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LIU Qin-Fu, ZUO Xiao-Chao, ZHANG Shi-Long, ZHANG Shuai, JI Jing-Chao

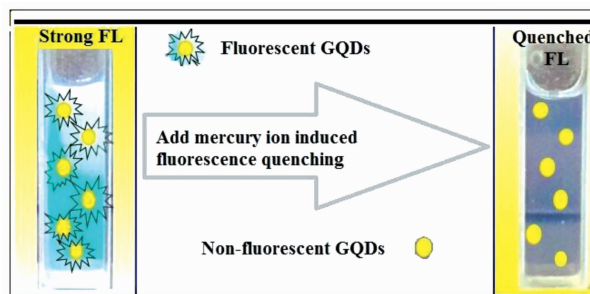
DOI:10.11862/CJIC.2015.035

Chinese J. Inorg. Chem., **2015**,**31**:7-14

Articles

One Step Preparation of N-doped Carbon Dots with High Fluorescence Yield for Selective Detection of Mercury(II) Ion

ZHANG Xiao-Zhe, ZHANG Wen-Jun,
ZHANG Zu-Xing, XIAO Chang-He,
WANG Wan-Hua, PAN Le, SHEN Yu-Hua



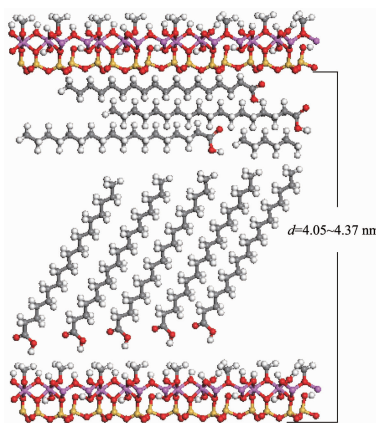
Mercury ion can make the fluorescent carbon dots selective quenching.

DOI:10.11862/CJIC.2015.027

Chinese J. Inorg. Chem., **2015**,**31**:1-6

Synthesis and Possible Modeling of Kaolinite-Stearic Acid Intercalation Compound

LIU Qin-Fu, ZUO Xiao-Chao,
ZHANG Shi-Long, ZHANG Shuai,
JI Jing-Chao



The d_{001} -spacing of kaolinite intercalation compound with steric acid is about 4.05~4.37 nm under different conditions. And the figure shows the organic molecule arranging in the interlamellar space. The intercalation agent and the arrangement are firstly proposed.

DOI:10.11862/CJIC.2015.035

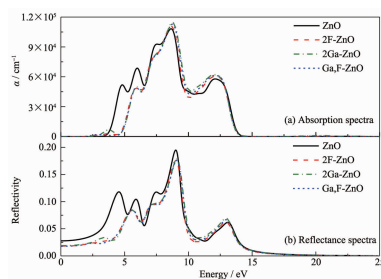
Chinese J. Inorg. Chem., **2015**,**31**:7-14

First-Principles Calculation on the Conductivity and Optical Transmittance of ZnO Codoped with Ga-F

HE Jing-Fang, WU Yi, SHI Ru-Qian,
ZHOU Peng-Li, ZHENG Shu-Kai

DOI:10.11862/CJIC.2015.001

Chinese J. Inorg. Chem., **2015**,**31**:15-22



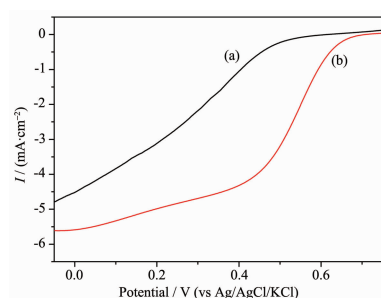
Different Doping Strategy for ZnO may Result in Various Optical Properties to Match the Real Requirements.

