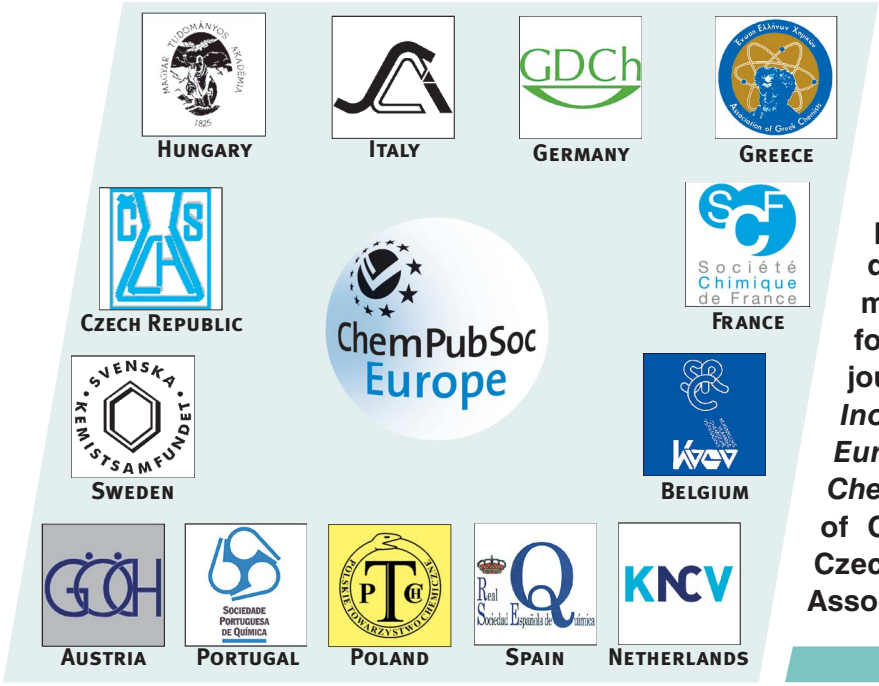

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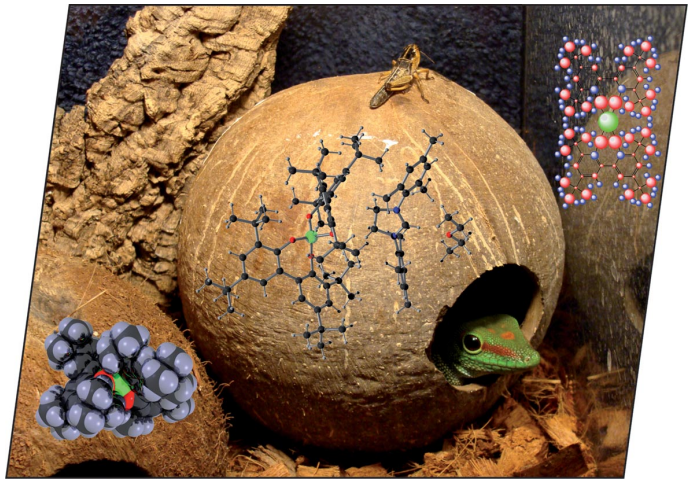
Other ChemPubSoc Europe journals are *Chemistry – A European Journal*, *ChemBioChem*, *ChemPhysChem*, *ChemMedChem*, *ChemSusChem* and *ChemCatChem*.

COVER PICTURE

The cover picture shows a Madagascar day gecko (*Phelsuma madagascariensis grandis*) in a coconut with a locust on top. Gecko toes hold on to slithery and vertical surfaces due to van der Waals forces, which are also relevant for the lipophilic *altebate* anion (left space-filling model). Its sterically demanding substituents shield the nucleophilic center, making diethyl ether a better hydrogen bond acceptor in comparison (middle X-ray structure). The high symmetry and the positive (blue) partial charges on the molecular surface are reflected in the right fractal-like model. Details are discussed in the Short Communication by B. F. Straub et al. on p. 1907ff. Photograph by Michael Wrede, artwork by Bernd F. Straub.



