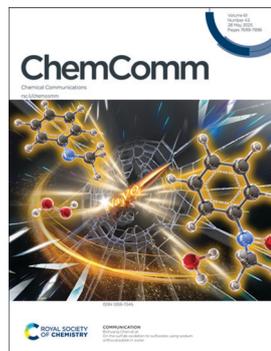


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ISSN 1359-7345 CODEN CHCOFS 61(43) 7699-7896 (2025)



### Cover

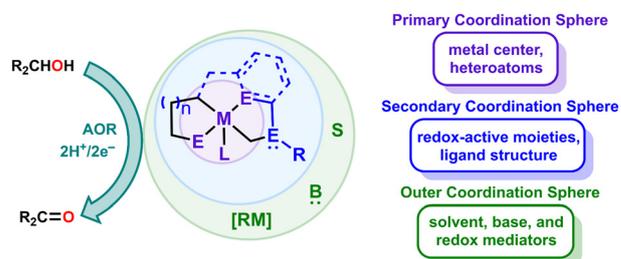
See Bishuang Chen *et al.*, pp. 7795-7798.  
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## HIGHLIGHT

7710

### Molecular catalyst and co-catalyst systems based on transition metal complexes for the electrochemical oxidation of alcohols

Mollie C. Morrow and Charles W. Machan\*

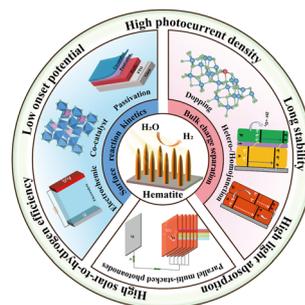


## FEATURE ARTICLES

7724

### Hematite photoanode for efficient photoelectrochemical water splitting: recent advances and outlook

Ke Liang, Jing Yang, Maoxuan Ye, Yuanming Zhang, Youn Jeong Jang and Hemin Zhang\*



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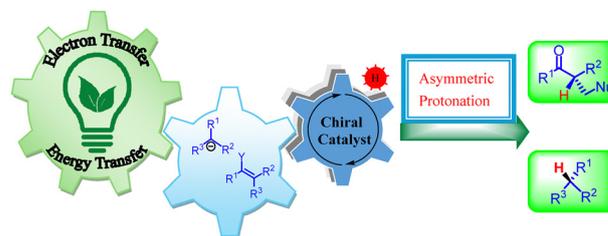
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## FEATURE ARTICLES

7737

**Visible-light-driven enantioselective protonation: a new Frontier in asymmetric catalysis**

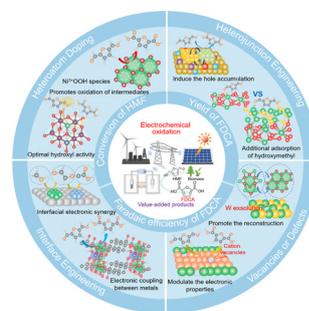
Chenhao Zhang and Zhiyong Jiang\*



7751

**Selective electrooxidation of 5-hydroxymethylfurfural to value-added 2,5-furanodiformic acid: mechanism, electrolyzer system, and electrocatalyst regulation**

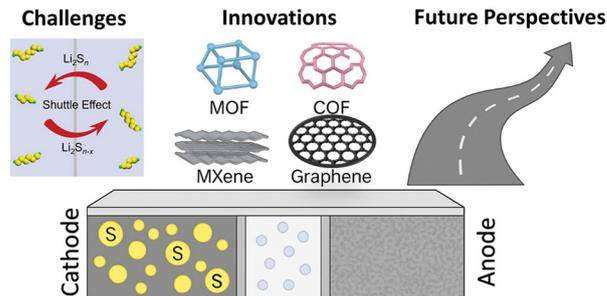
Yang Yu, Junqing Ma, LiLi Zhang, Tongming Sun, Minmin Wang, Jinli Zhu and Jiacheng Wang\*