Carbon Supported Alloy Pd-Fe Catalyst: Preparation and Electrocatalytic Activity for Oxygen Reduction

WANG Yan-En, CAO Shuang, LIU Shu-Jing,
FENG Tao, LIU Ning, TANG Ya-Wen,
LU Tian-Hong

DOI:10.11862/CJIC.2015.024

Chinese J. Inorg. Chem., **2015**,**31**:23-28



Linear sweep voltammograms of (a) the Pd/C and (b) Pd-Fe/C catalyst electrodes in the 0.5 mol·L⁻¹ HClO₄ solution with saturated oxygen

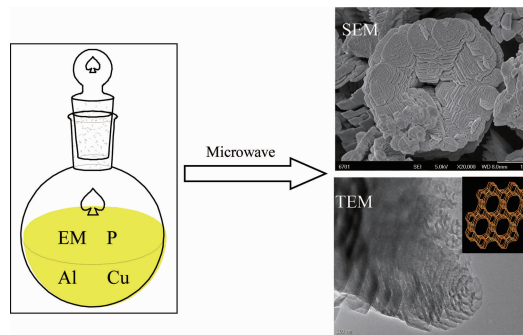
The electrocatalytic activity of the high alloy Pd-Fe/C catalyst obtained for the oxygen reduction is higher than that of the Pd/C catalyst prepared with the same method.

Ionothermal Synthesis of Hierarchical Structured CuAPO-5 Molecular Sieve

ZHAO Xin-Hong, WEN Juan-Juan,
CHEN Jing, ZHAO Jiang-Bo, Qi Yong-Dong,
LI Gui-Xian

DOI:10.11862/CJIC.2015.003

Chinese J. Inorg. Chem., **2015**,**31**:29-36

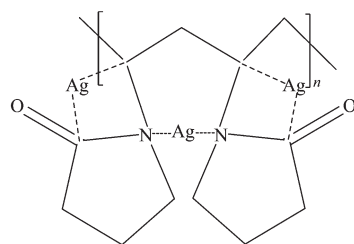


On the Long-Term Stability of Silver Nanoparticle Hydrocolloid

LI Xin, WEI Xian-Fu, YANG Li

DOI:10.11862/CJIC.2015.013

Chinese J. Inorg. Chem., **2015**,**31**:37-44



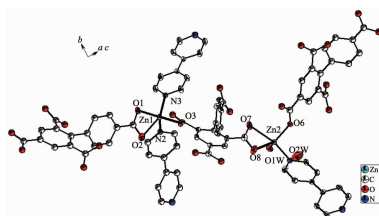
The AgNPs obtained from the [Ag(NH₃)₂]OH precursor exhibited superior controllability in particle size, size-distribution and dispensability in one month storage, compared to those obtained from AgNO₃.

A Series of Zinc Polymer with 3D Construction: Syntheses, Structures and DNA-binding

SHI Pei, SHEN Wei, YU Yu-Ye,
WU Xiao-Yong, ZHAO Guo-Liang

DOI:10.11862/CJIC.2015.012

Chinese J. Inorg. Chem., **2015**,**31**:45-53



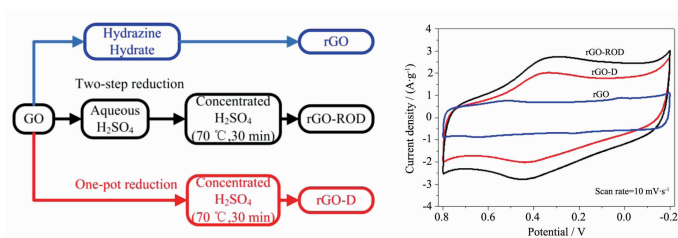
Three zinc complexes were synthesized under hydrothermal reactions by using biphenyl-2, 4, 4', 6-tetracarboxylic acid and characterized by elemental analysis, IR spectra. Crystal structures of the complexes were determined by single crystal X-ray diffraction method.

Influence of the Sulfuric Acid Dehydration Process on the Performance of Graphene-based Supercapacitors

LUO Min, DING Xiao-Yi, DOU Yuan-Yun,
ZHAO Liang, LIANG Bin, LIANG Jun

DOI:10.11862/CJIC.2015.029

Chinese J. Inorg. Chem., **2015**,**31**:54-60

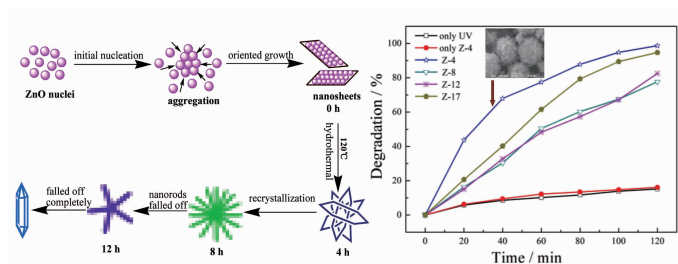


Controllable Synthesis of Hierarchical Structure ZnO Photocatalysts with Different Morphologies via Sol-Gel Assisted Hydrothermal Method

