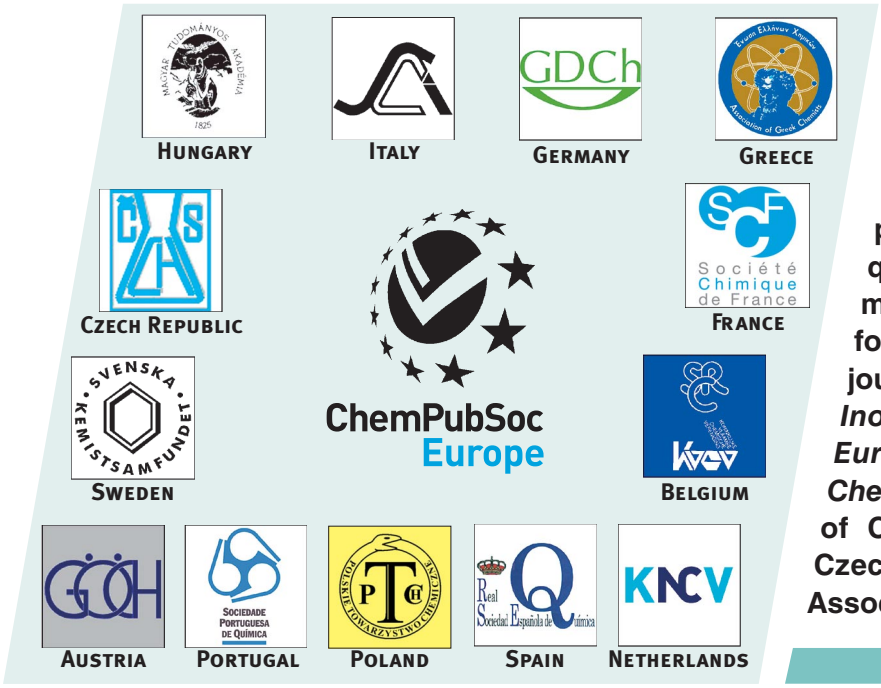
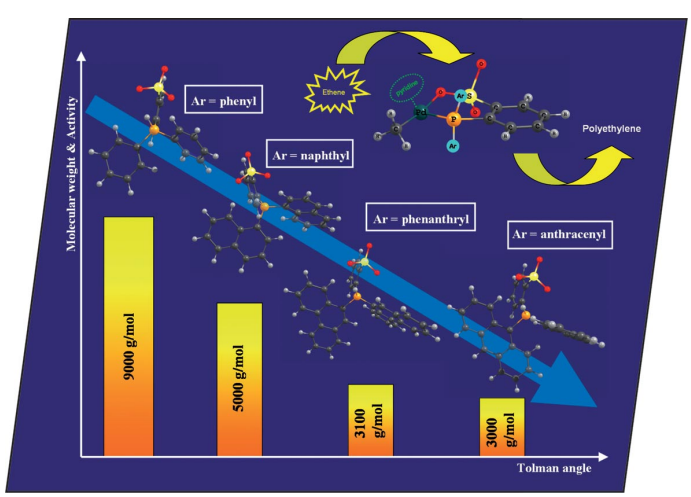


EurJIC is co-owned by 11 societies of ChemPubSoc Europe, a union of European chemical societies for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

Other ChemPubSoc Europe journals are *Chemistry – A European Journal*, *ChemBioChem*, *ChemPhysChem*, *ChemMedChem*, *ChemSusChem* and *ChemCatChem.*

COVER PICTURE

The cover picture shows the influence of the structure of a sulfonated phosphane on the performance of the Pd-based catalysts employed in this study. These complexes catalyze ethene polymerization without the need of activation, yielding linear polyethene. The introduction of steric hindrance in the catalyst scaffold results in lower molecular weights and lower activities. Details are discussed in the article by J. M. Claverie et al. on p. 4595ff.



