

无机化学学报

2014 年

第 30 卷

第 2 期

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CHINESE JOURNAL OF INORGANIC CHEMISTRY

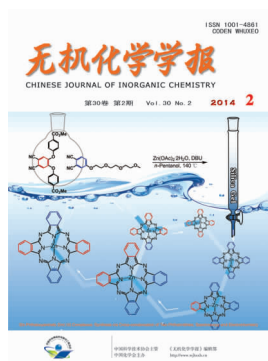
Vol.30

No.2

Feb. 2014

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Cover



Six Phthalocyaninato Zinc (II) Complexes: Synthesis via Cross-Condensation of Two Phthalonitriles, Spectroscopy and Electrochemistry (English)

BAI Ming, ZHANG Yan, WAN Pei-Hong, ZHANG Chong-Xi

DOI:10.11862/CJIC.2014.029

Chinese J. Inorg. Chem., **2014**,**30**:371-378

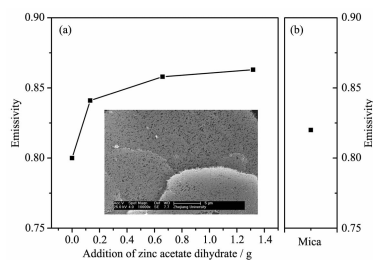
Articles

Preparation, Characterization and Infrared Emissivity of ZnO Nanorod/Mica Composites

CAI Wei-Wei, YANG Hui, GUO Xing-Zhong

DOI:10.11862/CJIC.2014.011

Chinese J. Inorg. Chem., **2014**,**30**:229-234



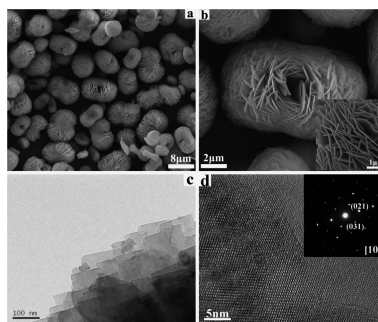
ZnO nanorods/mica composites were prepared by chemical liquid deposition. The infrared emissivity of the composites increased with increased deposition density of ZnO nanorods.

Synthesis and Electrochemical Properties of LiFePO₄ Hierarchically Nest-Like Microstructures

HUANG Fu-Qin, TANG Xin-Cun, XIAO Yuan-Hua, GONG Mei-Li, ZHENG Zhen-Miao, JIN Yuan

DOI:10.11862/CJIC.2014.051

Chinese J. Inorg. Chem., **2014**,**30**:235-241



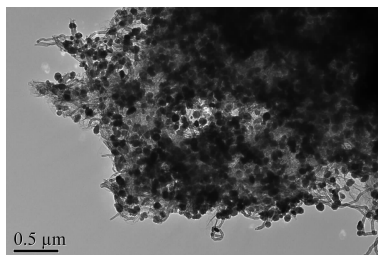
Well-defined three-dimensional hierarchical nest-like LiFePO₄ microstructures with tap density of *ca.* 1.2 g·cm⁻³ are assembled from nanoplates via solvo-thermal treatment. The sample without any further treatment exhibit discharge capacities of 132.5, 108.6, 81.0 and 56.5 mAh·g⁻¹ at charge-discharge rates of 0.1, 0.2, 0.5 and 1C respectively.

Preparation and Electrochemical
Lithium Storage of 3D α -Fe₂O₃/
Nitrogen-Doped Graphene/Carbon
Nanotubes Nanocomposites

LIU Xiao-Feng, MI Chang-Huan,
ZHANG Wen-Qing

DOI:10.11862/CJIC.2014.048

Chinese J. Inorg. Chem., **2014**,**30**:242-250



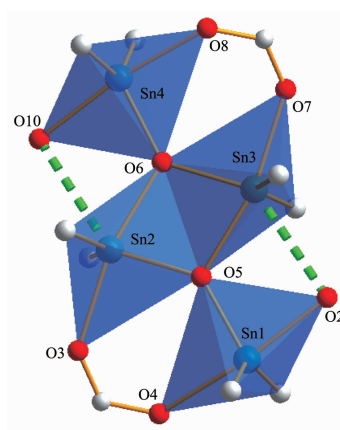
3D hierarchical α -Fe₂O₃/Nitrogen-doped graphene (N-GNS)/CNTs nanocomposite was prepared by a facile hydrothermal method. Flexible CNTs were successfully inserted into the interlamination between N-GNS, providing more defects than pristine GNS for the α -Fe₂O₃ nucleating and lithium ion storage. As a result, the 3D nanocomposites can effectively improve the initial coulombic efficiency and cycling stability of α -Fe₂O₃ anode.

