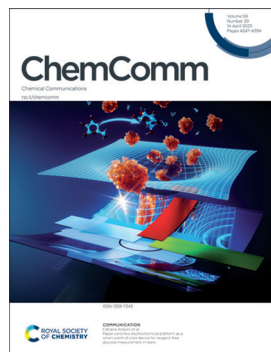


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ISSN 1359-7345 CODEN CHCOFS 59(29) 4247-4394 (2023)



Cover

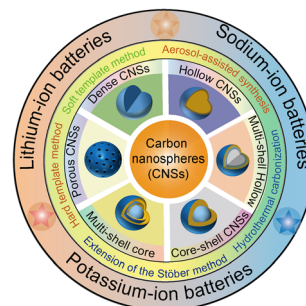
See Fabiana Arduini
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Chem. Commun.,
2023, 59, 4300.

HIGHLIGHT

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Carbon nanosphere synthesis and applications for rechargeable batteries

Zheng-Guang Liu, Xiang-Xi He, Jia-Hua Zhao,
Chun-Mei Xu, Yun Qiao, Li Li* and Shu-Lei Chou*

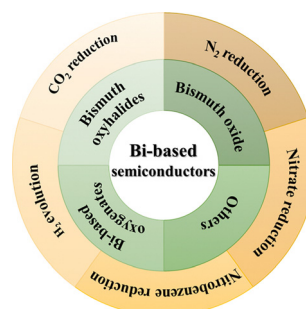


FEATURE ARTICLES

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Bismuth-based semiconductors applied in photocatalytic reduction processes: fundamentals, advances and future perspectives

Meng Shi, Huiying Yang, Zehui Zhao, Guangmin Ren and
Xiangchao Meng*



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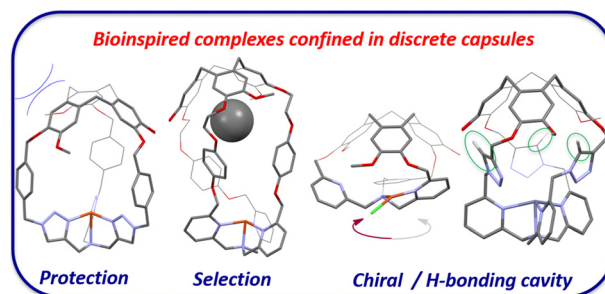


FEATURE ARTICLES

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Bioinspired complexes confined in well-defined capsules: getting closer to metalloenzyme functionalities

Donglin Diao, A. Jalila Simaan, Alexandre Martinez and Cédric Colombari*

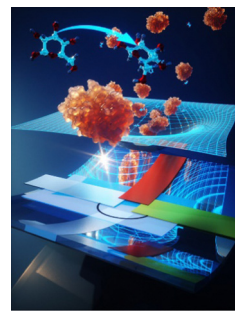


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Paper card-like electrochemical platform as a smart point-of-care device for reagent-free glucose measurement in tears

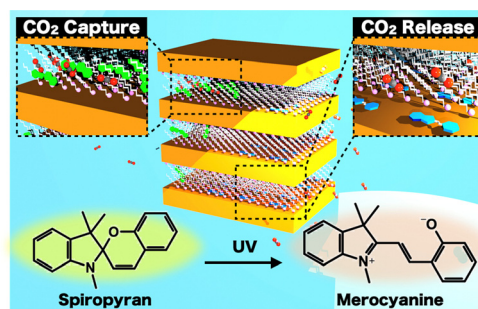
Luca Fiore, Ankita Sinha, Narjiss Seddaoui, Jessica di Biasio, Federico Ricci, Goran M. Stojanovic and Fabiana Arduini*



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Photo-induced mode change for CO₂ capture/release on spiropyran in a polar-gradient environment

