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2019 年　　第 35 卷　　第 9 期

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CHINESE JOURNAL OF INORGANIC CHEMISTRY

Vol.35 No.9 Sep. 2019

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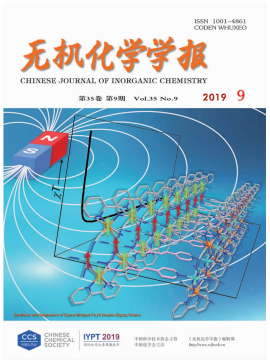
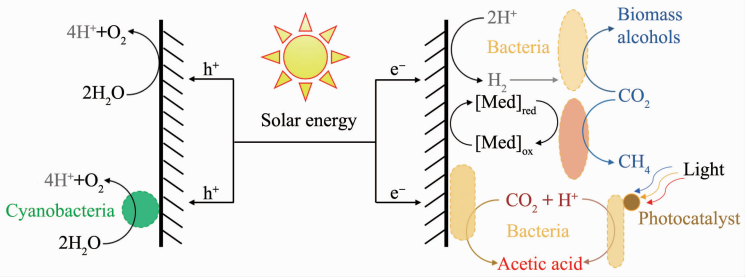
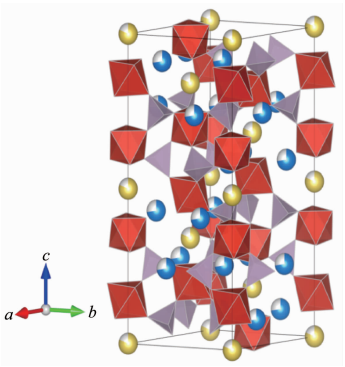


Reviews

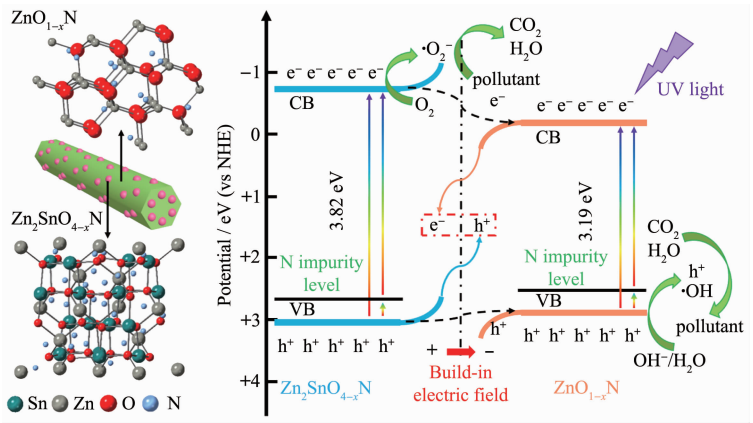




Articles

Synthesis and Mechanism of Direct Z-Scheme $Zn_2SnO_{4-x}N_x/ZnO_{1-y}N_y$ Heterojunction Photocatalyst

WANG Min, TAN Guo-Qiang, ZHANG Dan, LI Bin, WANG Ying, DANG Ming-Yue, REN Hui-Jun, XIA Ao, LIU Yun

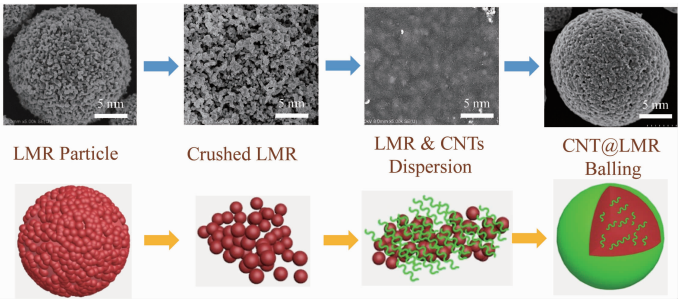


DOI:10.11862/CJIC.2019.161
Chinese J. Inorg. Chem., **2019**,**35**(9):1551-1560

Z-scheme $Zn_2SnO_{4-x}N/ZnO_{1-x}N$ with dual impurity levels and build-in electric field exhibited wider light absorption and faster separation efficiency of photoinduced charge carriers, resulting in the enhanced photocatalytic activity.

