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pp. 4678–4683.

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Inside cover
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Rainer Schmidt *et al.*,
pp. 4684–4691.

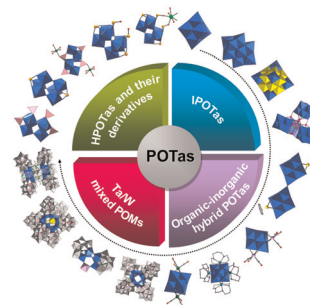
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PERSPECTIVE

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Polyoxotantalate chemistry: from synthetic strategies to structural diversity and applications

Zongfei Yang, Jing Li, Jingyang Niu* and
Jingping Wang*

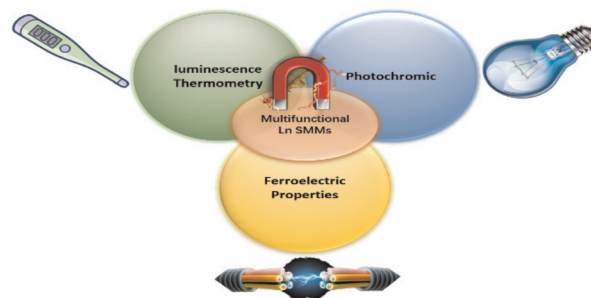


FRONTIER

4643

Multifunctional lanthanide-based single-molecule magnets exhibiting luminescence thermometry and photochromic and ferroelectric properties

Ji-Tun Chen, Teng-Da Zhou and Wen-Bin Sun*



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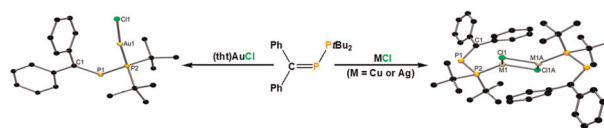


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Group 11 complexes with a phosphanylphosphaalkene ligand: preparation and stability study

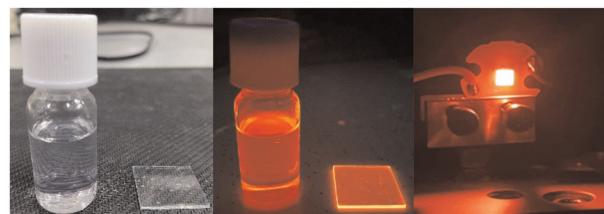
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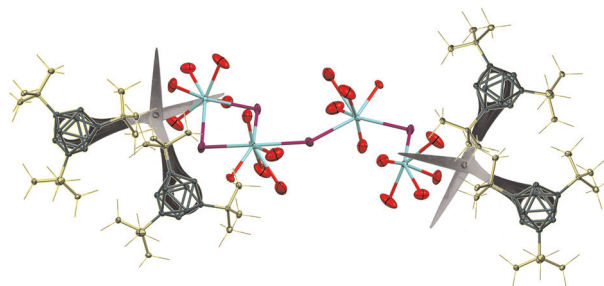
Qiulin Cao, Mengxin Liu, Xinan Shi, Zhan Ni, Bo Li, Chengzeng Lu and Daocheng Pan*



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Metalloid germanium cluster shears for lanthanide diiodides

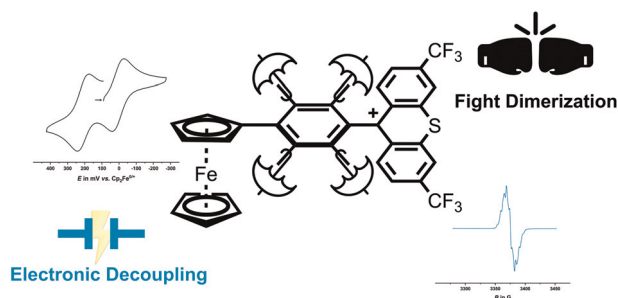
Svetlana V. Klementyeva,* Claudio Schrenk, Minghui Zhang and Marat M. Khusniyarov



