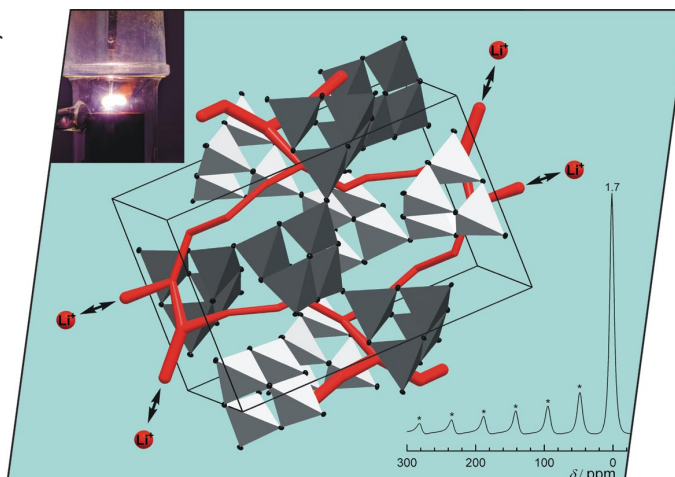


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows the $[\text{SiN}_2]^{2-}$ framework of the lithium ion conductor Li_2SiN_2 . The hitherto unknown crystal structure reveals possible Li^+ pathways (red channels) for lithium ion conductivity. Li_2SiN_2 was synthesized from “ $\text{Si}(\text{CN})_2$ ”, highlighted as a promising precursor for nitridosilicates in arc-welded (top left) tantalum crucibles. The structure was solved from single crystals, and the ^7Li MAS solid-state NMR spectrum (bottom right) is presented. Details are discussed in the article by W. Schnick et al. on p. 1579ff.



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MICROREVIEW

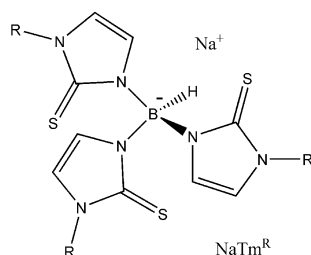
Soft Scorpionates

M. D. Spicer,* J. Reglinski 1553–1574



Soft Scorpionate Ligands Based on Imidazole-2-thione Donors

Keywords: Tripodal ligands / S ligands / Scorpionate ligands / Imidazole-2-thione / Metal complexes / Transition metals / Coordination modes



The development of a series of soft scorpionate ligands based on imidazole-2-thiones is discussed. The coordination chemistry with both transition metals and main-group elements is reviewed and the key features of the chemistry are outlined, including bonding modes, steric and electronic effects, metal to borohydride interactions and boratrane formation.

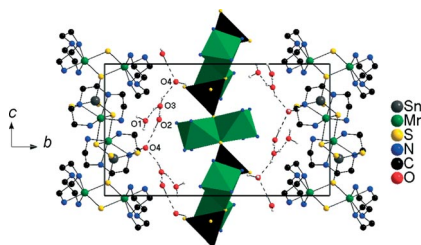
SHORT COMMUNICATION

Inorganic–Organic Hybrids

N. Pienack, C. Näther,
W. Bensch* 1575–1577

The Inorganic–Organic Hybrid Compound $\{[\text{Mn}(\text{trien})]_2\text{SnS}_4\} \cdot 4\text{H}_2\text{O}$: Exhibiting a Hitherto Unknown Binding Mode of the $[\text{SnS}_4]^{4-}$ Tetrahedron

Keywords: Tin / Sulfur / Structure elucidation / Organic-inorganic hybrid composites / Coordination modes



$\text{Mn}_2\text{S}_2\text{N}_8$ di-octahedra are connected into a one-dimensional chain by μ_3 -type S atoms of the $[\text{SnS}_4]^{4-}$ anion. The $\{[\text{Mn}(\text{trien})]_2\text{SnS}_4\}_\infty$ chain may be viewed as an inorganic–organic hybrid compound with the di-octahedra as nodes and the $[\text{SnS}_4]^{4-}$ anion as linkers. Water chains surround the inorganic–organic hybrid compound.