WU Guang-Li, ZHAO Xiao-Hua, LI Meng,
LI Zhen-Zhen, LI Cai-Zhu, LOU Xiang-Dong

DOI:10.11862/CJIC.2015.004

Chinese J. Inorg. Chem., **2015**,**31**:61-68



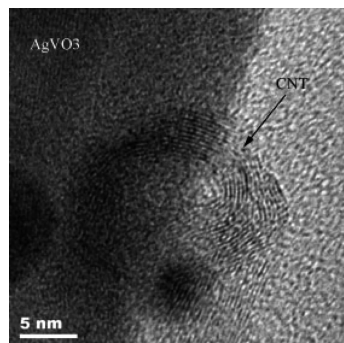
Photocatalytic results demonstrate that all ZnO samples show good photocatalytic performance for the degradation of Reactive Blue 14 (KGL), of which flower-like ZnO nanosheets prepared at 120 °C for 4 h exhibit superior photocatalytic activity.

Preparation and Photocatalytic Performance of CNT/ β -AgVO₃ Hybrid Materials for Oxygen Evolution from Water

ZHAO Xue-Guo, HUANG Zu-Zi

DOI:10.11862/CJIC.2015.048

Chinese J. Inorg. Chem., **2015**,**31**:69-73



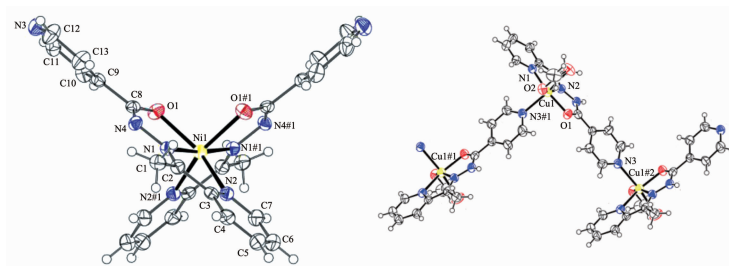
CNT/ β -AgVO₃ heterojunction is composed of β -AgVO₃ with monoclinic crystalline structure and CNT with multiwall structure.

Syntheses, Crystal Structures and Properties of Nickel(II) and Copper(II) Complexes with 2-Acetylpyridine Isonicotinoyl Hydrazone Schiff Base

CHEN Yan-Min, XIE Qing-Fan, LIU Jin-Hua, HE Xue-Qian, ZHANG Qiong-Ru

DOI:10.11862/CJIC.2015.033

Chinese J. Inorg. Chem., **2015**,**31**:74-80

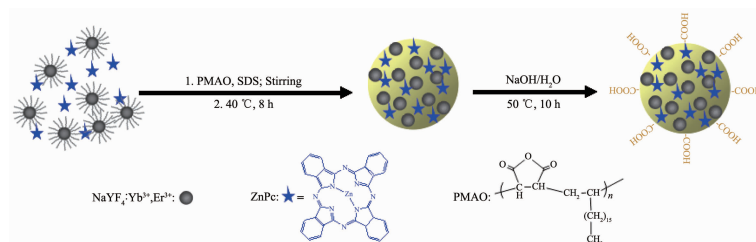


Composite Microspheres Assembly and Photosensitive Activity Research Based on $\text{NaYF}_4:\text{Yb}^{3+}, \text{Er}^{3+}$ Upconverting Nanoparticles

