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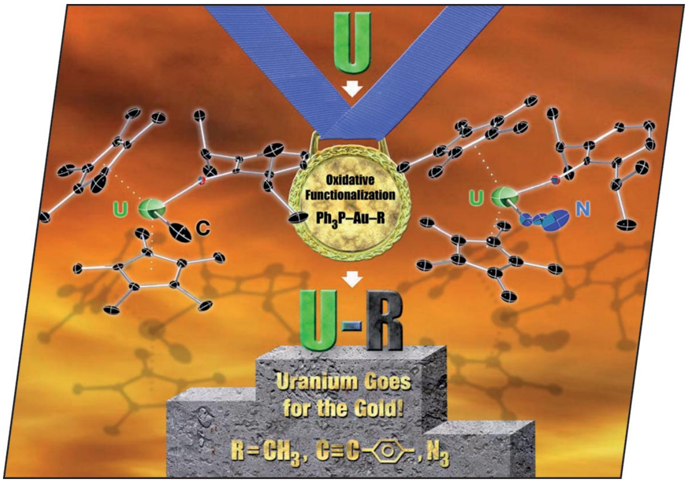
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows a novel and safe gold-based oxidative functionalization protocol that allows access to an assortment of uranium complexes bearing azide and carbon functional groups. Alkyl, alkynyl, and azide complexes are accessed in a single step from commercially available or easily prepared gold complexes. This methodology works for $U^{III} \rightarrow U^{IV}$ and $U^{IV} \rightarrow U^{V}$ oxidations. A new, high-yielding synthetic preparation of $(Ph_3P)AuN_3$ is also presented. These reactions proceed rapidly in high yields and represent a new class of reactions for gold. This work demonstrates that gold chemistry is not just unique for organic transformations but holds great promise for similarly advancing organometallic chemistry. Details are discussed in the Short Communication by J. L. Kiplinger et al. on p. 1451ff. We thank Mr. Jim Cruz for designing the cover picture.



CONTENTS

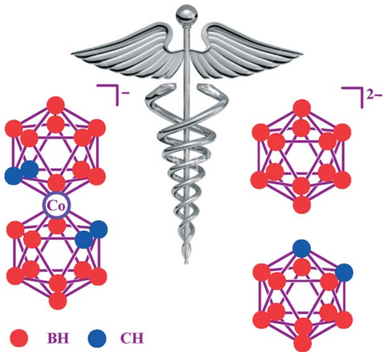
MICROREVIEW

Polyhedral Boranes in Medicine

I. B. Sivaev,* V. V. Bregadze ... 1433–1450

Polyhedral Boranes for Medical Applications: Current Status and Perspectives

Keywords: Boranes / Carboranes / Medicinal chemistry / Antitumor agents / Drug design



The current status and perspectives of the use of polyhedral boron hydrides in medicine are discussed. The topics included in this microreview are boron neutron capture therapy, radionuclide diagnostics and therapy, X-ray contrast diagnostics, and drug design.

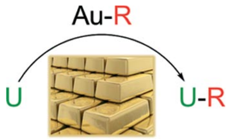
SHORT COMMUNICATIONS

Actinide Oxidative Functionalization

R. K. Thomson, C. R. Graves, B. L. Scott, J. L. Kiplinger* 1451–1455

Noble Reactions for the Actinides: Safe Gold-Based Access to Organouranium and Azido Complexes

Keywords: Uranium / Oxidation / Gold / Azido complexes



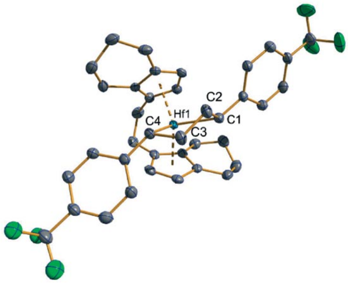
Uranium Goes for the Gold! A new safe gold-based protocol has been developed for the oxidative functionalization of uranium with azide and carbon anions. These reactions proceed rapidly in high yields, and represent a new class of reaction for gold.

Metallacycles

T. Beweries, V. V. Burlakov, P. Arndt, W. Baumann, A. Spannenberg, U. Rosenthal* 1456–1459

Synthesis of Hafnacyclopentanes from Hafnocene Alkyne Complexes: Influence of Styrene Substituents on the C–C Coupling Regioselectivity

Keywords: Organometallic chemistry / Hafnium / Metallacycles / C–C coupling / Polymerization



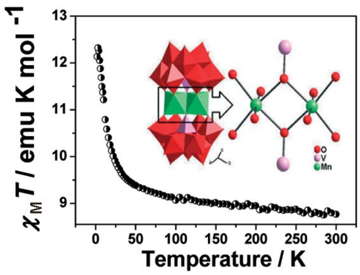
The hafnocene alkyne complex *rac*-(ebthi)-Hf(η^2-$Me_3SiC_2SiMe_3$) reacts with styrene and *p*-(trifluoromethyl)styrene, respectively, to give aryl-substituted hafnacyclopentanes. The coupling regioselectivity is influenced by the styrene substituents.

