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PAN Miao, LI Si-Hua, CHENG Mao-Ling, HU Yuan-Yuan, SHI Peng, XU Jing-Yu, TONG Bi-Hai, FUNG Man-Keung, ZHANG Qian-Feng

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Chinese J. Inorg. Chem., **2018**,**34**(4):627-632

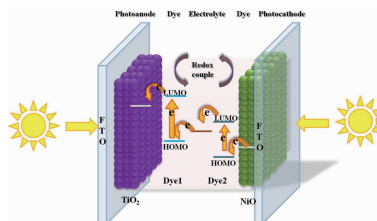
Reviews

Research of Dye-Sensitized Solar Cells Based on p-Type Photoelectrode

YANG Ying, PAN De-Qun, GAO Jing, ZHANG Zheng, GUO Xue-Yi

DOI:10.11862/CJIC.2018.100

Chinese J. Inorg. Chem., **2018**,**34**(4):615-626



Dye-sensitized solar cells with p-type photoelectrode (p-type and p-n tandem dye-sensitized solar cells) is a new type of solar cell. The theoretical photoelectric efficiency of the p-n tandem dye-sensitized solar cell can reach 43%, which has gained great concern of the scientific community.

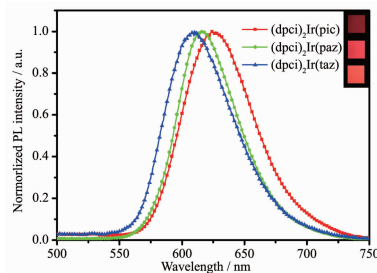
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Effect of Ancillary Ligand on Photoelectric Properties of Cinnoline Iridium Complexes

PAN Miao, LI Si-Hua, CHENG Mao-Ling, HU Yuan-Yuan, SHI Peng, XU Jing-Yu, TONG Bi-Hai, FUNG Man-Keung, ZHANG Qian-Feng

DOI:10.11862/CJIC.2018.081

Chinese J. Inorg. Chem., **2018**,**34**(4):627-632



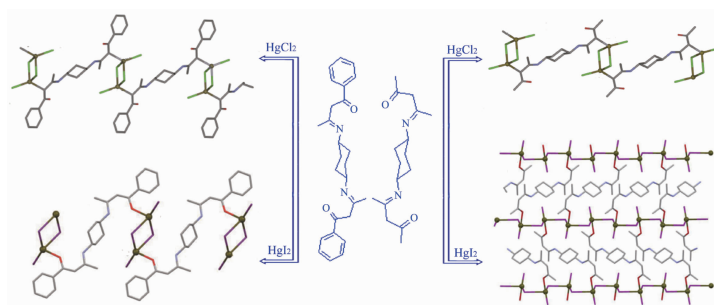
Cinnoline iridium complexes achieved efficient pure red light emission. The best luminous efficiency of $(dpci)_2Ir(taz)$ is $14.5 \text{ cd} \cdot \text{A}^{-1}$ and its maximum external quantum efficiency is 5.5%. The maximum luminance is $2931 \text{ cd} \cdot \text{m}^{-2}$.

Hg(II) Coordination Polymers Based on *trans*-Bis(β -diketone)cyclohexanediimine Ligands: Syntheses and Crystal Structures

CAI Xue-Yu, ZHANG Qi-Long

DOI:10.11862/CJIC.2018.090

Chinese J. Inorg. Chem., **2018**,**34**(4):633-638

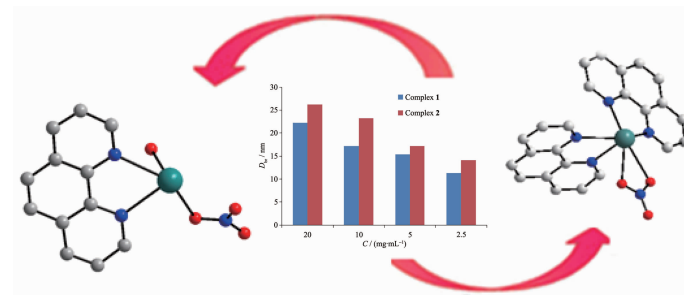


Syntheses, Structures and Antibacterial Activity of Lead Complexes with Nitrogen Heterocyclic Ligand

