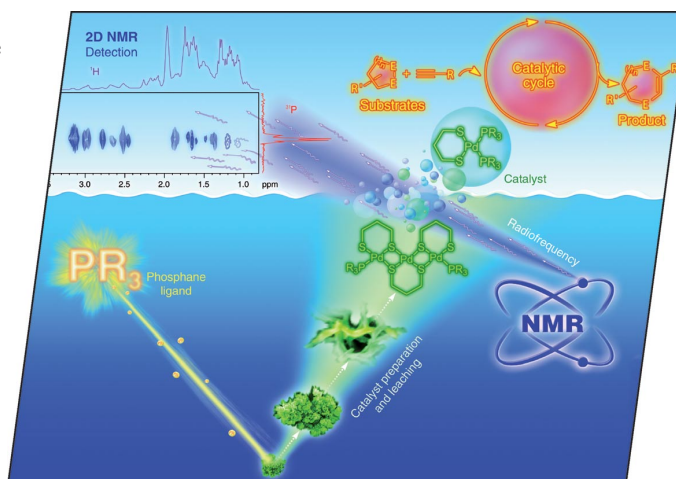


A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows the impact of the phosphane ligand on solid metal nanoparticles, which initiates transformation of the metal species into a high-performance catalyst. The evolution of the transition-metal complexes was monitored by NMR spectroscopy, and the active form of the catalyst was detected in the 2D HMQC spectrum. A novel synthetic procedure to access cyclic vinyl chalcogenides was developed by utilizing an in situ designed catalyst in an E–E bond addition reaction to acetylenes (E = S, Se). Details are discussed in the article by V. P. Ananikov, I. P. Beletskaya et al. on p. 1149ff.



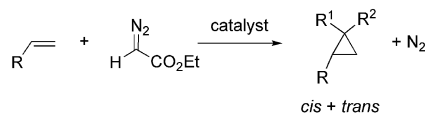
MICROREVIEW

Selectivity in Olefin Cyclopropanation

A. Caballero, A. Prieto,
M. M. Díaz-Requejo,*
P. J. Pérez* 1137–1144

Metal-Catalyzed Olefin Cyclopropanation with Ethyl Diazoacetate: Control of the Diastereoselectivity

Keywords: Carbenes / Cyclopropanation / Diastereoselectivity / Olefins / Transition metals



The control of the diastereoselectivity (*cis/trans*) achieved by transition-metal complexes employed as catalysts in the olefin cyclopropanation reaction with ethyl diazoacetate is reviewed.

SHORT COMMUNICATION

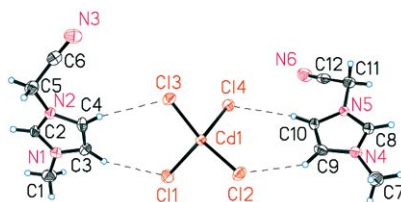
Ionic Liquids

S. Tang, A.-V. Mudring* 1145–1148



Two Cyano-Functionalized, Cadmium-Containing Ionic Liquids

Keywords: Ionic liquids / Cadmium / Crystal structure / Hydrogen bonds / Thermal behavior



The new ionic liquids 3-cyanomethyl-1-methylimidazolium tetrachlorocadmate and 3-(4-cyanobutyl)-1-methylimidazolium tetrachlorocadmate can be obtained by reacting the respective alkylimidazolium chlorides with cadmium chloride in 2:1 molar ratios. Once molten, both compounds show little tendency to solidify at room temperature and below.

FULL PAPERS

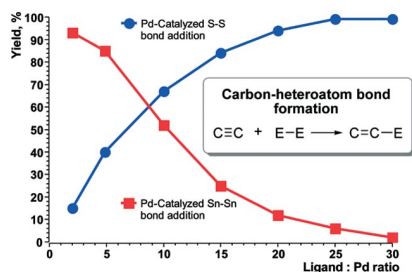
Catalyst Leaching

V. P. Ananikov,* K. A. Gayduk,
I. P. Beletskaya,* V. N. Khrustalev,
M. Yu. Antipin 1149–1161



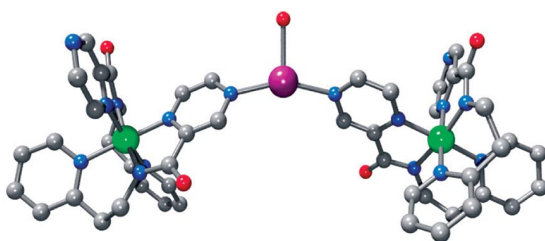
Catalyst Leaching as an Efficient Tool for Constructing New Catalytic Reactions: Application to the Synthesis of Cyclic Vinyl Sulfides and Vinyl Selenides

