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Syntheses, Crystal Structures and *in Vitro* Anticancer Activity of Four Binuclear Benzyltin Complexes Based on Acylhydrazone Ligand

LIU Jiao, LI Zhuo-Qun, YI Yu-Yang, ZHONG Yi-Xin, YU Hao-Tian, TAN Yu-Xing, JIANG Wu-Jiu

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Chinese J. Inorg. Chem., **2019**,**35**(12):2200-2208

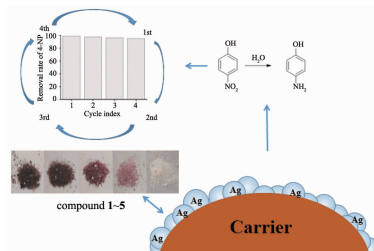
Articles

Synthesis and Catalytic Properties of $\text{Co}^{2+}/\text{Cd}^{2+}$ Composite Materials (English)

LIU Dong-Ning, WANG Cui-Juan, XIAO Yu-Mei, LIU Cheng, LUO Dan, ZHU Zi-Xin, CHEN Shuang, WANG Yao-Yu

DOI:10.11862/CJIC.2019.270

Chinese J. Inorg. Chem., **2019**,**35**(12):2193-2199



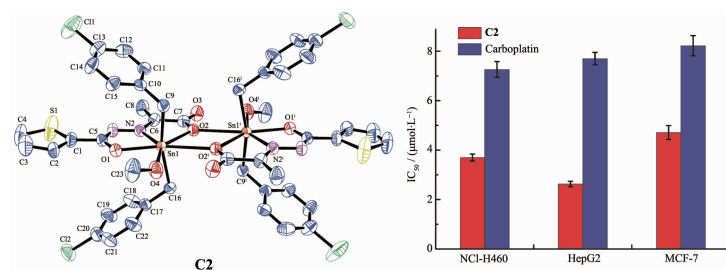
Five isoelectric metal-doped (Co/Cd) catalysts loaded with silver ions were synthesized by a simple soaking method to catalyze the reduction of p-nitrophenol. They showed different catalytic effects for the reaction and remained stable after 4 cycles.

Syntheses, Crystal Structures and *in Vitro* Anticancer Activity of Four Binuclear Benzyltin Complexes Based on Acylhydrazone Ligand

LIU Jiao, LI Zhuo-Qun, YI Yu-Yang, ZHONG Yi-Xin, YU Hao-Tian, TAN Yu-Xing, JIANG Wu-Jiu

DOI:10.11862/CJIC.2019.269

Chinese J. Inorg. Chem., **2019**,**35**(12):2200-2208



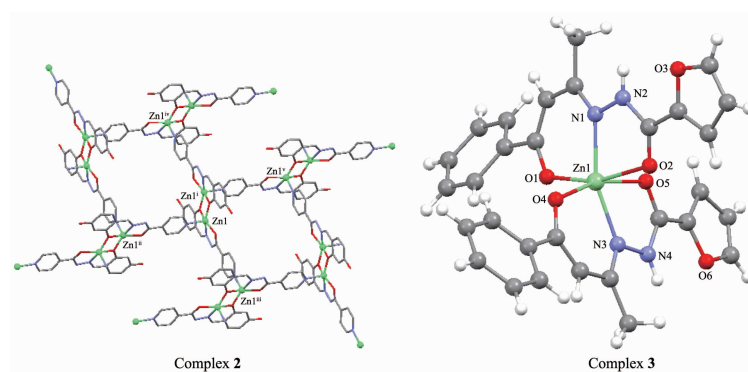
The four complexes are all binuclear molecules, and the central tin atom forms a seven-coordinated pentagonal bipyramid configuration. **C2** is the best compound for inhibiting cancer cells in these synthesized complexes.

