The catalyst LaCl₃ activates the HMDS and accelerates the reaction under mild reaction conditions at room temperature to afford the corresponding silylated products in excellent yields.

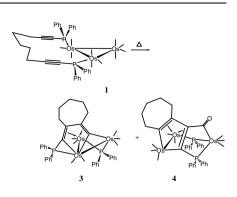


Tsun-Wei Shiue, Wen-Yann Yeh, Gene-Hsiang Lee, Shie-Ming Peng

J. Organomet. Chem. 692 (2007) 3619

Complexation and metallation of $Ph_2PC \equiv C(CH_2)_5C \equiv CPh_2$ in triosmium carbonyl clusters

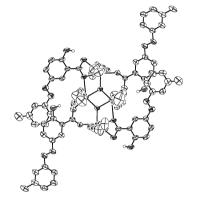
Reaction of $Ph_2PC \equiv C(CH_2)_5C \equiv CPh_2$ with $Os_3(CO)_{10}(NCMe)_2$ affords $Os_3(CO)_{10}(\mu,\eta^2-(Ph_2P)_2C_9H_{10})$ (1), and thermolysis of which produces $Os_3(CO)_7(\mu-PPh_2)(\mu_3,\eta^5-Ph_2PC_9H_{10})$ (3) and $Os_3(CO)_8(\mu-PPh_2)(\mu_3,\eta^6-Ph_2P(C_9H_{10})-CO)$ (4) via C–P bond activation and C–C bond rearrangement of the ligand.



Tushar S. Basu Baul, Wandondor Rynjah, Eleonora Rivarola, Claudio Pettinari, Michal Holčapek, Robert Jirásko, Ulli Englert, Anthony Linden

J. Organomet. Chem. 692 (2007) 3625

Di-*n*-octyltin(IV) complexes with 5-[(E)-2-(aryl)-1-diazenyl]-2-hydroxybenzoic acid: Syntheses and assessment of solid state structures by ¹¹⁹Sn Mössbauer and X-ray diffraction and further insight into the solution structures using electrospray ionization MS, ¹¹⁹Sn NMR and variable temperature NMR spectroscopy Reactions of 5-[(E)-2-(aryl)-1-diazenyl]-2-hydroxybenzoic acids (LHH', where the aryl group is an Rsubstituted phenyl ring such that for L^1HH' : X = H; $L^{2}HH'$: X=2'-OCH₃; L³HH': X = 3'-CH₃; L⁴HH': $X = 4'-CH_3$; L⁵HH': X = 4'-Cl) with "Oct₂SnO in 2:1 and 1:1 molar ratio have been investigated. Two types of complexes "Oct₂Sn(LH)₂ and {["Oct₂Sn(LH)]₂O}₂ were isolated and they have been characterized by ¹H, ¹³C, ¹¹⁹Sn NMR, ESI-MS, IR and ^{119m}Sn Mössbauer spectroscopic techniques in combination with elemental analyses. The crystal structures of "Oct2Sn- $(L^{1}H)_{2}$ (1), {[ⁿOct₂Sn(L²H)]₂O}₂ (3) and {[ⁿOct₂Sn- $(L^{3}H)_{2}O_{2}$ (4) were determined. The solution structures were confirmed by ¹¹⁹Sn NMR spectroscopy and the cleavage of the most labile bond in the molecule was studied by ESI mass spectroscopy.



$$R \xrightarrow{=} \frac{PdCl_2, CuI, Et_3N, THF}{PhI(OCOCH_3)_2} R \xrightarrow{=} 2 R$$

Jie Yan, Jinlong Wu, Hongwei Jin

J. Organomet. Chem. 692 (2007) 3636

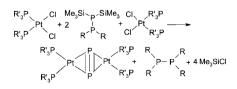
An efficient synthesis of diynes using (diacetoxyiodo)benzene A novel and facile method for synthesis of symmetrical conjugated diynes, using (diacetoxyiodo)benzene as oxidant under palladiumcatalyzed conditions is presented, in which diynes are prepared in good yields in a short period of time at room temperature.

