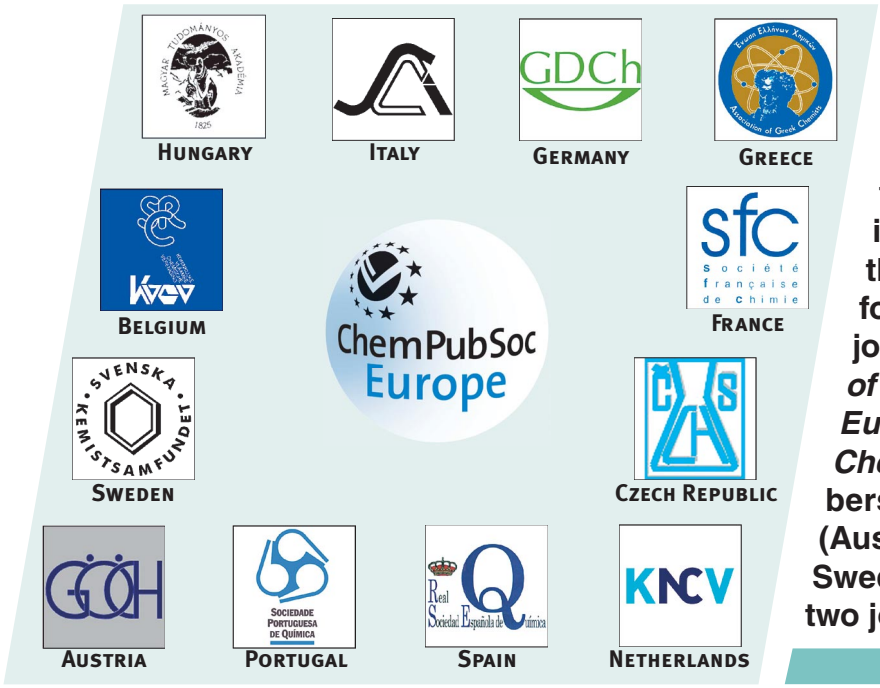
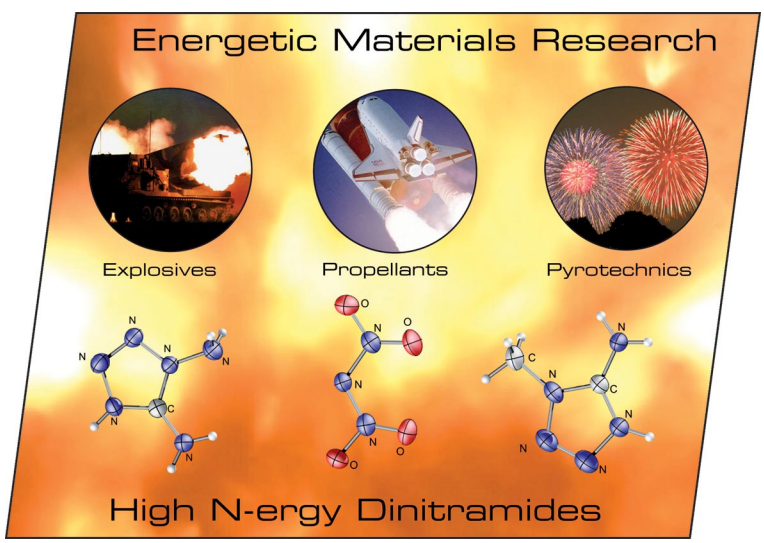


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows the three main topics in the research of new energetic materials: explosives, propellants and pyrotechnics. Two new highly energetic dinitramides in combination with nitrogen-rich tetrazolium cations are also presented. Details are discussed in the article by T. M. Klapötke and J. Stierstorfer on p. 4055ff.



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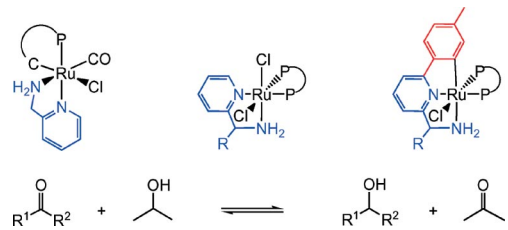
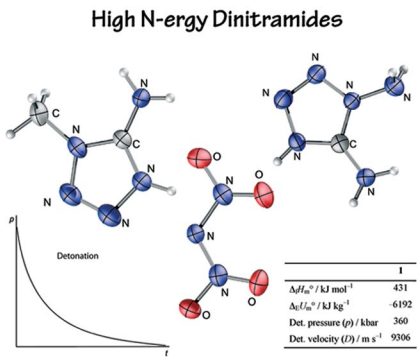
MICROREVIEW



