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DOI:10.11862/CJIC.2017.019

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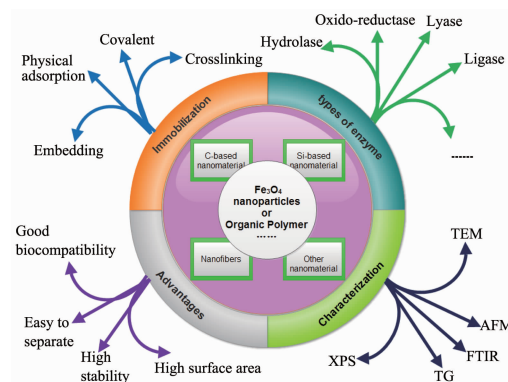
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Research Progress on Enzyme Immobilized on Nanocomposites

XIANG Xin-Ran, HUANG He, HU Yi

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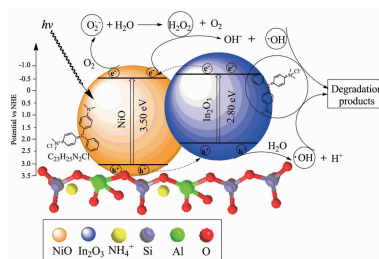
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An Eco-friendly Fly Ash-Based Geopolymer: Synthesis and Photocatalytic Properties

ZHANG Yao-Jun, ZHANG Ke, KANG Le, ZHANG Li

DOI:10.11862/CJIC.2017.011

Chinese J. Inorg. Chem., **2017**,33:16-25



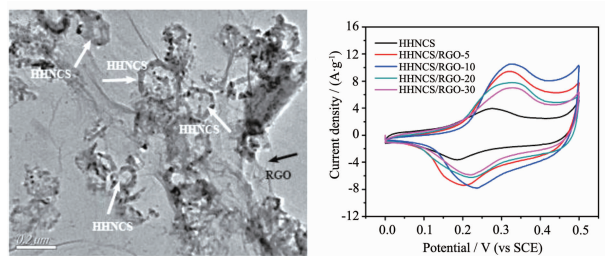
A co-loaded In_2O_3 and NiO fly ash-based geopolymer was firstly synthesized and employed as photocatalyst for treatment of dye waste. This semiconductor coupling system of p-n junction was able to improve the separation efficiencies of photogenerated electron-hole pairs and to enhance the photocatalytic degradation activities.

Synthesis of Hollow Hexagonal Nickel-Cobalt Sulfide/RGO Nanocomposite for Supercapacitor Application

CAI Xiao-Qing, JI Zhen-Yuan,
SHEN Xiao-Ping, WANG Ji-Heng,
SHEN Xiao-Han, CHENG Shi-Qing

DOI:10.11862/CJIC.2017.017

Chinese J. Inorg. Chem., **2017**,**33**:26-32



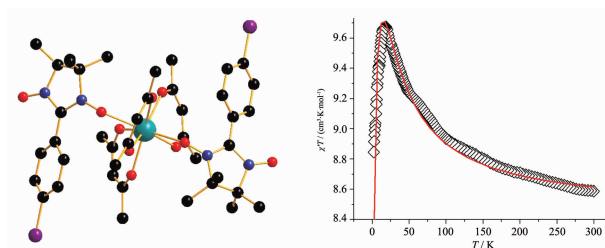
The nanocomposites of hollow hexagonal nickel-cobalt sulfide (HHNCS) anchored on reduced graphene oxide (RGO) are synthesized through a two-step hydrothermal route. The capacitive performance is improved due to the presence of RGO, which not only improves the conductivity of the materials but also works as support to disperse HHNCS effectively.

