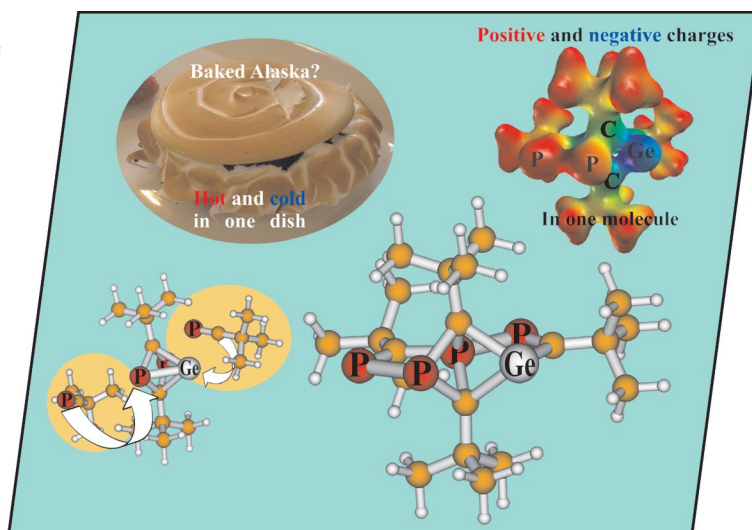


The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows the zwitterionic cage $\text{GeP}_4\text{C}_4(\text{tBu})_4$ (bottom right) with separated positive (red) and negative (blue) charges (see the electrostatic potential map, top right). The compound forms in a smooth reaction from the neutral $\eta^4\text{-Ge}$ complex and two tBuCP phosphalkynes (bottom left). Details are discussed in the article by M. D. Francis et al. on p. 1761ff.



SHORT COMMUNICATIONS

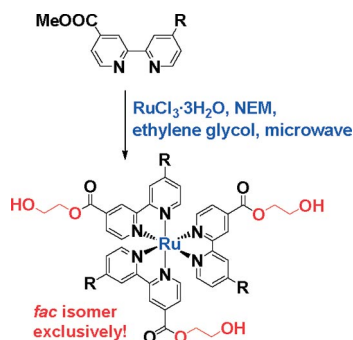
Stereocontrol in Coordination

A. Grabulosa, M. Beley,
P. C. Gros* 1747–1751



Remarkable Effect of 4-Substituted 2,2'-Bipyridine Ligands on the Stereochemistry of Ruthenium(II) Complexes

Keywords: Unsymmetrical bipyridines / Ruthenium / Stereocontrol / *trans* influence / Solvent effects



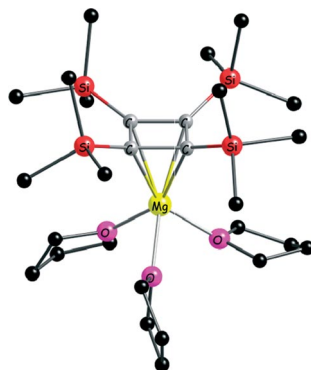
[RuL₃](PF₆)₂ complexes containing 4-alkoxycarbonyl-substituted unsymmetrical bipyridine ligands (L) have been obtained exclusively as the *fac* isomers by simple reaction of L with ruthenium(III) chloride in ethylene glycol under microwave irradiation.

6π-Electron Aromatics

K. Takanashi, A. Inatomi, V. Ya. Lee,
M. Nakamoto, M. Ichinohe,
A. Sekiguchi* 1752–1755

Tetrakis(trimethylsilyl)cyclobutadiene Dianion Alkaline Earth Metal Salts: New Members of the 6π-Electron Aromatics Family

Keywords: Calcium / Cyclobutadiene dianion / Magnesium / Silicon / Solid-state structures



The magnesium and calcium salts of the tetrakis(trimethylsilyl)cyclobutadiene dianion, [Mg(thf)₃]²⁺[(Me₃Si)₄C₄]²⁻ and [Ca(thf)_n]²⁺[(Me₃Si)₄C₄]²⁻, were synthesized by the reduction of tetrakis(trimethylsilyl)cyclobutadiene with metallic magnesium or calcium, respectively. X-ray analysis of the magnesium salt shows a planar four-membered ring, featuring a diagnostic η⁴-coordination to the magnesium atom.

