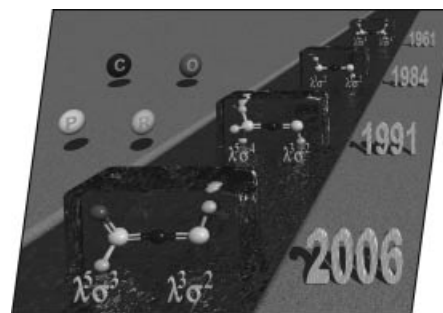


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## COVER PICTURE

The cover picture shows the P=C=P backbones of stable, neutral diphosphaallenes along with the publication year of the first example reported for given coordination numbers of the phosphorus atoms. Since the synthesis of hexaphenylcarbodiphosphorane ( $\text{Ph}_3\text{P}=\text{C}=\text{PPh}_3$ ), a  $\sigma^4, \sigma^4$ -diphosphaallene, in 1961, only two other classes of compounds with P=C=P sequences have been reported in the past decades. Details of the preparation of the phosphavinylidene(oxo)phosphorane  $\text{Mes}^*\text{P}(\text{O})=\text{C}=\text{PMes}^*$  ( $\text{Mes}^* = 2,4,6\text{-tri-}t\text{-butylphenyl}$ ), a diphosphaallene featuring  $\lambda^5\sigma^3$ - and  $\lambda^3\sigma^2$ -phosphorus atoms, NMR spectroscopic data and the first aspects of its reactivity are described in the article by H. Ranaivonjatovo, J. Escudie et al. on p. 4237 ff.



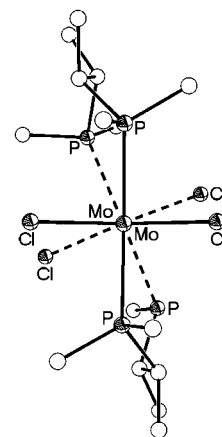
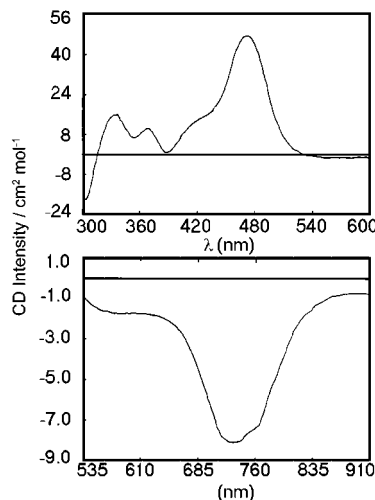
## MICROREVIEW

### Contents

4209 F. A. Cotton,\* C. A. Murillo\*

Chiral Molecules Containing Metal–Metal Bonds

**Keywords:** Metal–metal bonds / Chirality / Chromophores / Orthometalation / Helical molecules



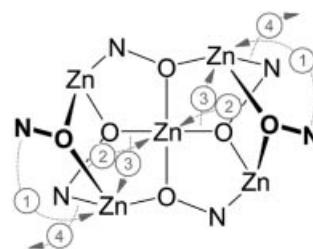
## SHORT COMMUNICATIONS

4219 M. Ullrich, R. J. F. Berger, C. Lustig,  
R. Fröhlich, N. W. Mitzel\*



“Isomerism” of Coordination Modes and Numbers in Pentanuclear Organozinc Hydroxylamides: An Exercise in Subtle Substituent Size Effects

**Keywords:** Zinc / Hydroxylamines / Organometallic / Coordination modes / Crystal structure

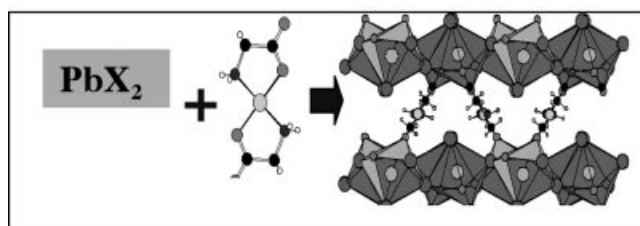


4225 W. Bi, N. Mercier,\* N. Louvain,  
M. Latroche



Lead Halide Layers Linked by *trans*-Cu(Gly)<sub>2</sub> (Gly = <sup>−</sup>O<sub>2</sub>C–CH<sub>2</sub>–NH<sub>2</sub>) Pillars in Heterometallic Glycinate Based Organic–Inorganic Hybrids

