

# ChemComm

Chemical Communications

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## IN THIS ISSUE

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### Cover

See Song Liu, Kuo Liu *et al.*, pp. 7057–7060.  
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## CONFERENCE REPORT

6992

### Highlights from Faraday Discussion: New horizons in nanoelectrochemistry, Nanjing, China

Huma Bhatti, Zhi-Cheng Yang and Yi-Lun Ying\*

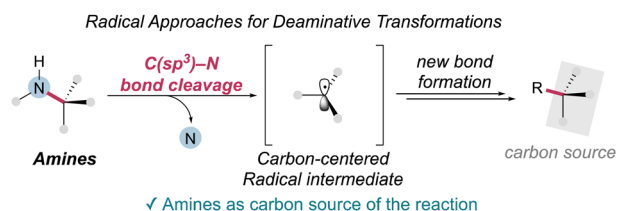


## HIGHLIGHTS

6997

### Radical approaches for C(sp<sup>3</sup>)-N bond cleavage in deaminative transformations

Je Uk Kim, Eun Song Lim, Ji Yeon Park, Donghoe Jung and Sumin Lee\*



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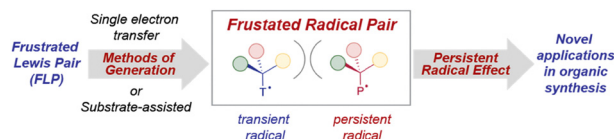


## HIGHLIGHTS

7009

## Exploring frustrated radical pairs through the persistent radical effect: methods of generation and recent applications

Darshika Singh and Robert E. Maleczka Jr\*

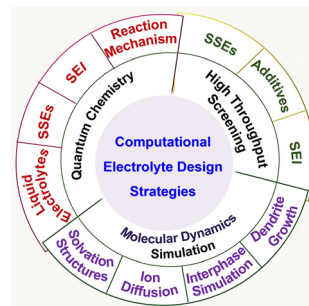


## FEATURE ARTICLES

7019

## Computational approaches to electrolyte design for advanced lithium-ion batteries

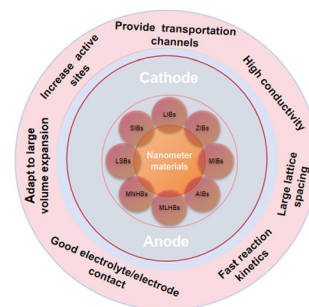
Shuang Wan,\* Shunshun Zhao, Weiting Ma and Shimou Chen\*



7035

## High-performance rechargeable monovalent- and bivalent-ion batteries: from emerging nanomaterials to in-depth mechanisms

Ting Zhou, Yajun Zhu, Xiaofei Huang, Tianli Han and Jinyun Liu\*

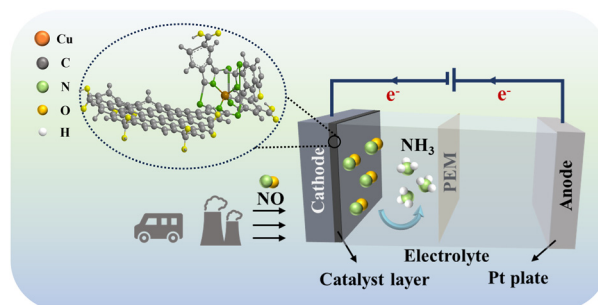


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7057

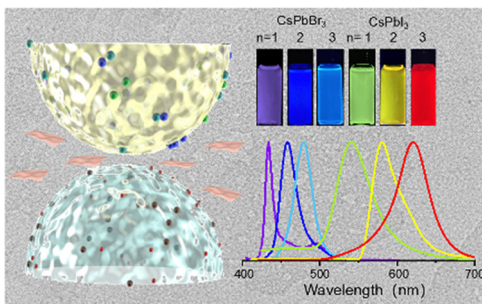
Highly selective and active NO reduction to synthesize NH<sub>3</sub> based on graphene-substituted phthalocyanine Cu electrocatalysts