Synthesis, Optical and Electrical
Properties of the Ferrocene-cyano-
carboxylic Acid Ligand and Its
Organotin Complex

PAN Rui-Long, WANG Hui, ZOU Yan,
ZHANG Jun, LI Sheng-Li, WU Jie-Ying,
TIAN Yu-Peng

DOI:10.11862/CJIC.2014.020

Chinese J. Inorg. Chem., **2014**,**30**:251-256



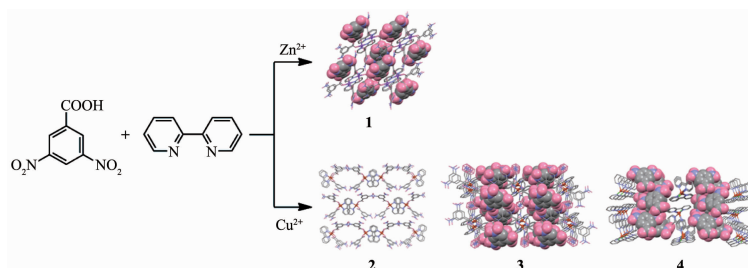
A novel ferrocene organotin coordination compound is more difficult to be oxidized and possess a larger two-photon absorption cross section than its ligand.

Synthesis, Crystal Structures of Cu (II)
and Zn(II) Complexes with
3,5-Dinitrobenzoic Acid and
2,2'-Bipyridine Ligands

HU Chun-Yan, XIAO Wei, TAO Bai-Long,
TAN Gao-Hao, YUAN Hou-Qun

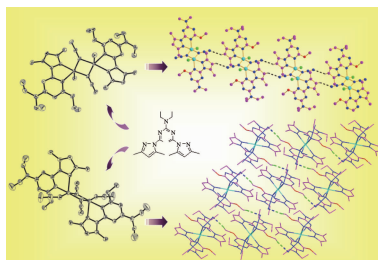
DOI:10.11862/CJIC.2014.017

Chinese J. Inorg. Chem., **2014**,**30**:257-263



Synthesis, Structures and Spectrum
Study of Copper Complexes with
Triazine-Pyrazole Derivative

ZHANG Rui, XING Yong-Heng,
TIAN Chun-Yan, WANG Xuan,
GUAN Qing-Lin, HOU Ya-Nan,
WANG Xin-Yu, BAI Feng-Ying



Triazine derivative 2,4-di (3,5-dimethyl pyrazole)-6-diethylamine-1,3,5-triazine was decomposed with breaking C-N bond in the chemical reaction, to get two new heterocyclic ligands, and coordinate with metal copper to obtain two five-coordinated complexes with intermolecular hydrogen bonds *in situ*.

DOI:10.11862/CJIC.2014.031

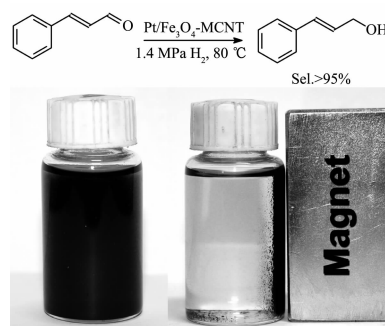
Chinese J. Inorg. Chem., **2014**,**30**:264-270

Selective Hydrogenation of Cinnamaldehyde on Magnetically Recyclable Pt/Fe₃O₄-MCNT Catalysts

YU Jian-Yan, SONG Shao-Fei, YE Su-Fang, XIAO Qiang, ZHONG Yi-Jun, YE Xiang-Rong, ZHU Wei-Dong

DOI:10.11862/CJIC.2014.025

Chinese J. Inorg. Chem., **2014**,**30**:271-276



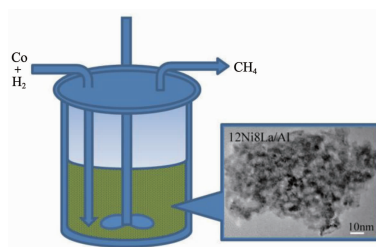
Magnetic Pt/Fe₃O₄-MCNT catalysts were prepared by loading as-prepared Fe₃O₄ and Pt nanoparticles in sequence onto MCNT, showing a good performance in the hydrogenation of cinnamaldehyde to cinnamyl alcohol, a facile recovery under the external magnetic field, and a good recyclability as well.

Effects of Additives on Structure and Methanation Performance of Ni-Based Catalysts

CUI Xiao-Xi, MENG Fan-Hui, HE Zhong, LI Zhong, Zheng Hua-Yan

DOI:10.11862/CJIC.2014.021

Chinese J. Inorg. Chem., **2014**,**30**:277-283



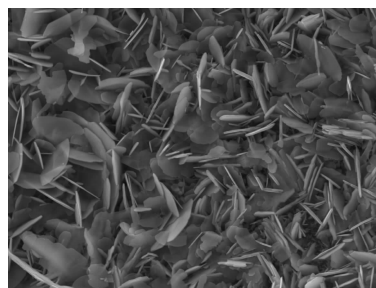
Nickel-based catalysts were prepared with different metal promoters by impregnation method. Catalysts Ni/Al₂O₃ modified with La showed higher catalytic performance of CO methanation in slurry-bed reactor than Mg, Zr, Co, Ce and Zn as promoters.

