

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

### IN THIS ISSUE

ISSN 1359–7345 CODEN CHCOFS 60(18) 2425–2562 (2024)



#### Cover

See Dianming Sun,  
Xiao-Hong Zhang,  
Eli Zysman-Colman et al.,  
pp. 2489–2492.  
Image reproduced  
by permission of  
Sen Wu and  
Eli Zysman-Colman from  
*Chem. Commun.*,  
2024, **60**, 2489.

### PROFILE

2434

Contributors to the Emerging Investigators collection 2023: Part 3

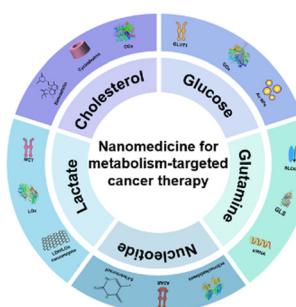


### HIGHLIGHTS

2442

Recent advances in nanomedicine for metabolism-targeted cancer therapy

Jun Da, XinJia Di, YuQi Xie, JiLi Li, LiLi Zhang\* and YanLan Liu\*



GOLD  
OPEN  
ACCESS

# RSC Applied Polymers

The application of polymers,  
both natural and synthetic

Interdisciplinary and open access



[rsc.li/RSCApplPolym](http://rsc.li/RSCApplPolym)

Fundamental questions  
Elemental answers

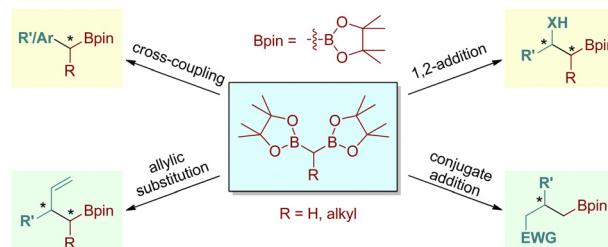
Registered charity number: 207890

## HIGHLIGHTS

2462

**Recent progress in the catalytic enantioselective reactions of 1,1-diborylalkanes**

Xin Li, Jinglong Chen\* and Qiuling Song\*

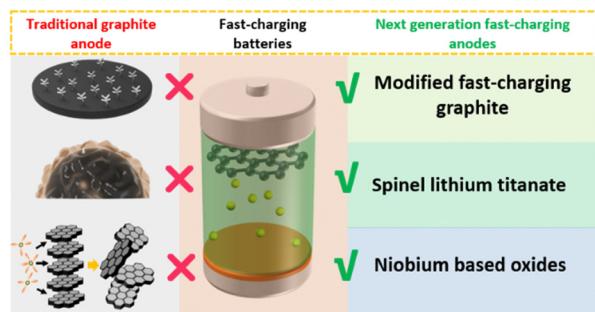


## FEATURE ARTICLE

2472

**Fast-charging anodes for lithium ion batteries: progress and challenges**

Xiaobo Ding, Qingfeng Zhou, Xiaodan Li and Xunhui Xiong\*

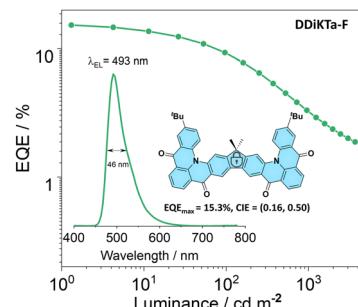


## COMMUNICATIONS

2489

**A fluorene-bridged double carbonyl/amine multiresonant thermally activated delayed fluorescence emitter for efficient green OLEDs**

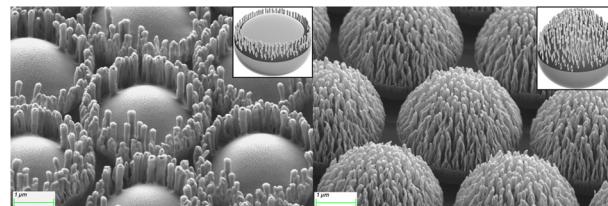
Sen Wu, Ya-Nan Hu, Dianming Sun,\* Kai Wang, Xiao-Hong Zhang\* and Eli Zysman-Colman\*