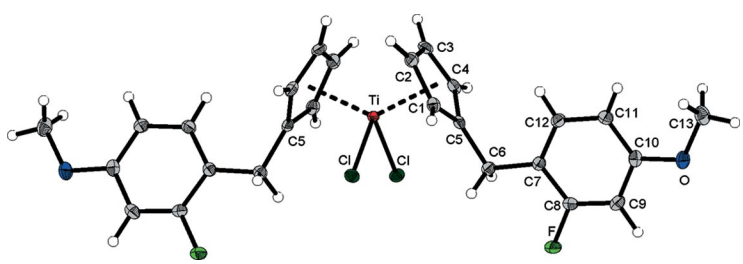
The catalytic transfer hydrogenation of carbonyl compounds allows easy synthesis of alcohols under mild conditions. This review describes recent achievements in the preparation of a novel class of highly efficient Ru catalysts based on the 1-(pyridin-2-yl)-methanamine motif. Asymmetric reduction of ketones occurs fast and with unprecedented productivity.

FULL PAPERS



The highly energetic compounds 1,5-diamino-1*H*-tetrazol-4-ium dinitramide (**1**) and 5-amino-1-methyl-1*H*-tetrazol-4-ium dinitramide (**2**) were synthesized by a metathesis reaction in high yields. In addition to a comprehensive characterization, the energetic properties and sensitivities were determined. Especially for **1**, promising detonation parameters, even surpassing those of octogen (HMX), were calculated.

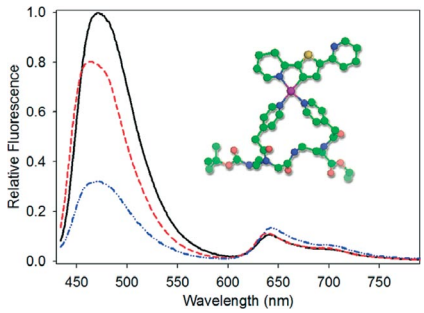
A series of mononuclear nickel complexes and cobalt coordination polymers containing organochalcogen (S, Se) ligands were synthesized and characterized. After activation with methylaluminoxane, the nickel complexes exhibited high activity for the addition polymerization of norbornene.



Three fluorinated benzyl-substituted titanocenes were synthesised by hydridolithiation of fluorinated aryl-substituted fulvenes. The synthesis and X-ray structure of the three titanocene derivatives are reported along with cytotoxicity tests.

Luminescent Metallated Peptide

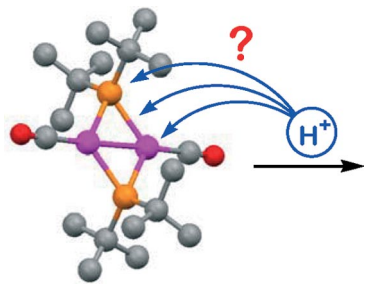
We report the solution-phase synthesis and characterization of an artificial pyridyl-substituted dipeptide that is crosslinked by a 2,5-bis(2-pyridyl)thiophene (dpt) platinum complex and its small molecule analog. These luminescent cross-linked metallated peptides offer a route toward the preparation of stable, inert inorganic complexes on the aeg scaffold.



Keywords: Platinum / Heterocycles / Luminescence / Peptides

Phosphido-Bridged Pt Complexes

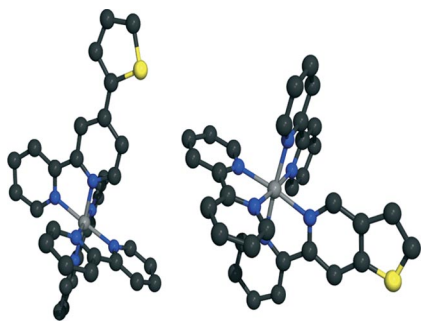
The derivatives $[Pt_2(\mu\text{-}PtBu_2)_2(L)(L')]$ (L, L′ = PR_3, PR_2H, CO) were treated with CF_3SO_3H to investigate ligand effects on the site of protonation. When at least one of the terminal ligands is a basic phosphane, protonation at Pt and formation of $[Pt_2(\mu\text{-}PtBu_2)_2(H)(L)(L')](CF_3SO_3)$ is always observed, whereas $[Pt(\mu\text{-}PtBu_2)(CO)]_2$ is protonated at the phosphorus atom of a bridging phosphide.