Syntheses, Crystal Structures, and Characterization of Three Zinc Complexes with Different Acylhydrazone-Type Schiff Base Ligands

CHEN Yan-Min, XIE Qing-Fan

DOI:10.11862/CJIC.2019.267

Chinese J. Inorg. Chem., 2019,35(12):2209-2216

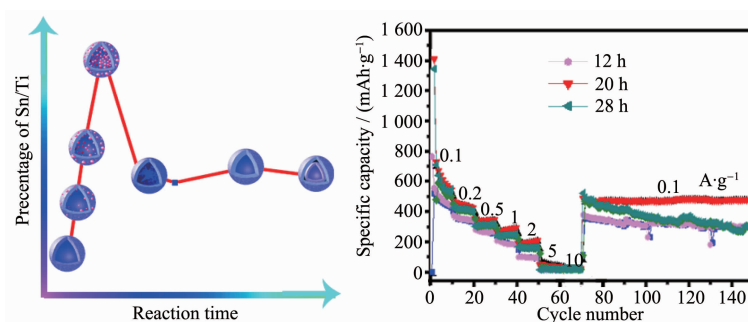


Preparation and Properties of Highly Electrochemically Active SnO₂/TiO₂ Hollow Microspheres

JIANG Ju-Hui, LI Pei-Pei, LIU Sheng-Nan,
LOU Xiang-Dong, FAN Jing, WANG Xiao-Bing

DOI:10.11862/CJIC.2019.226

Chinese J. Inorg. Chem., 2019,35(12):2217-2225



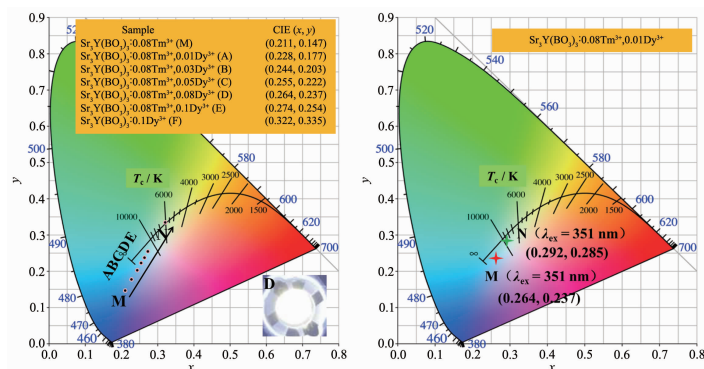
The percentage ratio of Sn to Ti can be adjusted by the reaction time during a solvothermal synthesis of SnO₂/TiO₂ hollow microspheres, and SnO₂/TiO₂ microspheres exhibit good electrochemical properties in lithium ion batteries.

Luminescent Properties and Energy Transfer of Color Tunable Sr₃Y(BO₃)₃:Tm³⁺, Dy³⁺ Phosphors

ZHENG Jin-Le, WU Xiu-Lan, REN Qiang,
HAI Ou, REN Yu-Han, ZHAO Yu-Jing,
YIN Bo-Jie, YANG En-Long

DOI:10.11862/CJIC.2019.256

Chinese J. Inorg. Chem., 2019,35(12):2226-2232



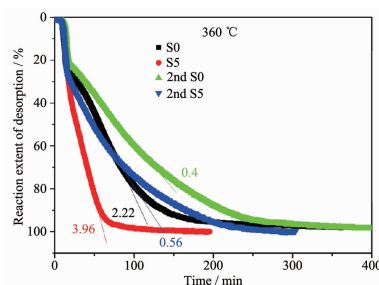
The color of novel Sr₃Y(BO₃)₃:xTm³⁺, yDy³⁺ phosphors could be tuned from blue to white by adjusting the doping concentration of Dy³⁺ and changing the excitation wavelength.

Effect of C₁₀H₁₀Cl₂Ti on Hydrogen Storage Properties of 6LiBH₄-CaH₂-3MgH₂ System

RAO Chong-Shun, ZHANG Xin, YANG Jing-Hao,
LIU Qian, ZHOU Yi-Fan

DOI:10.11862/CJIC.2019.275

Chinese J. Inorg. Chem., 2019,35(12):2233-2242



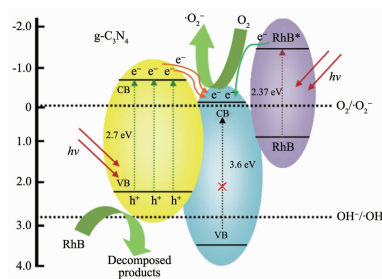
As 97% of the theoretical capacity released within 92 min, the hydrogen release rate of S5 samples increased by 178% . According to the isothermal hydrogen release curve of the second cycle, the secondary hydrogen release rate of S5 samples was still 40% higher than that of the original sample(S0).

