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论　文

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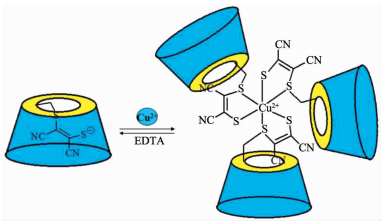
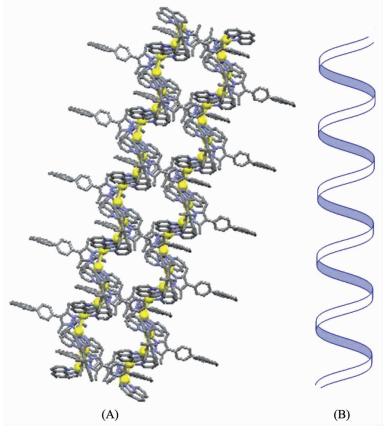


The maleonitriledithiolate-modified cyclodextrin preferrs self-inclusion in aqueous solution and could be reversibly unlocked by metal ions.

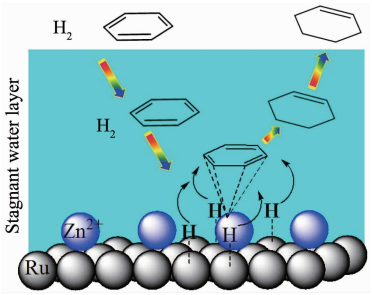


A series of novel mono-pyrazolate linked metal-organic molecular corners with different shapes are constructed by dimetal-coordination motifs in aqueous solution.

Selective Hydrogenation of Benzene to Cyclohexene over Nano-Sized Ru Catalyst Modified by $Zn_4Si_2O_7(OH)_2H_2O$ Salt

SUN Hai-Jie, ZHOU Xiao-Li, ZHAO Ai-Juan, LIU Shou-Chang, LIU Zhong-Yi

DOI:10.11862/CJIC.2015.162
Chinese J. Inorg. Chem., **2015**,**31**:1287-1295

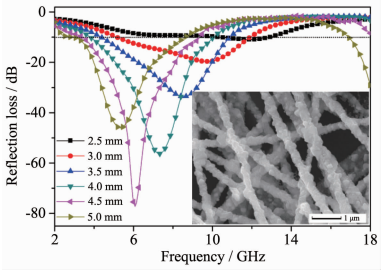


The nano-sized Ru catalyst for selective hydrogenation of benzene to cyclohexene exhibits a high selectivity to cyclohexene and an excellent stability in the presence of Na_2SiO_3, $ZnSO_4$, diethanolamine and ZrO_2.

Fabrication and Microwave Absorption Properties of NZFO-PZT Magnetoelectric Composite Nanofibers

YE Qin, XIANG Jun, LI Jia-Le, LIU Min, XU Jia-Huan, SHEN Xiang-Qian

DOI:10.11862/CJIC.2015.204
Chinese J. Inorg. Chem., **2015**,**31**:1296-1304

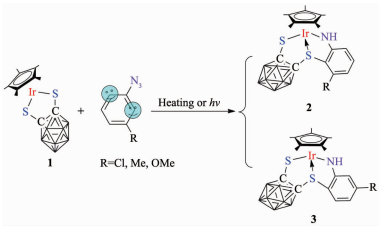


The electrospun $(1-x)$NZFO-(x)PZT magnetoelectric composite nanofibers with x=0.3 and 0.4 exhibit better microwave absorption properties in the low- and high-frequency ranges, respectively, which may be attributed to the proper combination of magnetic loss of NZFO and dielectric loss of PZT, as well as the enhanced interfacial effects.