BAI Feng-Ying, WANG Xue-Min,
QU Chang-Qing, WANG Yu, XING Yong-Heng

DOI:10.11862/CJIC.2018.095

Chinese J. Inorg. Chem., **2018**,**34**(4):639-646



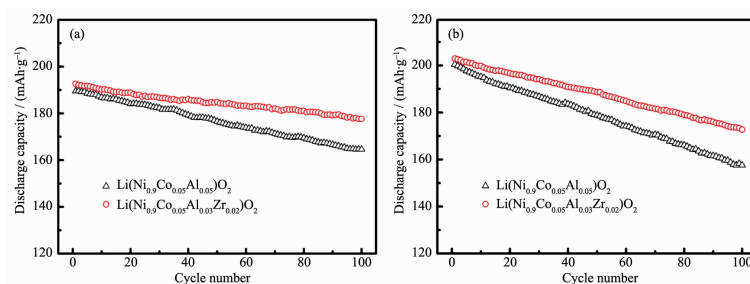
Complexes **1**~**2** have a strong inhibitory effect on *Escherichia coli* and *Golden staph.*

Effects of Zirconium Substitution on Electrochemical Performance of $\text{Li}(\text{Ni}_{0.9}\text{Co}_{0.05}\text{Al}_{0.05})\text{O}_2$ for Lithium-Ion Batteries

TAN Chao-Pu, HUANG Dian-Hua,
LUO Hong-Jun, DU Ke, CAO Yan-Bing,
HU Guo-Rong

DOI:10.11862/CJIC.2018.091

Chinese J. Inorg. Chem., **2018**,**34**(4):647-654

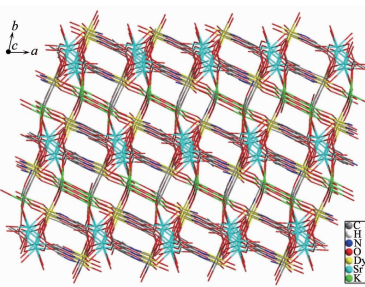


Structures and Luminescent Properties of Three Heterotrimetallic Ln(III)-Sr(II)-K(I) Complexes

WANG Hong-Sheng, LI Gong-Chun,
WU Yan-Chao, ZHANG Wan-Qiang,
CHENG Xin-Hua

DOI:10.11862/CJIC.2018.103

Chinese J. Inorg. Chem., **2018**,**34**(4):655-661



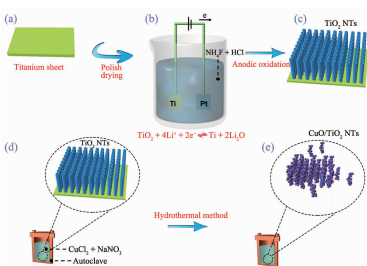
Three 3D Heterotrimetallic isomorphous complexes were synthesized by hydrothermal method. Sm(III)-Sr(II)-K(I) and Dy(III)-Sr(II)-K(I) complexes emitted their characteristic fluorescence of Sm(III) or Dy(III) while Gd(III)-Sr(II)-K(I) complex emitted green fluorescence.

Surface Modification and Electrochemical Lithium Storage Performance of TiO_2 -Anatase Nanotube Arrays with CuO

YAO Yu-Han, YUAN Zhen-Tao,
ZHANG Yan-Nan, YU Xiao-Hua, RONG Ju,
MENG Kun, ZHAN Zhao-Lin

DOI:10.11862/CJIC.2018.079

Chinese J. Inorg. Chem., **2018**,**34**(4):662-668



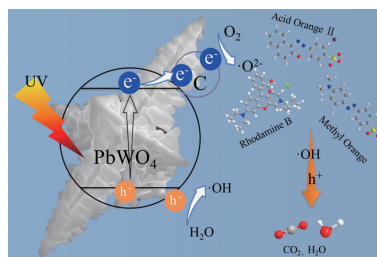
Anodic oxidation and hydrothermal method were well combined to obtain a novel negative material CuO/TiO_2 . Not only the nanotubes still well-preserved. But also CuO was uniformly coated on the nanotubes. Meanwhile the electrochemical performance of TiO_2 nanotubes had been enhanced obviously.

