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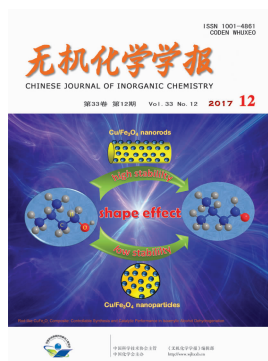
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Rod-like CuFe_2O_x Composite: Controllable Synthesis and Catalytic Performance in Isoamyl Alcohol Dehydrogenation (English)

MA Hong-Bin, MA Ling-Juan, HOU Meng-Ning, YUE Ming-Bo

DOI:10.11862/CJIC.2017.275

Chinese J. Inorg. Chem., **2017**,**33**:2193-2200

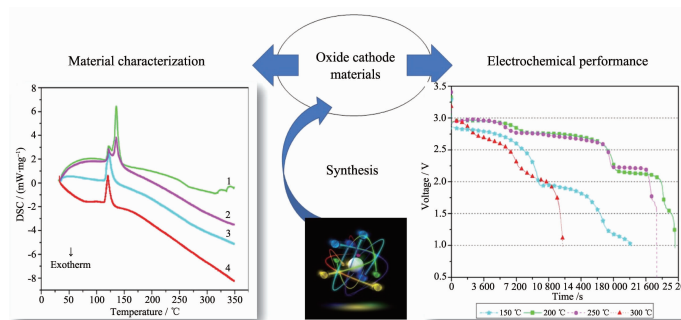
Reviews

Development and Prospect of Oxide Cathode Materials for High Temperature Lithium Batteries

SONG Heng-Xu, NIU Yong-Qiang, HOU Hua, WU Zhu, ZHAO Yu-Hong

DOI:10.11862/CJIC.2017.263

Chinese J. Inorg. Chem., **2017**,**33**:2155-2168



In order to promote the development of cathode in the field of high-temperature batteries, we summarize the synthesis methods of oxide cathode materials in high-temperature lithium battery, and then elaborate their electrochemical performance.

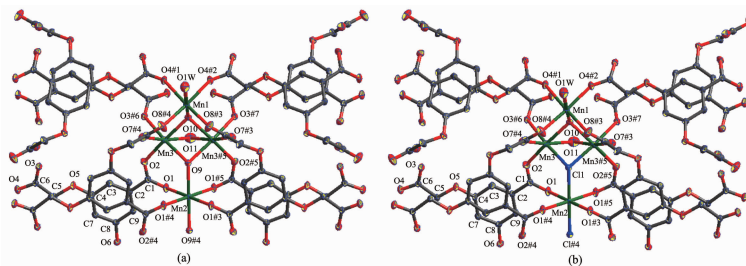
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Three Manganese(II) Coordination Polymers Composed of Polynuclear Cluster Blocks and 3,5-Bis-oxyacetate-benzoic Acid Linkers: Syntheses, Structures and Redox Properties (English)

LÜ Ling-Zhi, WANG Xiao-Juan, JIANG Xian-Rong, FENG Yun-Long

DOI:10.11862/CJIC.2017.280

Chinese J. Inorg. Chem., **2017**,**33**:2169-2176



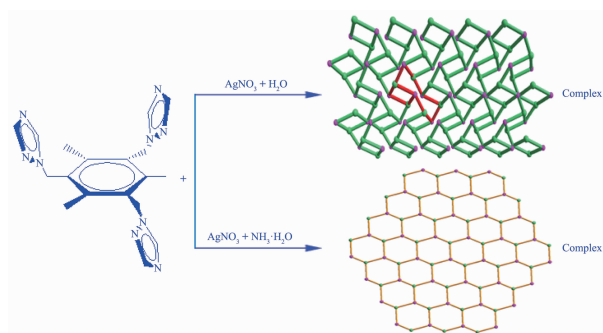
CP **1** presents a binodal (5,12)-connected 3D topology network based on tetra-nuclear $[\text{Mn}_4(\mu_3\text{-OH})_3(\text{COO})_{10}]$ clusters. CPs **2** and **3** are isostructural and present binodal (3,12)-connected 2D topology network based on hepta-nuclear $[\text{Mn}_7(\text{OH})_6(\text{COO})_{16}]$ and $[\text{Mn}_7(\text{OH})_4\text{Cl}_2(\text{COO})_{16}]$ clusters, respectively.