Wioleta Domańska-Babul, Jaroslaw Chojnacki, Eberhard Matern, Jerzy Pikies

J. Organomet. Chem. 692 (2007) 3640

Reactions of R_2P –P(SiMe₃)₂ with $[(R'_3P)_2$ -PtCl₂]. Syntheses and structures of $[\mu_2$ -(1,2:2- η -P₂){Pt(PEt₃)₂}{Pt(PEt₃)₂Cl}⁺Cl⁻, [{(Et₂PhP)₂-Pt}₂P₂], [{(*p*-Tol₃P)₂Pt}₂P₂] and [(*p*-Tol₃P)ClPt(μ -PPh₂)₂Pt(*p*-Tol₃P)Cl]

In reactions of $R_2P-P(SiMe_3)_2$ with $[(R'_3P)_2-PtCl_2]$ cleavages of the P–P bond of the parent diphosphane have been observed. The main products are diphosphorus complexes of Pt(0).

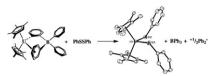


William J. Evans, Kevin A. Miller, Wes R. Hillman, Joseph W. Ziller

J. Organomet. Chem. 692 (2007) 3649

Two-electron reductive reactivity of trivalent uranium tetraphenylborate complexes of $(C_5Me_5)^{1-}$ and $(C_5Me_4H)^{1-}$

The reductive reactivity of the $(BPh_4)^{1-}$ ligand in pentamethycyclopentadienyl $[(C_5Me_5)_2-U] [(\mu-\eta^2:\eta^1-Ph)_2BPh_2]$ is compared with that of the tetramethyl analog, $[(C_5Me_4H)_2U][(\mu-\eta^6:\eta^1-Ph)(\mu-\eta^1:\eta^1-Ph)BPh_2]$, using PhSSPh as a probe to determine if the mode of $(BPh_4)^{1-}$ binding affected the reduction. Both complexes act as two-electron reductants to form $(C_5Me_4-R)_2U(SPh)_2$ [R = Me, H].

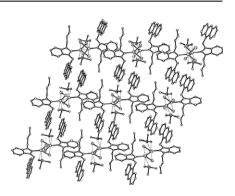


Qing-Xiang Liu, Li-Na Yin, Jin-Cheng Feng

J. Organomet. Chem. 692 (2007) 3655

New *N*-heterocyclic carbene silver(I) and mercury(II) 2-D supramolecular layers by the π - π stacking interactions

1-(9-Anthracenylmethyl)-3-alkylbenzimidazolium chlorides (**1a**, alkyl = C₄H₉, **1b**, alkyl = C₆H₁₃) and their three new NHC silver(I) and mercury(II) complexes [1-(9-anthracylmethyl)-3-alkylbimy]MCl₂ (**2a**, alkyl = C₄H₉, M = Ag; **2b**, alkyl = C₆H₁₃, M = Ag; **3a**, alkyl = C₄H₉, M = Hg; bimy = benzimidazol-2-ylidene) have been prepared and characterized. The crystal structures of **2a**, **2b** and **3a** showed that 2-D supramolecular layers are formed by both types of π–π stacking interactions.



Padavattan Govindaswamy, Jérôme Canivet, Bruno Therrien, Georg Süss-Fink, Petr Štěpnička, Jiří Ludvík

J. Organomet. Chem. 692 (2007) 3664

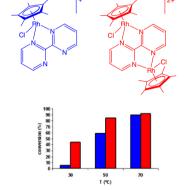
Mono and dinuclear rhodium, iridium and ruthenium complexes containing chelating 2,2'-bipyrimidine ligands: Synthesis, molecular structure, electrochemistry and catalytic properties

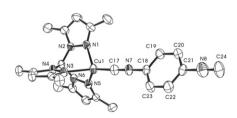
A series of mono and dinuclear organometallic cations have been synthesised from 2,2'-bipyrimidine (bpym) and the corresponding chloro complexes $[(\eta^5-C_5Me_5)MCl_2]_2$, (M = Rh, Ir), and $[(\eta^6-arene)RuCl_2]_2$ (arene = $Pr^iC_6H_4Me$, C_6Me_6). On the basis of a structural and electrochemical characterisation, the catalytic potential of these complexes for transfer hydrogenation reactions has been studied. All complexes catalyse the reaction of acetophenone with formic acid to give phenyl-ethanol and carbon dioxide. The best results were obtained (50 °C, pH 4) for both the mono and dinuclear series with rhodium complexes, giving turnover frequencies of 10.5 h⁻¹ and 19 h⁻¹, respectively.

