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Preparation and Electrochemical Properties of $\text{LaBiMn}_2\text{O}_6\text{-Sm}_{0.2}\text{Ce}_{0.8}\text{O}_{1.9}$ Composite Cathode for IT-SOFCs

YU Ya-Ze, SUN Li-Ping, ZHAO Hui, HUO Li-Hua

DOI:10.11862/CJIC.2019.081

Chinese J. Inorg. Chem., **2019**,**35**(4):589-597

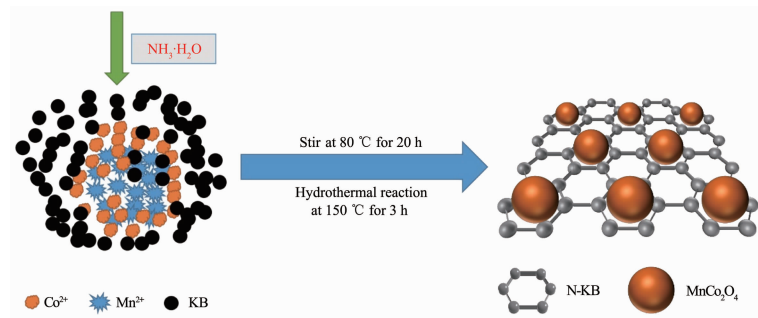
Articles

Preparation and Catalytic Performance for Oxygen Reduction of Nitrogen Doped $\text{MnCo}_2\text{O}_4/\text{N-KB}$

FENG Yan, WU Jian-Bo, ZHANG Xiao-Ling,
PENG Chao-Qun, WANG Ri-Chu

DOI:10.11862/CJIC.2019.071

Chinese J. Inorg. Chem., **2019**,**35**(4):569-579



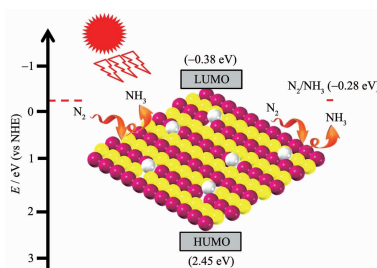
$\text{MnCo}_2\text{O}_4/\text{N-KB}$ catalysts were prepared using Ketjenblack (KB) as the carbon source by simple hydrolysis-hydrothermal method, and showed a higher ultimate current density and durability than commercial Pt/C in an alkaline solution.

Preparation and Photocatalytic Nitrogen Fixation Performance of Cd Doping $\delta\text{-Bi}_2\text{O}_3$ Nanosheets

GAO Xiao-Ming, SHANG Yan-Yan, LIU Li-Bo,
GAO Kai-Long

DOI:10.11862/CJIC.2019.092

Chinese J. Inorg. Chem., **2019**,**35**(4):580-588



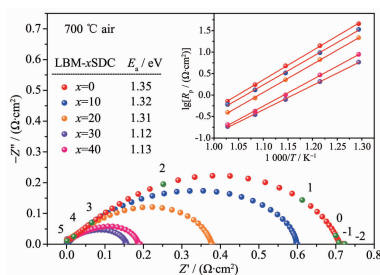
Cd doping $\delta\text{-Bi}_2\text{O}_3$ nanosheets possessed excellent photocatalytic nitrogen fixation without any sacrificial agent. Doping Cd defect serves as the trap of photo-generated electrons, which delays the surface transfer of photogenerated electrons and enhances the chemisorption of target molecules.

Preparation and Electrochemical Properties of LaBiMn₂O₆-Sm_{0.2}Ce_{0.8}O_{1.9} Composite Cathode for IT-SOFCs

YU Ya-Ze, SUN Li-Ping, ZHAO Hui, HUO Li-Hua

DOI:10.11862/CJIC.2019.081

Chinese J. Inorg. Chem., 2019,35(4):589-597



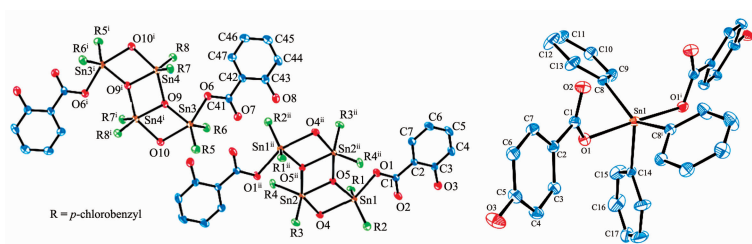
Addition Sm_{0.2}Ce_{0.8}O_{1.9} (SDC) into LaBiMn₂O₆ (LBM) cathode significantly reduced the polarization resistance of the electrode. The smallest polarization resistance of 0.186 $\Omega \cdot \text{cm}^2$ was obtained on LBM-30%SDC cathode at 700 °C in air, which was 74% less than the pristine LBM cathode (0.717 $\Omega \cdot \text{cm}^2$).