2493

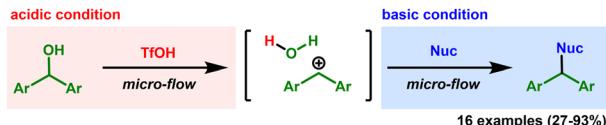
**Polystyrene microspheres with ultra-rough surfaces engineered using RIE technique and applied using SERS**

Jizhe Song, Sujuan Feng,\* Haonan Shi, Daotong Han and Guangqiang Liu\*



## COMMUNICATIONS

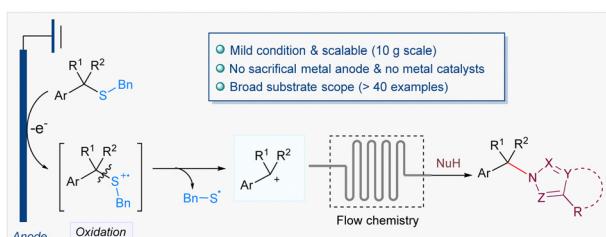
2497



**Micro-flow heteroatom alkylation via TfOH-mediated rapid *in situ* generation of carbocations and subsequent nucleophile addition**

Yuma Matsuura and Shinichiro Fuse\*

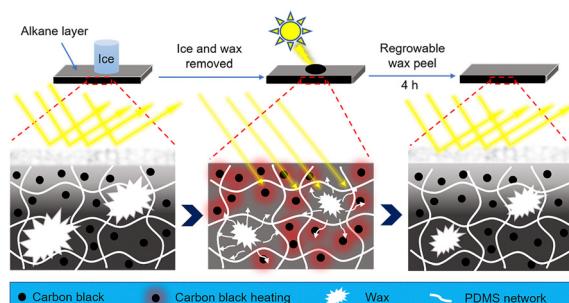
2501



**Electrochemical desulfurative formation of C–N bonds through selective activation of inert C(sp<sup>3</sup>)–S bonds**

Shaopeng Guo, Yujun Li, Qing-Han Li\* and Ke Zheng\*

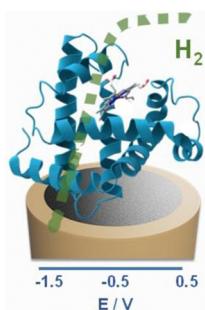
2505



**Photo-thermal waxgels with fast wax layer regeneration ability for anti-icing**

Xiang Wang, Lingling Zhang, Yuehua Zhao, Huili Ren, Yiming Liu, Jie Ju\* and Xi Yao\*

2509



**Hydrogen bioelectrogeneration with pH-resilient and oxygen-tolerant cobalt apoenzyme-saccharide**

Rodrigo M. Iost, Radhakrishnan Venkatkarthick, Steffane Q. Nascimento, Fabio H. B. Lima and Frank N. Crespilho\*

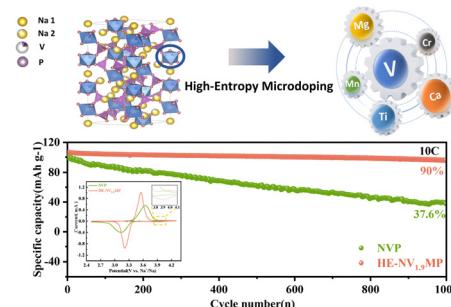


## COMMUNICATIONS

2512

**Synergistic impact of high-entropy microdoping modification in  $\text{Na}_3\text{V}_2(\text{PO}_4)_3$** 

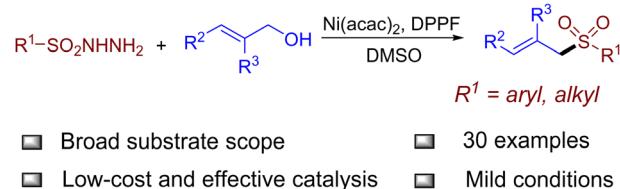
Yahao Kang, Xitao Lin, Shuai Tong, Wenlong Zhu, Yang Wang, Min Jia\* and Xiaoyu Zhang\*