7770

**New materials for lithium–sulfur batteries: challenges and future directions**

Montree Sawangphruk

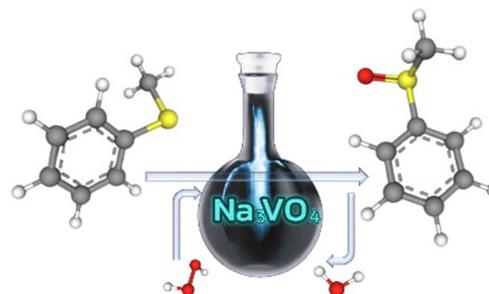


## COMMUNICATIONS

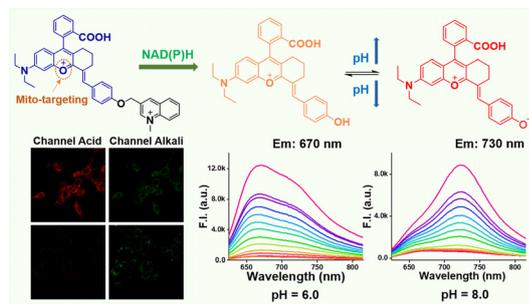
7795

**On the sulfide oxidation to sulfoxides using sodium orthovanadate in water**

Yunhan Zhang, Yiting Su, Lan Liu and Bishuang Chen\*



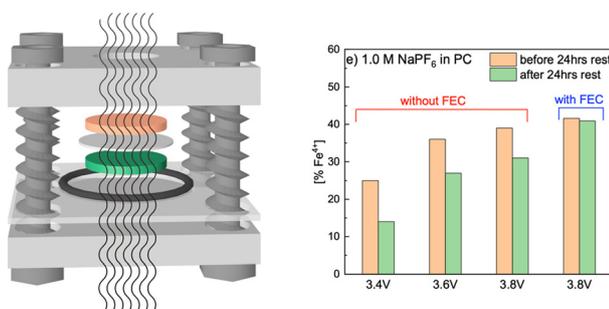
7799



### A dual-response fluorescent probe Rh-O-QL for simultaneous monitoring of NAD(P)H and pH during mitochondrial autophagy

Liandi Guan, Wanting Hu, Shiyu Zhang, Yongjian Ai and Qionglian Liang\*

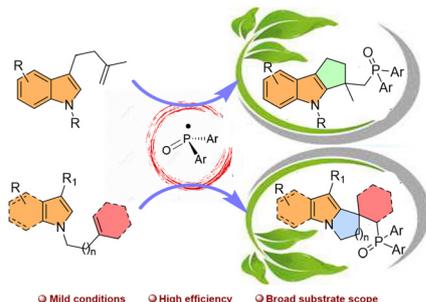
7803



### In situ Mössbauer spectroscopy confirms that fluoroethylene carbonate stabilizes Fe<sup>4+</sup> in charged NaFeO<sub>2</sub>

Iddrisu Bachokun Abdul Razak, Dhilip Kanna Ashok Kumar, Bomin Li, Emma Anne Lynch, Dennis Brown and Yingwen Cheng\*

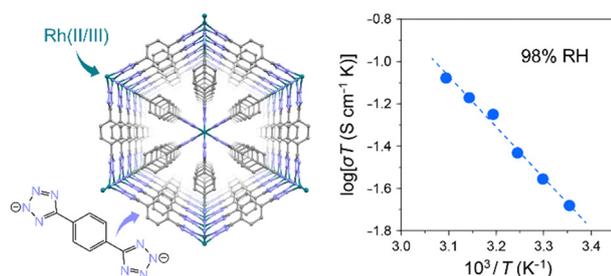
7807



### Harnessing phosphorus-centered radicals for the synthesis of cyclopenta[*b*]indole and pyrrolo[1,2-*a*]indole frameworks

Palash Ghosh, Pralay Das, Prathama S. Mainkar, Rudrakshula Madhavachary\* and Srivari Chandrasekhar\*

7811



### Self-assembled metal–organic framework composed of one-dimensional Rh(II/III) chains with an octahedral [RhN<sub>6</sub>] coordination