Sodio C.N. Hsu, Howard H.Z. Chen, I-Jung Lin, Jung-Jung Liu, Po-Yu Chen

J. Organomet. Chem. 692 (2007) 3676

Dinuclear copper(I) complexes of tris(3,5dimethylpyrazol-1-yl)methane: Synthesis, structure, and reactivity A family of mononuclear and dinuclear copper(I) complexes were prepared and characterized with tris(3,5-dimethylpyrazol-1-yl)methane containing pyrazine, 4,4'bipyridine, and 1,4-diisocyanobenzene bridge ligand.





Xinpeng Ma, Xinyuan Xu, Chungui Wang, Guofeng Zhao, Zhenghong Zhou, Chuchi Tang

J. Organomet. Chem. 692 (2007) 3685

Distinct chemoselectivity in the reaction of *N*-(thio)phosphoryl imines with diethylzinc

Several types of (thio)phosphonylimines were synthesized and their reaction with diethylzinc was investigated in detail. An interesting and distinct chemoselectivity between hydrogen-addition and ethyl-addition to imine double bond is disclosed. The corresponding reduction product was obtained in excellent yield in nonpolar solvent toluene. However, the corresponding ethylation product was obtained exclusively in the presence of strongly coordinative additive N,N,N',N'-tetramethyle-thylenediamine (TMEDA).

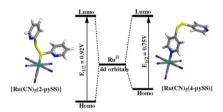
$ \begin{array}{c} R^{1} \\ R^{2} \\ R^{2} \\ \\ Et \\ Ph \end{array} $	Et ₂ Zn/TMEDA Toluene	R ¹ R ² P ^{<} N H Ph	Et ₂ Zn Toluene	R ¹ R ² P ^{<} NH Ph
$R^1 = R^2 = EtO; X = S$	5			= EtO, PhO;R ² = Ph, O, EtO; X = O, S

Jackson R. de Sousa, Izaura C.N. Diógenes, Márcia L.A. Temperini, Francisco A.M. Sales, Solange de O. Pinheiro, Raimundo N. Costa Filho,

José S. de Andrade Júnior, Ícaro de S. Moreira

J. Organomet. Chem. 692 (2007) 3691

Synthesis, characterization, and SAMs electroactivity of ruthenium complexes with sulfur containing ligands NMR, vibrational and electrochemical data, reinforced by theoretical calculations, hint that the coordination to a sulfur atom of the 2-pySS ligand implies an additional stabilization of the Ru^{II} over Ru^{III} state in $[Ru(CN)_5L]^{3-}$ type complexes. This result is assigned to a stronger π -back-bonding interaction that must involve the sulfur $d\pi$ orbitals.

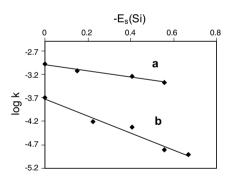


Oleg Golubev, Dmitri Panov, Anu Ploom, Ants Tuulmets, Binh T. Nguyen

J. Organomet. Chem. 692 (2007) 3700

Quantitative substituent effects in the Grignard reaction with silanes

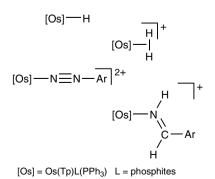
Kinetics of reactions of ethyl- and phenylmagnesium chlorides with chlorosilanes, RMeSiCl₂, were investigated. Rate constants for alkyl substituted silanes correlate with $E_s(Si)$ steric parameters. The inductive constants σ^* derived from the carbon chemistry are not applicable to the silicon chemistry.



Gabriele Albertin, Stefano Antoniutti, Gianluigi Zanardo

J. Organomet. Chem. 692 (2007) 3706

Preparation and reactivity with azo-species of hydride and dihydrogen complexes of osmium stabilised by tris(pyrazolyl)borate and phosphite ligands The synthesis of hydride and dihydrogen complexes of osmium with phosphite and tris(pyrazolyl)borate as supporting ligands is described. Reactivity studies towards aryldiazonium cations and organic azide allow the first organometallic diazo complexes of osmium to be prepared.