Reactivity of Unsaturated 16e Half-Sandwich Complex $Cp^*Ir(S_2C_2B_{10}H_{10})$ with *ortho*- and *meta*-Substituted Phenyl Azides

ZHONG Wei, YAN Hong

DOI:10.11862/CJIC.2015.205
Chinese J. Inorg. Chem., **2015**,**31**:1305-1314

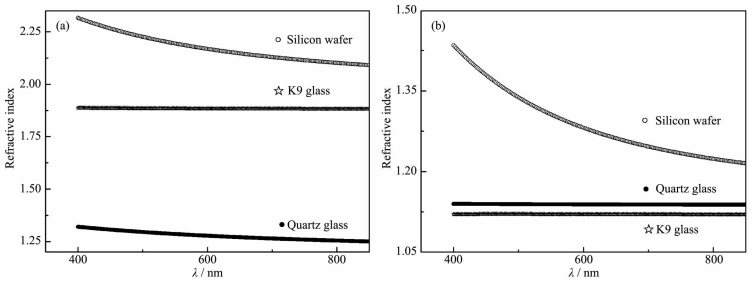


The reaction of unsaturated 16e half-sandwich complex $Cp^*Ir(S_2C_2B_{10}H_{10})$ (**1**) with *meta*-substituted phenyl azide led to the formation of metal complexes **2** and **3** in which C-H activation at each *ortho*-position of aryl ring happened to construct a new C-S bond.

Effects of Different Substrates on the Optical Properties of TiO_2 and SiO_2 Films

YANG Ning-Ning, YA Jing, HU Feng-Jiao, GUO Xiao-Lin

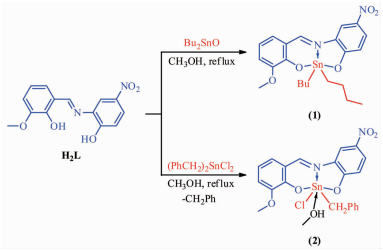
DOI:10.11862/CJIC.2015.199
Chinese J. Inorg. Chem., **2015**,**31**:1315-1320



On the single crystal silicon substrate titanium dioxide and silicon dioxide film refractive index were 2.27 and 1.43, respectively, and the extinction coefficient can be ignored.

Syntheses, Crystal Structures and Biological Activity of Schiff Base Organotin Complexes Based on *o*-Vanillin and 2-Amino-4-nitrophenol

JIANG Wu-Jiu, WU Xu-Meng, LIU Chao,
YU Jiang-Xi, ZHU Xiao-Ming,
FENG Yong-Lan, ZHANG Fu-Xing,
KUANG Dai-Zhi

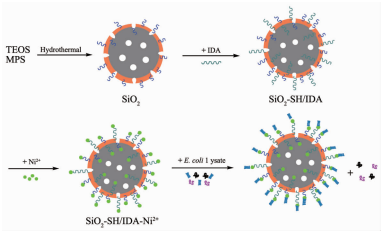


The anticancer activity of the Schiff base ligand (H_2L), complexes **1** and **2** against five species of cancer cell which are Hela, MCF7, HepG2, Colo205, NCI-H460 were tested respectively. The results showed that complex **1** was more active than carboplatin against tested carcinoma cell lines and has a potential application of drug preparation. The interaction between Schiff base ligand, complex **2** and Herring sperm DNA were studied by EB fluorescent probe, and the result shows that fluorescence quenching was really resulted from the synergistic effect of the Schiff base ligand.

DOI:10.11862/CJIC.2015.116
Chinese J. Inorg. Chem., **2015**,**31**:1321-1328

Synthesis of Nanometer Hollow Silica Composite Microspheres for Affinity Separation of Protein

TIAN Shu-Fang, ZOU Xue-Yan, LU Hai-Tao,
HE Jian-Ying, CHEN Dan-Yun,
ZHAO Yan-Bao, GUO Jing-Yu

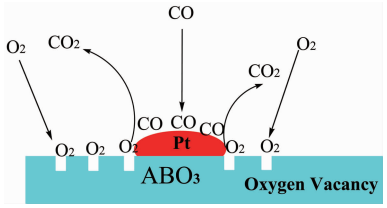


Hollow SiO_2-SH/IDA-Ni^{2+} composite nanospheres with dual chelating groups have been successfully prepared, which can be applied to effectively purify histidine-tagged (His-tagged) proteins and have a good reused ability.