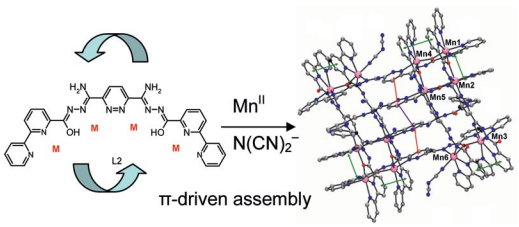
 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

CONTENTS

SHORT COMMUNICATIONS

Polymetallic Architectures

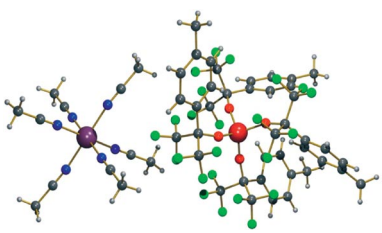
Keywords: Ligand design / Polytopic ligands / Self-assembly / Grid structure / Supramolecular chemistry / Manganese / Copper



The tetratopic pyridazine ligand L2 forms the incomplete Mn^{II}_{12} partial grid $[Mn_{12}(L2-2H)_6(L-H)_2\{N(CN)_2\}_2](NO_3)_8(H_2O)_{24}$, containing two isolated μ-O-bridged [2 × 2] square and two isolated μ-O-bridged dinuclear subunits. Multiple π contacts contribute to the assembly via the bipy ends, and the columnar stacked pyridazines. Antiferromagnetic exchange occurs through the μ-O bridges.

(Fluoroalkoxy)aluminates

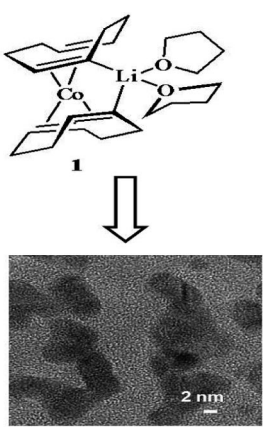
Keywords: Aluminium / Zinc / Nitrile complexes / Polymerization / Anions, weakly coordinating



Nitrile-ligated Zn^{II} complexes with two Al-based weakly coordinating anions (WCAs) have been prepared and characterized. The X-ray crystal structure proves the non-coordinating nature of the anions. Synthesis of the compounds is straightforward and high yielding. An application is the room-temperature polymerization of isobutylene resulting in polyisobutylene with high *exo* double bond content.

Functional Nanomaterials

Keywords: Nanoparticles / Electrochemistry / Cobalt / Lithium / Single-source precursors

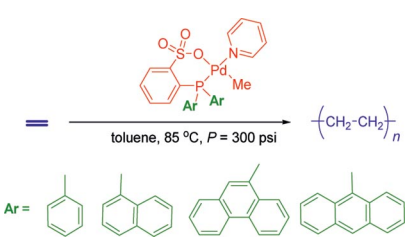


The single-source organometallic precursor, [bis(η-1,5-cyclooctadiene)cobaltlithium], containing Li, Co, and O in the exact 1:1:2 atomic ratio, allows synthesis of electrochemically active nanocrystalline $LiCoO_2$ at moderate temperatures.

FULL PAPERS

Ethene Polymerization

Keywords: Phosphane ligands / Palladium / Polymerization

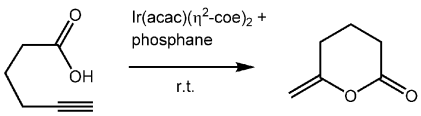


Bulky sulfonated arylphosphane ligands were prepared and used to generate (arylsulfonyl)phosphane-palladium complexes. These complexes catalyze ethene polymerization yielding linear polyethene. The relationship between the catalysts' structures and their activity was discussed.

 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Iridium Catalysis

A number of acetylacetonato(phosphane)-iridium complexes have been prepared by addition of phosphane to the iridium complex [Ir(acac)(η^2-coe)$_2$] (**1**). The readily prepared complexes are active and selective catalyst precursors for the intramolecular cyclization of 4-pentynoic and 5-hexynoic acids to give the corresponding exocyclic lactones.



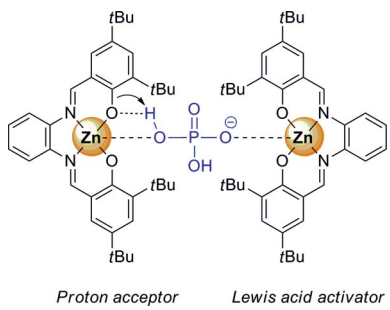
M. J. Geier, C. M. Vogels, A. Decken, S. A. Westcott* 4602–4610

Acetylacetonato(phosphane)iridium Complexes: Synthesis and Catalytic Activity in the Cyclization of Alkynoic Acids

Keywords: Iridium / Phosphane ligands / Cyclization / Lactones

Phosphate Activation

Dihydrogen phosphate provokes an anion-specific reaction with Zn(salphen) chromophores leading to protonated ligand structures. The demetalation process was investigated by NMR, MS and UV/Vis techniques. Kinetic studies suggest that the initial stage of the reaction comprises a phosphate-bridged dimetallic Zn(salphen) complex in which dihydrogen phosphate is activated for proton transfer.