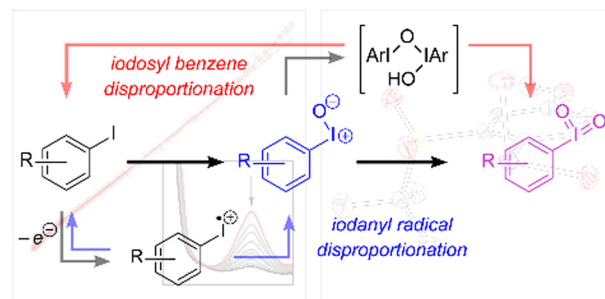
Keigo Tashiro,* Masaki Otori and Shigeo Satokawa



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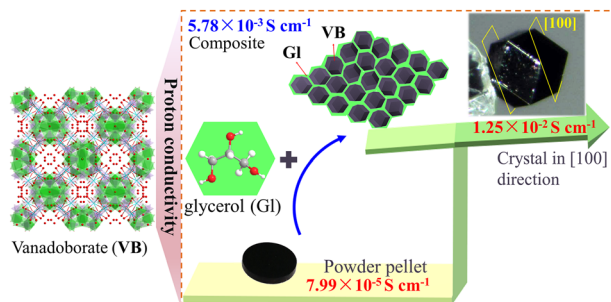
Selective multi-electron aggregation at a hypervalent iodine center by sequential disproportionation

Phong Thai, Brandon L. Frey, Matthew T. Figgins, Richard R. Thompson, Raanan Carmieli and David C. Powers*



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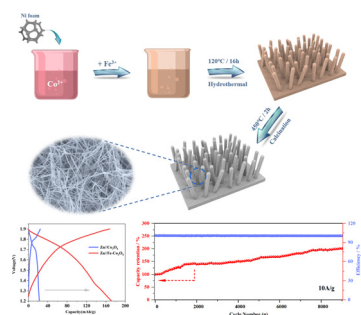
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Elimination of grain boundary resistance in vanadoborate electrolyte via the hydrogen-bond interaction of glycerol

Shan Zhang, Ying Lu,* Xiu-Wei Sun, Hong-Rui Tian, Xue Bai and Shu-Xia Liu*

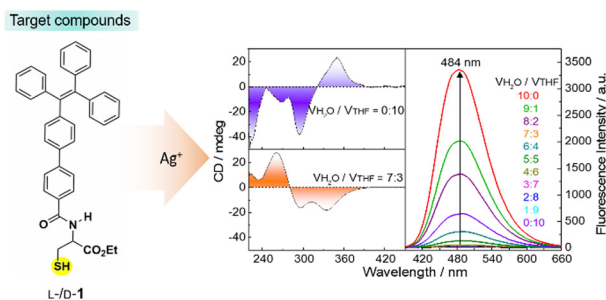
4316



Accelerated redox conversion of an advanced Zn//Fe-Co₃O₄ battery by heteroatom doping

Jiazhao Li, Siwen Zhang, Yaxi Ding, Ying Sun, Jinzhang Yang, Hui Li, Tianyi Ma* and Bosi Yin*

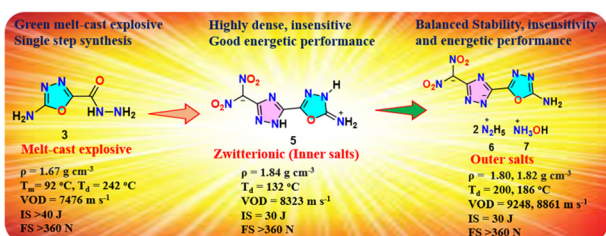
4320



Aggregated coordination polymers of Ag⁺ with a cysteine derivative ligand containing an AIEgen

Jing-Jing Quan, Qian Wang, Zhao Li and Yun-Bao Jiang*

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High-performing, insensitive and thermally stable energetic materials from zwitterionic *gem*-dinitromethyl substituted C–C bonded 1,2,4-triazole and 1,3,4-oxadiazole