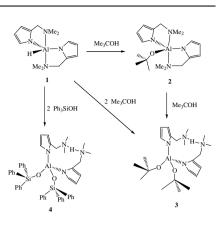


Che-Yu Lin, Hon Man Lee, Jui-Hsien Huang

J. Organomet. Chem. 692 (2007) 3718

Synthesis of aluminum alkoxide and bisalkoxide compounds containing bidentate pyrrolyl ligands

Reacting $[C_4H_3N(CH_2NMe_2)-2]_2AlH$ with 1 and 2 equiv. of *t*-butanol in methylene chloride generates $[C_4H_3N(CH_2NMe_2)-2]_2Al(OtBu)$ (2) and $[C_4H_3N(CH_2NMe_2)-2]_2Al(OtBu)$ (2) $[C_4H_3N(CH_2NMe_2)-2]_2Al(OtBu)$ (2) $2]_2$ - AlH reacts with 2 equiv. of triphenylsilanol in methylene chloride generates a tetracoordinated aluminum "ate" compound $[C_4H_3-N(CH_2NMe_2)-2]_2Al(OSiPh_3)_2$ (4) where the NMe₂ fragments became two singlets and the CH₂N exhibited two doublets at 240 K. The fluxional energy barrier (ΔG^{\ddagger}) is estimated at ca. 50 kJ/mol.

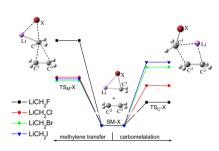


Yu-Bing Zhou, Feng-Lei Cao

J. Organomet. Chem. 692 (2007) 3723

Mechanistic competition variations due to the substituents in the lithium carbenoid promoted cyclopropanation reactions

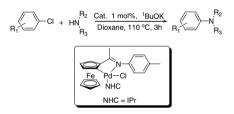
There exists a competition between the methylene transfer and carbometalation pathways for lithium carbenoid promoted cyclo-propanation reactions. The mechanistic competition varies due to the different substituents of the lithium carbenoids.



Jingya Li, Mengjun Cui, Ajuan Yu, Yangjie Wu

J. Organomet. Chem. 692 (2007) 3732

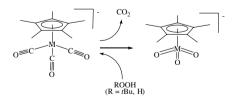
Carbene adduct of cyclopalladated ferrocenylimine as an efficient catalyst for the amination of aryl chlorides A novel air- and moisture-stable carbene adduct of cyclopalladated ferrocenylimine has been synthesized and characterized. The structure of this compound was determined by X-ray crystal structure analysis. This adduct has been applied as an efficient catalyst for the amination of aryl chlorides.



Chiara Dinoi, Gülnur Taban, Pelin Sözen, Funda Demirhan, Jean-Claude Daran, Rinaldo Poli

J. Organomet. Chem. 692 (2007) 3743

A simple two-step, one-pot, high yield synthesis of compounds $[Cp_2^*M_2O_5]$ (M = Mo, W) from $[M(CO)_6]$ is described.

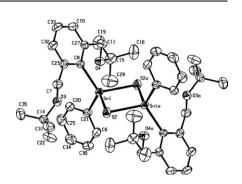


Libor Dostál, Roman Jambor, Aleš Růžička, Robert Jirásko, Jan Taraba, Jaroslav Holeček

J. Organomet. Chem. 692 (2007) 3750

Intramolecularly coordinated organotin(IV) sulphides and their reactivity to iodine

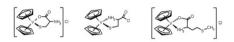
Organotin(IV) sulphides (LSnPhS)₂ and (LSnPh₂)₂S containing O,C,O chelating ligand (L = 2,6-(*t*BuOCH₂)₂C₆H₃⁻) were prepared by the reaction of parent organotin chlorides with Na₂S · 9H₂O. These compounds react with I₂ to organotin iodides LSnPhI₂ and LSnPh₂I. Triorganotin iodide LSnPh₂I was shown to react with additional molecule of I₂ forming ionic organotin compound [LSnPh₂]⁺I₃⁻.



