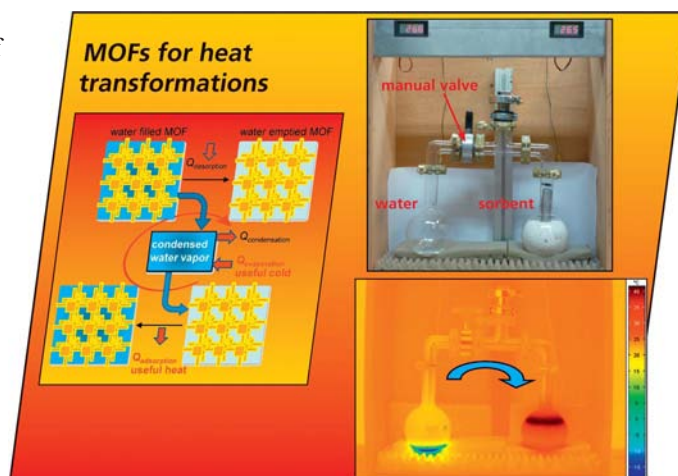


EurJIC is a journal of ChemPubSoc Europe, a union of 16 European chemical societies formed for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*.

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

COVER PICTURE

The cover picture shows how the evaporation of water vapor driven by the adsorption into an empty MOF-sorbent generates useful cooling (for air-conditioning) and useful heat of adsorption. The principle is demonstrated in the right half of the picture. The infrared photograph in the lower right part visualizes the different temperature levels after opening the manual valve with cooling to 5 °C of the water container and heating to 45 °C of the sorbent material. The empty MOF can be regenerated in minute intervals, preferably by solar heat. Details for MIL-101, which adsorbs 1 g of water per gram of MOF, are discussed in the Short Communication by J. Ehrenmann, S. Henninger and C. Janiak on p. 471ff.



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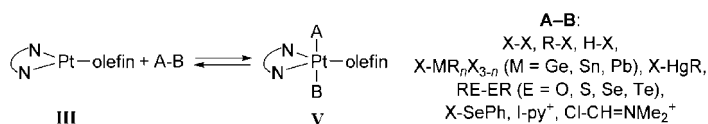
MICROREVIEW

The Gang of III's

M. E. Cucciolito, V. De Felice, G. Roviello,
F. Ruffo* 457–469

Three-Coordinate [Pt(*N,N'*-chelate)(η^2 -olefin)] Complexes: Synthesis, Properties and Reactions with Electrophiles

Keywords: Platinum / *N* ligands / Chelates / Olefin complexes / Oxidation



This review provides a survey of the key-class of Pt⁰ complexes of general formula [Pt(*N,N'*-chelate)(η^2 -olefin)] (III). The main spectroscopic and structural features

are discussed. The versatile reactivity towards A–B electrophiles is also described as a very useful entry to Pt^{II} compounds (V) with a wide assortment of ligands.

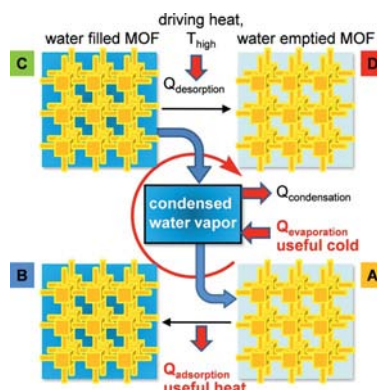
SHORT COMMUNICATIONS

MOFs for Heat Transformation

J. Ehrenmann, S. K. Henninger,*
C. Janiak* 471–474

Water Adsorption Characteristics of MIL-101 for Heat-Transformation Applications of MOFs

Keywords: Metal-organic frameworks / Mesoporous materials / Adsorption / Adsorption chilling / Heat transformation



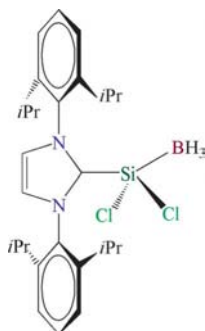
A new application for MOFs – heat transformation and adsorption chilling: MIL-101 is one of the most promising water sorbent materials for heat-transformation applications known so far, as 1 g adsorbs up to 1 g of water and is stable even over several cycles.