Influence of Solvents on the Formation of Silver(I) Complexes with the Flexible 1,3,5-Tris (triazol-1-ylmethyl)-2,4,6-trimethylbenzene (English)

NI Tian-Jun, YUAN Qiang-Tao, ZHANG Wei, YANG Zhi-Jun, YU Hai-Hong, CAI Hong-Rui

DOI:10.11862/CJIC.2017.269

Chinese J. Inorg. Chem., **2017**,**33**:2177-2185

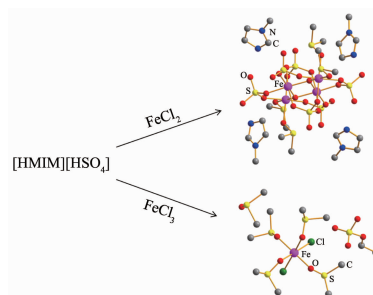


Syntheses of Imidazole Template Fe_4 Sulfate Clusters and Iron-DMSO Complex Mediated by Brønsted Acid Ionic Liquids (English)

LUO Qian-Qian, LIN He-Chun, LUO Chun-Hua, ZHANG Yuan-Yuan, PENG Hui

DOI:10.11862/CJIC.2017.259

Chinese J. Inorg. Chem., **2017**,**33**:2186-2192



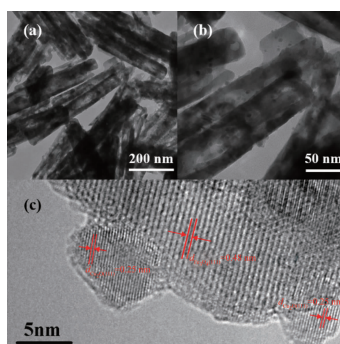
Reactions of FeCl_2 with Brønsted acidic ionic liquid form imidazole template Fe_4 sulfate clusters with antiferromagnetic property. However, that reaction of FeCl_3 leads to the iron DMSO complex.

Rod-like CuFe_4O_x Composite: Controllable Synthesis and Catalytic Performance in Isoamyl Alcohol Dehydrogenation (English)

MA Hong-Bin, MA Ling-Juan, HOU Meng-Ning, YUE Ming-Bo

DOI:10.11862/CJIC.2017.275

Chinese J. Inorg. Chem., **2017**,**33**:2193-2200



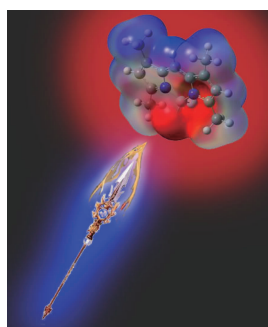
$\text{Cu}^0/\text{Fe}_3\text{O}_4$ -rod can be obtained by controllable reduction of CuFe_4O_x rod which prepared by liquid-phase precipitation method. It is interesting that $\text{Cu}^0/\text{Fe}_3\text{O}_4$ -rods catalyst shows higher stability than $\text{Cu}^0/\text{Fe}_3\text{O}_4$ -particles in the dehydrogenation of isoamyl alcohol reaction.

Synthesis, Crystal Structure and Density Functional Theoretical Study of 1,3,5,7-Tetramethyl-4,4-difluoro-4-bora-3a,4a-diaza-s-indacene

DUAN Hai-Chao, YI Ping-Gui, YU Xian-Yong, LI Xiao-Fang, LIU Wu, SU Jian

DOI:10.11862/CJIC.2017.271

Chinese J. Inorg. Chem., **2017**,**33**:2201-2207



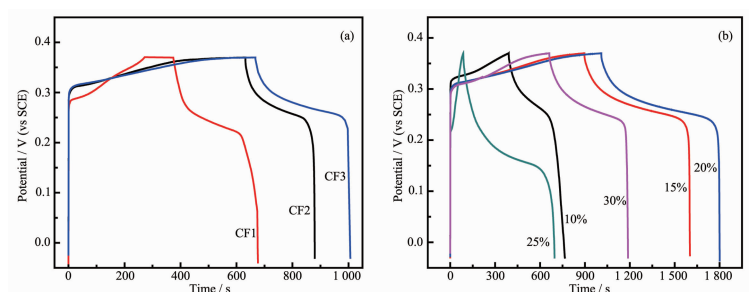
The title compound (F1) has been prepared by a simple and efficient process, and the possible derived way of F1 were investigated by the density functional calculation and the front orbital theory.

