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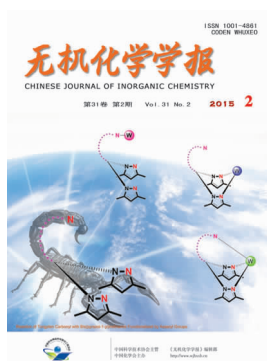
Vol.31

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Cover



Reaction of Tungsten Carbonyl with Bis(pyrazol-1-yl)methanes Functionalized by Azaaryl Groups (English)

DING Ke, SUN Zun-Ming, LI Hou-Qian, TANG Liang-Fu

DOI:10.11862/CJIC.2015.058

Chinese J. Inorg. Chem., **2015**,**31**:345-352

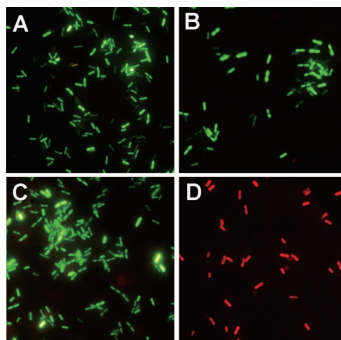
Articles

Near-IR Photothermal Antibacterial Effects of Polyethylene Glycol (PEG) Modified Gold Nanorods

FENG Xiao-Yan, CHEN Ying, LIU Yu-Peng, WANG Chun-Peng, CHU Fu-Xiang

DOI:10.11862/CJIC.2015.059

Chinese J. Inorg. Chem., **2015**,**31**:215-221



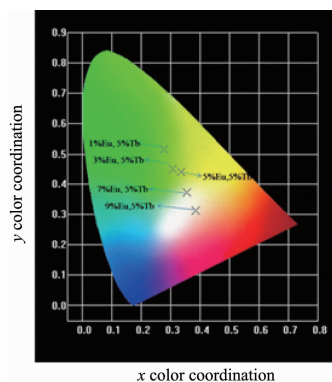
The PEG modified gold nanorods have good antibacterial properties for both Gram positive and negative bacterium under the radiation of near-IR laser.

Synthesis of White LED $\text{Eu}^{3+}/\text{Eu}^{3+}$, Tb^{3+} Co-doped $\text{NaLu}(\text{MoO}_4)(\text{M}=\text{W}, \text{Mo})$ Phosphor via Microemulsion Method

BAI Xiao-Fei, JIANG Hao, XU Jing, YAN Jing-Hui, KANG Zhen-Hui, LIAN Hong-Zhou

DOI:10.11862/CJIC.2015.053

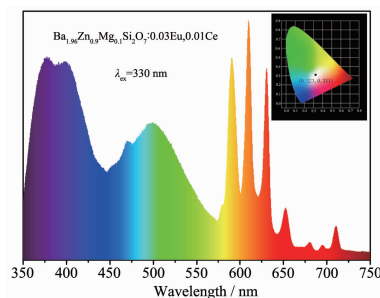
Chinese J. Inorg. Chem., **2015**,**31**:222-228



In the systems of $\text{NaLu}(\text{WO}_4)(\text{MoO}_4):y\% \text{Eu}^{3+}, 5\% \text{Tb}^{3+}(y=1, 3, 5, 7, 9)$ phosphors, with the increase of the doped concentration of europium ions (y), the emission color of the co-doped $\text{NaLu}(\text{WO}_4)(\text{MoO}_4)$ phosphors can be tuned precisely from green ($x=0.278, y=0.514$) to white ($x=0.356, y=0.373$), ($x=0.385, y=0.313$).

Solid-Solution Phosphor $\text{Ba}_2(\text{Zn,Mg})\text{Si}_2\text{O}_7\text{:Eu}^{2+},\text{Eu}^{3+},\text{Ce}^{3+}$ Prepared in Air and Its Luminescent Properties

DENG Sheng-Zhi, LIU Chen, YANG Chu-Jun,
QIU Zhong-Xian, ZHOU Wen-Li,
ZHANG Ji-Lin, YU Li-Ping, LIAN Shi-Xun



