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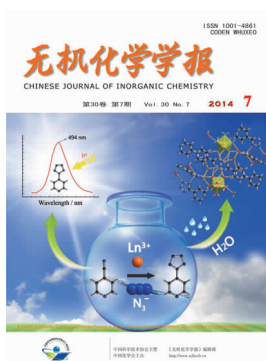
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Cover



A Family of Tetrazole Compounds Formed Through in situ [2+3] Tetrazole Ligand Synthesis, Structures and Fluorescent Properties (English)

TAN Yu-Hui, XIONG Jian-Bo, HUANG Jun, GAO Ji-Xing, XU Qing, YU Yin-Mei, WANG Yan, YANG Bin, SHU Qing, TANG Yun-Zhi

DOI: 10.11862/CJIC.2014.241

Chinese J. Inorg. Chem., **2014**,**30**:1621-1628

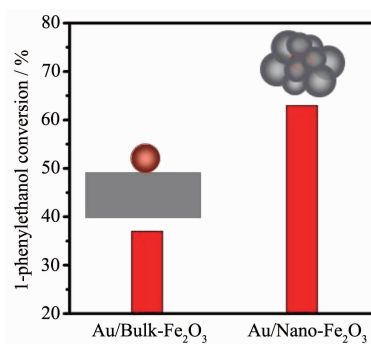
Articles

Synthesis, Characterizations and Catalytic Performance of Nanostructure Au/Fe₂O₃

ZHAO Jian-Bo, FU Teng, LI Lei, DING Wei-Ping

DOI: 10.11862/CJIC.2014.247

Chinese J. Inorg. Chem., **2014**,**30**:1489-1495



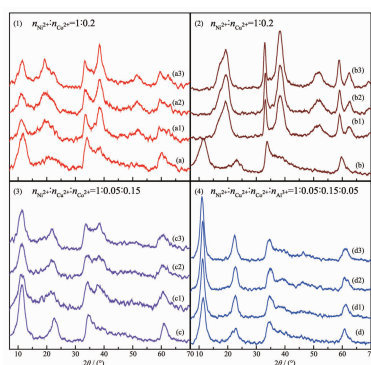
Au/Nano-Fe₂O₃ possesses a novel structure with ~5 nm Au nanoparticles surrounded by nanosized Fe₂O₃, while ~3 nm Au nanoparticles are highly dispersed on the support surface in Au/Bulk-Fe₂O₃. The former shows higher activity for the oxidation of 1-phenylethanol.

Crystal Phase and Structure Stability of Single or Multi-element Substituted Nano-Nickel Hydroxide

HAN Quan-Yong, ZHU Yan-Juan, MIAO Cheng-Cheng, LUO Jie, ZHAO Wei-Ren, ZHANG Wei, ZHAO Teng-Qi, ZHENG Wei-Jian

DOI: 10.11862/CJIC.2014.216

Chinese J. Inorg. Chem., **2014**,**30**:1496-1502



a~d: before soaked; a1~d1: after soaked for 1 week; a2~d2: after soaked for 2 weeks; a3~d3: after soaked for 3 weeks

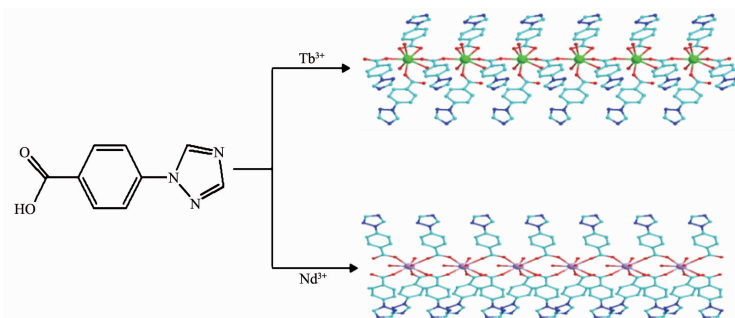
Compared with Cu/Co double substitution (sample c) and single substitution (sample a, b), the crystal structure of Cu/Co/Al triple substitution (sample d) was more stable, which still keep pure α -Ni(OH)₂ after soaking in alkali liquor for three weeks.

Two Lanthanide Coordination Polymers
Derived from 4-(1*H*-1,2,3-Triazol-1-yl)
benzoic Acid: Synthesis, Crystal
Structures, and Fluorescence (English)

FANG Zhi-Li, NIE Qi-Xiang,
ZHENG Sheng-Run, ZHONG Yun,
XIONG Shan

DOI:10.11862/CJIC.2014.233

Chinese J. Inorg. Chem., **2014**,**30**:1503-1510



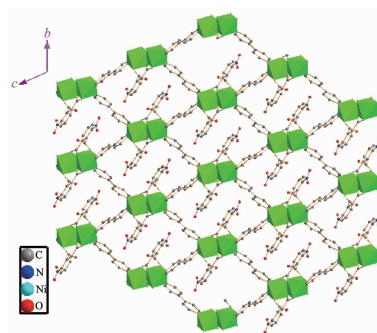
Hydrothermal reaction of 4-(1*H*-1,2,3-triazol-1-yl) benzoic acid and Ln_2O_3 ($\text{Ln}=\text{Nd}$ or Tb) results in the formation of two coordination polymers with one dimensional chain structure.