DOI:10.11862/CJIC.2015.191
Chinese J. Inorg. Chem., **2015**,**31**:1329-1334

Action of Oxygen Vacancy in CO Catalytic Oxidation over Pt Supported Pervoshkite Oxides

KONG Ling-Zhi, WAN Qian, XU Li,
YAN Yong-Sheng, LI Hua-Ming,
YANG Xiang-Guang

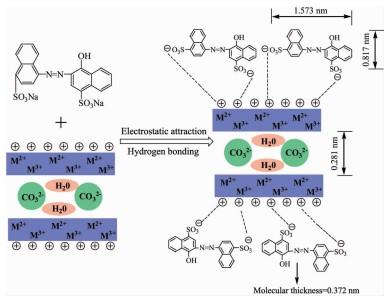


$Pt/LaMnO_3$, $Pt/LaFeO_3$, $Pt/La_{0.5}Sr_{0.5}MnO_3$ and $Pt/La_{0.5}Sr_{0.5}FeO_3$ were prepared by impregnating nano-Pt solution to ABO_3 mixed oxides. It was found that oxygen vacancy on ABO_3 mixed oxides was a key factor to improve the adsorption of oxygen and to determine the properties of CO oxidation at lower reaction temperatures.

DOI:10.11862/CJIC.2015.163
Chinese J. Inorg. Chem., **2015**,**31**:1335-1341

Adsorption to Acid Red 14 in Wastewater by ZnCr Bimetal Layered Materials

LIU Feng-Xian, SHAO Meng-Meng,
XIA Sheng-Jie, NI Zhe-Ming

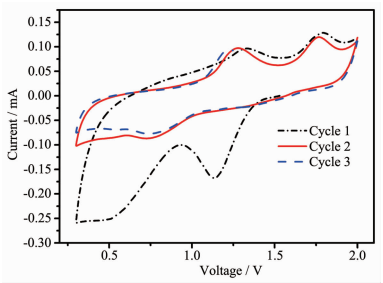


ZnCr bimetal layered materials were successfully synthesized with high BET surface area, hydrogen bonding and electrostatic reaction may be the major mechanisms involved in the adsorption of Acid Red 14, the $-SO_3^-$ group was the reaction point.

DOI:10.11862/CJIC.2015.187
Chinese J. Inorg. Chem., **2015**,**31**:1342-1350

Electrochemical Properties of Nanostructured Greigite (Fe_3S_4) as a Cathode Material in Rechargeable Magnesium Battery

ZHANG Ruo-Ran, WU Xiao-Mei,
ZENG Xiao-Qin, ZOU Jian-Xin,
DING Wen-Jiang

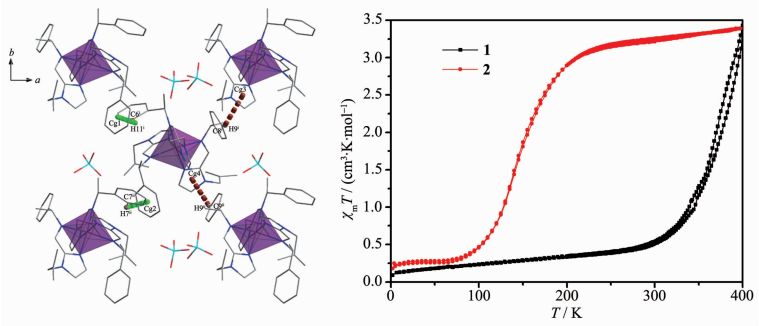


We firstly report nanostructured Fe_3S_4 as a cathode material for rechargeable magnesium battery. Electrochemical tests show that the obtained Fe_3S_4 can be reversibly cycled in rechargeable magnesium battery.

