

# ChemComm

Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(79) 11743-11884 (2023)



### Cover

See Soumalya Sinha and Jianbing "Jimmy" Jiang, pp. 11767-11779. Image reproduced by permission of Jianbing "Jimmy" Jiang from *Chem. Commun.*, 2023, 59, 11767.



### Inside cover

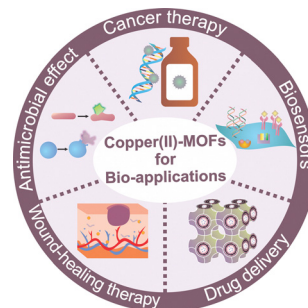
See Yanhong Li, Yunhuai Zhang et al., pp. 11791-11794. Image reproduced by permission of Yanhong Li from *Chem. Commun.*, 2023, 59, 11791.

## HIGHLIGHT

11753

### Copper(II)-MOFs for bio-applications

Javier Aguila-Rosas, Dalia Ramos, Carlos T. Quirino-Barreda,\* Juan Andrés Flores-Aguilar, Juan L. Obeso, Ariel Guzmán-Vargas, Ilich A. Ibarra\* and Enrique Lima\*



## FEATURE ARTICLES

11767

### Main group elements in electrochemical hydrogen evolution and carbon dioxide reduction

Soumalya Sinha and Jianbing "Jimmy" Jiang\*

1 H	Main Group Elements								2 He
3 Li	4 Be	5 B	6 C	7 N	8 O	9 F	10 Ne		
11 Na	12 Mg	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar		
19 K	20 Ca	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr		
37 Rb	38 Sr	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe		
55 Cs	56 Ba	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn		
87 Fr	88 Ra	CO <sub>2</sub> RR		CO <sub>2</sub> RR + HER		HER			

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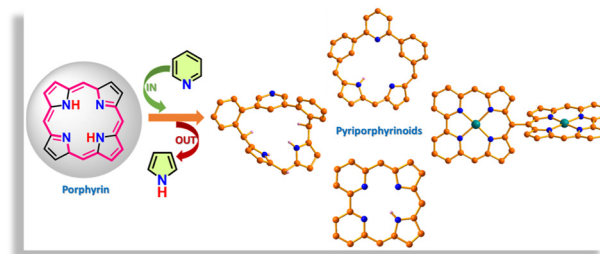


## FEATURE ARTICLES

11780

**Advent and features of pyriporphyrinoids: an overview of a pyridine-based porphyrin analogue**

Mainak Das\* and A. Srinivasan\*

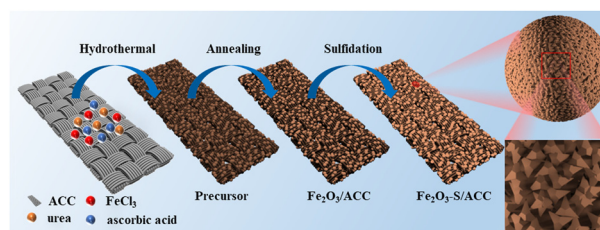


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**Novel Fe<sub>2</sub>O<sub>3</sub> microspheres composed of triangular star-shaped nanorods as an electrode for supercapacitors**

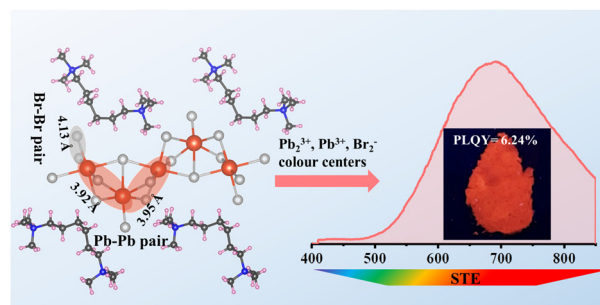
Zhiting Song, Hongming Hu, Kai Shu, Tao Liu, Xiao Tang, Xianju Zhou, Yanhong Li\* and Yunhuai Zhang\*