Jiaxiao Bai, Song Liu\* and Kuo Liu\*



## COMMUNICATIONS

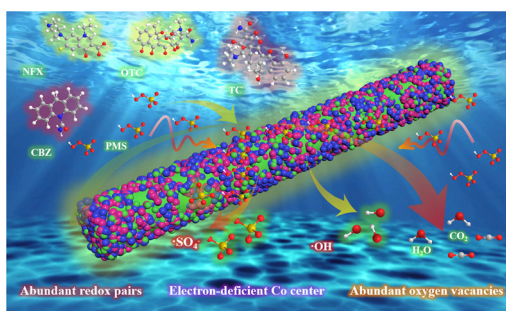
7061



### Controlling the growth kinetics of CsPbX<sub>3</sub> nanocrystals through the spatial confinement effect

Wanying Zhang, Zhiqing Wang, Fen Li, Zixin Gu, Keqiang Chen\* and Guogang Li\*

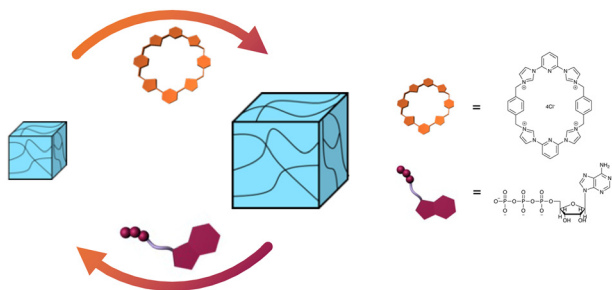
7065



### Constructing electron-deficient Co centers in the lattice of oxygen-vacancy-rich CuO for improved PMS activation and contaminant degradation

Hongyang Zhu, Zhenxiao Wang, Liying Cao, Yanyun Wang, Yangping Zhang, Danhong Shang,\* Linzhi Zhai, Tongyi Yang and Fu Yang\*

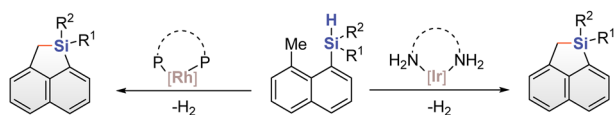
7069



### Macrocyclic-ATP mediated contraction and expansion of a hydrogel actuator

Mehroz Ahmed, Baturalp Baser and Jonathan L. Sessler\*

7073



### Facile synthesis of 1-silaacenaphthenes by transition metal-catalyzed intramolecular C(sp<sup>3</sup>)-H silylation

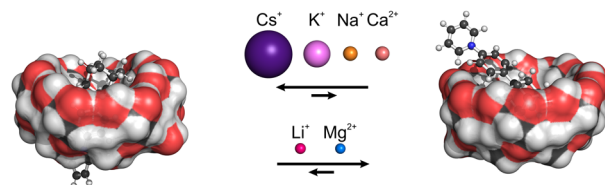
Delong Mu,\* Xinrui Zhu and Jian Chen\*



7077

### Metal cations switch geometry of $\beta$ -cyclodextrin complexes

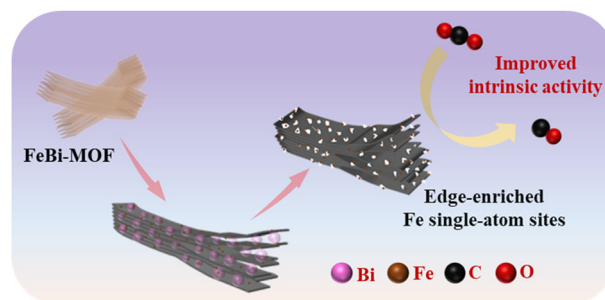
Václav Kolařík, Aneta Hromádková, Adam Knirsch, Zdeňka Prucková, Petr Janovský, Michal Rouchal, Jas S. Ward, Kari Rissanen and Robert Vícha\*



