无 机 化 学 学 报

2018 年　　第 34 卷　　第 12 期

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CHINESE JOURNAL OF INORGANIC CHEMISTRY

Vol.34 No.12 Dec. 2018

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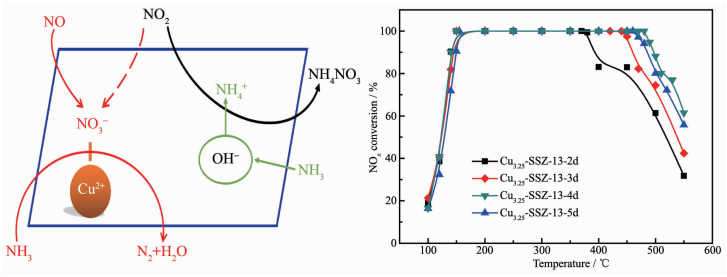
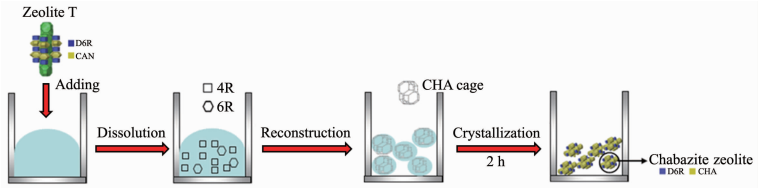


Cu-SSZ-13 catalysts with different crystallization time have been synthesized via one pot *in-situ* synthesis. Proper crystallization time leads to the proper copper species content and great distribution of active copper species, which contributes to the excellent NH3-SCR activity.

Rapid Synthesis of Low-Silica Chabazite Zeolite with the Addition of Heterogenous Seeds

LI Yu-Qin, HU Na, ZHANG Fei, ZHU Mei-Hua, WU Ting, CHEN Xiang-Shu

DOI:10.11862/CJIC.2018.243
Chinese J. Inorg. Chem., **2018**,**34**(12):2143-2152

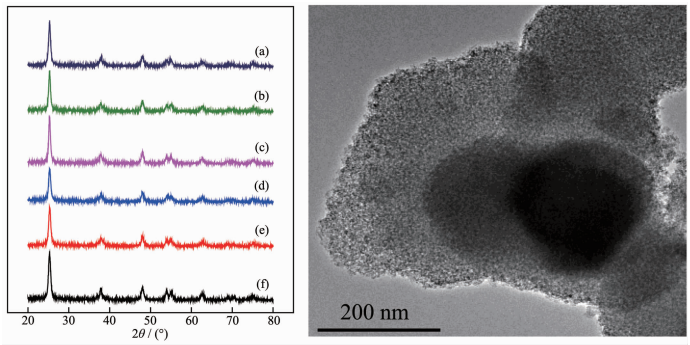


Low-silica chabazite zeolites were fast synthesized by adding zeolite T within only 8 h. Pure-phase chabazite zeolites showed the typical walnut-like morphology with particle size of ~1.5 μm. Crystallization mechanism of chabazite zeolites induced by heterogenous seeds was investigated.

Synthesis and Photocatalytic Performance of Mesoporous rGO/m-TiO_2 Composites for Hydrogen Production by Photocatalytic Water Splitting

XIE Yi-Ting, TAN Juan, WANG Ya-Fei, YU Jing, LIU Jing

DOI:10.11862/CJIC.2018.267
Chinese J. Inorg. Chem., **2018**,**34**(12):2153-2160

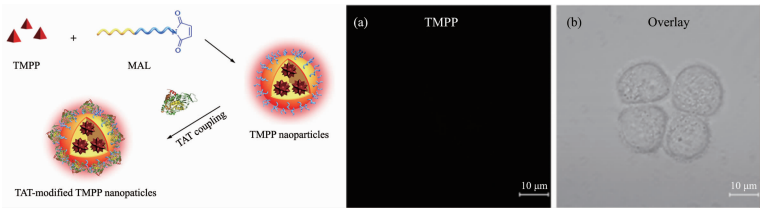


Mesoporous titanium dioxide (m-TiO_2) and rGO/m-TiO_2 samples were synthesized. When w_{GO}/w_{TiO_2} was 0.01, the hydrogen production rate of rGO/m-TiO_2 was 241 mmol·g^{-1}·h^{-1} under UV light irradiation, and 9 mmol·g^{-1}·h^{-1} under visible light irradiation.