11795

**Broadband red emission from one-dimensional hexamethonium lead bromide perovskitoid**

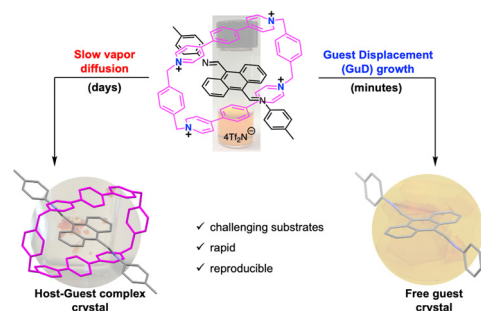
Biqi He, Kuan Kuang, Bing Xu, Junjie Tang, Sheng Cao, Zixian Yu, Mingkai Li,\* Yunbin He\* and Junnian Chen\*



11799

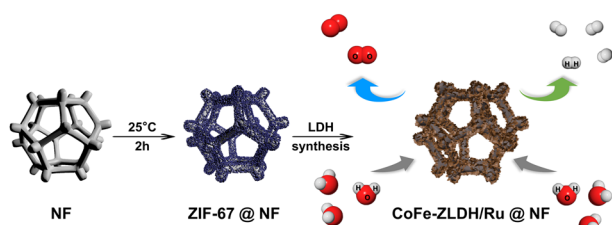
**Rapid single crystal growth *via* guest displacement from host–guest complexes**

Mikayla L. Horvath, Caylee E. Jumbelic, Rosemarie A. Burynski, M. Brody Mistrot, Robert D. Pike,\* Brian J. Smith\* and Hasan Arslan\*



## COMMUNICATIONS

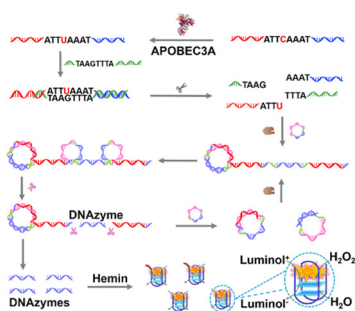
11803



### Construction of a ruthenium-doped CoFe-layered double hydroxide as a bifunctional electrocatalyst for overall water splitting

Wenxin Ning, Rui Wang, Xiaoxia Li, Ming Hua Wang, Hao Guan Xu, Hao Yang Lin, Xiao Peng Fu, Mengmin Wang, Peng Fei Liu\* and Hua Gui Yang

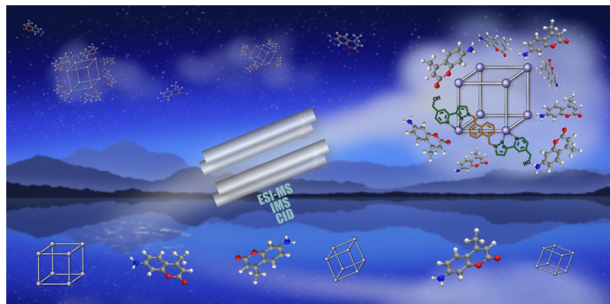
11807



### Deamination-triggered exponential signal amplification for chemiluminescent detection of cytosine deaminase at the single-cell level

Wen-jing Liu, Hai-Juan Li, Xiaoran Zou, Qian Liu, Fei Ma\* and Chun-yang Zhang\*

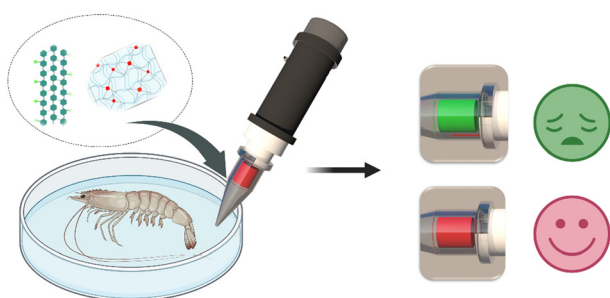
11811



### Binding modes of high stoichiometry guest complexes with a Co<sub>8</sub>L<sub>12</sub> cage uncovered by mass spectrometry