Preparation, Characterization and Tribological Properties of NbS_{2-x}Se_x

HU Zhi-Li, LI Chang-Sheng, TANG Hua, CHEN Lin, LIANG Jia-Qing, TANG Guo-Gang, ZHANG Yi

DOI:10.11862/CJIC.2014.024

Chinese J. Inorg. Chem., **2014**,**30**:284-292



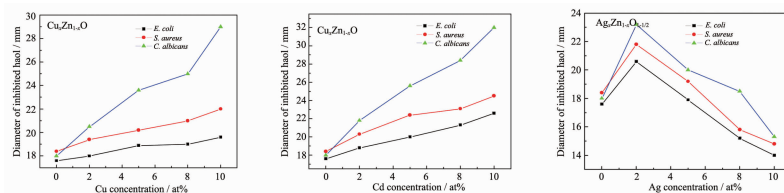
The morphology of NbS_{2-x}Se_x nanobelt turned into nanoflake after Se was doped, and the UMT-2 tribology experiment show that the doped NbS_{2-x}Se_x has excellent friction performance when NbS_{2-x}Se_x was used as additive in liquid paraffin oil, NbS_{1.9}Se_{0.1} that doped 5at% Se, at 750 °C for 2 h, has the best friction performance.

Antibacterial Activities of Doped ZnO Nano-Powder with M²⁺(M=Cu, Cd, Ag and Fe)

DING Yan, MA Ge, LI Liang-Chao, WANG Yu-Huan, CHEN Yao-Yao, WU Xue

DOI:10.11862/CJIC.2014.033

Chinese J. Inorg. Chem., **2014**,**30**:293-302



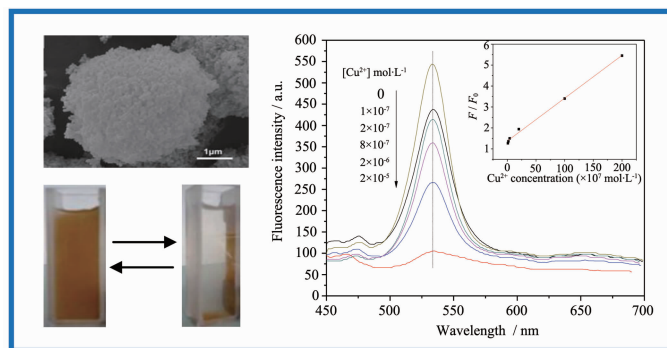
ZnO and doped ZnO nano-powder with M²⁺(M=Cu, Cd, Ag and Fe) were synthesized by citrate sol-gel method. Results showed that the antibacterial activity of samples doped with Cu, Cd and Ag (≤8at%) enhanced obviously compared to ZnO in the sunlight.

Influence of CuSO₄ Doping on the Oxidation Resistance of TiO₂-Coated Carbon Fibers

WANG Yong, YU Hai-Peng, HU Yong-Qi, ZHAO Rui-Hong, LI Fei-Long, ZHANG Wen-Jiao, ZHANG Zhao-Xiang

DOI:10.11862/CJIC.2014.016

Chinese J. Inorg. Chem., **2014**,**30**:303-309

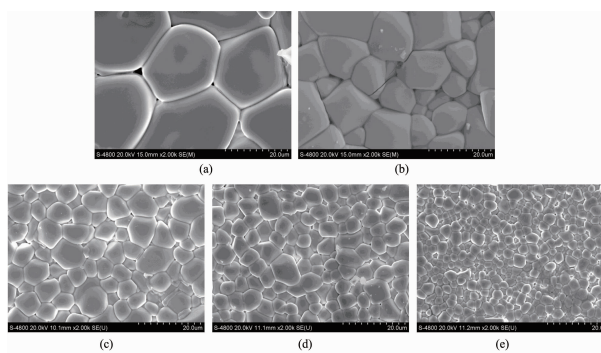


Investigation on Effect of Sr Doping on Properties of Protonic Conductor La_{1-x}Sr_xNbO_{4-σ}

WANG Ling, YANG Xue-Bin, ZHOU Hui-Zhu, LI Yue-Hua, DAI Lei

DOI:10.11862/CJIC.2014.063

Chinese J. Inorg. Chem., **2014**,**30**:310-316

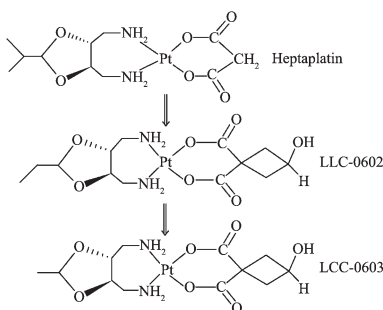


Synthesis and Anti-Tumor Activity of Two New Water-Soluble Derivatives of Heptaplatin

