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Volume 691, issue 6, 1 March 2006



www.elsevier.com/locate/jorganchem

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Regular papers

María B. Faraoni, Verónica I. Dodero, Liliana C. Koll, Adriana E. Zúñiga, Terence N. Mitchell, Julio C. Podestá

J. Organomet. Chem. 691 (2006) 1085

Stereoselective hydrostannation of substituted alkynes initiated by triethylborane and reactivity of bulky triorganotin hydrides The hydrostannation at room temperature initiated by triethylborane of eight alkynes with trineophyl- (1), tris[(phenyldimethylsily])-methyl]- (2), and 9-triptycyldimethyltin (3) hydrides leads to vinylstannanes in good to excellent yields and with, mostly, complete stereoselectivity. The relative reactivity of 1-3 and tri-*n*-butyltin hydride could be deduced from their radical reactions with 6-bromo-1-hexene.



 $\begin{array}{l} R_2 R' = trineophyl (1), \ tris[(phenyldimethylsilyl) \\ methyl] (2), \ 9-tripticyldimethyl (3), \ and \\ tributyl (29). \end{array}$

Li Liu, Yuk-Wai Lam, Wai-Yeung Wong

J. Organomet. Chem. 691 (2006) 1092

Complexation of 4,4'-di(*tert*-butyl)-5-ethynyl-2,2'-bithiazole with mercury(II) ion: Synthesis, structures and analytical applications The synthesis, structure and photophysical properties of some luminescent derivatives of inorganic mercury and methylmercury incorporating 4,4'-di(*tert*-butyl)-5-ethynyl-2,2'-bithiazole entity were described. These metal complexes can be utilized in the development of a new procedure for derivatization of inorganic and organic mercury(II) to Hg(II) alkynyls for HPLC analysis.



Jérôme Maynadié, Béatrice Delavaux-Nicot, Dominique Lavabre, Suzanne Fery-Forgues

J. Organomet. Chem. 691 (2006) 1101

Monosubstituted ferrocenyl chalcones: Effect of structural changes upon the ability to detect calcium by absorption spectroscopy The UV/vis absorption behaviour of four electrochemical calcium sensors is examined: a peculiar detection of calcium triflate with regard to calcium perchlorate is performed by three of them. Investigations concerning the unprecedented behaviour of these chalconelike derivatives are presented. Remarkably, a unique set of association constants fits both the absorption and NMR data provided by the azacrown ligand–calcium equilibrium.



Oscar Mendoza, Matthias Tacke

J. Organomet. Chem. 691 (2006) 1110

Cocondensation reactions of heterocyclic aromatic compounds with lithium, calcium and magnesium atoms at $77\ K$

Lithium, calcium and magnesium atoms were cocondensed with aromatic five-membered heterocycles in the presence of THF. In the case of calcium the reaction led to heteroaryl calcium hydride and the reaction mechanism of this unusual CH activation reaction was investigated using DFT calculations.

Contents



Suming Ye, Weng Kee Leong

J. Organomet. Chem. 691 (2006) 1117

Regio- and stereoselective addition of carboxylic acids to phenylacetylene catalyzed by cyclopentadienyl ruthenium complexes The direct addition of carboxylic acids to terminal alkynes such as phenylacetylene in the presence of catalytic amount of $[CpRu(CO)_2Cl]$ (1) or $[\{CpRu(CO)_2\}_2]$ (2) affords the anti-Markovnikov adducts with high selectivity. In most instances, the *E*-enol esters are the major products.



Ki-Soo Lee, Youngjo Kim, Son-Ki Ihm, Youngkyu Do, Sunwoo Lee

J. Organomet. Chem. 691 (2006) 1121

New group 4 half sandwich complexes containing triethanolamine ligand for polyethylene The half-sandwich group 4 complexes have been synthesized and utilized as catalysts for polyethylene. These catalysts at various solution polymerization temperatures and [AI]/[M] molar ratio in toluene and their catalytic capabilility were investigated.



Benoît P. Pichon, Michel Wong Chi Man, Catherine Bied, Joël J.E. Moreau

J. Organomet. Chem. 691 (2006) 1126

A simple access to ω -aminoalkyltrialkoxysilanes: Tunable linkers for self-organised organosilicas ω -Aminoalkyltrialkoxysilanes with variable chain linkers is directly available via a simple route by the reaction of NaN₃ with ω -bromoalkyltrialkoxysilanes followed by hydrogenation with palladium catalyst. The reaction of 5-aminopentyltriethoxysilane with 1,4-diisocyanatobenzene led to the corresponding 1,4-bisurea derivative which under acid catalysed hydrolysis led to a lamellar hybrid.