Three Lanthanide Nitronyl Nitroxide Radical Compounds: Syntheses, Structures and Magnetic Properties (English)

HU Peng, GAO Yuan-Yuan, XIAO Feng-Yi,
DENG Xiao-Juan, HUANG Guo-Hong,
ZHANG Miao, SU Feng, WANG Li-Na

DOI:10.11862/CJIC.2017.019

Chinese J. Inorg. Chem., **2017**,**33**:33-40



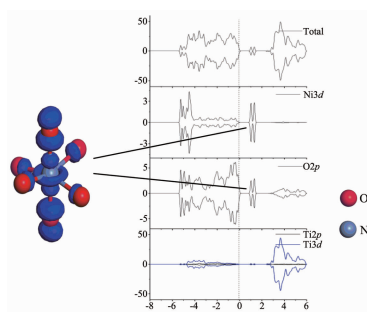
Three complexes based on nitronyl nitroxide radicals and lanthanide ions are isostructural. Ferromagnetic interactions and antiferromagnetic interactions coexist in Gd complex. Very weak ferromagnetic interaction between Ln (III) ions and the coordinated nitronyl nitroxide exist in Tb and Dy complexes.

Study on Ni-Doped Anatase by First Principle Method

YU Zhi-Qing, WANG Xun, TIAN Ang,
LIU Yan-Xia, YANG He, XUE Xiang-Xin

DOI:10.11862/CJIC.2017.015

Chinese J. Inorg. Chem., **2017**,**33**:41-48



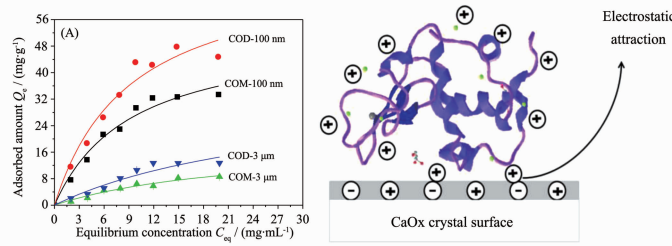
The systems of Ni-doped anatase were studied by the first principle method and crystal field theory. Reasonable explanation is given to the problems of the different valence states of doping Ni ions and the magnetic properties of the doping system.

Adsorption Properties of Cationic Protein on Nano/Micron Calcium Oxalate Crystals and a Comparison with Anionic Protein Adsorption

WEN Xiao-Ling, SUN Xin-Yuan,
OUYANG Jian-Ming

DOI:10.11862/CJIC.2017.013

Chinese J. Inorg. Chem., **2017**,**33**:49-56



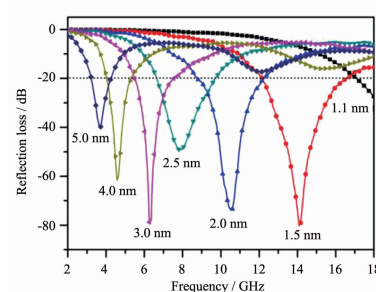
The adsorption quality of LSZ on nano/micro COM and COD crystals can be reduced by reducing the pH value or increasing the ionic strength of urine, thus the formation of CaOx urinary stones maybe inhibited.

Facile Preparation and Microwave Absorption Properties of Fe-Co-Ni Alloy Nanoparticle Embedded-Carbon Nanofibers

LIU Min, XIANG Jun, WU Zhi-Peng,
LI Jia-Le, SHEN Xiang-Qian

DOI:10.11862/CJIC.2017.003

Chinese J. Inorg. Chem., **2017**,**33**:57-65



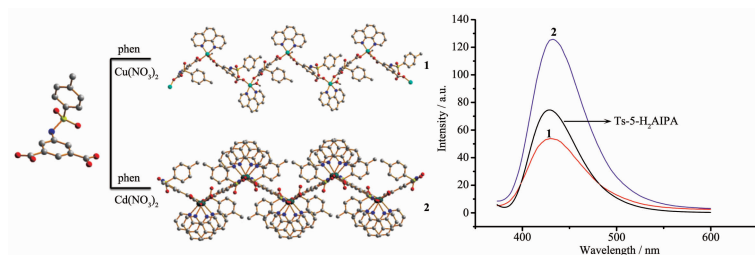
The silicone-based coatings containing only 5% (*w/w*) Fe-Co-Ni/C composite nanofibers exhibit excellent microwave absorption properties with the reflection loss below -20 dB in the frequency range of about 3 ~18 GHz and the minimum reflection loss reaches -80.2 dB at 14.1 GHz with a thickness of 1.5 mm, which are attributed to the synergistic effect between the magnetic loss and dielectric loss and the special microstructures in the nanofibers.