Syntheses, Crystal Structures, Thermal
Stabilities Properties of Nickel(II)
Coordination Polymers Constructed
from the Substitutional
Benzenedicarboxylic Acid and
Auxiliary N-Donor Ligands (English)

WANG Peng-Fei, WU Xiao-Shuo, WEI Bo,
WU Guo-Zhi

DOI:10.11862/CJIC.2014.248

Chinese J. Inorg. Chem., **2014**,**30**:1511-1517



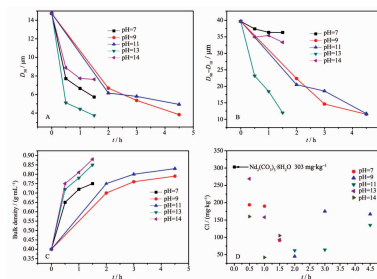
Compounds **1** and **2** have been constructed from two different substitutional benzenedicarboxylic acid ligands as well as two N-donor ligands. Compound **1** features a two-dimensional layer structure, while compound **2** shows a three-dimensional framework structure. The thermal stabilities of the two compounds have been investigated in details.

Characterization and Application of
Phase Transformation from $(\text{PrNd})_2(\text{CO}_3)_3$
 $\cdot 8\text{H}_2\text{O}$ to $(\text{PrNd})(\text{OH})(\text{CO}_3)$

DING Long, ZHOU Xin-Mu, ZHOU Xue-Zhen,
LI Jing, LIU Yan-Zhu, LI Dong-Ping,
LI Yong-Xiu

DOI:10.11862/CJIC.2014.171

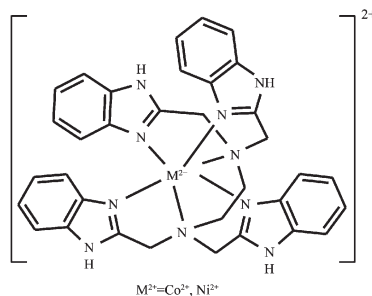
Chinese J. Inorg. Chem., **2014**,**30**:1518-1524



The results of D_{50} (A), $D_{90}-D_{10}$ (B), Bulk density (C) and Chloride content (D) of $[(\text{PrNd})(\text{OH})(\text{CO}_3)_3]$, BPN] obtained by aging $[(\text{PrNd})_2(\text{CO}_3)_3 \cdot 8\text{H}_2\text{O}]$, LPN] in aqueous solutions with different initiate pH at 95 °C for different times indicate that BPN particles with characteristics of smaller size, narrow size distribution, low chloride content and high bulk density can be prepared by the hydrolysis of LPN.

Reactivities Towards DNA and Protein and Cytotoxic Activities of Benzimidazole Derived Mononuclear Cobalt(II) and Nickel(II) Complexes

CHEN Zhan-Fen, MA Yi-Dan,
HUA Luo-Guang, ZHANG Jian



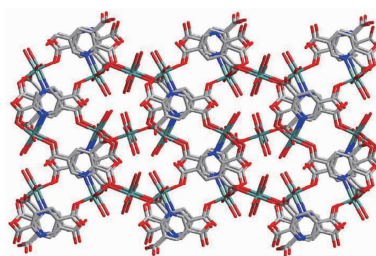
Benzimidazole derived mononuclear complexes, $[M(EDTB)]^{2+}$ ($M = Co^{2+}$ (**1**) and Ni^{2+} (**2**), EDTB = *N, N, N', N'*-tetrakis (2'-benzimidazolyl methyl)-1,2-ethanediamine), could strongly interact with DNA and BSA and induce remarkable conformational variations of DNA and BSA. The main DNA binding mode of the two complexes are intercalation and DNA binding ability of **1** is slightly higher than that of **2**. The associations between the two complexes and BSA quench the intrinsic fluorescence of BSA through a static quenching mechanism.

DOI:10.11862/CJIC.2014.240

Chinese J. Inorg. Chem., **2014**,**30**:1525-1534

Synthesis, Crystal Structure and Properties of Two 3D Coordination Polymers with 2,3,5-Pyridinetricarboxylate

XIA Jun, LI Tian-Tian, GONG Xiao-Lin,
ZHENG Chun-Ming



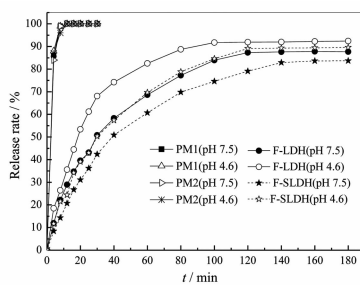
$Mn(CH_3COO)_2 \cdot 4H_2O$ and $Co(CH_3COO)_2 \cdot 4H_2O$ could react with 2,3,5-pyridinetricarboxylic acid to product two isostructural coordination polymers under hydrothermal conditions. 2,3,5-Pyridinetricarboxylic acid has been observed to act as a tetradendate ligand at the first time, which promoted to generate a three-dimensional Metal Organic Framework.