Syntheses, Crystal Structures and *in Vitro* Antitumor Activity of Two Organotin Hydroxybenzoate

ZHANG Fu-Xing, HE Tang-Feng, YAO Shu-Fen, ZHU Xiao-Ming, SHENG Liang-Bing, KUANG Dai-Zhi, FENG Yong-Lan, YU Jiang-Xi, JIANG Wu-Jiu

DOI:10.11862/CJIC.2019.083

Chinese J. Inorg. Chem., 2019,35(4):598-604



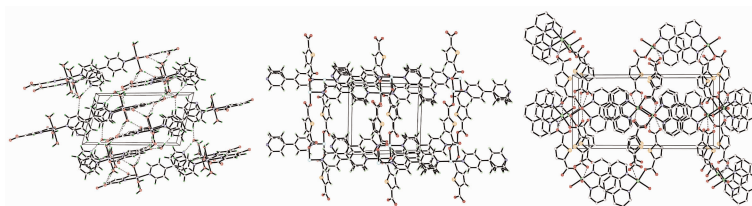
Two organotin hydroxybenzoate have been synthesized. Crystal structure, quantum chemistry, thermal stability and *in vitro* antitumor activity of the complexes were investigated.

Syntheses, Crystal Structures and Properties of Transition Metal Complexes Based on Pyridine-2,5-dicarboxylic Acid or Thiophene-2,5-dicarboxylic Acid Ligand

HAN Jia-Xing, LIU Zheng, LIANG Chu-Xin, TANG Qun, LI Qing-Wei, ZHANG Shu-Fen

DOI:10.11862/CJIC.2019.069

Chinese J. Inorg. Chem., 2019,35(4):605-612

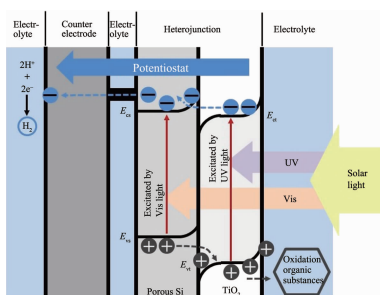


Preparation and Photoelectrochemical Catalytic Properties of Porous Silicon/TiO₂ Nanowires Photoanodes

ZHAO Yi-Ming, YANG Ji-Kai, MA Fu-Zhe, CHEN Zhang-Xiao-Xiong, WEI Zi-Juan, ZHANG Yu-Fei, CHENG Ming, YANG Xue, XIAO Nan, WANG Guo-Zheng, WANG Xin, HUANG Ke-Ke

DOI:10.11862/CJIC.2019.088

Chinese J. Inorg. Chem., 2019,35(4):613-620



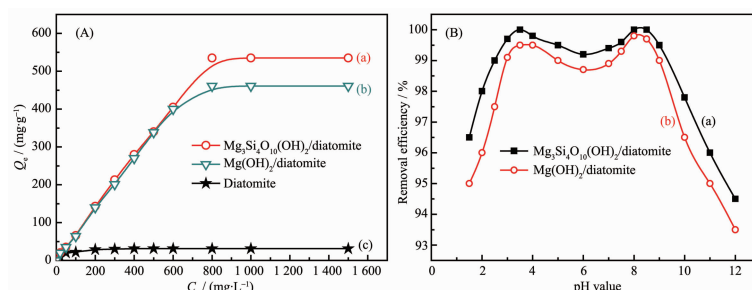
Porous Si/TiO₂ nanowires were prepared by MACE and hydrothermal method. Porous Si/TiO₂ nanowires with etching for 35 min showed higher anti-reflectivity, photocurrent and photoelectric catalysis activity than other samples.