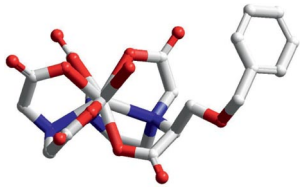
CONTENTS

SHORT COMMUNICATION

FULL PAPERS

MRI-Relevant Complexes

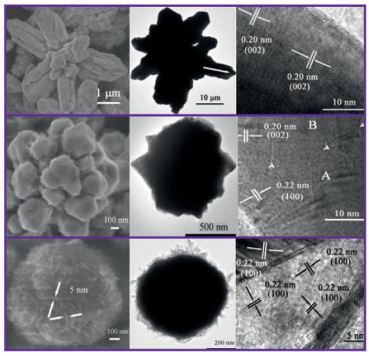
On the basis of the stability constants determined in 0.15 M NaCl, the selectivity of ligands derived from DTPA for Gd^{III} over Zn^{II} follows the order BOPTA > DTPA > DTPA-BMA. The rates of metal-exchange reactions of $[Gd(BOPTA)]^{2-}$ with Cu^{II}, Zn^{II}, and Eu^{III} are 30−90% lower than the rates of similar reactions with $[Gd(DTPA)]^{2-}$.



Keywords: Lanthanides / Thermodynamics / Kinetics / Reaction mechanisms

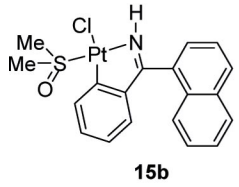
Cobalt Hierarchical Structures

Magnetic metallic Co with different hierarchical structures, such as dendritic particles, flowery particles, and flocky spheres, has been successfully prepared by using a simple solvothermal process. The intergrade from single-crystal to polycrystalline structures for flowerlike Co submicrocrystals is observed. Magnetic properties of Co hierarchical architectures depend on their morphologies.



Keywords: Hierarchical structures / Crystal growth / Cobalt / Magnetic properties

Luminescent Platinum Complexes



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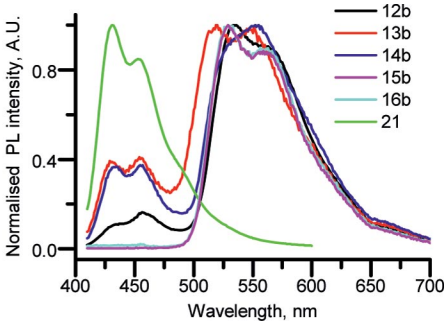
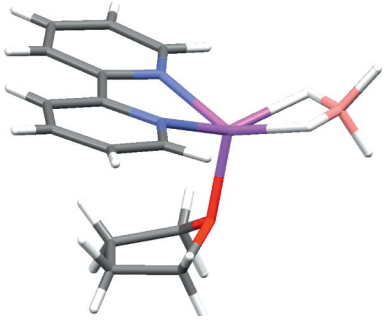


Varying the substituents on platinum(II) complexes containing cyclometallated diaryl ketimine ligands enables tuning of the photoluminescence properties. Applications in light-emitting devices are demonstrated.

Keywords: Platinum / Complexation / Cyclometallation / Photoluminescence / Density functional calculations / Light-emitting devices

Tetrahydroborates

A structural study of eight new complexes of the type MBH_4·L-THF and MBH_4 has been performed. The results indicate that bidentate amines augment the stability of $LiBH_4$ and $NaBH_4$ and also determines the complex−structure type and its prevalence in the solid state and solution.



Keywords: Tetrahydroborates / Alkali metals / N ligands / Structure elucidation

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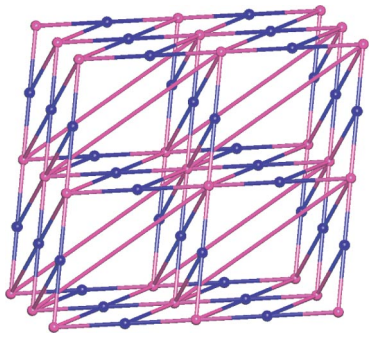
Magnetic Coordination Polymers

Manganese(II), cobalt(II), and zinc(II) coordination polymers were synthesized by using 1,2,4,5-benzenetetracarboxylic acid (H_4btec) and 4,4′-azobispyridine (azopy) as ligands, and their crystal structures were determined by single-crystal X-ray diffraction. The magnetic properties and the cyclic voltammograms for **1**−**3** in the solid state were analyzed.

