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Contents

Review

Sander H.L. Thoonen, Berth-Jan Deelman, Gerard van Koten

J. Organomet. Chem. 689 (2004) 2145

Synthetic aspects of tetraorganotins and organotin(IV) halides

Organotin(IV) compounds are being used for many practical applications, e.g., as stabilizers for PVC, in anti-fouling paints and coatings for the protection of ship hulls and as precursors for SnO_2-coatings on glass. This review discusses critically the available routes for the preparation of tetraorganotins and organotin(IV) halides that are synthetic precursors for the arganotin species in the above applications.

$SnO_2 \longrightarrow$

$R_4Sn, R_3SnX, R_2SnX_2, RSnX_3$

X = Cl, Br, I

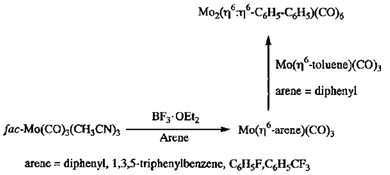
Regular papers

Sara Antonini, Fausto Calderazzo, Ulli Englert, Emanuela Grigiotti, Guido Pampaloni, Piero Zanello

J. Organomet. Chem. 689 (2004) 2158

Synthesis, electrochemistry, and crystal and molecular structures of some molybdenum(0) arene derivatives with fluorinated and phenyl-substituted arene ligands

Substituted η^6-arene derivatives of molybdenum(0), $Mo(\eta^6\text{-arene})(CO)_3$ arene = diphenyl; 1,3,5-triphenylbenzene; C_6H_5F, $C_6H_5CF_3$, have been obtained from *fac*-$Mo(CO)_3(DMF)_3$ by reaction with $BF_3{\cdot}OEt_2$ in the presence of the appropriate arene. The reaction of $Mo(\eta^6\text{-toluene})(CO)_3$ with $Mo(\eta^6\text{-diphenyl})(CO)_3$ in boiling heptane, produces the dinuclear derivative $Mo(\eta^6{:}\eta^6\text{-}C_6H_5\text{-}C_6H_5)(CO)_6$ in satisfactory yields.

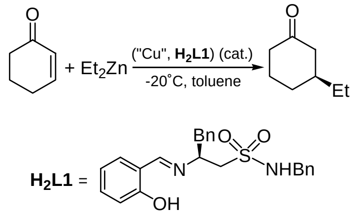


Emma Gallo, Fabio Ragaini, Licia Bilello, Sergio Cenini, Cesare Gennari, Umberto Piarulli

J. Organomet. Chem. 689 (2004) 2169

Copper catalysed 1,4-addition of organozinc reagents to α, β-unsaturated carbonyl compounds: a mechanistic investigation

A mechanistic study of the 1,4-addition of diethylzinc to 2-cyclohexenone catalysed by copper complexes of the Schiff base ligand **H_2L1** was performed. The kinetic law of this system was determined and the nature of the different copper complexes involved in the reaction was investigated.



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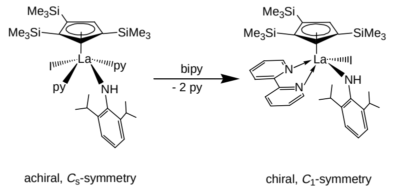
doi:10.1016/S0022-328X(04)00320-1

Garth R. Giesbrecht, Gavin E. Collis, John C. Gordon, David L. Clark, Brian L. Scott, Ned J. Hardman

J. Organomet. Chem. 689 (2004) 2177

Mono-cyclopentadienyl complexes of lanthanum: synthesis and characterization of anilido derivatives

Mono-ligand lanthanide complexes utilizing the bulky tris(trimethylsilyl)cyclopentadienyl ligand are reported. Achiral mono-anilido complexes, in which the iodide and anilido groups are *trans*-disposed, are readily converted to chiral analogues, where the iodide and anilido groups are oriented in a *cis* fashion, by the addition of a chelating bidentate ligand such as 2,2′-bipyridine.