ZHANG Qing-Bin, CHENG Cheng

DOI:10.11862/CJIC.2015.017

Chinese J. Inorg. Chem., **2015**,**31**:81-86



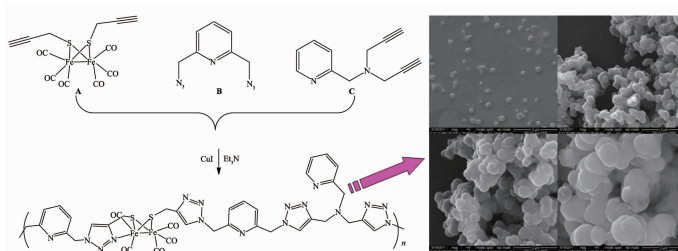
$\text{NaYF}_4\text{-ZnPc-PMAO}$ multifunctional composite microspheres has been developed based on $\text{NaYF}_4:\text{Yb}^{3+}, \text{Er}^{3+}$ rare-earth nanoparticles, the resulting $\text{NaYF}_4\text{-ZnPc-PMAO}$ are suitable for biological imaging and photodynamic therapy.

Synthesis and Characterization of [FeFe]-Hydrogenase Model Complex Functionalized Polymers Based on Different Content of Alkaline Group

LIANG Shao-Wei, ZHONG Wei, ZHAN Cai-Xia, ZHAO Jia, LI Wen-Qiang, YE Ping, WANG Hong-Dan, SHEN Jie, FAN Lu, XIAO Zhi-Yin, LIU Xiao-Ming

DOI:10.11862/CJIC.2015.011

Chinese J. Inorg. Chem., **2015**,**31**:87-96



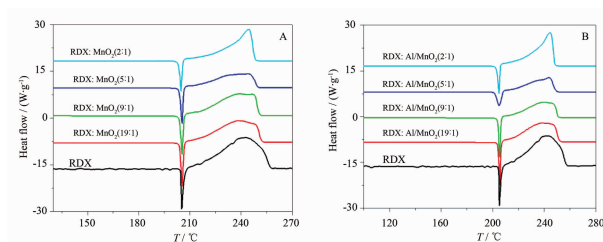
Co-polymerization of monomers A, B and C in various ratios led to six polymers which exhibited different morphologies and catalytic performances on proton reduction.

MnO_2 Nanotube and Its Super Thermite: Preparation and Their Effect on Thermal Decomposition of Cyclotrimethylene Trinitramine

AN Ting, ZHAO Feng-Qi, MA Hai-Xia, REN Xiao-Ning, ZHAO Ning-Ning, WANG Qiong, YANG Yong

DOI:10.11862/CJIC.2015.010

Chinese J. Inorg. Chem., **2015**,**31**:97-102



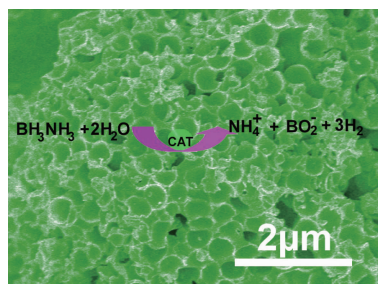
MnO_2 nanotube and its super thermite influence the thermal decomposition behavior and decomposition process of cyclotrimethylene trinitramine. They can change the primary decomposition of liquid phase to the reaction of secondary gas phase, and can change the shape of main decomposition peak obviously.

Preparation of Porous Carbon-Supported
Ni Nanoparticles for Catalytic
Hydrogen Generation from Ammonia
Borane Hydrolysis

XU Feng-Qin, HU Xiao-Fei, CHENG Fang-Yi,
LIANG Jing, TAO Zhan-Liang, CHEN Jun

DOI:10.11862/CJIC.2015.032

Chinese J. Inorg. Chem., **2015**,**31**:103-108



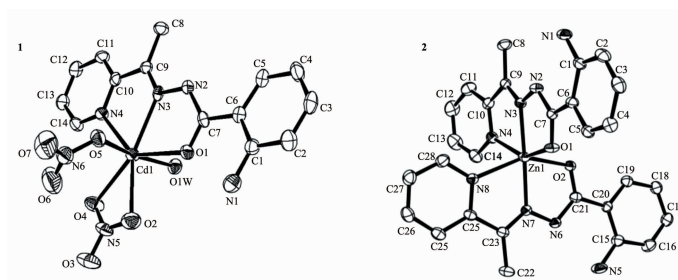
Carbon-supported nickel composite was prepared *in situ* through an impregnation-chemical reduction method and was further investigated as a catalyst for the hydrolytic dehydrogenation of AB (ammonia borane). The supported Ni nanoparticles were uniformly dispersed in the honeycomb-like porous carbon matrix and exhibited high catalytic activity towards the AB hydrolysis reaction, indicating potential application in facile hydrogen generation from borohydride.