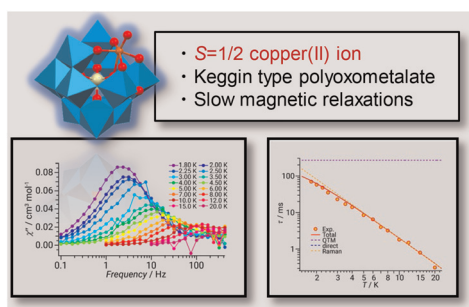
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Moritz Nau, Larissa A. Casper, Gernot Haug, Michael Linseis, Serhiy Demeshko and Rainer F. Winter*



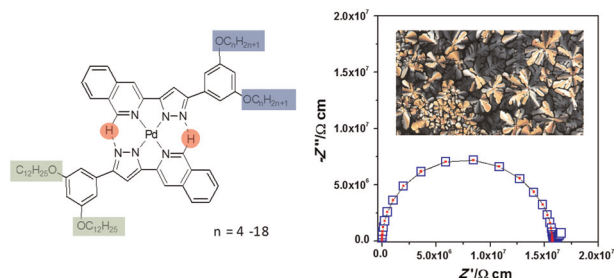
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Slow magnetic relaxation of a $S = 1/2$ copper(II)-substituted Keggin-type silicotungstate

Toshiharu Ishizaki* and Tomoji Ozeki*

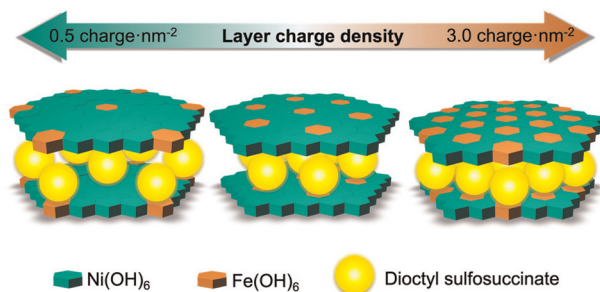
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Improving the mesomorphism in bispyrazolate Pd(II) metallomesogens: an efficient platform for ionic conduction

Cristián Cuerva,* Mercedes Cano and Rainer Schmidt*

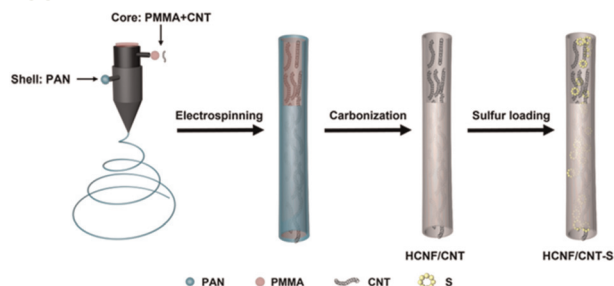
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Synthesis of NiFe layered double hydroxides with varied layer charge densities: the templating effect of dioctyl sulfosuccinate

Rattanawadee Ploy Wijitwongwan,
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Carbon nanotube-embedded hollow carbon nanofibers as efficient hosts for advanced lithium-sulfur batteries

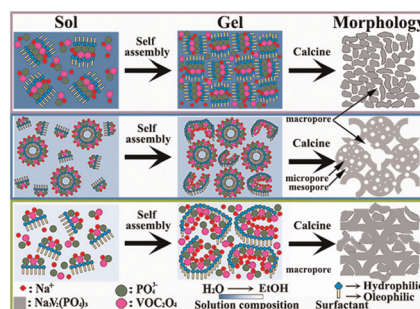
Chenshan Lv, Hailiang Cao,* Wei Deng, Min Zhao,
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Pore-forming mechanisms and sodium-ion-storage performances in a porous $\text{Na}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ composite cathode

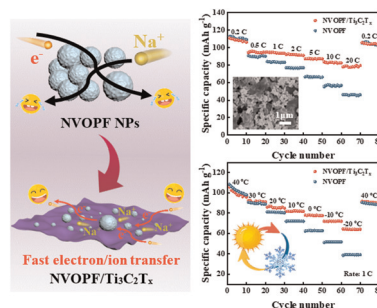
Zhaoyang Wang,* Jiaxuan Han, Dong Wang, Lingyang Liu, Wenjing Shi, Fangyu Xiong* and Haizheng Tao*