Ferromagnetic Polyoxometalates

Y. Yang, L. Xu,* G. Gao, F. Li, X. Liu, W. Guo 1460–1463

An Unexpected Ferromagnetic Coupling in a Dinuclear Manganese(II) Linked Trivacant Heteropolymolybdate Derivative

Keywords: Polyoxometalates / Magnetic properties / Molybdenum / Vanadium / Manganese



An unexpected ferromagnetically coupled dinuclear manganese(II) linked trivacant heteropolymolybdate $[HN(CH_3)_3]_{10}[Mn_2(V^VMo_9O_{33})_2]\cdot10H_2O$ has been synthesized in aqueous solution and characterized by elemental analysis, IR spectroscopy, thermal gravimetric analysis, and single-crystal X-ray diffraction.

Sn-Rich Ge/Sn Alloys

Upon IR laser irradiation of a gaseous equimolar mixture of GeH_4/SnH_4 in Ar, nanoparticles of Sn-rich Ge/Sn alloys with different contents of Sn incorporated into the Ge lattice were deposited by chemical vapour deposition. These nanoparticles underwent changes in composition at temperatures as low as 200 °C.

T. Křenek, P. Bezdička, N. Murafa, J. Šubrt, J. Pola* 1464–1467

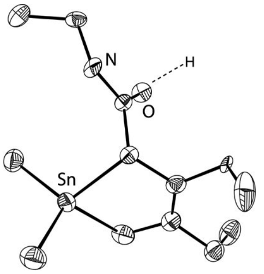
Laser CVD of Nanodisperse Ge–Sn Alloys Obtained by Dielectric Breakdown of SnH_4/GeH_4 Mixtures

Keywords: Germanium / Tin / Stannanes / Nanostructures / Alloys / Metastable compounds

FULL PAPERS

Stannole Chemistry

Treatment of 3-(diethylboryl)stannoles with isocyanates leads diastereoselectively to novel bicyclic compounds containing an aminoborane unit. These compounds react with methanol through rearrangement and elimination of ethyl(dimethoxy)borane to give novel 1-stannacyclopent-3-ene derivatives.



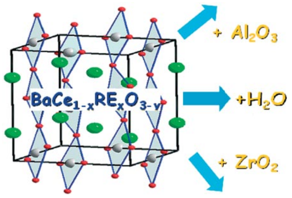
B. Wrackmeyer,* P. Thoma, R. Kempe 1469–1476

Reactions of 3-(Diethylboryl)stannoles with Isocyanates

Keywords: Organotin compounds / Alkynes / Stannoles / Organoboration / Isocyanates / NMR

Perovskite-Type Ceramics

$BaCe_{0.8}Lu_{0.2}O_{2.9}$ was prepared by a solid-state reaction for the first time. The standard formation enthalpies of $BaCe_{0.8}Lu_{0.2}O_{2.9}$ and $BaCe_{0.8}Nd_{0.2}O_{2.9}$ were determined by solution calorimetry. It was found that $BaCe_{0.8}RE_{0.2}O_{2.9}$ (RE = Lu, Nd) reacted with water, Al_2O_3 and ZrO_2 at ambient temperature.

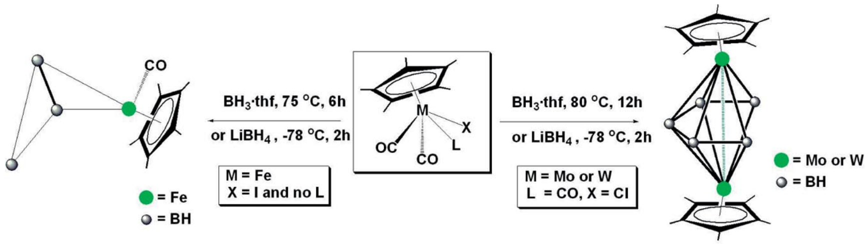


N. I. Matskevich, T. Wolf, M. Y. Matskevich,* T. I. Chupakhina 1477–1482

Preparation, Stability and Thermodynamic Properties of Nd- and Lu-Doped $BaCeO_3$ Proton-Conducting Ceramics