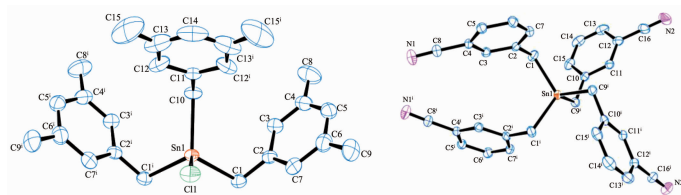
The solid-solution phosphor $\text{Ba}_{1.96}\text{Zn}_{0.9}\text{Mg}_{0.1}\text{Si}_2\text{O}_7\text{:0.03Eu}^{3+},\text{0.01Ce}^{3+}$ synthesized in air condition exhibits multi-emission bands from 350~750 nm, leading to white -emitting under excited by 330 nm.

DOI:10.11862/CJIC.2015.031

Chinese J. Inorg. Chem., **2015**,**31**:229-236

Syntheses, Crystal Structures and Quantum Chemistry of Tri(3,5-dimethylbenzyl)tin Chloride and Tetra(*m*-cyanobenzyl)tin

WANG Jian-Qiu, ZHANG Fu-Xing,
KUANG Dai-Zhi, FENG Yong-Lan,
YU Jiang-Xi, JIANG Wu-Jiu, ZHU Xiao-Ming



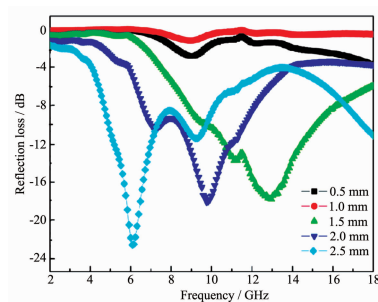
The tri(3,5-dimethylbenzyl)tin chloride (**1**) and the tetra(*m*-cyanobenzyl)tin (**2**) have been synthesized. The crystal structures of the complexes were determined by X-ray diffraction. The tin atoms have a distorted tetrahedral geometry.

DOI:10.11862/CJIC.2015.018

Chinese J. Inorg. Chem., **2015**,**31**:237-242

Preparation and Electromagnetic Properties of Nickel-Zinc Ferrite/Expanded Graphite/Polyaniline Composites

CHEN Yao-Yao, SHEN Jun-Hai,
KONG Wei-Qiu, LI Liang-Chao



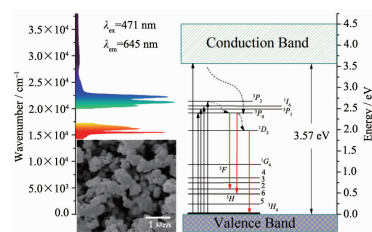
The NZF/EG/PANI ternary composites present more excellent absorbing properties than NZF and NZF/EG binary composites, owing to enhanced dielectric loss and synergistic effect between components. In addition, the absorbing properties of samples are related to their thickness. So the ternary composites can become the promising candidates as electromagnetic absorbing materials.

DOI:10.11862/CJIC.2015.008

Chinese J. Inorg. Chem., **2015**,**31**:243-252

Hydrothermal Assisted Synthesis and Photoluminescence Properties of Red Persistent $\text{Ca}_2\text{Zn}_4\text{Ti}_{16}\text{O}_{38}\text{:Pr}^{3+}$ Phosphor

XIA Mao, GU Zhi-Qiang, LIU Qiong,
ZHANG Ji-Lin, ZHOU Wen-Li,
LIAN Shi-Xun, YU Li-Ping



Upon excitation with 471 nm, spheric $\text{Ca}_2\text{Zn}_4\text{Ti}_{16}\text{O}_{38}\text{:Pr}^{3+}$ phosphors synthesized by a hydrothermal assisted method exhibits three red emission peaks located at 605, 620, and 645 nm, which can be ascribed to $^1\text{D}_2 \rightarrow ^3\text{H}_4$, $^3\text{P}_0 \rightarrow ^3\text{H}_6$ and $^3\text{P}_0 \rightarrow ^3\text{F}_2$ transition of Pr^{3+} , respectively.