Preparation and Photocatalytic Activity of g-C₃N₄/SnO₂ Composite

NING Xiang, WU Yue-Tao, WANG Xu-Feng,
LIU Yan-Li

DOI:10.11862/CJIC.2019.272

Chinese J. Inorg. Chem., **2019**,*35*(12):2243-2252



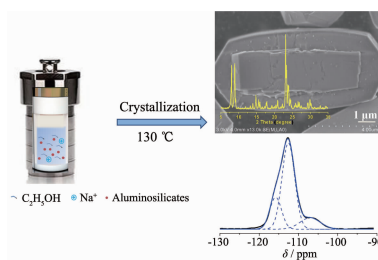
The optical absorption edge of g-C₃N₄/SnO₂ composites obtained coupling hydrothermal method with thermal polymerization process had an obvious red shift in comparison with pure SnO₂. The photocatalytic degradation properties of optimal 50% g-C₃N₄/SnO₂ composite on Rhodamine B were 3.78 times as great as that of pure g-C₃N₄ because of the co-effect of heterojunction.

One-Step Synthesis of High-Silica ZSM-5 in the Absence of Organic Amine

HU Su-Fang, WANG Yan, MA Jing-Hong,
LI Rui-Feng

DOI:10.11862/CJIC.2019.263

Chinese J. Inorg. Chem., **2019**,*35*(12):2253-2259



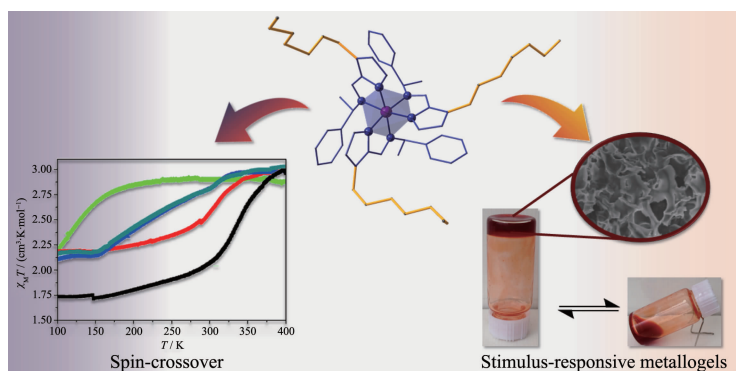
The pure phase high-silica ZSM-5 zeolite with plate-like morphology showed that the $n_{\text{SiO}_2}/n_{\text{Al}_2\text{O}_3}$ was 96.4 at a lower crystallization temperature (130 °C) in the absence of organic amine and seed. The specific surface area and micropore volume the product with higher crystallinity were 409 m²·g⁻¹ and 0.14 cm³·g⁻¹.

Synthesis and Gelation Ability of Spin-Crossover Iron(II) Alkyl Imidazole Complexes

WANG Ya-Qin, ZHANG Hai-Xia,
ZHANG Shu-Heng, HE Wei, GE Fang-Yuan,
CHEN Yu-Xin, GU Zhi-Guo

DOI:10.11862/CJIC.2019.254

Chinese J. Inorg. Chem., **2019**,*35*(12):2260-2268



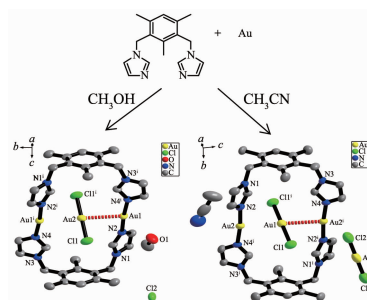
A series of iron(II) imidazole complexes with different lengths of alkyl chains were synthesized and they exhibited various spin-crossover properties. Interestingly, the complexes with longer alkyl chains ($n \geq 14$) can form metallogels with good stimulation-response ability.

Synthesis, Characterization and Fluorescence Properties of Macrocyclic Gold(I) Complexes with Flexible Bisimidazolate-Containing Ligands

SONG Yang, SUN Hai-Xia, WANG Yan,
LIU Hong-Ke

DOI:10.11862/CJIC.2019.220

Chinese J. Inorg. Chem., **2019**,*35*(12):2269-2274



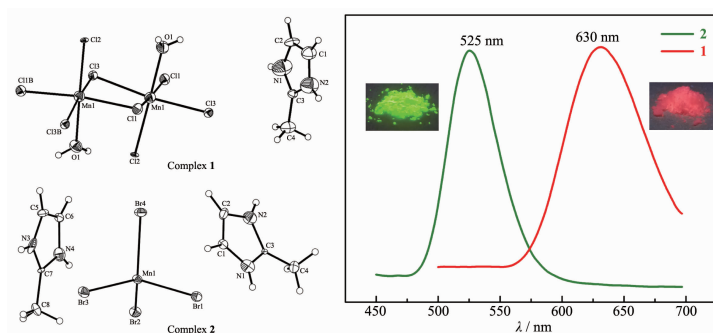
Two novel Au(I) complexes, [Au₂(*m*-bitmb)₂][AuCl₂]Cl·2CH₃OH (**1**) and [Au₂(*m*-bitmb)₂][AuCl₂]₂·2CH₃CN (**2**) (*m*-bitmb = 1,3-bis(imidazol-1-ylmethyl)-2,4,6-trimethylbenzene) were structurally characterized, and their luminescent properties were presented.

Synthesis, Crystal Structures and Photophysical Properties of Manganese(II) Complexes Based on Imidazole Ionic Liquids

LI Ling-Yan, LI Man, LI Lei, YU Yun-Yao,
PAN Shang-Ke, PAN Jian-Guo

DOI:10.11862/CJIC.2019.264

Chinese J. Inorg. Chem., 2019,35(12):2275-2283



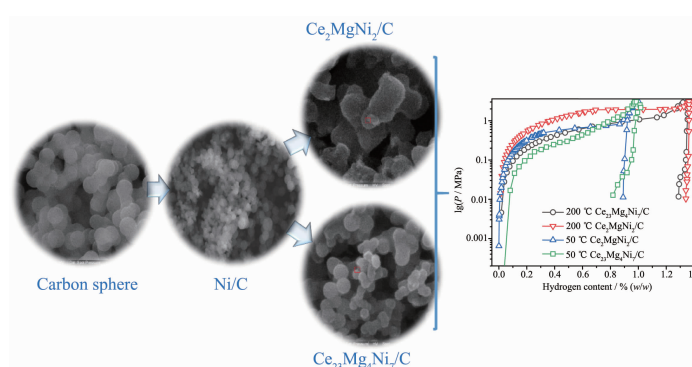
Complex **1** has an octahedral configuration, emitting deep-red emission, and complex **2** has a tetrahedron configuration, emitting green emission. Under the excitation of X-ray, they showed the better X-ray fluorescence performance.

Synthesis of Ce-Mg-Ni/C Nano-Composite Hydrogen Storage Materials by Solvent-Thermal Method

LIU Zhuo-Cheng, GUO Rui-Hua, RUAN Fei,
HU Feng, ZHANG Jie-Yu, AN Sheng-Li

DOI:10.11862/CJIC.2019.259

Chinese J. Inorg. Chem., 2019,35(12):2284-2290



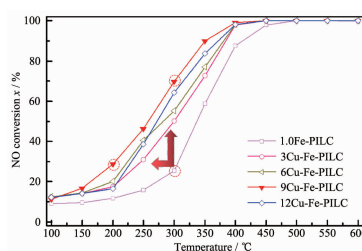
Solvent-thermal synthesis of Ce-Mg-Ni/C nano-composite material comprising Ce_2MgNi_2 or $\text{Ce}_{23}\text{Mg}_4\text{Ni}_7$ ternary alloy phase was reported. Hydrogen adsorption capacity of these composites reached 1.54% and 1.05%(w/w) at 50 °C, respectively.

Selective Catalytic Reduction of NO by C_3H_6 over Cu-Fe-PILC

CHENG Jiang-Hao, SU Ya-Xin, LI Qian-Cheng,
WEN Ni-Ni, DENG Wen-Yi, ZHOU Hao,
ZHAO Bing-Tao

DOI:10.11862/CJIC.2019.255

Chinese J. Inorg. Chem., 2019,35(12):2291-2300



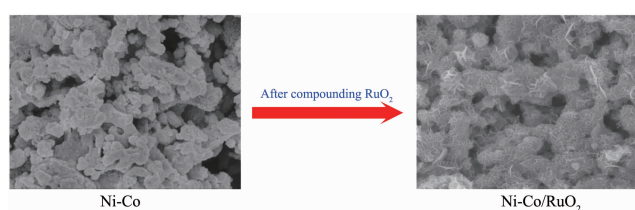
The modification of copper significantly improved the SCR-HC activity of the iron pillared montmorillonite catalyst at medium and low temperature.

Preparation of Ni-Co/RuO₂ Composite Electrode and Electrocatalytic Activity for Hydrogen Evolution

ZHOU Qi, DUAN De-Dong, FENG Ji-Wei

DOI:10.11862/CJIC.2019.258

Chinese J. Inorg. Chem., 2019,35(12):2301-2310



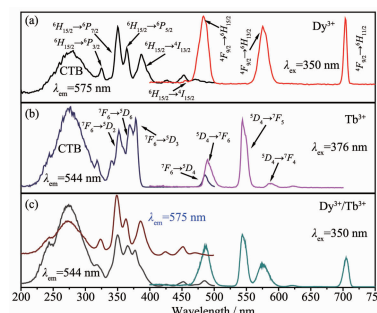
The nanoporous Ni-Co alloy was prepared by rapid solidification combined with de-alloying. The surface modification of the Ni-Co alloy was carried out using RuO_2 . Due to the synergistic effect between Ni, Co and RuO_2 , Ni-Co/ RuO_2 composite electrode had excellent electrocatalytic hydrogen evolution performance.

Synthesis and Energy Transfer of Dy³⁺/Tb³⁺ Co-doped Glass Ceramics Containing SrWO₄ Crystal

WEI Yu-Lin, ZHANG Hong-Bo, WANG Tong,
ZOU Xiang-Yu, SU Chun-Hui

DOI:10.11862/CJIC.2019.260

Chinese J. Inorg. Chem., **2019**,**35**(12):2311-2317



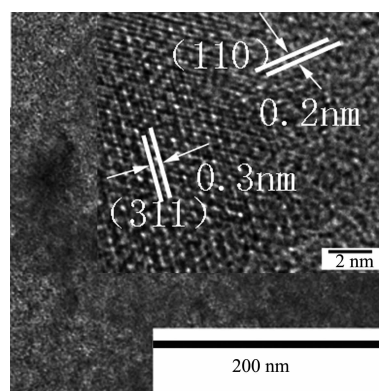
At 350 nm, the emission spectra of Dy³⁺/Tb³⁺ co-doped glass ceramics contained Tb³⁺ and Dy³⁺ characteristic peaks, and the energy transfer from Dy³⁺ to Tb³⁺ was studied.

Preparation and Electrocatalytic Performance of Flake Co₉S₈/ZnS/C Composites for Oxygen Evolution Reduction

LI Zhi-Xue, REN Tie-Qiang, GENG Zhong-Xing,
YANG Zhan-Xu

DOI:10.11862/CJIC.2019.266

Chinese J. Inorg. Chem., **2019**,**35**(12):2318-2322



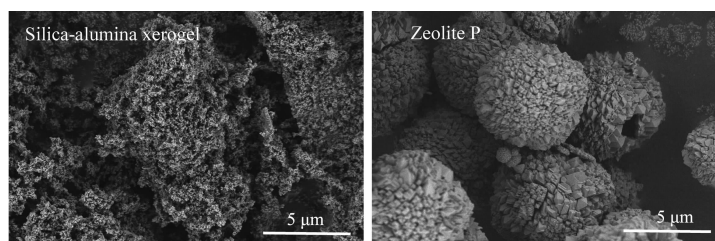
The flake Co₉S₈/ZnS/C composites prepared by solvothermal method, has high electrocatalytic oxygen production performance, which can be attributed to a small amount of inert ZnS components and pore structure of the composite.

Rapid Synthesis of Zeolite P with High Calcium and Magnesium Ion Exchange Properties by Like-Solid Phase Method

ZHANG Shu, GUO Hong-Fei, LIU Xiu-Wu,
CHEN Xue-Qing, ZHAO Bin, CAO Ji-Lin

DOI:10.11862/CJIC.2019.276

Chinese J. Inorg. Chem., **2019**,**35**(12):2323-2330



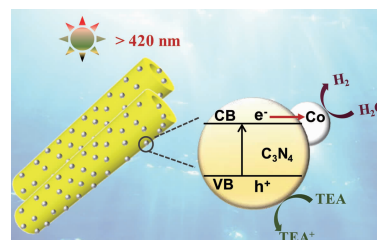
The like-solid phase method for zeolite P was studied. Zeolite P products of high calcium and magnesium ion exchange properties can be synthesized rapidly at 140 °C for 3 h with $n_{\text{SiO}_2}/n_{\text{Al}_2\text{O}_3}=5$, $n_{\text{Na}_2\text{O}}/n_{\text{SiO}_2}=0.26$ and $n_{\text{H}_2\text{O}}/n_{\text{SiO}_2}=18.51$.