Hana Paláčková, Jaromír Vinklárek, Jana Holubová, Ivana Císařová, Milan Erben

J. Organomet. Chem. 692 (2007) 3758

The interaction of antitumor active vanadocene dichloride with sulfur-containing amino acids Vanadocene dichloride, (Cp_2VCl_2) reacts with sulfur-containing amino acids, cysteine and methionine, giving new complexes with five- or six-membered chelate ring – $[Cp_2V(O,S-cys)]$ -Cl, $[Cp_2V(N,S-cys)]$ and $[Cp_2V(N,O-met)]$ Cl. The structure of isolated compounds is affected by the pH value of the reaction mixture.

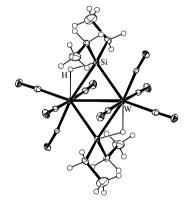


Agnieszka Gądek, Andrzej Kochel, Teresa Szymańska-Buzar

J. Organomet. Chem. 692 (2007) 3765

Activation of the Si–H bond of Et₂SiH₂ in photochemical reaction with W(CO)₆: Spectroscopic characterization of intermediate W–Si compounds and the revisited crystal structure of the bis{(μ - η ²-hydridodiethylsilyl)-tetracarbonyltungsten(I)} complex [{W(μ - η ²-H–SiEt₂)(CO)₄}₂]

Photolysis of W(CO)₆ and Et₂SiH₂ has been used to generate new W–Si compounds: [W(CO)₅(η^2 -H–SiHEt₂)], [(μ -H)(μ - η^2 -H–SiEt₂)-{W(CO)₅}₂], [(μ -SiEt₂){W(CO)₅}₂] and [{W(μ - η^2 -H–SiEt₂)(CO)₄}₂], which were identified by IR and NMR spectroscopy. The structure of [{W(μ - η^2 -H–SiEt₂)(CO)₄}₂] was established by X-ray diffraction studies. The η^2 -silane ligand in [W(CO)₅(η^2 -H–SiHEt₂)] was replaced by an η^2 -olefin or η^2 -alkyne ligand.

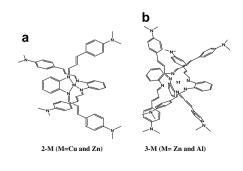


Xiang-Biao Zhang, Ji-Kang Feng, Ai-Min Ren

J. Organomet. Chem. 692 (2007) 3778

Theoretical study of the two-photon absorption properties of octupolar complexes with Cu(I), Zn(II) and Al(III) as centers and biscinnamaldimine as ligands

One- and two-photon absorption (TPA) properties of a series of octupolar complexes 2-M (M = Cu and Zn) and 3-M (M = Zn and Al) have been studied by using ZINDO-SOS methods. The calculated results show that building octupolar metal complex is an effective route to design of excellent TPA material.

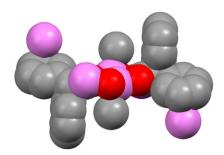


Kamran Akhbari, Ali Morsali, Matthias Zeller

J. Organomet. Chem. 692 (2007) 3788

Unique Ag–C bonds, thermal, fluorescence, structural and solution studies of two-dimensional silver(I) coordination polymer

A 2D polymer with unique Ag–C bonds, [Ag(μ_4 -DPOAc)]_n (1) [DPOAc = diphenylacetate], has been synthesized and characterized and its structure was determined by X-ray crystallography. In addition to the coordination to the O atoms of DPOAc the Ag atoms also form strong η^1 Ag–C π bonds and exhibit weak Ag–Ag interactions, resulting in the formation of O₃CAg···AgO₃C moieties. The thermal stabilities of 1 and of its thallium(I) analogue, [Tl(μ_3 -DPOAc)]_n (2), were studied by thermal gravimetric (TG) and differential thermal analyses (DTA).

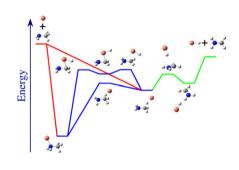


Xiaoqing Lu, Wenyue Guo, Lianming Zhao, Xiangfeng Chen, Qingtao Fu, Yan Ma

J. Organomet. Chem. 692 (2007) 3796

Hydride abstraction of methylamine with ${\rm Cu}^+({}^1{\rm S})$ in the gas phase: A density functional theory study

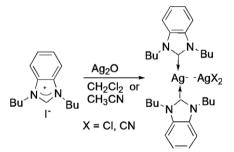
Initial attack of Cu^+ to methylamine forms either "classical" or "nonclassical" complex, both of which are key intermediates for the hydride abstraction from methylamine with Cu^+ . The final products of the hydride abstraction arise from nonreactive dissociation of the precursor following a charge-transfer step from the "nonclassical" complex.