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### Edge-hosted Fe single-atomic sites fabricated by a Bi-assisted pyrolysis strategy for electroreduction of $\text{CO}_2$

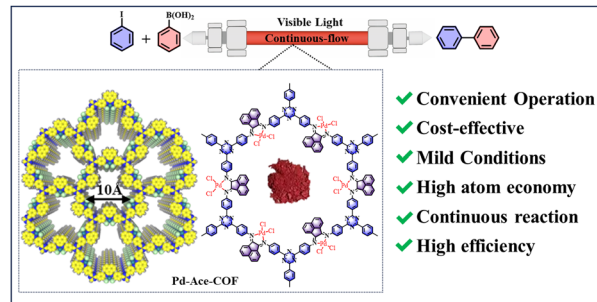
Miaoling Liu, Chenghong Hu, Kui Shen, Liyu Chen\* and Yingwei Li\*



7085

### Continuous photocatalytic C–C coupling achieved using palladium anchored to a covalent organic framework

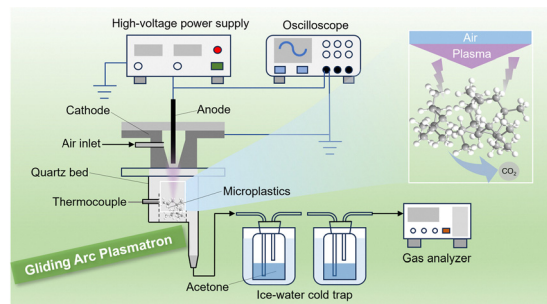
Chao Ma, Zhe Wu, Yi-Tong Hou, Shao-Xuan Xiong, Li-Hua Ma,\* Zhi-Ming Zhang, Tong-Bu Lu and Song Guo\*



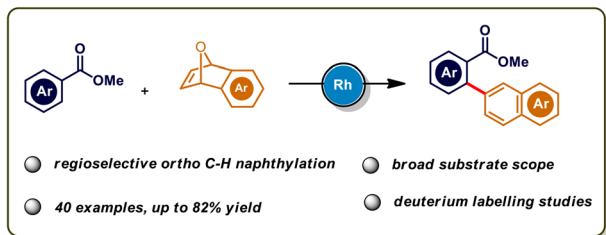
7089

### Rapid degradation of microplastics by catalyst-free gliding arc plasmatron

Chuanqi Shi, Yanhui Long, Yunqing Zhou, Shi Feng, Zhenzhen Wu, Hualiang Li, Kaiyi Wang, Zijiang Zhao, Qunxing Huang, Xiaodong Li and Hao Zhang\*



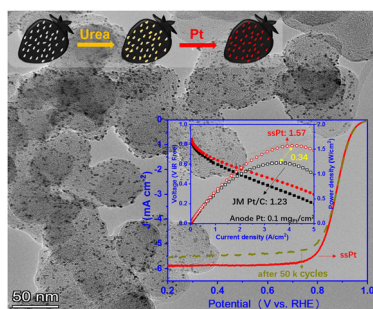
7093



### Rhodium(III)-catalyzed directed C–H naphthylation of aryl esters with 7-oxabenzonorbornadienes

Narasingan Aravindan and Masilamani Jegamohan\*

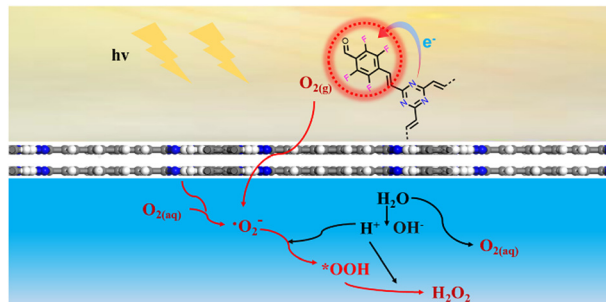
7097



### Facile chemical synthesis of a high-performance Pt/C catalyst displaying a specialized morphology

Jie Yang, Rurong Liu, Chenyang Shen, Xiaoxia Hou, Chenjia Liang, Ruiyao Zhao, Chao Yue, Yingxuan Zhao, Qing Liu, Ningze Gao, Liwen Wang, Tao Wang, Wenhua Hou\* and Weiping Ding\*

