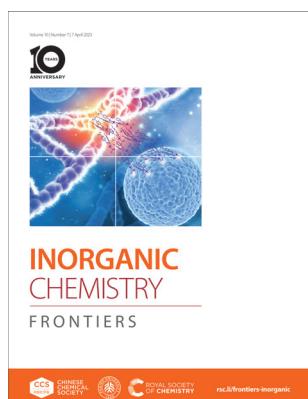


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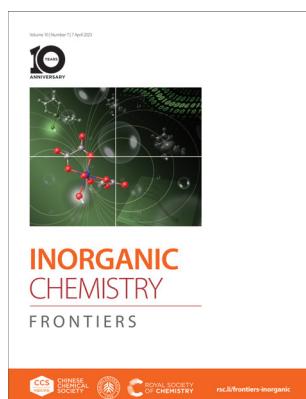
ISSN 2052-1553 CODEN ICFNAW 10(7) 1941–2208 (2023)



Cover

See Patricia Horcajada, Tarita Biver, Adoracion G. Quiroga *et al.*, pp. 1986–1998.

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Inside cover

See Carlos Platas-Iglesias, Mario Chiesa, Mauro Botta *et al.*, pp. 1999–2013.

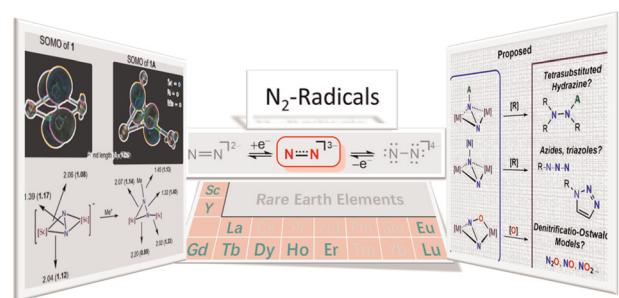
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CHEMISTRY FRONTIERS

1952

The trianionic hydrazido radical (N_2)³⁻: a promising platform for transforming N_2

Josué Rolando Aguilar-Calderón, Junnian Wei* and Zhenfeng Xi*

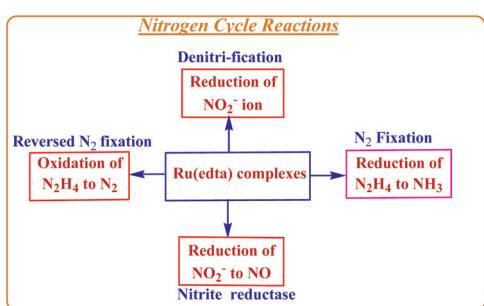


REVIEWS

1958

Prospect of Ru(edta) complexes in nitrogen cycle electrocatalysis: a mini review

Debabrata Chatterjee,* Olga Impert and Rudi van Eldik*



INORGANIC CHEMISTRY

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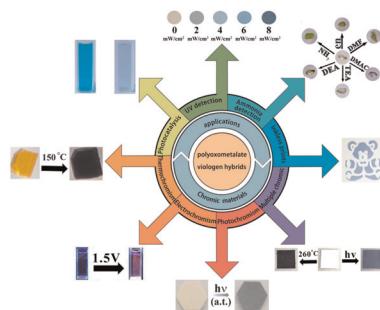


REVIEWS

1965

Recent progress in polyoxometalate–viologen photochromic hybrids: structural design, photochromic mechanism, and applications

Li Li,* Yang-Tao Yu, Yang Hua, Xiao-Nan Li and Hong Zhang*

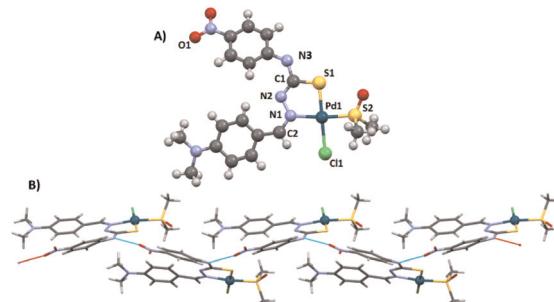


RESEARCH ARTICLES

1986

Two novel Pd thiosemicarbazone complexes as efficient and selective antitumoral drugs

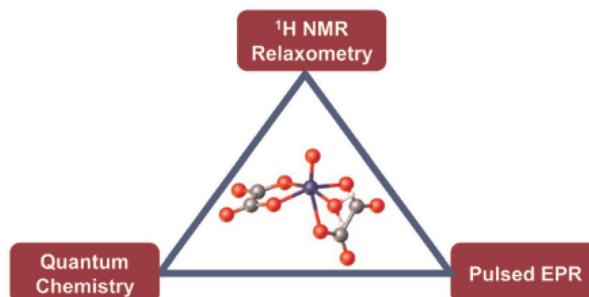
Tania Hidalgo, David Fabra, Raul Allende,
Ana I. Matesanz, Patricia Horcajada,* Tarita Biver* and
Adoracion G. Quiroga*