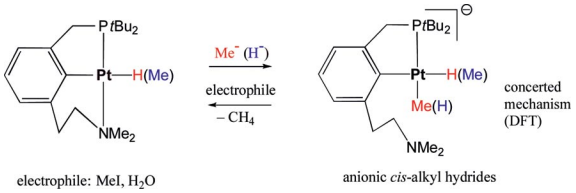


L.-M. Zhao, H.-H. Li, Y. Wu, S.-Y. Zhang, Z.-J. Zhang, W. Shi, P. Cheng,* D.-Z. Liao, S.-P. Yan ..... 1983−1990

Synthesis, Crystal Structures, and Magnetic Properties of Mn^{II}, Co^{II}, and Zn^{II} Coordination Polymers Containing 1,2,4,5-Benzenetetracarboxylic Acid and 4,4′-Azobispyridine

Keywords: Solid-state structures / Magnetic properties / Cyclic voltammetry / Coordination polymers / Mixed ligands

Anionic Alkyl Hydride Complexes



electrophile: MeI, H_2O anionic *cis*-alkyl hydrides

The first *anionic* d^8 alkyl hydride complexes were prepared by nucleophilic attack on a hemilabile pincer-type PCN Pt^{II} system. Only the isomer where the incoming nucleophile is *trans* to the phosphane is formed. The anionic complex is stable towards methane reductive elimination and readily reacts with water or MeI to selectively form methane.

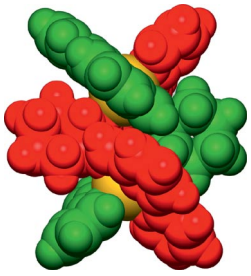
E. Poverenov, M. A. Iron, M. Gandelman, Y. Ben-David, D. Milstein* .... 1991−1999

Anionic d^8 Alkyl Hydrides − Selective Formation and Reactivity of Anionic *cis*-Pt^{II} Methyl Hydride

Keywords: Platinum / Anionic complexes / Pincer ligand / Alkyl hydride / Density functional calculations

Facile Stereoselectivity!

The enantiopure, hexadentate ligand (*R*,*R*)-**3** (reduced Schiff base with a cyclohexane-1,2-diyl backbone) was synthesized. (*R*,*R*)-**3** exhibits enough flexibility to form either *M*-$[M\{(R,R)\text{-}\mathbf{3}\}]^{2+}$ (major diastereoisomer) or *P*-$[M\{(R,R)\text{-}\mathbf{3}\}]^{2+}$ in solution. $[M\{(R,R)\text{-}\mathbf{3}\}]^{2+}$ (M = Fe, Cu, Zn) selectively crystallize in the *M*-form. Ligand (*R*,*R*)-**4**, the Schiff base analogue of (*R*,*R*)-**3**, forms [2+2] double helicates *M*-$[M_2\{(R,R)\text{-}\mathbf{4}\}_2]^{4+}$ (M = Ag, Zn); analogous results are obtained when (*S*,*S*)-**4** reacts with $FeCl_2$. Complete stereoselectivity is observed in solution.



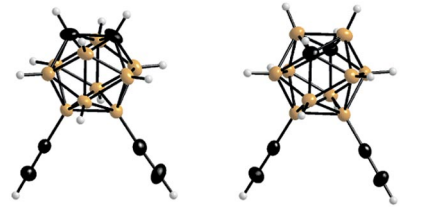
E. C. Constable,* G. Zhang, C. E. Housecroft,* M. Neuburger, J. A. Zampese ..... 2000−2011

Diastereoselective Assembly of Helicates Incorporating a Hexadentate Chiral Scaffold

Keywords: Helical structures / Stereochemistry / Chirality / N ligands / Copper / Iron / Zinc

Carboranes

A series of dicarba-*closo*-dodecaboranes with two and one ethynyl groups was synthesized by Kumada-type cross-coupling reactions. The diethynyl-substituted clusters 9,12-$(HCC)_2$-*closo*-1,2-$C_2B_{10}H_{10}$ and 9,10-$(HCC)_2$-*closo*-1,7-$C_2B_{10}H_{10}$ were structurally characterized and their bonding properties were compared to values derived from density functional calculations.



9,12-$(HC{\equiv}C)_2$-*closo*-1,2-$C_2B_{10}H_{10}$ 9,10-$(HC{\equiv}C)_2$-*closo*-1,7-$C_2B_{10}H_{10}$

A. Himmelspach, M. Finze* ..... 2012−2024

Dicarba-*closo*-dodecaboranes with One and Two Ethynyl Groups Bonded to Boron

Keywords: Alkynes / Boron / Boranes / Carboranes / Palladium / Cross-coupling / Structure elucidation

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* 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 12 were published online on April 12, 2010