JIANG Jing, LOU Li-Guang, CHEN Xi-Zhu, XU Yong-Ping, YE Qing-Song, LIU Wei-Ping

DOI:10.11862/CJIC.2014.008

Chinese J. Inorg. Chem., **2014**,**30**:317-322



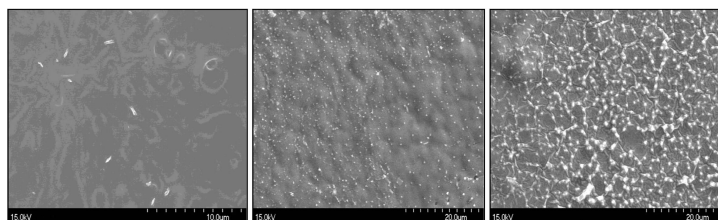
Two new heptaplatin-derivatives LLC-0602 and LLC-0603 featuring 3-hydroxy-1,1-cyclobutanedicarboxylate as the leaving group are much more water-soluble and display greater antitumor activity than the parent drug heptaplatin.

Synthesis of AgCl Nanoparticles in Ionic Liquid Microemulsion and Regulation of AgCl/poly (MMA-co-St) Hybrid Membranes

DING Long-Fei, WANG Ting, WU Li-Guang

DOI:10.11862/CJIC.2014.002

Chinese J. Inorg. Chem., **2014**,**30**:323-330



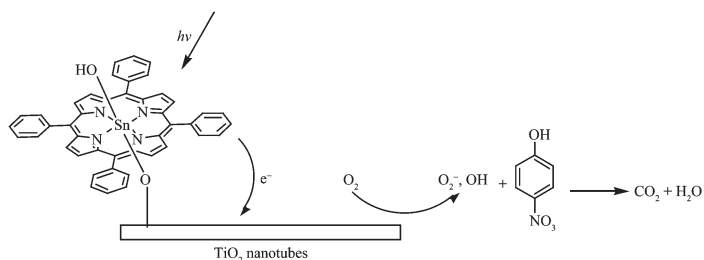
From left to right, the pictures showed that more AgCl nanoparticles distributed in the hybrid membranes with increase of the ratio of St/MMA in the oil phase. When excess St was added to the oil phase, the stability of W/O microemulsion was reduced and large AgCl particles generated in the hybrid membrane.

Photocatalytic Activity and
Optoelectronic Property of Porphyrin
Tin-Sensitized TiO₂ Nanotubes

HUANG Cheng, CHANG Ting, ZHANG Yue,
KANG Shi-Zhao, LI Xiang-Qing, MU Jin

DOI:10.11862/CJIC.2014.007

Chinese J. Inorg. Chem., **2014**,**30**:331-336



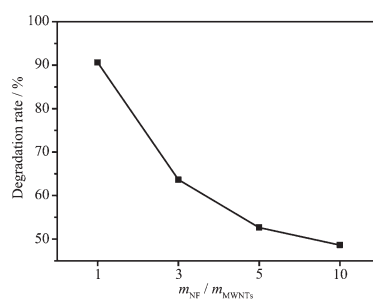
TiO₂ nanotubes sensitized with *trans*-dihydroxo[5,10,15,10-tetraphenyl porphyrin] tin (IV) (SnTPP) were prepared. The introduction of SnTPP can significantly enhance the visible light photocatalytic activity of TiO₂ nanotubes. Therein, the morphology of a catalyst plays an important role in the photocatalytic process.

Nickel Ferrite/Carbon Nanotubes
Composites: Preparation and
Adsorption for Dye Wastewater

CHEN Hai-Feng, WU Xue, LI Liang-Chao,
ZHOU Yan, FAN Bei, DING Yan

DOI:10.11862/CJIC.2014.065

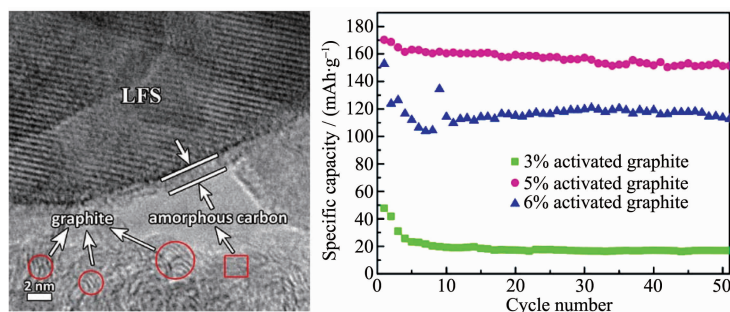
Chinese J. Inorg. Chem., **2014**,**30**:337-344



The NF/MWNTs composites not only keep the good adsorption performance, but also have excellent magnetic property. The maximum adsorption capacity of the NF/MWNTs composite with $m_{\text{NF}}/m_{\text{MWNTs}}$ of 1 can reach 18.87 mg·g⁻¹.