Daniel L. Stares, Cristina Mozaceanu, Michael D. Ward\* and Christoph A. Schalley\*

11815



### Integrated portable food safety testing pipette based on a color-switchable fluorescence probe for rapid visual discrimination of mild food deterioration

Ke Zhang, Tianzhi Mao, Wenqi Hu, Shijie Li, Xiaobo Zhou,\* Majun Yang, Luxia Yang, Yuling Qin\* and Li Wu\*

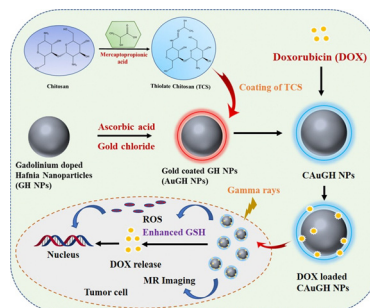


## COMMUNICATIONS

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**Gd/hafnium oxide@gold@chitosan core-shell nanoparticles as a platform for multimodal theranostics in oncology research**

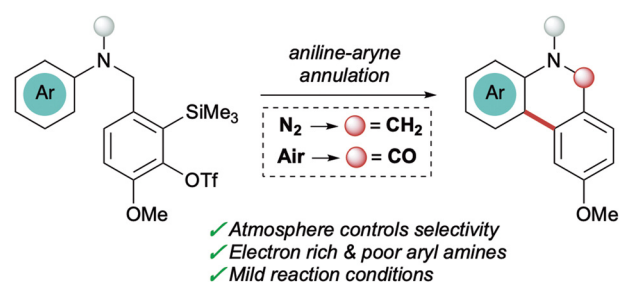
Aastha Gupta, Ritu Singhmar, Ankur Sood, Dimpy Bhardwaj, S. Senthil Kumaran, Shubhra Chaturvedi and Garima Agrawal\*



11823

**Selective access to dihydrophenanthridines and phenanthridinones via cyclisation of aryl amines onto *N*-tethered arynes**

Weitao Sun, Maria Uttendorfer, Fahima I. M. Idris, A. Yannic R. Werling, Khushal Siddiq and Christopher R. Jones\*



11827

**Mechanical milling processed highly luminescent Cs–Pb–Br perovskite emitters**

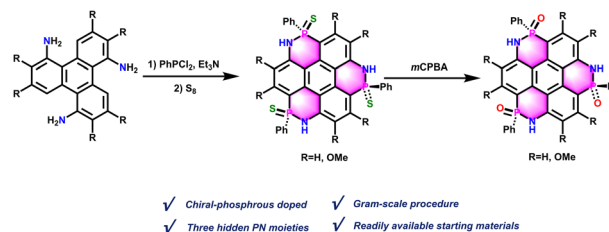
Teng Zhang,\* Youru Bai, Shaohuan Feng, Qifan Xue,\* Xiaotian Hu,\* Xueqing Xu,\* Heyuan Liu, Yuriy N. Luponosov, Muhammad Bilal Khan Niazi and Xiyou Li\*



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**A straightforward synthesis and physicochemical properties of chiral phosphorus-doped coronenes**

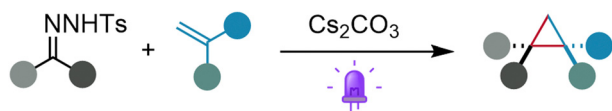
Xuexiang Li,\* Jia Li, Xingchen Li, Rui Dang, Zhihao Li, Ying Li and Biyao Wang





## COMMUNICATIONS

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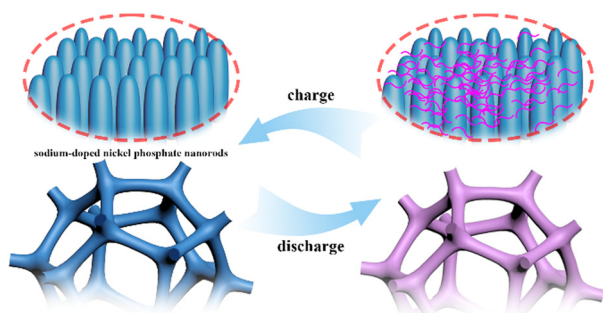


