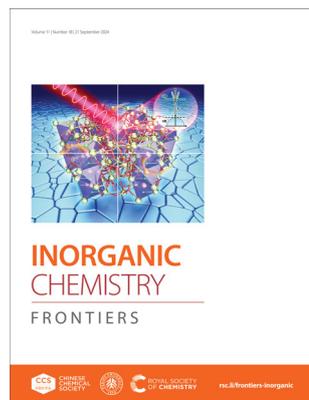


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Cover

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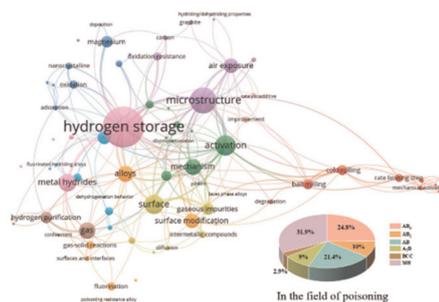
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Poisoning resistance: challenges for hydrogen storage alloys toward engineering applications

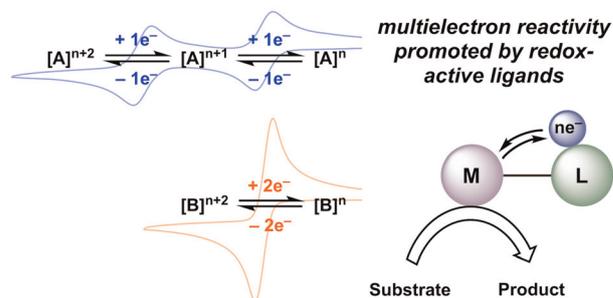
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Redox-active ligand promoted multielectron reactivity at earth-abundant transition metal complexes

Minzhu Zou and Kate M. Waldie*



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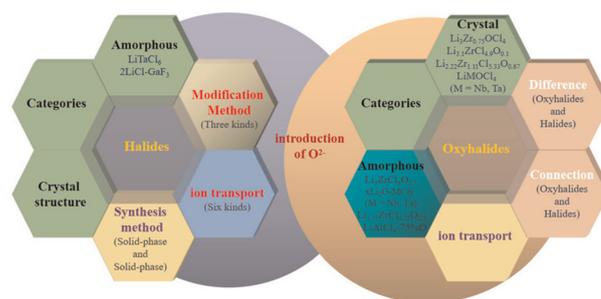
Fundamental questions
Elemental answers

REVIEWS

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New advances in solid-state electrolytes: from halides to oxhalides

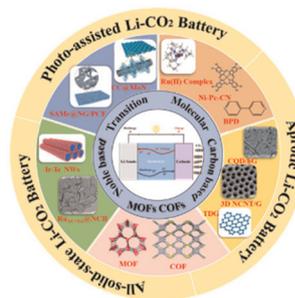
Qingtao Wang,* Zhenyang Shen, Pengfei Du, Yongmei Zhou, Peng Zhang and Ying Liu*



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Recent advances in the mechanism and catalyst design in the research of aprotic, photo-assisted, and solid-state Li-CO₂ batteries

Haixia Chen, Xijuan Li, Hairong Xue,* Lulu Jia,* Yunyun Xu, Yinglei Tao, Yige Yan, Xiaoli Fan,* Jianping He and Tao Wang*

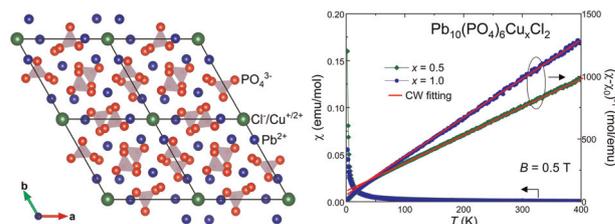


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One-step synthesis of Cu-doped Pb₁₀(PO₄)₆Cl₂ apatite: a wide-gap semiconductor

