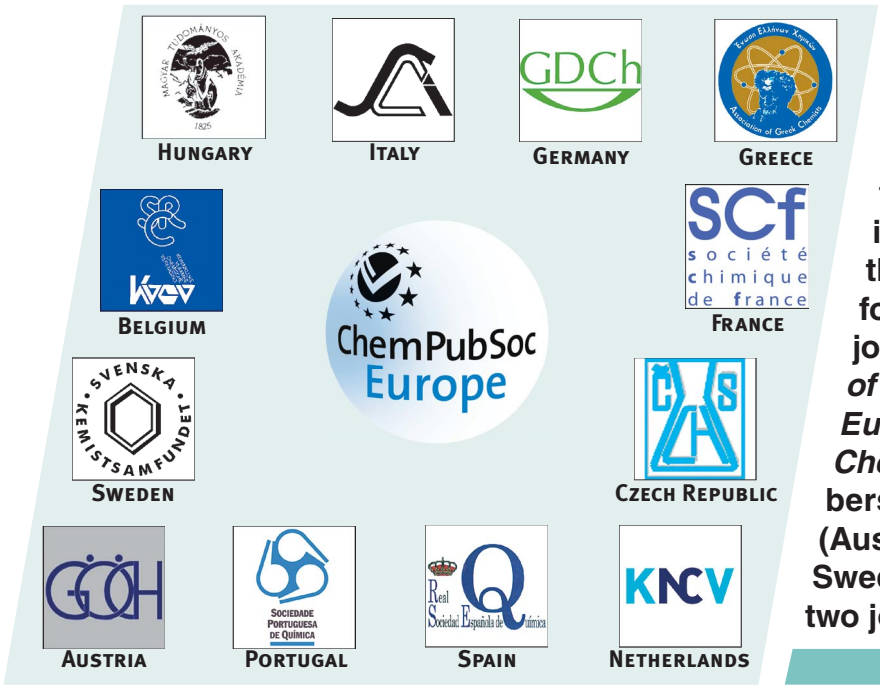
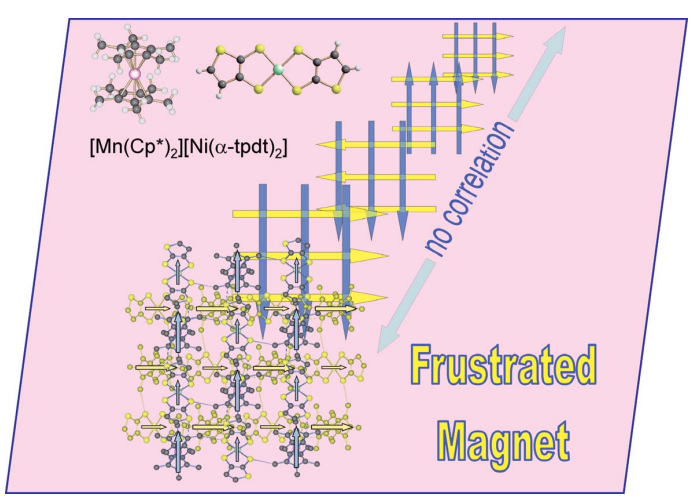


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows the multilayer spin arrangement in $[Mn(Cp^*)_2][Ni(\alpha\text{-tpdt})_2]$ (α-tpdt = 2,3-thiophenedithiolate). The crystal structures of the salts $[M(Cp^*)_2][Ni(\alpha\text{-tpdt})_2]$ (M = Fe, Mn and Cr) consist of alternating layers that are composed of arrangements of parallel mixed chains. The chains in neighboring layers are perpendicular. The arrangement between the chains and the magnetic anisotropy of the cations in case of the salt $[Mn(Cp^*)_2][Ni(\alpha\text{-tpdt})_2]$ lead to a degenerate ground state and to a frustrated magnetic behavior, which can be associated with the absence of long-range order between the ferromagnetic layers. Details are discussed in the article by M. Almeida, V. Gama et al. on p. 5327ff.



