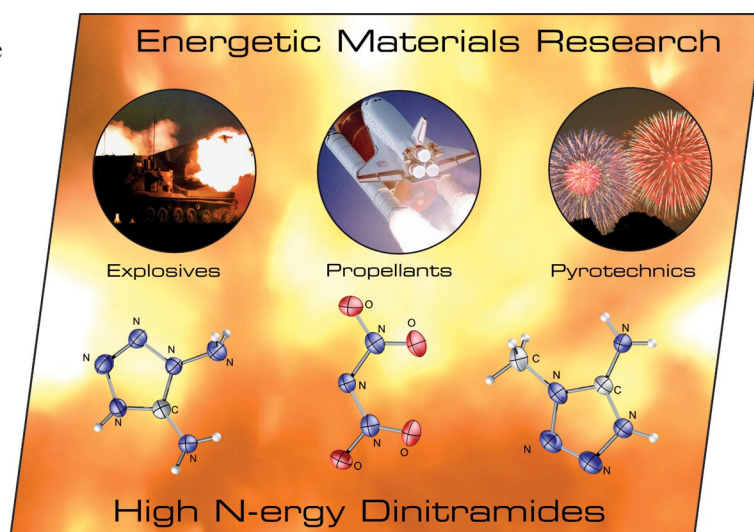




A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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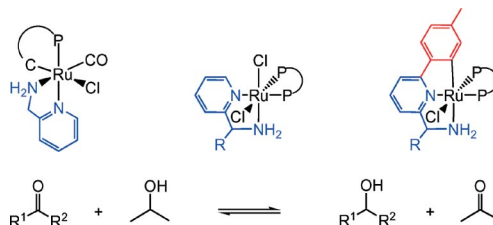
MICROREVIEW

Fast Asymmetric Hydrogen Transfer

W. Baratta,* P. Rigo 4041–4053

1-(Pyridin-2-yl)methanamine-Based Ruthenium Catalysts for Fast Transfer Hydrogenation of Carbonyl Compounds in 2-Propanol

Keywords: Asymmetric catalysis / Hydrides / Hydrogen transfer / Phosphane ligands / Ruthenium



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.

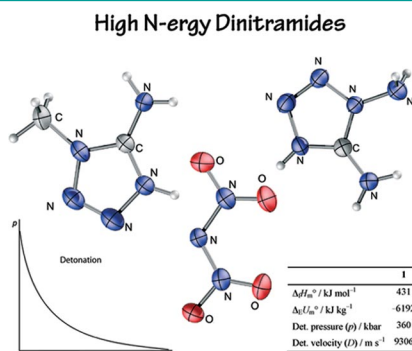
FULL PAPERS

Energetic Materials Research

T. M. Klapötke,*
J. Stierstorfer 4055–4062

The New Energetic Compounds 1,5-Diaminotetrazolium and 5-Amino-1-methyl-tetrazolium Dinitramide – Synthesis, Characterization and Testing

Keywords: Energetic materials / Tetrazoles / Amides / Structure elucidation / Detonation parameters



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.

Energetic Materials Research

Organochalcogen Ligands

W.-G. Jia, Y.-B. Huang, Y.-J. Lin,
G.-L. Wang, G.-X. Jin* 4063–4073

Nickel Complexes and Cobalt Coordination Polymers with Organochalcogen (S, Se) Ligands Bearing an *N*-Methylimidazole Moiety: Syntheses, Structures, and Properties

Keywords: Chalcogens / Nickel / Cobalt / Polymerization



A series of mononuclear nickel complexes and cobalt coordination polymers containing organochalcogen (S, Se) ligands were synthesized and characterized. After acti-

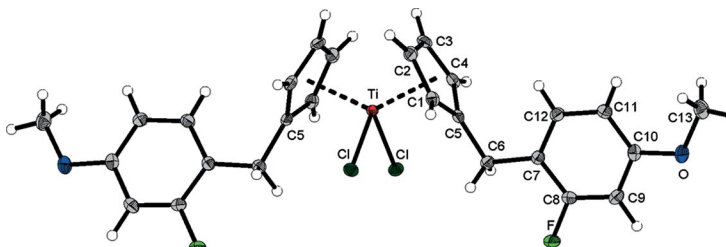
vation with methylaluminoxane, the nickel complexes exhibited high activity for the addition polymerization of norbornene.