Keywords: Ceramics / Rare earths / Calorimetry / Thermodynamics / Solid-state reactions

Metallaboranes



Reaction of $[Cp^*Fe(CO)_2I]$ with BH_3·thf or $LiBH_4$ leads to the isolation of hydrogen-rich ferraborane *arachno*-$[Cp^*Fe(CO)B_3H_8]$, and in a similar fashion, reaction of $[(Cp^*M)(CO)_3Cl]$ (M = Mo and W) with BH_3·thf or $LiBH_4$ yielded metallaboranes $[(Cp^*M)_2B_5H_9]$ (M = Mo, W). Isolated yields of both *arachno*-$[Cp^*Fe(CO)B_3H_8]$ and *closo*-$[(Cp^*M)_2B_5H_9]$ are good.

K. Geetharani, S. Kumar Bose, G. Pramanik, T. Kumar Saha, V. Ramkumar, S. Ghosh* 1483–1487

An Efficient Route to Group 6 and 8 Metallaborane Compounds: Synthesis of *arachno*-$[Cp^*Fe(CO)B_3H_8]$ and *closo*-$[(Cp^*M)_2B_5H_9]$ (M = Mo, W)

Keywords: Boron / Molybdenum / Tungsten / Iron / Cluster compounds

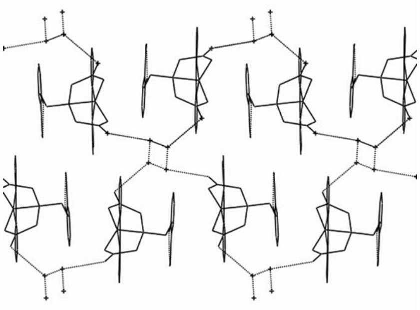
CONTENTS

Mixed-Ligand Copper(II) Complexes

M. Allali, J. Jaud, N. Habbadi,
M. Dartiguenave, A. L. Beauchamp,
E. Benoist* 1488–1494

Structural Evidence for an Unusual Conformation and Weak Interligand Interactions in Two Copper Chelates with (*o*-Nitrophenyl)ethylenediaminediacetic Acid

Keywords: N ligands / O ligands / Copper / Stacking interactions / Aromaticity / Solid-state structures



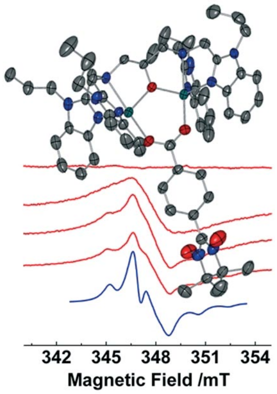
Two mixed-ligand copper(II) complexes bearing a flexible coordinating arm have been synthesised and fully characterised, and the impact of this arm on the structural features of these complexes has been evaluated. Both compounds display unusual inter- and/or intramolecular π-π stacking interactions.

Metal–Radical Exchange Interactions

M. Jung, A. Sharma, D. Hinderberger,
S. Braun, U. Schatzschneider,*
E. Rentschler* 1495–1502

Nitronyl Nitroxide Radicals Linked to Exchange-Coupled Metal Dimers – Studies Using X-ray Crystallography, Magnetic Susceptibility Measurements, EPR Spectroscopy, and DFT Calculations

Keywords: Radicals / Nitronyl nitroxides / Magnetic properties / Density functional calculations



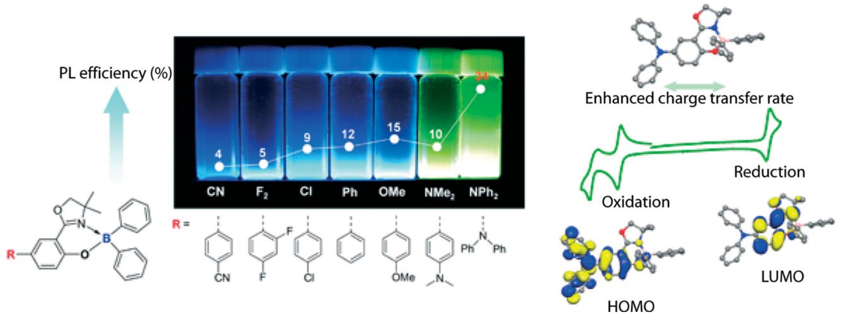
To study long-range magnetic interactions, three new homodimetallic complexes with Mn^{II}, Co^{II}, and Zn^{II} bridged by a nitronyl nitroxide (NIT) substituted benzoate ligand have been prepared and studied by X-ray crystallography, magnetic susceptibility measurements, EPR spectroscopy, and density functional theory calculations.

