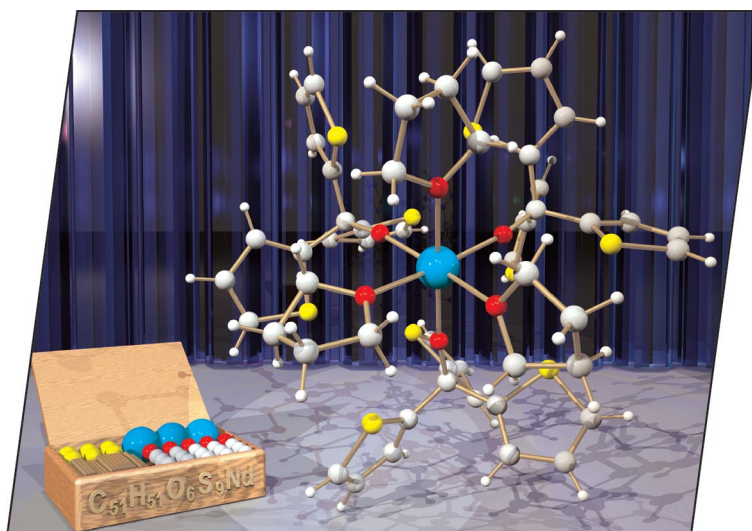


The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the X-ray crystal structure of $\{\text{Nd}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{thf})_3\} \cdot \text{thf}$, a new neodymium thienylmethoxide. The structure determination of this compound reveals a monomer with an approximately octahedral geometry around the neodymium atom: this metal centre is surrounded by three tris(2-thienyl)methoxido ligands and three tetrahydrofuran molecules in a facial arrangement. Details are discussed in the article by M. Veith et al. on p. 2397ff.



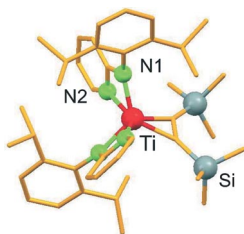
SHORT COMMUNICATIONS

Acetylene Complexes

A. Noor, R. Kempe* 2377–2381

Acetylenetitanium Complex Stabilized by Aminopyridinato Ligands

Keywords: Alkyne complex / Amido ligands / Aminopyridinato ligands / N ligands / Titanium



A rare example of a Cp-free group-4 alkyne complex was synthesized by reducing the corresponding (aminopyridinato)dichlorotitanium complex with magnesium in the presence of bis(trimethylsilyl)acetylene. Structural data indicate that the acetylene ligand is weaker bound than in related titanocenes.

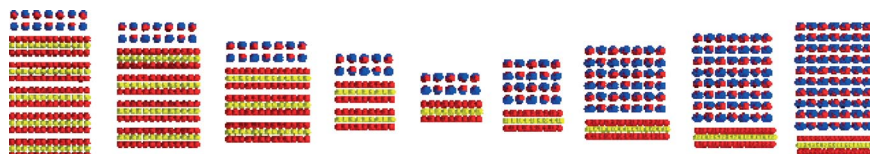
Families of Misfits

Q. Lin, C. L. Heideman, N. Nguyen, P. Zschack, C. Chiritescu, D. G. Cahill, D. C. Johnson* 2382–2385



Designed Synthesis of Families of Misfit-Layered Compounds

Keywords: Incommensurate structure / Synthesis design / Nanostructure / Crystal engineering / Layered compounds



More than 60 unique misfit-layered compounds $[(MX)_{1+x}]_m(TX_2)_n$ have been synthesized in 5 different families with m and n values ranging from 1 to 5. The ability to prepare families of compounds with a

range of m and n values from many different families will permit the correlation of composition, nanostructure, and the levels of order and disorder with physical properties.

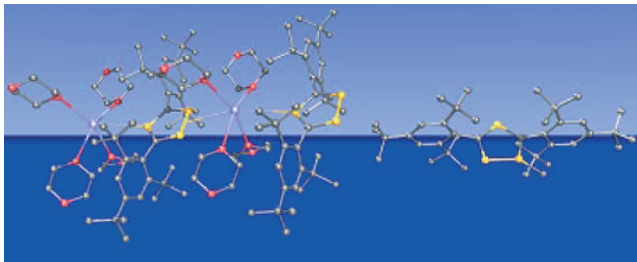
Polyphosphorus Radicals

A. S. Ionkin,* W. J. Marshall, B. M. Fish, A. A. Marchione, L. A. Howe, F. Davidson, C. N. McEwen 2386–2390



Dual Supermesityl Stabilization: A Room-Temperature-Stable 1,2,4-Triphosphole Radical, Sigmatropic Hydrogen Rearrangements, and Tetraphospholide Anion

Keywords: ESR spectroscopy / Phosphaalkynes / Phosphorus / Cesium / Heterocycles



The first stable 1*H*-1,2,4-triphosphole with a P–H bond, its oxidized P–P dimer, cesium 1,2,4-triphospholide and cesium tetraphospholide are synthesized and structurally characterized.

pholide are synthesized and structurally characterized.

