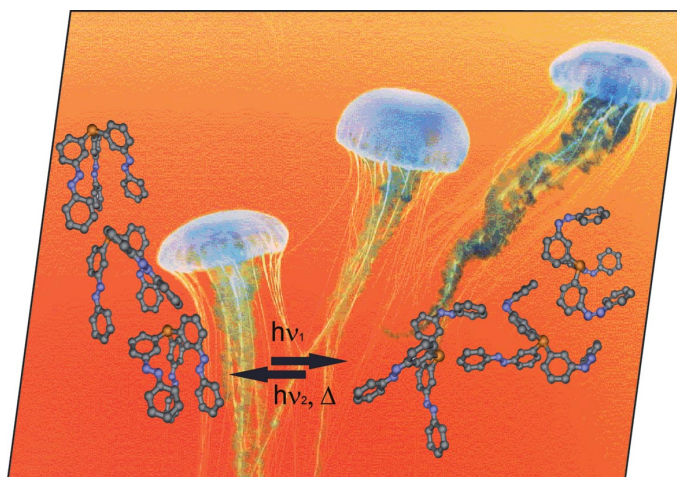


EurJIC is co-owned by 11 societies of ChemPubSoc Europe, a union of European chemical societies for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

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

COVER PICTURE

The cover picture shows the light-induced isomerization of (*E,E,E*)-tris(azobenzene)–phosphane to the (*Z,E,E*), (*Z,Z,E*) and (*Z,Z,Z*) conformers. This photo-triggered skeletal change has been illustrated by the natural umbrella-like shape and movements of jellyfish. Details of the synthesis and switchability of this type of ligands and their platinum complexes are discussed in the Short Communication by Z. Freixa et al. on p. 2075 ff.



CONTENTS

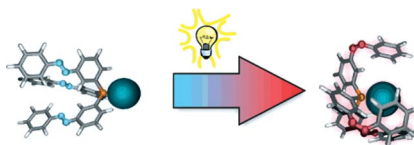
SHORT COMMUNICATIONS

Switchable Phosphane Ligands

M. D. Segarra-Maset,
P. W. N. M. van Leeuwen,
Z. Freixa* 2075–2078



Light Switches the Ligand! Photochromic Azobenzene–Phosphanes



Light can bring about steric changes in azobenzene–phosphane ligands in platinum complexes, and notably the photo-processes are not quenched by the metal atom.

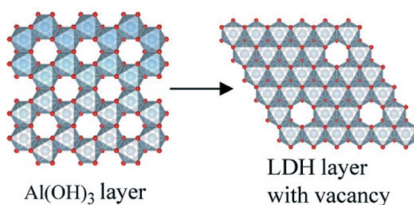
Keywords: P ligands / Molecular switches / Azo compounds / Ligand effects / Homogeneous catalysis

Carbonate Shortage in LDHs

S. Ma, C. Fan, G. Huang, Y. Li,
X. Yang,* K. Ooi 2079–2083



Origin of CO_3^{2-} Shortage in MgAl Layered Double Hydroxides with $\text{Mg}/\text{Al} < 2$



A “substitution–filling” model based on the gibbsite-like layer with octahedral vacancies is proposed to explain the carbonate shortage ($\text{CO}_3^{2-}/\text{Al} < 0.5$) in Al-rich MgAl layered double hydroxides synthesized by the urea hydrolysis method.

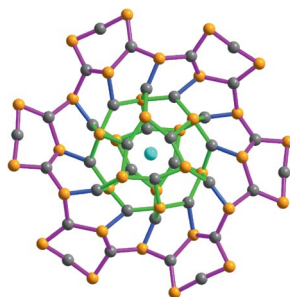
Keywords: Layered compounds / Homogeneous precipitation / Hydrolysis / Magnesium / Aluminum

Symmetrical Silver Nanoclusters

X. Liu, H. Yang, N. Zheng,*
L. Zheng 2084–2087



Bromide-Induced Formation of a Highly Symmetric Silver Thiolate Cluster Containing 36 Silver Atoms from an Infinite Polymeric Silver Thiolate



When silver reacts with thiolates, it tends to produce polymeric complexes. With the help of Br^- , a high-nuclearity $[\text{Br}@\text{Ag}_{36}(\text{SC}_6\text{H}_4\text{tBu-4})_{36}]^-$ nanocluster was successfully prepared from a polymeric silver thiolate complex.