FULL PAPERS

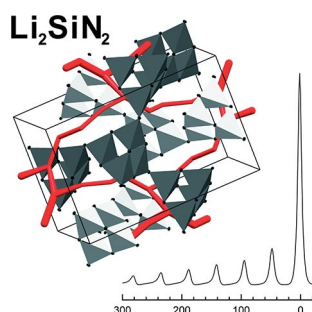
Lithium Nitridosilicates

S. Pagano, M. Zeuner, S. Hug,
W. Schnick* 1579–1584



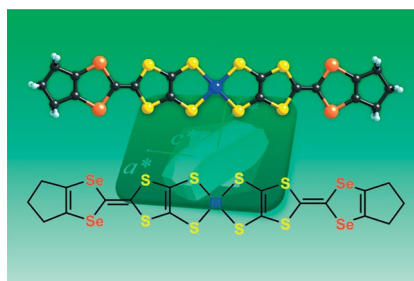
Single-Crystal Structure Determination and Solid-State NMR Investigations of Lithium Nitridosilicate Li_2SiN_2 Synthesized by a Precursor Approach Employing Amorphous “ $\text{Si}(\text{CN})_2$ ”

Keywords: Lithium / Silicon / Nitridosilicates / Solid-state structures



“ $\text{Si}(\text{CN})_2$ ” has been identified as a novel precursor for nitridosilicates. The crystal structure of the Li^+ ion conductor Li_2SiN_2 has been determined. Li_2SiN_2 consists of two interpenetrating cristobalite type nets which are made up from hetero-adamantane-like $[\text{Si}_4\text{N}_6]\text{N}_{4/2}$ groups. The ^7Li and ^{29}Si solid-state NMR spectra of Li_2SiN_2 are reported.

The single-component molecular conductors $[M(\text{tmstfdt})_2]$ ($M = \text{Ni}, \text{Au}$; tmstfdt = trimethylenediselenadithiafulvalenedithiolate) substituted with selenium atoms are isostructural with $[M(\text{tmdt})_2]$ ($M = \text{Ni}, \text{Au}$; tmdt = trimethylenetetrafulvalenedithiolate). $[\text{Ni}(\text{tmstfdt})_2]$ has essentially metallic properties down to low temperature, and $[\text{Au}(\text{tmstfdt})_2]$ undergoes a magnetic transition at around 5 K.



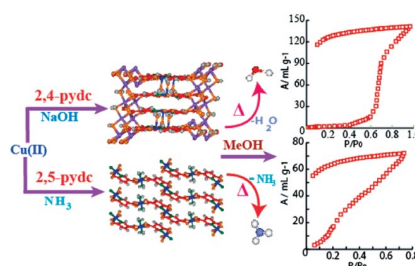
**E. Fujiwara,* B. Zhou, A. Kobayashi,*
H. Kobayashi, Y. Fujishiro, E. Nishibori,
M. Sakata, S. Ishibashi,
K. Terakura 1585–1591**

Structures and Physical Properties of Highly Conducting Single-Component Molecular Conductors Containing Se Atoms

Keywords: Selenium / Conducting materials / Nickel / Gold / Sulfur heterocycles

Metal–Organic Frameworks

Two flexible metal–organic frameworks of Cu^{II} were synthesized and characterized. The nonporous dehydrated framework of **1** exhibits guest-induced structural transformation with gated hysteretic sorption, regulated by the unsaturated Lewis acidic sites. The desolvated framework of **2** contains supramolecular channels and exhibits MeOH sorption properties driven by the unsaturated Cu^{II} sites.



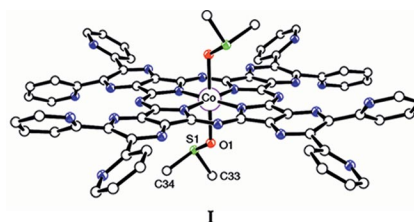
**K. L. Gurunatha,
T. K. Maji* 1592–1599**

Structural Flexibility and Selective Guest Accommodation in Two Cu^{II} Metal–Organic Coordination Frameworks

Keywords: Host–guest systems / Flexible frameworks / Adsorption / Copper / Magnetic properties