Keywords: Platinum / Dinuclear complexes / Bridging ligands / Crystal structures / Phosphanes / Phosphido ligands

Luminescent Ru Complexes

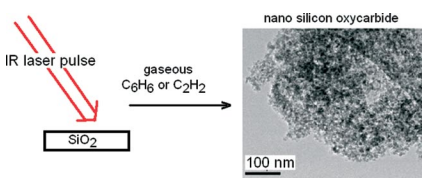
The electrochemical and photophysical properties of a range of Ru(II) tris-2,2′-bipyridine complexes in which a thiophene substituent is attached to one of the bpy ligands via either a pendant or a fused mode have been determined. The electrochemical properties of these complexes were found to be similar; however, the luminescence lifetimes and intensities were found to be correlated to the mode of attachment.



Keywords: Luminescence / N ligands / Ruthenium / Ligand design / Cyclic voltammetry

C–Si Oxycarbide Nanocomposites

IR laser irradiation of silica in gaseous benzene or ethyne results in carbonization of hydrocarbon and formation of silicon oxycarbide. The process allows chemical deposition of nanosized carbon–silicon oxycarbide composites.



Keywords: IR laser / Carbothermal reduction / Silica / Carbon–silicon oxycarbide / Nanocomposite

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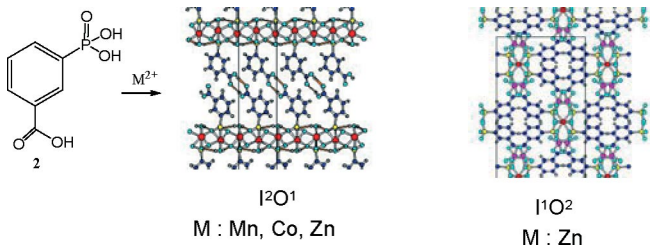
Hybrid Materials

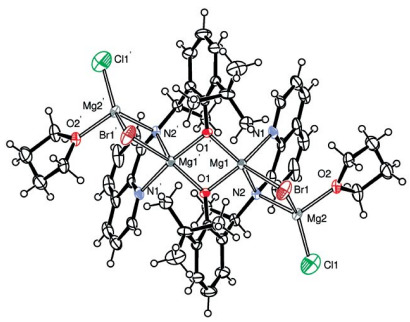
Keywords: Phosphonates / Carboxylic acids / Hydrothermal synthesis / Acidity / Magnetic properties



Rigid bifunctional *meta*-phosphonobenzoic acid **2** was used to synthesize hybrid materials. Lamellar materials I^2O^1 are obtained with Mn^{2+} and Co^{2+} salts possessing-the formula $M(H_2O)(m\text{-}O_3PC_6H_5CO_2H)$. The reaction of **2** with Zn^{2+} salts gave either a lamellar material or a 3D structure depending of the pH of the reaction media.

Yttrium-Coordinated Imines

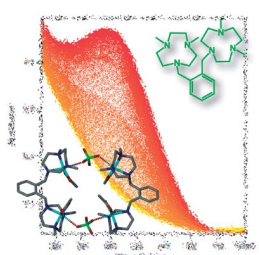
Keywords: Yttrium / Magnesium / Chloride complexes / Imine Ligands



Yttrium(III) chloride complexes $[YCl_2(NNO^R)]$ were synthesized. Reaction of $[YCl_2(NNO^H)]$ with MeMgBr led to the formation of the Mg^{II} derivative $[Mg_2BrCl\{NN(Me)O^H\}(thf)]_2$. Reaction of the neutral ligand NNO^H-H with $Y(CH_2SiMe_3)_3{\cdot}2thf$ afforded the alkyl complex $[Y(CH_2SiMe_3)\{NN(CH_2SiMe_3)O\}(thf)]$, and the reaction mechanism was simulated by using the PM6 Hamiltonian.