Syntheses and Crystal Structures of
Cd(II) and Zn(II) Complexes Containing
2-Acetylpyridine-*o*-
aminobenzoylhydrazone Ligand

HUANG Chao, WU Juan, CHEN Dong-Mei,
ZHANG Qi-Long, ZHU Bi-Xue

DOI:10.11862/CJIC.2015.051

Chinese J. Inorg. Chem., **2015**,**31**:109-113



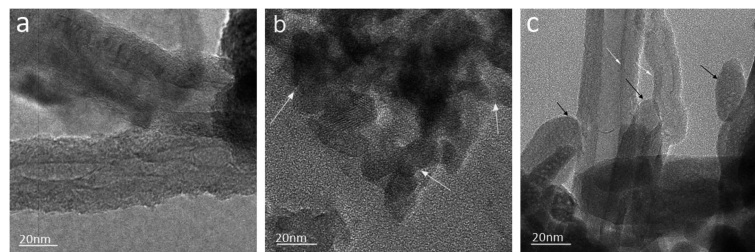
Two complexes $[CdL(NO_3)_2 \cdot H_2O]$ and $[ZnL_2]$ were synthesized and the structures of the complexes are analyzed via single crystal X-ray diffraction. The antibacterial activities of the ligand and complexes were measured *in vitro*, and the results show that the ligand L and complex **1** possess inhibiting effects to bacteria.

Effect of Carbon Nanotubes on the
Mechanical Properties of Carbon
Nanotubes/Hydroxyapatite Composites

XIAO Zhen-Kun, WU Lei, MI Rao,
FANG Qing, SONG Xiao-Lan, LU Xiao-Ying,
WENG Jie

DOI:10.11862/CJIC.2015.036

Chinese J. Inorg. Chem., **2015**,**31**:114-120



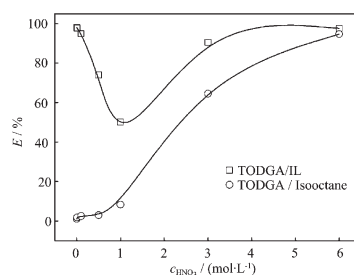
The damaged structure of CNTs has great effect on the compressive mechanical properties of CNTs/HA composites. Among the K (a), C (b) and J methods (c), the CNTs/HA composites prepared by K method have the best compressive mechanical properties, owing to slightest damage to tube wall and length of CNTs.

Solvent Extraction of Th^{4+} with TODGA
in $[C_2mim][NTf_2]$

LIU Chao, ZHAO Long, WEI Yue-Zhou,
HE Lin-Feng, TANG Fang-Dong

DOI:10.11862/CJIC.2015.009

Chinese J. Inorg. Chem., **2015**,**31**:121-126



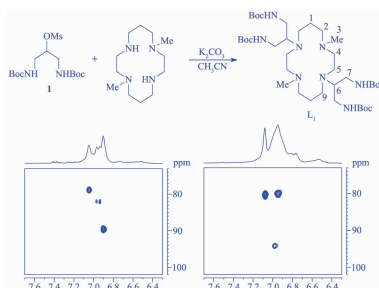
The extraction efficiency of TODGA/ $[C_2mim][NTf_2]$ system against Th^{4+} decreased first and then increased with the increasing of acidity, TODGA/ $[C_2mim][NTf_2]$ system had better extraction efficiency than TODGA/isooctane system especially at low acidity.

