

# ChemComm

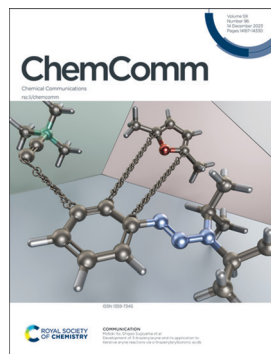
Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(96) 14187-14330 (2023)



### Cover

See Motoki Ito, Shigeo Sugiyama *et al.*, pp. 14249–14252. Image reproduced by permission of Motoki Ito from *Chem. Commun.*, 2023, 59, 14249.



### Inside cover

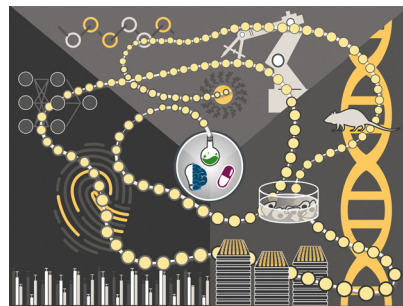
See Lauren E. Wenger and Timothy P. Hanusa, pp. 14210–14222. Image reproduced by permission of Timothy P. Hanusa from *Chem. Commun.*, 2023, 59, 14210.

## HIGHLIGHT

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### Frontiers in nonviral delivery of small molecule and genetic drugs, driven by polymer chemistry and machine learning for materials informatics

Jeffrey M. Ting,\* Teresa Tamayo-Mendoza, Shannon R. Petersen, Jared Van Reet, Usman Ali Ahmed, Nathaniel J. Snell, John D. Fisher, Mitchell Stern and Felipe Oviedo

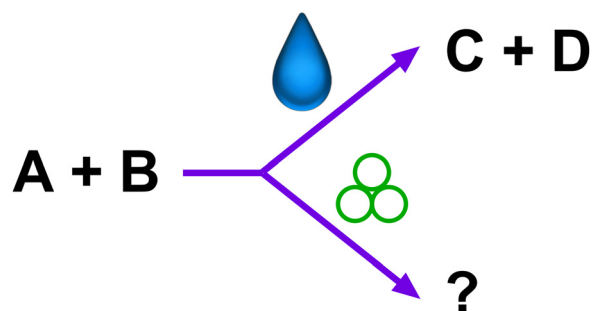


## FEATURE ARTICLES

14210

### Synthesis without solvent: consequences for mechanochemical reactivity

Lauren E. Wenger and Timothy P. Hanusa\*



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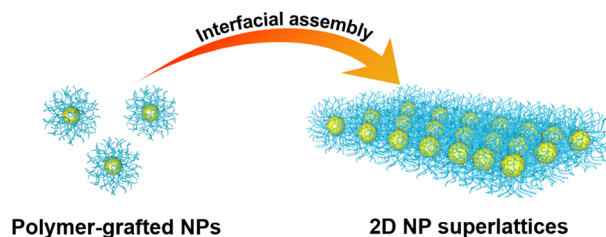


## FEATURE ARTICLES

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**2D superlattices *via* interfacial self-assembly of polymer-grafted Au nanoparticles**

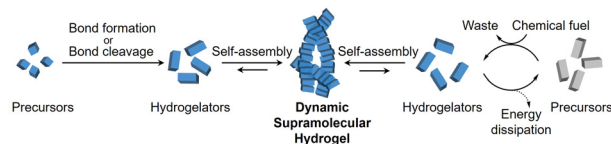
Liangzhu Jiang, Xi Mao, Changxu Liu, Xiaodan Guo, Renhua Deng\* and Jintao Zhu\*



14236

**Dynamic supramolecular hydrogels mediated by chemical reactions**

Jingjing Chen, Hucheng Wang, Feng Long, Shengyu Bai and Yiming Wang\*

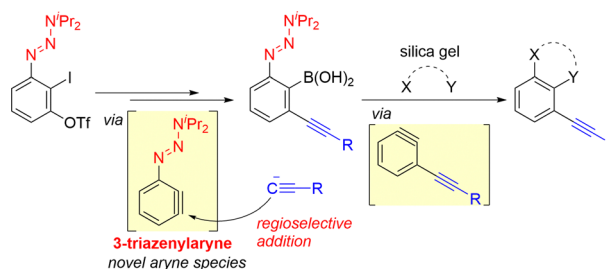


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**Development of 3-triazenylaryne and its application to iterative aryne reactions *via* o-triazenylarylboronic acids**

