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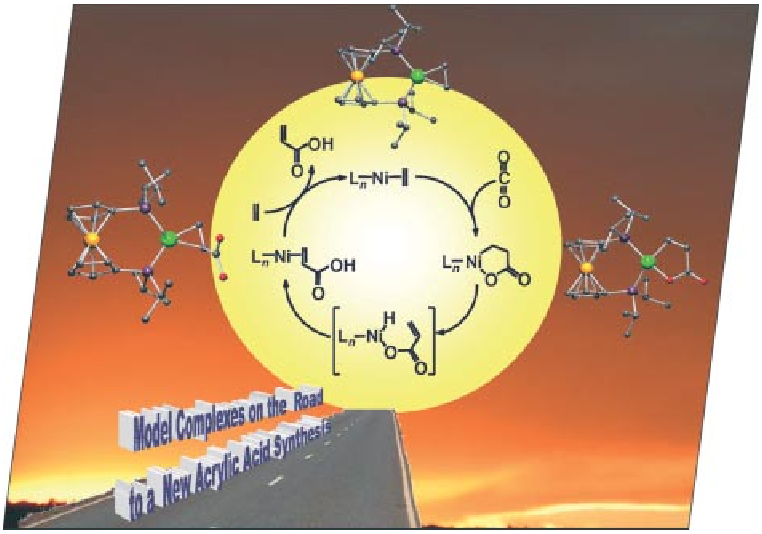
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows three types of nickel complexes that are stabilized by 1,1′-bis(phosphanyl)ferrocene ligands, which can be considered as model complexes for the hypothetical metal-mediated reaction between CO_2 and ethylene to form acrylic acid. The (acrylic acid)nickel(0) complexes are of particular interest as they represent the first stable combination between Ni^0 and this strong acid as a ligand. These complexes form hydrogen-bonded dimers in the solid state and are surprisingly stable. Details of their synthesis and reactivity along with the description of the other complexes are discussed in the article by D. Walther et al. on p. 2257 ff. The artwork was created by Ulf Walther.



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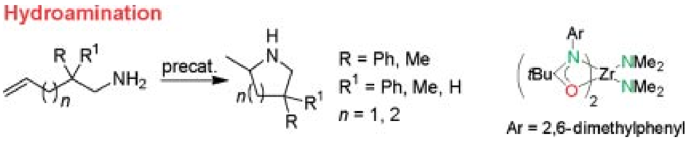
MICROREVIEW

Catalytic Hydroamination

A. V. Lee, L. L. Schafer* 2243–2255

Modular *N*,*O*-Chelating Ligands: Group-4 Amidate Complexes for Catalytic Hydroamination

Keywords: Amidate ligands / Group-4 metal complexes / Hydroamination / Homogeneous catalysis / Asymmetric catalysis



This microreview of transition metal amidate complexes and their applications in catalysis focuses on a new family of easily prepared, modular group 4 complexes for use in alkyne, allene and alkene hydroamination catalysis.

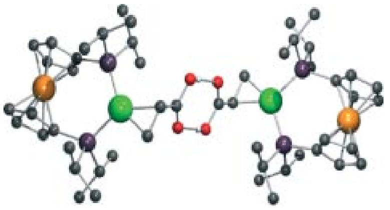
FULL PAPERS

Acrylic Acid Ni^0 Complexes

J. Langer, R. Fischer, H. Görls,
D. Walther* 2257–2264

Low-Valent Nickel and Palladium Complexes with 1,1′-Bis(phosphanyl)ferrocenes: Syntheses and Structures of Acrylic Acid and Ethylene Complexes

Keywords: Alkene ligands / Chelates / Nickel / Palladium / P ligands



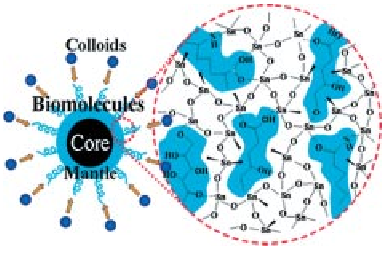
Ni^0 complexes of the type $[(L)Ni(\eta^2\text{-}CH_2{=}CH\text{-}COOH)]$ [L = 1,1′-bis(phosphanyl)-ferrocenes] containing acrylic acid as olefinic ligand are hydrogen bonded dimers in the solid state. Their isomers $[(L)Ni(CH_2CH_2COO)]$ can not be interconverted into the acrylic acid complexes, but undergo reductive decoupling to form complexes of the type $(L)Ni(\eta^2\text{-}CH_2{=}CH_2)$.