DOI:10.11862/CJIC.2014.231

Chinese J. Inorg. Chem., **2014**,**30**:1535-1541

Effects of Surface Pretreatment on Structure and Release Performances of Mg-Al Hydrotalcites

HUANG Qing-Jun, LIAO Meng-Chen,
ZENG Hong-Yan, ZHANG Wei,
ZHANG Zhi-Qing, LIU Xiao-Jun, LI Hui



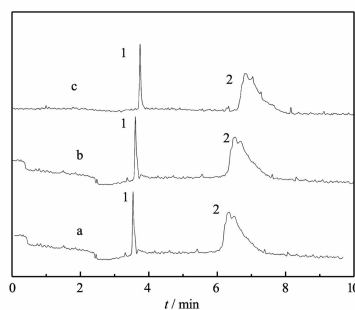
Acid-pretreated Mg-Al LDH (SLDH) had smaller particle size and higher charge density comparing with natural one. The SLDH with loading 5-FU had better release performances and thermostability.

DOI:10.11862/CJIC.2014.190

Chinese J. Inorg. Chem., **2014**,**30**:1542-1548

Study on Competing Reaction of Metallogroup Binding with Serum Albumin

GUO Ming, HUANG Feng-Qin,
LI Ming-Hui, LIU Min



The binding reaction of metallogroup (Zn^{2+} , Cu^{2+}) with BSA was investigated by ACE technique. The binding capacity (K) was examined by ACE method as well as nonlinear fitting curve of affinity interaction between Zn^{2+} , Cu^{2+} and BSA.

DOI:10.11862/CJIC.2014.238

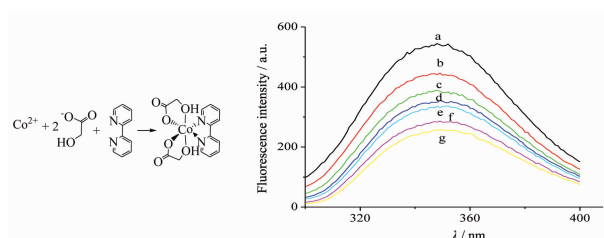
Chinese J. Inorg. Chem., **2014**,**30**:1549-1558

Interaction Between Three Cobalt(II) Glycollates and Bovine Serum Albumin Studied by Fluorescence Spectrum

LIN Hai-Bin, ZHOU Zhao-Hui,
WANG Qing-Hua, WANG Qing-Xiang

DOI:10.11862/CJIC.2014.168

Chinese J. Inorg. Chem., **2014**,**30**:1559-1566



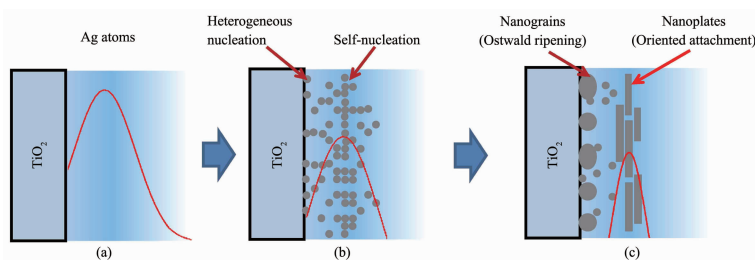
The complex of *cis*-[Co₂(Hgly)₄(2, 2-bpy)₂] was synthesized and characterized, The interaction between bovine serum albumin (BSA) and three neutral complexes of cobalt(II) glycollates were investigated with fluorescence spectra.

Transition of Growth Mode Controlled by the Density of Nuclei in Photocatalytic Synthesis of Ag Nanoparticles

LI Shuai, TAO Qiang, ZHANG Qing-Yu

DOI:10.11862/CJIC.2014.239

Chinese J. Inorg. Chem., **2014**,**30**:1567-1574



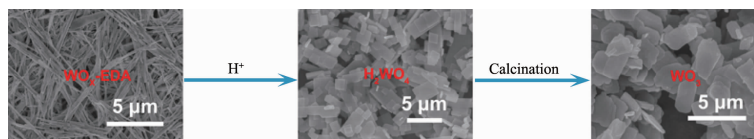
In the photocatalytic synthesis of Ag nanoparticles, Ag⁺ concentration can affect the density of Ag nuclei, then to control the growth behavior of Ag nanoparticles. High density of nuclei leads to the anisotropic growth by oriented attachment; low density of nuclei leads to isotropic growth by Ostwald ripening.