Keywords: Homogeneous catalysis / Leaching / Nickel / Palladium / Nanoparticles



Phosphane ligands are observed to affect the addition of E–E bonds to alkynes: an excess of phosphane ligand decreases the performance of the catalytic reaction in some cases, whereas in others the catalyst is totally inactive in the absence of an excess of ligand. The metal particle leaching promoted by the phosphane ligand is used to create a new catalytic reaction.

Linking Pyrazine-Based Complexes



A two-step complexation procedure using cobalt(III) to prepare building blocks, then silver(I) to connect them through the “spare” nitrogen atoms “out

the back” of the building block complexes, was successful generating $\{[\text{Co}^{\text{III}}(\text{L}^{\text{IE}})_2]_2\text{[Ag}^{\text{I}}(\text{H}_2\text{O})]\}(\text{BF}_4)(\text{NO}_3)_2$ (structure shown).

R. M. Hellyer, D. S. Larsen,
S. Brooker* 1162–1171

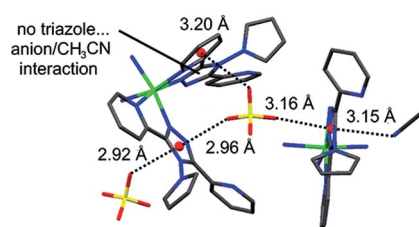
Cobalt and Silver Complexes of Terdentate Pyrazine-Based Amide Ligands and Assembly of Monocobalt Building Blocks through a Silver Connector



Keywords: Pyrazine / Cobalt / Silver / Mixed-metal complexes / Electrochemistry / Amides

New Class of Anion– π Interactions?

Four mononuclear nickel(II) complexes contain a surprising and strong anion– π anion “sandwiching” arrangement that seems to contradict the current simple electrostatic description of anion– π interactions.



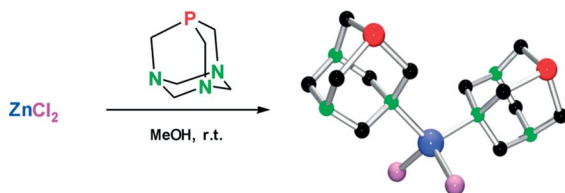
N. G. White, J. A. Kitchen,
S. Brooker* 1172–1180

A Structural Investigation of Anion–Triazole Interactions: Observation of “ π -Pockets” and “ π -Sandwiches”



Keywords: Coordination compounds / π interactions / Supramolecular chemistry / Triazoles / N ligands

Zn–PTA Complexes



The Zn^{II} compounds $[\text{ZnCl}_2(\text{PTA})_2]$ (PTA = 1,3,5-triaza-7-phosphaadamantane) and $[\text{PTA-Me}]_2[\text{ZnI}_2\text{X}_2]$ (X = Cl, X = I; PTA-Me = *N*-methyl-1,3,5-triaza-7-phosphaadamantane) have been prepared by treating

ZnCl_2 with PTA and $[\text{PTA-Me}]\text{I}$, respectively, in methanol at room temperature. $[\text{ZnCl}_2(\text{PTA})_2]$ represents the first example of a Zn complex bearing PTA or any derived ligand with a cage-like PTA core.

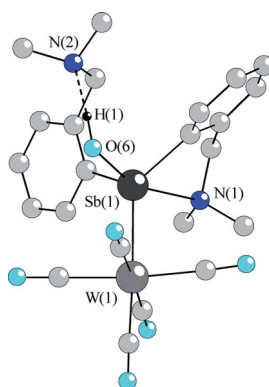
P. Smoleński, L. Benisvy,
M. F. C. Guedes da Silva,
A. J. L. Pombeiro* 1181–1186

Syntheses and Crystal Structures of the First Zinc Complex with 1,3,5-Triaza-7-phosphaadamantane (PTA), $[\text{ZnCl}_2(\text{PTA})_2]$, and of the Hybrid Organic–Inorganic Salts of *N*-Methyl-1,3,5-triaza-7-phosphaadamantane with Tetrahalozinc $[\text{PTA-Me}]_2\text{[ZnI}_2\text{X}_2]$ (X = I, Cl)