A Strategy for Carbon Nanotubes Modified Lithium-Manganese-Rich Cathode Material

LI Zhao, WANG Zhong, LI Qiang, BAN Li-Qing, ZHUANG Wei-Dong, LU Shi-Gang

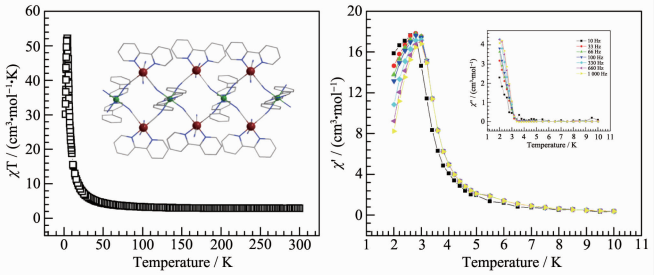


DOI:10.11862/CJIC.2019.192
Chinese J. Inorg. Chem., **2019**,**35**(9):1561-1569

Carbon nanotubes modified lithium-manganese-rich composite cathode materials (CNT@LMR) were synthesized by compressed air crush, high pressure micro-fluidization dispersion and spray dehydration, and showed higher rate capability and cycle stability.

Synthesis and Magnetism of Cyano-Bridged Fe_2Ni Double-Zigzag Chains (English)

HE Yan-Li, MENG Yin-Shan, SUN Hui-Ying, JIANG Wen-Jing, JIAO Cheng-Qi, LIU Tao

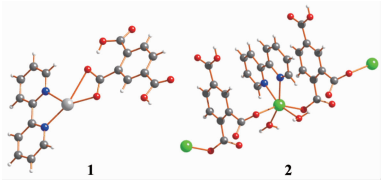


DOI:10.11862/CJIC.2019.176
Chinese J. Inorg. Chem., **2019**,**35**(9):1570-1578

Three cyano-bridged Fe_2Ni chains were synthesized via using cyanometallate building blocks and auxiliary ligands with different steric hindrance. Compound **1** displayed single-chain magnet behavior with the relaxation energy barrier E_a/k_B of 10.9 K. Compounds **2** and **3** showed ferromagnetic behavior.

Syntheses, Crystal Structures, Thermal Stabilities and Fluorescence Properties of Silver(Ⅰ) and Cadmium(Ⅱ) Complexes Based on 1,2,4-Benzenetricarboxylic Acid and 2,2′-Bipyridine

YANG Hong-Li, CHEN Fang, ZHANG Dan, HE Xiong, ZHANG Xiu-Qing

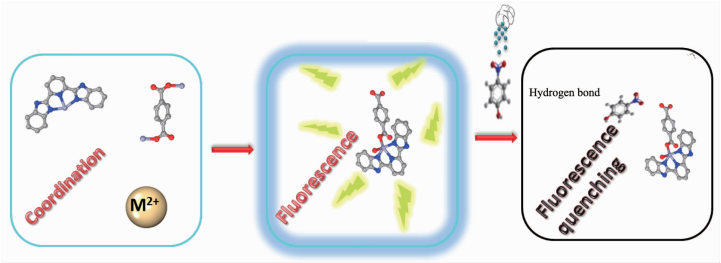


Two transition metal complexes, $[Ag(H_2btc)(bpy)]$ (**1**) and $[Cd(Hbtc)(bpy)(H_2O)_2]_n$ (**2**), were synthesized under pH-controlled hydrothermal conditions, and both complexes have fluorescent properties.

DOI:10.11862/CJIC.2019.193
Chinese J. Inorg. Chem., **2019**,**35**(9):1579-1585

Two Metal-Organic Coordination Polymer for Fluorescence Detection of 4-Nitrophenol

HU Zhuo, LUO Ran, WANG Shu-Hua, ZHANG Ning, CHEN Chao

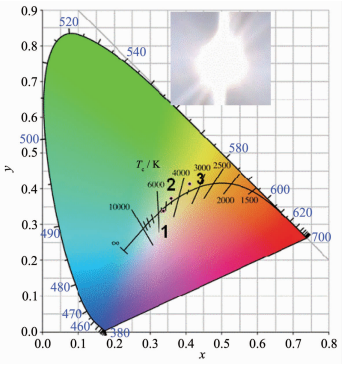


Two kinds of luminescent metal-organic coordination polymers were synthesized by hydrothermal method using 2,6-bis (benzimidazolyl)pyridine and terephthalic acid as the ligands. Fluorescence detection shows that they have obvious fluorescence quenching effect on 4-nitrophenol.