Porphyrizinato Co Complexes

The Co^{I} (rare), Co^{II} (structurally elucidated, **1**) and Co^{III} (stable to air) complexes prepared from $[\text{Py}_8\text{TPyzPzCo}]$ (Py_8TPyzPz = tetrakis[5,6-di(2-pyridyl)-2,3-pyrazino]porphyrizinato dianion} – namely $\text{Na}[\text{Py}_8\text{TPyzPzCo}]$, $[\text{Py}_8\text{TPyzPzCo}(\text{DMSO})_2]$ and $[\text{Py}_8\text{TPyzPzCo}](\text{SbCl}_6)$ – were studied by IR, UV/Vis, EPR and X-ray spectral measurements.



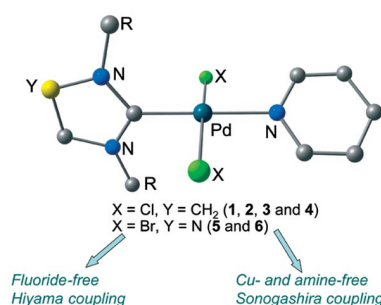
**E. Viola, M. P. Donzello, S. Ciattini,
G. Portalone, C. Ercolani* 1600–1607**

Redox Chemistry of Tetrakis[5,6-di(2-pyridyl)-2,3-pyrazino]porphyrizinatocobalt-(II): Isolation and Characterization of Solid Pure Co^{I} , Co^{II} , and Co^{III} Complexes

Keywords: Porphyrazines / Cobalt / Redox chemistry

Hiyama and Sonogashira Couplings

A new series of robust, user-friendly and highly active PEPPSI-themed (pyridine-enhanced precatalyst preparation, stabilization and initiation) precatalysts **1–6** have been designed for the fluoride-free Hiyama and Cu- and amine-free Sonogashira couplings in air in a mixed aqueous medium.



**C. Dash, M. M. Shaikh,
P. Ghosh* 1608–1618**

Fluoride-Free Hiyama and Copper- and Amine-Free Sonogashira Coupling in Air in a Mixed Aqueous Medium by a Series of PEPPSI-Themed Precatalysts

Keywords: Carbenes / Palladium / Cross-coupling / Hiyama reaction / Sonogashira reaction

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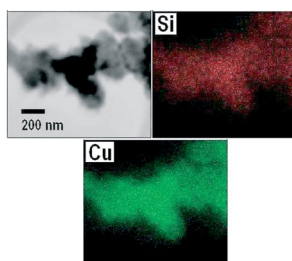
Nanoparticles

T. Ogawa,* M. Furudate,
Y. Oshima 1619–1625



Supercritical Hydrothermal Synthesis of Silicon-Functional Metal and Metal Oxide Nanoparticles

Keywords: Nanoparticles / Hydrothermal synthesis / Silicon / Surface modification / Surface chemistry



The Si-functionalised nanoparticles were synthesised by a hydrothermal reaction of metal salts and subsequent surface modification of the resultant particles by organofunctional silicon compounds. The compositions, shapes and sizes of the resultant particles proved to be significantly affected by the structures of the silicon compounds.

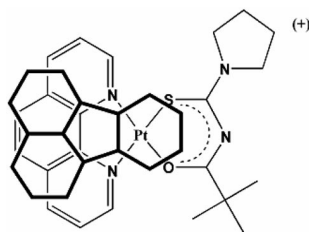
Pt(II) Complex Aggregation

I. A. Kotzé, W. J. Gerber, J. M. McKenzie,
K. R. Koch* 1626–1633



Self-Association of $[\text{Pt}^{\text{II}}(1,10\text{-Phenanthroline})(N\text{-pyrrolidyl-}N\text{-(2,2-dimethylpropanoyl)thiourea})]^+$ and Non-Covalent Outer-Sphere Complex Formation with Fluoranthene through π -Cation Interactions: A High-Resolution ^1H and DOSY NMR Study

Keywords: Noncovalent interactions / π interactions / NMR spectroscopy / Diffusion coefficients / Association constants