In-Situ Growing Nanostructured Magnesium Silicate on Diatomite: Adsorption Properties of Cr(VI)

JIN Cui-Xin, DU Yu-Cheng, WU Jun-Shu, NIU Yan, WANG Xue-Kai, LI Yang

DOI:10.11862/CJIC.2019.076

Chinese J. Inorg. Chem., **2019**,**35**(4):621-628



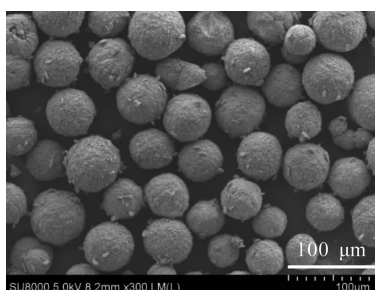
Mg₃Si₄O₁₀(OH)₂/diatomite is an excellent adsorbent for Cr(VI) removal, showing the Cr(VI) adsorption capacity of 570 mg·g⁻¹.

Synthesis, Characterization and Adsorption Property for the Methylene Blue of the Sphere-like TiSAPO-34 Molecular Sieve

LUO Wu-Kui, CHEN Feng, YAN Gui-Yang, BAI Yun-Shan

DOI:10.11862/CJIC.2019.080

Chinese J. Inorg. Chem., **2019**,**35**(4):629-634



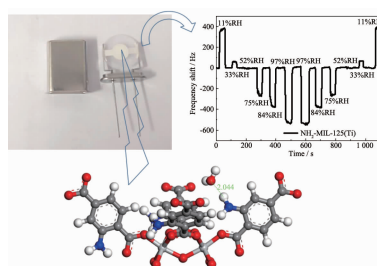
The TiSAPO-34 molecular sieves have been successfully synthesized via a facile hydrothermal method. The samples synthesized at 190 °C for 24 h exhibited the optimal adsorption performance for the adsorption of MB, giving an adsorption rate of 80% after 1 hour.

Amino-Functionalization and Enhanced Humidity Sensing Properties of MIL-125 Based on Quartz Crystal Microbalance Sensor

WU Yue-Tao, FAN Yu, LIU Yan-Li, XU Jia-Qiang

DOI:10.11862/CJIC.2019.079

Chinese J. Inorg. Chem., **2019**,**35**(4):635-642



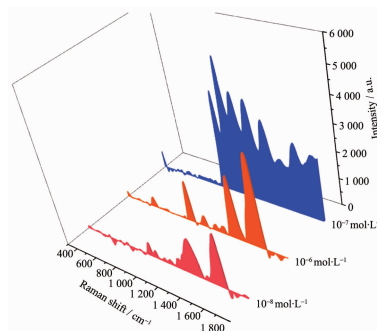
The quartz crystal microbalance sensor based on NH₂-MIL-125 (Ti) exhibited high sensitivity, good repeatability, fast response/recovery to humidity, and the humidity sensitive mechanism was revealed by Materials Studio.

Preparation and Properties of HA/Ag Nanocomposites

WENG Yi-Jin, ZHANG Xia, ZHOU Tao, JIANG Hao, ZHANG Lei, LIU Xiao

DOI:10.11862/CJIC.2019.072

Chinese J. Inorg. Chem., **2019**,**35**(4):643-648



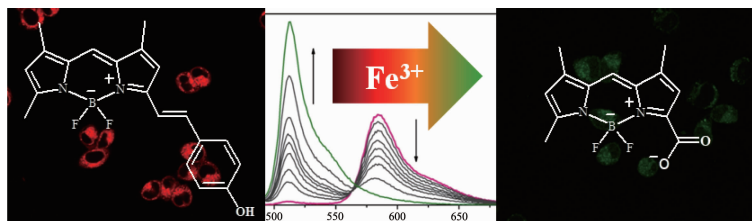
A porous flower-like hydroxyapatite/silver (HA/Ag) nanocomposite can be used not only as the SERS active substrate acts but also as a catalyst for the reduction of p-nitrophenol (4-NP) to p-aminophenol (4-AP).

A Visible BODIPY Probe for 'Naked-Eye' Detection of pH Value and Intracellular Fe^{3+}

QU Xing-Yu, BIAN Yong-Jun, BAI Yang,
SHEN Zhen

DOI:10.11862/CJIC.2019.089

Chinese J. Inorg. Chem., **2019**,**35**(4):649-657



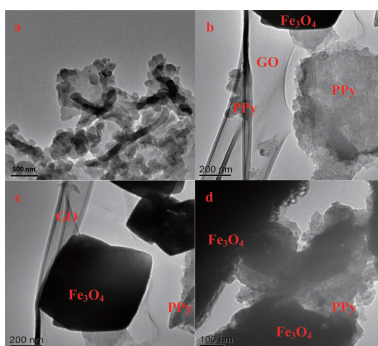
A fluorescence probe **2** containing 4-hydroxystyryl at the 3-position on the BODIPY fluorophore was successfully synthesized with high yield. The vinyl of **2** was selectively clipped by Fe^{3+} and resulted in colorimetric changes in solution and in living cells.