Biomimetic Nanomaterials

Q. Dong, H. Su,* W. Cao, D. Zhang,
Q. Guo, F. Zhang 2265–2273

Assembly and Formation of Biomorphic Tin Dioxide by a Biomimetic Sol–Gel Approach Involving Glycoprotein

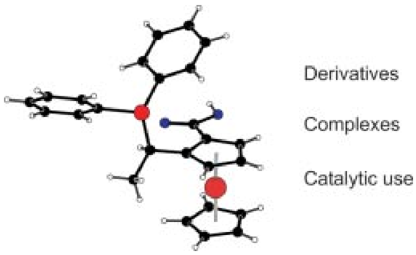
Keywords: Biomimetic synthesis / Colloids / Hierarchy / Nanotubes / Sol–gel processes



The eggshell membrane (ESM) plays a crucial role as the physical substrate and functional macromolecule template in achieving the synthesis of hierarchical SnO_2 through an interfacial sol–gel approach combined with calcination treatment. The formation mechanism is attributed to a protein-directed sol–gel process.

Chiral Ferrocene-Based Ligands

A novel (phosphanylalkyl)ferrocenecarboxylic acid with combined planar and central chirality and its selected derivatives modified at both the phosphane and carboxyl groups have been prepared and used as ligands in palladium and rhodium complexes. These complexes are applied in enantioselective rhodium-catalysed hydrogenation and in palladium-catalysed allylic alkylation reactions.



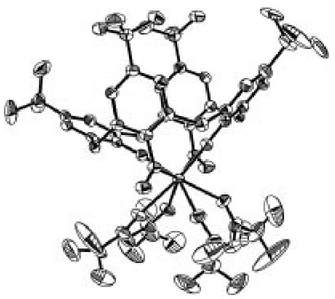
M. Lamač, I. Císařová,
P. Štěpnička* **2274–2287**

Synthesis, Coordination and Catalytic Utility of Novel Phosphanyl–ferrocenecarboxylic Ligands Combining Planar and Central Chirality

Keywords: Asymmetric catalysis / Ferrocene ligands / Rhodium / Palladium / Allylic alkylation

Ce^{IV} Calixarene Complexes

The synthesis of Ce^{IV} calixarene complexes is performed by two different synthetic approaches; the direct reaction of the Ce–β-diketonate with the calix[4]arene ligand and a complex modification of a bromination reaction. XPS studies revealed X-ray-induced changes in the effective Ce oxidation state of the two complexes in question.

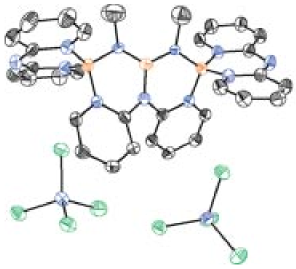


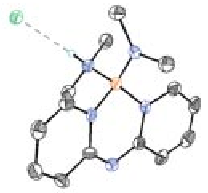
J. Gottfriedsen,* R. Hagner, M. Spoida,
Y. Suchorski **2288–2295**

Synthesis, Structure, and Reactivity of Cerium(IV) Calix[4]arene Complexes

Keywords: Cerium / Calixarenes / Photoelectron spectroscopy

Boratoheterocycles





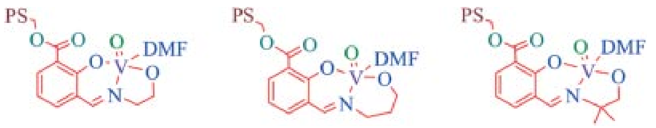
Transamination of di(pyrid-2-yl)amine with $B(NMe_2)_3$ yields a cyclic *B*-bis(dimethylamino)boratoheterocycle, which reacts with $CHCl_3$ to give the corresponding boronium chloride. With $AlCl_3$, the first diboronium salt is formed in a complex reaction and is isolated as its bis(tetrachloro)aluminate.

U. Braun, H. Nöth* **2296–2302**

Synthesis and Structures of Two New Types of Boronium Salts

Keywords: Boronium Cations / Transamination / X-ray structures

Polymer-Anchored Complexes



Three polymer-anchored oxidovanadium(IV) complexes were synthesized and their catalytic applications for the oxidation of styrene and cumene were studied.

M. R. Maurya,* U. Kumar,
P. Manikandan **2303–2314**

Synthesis and Characterisation of Polymer-Anchored Oxidovanadium(IV) Complexes and Their Use for the Oxidation of Styrene and Cumene

Keywords: Vanadium(IV) complexes / Polymer support / Heterogeneous catalysts / Oxidations