Research on Two-Phase Carbon
Modified Li₂FeSiO₄ as Cathode Material

DUAN Song, ZHANG Lu-Lu, YANG Xue-Lin,
PENG Gang, HUANG Yun-Hui, QIN Lei,
LI Ming, NI Shi-Bing



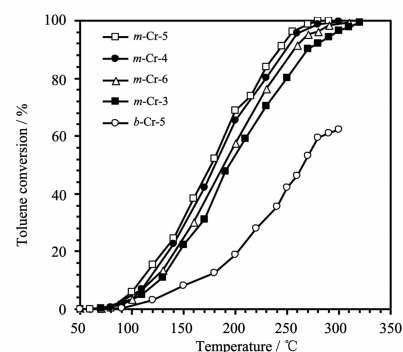
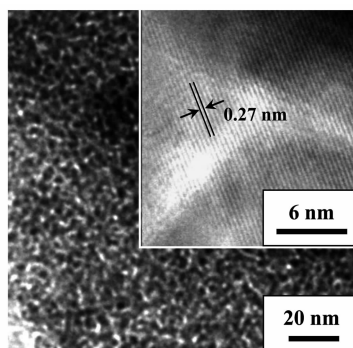
Two-phase carbon modified Li₂FeSiO₄ composites (Li₂FeSiO₄/(C+G)) were synthesized via solid-state reaction assisted with refluxing. The Li₂FeSiO₄/(C+G) composite prepared with 5wt% activated graphite achieved an excellent electrochemical performance with a higher initial discharge capacity of 170.3 mAh·g⁻¹ and with a capacity retention ratio of 88.7% after 50 cycles.

DOI:10.11862/CJIC.2014.038

Chinese J. Inorg. Chem., **2014**,**30**:345-352

Mesoporous Cr_2O_3 with High Surface Area: Preparation and Catalytic Activity Performance for Toluene Combustion

LIU Jing, XIA Yun-Sheng,
BAO De-Cai, ZENG Ling



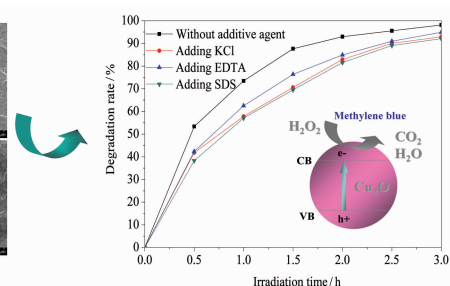
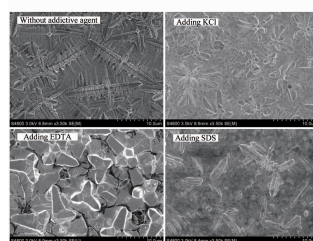
DOI:10.11862/CJIC.2014.035

Chinese J. Inorg. Chem., **2014**,**30**:353-358

Worm-like mesoporous chromium oxides prepared via the glucose-assisted thermal decomposition route show excellent catalytic performance for toluene oxidation.

Cu_2O Thin Film: Controllable Preparation and Performance for Photocatalytic Degradation of Methylene Blue

YU Xiao-Jiao, HUANG Lin-Zhu, ZHANG Fan,
YANG Qian, ZHAO Jie, YAO Bing-Hua

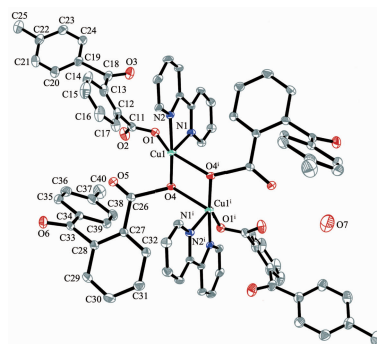


DOI:10.11862/CJIC.2014.041

Chinese J. Inorg. Chem., **2014**,**30**:359-365

Crystal Structure, Fluorescent and Magnetic Properties of One Dinuclear Copper(II) Complex with 2-(4-Methylbenzoyl)benzoic Acid and 2,2'-Bipyridine as Ligands (English)

WANG Zhi-Yong, WANG Wei-Min, LI Gang



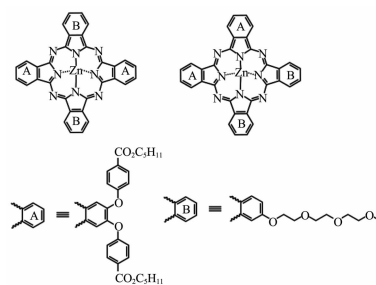
A new complex $[\text{Cu}_2(\text{L})_4(2,2'\text{-bipy})_2] \cdot \text{H}_2\text{O}$ forms dinuclear structure by bridging 2-(4-methylbenzoyl)benzoic acid anions. It has two emission bands at 472 and 476 nm, respectively, with the best excitation wavelength at 608 nm, and it is a paramagnetism system in temperatures range of 2~100 K.