Preparation and Electrochemical Properties of Nano CuFe_2O_4 -rGO Composites

DUAN Hong-Zhen, CHENG Xia, LUO Ming-Yu, ZHOU Fang-Ling, LI Qiao-Ling

DOI:10.11862/CJIC.2017.267

Chinese J. Inorg. Chem., **2017**,**33**:2208-2214

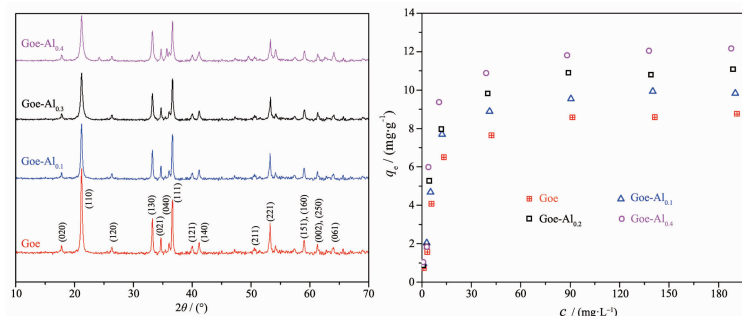


Preparation, Characterization and Fluoride Adsorption Characteristics of Goethite and Al-Doped Goethite

ZHU Zhao-Ju, XIANG Wen-Jun,
LUO He-Qing, WEI Shi-Yong

DOI:10.11862/CJIC.2017.266

Chinese J. Inorg. Chem., **2017**,**33**:2215-2224

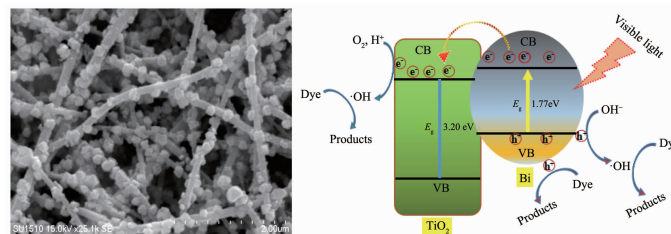


Preparation of Bi/TiO₂ Composite NFs with Visible-Light Photocatalytic Activity

CAO Tie-Ping, LI Yue-Jun, MEI Ze-Min,
WANG Xia, XI Xiao-Tian

DOI:10.11862/CJIC.2017.270

Chinese J. Inorg. Chem., **2017**,**33**:2225-2232



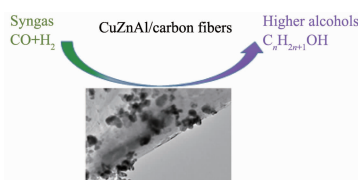
The Bi/TiO₂ composite nanofibers were prepared by locating the Bi nanoparticles through solvothermal process on the electrospun TiO₂ in the presence of EDTA, which suggests that the photocatalysts get well photocatalytic activity and stability.

Catalytic Synthesis of Higher Alcohols Form Syngas over Composite Material of CuZnAl/Carbon Fibers

CHENG Shu-Yan, KOU Jia-Wei,
GAO Zhi-Hua, HUANG Wei

DOI:10.11862/CJIC.2017.268

Chinese J. Inorg. Chem., **2017**,**33**:2233-2240



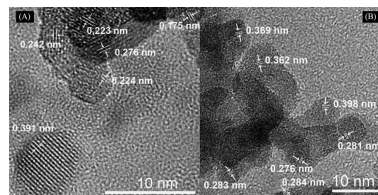
Carbon fibers promote synthesis of higher alcohols by improving dispersion of CuZnAl nanoflakes and electron conductivity of the composites.