DOI:10.11862/CJIC.2015.182
Chinese J. Inorg. Chem., **2015**,**31**:1351-1356

Two Homochiral Spin-Crossover Iron(Ⅱ) Complexes Based on Bidentate Imidazole Schiff Base Ligands

GU Ling, REN Dong-Hong, LIU Zhi-Ming,
SUN Xiao-Li, QIU Dan, GU Zhi-Guo,
LI Zai-Jun

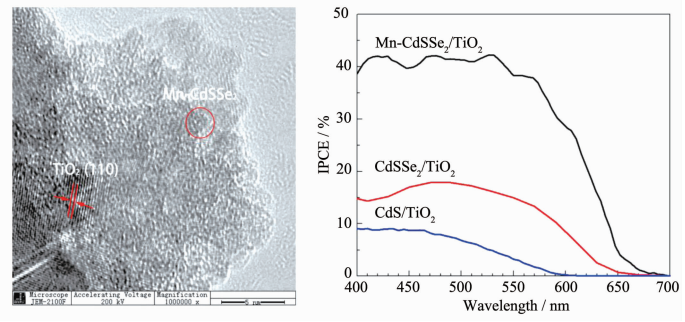


In two homochiral spin-crossover iron(Ⅱ) complexes, the Fe(Ⅱ)-N bond distances indicated that the Fe(Ⅱ) sites of **1** were in low-spin state, while the Fe(Ⅱ) centers of **2** were in high-spin state. **1** and **2** displayed obviously spin-crossover behaviors at 372 K and 146 K, respectively. The different SCO behaviors of **1** and **2** mainly resulted from packing mode, and intermolecular interactions.

DOI:10.11862/CJIC.2015.183
Chinese J. Inorg. Chem., **2015**,**31**:1357-1364

Preparation and Photoelectric Performance of Mn-Doped-$CdSSe_2$ Quantum Dots Sensitized Electrode

BAI Shu-Ming, TIAN Jian-Hua,
MA Huan-Mei, ZHU Kun-Lei,
SHAN Zhong-Qiang

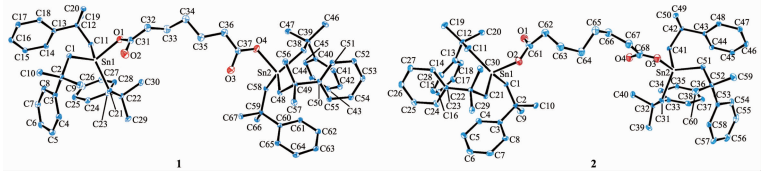


The Mn-$CdSSe_2$/TiO_2 photoanode for quantum dots-sensitized solar cell (QDSC) was prepared by successive ionic layer adsorption and reaction method. In contrast to CdS/TiO_2 QDSC and $CdSSe_2$/TiO_2 QDSC, the IPCE and energy conversion efficiency of Mn-$CdSSe_2$/TiO_2 QDSC has increased evidently.

DOI:10.11862/CJIC.2015.197
Chinese J. Inorg. Chem., **2015**,**31**:1365-1372

Syntheses, Crystal Structures, Thermal Stability and Biological Activities of Two Bis[tri(2-methyl-2-phenyl) propyltin]dicarboxylates $(CH_2)_n[CO_2Sn(CH_2CMe_2Ph)_3]_2$ (n=5,6)

ZHU Xiao-Ming, KUANG Dai-Zhi, FENG Yong-Lan, ZHANG Fu-Xing, YU Jiang-Xi, JIANG Wu-Jiu, ZHANG Zhi-Jian

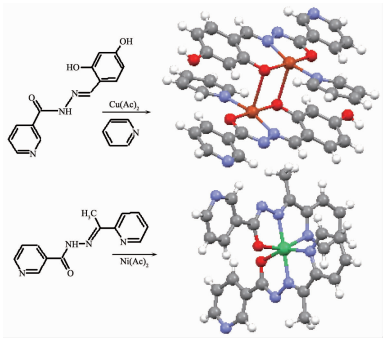


Two complexes have distorted tetrahedral configuration with four-coordination for the central tin atom, and the complexes exhibited strong in vitro anti-tumor activity against five human tumor cell lines, Colo205, HepG2, MCF-7, Hela and NCI-H460 and have antibacterial activity.