Keywords: Zinc / N,P ligands / 1,3,5-Triaza-7-phosphaadamantane / Coordination modes

Hypervalent Organoantimony(III)

The solid-state structure of $[\{2\text{-(Me}_2\text{NCH}_2\text{)C}_6\text{H}_4\}_2\text{Sb}\text{E}]_2$ [E = O, S] revealed square-pyramidal $(\text{C,N})_2\text{SbE}$ cores, whereas the NMR spectroscopic data are consistent with configuration stability of the Sb atom. By contrast, in $[\{2\text{-(Me}_2\text{NCH}_2\text{)C}_6\text{H}_4\}_2\text{SbOH}][\text{W}(\text{CO})_5]$ the Sb center has a trigonal-bipyramidal environment, and one of the N atoms is involved in intramolecular hydrogen bonding.



L. M. Opris, A. M. Preda, R. A. Varga,
H. J. Breunig,* C. Silvestru* 1187–1193

Synthesis and Characterization of Hypervalent Organoantimony(III) Compounds Containing the $2\text{-(Me}_2\text{NCH}_2\text{)C}_6\text{H}_4\}_2\text{Sb}$ Fragment

Keywords: Antimony / Hypervalent compounds / Chalcogens / Structure elucidation

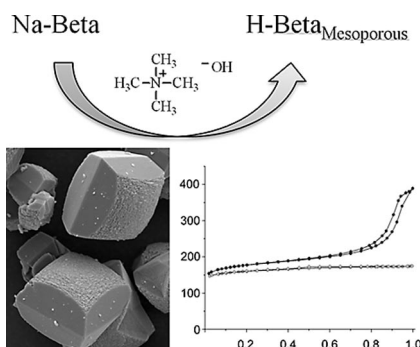
CONTENTS

Desilication

M. S. Holm,* M. K. Hansen,
C. H. Christensen* 1194–1198

“One-Pot” Ion-Exchange and Mesopore
Formation During Desilication

Keywords: Zeolites / Mesoporous materi-
als / Desilication / Ion exchange



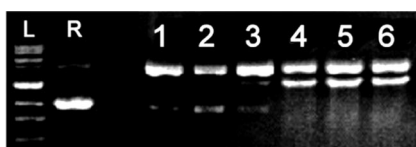
Zeolite beta was successfully desilicated using tetramethylammonium hydroxide. It is shown that calcination of the desilicated material directly produces the mesoporous acidic form of the zeolite. A protocol integrating the post-synthesis treatments desilication and ion-exchange is thus presented.

Phosphoester Hydrolysis

V. Lykourinou, A. I. Hanafy, K. S. Bisht,
A. Angerhofer, L.-J. Ming* 1199–1207

Iron(III) Complexes of Metal-Binding Co-
polymers as Proficient Catalysts for Acid
Hydrolysis of Phosphodiester and Oxidat-
ive DNA Cleavage – Insight into the
Rational Design of Functional Metallo-
polymers

Keywords: Heterogeneous catalysis /
Hydrolysis / Iron / Metallopolymers /
Phosphorus / DNA cleavage



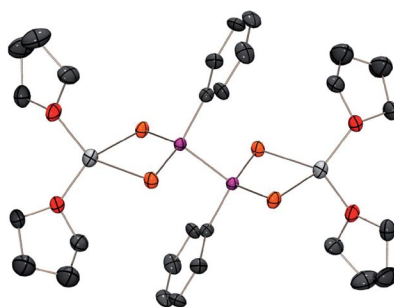
Fe^{3+} complexes of pyridine-containing co-
polymers show effective oxidative double-
stranded DNA cleavage and selective and
efficient catalysis toward phosphodiester
hydrolysis at pH 6–8. One complex exhib-
ited significant first-order catalytic pro-
ficiency toward the hydrolysis of bis(*p*-
nitrophenyl) phosphate at pH 5.3 and at
25 °C, representing a functional model of
an acid phosphoesterase.