DOI:10.11862/CJIC.2015.061

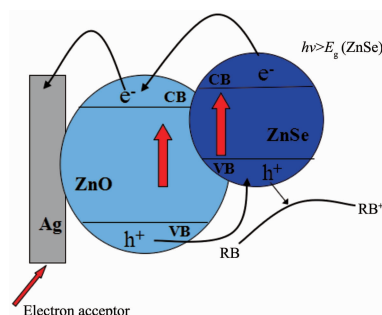
Chinese J. Inorg. Chem., **2015**,**31**:253-259

Ag/ZnO/ZnSe Heteronanostructure: Synthesis and Photocatalytic Properties with Visible Light Irradiation

LIANG Jian, ZHANG Cai-Xia,
DONG Hai-Liang, HE Xia, SHEN Yan-Qiang,
XU Bing-She

DOI:10.11862/CJIC.2015.016

Chinese J. Inorg. Chem., **2015**,**31**:260-266



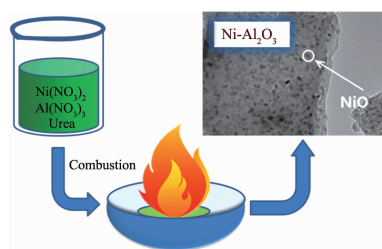
Compared with pure Ag nanowire, pure ZnO nanosphere and Ag/ZnO heteroarchitecture, the Ag/ZnO/ZnSe heteroarchitecture showed strongest visible-light photocatalytic activity to degrade rhodamine B (RB). The main reason could be the formation of heterostructure improve the separation of photogenerated electron-hole pairs and decrease recombination probability.

Solution Combustion Prepared Ni-Based Catalysts and Their Catalytic Performance for Slurry Methanation

JI Ke-Ming, MENG Fan-Hui, GAO Yuan,
LI Zhong

DOI:10.11862/CJIC.2015.050

Chinese J. Inorg. Chem., **2015**,**31**:267-274



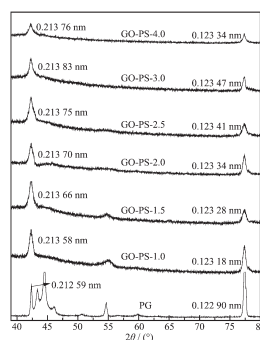
The Ni-Al₂O₃ catalyst prepared by solution combustion has large specific surface area (468 m²·g⁻¹) and active metal surface area (10 m²·g⁻¹) with Ni nanoparticle (3~5 nm), and has excellent catalytic performance for CO methanation with CO conversion of 94% and CH₄ selectivity of 95%, respectively.

Influence of Oxidation Degrees on the a-b Structures and Conductivity of Graphene Oxide Samples

WANG Pei-Cao, SUN Hong-Juan,
PENG Tong-Jiang, LIN Shun-Jia

DOI:10.11862/CJIC.2015.060

Chinese J. Inorg. Chem., **2015**,**31**:275-281



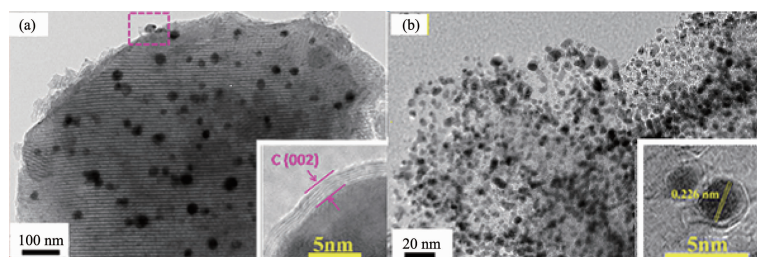
In our study, the evolution of oxygen-containing functional groups in the graphene basal plane of the graphene oxide samples with adding additional KMnO₄, leads to along the *a-b* axis lattice plane values (namely, *d*₁₀₀ and *d*₁₁₀) dramatic change, and the electrical conductivity becomes poorer and poorer.