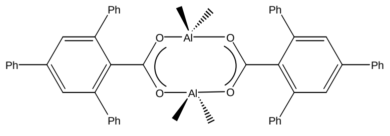


Diane A. Dickie, Dharinee D. Choytun, Michael C. Jennings, Hilary A. Jenkins, Jason A.C. Clyburne

J. Organomet. Chem. 689 (2004) 2186

A structural study of dimethylaluminum carboxylato and hydrazonato complexes

The reaction of trimethylaluminum with 2,4,6-triphenylbenzoic acid and the isoelectronic fluoren-9-one phenylhydrazone results in the formation of the dialkylaluminum complexes $[(CH_3)_2Al\{\mu\text{-}O_2CPh(Ph_3)\}]_2$ (**4**) and $[Me_2AlN(C_6H_5)N{=}C_{13}H_8]_2$ (**5**). The synthesis of these complexes, as well as their spectroscopic and structural characterization are reported.



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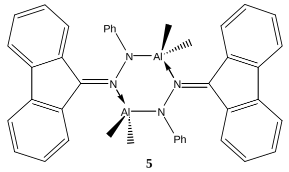

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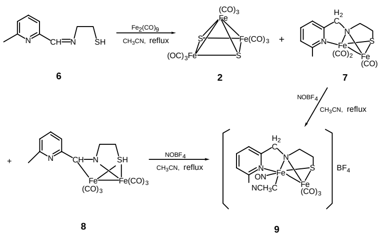
Chih-Yu Wu, Lih-Hau Chen, Wen-Shu Hwang, Huang-Shiuh Chen, Chen-Hsiung Hung

J. Organomet. Chem. 689 (2004) 2192

Syntheses and structures of iron carbonyl complexes derived from *N*-(5-methyl-2-thienylmethylidene)-2-thiolethylamine and *N*-(6-methyl-2-pyridylmethylidene)-2-thiolethylamine

Reaction of *N*-(5-methyl-2-thienylmethylidene)-2-thiolethylamine/*N*-(6-methyl-2-pyridylmethylidene)-2-thiolethylamine with $Fe_2(CO)_9$ in acetonitrile yields iron carbonyl complexes with various types of coordination mode. These complexes were characterized spectrally and their structures were determined by means of X-ray diffraction.

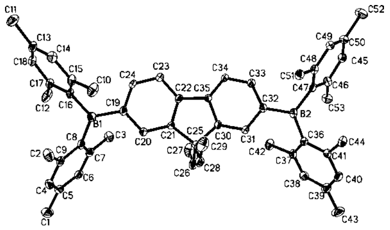


Du Xia Cao, Zhi Qiang Liu, Qi Fang, Gui Bao Xu, Gang Xue, Guo Qun Liu, Wen Tao Yu

J. Organomet. Chem. 689 (2004) 2201

Blue two-photon excited fluorescence of several D-π-D, A-π-A, and D-π-A compounds featuring dimesitylboryl acceptor

Several D-π-D, A-π-A, and D-π-A types of organic compounds with fluorene as π-bridge and dimesitylboryl group as electron acceptor, have been synthesized and two crystal structures been determined. These compounds show strong two-photon excited blue fluorescence.

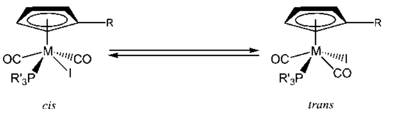


Olalere G. Adeyemi, Uche B. Eke, Lin Cheng, Leanne M. Cook, David G. Billing, Bhekie B. Mamba, Demetrius C. Levendis, Neil J. Coville

J. Organomet. Chem. 689 (2004) 2207

Solid-state isomerisation reactions of (η^5-C_5H_4R)$M(CO)_2(PR_3')I$ (M = W, Mo; R = ^{t}Bu, Me; R′ = Ph, O^{i}Pr$_3$)

The solid-state *cis–trans* isomerisation reactions of (η^5-C_5H_4R)$M(CO)_2(PPh_3)I$ (M = Mo, W; R = Me, ^{t}Bu) favour the *cis* isomer while for (η^5-C_5H_4Me)$W(CO)_2(P(O^iPr)_3)I$ the *trans* isomer is favoured.