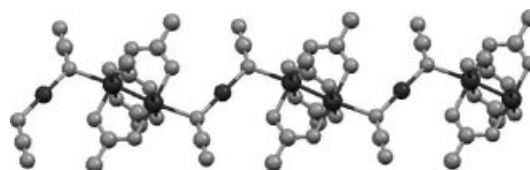
**Keywords:** Amino acids / Lead halide / Layered compounds / Glycinato / Copper



4229 M. C. Barral, R. González-Prieto,  
R. Jiménez-Aparicio,\* J. L. Priego,  
M. R. Torres, F. A. Urbanos

Molecular Assembly with Axial Cyanato Ligands and Paddlewheel Tetracarboxylatodiruthenium(II,III) Fragments

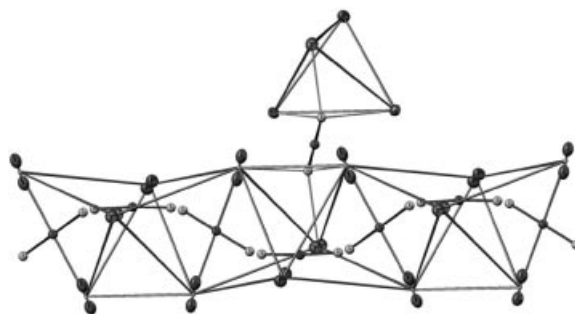
**Keywords:** Diruthenium compounds / Metal–metal bonds / Molecular assembly / Ruthenium complexes / Cyanato ligands / Silver complexes



4233 W. Liao, U. Englert, R. Dronskowski\*

A Novel Europium Carbodiimide that Contains Isolated Europium Tetrahedra and Parallel Chains of Edge-Sharing Open Handbag-Like Eu<sub>6</sub> Units

**Keywords:** Europium / Carbodiimide / Lanthanides / Solid-state reactions / Crystal growth

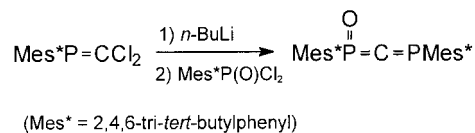


## FULL PAPERS

- 4237** R. Septean, H. Ranaivonjatovo,\*  
G. Nemes, J. Escudié,\*  
I. Silaghi-Dumitrescu, H. Gornitzka,  
L. Silaghi-Dumitrescu, S. Massou



Phosphavinylidene(oxo)phosphorane  $\text{Mes}^*\text{P}(\text{O})=\text{C}=\text{PMes}^*$ : A Diphosphaallene Featuring  $\lambda^5\sigma^3$ - and  $\lambda^3\sigma^2$ -Phosphorus Atoms