Syntheses, Crystal Structures and Fluorescent Properties of One-Dimensional Coordination Polymers with *N-p*-Tolylsulfonyl-5-aminoisophthalic Acid

HUANG Miao-Ling, WU Wen-Shi,
CHEN Wan-Zhen

DOI:10.11862/CJIC.2017.005

Chinese J. Inorg. Chem., **2017**,**33**:66-72



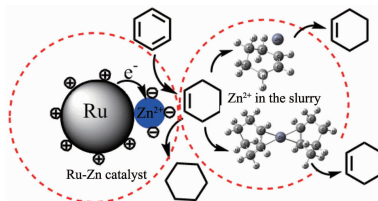
Two complexes have been synthesized by *N-p*-Tolylsulfonyl-5-Aminoisophthalic acid (Ts-5-H₂AIPA) and 1,10-phenanthroline in mixed solution, X-ray diffraction shows that they are one-dimensional chain structure. In addition, fluorescent properties of two complexes and the ligand were investigated.

Effect of Reaction Modifier ZnSO₄ and Pretreatment on Performance of Ru-Zn Catalyst for Selective Hydrogenation of Benzene to Cyclohexene

SUN Hai-Jie, QIN Hui-An, HUANG Zhen-Xu,
SU Man-Fei, LI Yong-Yu, LIU Zhong-Yi,
LIU Shou-Chang

DOI:10.11862/CJIC.2016.283

Chinese J. Inorg. Chem., **2017**,**33**:73-80



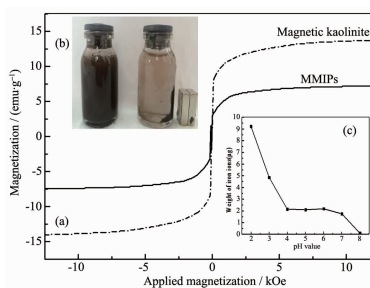
The roles of the reaction modifier ZnSO₄ and the pretreatment in the improvement of the selectivity to cyclohexene of the Ru-Zn catalyst were revealed. When the Ru-Zn catalyst was pretreated for 15 h in the optimum ZnSO₄ concentration of 0.61 mol·L⁻¹, this catalyst gave a cyclohexene yield of 54.7%.

Selective Adsorption and Separation of Ciprofloxacin by Molecularly Imprinted Polymers Based on Magnetic Kaolinite Composites

MAO Yan-Li, LUO Shi-Tian, WU Jun-Feng,
KANG Hai-Yan, LIU Biao, PAN Jian-Ming,
HUO Peng-Wei

DOI:10.11862/CJIC.2017.007

Chinese J. Inorg. Chem., **2017**,**33**:81-88



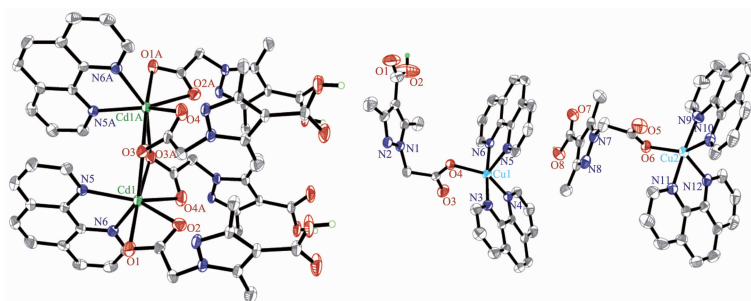
Magnetic molecularly imprinted particles (MMIPs) possessed enough magnetic response to meet the need of magnetic separation, and exhibited a much higher binding capacity and faster mass transfer to ciprofloxacin (CIP) than those of the magnetic non-molecularly imprinted particles (MNIPs). The prepared MMIPs were successfully applied to extract trace CIP in fish samples.