 $Br - (CH_2)_n - Si(OR)_3$

 H_2N -(C H_2)_n-Si(OR)₃

Contents

Eulalia Ramírez-Oliva, Isabel Cuadrado, Carmen M. Casado, José Losada, Beatriz Alonso

J. Organomet. Chem. 691 (2006) 1131

Functionalization of linear and cyclic siloxanes and a dendritic carbosilane with $(\eta^5-C_5H_5)-Fe(CO)_2Si(CH_3)_2CH=CH_2$ via hydrosilylation reaction A series of multimetallic systems containing silicon-linked cyclopentadienyl dicarbonyl iron moieties including carbosilane dendrimers and cyclic and polymeric siloxanes have been prepared using hydrosilylation reactions.



C₆H₁₃

Pd

Daniela Pucci, Giovanna Barberio, Anna Bellusci, Alessandra Crispini, Mauro Ghedini

J. Organomet. Chem. 691 (2006) 1138

Tailoring "non conventional" ionic metallomesogens around an *ortho*-palladated fragment Ionic *ortho*-palladated mesogenic complexes of unusual molecular shape are synthesised and the effect of slight structural changes on molecular organization in the liquid crystalline phase is discussed.

Doina Sirbu, Giambattista Consiglio, Sebastian Gischig

J. Organomet. Chem. 691 (2006) 1143

Palladium and nickel complexes of (P,N)ligands based on quinolines: Catalytic activity for polymerization and oligomerization Four (P,N)-ligands (1–4) with different steric and electronic properties were synthesized. They were used to prepare the monocationic palladium complexes $[Pd(P,N)(CH_3)-(NCCH_3)](PF_6)$ (9–12) and the nickel complexes [Ni(P,N)(1-naphthyl)Cl] (13–16). The catalytic activity of these complexes toward copolymerization of styrene and ethylene with CO and oligomerization of ethylene was studied.





Makoto Oba, Minoru Iida, Tomoki Nagoya, Kozaburo Nishiyama

J. Organomet. Chem. 691 (2006) 1151

Synthesis of a novel silicon-bridged [2.2]metacyclophan-9-ene and its photolytic transannular reaction A novel [2.2]metacyclophane in which two benzene rings are linked together with a carbon–carbon double bond and a disilane unit was prepared. Photolysis of the cyclophane in the presence of oxygen afforded the 4,5-dihydro-4,5-disilapyrene derivative via a transannular dehydrogenation reaction.



(X)

Changhe Qi, Suobo Zhang

J. Organomet. Chem. 691 (2006) 1154

Titanium complexes with novel triarylsubstituted phosphinimide ligands: Synthesis, structure and ethylene polymerization behavior A series of triaryl-substituted phosphinimide titanium complexes have been prepared by reaction of TiCl₄ with the corresponding phosphinimines. Complex **9** displayed moderate activity in the presence of MMAO or *i*-Bu₃Al/Ph₃CB(C₆F₅)₄, and this should be partly attributed to coordination of THF with titanium and the steric effect of two *iso*-propoxyl. And catalytic activity up to 32.2 kg-PE/(mol-Ti h bar) was observed.



$(R^{1}S)_{2}$ + $(R^{2}S)_{2}$ $\xrightarrow{RhCl_{3}\cdot 3H_{2}O \text{ cat.}}_{H_{2}O}$ 2 $R^{1}SSR^{2}$

Mieko Arisawa, Atsushi Suwa, Masahiko Yamaguchi

J. Organomet. Chem. 691 (2006) 1159

RhCl₃-catalyzed disulfide exchange reaction using water solvent in homogeneous and heterogeneous systems

RhCl₃ catalyzed the alkylthio exchange reaction of hydrophilic disulfides in water under homogeneous conditions, and equilibrium was attained in several hours. The reaction of dimethyl disulfide and hydrophilic disulfides under heterogeneous conditions also proceeded effectively.