Structural Characterization and Artificial Nuclease Activity of Transition Metal Complexes of Cyclam Derivatives

LI Zhi-Xi, HU Ming, LIU Chao,
YANG Xiao-Liang

DOI:10.11862/CJIC.2015.023

Chinese J. Inorg. Chem., 2015,31:127-132



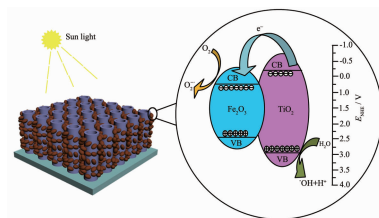
Cyclam derivatives (L_1) and its transition metal complexes were synthesized. The structure of L_1 , conformation of $Zn(II)$ L_1 and the binding site of $Zn(II)$ with L_1 were studied by NMR techniques, including VT-NMR and 2D HSQC NMR.

Preparation and Photocatalytic Properties of Fe_2O_3/TiO_2 Nanotube Arrays

HUANG Yi-Cao, ZHAO Zhe-Fei,
LI Shi-Xiong, DI Jing, ZHENG Hua-Jun

DOI:10.11862/CJIC.2015.037

Chinese J. Inorg. Chem., 2015,31:133-139



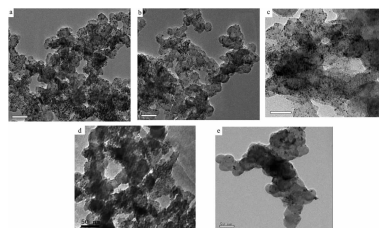
Fe_2O_3 was successfully deposited between the TiO_2 nanotube arrays. And the photocurrent response and photodegradation of methylene blue had greatly improved.

Effect of Carbon Support Pretreatment on Structure and Performance of Pt/C Electrocatalysts

ZHANG Jun-Min, TAN Zhi-Long,
WANG Chuan-Jun, BI Jun, YI Wei,
SHENG Yue, GUAN Wei-Ming, WEN Ming

DOI:10.11862/CJIC.2015.022

Chinese J. Inorg. Chem., 2015,31:140-146



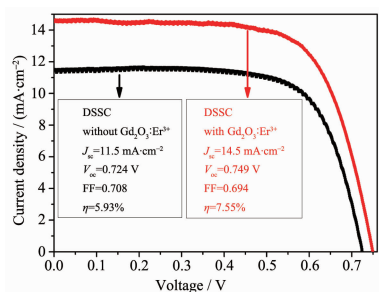
The Pt/C catalyst with 400 °C heat treatment for carbon black has electrochemical specific surface area of $83 \text{ m}^2 \cdot \text{g}^{-1}$, and the quality of the current density of $49.03 \text{ A} \cdot \text{g}^{-1}$. The electric catalytic activity of this catalyst is better than that of JM 20% Pt/C.

Application of $Gd_2O_3:Er^{3+}$ Up-Conversion Luminescent Powder in Dye-Sensitized Solar Cells

FAN Le-Qing, LI Zhao-Lei, HUANG Yun-Fang,
LIN Jian-Ming, WU Ji-Huai

DOI:10.11862/CJIC.2015.005

Chinese J. Inorg. Chem., 2015,31:147-152



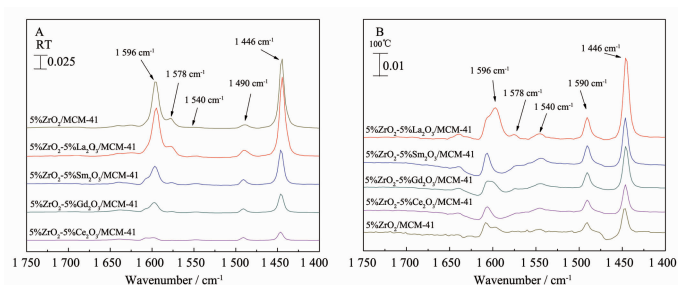
The addition of tubular $Gd_2O_3:Er^{3+}$ up-conversion luminescent powder to the TiO_2 photoanode of dye-sensitized solar cells results in the increment of photocurrent and photovoltage.