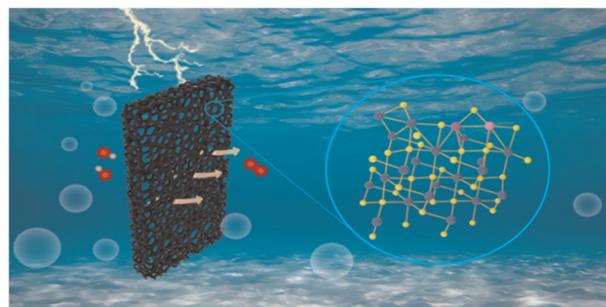
Wuzhang Yang, Zhihong Pang and Zhi Ren*



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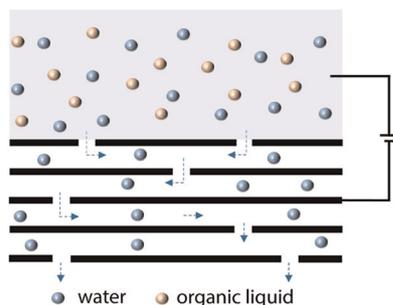
Synergistic promotion of the oxygen evolution reaction by Co and Fe dual-doping of NiS₂

Wen-juan Xu, Ying-yu Wang, Jiang-yan Dang, Xiao-ying Zhang,* Wen-liang Li* and Jing-ping Zhang*



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Spontaneous and rapid electrostatic solvent nanofiltration based on a conductive layered membrane

Song Song, Haozhe Sun, Jiaxiang Xia, Shiwen Bao, Wenbin Ding, Nuo Liu, Tianwen Wang, Kunyan Sui,* Jun Gao,* Xueli Liu* and Lei Jiang

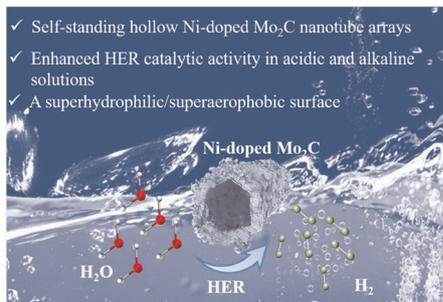
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Tailoring electronic environments of dispersed Ru sites for efficient alkaline hydrogen evolution

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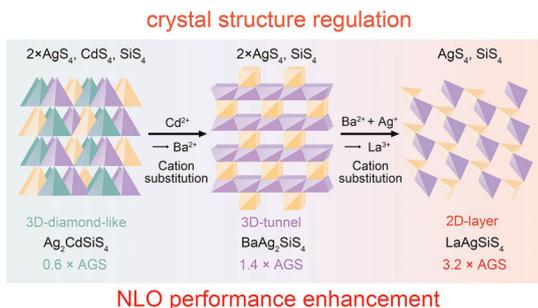
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Self-standing hollow Ni-doped Mo₂C nanotube arrays induced by the Kirkendall effect for an efficient hydrogen evolution reaction in acidic and alkaline solutions

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Multi-step cation substitution facilitating the exploration of potential infrared nonlinear optical materials

Ya-Xiang Han, Chun-Li Hu, Wen-Tong Chen and Jiang-Gao Mao*

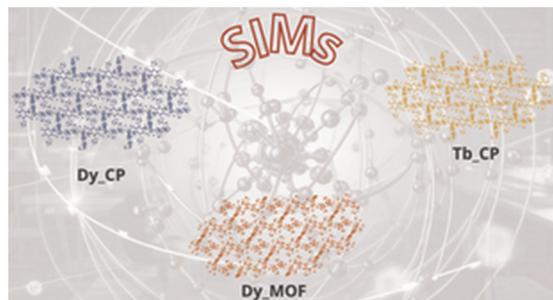


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Tunable SIM properties in a family of 3D anilato-based lanthanide-MOFs

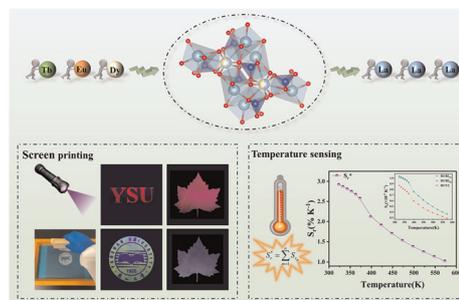
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Exploring structural and optical properties of CLSO:Dy for ultra-sensitive luminescent thermometers and high-bright screen printing

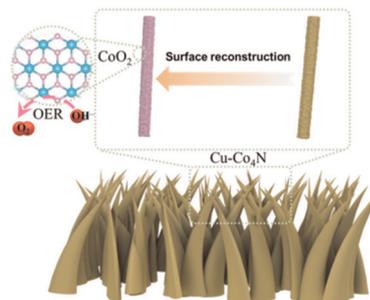
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Copper dopants facilitated generation of high-valent cobalt sites for improved oxygen evolution