Solvothermal Synthesis and Properties of BiFeO₃ Based on Composite Nanoparticle Photocatalysts

CONG Ri-Min, YU Huai-Qing, LUO Yun-Jun,
WANG Hua, WANG Wei-Wei, LI Qiu-Hong,
SI Wei-Meng, SUN Wu-Zhu

DOI:10.11862/CJIC.2017.276

Chinese J. Inorg. Chem., **2017**,**33**:2241-2246



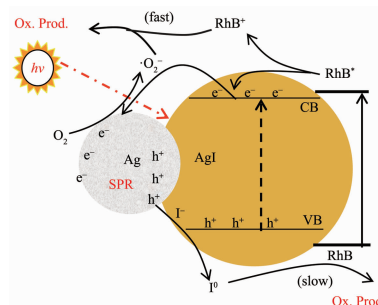
The diameter of pure BiFeO₃ nanoparticles (A) and BiFeO₃/Bi₂₅FeO₄₀/Fe₂O₃ composites (B) are less than 10 nm. The component of these particles were determined by the crystal spacing data and XRD patterns.

Ag@AgI/Ni Thin Films: Preparation and Photocatalytic Properties under Simulated Solar Irradiation

LI Ai-Chang, LI Gui-Hua, JI Xiao-Yan,
ZHAI Tian-Hua

DOI:10.11862/CJIC.2017.277

Chinese J. Inorg. Chem., **2017**,**33**:2247-2254



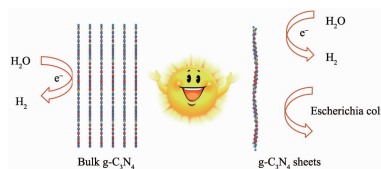
Ag@AgI/Ni thin films exhibit high photocatalytic activity and a superior photocatalytic stability to decompose RhB. The improvement in photocatalytic activity for Ag@AgI/Ni thin film can be mainly attributed to the activation of nano Ag particles on the film for photocathode reaction with a significant SPR effects.

Construction and Photocatalytic Performance of Ultrathin Graphitic Carbon Nitride Nanosheets

CHEN Yan, LIU Hai-Bo

DOI:10.11862/CJIC.2017.218

Chinese J. Inorg. Chem., 2017,33:2255-2261



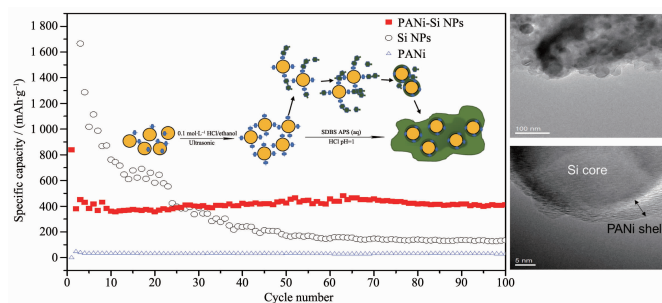
Ultrathin graphitic carbon nitride nanosheets with thickness of 0.2~0.4 nm were preferable for photocatalytic water splitting into H_2 and antibacterial performance under visible light irradiation.

Lithiation/De-lithiation Electrochemical Properties of Polyaniline-Coated Silicon Nanoparticles

YANG Yu-Lin, GAO Ming,
LIANG Jing-Shuang, DONG Xing-Long,
CAO Guo-Zhong

DOI:10.11862/CJIC.2017.216

Chinese J. Inorg. Chem., 2017,33:2262-2270

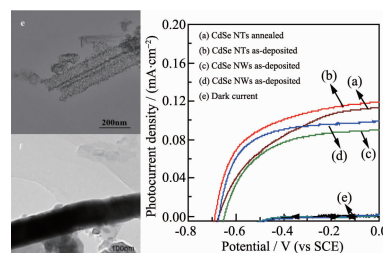


Template Synthesis and Photoelectrochemical Properties of CdSe Nanomaterials (English)

WANG Hong-Zhi, LEI Xian-Chao,
CHEN Xiong-Zhuo, YAO Su-Wei,
ZHANG Wei-Guo

DOI:10.11862/CJIC.2017.264

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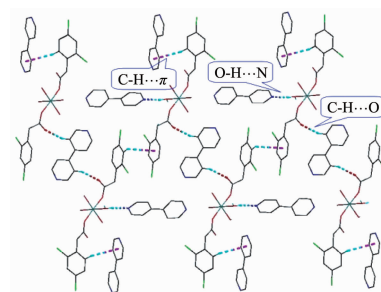
The photocurrent density at 0 V versus SCE of CdSe nanowires and nanotubes synthesized in AAO have better photoelectrochemical after annealed at 350 °C than those as-deposited.