DOI:10.11862/CJIC.2015.181
Chinese J. Inorg. Chem., **2015**,**31**:1373-1379

Syntheses, Crystal Structures and Properties of Copper(Ⅱ) and Nickel(Ⅱ) Complexes Based on Nicotinoyl Hydrazone Schiff Base

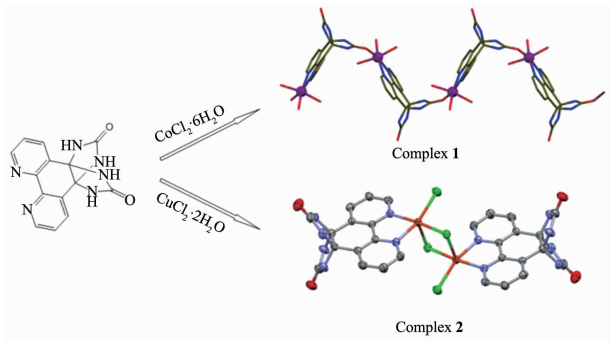
CHU Zhao-Hua, XIE Qing-Fan, LI Ying-Qian, CHEN Yan-Min



DOI:10.11862/CJIC.2015.189
Chinese J. Inorg. Chem., **2015**,**31**:1380-1386

Syntheses and Crystal Structures of Co(Ⅱ), Cu(Ⅱ) Complexes with Phenanthroline Substituted Glycoluril

ZHANG Qi-Long, CHEN Ming-Hua, RAN Xia, HU Peng

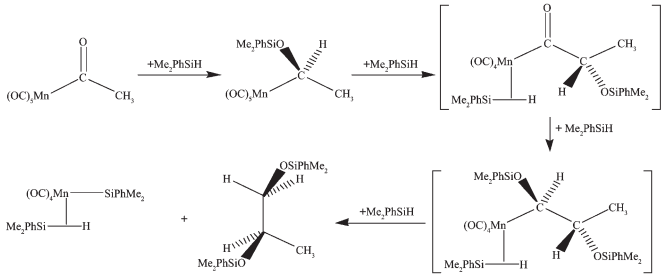


Two complexes, $\{[Co(L)(H_2O)_3]Cl_2\cdot 2H_2O\}_n$ (**1**) and $[Cu_2(L)_2Cl_4]\cdot 3C_2H_5OH$ (**2**), was prepared and characterized. In the solid state, Complex **1** displays a 1D chain structure, Complex **2** is binuclear complex.

DOI:10.11862/CJIC.2015.201
Chinese J. Inorg. Chem., **2015**,**31**:1387-1392

Extensive Hydrosilation of Acetyl Manganese Pentacarbonyl

WANG Ying, XUE Bing, LI Yi-Lin,
LI Si-Nan, XU Chong-Fu

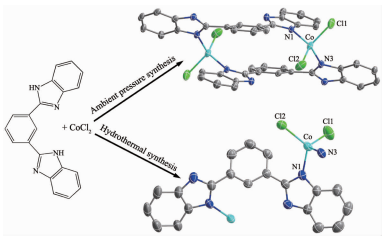


Extensive hydrosilation of acetylmanganesepentacarbonyl involves a multistep process, in which a carbon chain elongation product and an active catalyst in its resting state are generated.