Metal-Based Anticancer Drug

J. Claffey, B. Gleeson, M. Hogan,
H. Müller-Bunz, D. Wallis,
M. Tacke* 4074–4082

Fluorinated Derivatives of Titanocene Y: Synthesis and Cytotoxicity Studies

Keywords: Anticancer drugs / Cisplatin / Titanocene / Hydridolithiation / Fulvenes / Fluorine / Cytotoxicity / LLC-PK

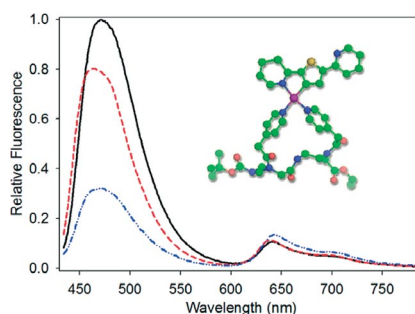


Three fluorinated benzyl-substituted titanocenes were synthesised by hydridolithiation of fluorinated aryl-substituted

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.



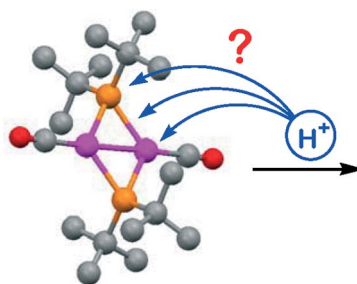
L. A. Levine, H. W. Youm, H. P. Yennawar, M. E. Williams* 4083–4091

Synthesis and Characterization of a (Dipyridylthiophene)platin Complex of a Pyridyl-Substituted Aminoethylglycine Artificial Dipeptide

Keywords: Platinum / Heterocycles / Luminescence / Peptides

Phosphido-Bridged Pt Complexes

The derivatives $[\text{Pt}_2(\mu\text{-PrBu}_2)_2(\text{L})(\text{L}')] (L, L' = \text{PR}_3, \text{PR}_2\text{H}, \text{CO})$ were treated with $\text{CF}_3\text{SO}_3\text{H}$ 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 $[\text{Pt}_2(\mu\text{-PrBu}_2)_2(\text{H})(\text{L})(\text{L}')](\text{CF}_3\text{SO}_3)$ is always observed, whereas $[\text{Pt}(\mu\text{-PrBu}_2)(\text{CO})]_2$ is protonated at the phosphorus atom of a bridging phosphide.



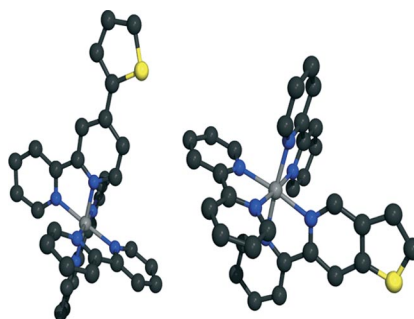
A. Albinati, P. Leoni,* F. Marchetti, L. Marchetti, M. Pasquali, S. Rizzato 4092–4100

Synthesis, Structure and Reactivity of Bis(phosphido)-Bridged Dinuclear Carbonyls of Platinum(I)

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.



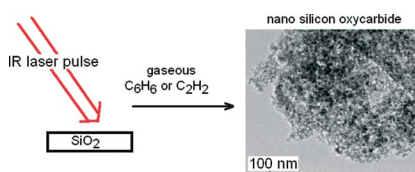
L. J. Nurkkala, R. O. Steen, H. K. J. Friberg, J. A. Häggström, P. V. Bernhardt, M. J. Riley, S. J. Dunne* 4101–4110

The Effects of Pendant vs. Fused Thiophene Attachment upon the Luminescence Lifetimes and Electrochemistry of Tris(2,2'-bipyridine)ruthenium(II) Complexes

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.