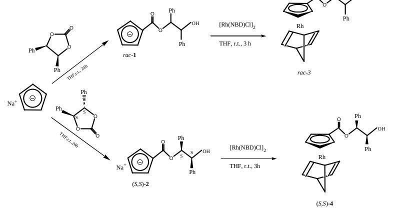


Luigi Busetto, M. Cristina Cassani, Rita Mazzoni, Piero Frediani, Eleonora Rivalta

J. Organomet. Chem. 689 (2004) 2216

Coordination chemistry of ester-functionalized cp ligands: synthesis and catalytic activity of [Rh{$CpCO_2(CHPh)_2OH$}(NBD)] and [Rh{$CpCO_2(CH_2)_3OH$}(NBD)]

Two new hydroxyalkoxycarbonylcyclopentadienide salts Na[*rac*-$CpCO_2(CHPh)_2OH$] (**1**) and Na[(*2S,3S*)-$CpCO_2(CHPh)_2$ OH] (**2**) were prepared and reacted with $[Rh(NBD)Cl]_2$ to give [Rh{*rac*-$CpCO_2(CHPh)_2OH$}(NBD)] (**3**) and (−)-[Rh{(*2S,3S*)-$CpCO_2(CHPh)_2OH$}(NBD)] (**4**) whose catalytic activity in the hydroformylation of hex-1-ene and styrene has been investigated and compared with that of previously reported similar rhodium complexes. The reaction of NaCp toward the six-membered cyclic carbonate 1,3-dioxan-2-one led to a mixture of $[CpCO_2(CH_2)_3OH]^-$ (**5**) and $[CpCO_2(CH_2)_3O$-$C(O)O(CH_2)_3OH]^-$ (**6**) in a ratio strictly dependent on the carbonate/NaCp ratio.

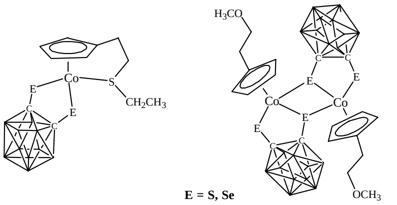


Xiu-Feng Hou, Xiao-Chuan Wang, Jian-Qiang Wang, Guo-Xin Jin

J. Organomet. Chem. 689 (2004) 2228

Sulfur and oxygen functionalized cyclopentadienyl half-sandwich cobalt complexes with 1,2-dicarba-*closo*-dodecaborane-1,2-dichalcogenolato ligands

Sulfur and oxygen functionalized cyclopentandienyl half-sandwich cobalt dichalcogenolate carborane complexes, [η^5-C_5H_4-$(CH_2)_2SCH_2CH_3$]$Co(E_2C_2B_{10}H_{10})$ and {[η^5-$C_5H_4(CH_2)_2OCH_3$]$Co(E_2C_2B_{10}H_{10})$}$_2$ (E = S, Se), have been synthesized and characterized. X-ray structure analysis of [η^5-$C_5H_4(CH_2)_2SCH_2CH_3$]$Co(S_2C_2B_{10}H_{10})$ shows that the sulfur atom of the appended side-chain was bonded to the metal via an intramolecular coordination.

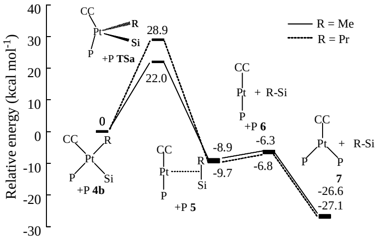


Hideo Sakurai, Manabu Sugimoto

J. Organomet. Chem. 689 (2004) 2236

Alkyl group dependence of C–Si reductive eliminations from alkyl(silyl) Pt(II) complexes: a density functional study

Density functional theory calculations were performed in order to investigate alkyl group dependence of C–Si reductive eliminations from alkyl(silyl) Pt complexes. It is shown that steric repulsion between an alkyl group and other ligands and the C–Si bond energy are important factors determining the reactivity difference.