DOI:10.11862/CJIC.2015.194
Chinese J. Inorg. Chem., **2015**,**31**:1393-1401

Binuclear Cobalt(Ⅱ) Complex and Cobalt(Ⅱ) Coordination Polymer of Bidentate Ligand 1,3-Bis(2-benzimidazolyl)benzene: Crystal Structures and Magnetic Properties (English)

LIU Fa-Qian, ZHAO Jie, ZHANG Dong,
DUAN Xiao-Quan, WANG Lei,
DENG Yue-Yi, LI Wei-Hua

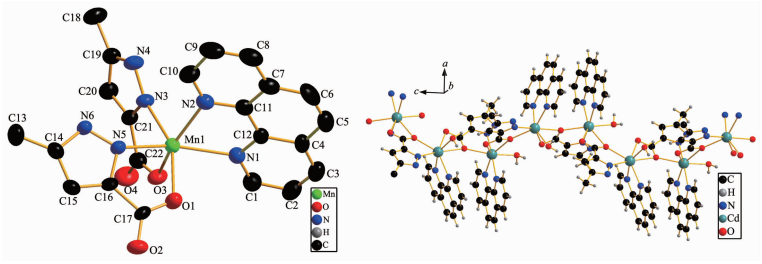


Binuclear cobalt(Ⅱ) complex **1** and cobalt (Ⅱ) coordination polymer **2** were prepared under different synthesis conditions. Magnetic susceptibility of **1** and **2** both showed ferromagnetic coupling firstly and then antiferromagnetic coupling as the temperature decreases.

DOI:10.11862/CJIC.2015.166
Chinese J. Inorg. Chem., **2015**,**31**:1402-1408

Syntheses, Crystal Structures and Luminescent Properties of Manganese and Cadmium Complexes Based on 5-Methyl-1*H*-Pyrazole-3-Carboxylic Acid and Phenanthroline Ligands (English)

ZHAI Chang-Wei, CHENG Mei-Ling,
HAN Wei, LIU Qi

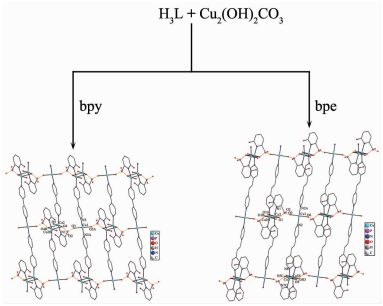


Monomeric complex $[Mn(HMPCA)_2(phen)]\cdot 2H_2O$ (**1**) and 1D coordination polymer $[Cd_2(HMPCA)_2(phen)_2(H_2O)_2]\cdot 2H_2O$ (**2**) all display blue fluorescence in the solid state.

DOI:10.11862/CJIC.2015.193
Chinese J. Inorg. Chem., **2015**,**31**:1409-1416

Syntheses, Structures and Magnetic Properties of Two Copper Phosphonates Based on 6-Hydroxy-2-pyridinephosphonic Acid (English)

LI Hai-Qing, HUA Jing-Kun, ZHA Li-Qin, MA Yun-Sheng, TANG Xiao-Yan, XIE Ji-Min, YUAN Rong-Xin

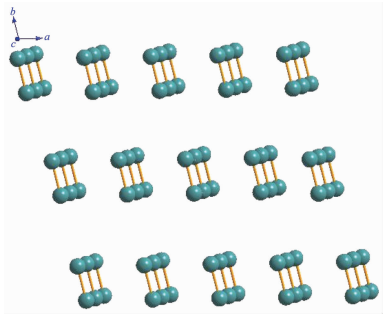


Two copper phosphonates compound **1** and **2** were constructed by using 6-hydroxy-2-pyridinephosphonic acid as ligand. Both compounds show 2D layered structures with bpy/bpe as bridges. Magnetic measurements indicate antiferromagnetic interactions are propagated among the Cu^{2+} centers in compound **1** and **2**.