Three-Dimensional Dendritic C/PbWO₄ Catalysts: Preparation and Photocatalytic Performance in Degrading Different Dyes

BAI Yu, ZENG De-Bin, LIU Ren-Yue,
LI Shao-Yu, YANG Kai, HUANG Wei-Ya,
YU Chang-Lin

DOI:10.11862/CJIC.2018.089

Chinese J. Inorg. Chem., **2018**,**34**(4):669-675



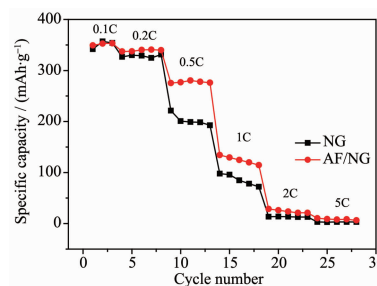
The carbon attached to the surface of the catalyst is used as the electron capture center to promote the separation of electron-hole pairs, then the degradation of organic dye molecules has been improved.

Preparation and Characterization of AlF₃ Coated Natural Graphite Anode Materials

ZHOU Hai-Hui, WU Xuan, ZHOU Chen-Kun,
REN Jian-Guo

DOI:10.11862/CJIC.2018.084

Chinese J. Inorg. Chem., **2018**,**34**(4):676-682



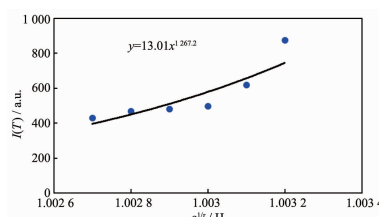
AlF₃ coated Natural graphite composite (AF/NG) showed great rate capability, which delivered a reversible capacity more than 278 mAh·g⁻¹ at 0.5C, with a capacity of 78 mAh·g⁻¹ higher than the uncoated sample(NG), showing promising application in lithium ion batteries for electric vehicles.

Preparation and Properties of Temperature Sensitive Paint Based on Eu(DBM)₃Bipy as Fluorescence Probe

LU Si-Yu, LIU Xu-Ri, BI Guan, WANG Yao-Kai,
TIAN Hao-Tian, SUN Jing

DOI:10.11862/CJIC.2018.083

Chinese J. Inorg. Chem., **2018**,**34**(4):683-688



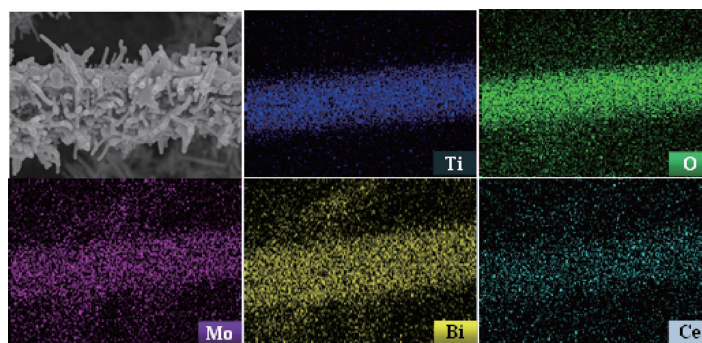
Eu(DBM)₃Bipy/PMMA has good characteristics of fluorescence quenching of temperature in 40~90 °C, and the temperature range with the highest temperature sensitivity is 40~60 °C.

Preparation and Visible-Light Photocatalytic Properties of Ce-doped Bi₂MoO₆/TiO₂ Nanofibers Heterojunction