DOI:10.11862/CJIC.2019.191
Chinese J. Inorg. Chem., **2019**,**35**(9):1586-1592

Soft-Chemical Preparation and Performance of Red Phosphor Cs_2SiF_6:Mn^{4+} for White LEDs

LIU Man-Man, GENG Ai-Fang, YAN Jing-Hui, LIAN Hong-Zhou

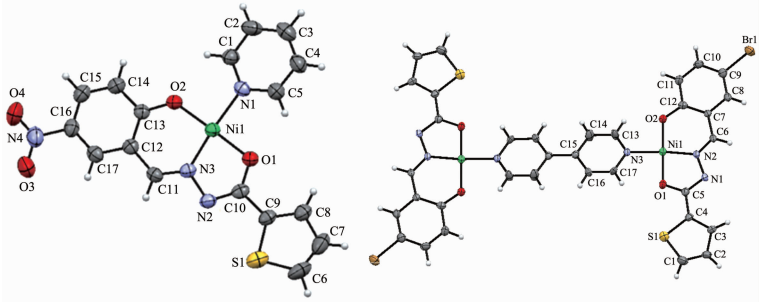


A new method combining ion exchange and co-precipitation was used to prepare Cs_2SiF_6:Mn^{4+} red optical material. The optical properties of the materials were studied by various characterization methods, and warm white light in the devices are realized.

DOI:10.11862/CJIC.2019.179
Chinese J. Inorg. Chem., **2019**,**35**(9):1593-1601

Two Nickel(Ⅱ) Complexes with Hydrazone Ligands: Hydrothermal Syntheses, Structures, Antitumor Activities and Quantum Chemical Calculation

CHEN Yan-Min, XIE Qing-Fan

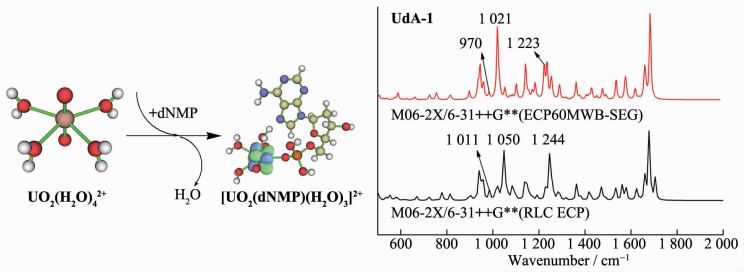


Two nickel(Ⅱ) complexes with diffrent hydrazine ligand and pyridine or 4, 4′-bipyridine as co-ligand have been hydrothermally synthesized. Both complexes have strong *in vitro* antitumor activity against human acute promyelocytic leukemia cells HL-60.

DOI:10.11862/CJIC.2019.180
Chinese J. Inorg. Chem., **2019**,**35**(9):1602-1608

Theoretical Calculations of Interaction between Four Deoxyribonucleotides and Hydrated Uranyl Ion in Aqueous Solution

MOU Yong-Xiao, CAO Jian-Ping,
CHEN Yuan-Yuan, WEI Tao, WANG Chao-Jie

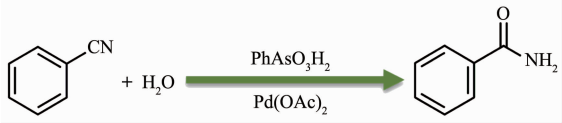


The geometric structures, binding energies and electronic structures of $[UO_2(dNMP)(H_2O)_3]^{2+}$ in aqueous phase have been studied using density functional theory (DFT) method M06-2X with RLC ECP and ECP60MWB-SEG basis sets.

DOI:10.11862/CJIC.2019.197
Chinese J. Inorg. Chem., **2019**,**35**(9):1609-1618

Preparation of Benzamide by Hydration of Benzonitrile with Palladium Acetate and Phenylarsonic Acid as Synergistic Catalyst

WANG Tao, LIN Zheng-Guo, HU Chang-Wen

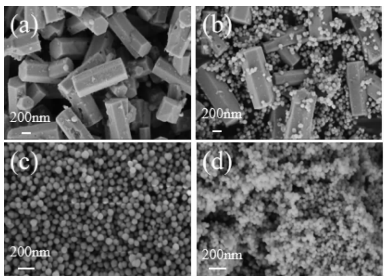


A new strategy for benzonitrile hydration by using palladium acetate and phenylarsonic acid (molar ratio n_{Pd}:n_{As}=3:2) as highly efficient and recyclable catalyst was presented.