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Conductive $\text{Ti}_3\text{C}_2\text{T}_x$ networks to optimize $\text{Na}_3\text{V}_2\text{O}_7(\text{PO}_4)_2\text{F}$ cathodes for improved rate capability and low-temperature operation

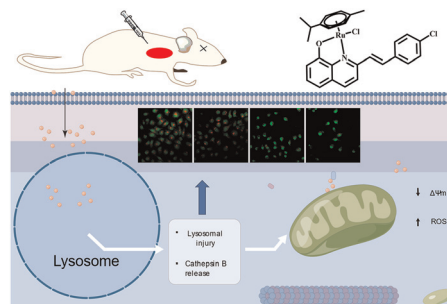
Lufeng Yue, Jie Wang, Minxi Li, Jinwen Qin* and Minhua Cao*



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In vitro and *in vivo* antitumor activity of novel half-sandwich ruthenium complexes containing quinoline derivative ligands

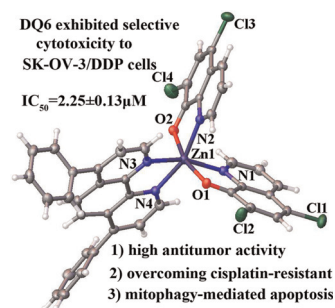
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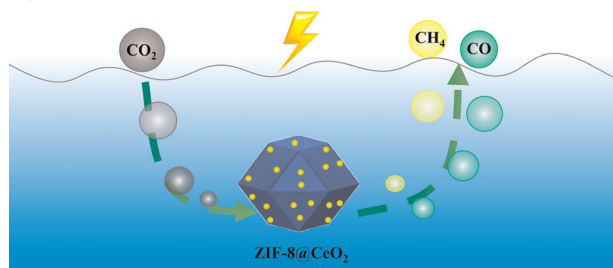
Synthesis and anticancer mechanisms of zinc(II)-8-hydroxyquinoline complexes with 1,10-phenanthroline ancillary ligands

Ling-Qi Du, Tian-Yu Zhang, Xiao-Mei Huang, Yue Xu, Ming-Xiong Tan,* Yan Huang, Yuan Chen* and Qi-Pin Qin*



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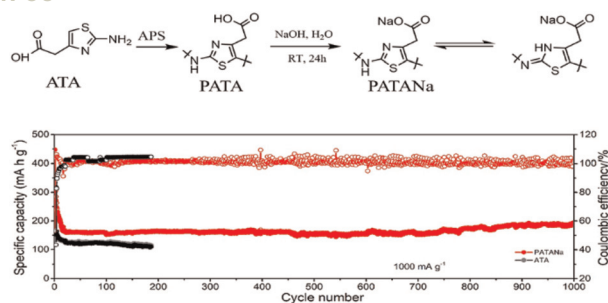
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Assembling CeO₂ nanoparticles on ZIF-8 via the hydrothermal method to promote the CO₂ photoreduction performance

Yuxin Zhang, Feifan Lang,* Yujie Zhao and Hongwei Hou*

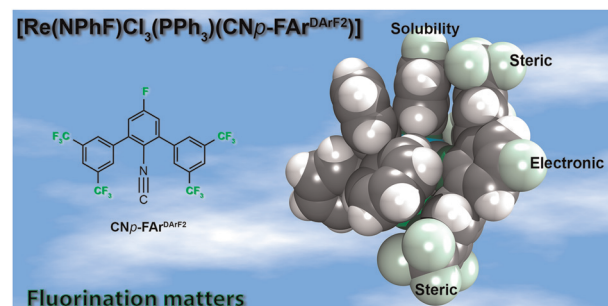
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Two-dimensional polymer nanosheets as a high-performance organic anode for sodium-ion batteries

Hongwei Kang, Yanrui Pang, Quanwei Ma, Rencheng Jin, Jing Li,* Hongbao Li, Longhai Zhang,* Yuhuan Dong, Jixiang Yue and Chaofeng Zhang*