Optical Properties and Biological Applications of *Meso*-tetrakis (*p*-methylphenyl) Porphyrin and Its Cobalt Complex

ZHANG Wan-Yu, ZHANG Xiao-Juan, TONG Jia-Lin, CHEN Tian-Ci, TIAN Jun-Qiang, HU Rong, WANG Zhi-Ming

DOI:10.11862/CJIC.2018.279
Chinese J. Inorg. Chem., **2018**,**34**(12):2161-2171

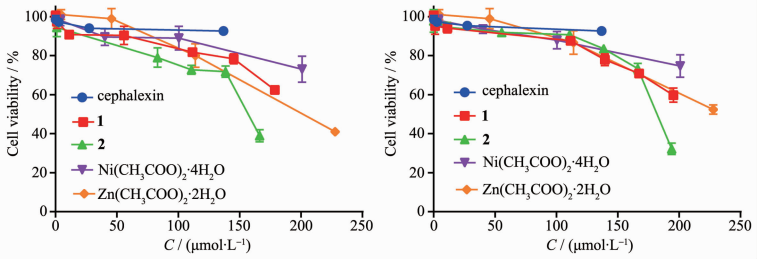


The TMPP-TAT-NPs nanoparticles prepared by TMPP can successfully stain the mitochondria of Hale cells; the luminescence intensity of TMPP complexed with cobalt is significantly reduced, but the good ability to produce singlet oxygen is possessed under aqueous conditions.

Syntheses, Crystal Structures and Antitumor Activity of Ni(Ⅱ)/Zn(Ⅱ) Complexes Containing Cephalexin Hydrolysate

YANG Chen, WANG Guo-Ping

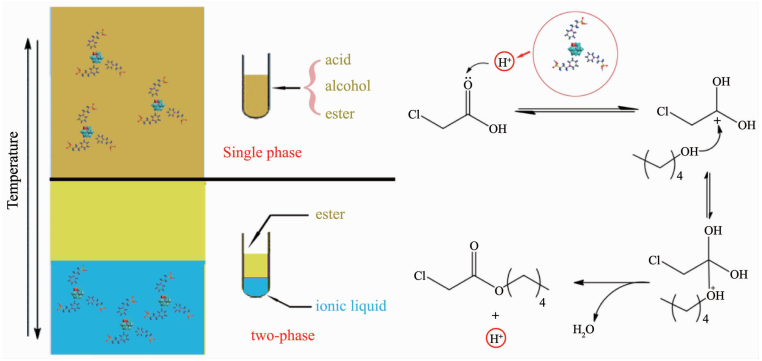
DOI:10.11862/CJIC.2018.278
Chinese J. Inorg. Chem., **2018**,**34**(12):2172-2178



Two mononuclear complexes, [Ni(cepha)$_2$]·6H_2O (**1**) and [Zn(cepha)$_2$]·6H_2O (**2**) (cepha=cephalosporoate) have a certain antitumor activity against human breast cancer cell lines (MCF-7) and liver cell lines (HepG-2), while cephalexin does not. And the inhibitory activity of complex **2** against MCF-7 cells is stronger than that of complex **1**.

Synthesis, Characterization and Esterification Application of Acid-Functionalized Ternary Heteropolyanion-Based Ionic Liquids with Temperature-Responsive Behaviour

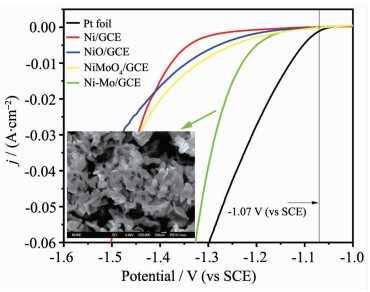
YAN Jing-Sen, AI Li-Mei, WANG Qiang, WANG Ze-Qing, E Yong-Sheng, LIU Hai-Bin



DOI:10.11862/CJIC.2018.272
Chinese J. Inorg. Chem., **2018**,**34**(12):2179-2187

Preparation and Hydrogen Evolution Properties of Nanoporous Ni, Ni-Mo Alloys and Their Oxides