2516

**Neutral nickel-catalyzed dehydrosulfonylation of unactivated allylic alcohols under mild conditions**

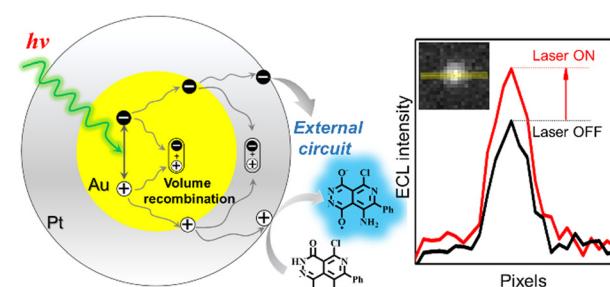
Yahui Yang, Haibo Zhu,\* Bozhen Gong, Hong Yang, Qiangwen Fan,\* Zhang-Gao Le and Zongbo Xie\*



2520

**Electrogenerated chemiluminescence imaging of plasmon-induced electrochemical reactions at single nanocatalysts**

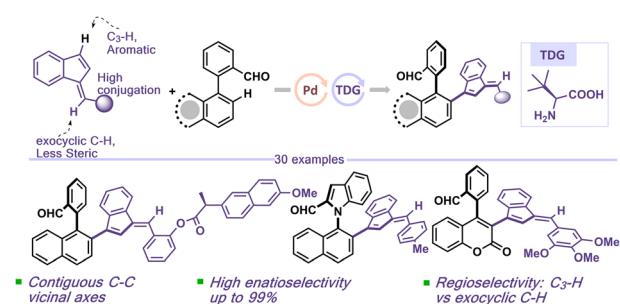
Qian-Qian Tao, Cong-Hui Xu, Wei Zhao,\* Hong-Yuan Chen and Jing-Juan Xu\*



2524

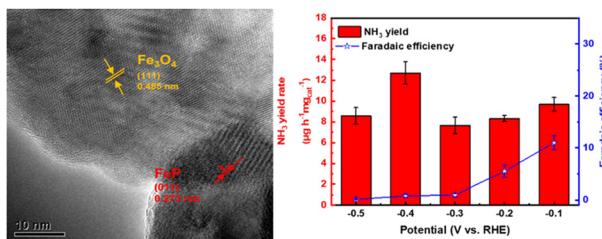
**Asymmetric 1,2-diaxial synthesis of bi-(hetero)aryl benzofulvene atropisomers via transient directing group-assisted dehydrogenative coupling**

Soumyadip Hore, Abhijeet Singh and Ravi P. Singh\*



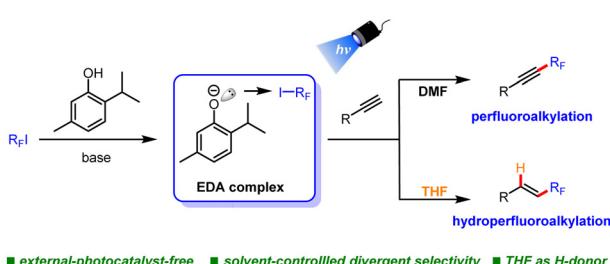
## COMMUNICATIONS

2528

**FeP–Fe<sub>3</sub>O<sub>4</sub> nanospheres for electrocatalytic N<sub>2</sub> reduction to NH<sub>3</sub> under ambient conditions**

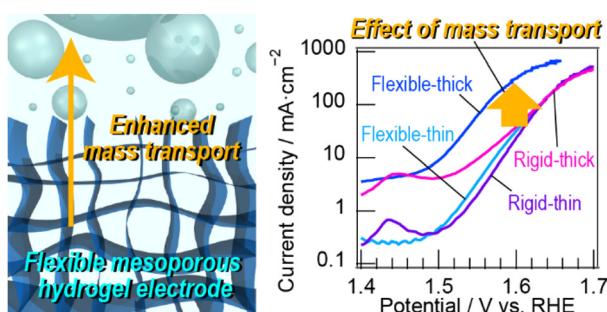
Huanhuan Zhang, Shuhao Yan, Wei Yi,\* Yebo Lu,\* Xiao Ma, Yu Bin, Lanhua Yi\* and Xingzhu Wang\*