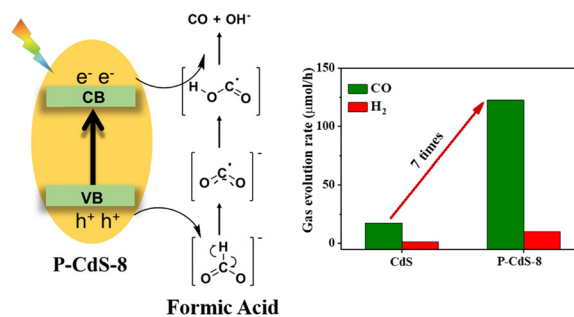
Motoki Ito,\* Yuta Takishima, Rinto Ishikawa, Mao Kamimura, Hana Watanabe, Takehiro Konishi, Kazuhiro Higuchi and Shigeo Sugiyama\*



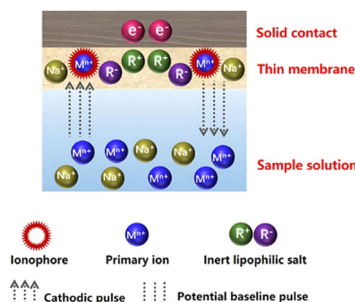
14253

**Boosting photocatalytic conversion of formic acid to CO over P-doped CdS**

Pengfei Feng, Junhao Wu, Zimeng Fan, Baochun Ma, Yuanyuan Li,\* Xiangyu Meng\* and Yong Ding\*



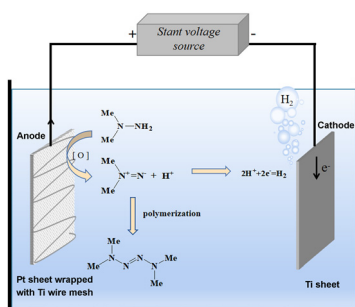
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### Trace-level chronopotentiometric detection in the presence of a high electrolyte background using thin-layer ion-selective polymeric membranes

Jinghui Li, Wenting Zhang and Wei Qin\*

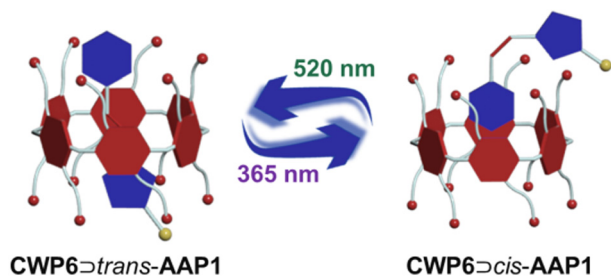
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### An environment friendly electrochemical synthesis of 1,1,4,4-tetramethyl-2-tetrazene energetic materials from undimethylhydrazine

Qi Xue, Mi Zhang, Liang He, Fu-Qing Bi,\* Bo-Zhou Wang\* and Bin Liu\*

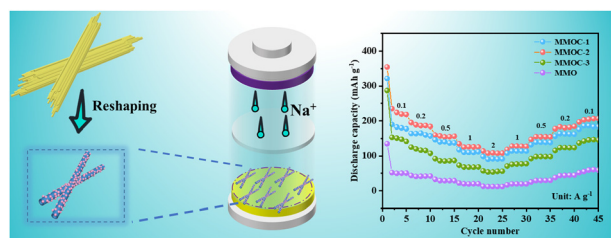
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### Arylazopyrazole as a photo-switch for controllable self-assembly of pillar[6]arene-based supramolecular amphiphiles

Yishu Yu, Xiaotian Qu, Junran Li, Feihe Huang\* and Jie Yang\*

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### Reshaping carbon-coated $\text{Mn}_2\text{Mo}_3\text{O}_8$ nanotubes and enhanced sodium storage performance

Lifeng Zhang,\* Liyue Xue, Jiayi Bai, Kexin He and Bangmei Lu\*

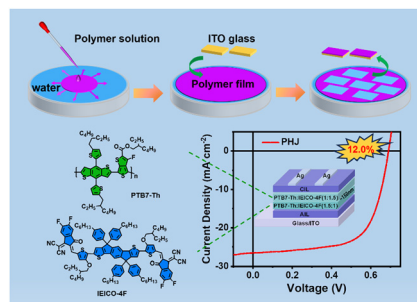


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### Spontaneously spreading film process to improve the photovoltaic performance of organic solar cells with PHJ structure

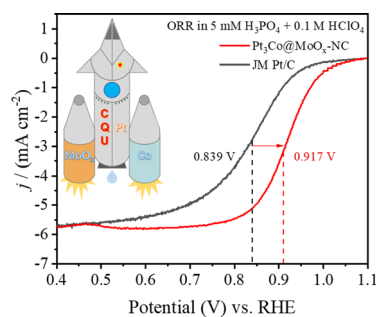
Yetai Cheng, Xiaodong Wang, Zengliang Pei, Ya-nan Chen, Hao Lu,\* Yahui Liu\* and Zhishan Bo\*