Takanobu Sanji, Takanori Mori, Hideki Sakurai

J. Organomet. Chem. 691 (2006) 1169

Consecutive disilanylsilylene to silyldisilene rearrangements

Thermolysis of 2,3-benzo-1,4-diphenyl-7-silanorbornadiene derivatives **1** in the presence of 2,3-dimethylbutadienes gave the trapping products of the corresponding bissilylene, disilenylsilylene, and a tetrasila-1,3-butadiene, via a consecutive disilanylsilylene to silyldisilene rearrangement.



Noriyuki Suzuki, Takaaki Watanabe, Hajime Yoshida, Masakazu Iwasaki, Masahiko Saburi, Meguru Tezuka, Takuji Hirose, Daisuke Hashizume, Teiji Chihara

J. Organomet. Chem. 691 (2006) 1175

Synthesis and structure of 1-metallacyclopent-3-yne complexes of group 4 metals Five-membered metallacyclic alkyne complexes of titanium (2) and hafnium (6) were synthesized and structurally characterized as well as a novel 1-zirconacyclopent-3-yne complex 5.



Christoph Behrendt, Sven Dabek, Jurgen Heck, Donagh Courtney, Anthony R. Manning, Michael J. McGlinchey, Helge Mueller-Bunz, Yannick Ortin

J. Organomet. Chem. 691 (2006) 1183

Aldol condensation reactions of $[Co(\eta^4-C_4Ph_4)\{\eta^5-C_5H_4C(O)CH_3\}]$

The aldol condensation between the enolate anion of $Co(\eta^4-C_4Ph_4)\{\eta^5-C_5H_4C(O)CH_3\}$ and various aromatic aldehydes RCHO or RCH=CHCHO gives the α,β -unsaturated aldehydes $Co(\eta^4-C_4Ph_4)\{\eta^5-C_5H_4C(O)CH=$ CH-R} or $Co(\eta^4-C_4Ph_4)\{\eta^5-C_5H_4C(O)CH=$ CH-CH=CHR} in which there is a *trans* arrangement across the C=C. These are donor-acceptor-donor systems with only limited donor-acceptor electronic interactions.



Heimo Wölfle, Holger Kopacka, Klaus Wurst, Karl-Hans Ongania, Hans-Helmut Görtz, Peter Preishuber-Pflügl, Benno Bildstein

J. Organomet. Chem. 691 (2006) 1197

Planar chiral ferrocene salen-type ligands featuring additional central and axial chirality

Novel highly chiral tridentate $[NO_2]H_2$ and tetradentate $[N_2O_2]H_2$ Schiff base ligands with planar, central and axial chirality have been

developed. Structurally, these ligands resemble half-salen and salen systems designed for stereoselective applications of their transition metal complexes in homogeneous catalysis. The modular synthesis involves diastereoselective metalation of chiral ferrocene acetals, followed by stereoconservative hydroxyalkylation and condensation with chiral hydroxyamines or diamines, respectively. In comparison to salen-type systems, an important advantage of these ligands is their tunable steric protection of the alkoxide donor site.



Suming Ye, Weng Kee Leong

J. Organomet. Chem. 691 (2006) 1216

Synthesis and structure of some rutheniumrhenium heterodinuclear complexes and their catalytic activity in the addition of carboxylic acids to phenylacetylene The salt elimination reaction of Na[Re(CO)₅] with Cp*Ru(dppm)Cl, CpRu(dppm)Cl or CpRu(CO)₂Cl afforded the heterodinuclear species Cp*Ru(μ -CO)₂(μ -dppm)Re(CO)₃, Cp-(CO)Ru(μ -dppm)Re(CO)₄, or Cp(CO)₂RuRe-(CO)₅, respectively. They showed good catalytic activity for the anti-Markovnikov addition of carboxylic acids to phenylacety-lene.



Qiang Li, Pingfan Wu, Yun Xia, Yongge Wei, Hongyou Guo

J. Organomet. Chem. 691 (2006) 1223

Synthesis, spectroscopic studies and crystal structure of a polyoxoanion cluster incorporating *para*-bromophenylimido ligand, $(Bu_4N)_2[Mo_6O_{18}(NC_6H_4Br-p)]$

This *p*-bromophenylimido derivative of hexamolybdate has been synthesized by reaction of $[\alpha-Mo_8O_{26}]^{4-}$ and 4-bromoaniline hydrochloride with DCC as the dehydrating agent in refluxed anhydrous acetonitrile.