Wen Huang, Ruixue Zhang, Gang Zou, Jie Tang, Jie Sun

J. Organomet. Chem. 692 (2007) 3804

An iodide/anion exchange route to benzimida-zolylidene silver complexes from benzimidazo-lium iodide: Crystal structures of N,N'-dibutylbenzimidazolylidene silver chloride, bromide, cyanide and nitrate An iodide/anion exchange route to N,N'-dibutylbenzimidazolylidene silver complexes, such as chloride and cyanide, from readily available N,N'-dibutylbenzimidazolium iodide.

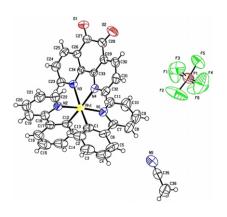


Ghobad Mansouri, Ali R. Rezvani, Hassan Hadadzadeh, Hamid Reza Khavasi, Hamideh Saravani

J. Organomet. Chem. 692 (2007) 3810

Cyclometalated rhodium(III) complex with phen-dione ligand

The novel cyclometalated Rh(III) complex, [Rh(phpy- $\kappa^2 N, C^2')_2$ (phen-dione)]PF₆, where phpy- $\kappa^2 N, C^{2'}$ is pyridine-2-yl-2-phenyl and phen-dione is 1,10-phenanthroline-5,6-dione has been prepared and characterized by elemental analysis, IR, ¹H NMR, and electronic absorption spectroscopies, cyclic voltammetry, and X-ray crystallography.

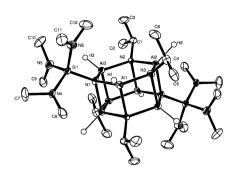


Fei Cheng, Stephen M. Kelly, Stephen Clark, John S. Bradley, Frédéric Lefebvre

J. Organomet. Chem. 692 (2007) 3816

Catalytic ammonolytic sol-gel preparation of a mesoporous silicon aluminium nitride from a single-source precursor

ORTEP plot of the structure of the precursor molecule tetrakis(isopropylimino)bis[tris(dimethylamino)silylamino]alane $H_6Al_6(N^iPr)_4$ -[NSi(NMe₂)₃]₂ for the sol-gel preparation of an amorphous Si–Al–N ceramic composite via a microporous silicon aluminum imide gel. The ceramic composite is mesoporous (2– 8 nm) with a relatively high surface area (114 m² g⁻¹).

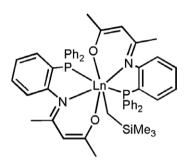


Wei Miao, Shihui Li, Dongmei Cui, Baotong Huang

J. Organomet. Chem. 692 (2007) 3823

Rare earth metal alkyl complexes bearing N, O, P multidentate ligands: Synthesis, characterization and catalysis on the ring-opening polymerization of L-lactide

A series of organolanthanide complexes stabilized by phenoxide with phosphino, amino or methoxy amino functionalities and phosphino β -ketoiminato ligands have been prepared by treatment of rare earth metal tris(alkyl)s with the neutral ligands via alkane elimination and intramolecular alkylation in some cases. The molecular structures and catalytic activity toward polymerization of lactide of the resultant complexes have shown significant dependence on the ligand framework.

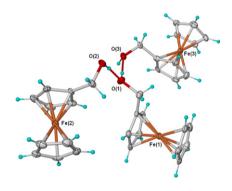


Note

Gilles Gasser, Adam J. Fischmann, Craig M. Forsyth, Leone Spiccia

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Products of hydrolysis of (ferrocenylmethyl)trimethylammonium iodide: Synthesis of hydroxymethylferrocene and bis(ferrocenylmethyl) ether Hydroxymethylferrocene and bis(ferrocenylmethyl)ether have been isolated as hydrolysis products of (ferrocenylmethyl)trimethylammonium iodide during the synthesis of 1-(ferrocenemethyl)-4,7,10-(triformyl)-1,4,7,10tetraazacyclododecane.





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