Selenophosphonates

K. Lux, K. Eckstein, O. Schön,
K. Karaghiosoff* 1208–1213

Alkali Metal Tetraselenohypodiphosphon-
ates: Synthesis, NMR Spectroscopy and
Crystal Structures

Keywords: Phosphorus / Selenium / Se li-
gands / Structure elucidation / NMR spec-
troscopy



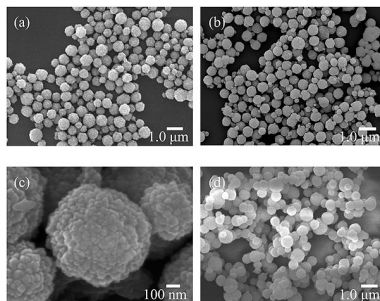
A general and straightforward synthesis of
alkali metal tetraselenohypodiphosphon-
ates $(\text{RP})_2\text{Se}_4\text{M}_2$ (R = alkyl, aryl; M = Li,
Na) is presented. Their ^{31}P and ^{77}Se NMR
spectra are discussed. The crystal struc-
tures of two of the salts reveal different co-
ordination modes of the $(\text{RP})_2\text{Se}_4^{2-}$ anion
to the alkali metal cations.

Hierarchical Anatase Microspheres

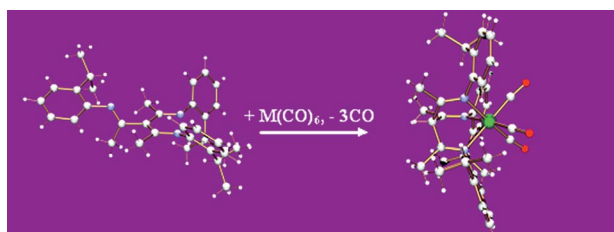
S. Liu, X. Sun,* J.-G. Li, X. Li, Z. Xiu,
D. Huo 1214–1218

Synthesis of Dispersed Anatase Micro-
spheres with Hierarchical Structures via
Homogeneous Precipitation

Keywords: Photochemistry / Nanostruc-
tures / Self-assembly / Titanium



Crystalline anatase microspheres of hier-
archical structures are obtained directly by
homogeneous precipitation under mild
conditions (83–100 °C, 30 min) using am-
monium fluorotitanate as the titanium
source and urea as the precipitant.



A real scorpionate: Scorpions normally do not sting with their tail until they have their prey firmly in their grasp. The new family of facially capping ligands reported, the β -triketiminates, fits the arachnomorphic analogy better than previous “scorpionate” ligands, in that most examples exist in a pro-

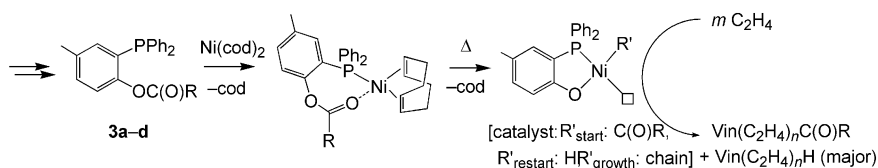
bidentate form, which converts to an N,N',N'' - κ_3 -tridentate ligand only when presented with Cr-group metal “prey”. Once in this complexed form, C_3 -symmetric examples self-organise to form a microporous network.

D. Barnes, G. L. Brown, M. Brownhill,
I. German, C. J. Herbert, A. Jolleys,
A. R. Kennedy, B. Liu, K. McBride,
F. S. Mair,* R. G. Pritchard, A. Sanders,
J. E. Warren 1219–1233

A New, Flexible N,N,N -Tripodal Facially Capping Ligand System: Synthesis and Structural Characterization of β -Triketiminates and Their $M(CO)_3$ Complexes ($M = Cr, Mo, W$)

Keywords: Tridentate ligands / N ligands / Ligand design / Chromium / Microporous materials

P,O Nickel Catalysts



Coupling of lithium 2-lithiocresolate with $ClPPh_2$ and subsequently with $ClSiMe_3/MeOH$, $ClP(O)Ph_2$, or $RC(O)Cl$ ($R = Me, tBu, Ph, 4-MeOC_6H_4$) provided 2-phosphanylresol **1**, its phosphinic acid ester **2**,

and carboxylic esters **3a–d**, in part structurally characterized by X-ray diffraction. In contrast to ethers of **1**, the esters give highly active nickel catalysts for polymerization of ethylene.

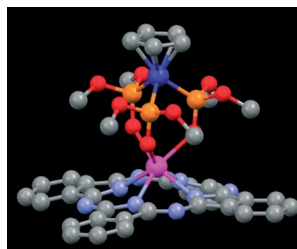
D. G. Yakhvarov,* K. R. Basvani,
M. K. Kindermann, A. B. Dobrynin,
I. A. Litvinov, O. G. Sinyashin, P. G. Jones,
J. Heinicke* 1234–1242

O-Acylated 2-Phosphanylphenol Derivatives – Useful Ligands in the Nickel-Catalyzed Polymerization of Ethylene

Keywords: Phosphanes / Nickel / Polymerization / P ligands

Monophthalocyaninato Complexes

A series of heterobimetallic (monophthalocyaninato)lanthanide complexes of Yb and Er supported by a tripodal cobalt-based ligand have been synthesized and structurally characterized. Photophysical studies show that these complexes show distinct near-infrared emissions, with the singlet oxygen phosphorescence responsible for the Yb^{3+} case and the lanthanide ion emission for the Er^{3+} congener.