p-Bromophenylimido derivative of hexamolybdate

Dipak K. Dutta, J. Derek Woollins, Alexandra M.Z. Slawin, Dilip Konwar, Manab Sharma, Pravat Bhattacharyya, Stephen M. Aucott

J. Organomet. Chem. 691 (2006) 1229

Rhodium(I) carbonyl complexes of mono selenium functionalized bis(diphenylphosphino)methane and bis(diphenylphosphino)amine chelating ligands and their catalytic carbonylation activity

The complexes [Rh(CO)Cl(Ph₂PCH₂P(Se)Ph₂)]

(1) and $[Rh(CO)Cl(Ph_2PN(CH_3)P(Se)Ph_2)]$ (2) have been synthesized and characterized. The structure of 2 was determined by single-crystal X-ray diffraction. 1 undergoes faster OA reaction by about 4.5 times than 2. The catalytic activity of 1 and 2 in carbonylation of methanol was higher than that of $[Rh(CO)_2I_2]^-$.



Han Dong Yin, Gang Li, Zhong Jun Gao, Hao Long Xu

J. Organomet. Chem. 691 (2006) 1235

Synthesis and structural characterizations of diorganotin(IV) complexes with 2-pyrazinecarboxylic acid

Two types of diorganotin(IV) complexes $\{[R_2Sn(O_2CC_4H_3N_2)]_2O\}_2$ (when R = n-octyl 1, 2-*Cl*C₆H₄CH₂ 3, 2-*F*C₆H₄CH₂ 5, 4-*F*C₆H₄CH₂ 7) and R₂Sn(O₂CC₄H₃N₂)₂ (when R = n-octyl 2, 2-*Cl*C₆H₄CH₂ 4, 2-*F*C₆H₄CH₂ 6, 4-*F*C₆H₄CH₂ 8) have been prepared in 1:1 or 1:2 molar ratios by reactions of diorganotin oxide with 2-pyrazinecarboxylic acid, All complexes are characterized by elemental, IR, ¹H and ¹³C NMR spectra. And complexes $\{[(n-C_8H_{17})_2Sn(O_2CC_4H_3N_2)]_2O\}_2$ (1) and (*n*-C₈H₁₇)₂Sn(O₂CC₄H₃N₂)₂ (2) have been determined by X-ray single crystal diffraction.



Anthony G. Avent, Mark R. Crimmin, Michael S. Hill, Peter B. Hitchcock

J. Organomet. Chem. 691 (2006) 1242

Reactivity of $[HC\{(C(Me)N(Dipp))\}_2Ca\{N-(SiMe_3)_2\}(THF)]$ (Dipp = $C_6H_3{}^iPr_2{}^{-2}2{},6)$ with C–H acids: Synthesis of heteroleptic calcium η^5 -organometallics

A series of heteroleptic calcium cyclopentadienides have been synthesised by protonolysis of the β -diketiminto amide [HC{(C(Me)N-(Dipp))}₂Ca{N(SiMe₃)₂(THF)] with the appropriate C–H acids.



Peter G. Evans, Neil A. Brown, Guy J. Clarkson, Christopher P. Newman, Jonathan P. Rourke

J. Organomet. Chem. 691 (2006) 1251

Cyclopalladated acetate dimers: Crystal structures and VT-NMR

Cyclopalladated acetate bridged dimers are shown to exhibit an open-book type core in both the solid state and in solution. The barrier to rotation of a pendant phenyl ring against this core has been measured: $\Delta H^{\ddagger} = 56 \text{ kJ mol}^{-1}$, and $\Delta S^{\ddagger} = 0$.



Paul F. Hudrlik, Donghua Dai, Anne M. Hudrlik

J. Organomet. Chem. 691 (2006) 1257

Reactions of dilithiobutadienes with monochlorosilanes: Observation of facile loss of organic groups from silicon Reactions of 1,4-dilithiobutadienes (e.g., 8) with RMe₂SiCl gave siloles (e.g., 9) as the major products, along with a silane (R₂SiMe₂) formed by the reaction of RLi with the chlorosilane. There was no evidence for the formation of a disilylated butadiene.