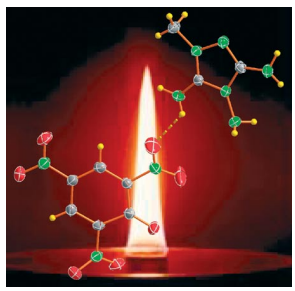
CONTENTS

MICROREVIEW

FULL PAPERS

Explosives

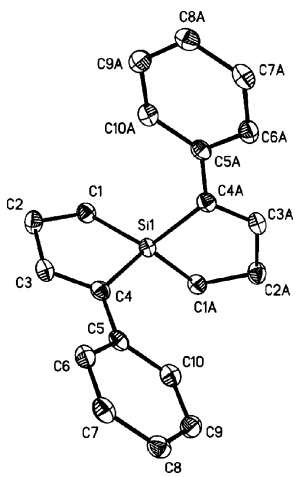
The energetic properties of picrate salts with azolium cations were studied. The compounds combine the high thermal stabilities of classical nitroaromatic energetic materials with relatively high performances. All compounds also proved to be insensitive and higher performing than TNT or picric acid and were predicted to yield less decomposition residue, with potential for energetic applications.



Keywords: Azolium cations / Energetic materials / Explosives / Picrates

Spirosilane Derivatives

Dialkyn-1-yl(divinyl)silanes react with 9-borabicyclo[3.3.1]nonane (9-BBN) by 1,2-hydroboration followed by intramolecular 1,1-organoboration to give 5-silaspiro[4.4]-nona-1,6-diene derivatives. Protodeborylation with excess acetic acid affords the respective spirosilanes bearing substituents only in 1,6-positions. Multinuclear NMR spectroscopy (^{1}H, ^{11}B, ^{13}C, ^{29}Si NMR) and X-ray structural analysis served for the characterization of the new spirosilanes.



Keywords: Silanes / Spiro compounds / Hydroboration / Organoboration / NMR spectroscopy

Vanadates in Ionic Liquids

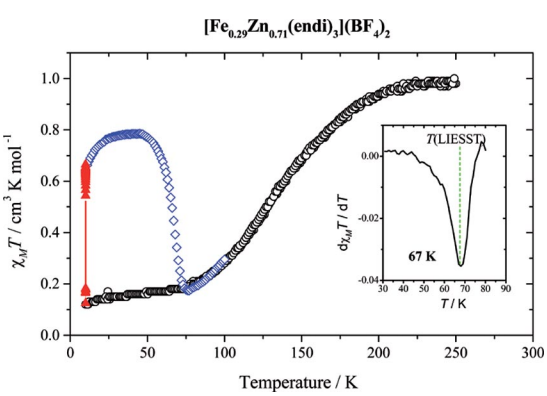
HVO_4^{2-} (–560 ppm)
$V_4O_{12}^{4-}$ (–577 ppm)
$V_5O_{15}^{5-}$ (–586 ppm) —[bmim][BF_4]→ $V_{10}O_{28}^{6-}$ (–422, –503, –521 ppm)
Vanadate-fluoride adducts (–465, –548, –612 ppm)

$[VO(O_2)_2]^-$ (–690 ppm) —[bmim][BF_4]→ $[VO(O_2)_2F]^{2-}$ (–700 ppm)

Heteronuclear NMR experiments, in particular ^{51}V, were performed with the aim to elucidate the nature of vanadates and peroxovanadates in hydrophilic ionic liquids, that is, [bmim][BF_4], [bmim][TfO] and [bdmim][BF_4].