Synthesis and Electrocatalytic Performance of N-Doped Ordered Mesoporous Carbon-Ni Nanocomposite

PAN Xu-Chen, TANG Jing, XUE Hai-Rong,
GUO Hu, FAN Xiao-Li, ZHU Ze-Tao,
HE Jian-Ping

DOI:10.11862/CJIC.2015.039

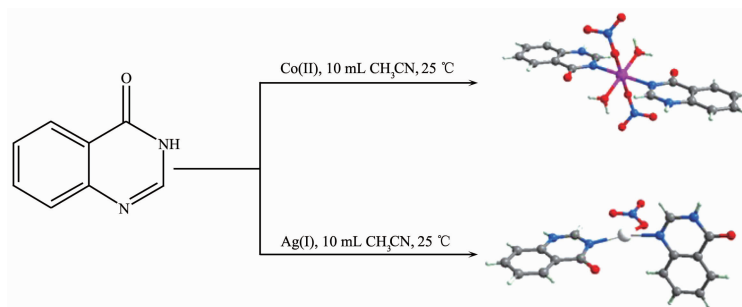
Chinese J. Inorg. Chem., **2015**,**31**:282-290



Metallic Ni nanoparticles with layered graphitic sheets highly dispersed in Ni-N-OMC-1 matrix. Ni and N species in carbon material can make the carbon surface chemically active, thus facilitating the loading and dispersion of Pt particles on supports. A large number of Pt nanoparticles uniformly distributed on the surface of Pt/Ni-N-OMC-1.

Syntheses, Structures, Fluorescence and Anticancer Activity of Co(II) and Ag(I) Complexes with 4-(3*H*)-Quinazolinone

LI Shi-Xiong, LIAO Bei-Ling, LUO Pei, JIANG Yi-Min

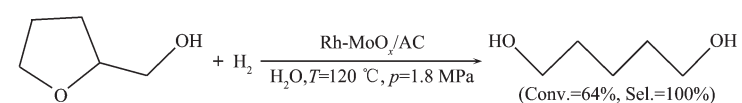


DOI:10.11862/CJIC.2015.045

Chinese J. Inorg. Chem., **2015**,**31**:291-296

Chemoselective Hydrogenolysis of Tetrahydrofurfuryl Alcohol to 1,5-Pentanediol over Mo Modified Rh/AC (Rh-MoO_x/AC) Catalysts

HAN Li-Feng, ZHANG Wei, LU Mo-Hong, LI Ming-Shi, SHAN Yu-Hua



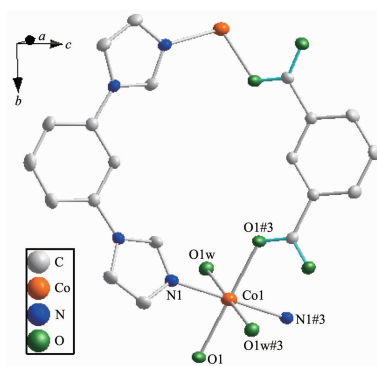
Selective hydrogenolysis of tetrahydrofurfuryl alcohol to 1,5-pentanediol over Rh-MoO_x/AC catalysts was achieved with 64% conversion of tetrahydrofurfuryl alcohol and selectivity of almost 100% toward 1,5-pentanediol.

DOI:10.11862/CJIC.2015.056

Chinese J. Inorg. Chem., **2015**,**31**:297-302

Syntheses, Crystal Structures and Properties of Two Co(II) Coordination Polymers Based on 1,3-Bis(imidazol-1-yl) benzene and *m*-Phthalic Acid

ZHANG Chun-Li, WANG Hong-Yan, QIN Ling, ZHENG He-Gen



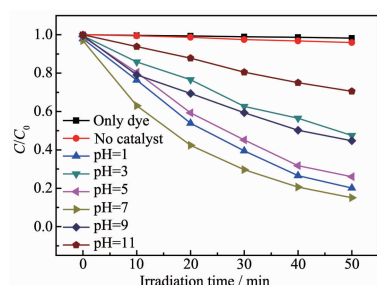
Two cobalt coordination polymers have been synthesized and characterized by elemental analysis, IR spectra, solid UV-Vis, TGA and their crystal structures were determined by single-crystal X-ray diffraction.

DOI:10.11862/CJIC.2015.015

Chinese J. Inorg. Chem., **2015**,**31**:303-308

Effect of pH value on Morphology and Visible-light Photocatalytic Performance of Bi₂MoO₆ Crystallites

WANG Min, YANG Chang-Xiu, ZHENG Hao-Yan, LANG Hong-Xia, BAO Qi, SONG Wan-Yi, SONG En-Jun



The highest photocatalytic activity for degradation of Rhodamine B (RhB) solution is obtained with the sample prepared at the pH value of 7. Under visible light irradiation, the degradation rate of 5 mg · L⁻¹ RhB within 50 min is 85%.