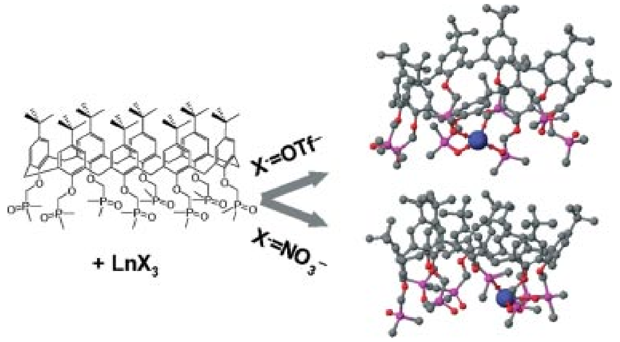
CONTENTS

Lanthanide Complexes

L. N. Puntus, A.-S. Chauvin, S. Varbanov, J.-C. G. Bünzli* .... 2315−2326

Lanthanide Complexes with a Calix[8]-arene Bearing Phosphinoyl Pendant Arms

Keywords: Lanthanides / Calixarenes / Europium / Luminescence



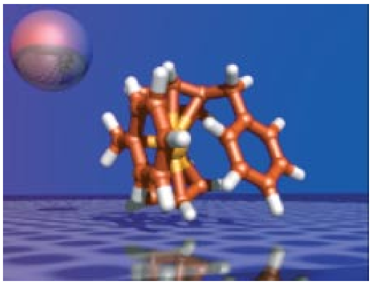
The phosphinoyl-substituted *p-tert*-butylcalix[8]arene B_8bL^8 reacts with Ln^{III} ions to form predominantly 1:1 complexes, but also 2:1 complexes. The final coordination environment of the ligand depends on the counterion. Optical electronegativity can be used to predict the charge transfer energies.

Cationic Zirconocenes

J. Saßmannshausen,* A. Track, T. A. D. S. Dias .... 2327−2333

Synthesis, Reactivity and DFT Investigation of a Cationic Zirconocene Benzyl Compound with an Appended Phenyl Group

Keywords: Density functional calculations / NMR spectroscopy / Polymerisation



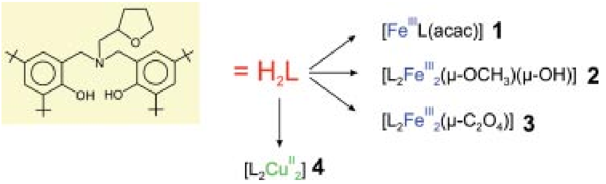
The reaction of $[\eta^5\text{-}C_5H_5\text{-}(\eta^5\text{-}C_5H_4CMe_2C_6H_4Me)Zr(CH_2Ph)_2]$ with $B(C_6F_5)_3$ was studied by multinuclear NMR spectroscopy and density functional theory (DFT). Detailed DFT calculations of the product explain the unusual chemical shift of the coordinated *ortho* atom of the tolyl moiety; the coordination was further elaborated by Bader and NBO analysis.

Tetradentate Ligands

E. Safaei, T. Weyhermüller, E. Bothe, K. Wieghardt, P. Chaudhuri* .... 2334−2344

A Magnetostructural and Electrochemical Study of Cu^{II} and Fe^{III} Complexes Containing a Tetradentate Aminebis(phenolate) Ligand with a Pendent Tetrahydrofuran Group

Keywords: Iron / Copper / Aminebis(phenol) / Electrochemistry / Magnetism



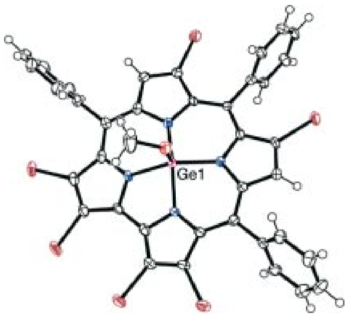
The tetradentate ligand H_2L yields complexes **1**−**4**, which were characterized by various physical techniques, including X-ray diffraction, Mössbauer, electrochemical and magnetic susceptibility (2−290 K) measurements. Electrochemical oxidations are ligand-centered, the formation of phenoxyl radicals occurs from the coordinated phenolates.

Partially Brominated Corroles

S. Nardis, F. Mandoj, R. Paolesse,* F. R. Fronczek, K. M. Smith, L. Prodi, M. Montalti, G. Battistini ..... 2345−2352

Synthesis and Functionalization of Germanium Triphenylcorrolate: The First Example of a Partially Brominated Corrole

Keywords: Corrole / Bromination / Regioselectivity / Porphyrinoid



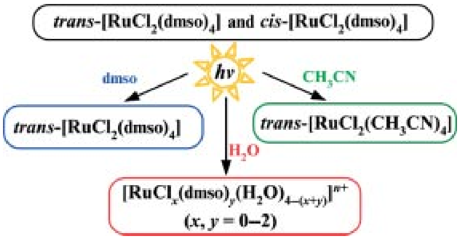
Ge complexes of 5,10,15-triphenylcorrole were prepared using $GeCl_4$ as the metal source. By reaction with Br_2 under a variety of reaction conditions, the first examples of partially brominated corroles have been obtained.. Photophysical characterization of Ge corrolates confirmed the high fluorescence quantum yield of such complexes, and also led to the first observation of phosphorescence emissions from corrole complexes.

Photochemistry of Ru^{II} Complexes

M. Brindell, G. Stochel,* V. Bertolasi, R. Boaretto, S. Sostero 2353−2359

Photochemistry of *trans*- and *cis*-[RuCl$_2$(dmso)$_4$] in Aqueous and Non-aqueous Solutions

Keywords: Ruthenium / Photochemistry / Photolabilization / Photoisomerization / Antitumor agents



The *cis* to *trans* isomerization and the substitution of the dmso ligand by solvent are the two main photoreactions observed for the [RuCl$_2$(dmso)$_4$] complex in nonaqueous solutions, whereas in aqueous solution, additionally Cl$^-$ ligand dissociation takes place in the secondary photochemical processes.