DOI:10.11862/CJIC.2019.181
Chinese J. Inorg. Chem., **2019**,**35**(9):1619-1622

Effect of Microwave-Assisted Hydrothermal Reaction Parameters on Phase, Morphology and Luminescence Properties of $NaYF_4$:Dy^{3+} Phosphors

GAO Duan, CHENG Li-Hong, CHEN Bao-Jiu,
LIU Sheng-Yi, LI Xiang-Ping, SUN Jia-Shi,
XU Sai, ZHANG Jin-Su

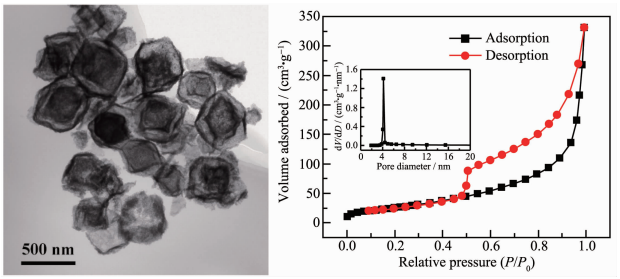


As the amounts of EDTA-2Na increased, the morphology of $NaYF_4$:Dy^{3+} changed, and the overall trend transformed from rod to sphere. Combined with the XRD pattern, it can be found that the crystal phase of the sample changes from hexagonal phase to cubic phase. The luminescence intensity of the sample was gradually weakened with more EDTA-2Na, indicating that the hexagonal phase $NaYF_4$ luminescence intensity is higher than the cubic phase $NaYF_4$ luminescence intensity, and the hexagonal phase $NaYF_4$ material with high luminescence efficiency may have potential applications in photonic devices.

DOI:10.11862/CJIC.2019.203
Chinese J. Inorg. Chem., **2019**,**35**(9):1623-1634

Preparation and Electrochemical Properties of ZIF-Skeleton Double-Shell Nanocage $CoS/NiCo_2S_4$

XIE Fang, REN Yu, ZHOU Yu-Qing,
SUN Yue-Ming, WANG Yu-Qiao

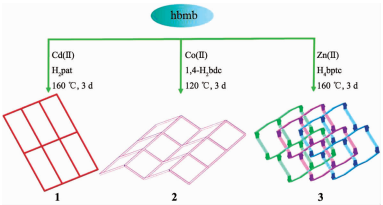


The supercapacitor based on $CoS/NiCo_2S_4$ exhibited high specific capacitance and stability, due to its high specific surface area (98 $m^2 \cdot g^{-1}$), abundant interconnected channel (4 nm pole diameter), and stable cavity skeleton.

DOI:10.11862/CJIC.2019.196
Chinese J. Inorg. Chem., **2019**,**35**(9):1635-1641

Syntheses, Characterization and Crystal S tructures of Cd(Ⅱ)/Co(Ⅱ)/Zn(Ⅱ) Complexes Based on Flexible Bis(methylbenzimidazole) and Carboxylate Ligands (English)

ZHANG Zhao-Pei, Vlasenko Volodymyr Anatoliyovych, Liu Run-Qiang, YANG Li, LIU Lu, ZHANG Yu-Ping

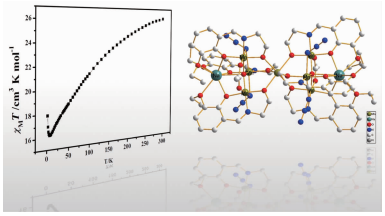


Complex **1** is a flat 4-connected 2D topology net with point symbol of $(4^4\cdot6^2)$, complex **2** features a undulated 2D network with point symbol of $(4^2\cdot6)(4^2\cdot6^3\cdot8)$, while complex **3** (3,4,4)-connected 3-fold interpenetrating network with a vertex symbol of $(4^2\cdot6^2\cdot8^2)(4\cdot6^2)(4\cdot6^4\cdot8)$ topology.