Chlorosilylene–BH₃ Adducts

R. Azhakar, G. Tavčar, H. W. Roesky,*
J. Hey, D. Stalke* 475–477

Facile Synthesis of a Rare Chlorosilylene–BH₃ Adduct

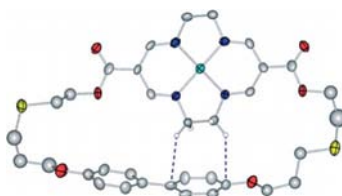
Keywords: Silylenes / Boranes / Lewis acid adducts



The first stable silylene–BH₃ adduct formed by the reaction of *N*-heterocyclic carbene stabilized dichlorosilylene either with LiBH₄ or with a BH₃·THF solution.

FULL PAPERS

A series of neutral macrocyclic complexes of Cu^{II} and Ni^{II} with bridging polyether linkers to aromatic fragments has been synthesised. These molecules do not form intramolecular cavities but adopt an “equatorial” conformation of the bridge due to the C–H··· π interactions. These interactions are responsible for the formation of cyclic products. DFT calculations confirm the experimental findings.



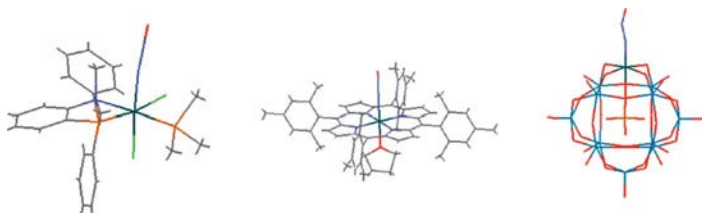
R. Kamiński, J. Kowalski, I. Mames, B. Korybut-Daszkiewicz, S. Domagała, K. Woźniak* 479–488

The Role of the C–H··· π Interactions in the Cyclisation Reactions Leading to New Aryl-Bridged Tetraazamacrocyclic Complexes of Copper and Nickel



Keywords: Macrocycles / Nickel / Copper / Cyclisation reactions / Density functional calculations

Polyoxometalates



The mono-ruthenium(II) substituted Keggin-type POM can serve as a potential reagent for the activation of the N₂O molecule because of the strong Ru–NNO bond

and significant RuNN–O π^* -antibonding orbital character, according to density functional theory calculations.

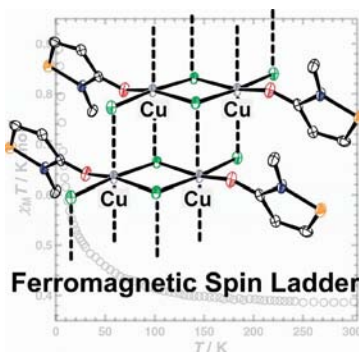
C.-G. Liu, W. Guan, L.-K. Yan, Z.-M. Su* 489–494

Bonding Interactions between Nitrous Oxide (N₂O) and Mono-Ruthenium Substituted Keggin-Type Polyoxometalates: Electronic Structures of Ruthenium/N₂O Adducts

Keywords: Polyoxometalates / Ruthenium / Nitrous oxide / Bonding interactions / Density functional calculations

Ferromagnetic Spin Ladder

Chlorido-bridged dinuclear copper(II) complexes with 2-methylisothiazol-3(2H)-one (mi) stack one on top of another to form a ladder structure in the solid state. Magnetic susceptibility measurements suggest a ferromagnetic spin ladder. DFT calculations show that mi plays an essential role in the emerging intramolecular ferromagnetic interaction.