WO₃ Nanoplates: Preparation Using Inorganic-Organic Hybrid Material as Precursor and Photocatalytic Performance

WANG Chao, XU You, ZHANG Bin

DOI:10.11862/CJIC.2014.209

Chinese J. Inorg. Chem., **2014**,**30**:1575-1581



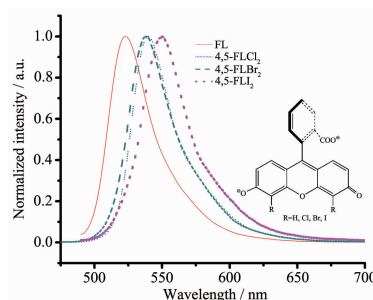
The as-prepared WO₃ nanoplates exhibit improved photocatalytic activity for dye degradation over commercial available WO₃ catalysts.

Fluorescence Performance Tuning for Dihalogenated Fluorescein Derivatives

LIU Li-Min, ZHANG Xian-Fu

DOI:10.11862/CJIC.2014.244

Chinese J. Inorg. Chem., **2014**,**30**:1582-1586



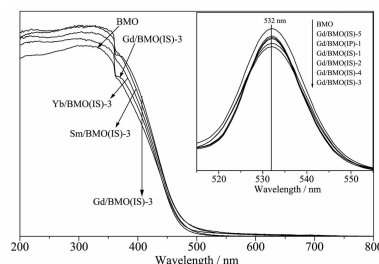
The observations can be rationalized by the presence of intramolecular photo-induced electron transfer, in which the benzonate acts as the electron donor while the xanthene moiety is the acceptor.

In Situ Rare-Earth Doped Bi₂MoO₆ Visible Light Photocatalyst with Enhanced Activity

MIAO Ying-Chun, PAN Gai-Fang,
HUO Yu-Ning, LI He-Xing

DOI:10.11862/CJIC.2014.256

Chinese J. Inorg. Chem., **2014**,**30**:1587-1592



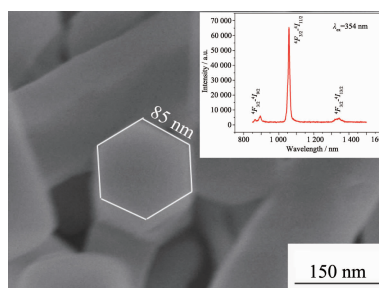
Compared with others rare earth dopants (Yb and Sm) and Gd/BMO by the impregnation method, Gd/Bi₂MoO₆ via *in-situ* synthesis achieves the most efficient separation of photo-induced electron-hole, the strongest light absorption and the highest S_{BET} , resulting in the improving activity and the significant stability.

Hexagonal NaNdF₄ Prismatic Nanorods: Morphology-Controlled Synthesis by Hydrothermal Method and Luminescence Properties

TAO Feng, RUAN Dong-Cheng, HU Cong-Rong,
CHENG Xiang, WANG Zhi-Jun, SU Da,
WANG Hai, SUN Yu-Feng

DOI:10.11862/CJIC.2014.203

Chinese J. Inorg. Chem., **2014**,**30**:1593-1599



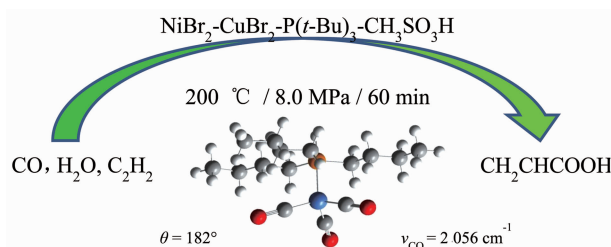
Hexagonal NaNdF₄ nanorods with a regular prism have been synthesized by mild hydrothermal method, when excited at 354 nm, the nanorods show characteristic emission at 892, 1 058, and 1 342 nm.

Effect of Phosphine Ligands on Properties of NiBr₂-CuBr₂ Catalyst for Synthesis of Acrylic Acid by Acetylene Carbonylation

CUI Long, ZHOU Xi, YANG Xian-Gui,
ZENG Yi, CHEN Xue-Jun, DENG Zhi-Yong,
WANG Gong-Ying

DOI:10.11862/CJIC.2014.181

Chinese J. Inorg. Chem., **2014**,**30**:1600-1608



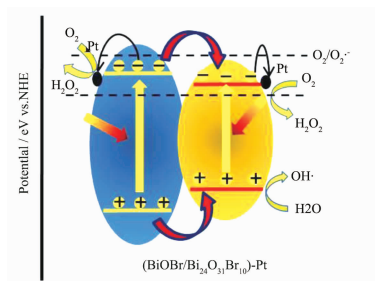
P(*t*-Bu)₃ is the best ligand for catalyzing acetylene carbonylation to acrylic acid.

Effect of Surface Phase Transition and Pt Loading of BiOBr Nanosheets on Synergistic Photocatalysis

SONG Xiao-Long, MU Kai,
WANG Chang-Hua

DOI:10.11862/CJIC.2014.208

Chinese J. Inorg. Chem., **2014**,**30**:1609-1615



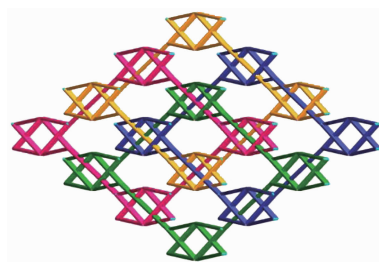
(BiOBr/Bi₂₄O₃₁Br₁₀)-Pt heterojunction displays ultra-high photocatalytic activity for gaseous acetaldehyde degrading, benefiting from the hole transfer from BiOBr to Bi₂₄O₃₁Br₁₀, and directional electron transfer from BiOBr or Bi₂₄O₃₁Br₁₀ to Pt for two electrons reduction of O₂ to H₂O₂.