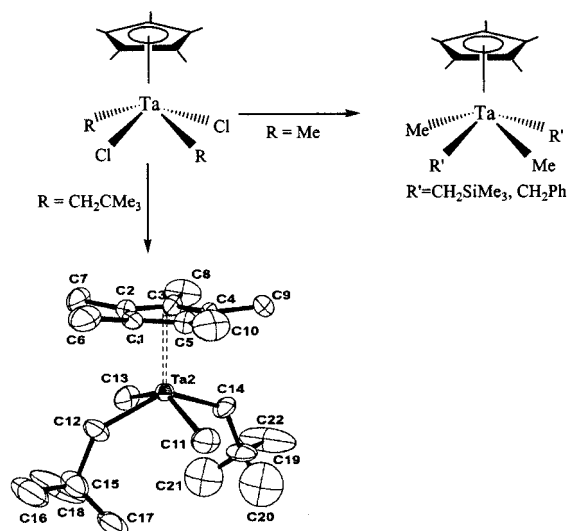


**Keywords:** Heterocumulenes / Phosphorus / Phosphaalkenes / Methylenephosphoranes

- 4242** M. V. Galakhov, M. Gómez,\* P. Gómez-Sal, P. Velasco



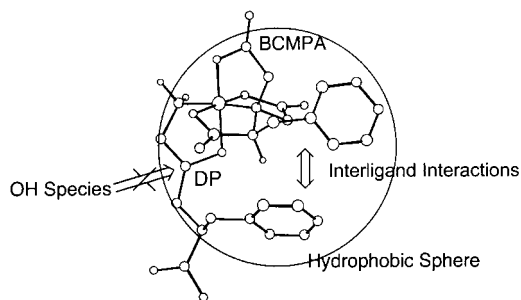
(Alkyl)- and (Alkyl)(alkylidene)(pentamethylcyclopentadienyl)tantalum Complexes



**Keywords:** Tantalum / Alkyl / Alkylidene / Cyclopentadienyl ligands

- 4254** K. Jitsukawa,\* T. Mabuchi, H. Einaga, H. Masuda

Site-Specific Recognition of Dipeptides Through Non-Covalent Inter-Ligand Interactions for the Hydrolysis of Dipeptide to Amino Acid Ligands Mediated by Ternary Cobalt(III) Complexes

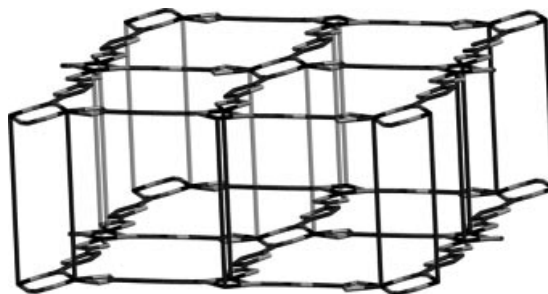


**Keywords:** Ligand design / Hydrolysis / Coordination modes / Cobalt / Host–guest systems

- 4264** H.-P. Jia, W. Li, Z.-F. Ju, J. Zhang\*



Synthesis, Structure and Magnetism of Metal-Organic Framework Materials with Doubly Pillared Layers



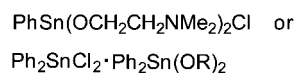
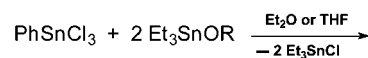
**Keywords:** Metal-organic frameworks / Pillared-layer structure / Iron(II) / Cobalt(II) / Hydrothermal synthesis / Magnetic properties / Carboxylates

- 4271** I. A. Portnyagin, M. S. Nechaev,  
V. N. Khrustalev,\* N. N. Zemlyansky,  
I. V. Borisova, M. Y. Antipin,  
Y. A. Ustynyuk, V. V. Lunin



An Unusual Reaction of (β-Dimethylaminoethoxy)triethyltin with Phenyltin Trichloride. The First X-ray Structural Evidence of the Existence of Complexes  $R_2SnXY \cdot R_2SnXY$  ( $R = \text{Alkyl, Aryl}$ ;  $X, Y = \text{Hal, OR}$ ,  $X \neq Y$ ) Both as Unsymmetrical Adducts  $[R_2SnX_2 \cdot R_2SnY_2]$  and Symmetrical Dimers  $[R_2SnXY]_2$

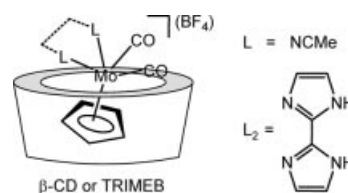
**Keywords:** Complexation / Tin / Dimerization / Stannanes / X-ray diffraction