LI Yue-Jun, CAO Tie-Ping, MEI Zhe-Min,
XI Xiao-Tian, WANG Xia, SUN Da-Wei

DOI:10.11862/CJIC.2018.082

Chinese J. Inorg. Chem., **2018**,**34**(4):689-696

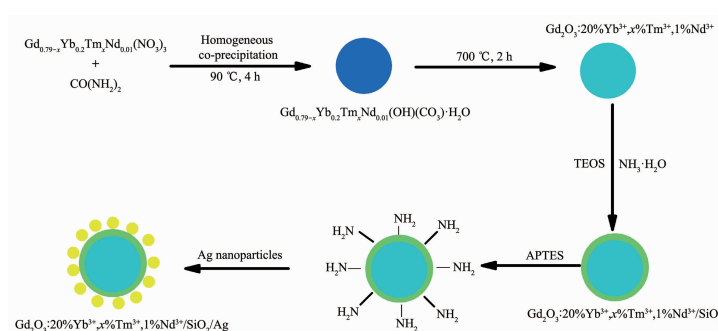


Preparation and Upconversion Luminescent Performance of Gd₂O₃:Yb³⁺, Nd³⁺, Tm³⁺/SiO₂/Ag Nanocomposite

GE Wen, YANG Pei-Zhi, SHEN Lan-Xian,
DENG Shu-Kang

DOI:10.11862/CJIC.2018.094

Chinese J. Inorg. Chem., **2018**,**34**(4):697-702

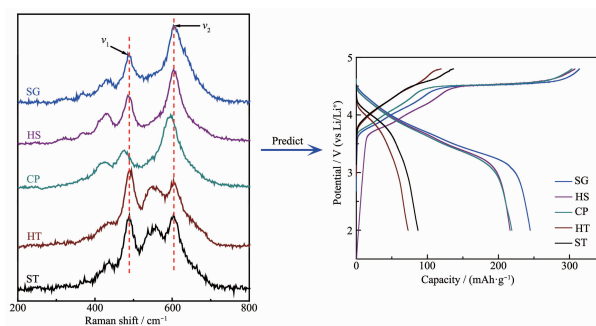


Differentiating the Integrated Structure from Lithium Rich Layer Oxide by *ex situ* Raman Spectroscopy: an Effective Method to Predict the Activation of Li_2MnO_3

CHEN Dan-Dan, LI Guang-She, FAN Jian-Ming, LI Bao-Yun, ZHANG Dan, FENG Tao, LI Guo-Hua, LI Li-Ping

DOI:10.11862/CJIC.2018.093

Chinese J. Inorg. Chem., **2018**,**34**(4):703-711

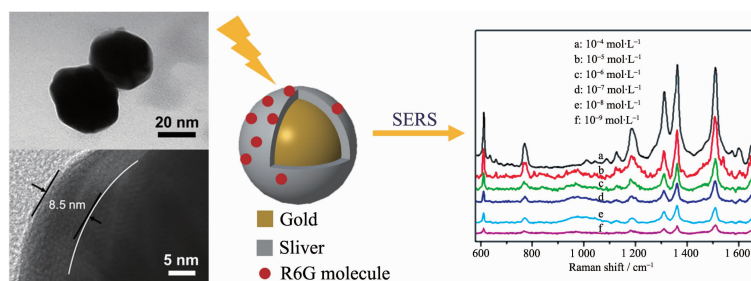


Synthesis of Au@Ag Core-Shell Nanoparticles for Sensitive Surface-Enhanced Raman Scattering by Precisely Adjust Its Morphology (English)

LIU Xiao-Yu, ZHANG Dong-Jie, ZHANG Hui-Juan, ZHANG Cong-Yun, LIU Ya-Qing

DOI:10.11862/CJIC.2018.012

Chinese J. Inorg. Chem., **2018**,**34**(4):712-718

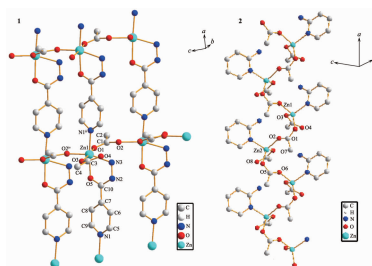


Syntheses, Structures and Luminescent Properties of Two Zinc (II) Coordination Polymers Constructed by Acetate and Pyridyl-Containing Ligands (English)

JIANG Zheng-Jing, YIN Jing-Zhou, LI Rong-Qing, ZHANG Zai-Chao, LU Lu-De

DOI:10.11862/CJIC.2018.086

Chinese J. Inorg. Chem., **2018**,**34**(4):719-727



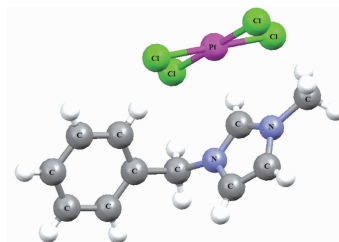
Two zinc acetate coordination polymers with different pyridyl-containing ligands have diverse structures and dimensionalities. Polymer **1** shows a 2D infinite layer structure, while polymer **2** displays an infinite one-dimensional zig-zag chain. These two compounds exhibit strong fluorescent emissions in solid state at room temperature.