DOI:10.11862/CJIC.2019.194
Chinese J. Inorg. Chem., **2019**,**35**(9):1642-1650

Heptanuclear Manganese Complexes with Schiff-Base Ligand: Syntheses, Crystal Structures and Magnetic Properties (English)

YANG Li-Guo, WANG Fang, GENG Cui-Huan, YU Zhi-Chao, WANG Xin, WANG Kai, ZHANG Yong-Hui, NIU Yong-Sheng, LI Da-Cheng

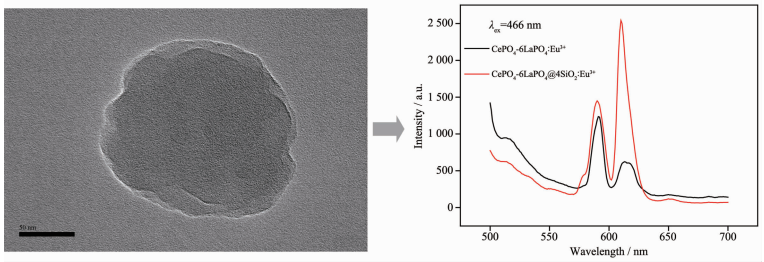


Two new mixed-valence heptanuclear manganese complexes, $[Na_2Mn^{Ⅱ}Mn^{Ⅲ}{}_6O_2(L)_6(N_3)_4(CH_3COO)_2]\cdot4DMF$ (**1**) and $[Na_2Mn^{Ⅱ}Mn^{Ⅲ}{}_6O_2(L)_6(SCN)_4(CH_3COO)_2]\cdot2DMF$ (**2**) (H_2L =3-ethoxy-6-(((2-hydroxyethyl)imino)methyl) phenol) were synthesized and characterized by single crystal X-ray diffraction. The magnetic property of the complexes was studied.

DOI:10.11862/CJIC.2019.164
Chinese J. Inorg. Chem., **2019**,**35**(9):1651-1658

Luminescent Properties of a Red Phosphor $CePO_4$-6$LaPO_4$@4SiO_2:Eu^{3+} (English)

LIU Ru, WANG Xi-Gui

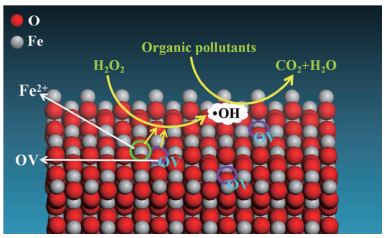


Core-shell structure like $CePO_4$-6$LaPO_4$@4SiO_2 was fabricated via cladding SiO_2, which was more conducive to the doping of Eu^{3+} and improved red luminescent properties of the sample.

DOI:10.11862/CJIC.2019.202
Chinese J. Inorg. Chem., **2019**,**35**(9):1659-1664

Surface-Electronic-State-Modulated, Single-Crystalline (001) α-Fe_2O_3 Nanosheets with Dual Reaction Sites for Efficient Fenton-Like Catalysis (English)

QIU Jiang-Yuan, QIN Fang-Hong, XIAO Bi-Yuan, ZHANG Mei-Ting, WAN Ting, LIU Jin-Ping, CHEN Jian-Hua, HUANG Zai-Ying

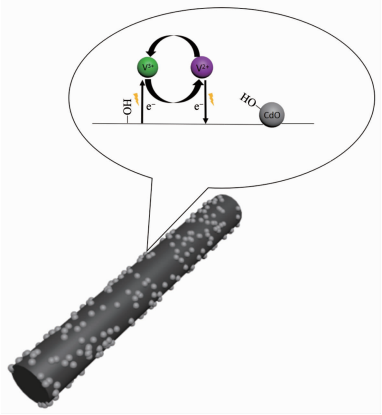


The oxygen-deficient α-Fe_2O_{3-x} with dual reaction sites (Fe^{2+} and oxygen vacancy) for H_2O_2 activation. Meanwhile, the oxygen vacancy sites which favors the adsorption of organic pollutant and the generated ·OH to rapid react with adjacent adsorbed pollutant, thus showing excellent Fenton-like catalytic performance.