- 4278** C. C. L. Pereira, S. S. Braga, F. A. A. Paz,  
M. Pillinger, J. Klinowski, I. S. Gonçalves\*

Structural Studies of  $[\text{CpMoL}_2(\text{CO})_2]^+$  ( $L = \text{NCMe}$ ,  $L_2 = 2,2'$ -biimidazole) Complexes and Their Inclusion Compounds with Cyclodextrins

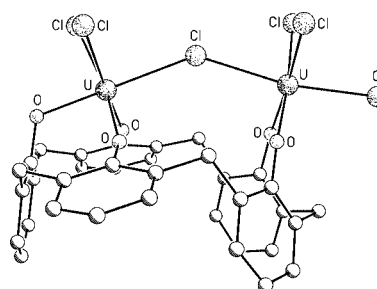
**Keywords:** Cyclodextrins / Inclusion compounds / Half-sandwich complexes / Molybdenum / Cyclopentadienyl metal carbonyls



- 4289** L. Salmon, P. Thuéry, M. Ephritikhine\*

Uranium(IV) Complexes of Calix[5]arene

**Keywords:** Uranium / Calix[5]arene / Calixarenes

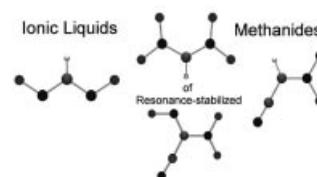


- 4294** H. Brand, J. F. Liebman, A. Schulz,\*  
P. Mayer, A. Villinger



Nonlinear, Resonance-Stabilized Pseudohalides: From Alkali Methanides to Ionic Liquids of Methanides

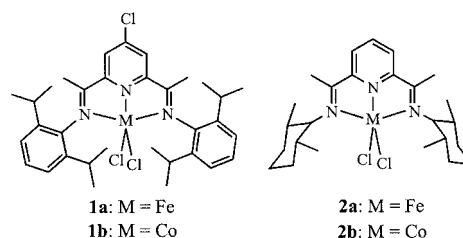
**Keywords:** Ionic liquid / Methanides / Pseudohalides / Resonance / X-ray structure elucidation



- 4309** F. Pelascini, M. Wesolek,\* F. Peruch,\*  
P. J. Lutz

Modified Pyridine-Bis(imine) Iron and Cobalt Complexes: Synthesis, Structure, and Ethylene Polymerization Study

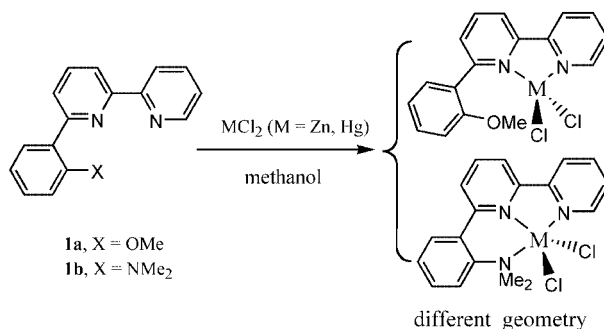
**Keywords:** N ligands / Iron / Cobalt / Ethylene / Polymerization



**4317** X.-M. Liu, X.-Y. Mu, H. Xia, L. Ye,  
W. Gao, H.-Y. Wang, Y. Mu\*

Synthesis, Structures, and Luminescent Properties of  $d^{10}$  Group 12 Metal Complexes with Substituted 2,2'-Bipyridine Ligands