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### A phosphate tolerant Pt-based oxygen reduction catalyst enabled by synergistic modulation of alloying and surface modification

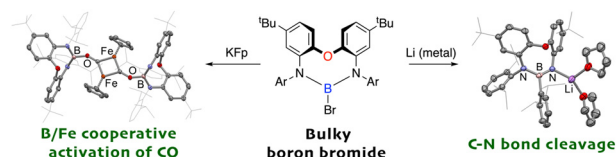
Daojun Long, Zhenyang Xie, Minjian Wang, Siguo Chen\* and Zidong Wei



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### Intramolecular C–N bond activation by a transient boron anion

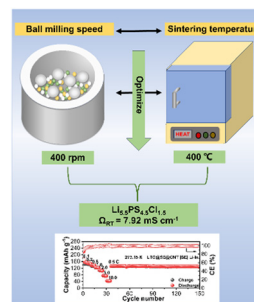
Emily E. Nahon, Gareth R. Nemes, Penelope J. Brothers and Jamie Hicks\*



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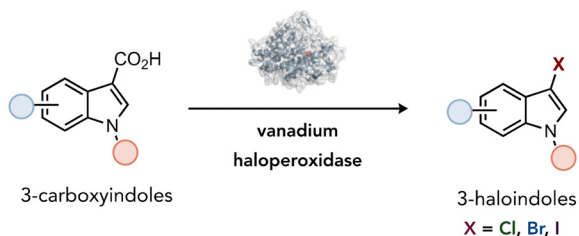
### Optimizing milling and sintering parameters for mild synthesis of highly conductive $\text{Li}_{5.5}\text{PS}_{4.5}\text{Cl}_{1.5}$ solid electrolyte

Tianyu Lei, Linfeng Peng, Cong Liao, Shuai Chen, Shijie Cheng and Jia Xie\*



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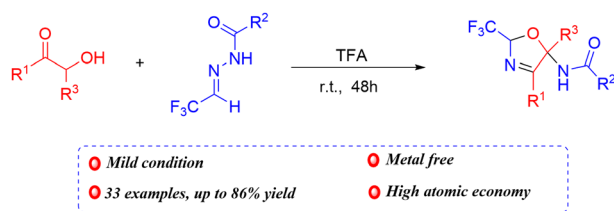


decarboxylative halogenation enabled by vanadium haloperoxidases

## Decarboxylative halogenation of indoles by vanadium haloperoxidases

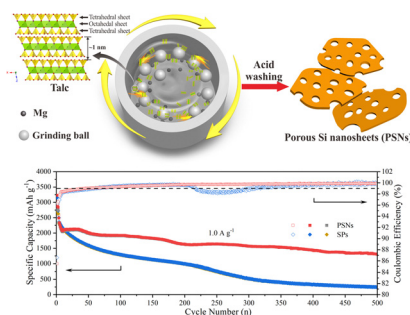
Lauren J. Harstad, Clare E. Wells, Hyung Ji Lee, Lauren P. T. Ramos, Manik Sharma, Cameron A. Pascoe and Kyle F. Biegasiewicz\*

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The cyclization/rearrangement of  $\alpha$ -hydroxy ketones with trifluoromethyl *N*-acylhydrazones to synthesize multi-substituted trifluoromethyloxazolines

Junjiao Wang,\* Yongwei Shang, Xiujuan Zhao, Zhenli Cui, Yang Li, Ke-Hu Wang, Danfeng Huang, Yulai Hu,\* Na Wang and Lei Feng

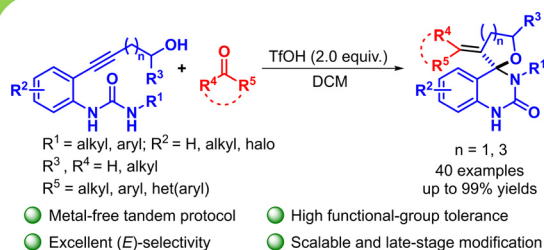
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## Mechanochemical reduction of clay minerals to porous silicon nanoflakes for high-performance lithium-ion battery anodes

Qingze Chen, Shoushu Wei, Runliang Zhu,\* Jing Du, Jieyang Xie, Haiming Huang, Jianxi Zhu and Zhengxiao Guo

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## Leveraging cascade alkynyl Prins cyclization towards the stereoselective synthesis of spiro-furan quinazolinone scaffolds