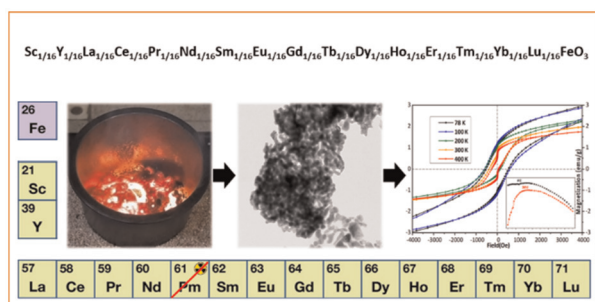
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Phenylimido complexes of rhenium: fluorine substituents provide protection, reactivity, and solubility

Guilhem Claude, Erika Kulitzki, Adelheid Hagenbach, Maximilian Roca Jungfer, Joshua S. Figueroa* and Ulrich Abram*

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An ultra-high-entropy rare earth orthoferrite (UHE REO): solution combustion synthesis, structural features and ferrimagnetic behavior

Long M. Bui,* Son T. Cam, Ivan V. Buryanenko, Valentin G. Semenov, Denis V. Nazarov, Pavel E. Kazin, Vladimir N. Nevedomskiy, Evgeny Y. Gerasimov and Vadim I. Popkov

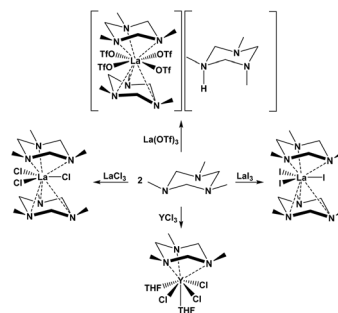


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Trimethyltriazacyclohexane coordination chemistry of simple rare-earth metal salts

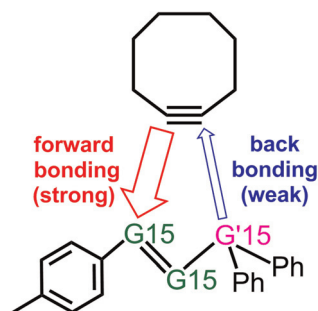
Justin C. Wedal, Joseph W. Ziller and William J. Evans*



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Influence of Group 15 elements on the [3 + 2] cycloaddition reactivity of G15 = G15–G15-based 1,3-dipoles with cyclooctyne

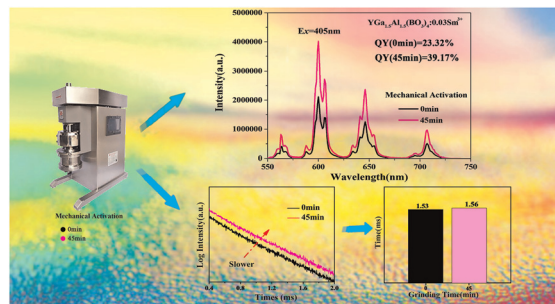
Zheng-Feng Zhang and Ming-Der Su*



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Synthesis of a Sm³⁺-doped YGa_{1.5}Al_{1.5}(BO₃)₄ phosphor via a mechanical activation-assisted solid-state reaction

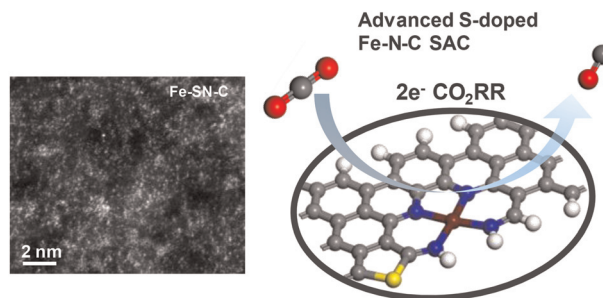
Xiujian Zhao, Yanmin Wang,* Zhidong Pan, Youjun Lu, Junhao Li* and Mingmei Wu