**Keywords:** Group 12 metal complexes / 2,2'-Bipyridine / Solid-state structures / Luminescence

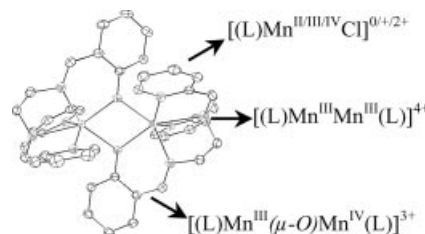


**4324** L. Sabater, C. Hureau,\* G. Blain,  
R. Guillot, P. Thuéry, E. Rivière,  
A. Aukauloo\*



Chemical and Electrochemical Behaviours of a New Phenolato-Bridged Complex  $[(L)Mn^{II}-Mn^{II}(L)]^{2+}$ . Pathways to Mononuclear Chlorido  $[(L)Mn^{II/III/IV}Cl]^{0/+2+}$  and Dinuclear Mono- $\mu$ -Oxido  $[(L)Mn^{III}(\mu-O)Mn^{III/IV}(L)]^{2+/3+}$  Species

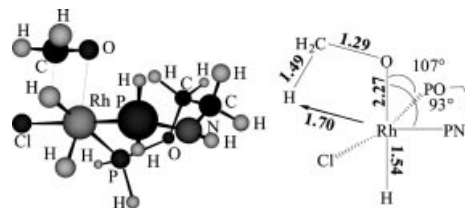
**Keywords:** Manganese / N,O Ligands / Chloride ions / Electrochemistry / EPR spectroscopy



**4338** F. Agbossou-Niedercorn,\* J.-F. Paul\*

A Density Functional Study of the Hydrogenation of Ketones Catalysed by Neutral Rhodium-Diphosphane Complexes

**Keywords:** Density functional calculations / Hydrogenation / Ketones / Rhodium / Asymmetric catalysis

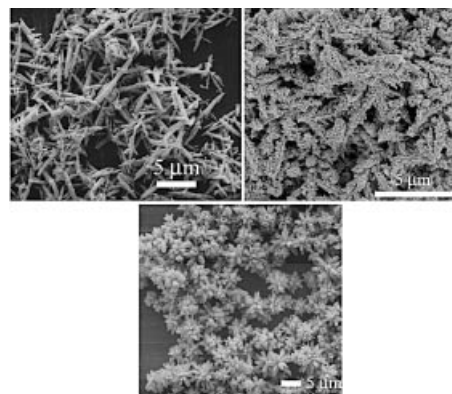


**4349** B. Li, M. Jing, G. Rong, Y. Xu, Y. Xie\*



Morphology Control of CdSe Submicrostructures with High Hierarchy in Solution

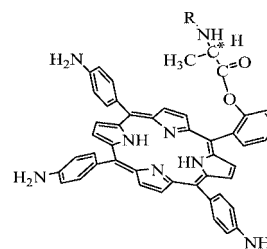
**Keywords:** Morphology control / Cadmium selenide / Submicrostructures / Semiconductor



**4355** H.-B. Fa, L. Zhao, X.-Q. Wang,\* J.-H. Yu,  
Y.-B. Huang, M. Yang, D.-J. Wang

Chiral Recognition of Mesoporous SBA-15 with an Incorporated Chiral Porphyrin

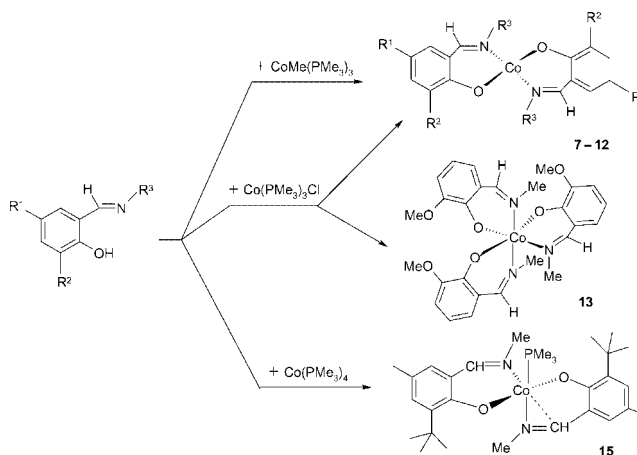
**Keywords:** Chiral recognition / Porphyrins / Mesoporous materials / SBA-15