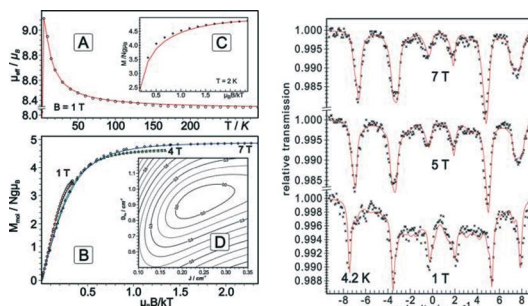
Spin Polarization in Diferric Complexes

B. Biswas, S. Salunke-Gawali, T. Weyhermüller, V. Bachler, E. Bill, P. Chaudhuri* 2391–2395



A Ferromagnetically Coupled Diiron(III) Complex with a *m*-Phenylenediamine-Based Ligand

Keywords: Iron / Diferric complexes / Schiff bases / Ferromagnetism / Spin polarization



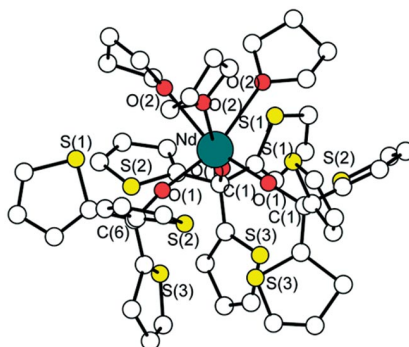
The d^5 high-spin iron(III) centers with a separation of 7.90 Å in a diferric complex are ferromagnetically coupled through the spin polarization mechanism.

are ferromagnetically coupled through the spin polarization mechanism.

FULL PAPERS

Rare Earth Thienylmethoxides

The aminolysis reactions between tris(2-thienyl)methanol (**1**) or tris(2,2'-bithienyl-5-yl)methanol (**2**) and $M[N(\text{SiMe}_3)_2]_3$ ($M = \text{Y}^{3+}$, Nd^{3+} , Er^{3+}) yield the rare earth thienylmethoxides $\text{Y}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{thf})_2$ (**3a**), $\{\text{Y}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{py})_2\} \cdot \text{toluene}$ (**3b**), $\text{Y}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{py})_2$ (**4a**), $\{\text{Y}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{py})_2\} \cdot \text{toluene}$ (**4b**), $\text{Y}[\text{OC}(\text{C}_8\text{H}_5\text{S}_2)_3]_3(\text{thf})_2$ (**5**), $\{\text{Nd}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{thf})_3\} \cdot \text{thf}$ (**6**), $\{\text{Nd}[\text{OC}(\text{C}_8\text{H}_5\text{S}_2)_3]_3(\text{thf})_3\} \cdot 4\text{thf}$ (**7**), $\text{Er}[\text{OC}(\text{C}_4\text{H}_3\text{S})_3]_3(\text{thf})_3$ (**8**) and $\text{Er}[\text{OC}(\text{C}_8\text{H}_5\text{S}_2)_3]_3(\text{thf})_3$ (**9**), whose structural characterization is reported.



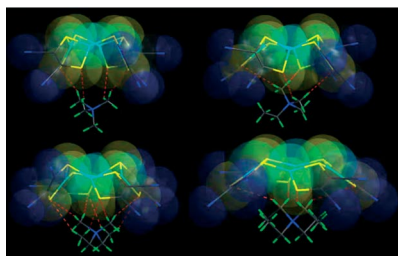
M. Veith,* C. Belot, L. Guyard, V. Huch,
M. Knorr, M. Zimmer 2397–2406

Synthesis and Crystal Structure Investigations of Trivalent Rare Earth (Y^{3+} , Nd^{3+} , Er^{3+}) Thienyl-Substituted Methoxides

Keywords: Thienylmethoxido ligands / Amides / Alcohols / Rare earths / X-ray diffraction

Host-Guest Systems

The compounds $[(\text{R}_{4-x}\text{R}^1)_4\text{N}][\text{Cu}_4\{\text{S}_2\text{C}_2(\text{CN})_2\}_4]$, which lose plasticity on dissolution to release the relaxed elastic anion, show varying degrees of partially opened umbrella-shaped structures depending on R and R^1 . The molecular structural design information stored in this new cation is molded to the elastic anionic host framework through H-bonding to create a new plastic supramolecular entity.