Syntheses, Structures, and Luminescent Properties of Cadmium and Copper Complexes Containing Pyrazole Carboxylic Acid of Uncoordinated Carboxyl Group

SHI Chang-Dong, CHEN Sheng,
CHENG Mei-Ling, RONG Hong-Ren,
LAI Li-Fang, LIU Wen-Long, LIU Qi

DOI:10.11862/CJIC.2016.278

Chinese J. Inorg. Chem., **2017**,**33**:89-96



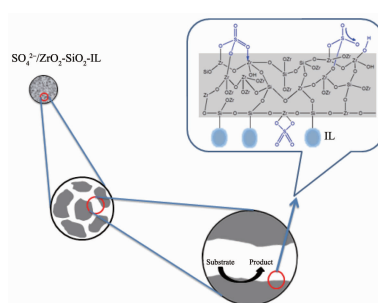
The complexes, $[\text{Cd}(\text{Hcmdpca})_2(\text{phen})(\text{H}_2\text{O})]$ (**1**) with dimeric structure and $[\text{Cu}_2(\text{Hcmdpca})_2(\text{phen})_4(\text{NO}_3)_2] \cdot 4\text{H}_2\text{O}$ (**2**) containing two discrete monomeric structures, all display blue luminescence.

Construction and Properties of $\text{SO}_4^{2-}/\text{ZrO}_2\text{-SiO}_2$ Immobilized Ionic Liquid Catalysts with Double-Acid Active Sites

NI Bang-Qing, LIU Hui, FAN Ming-Ming,
ZHANG Ping-Bo

DOI:10.11862/CJIC.2017.009

Chinese J. Inorg. Chem., **2017**,**33**:97-105



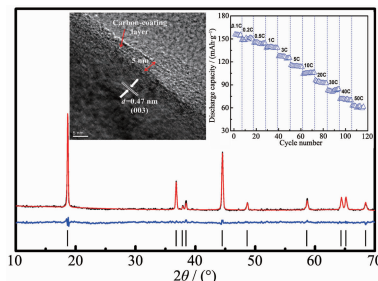
The immobilized catalyst $\text{SO}_4^{2-}/\text{ZrO}_2\text{-SiO}_2\text{-IL}$ with double-acid active sites behaved excellent catalytic activity in the transesterification for biodiesel production. The Brønsted acid sites provided by the ionic liquid and the Lewis acid sites provided by the supporter jointly promote the improvement of catalytic activity.

Preparation of Carbon-Coated $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$ Cathode for High-Rate Lithium Ion Batteries

ZHENG Zhuo, GUO Xiao-Dong,
WU Zhen-Guo, XIANG Wei, HUA Wei-Bo,
ZHONG Ben-He, YANG Xiu-Shan

DOI:10.11862/CJIC.2017.020

Chinese J. Inorg. Chem., **2017**,**33**:106-114



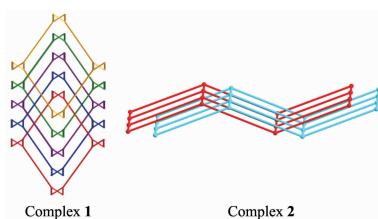
The 2.0% carbon-coated $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$ cathode material has a well-ordered $\alpha\text{-NaFeO}_2$ structure with high electronic conductivity, which endows the sample significantly enhanced electrochemical performance with ultra-high rate capability ($62 \text{ mAh} \cdot \text{g}^{-1}$ at 50C) and excellent cycling stability (93% of capacity retention at 1C after 100 cycles).

Two $\text{Zn}(\text{II})/\text{Cd}(\text{II})$ Complexes Constructed by the Same Biphenyl-dicarboxylate and N-Donor Ligands: Different Interpenetrating Structures and Photoluminescence Properties (English)

LU Jiu-Fu, XU Yu-Hang, JIN Ling-Xia,
GUO Xiao-Hua, ZHAO Cai-Bin, ZHENG Nan,
JIANG Min, GE Hong-Guang

DOI:10.11862/CJIC.2017.001

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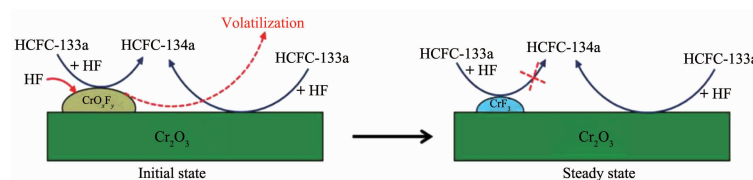
Two metal coordination polymers were synthesized under solvothermal conditions and characterized by elemental analysis, IR spectrum, thermal analysis and single-crystal X-ray diffraction. The fluorescent property of complexes **1** and **2** indicated that they may be regarded as a potential solid-state luminescent material.