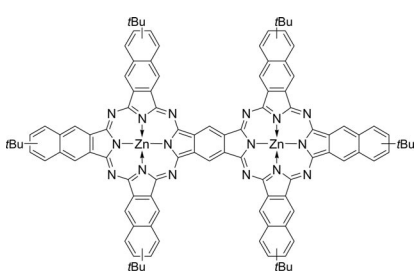
S. J. Wezenberg, D. Anselmo, E. C. Escudero-Adán, J. Benet-Buchholz, A. W. Kleij* 4611–4616

Dimetallic Activation of Dihydrogen Phosphate by Zn(salphen) Chromophores

Keywords: Anions / Chromophores / N,O ligands / Salen / Zinc

Near-Infrared Dyes

A new stable near-infrared dye with strong absorption at λ = 965 nm – a dinuclear naphthalocyanine analogue – was synthesized in a good yield.

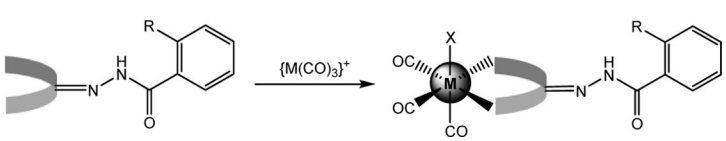


S. G. Makarov,* O. N. Suvorova, G. Schnurpfeil, D. Wöhrle* ... 4617–4621

Synthesis of a Dinuclear Naphthalocyanine Analogue with Absorption in the NIR

Keywords: Fused-ring systems / Phthalocyanines / Naphthalocyanines / Zinc / NIR absorption / Dyes/Pigments

Re(I) and Tc(I) Carbonyl Complexes



P. Barbazán, A. Hagenbach, E. Oehlke, U. Abram,* R. Carballo, S. Rodríguez-Hermida, E. M. Vázquez-López* 4622–4630

Rhenium(I) and technetium(I) carbonyl halide complexes of ligands derived from 4,5-diazafluoren-9-one (df) and 1,10-phenanthroline-5,6-dione (phen) derivatives of benzoic and 2-hydroxybenzoic acid hydrazides have been prepared. The metal centres (Re^{I} and Tc^{I}) are coordinated through the nitrogen imine atoms to give a five-membered chelate ring, and the hydrazone group stands uncoordinated.

Tricarbonyl Rhenium(I) and Technetium(I) Complexes with Hydrazones Derived from 4,5-Diazafluoren-9-one and 1,10-Phenanthroline-5,6-dione

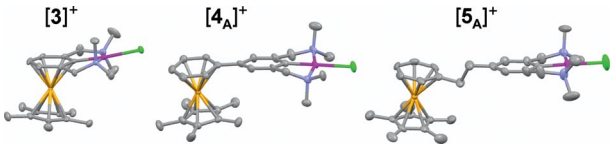
Keywords: Rhenium / Technetium / Carbonyl ligands / Hydrazone ligands

 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

CONTENTS

 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

Ruthenium-to-Platinum Interactions

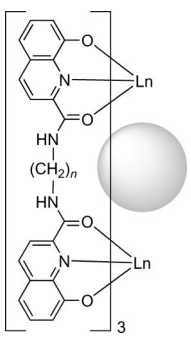


A series of heterobimetallic Ru,Pt complexes is presented in which a $[Ru(C_5R_5)]^+$ fragment (R = H or Me) is η^6-coordinated to a phenyl ring, and a Pt center is simultaneously η^1-coordinated to an NCN-pincer ligand. Depending on the connectivity between both organometallic fragments, very strong to very weak ruthenium-to-platinum interactions are experimentally observed.

Keywords: Heterometallic complexes / Ruthenium / Platinum / Density functional calculations / Arenes

Lanthanide Helicates

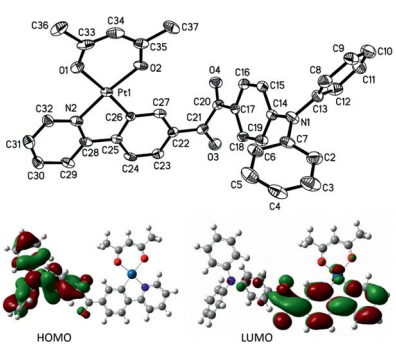
Two 2-amido-8-hydroxyquinolines that are bridged through amide linkages by diamines are appropriate ligands for the self-assembly of dinuclear triple-stranded lanthanide(III) helicates. The formation of the coordination compounds might be supported by appropriate templates.