1999

Magnetic and relaxation properties of vanadium(IV) complexes: an integrated ^1H relaxometric, EPR and computational study

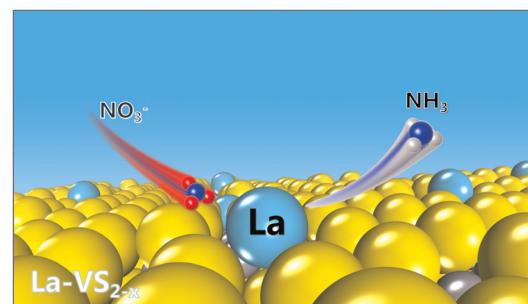
Valeria Lagostina, Fabio Carniato, David Esteban-Gómez, Carlos Platas-Iglesias,* Mario Chiesa* and Mauro Botta*



2014

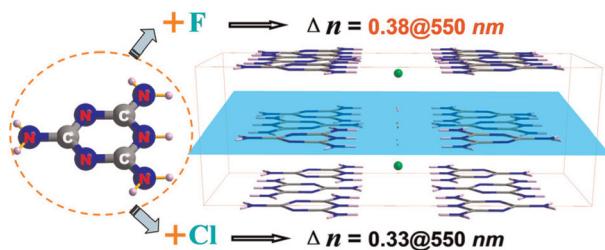
Rare-earth La-doped VS_{2-x} for electrochemical nitrate reduction to ammonia

Guohui Wang, Peng Shen, Kai Chen, Yali Guo,
Xiaolin Zhao and Ke Chu*



RESEARCH ARTICLES

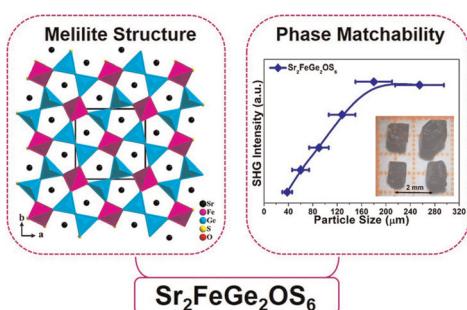
2022



β -(C₃H₇N₆)₂Cl₂·H₂O and (C₃H₇N₆)F·H₂O: two UV birefringent crystals induced by uniformly aligned structural groups

Yaoguo Shen,* Liang Ma, Guofa Dong,* Hualiang Yu and Junhua Luo

2030



Melilite oxychalcogenide Sr₂FeGe₂OS₆: a phase-matching IR nonlinear optical material realized by isomorphous substitution

He-Di Yang, Sheng-Hua Zhou, Mao-Yin Ran, Xin-Tao Wu, Hua Lin* and Qi-Long Zhu*

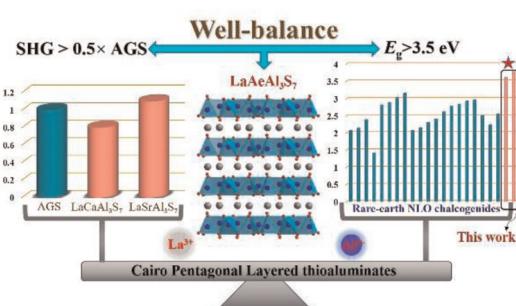
2039



A hybrid halide lead-free pseudo-perovskite with large birefringence

Weiqi Huang, Xiaolong Wu, Belal Ahmed, Yanqiang Li, Yang Zhou, Han Wang, Yipeng Song, Xiaojun Kuang, Junhua Luo and Sangen Zhao*

2045



LaAeAl₃S₇ (Ae = Ca, Sr): Cairo pentagonal layered thioaluminates achieving a good balance between a strong second harmonic generation response and a wide bandgap

Jingjing Xu, Kui Wu,* Bingbing Zhang, Haohai Yu* and Huaijin Zhang*

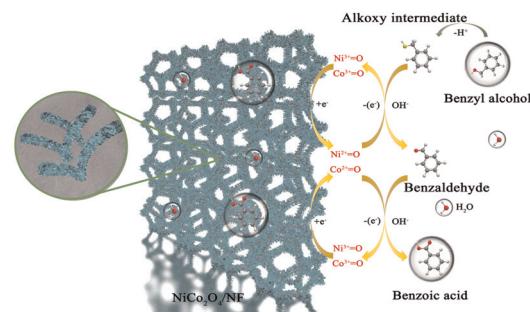


RESEARCH ARTICLES

2053

***In situ* construction of NiCo_2O_4 nanosheets on nickel foam for efficient electrocatalytic oxidation of benzyl alcohol**