Keywords: Nanostructures / Cluster compounds / Silver / Halides

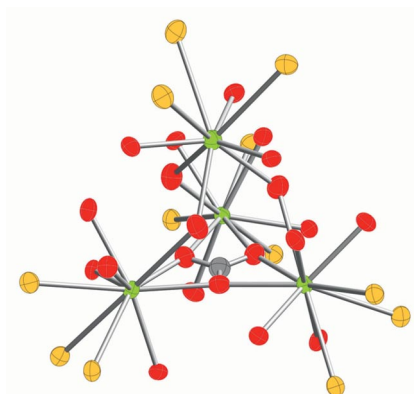
FULL PAPERS

Multinuclear Sandwiches

A. Bilyk, J. W. Dunlop, A. K. Hall,
J. M. Harrowfield,* M. W. Hosseini,
G. A. Koutsantonis, B. W. Skelton,
A. H. White 2089–2105



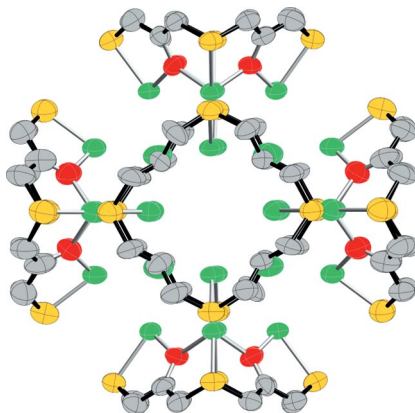
Systematic Structural Coordination Chemistry of *p*-tert-Butyltetrathiacalix[4]arene: Main Group Metal Complexes Other Than Those of Group 1



p-tert-Butyltetrathiacalix[4]arene forms complexes with metal ions from groups 2, 13 and 14 with mononuclear, dinuclear or tetranuclear forms depending upon both the metal ion and the method of crystallisation of the complex: Ba^{II} , for example, provides both mononuclear complexes and a novel tetranuclear species, the latter entrapping a carbonate ion.

Keywords: Calixarenes / Main group elements / Solvent inclusion / Solid-state structures

Complexes formed by a variety of transition-metal ions with *p*-*tert*-butyltetra-thiacalix[4]arene show a remarkable range of structures and nuclearity: a hydroxo-cluster involving Ni^{II}, for example, containing 32 metal ions enrobed by six thiocalixarene units disposed in an octahedral array.

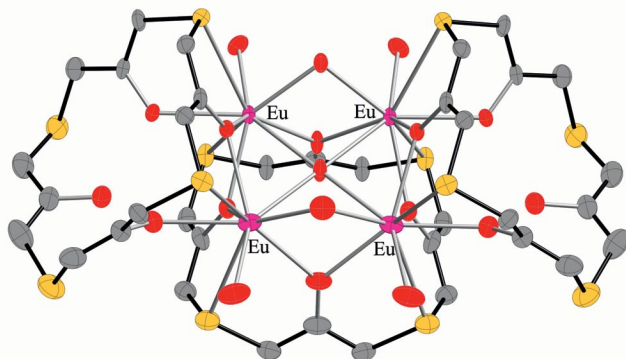


A. Bilyk, J. W. Dunlop, R. O. Fuller,
A. K. Hall, J. M. Harrowfield,*
M. W. Hosseini, G. A. Koutsantonis,
I. W. Murray, B. W. Skelton, R. L. Stamps,
A. H. White 2106–2126

Systematic Structural Coordination Chemistry of *p*-*tert*-Butyltetra-thiacalix[4]arene: Further Complexes of Transition-Metal Ions

Keywords: Calixarenes / Transition metals / Solvent inclusion / Solid-state structures

Lanthanide Aggregates



Complexes of lanthanide(III) ions with *p*-*tert*-butyltetra-thiacalix[4]arene show forms that depend both on the particular lanthanide ion and a variety of subtle factors, probably including kinetic effects. Typi-

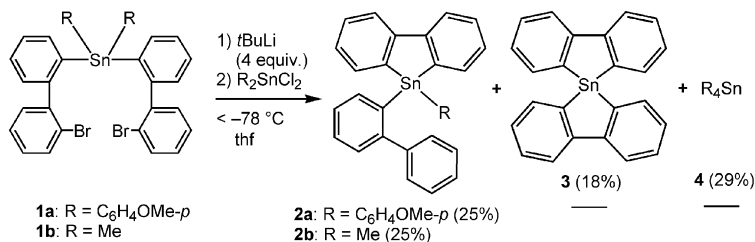
cally, the structures involve a sandwich-like array of calixarene units incorporating three or four metal ions, although Eu^{III}, in particular, shows a remarkable variety in its complexes.