Ai Kurahashi, Yukihiro Yoshida\* and Hiroshi Kitagawa\*

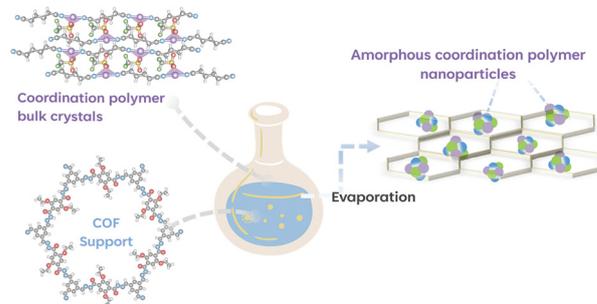


## COMMUNICATIONS

7815

**Stabilisation of amorphous coordination polymer nanoparticles in a covalent organic framework**

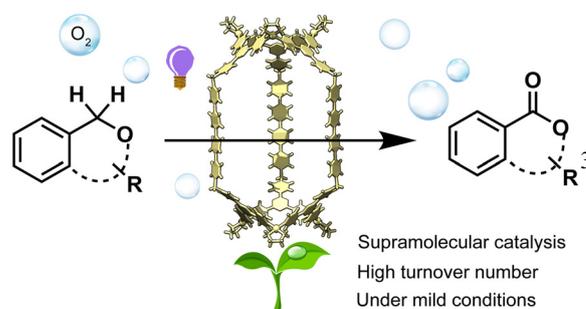
Boonrasri Seeleang, Soracha Kosasang,\*  
Karnjana Atthawilai, Thanakorn Tiyawarakul,  
Thidarat Imyen, Kanokwan Kongpatpanich and  
Satoshi Horike\*



7819

**Coordination-assembly of a redox-active Pd<sub>6</sub>L<sub>3</sub> cage for aerobic C(sp<sup>3</sup>)-H bond photooxidation of aromatic cyclic ethers**

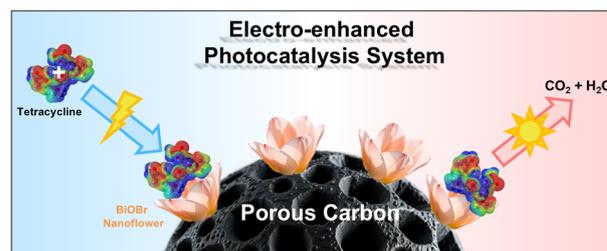
Yu-Hang Hu, Fan Yin, Shun-Xing Hong, Li-Peng Zhou,  
Ke-Han Tang, Ying-Mei Zhong, Chen-Chen Li,  
Li-Xuan Cai\* and Qing-Fu Sun\*



7823

**Electro-enhanced mass transfer boosting photocatalysis towards ionized organic pollutants**

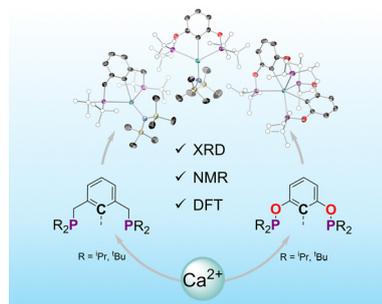
Ziquan Wang, Mengyu Zhao, Zengye Chen, Zhuji Liang,  
Fengcheng Yang, Yongliang Li and Libo Deng\*



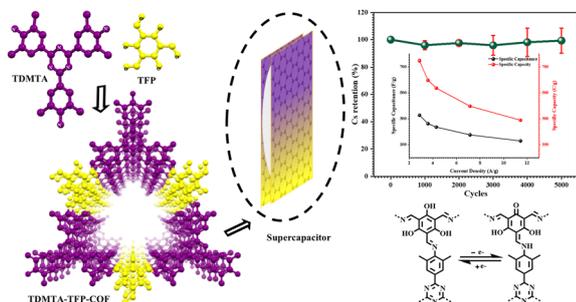
7827

**PCP and POCOP complexes of calcium**

Alessandro Messori, Marcel Potocnik, Sara Belazregue,  
Richard Collins, Tobias Krämer and F. Mark Chadwick\*



