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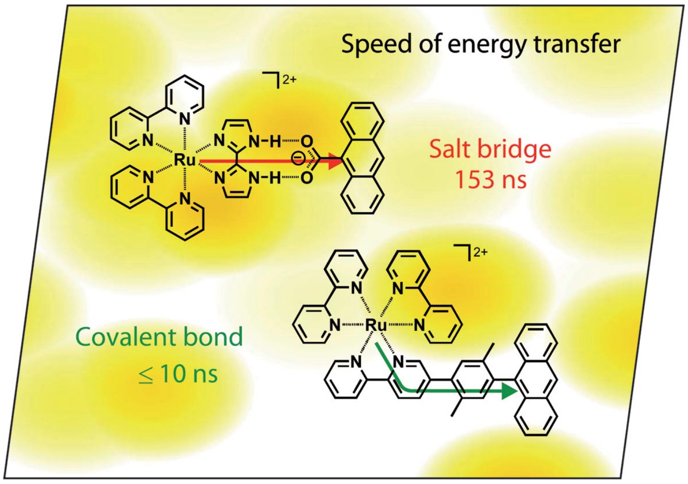
COVER PICTURE

The cover picture shows two energy-transfer dyads that both comprise a ruthenium donor and an anthracene acceptor. The time constant (τ) associated with the energy transfer process is strongly dependent on the linkage between the donor and the acceptor: A salt bridge mediates energy transfer with τ = 153 ns, while a covalent *p*-xylene linker makes energy transfer possible within less than 10 ns. Details are discussed in the article by J. C. Freys and O. S. Wenger on p. 5509ff.



CONTENTS

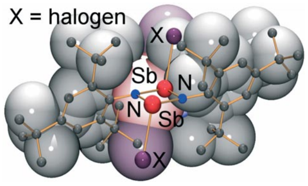
SHORT COMMUNICATION

Sb–N Heterocycles

M. Lehmann, A. Schulz,*
A. Villinger 5501–5508

Synthesis and Characterization of 1,3-Dihalogeno-2,4-bis(2,4,6-tri-*tert*-butylphenyl)-*cyclo*-1,3-distiba-2,4-diazanes, [X–Sb(μ-NR)]$_2$ (X = F, Cl, Br, and I)

Keywords: Heterocycles / Antimony / Halogens / Synthesis design / Structure elucidation



The whole halogen series of supermesityl-substituted *cyclo*-distiba-diazanes has been synthesized and fully characterized for the first time.

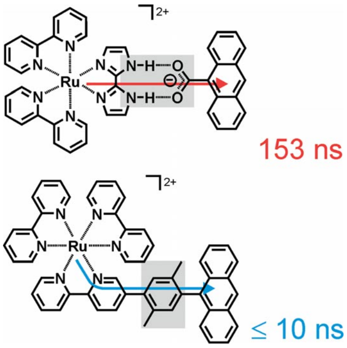
FULL PAPERS

Ru–Anthracene Donor–Acceptors

J. C. Freys, O. S. Wenger* 5509–5516

Supramolecular and Intramolecular Energy Transfer with Ruthenium–Anthracene Donor–Acceptor Couples: Salt Bridge versus Covalent Bond

Keywords: Energy transfer / Donor–acceptor systems / Supramolecular chemistry / Ruthenium / Hydrogen bonds



A ruthenium(II) biimidazole complex forms closely interacting cation–anion adducts with anthracene-9-carboxylate. Energy transfer within these adducts and a covalent donor-bridge-acceptor system is compared.

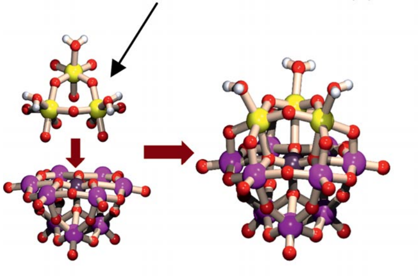
Mixed-Valent Keggin Polyoxometalates

D. Dutta, A. D. Jana, M. Debnath,
G. Mostafa, R. Clérac, J. G. Tojal,
M. Ali* 5517–5522

Design of Tri-Substituted Dodecatungstosilicate from a Trilacunary Silicotungstate by Insertion of Manganese Ions of [Mn$_3$(μ$_3$-O)(2-Cl-benzoato)$_6$(py)$_3$]: Synthesis, Structure, Redox and Magnetic Studies