4362 X. Li,\* F. Yu, H. Sun, L. Huang, H. Hou

Reactions of Trimethylphosphane-Supported Cobalt Complexes with Salicylaldehydes – Formation and Structures of Cobalt Compounds Containing Salicylaldiminato [N:O] Ligands

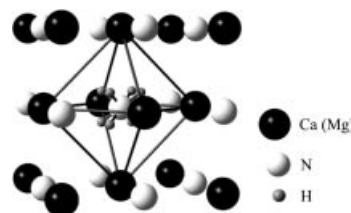
**Keywords:** Cobalt / Salicylaldehydes / Trimethylphosphane / Imines



4368 Y. Liu, T. Liu, Z. Xiong, J. Hu, G. Wu, P. Chen,\* A. T. S. Wee, P. Yang, K. Murata, K. Sakata

Synthesis and Structural Characterization of a New Alkaline Earth Imide:  $\text{MgCa}(\text{NH})_2$

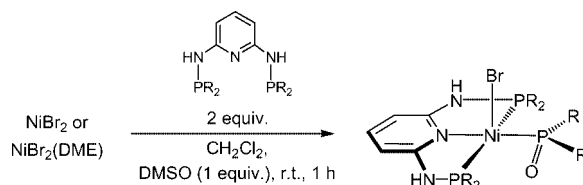
**Keywords:** Solid-state reactions / Amides / Hydrides / EXAFS spectroscopy / Ternary imide



4374 D. Benito-Garagorri, K. Mereiter, K. Kirchner\*

Selective Phosphoramidite Cleavage as a Route to Novel Chiral and Achiral Pentacoordinated Nickel(II) PNP Pincer Complexes

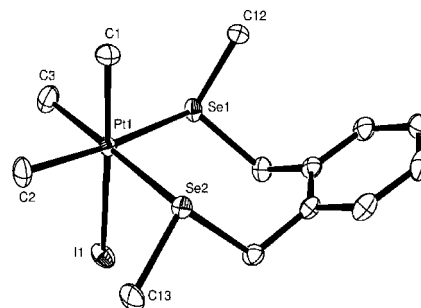
**Keywords:** Nickel complexes / Tridentate ligands / Square-pyramidal complexes / Hydrolysis



4380 W. Levason, J. M. Manning, P. Pawelzyk, G. Reid\*

Synthesis and Properties of Organometallic  $\text{Pt}^{\text{II}}$  and  $\text{Pt}^{\text{IV}}$  Complexes with Acyclic Selenoether and Telluroether Ligands and Selenoether Macrocycles

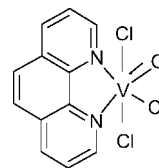
**Keywords:** Selenoether / Telluroether / Platinum / Macrocycles / Organometallic complexes



**4391** C. D. Beard, R. J. Barrie, J. Evans,  
W. Levason,\* G. Reid, M. D. Spicer

Synthesis and Properties of Complexes of Vanadium(V) Oxide Trichloride with Nitrogen- and Oxygen-Donor Ligands

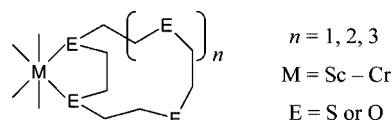
**Keywords:** Vanadium / Coordination complexes / Multinuclear NMR spectroscopy



**4399** C. D. Beard, L. Carr, M. F. Davis, J. Evans,  
W. Levason, L. D. Norman, G. Reid,\*  
M. Webster

Studies on Chromium(III) and Vanadium(III) Complexes with Crown Ether and Crown Thioether Coordination – Synthesis, Properties and Structural Systematics

**Keywords:** Chromium / Crown ether / Thioether macrocycle / Vanadium



**4407** M. Hölscher, W. Leitner\*



DFT-Investigation of the Potential of [H-M- $\{(\text{NHCH}_2\text{CH}_2)_3\text{X}\}$ ] Catalysts (M = Mo, Ru, Os; X = N, P) for the Reduction of  $\text{N}_2$  to  $\text{NH}_3$  by  $\text{H}_2$