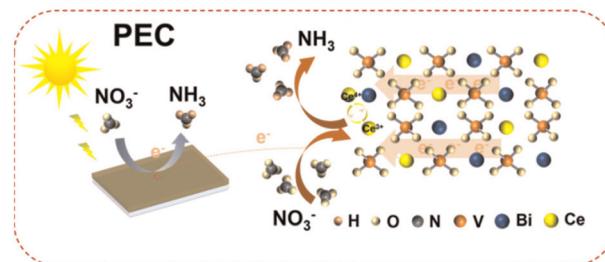
Min Xu, Jing Geng, Hui Xu, Shengbo Zhang* and Haimin Zhang*



2060

Understanding the role of Ce sites for boosting PEC-NIRR without externally applied potentials

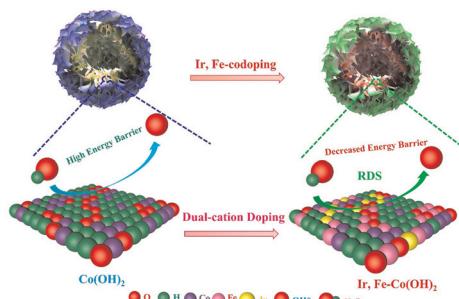
Lijing Liu, Yajie Bai, Zhenzhen Huang, Guanhua Wang, Jianguo Cui, Hongye Bai* and Weiqiang Fan*



2067

Dual-cation doping precisely reducing the energy barrier of the rate-determining step for promoting oxygen-evolving activity

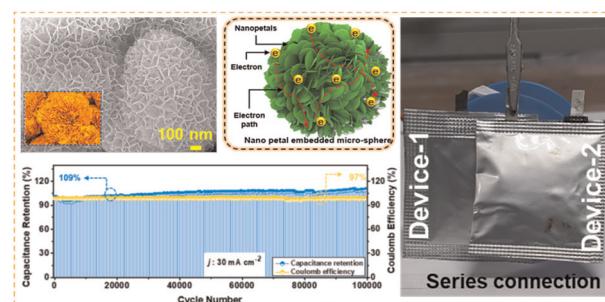
Hui Xu,* Cheng Wang, Bingji Huang, Hongyuan Shang and Yukou Du*



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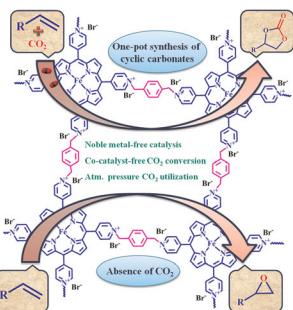
Rational construction of porous marigold flower-like nickel molybdenum phosphates via ion exchange for high-performance long-lasting hybrid supercapacitors

Ampasala Surya Kiran, Bhimanaboina Ramulu, Shaik Junied Arbaz, Edugulla Girija Shankar, Manchi Nagaraju and Jae Su Yu*

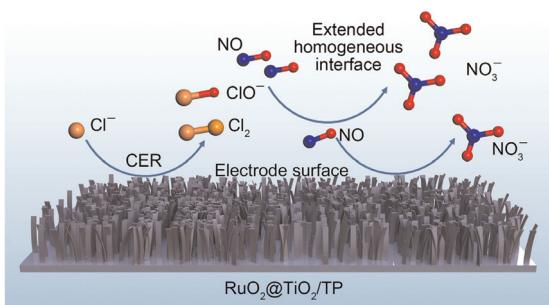


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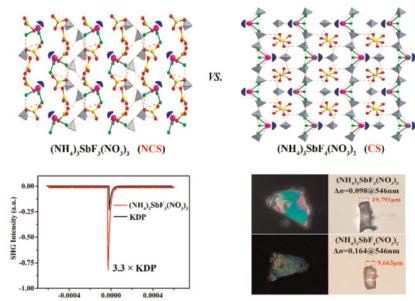
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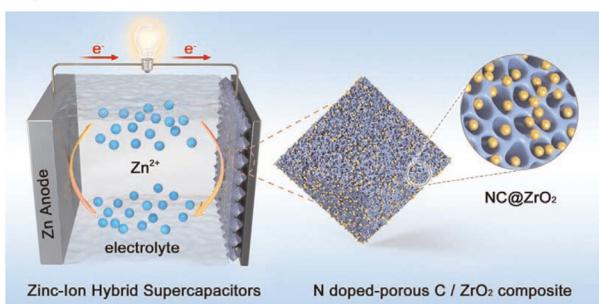
2100