- metal-free
- up to 99% yield
- >20 examples
- synthesis of pyrazolines
- OH and NH tolerant

### Photogenerated donor–donor diazo compounds enable facile access to spirocyclopropanes

Vincent George and Burkhard König\*

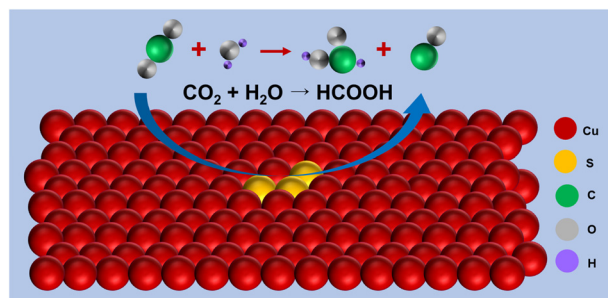
11839



### Tailoring the growth route of lithium peroxide through the rational design of a sodium-doped nickel phosphate catalyst for lithium–oxygen batteries

Se-Si Li, Xing-He Zhao, Kai-Xue Wang\* and Jie-Sheng Chen\*

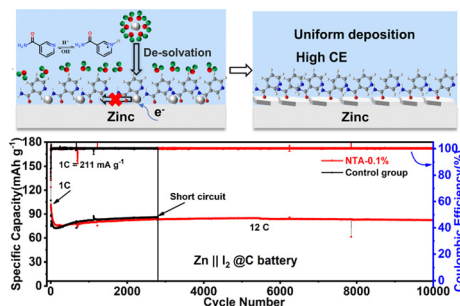
11843



### Copper vulcanization realizes selective carbon dioxide reduction to formate

Wenqiang Liu, Yan Wen, Nan Fang, Mingmin Wang, Yong Xu\* and Xiaoqing Huang\*

11847



### Versatile nicotinamide enabling dendrite-free and efficient deposition for aqueous Zn–I<sub>2</sub> batteries

Hejing Wang, Yitian Su, Lijing Yan,\* Xiaomin Zeng,\* Xiaoran Chen, Baorui Xiang, Huixin Ren, Tingli Ma and Min Ling\*

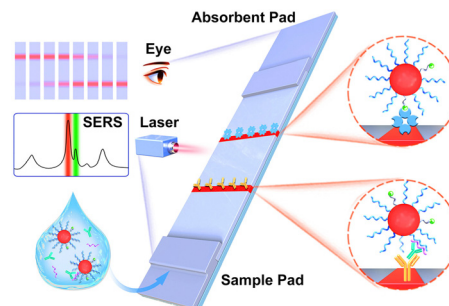


## COMMUNICATIONS

11851

**An immunoassay-like recognition mechanism-based lateral flow strategy for rapid microRNA analysis**

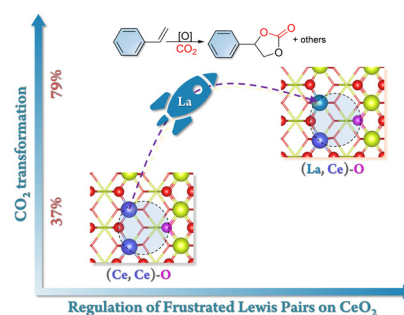
Jie Liu, Jingjing Shi, Qinya Feng, Wenjiao Fan\* and Chenghui Liu\*



11855

**Regulation of frustrated Lewis pairs on CeO<sub>2</sub> facilitates tandem transformation of styrene and CO<sub>2</sub>**