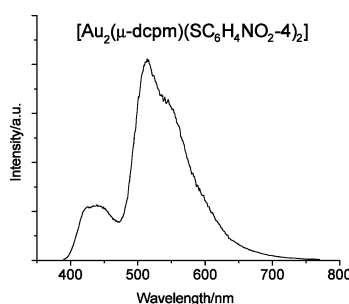
B. K. Maiti, K. Pal,
S. Sarkar* 2407–2420

Plasticity in $[(\text{R}_{4-x}\text{R}^1)_4\text{N}][\text{Cu}_4\{\text{S}_2\text{C}_2(\text{CN})_2\}_4]$ ($x = 0-4$) is Molded by a Guest Cation on an Elastic Anionic Host

Keywords: Cation template / Plasticity / Elasticity / Host-guest systems / Supramolecular chemistry

Charge-Transfer Transition

The photoluminescence of $[(\text{PCy}_3)_3\text{Au}(\text{SC}_6\text{H}_4\text{NO}_2-4)]$ (**1**), $[\text{Au}_2(\mu\text{-dcpm})(\text{SC}_6\text{H}_4\text{NO}_2-4)_2]$ (**2**), $[\text{Au}_2(\mu\text{-dppm})(\text{SC}_6\text{H}_4\text{NO}_2-4)_2]$ (**3**), and $[(\mu_2\text{-SC}_6\text{H}_4\text{NO}_2-4)_2(\mu_3\text{-SC}_6\text{H}_4\text{NO}_2-4)_2(\text{CuPPh}_3)_4]$ (**4**) in solid state and alcoholic glassy solutions at 77 K is assigned to the $[\pi(\text{S}) \rightarrow \pi^*(\text{C}_6\text{H}_4\text{NO}_2-4)]$ charge-transfer excited state, as supported by the results of DFT and TDDFT calculations.



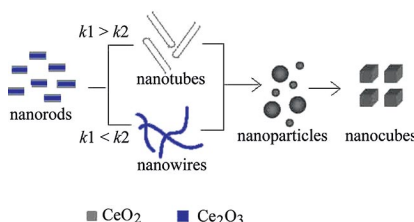
C.-H. Li, S. C. F. Kui, I. H. T. Sham,
S. S.-Y. Chui, C.-M. Che* 2421–2428

Luminescent Gold(I) and Copper(I) Phosphane Complexes Containing the 4-Nitrophenylthiolate Ligand: Observation of $\pi \rightarrow \pi^*$ Charge-Transfer Emission

Keywords: Gold / Copper / Phosphane / S ligands / Phosphorescence

Controllable Ceria Nanostructures

A template-free method is employed first to synthesize single-crystal CeO_2 nanorods at room temperature and pressure, and then the controlled conversion of nanorods into nanotubes, nanowires, and nanocubes is realized. Finally, CO oxidation properties of CeO_2 nanostructures were investigated systematically and CeO_2 nanorods were found to have excellent catalytic performance.



C. Pan, D. Zhang,* L. Shi,*
J. Fang 2429–2436

Template-Free Synthesis, Controlled Conversion, and CO Oxidation Properties of CeO_2 Nanorods, Nanotubes, Nanowires, and Nanocubes

Keywords: Cerium oxide / Ceria / CO oxidation / Nanorods / Nanostructures / Nanotubes

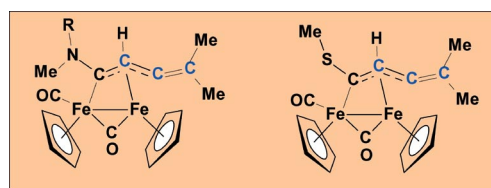
CONTENTS

Coupling of Allenes

L. Busetto, F. Marchetti, M. Salmi,
S. Zacchini, V. Zanotti* 2437–2447

Coupling of Allenes with μ -Alkylidyne Ligands in Diiron Complexes: Synthesis of Novel Bridging Thio- and Aminobutadienylidene Complexes

Keywords: Aminocarbyne / Thiocarbyne / Allene / Butadienylidene / C–C bond formation / Dinuclear complexes



A C₄ chain is successfully constructed by assembling allenes with bridging C₁ (alkylidyne) ligands. The reactions are

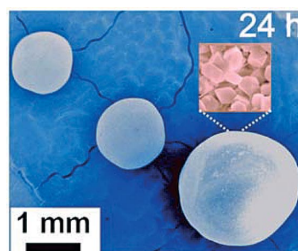
regioselective and afford new bridging butadienylidene diiron complexes containing heteroatom (N, S) functionalities.

Micro/Macroporous Spheres

V. Sebastián, C. Téllez, J. Coronas*
J. Santamaría 2448–2453

Formation of Micro/Macroporous Hierarchical Spheres of Titanosilicate Umbite

Keywords: Zeolite analogues / Titanates / Umbites / Crystal growth / Microporous structures



Micro/macroporous polycrystalline spheres of microporous titanosilicate umbite were prepared by hydrothermal synthesis without the use of organic structuring agents.