M. Kato, K. Hida, T. Fujihara, A. Nagasawa* 495–502

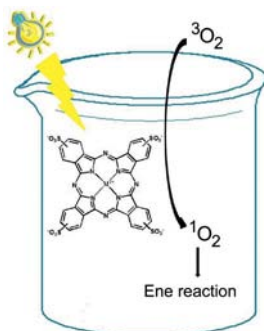
Ferromagnetic Spin Ladder System: Stack of Chlorido-Bridged Dinuclear Copper(II) Complexes with 2-Methylisothiazol-3(2H)-one



Keywords: Copper / Magnetic properties / Ligand effects / Ladder structures / Density functional calculations

Singlet Oxygen Photosensitizers

Water-soluble platinum and palladium tetrasulfophthalocyanines show good photostability and photosensitize the generation of singlet oxygen, which can be efficiently used in ene reactions for synthetic purposes.



P. D'Ambrosio, L. Tonucci, N. d'Alessandro,* A. Morvillo, S. Sortino,* M. Bressan 503–509

Water-Soluble Transition-Metal-Phthalocyanines as Singlet Oxygen Photosensitizers in Ene Reactions

Keywords: Singlet oxygen / Photosensitizers / Ene reaction / Phthalocyanines / Platinum / Palladium / Ruthenium

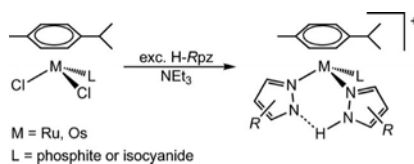
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Half-Sandwich Complexes

G. Albertin,* S. Antoniutti, J. Castro,
S. García-Fontán 510–520

Preparation of Pyrazole–Pyrazolate Half-Sandwich Complexes of Ruthenium and Osmium

Keywords: Ruthenium / Osmium / Sandwich complexes / Half-sandwich complexes / N ligands / Nitrogen heterocycles



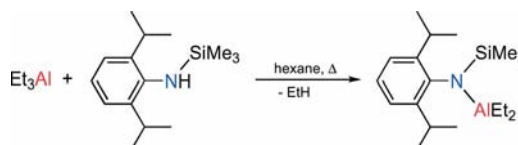
The reactivity of half-sandwich complexes, $\text{MCl}_2(\eta^6\text{-p-cymene})\text{L}$, towards pyrazole or imidazole ligands, yielding three different types of azole complexes, is described. X-ray crystal structure determination of the three compounds $[\text{RuCl}(\eta^6\text{-p-cymene})(\text{HRpz})\{\text{PPh}(\text{OEt})_2\}]\text{BPh}_4$ (**1b**), $[\text{Ru}(\text{Rpz})(\eta^6\text{-p-cymene})(\text{HRpz})\{\text{P}(\text{OEt})_3\}]\text{BPh}_4$ (**11a**) and $[\text{RuCl}(\eta^6\text{-p-cymene})(\text{HRpz})_2]\text{BPh}_4$ (**15**) is reported.

Aluminum Amides

M. Khandelwal, D. R. Powell,
R. J. Wehmschulte* 521–526

Low-Coordinate Aluminum Amides from Silylanilines and Alkylalanes

Keywords: Main group elements / Aluminum / Amides / Low-coordination / Lewis acids



Aluminum amides featuring three-coordinate aluminum and nitrogen centers are obtained in simple procedures from com-

mercially available and easy to synthesize starting materials.

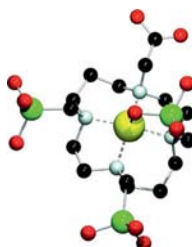
Macrocyclic Complexes

L. M. P. Lima, R. Delgado,* J. Plutnar,
P. Hermann,* J. Kotek 527–538



A New Tris(phosphonomethyl) Monoacetic Acid Cyclam Derivative: Synthesis, Acid-Base and Metal Complexation Studies

Keywords: Macrocyclic ligands / Cyclam derivatives / Metal complexes / Thermodynamics / Stability constants / Coordination



A new cyclam derivative, which has one acetate and three methylphosphonate pendant arms, forms complexes of high thermodynamic stability with the transition metal and lanthanide ions. The coordination of the metal ion in solution involves only one phosphonate group in the Zn^{II} complex but uses all three phosphonates in the Cd^{II} complex.