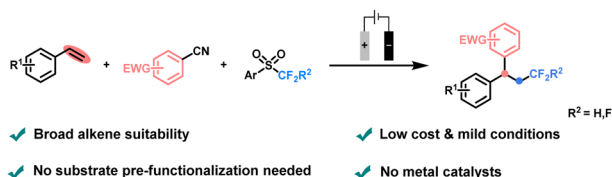
7101



### End-capping fluorination of vinylene-linked covalent organic frameworks for photocatalytic hydrogen peroxide production

Anqi Chen, Yi Jian, Qiujuan Xie, Wen Li, Chunyue Pan, Guipeng Yu, Shuai Gu\* and Juntao Tang\*

7105



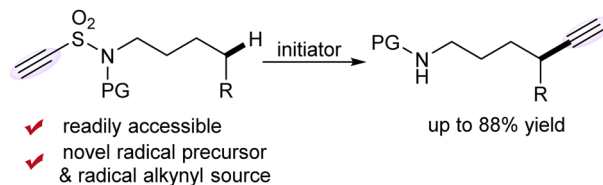
### A dual-radical process for tri/di-fluoromethylarylation of alkenes enabled by indirect electroreduction

Zhening Jin, Yuan Shi, Zhangchi Zheng, Yuxin Ding, Weike Su, Changjun Zhang\* and Yuan Xie\*

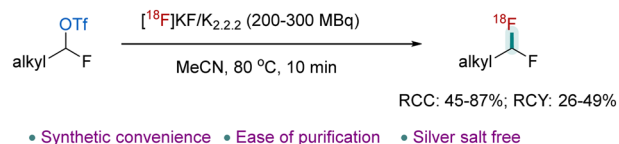


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7109

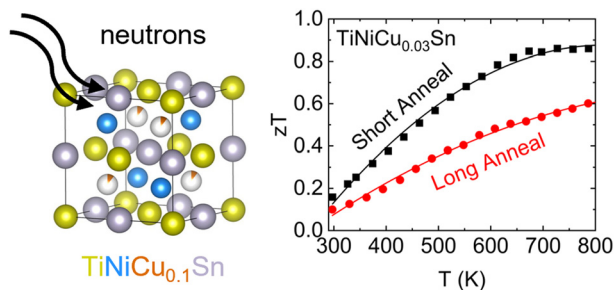
Remote radical alkylation of unactivated C(sp<sup>3</sup>)-H bonds of ethanesulfonamidesPan Zhou, Mengru Guo, Jiawei Li, Xu Li, Danyang Xie,\*  
Bo Qin\* and Yong Xia\*

7113

[<sup>18</sup>F]Radiolabeling fluorination of monofluoroalkyl triflates for the synthesis of [<sup>18</sup>F]difluoromethylated alkanesYuan-Zhan Han, Peng-Fei Song, Hai-Yang Zhao,  
Junbin Han\* and Xingang Zhang\*

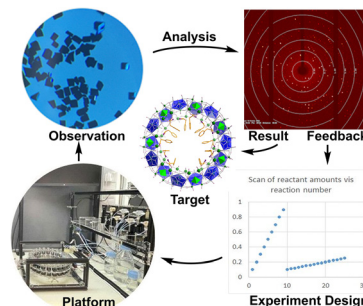
7117

## Influence of Cu on the sustainable synthesis and thermoelectric properties of the half-Heusler TiNiSn

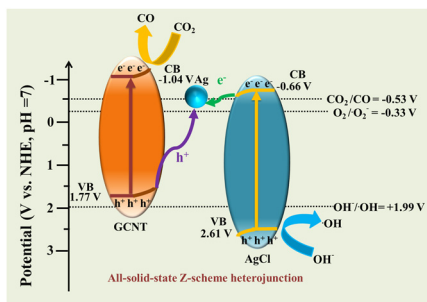
Blair F. Kennedy, Aaron B. Naden, Clemens Ritter and  
Jan-Willem G. Bos\*