DOI:10.11862/CJIC.2019.199
Chinese J. Inorg. Chem., **2019**,**35**(9):1665-1677

CdO-Modified Graphite Felt as a High-Performance Negative Electrode for a Vanadium Redox Flow Battery (English)

XIAO Qin-Hao, WANG Lei, LI Dan,
JING Wen-Heng

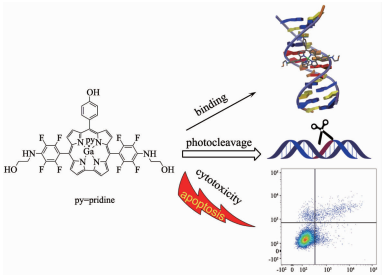


CdO-modified graphite felt (CdO/GF) was synthesized by the hydrothermal method. CdO/GF effectively inhibited the activity of the hydrogen evolution reaction, and exhibit increased electrochemical activity and reversibility for the V^{3+}/V^{2+} redox couple relative to graphite felt. These performance can be attributed to the the well-deposited CdO nanoparticles, which play an important role as an electrocatalyst for the redox reaction of V^{3+}/V^{2+}.

DOI:10.11862/CJIC.2019.200
Chinese J. Inorg. Chem., **2019**,**35**(9):1678-1686

Tri-hydroxyl Corrole and Its Gallium(Ⅲ) Complex: DNA-Binding, Photocleavage and *in Vitro* Photodynamic Antitumor Activities (English)

CHEN Xuan, WANG Hua-Hua, Waseem Akram,
SUN Yan-Mei, LIAO Yu-Hui, SI Li-Ping,
LIU Hai-Yang, Chi-Kwong Chang

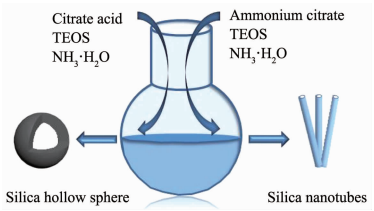


Tri-hydroxyl gallium(Ⅲ) corrole binds to CT-DNA via outside groove binding mode and exhibits good photonuclease activity. They demonstrated high photocytotoxic activity against tumor cells.

DOI:10.11862/CJIC.2019.201
Chinese J. Inorg. Chem., **2019**,**35**(9):1687-1697

One-Step Controllable Synthesis of Silica Nanotubes and Hollow Spheres (English)

LIU Yang, PAN Zhao-Rui, SHI Xiao-Ran,
LANG Lei-Ming

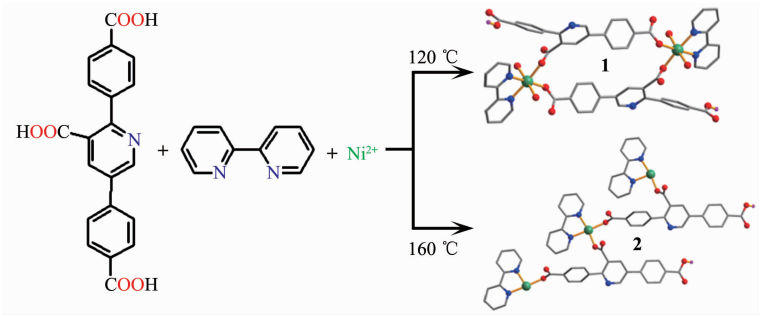


Novel uniform silica nanotubes and hollow spheres were controllably fabricated in the same reaction system by a simple sol-gel method using ammonium citrate and citrate acid as a structure-directing agent, respectively.

DOI:10.11862/CJIC.2019.198
Chinese J. Inorg. Chem., **2019**,**35**(9):1698-1704

Syntheses of Two Nickel(Ⅱ) Coordination Compounds Based on a Rigid Linear Tricarboxylic Acid (English)

ZOU Xun-Zhong, WU Jiang, GU Jin-Zhong,
ZHAO Na, FENG An-Sheng, LI Yu



Zero dimensional dinuclear nickel(Ⅱ) coordination compound $[Ni_2(\mu\text{-HL})_2(2,2'\text{-bipy})_2(H_2O)_4]\cdot 6H_2O$ (**1**) and 1D nickel(Ⅱ) coordination polymer $\{[Ni(\mu\text{-HL})(2,2'\text{-bipy})(H_2O)_2]\cdot H_2O\}_n$ (**2**) have been constructed and the structures and magnetic properties of the compounds were investigated.

DOI:10.11862/CJIC.2019.190
Chinese J. Inorg. Chem., **2019**,**35**(9):1705-1711