Synthesis, Crystal Structure, and Luminescence of 3,3',5,5'-Benzene-1,3-biyl-tetrabenzoic Acid Ligand Based Zinc Coordination Polymer with 4-Fold Interpenetrated dmd Topology (English)

WANG Ji-Jiang, HOU Xiang-Yang,
GAO Lou-Jun, ZHANG Mei-Li, REN Yi-Xia,
FU Feng

DOI:10.11862/CJIC.2014.242

Chinese J. Inorg. Chem., **2014**,**30**:1616-1620



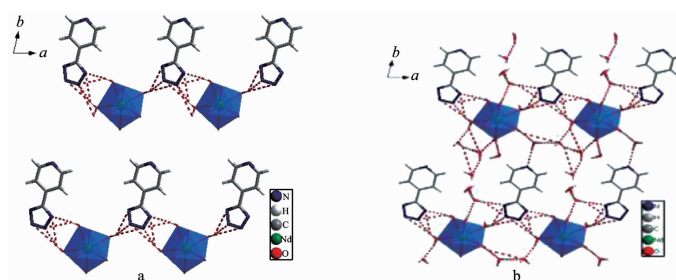
The $(4 \cdot 10^2)_2(4^2 \cdot 10^4)$ -dmd sheets in $\{[\text{Zn}(\text{BTB})_{0.5}(\text{4,4'}\text{-bpy})_{0.5}(\text{H}_2\text{O})_2] \cdot 0.5\text{H}_2\text{O}\}_n$ are interpenetrated with each other to form a 3D networks.

A Family of Tetrazole Compounds Formed Through *in situ* [2+3] Tetrazole Ligand Synthesis, Structures and Fluorescent Properties (English)

TAN Yu-Hui, XIONG Jian-Bo, HUANG Jun,
GAO Ji-Xing, XU Qing, YU Yin-Mei,
WANG Yan, YANG Bin, SHU Qing,
TANG Yun-Zhi

DOI:10.11862/CJIC.2014.241

Chinese J. Inorg. Chem., **2014**,**30**:1621-1628



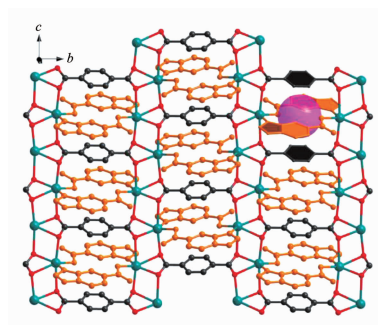
There are two kinds of layer constituted the compound. Layer “A” is a cationic layer consisted of part *p*-TPD groups and all the central metal cations $[\text{Ln}(\text{H}_2\text{O})_8]^{3+}$ connected by different hydrogen bonds. Layer “B” is an anionic layer constructed by part *p*-TPD groups and *p*-HTPD groups through hydrogen bonds and π - π stacking.

Synthesis, Structure and Photoluminescent Property of One 2D Cadmium Complex Based on 1*H*-benzimidazole-5-carboxylic Acid and 1,4-Benzenedicarboxylic Acid (English)

ZHAN Pei-Ying

DOI:10.11862/CJIC.2014.245

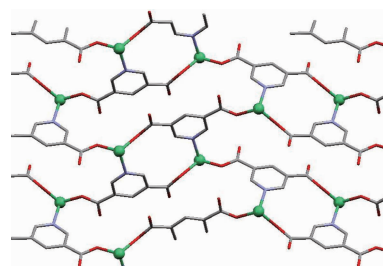
Chinese J. Inorg. Chem., **2014**,**30**:1629-1634



A 2D Cd(II) complex with cage-like cavity was prepared based on mixed aromatic carboxylic acid ligands connecting the chain-like SBUs. The complex exhibits modest thermal stability and strong solid-state fluorescent emission.

Synthesis, Structures, Properties and DFT Studies of Two Ni(II) Complexes with Pyridine-3,5-dicarboxylic Acid (English)

GUO Rui, LIU Feng, ZHANG Bing-Wen,
LIU Xuan-Wen, ZHANG Yue-Hong, SU Na,
XIE Cheng-Zhi



Ni(II) ions are linked by pdc^{2-} anion, forming (3,3)-connected two-dimensional sheets. The electronic structure and orbital energies of complex **2** have also been studied by DFT methods which are consistent with UV-Vis spectrum.