Preparation and Adsorption of 2-Nitro-1,3-benzenediol of $\text{Fe}_3\text{O}_4/\text{GO}/\text{PPy}$ Composite

LEI Li-Ling, YANG Qing-Xiang,
ZHAO Jun-Hong, ZHANG Yan, JIA Chao-Yang,
LU Ran NIE Li-Min, CHEN Zhi-Jun

DOI:10.11862/CJIC.2019.078

Chinese J. Inorg. Chem., **2019**,**35**(4):658-666



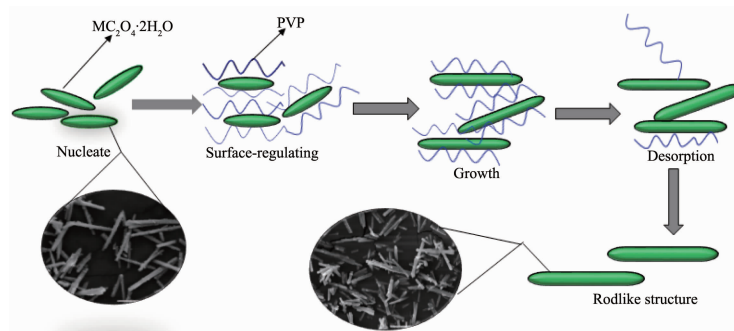
The layered dispersion structure $\text{Fe}_3\text{O}_4/\text{GO}/\text{PPy}$ ternary composites were prepared by hydrothermal method using GO. The adsorption amount of 2-nitro-1,3-benzenediol for $\text{Fe}_3\text{O}_4/\text{GO}/\text{PPy}$ reached $163.3 \text{ mg} \cdot \text{g}^{-1}$, and possessed good stability and repeated use ability.

Effects of the Addition of Polyvinylpyrrolidone on Electrochemical Storage Properties of $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$ Material during Preparation Process

PENG Jun-Qi, GAO Yi-Ke, LI Huan, HU Ai-Lin,
LU Xiao-Ying, JIANG Qi

DOI:10.11862/CJIC.2019.082

Chinese J. Inorg. Chem., **2019**,**35**(4):667-673



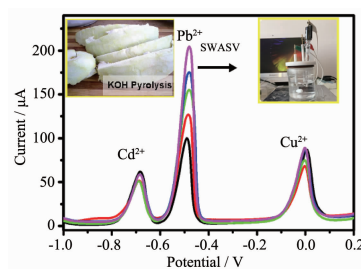
Polyvinylpyrrolidone was used to modify the morphology of $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$ and thus enhanced its electrochemical performance.

Honeycomb-like Carbon Materials Derived from Pomelo Peels for the Simultaneous Detection of Heavy Metal Ions (English)

ZHANG Ting, MA Shi-Jie, PAN Yi,
GUAN Ji-Biao, ZHANG Ming, ZHU Han,
DU Ming-Liang

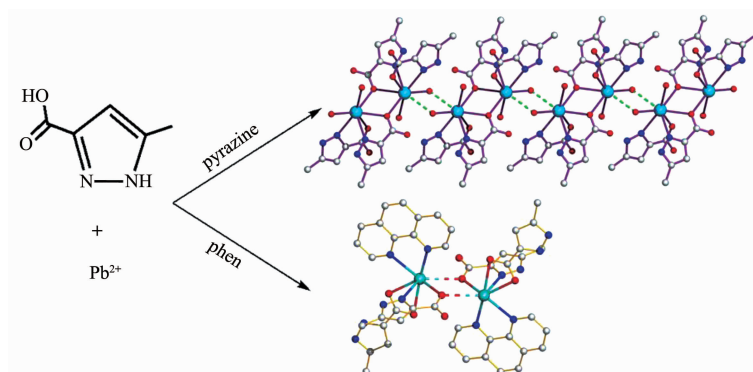
DOI:10.11862/CJIC.2019.077

Chinese J. Inorg. Chem., **2019**,**35**(4):674-686



Pb(II) Coordination Complexes Based on 5-Methyl-1*H*-pyrazole-3-carboxylic Acid: Syntheses, Structures and Luminescent Properties (English)