DOI:10.11862/CJIC.2015.055

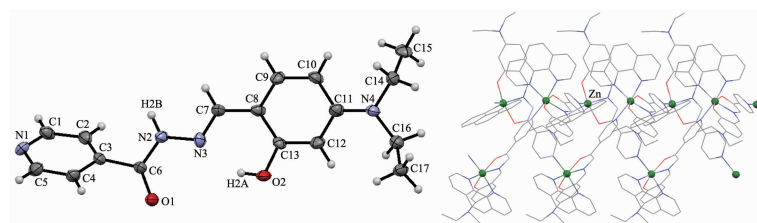
Chinese J. Inorg. Chem., **2015**,**31**:309-316

Syntheses, Crystal Structures and Fluorescence Properties of a Hydrazone Schiff Base and its Zinc Coordination Polymer

CHEN Yan-Min, CHU Zhao-Hua,
HAO Gui-Xia, XIE Qing-Fan

DOI:10.11862/CJIC.2015.044

Chinese J. Inorg. Chem., **2015**,**31**:317-322

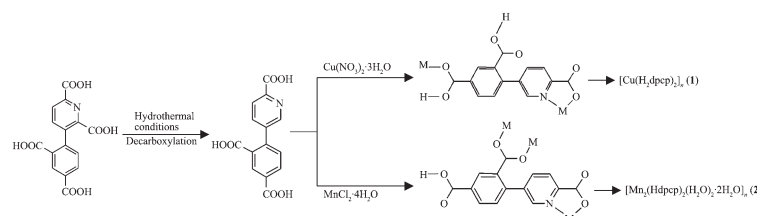


Two Coordination Polymers Generated via *in situ* Decarboxylation of 3-(2,4-Dicarboxylphenyl)-2,6-dicarboxypyridine: Structure and Magnetism

YOU Li-Xin, WANG Shu-Ju, XIONG Gang,
DING Fu, SUN Ya-Guang

DOI:10.11862/CJIC.2015.049

Chinese J. Inorg. Chem., **2015**,**31**:323-328



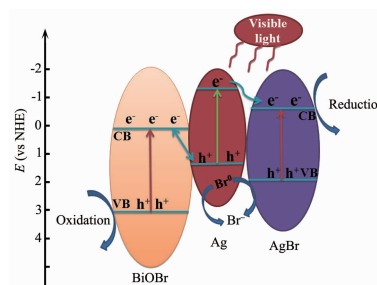
The hydrothermal reaction of 3-(2,4-dicarboxylphenyl)-2,6-dicarboxypyridine (H_4dpcp) and $Cu(II)/Mn(II)$ gave two coordination polymers, $[Cu(H_2dpcp)_2]_n$ and $[Mn_2(Hdpcp)_2(H_2O)_2 \cdot 2H_2O]_n$ [$H_3dpcp = 5-(2,4-dicarboxylphenyl)-2-carboxypyridine$], and the H_3dpcp ligand was formed *in situ* via decarboxylation of the initial H_4dpcp . The negative value of θ shows the existence of antiferromagnetic coupling in **2**.

Oil-in-Water Self-assembled $Ag@AgBr/BiOBr$: a Highly Efficient Visible Light Photocatalyst

AN Wei-Jia, LIU Li, LI Xin-Lei,
LIN Shuang-Long, HU Jin-Shan,
LIANG Ying-Hua, CUI Wen-Quan

DOI:10.11862/CJIC.2015.042

Chinese J. Inorg. Chem., **2015**,**31**:329-337



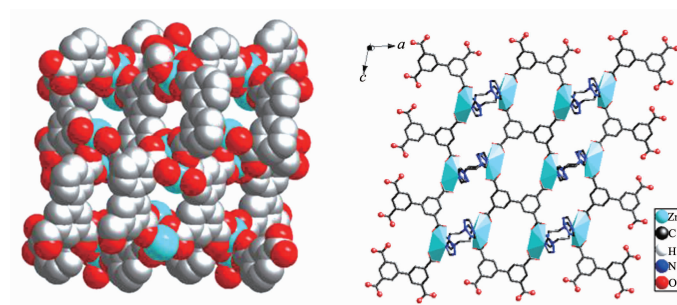
The metallic Ag not only greatly enhanced the visible light absorption efficiency due to the surface plasmonic resonance but also acted as Z-scheme Bridge to accelerate the separation of the photogenerated charge carriers, thus to improve the photocatalytic activity.