Keywords: Polyoxometalates / Silicates / Manganese / Mixed-valent compounds / Magnetic properties

From [Mn$_3$(μ_3-O)(2-Cl-benzoate)$_6$(py)$_3$] **(1)**

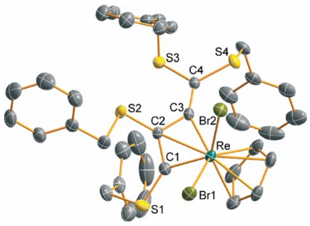


A-[SiW$_9$O$_{34}$]$^{10-}$ **(2)** α-[Mn$_3$(H$_2$O)$_3$SiW$_9$O$_{37}$]$^{8-}$ **(3)**

A Keggin polyoxometalate α-[Mn^{II}Mn$^{III}_2$(H$_2$O)$_3$SiW$_9$O$_{37}$]$^{8-}$ (**3**) has been designed by insertion of three Mn atoms from [Mn^{II}Mn$^{III}_2$(μ$_3$-O)(2-Cl-benzoato)$_6$(py)$_3$] (**1**) into the vacant sites of Na$_{10}$[A-α-SiW$_9$O$_{34}$] (**2**). Compound **3** exhibits antiferromagnetic interaction between the Mn centres, which leads to an *S* = 5/2 ground state.

Rhenium Dithioalkyne Cyclization

Allenylcarbene complexes are potential alkyne oligomerization intermediates. A surprisingly facile synthesis of this complex type with an internal dithioalkyne and the plain $[(C_5H_5)ReBr_2]$ fragment by a concerted rearrangement cycloaddition reaction is reported.



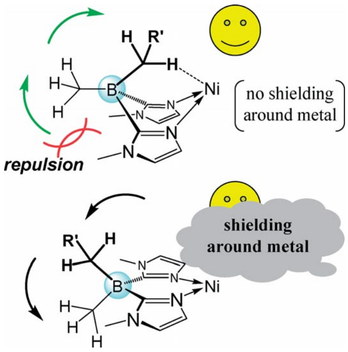
W. W. Seidel,* M. J. Meel, D. Schallenberg, T. Pape, A. Villinger, D. Michalik **5523–5528**

Facile Formation of a Rhenium Allenylcarbene Complex with an Internal Dithioalkyne

Keywords: Rhenium / Alkynes / Carbene complexes / Cycloaddition

Organoborate Ligands

The configuration of the functional groups attached to the boron atom in the organoborate ligands, $\mathbf{L}^{\text{alkyl}}$, is controlled by steric congestion around the boron center. Sterically enforced anagostic C–H···M interactions are observed in $[\mathrm{Ni^{II}}(\mathbf{L}^{\text{alkyl}})_2]$, where alkyl = Me and *n*Bu. In the mixed-ligand complexes $[\mathrm{Ni^{II}}(\mathrm{L^X})(\mathrm{Tp}^{i\mathrm{Pr}2})]$, steric hindrance around the metal center also affects the structure of the dialkylbis(imidazolyl)borate scaffold.



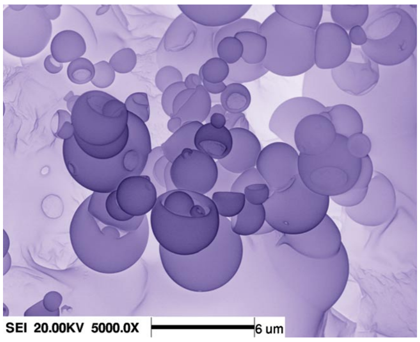
S. Hikichi,* K. Fujita, Y. Manabe, M. Akita, J. Nakazawa, H. Komatsuzaki **5529–5537**

Coordination Properties of Organoborate Ligands – Steric Hindrance Around the Distal Boron Center Directs the Conformation of the Dialkylbis(imidazolyl)borate Scaffold

Keywords: Borates / Ligand effects / Nickel / N ligands / C–H···M interactions

BN Hollow Microspheres

Novel BN hollow microspheres with open mouths have been fabricated. The unique open-mouth feature makes them potential candidates as microreactors. They show excellent cathodoluminescence performance in the region of 200–400 nm and could be used as compact ultraviolet laser emitters. Moreover, they exhibit an unexpected Raman scattering effect.