ZHOU Qi, LI Zhi-Yang

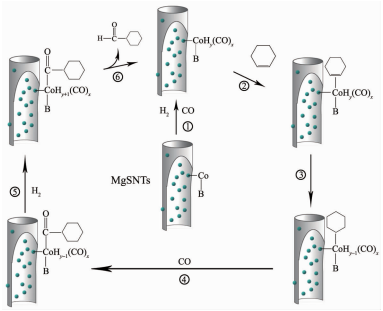


The nanoporous Ni-Mo alloy prepared by de-alloying has the highest hydrogen evolution activity. Its exchange current density is 0.25 mA·cm^{-2}, and its hydrogen evolution over-potential increases only 39 mV after 10 000 s constant current density electrolysis, showing excellent hydrogen evolution stability.

DOI:10.11862/CJIC.2018.268
Chinese J. Inorg. Chem., **2018**,**34**(12):2188-2196

Catalytic Performances for Hydroformylation of Cyclohexene of MgSNTs-Supported Amorphous Co-B Catalysts

SU Peng-He, ZHEN Lu-An, CHEN Ya, LIU Xiao-Tong, ZHU Bao-Lin, ZHANG Shou-Min, HUANG Wei-Ping

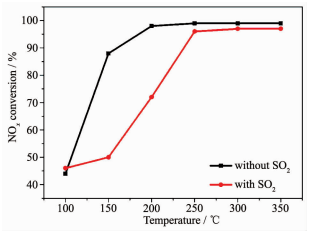


The MgSNTs-supported amorphous Co-B catalysts not only displayed good catalytic performance for hydroformylation of cyclohexene, but also good circulation. The catalysts could be easily recovered and were reused up to four times.

DOI:10.11862/CJIC.2018.275
Chinese J. Inorg. Chem., **2018**,**34**(12):2197-2204

Mo-Doped Ce/GE Catalyst for Selective Catalytic Reduction of NO_x by NH_3

LI Peng, LI Zhi-Fang, GENG Cui, KANG Yan, ZHANG Chao, YANG Chang-Long



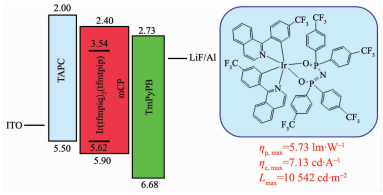
Mo-Ce/GE catalyst demonstrated excellent catalytic activity in NH_3-SCR, because the addition of Mo can increase $n_{Ce^{3+}}/(n_{Ce^{3+}}+n_{Ce^{4+}})$, the oxygen content and the acid sites. In addition, the activity declined significantly (<250 ℃) and remained unchanged (>250 ℃) due to the formation of SO_4^{2-} enhancing the acidity in the presence of SO_2.

DOI:10.11862/CJIC.2018.269
Chinese J. Inorg. Chem., **2018**,**34**(12):2205-2210

Synthesis and Electroluminescence of a Red Iridium Complex

LI Hong-Yan, HUANG Yi-Chuan, LI Zhen-Biao, GUO Hong-Qi, YANG Xin, YANG Ting-Ting, LU Ai-Dang

DOI:10.11862/CJIC.2018.238
Chinese J. Inorg. Chem., **2018**,**34**(12):2211-2218

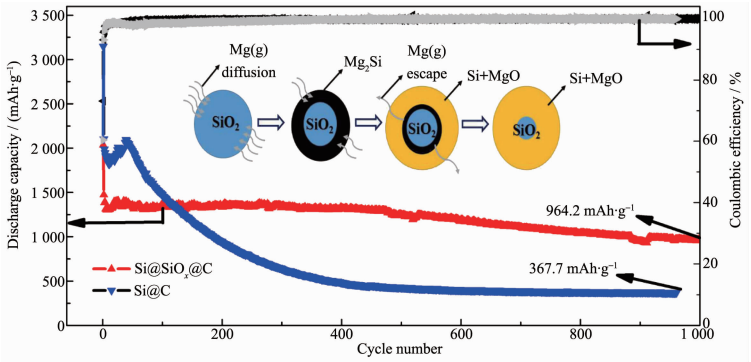


A novel iridium complex Ir (tfmpiq)$_2$ (tfmtpip) has been successfully applied in OLEDs (ITO/TAPC(40 nm)/Ir(tfmpiq)$_2$(tfmtpip)(4%):mCP(20 nm)/TmPyPB(40 nm)/LiF(1 nm)/Al(100 nm)). The EL performances ($\eta_{c,max}$=7.13 cd·A^{-1}, $\eta_{p,max}$=5.73 lm·W^{-1}) are obtained.