Synthesis and Characterization of Complex $(\text{BenzMeIm})_2[\text{PtCl}_4]$ (English)

Mohamad Ali Hikmat, Mahmoud Jamal Azheen, Gerber Thomas, Hosten Eric

DOI:10.11862/CJIC.2018.096

Chinese J. Inorg. Chem., **2018**,**34**(4):728-732

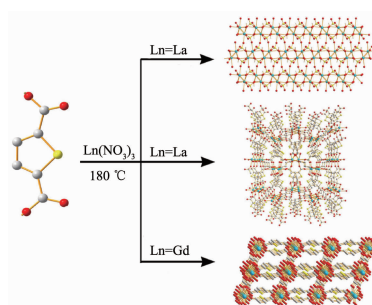


Syntheses, Characterization and Crystal Structures of Ln(III) Complexes Based on 2,5-Thiophenedicarboxylic Acid (English)

ZHENG Yun-Yun, HUANG Rui-Min, WEI Hang, HUANG Biao, SU De-Sen, FU Jian-Wei

DOI:10.11862/CJIC.2018.102

Chinese J. Inorg. Chem., **2018**,**34**(4):733-738



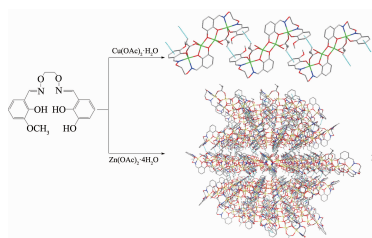
Reaction of 2,5-thiophenedicarboxylic acid (H_2TDC) with the $\text{Ln}(\text{NO}_3)_3$ ($\text{Ln}=\text{La}$, Gd) under hydrothermal conditions generate three 3D lanthanide-based coordination polymers, namely $\{[\text{La}(\text{OH})(\text{SO}_4)]_n\}$ (**1**), $\{[\text{La}_2(\text{TDC})_2(\text{SUC})]_n\}$ (**2**) and $\{[\text{Gd}_2(\text{TDC})_2(\text{ox})(\text{H}_2\text{O})_4] \cdot 2\text{H}_2\text{O}\}_n$ (**3**) ($\text{SUC}=\text{succinate}$, $\text{ox}=\text{oxalate}$).

Tetranuclear Copper(II) and Zinc(II) Complexes Constructed from an Asymmetrical Salamo-Type N_2O_3 Donor Ligand: Syntheses, Structures and Fluorescence Properties (English)

DONG Xiu-Yan, GAO Lei, WANG Fei, ZHANG Yang, DONG Wen-Kui

DOI:10.11862/CJIC.2018.070

Chinese J. Inorg. Chem., **2018**,**34**(4):739-749



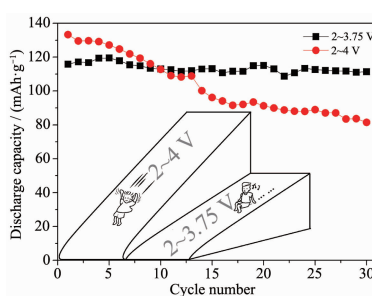
Two newly designed tetranuclear complexes, $\{Cu(L)(OAc)Cu(H_2O)\}_2$ (**1**) and $\{Zn(L)(OAc)Zn(H_2O)\}_2$ (**2**) derived from an asymmetrical Salamo-type ligand (H_3L) were synthesized and characterized structurally. Infinite 1D chain and 3D supramolecular structures are formed for complexes **1** and **2**, respectively. Complexes **1** and **2** show a higher intense photoluminescence with maximum emission at *ca.* 448 and 442 nm, respectively.