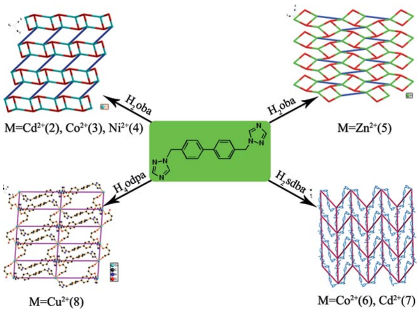
G. Wen,* B. Zhong, X. Huang, H. Yu, X. Zhang, T. Zhang, H. Bai ... **5538–5544**

Novel BN Hollow Microspheres with Open Mouths – Facile Synthesis, Growth Mechanism, Resonant Raman Scattering Effect, and Cathodoluminescence Performance

Keywords: Hollow microspheres / Boron nitride / Raman spectroscopy / Microreactors / Luminescence

Coordination Polymers

This work reports on the synthesis and characterization of seven new coordination polymers containing a conformational bis-triazole ligand. The long flexible btmb ligand displays *cis* and *anti* conformational features. The thermogravimetric analysis of these polymers indicates striking thermostability.



C. Ren, P. Liu, Y.-Y. Wang,* W.-H. Huang, Q.-Z. Shi **5545–5555**

Structural Investigation of Coordination Polymers Constructed from a Conformational Bis-triazole Ligand and V-Shaped Bridging Carboxylate Anions: Hydrothermal Syntheses, Crystal Structures, and Property Studies

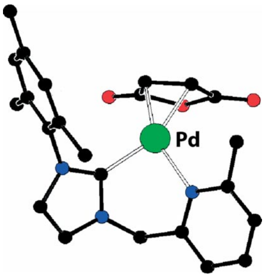
Keywords: Conformation analysis / Crystal engineering / Coordination polymers / N ligands / O ligands

CONTENTS

Picolyl Carbene Catalysts

S. Warsink, C. M. S. van Aubel, J. J. Weigand, S.-T. Liu, C. J. Elsevier* 5556–5562

Bulky Picolyl Substituted NHC Ligands and Their Pd^0 Complexes



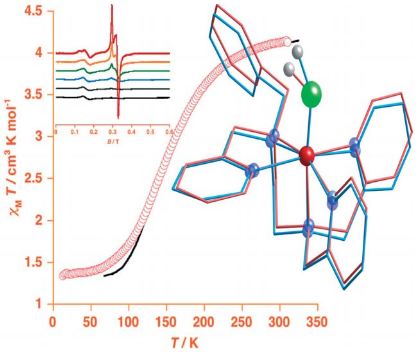
The use of differently substituted secondary picolyl donors on NHC ligands leads to stable palladium(0) complexes. The complexes are active precatalysts for the selective transfer semihydrogenation of alkynes to *Z*-alkenes.

Keywords: Carbene ligands / N ligands / Palladium / Hydrogen transfer / Hybrid ligands

Iron(III) Spin Crossover Complex

N. A. Ortega-Villar, M. C. Muñoz, J. A. Real* 5563–5567

[Fe^{III}(bztpen)(OCH$_3$)](PF$_6$)$_2$: Stable Methoxide–Iron(III) Complex Exhibiting Spin Crossover Behavior in the Solid State



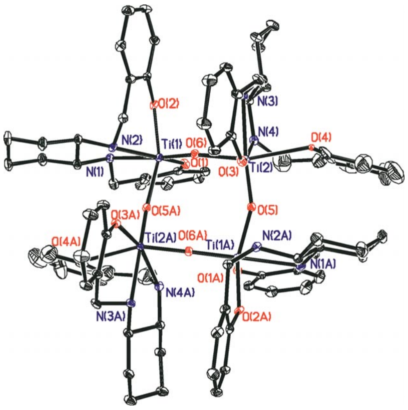
Magnetic studies, EPR spectroscopy, and single-crystal X-ray diffraction analysis demonstrate that complex [Fe^{III}(bztpen)(OCH$_3$)](PF$_6$)$_2$ (**1**) undergoes solid-state spin crossover (SCO) behavior in the temperature range 300–50 K. This result supports the observation of SCO in solution in related biomimetic iron(III) complexes.