Fluorescent Boron Compounds

H.-J. Son, W.-S. Han, K.-R. Wee,
J.-Y. Chun, K.-B. Choi, S. J. Han,
S.-N. Kwon, J. Ko,* C. Lee,
S. O. Kang* 1503–1513

Systematic Electronic Control in Ambipolar Compounds Optimizes Their Photoluminescence Properties: Synthesis, Characterization, and Device Fabrication of Four-Coordinate Boron Compounds Containing an *N*,*O*-Chelating Oxazolylphenolate Ligand

Keywords: N,O ligands / Boron / Bandgap control / Electrochemistry / Luminescence



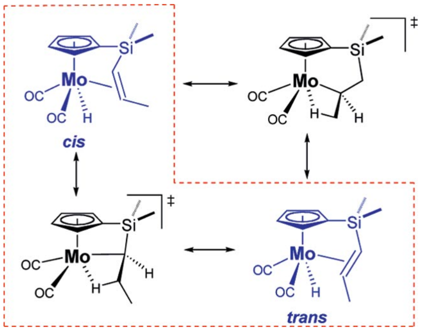
A series of electron-push and -pull aryl-substituted oxazolylphenolate ligands is synthesized and used to prepare boron compounds. The photophysical properties of these boron compounds are evaluated, and the corresponding EL properties studied through device fabrication by using them as emitting materials in a multilayer device.

Olefin Isomerisation Catalysts

G. Chahboun, C. E. Petrisor,
E. Gómez-Bengoa, E. Royo,*
T. Cuenca* 1514–1520

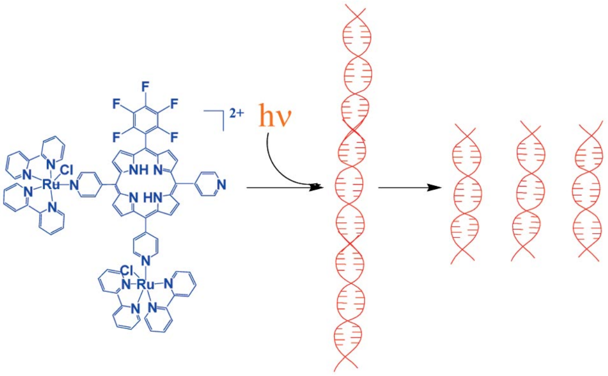
Insight into *cis*-to-*trans* Olefin Isomerisation Catalysed by Group 4 and 6 Cyclopentadienyl Compounds

Keywords: Hydrides / Isomerization / Molybdenum / Tungsten / Zirconium



A DFT computational study of the intramolecular isomerisation reaction of the allyldimethylsilylcyclopentadienyl molybdenum hydride model provides evidence for the *cis* to *trans* conversion mechanism.

DNA Photocleavage



M. Cunningham, A. McCrate, M. Nielsen, S. Swavey* **1521–1525**

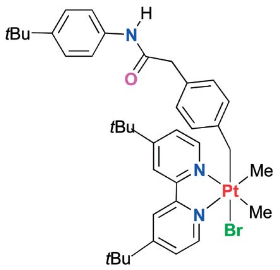
Highly Efficient Visible-Light-Induced Photocleavage of DNA by a Ruthenium-Substituted Fluorinated Porphyrin

Keywords: Photodynamic therapy / Porphyrin / Ruthenium / DNA cleavage / DNA binding / Sensitizers / Charge-transfer

A new porphyrin and its diruthenium analog have been synthesized. Photolysis of aqueous solutions of circular DNA in the presence of the ruthenium–porphyrin indicates cleavage of the DNA.

Molecular Materials

Organoplatinum(IV) complexes containing an amide unit incorporated into an alkyl group have been prepared. The amide group takes part in hydrogen bonding to yield supramolecular polymer or dimer structures, depending on the length and flexibility of the alkyl ligand.



R. H. W. Au, M. C. Jennings, R. J. Puddephatt* **1526–1534**

Organoplatinum(IV) Complexes with Amide Groups: Supramolecular Structure as a Function of Ligand Flexibility

Keywords: Organometallic / Platinum / Amides / Self-assembly / Polymers

CORRECTION

Keywords: Ruthenium / Tridentate ligands / Bridging ligands / Electron transfer / Photochemistry

Linear Multinuclear Ru^{II} Photosensitizers

S. Vaduvescu, P. G. Potvin* **1535**

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* Author to whom correspondence should be addressed.

Supporting information on the WWW (see article for access details).