Catalytic Behaviors of Cr_2O_3 and $\text{CrO}_3/\text{Cr}_2\text{O}_3$ Catalysts for Gas Phase Fluorination of 2-Chloro-1,1,1-trifluoroethane: Active Species and Catalyst Deactivation (English)

WANG Yun, LIANG Yan, HE Jun,
ZHANG Wen-Xia, LUO Jian-Wei, LU Ji-Qing,
LUO Meng-Fei

DOI:10.11862/CJIC.2016.281

Chinese J. Inorg. Chem., **2017**,**33**:123-133



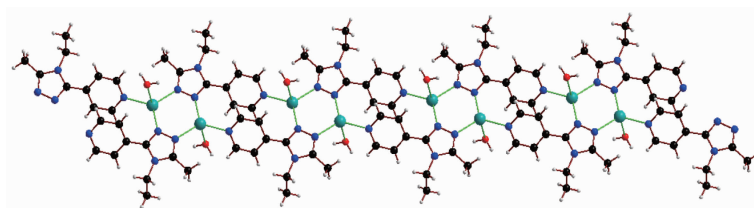
The $\text{CrO}_3/\text{Cr}_2\text{O}_3$ with high surface Cr(VI) content had higher initial activity than the Cr_2O_3 catalyst but it quickly deactivated. CrO_3F_y formed via CrO_3 could volatilize and transform to stable but inactive CrF_3 .

Syntheses, Crystal Structures and Spectral Properties of Two Silver(I) Complexes with 3-Methyl-4-ethyl-5-(2 (or 4)-pyridyl)-1,2,4-triazoles (English)

TANG Hui, GUO Yan-Hong,
SHENG Jun-Feng, TONG Yu-Zhu, SONG Fei,
WANG Zuo-Xiang, QU Zhi-Rong

DOI:10.11862/CJIC.2017.012

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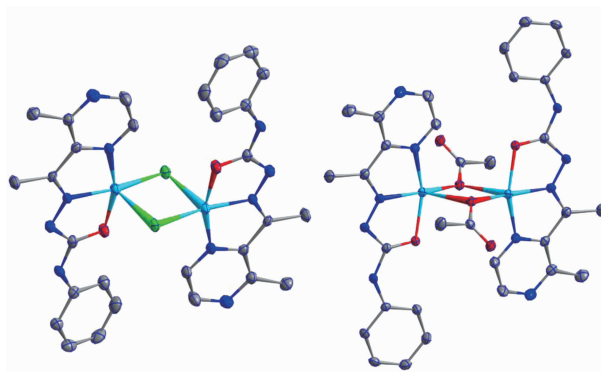
Two Ag(I) complexes of $[\text{Ag}_2(\mu\text{-L})_2\text{L}_2(\text{NO}_3)_2]$ (**1**) and $\{[\text{Ag}_2(\mu\text{-L}')_2(\text{H}_2\text{O})_2](\text{NO}_3)_2\}_n$ (**2**) have been reported. Complex **1** is a binuclear silver(I) complex, and complex **2** is a polymer complex. Complex **2** have a broad emission maximum at 465 nm with excitation at 400 nm in solid-state emission spectrum.

Two Binuclear Cu(II) Complexes with 1-(3-Methylpyrazin-2-yl)ethylidene-4-phenylsemicarbazide: Crystal Structures and DNA Interaction

LIN Long, LI Xian-Hong, ZHANG Bo,
ZHANG Zhan-Ying, WU Wei-Na,
WANG Yuan

DOI:10.11862/CJIC.2016.282

Chinese J. Inorg. Chem., **2017**,**33**:143-148



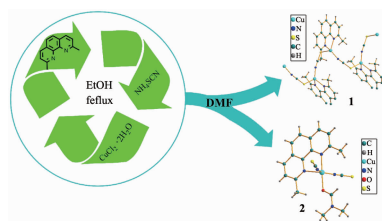
Two complexes $[\text{Cu}_2(\text{L})_2\text{Cl}_2]$ and $[\text{Cu}_2(\text{L})_2(\text{OAc})_2]$ ($\text{HL} = 1\text{-(3-methylpyrazin-2-yl)ethylidene-4-phenylsemicarbazide}$) with a semicarbazone ligand bearing pyrazine unit have been synthesized and characterized. Both complexes can bind to DNA and have potential pharmaceutical activity.