CHENG Mei-Ling, YANG Bing-Xin,
TANG Li-Zhi-Peng, QIN Meng-Na, LIU Qi,
TANG Xiao-Yan



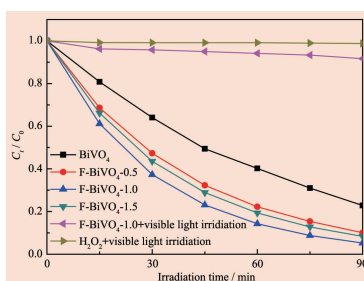
Two Pb(II)-HMPCA⁻ complexes, [Pb(HMPCA)₂(H₂O)₂]·H₂O and [Pb(HMPCA)₂(phen)]·H₂O, were synthesized and the luminescent properties were investigated. In the complexes, the Pb···O secondary bonds extended the di-/mono-nuclear complexes to 1D chain or dinuclear structure.

DOI:10.11862/CJIC.2019.084

Chinese J. Inorg. Chem., **2019**,**35**(4):687-694

Efficient F-Doped BiVO₄ Photocatalyst Synthesized by One-Step Alcohol-Hydrothermal Method (English)

JIANG Hai-Yan, ZHANG Fan, YU Shu-Guang,
LI Yu-Zhen



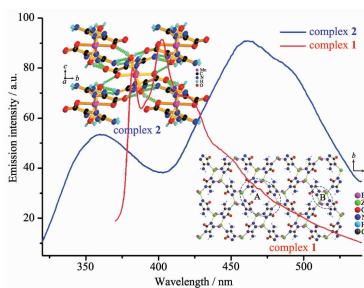
F-doped BiVO₄ photocatalysts fabricated by using a simple one-step alcohol-hydrothermal method exhibited excellent visible-light-driven photocatalytic performance for the degradation of phenol.

DOI:10.11862/CJIC.2019.074

Chinese J. Inorg. Chem., **2019**,**35**(4):695-702

Syntheses, Crystal Structures and Properties of Zn(II), Mn(II) Complexes Based on 5-Amino-1*H*-1,2,4-triazole-3-carboxylic Acid (English)

YANG Kang, TAN Yu-Hui, WANG Bin,
ZHOU Hai-Tao, LI Chao, YANG Chang-Shang,
LIU Yi, GAO Ji-Xing, TANG Yun-Zhi



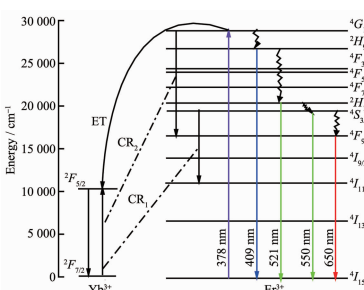
Complex **1** has a 2D mesh structure, while **2** is a mononuclear complex with rich hydrogen bonding effect in its crystal structure. To our surprise, **1** and **2** both have strong photoluminescence properties, and are potential blue fluorescent materials.

DOI:10.11862/CJIC.2019.075

Chinese J. Inorg. Chem., **2019**,**35**(4):703-710

Preparation of PbF₂:Er³⁺,Yb³⁺ Phosphors and Multi-Wavelength Sensitive Bidirectional Conversion Luminescence Mechanism (English)

MA Xiao-Yi, LI Biao, WANG Yi-Fan, HU Pan,
YAN Tong-Ting, BAI Zhao-Hui



The phosphor could convert both infrared light and UV light into visible light which could be exploited by solar cells and anti-counterfeiting technologies. The energy transfer process between Er³⁺-Yb³⁺ ions were analyzed. The down-conversion and up-conversion multi-wavelength sensitive luminescence mechanisms of the samples were discussed.

DOI:10.11862/CJIC.2019.070

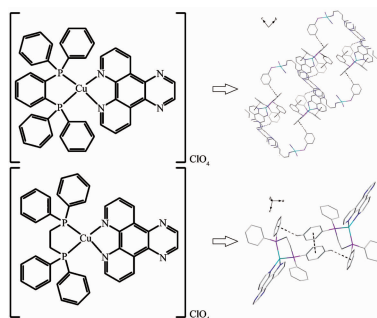
Chinese J. Inorg. Chem., **2019**,**35**(4):711-719

Syntheses, Structural Characterizations and Spectroscopic Properties of Two Copper(I) Complexes Based on Diphosphine Ligands and [2,3-*f*]pyrazino [1,10]phenanthroline (English)