Keywords: Magnetic properties / Iron / O ligands / Pentadentate ligands / Spin crossover

Asymmetric Sulfoxidation

P. Adão, F. Avecilla, M. Bonchio, M. Carraro, J. Costa Pessoa,* I. Correia* 5568–5578

Titanium(IV)–Salan Catalysts for Asymmetric Sulfoxidation with Hydrogen Peroxide



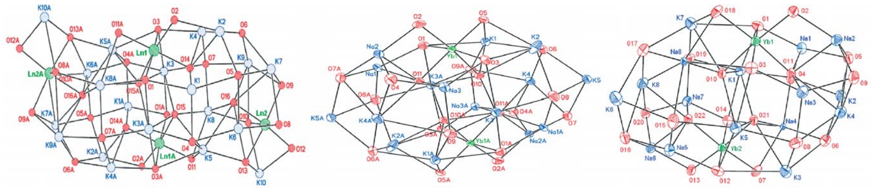
The solution and solid-phase characterization of several titanium(IV)–salan complexes is reported. The Ti–salan complexes were tested as catalysts in the benchmark oxidation of thioanisole with several oxidants in organic solvents and ionic liquids. The best catalyst bears no substituents on the aromatic groups and *tert*-butyl hydroperoxide is the most suitable oxidant for use in ILs.

Keywords: Titanium / Oxidation / Ionic liquids / Heterogeneous catalysis / Asymmetric catalysis

Lanthanide Alkoxide Clusters

H. T. Sheng,* Y. Feng, Y. Zhang, Q. Shen* 5579–5586

Synthesis and Crystal Structure of Novel Biheterometal and Triheterometal Alkoxide Clusters – Highly Active Catalysts for the Polymerization of ε-Caprolactone

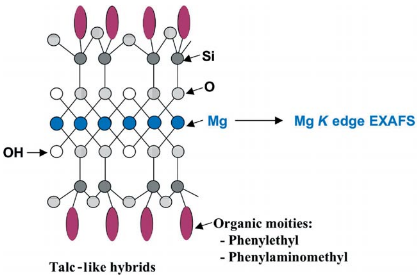


Five lanthanide–potassium and lanthanide–potassium–sodium heterometal alkoxide clusters were synthesized in high yield. These clusters exhibited good catalytic activity for the ring-opening polymerization of ε-caprolactone. The catalytic activity was found to depends on the ratio of alkali metal to lanthanide metal as well as the ratio of potassium to sodium.

Keywords: Heterometal clusters / Lanthanides / Alkali metals / Alkoxide / Polymerization / ε-Caprolactone

Phyllosilicate Hybrids

The electronic and atomic structures of sixfold Mg cations within the frame of synthesized phyllosilicates and organophyllosilicates are investigated by using X-ray absorption spectroscopy as a selective local probe. The stability of the octahedral sheet, which is much less affected by the presence of organic moieties than the tetrahedral one, could be due to the strong overlap of Mg orbitals.



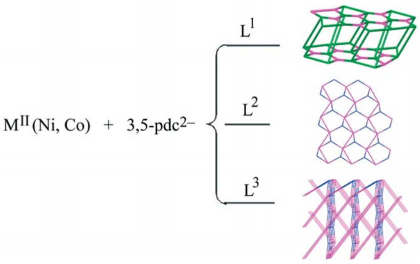
J. Miehé-Brendlé, M.-H. Tuilier,*
C. Marichal, J.-C. Gallego,
M. Reinholdt 5587–5591

Mg Environments in the Octahedral Sheet of 2:1 Talc-Like Hybrid Phyllosilicates: A Comparative XAFS Study

Keywords: Layered compounds / Talc / Montmorillonite / EXAFS spectroscopy

Metal-Organic Polymers

Three complexes, which self-assembled from the metal ions, pyridine-3,5-dicarboxylic acid, and the bis(imidazole) ligands, show desirable structural features that depend on both the coordination modes of the 3,5-pdc^{2-} anions and the various configurations of the N-donor ligands.



Y. Lv, Y. Qi, L. Sun, F. Luo, Y. Che,*
J. Zheng* 5592–5596

Construction of Metal-Organic Frameworks with the Pyridine-3,5-dicarboxylate Anion and Bis(imidazole) Ligands: Synthesis, Structure, and Thermostability Studies 💻

Keywords: Metal-organic frameworks / N ligands / Supramolecular chemistry / Cobalt / Nickel

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* Author to whom correspondence should be addressed.

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