Syntheses and Crystal Structures of Three Mg(II), Ca(II) and Cd(II) Complexes with 2,4-Dichlorophenylacetic Acid Ligand (English)

GU Chang-Sheng, HAO Xiao-Min,
HOU Huan-Yao, CHEN Yi-Wen, LI Zhi-Ling,
LI Yong, SONG Wen-Dong

DOI:10.11862/CJIC.2017.279

Chinese J. Inorg. Chem., 2017,33:2278-2286



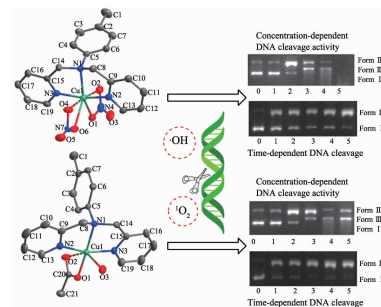
Three new coordination complexes were synthesized by evaporation methods using 2,4-dichlorophenylacetic acid (DCBA), 4,4'-bipyridine (4,4'-bipy) to react with $MgSO_4$, $CaCl_2$ and $Cd(NO_3)_2$, respectively. The complexes **1**, **2** and **3** are zero-dimensional structure, and there are $O-H\cdots O$, $O-H\cdots N$, $C-H\cdots O$, $C-H\cdots Cl$, $C-H\cdots\pi$ and $O-H\cdots O$, $C-H\cdots Cl$ hydrogen bonds constructing 3D supramolecular structure of **1** and **2**, **3**, respectively.

Two Copper(II) Complexes with dpa-Based Ligand: Syntheses, Structures, Nuclease Activity and Cytotoxicity (English)

YUE Ai-Qin, ZHANG Yu-Ting,
ZHANG Peng-Qian, GAO Yuan-Yuan,
ZHANG Yong-Po, WANG Min, GAO Chun-Yan,
ZHAO Jin-Zhong, DU Wei-Jun

DOI:10.11862/CJIC.2017.273

Chinese J. Inorg. Chem., 2017,33:2287-2295



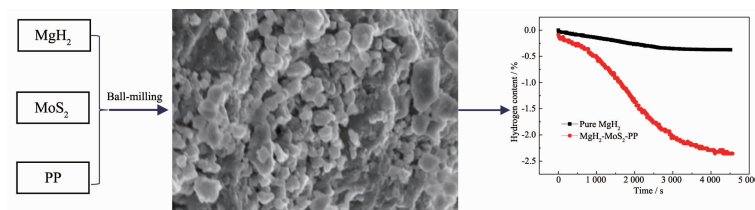
Two new dpa-based mononuclear $Cu(II)$ complexes exhibit remarkable DNA cleavage activity and significant cytotoxicity.

Hydrogen Storage Properties of MgH_2 - MoS_2 -Pyrolyzed Polyaniline Composite (English)

LIU Yang, LI Yuan, PENG Dan-Dan,
GUO Liang-Liang, ZHANG Lu, HAN Shu-Min

DOI:10.11862/CJIC.2017.278

Chinese J. Inorg. Chem., **2017**,**33**:2296-2302



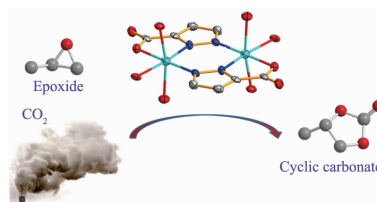
Hydrogen storage performance of MgH_2 is promoted by forming MgH_2 - MoS_2 -PP composite. In the composite MgH_2 appears as small particles with less agglomeration, and exhibiting improved hydriding/dehydriding kinetics.