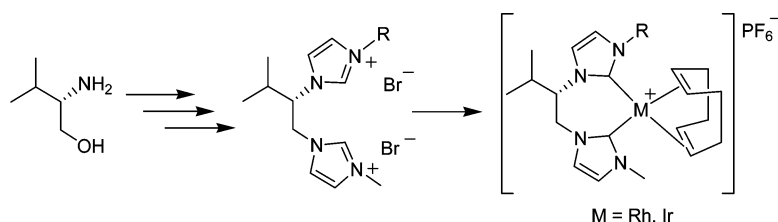


H. Ke, W.-K. Wong,* W.-Y. Wong,
H.-L. Tam, C.-T. Poon,
F. Jiang 1243–1247

Synthesis, Crystal Structure, and Photophysical Properties of Novel (Monophthalocyaninato)lanthanide Complexes Stabilized by an Organometallic Tripodal Ligand

Keywords: Lanthanides / Phthalocyanines / Tripodal ligands / Near-infrared emission

Chiral NHC Complexes



Chiral bis(N-heterocyclic carbene) complexes of rhodium(I) and iridium(I) are prepared by a six-step synthesis starting from L-valinol. This route makes it possible

to modify the ligand at several positions. The *exo* and *endo* complex isomers are characterised by 1H NMR spectroscopy and single-crystal X-ray diffraction.

U. Nagel,* C. Diez 1248–1255

Modular Synthesis of a New Type of Chiral Bis(carbene) Ligand from L-Valinol and Iridium(I) and Rhodium(I) Complexes Thereof

Keywords: Nitrogen heterocycles / Carbene ligands / Iridium / Rhodium

CONTENTS

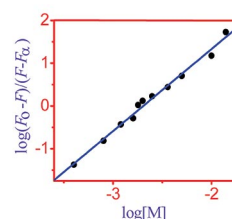
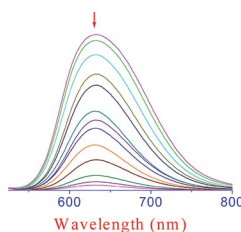
Fluoroionophores for Cations

V. P. Boricha, S. Patra, Y. S. Chouhan,
P. Sanavada, E. Suresh,
P. Paul* 1256–1267



Synthesis, Characterisation, Electrochemistry and Ion-Binding Studies of Ruthenium(II) and Rhenium(I) Bipyridine/Crown Ether Receptor Molecules

Keywords: Receptors / Ruthenium / Rhenium / Crown compounds / Electrochemistry



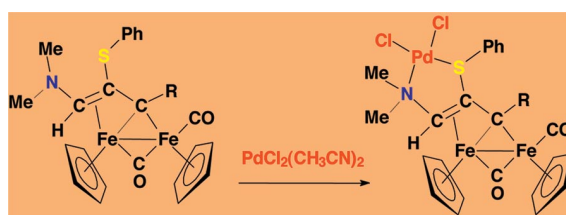
Molecular receptors containing a Ru^{II}/Re^I bipy/phen moiety as fluorophore and a crown ether as ionophore have been synthesised and their luminescence, electrochemical and cation-binding properties

with a large number of metal ions investigated. Luminescence and ¹H NMR spectroscopic studies suggest a strong complexation of the ionophores with certain metal ions.

Organometallic Linkers

L. Busetto, F. Marchetti, R. Mazzoni,
M. Salmi, S. Zacchini,
V. Zanotti* 1268–1274

Bridging Vinyliminium- and Enaminoalkylidenediiron Complexes as Organometallic Ligands



Keywords: Bridging ligands / Chelates / Zwitterions / N,S ligands / Iron

Diiron complexes bearing bridging functionalized C₃ organic frameworks can be transformed into chelating N,S ligands. Several modifications and functionaliza-

tions of the bridging C₃ framework are possible, thus making these “organometallic ligands” very versatile.

* 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 8 were published online on February 23, 2009