Keywords: Vanadates / Ionic liquids / NMR spectroscopy / Hydrogen peroxide

LIESST Studies

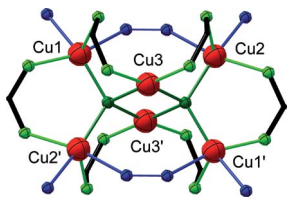


Thermal spin transition and Light-Induced Excited Spin State Trapping (LIESST) studies have been undertaken on a series of zinc-diluted polymeric chain iron(II) complexes. The relationship between *T*(LIESST) and dilution by zinc(II) on these systems is discussed.

Keywords: Iron / Magnetic properties / Spin crossover / Photomagnetism / Dilution effects

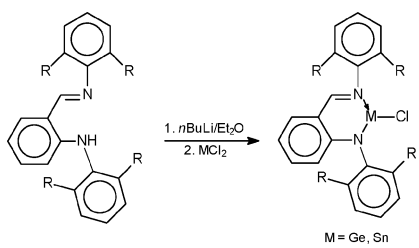
CONTENTS

Compartmental Ligand Scaffolds



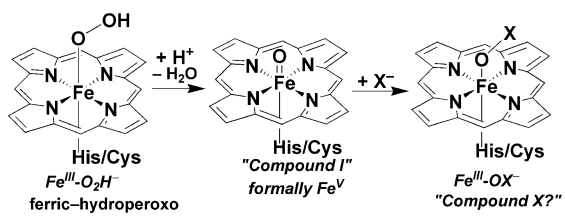
Using pyrazolate ligands with appended bulky imine donor side arms, novel hexanuclear Cu^{II} complexes with an unusual $\{Cu_6(\mu_4\text{-}O)_2\}$-bitetrahedral core were obtained, and their structures determined by X-ray crystallography. Magnetic and high-field EPR data reveal an overall $S = 0$ ground state with the first excited triplet at $\Delta E \approx 95\ cm^{-1}$.

Divalent Group 14 Species



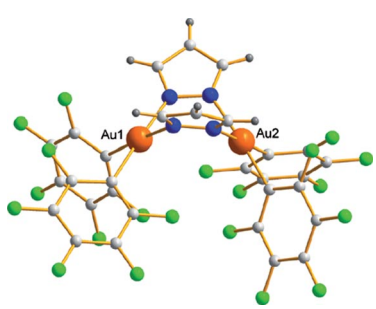
The anilido–imine ligand has proved to be particularly effective in the stabilization of divalent group 14 compounds into their monomeric form. NMR spectroscopy and X-ray analysis highlight the perfect chelation of the ligands and the formation of a three-coordinate metal. These complexes preserve their specific reactivity of low-coordinate group 14 species.

Heme Peroxidases



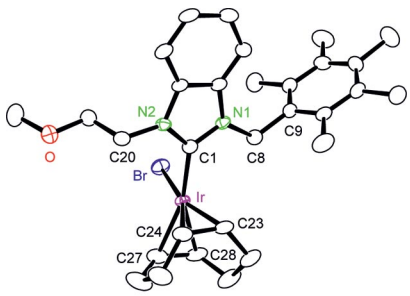
DFT results on models of the Fe^{III}–OX and Fe^{III}–HOX (X = halogen) adducts of chloroperoxidase and myeloperoxidase are reported. The O–X bonds are very weak, and a 'caged' adduct, with a Fe^{III} species close to the oxidized halide, is a likely alternative for the intermediate in CPO and MPO. The presence of a *trans* axial thiolate or imidazole ligand appears to have an effect on halide activation.

Pyrazolate Gold Complexes



Several gold(I), gold(III) and silver(I) complexes with pyrazole or pyrazolate ligands have been synthesized and structurally characterized.

Iridium and rhodium complexes with symmetrically and unsymmetrically substituted benzimidazolin-2-ylidene ligands like **3a** were prepared and studied in the catalytic transfer hydrogenation of acetophenone and cyclohexanone by using isopropyl alcohol as the hydrogen source.



3a

Keywords: Carbenes / Rhodium / Iridium / Hydrogenation / Homogeneous catalysis

* 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 33 were published online on November 12, 2008