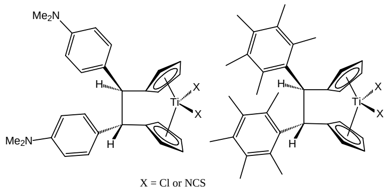


Matthias Tacke, Lorcan T. Allen, Laurence Cuffe, William M. Gallagher, Ying Lou, Oscar Mendoza, Helge Müller-Bunz, Franz-Josef K. Rehmann, Nigel Sweeney

J. Organomet. Chem. 689 (2004) 2242

Novel titanocene anti-cancer drugs derived from fulvenes and titanium dichloride

This paper reports the synthesis of four novel [(1,2-diaryl-1,2-dicyclopentadienyl)-ethanediyl] titanium dichlorides and dithiocyanates. When tested against pig kidney carcinoma cells (LLC-PK) or human ovarian carcinoma cells (A2780/cp70) inhibitory concentrations (IC_{50}) of 2.7×10^{-4} and 1.9×10^{-4} M, respectively, were observed for the best derivative.

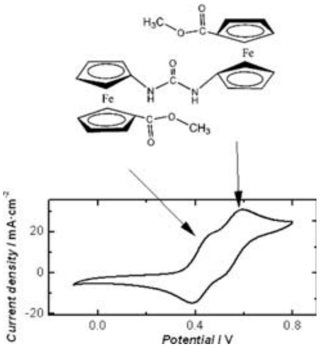


Khaled Mahmoud, Yi-Tao Long, Gabriele Schatte, Heinz-Bernhard Kraatz

J. Organomet. Chem. 689 (2004) 2250

Electronic communication through the ureylene bridge: spectroscopy, structure and electrochemistry of dimethyl 1′,1′-ureylenedi-(1-ferrocenecarboxylate)

The two ferrocene groups in the symmetric ureylen-bridged dimmer are in electronic communication resulting in the stepwise oxidation of the complex.

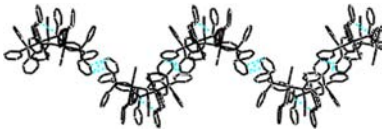


Manish Chandra, A.N. Sahay, D.S. Pandey, R.P. Tripathi, J.K. Saxena, V.J.M. Reddy, M. Carmen Puerta, Pedro Valerga

J. Organomet. Chem. 689 (2004) 2256

Potential inhibitors of DNA topoisomerase II: ruthenium(II) poly-pyridyl and pyridyl-azine complexes

Mono and binuclear cationic complexes with their respective formulation $[RuH(CO)(PPh_3)_2(L)]^+$ and $[\{RuH(CO)(PPh_3)_2\}_2(\mu\text{-}L)]^{2+}$ [where L = pyridine-2-carbaldehyde azine (paa), *p*-phenylene-bis(picoline)aldamine (pbp) and *p*-biphenylene-bis(picoline)aldamine (bbp)] have been synthesized. Structure of one representative mononuclear complex $[RuH(CO)(PPh_3)_2(paa)]BF_4$ has been determined by single crystal X-ray analysis. DNA interaction along with weak inter and intramolecular interaction in the complexes have also been studied.



Note

René Rojas, Mauricio Valderrama

J. Organomet. Chem. 689 (2004) 2268

Trimethylsilylcyclopentadienylchromium(III) complexes with diphenyl-2-pyridylphosphine: synthesis, structural characterisation and catalytic behaviour of $[(C_6H_5)_2PC_5H_4NH][(\eta^5\text{-}Me_3SiCp)CrCl_3]$

The reaction of the solvated complex $[(\eta^5\text{-}Me_3SiCp)CrCl_2(THF)]$ with diphenyl-2-pyridylphosphine gives the complex $[(C_6H_5)_2PC_5H_4NH][(\eta^5\text{-}Me_3SiCp)CrCl_3]$ (**1**) in good yield. The neutral complex $[(\eta^5\text{-}Me_3SiCp)CrCl_2\{(C_6H_5)_2PC_5H_4N\}]$ (**2**) was isolated as a secondary product. The structure of complex **1** has been determined by single crystal X-ray diffraction. Complex **1** in the presence of MAO leads to the formation of an active catalyst for the polymerization of ethylene.