Abhishek Kumar Yadav, Manojkumar Jujam, Vikas D. Ghule* and Srinivas Dharavath*

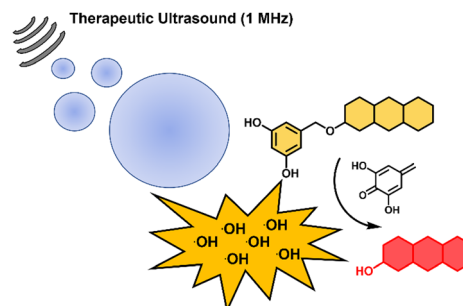


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Fluorescence-based chemical tools for monitoring ultrasound-induced hydroxyl radical production in aqueous solution and in cells

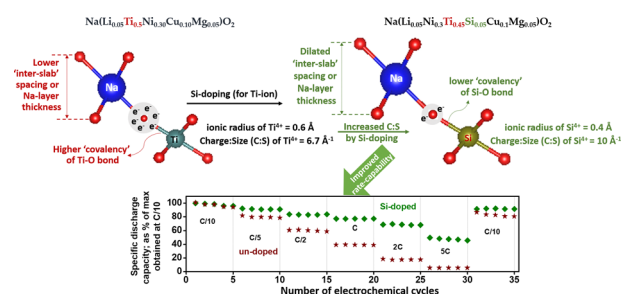
Cherie CY. Wong, Lu-Lu Sun, Meng-Jiao Liu, Eleanor Stride, Jason L. Raymond, Hai-Hao Han,* James Kwan* and Adam C. Sedgwick*



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Development of a high-rate-capable O3-structured 'layered' Na transition metal oxide by tuning the cation–oxygen bond covalency

Ishita Biswas, Bachu Sravan Kumar, Anagha Pradeep, Arpita Das, Velaga Srihari, Himanshu K. Poswal and Amartya Mukhopadhyay*



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Enantioselective transformations of 5-hydroxymethylfurfural via catalytic asymmetric 1,3-dipolar cycloaddition of azomethine ylides

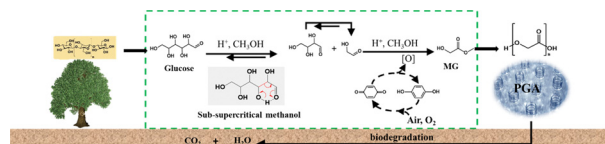
Christian Cristóbal, César Corral, Juan C. Carretero, Maria Ribagorda* and Javier Adrio*



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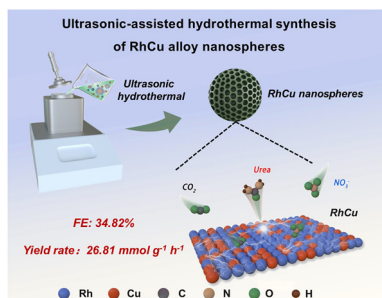
Conversion of glucose to methyl glycolate in subcritical methanol

Yujing Weng, Min Zou, Xuying Liu, Junchao Gu, Zhijie Liu, Yunchang Fan, Yulong Zhang* and Yuhe Liao*



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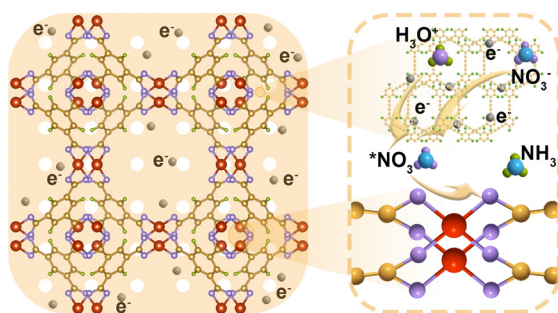
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Ultrasonic-assisted hydrothermal synthesis of RhCu alloy nanospheres for electrocatalytic urea production

Siyu Fu, Kaibin Chu, Minhao Guo, Zhenzhong Wu, Yang Wang, Jieru Yang, Feili Lai* and Tianxi Liu*