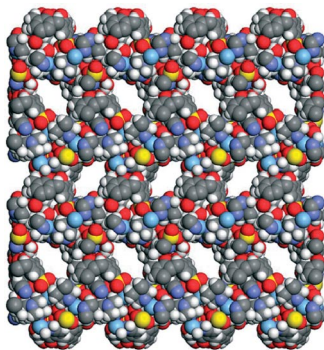
p-Sulfonatocalix[4]arene

G.-I. Zheng, H.-J. Zhang,* S.-Y. Song,
Y.-Y. Li, H.-D. Guo 1756–1759



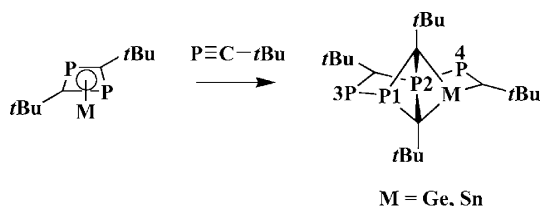
Self-Assembly of *p*-Sulfonatocalix[4]arene and a Ag–hmt Coordination Polymer into a Porous Structure

Keywords: Supramolecular chemistry / *p*-Sulfonatocalix[4]arene / Silver / Coordination polymers / Porous structures



A novel porous material constructed from *p*-sulfonatocalix[4]arene molecules and a Ag^I coordination polymer has been structurally characterized. It is sustained by metal–ligand bonding, hydrogen bonding and host–guest interactions.

FULL PAPERS



The zwitterionic cage compounds **7** and **8** have been synthesized from group-14 1,3-

diphosphacyclobutadienyl complexes and *t*BuCP.

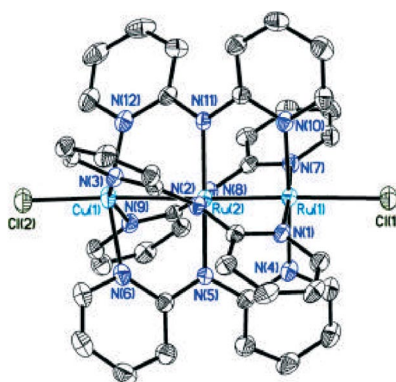
Organophosphorus Cage Compounds

M. D. Francis,* P. B. Hitchcock,
J. F. Nixon, L. Nyulászi 1761–1766

Reactivity of $[M(\eta^4\text{-P}_2\text{C}_2\text{tBu}_2)]$ ($M = \text{Ge, Sn}$) with *tert*-Butylphosphaethyne, $\text{P}\equiv\text{CtBu}$: Synthesis, Structural Characterisation and Computational Studies of the Novel Zwitterionic Organophosphorus Cage Compounds $[\text{MP}_4\text{C}_4\text{tBu}_4]$ ($M = \text{Ge, Sn}$)

Keywords: Cage compounds / Phosphorus / Tin / Germanium / NMR spectroscopy / DFT calculations / Zwitterion

The nonplanar dipyrindylamide ligand is widely used to stabilize homonuclear strings made of three M^{II} atoms in $M_3(\text{dpa})_4\text{L}_2$ complexes. Heterometallic frameworks such as $\text{Co}^{\text{II}}\text{Pd}^{\text{II}}\text{Co}^{\text{II}}(\text{dpa})_4\text{Cl}_2$ can also be obtained. The metal strings presented here are heterometallic, nonsymmetric and mixed-valent, and a $[\text{Ru}_2]^{5+}$ moiety was coupled with a Cu^+ or Ni^+ atom.



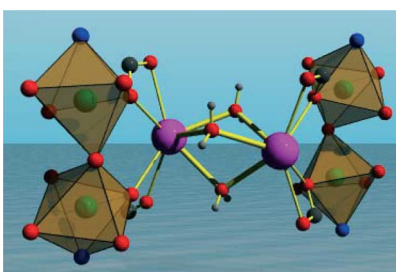
Heterometal String Complexes

G.-C. Huang, M. Bénard,* M.-M. Rohmer,
L.-A. Li, M.-J. Chiu, C.-Y. Yeh,
G.-H. Lee, S.-M. Peng* 1767–1777

$\text{Ru}_2\text{M}(\text{dpa})_4\text{Cl}_2$ ($M = \text{Cu, Ni}$): Synthesis, Characterization, and Theoretical Analysis of Asymmetric Heterometal String Complexes of the Dipyrindylamide Family

Keywords: Molecular wires / Mixed-metal complexes / Metal-metal interactions / Magnetic properties / Electrochemistry / Density functional calculations

We report the synthesis, structural characterisation and magnetic studies of hexanuclear heterometallic $M_2\text{Cr}_4$, in which the coordination hole is selective for Sr and Pb ions, and trinuclear CaCr_2 clusters constructed from identical dinuclear chromium(III) complexes creating a “*tetradentate compartmental ligand*”.