Effect of Rare Earth Element in $\text{ZrO}_2\text{-M}_2\text{O}_3/\text{MCM-41}$ ($\text{M}=\text{La, Ce, Sm, Gd}$) on Hydrogen Transfer Reaction

DENG Bing-Xin, ZHANG Bo,
JIANG Jian-Feng

DOI:10.11862/CJIC.2015.014

Chinese J. Inorg. Chem., **2015**,**31**:153-158



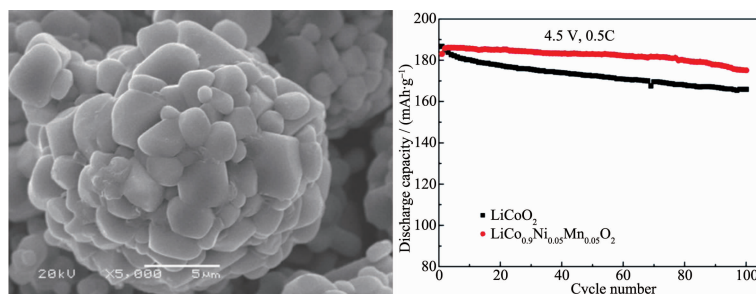
Loading rare-earth metal oxides on 5% $\text{ZrO}_2\text{-MCM-41}$ alters the surface acidity of catalysts, resulting in the obvious change in the catalytic activity for hydrogen transfer reduction of acetophenone with 2-propanol.

Ni, Mn-codoped High-Voltage LiCoO_2 Cathode Material for Lithium Ion Batteries

HU Guo-Rong, LU Wei, LIANG Long-Wei,
CAO Yan-Bing, PENG Zhong-Dong, DU Ke

DOI:10.11862/CJIC.2015.020

Chinese J. Inorg. Chem., **2015**,**31**:159-165



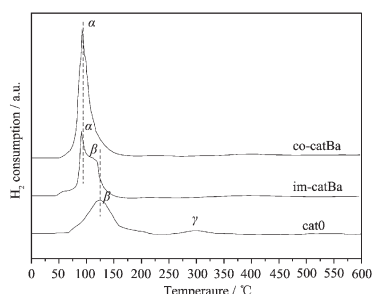
The title material delivers an initial discharge capacity of $185 \text{ mAh} \cdot \text{g}^{-1}$ at 0.5C rate with capacity retention of 93.7% after 100 cycles in the voltage of 3.0~4.5 V.

BaO Modified Pd-Based Catalysts: Synthesis by Impregnation/Co-Precipitation and Application in Gasoline-Methanol Exhaust Purification (English)

ZHANG Xue-Qiao, TIAN Hao-Qi,
YE Zhi-Xiang, CHEN Yao-Qiang

DOI:10.11862/CJIC.2015.002

Chinese J. Inorg. Chem., **2015**,**31**:166-176



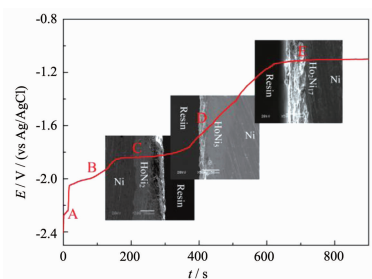
Impregnation method based on the surface modification is conducive to strengthening the Pd-Ce interaction in Pd-Ce interface, thus increasing the catalytic activity. Co-precipitation method results in structure disorder accompanied by the formation of more Ce^{3+} thus leading to a better redox property.

Electrochemical Preparation of Ho-Ni Intermetallic Compounds in LiCl-KCl Eutectic Melts (English)

LI Mei, SUN Ting-Ting, HAN Wei,
WANG Shan-Shan, ZHANG Mi-Lin,
YAN Yong-De, ZHANG Meng

DOI:10.11862/CJIC.2015.006

Chinese J. Inorg. Chem., **2015**,**31**:177-182



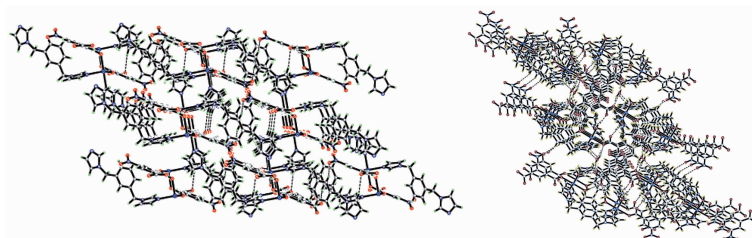
The different Ho-Ni intermetallic compounds were produced selectively by controlling electrolysis potential. The alloying mechanism of Ho-Ni alloys was investigated by electrochemical methods.