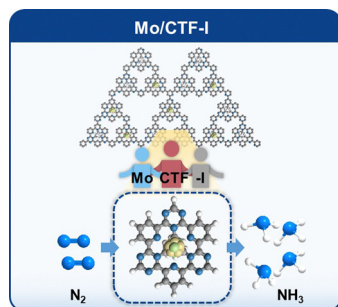
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Hybrid nanoarrays of Cu-MOFs@H-substituted graphdiyne with various levels of Lewis acidity for nitrate electroreduction

Jiahao Ma, Ru Wang, Biwen Wang, Jiaxin Luo, Qiuyu Zhang* and Sifei Zhuo*

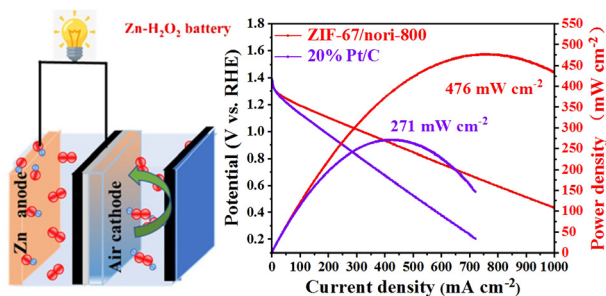
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Anchoring ultra-small molybdenum oxide species on covalent triazine frameworks for efficient electrochemical nitrogen fixation

Wenwen Lin, Teng Guo, Zihao Zhang, Hao Chen, Gaobo Lin, Yifeng Liu, Siyu Yao, Liang Wang, Bolong Li, Jianghao Wang, Jie Fu* and Pingkai Ouyang

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Single-cell-array biomass-templated architecture of hierarchical porous electrocatalysts for Zn–air and Zn–H₂O₂ batteries

Zhenjiang Zhu, Liangyu Jin, Meng Zhou, Kui Fu, Fancheng Meng, Xiangfeng Wei and Jiehua Liu*

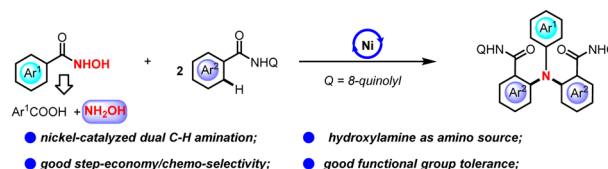


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Convergent synthesis of triarylamines via Ni-catalyzed dual C(sp²)-H amination from benzamides with benzohydroxamic acids

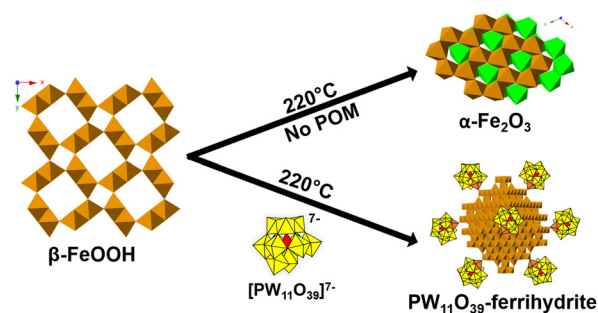
Wenwei Li, Ruxue Wang, Zhefeng Li, Jiuxi Chen, Yuhong Zhang* and Ningning Lv*



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Entrapment of metastable nanocrystals by polyoxometalates

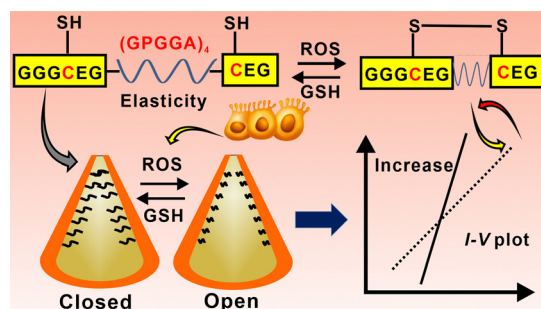
Mark Baranov, Yan Duan, Nitai Leffler, Shani Avineri, Vladimir Ezersky and Ira A. Weinstock*