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Ionic Fe(III)-porphyrin frameworks for the one-pot synthesis of cyclic carbonates from olefins and CO2

Rajesh Das, Sahil Kamra and C. M. Nagaraja*

Integrating RuO2@TiO2 catalyzed electrochemical chlorine evolution with a NO oxidation reaction for nitrate synthesis

Longcheng Zhang, Jie Liang, Xun He, Qin Yang, Yongsong Luo, Dongdong Zheng, Shengjun Sun, Jing Zhang, Hong Yan, Binwu Ying,* Xiaodong Guo* and Xuping Sun*

Low temperature molten salt synthesis of noncentrosymmetric (NH4)3SbF3(NO3)3 and centrosymmetric (NH4)3SbF4(NO3)2

Qin Wang, Jinxuan Ren, Dan Wang, Liling Cao, Xuehua Dong, Ling Huang,* Daojiang Gao and Guohong Zou*

A UiO-66-NH2 MOF derived N doped porous carbon and ZrO2 composite cathode for zinc-ion hybrid supercapacitors

Xiaoqi Wang, Hu Hong, Shuo Yang, Shengchi Bai, Rui Yang, Xu Jin, Chunyi Zhi* and Bo Wang*

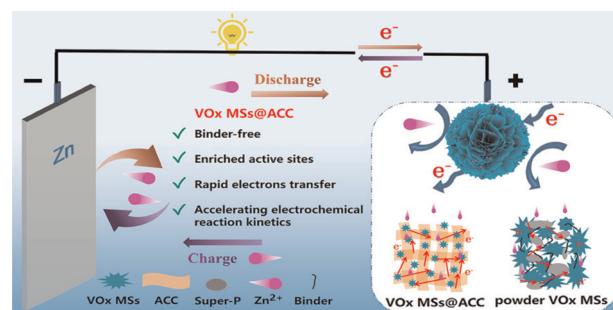


RESEARCH ARTICLES

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***In situ* growth of amorphous vanadium oxide nanospheres on carbon cloth as free-standing cathodes used in high performance aqueous zinc-ion batteries**

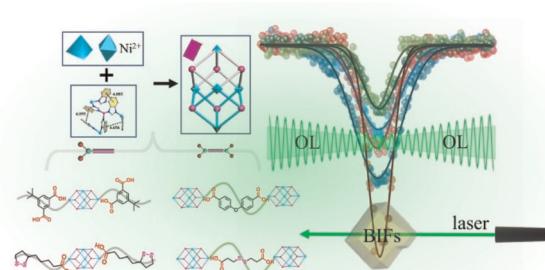
Xuguang Han, Yan Zhang,* Mengmeng Liu, Yifei Sun, Wenshan Gou, Zhao Xu and Chang Ming Li*



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Ligand evolution on trigonal bipyramidal boron imidazolate cages for enhanced optical limiting

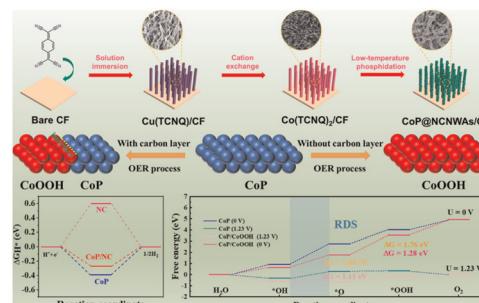
Jun-Qiang Chen, Hai-Xia Zhang,* Zhi-Run Wang, Qin-Long Hong and Jian Zhang*



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N-doped carbon nanowire array confined cobalt phosphides as efficient bifunctional electrocatalysts for water splitting

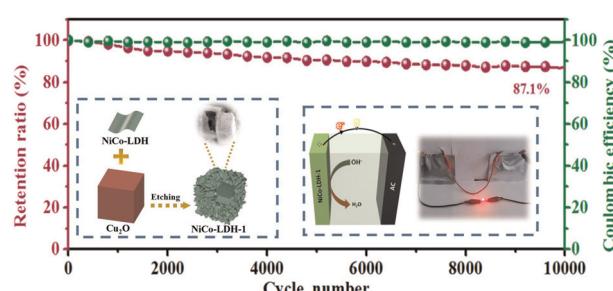
Shunlian Ning, Qikai Wu, Yuguang Zhu, Shilong Liu, Wei Zhou, Luo Mi, Kai Zhou, Dengke Zhao,* Xiyun Zhang* and Nan Wang*