Artificial Nucleases

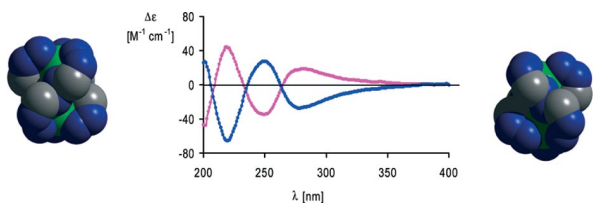
Keywords: Copper(II) coordination chemistry / Dinuclear complexes / Macrocyclic ligands / Crystallography / Phosphate ester hydrolysis



Dinuclear copper(II) complexes of two *N*-methylated bis(tacn) ligands, L^{memx} and L^{meox}, are reported in which auxiliary acetato ligands adopt chelating and bridging coordination modes, respectively, due to the differing constraints imposed by the bis(tacn) ligands. The aqua derivative of the former complex is an effective model phosphate diester cleavage agent.

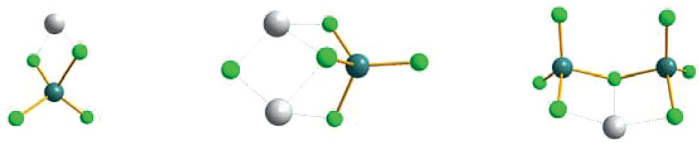
A Dinickel Helicate

Keywords: Triple-stranded helicates / Nickel(II) / Spontaneous resolution / Chiroptical properties / Magnetic properties



The synthesis, chiroptical and magnetic properties of a dinickel(II) triple-stranded helicate, which crystallizes under spontaneous racemate autoresolution are reported.

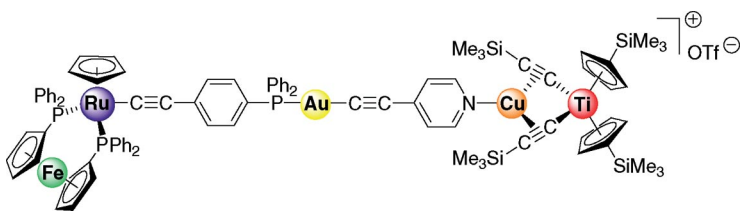
Gaseous Li–Al Species



The molecule $LiAlCl_4$ as well as the hitherto unknown molecules Li_2AlCl_5 and $LiAl_2Cl_7$ were formed and detected in the vapour phase by Knudsen cell mass spectrometry. Structural configurations and thermodynamic data were obtained by quantum chemical calculations. Standard heats of formation of the molecules were derived by third law analysis.

Keywords: Lithium / Mass spectrometry / Density functional calculations / Thermodynamics

Mixed Heteromultimetallic Complexes

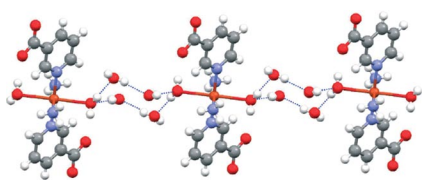


The synthesis and characterization of heterodi-, -tri-, -tetra-, and -pentametallic complexes, in which different transition metals such as Ti, Mo, Re, Fe, Ru, Rh, Cu, and Au are linked by carbon-rich bridging units, are described. Their solid-state structures and electrochemical properties are discussed.

Keywords: Heteromultimetallic complexes / Transition metals / Acetylides / Cyclic voltammetry

Porous Supramolecular Network

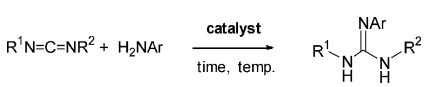
The supramolecular network of $[Cu(nicot)_2 \cdot 2NH_3 \cdot 2H_2O] \cdot 6H_2O$ (**1**) has been synthesized by transmetallation of the Zn–nicotinate by Cu^{II} ions. **1** shows H-bonding unique in the sense that it not only participates in the formation of nanoporous 2D chains but also forms ice-like hexamers, which together with octanuclear H-bonded rings extend the network into a 3D open framework.



Keywords: Transmetallation / Copper complex / Hydrogen bonds / Porous supramolecular network

Calcium Catalysis

The homoleptic heavier alkaline earth amides, $[M\{N(SiMe_3)_2\}_2(THF)_2]$ (M = Ca, Sr and Ba) are reported as competent precatalysts for the hydroamination of 1,3-carbodiimides. Initial studies are consistent with the intermediacy of heavier group 2 guanidinate complexes.



Keywords: Hydroamination / Guanidine / Guanidinate / Alkaline earth amides

* 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 25 were published online on August 25, 2008