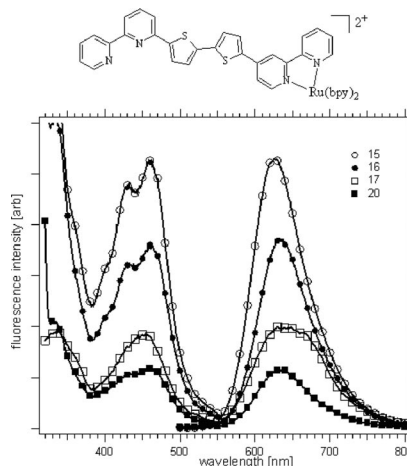
Heterometallic Cluster Chemistry

Gh. Novitchi,* V. Ciornea, S. Shova,
A. Gulea, J.-P. Costes,
A. K. Powell* 1778–1783

Heterometallic $M_2\text{Cr}_4$ ($M^{\text{II}} = \text{Sr, Pb}$) Clusters Assembled by $\text{Tris}(\mu\text{-aqua})$ Bridges

Keywords: Chromium / N/O Ligands / Heterometallic compounds / Magnetic properties

A range of mono- and bis(bidentate) 2,2'-bipyridine-capped oligothiophene-bridged Ru^{II} complexes based on the 6-(2-thienyl)-2,2'-bipyridine motif and the 4-(2-thienyl)-2,2'-bipyridine motif have been synthesized, and the luminescence lifetimes and electrochemical potentials have been measured.



Photophysics

R. O. Steen, L. J. Nurkkala,
S. J. Angus-Dunne, C. X. Schmitt,
E. C. Constable, M. J. Riley,
P. V. Bernhardt,
S. J. Dunne* 1784–1794

The Role of Isomeric Effects on the Luminescence Lifetimes and Electrochemistry of Oligothiophenyl-Bridged Dinuclear $\text{Tris}(2,2'\text{-bipyridine})\text{ruthenium(II)}$ Complexes

Keywords: Luminescence / N ligands / Ruthenium / Cyclic voltammetry / Ligand design

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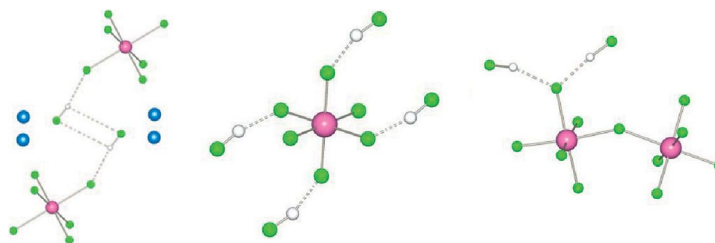
Ternary Fluorochromates

Z. Mazej,* E. Goreshnik 1795–1812



Alkali Metal ($\text{Li}^+ - \text{Cs}^+$) Salts with Hexafluorochromate(V), Hexafluorochromate(IV), Pentafluorochromate(IV), and Undecafluorodichromate(IV) Anions

Keywords: Chromium / Alkali metals / Fluorides / Crystal structures / Hydrogen fluoride



The fluorochromates ACrF_6 ($\text{A} = \text{Li} - \text{Cs}$), ACrF_5 ($\text{A} = \text{K} - \text{Cs}$), Li_2CrF_6 , $\text{A}_2\text{CrF}_6 \cdot 2\text{HF}$ ($\text{A} = \text{Na}, \text{K}$), $\text{A}_2\text{CrF}_6 \cdot 4\text{HF}$ ($\text{A} = \text{Rb}, \text{Cs}$),

and $\text{K}_3\text{Cr}_2\text{F}_{11} \cdot 2\text{HF}$ were prepared and characterized by single-crystal X-ray diffraction and Raman spectroscopy.