DOI:10.11862/CJIC.2014.223

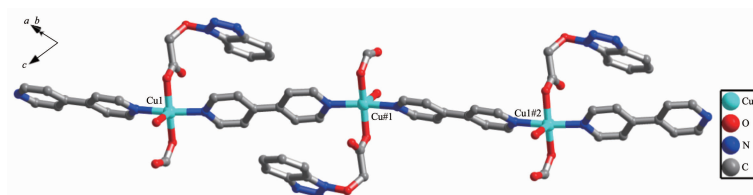
Chinese J. Inorg. Chem., **2014**,**30**:1635-1640

Hydrothermal Synthesis and Crystal Structure of a 1D Copper(II) Coordination Polymer Based on (1-Hydroxybenzotriazole)-*o*1-acetic Acid and 4,4'-Bipyridine (English)

HUANG De-Qian, ZHANG Hong,
SHENG Liang-Quan, LIU Zhao-Di,
XU Hua-Jie, FAN Su-Hua

DOI:10.11862/CJIC.2014.230

Chinese J. Inorg. Chem., **2014**,**30**:1641-1646



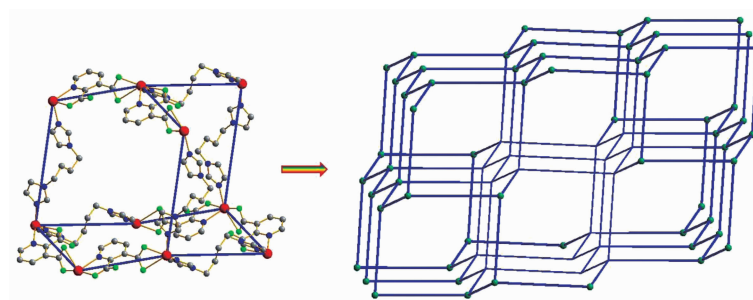
The 1D complex $[\text{Cu}(\text{L})(4,4'\text{-bpy})(\text{HCOO})(\text{H}_2\text{O})]_n$ based on HL and 4,4'-bpy ligands has been synthesized and characterized by elemental analysis, IR spectra, TG, powder X-ray diffraction and single-crystal X-ray diffraction.

Synthesis, Crystal Structure and Luminescence Property of A Cd(II) Coordination Polymer Constructed from 2,3-Pyridine Dicarboxylic Acid and 1,1'-(1,4-Butanediyl)bis(imidazole) (English)

LI Ke, LI Shu-Jing, ZHANG Xiao-Peng,
QU Bo-Tao, ZHENG Wei

DOI:10.11862/CJIC.2014.229

Chinese J. Inorg. Chem., **2014**,**30**:1647-1652



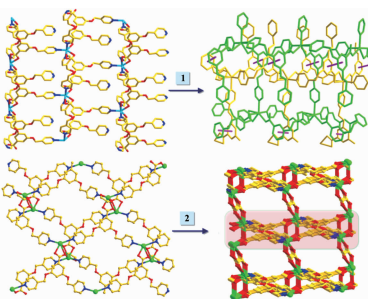
A photoluminescent 3D coordination polymer $[\text{Cd}(\text{pdc})(\text{bbi}) \cdot 2\text{H}_2\text{O}]_n$ with a 3-fold interpenetrating diamond framework was synthesized and characterized.

Two Coordination Polymers Based on Bis (3,5-bis(pyrid-4-ylmethoxy)benzoic-acid) with Barium(II) and Plumbum(II) (English)

HAN Min-Min, CHEN Xiao, ZHANG Yi-Ping,
FENG Yun-Long

DOI:10.11862/CJIC.2014.165

Chinese J. Inorg. Chem., **2014**,**30**:1653-1659



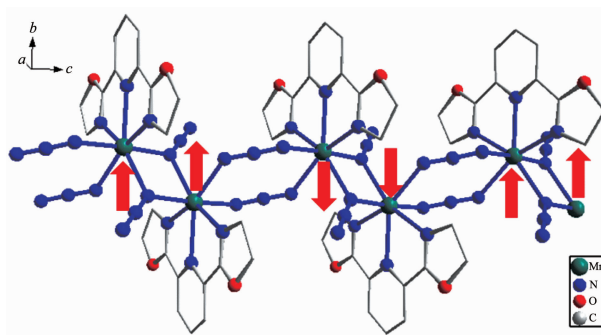
$[\text{BaL}_2]_n$ (**1**) enlarged its dimensionality via strong $\pi \cdots \pi$ interactions, while $[\text{PbL}(\text{Ox})_{0.5}]_n$ (**2**) possesses a 3D (3,8)-connected net with the $(4^3)(4^4.5.6^{17}.7^2.8^2)(4.5^2)$ topology.