Shaowu Wang, Yan Feng, Lili Mao, Enhong Sheng, Gaosheng Yang, Meihua Xie, Shaoyin Wang, Yun Wei, Zixiang Huang

J. Organomet. Chem. 691 (2006) 1265

Homolysis of the Ln–N bond: Synthesis, characterization and catalytic activity of organolanthanide(II) complexes with 2-pyr-idylmethyl and 3-pyridylmethyl-function-alized indenyl ligands

Two series of new organolanthanide(II) complexes with general formula { $\eta^5:\eta^1$ -[1-R-3-(2-C₅H₄NCH₂)C₉H₅]}₂Ln(II) and { $\eta^5:\eta^1$ -[1-R-3-(3-C₅H₄NCH₂)C₉H₅]}₂Ln(II) (R = H–, Me₃Si–; Ln = Yb, Eu) were synthesized by tandem silylamine elimination/homolysis of the Ln–N bond reaction. The catalytic activities of the complexes on MMA polymerization were examined, and the solvents, temperatures, substituted groups effect on the polymerization were discussed.

The catalytic activities of the MMA polymerization were the solvents, temperatures, subeffect on the polymerization were $R = H, Me_3Si$.

Hai-Yu Wang, Jun Zhang, Xia Meng, Guo-Xin Jin

J. Organomet. Chem. 691 (2006) 1275

Nickel (II) complexes with β -enaminoketonato chelate ligands: Synthesis, solid-structure characterization and reactivity toward the addition polymerization of norbornene

Nickel (II) complexes with β -enaminoketonato chelate ligands (1–4) have been synthesized and characterized. Complexes 1–4 can be used as catalyst for the addition polymerization of norbornene in the presence of methylaluminoxane (MAO) as cocatalyst in high activities.

Qun-Sheng Guo, Yong-Na Lu, Bing Liu, Jian Xiao, Jin-Shan Li

J. Organomet. Chem. 691 (2006) 1282

A facile synthesis of 3 or 3,3'-substituted binaphthols and their applications in the asymmetric addition of diethylzinc to aldehydes By using a direct ortho-lithiation, the ligands (S)-3-methoxymethyl-1,1'-bi-2-naphthol [(S)-1], (S)-3,3'-bis(methoxymethyl)-1,1'-bi-2-naphthol [(S)-2], (S)-3-(quinolin-2-yl)-1,1'-bi-2-naphthol [(S)-3] and (S)-3,3'-bis(quinolin-2-yl)-1,1'-bi-2naphthol [(S)-4] have been synthesized. (S)-1 and (S)-3 show moderate catalytic properties for the asymmetric diethylzine addition to aromatic aldehydes.



MAO





Contents

Padmamalini Srinivasan, Jialin Tan, Weng Kee Leong

J. Organomet. Chem. 691 (2006) 1288

Reaction of the heteronuclear cluster $Cp^*IrOs_3(\mu-H)_4(CO)_9$ with alkynes: An unusual case of amine activation

Reaction of the heteronuclear cluster Cp^{*}Ir-Os₃(μ -H)₄(CO)₉ with alkynes is activated by excess amine to afford the butterfly clusters Cp^{*}IrOs₃(CO)₉(RCCR'); hinge-apex isomers are formed. In the case of PhCCH, another cluster Cp^{*}IrOs₃(CO)₉(CCHPh)₂, which contained two alkenyl moieties was also isolated.



Notes

Malcolm L.H. Green, John B. Leach, Malcolm A. Kelland

J. Organomet. Chem. 691 (2006) 1295

Partial incorporation of a cyclopentadienyl ligand into a molybdaborane to form a molybdacarbaborane

Reaction of the molybdaborane *arachno*-2-[Mo(η -C₅H₅)(η^5 : η^1 -C₅H₄)B₄H₇] (I) with NEt₃ in toluene at 120 °C for 7 days gives a 90% yield of the molybdacarbaborane *nido*-1-[Mo(η -C₅H₅)(η^3 : η^2 -C₃H₃)C₂B₃H₅] (II). Two of the carbon atoms in the substituted cyclopentadienyl ring in I are incorporated into the metallacarbaborane cluster.







Narayan G. Bhat, Mary A. Villanueva

J. Organomet. Chem. 691 (2006) 1298

Facile hydroboration of (*Z*)-1-trimethylsilyl-1alkenes with dichloroborane–dioxane complex: An easy access to *gem*-dimetalloal-kanes containing boron and silicon (Z)-1-Trimethylsilyl-1-alkenes are hydroborated with dichloroborane–dioxane complex in dichloromethane for 6 h at room temperature. The resulting solution is then treated with 1,3-propane diol at 0 °C for 0.5 h to provide the corresponding *gem*-dimetalloalkanes containing boron and silicon in good yields (72–84%). The structures of these novel intermediates are further confirmed by selective oxidation with alkaline hydroperoxide to provide the corresponding alcohols containing α -trimethylsilyl group in 78–88% isolated yields.