DOI:10.11862/CJIC.2015.184
Chinese J. Inorg. Chem., **2015**,**31**:1417-1424

Hydrothermal Syntheses, Crystal Structures, Luminescence, Thermal Stabilities and Bacteriostatic Activities of Two Lanthanide Complexes (English)

ZONG Guang-Cai, REN Ning, ZHANG Jian-Jun, QI Xiao-Xia, GAO Jie, ZHANG Da-Hai

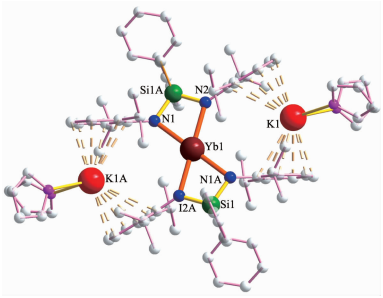


Two lanthanide complexes $[Ln(3,4\text{-}DFBA)_3(phen)(H_2O)]_2(H_2O)_2$ (Ln=Sm (**1**), Ho (**2**); 3,4-DFBA=3,4-difluorobenzoate, phen=1,10-phenanthroline) were prepared by hydrothermal method. The 2D layered structure of **1** is formed by intermolecular hydrogen bonding. Complex **1** exhibits the characteristic fluorescence of Sm (Ⅲ) ion under UV light.

DOI:10.11862/CJIC.2015.176
Chinese J. Inorg. Chem., **2015**,**31**:1425-1432

Two Divalent Ytterbium Complexes with Diamido Ligands $[K_2(L)(THF)_2]$(L=$[Ph_2Si(NAr)_2]^{2-}$, Ar=2,6-^{i}Pr$_2$C$_6$H$_3$) (English)

XU Jing-Yao, ZHANG Lei, HU Jin-Song, SHAO Xue-Man, PAN Cheng-Ling

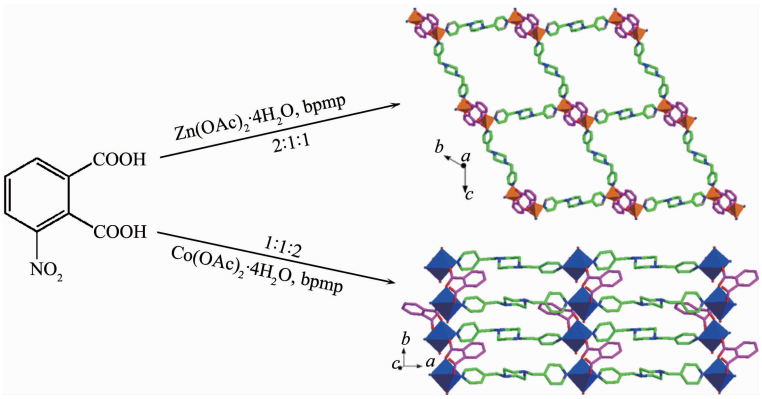


The reaction of diamido ligand $[K_2(L)(THF)_2]$ (**1**) (L=$[Ph_2Si(NAr)_2]^{2-}$, Ar=2,6-^{i}Pr$_2$C$_6$H$_3$) with $YbI_2(THF)_2$ afforded two types of divalent ytterbium complexes $[Yb(L)(THF)_3]$ (**2**) and $\{(L)_2Yb[K(THF)_2]_2\}$ (**3**), which were characterized by X-ray structure analysis, NMR and elemental analysis.