DOI:10.11862/CJIC.2014.013

Chinese J. Inorg. Chem., **2014**,**30**:366-370

Six Phthalocyaninato Zinc (II) Complexes: Synthesis via Cross-Condensation of Two Phthalonitriles, Spectroscopy and Electrochemistry (English)

BAI Ming, ZHANG Yan,
WAN Pei-Hong, ZHANG Chong-Xi



Simple silica-gel column chromatography leads to the successful separation of six phthalocyaninato zinc(II) complexes, especially the two constitutional isomers AABB-opp, ABAB-adj.

DOI:10.11862/CJIC.2014.029

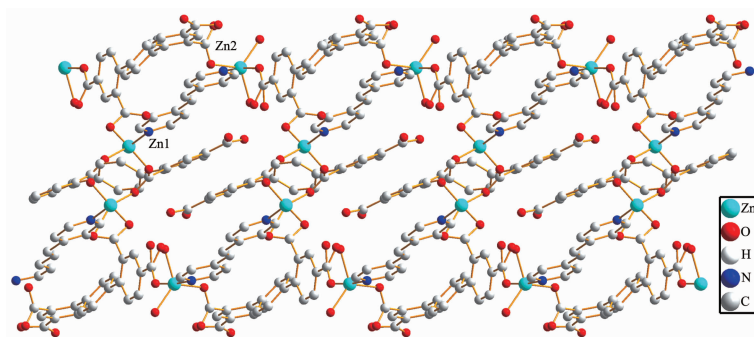
Chinese J. Inorg. Chem., **2014**,**30**:371-378

Hydrothermal Synthesis, Crystal Structure and Luminescence of a 2D Bilayer Zn(II) Coordination Polymer Based on Terphenyl-2,2',4,4'-tetracarboxylic Acid (English)

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

DOI:10.11862/CJIC.2014.018

Chinese J. Inorg. Chem., **2014**,**30**:379-383

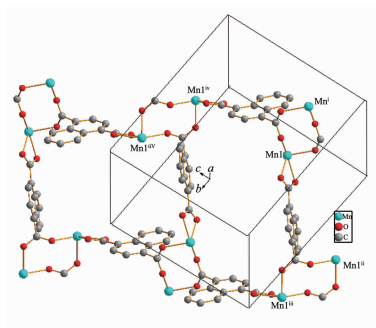


One 2D Mn(II) Complex Constructed by Poly-Carboxylate and N-heterocyclic Ligands: Syntheses, Characterizations and Photoluminescent Properties (English)

YAN Li, SUN Ming-Zhe, REN Li,
LIU Xiao-Meng, LIU Peng, WANG Yi-Hui

DOI:10.11862/CJIC.2014.015

Chinese J. Inorg. Chem., **2014**,**30**:384-390



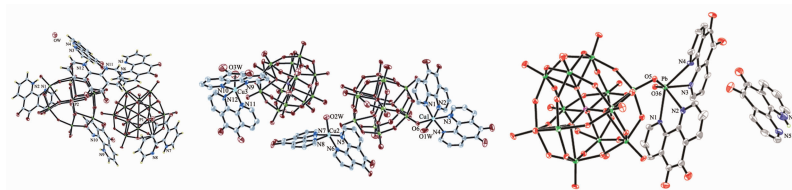
The complex shows 2D (4, 4) topology. The result displays that this complex can be acted as potential luminescent material.

Hydrothermal Syntheses and Properties of Compounds Based on 1,10-Phenanthroline-5,6-dione and Keggin-Type Polyoxometalate (English)

LIU Chun-Bo, WANG Qian-Qian,
BAI Hong-Ye, CHE Guang-Bo,
ZHANG Qing, LI Chun-Xiang

DOI:10.11862/CJIC.2014.039

Chinese J. Inorg. Chem., **2014**,**30**:391-397



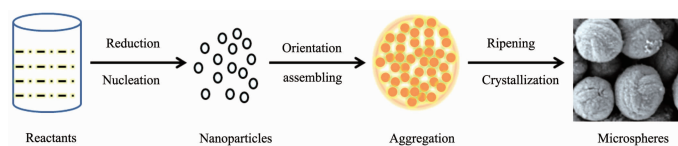
Three compounds based on Keggin-type polyoxometalate using 1, 10-phen-5, 6-dione as neutral organic ligand have been synthesized. The structural analyses reveal that compounds **1** and **2** are zero-dimensional structures, and **3** exhibits one-dimensional chain.

Hierarchical MoO₂ Microspheres:
Hydrothermal Synthesis and
Photocatalytic Performance for
Degradation of Rhodamine B (English)

HU Han-Mei, XU Jun-Chan, GE Xin-Qing,
SUN Mei, XUAN Han, ZHANG Ke-Hua

DOI:10.11862/CJIC.2014.060

Chinese J. Inorg. Chem., **2014**,**30**:398-404



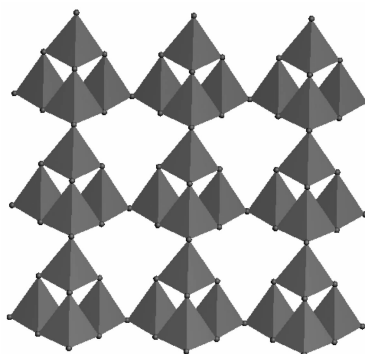
MoO₂ microspheres exhibit higher photocatalytic activity for the degradation of Rhodamine B (RhB) in the presence of H₂O₂ under tungsten lamp irradiation.