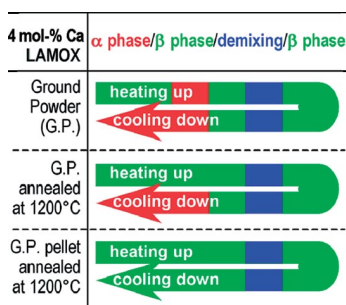
Strain-Suppressed Transitions

A. Selmi, G. Corbel, S. Kojikian,
V. Voronkova, E. Kharitonova,
P. Lacorre* 1813–1821



Complex Effect of Partial Substitution of La^{3+} by Ca^{2+} on the Stability of Fast Oxide-Ion Conductor $\text{La}_2\text{Mo}_2\text{O}_9$

Keywords: Ceramics / Phase transitions / Reversible demixing / Metastability / Temperature-controlled X-ray diffraction



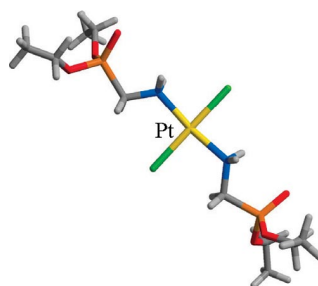
In Ca-substituted LAMOX fast oxide-ion conductors, a succession of phase transformations involving metastability and demixing/recombination phenomena has been observed and studied in powder, ceramic and single-crystal samples. These phenomena are shown to depend upon chemical composition, sample shaping and thermal history.

Platinum-Based MMP Inhibitors

D. Cornacchia, L. Cerasino, C. Pacifico,
G. Natile* 1822–1829

Platinum(II) Complexes with the Diethyl Aminomethylphosphonate Ligand (amp): Characterization, Properties, and Unusual Solution Behavior

Keywords: Platinum / Diethyl aminomethylphosphonate / Antitumor agents / MMP inhibitors / Crystal structure



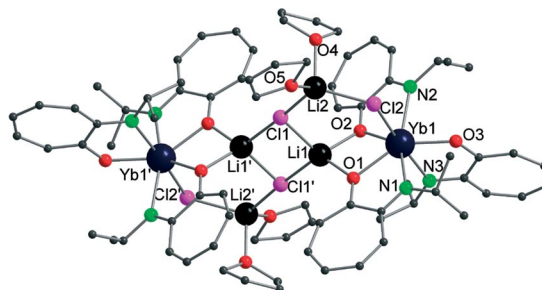
After the discovery that a platinum(II) complex with diethyl [(methylsulfinyl)-methyl]phosphonate ligand can inhibit matrix metalloproteinases (MMPs), which play a key role in the progress of metastasizing tumors, the investigation has been extended to complexes with another phosphonate ligand: diethyl aminomethylphosphonate.

Lanthanide Complexes

N. Meyer, R. Rüttinger,
P. W. Roesky* 1830–1833

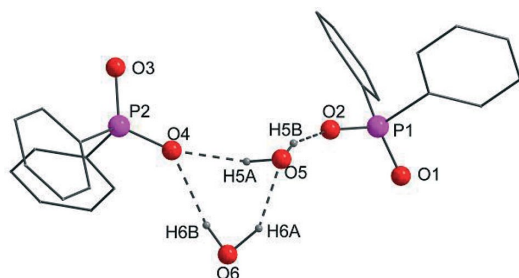
Lithium and Ytterbium Aminotroponate Complexes

Keywords: Lithium / N ligands / O ligands / Rare earths / Ytterbium



The hexameric lithium 2-(isopropylamino)troponate complex $[(i\text{PrAT})\text{Li}]_6$ and the dimeric ytterbium complex $[(i\text{PrAT})_3\text{Yb}]_2$, in which the two $[(i\text{PrAT})_3\text{Yb}]$

subunits are bridged by four LiCl units, were prepared and structurally characterized.



Reactions of zinc acetate with organic phosphates and phosphinic acids have been investigated in the presence of 1,10-phenanthroline and found to yield structurally

diverse compounds. The presence of an uncoordinated P=O moiety in one of the complexes leads to the formation of water dimer aggregates.