Preparation and Electrochemical Properties of Nano-Si by Magnesiothermic Reduction Reaction of Fumed Silica

WANG Wen-Guang, XU Xiao-Mu, LI Bin, REN Xiao, GUO Yu-Zhong, HUANG Rui-An

DOI:10.11862/CJIC.2018.265
Chinese J. Inorg. Chem., **2018**,**34**(12):2219-2226

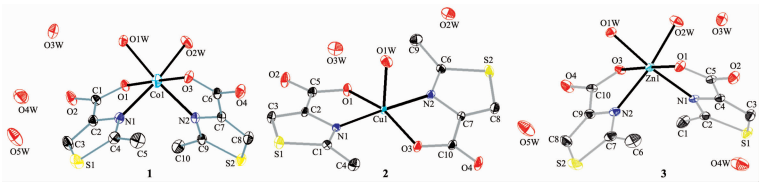


There are excellent cycle performance and capacity in the silicon anode which obtained by the magnesiothermic reduction reaction and coating with SiO_x and C.

Syntheses, Crystal Structures and DNA-Binding of Transition Metal Complexes Constructed by 2-Methyl-4-thiazolecarboxylic Acid (English)

ZHANG Min-Zhi, WU Da-Ling, Shen Wei, ZHAO Guo-Liang

DOI:10.11862/CJIC.2018.271
Chinese J. Inorg. Chem., **2018**,**34**(12):2227-2237

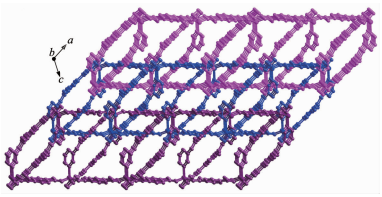


Three novel transition metal complexes [Co(MTZA)$_2$(H$_2$O)$_2$]·3H$_2$O (**1**), [Cu(MTZA)$_2$(H$_2$O)]·2H$_2$O (**2**) and [Zn(MTZA)$_2$(H$_2$O)$_2$]·3H$_2$O (**3**) have been synthesized by using 2-methyl-4-thiazolecarboxylic acid (HMTZA, $C_5H_5NO_2S$), and characterized by single crystal X-ray diffraction, EA, IR and TG. The fluorescence spectra results indicate that the interactions of the complexes with DNA are stronger than the ligand.

A 2-Fold Interpenetrated Cd(Ⅱ) Complex: Synthesis, Structure and Bifunctional Fluorescent Sensing Property (English)

LIU Guo-Cheng, YU Hui-Xuan, GAO Yue, TANG Shuang, FENG Cong

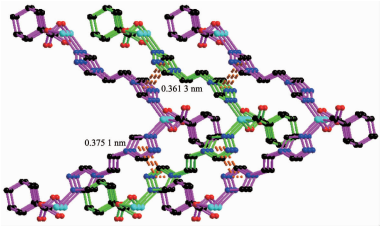
DOI:10.11862/CJIC.2018.270
Chinese J. Inorg. Chem., **2018**,**34**(12):2238-2244



A new 2-fold parallel-interpenetrated coordination polymer {[Cd(BDC)(L)]·1.5H$_2$O}$_n$ (**1**) [L=*N*,*N*′-bis(4-pyridin-3-yl)-5-hydroxyisophthalamide, H$_2$BDC=1,4-benzenedicarboxylic acid) has been hydrothermally synthesized, showing fluorescence sensing properties for Fe^{3+} and dichloromethane.