A. Bilyk, J. W. Dunlop, R. O. Fuller,
A. K. Hall, J. M. Harrowfield,*
M. W. Hosseini, G. A. Koutsantonis,
I. W. Murray, B. W. Skelton,
A. N. Sobolev, R. L. Stamps,
A. H. White 2127–2152

Systematic Structural Coordination Chemistry of *p*-*tert*-Butyltetra-thiacalix[4]arene: Further Complexes of Lanthanide Metal Ions

Keywords: Calixarenes / Rare earths / Solvent inclusion / Solid-state structures

Pentaorganostannates



The reaction of bis(2-bromo-2'-biphenyl)-stannanes **1** with *tert*-butyllithium in the presence of diaryl- and dialkyl-dichlorostannanes leads to the extrusion of aryl and alkyl groups on the tin atom, affording

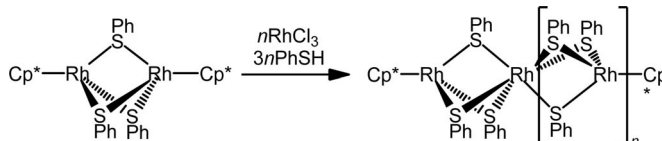
9-stannafluorene derivatives bearing biphenyl groups. The intermediates of the reactions were assigned to the corresponding pentaorganostannates, which were characterized by NMR spectroscopy.

M. Saito,* S. Imaizumi,
T. Tajima 2153–2157

Formation of Pentaorganostannates from Bis(2-bromo-2'-biphenyl)stannanes and *tert*-Butyllithium upon Substitution of Alkyl and Aryl Groups on Tin Atoms

Keywords: Stannanes / Nucleophilic substitution / Hypervalent compounds

Rhodium Thiolato Oligomers



Ligand exchange and coordination studies were done on the dinuclear thiolato-bridged complex [Cp*Rh(μ-SPh)₃RhCp*]Cl. Oligomeric materials of the general formula [Cp*Rh(μ-SPh)_x(μ-Cl)_{3-x}{Rh(μ-SPh)₃}_n-

RhCp*] (*x* = 1 to 3; *n* = 1 to 4) were formed by insertion of [Rh(SPh)₃] units when the bridging coordination mode of the thiolato ligands was altered.

J. Boudreau, J. Grenier-Desbiens,
F.-G. Fontaine* 2158–2164

MS-TOF Study of the Formation of Thiolato-Bridged Rhodium Oligomers

Keywords: Rhodium / S ligands / Mass spectrometry / Oligomerization / Cluster compounds

Frontiers of Chemistry: From Molecules to Systems

A One-Day Symposium

On 21st May 2010 in Paris
at the Maison de la Chimie
(near the Eiffel Tower and Les Invalides)

Speakers



Gerhard Ertl
Nobel Prize 2007



Jean-Marie Lehn
Nobel Prize 1987



Roger Y. Tsien
Nobel Prize 2008



Ada Yonath
Nobel Prize 2009



Luisa De Cola



Alan R. Fersht



Marc Fontecave



Michael Grätzel



Michel Orrit



Nicolas Winssinger

Posters will be displayed also online from 1st April

www.chembiophyschem.org

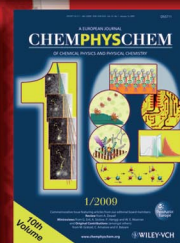
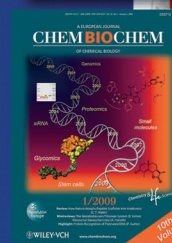
Organized by



Partner of the event

sanofi aventis
Because health matters

Celebrating 10 Years of



Scientific committee

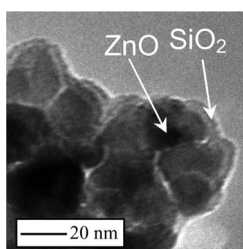
E. Amouyal, M. Che,
F. C. De Schryver,
A. R. Fersht, P. Göltz,
J. T. Hynes, J.-M. Lehn

Topics

catalysis, biochemical imaging,
chemical biology, bionanotechnology,
proteomics, spectroscopy, solar cells

WILEY-VCH

Silica nanolayers were coated on ZnO electrodes by a simple sol–gel transformation under precise control of the coating methods, coating periods, and solution composition. The open-circuit photovoltage of dye-sensitized solar cells can be substantially enhanced by using SiO₂-coated ZnO electrodes.