Solvothermal Synthesis and Crystal
Structure of K₂CdSnS₄ (English)

BAIYIN Meng-He, GANG Gang,
NAREN Ji-Ru-Ga

DOI:10.11862/CJIC.2014.012

Chinese J. Inorg. Chem., **2014**,**30**:405-410



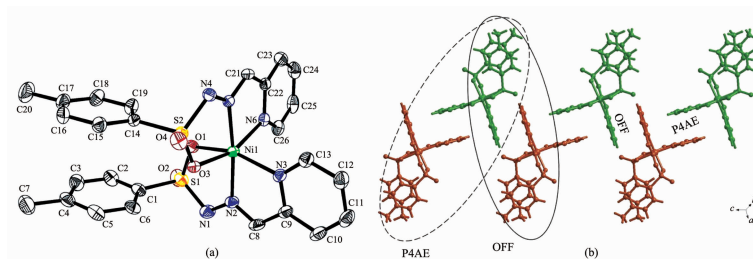
The title compound is comprised of sheets with adamantane-like [Cd₂Sn₂S₁₀]⁸⁻ units. UV-Vis reflectance spectrum of the compound reveals that it is a semiconductor with the band gap of 2.2 eV.

Supramolecule Assembled from
Sulfonyl Hydrazone Ni(II) Complex via
 $\pi \cdots \pi$ and C-H $\cdots \pi$ Interactions
(English)

WANG Jing-Lin, JIAO Yong, YANG Bin-Sheng

DOI:10.11862/CJIC.2014.030

Chinese J. Inorg. Chem., **2014**,**30**:411-418

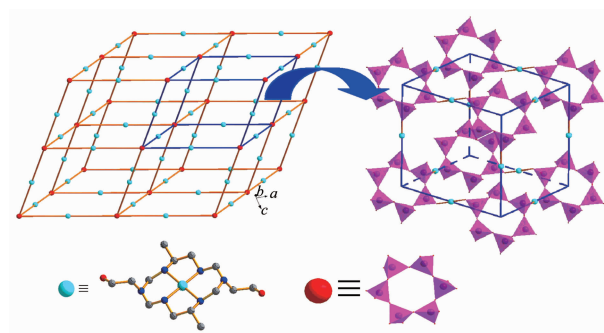


Synthesis and Structure of a Three-
Dimensional Polyoxovanadate-Bridged
Macrocyclic Copper Complex(English)

OU Guang-Chuan, HUANG Zhong-Wen,
PAN Ze-Yi, ZHOU Dong-Lai, LI Zhi-Zhang,
YUAN Xian-You

DOI:10.11862/CJIC.2014.043

Chinese J. Inorg. Chem., **2014**,**30**:419-424



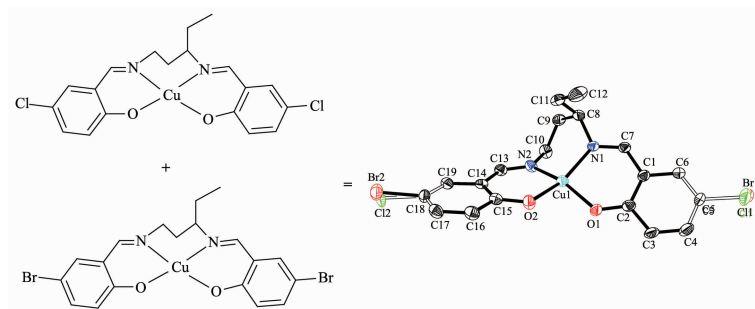
A three-dimensional polyoxovanadate-bridged macrocyclic copper complex of {[CuL][VO₃]₂·0.67H₂O}_n with one-dimensional channels are reported here.

Alternate Arrangement of Cl and Br Substituent Groups in Crystal Packing: Syntheses and Structures of Schiff Bases and Their Copper(II) Complexes (English)

ZHANG Ji-Cai, LI Ying-Nan, HUANG Di,
XU Fang-Yuan, CHENG Xiao-Shan,
YOU Zhong-Lu

DOI:10.11862/CJIC.2014.004

Chinese J. Inorg. Chem., **2014**,**30**:425-430



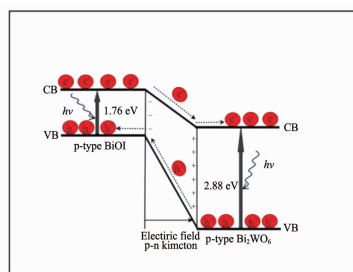
By combination of two mononuclear Schiff base complexes, a new aggregation was formed. There are interesting alternate arrangement of Cl and Br substituent groups in the crystal packing of the aggregation.