Syntheses, Structures of Three Zn(Ⅱ) Coordination Polymers Based on Flexible 4-Substituted Bis(1,2,4-triazole) Ligand (English)

PENG Yan-Fen, LIU Tian-Bao, WU Qiu-Yan, YAO Guo-Jian, XU Dong-Dong

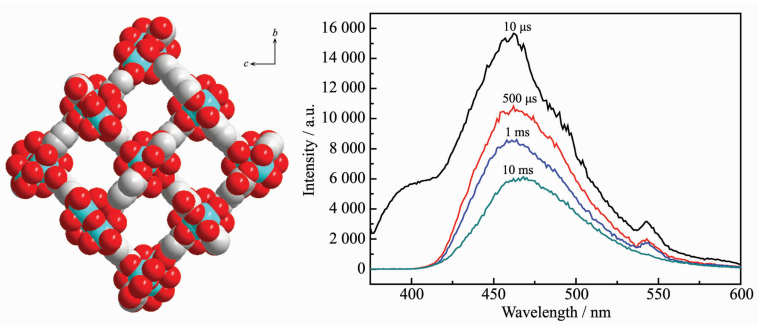


The adjacent 2D (4,4) nets of $\{[Zn(\mu_2\text{-btre})(\mu_2\text{-adc})]\cdot H_2O\}_n$ were connected to give a 3D supramolecular architecture by strong π-π interactions between triazole rings of btre ligand.

DOI:10.11862/CJIC.2018.280
Chinese J. Inorg. Chem., **2018**,**34**(12):2245-2253

Zn-Based MOF Containing Rod-Shaped Metal-Carboxylate/Hydroxyl SBU Exhibiting Afterglow Property at Low Temperature (English)

WANG Peng-Fei, WANG Li-Jun

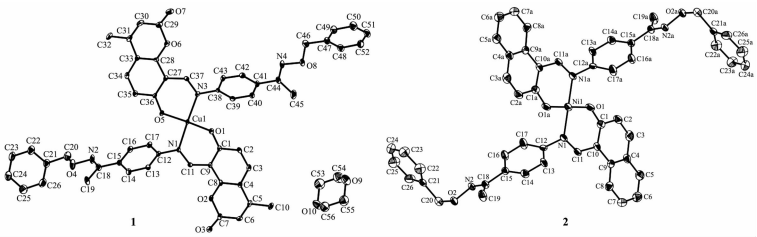


A three-dimensional (3D) porous Zn(Ⅱ)-based framework, containing a rod-shaped Zn-carboxylate/hydroxyl secondary building unit (SBU), $\{[Zn_4(O\text{-}BTC)_2(H_2O)_5]\cdot 2DMF\cdot 0.5H_2O\}_n$ (**1**) has been constructed from a multifunctional ligand 2-hydroxyl-1,3,5-benzenetricarboxylic acid (HO-H_3BTC). Interestingly, **1** could exhibit afterglow property only under low temperature (10 K) condition.

DOI:10.11862/CJIC.2018.246
Chinese J. Inorg. Chem., **2018**,**34**(12):2254-2260

Syntheses, Supramolecular Structures and Spectroscopic Properties of Cu(Ⅱ) and Ni(Ⅱ) Complexes with Schiff Base Containing Oxime Group (English)

ZHANG Hong-Jia, CHANG Jian, JIA Hao-Ran, SUN Yin-Xia

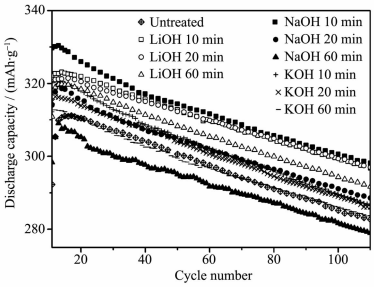


The Cu(Ⅱ) complex **1** forms a 3D networked supramolecular structure, and Ni(Ⅱ) complex **2** forms a 1D infinite chain structure. HL^1 has a very complete fluorescence quenching after the addition of copper ions.

DOI:10.11862/CJIC.2018.261
Chinese J. Inorg. Chem., **2018**,**34**(12):2261-2270

Effect of Surface Treatment with Different Alkaline Solutions on Rare Earth-Magnesium-Nickel Based Hydrogen Storage Alloy (English)

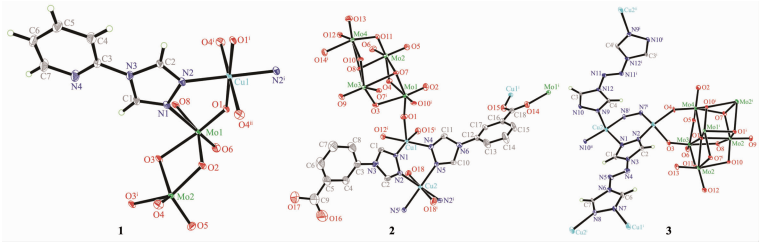
YUAN Hui-Ping, JIANG Li-Jun



$(REMg)_2(NiAl)_7$ alloy was pretreated in different alkaline solutions. Electrode treated in 6 mol·L^{-1} NaOH for 10 min shows the best electrochemical properties. But discharge capacity decreases fastest with increase of the treating time in NaOH. LiOH treated surface containing more Ni and $Al(OH)_3$ with good corrosion resistance.