Zinc(II) Coordination Polymers Based on Aromatic Tetracarboxylate: Syntheses, Structures, and Properties (English)

LI Xin, ZHOU Shang-Yong, TIAN Li

DOI:10.11862/CJIC.2015.057

Chinese J. Inorg. Chem., **2015**,**31**:338-344

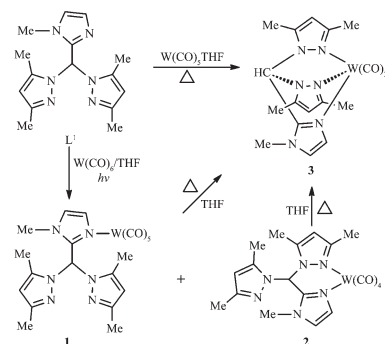


Reaction of Tungsten Carbonyl with Bis
(pyrazol-1-yl)methanes Functionalized
by Azaaryl Groups (English)

DING Ke, SUN Zun-Ming, LI Hou-Qian,
TANG Liang-Fu

DOI:10.11862/CJIC.2015.058

Chinese J. Inorg. Chem., **2015**,**31**:345-352



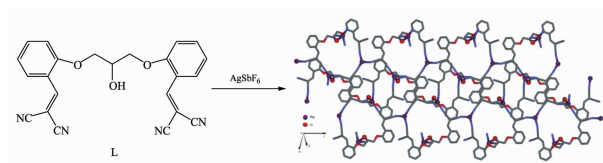
Reaction of azaarylbis(3,5-dimethylpyrazol-1-yl)methanes with $W(CO)_6$ has been carried out, which yielded a series of tungsten derivatives with mono-, bi- and tridentate ligands.

Syntheses, Crystal Structures, and
Fluorescent Properties of Ag(I)
Complex Containing 1,3-Bis(2-(2,2-
dicyanovinyl)phenoxy)-2-propanol
Ligand (English)

ZHANG Qi-Long, WANG Huan-Yu,
HU Peng, ZHU Bi-Xue

DOI:10.11862/CJIC.2015.030

Chinese J. Inorg. Chem., **2015**,**31**:353-360



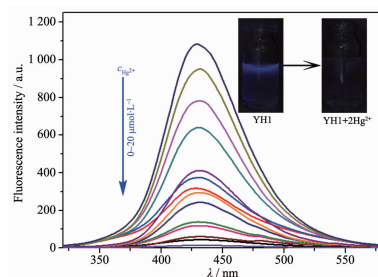
Reaction of $AgSbF_6$ with ligand **L** resulted in the formation of the coordination polymer $[AgL(SbF_6)]_n \cdot nCHCl_3$ (**1**). In the solid state, each ligand **L** acted as tetradentate ligand coordinated to four Ag(I) centers, and each Ag(I) was connected to four ligands **L**, forming the 2D layered structure.

A Benzothiazole-Derived Fluorescent
Probe for Detecting $Hg(II)$ in Live Cells
(English)

JIAO Yuan-Hong, ZHANG Qian,
JIANG Yu-Feng, ZHANG Wan-Ju

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Chinese J. Inorg. Chem., **2015**,**31**:361-368



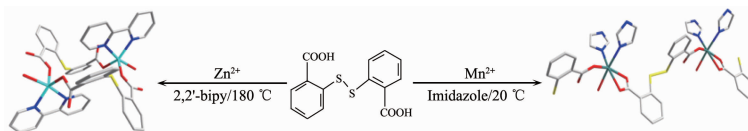
A benzothiazole-derived fluorescent probe (YH1) showed good sensitivity and selectivity to Hg^{2+} . It can be applied to image intracellular Hg^{2+} in living HeLa cells.