**Keywords:** DFT calculations / Nitrogen fixation / Nitrogen activation / Nitrogen reduction / Ammonia / Homogeneous catalysis



**4418** M. F. Erben, C. O. Della Védova,\*  
H. Willner, R. Boese



Synthesis, Structure and Conformational Properties of Fluoroformylchlorodifluoroacetyl Disulfide,  $\text{FC}(\text{O})\text{SSC}(\text{O})\text{CF}_2\text{Cl}$ : Conformational Transferability in  $-\text{C}(\text{O})\text{SSC}(\text{O})-$  Compounds

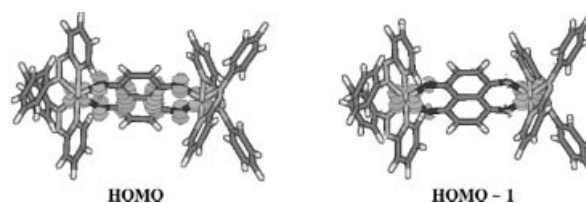
**Keywords:** Conformation analysis / Sulfur / Vibrational spectroscopy / X-ray diffraction



**4426** S. Ghumaan, S. Mukherjee, S. Kar, D. Roy,  
S. M. Mobin, R. B. Sunoj,\* G. K. Lahiri\*

An Experimental and Density Functional Theory Approach Towards the Establishment of Preferential Metal- or Ligand-Based Electron-Transfer Processes in Large Quinonoid-Bridged Diruthenium Complexes  $[\{(\text{aap})_2\text{Ru}\}_2(\mu\text{-BL}^{2-})]^{n+}$  (aap = 2-Arylazopyridine)

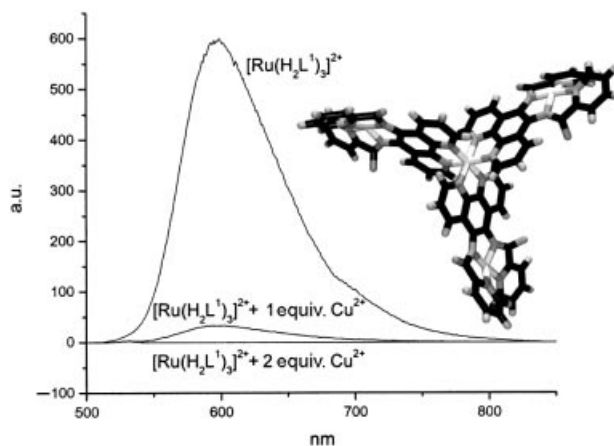
**Keywords:** Ruthenium / Bridging ligands / Radical ions / Density functional calculations / EPR spectroscopy



**4442** P. Comba,\* R. Krämer, A. Mokhir,  
K. Naing, E. Schatz

Synthesis of New Phenanthroline-Based Heteroditopic Ligands – Highly Efficient and Selective Fluorescence Sensors for Copper(II) Ions

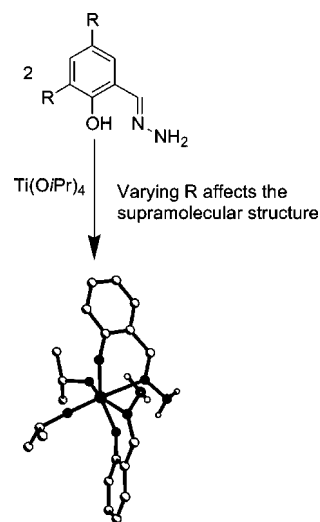
**Keywords:** Sensor / Fluorescence / Copper(II) / Selectivity / Ruthenium



**4449** M. G. Davidson,\* A. L. Johnson,  
M. D. Jones,\* M. D. Lunn, M. F. Mahon

Titanium(IV) Complexes of Hydrazones and Azines

**Keywords:** Titanium / Coordination modes / Hydrazones / Azines



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