Cu(II)/Mn(II) Complexes Formed by Pyrazole-3-carboxylic Acid: Syntheses, Characterization and Highly Efficient Conversion of CO_2 at Atmospheric Pressure (English)

JIANG Xiu-Yan, RONG Nian-Xin,
QIU Tian-Tian, QIAN Rui, WANG Yan-Zhen,
HE Qing-Peng, HUANG Xian-Qiang

DOI:10.11862/CJIC.2017.222

Chinese J. Inorg. Chem., **2017**,**33**:2303-2310



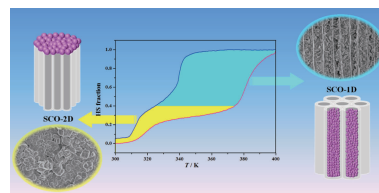
Cu (II)/Mn (II) complexes formed by pyrazole-3-carboxylic acid have been synthesized and exhibit extraordinary catalytic performance (Conversion: up to 97.1%, Selectivity: up to 98.9%) in the catalytic conversion of CO_2 .

AAO Assisted 1D Confined Assembly and 2D Surface Filming of Iron(II) Triazole Nanomaterial and Spin-Crossover Properties (English)

LI Zhi-Hua, WANG Yu-Xia, QIU Dan,
LI Zai-Jun, GU Zhi-Guo

DOI:10.11862/CJIC.2017.200

Chinese J. Inorg. Chem., **2017**,**33**:2311-2321



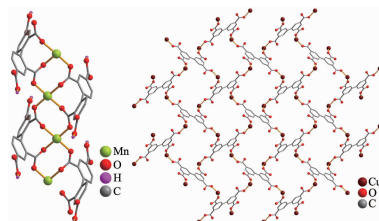
Two dimensional SCO films growing on the surface of AAO templates (SCO-2D) result in its transition temperature moving to a lower region, while 1D SCO confined assembly growing in the channel of AAO membranes (SCO-1D) leads to the transition shifting to higher temperature.

Syntheses, Crystal Structures and Magnetic Properties of 1D Manganese (II) and 2D Copper (II) Coordination Polymers Constructed from Biphenyl Tetracarboxylic Acid (English)

CHEN Jin-Wei, WEN Bing-Song,
CAO Fang-Li, QIU Wen-Da, LI Yu,
CHEN Xiao-Ling

DOI:10.11862/CJIC.2017.229

Chinese J. Inorg. Chem., **2017**,**33**:2322-2328



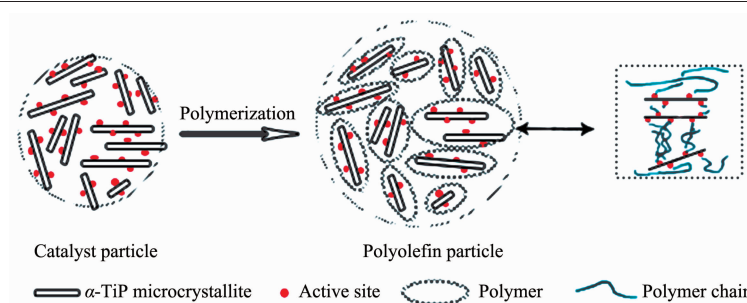
One-dimensional double-helix chain coordination polymer $[\text{Mn}(\mu_3\text{-}2,4\text{-H}_2\text{bpta})(4,4'\text{-bipy})_2]_n$ (**1**) and two-dimensional sheet coordination polymer $\{[\text{Cu}(\mu_4\text{-}3,5\text{-bpta})_{0.5}(2,2'\text{-bipy})(\text{H}_2\text{O})] \cdot \text{H}_2\text{O}\}_n$ (**2**) have been constructed and the structures and magnetic properties of the complexes were investigated.