LU Yan-Lei, ZHU Ning, ZHAO Yu-Meng, LIN Sen, KUANG Xiao-Nan, LI Zhong-Feng, XIN Xiu-Lan, YANG Yu-Ping, JIN Qiong-Hua, ZHANG Jiang-Wei

DOI:10.11862/CJIC.2019.059

Chinese J. Inorg. Chem., **2019**,**35**(4):720-728



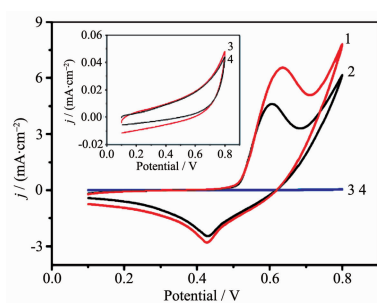
An asymmetric unit of complex **1** is composed of two [Cu(dppBz)(dpq)]ClO₄ and [Cu(dppBz)(dpq)]⁺ units forms a 1D hollow tube-like structure through two hydrogen bonds, as well as three C–H··· π interactions. In complex **2**, two neighboring molecules are connected together by π ··· π stacking and C–H··· π molecular interactions.

Electrochemical Sensor Based on Ni₁₂P₅ Nanoparticles for Sensitive Determination of Glucose (English)

XU Wen, ZHOU Xun, XU Jin-Ming, XU Han, TAO Fei-Fei

DOI:10.11862/CJIC.2019.073

Chinese J. Inorg. Chem., **2019**,**35**(4):729-736



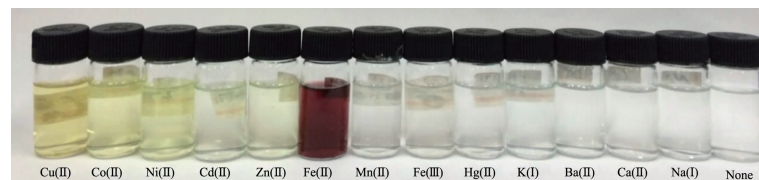
A non-enzymatic glucose biosensor was designed for the first time based on the employment of monodisperse Ni₁₂P₅ nanoparticles. The developed sensor presented excellent performance.

High Sensitivity and Selectivity of Aminoantipyrene Schiff Base for the Recognition of Fe²⁺ (English)

CHEN Sheng-Tian, ZHANG Yu, ZHAO Jian-Ying, MA Kui-Rong, LI Rong-Qing, TANG Guo-Dong

DOI:10.11862/CJIC.2019.091

Chinese J. Inorg. Chem., **2019**,**35**(4):737-744



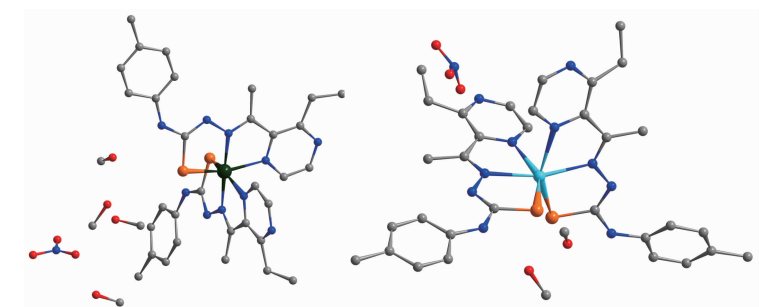
A new probe **L** based on aminoantipyrene has been synthesized, which was used as colorimetric and UV-Vis indicator for selective detection of Fe²⁺ ion over other common interfering metal ions.

Ga(III) and In(III) Complexes with 3-Ethyl-2-acetylpyrazine *N*(4)-(*p*-Tolyl)thiosemicarbazone: Synthesis, Crystal Structure and DNA-Binding Activity (English)

XUE Wen-Zhao, ZHAO Xiao-Lei, YAN Xue-Xue, ZHANG Xue-Jie, WU Wei-Na, WANG Yuan, CHEN Zhong

DOI:10.11862/CJIC.2019.085

Chinese J. Inorg. Chem., **2019**,**35**(4):745-751



Two complexes [Ga(L)₂]NO₃·4CH₃OH and [In(L)₂]NO₃·1.75CH₃OH with a semi-carbazone ligand bearing pyrazine unit have been synthesized and characterized. Both complexes can bind to DNA and have potential pharmaceutical activity.