Keywords: Lanthanides / Self-assembly / Helicates

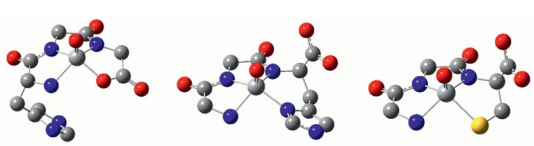
Phosphorescent Complexes

[(Aryl-ppy)Pt(acac)] complexes have been prepared that show room-temperature phosphorescence at 490–590 nm. The emission colour tuning effect is attributed to either the elevated HOMO energy or the decreased LUMO energy. The luminescent O_2-sensing properties of the complexes in polymer films were studied. A white light-emitting OLED was fabricated with **Pt-3** with a CIE of (0.32, 0.32).



Keywords: Phosphorescence / Luminescence / Sensors / Density functional calculations / OLEDs / Platinum

Vanadium–Peptide Interactions



Nine $V^{IV}O^{2+}$ complexes formed by oligopepetides were studied by DFT methods. The geometry, ^{51}V (A) and ^{14}N superhyperfine coupling constants (A^N), ^{14}N nuclear quadrupole coupling constants (C_Q^N), electron absorption parameters (λ_{max} and ε_{max}), features of the V–N$^-$ amide bond, molecular orbital composition, Wiberg bond indices and the spin densities were calculated.

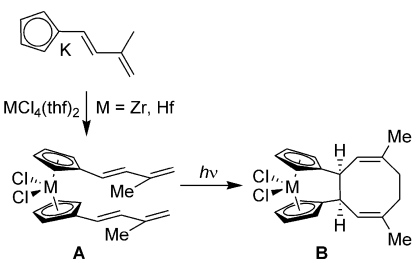
Keywords: Vanadium / Peptides / EPR spectroscopy / UV/Vis spectroscopy / Density functional calculations

 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

CONTENTS

Metallocenes

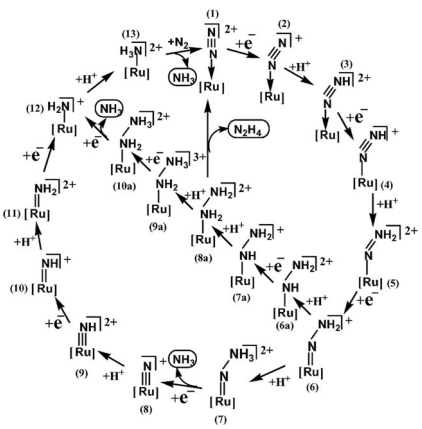
Keywords: Metallocenes / Sandwich complexes / Zirconium / Hafnium / Photochemistry / Cycloaddition



The (4-isoprenyl-Cp)$_2$MCl$_2$ complexes **A** (M = Zr, Hf) undergo rapid photochemical [4+4] cycloaddition to give the cyclooctadienylene-bridged *ansa*-metallocenes **B** in high yield.

Allen and Senoff's Complex

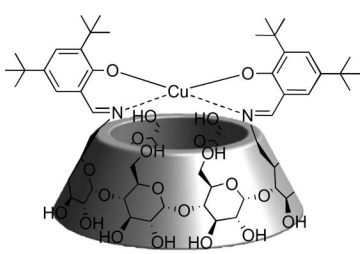
Keywords: Computational chemistry / Reaction mechanisms / Nitrogen / Ruthenium / Allen and Senoff complex



In the Allen and Senoff complex dinitrogen can be converted to ammonia and hydrazine in the presence of copper and LutH$^+$ in water. The calculated thermodynamic barriers reveal that hydrazine formation is more favorable than ammonia formation.

Metallocapped Cyclodextrins

Keywords: Copper / Metalloenzymes / Cyclodextrins / Electrochemistry



A new metallocapped cyclodextrin was synthesized by a regioselective debenzylation reaction that was induced by diisobutylaluminium hydride (DIBAL-H). The electrochemical investigation of this original complex demonstrated that grafting of a copper salen-type complex to a cyclodextrin leads to changes in the reactivity of the intermediary species.

* Author to whom correspondence should be addressed.

Supporting information on the WWW (see article for access details).

If not otherwise indicated in the article, papers in issue 28 were published online on September 20, 2010

 © 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim