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Special Issue in Memory of Prof. YOU Xiao-Zeng

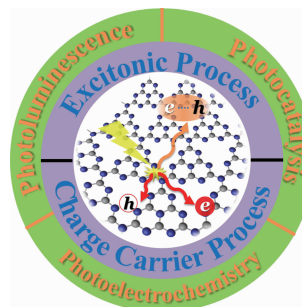
Reviews

Recent Progresses on the
Photoexcitation Processes of Polymeric
Carbon Nitride-Based Materials

WANG Hui, ZHANG Xiao-Dong, XIE Yi

DOI:10.11862/CJIC.2017.249

Chinese J. Inorg. Chem., **2017**,**33**:1897-1913

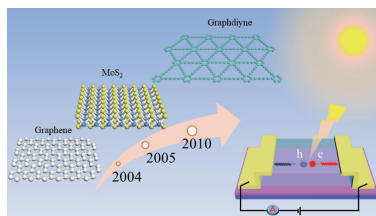


Two-Dimensional Semiconducting
Materials and Devices: from Traditional
Two-Dimensional Optoelectronic
Materials to Graphdiyne

HUANG Yan-Min, YUAN Ming-Jian,
LI Yu-Liang

DOI:10.11862/CJIC.2017.265

Chinese J. Inorg. Chem., **2017**,**33**:1914-1936



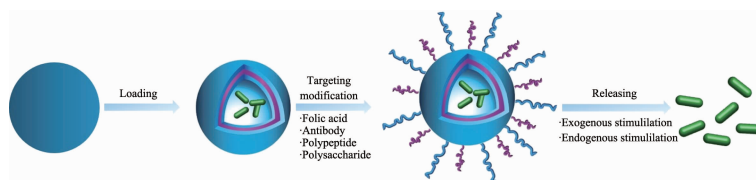
An extensive review of recent investigations into the optical and electrical properties of two dimensional materials, which focus on the influences of materials and device structure on the performance of photodetector, as well as the fabrication and opto-electron applications of a novel two dimensional material-graphdiyne.

Nanoparticle Drug Delivery Systems Based on Biomimetic Mineralization

XIAO Yun, TANG Rui-Kang

DOI:10.11862/CJIC.2017.242

Chinese J. Inorg. Chem., **2017**,**33**:1937-1946



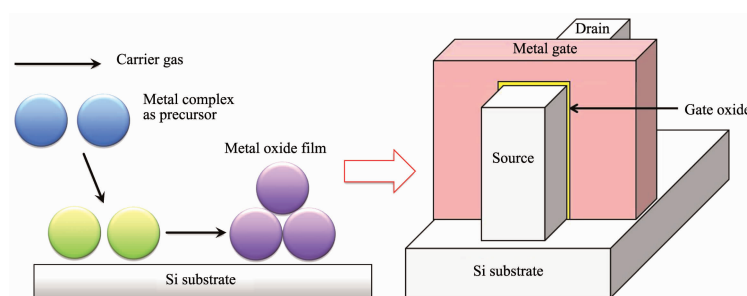
The targeting strategy and stimulus response strategy of the nanocarrier based on biomimetic mineralization are highlighted.

Metal Oxides and Modern Microelectronics: Roles of Transition Metal Compounds and their Conversion to the Materials (English)

Tabitha M. Cook, Adam C. Lamb,
XUE Zi-Ling

DOI:10.11862/CJIC.2017.249

Chinese J. Inorg. Chem., **2017**,**33**:1947-1958



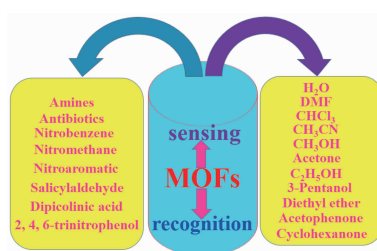
Transition metal complexes as CVD/ALD precursors are widely used to produce thin films of metal oxides (e.g., HfO_2) in microelectronic devices. Recent progresses in the areas are reviewed.

Progress in Fluorescent Recognition and Sensing of Solvent and Small Organic Molecules Based on Metal-Organic Frameworks

LIU Zhi-Qiang, HUANG Yong-Qing,
SUN Wei-Yin

DOI:10.11862/CJIC.2017.244

Chinese J. Inorg. Chem., **2017**,**33**:1959-1969



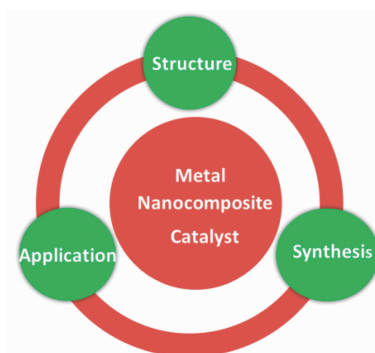
This review focuses on the photoluminescence of MOFs with recognition and sensing properties. Examples of MOFs in the sensing water, DMF, ketone, amines, antibiotics and so on are summarized.

Recent Development on Synthesis and Application of Metal Nanocomposite Catalyst

XU Xing-Liang, LI Li-Ping, ZHANG Dan,
WANG Yan, LI Guang-She

DOI:10.11862/CJIC.2017.257

Chinese J. Inorg. Chem., **2017**,**33**:1970-1990



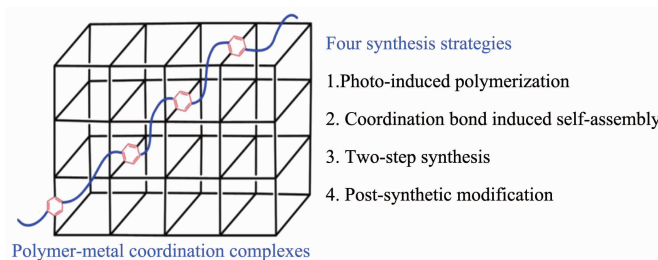
The latest development of metal nanocomposite catalysts is systematically introduced in synthesis, structure, and catalytic applications.

Recent Progress of Crystalline and Porous Polymer-Metal Coordination Complexes: Synthesis, Characterization and Properties (English)

YU Qi, CHEN Yao, ZHANG Zhen-Jie, CHENG Peng

DOI:10.11862/CJIC.2017.243

Chinese J. Inorg. Chem., **2017**,**33**:1991-2004



This review summarized the methods how to construct porous and crystalline PMCCs including photo-induced polymerization method, coordination bond induced self-assembly method, two-step synthesis method and post-synthetic modification method.

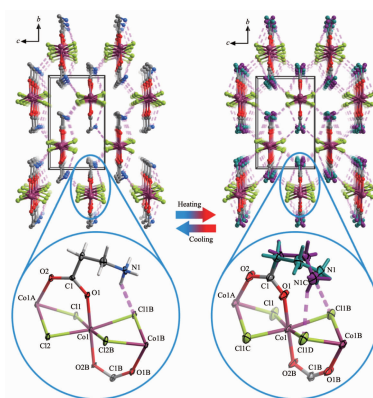
Articles

Phase Transitions of Two Coordination Polymers $[MCl_2(\beta\text{-ala})_n]$ ($M=\text{Co}, \text{Ni}$; $\beta\text{-ala}=3\text{-Aminopropionic Acid}$)

SU Yu-Jun, XU Ke, YUAN Wei, HUANG Rui-Kang, ZHANG Wei-Xiong, CHEN Xiao-Ming

DOI:10.11862/CJIC.2017.247

Chinese J. Inorg. Chem., **2017**,**33**:2005-2010



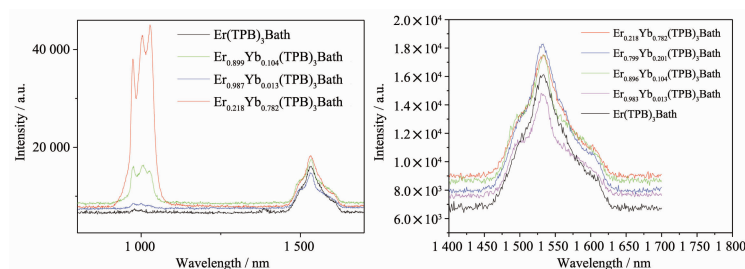
Two new isomorphous coordination polymers were assembled by 3-aminopropionic acid and Co(II)/Ni(II) chlorides, respectively. They undergo a reversible structural phase transition with changing space group between $Pnam$ and $Pna2_1$ and exhibit step-like dielectric anomaly, owing to the order-disorder dynamic change of ammonium ethyl group.

Near Infrared Luminescence Properties of the Complexes of $\text{Er}_x\text{Yb}_{1-x}(\text{TPB})_3\text{Bath}$ ($x=0, 0.218, 0.799, 0.896, 0.987, 1$) (English)

ZHANG Qing-Rui, DENG Rui-Ping, LIU Ying-Bo, ZHOU Liang, ZHANG Hong-Jie

DOI:10.11862/CJIC.2017.254

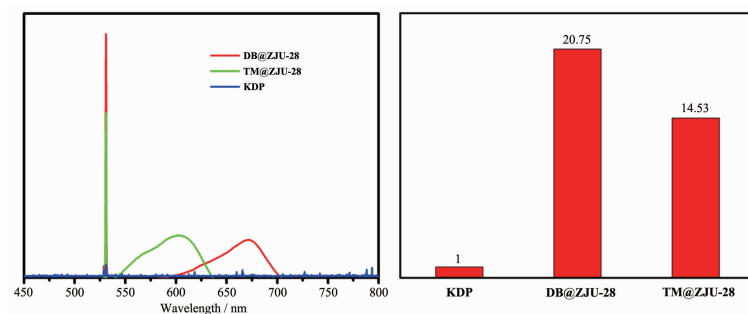
Chinese J. Inorg. Chem., **2017**,**33**:2011-2016



A series of mixed $\text{Er}_x\text{Yb}_{1-x}(\text{TPB})_3\text{Bath}$ complexes were prepared. The emission intensity of Er^{3+} ion can be enhanced by proper tuning the $n_{\text{Er}}/n_{\text{Yb}}$ in the mixed $\text{Er}_x\text{Yb}_{1-x}(\text{TPB})_3\text{Bath}$ complexes.

Second-Harmonic Generation and Two-Photon Activity of MOFs Modified by Organic Cationic Dyes

HU Zhi-Yong, XU Sha-Sha, ZHANG Qiong,
LI Sheng-Li, WU Jie-Ying, TIAN Yu-Peng



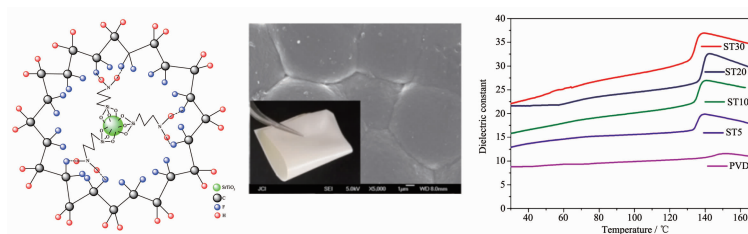
Novel composites with nonlinear optical effect were prepared by exchanging the dimethylamine cation with organic cationic dyes in **ZJU-28** channels. Compared to original **ZJU-28**, the composite crystals possess strong second harmonic generation (SHG) and two-photon absorption fluorescence observed through confocal microscopy.

DOI:10.11862/CJIC.2017.239

Chinese J. Inorg. Chem., **2017**,**33**:2017-2023

Enhanced Dielectric and Ferroelectric Properties of Core-Shell Structure of SrTiO₃/PVDF Composite Films Cross-Linked with Silane Coupling Agent (English)

SUI Yan, ZHOU Kai-Hao, HUANG Jian-Gen,
ZHU Ying, ZENG Gui-Bing,
OUYANG Shu-Xia



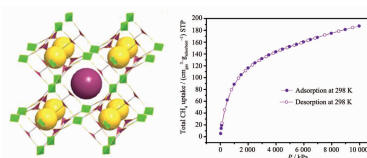
Insoluble SrTiO₃ was homogeneously distributed into PVDF matrix to form a core-shell structure of composite film by using 3-aminopropyltriethoxysilane as a cross-linker. The flexible composite film exhibited enhanced dielectric and ferroelectric properties.

DOI:10.11862/CJIC.2017.231

Chinese J. Inorg. Chem., **2017**,**33**:2024-2030

An *eea* Topological Metal-Organic Framework with High Methane Uptake (English)

JI Qing-Yan, WANG Qian, LI Hong-Xin,
XUE Dong-Xu, BAI Jun-Feng



An *eea* topological MOF has been successfully synthesized with the point (Schläfli) symbol of {4².6}₂{4⁴.6².8⁶.10³}. Interestingly, its desolvated framework exhibits a large CH₄ adsorption enthalpy and high methane uptake at high pressure and 298 K.

DOI:10.11862/CJIC.2017.245

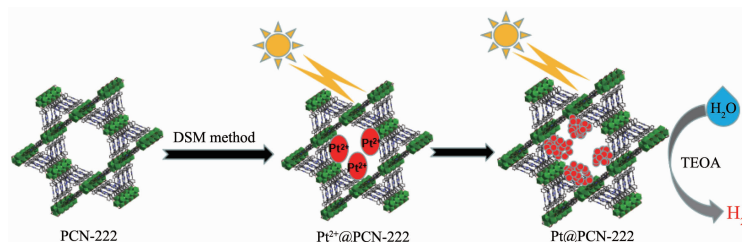
Chinese J. Inorg. Chem., **2017**,**33**:2031-2037

Platinum Nanoparticle-Decorated
Porous Porphyrin-Based Metal-Organic
Framework for Photocatalytic Hydrogen
Production (English)

WANG Qiang, XU Rui, WANG Xu-Sheng,
LIU Si-De, HUANG Yuan-Biao, CAO Rong

DOI:10.11862/CJIC.2017.240

Chinese J. Inorg. Chem., **2017**,**33**:2038-2044



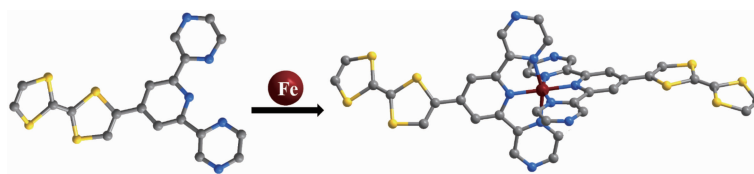
Highly dispersed Pt NPs encapsulated in PCN-222 (Pt@PCN-222) were prepared via double solvent method followed by photoreduction. The obtained mesoporous composite material Pt@PCN-222 is employed as efficient catalyst to adsorb visible-light and exhibits high activity for water splitting to produce hydrogen.

Iron(II) Complex Based on
 π -Conjugated 4-Tetrathiafulvalene-2,6-
di(pyrazin-2-yl)pyridine Ligand
(English)

XIE Jia-Ze, WANG Da-Peng, MA Jian-Ping,
WANG Hai-Ying, ZUO Jing-Lin

DOI:10.11862/CJIC.2017.246

Chinese J. Inorg. Chem., **2017**,**33**:2045-2050



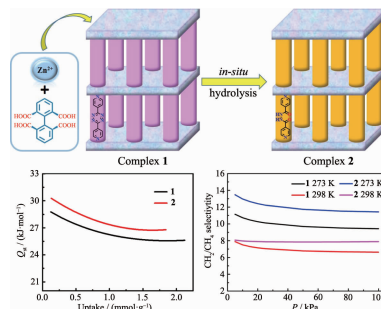
One discrete Fe(II) complex based on the redox-active TTF ligand was synthesized and structurally characterized. Complex **1** features diverse nonclassical hydrogen bonding interactions, $\pi \cdots \pi$ and $S \cdots S$ interactions. Complex **1** exhibits redox properties growing out of the TTF and metal ions, in addition to thermally-induced gradually spin-crossover.

Enhanced CO₂ Sorption Performance of
Metal-Organic Frameworks by *in-Situ*
Hydrolysis of Tetrazine Moiety in the
Ligand (English)

QIAN Bin-Bin, ZHAO Meng, CHANG Ze,
BU Xian-He

DOI:10.11862/CJIC.2017.251

Chinese J. Inorg. Chem., **2017**,**33**:2051-2059



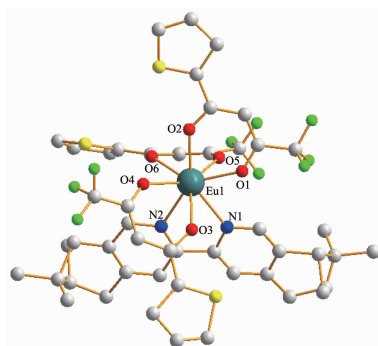
An *in-situ* hydrolysis post-synthesis method for the CO₂ sorption targeted functionalization of metal-organic frameworks with tetrazine moiety has been developed, which could effectively enhance the CO₂-framework affinity and the corresponding CO₂/CH₄ selectivity of the material.

Syntheses and Ferroelectric Properties
of a Couple of Chiral Europium(III)
Complexes (English)

LIU Jian, ZHANG Xiao-Peng, LI Cheng-Hui

DOI:10.11862/CJIC.2017.256

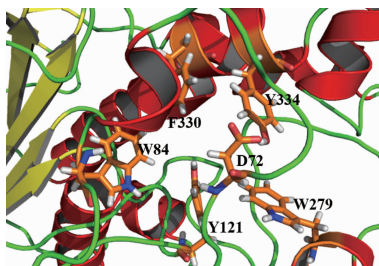
Chinese J. Inorg. Chem., **2017**,**33**:2060-2064



The introduction of natural α -Pinene as chiral source constructs a new Europium (III) complex, which crystallizes in a polar space $P1$ and exhibited desired ferroelectric property. The chirality of enantiomer is confirmed via circular dichroism (CD) spectra characterization.

Interaction Mechanism Between AChE and 1,7-Diazacarbazole Inhibitors Based on Molecular Dynamics Simulations

ZHAO Teng-Teng, YANG Xue-Yu,
DONG Ke-Ke, ZHU Xiao-Lei



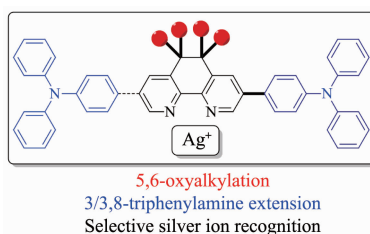
The computed binding free energies are consistent with the experimental bioactive values (IC_{50}) of 1,7-diazacarbazole inhibitors.

DOI:10.11862/CJIC.2017.250

Chinese J. Inorg. Chem., **2017**,**33**:2065-2074

5,6-Alkoxy Protected and 3-/3,8-Triphenylamine Extended 1,10-Phenanthroline Derivatives and Their Selective Silver Ion Recognition

PENG Yu-Yin, GAN Yi-Tao ,TAO Tao,
QIAN Hui-Fen, HUANG Wei



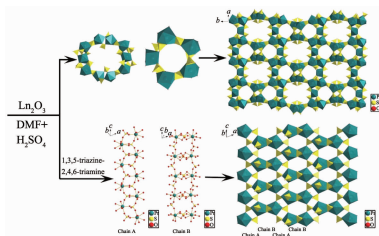
The introduction of alkoxy groups to 5,6-positions of 1,10-phenanthroline can not only lead to the enhancement of the reaction activity, but also increase the solubility of the targeted compounds. Both **TPA1** and **TPA2** show selective recognition toward the silver ion.

DOI:10.11862/CJIC.2017.252

Chinese J. Inorg. Chem., **2017**,**33**:2075-2082

Formation of 2D Organic Templated Lanthanide Sulfates Induced by Second Structural Directing Agent (English)

SHI Jie, CHENG Wei-Wei, ZHENG Lei,
XU Yan



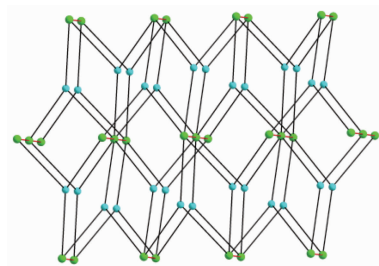
The extra-large-pore lanthanide sulfates, with the composition of $[(CH_3)_2NH_2]_9[Pr_5(SO_4)_{12}] \cdot 2H_2O$ (**1**), exhibit an interestingly intersecting 20-membered ring channels. The layered lanthanide sulfates, formulated as $[H_3O]_3[(CH_3)_2NH_2]_3[Ln_2(SO_4)_6]$ ($Ln = Pr$ for **2**, Nd for **3**), can be considered as combination of double-stranded chains and 8-membered rings.

DOI:10.11862/CJIC.2017.253

Chinese J. Inorg. Chem., **2017**,**33**:2083-2094

Four Lanthanide-Organic Frameworks Built from 2,2'-Dinitro-4,4'-biphenyldicarboxylic Acid

FENG Shang-Fa, HE Xin, QIN Tao,
ZHANG Shun-Lin, ZHU Dun-Ru



Four novel 3D LOFs with a binodal (3,8)-connected topology were solvothermally prepared, which exhibit high thermal stabilities ($T_d > 322$ °C).

DOI:10.11862/CJIC.2017.241

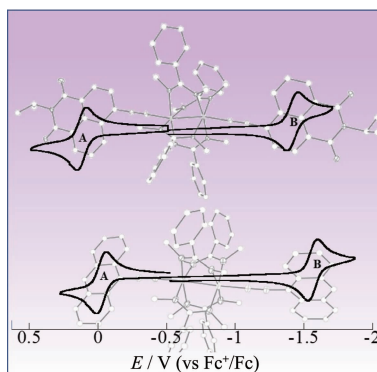
Chinese J. Inorg. Chem., **2017**,**33**:2095-2102

Diruthenium-DMBA Bis-Alkynyl Compounds with Hetero- and Extended-Aryl Appendant: Preparation and Electrochemical Property (English)

Susannah D. Banziger, Eileen C. Judkins,
Matthias Zeller, Tong Ren

DOI:10.11862/CJIC.2017.238

Chinese J. Inorg. Chem., **2017**,**33**:2103-2109



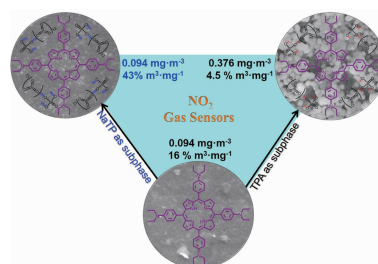
New aryethynyl-diruthenium compounds have been prepared and structurally characterized, and their rich redox characteristics were revealed through voltammetric study.

Self-assembled Organic-Inorganic Hybrid Nanocomposites of Tetrakis (4-*N,N*-diethylaminophenyl)Porphyrin/ Polyacid (Sodium Polyacid) and Highly Sensitive Responses toward NO₂

XING Chuan-Wang, LI Dong, LIU Cheng-Ben,
KONG Xia, LI Xi-You, CHEN Yan-Li,
JIANG Jian-Zhuang

DOI:10.11862/CJIC.2017.230

Chinese J. Inorg. Chem., **2017**,**33**:2110-2116



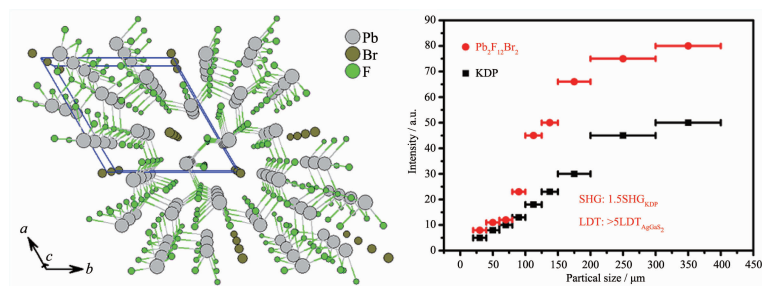
High-ordered molecular face-to-face stacking with uniformed nanoparticles and excellent film-structure are revealed from a novel H₂TNPP/NaTP organic-inorganic hybrid film prepared by a simple solution-based method. High-sensitive, fast-response and reproducible room-temperature NO₂ sensor is successfully developed based on the H₂TNPP/NaTP film, with the detection limit as low as 0.094 mg·m⁻³.

Pb₇F₁₂Br₂: A Potential Mid-IR Nonlinear Optical Material with High Laser Damage Threshold

WANG Gang, LIU Hong-Ming,
JIANG Xing-Xing, YANG Lei, LIN Zhe-Shuai,
HU Zhang-Gui, MENG Xiang-Gao,
CHEN Xing-Guo, QIN Jin-Gui

DOI:10.11862/CJIC.2017.248

Chinese J. Inorg. Chem., **2017**,**33**:2117-2123



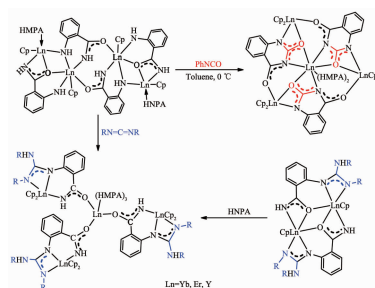
As a potential mid-IR NLO crystal material, Pb₇F₁₂Br₂ shows phase-matching SHG effect of about 1.5 times as strong as that of KDP and large LDT of 25 MW·cm⁻² with excellent thermal stability and good transparency in the region of 0.3~14 μm.

Syntheses, Cycloaminocarbonylation and Amidination of Rare Earth *o*-Aminobenzamido Dianion Complexes Bearing Cyclopentadienyl Co-ligand (English)

SUN Yan, LIU Rui-Ting, WENG Lin-Hong, ZHOU Xi-Geng

DOI:10.11862/CJIC.2017.255

Chinese J. Inorg. Chem., 2017,33:2124-2138



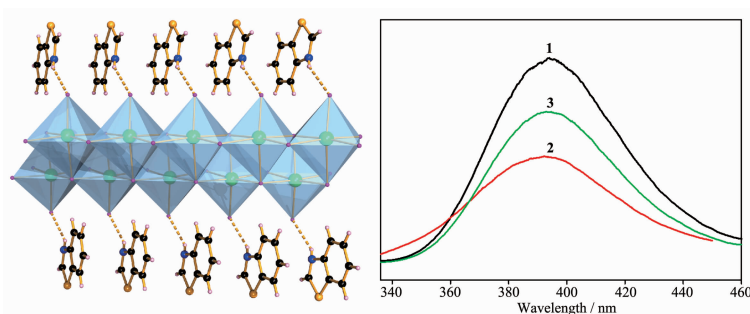
Three new tetranuclear lanthanocene derivatives containing the *o*-aminobenzamido dianion ligand have been synthesized. The first example of tandem reaction of two coordinated NH moieties with an isocyanate resulting in the formation of a quinazolyldiolate fragment is described. An unusual HMPA-induced ligand redistribution of organolanthanides is also observed in these processes.

Syntheses, Characterization and Optical Properties of Three Organic-Inorganic Hybrid Compounds Based on Metal Chlorides and Benzothiazole (English)

LIU Qing, WEI Zhen-Hong, YU Hui, HAO Yan-Huan, CAI Hu

DOI:10.11862/CJIC.2017.258

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Three organic-inorganic hybrid compounds constructed with benzothiazole and metal (II) halides MCl_2 ($M=Pb^{2+}$, Cd^{2+} , Co^{2+}) in the concentrated acid are found to have the similar emission peaks at about 393 nm.

Synthesis of Sulfur Doped Porous Carbon at Room Temperature for CO_2 Adsorption

GUO Ning-Ning, WANG Yu, WANG Run-Wei, ZHANG Zong-Tao, QIU Shi-Lun

DOI:10.11862/CJIC.2017.272

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