Jingrui Han, Jieshu Zhou, Hao Zhang, Haibin Wang, Kangning Liu, Xuhui Sun, Lihua Liu* and Hongyan Liang*



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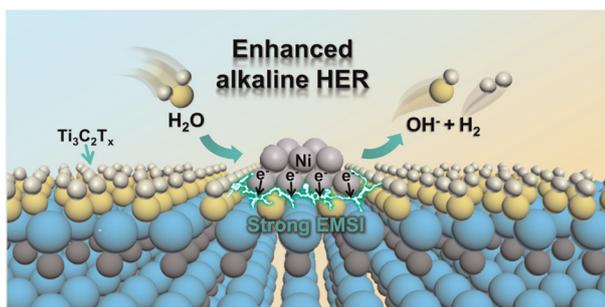
Responsive structural adaptability in ultra-microporous frameworks: guest recognition and macroscopic shape transformations induced by spin transitions within single crystals

Yu-Ting Yang, Wei Guo, Yu-Xia Li, Zhi-Kun Liu, Yuqiao Chai,* Xing Li, Bao Li* and Jin-Peng Xue*



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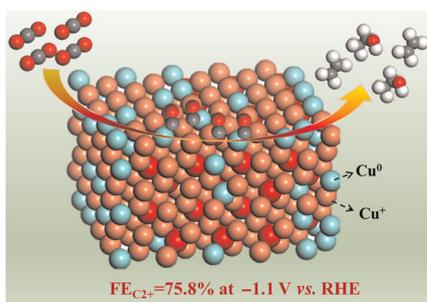
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Ti₃C₂T_x MXene induces strong electronic metal–support interaction with Ni nanoparticles for hydrogen evolution reaction with Pt-like activity

Yixuan Han, Xiaodan Yang, Yidan Zhao, Mingyang Zhao, Hongming Sun,* Jing Chen, Jianchao Sun,* Xiang Chen and Cheng-Peng Li*

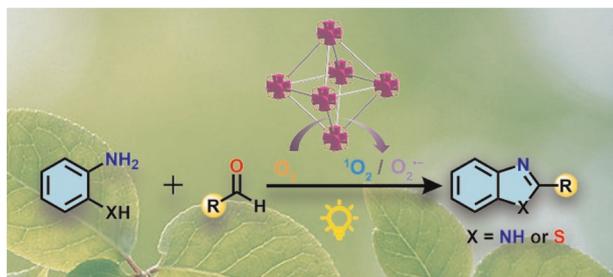
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A derived-Cu catalyst with a potential-driven interface and tensile strain for enhancing CO₂ electrocatalytic reduction

Fangfang Chang, Zihan Lin, Yongpeng Liu, Qing Zhang, Xiaolei Wang and Zhengyu Bai*

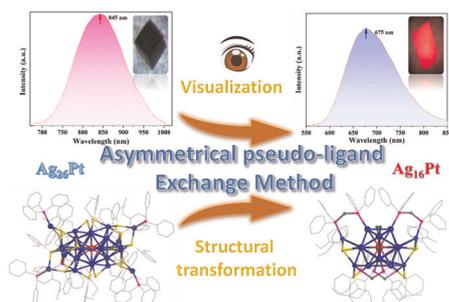
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Visible-light-active benzothiadiazole-based MOFs as efficient ROS generators for the synthesis of benzimidazoles and benzothiazoles

Hua Liu, Wen-Wen Yi,* Quan-Quan Li* and Shu-Ya Zhao

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Visualizing the fluorescence of AgPt NCs by an asymmetrical pseudo-ligand exchange method

Lizhong He,* Tingting Dong, Xiaoyang Hu and Zibao Gan*

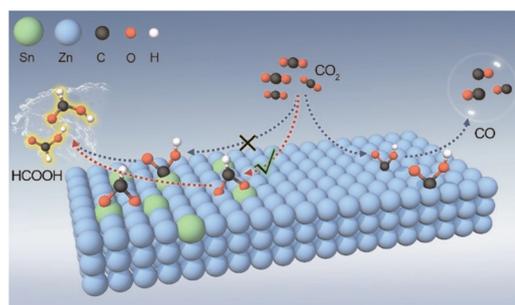


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Trace Sn modified Zn catalysts for efficient CO₂ electroreduction to HCOOH