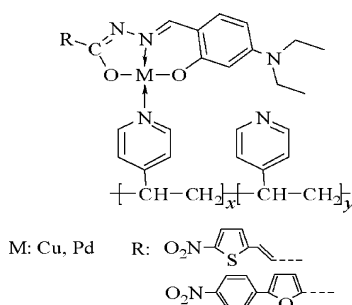
R. Pothiraja, S. Shanmugan, M. G. Walawalkar,* M. Nethaji, R. J. Butcher, R. Murugavel* 1834–1845

Structural Diversity in Zinc Phosphates and Phosphinates: Observation of a Lattice Water Dimer Sandwiched Between Phosphoryl Oxygen Atoms

Keywords: Molecular phosphates / Zinc phosphinates / Polymers / Water clusters / X-ray diffraction

NLO Polymers

Two second-order NLO complexes containing Cu^{II} and Pd^{II} were prepared and grafted onto poly(4-vinylpyridine). The values of $\mu\beta$ range from (620 to 1600) $\times 10^{-48}$ esu; a d_{33} value of 12–21 pm/V at 1500 nm and of 93–167 pm/V at 1064 nm (resonant) were measured for the grafted polymers. A maximum loss of 30% initial nonlinear response was found during thermal treatment at 80 °C.



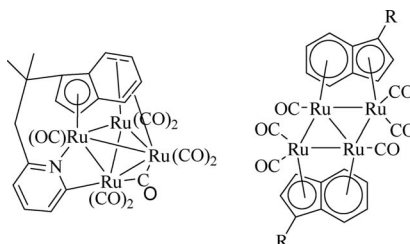
F. Borbone, A. Carella, U. Caruso, G. Roviello, A. Tuzi,* P. Dardano, S. Lettieri, P. Maddalena, A. Barsella 1846–1853

Large Second-Order NLO Activity in Poly(4-vinylpyridine) Grafted with Pd^{II} and Cu^{II} Chromophoric Complexes with Tridentate Bent Ligands Containing Heterocycles

Keywords: Nonlinear optics / Polymers / Tridentate ligands / Copper / Palladium

Indenyl Ligand Coordination Modes

Reactions of pyridyl side chain functionalized indenenes with Ru₃(CO)₁₂ gave a series of metal complexes with different bonding modes of the indenyl ligand.

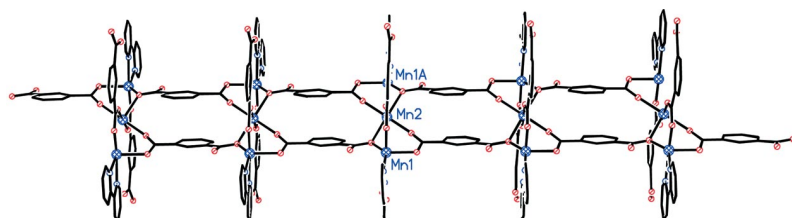


D. Chen, S. Xu, H. Song, B. Wang* 1854–1864

Reactions of Pyridyl Side Chain Functionalized Indenes with Ru₃(CO)₁₂

Keywords: Ruthenium / Carbonyl ligands / C–H activation / Coordination modes / Arene ligands / Cluster compounds

A Manganese-Cluster-Based Polymer



A new isophthalatomanganese(II) coordination polymer has been prepared and characterized by single-crystal X-ray diffraction and magnetic measurements. It contains unprecedented isophthalato-

bridged trimanganese cluster building units linked by isophthalato ligands in a newly observed binding mode, forming a one-dimensional, ladder-like network. The polymer is antiferromagnetic.

C.-B. Ma, C.-N. Chen, Q.-T. Liu,* D.-Z. Liao, L.-C. Li 1865–1870

Synthesis and Characterization of a Ladder-Like Coordination Polymer Composed of Trimanganese Clusters Formed and Linked by Isophthalato Ligands

Keywords: Coordination polymers / Manganese / Isophthalic acid / Magnetic properties / Structure elucidation

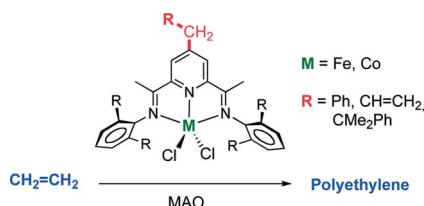
CONTENTS

Fe and Co Polymerization Catalysts

J. Cámpora,* A. M. Naz, P. Palma,
A. Rodríguez-Delgado, E. Álvarez,
I. Tritto, L. Boggioni 1871–1879

Iron and Cobalt Complexes of 4-Alkyl-2,6-diiminopyridine Ligands: Synthesis and Ethylene Polymerization Catalysis