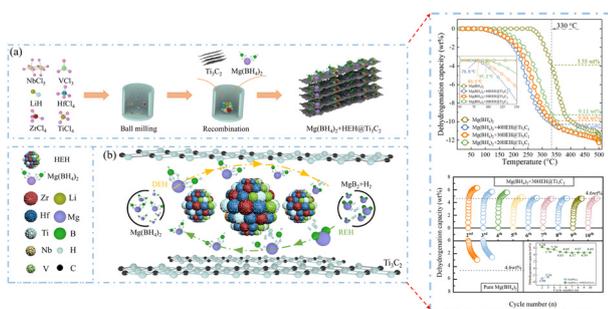
7831



### An electron rich triazine-based covalent organic framework as an aqueous electrolyte symmetric supercapacitor

Divya, Ravi Rajan Panday, Shahjad Ali, Md Ehesan Ali, Sarita Kalla, Rakesh K. Pandey\* and Ritambhara Jangir\*

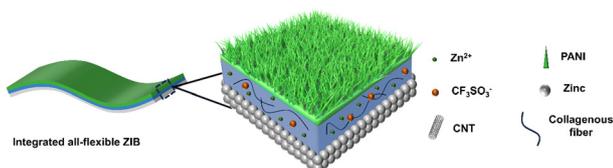
7835



### Facile fabrication of an MXene-supported nano high-entropy hydride unlocking reversible hydrogen storage in Mg(BH<sub>4</sub>)<sub>2</sub>

Ao Xia, Jianguang Zheng,\* Zhenxuan Ma, Changhai Wu, Cong Li and Beibei Xiao\*

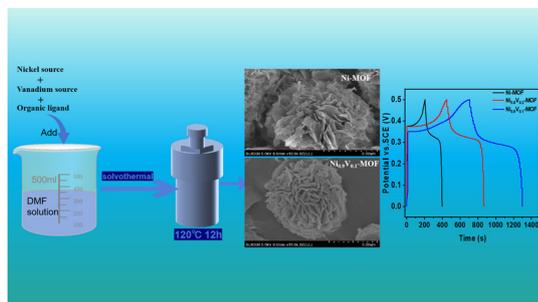
7839



### An integrated all-flexible zinc-ion battery based on leather gel electrolyte

Shi-yi Shen, Jia-hua Guo, Si-qi Zheng, Shuang Gu, Wen-Bo Pei,\* Jiansheng Wu,\* Xia Liu, Xiao-Ming Ren and Fengwei Huo

7843



### Fabrication of a vanadium-doped Ni-MOF with a hydrangea-like morphology as an electrode for high-performance supercapacitors

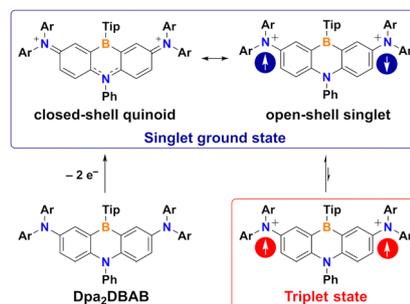
Sicong Zhang, Jingce Bi, Qingfeng Zhan, Ningning Liu, Xia Zhang, Zhuopeng Wang and Yide Han\*



7847

### Dicationic dibenzo[1,4]azaborine with an open-shell electronic structure

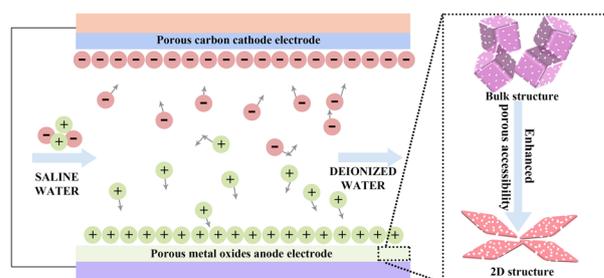
Peiyuan Yang, Yizhou Chen, Takuma Kuroda, Haruto Morishita, Hiroki Fukumoto, Masato Morita, Koichiro Masada, Takahiro Sasamori, Kazuya Kubo, Kazuhiro Marumoto,\* Ryo Inoue,\* Shin-ichiro Kato\* and Tomohiro Agou\*