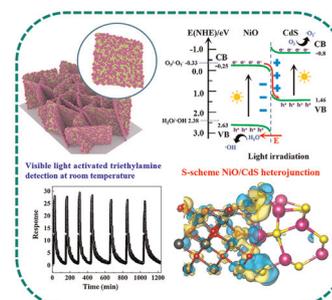
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A step-scheme mechanism in a NiO/CdS heterojunction nanoarray for visible light-activated gas sensing at room temperature

Wufei Gong, Shenman Yao, Dehua Wang, Jiahao Li, Yulin Zhu, Jianxian You, Yan Liang,* Yanxing Yang and Yong Yang*



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Efficient electrosynthesis of urea using CO₂ and nitrate over a bifunctional In₄SnS₈ catalyst

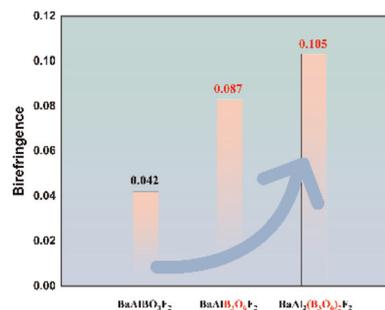
Mao Li, Yanan Gao,* Ji Xu, Sangzi Wang, Yujin Wei, Jingru Wang, Bo Ouyang* and Kun Xu*



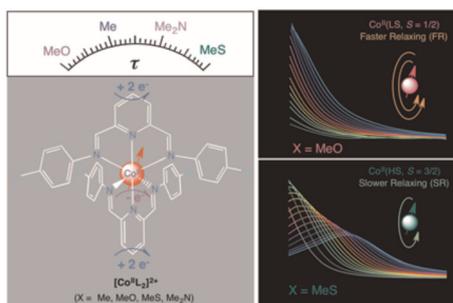
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From BaAlBO₃F₂ to BaAlB₃O₆F₂ and BaAl₂(B₃O₆)₂F₂: the enhancement of birefringence and band gap by extending the π-conjugated system combined with [Al–O/F] functional groups

Cheng Chen, Danyang Dou, Yunjie Bai, Bingbing Zhang and Ying Wang*



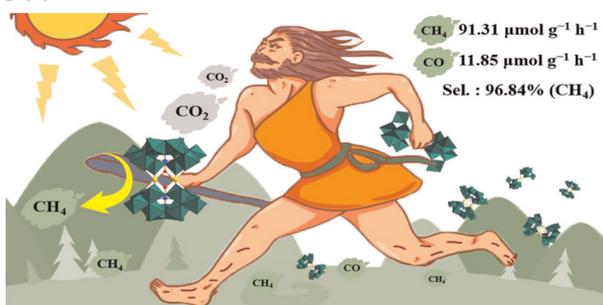
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Multielectron transfer and field-induced slow magnetic relaxation in opto-electroactive spin crossover cobalt(II) complexes: structure–function correlations

Renato Rabelo, Luminita Toma, Miguel Julve, Francesc Lloret, Jorge Pasán, Danielle Cangussu, Rafael Ruiz-García and Joan Cano*

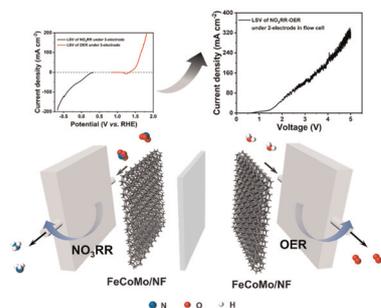
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A purely inorganic germanium–molybdenum–oxo cluster with ruthenium participation for visible-light-driven CO₂ reduction

Kunhong Li, Yumei Hong, Xinyi Ma, Yujie Zhao, Shihao Zhang, Pengtao Ma, Jingyang Niu* and Jingping Wang*

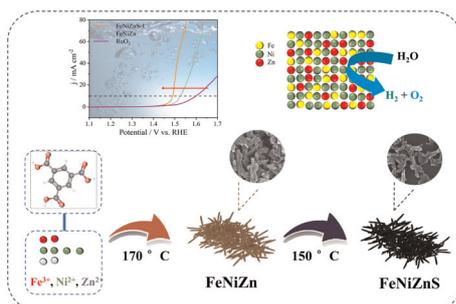
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Fe-modified Co₂Mo₃O₈-promoted nitrate-cascade reduction reaction coupled with the oxygen evolution reaction for electrocatalytic ammonia synthesis