DOI:10.11862/CJIC.2018.259
Chinese J. Inorg. Chem., **2018**,**34**(12):2271-2279

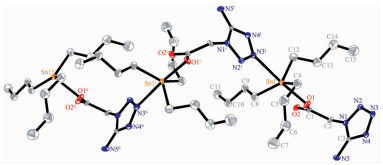
Three Polyoxometalate-Based Cu(Ⅱ) and Cu(Ⅰ) Coordination Polymers with Mono- and Bis-triazole Derivatives: Hydrothermal Assembly and Photocatalytic Properties (English)



LIU Yuan-Yuan, LI Xin Shu, ZHANG Hui-Min, DING Bin

DOI:10.11862/CJIC.2018.274
Chinese J. Inorg. Chem., **2018**,**34**(12):2280-2290

Syntheses, Structures and Antitumor Activities of Organotin 5-Methyl/amino-1*H*-tetrazolyl-1-acetates (English)

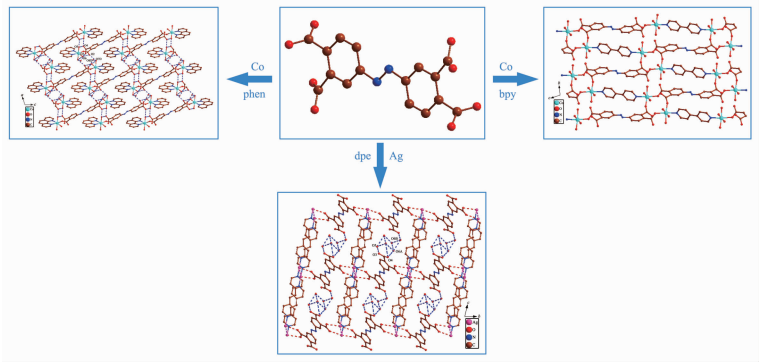


Five triorganotin 5-methyl-1*H*-tetrazolyl-1-acetates and 5-amino-1*H*-tetrazolyl-1-acetates have been synthesized, which form linkage coordination polymers through the intermolecular Sn…N interactions, and they displayed good cytotoxicities for Hela and A549 cells *in vitro*.

XIE Yun-Fu, YU Yang, TANG Liang-Fu

DOI:10.11862/CJIC.2018.273
Chinese J. Inorg. Chem., **2018**,**34**(12):2291-2297

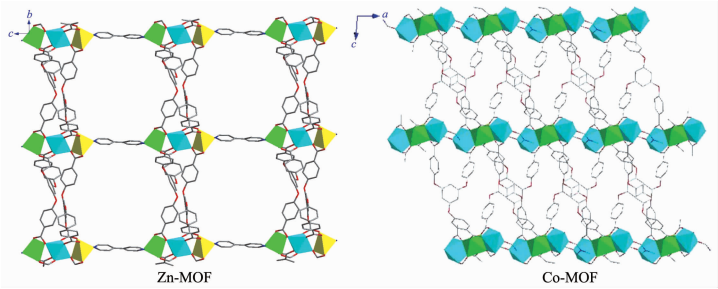
Syntheses, Crystal Structures and Properties of Three Metal Complexes Based on 3,3′,4,4′-Tetracarboxyazobenzene (English)



CHEN Xiao-Li, CUI Hua-Li, YANG Hua, REN Yi-Xia, WANG Ji-Jiang, WANG Xiao

DOI:10.11862/CJIC.2018.266
Chinese J. Inorg. Chem., **2018**,**34**(12):2298-2306

Syntheses, Structures and Photoluminescent Properties of Metal-Organic Frameworks Based on Triangle Flexible Multi-Carboxylic Ligand (English)



RONG Jie-Wei, ZHANG Wen-Wei

DOI:10.11862/CJIC.2018.281
Chinese J. Inorg. Chem., **2018**,**34**(12):2307-2315

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