Keywords: Iron / Cobalt / Diiminopyridine ligands / Ethylene Polymerization / Self-immobilization



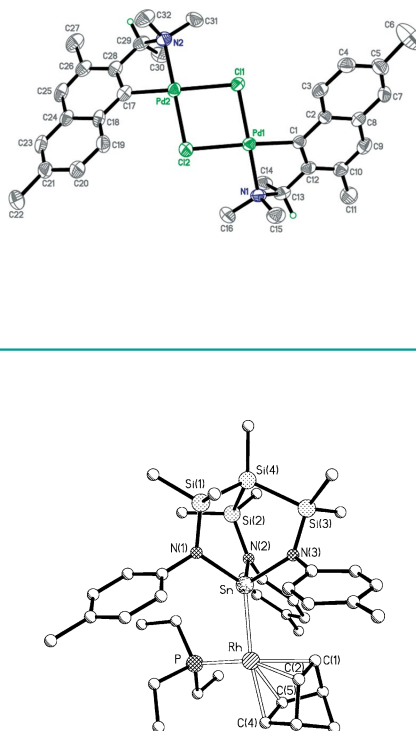
Iron and cobalt diiminopyridine complexes displaying alkyl substituents at the central heterocyclic ring were synthesized and characterized. The alkyl substituent does not perturb their catalytic performance in the polymerization of ethylene, but the presence of a pending allyl group ($R = \text{CH}=\text{CH}_2$) leads to a substantial increase in the polymer molecular weights.

Palladacycle as Chiral Template

Y. Ding, Y. Li, Y. Zhang, S. A. Pullarkat,
P.-H. Leung* 1880–1891

Design, Synthesis, and Stereochemical Evaluation of a Novel Chiral Amine–Palladacycle

Keywords: Asymmetric synthesis / Palladacycles / Chiral resolution / Cycloaddition / X-ray diffraction



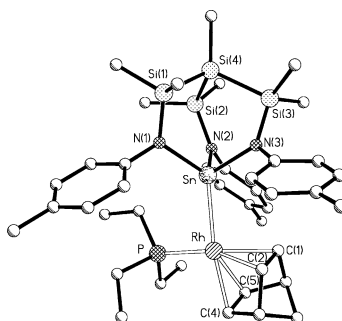
A novel chiral palladacycle was synthesized. The racemic cyclopalladated complex could be efficiently resolved through the formation of its (*S*)-prolinato and (*S*)-alaninato derivatives. With the use of the palladacycle as the chiral template, the stereoselectivity of the Diels–Alder cycloaddition between dmpp and ethyl vinyl ketone significantly improves.

Rh–Sn Complexes

M. Kilian, H. Wadehohl,
L. H. Gade* 1892–1900

Synthesis and Structural Characterization of New Rhodium–Tin Heterodimetallic Complexes

Keywords: Rhodium / Tin / Triamidostannates / Heterodimetallic complexes



Large cone angles and strong bonding to transition metals make triamidostannates suitable ancillary ligands for transition metals as shown in the synthesis of a series of 16- and 18-electron rhodium(I) complexes.

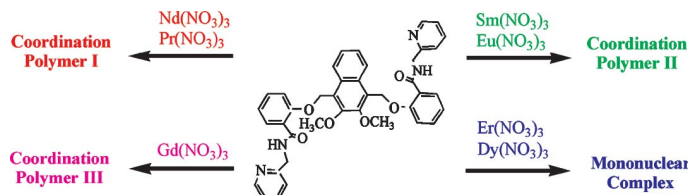
Luminescent Ln Complexes

X.-Q. Song, W.-S. Liu,* W. Dou,
Y.-W. Wang, J.-R. Zheng,
Z.-P. Zang 1901–1912



Structure Variation and Luminescence Properties of Lanthanide Complexes Incorporating a Naphthalene-Derived Chromophore Featuring Salicylamide Pendant Arms

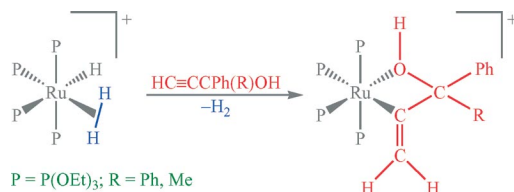
Keywords: Lanthanide coordination polymers / Salicylamide / π – π Stacking / Hydrogen bonds / Luminescence properties



This work not only demonstrates that the supramolecular structure of lanthanide complexes with a naphthalene-derived chromophore, featuring salicylamide pen-

dant arms, can be tuned by the nature of metal ions, but also offers interesting perspectives for the development of efficient luminescent stains.