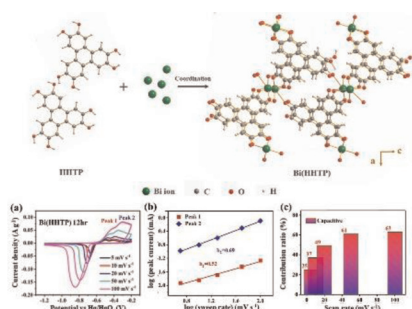
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Regulating the d-band electrons of the Fe–N–C single-atom catalyst for high-efficiency CO₂ electroreduction by electron-donating S-doping

Yiqun Chen, Qinghua Gong, Xuefeng Sun, Guochang Li* and Guowei Zhou*



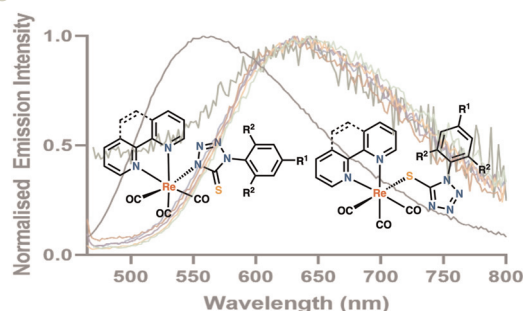
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Negative electrodes for supercapacitors with good performance using conductive bismuth-catecholate metal–organic frameworks

Si Chen, Haoliang Zhang, Xu Li, Yong Liu, Mingyi Zhang, Xiangyang Gao, Xin Chang, Xiangjun Pu and Chunqing He*

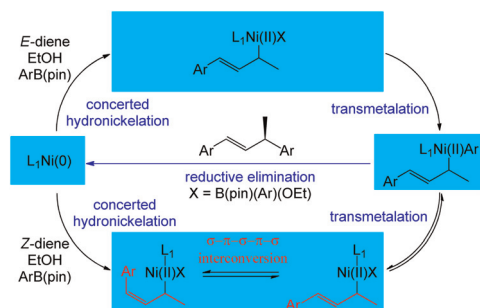
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Synthesis and the photophysical and biological properties of tricarbonyl Re(I) diimine complexes bound to thiotetrazolato ligands

Liam J. Stephens, Elena Dallerba, Jenisi T. A. Kelderman, Aviva Levina, Melissa V. Werrett, Peter A. Lay, Massimiliano Massi* and Philip C. Andrews*

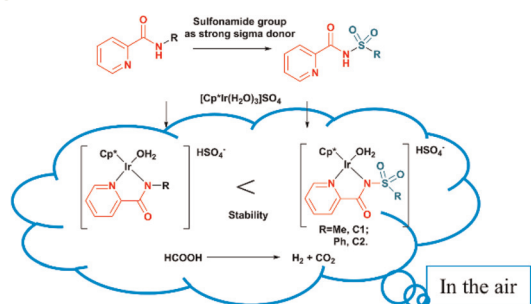
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Understanding the mechanism and origins of stereoconvergence in nickel-catalyzed hydroarylation of 1,3-dienes with aryl boronates

Keke Wang, Hui Xu and Yanfeng Dang*

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A ligand design strategy to enhance catalyst stability for efficient formic acid dehydrogenation

Jian Guo, Maoliang Li, Chengkai Yin, Xiaobin Li, Yilin Wang, Jingcheng Yuan and Tianguai Qi*

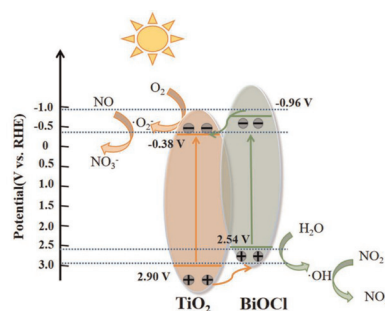


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Construction of a $\text{TiO}_2/\text{BiOCl}$ heterojunction for enhanced solar photocatalytic oxidation of nitric oxide

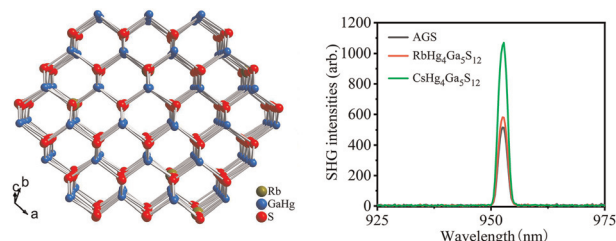
Wei Zhao,* Huixian Wang, Haiwen Wang, Dingwen Zhang, Qian Wang, Qin Zhong and Danhong Shang



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Open honeycomb frameworks of sulphides $\text{AHg}_4\text{Ga}_5\text{S}_{12}$ (A = Rb, Cs) exhibiting infrared nonlinear optical properties

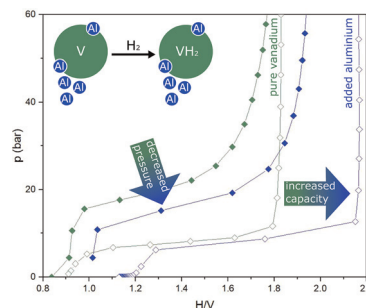
Xiao-Yu Lou, Yu Zhou, Wen-Fa Chen, Xiao-Ming Jiang, Bin-Wen Liu* and Guo-Cong Guo*



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Hydrogen absorption and desorption in the V–Al–H system

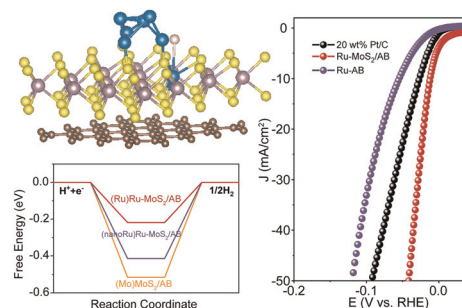
Franziska Habermann, Konrad Burkmann, Bastian Hansel, Bianca Störr, Christian Schimpf, Jürgen Seidel, Martin Bertau and Florian Mertens*



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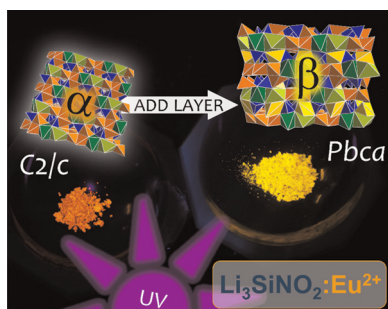
Ruthenium doping in the MoS_2/AB heterostructure for the hydrogen evolution reaction in acidic media

Haowen Ren, Shihong Chen, Chong Chen, Yang Qiu, Chunhui Luo, Qiang Zhao* and Wei Yang*



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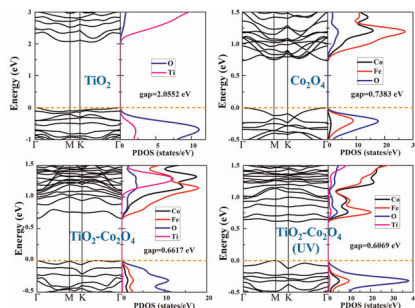
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Polymorphism and polymorph-dependent luminescence properties of the first lithium oxonitridolithosilicate $\text{Li}_3\text{SiNO}_2\text{:Eu}^{2+}$

Kilian M. Rießbeck, Daniel S. Wimmer, Markus Seibald, Dominik Baumann, Klaus Wurst, Gunter Heymann and Hubert Huppertz*

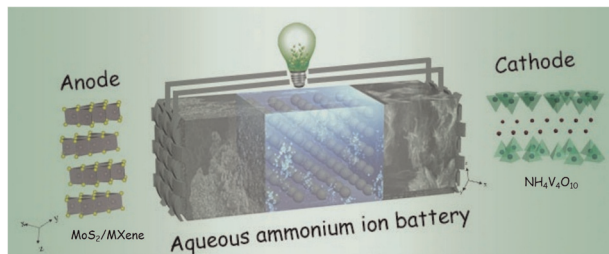
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Experimental and density functional study of the light-assisted gas-sensing performance of a $\text{TiO}_2\text{-CoFe}_2\text{O}_4$ heterojunction

Wenhao Wang, Lu Zhang,* Yanli Kang, Xiaodong Yang,* Shenguang Ge and Feng Yu*

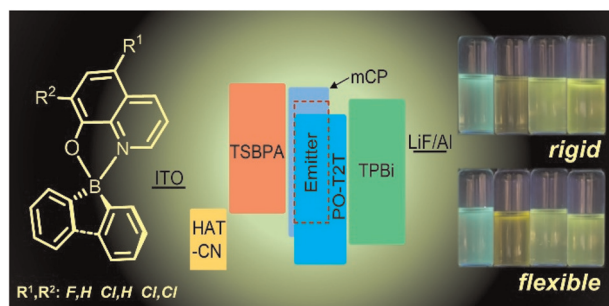
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Aqueous rechargeable ammonium ion batteries based on $\text{MoS}_2/\text{MXene}$ with a ball-flower morphology as an anode and $\text{NH}_4\text{V}_4\text{O}_{10}$ with a layered structure as a cathode

Xue Bai, Jiahua Yang, Fengying Zhang, Zhuwu Jiang,* Fengyi Sun, Chuntao Pan, Hongcheng Di, Shining Ru, Dongqi Liao and Hongyu Zhang*

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9-Borafluoren-9-yl and diphenylboron tetracoordinate complexes of F- and Cl-substituted 8-quinolinolato ligands: synthesis, molecular and electronic structures, fluorescence and application in OLED devices

Carina B. Fialho, Tiago F. C. Cruz, Ana I. Rodrigues, Maria José Calhorda, Luís F. Vieira Ferreira, Piotr Pander, Fernando B. Dias, Jorge Morgado, António L. Maçanita and Pedro T. Gomes*

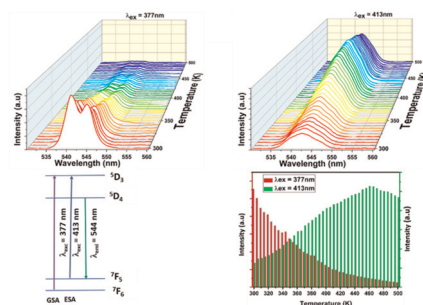


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Ultrasensitive optical thermometry using Tb³⁺ doped NaSrGd(MoO₄)₃ based on single band ratiometric luminescence

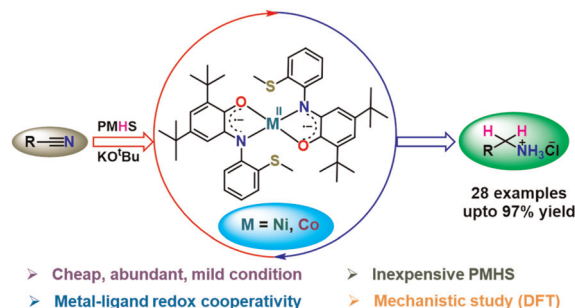
Zein El Abidine Aly Taleb, Kamel Saidi,*
Mohamed Dammak, Dominika Przybylska and
Tomasz Grzyb



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Ligand–metal cooperativity in quinonoid based nickel(II) and cobalt(II) complexes for catalytic hydrosilylative reduction of nitriles to amines: electron transfer and mechanistic insight

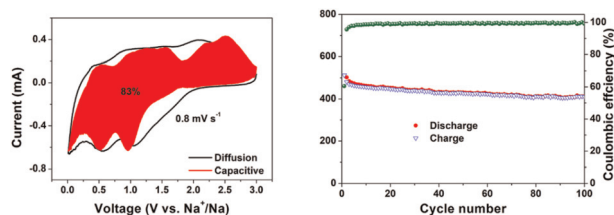
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Gayetri Sarkar, Souvik Chatterjee, Suvojit Roy,
Subhra Jyoti Panda, Chandra Shekhar Purohit,
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Gongqiang Li, Meng Song, Xiao Zhang,* Yanfang Sun*
and Jinxue Guo*



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A 5.3 nm giant metal–organic cage and its supramolecular gel for the formation of dye molecular ionic pairs

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