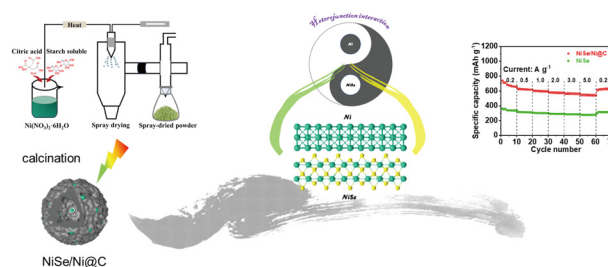
Yong Zou, Zhaoming Xia, You Wang, Yuxuan Liu, Sai Zhang\* and Yongquan Qu\*



11859

**Ni-derived electronic/ionic engineering on NiSe/Ni@C for ultrafast and stable sodium storage**

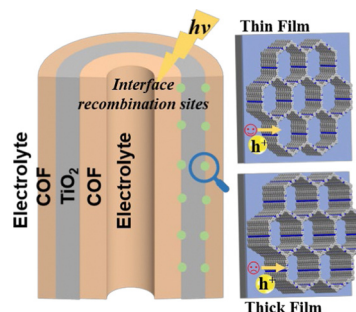
Haiwei Li, Weilong Zhang, Lei Wang, Hongping Li, Yanchen Fan, Xiaolong Yang, Hui Du, Yan Zhang and Zhuo Li\*



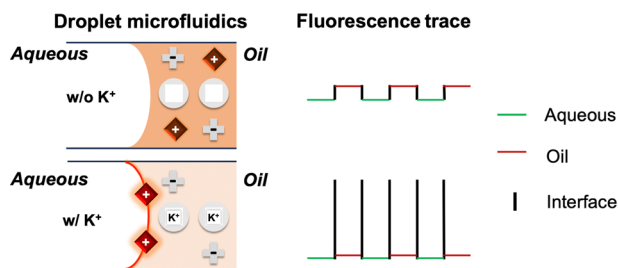
11863

**Improved photocatalytic activity of TiO<sub>2</sub> with a regulated covalent organic framework thin film**

Xiaochi Han, Wenbo Dong, Longyu Li\* and Xuemei Zhou\*



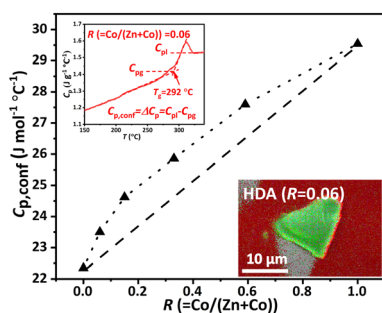
11867



### Ion-modulated interfacial fluorescence in droplet microfluidics using an ionophore-doped oil

Renjie Wang, Nasrin Ghanbari Ghalehjoughi and Xuewei Wang\*

11871



### The glass transition in the high-density amorphous Zn/Co-ZIF-4

Zijuan Du, Ang Qiao, Hemin Zhou, Zhencai Li, Wessel M. W. Winters, Jiexin Zhu, Guanjie He, Ivan P. Parkin, Haizheng Tao\* and Yuanzheng Yue\*

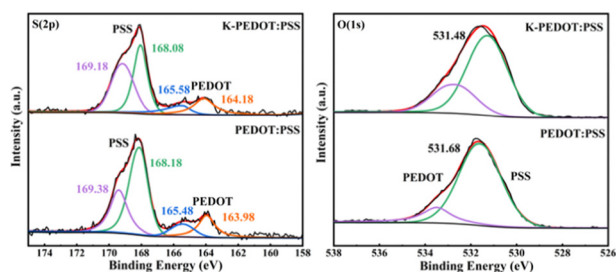
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### A visible light-driven direct synthesis of industrially relevant glutaric acid diesters from aldehydes

Anindita Bhowmick, Abhijit Chatterjee, Sidharth S. Pathak and Ramakrishna G. Bhat\*

11879



### Potassium stearate doped PEDOT:PSS improves the performance of inverted perovskite solar cells

Ying Li, Yanqing Yao, Yuanlin Yang, Xusheng Zhao, Wan Cheng, Banghui Chen, Lijia Chen,\* Ping Li\* and Shuhui Tang