7851

### Engineering the dimensionality of porous $\text{Co}_3\text{O}_4$ for enhanced capacitive deionization performance

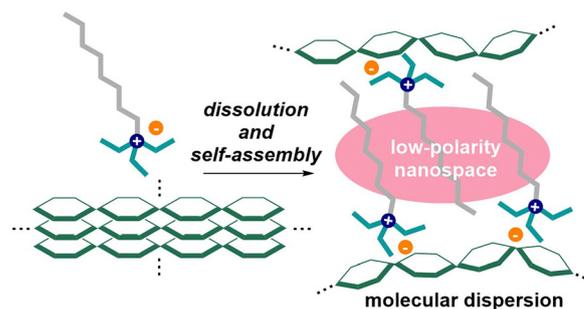
Mohua Li, Qi Ran, Jiarui Fan, Yue Liu, Wenjie Wu,\* Yunyong She, Zhongxiang Liu, HaiYan Hu\* and Xingtao Xu\*



7855

### A cellulose-stimulated self-assembling solvent for molecular dispersion of cellulose

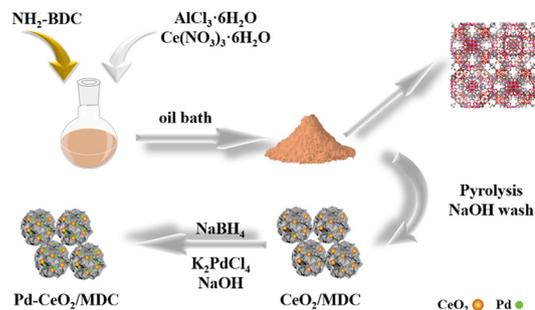
Keisuke Jono, Yuki Ogawa, Naoaki Yamasaki, Takuya Uto\* and Kosuke Kuroda\*



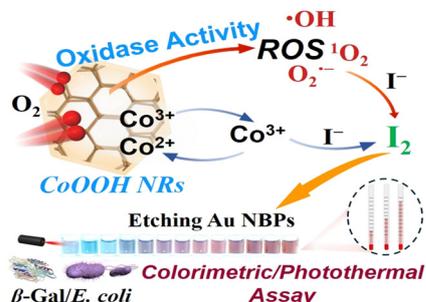
7859

### $\text{Pd-CeO}_2/\text{C}$ nanocomposite derived from MIL-101(Al) for enhanced glycerol electrooxidation

Nuoyan Li, Chi Zhang, Songlin Lei, Wei Hong,\* Shuguang Deng and Jun Wang\*



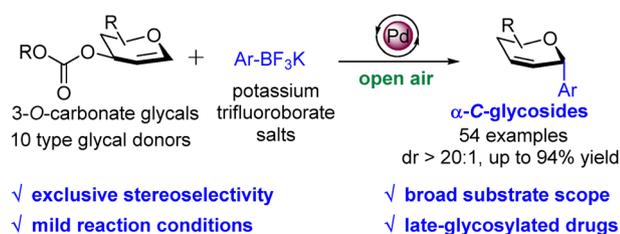
7863



### Two birds with one stone: colorimetric and photothermal dual-mode biosensor based on CoOOH nanorings for detecting $\beta$ -galactosidase activity and *Escherichia coli*

Yong Qiong Wang, Jia Hui Liu, De Yan Li, Jin Zhang, Long Huang, Jian Mei Yang and Tong Yang\*

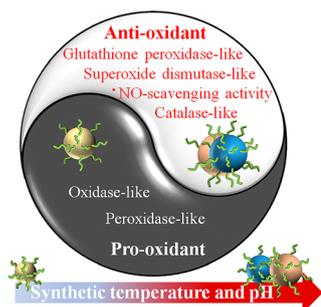
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### Stereoselective synthesis of C-glycosides from glycols and organotrifluoroborate salts