Yaru Wang, Shiyu Qin, Xiaoyue Chen, Xiangchao Meng and Zizhen Li*

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Universal synthesis of coral-like ternary MOF-derived sulfides as efficient OER electrocatalysts

Tianpeng Liu, Yangping Zhang, Jun Yu, Mengyun Hu, Zhengying Wu,* Xiao Wei, Shudi Yu and Yukou Du*

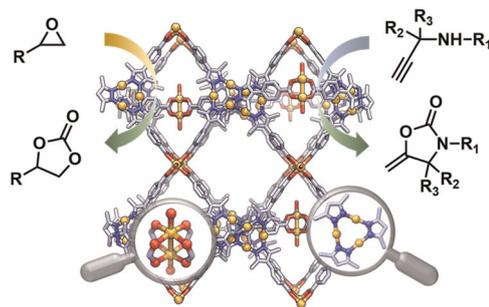


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A mixed-valence Cu^I/Cu^{II} metal–organic framework for CO₂ conversion

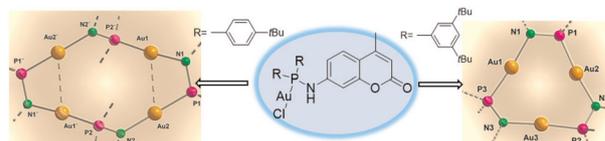
Yu-Mei Wang, Kai-Ming Mo, Dong Luo, Mei-Xia Tao, Xu Chen, Guo-Hong Ning* and Dan Li*



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Synthesis of luminescent coumarin-substituted phosphinoamide-bridged polynuclear gold(I) metallacycles and reactivity studies

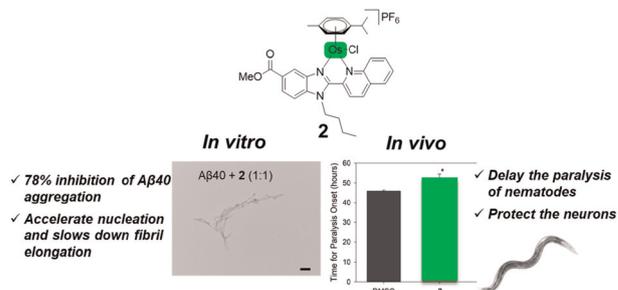
Vanitha R. Naina, Akhil K. Singh, Shubham, Julia Krämer, Mohd Iqbal and Peter W. Roesky*



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Piano-stool metal complexes as inhibitors of amyloid- β aggregation *in vitro* and *in vivo*

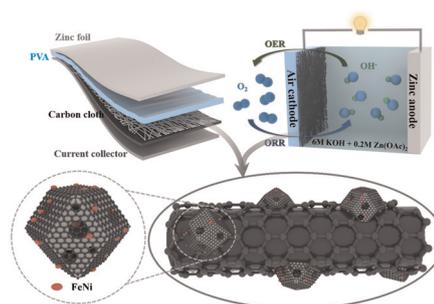
Gloria Viguera, Raimon Sabate, Leoní A. Barrios, Ana B. Caballero,* Samanta Hernández-García, Pau Bayón, Fernando Gandía-Herrero,* José Ruiz* and Patrick Gamez



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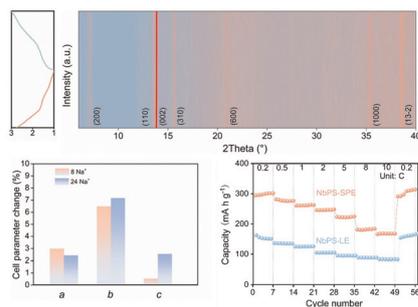
FeNi alloys embedded in porous carbon shells on a dual substrate as efficient electrocatalysts for zinc–air batteries

Han Guo, Guangxu Yao, Chuanzhen Feng, Mi Wang, Huijuan Zhang* and Yu Wang*



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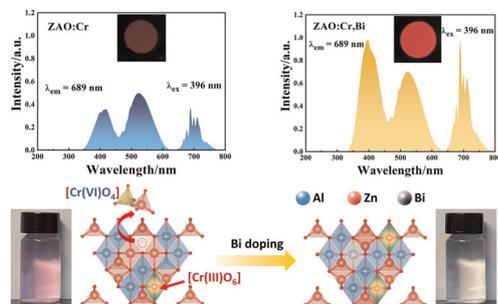
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A quasi-zero-strain layered $\text{Nb}_4\text{P}_2\text{S}_{21}$ cathode for high-energy solid-state polymer Na–metal batteries