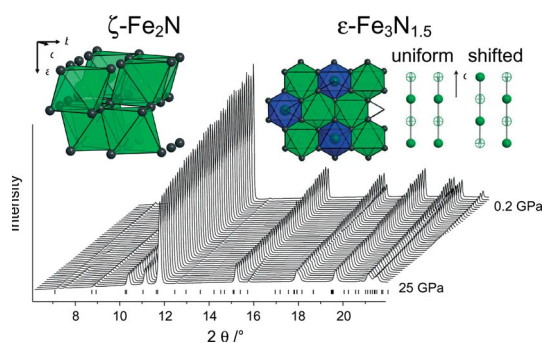
Non-covalent π -cation interaction is postulated to be the driving force for the outer-sphere complex formation of $[\text{Pt}^{\text{II}}(\text{phen})(\text{L-S,O})]^+$ with itself and with fluoranthene in acetonitrile. In contrast, fluoranthene aggregation through π - π interactions does not occur.

Iron Nitrides

U. Schwarz, A. Wosylus, M. Wessel,
R. Dronskowski, M. Hanfland, D. Rau,
R. Niewa* 1634–1639

High-Pressure–High-Temperature Behavior of $\zeta\text{-Fe}_2\text{N}$ and Phase Transition to $\epsilon\text{-Fe}_3\text{N}_{1.5}$

Keywords: Iron / Nitrides / High-pressure chemistry / Ab-initio calculations / X-ray diffraction



Access to single-crystalline iron nitride hard materials is achieved via a novel high-pressure–high temperature transition path-

way. Application to $\zeta\text{-Fe}_2\text{N}$ has led to formation of nitrogen-rich $\epsilon\text{-Fe}_3\text{N}_{1.5}$.

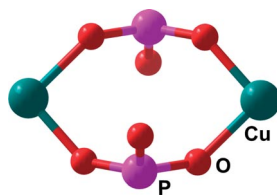
Copper(II) Phosphonates

V. Chandrasekhar,* T. Senapati,
R. Clérac 1640–1646



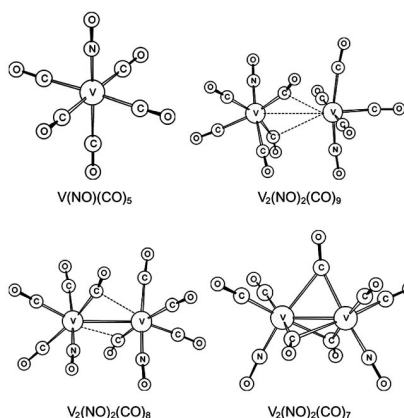
Dinuclear Copper(II) Phosphonates Containing Chelating Nitrogen Ligands: Synthesis, Structure, Magnetism and Nuclease Activity

Keywords: Copper / Phosphorus / Magnetic properties / Dinuclear complex / N ligands



Soluble dinuclear copper(II) phosphonates containing an eight-membered $\text{Cu}_2\text{O}_4\text{P}_2$ ring were synthesized from a Cu^{II} salt, a chelating nitrogen ligand and a lipophilic phosphonic acid. These complexes retain their structures in solution and show excellent nuclease activity in the conversion of supercoiled pBR322 DNA form I into nick form II without the need for any external oxidant.

The structures of $V(NO)(CO)_n$ and $V_2(NO)_2(CO)_n$ have been examined by density functional theory. The optimized structures of the unsaturated derivatives $V(NO)(CO)_4$ and $V(NO)(CO)_3$ can be derived from the octahedral $V(NO)(CO)_5$ structure by loss of one or two carbonyl groups, respectively. Bridging CO groups are preferred over bridging NO groups in $V_2(NO)_2(CO)_n$ ($n = 9, 8, 7$). The saturated $V_2(NO)_2(CO)_9$ is thermodynamically unstable with respect to dissociation into $V(NO)(CO)_5 + V(NO)(CO)_4$.




H. Wang,* Y. Xie, R. B. King,*

H. F. Schaefer III 1647–1656

Vanadium Carbonyl Nitrosyl Compounds: The Carbonyl Nitrosyl Chemistry of an Oxophilic Early Transition Metal

Keywords: Density functional calculations / Structure elucidation / Carbonyl ligands / Bond energy / Vanadium complexes

* 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 11 were published online on March 30, 2009