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Accurate detection of reactive oxygen species by tuning an elastic motif (GPGGA)₄ in nanopores

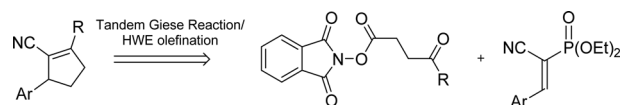
Cunli Wang, Yiming Yang, Shuai Shao, Hangyu Zhang, Na Li, Zhengyao Zhang and Bo Liu*



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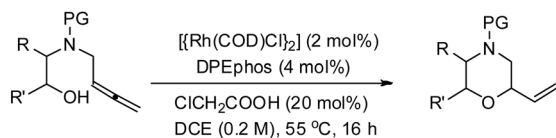
Synthesis of cyclopent-1-enecarbonitriles via a tandem Giese/HWE reaction initiated by visible light

Marek Moczulski, Dariusz Deredas, Elżbieta Kuśmerek, Łukasz Albrecht and Anna Albrecht*



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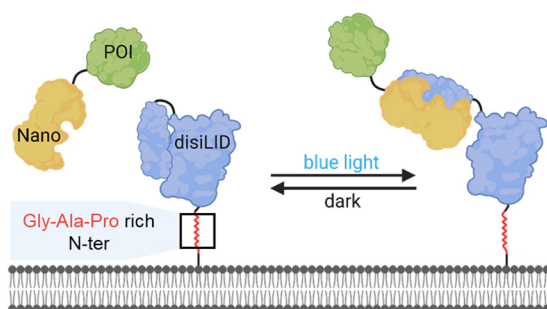
PG = -Tosyl, -Nosyl, and -Boc
 R = -alkyl, -aryl, -ester, -functionalized alkyl
 R' = -alkyl, -aryl, -vinyl, -ethynyl, -allyl

22 examples
 72-99% yields
 up to *dr* > 99:1

Rhodium-catalyzed diastereoselective synthesis of highly substituted morpholines from nitrogen-tethered allenols

A. Ziyaei Halimehjani* and B. Breit*

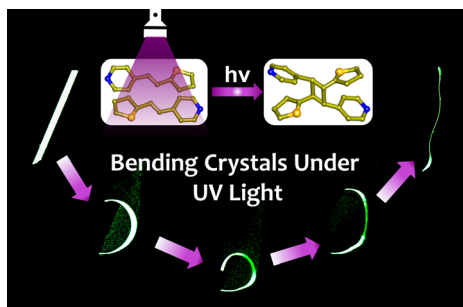
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A disordered tether to iLID improves photoswitchable protein patterning on model membranes

Daniele Di Iorio,* Johanna Bergmann, Sayuri L. Higashi, Arne Hoffmann and Seraphine V. Wegner*

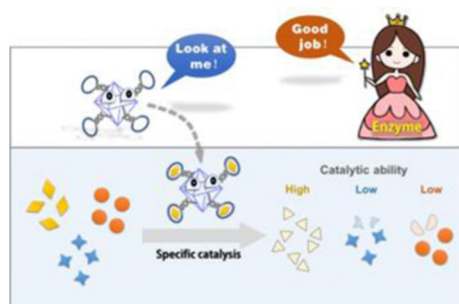
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Light-driven flagella-like motion of coordination compound single crystals

Akansha Ekka, Uma Kurakula, Aditya Choudhury, Anshumika Mishra, Anshul Faye, Nathan R. Halcovitch and Raghavender Medishetty*

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Aptamer-modified Zr-MOFs to construct nanocatalysts with engineered specificity toward paraoxon

Tingwei Cao, Jiaxing Zhang, Wei Qi and Mengfan Wang*