Subhamoy Biswas, Sudip Shit, Bipin Kumar Behera, Archana Kumari Sahu and Anil K. Saikia\*



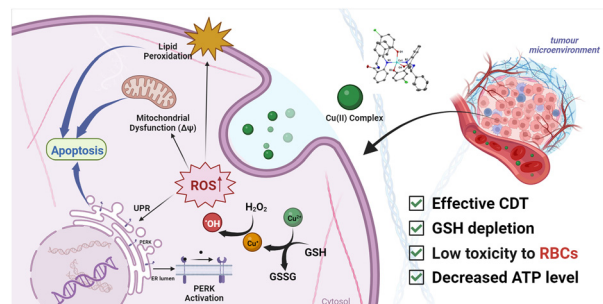


## COMMUNICATIONS

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## Concurrent Cu(II)-initiated Fenton-like reaction and glutathione depletion to escalate chemodynamic therapy

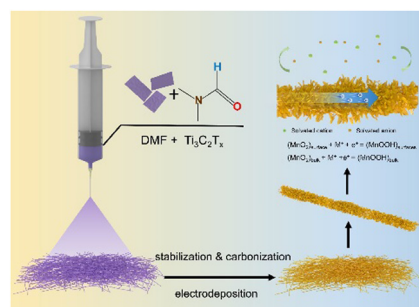
Ashwini Kumar, Ayushi Chaudhary, Bhumika Agrahari, Kajal Chaudhary, Pooran Kumar and Ritika Gautam Singh\*



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Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene-embedded MnO<sub>2</sub>-based hydrophilic electrospun carbon nanofibers as a freestanding electrode for supercapacitors

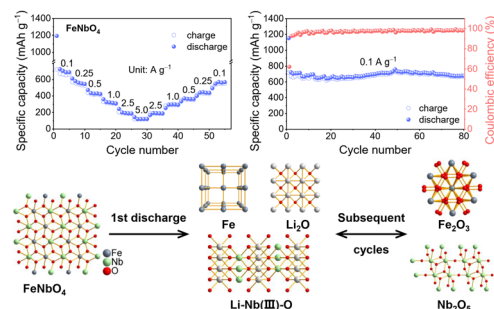
Zhaorui Wang, Deyang Zhang,\* Ying Guo, Hao Jiang, Di Wang, Jinbing Cheng,\* Paul K. Chu, Hailong Yan and Yongsong Luo\*



14313

FeNbO<sub>4</sub> nanochains with a five-electron transfer reaction toward high capacity and fast Li storage

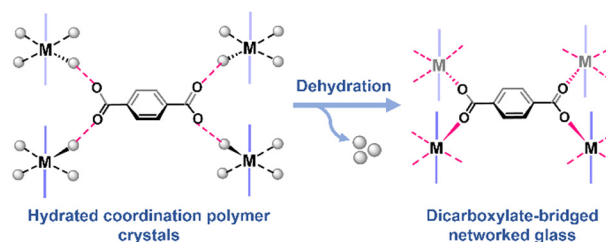
Yingxue Cui, Zixuan Zhou, Sheng Li, Rong Kang, Yun Zhang, Wei Wei, Jiabiao Lian,\* Shanhai Ge\* and Huaming Li\*



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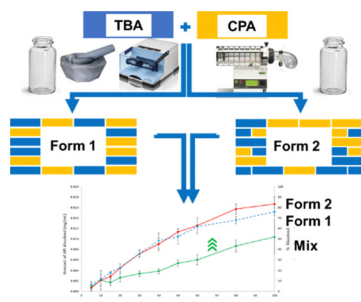
## Creating glassy states of dicarboxylate-bridged coordination polymers

Zeyu Fan, Yong-Sheng Wei, Chinmoy Das, Kazuyoshi Kanamori, Hiroki Yamada, Koji Ohara and Satoshi Horike\*



## COMMUNICATIONS

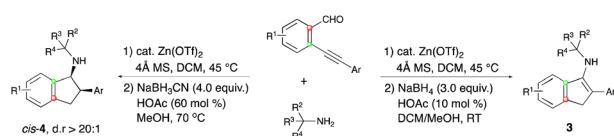
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## Solid solution polymorphs afford two highly soluble co-drug forms of tolbutamide and chlorpropamide

Enrico Spoletti, Vivek Verma, Chiara Cappuccino and Matteo Lusi\*

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Synthesis of 3-aminoindenes and *cis*-1-aminoindanes by  $\text{Zn}(\text{OTf})_2$ -catalyzed cyclization of *o*-alkynyl-benzaldehydes with tertiary alkyl primary amines

Tuanli Yao,\* Rui Zhu and Tao Liu