Syntheses and Crystal Structures of Two Complexes of Manganese, Cobalt Assembled by 5-Nitroisophthalic Acid and Bis(imidazol) Ligands (English)

LI Guo-Feng, WANG Ya-Nan,
WANG Qing-Wei, LI Xiu-Mei, JI Jian-Ye,
PAN Ya-Ru

DOI:10.11862/CJIC.2015.034

Chinese J. Inorg. Chem., **2015**,**31**:183-190



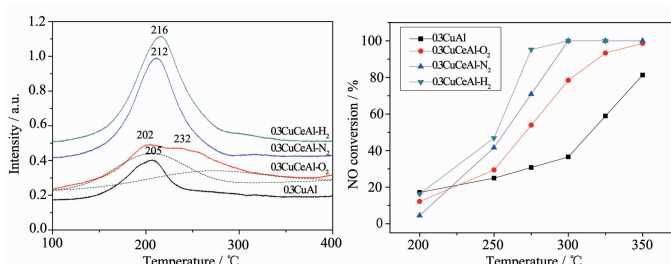
Two complex $[\text{Mn}(\text{NIPH})(\text{mbix})]_n$ (**1**) and $[\text{Co}(\text{NIPH})(\text{mbix})(\text{H}_2\text{O})_3]_{2n} \cdot 2n\text{H}_2\text{O}$ (**2**) have been hydrothermally synthesized. They are further extended into a three-dimensional supramolecular network structure through hydrogen bonds and π - π interactions.

$\text{CuO}/\text{CeO}_2/\gamma\text{-Al}_2\text{O}_3$ Catalysts: Effect of Pretreating Atmosphere on Surface Properties and Catalytic Performance in Selective Catalytic Reduction of NO with CO (English)

ZHU Jie, GE Feng-Juan

DOI:10.11862/CJIC.2015.021

Chinese J. Inorg. Chem., **2015**,**31**:191-197



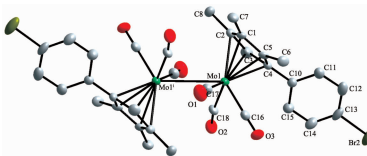
$\text{CeO}_2/\text{Al}_2\text{O}_3$ pretreated by different atmosphere affect the states of surface copper element of $\text{CuO}/\text{CeO}_2/\text{Al}_2\text{O}_3$ catalysts and hydrogen pretreated catalyst has highest activity on SCR of nitrogen monoxide.

Syntheses and Structures of Metal Carbonyl Complexes Based on Two Substituted Tetramethylcyclopentadienyl Ligands (English)

FAN Dong, MA Zhi-Hong, LI Su-Zhen,
HAN Zhan-Gang, ZHENG Xue-Zhong, LIN Jin

DOI:10.11862/CJIC.2015.038

Chinese J. Inorg. Chem., **2015**,**31**:198-204



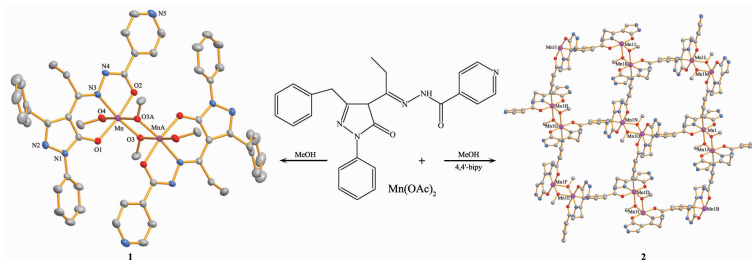
Six metallocene dinuclear metal carbonyl complexes were prepared.

Synthesis, Crystal Structure and Properties of Two Mn(II) Complexes with 4-Acyl-pyrazolone Derivative (English)

YU Wan-Xue, ZHANG Li, XU Guan-Cheng,
ZHANG Yan-Hui, JIA Dian-Zeng

DOI:10.11862/CJIC.2015.007

Chinese J. Inorg. Chem., **2015**,**31**:205-212



Two manganese complexes were synthesized and structurally characterized. The pH value of the reaction system has significant effect on the coordination mode of the ligand, which results in a dinuclear structure and a 2D network.