DOI:10.11862/CJIC.2015.203
Chinese J. Inorg. Chem., **2015**,**31**:1433-1438

Syntheses, Structures and Properties of Two Coordination Polymers Constructed by 3-Nitrobenzene-1,2-dicarboxylate Acid and Zn/Co (English)

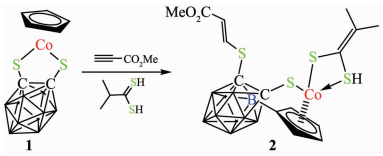
YIN Wei-Dong, LI Gui-Lian, LIU Guang-Zhen, XIN Ling-Yun, LI Xiao-Ling, MA Lu-Fang



DOI:10.11862/CJIC.2015.202
Chinese J. Inorg. Chem., **2015**,**31**:1439-1446

Cobalt(Ⅲ)-Mediated Intramolecular Coupling of B(3)/B(6) in $CpCoS_2C_2B_{10}H_{10}$ with Cp Ligand (English)

YE Hong-De, XU Bao-Hua, HU Jiu-Rong, YAN Hong

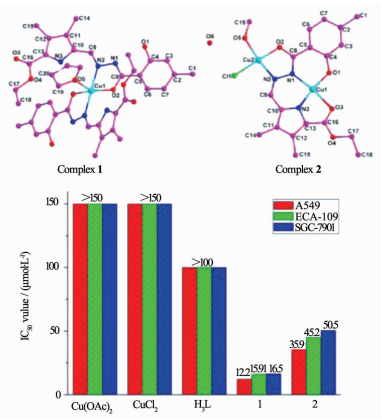


The reaction of the 16e half-sandwich complex $CpCoS_2C_2B_{10}H_{10}$ (**1**) with $HC{\equiv}CCO_2Me$ in the presence of 2-methylpropanedithioic acid at ambient temperature generated the cobalt(Ⅲ)-mediated intramolecular coupling product **2**.

DOI:10.11862/CJIC.2015.200
Chinese J. Inorg. Chem., **2015**,**31**:1447-1452

Syntheses, Characterizations and Antitumor Activities of Two Copper(Ⅱ) Complexes with an Acylhydrazone Ligand Bearing Pyrrole Unit(English)

HAN Xue-Feng, CAI Hong-Xin, JIA Lei, WU Wei-Na, ZHANG Xin, XU Jun, ZHANG Zhao-Po, WANG Yuan

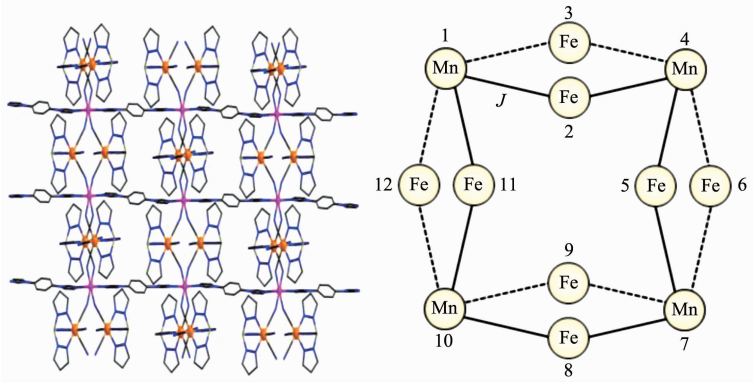


Two interesting copper(Ⅱ) complexes with an acylhydrazone ligand bearing pyrrole unit have been synthesized and characterized by X-ray diffraction analyses. Both complexes have excellent antitumor activities towards A549, ECA109 and SGC7901 cancer cells.

DOI:10.11862/CJIC.2015.188
Chinese J. Inorg. Chem., **2015**,**31**:1453-1459

Tuning Intrachain Magnetic Interactions of Cyanide-bridged $Fe^{Ⅲ}Mn^{Ⅱ}$ Chain (English)

ZHENG Hui, XU Yang, DUAN Chun-Ying



With the arrangement of chains and the apical directions of $Mn^{Ⅱ}$ ions fixed by the rigid ditopic linker, the intrachain magnetic interactions between $Fe^{Ⅲ}$ and $Mn^{Ⅱ}$ could be tuned via changing the capping ligand of $Fe^{Ⅲ}$ ions.

DOI:10.11862/CJIC.2015.177
Chinese J. Inorg. Chem., **2015**,**31**:1460-1466