Jinli Zhang, Liang Zhao, Maoping Song, Thomas C.W. Mak, Yangjie Wu

J. Organomet. Chem. 691 (2006) 1301

Highly efficient cyclopalladated ferrocenylimine catalyst for Suzuki cross-coupling reaction of 3-pyridylboronic pinacol ester with aryl halides The Suzuki cross-coupling reaction of 3pyridylboronic pinacol ester with aryl iodides, bromides and chlorides was carried out in DMF/H₂O (3/1, v/v) at 110 °C in the presence of cyclopalladated ferrocenylimine I and K₂CO₃ or CsCO₃ (1.0 equiv.) without the protection of inert gas. By using this method the synthesis of 3-pyridyl biaryl compounds could be readily achieved.



Hiroyuki Yasuda, Noriko Maki, Jun-Chul Choi, Mahmut Abla, Toshiyasu Sakakura

J. Organomet. Chem. 691 (2006) 1307

Phenoxide-assisted P–C bond cleavage in PdCl₂(PPh₃)₂ under very mild conditions

PdCl₂(PPh₃)₂ reacted with NaOAr (Ar = Ph, *p*-tolyl) at 0 °C to afford PdCl(Ph)(PPh₃)₂, instead of PdCl(OAr)(PPh₃)₂, in 12–16% isolated yields based on Pd. It is likely that the reaction proceeds via an intermediate, PdCl(OAr)(PPh₃)₂, and subsequent aryloxy– phenyl exchange that involves P–C bond cleavage.



Manfredo Hörner, Gelson Manzoni de Oliveira, Eduardo Giuliani Koehler, Lorenzo do CantoVisentin

J. Organomet. Chem. 691 (2006) 1311

Polymeric bidimensional self-assembling of $[Hg^{II}(RC_6H_4NNNC_6H_4R)_2Py]$ (R = m-acetyl) through metal- η^2 , η^2 -arene π -interactions and non classical C–H···O bonding: Synthesis and X-ray characterization of a bis diaryl symmetric-substituted triazenide complex of Hg(II)

Deprotonated 1,3-bis(3-acetylphenyl)triazene reacts with Hg(CH₃COO)₂ and pyridine to give tectonic [Hg^{II}(RC₆H₄NNNC₆H₄R)₂Py] [R = CH₃C(O)]. The tectons are linked to pairs as centrosymmetric dimers through reciprocal metal- η^2 -arene π -interactions. The dimeric units assemble a supramolecular bidimensional lattice through non classical C–H···(O)CCH₃ bonding.

2 RC₆H₄NNN(H)C₆H₄R + Hg(CH₃COO)₂ [R = CH₃C(O)] 2 Na Pyridine

 $[Hg^{II}(RC_6H_4NNNC_6H_4R)_2Py]_2 + 2 CH_3COO^-Na^+ + H_2$

Xiao-Yi Yi, Ian D. Williams, Wa-Hung Leung

J. Organomet. Chem. 691 (2006) 1315

Titanium(IV) terminal hydroxo complexes containing chelating bis(phosphine oxide) ligands Treatment of $[L_{OEt}Ti(OTf)_3]$ ($L_{OEt}^- = [CpCo-{P(O)(OEt)_2}_3]^-$; OTf⁻ = triflate) with (*S*)-(-)-2,2'-bis(diphenylphosphinoyl)-1,1'-binaphthyl (*S*-binapO₂) afforded the Ti(IV) hydroxo complex $[L_{OEt}Ti(S-binapO_2)(OH)][OTf]_2$ (1). Treatment of $[L_{OEt}Ti(OTf)_3]$ with K(tpip) (tpip⁻ = [N(Ph₂PO)₂]⁻) afforded $[L_{OEt}Ti(tpip)-(OTf)][OTf]$ (2) that reacted with CsOH to give $[L_{OEt}Ti(tpip)(OH)][OTf]$ (3). The crystal structures of 1 and 2 have been determined.







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