Photocatalytic Degradation and Mechanism of BiOI/Bi₂WO₆ toward Methyl Orange and Phenol (English)

CUI Yu-Min, HONG Wen-Shan, LI Hui-Quan,
WU Xing-Cai, FAN Su-Hua, ZHU Liang-Jun

DOI:10.11862/CJIC.2014.001

Chinese J. Inorg. Chem., **2014**,**30**:431-441



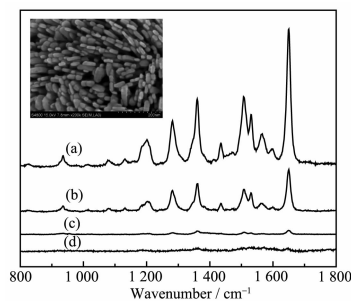
The photogenerated electrons and holes could be separated effectively owing to formation of the p-n junction between p-type BiOI and n-type Bi₂WO₆ interfaces.

Synthesis and Characterization of SERS-Active Silver Nanomaterial (English)

HUANG Qing-Li, ZHU Xia-Shi

DOI:10.11862/CJIC.2014.019

Chinese J. Inorg. Chem., **2014**,**30**:442-450



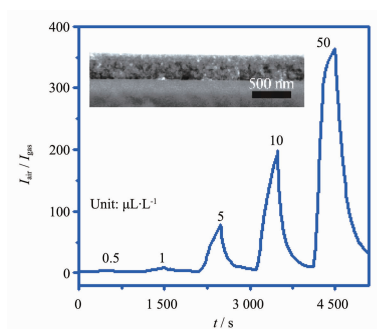
Three-dimensional (3D) hierarchical silver nanostructures (HSNs) assembled with many 2D nanoflakes were prepared by a simple surfactant-free wet-chemical method. The HSNs show high SERS activity when R6G and RB are used as the target molecules.

Tin Oxide Thin Films: Synthesis and Room Temperature Gas Sensing Properties (English)

HAO Pei-Pei, CHEN Chang-Long,
WEI Yu-Ling, MU Xiao-Hui

DOI:10.11862/CJIC.2014.046

Chinese J. Inorg. Chem., **2014**,**30**:451-458



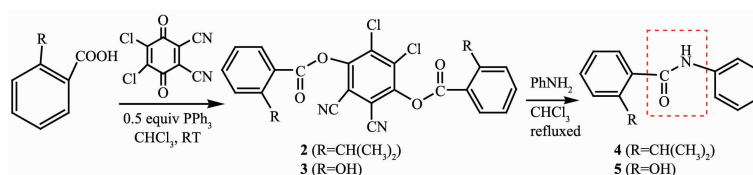
When used as gas sensors, the title SnO₂ film shows high gas sensing performance to NO₂ at mild test conditions and a detection limit of about 0.5 μL·L⁻¹ is achieved.

Efficient Synthesis and Crystal Structures of Intermediates of Benzanilide Derivatives Catalyzed by Ph₃P/DDQ (English)

HU Jiu-Rong, ZHENG Da-Gui

DOI:10.11862/CJIC.2014.010

Chinese J. Inorg. Chem., **2014**,**30**:459-465



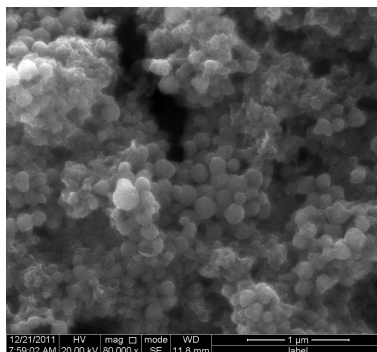
Two 2-substituted benzoic acids (2-isopropylbenzoic acid and salicylic acid) were used to react with DDQ mediated by PPh₃, and the special stable intermediates (**2** and **3**) were isolated with full characterization. The reactions of the intermediates with PhNH₂ in the refluxed CHCl₃ lead to the target amides (**4** and **5**) in modest yields.

Fabrication of CuIn_xGa_{1-x}Se₂ Thin Films via Electrodeposition Method with Ionic Liquid Electrolytes (English)

JI Shan-Shan, MEI Yan-Xia, ZHANG Jin-Qiu,
YANG Pei-Xia, LIAN Ye, AN Mao-Zhong

DOI:10.11862/CJIC.2014.036

Chinese J. Inorg. Chem., **2014**,**30**:466-472



Stoichiometric Cu_{1.00}In_{0.78}Ga_{0.27}Se_{2.13} thin films were achieved by electrodeposition in ionic liquid electrolytes. Ionic liquid electrolytes offer a better thermal stability and wide potential window. CIGS thin films appear to show that the overall surface of thin film is uniform and compact.