One-Dimensional Alternating Ferromagnetic-Antiferromagnetic Coupled Heisenberg Chain $[\text{Mn}^{\text{II}}(\text{N}_3)_2(\text{pybox})]_n$ (English)

LIU Na, JIA Li-Hui, WU Zong-Quan,
ZHU Yuan-Yuan, WANG Bing-Wu, GAO Song

DOI:10.11862/CJIC.2014.830

Chinese J. Inorg. Chem., **2014**,**30**:1660-1666

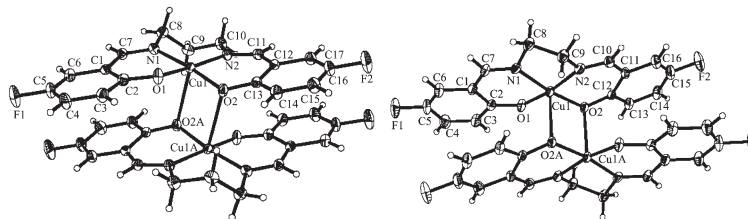


Synthesis, Crystal Structures and Antimicrobial Activity of Dinuclear Copper(II) Complexes with bis-Schiff Bases (English)

QIU Xiao-Yang

DOI:10.11862/CJIC.2014.200

Chinese J. Inorg. Chem., **2014**,**30**:1667-1672



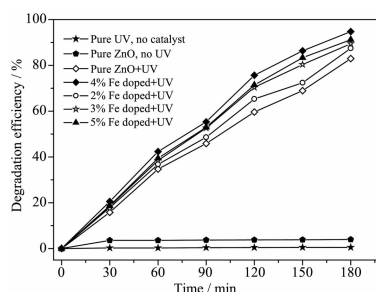
A pair of structurally similar dinuclear copper(II) complexes with bis-Schiff bases were synthesized and their antimicrobial activities were studied.

Photocatalytic Degradation of Gaseous Formaldehyde by Fe-Doped ZnO Nanorods Grown on Ceramic Spheres (English)

DUAN Yue-Qin, YANG Song-Po,
YU Jiang-Ling, YUAN Zhi-Hao

DOI:10.11862/CJIC.2014.184

Chinese J. Inorg. Chem., **2014**,**30**:1673-1677



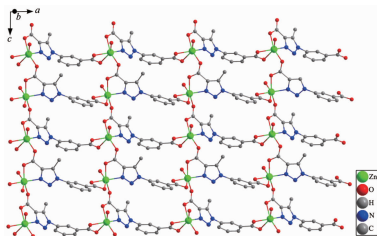
Fe doped ZnO photocatalysts fabricated on ceramic balls by a simple wet-chemical method could effectively decompose formaldehyde. When the Fe doping is 4% , formaldehyde will be almost completely degraded.

Syntheses, Structures, and Characterization of Two Compounds with 1-(3-Carboxyphenyl)-5-methyl-1*H*-1,2,3-triazole-4-carboxylic Acid (English)

HONG Jin-Long, SUN Li-Na, QU Zhi-Rong,
ZHAO Hong

DOI:10.11862/CJIC.2014.228

Chinese J. Inorg. Chem., **2014**,**30**:1678-1684



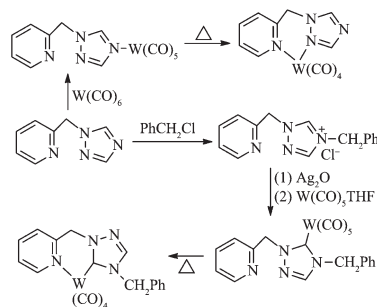
1-(3-carboxyphenyl)-5-methyl-1*H*-1, 2, 3-triazole-4-carboxylic acid (Hcpmtc) with Mn(II) ion, Zn(II) ion afforded two new coordination complexes under hydro-thermal reaction.

Synthesis and Related Reactivity of Organometallic Complexes Based on 1-(2-Pyridylmethyl)-1,2,4-triazole (English)

CHEN Dan-Feng, PAN Ai-Qing, LU Ji-Ting,
TANG Liang-Fu

DOI:10.11862/CJIC.2014.179

Chinese J. Inorg. Chem., **2014**,**30**:1685-1693



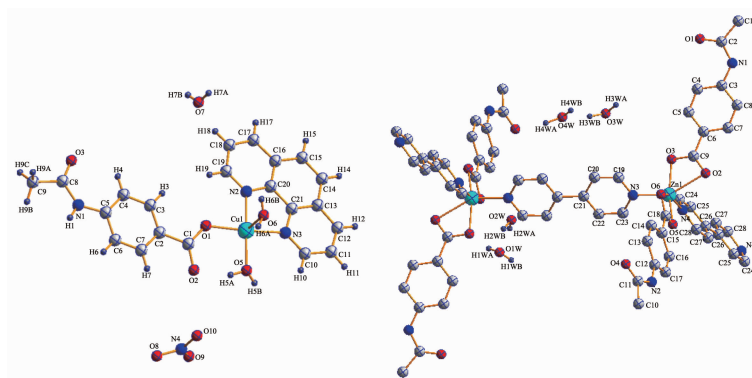
Group 6 metal carbonyl complexes and organotin derivatives based on 1-(2-pyridylmethyl)-1,2,4-triazole have been synthesized, in which the ligand showed variable coordination modes.