7121

## Robotic exploration of amino-acid functionalised molybdenum blue polyoxometalate nanoclusters

Haiyang Guo, Donglin He, De-Liang Long\* and  
Leroy Cronin\*

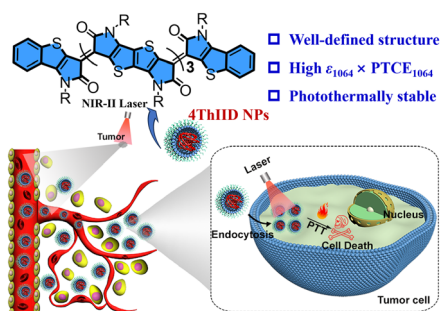
7125



### Enhanced interface electric field in an all-solid-state Z-scheme Ag/AgCl/GCNT heterojunction for facilitating photocatalytic CO<sub>2</sub> reduction performance

Jintao Dong, Yi Zhang, Lu Liu, Xuemin Zhang, Lina Li, Gaopeng Liu, Huaming Li, Pengcheng Yan\* and Jiexiang Xia\*

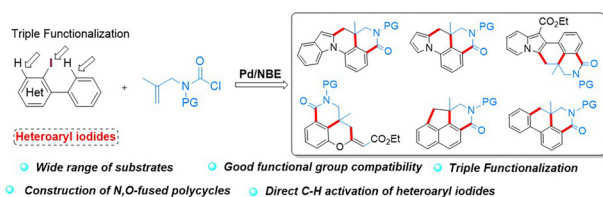
7129



### A conjugated molecule based on tetra-fused thienoisindigo ribbon for NIR-II photothermal cancer therapy

Jiayi Chen, Junjie Wu, Hongrui Chen, Yangwei Zhu, Yiyang Zong, Yaoyuan Gao, Xiaohua Zheng\* and Yu Jiang\*

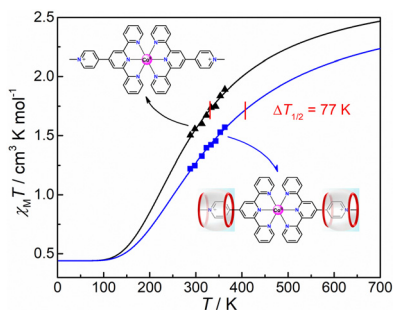
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### Palladium/norbornene cooperative catalysis triple functionalization: carbamoylation/double-annulation of (hetero)aryl iodides

Yi-Xin Chai, Yu-Fan Yang, Feng-Yu Zhang, Ji-Yan Zhao, Ya-Ting Wang, Yanmei Chen, Yuan-Yuan Sun,\* Jin-Heng Li\* and Yan-Ping Zhu\*

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### Spin-state modulation by host-guest chemistry with cucurbiturils

Ke Lu, Yu-Xiao Chen, Jie-Sheng Hu, Zhi-Kun Liu, Xin-Li Shi, Meng Yu,\* Alyona A. Starikova\* and Jun Tao\*



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## Synthesis and structural characterization of Sb(III) and Bi(III) complexes with an N<sub>2</sub>O<sub>2</sub>-type tetradentate dipyrin ligand

Tomohiro Agou,\* Shunsuke Kuroiwa, Ryo Moriyama, Takuma Kuroda, Kazuya Kubo, Hiroki Fukumoto,\* Masato Morita, Ryo Inoue\* and Tatsuya Nabeshima\*