Mechanism on Capacity Fading at Higher Charging Potential of $NaNi_{1/3}Co_{1/3}Mn_{1/3}O_2$ for Sodium Ion Batteries (English)

WANG Yong, LIU Wen, GUO Rui, LUO Ying, LI Yong, PEI Hai-Juan, XIE Jing-Ying

DOI:10.11862/CJIC.2018.074

Chinese J. Inorg. Chem., **2018**,**34**(4):750-756



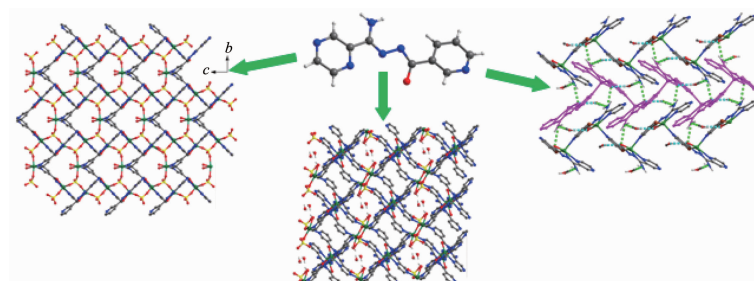
As it depicted below, when working at the potential of 2 ~4 V, the discharge capacity decreased at a comparatively speed. Relatively, the potential of 2 ~ 3.75 V seemed to be more comfortable for the material.

Three Complexes Based on Pyridine-Pyrazine-Hydrazone Ligand: Syntheses, Photocatalysis and Luminescent Properties

XU Zhou-Qing, HE Ya-Ling, LI Qing-Qing, ZHANG Pei-Ling, LI Hui-Jun, WANG Yuan

DOI:10.11862/CJIC.2018.104

Chinese J. Inorg. Chem., **2018**,**34**(4):757-766



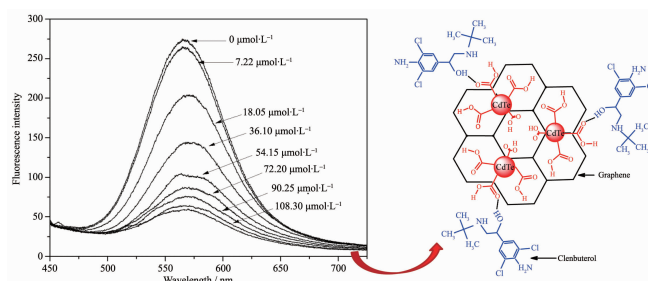
Three complexes with photocatalytic activities were constructed by a novel pyridine-pyrazine-hydrazone ligand and transition metal ion.

Graphene/CdTe Quantum Dots Composites: Synthesis and Application on Clenbuterol Detection (English)

JIN Li, ZHANG Ke-Shi, LIU Fang-Tong, WANG Ying, ZHANG Jian-Po

DOI:10.11862/CJIC.2018.077

Chinese J. Inorg. Chem., **2018**,**34**(00):767-776



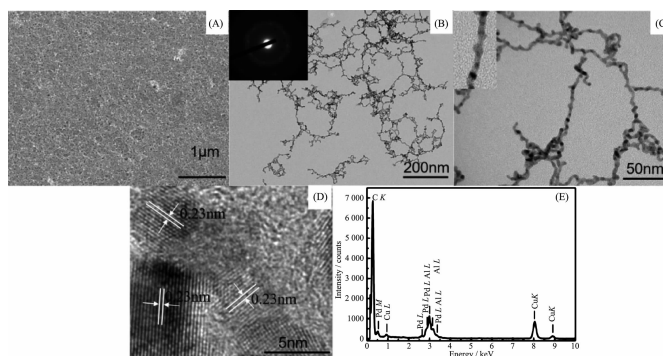
There is a good linear relationship between the decreasing of fluorescence intensity of graphene/CdTe composites and the concentration of clenbuterol, and the limit of detection is $4 \mu\text{mol}\cdot\text{L}^{-1}$.