Spherical $\alpha\text{-Ti}(\text{HPO}_4)_2$ Supported Catalysts: Synthesis and Catalytic Properties in Olefin Polymerizations (English)

YUAN Yuan, YI Jian-Jun, SHI Yu-Jian,
XU Qing-Hong

DOI:10.11862/CJIC.2017.274

Chinese J. Inorg. Chem., **2017**,**33**:2329-2337

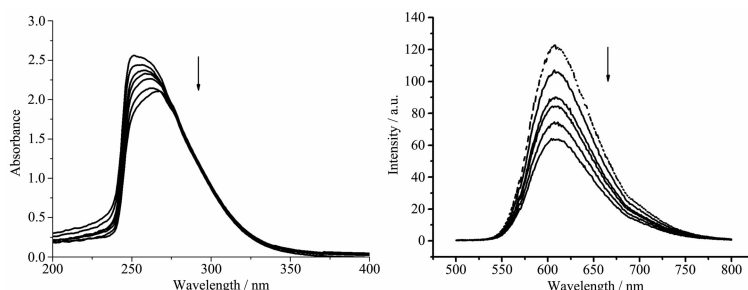


Two Binuclear Copper(II) Complexes Containing 1,4,7-Trisbenzyl-1,4,7-triazacyclononane (Bn₃tacn) Ligand: Syntheses, Characterization and Binding with DNA (English)

YANG Yong-Sheng, CHEN Bo-Yong, JU Hai-Yan, ZUO Fen, WANG Shi-Wei, LI Yu-Guang, YAN Shi-Ping

DOI:10.11862/CJIC.2017.262

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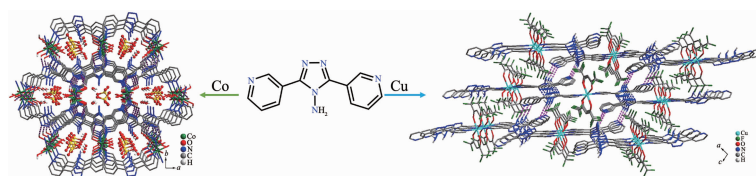
Upon addition of an increasing amount of CT-DNA to the complex **1**, a 20% hypochromism and a slight red shift (7~12 nm) in UV spectra were observed, which indicate strong binding of the complex to DNA. The emission intensity decreased with the increase of the concentration of the complex, which suggests that the complex can replace EB from CT-DNA and intercalate into the DNA double helix.

Syntheses and Crystal Structures of Co(II) and Cu(II) Complexes Based on 3,5-Bis(3-pyridyl)-4-amino-1,2,4-triazole Ligand (English)

YU Qin, WANG Da-Peng, MA Jian-Ping, YU Fei, CAO Zi-Heng, HU Tian-Hao, WANG Peng, WANG Hai-Ying

DOI:10.11862/CJIC.2017.261

Chinese J. Inorg. Chem., **2017**,**33**:2345-2350



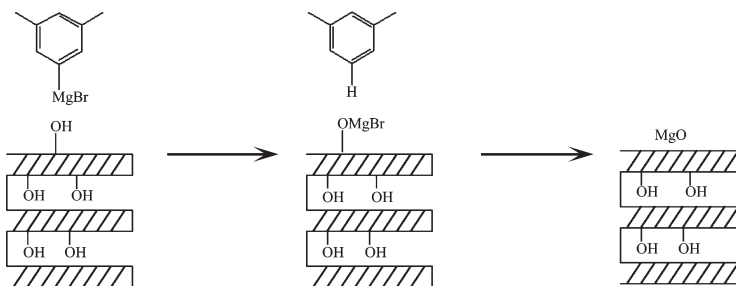
New Cu(II) and Co(II) complexes based on the bent triazole-containing ligand were synthesized and structurally characterized. The ligand L acts as a bidentate linker in **1** and a mono-dentate spacer in **2**. The L ligand adopts different kinds of *cis*-conformation in **1** and **2**. Both two complexes feature three dimensional structures through diverse hydrogen bonding interactions.

Ethylbenzene Disproportionation over ZSM-5 Modified by 3,5-Dimethyl Phenylmagnesium Bromide (English)

ZHANG Ying, LI Jun-Wei, WU Jing-Wen, XU Bo-Lian

DOI:10.11862/CJIC.2017.260

Chinese J. Inorg. Chem., **2017**,**33**:2351-2356



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