M. Urbanová, D. Pokorná, S. Bakardjieva, J. Šubrt, Z. Bastl, J. Pola* 4111–4116

IR Laser-Induced Carbothermal Reduction of Silica

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

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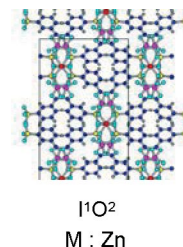
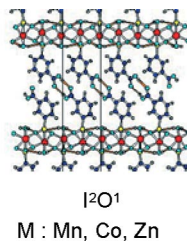
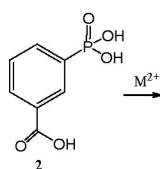
Hybrid Materials

J.-M. Rueff,* V. Caignaert, S. Chausson,
A. Leclaire, C. Simon, O. Perez,
L. Le Pluart, P.-A. Jaffrès* 4117–4125



meta-Phosphonobenzoic Acid: A Rigid
Heterobifunctional Precursor for the
Design of Hybrid Materials

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



Rigid bifunctional *meta*-phosphonoben-
zoic acid **2** was used to synthesize hybrid
materials. Lamellar materials I²O¹ are ob-
tained with Mn²⁺ and Co²⁺ salts possessing-

the formula M(H₂O)(*m*-O₃PC₆H₅CO₂H).
The reaction of **2** with Zn²⁺ salts gave
either a lamellar material or a 3D structure
depending of the pH of the reaction media.

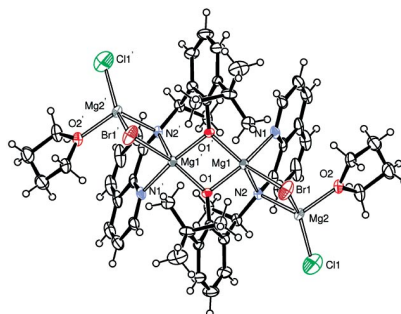
Yttrium-Coordinated Imines

G. Paolucci,* M. Bortoluzzi,
V. Bertolasi 4126–4132



Reactivity of Yttrium Quinoline–Imine–
Phenoxide Complexes Towards Inter- and
Intramolecular Alkyl Nucleophilic Attacks

Keywords: Yttrium / Magnesium / Chloride
complexes / Imine Ligands



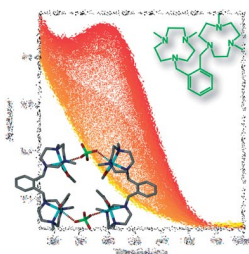
Yttrium(III) chloride complexes [YCl₂–
(NNO^R)] were synthesized. Reaction of
[YCl₂(NNO^H)] with MeMgBr led to the
formation of the Mg^{II} derivative [Mg₂BrCl–
{NN(Me)O^H}(thf)]₂. Reaction of the
neutral ligand NNO^H–H with Y(CH₂Si-
Me₃)₃·2thf afforded the alkyl complex
[Y(CH₂SiMe₃)₃{NN(CH₂SiMe₃)O}(thf)],
and the reaction mechanism was simulated
by using the PM6 Hamiltonian.

Artificial Nucleases

M. J. Belousoff, B. Graham,*
L. Spiccia* 4133–4139

Copper(II) Complexes of *N*-Methylated
Derivatives of *ortho*- and *meta*-Xylyl-
Bridged Bis(1,4,7-triazacyclononane) Li-
gands: Synthesis, X-ray Structure and Re-
activity as Artificial Nucleases

Keywords: Copper(II) coordination chemis-
try / Dinuclear complexes / Macrocyclic li-
gands / 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 acet-
ato 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.