Pd-Ag Alloy Nanowires: Facile Visible-Light-Assisted Synthesis and Electrocatalytic Activity toward Ethanol Oxidation (English)

TAN De-Xin, WANG Yan-Li

DOI:10.11862/CJIC.2018.098

Chinese J. Inorg. Chem., **2018**,**34**(4):777-783

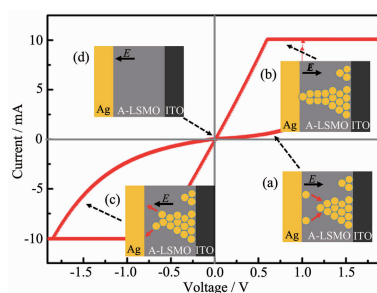


Amorphous $\text{La}_{0.75}\text{Sr}_{0.25}\text{MnO}_3$ Thin Film Fabricated by Pulsed Laser Deposition as a Medium Layer for Semi-transparent Resistive Random Access Memory (English)

ZHANG Jia-Qi, WU Xiao-Feng, MA Xin-Yu, YUAN Long, HUANG Ke-Ke, FENG Shou-Hua

DOI:10.11862/CJIC.2018.099

Chinese J. Inorg. Chem., **2018**,**34**(4):784-790



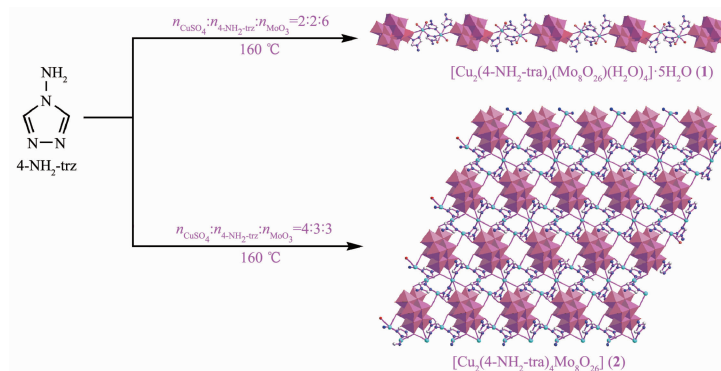
A memristive switching device of Ag/a-LSMO/ITO with good non-volatile and bipolar resistance switching behavior is fabricated. The resistance switching behavior is attributed to the growth and break of Ag metallic filament in a-LSMO layer according to the electrochemical metallization theory.

Hydrothermal Assembly and Photocatalytic Characterization of Polyoxometalate-Based Cu^{II} and Cu^{I} Hybrid Coordination Framework with 4-Amino-1,2,4-triazole (English)

LIU Yuan-Yuan, ZHANG Hui-Min, WANG Xin-Rui, DING Bo, LIU Zhen-Yu, DING Bin

DOI:10.11862/CJIC.2018.097

Chinese J. Inorg. Chem., **2018**,**34**(4):791-799



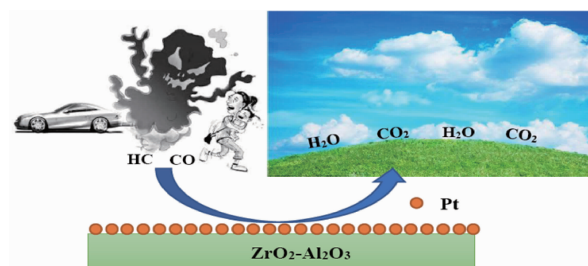
Two polyoxometalate (POM)-based Cu^{II} and Cu^{I} hybrid complexes **1** and **2** have been designed and synthesized and display good photocatalytic characterization for organic dyes.

Catalytic Oxidation of C_3H_6 and CO over Pt/ $\text{ZrO}_2\text{-Al}_2\text{O}_3$ Catalyst (English)

DU Jun-Chen, MA Jiang-Li, WANG Feng-Jun, YANG Dong-Xia, ZHENG Ting-Ting, ZHAO Yun-Kun

DOI:10.11862/CJIC.2018.088

Chinese J. Inorg. Chem., **2018**,**34**(4):800-806



Pt/ $\text{ZrO}_2\text{-Al}_2\text{O}_3$ with highly dispersed Pt and mesoporous textures has been investigated as an efficient material for catalytic oxidation of HC and CO, which can be applied in close coupled catalyst for automobile exhaust purification.