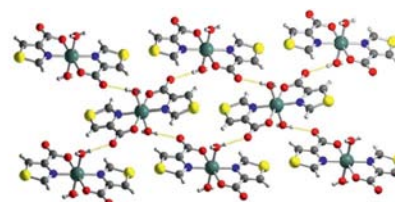
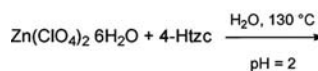
Hydrogen-Bonded Architectures

A. Rossin, B. Di Credico, G. Giambastiani,
L. Gonsalvi, M. Peruzzini,*
G. Reginato 539–548



Coordination Chemistry of Thiazole-Based Ligands: New Complexes Generating 3D Hydrogen-Bonded Architectures

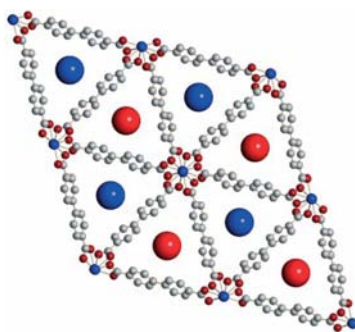
Keywords: Heterocycles / Hydrogen bonds / Coordination modes / Supramolecular chemistry



The coordination chemistry and supramolecular assembly of novel thiazole-based ligands with several 3d late-transition-metal ions has been explored. An extended network in the solid state is generated

through multiple intra- and intermolecular hydrogen bonds between the several polar groups present. The macroscopic effect is the creation of insoluble crystalline materials of polymeric nature.

Three new manganese-containing metal–organic frameworks were synthesized by using *p*-biphenyldicarboxylic acid as linker and three different solvents. One of these compounds has an irreversible phase transition at 2 K and is thus metastable. In the metastable state the compound is antiferromagnetic.



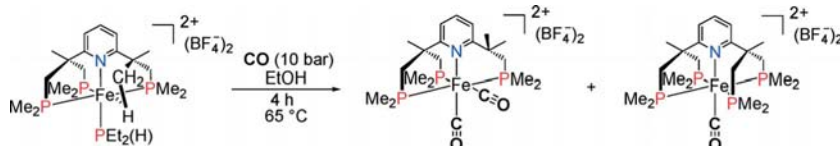
M. R. V. Jørgensen, H. F. Clausen, M. Christensen, R. D. Poulsen, J. Overgaard, B. B. Iversen* 549–555

Crystal Structures and Physical Properties of Three New Manganese-Based Coordination Polymers with *p*-Biphenyldicarboxylic Acid Linkers

Keywords: Metal-organic frameworks / Carboxylate ligands / Magnetic properties / X-ray diffraction



Polyphosphane Iron Complexes



Upon reaction with CO, the iron(II) complex containing a specialized NP₃ ligand and diethylphosphane is transformed into

the expected carbonyl complex – and a side product in which P–C bond formation has occurred.

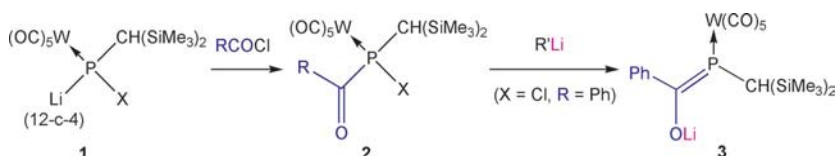
S.-A. Gentschow, S. W. Kohl, W. Bauer,* M. Hummert, A. Grohmann* 556–566

Bond Activation in Iron(II)-Coordinated Polypodal Phosphane Ligands

Keywords: Bond activation / N,P ligands / Iron / NMR spectroscopy / Phosphane ligands