Preparation and Visible-Light-Induced Photocatalytic Activities of Co/C₃N₄ NTs

ZHU Yu-Xiang, XU Shi-Jie, YANG Jing,
LIU Jian

DOI:10.11862/CJIC.2019.261

Chinese J. Inorg. Chem., **2019**,**35**(12):2331-2336



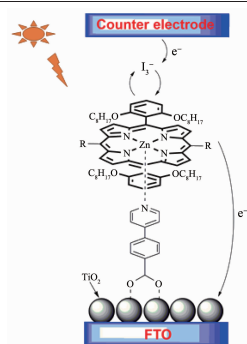
This work reports cheap cobalt metal supported carbon nitride nanotubes for improved visible-light-induced photocatalytic hydrogen production.

Self-Assembly with Zinc Porphyrin Antenna for Dye-Sensitized Solar Cells (English)

JIA Hai-Lang, PENG Zhi-Jie, LI Shan-Shan,
GONG Bing-Quan, GUAN Ming-Yun

DOI:10.11862/CJIC.2019.274

Chinese J. Inorg. Chem., **2019**,**35**(12):2337-2345



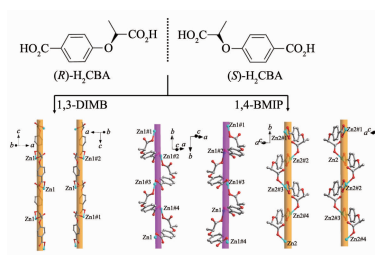
Supramolecular self-assembly is a potential and effective way to improve the performance of DSSCs.

Two Pairs of Homochiral Coordination Polymers with Helices Formed from Lactic Acid Derivatives and Rigid Auxiliary Ligands: Syntheses, Structures and Properties (English)

XU Zhong-Xuan, SHI Ming-Feng

DOI:10.11862/CJIC.2019.265

Chinese J. Inorg. Chem., **2019**,**35**(12):2346-2354



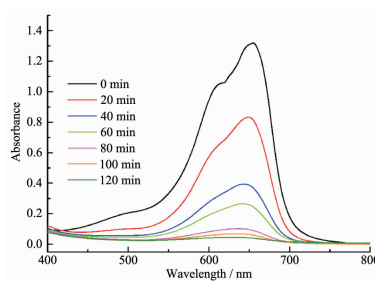
With the help of rigid auxiliary ligands, lactic acid ligands and Zn^{2+} have constructed two pairs of homochiral coordination polymers (HCPs) with helices under hydrothermal conditions, which further prove that the helicity of HCPs can be dictated by the chirality of the ligands.

Syntheses, Structures and Properties of Three Coordination Polymers Based on Citraconic Acid (English)

LI Gui-Lian, YIN Wei-Dong, LIU Qian-Long,
LI Xiao-Ling, XIN Ling-Yun, LIU Guang-Zhen

DOI:10.11862/CJIC.2019.271

Chinese J. Inorg. Chem., **2019**,**35**(12):2355-2363



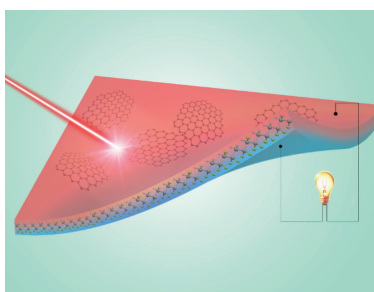
Three Zn/Cd coordination polymers based on flexible citraconic acid display fluorescent properties. Complex **3** has good photocatalytic activity in decomposing MB.

Photo-Thermoelectric Generation in MoS_2 /Pyroelectric Polymer Nanocomposites for Collection of Near-Infrared Light Energy (English)

QI Yu-Cong, SHEN Xiao-Quan, LIU Jia-Hao,
XIAO Xuan-Zhong, SHEN Qun-Dong

DOI:10.11862/CJIC.2019.268

Chinese J. Inorg. Chem., **2019**,**35**(12):2364-2372



A novel photo-thermoelectric nanogenerator (PTENG) was designed utilizing a flexible pyroelectric polymer film with dispersed molybdenum disulfide. The incident near-infrared light energy is harvested by the transition-metal dichalcogenide as thin-layered nanosheets and converted into thermal energy. The pyroelectric polymer subsequently transduces the thermal energy into electric energy.

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