Chelate Vinyl Complexes



The preparation of vinyl chelate complexes $[M\{\eta^2-C(=CH_2)CPh(R)OH(M-O)\}-P_4]BPh_4$ ($M = Ru, Os$) and $[Os\{\eta^2-CH=C(H)CPh(R)OH(Os-O)\}P_4]BPh_4$ [$P = P(OEt)_3$; $R = Ph, Me$] and their reactivity

with terminal alkynes $R^1C\equiv CH$, which yields enynyl derivatives $[Ru(\eta^3-R^1C_3-CHR^1)P_4]BPh_4$ are reported. The preparation of the allenylidene complex $[Os(=C=C=CPh_2)P_3](BPh_4)_2$ is described.

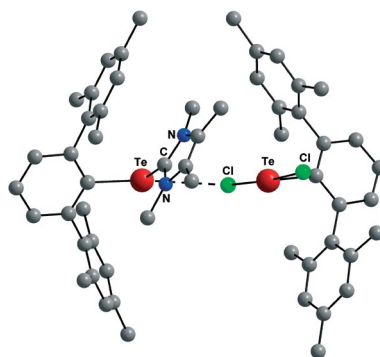
**G. Albertin,* S. Antoniutti, A. Bacchi,
G. Pelizzi, G. Zanardo 1913–1920**

Reactions of Hydride Complexes of Ruthenium and Osmium with Propargylic Alcohols: Preparation of Chelate Vinyl Derivatives

Keywords: Hydrides / Alkene ligands / Alcohols / Ruthenium / Osmium / Vinyl complexes

Aryltellurenyl Cation

The syntheses and molecular structures of $[2,6-Mes_2C_6H_3Te(CR'_2)]^+$ ($2,6-Mes_2C_6H_3TeCl_2$)[−] (**4**) and $[2,6-Mes_2C_6H_3Te(CR'_2)]^+ I^-$ (**6**) are reported. These compounds are rare examples of a well-defined σ -donor-stabilized aryltellurenyl cation ($CR'_2 = 1,3,4,5$ -tetramethylimidazol-2-ylidene).



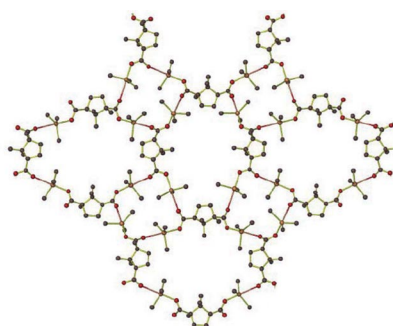
**J. Beckmann,* P. Finke,
S. Heitz, M. Hesse 1921–1925**

Aryltellurenyl Cation $[RTe(CR'_2)]^+$ Stabilized by an N-Heterocyclic Carbene

Keywords: Tellurium / Halides / Carbenes / Cations

Chiral Camphoric Acid

A series of chiral triorganotin complexes based on chiral (+)-(1*R*,3*S*)-camphoric acid and *meso*-*cis*-4-cyclohexene-1,2-dicarboxylic acid ligands have been synthesized. Both the spectra and crystal structures show that when (+)-(1*R*,3*S*)-camphoric acid and *meso*-*cis*-4-cyclohexene-1,2-dicarboxylic acid react with triorganotin compounds they can form dinuclear, 1D polymeric chain, and 2D network polymers with metal–organic structures.



**C. Ma,* Q. Wang,
R. Zhang 1926–1934**

Self-Assembly of Triorganotin Complexes: Syntheses, Characterization, and Crystal Structures of Dinuclear, 1D Polymeric Chain, and 2D Network Polymers Containing Chiral (+)-(1*R*,3*S*)-Camphoric Acid and *meso*-*cis*-4-Cyclohexene-1,2-dicarboxylic Acid Ligands

Keywords: Triorganotin complexes / Chiral camphoric acid / *meso*-*cis*-4-Cyclohexene-1,2-dicarboxylic acid

If not otherwise indicated in the article, papers in issue 10 were published online on March 18, 2008