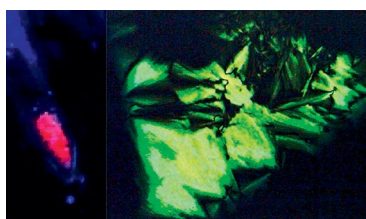
S. Ueno, S. Fujihara* 2165–2171

Formation of Silica Nanolayers on ZnO Electrodes in Dye-Sensitized Solar Cells


Keywords: Photovoltaic materials / Semiconductors / Nanostructures / Sol–gel processes

Luminescent Ionic Liquid

[C₁₂mim]₄[EuBr₆]Br in the temperature range of –3 to 98 °C adopts a smectic liquid crystal phase. At 77 K it shows a strong red emission with a lifetime of about 2.6 ms. The quantum efficiency of emission is about 0.45.



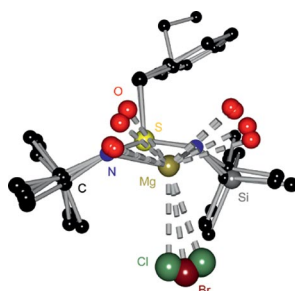
A. Getsis, S. Tang,
A.-V. Mudring* 2172–2177

A Luminescent Ionic Liquid Crystal: [C₁₂mim]₄[EuBr₆]Br 

Keywords: Europium / Ionic liquids / Ionic liquid crystals / Lanthanides / Luminescence / Thermobehavior

Sulfur Diimide Grignards

Sulfur diimides react readily with different Grignard reagents to form highly pure magnesium diimidosulfonates in excellent yields. These diimidosulfonates have been studied in solution and in the solid state.



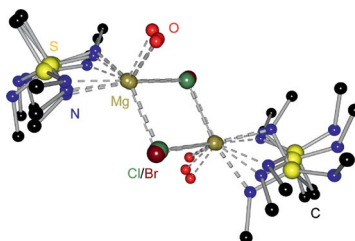
T. Schulz, S. Deuerlein,
D. Stalke* 2178–2184

Magnesium Diimidosulfonates – Conformational Studies in the Solid State and in Solution

Keywords: Sulfur / Imides / Magnesium / Grignard reaction / Structure elucidation

Sulfur Triimide Grignards

In contrast to bulky organolithium complexes, the sulfur triimide S(NtBu)₃ reacts readily with Grignard reagents to form magnesium triimidosulfonates with a third pendent imido group in an ideal position to coordinate a second metal. The conformation of these novel Mg complexes is studied in the solid state and in solution.



T. Schulz, D. Stalke* 2185–2192

Magnesium Triimidosulfonates from Grignard Reagents

Keywords: Sulfur / Imides / Magnesium / Grignard reaction / Structure elucidation

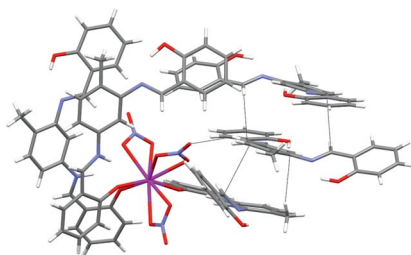
CONTENTS

Lanthanide Salicylaldimines

M. T. Kaczmarek, M. Kubicki, A. Mondry,
R. Janicki,
W. Radecka-Paryzek* 2193–2200

Self-Assembled Lanthanide Salicylaldimines with a Unique Coordination Mode

Keywords: Self-assembly / Lanthanides / Schiff bases / O ligands / Coordination modes



The monodentate O donor coordination behavior of a neutral salen-type ligand is documented in lanthanide salicylaldimine complexes formed in situ from aldehyde and diamine precursors. The lanthanide ions serve as templating and organizing centers for the construction of complex species that act as hosts for an additional salicylaldimine guest, stabilizing the overall self-assembled supramolecular network.

CORRECTION

K. Tschulik, M. Ruck, M. Binnewies,
E. Milke, S. Hoffmann, W. Schnelle,
B. P. T. Fokwa, M. Gilleßen,
P. Schmidt* 2201

Chemistry and Physical Properties of the
Phosphide Telluride Zr_2PTe_2

Keywords: Phosphorus / Tellurium / Zirconium / Chemical vapor transport / Thermodynamics / Structure elucidation

* 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 13 were published online on April 26, 2010