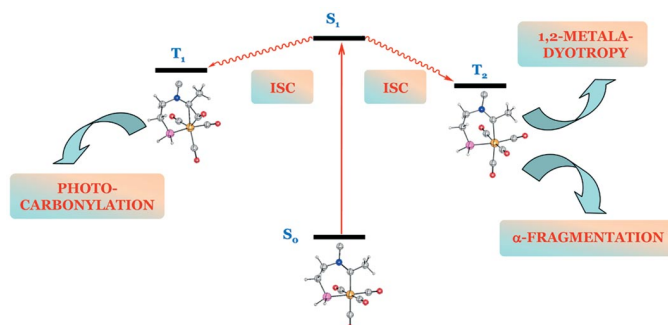
Photochemistry of Fischer Carbenes

I. Fernández, M. A. Sierra,*
M. J. Mancheño, M. Gómez-Gallego,
F. P. Cossio* 2454–2462



The Noncarbonylative Photochemistry of Group 6 Fischer Carbene Complexes

Keywords: Metal carbenes / Photochemistry / Type I dyotropic rearrangements / Excited states / α -Fragmentation



Computational and experimental data rationalize the two photochemical noncarbonylative mechanisms of group 6 Fischer

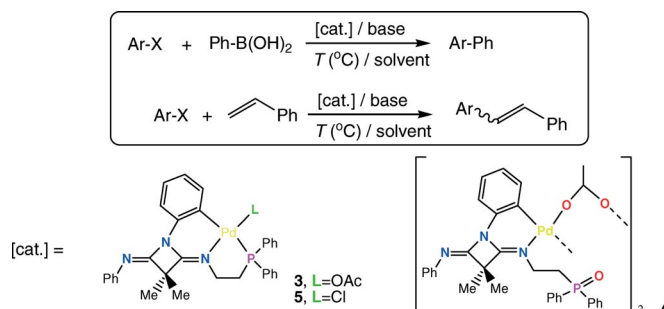
carbene complexes and also the photochemical reactivity of the “photoinert” tungsten(0)–carbene complexes.

Palladacycles in Coupling Reactions

K.-F. Peng, M.-T. Chen, C.-A. Huang,
C.-T. Chen* 2463–2470

Syntheses, Characterization and Catalytic Application of Palladacycles Containing Phosphane or Phosphane Oxide Functionalities

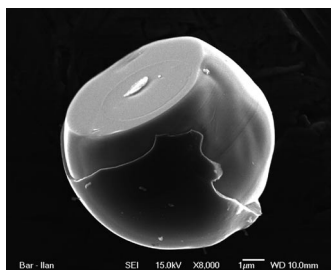
Keywords: Palladacyclic complexes / Phosphane / Phosphane oxide / Suzuki reaction / Heck reaction



Palladacycles containing phosphane or phosphane oxide functionalities have been

prepared and applied in catalyzing the Suzuki and Heck reactions.

Air-stable metal–carbon core/shell structures are formed by thermal decomposition of alkyl–metal compounds.



A. Gedanken,* E. Luvchik 2471–2475

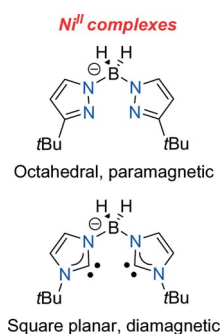
A General Process for the Fabrication of Air-Stable Metallic Particles (Cd, Zn and Al) by the Decomposition of Alkyl–Metal Compounds



Keywords: Materials science / Nanotechnology / Metals / Core/shell structures

Ligand Effects

Deprotonation of the “boronium” cation $\text{H}_2\text{B}(\text{tBuImH})_2^+\text{I}^-$ provides access to the bulky bis(carbene)borate ligand $\text{H}_2\text{B}(\text{tBuIm})_2^-$. Transfer of the ligand to Ni^{II} yields a square-planar complex. Interestingly, the related bis(pyrazolyl)borate complex is octahedral. The strongly donating bis(carbene)borate ligand stabilizes the square-planar geometry despite unfavorable steric interactions.



I. Nieto, R. P. Bontchev,
J. M. Smith* 2476–2480

Synthesis of a Bulky Bis(carbene)borate Ligand – Contrasting Structures of Homoleptic Nickel(II) Bis(pyrazolyl)borate and Bis(carbene)borate Complexes



Keywords: Carbene ligands / Ligand design / Coordination modes / Ligand effects / Nickel

CORRECTION

Keywords: Iron / Diferric complexes / Schiff bases / Ferromagnetism / Spin polarization

A Ferromagnetically Coupled Diiron(III) Complex with a *m*-Phenylenediamine-Based Ligand

B. Biswas, S. Salunke-Gawali,
T. Weyhermüller, V. Bachler, E. Bill,
P. Chaudhuri* 2481

If not otherwise indicated in the article, papers in issue 14 were published online on April 23, 2008