Karwan Abdulmajed Othman, Yimin Xiang, Yue Wang, Nianyu Huang, Nengzhong Wang,\* Linxuan Li\* and Hui Yao\*

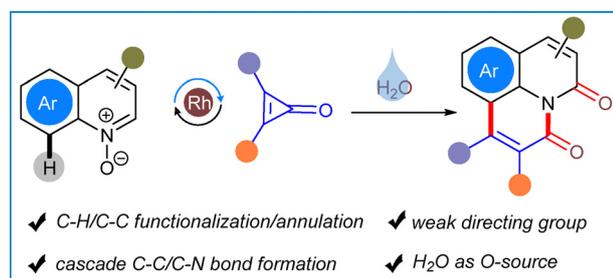
7871



### Extremes meet: changeover between pro- and antioxidant activities of Cu-based nanozymes

Yuezhen He,\* Yan Chen, Xue Yang, Chuncan Song, Xianyong Shen, Shirui Ma, Jian Sun, Feng Gao\* and Lun Wang

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### Rh-catalyzed [3+3]-annulation of quinolines with cyclopropanones: access to functionalized 2-quinolones

Bijoy Debnath, Santu Mandal, Sharajit Saha, Pallab Karjee and Tharmalingam Punniyamurthy\*

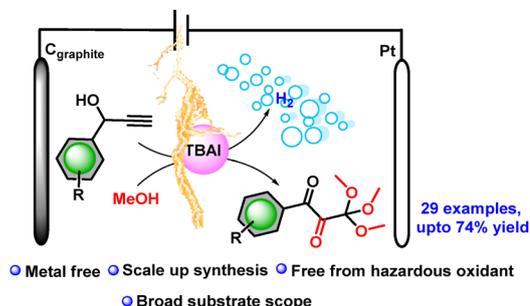


## COMMUNICATIONS

7879

**Electrochemical oxidation of propargyl alcohol: rapid access to an unprecedented dioxo-orthoester under mild conditions**

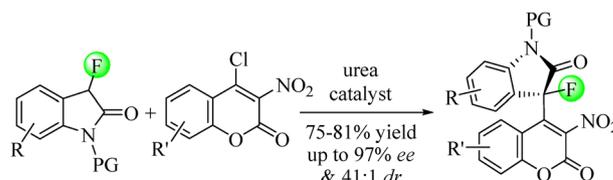
Sayan Bhadra, Manas Bandyopadhyay, Swastik Pathak, Jorge Escorihuela and Mrinal K. Bera\*



7883

**Organocatalytic atroposelective fluorooxindole addition to coumarin Michael acceptors**

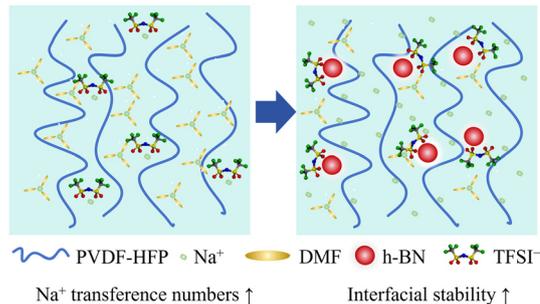
Maria Bouda, Grace E. Hana, Dea Xhili, Archita Sripada, Jeffery A. Bertke and Christian Wolf\*



7887

**A hexagonal-BN filler boosts the electrochemical performance of polymeric solid-state electrolytes for sodium-metal batteries**

Shuangwu Xu, Le Zhao, Zheting Liu, Huapeng Sun, Dan Sun, Zhiguang Peng,\* Yougen Tang, Wenyao Wang and Haiyan Wang\*



7891

**High voltage driven MnO<sub>2</sub>/CuO for efficient oxidation of 5-hydroxymethylfurfural**

Mengyang Yin, Hongliang Dai, Xi Chen, Weiqiang Fan\* and Hongye Bai\*