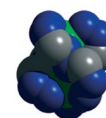
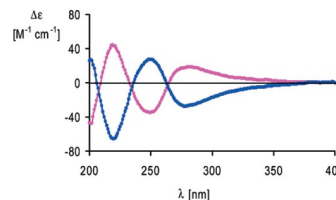
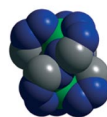
A Dinickel Helicate

A. Dobrov, V. B. Arion,* S. Shova,
A. Roller, E. Rentschler,
B. K. Keppler 4140–4145



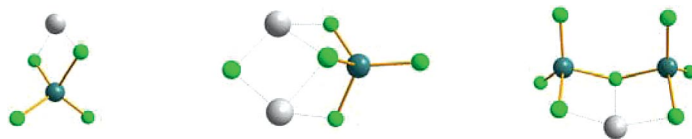
Spontaneous Resolution of a Triple-
Stranded Dinickel(II) Helicate Generated
via Intermolecular Transamination Reac-
tion of *S*-Methylisothiocarbohydrazide in
the Presence of Ni²⁺

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



The synthesis, chiroptical and magnetic
properties of a dinickel(II) triple-stranded
helicate, which crystallizes under spon-

taneous racemate autoresolution are re-
ported.



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

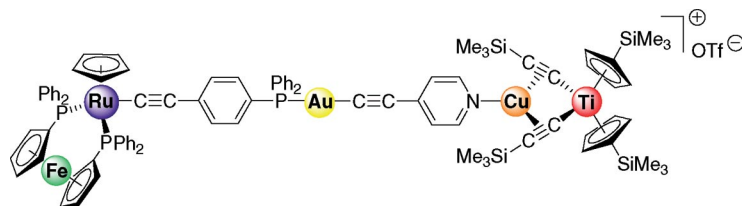
thermodynamic data were obtained by quantum chemical calculations. Standard heats of formation of the molecules were derived by third law analysis.

**H. Saal, E. Milke, C. Brünig,
M. Binnewies,* R. Köppe 4146–4151**

Formation and Stability of the Gaseous Species LiAlCl_4 , Li_2AlCl_5 and LiAl_2Cl_7 – Mass Spectrometric and Quantum Chemical Studies

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

Mixed Heterometallic 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.

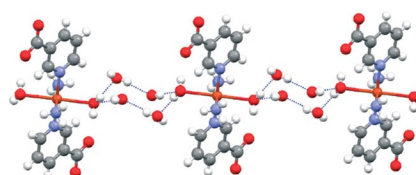
**R. Packheiser, P. Ecorchard, T. Rüffer,
B. Walfort, H. Lang* 4152–4165**

Mixed Heterotri- to Heteropentametallic Transition-Metal Complexes: Synthesis, Characterization and Electrochemical Behavior

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

Porous Supramolecular Network

The supramolecular network of $[\text{Cu}(\text{nicot})_2 \cdot 2\text{NH}_3 \cdot 2\text{H}_2\text{O}] \cdot 6\text{H}_2\text{O}$ (**1**) has been synthesized by transmetalation 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.



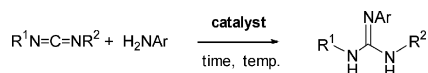
**K. A. Siddiqui, G. K. Mehrotra*,
J. Mrozinski, R. J. Butcher 4166–4172**

H-Bonded Porous Supramolecular Network of a Cu^{II} Complex Assisted by Assembled 2D Sheet of Chair Form Hexameric Water Cluster

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

Calcium Catalysis

The homoleptic heavier alkaline earth amides, $[\text{M}\{\text{N}(\text{SiMe}_3)_2\}_2(\text{THF})_2]$ ($\text{M} = \text{Ca}, \text{Sr}$ and Ba) are reported as competent pre-catalysts for the hydroamination of 1,3-carbodiimides. Initial studies are consistent with the intermediacy of heavier group 2 guanidinate complexes.



**J. R. Lachs, A. G. M. Barrett*,
M. R. Crimmin, G. Kociok-Köhn,
M. S. Hill,* M. F. Mahon,
P. A. Procopiu 4173–4179**

Heavier Group-2-Element Catalyzed Hydroamination of Carbodiimides

Keywords: Hydroamination / Guanidine / Guanidinate / Alkaline earth amides

* Author to whom correspondence should be addressed.

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