Synthesis, Crystal Structure and Electrochemical Properties of Copper and Zinc Complexes Constructed from 4-Acetylaminobenzoic Acid and N-Donor Ligands (English)

HUANG Miao-Ling

DOI:10.11862/CJIC.2014.217

Chinese J. Inorg. Chem., **2014**,**30**:1694-1700



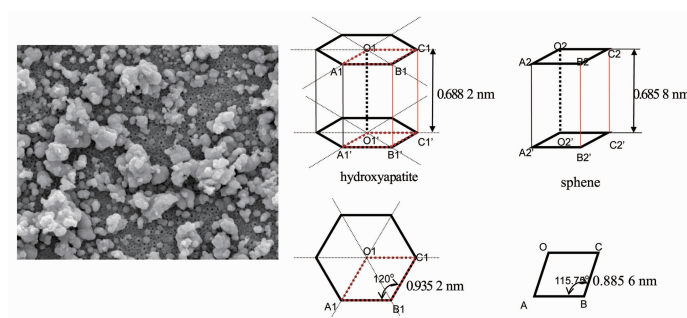
Two complexes have been synthesized by 4-acetylaminobenzoic acid and N-donor ligands in mixed solution, and the molecular structures show that the N-donor ligands and metal ions play an important role in the construction of the network.

Bioactive Sphegne/Titanium Oxide Composite Coatings on Titanium: Structure and Apatite Formation Mechanism (English)

BAI Yi-Xin, JIAO Xiao-Hui, WEI Da-Qing, ZHOU Yu

DOI:10.11862/CJIC.2014.164

Chinese J. Inorg. Chem., **2014**,**30**:1701-1711

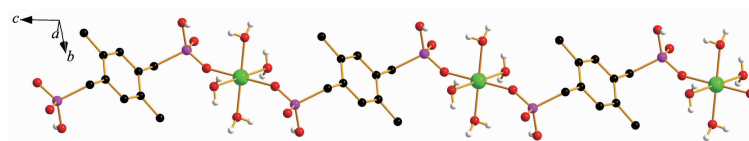


Isostructural Transition Metal (Co, Ni) Phosphonates of 2,5-Dimethylbenzene-1,4-diylbis(methylene)diphosphonic Acid: Hydrothermal Synthesis and Crystal Structures (English)

ZHANG Ai-Jiang, CHEN Chang-Juan

DOI:10.11862/CJIC.2014.221

Chinese J. Inorg. Chem., **2014**,**30**:1712-1718



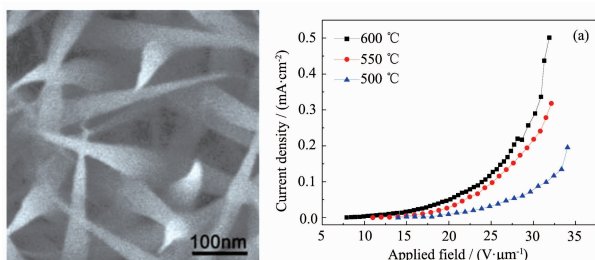
Two isostructural cobalt and nickel phosphonates containing one-dimensional linear chain architectures were synthesized by hydrothermal reaction, the thermal stability of two compounds were studied.

Low-Temperature Growth and Field
Emission Property of AlN Nanocones
(English)

PEI Xiao-Zhu, LAI Hong-Wei,
ZHANG Yong-Liang, CAI Jing,
WU Qiang, WANG Xi-Zhang

DOI:10.11862/CJIC.2014.198

Chinese J. Inorg. Chem., **2014**,**30**:1719-1724



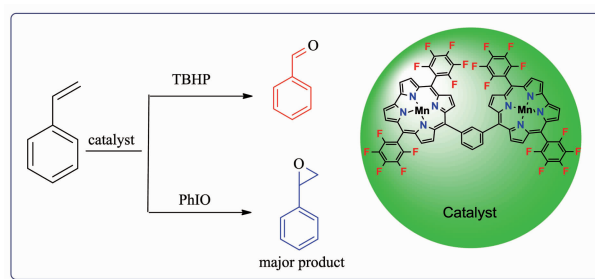
AlN nanocones with turn-on fields of 20~14.2 V·μm⁻¹ have been synthesized via chemical vapor deposition at low temperature of 500~600 °C and atmospheric pressure. The turn-on field decreases with the elevation of growth temperature.

Synthesis, Characterization and
Catalytic Oxidation Activity of a Phenyl
Bridged Dimanganese(III) Biscorrole
(English)

CHEN Huan, WEN Jin-Yan,
YANG Hong, Mian HR Mahmood,
ZHANG Hao LIU Hai-Yang

DOI:10.11862/CJIC.2014.222

Chinese J. Inorg. Chem., **2014**,**30**:1725-1732



Manganese(II) Macrocyclic
Schiff-Base Complexes Containing
Pyridine Moiety: Synthesis and
Characterization and Antibacterial
Properties (English)

Keypour Hassan, Liyaghati-Delshad Mozhdeh,
Rezaeivala Majid, Khavasi Hamid Reza

DOI:10.11862/CJIC.2014.243

Chinese J. Inorg. Chem., **2014**,**30**:1733-1740