Syntheses, Crystal Structures and Properties of Copper(I) and Copper(II) Complexes with 2,9-Dimethyl-1,10-phenanthroline (English)

SUN Zhi-Kang, LEI Han-Min, WEN Wu-Qiang, DU Zhi-Ping

DOI:10.11862/CJIC.2017.008

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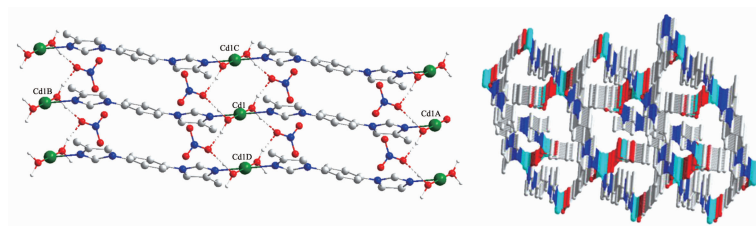
$[\text{Cu(I)}(\text{dmphen})(\text{SCN})]_n$ (**1**) features a one-dimensional zigzag chain structure, while $[\text{Cu(II)}(\text{dmphen})(\text{DMF})(\text{NCS})_2]$ (**2**) exhibits a three-dimensional supramolecular structure. The complex **1** is more stable than **2**, and shows a fluorescence emission band at 603 nm.

Syntheses, Crystal Structures and Fluorescence Properties of Two Complexes Constructed from Rigid 1,4-bis(4-methyl-imidazolyl)Benzene (English)

TAN Xiong-Wen, LI Heng-Feng, LI Chang-Hong

DOI:10.11862/CJIC.2017.002

Chinese J. Inorg. Chem., **2017**,**33**:156-162



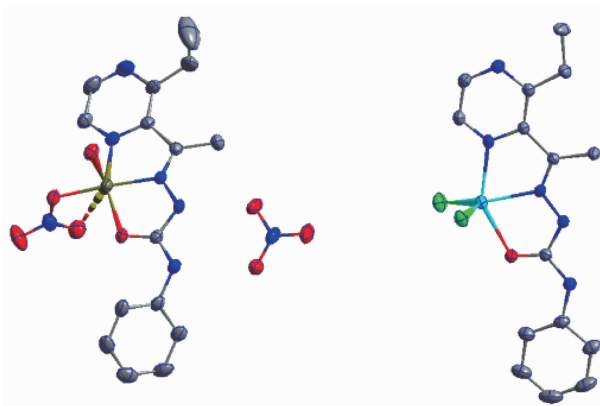
One Cd(II) complex with 1D chain structure and one Zn(II) complex with 3D network have been obtained by the cooperative assembly of Cd(II)/Zn(II) nitrate with isophthalic acid as well as 1,4-bis(4-methyl-imidazolyl)benzene in different synthesis method. And they show good fluorescence in the solid state at room temperature.

Crystal Structures and Fluorescence Property of Cu(II)/Zn(II) Complexes of 1-(3-Ethylpyrazin-2-yl)ethylidene-4-phenylsemicarbazide

MAO Xian-Jie, ZHOU Li-Hua, FU Si-Lian, YIN Hang, ZHAO Xiao-Lei, WU Wei-Na, WANG Yuan

DOI:10.11862/CJIC.2017.023

Chinese J. Inorg. Chem., **2017**,**33**:163-168



Two complexes $[\text{Cu(HL)}(\text{H}_2\text{O})(\text{NO}_3)]\text{NO}_3$ (**1**) and $[\text{Zn(HL)Cl}_2]$ (**2**) have been synthesized and characterized. The emission band of complex **1** has red-shift comparing with that of the ligand HL due to the charge transfer between the ligand and metal ion.

Reactivity of 2-Phenylimino-Functionalized Indolyl Europium Amide with Diaryl-Substituted Formamidines (English)

FENG Zhi-Jun, CUI Qiao-Yu, WEI Yun, ZHOU Shuang-Liu, WU Yun-Jun, WANG Shao-Yin

DOI:10.11862/CJIC.2017.006

Chinese J. Inorg. Chem., **2017**,**33**:169-174