Xueyang Tu, Baixin Peng, Xue Wang, Xue Wang, Shaoning Zhang, Yuqiang Fang, Wujie Dong, Jiabo Le,* Keyan Hu* and Fuqiang Huang*

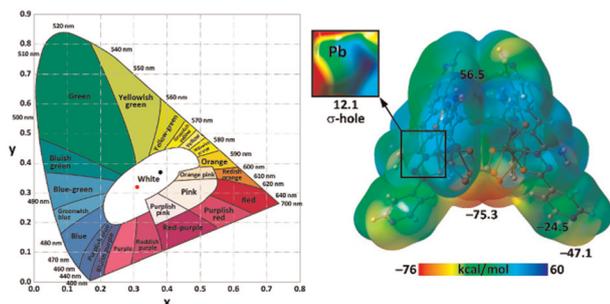
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Achieving a Cr^{6+} -free Cr^{3+} -activated spinel phosphor by a one-step solid-state reaction

Yiqing Zhou, Quantian Cao, Yue Han, Zhongxian Qiu,* Jilin Zhang, Wenli Zhou and Shixun Lian*

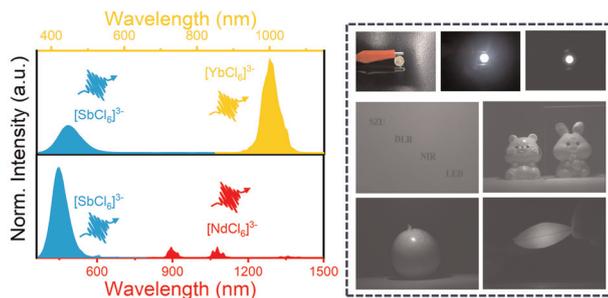
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Aerial carbon dioxide conversion to carbonate mediated by a lead(II) complex with tridentate bipyridine containing a hydrazide ligand under electrochemical conditions yielding single-component white-light-emitting phosphors

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Enabling efficient near-infrared emission in lead-free double perovskite via a codoping strategy

Xiangyan Yun, Hanlin Hu, Haizhe Zhong, Jingheng Nie,* Henan Li and Yumeng Shi*

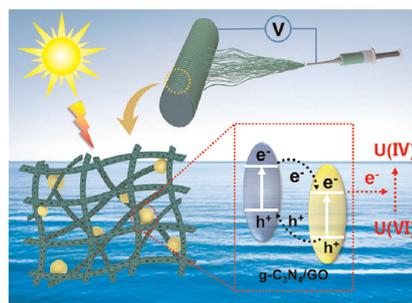


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Graphene oxide/graphitic carbon nitride/polyamide oxime nanofibers for adsorption and photocatalytic reduction of uranium from seawater

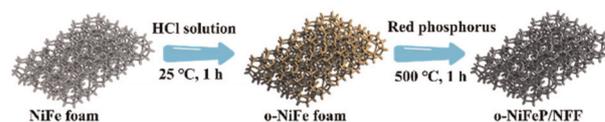
Shiliang Qin, Jianang Sha, Peipei Yang,* Songwei Li,* Chuntai Liu and Changyu Shen



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The ultrafast reconfigurability and ultrahigh durability of an NiFe phosphide electrocatalyst with an Fe-rich surface induced by *in situ* acid corrosion for water oxidations

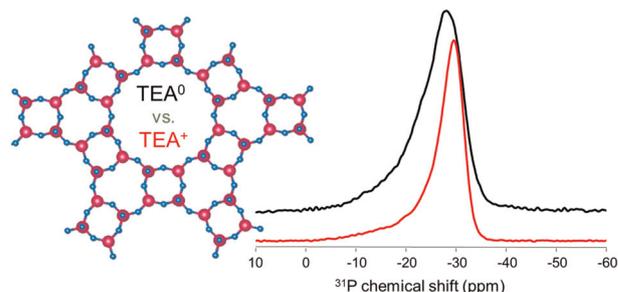
Min Jiang, Jiaming Zhang, Hanxiao Liao, Huanhuan Zhai, Xuanzhi Liu, Pengfei Tan,* Ke Yang* and Jun Pan*



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Revealing the effect of templates on atomic scale ordering and the hydrophilic properties of aluminophosphates

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Remarkable enhancement of Ca²⁺ affinity using a redox-switchable coordinating group

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