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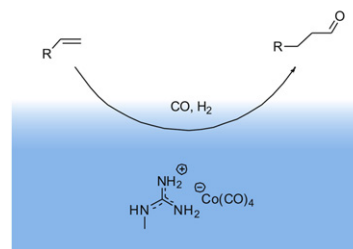
Regular Articles

Joachim E. Dengler, Amir Doroodian, Bernhard Rieger

J. Organomet. Chem. 696 (2011) 3831

Protic metal-containing ionic liquids as catalysts: Cooperative effects between anion and cation

$\text{HCo}(\text{CO})_4$ is known to be the active species in the cobalt-catalyzed hydroformylation reaction. Although it is known that the anion $[\text{Co}(\text{CO})_4]^-$ is catalytically inactive, some cobalt carbonyl-containing ionic liquids are surprisingly able to catalyze hydroformylation reactions. However, only ionic liquids with protic cations demonstrate activity, whilst aprotic cations such as BMIM^+ result in a completely inactive compound. The four applied cobalt-containing ionic liquids differ only by the cation component. Their different performance in catalytic activity allows the presumption of cooperative effects between the cation and the anion. These fundamental influences of the cation on the hydroformylation kinetics give hints for the reaction mechanism of biphasic hydroformylation reactions as well as on the reaction pathways of the conventional hydroformylation reaction under different reaction conditions.

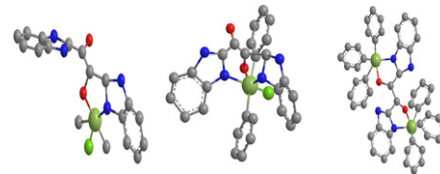


Farukh Arjmand, Fatima Sayeed, Shazia Parveen

J. Organomet. Chem. 696 (2011) 3836

In vitro binding studies of organotin(IV) complexes of 1,2-bis(1H-benzimidazol-2-yl)ethane-1,2-diol with CT-DNA and nucleotides (5'-GMP and 5'-TMP): Effect of the ancillary ligand on the binding propensity

Three dimensional structure of complexes **1–3**. Organotin complexes derived from benzimidazole ligand scaffold were synthesized and their DNA binding studies were carried out. The results suggested a multi-faceted mode of binding of the complexes **1** and **2** with CT-DNA i.e. electrostatic binding mode in addition to partial intercalative interactions mode of association, while the complex **3** only binds via an electrostatic interaction with DNA.

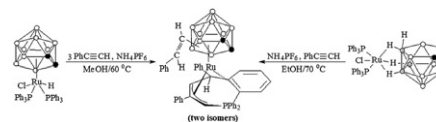


**Dmitrii I. D'yachihin, Fedor M. Dolgushin,
Ivan A. Godovikov, Igor T. Chizhevsky**

J. Organomet. Chem. 696 (2011) 3846

Synthesis and characterization of isomeric 4- and 8-(σ -CH=CHPh)-*closo*-ruthenacarboranes with $\eta^3:\eta^2$ -phosphacarborocyclic ligand

Thermal treatment of [3,3-(PPh₃)₂-3-Cl-3-H-3,1,2-*closo*-RuC₂B₉H₁₁] or its *exo-nido* isomer [exo-5,6,10-[Ru(Ph₃P)₂Cl]-5,6,10-(μ -H)₃-10-H-7,8-*nido*-C₂B₉H₈] in MeOH or EtOH solution with an excess of PhC \equiv CH in the presence of NH₄PF₆ affords two isomeric *closo* species [3,3-((1'-3'- η^3): (5',6'- η^2)-*ortho*-C₆H₄PPh₂CHC-(Ph)CHCHPh)-8-(σ -CH=CHPh)-3,1,2-*closo*-RuC₂B₉H₁₀] and [3,3-((1'-3'- η^3): (5',6'- η^2)-*ortho*-C₆H₄PPh₂CHC(Ph)CHCHPh)-4-(σ -CH=CHPh)-3,1,2-*closo*-RuC₂B₉H₁₀] with an unusual $\eta^3:\eta^2$ -phosphacarborocyclic ligand at the metal vertex.

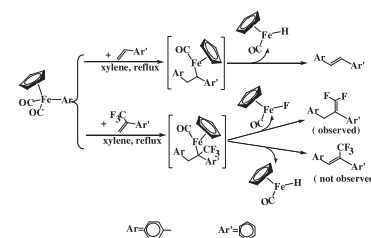


Zhenwei Zhang, Yuxiang Bu

J. Organomet. Chem. 696 (2011) 3852

Arylation of styrene derivatives using aryliiron complexes [CpFe(CO)₂Ar] revealed by density functional theory calculations: Fe(II)-assisted group exchange through Fe–C bond cleavage and Fe–X bond formation

Arylation of styrene derivatives can be realized using aryliiron complexes [CpFe(CO)₂Ar] by Fe(II)-assisted group exchange with Fe–C bond cleavage and Fe–X bond formation.

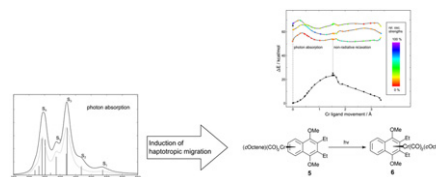


**Michael Hülsen, Patrick Norman,
Michael Dolg**

J. Organomet. Chem. 696 (2011) 3861

Theoretical investigation of thermally and photochemically induced haptotropic rearrangements of chromium ligands on naphthalene systems

The haptotropic rearrangement of chromium complexes can be induced thermally or by UV light. The energy barriers for the migration within the excited states manifold are lower than in the ground state.

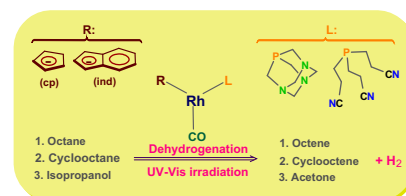


Piotr Smoleński

J. Organomet. Chem. 696 (2011) 3867

Photocatalytic properties of new cyclopentadienyl and indenyl rhodium(I) carbonyl complexes with water-soluble 1,3,5-triaza-7-phosphaadamantane (PTA) and tris(2-cyanoethyl)phosphine

Reactions of [(η^5 -R)Rh(CO)₂] (R = cp, ind) with water-soluble phosphines (L = 1,3,5-triaza-7-phosphaadamantane and tris(2-cyanoethyl)phosphine) give the new rhodium(I) complexes of the types [Rh(η^5 -cp)(CO)(PTA)], [Rh(η^5 -cp)(CO)(P(CH₂CH₂CN)₃)], [Rh(η^5 -ind)(CO)(PTA)] and [Rh(η^5 -ind)(CO)(P(CH₂CH₂CN)₃)] in isolated yields of 52–75%. The obtained complexes are precursors of active catalysts for dehydrogenation of saturated compounds under photoassisted conditions.



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