Acylphosphane Complexes



P-Functional (acylphosphane)tungsten complexes **2** were prepared in good yields by the reaction of phosphinidenoid complexes **1** with acyl chlorides. The reactions of acyl(chloro)phosphane complexes

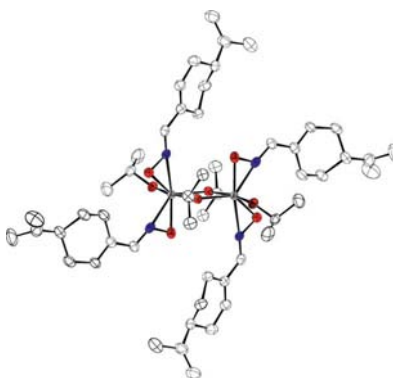
2 (X = Cl; R = Ph) with organolithium reagents selectively led to the formation of phosphoenolate **3**, which showed ambident reactivity towards electrophiles such as PhC(O)Cl, MeI, and Me₃SiCl.

V. Nesterov, L. Duan, G. Schnakenburg, R. Streubel* 567–572

New Access to and Reactions of *P*-Functional Acylphosphane Complexes

Keywords: Phosphanides / Phosphane ligands / Phosphaalkenes / Tungsten

Benzaldoximate- and anisaldoximate-modified titanium alkoxides were synthesized and structurally characterized. Reaction with perillaldoxime or *trans*-cinnamaldoxime allows derivatives with functional ligands to be prepared.



S. O. Baumann, M. Bendova, M. Puchberger, U. Schubert* 573–580

Modification of Titanium Isopropoxide with Aromatic Aldoximes

Keywords: Titanium / O ligands / Metal alkoxides / Bridging ligands

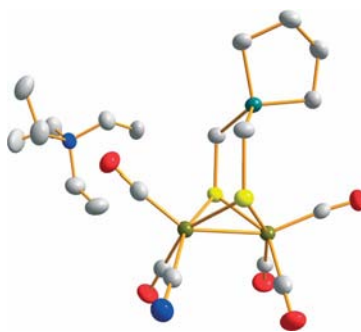
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Hydrogen from [2Fe2S(Si)] Clusters

U.-P. Apfel, Y. Halpin, H. Görls,
J. G. Vos,* W. Weigand* 581–588

Influence of the Introduction of Cyano and Phosphane Ligands in Multifunctionalized (Mercaptomethyl)silane [FeFe] Hydrogenase Model Systems

Keywords: Silicon / Cyanides / Phosphanes / Iron / Sulfur / Hydrogenase



Inspired by the properties of [2Fe2S(Si)] clusters as well as the nonsymmetric active site in [FeFe] hydrogenase, [2Fe2S(Si)] clusters containing cyano and triphenylphosphane ligands were synthesized. In this contribution we present the structural, spectroscopic and electrochemical features of these compounds.

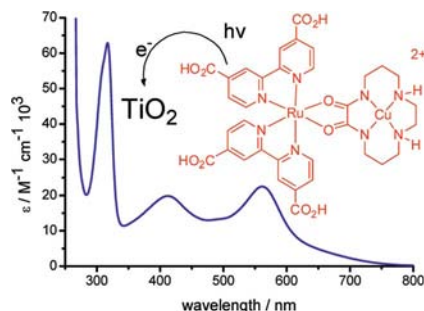
Dinuclear Dye Sensitiser

K. L. McCall, J. R. Jennings, H. Wang,
A. Morandeira, L. M. Peter, J. R. Durrant,
L. J. Yellowlees,
N. Robertson* 589–596



Dinuclear Ru–Cu Complexes: Electronic Characterisation and Application to Dye-Sensitised Solar Cells

Keywords: Ruthenium / Copper / Dinuclear complexes / Dye-sensitized solar cells / Supramolecular chemistry



A dimetallic Ru–Cu complex has been used as a sensitiser for dye-sensitised solar cells showing moderate efficiency. Both metals are involved in the frontier orbitals, and multiple redox steps result.

* 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 3 were published online on January 11, 2011