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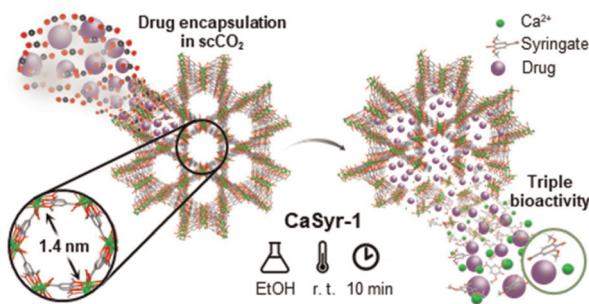
NiCo layered double hydroxide nanocages for high-performance asymmetric supercapacitors

Hualin Jiang, Qi Ke, Xianhua Qiu, Jiezeng Chen, Pinghua Chen,* Shuai Wang, Xubiao Luo and Bingying Rao



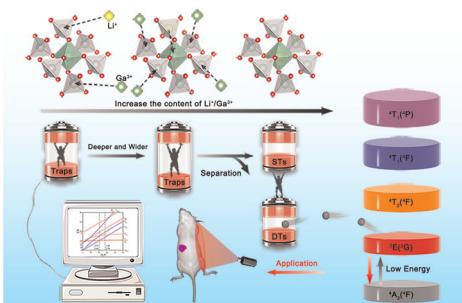
RESEARCH ARTICLES

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**Facile, fast and green synthesis of a highly porous calcium-syringate bioMOF with intriguing triple bioactivity**

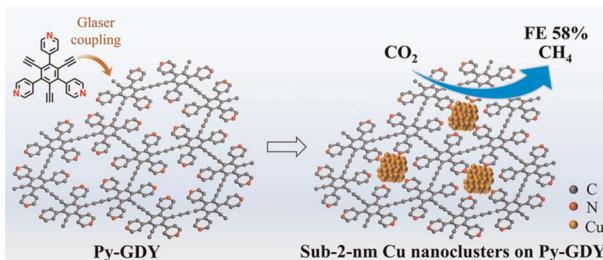
Albert Rosado,* Oriol Vallcorba, Blanca Vázquez-Lasa, Luís García-Fernández, Rosa Ana Ramírez-Jiménez, María Rosa Aguilar, Ana M. López-Periago, Concepción Domingo* and José A. Ayllón*

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**Regulating the trap distribution of $\text{ZnGa}_2\text{O}_4:\text{Cr}^{3+}$ by $\text{Li}^+/\text{Ga}^{3+}$ doping for upconversion-like trap energy transfer NIR persistent luminescence**

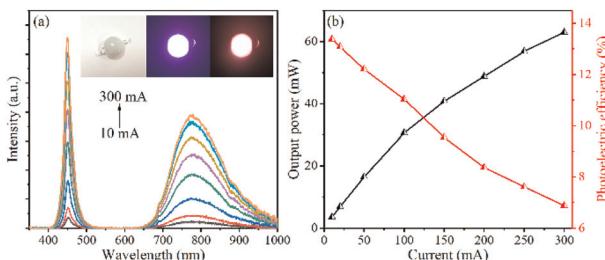
Junqing Xiahou, Qi Zhu,* Fan Li, Minghui Jin, Lin Zhu, Sai Huang, Tao Zhang, Xudong Sun and Ji-Guang Li*

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**Pyridyl-containing graphdiyne stabilizes sub-2 nm ultrasmall copper nanoclusters for the electrochemical reduction of CO_2**

Hao Dai, Haiyuan Zou, Tao Song, Lei Gao, Shuting Wei, Hong Liu, Huatian Xiong, Changshui Huang and Lele Duan*

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**Improving and broadening luminescence in $\text{Gd}_{2-x}\text{Al}_x\text{GaSbO}_7:\text{Cr}^{3+}$ phosphors for NIR LED applications**

Siyu Guo, Ligan Ma, Muniran Abudureyimu, Rongfei Wei,* Fumin Lu, Fangfang Hu and Hai Guo*



CORRECTION

2206

Correction: An in solution adsorption characterization technique based on the response to an external magnetic field of porous paramagnetic materials: application on supramolecular metal–adenine frameworks containing heterometallic heptameric clusters

Jon Pascual-Colino, Rubén Pérez-Aguirre, Garikoitz Beobide, Oscar Castillo,* Imanol de Pedro, Antonio Luque, Sandra Mena-Gutiérrez and Sonia Pérez-Yáñez