Syntheses, Crystal Structures of Zn(II)
and Mn(II) Complexes with Flexible
Sulfur Containing Aromatic Acid and
Nitrogen Heterocyclic Ligands
(English)

HAO Xiao-Min, GU Chang-Sheng,
HAN Si-Yin, FAN Run-Zhen, LI Yong,
SONG Wen-Dong

DOI:10.11862/CJIC.2015.052

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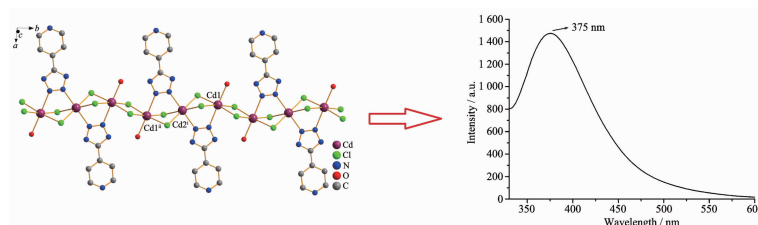
The complexes of $[Zn(EBLA)(2,2'-bipy)(H_2O)]$ ($EBLA=2,2'$ -dicarboxydiphenylthioether; $2,2'$ -bipy= $2,2'$ -dipyridyl) (**1**) and $[Mn(EBSA)(im)_2(H_2O)]_n$ ($EBSA=2,2'$ -dithiosalicylic acid)(im =imidazole) (**2**) was synthesized and characterized. The $2,2'$ -dithiosalicylic acid in situ reaction provided $2,2'$ -dicarboxydiphenylthioether (EBLA) ligand in the complex **1**. The complex **1** or **2** is a dinuclear or a one-dimensional infinite linear chain structure, respectively.

Assembly of Two Coordination Polymers Based on Tetrazole Derivatives (English)

HUANG Deng-Deng, CHEN Li-Zhuang

DOI:10.11862/CJIC.2015.047

Chinese J. Inorg. Chem., **2015**,**31**:377-384



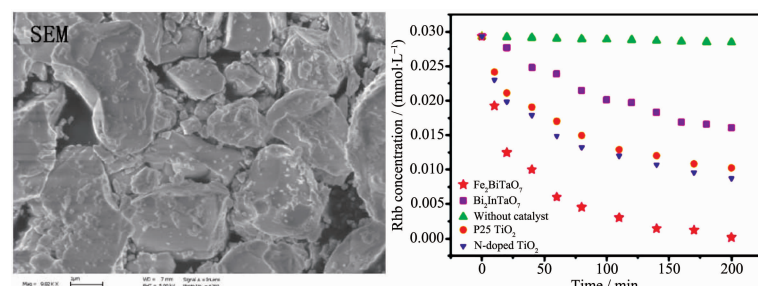
Two mixed metal-organic coordination polymers based on 5-(4-pyridyl)tetrazolate(4-PTZ) were synthesized, and they displayed ultraviolet fluorescence emissions in the solid state at room temperature.

Structural and Photocatalytic Properties of $\text{Fe}_2\text{BiTaO}_7$ Nanocatalyst (English)

LUAN Jing-Fei, HU Wen-Hua,
CHEN Biao-Hang, PEI Dong-Hua

DOI:10.11862/CJIC.2015.046

Chinese J. Inorg. Chem., **2015**,**31**:385-398



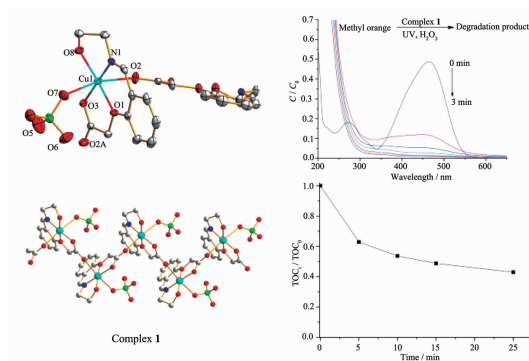
$\text{Fe}_2\text{BiTaO}_7$ shows apparent absorption in the visible region of the spectrum and exhibits high activity for the degradation of RhB.