2532

**Photoinduced selective perfluoroalkylation of terminal alkynes via electron donor–acceptor complexes**

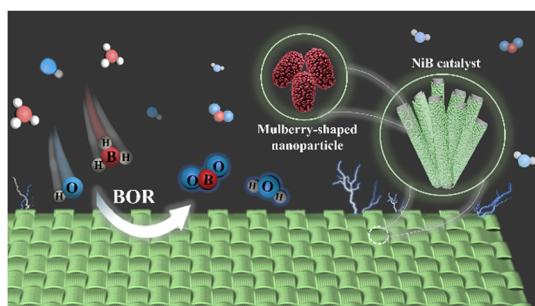
Xiaolin Shi, Bo Yu, Xin Zhou and Yong Yang\*

2536

**Mesoporous hydrogel electrodes with flexible frameworks exhibiting enhanced mass transport for the oxygen evolution reaction**

Ritsuki Nakajima, Hiroki Wago, Tatsuya Taniguchi, Yuta Sasaki, Yoshinori Nishiki, Zaenal Awaludin, Takaaki Nakai, Akihiro Kato, Shigenori Mitsushima and Yoshiyuki Kuroda\*

2540

**A superior mulberry-like nanoparticle NiB binary catalyst for borohydride oxidation**

Jinliang Cai, Caini Yi, Yuxin Xie, Ying Yang, Hang Yang, Yuping Liu, Changguo Chen, Danmei Yu\* and Xiaoyuan Zhou\*

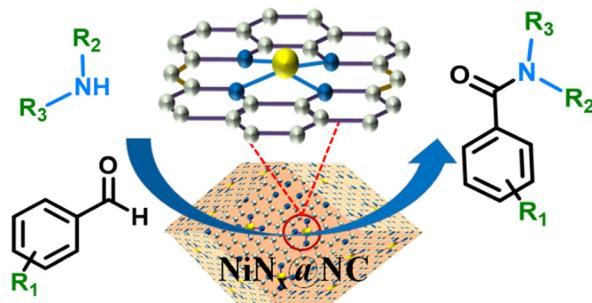


## COMMUNICATIONS

2544

**The low loading of metal in metal–organic framework-derived  $\text{NiN}_x@ \text{NC}$  promotes amide formation through C–N coupling**

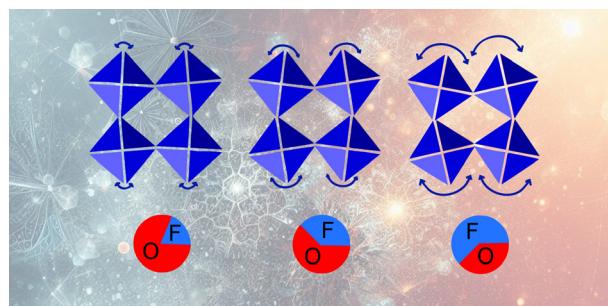
Ved Vyas, Vishesh Kumar and Arindam Indra\*



2548

**Mixed anion control of negative thermal expansion in a niobium oxyfluoride**

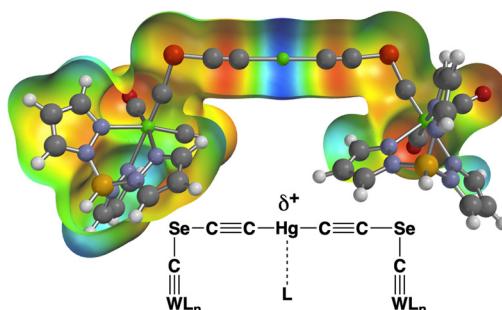
Eliza K. Dempsey and James Cumby\*



2552

**Spodium bonding in bis(alkynyl)mecurials**

Chee S. Onn, Anthony F. Hill\* and Jas S. Ward



2556

**Photocatalytic cyclization of 3-(2-isocyanophenyl)quinazolin-4(3*H*)-ones for the construction of quinoxalino[2,1-*b*]quinazolinones**

Xian Wu, Lingli Liu, Chengli Xiang, Jin-Tao Yu\* and Changduo Pan\*