1D Chains of Copper(II) Schiff Base Complexes as Efficient Photo-Fenton-Like Catalysts (English)

FEI Bao-Li, WANG Ping-Ping,
WANG Hao-Rong, YAN Qing-Ling,
LI Yang-Guang

DOI:10.11862/CJIC.2015.028

Chinese J. Inorg. Chem., **2015**,**31**:399-404



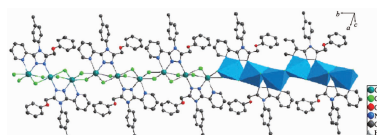
Two 1D chain copper(II) Schiff base complexes with excellent photocatalytic degradation of methyl orange property were synthesized.

Syntheses, Crystal Structures, and Spectral Properties of Copper(II) and Cadmium(II) Complexes with 3-Phenoxymethyl-4-(4-methylphenyl)-5-(2-pyridyl)-1,2,4-triazole (English)

SHENG Jun-Feng, WANG Ning,
CAI Liang-Ying, SONG Fei, TONG Yu-Zhu,
QU Zhi-Rong, WANG Zuo-Xiang

DOI:10.11862/CJIC.2015.062

Chinese J. Inorg. Chem., **2015**,**31**:405-412



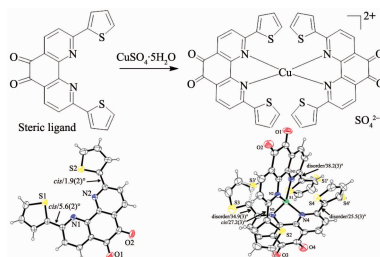
Two complexes $[\text{Cu}_2\text{L}_2\text{Cl}_4] \cdot 2\text{H}_2\text{O}$ (**1**) and $[\text{Cd}_3\text{L}_2(\mu_2\text{-Cl})_6]_n \cdot 2n\text{CH}_3\text{CN}$ (**2**) were obtained by the reaction of 3-phenoxymethyl-4-(4-methylphenyl)-5-(2-pyridyl)-1, 2, 4-triazole (L) with Copper(II) chloride and cadmium(II) chloride respectively.

A Cu(II) Complex with 2,9-Dithienyl-1,10-phenanthroline-5,6-dione Ligand with Large Steric Hindrance (English)

JIN Chao, WANG Yin-Ge, QIAN Hui-Fen, HUANG Wei

DOI:10.11862/CJIC.2015.054

Chinese J. Inorg. Chem., **2015**,**31**:413-419



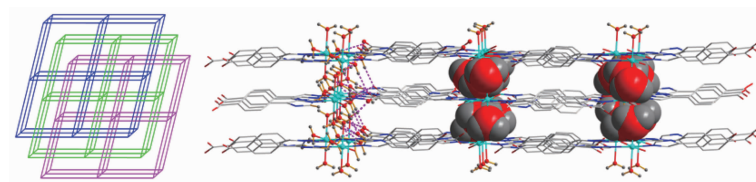
Structural study of a 2 and 9 thiophene substituted 1,10-phenanthroline-5,6-dione ligand **2** with large steric hindrance and its mononuclear Cu(II) complex has been described, where the conformation of ligand **2** undergoes great alteration after Cu(II) ion complexation to meet the requirement of coordination geometry.

Syntheses, Structures and Properties of Two Supramolecular Polymers Constructed from 4-Imidazole Carboxylate Ligand (English)

CHEN Shui-Sheng, LÜ Dan-Long, QIAO Rui, ZHU Juan-Juan, SHENG Liang-Quan

DOI:10.11862/CJIC.2015.025

Chinese J. Inorg. Chem., **2015**,**31**:420-428



Two supramolecular polymers $[\text{Cd}(\text{L}_1)(\text{HL}_1)]$ (**1**) and $[\text{Co}_2(\text{L}_1)_4(\text{H}_2\text{O})_8]$ (**2**), ($\text{HL}_1=4$ -(1H-imidazol-4-yl)benzoic acid) have been hydrothermally synthesized and characterized by single-crystal X-ray diffraction. The rich hydrogen bonds bridge the one-dimensional chains in **1** and mononuclear molecules in **2** to form three-dimensional supramolecular polymers. Photoluminescent and sorption properties for **1** and **2** were investigated respectively.